CX200 SiteXpert

Communications Service Monitor

Remote Programming Manual

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Remote Programming Manual

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VIAVI Solutions
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1

Introduction

This document provides instructions for using the commands of the VIAVI CX200:

- SCPI command structure 1-3
- Common commands 1-5
- Instrument Selection Commands 1-6

1.1 Connection via the Ethernet interface

The instrument can be controlled and programmed remotely through the Ethernet interface. Port 5600 must be used to interface to the CX200 with the SCPI commands found in this document.

The link to the PC can be direct using an Ethernet cable to link the instrument to the PC, or via an network.

Direct connection

1. Connect the instrument directly to the PC with an Ethernet cable using the RJ45 port on each device.
2. Ensure the PC network configuration is set to Dynamic:
   a Click **Start > Control Panel**.
   b Double-click on **Network Connection**.
   c Double-click on **Local Area Connection**.
   d In the dialog box, click on **Properties**.
   e Check that the **Internet Protocol (TCP/IP)** is selected and click once on it (underlined in blue.)
   f Click the **Properties** button.
   g In the **General** tab, check that the **Obtain an IP address automatically** parameter is selected; if not, select it.
   h Click **OK** and close all the dialog boxes open on the PC.
3. On the instrument, go to **System > Network** and select **Static** in the IPv4 box.
4. Note the IP address and wait for about 10 seconds for the connection to be established.

Connection via a local network:

1. On the PC, find the IP address and the mask of the PC's sub-network:
   - For Windows 98 or Millennium: Select **Start > Execute**, then enter `winipcfg` and click **OK.**
   - For Windows NT, 2000, XP, VIsta, 7, or 10: Select **Start > Programs > Accessories > Dos Prompt**, type `ipconfig`, then press **Enter**.
2. Note the IP address and the mask for the PC's sub-network.
3. Plug the RJ45 port or the instrument into a hub or Ethernet switch with a straight-through Ethernet cable.

4. On the instrument:
   a Go to **System > Network**, select **Static** in the IPv4 box, then enter the IP address, IP mask of the PC and IP gateway as previously noted (step 2).
   b b **Go to System > Network**, select **DHCP** in the IPv4 box. In this case, the IP address is automatically displayed but cannot be altered.
5. Wait for about ten seconds while the connection is established.
6. On the PC, make sure that the connection is operational by selecting **Start > Execute…** and typing `ping`.

1.2 SCPI command structure

The following sections describe the SCPI command structure.

1.2.1 Format of commands

The commands are of type SCPI. They have a hierarchical structure with a *root* level and one or more sub-levels known as *nodes*. A command is comprised of a concatenation of *nodes*.

Example: `REALtime:FREQuency:SPAN:ZERO`

- `REALtime` is the root
- `FREQuency` is the 2nd level node
- `SPAN` is the 3rd level node
- `ZERO` is the parameter of the 3rd level node

1.2.2 Syntax of commands

The string of commands includes upper-case and/or lower-case letters. Only the upper-case letters are essential; the lower-case letters may be omitted to shorten the commands. Parameters should be fully named without omission.

The successive nodes of a command must be separated by a colon (:).

Example of commands:

- Complete form: `INTERference:TRAce:CLEAr:ALL`
- Shortened form: `INTER:TRA:CLEA:ALL`

1.2.3 Parameters

The following table shows the type and unit of the values used in this programming manual.

Table 1-1 Value types and units

Mark	Valid Unit	Description	Example
<real>	(dBm)	real number	10 dBm, -10.00 dBm
<integer>	-	integer number	1-, -10
<time>	ns, us, ms, s	time (nanosecond, microsecond, millisecond, second)	10 ms, 1 s
<ampl>	dBm	absolute Amplitude value	10 dBm, 0 dBm
<rel_ampl>	dB	relative Amplitude value	10 dB, -10 dB
<freq>	Hz, kHz, MHz, GHz	frequency value	10 Hz, 10 kHz
<bandwidth>	Hz, kHz, MHz, GHz	frequency's bandwidth value	10 Hz
<per>	%	percentage	100 %, 100%
<string>	-	Long string or special letters	"string_12 ()"
<table>	-	A lot of value	10.11,11.12,12.14
<IP Address>	-	IPv4 Address	"127.0.0.1"

1.2.4 Querying

For each command there is a corresponding query. Most queries have no parameter, instead ending with a <<?>>. These queries are not given in the dictionary of commands provided below.

Example:

- `INTERference:TRAce1:INFOrmation:DETector?` Asks for the trace detector information

1.3 Common commands

The common commands described below are valid for the instrument.

1.3.1 *CLS

The Clear Status (CLS) command clears all the event status registers in the device status-reporting mechanism and the error/event queue. This also results in the corresponding summary bits in the Status Byte (STB) to be cleared.

Syntax: *CLS

Parameter/Response: None

1.3.2 *ESE/*ESE?

*ESE is a standard event status enable command or query.

Syntax: * ESE <integer>

Parameter/Response: <integer>

Allowable values: 0-255

1.3.3 *IDN?

*IDN asks for identification of the instrument.

Syntax: *IDN?

Parameter: None

Response: “<Manufacturer>,<Model>,<Serial number>,<Firmware version>”

Data Type: string

1.3.4 *OPC/*OPC?

*OPC is an operation complete command or query. *OPC (Operation Complete) sets bit 0 in the ESR to 1 when all commands received before *OPC or *OPC? have been completed.

Syntax: *OPC/*OPC?

Parameter: None

Query Response: 1

1.3.5 *RST

*RST resets the instrument to its default settings.

Syntax: * RST

Parameter/Response: None

1.3.6 *SRE

*SRE is a service request enable command or query that enables bits in the SRE register. *SRE? query returns the decimal sum of the enabled bits in the SRE register.

Syntax: *SRE <integer>/* SRE?

Parameter/Response: <integer>

1.3.7 *STB?

*STB is a status byte query that reads the value of the instrument status byte.

Syntax: *STB?

Parameter: None

Response: <integer>

1.3.8 *TST?

*TST is a self-test query that initiates the device's internal self-test and returns the number 0 meaning all tests passed.

Syntax: *TST?

Parameter: None

Response: 0

1.3.9 *WAI

*WAI is a wait-to-continue command that stops the execution of any further commands or queries until all operations for pending commands are completed.

Syntax: *WAI

Parameter/Response: None

1.4 Instrument Selection Commands

The Instrument Selection Commands listed below are used to choose the appropriate instruments in the CX200 system.

1.4.1 INSTrument:CATalog

Syntax: INSTrument:CATalog?

Parameter/Return: RFGenerator | RFReceiver | SPEctrumanalyzer | CHANnelanalyzer | AUDioanalyzer | OSCilloscope | TENCoding | TDECoding | AFGenerator | AMODulator | ADEModulator | AINput | AOUTput | P25Modulator | P25Demodulator | DMRModulator | DMRDemodulator | TETRAModulator | TETRADemodulator | RECord | PLAYback | VNA | EXTPOWer

Description: Query only command that returns the list of instruments by name.

Example:

```
INSTrument:CATalog?
```

1.4.2 INSTrument:CATalog:FULL

Syntax: INSTrument:CATalog:FULL?

Parameter/Return: RFGenerator 1 | RFReceiver 2 | SPEctrumanalyzer 3 | CHANnelanalyzer 4 | AUDioanalyzer 5 | OSCilloscope 6 | TENCoding 7 | TDECoding 8 | AFGenerator 9 | AMODulator 10 | ADEModulator 11 | AINput 14 | AOUTput 15 | P25Modulator 16 | P25Demodulator 17 | DMRModulator 18 | DMRDemodulator 19 | TETRAModulator 20 | TETRADemodulator 21 | RECord 22 | PLAYback 23 | VNA 25 | EXTPOWer 26

Description: Query only command that returns the list of instruments by name, and with an associated integer index.

Example:

```
INSTrument:CATalog:FULL?
```

Note: Instrument catalog index numbers 12, 13, and 24 are reserved for future use.

1.4.3 INSTrument:SELect

Syntax: INSTrument:SELect

Parameter/Return: Instrument name. See "Instrument Catalog" on page 1-9

Description: Set or query the selected instrument by name.

Example:

```
INSTrument:SELect RFGenerator
INSTrument:SELect?
```

1.4.4 INSTrument:NSELect

Syntax: INSTrument:NSELect

Parameter/Return: 1 - 24 (See "Instrument Catalog" on page 1-9)

Description: Set or query the selected instrument by index.

Example:

```
INSTrument:NSELect 1
INSTrument:NSELect?
```

1.4.5 Instrument Catalog

The following table lists each instrument name and its corresponding index number for use with either the INSTrument:SELect (instrument) or INSTrument:NSELect (index number).

Table 1-2 CX200 Instrument Catalog

Instrument	Index	See
RFGenerator	1	"RF Generator Commands" on page 3-1
RFReceiver	2	"RF Receiver Commands" on page 4-1
SPEctrumanalyzer	3	"Spectrum Analyzer Commands" on page 5-1
CHANnelanalyzer	4	"Channel Analyzer Commands" on page 6-1
AUDioanalyzer	5	"Audio Analyzer Commands" on page 7-1
OSCilloscope	6	"Oscilloscope Commands" on page 8-1
TENCoding	7	"Tone Encoding Commands" on page 9-1
TDECoding	8	"Tone Decoding Commands" on page 10-1
AFGenerator	9	"AF Generator Commands" on page 11-1
AMODulator	10	"Analog Modulator Commands" on page 12-1
ADEModulator	11	"Analog Demodulator Commands" on page 13-1
Reserved	12	—
Reserved	13	—
AINput	14	"Analog Input Commands" on page 14-1
AOUTput	15	"Analog Output Commands" on page 15-1
P25Modulator	16	"P25 Modulator Commands" on page 16-1
P25Demodulator	17	"P25 Demodulator Commands" on page 17-1
DMRModulator	18	"DMR Modulator Commands" on page 18-1
DMRDemodulator	19	"DMR Demodulator Commands" on page 19-1
TETRAModulator	20	"TETRA Modulator Commands" on page 20-1
TETRADemodulator	21	"TETRA Demodulator Commands" on page 21-1
RECord	22	"Record Commands" on page 22-1
PLAYback	23	"Playback Commands" on page 23-1
Reserved	24	—
VNA	25	"Vector Network Analyzer Commands" on page 24-1
EXTPOWer	26	"External Power Commands" on page 25-1

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2

System Commands

This chapter contains remote commands that are used to configure CX200 system settings. This chapter contains the following commands:

- SYSTem:PASSword 2-2
- SYSTem:REBoot 2-2
- SYSTem:SHUTdown 2-2
- SYSTem:ERRor 2-2
- SYSTem:ERRor:[NEXT] 2-2
- SYSTem:ERRor:COUNt 2-3
- SYSTem:APPLication:RUNNing 2-3
- SYSTem:APPLication:AVAIlable 2-3
- SYSTem:APPLIcation:STARt 2-3
- SYSTem:MODE 2-3
- SYSTem:TAB 2-4
- SYSTem:VERSion 2-4
- SYSTem:SERIal 2-4
- SYSTem:FPGA:SERIal 2-4
- SYSTem:SLICe:TEMPeratures 2-4
- SYSTem:SLICe:TEMBSAB 2-5
- SYSTem:SLICeTEMTermPwr 2-5
- SYSTem:SLICe:TEMRFBXfeed 2-5
- SYSTem:SLICe:TEMFPGA 2-5
- SYSTem:SLICe:SERIal 2-6
- SYSTem:BOX:SERIal 2-6
- SYSTem:SCREen:CAPTure 2-6
- SYSTem:SCREen:READ (Obsoleted) 2-6
- SYSTem:SCREen:BINary (Obsoleted) 2-7
- SYSTem:SCREen:MOVe (Obsoleted) 2-7

2.1 SYSTem:PASSword

Syntax: SYSTem:PASSword
Parameter/Return: String
Description: Specifies the system password.
Example:

```
SYSTem:PASSword Abc123
```

2.2 SYSTem:REBoot

Syntax: SYSTem:REBoot
Parameter/Return: Event
Description: Reboots the system.
Example:

```
SYSTem:REBoot
```

2.3 SYSTem:SHUTdown

Syntax: SYSTem:SHUTdown
Parameter/Return: Event
Description: Shuts down the system.
Example:

```
SYSTem:SHUTdown
```

2.4 SYSTem:ERRor

Syntax: SYSTem:ERRor
Parameter/Return: Query
Description: Queries the system for errors.
Example:

```
SYSTem:ERRor?
```

2.5 SYSTem:ERRor:[NEXT]

Syntax: SYSTem:ERRor:[NEXT]
Parameter/Return: Query
Description: Displays the next system error.
Example:

```
SYSTem:ERRor:[NEXT]?
```

2.6 SYSTem:ERRor:COUNt

Syntax: SYSTem:ERRor:COUNt
Parameter/Return: Query
Description: Displays a count of system errors.
Example:

```
SYSTem:ERRor:COUNt?
```

2.7 SYSTem:APPLication:RUNNing

Syntax: SYSTem:APPLication:RUNNing
Parameter/Return: Query
Description: Displays whether the system application currently running.
Example:

```
SYSTem:APPLication:RUNNing?
```

2.8 SYSTem:APPLication:AVAIlable

Syntax: SYSTem:APPLication:AVAIlable
Parameter/Return: Query
Description: Displays the availability of the system application.
Example:

```
SYStem:APPLication:AVAIlable?
```

2.9 SYSTem:APPLIcation:STARt

Syntax: SYSTem:APPLIcation:STARt
Parameter/Return: Event
Description: Starts the system application.
Example:

```
SYSTem:APPLIcation:STARt
```

2.10 SYSTem:MODE

Syntax: SYSTem:MODE
Parameter/Return: —
Description: Displays the system mode.
Example:

```
SYSTem:MODE
```

2.11 SYSTem:TAB

Syntax: SYSTem:TAB
Parameter/Return: —
Description: —
Example:

```
SYSTem:TAB
```

2.12 SYSTem:VERSion

Syntax: SYSTem:VERSion
Parameter/Return: Query
Description: Displays the system version.
Example:

```
SYSTem:VERSion?
```

2.13 SYSTem:SERIal

Syntax: SYSTem:SERIal
Parameter/Return: Query
Description: —
Example:

```
SYSTem:SERIal?
```

2.14 SYSTem:FPGA:SERIal

Syntax: SYSTwn:FPGA:SERIal
Parameter/Return: Query
Description: —
Example:

```
SYSTem:FPGA:SERIal
```

2.15 SYSTem:SLICe:TEMPeratures

Syntax: SYSTem:SLICe:TEMPeratures
Parameter/Return: Query
Description: Displays the system slice temperatures.
Example:

```
SYSTem:SLICe:TEMPeratures?
```

2.16 SYSTem:SLICe:TEMBSAB

Syntax: SYSTem:SLICe:TEMBSAB

Parameter/Return: Query

Description: —

Example:

```
SYSTem:SLICe:TEMBSAB?
```

2.17 SYSTem:SLICeTEMTermPwr

Syntax: SYSTem:SLICeTEMTermPwr

Parameter/Return: Query

Description: Displays the terminal power.

Example:

```
SYSTem:SLICeTEMTermPwr?
```

2.18 SYSTem:SLICe:TEMRFBXfeed

Syntax: SYSTem:SLICe:TEMRFBXfeed

Parameter/Return: Query

Description: —

Example:

```
SYSTem:SLICe:TEMRFBXfeed?
```

2.19 SYSTem:SLICe:TEMFPGA

Syntax: SYSTem:SLICe:TEMFPGA

Parameter/Return: Query

Description: —

Example:

```
SYSTem:SLICe:TEMFPGA?
```

2.20 SYSTem:SLICe:SERIal

Syntax: SYSTem:SLICe:SERIal

Parameter/Return: Query

Description: —

Example:

```
SYSTem:SLICe:SERIal?
```

2.21 SYSTem:BOX:SERIal

Syntax: SYSTem:BOX:SERIal

Parameter/Return: Query

Description: —

Example:

```
SYSTem:BOX:SERIal?
```

2.22 SYSTem:SCREen:CAPTure

Syntax: SYSTem:SCREen:CAPTure

Parameter/Return: Event

Description: Takes a screenshot of the current screen.

Example:

```
SYSTem:SCREen:CAPTure
```

2.23 SYSTem:SCREen:READ (Obsoleted)

Syntax: SYSTem:SCREen:READ

Parameter/Return: Query

Description: —

Example:

```
SYSTem:SCREen:READ?
```

2.24 SYSTem:SCREen:BINary (Obsoleted)

Syntax: SYSTem:SCREen:BINary

Parameter/Return: Query

Description: You can query capturing image binary.

Example:

```
SYSTem:SCREen:BINary?
```

2.25 SYSTem:SCREen:MOVe (Obsoleted)

Syntax: SYSTem:SCREen:MOVe

Parameter/Return: Event

Description: If you send the same parameter twice, the screen closes.

Example:

```
SYSTem:SCREen:MOVe
```

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3

RF Generator Commands

This chapter describes the following remote commands for configuring RF Generator (RFGenerator) settings:

- SOURce:CABLe:FILE 3-2
- SOURce:CABLe:LOSS? 3-2
- SOURce:ENABle 3-2
- SOURce:ENABle:PTT 3-3
- SOURce:FREQuency 3-3
- SOURce:LEVel:DBM 3-4
- SOURce:LEVel:DBUV 3-4
- SOURce:LEVel:OFFSet 3-5
- SOURce:LEVel:OFFSet:ENABle 3-5
- SOURce:LEVel:UNIT 3-5
- SOURce:LEVel:VOLT 3-6
- SOURce:PORT 3-6
- SOURce:ROSCillator:INPut 3-7
- SOURce:ROSCillator:OUTPut 3-7

3.1 SOURce:CABLe:FILE

Syntax:

SOURce:CABLe:FILE

SOURce:CABLe:FILE?

Parameter/Return: *filename*

Description: Sets/returns the cable-loss file name.

Examples:

```
SOURce:CABLe:FILE filename
SOURce:CABLe:FILE?
filename
```

3.2 SOURce:CABLe:LOSS?

Syntax: SOURce:CABLe:LOSS?

Parameter/Return: —

Description: Returns the applied cable loss in dBm.

Example:

```
SOURce:CABLe:LOSS?
6.1
```

3.3 SOURce:ENABle

Syntax:

SOURce:ENABle

SOURce:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the cable-loss file name.

Examples:

```
SOURce:ENABle On
SOURce:ENABle On?
1
```

3.4 SOURce:ENABle:PTT

Syntax:

SOURce:ENABle:PTT

SOURce:ENABle:PTT?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the generator PPT.

Examples:

```
SOURce:ENABle:PTT On
SOURce:ENABle:PTT?
1
```

3.5 SOURce:FREQuency

Syntax:

SOURce:FREQuency

SOURce:FREQuency?

Parameter/Return: 100000 to 3000000000

Note: Default = 500000000

Description: Sets/returns the generator frequency in Hz.

Examples:

```
SOURce:FREQuency 500000000
SOURce:FREQuency?
500000000
```

3.6 SOURce:LEVel:DBM

Syntax:

SOURce:LEVel:DBM

SOURce:LEVel:DBM?

Parameter/Return:

RF Output Port: -130 to 17

Duplex Port: -160 to -30

Description: Sets/returns the generator level in dBm.

Examples:

```
SOURce:LEVel:DBM -130
SOURce:LEVel:DBM?
-130
```

3.7 SOURce:LEVel:DBUV

Syntax:

SOURce:LEVel:DBUV

SOURce:LEVel:DBUV?

Parameter/Return:

RF Output Port: -23 to 124

Duplex Port: -53 to 77

Description: Sets/returns the generator level in dBuV.

Examples:

```
SOURce:LEVel:DBUV -23
SOURce:LEVel:DBUV?
-23
```

3.8 SOURce:LEVel:OFFSet

Syntax:

SOURce:LEVel:OFFSet

SOURce:LEVel:OFFSet?

Parameter/Return: -99.0 to 99.0

Description: Sets/returns the generator offset level in dB.

Examples:

```
SOURce:LEVel:OFFSet 5
SOURce:LEVel:OFFSet?
5
```

3.9 SOURce:LEVel:OFFSet:ENABle

Syntax:

SOURce:LEVel:OFFSet:ENABle

SOURce:LEVel:OFFSet:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the Cable Level Offset

Examples:

```
SOURce:LEVel:OFFSet:ENABle On
SOURce:LEVel:OFFSet:ENABle?
1
```

3.10 SOURce:LEVel:UNIT

Syntax:

SOURce:LEVel:UNIT

SOURce:LEVel:UNIT?

Parameter/Return: dBm | dBuV | V

Description: Sets/returns the generator level units.

Examples:

```
SOURce:LEVel:UNIT dBm
SOURce:LEVel:UNIT?
dBm
```

3.11 SOURce:LEVel:VOLT

Syntax:

SOURce:LEVel:VOLT

SOURce:LEVel:VOLT?

Parameter/Return:

RF Output Port: 0.071 to 1.583 uV

Duplex Port: 0.0002 uV to 7.071 mV

Description: Sets/returns the level of the generator in Volts.

Examples:

```
SOURce:LEVel:VOLT 1.583
SOURce:LEVel:VOLT?
1.583
```

3.12 SOURce:PORT

Syntax:

SOURce:PORT

SOURce:PORT?

Parameter/Return: Output | Duplex

Description: Sets/returns the generator output port.

Examples:

```
SOURce:PORT Duplex
SOURce:PORT?
Duplex
```

3.13 SOURce:ROSCillator:INPut

Syntax:

SOURce:ROSCillator:INPut

SOURce:ROSCillator:INPut?

Parameter/Return: Internal | 10_MHz | 13_MHz | 15_MHz | GPS

Description: Sets/returns the reference input configuration.

Examples:

```
SOURce:ROSCillator:INPut 10_MHz
SOURce:ROSCillator:INPut?
10_MHz
```

3.14 SOURce:ROSCillator:OUTPut

Syntax:

SOURce:ROSCillator:OUTPut

SOURce:ROSCillator:OUTPut?

Parameter/Return: Internal | 10_MHz | 13_MHz | 15_MHz | GPS

Description: Sets/returns the reference output configuration.

Examples:

```
SOURce:ROSCillator:OUTPut 10_MHz
SOURce:ROSCillator:OUTPut?
10_MHz
```

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4

RF Receiver Commands

This chapter describes the following remote commands for configuring RF Receiver (RFReceiver) settings:

- SENSe:ATTenuator 4-2
- SENSe:FREQuency 4-2
- SENSe:AGC 4-3
- SENSe:IFBWidth 4-3
- SENSe:LEVelcontrol 4-4
- SENSe:OFFSet:ENABle 4-4
- SENSe:PORT 4-5
- SENSe:PREamp 4-5
- SENSe:RLEVel 4-6
- SENSe:RLEVel:OFFSet 4-6
- SENSe:CABle:LOSS 4-7
- SENSe:GENerator:OFFSet:LOCK:ENAble 4-8
- CALCualte:NORMalize:INITiate:IMMediate 4-8
- CALCulate:NORMalize:MODE 4-9
- CALCulate:NORMalize:CLEar 4-9
- CALCulate:NORMalize:STATus? 4-9

4.1 SENSe:ATTenuator

Syntax:

SENSe:ATTenuator

SENSe:ATTenuator?

Parameter/Return: 0 dB to 40 dB (in 2 dB steps)

Description: Sets/returns the RF Receiver Attenuation. Normally the receiver frontend path is automatically optimized for signal demod quality. When the Auto controls are turned off, the frontend attenuation can be controlled manually.

Examples:

```
SENSe:ATTenuator 20
SENSe:ATTenuator?
20
```

4.2 SENSe:FREQuency

Syntax:

SENSe:FREQuency

SENSe:FREQuency?

Parameter/Return: 100000.0 Hz to 3000000000.0 Hz; Optional 6 GHz Frequency Range

Description: Sets/returns the RF Receiver center frequency.

Examples:

```
SENSe:FREQuency 600000000
SENSe:FREQuency?
600000000
```

4.3 SENSe:AGC

Syntax:

SENSe:AGC

SENSe:AGC?

Parameter/Return: Auto | Manual

Description: Sets/returns ACG mode. In Auto mode, the receiver frontend gain distribution is automatically adjusted for best demod signal. For manual, you can make manual adjustments to gain/attenuation.

Examples:

```
SENSe:AGC Auto
SENSe:AGC?
Auto
```

4.4 SENSe:IFBWidth

Syntax:

SENSe:IFBWidth

SENSe:IFBWidth?

Parameter/Return: IF_3kHz | IF_5kHz | IF_6p25kHz | IF_8p33kHz | IF_10kHz | IF_12p5kHz | IF_25kHz | IF_30kHz | IF_100kHz | IF_230kHz | IF_300kHz

Description: Sets/returns the IF bandwidth.

Examples:

```
SENSe:IFBWidth IF_6p25kHz
SENSe:IFBWidth?
IF_6p25kHz
```

4.5 SENSe:LEVelcontrol

Syntax:

SENSe:LEVelcontrol

SENSe:LEVelcontrol?

Parameter/Return: Auto | Manual

Description: Sets/returns the Level control. The Ref Level can be fixed at a certain sensitivity or the test set can adjust the Ref level for optimal demod conditions.

Examples:

```
SENSe:LEVelcontrol Auto
SENSe:LEVelcontrol?
Auto
```

4.6 SENSe:OFFSet:ENABle

Syntax:

SENSe:OFFSet:ENABle

SENSe:OFFSet:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the offset. When active, the RF rec signal scaling si a sum of the Reference Level and Offset level (can be a cal file or scalar value.)

Examples:

```
SENSe:OFFSet:ENABle On
SENSe:OFFSet:ENABle?
1
```

4.7 SENSe:PORT

Syntax:

SENSe:PORT

SENSe:PORT?

Parameter/Return: Input | Duplex

Description: Sets/returns the receive port.

Examples:

```
SENSe:PORT Input

SENSe:PORT?
Input
```

4.8 SENSe:PREamp

Syntax:

SENSe:PREamp

SENSe:PREamp?

Parameter/Return: 0 (Off) | 1 (On

Description: Sets/returns the state of a Pre-Amp in the RF frontend. There are many gain states where the pre-amp is blocked. Generally Auto AGC manages this control.

Examples:

```
SENSe:PREamp Off

SENSe:PREamp?
Off
```

4.9 SENSe:RLEVel

Syntax:

SENSe:RLEVel

SENSe:RLEVel?

Parameter/Return:

-130 dBm to 30 dBm

RF Duplex: -100 dBm to 60 dBm

Description: Sets/returns the Reference Level. This is normally automatically controlled via AGC Mode - Auto. Auto AGC will adjust the Ref level for best demod capability. The RF port will shift the range of values.

Examples:

```
SENSe:RLEVel -40.2

SENSe:RLEVel?
-40.2
```

4.10 SENSe:RLEVel:OFFSet

Syntax:

SENSe:RLEVel:OFFSet

SENSe:RLEVel:OFFSet?

Parameter/Return: -99.0 dB to 99.0 dB

Description: Sets/returns the Reference Level offset. This provides a scaler adjustment to Ref Level. It's similar idea to Cable Loss except only one value is involved. Cable loss and Level Offset are added together. Common use would be an external 10 dB pad.

Examples:

```
SENSe:RLEVel:OFFSet 10

SENSe:RLEVel:OFFSet?

10
```

4.11 SENSe:CABle:FILE

Syntax:

SENSe:CABle:FILE

SENSe:CABle:FILE?

Parameter/Return: None | Filename

Description: Sets/returns the active response file. A list of csv files using the file browser and looking the cable directory is displayed. Will use a CSV file of freq,dB value pairs. File needs the csv extension and is located: Internal/cables/example.csv.

Examples:

```
SENSe:CABle:FILE Filename
SENSe:CABle:FILE?
Filename
```

4.12 SENSe:CABle:LOSS

Syntax:

SENSe:CABle:LOSS

SENSe:CABle:LOSS?

Parameter/Return: Loss value in dB

Description: As the operator changes RF Rec freq, the Cable file lookup will occur and the lookup result will show in the Cable Loss field. This SCPI command can overwrite the lookup value.

Examples:

```
SENSe:CABle:LOSS 5.0
SENSe:CABle:LOSS?
5.0
```

4.13 SENSe:GENerator:OFFSet

Syntax:

SENSe:GENerator:OFFSet

SENSe:GENerator:OFFSet?

Parameter/Return: -9990000000.0 Hz to 9990000000.0 Hz

Description: Sets/returns the RF Gen Frequency Value when the RF Rec frequency is changed.

Examples:

```
SENSe:GENerator:OFFSet 1000000
SENSe:GENerator:OFFSet?
1000000
```

4.14 SENSe:GENerator:OFFSet:LOCK:ENAble

Syntax:

SENSe:GENerator:OFFSet:LOCK:ENAble

SENSe:GENerator:OFFSet:LOCK:ENAble?

Parameter/Return: Off | On

Description: Sets/returns the RF Gen frequency when the RF Rec frequency is changed.

Examples:

```
SENSe:GENerator:OFFSet:LOCK:ENAble Off
SENSe:GENerator:OFFSet:LOCK:ENAble?
Off
```

4.15 CALCualte:NORMalize:INITiate:IMMediate

Syntax:
CALCulate:NORMalize:INITiate:IMMediate

Parameter/Return: —

Description: Initiates the normalization calculation.

Example:

```
CALCulate:NORMalize:INITiate:IMMediate
```

4.16 CALCulate:NORMalize:MODE

Syntax:

CALCulate:NORMalize:MODE

CALCulate:NORMalize:MODE?

Parameter/Return: FullNormalize | SpotNormalize

Description: Sets/returns the normalization mode.

Examples:

```
CALCulate:NORMalize:MODE FullNormalize
CALCulate:NORMalize:MODE?
FullNormalize
```

4.17 CALCulate:NORMalize:CLEar

Syntax: CALCulate:NORMalize:CLEar

Parameter/Return: —

Description: Clears the normalization calculation.

Example:

```
CALCulate:NORMalize:CLEar
```

4.18 CALCulate:NORMalize:STATus?

Syntax: CALCulate:NORMalize:STATus?

Parameter/Return: IdleNotApplied | RunningSpot | RunningFull | IdleApplied | IdleWarmingUp

Description: Returns the Normalization status.

Example:

```
CALCulate:NORMalize:STATus?
IdleNotApplied
```

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5

Spectrum Analyzer Commands

This chapter describes the following remote commands for configuring Spectrum Analyzer (SPECtrumanalyzer) settings:

- CALCulate:MARKer#:DISPlay:FREQuency? 5-5
- CALCulate:MARker#:FREQuency 5-5
- CALCulate:MARker#:TIME 5-5
- CALCulate:MARker#:TYPE 5-6
- CALCulate:MARker#:X 5-6
- CALCulate:FILTer[:GATE]:WINDow (Obsoleted) 5-7
- CALCulate:MARKer#:PEAK:ALWays 5-7
- CALCulate:MARker#:Y? 5-7
- CALCulate:MARKer#:DELTa:DISPlay:FREQuency? 5-8
- CALCulate:MARKer#:DELTa:x 5-8
- CALCulate:MARKer#:DELTa:y? 5-8
- CALCulate:MARKer#:[STATE] 5-9
- CALCulate:MARKer#[:SET]:CENTer 5-9
- CALCulate:MARKer#[:SET]:STARt 5-9
- CALCulate:MARKer#[:SET]:STOP 5-9
- CALCulate:MARKer#[:STATe] 5-10
- CALCulate:MARKer:AOFF 5-10
- CALCulate:MARKer:MAXimum 5-10
- CALCulate:MARKer:MAXimum:LEFT 5-10
- CALCulate:MARKer:MAXimum:NEXT 5-11
- CALCulate:MARKer:MAXimum:RIGHt 5-11
- CALCulate:MARKer:SELect 5-11
- CALCulate:MARKer:TABle:[STATe] 5-12
- CALCulate:MARKer:[SET]:CENTer 5-12
- CALCulate:NORMalize:INITiate:IMMediate 5-12
- CALCulate:NORMalize:SPOT 5-13

- CALCulate:NORMalize:CLEar 5-13
- CALCulate:MARKer:[SET]:STARt 5-13
- CALCulate:MARKer:[SET]:STOP 5-13
- CALCulate:MARKer:PEAK:ALWays 5-14
- CALCulate:MARKer#:DELTa:FREQuency 5-14
- CALCulate:MARKer#:DELTa:FREQuency:RELative 5-14
- CALCulate:MARKer#:DELTa:TRACe 5-15
- CALCulate:MARKer#:DELTa:TIME 5-15
- CALCulate:MARKer#:SELect 5-15
- CALCulate:MARKer#:TRACe 5-16
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- DISPlay:[WINDow]:TRACe:Y:[SCALe]:RLEVel 5-17
- DISPlay:[WINDow]:TRACe:Y:[SCALe]:RLEVel:OFFSet 5-17
- DISPlay:TRACe#:STATe 5-17
- DISPlay:TRACe#:TYPE 5-18
- DISPlay:TRACe:CLEAr:ALL 5-18
- DISPlay:TRACe:LENGth? 5-18
- DISPlay:TRACe:MODE 5-19
- DISPlay:TRACe:CAPTure:REFerence 5-19
- DISPlay:WINDow:TRACe:SCALe:AUTO 5-19
- DISPlay:TRACe:SELect 5-20
- SENSe:TRACe:SPAN 5-20
- DISPlay:WINDow[:SCALe]:Y:BOTTom 5-20
- DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel 5-21
- DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel:OFFSet 5-21
- DISPlay:WINDow[:SCALe]:Y:TOP 5-21
- DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel:OFFSet:ENABle 5-22
- DISPlay[:WINDow]:TRACe:Y:[SCALe]:PDIVision 5-22
- SENSe:HOLD 5-22
- SENSe:SWEep:MODE 5-23
- SENSe:SWEep:CONTinuous 5-23
- SENSe:SWEep:POINts 5-23
- SENSe:ZSPAN:TIME 5-24
- SOURce:MARKer#:DELTa:DISPlay:FREQuency 5-24
- SENSe:BANDwidth:CHANnel 5-24
- SENSe:BANDwidth:CHANnel:SPACing 5-25
- SOURce:MARKer#:DELTa:FREQuency 5-25
- SOURce:MARKer#:DELTa:FREQuency:RELative 5-25
- SENSe:POWer:ACHannel:MODE 5-26
- SENSe:FREquency:SPAN:MODE 5-26
- SOURce:MARKer#:DELTa:TIME 5-26

- SOURce:MARKer#:DELTa:POSItion 5-27
- SENSe:AVERage:COUNt. 5-27
- SOURce:MARKer#:DELTa:X 5-27
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- SOURce:MARKer#:FREQuency. 5-28
- SOURce:MARKer#:PEAK. 5-29
- SOURce:MARKer#:NOISe[:STATe] 5-29
- SOURce:MARKer#:TIME 5-29
- SOURce:MARKer#:POSItion? 5-30
- SOURce:MARKer#:TYPE. 5-30
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- SOURce:MARKer#:Y? 5-32
- SOURce:MARKer:MAXimum 5-32
- SENSe:BANDwidth:VIDeo:MODE 5-32
- SOURce:MARKer:MAXimum:LEFT 5-33
- SOURce:MARKer:MAXimum:RIGHt. 5-33
- SOURce:MARKer:SELect. 5-33
- SOURce:MARKer:MAXimum:NEXT 5-34
- SOURce:MARKer:TABLe[:STATe] 5-34
- SOURce:MARKer[:SET]:CENTer 5-34
- SENSe:BANDwidth:[RESolution]:MODE 5-35
- SENSe:BANDwidth:RESolution 5-35
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- SENSe:BANDwidth:[RESolution]:RATio. 5-36
- SENSe:DETector[:FUNCtion]? 5-36
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- SENSe:FREQuency:SPAN:PREVious 5-37
- SENse:SPAN:ZERO 5-37
- SENSe:FREQuency:STARt 5-38
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- SENSe:OBANDwidth:PERCent 5-38
- SENSe:OBANDwidth[:STATE] 5-39
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- SENSe:POWer[:RF]:ATTenuation:Mode 5-40
- SENSe:POWer[:RF]:ATTenuation 5-40

- SENSe:POWer[:RF]:GAIN:STATe 5-40
- SENSe:SWEep:TIME:MANual 5-41
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- SENSe:TGENerator:ENABle. 5-42
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- TRIGger:SLOPe:FALLing 5-43
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- TRIGger:ZSPAN:MODE 5-45
- MEASure:POWer:ACHannel:LOWer? 5-45
- MEASure:POWer:ACHannel:UPPer? 5-45
- MEASure:POWer:CCHannel. 5-46
- MEASure:OBANDwidth CENTroid? 5-46
- MEASure:OBANDwidth?. 5-46
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- MEASure:TRACe:DATA? 5-47

5.1 CALCulate:MARKer#:DISPlay:FREQuency?

Syntax: CALCulate:MARKer#:DISPlay:FREQuency?

Parameter/Return: # (marker index):1 to 6

Description: Returns the displayed frequency (in Hz) of the specified marker.

Example:

```
CALCulate:MARKer1:DISPlay:FREQuency?
500000000
```

5.2 CALCulate:MARker#:FREQuency

Syntax:

CALCulate:MARKer#:FREQuency

CALCulate:MARKer#:FREQuency?

Parameter/Return: # (marker index):1 to 6

frequency: Frequency in Hz

Description: Sets/returns the frequency of the specified marker.

Examples:

```
CALCulate:MARker1:FREQuency 1000
CALCulate:MARker1:FREQuency?
1000
```

5.3 CALCulate:MARker#:TIME

Syntax:

CALCulate:MARker:#TIME

CALCulate:MARker#:TIME?

Parameter/Return:

(marker index):1 to 6

Description: Sets/returns the time of the specified marker.

Examples:

```
CALCulate:MARker1:TIME 1
CALCulate:MARker1:TIME?
1
```

5.4 CALCulate:MARker#:TYPE

Syntax:

CALCulate:MARKer#:TYPE

CALCulate:MARKer#:TYPE?

Parameter/Return:

(marker index): 1 to 6

type (marker type): Normal | Delta | Delta Pair

Note: Default = Normal)

Description: Sets/returns the type of specified marker.

Examples:

```
CALCulate:MARker1:Type Delta
CALCulate:MARker1:Type?
Delta
```

5.5 CALCulate:MARker#:X

Syntax:

CALCulate:MARKer#:X

CALCulate:MARKer#:X?

Parameter/Return:

(marker index): 1 to 6

Description: Sets/returns the frequency of the specified marker.

Example:

```
CALCulate:MARker1:X 1000000000
CALCulate:MARker1:X?
1000000000
```

5.6 CALCulate:FILTer[:GATE]:WINDow (Obsoleted)

Syntax:

CALCulate:FILTer[:GATE]:WINDow

CALCulate:FILTer[:GATE]:WINDow?

Parameter/Return: Rectangle | Blackman | Flattop | Hamming | Hanning | Kaiser | Triangle

Description: Sets/returns the window type.

Examples:

```
CALCulate:FILTer:GATE:WINDow Blackman
CALCulate:FILTer:GATE:WINDow?
Blackman
```

5.7 CALCulate:MARKer#:PEAK:ALWays

Syntax:

CALCulate:MARKer#:PEAK:ALWays <*state*>

CALCulate:MARKer#:PEAK:ALWays?

Parameter/Return:

(marker index):1 to 6

State: On | Off

Description: Sets/returns whether the specified marker (#) always stays at the highest power.

Examples:

```
CALCulate:MARKer1:PEAK:ALWays On
CALCulate:MARKer1:PEAK:ALWays?
0
```

5.8 CALCulate:MARKer#:Y?

Description: Returns the power at the specified marker (#).

Syntax: CALCulate:MARKer#:Y?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Example:

```
CALCulate:MARKer1:Y?
0
```

5.9 CALCulate:MARKer#:DELTa:DISPlay:FREQuency?

Syntax: CALCulate:MARKer#:DELTa:DISPlay:FREQuency?

Parameter/Return: # (Index):1 to 6

Frequency: —

Description: Returns the frequency of the delta marker at the specified index (#).

Example:

```
CALCulate:MARKer1:DELTa:DISPlay:FREQuency?
0
```

5.10 CALCulate:MARKer#:DELTa:x

Syntax:

CALCulate:MARKer#:Delta:x

CALCulate:MARKer#:Delta:x?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: To set or query the frequency of the delta of the specified marker.

Example:

```
CALCulate:MARker1:DELTa:x 1000000000
CALCulate:MARker1:DELTa:x?
1000000000
```

5.11 CALCulate:MARKer#:DELTa:y?

Syntax: CALCulate:MARKer1:DELTa:y?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: You can query the power of the delta of the specified marker.

Example:

```
CALCulate:MARker01:DELTa:y?
0
```

5.12 CALCulate:MARKer#:[STATE]

Syntax: CALCulate:MARKer#:[STATE]?

Parameter/Return: —

Description: Displays the state of the spectrum analyzer.

Example:

```
CALCulate:MARker1:STATE?
Init
```

5.13 CALCulate:MARKer#[:SET]:CENTer

Syntax: CALCulate:MARKer#[:SET]:CENTer

Parameter/Return: —

Description: Moves the center frequency to the selected marker's frequency.

Example:

```
CALCulate:MARKer1:SET:CENTer
```

5.14 CALCulate:MARKer#[:SET]:STARt

Syntax: CALCulate:MARKer#[:SET]:STARt

Parameter/Return: None

Description: Moves the start frequency to the selected marker's frequency.

Example:

```
CALCulate:MARKer1:SET:STARt
```

5.15 CALCulate:MARKer#[:SET]:STOP

Syntax: CALCulate:MARKer#[:SET}:STOP

Parameter/Return: None

Description: Moves the stop frequency to the selected marker's frequency.

Example:

```
CALCulate:MARKer1:SET:STOP
```

5.16 CALCulate:MARKer#[:STATe]

Syntax:

CALCulate:MARKer#[:STATe]

CALCulate:MARKer#[:STATe]?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Init.

Description: Sets/returns the state of the specified marker.

Example:

```
CALCulate:MARKer1:STATe Init
CALCulate:MARKer1:STATe?
Init
```

5.17 CALCulate:MARKer:AOFF

Syntax: CALCulate:MARKer:AOFF

Parameter/Return: None

Description: Turns all markers off.

Example:

```
CALCulate:MARKer:AOFF
```

5.18 CALCulate:MARKer:MAXimum

Syntax: CALCulate:MARKer:MAXimum

Parameter/Return: None

Description: Moves the selected marker to the peak (maximum) power.

Example:

```
CALCulate:MARKer:MAXimum
```

5.19 CALCulate:MARKer:MAXimum:LEFT

Syntax: CALCulate:MARKer:MAXimum:LEFT

Parameter/Return: None

Description: Moves the selected marker to the next peak (maximum) power on the left of the marker.

Example:

```
CALCulate:MARKer:MAXimum:LEFT
```

5.20 CALCulate:MARKer:MAXimum:NEXT

Syntax: CALCulate:MARKer:MAXimum:NEXT

Parameter/Return: None

Description: Moves the selected marker to the next peak (maximum) power.

Example:

```
CALCulate:MARKer:MAXimum:NEXT
```

5.21 CALCulate:MARKer:MAXimum:RIGHt

Syntax: CALCulate:MARKer:MAXimum:RIGHT

Parameter/Return: None

Description: Moves the selected marker to the next peak (maximum) power on the right of the marker.

Example:

```
CALCulate:MARKer:MAXimum:RIGHt
```

5.22 CALCulate:MARKer:SELect

Syntax:

CALCulate:MARKer:SELect

CALCulate:MARKer:SELect?

Parameter/Return: Marker01 | Marker02 | Marker03 | Marker04 | Marker05 | Marker06

Description: Sets/returns the selected marker.

Example:

```
CALCulate:MARKer:SELect Marker02
CALCulate:MARKer:SELect?
Marker02
```

5.23 CALCulate:MARKer:TABle:[STATe]

Syntax:

CALCulate:MARKer:TABle:[STATe]

CALCulate:MARKer:TABle:[STATe]?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the marker table state.

Example:

```
CALCulate:MARKer:TABLe:STATe Off
CALCulate:MARKer:TABLe:STATe?
0
```

5.24 CALCulate:MARKer:[SET]:CENTer

Syntax: CALCulate:MARKer:[SET]:CENTer

Parameter/Return: None

Description: Moves the center frequency to the selected marker's frequency.

Example:

```
CALCulate:MARKer:SET:CENTer
```

5.25 CALCulate:NORMalize:INITiate:IMMediate

Syntax: CALCulate:NORMalize:INITiate:IMMediate

Parameter/Return: None

Description: Performs normalize. Deprecated - Moved to RFReceiver

Example:

```
CALCulate:NORMalize:INITiate:IMMediate
```

5.26 CALCulate:NORMalize:SPOT

Syntax:

CALCulate:NORMalize:SPOT
CALCulate:NORMalize:SPOT?

Parameter/Return: On | Off | 1 | 0

Description: Spot normalize. Deprecated - Moved to RFReceiver

Example:

```
CALCulate:NORMalize:SPOT Off
CALCulate:NORMalize:SPOT
```

0

5.27 CALCulate:NORMalize:CLEar

Syntax: CALCulate:NORMalize:CLEar

Parameter/Return: None

Description: Clears normalize. Deprecated - Moved to RFReceiver

Example:

```
CALCulate:NORMalize:CLEar
```

5.28 CALCulate:MARKer:[SET]:STARt

Syntax: CALCulate:MARKer:[SET]:STARt

Parameter/Return: Event

Description: —

Example:

```
CALCulate:MARKer:1A:STARt
```

5.29 CALCulate:MARKer:[SET]:STOP

Syntax: CALCulate:MARKer:[SET]:STOP

Parameter/Return: Event

Description: —

Example:

```
CALCulate:MARKer:1A:STOP
```

5.30 CALCulate:MARKer:PEAK:ALWays

Syntax:

CALCulate:MARKer:PEAK:ALWays
CALCulate:MARKer:PEAK:ALWays?

Parameter/Return: BOOL

Description: —

Example:

```
CALCulate:MARKer:PEAK:ALWays 0
CALCulate:MARKer:PEAK:ALWays?
0
```

5.31 CALCulate:MARKer#:DELTa:FREQuency

Syntax:

CALCulate:MARKer#:DELTa:FREQuency

CALCulate:MARKer#:DELTa:FREQuency?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: To set or query the delta frequency of the specified marker.

Example:

```
CALCulate:MARKer1:DELTa:FREQuency
CALCulate:MARKer1:DELTa:FREQuency?
1000000000
```

5.32 CALCulate:MARKer#:DELTa:FREQuency:RELative

Syntax:

CALCulate:MARKer#:DELTa:FREQuency:RELative
CALCulate:MARKer#:DELTa:FREQuency:RELative?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: To set or query the relative delta frequency of the specified marker.

Example:

```
CALCulate:MARKer1:DELTa:FREQuency:RELative
CALCulate:MARKer1:DELTa:FREQuency:RELative?
0
```

5.33 CALCulate:MARKer#:DELTa:TRACe

Syntax: CALCulate:MARKer#:DELTa:Trace

Parameter/Return: Trace{1-6}

Description: Returns the trace number

Example:

```
CALCulate:MARKer:DELTa:TRACe
```

5.34 CALCulate:MARKer#:DELTa:TIME

Syntax:

CALCulate:MARKer#:DELTa:FREQuency
CALCulate:MARKer#:DELTa:FREQuency?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: To set or query the time of the delta of the specified marker.

Example:

```
CALCulate:MARKer1:DELTa:FREQuency
CALCulate:MARKer1:DELTa:FREQuency?
1000000000
```

5.35 CALCulate:MARKer#:SELect

Syntax:

CALCulate:MARKer#:SELect
CALCulate:MARKer#:SELect?

Parameter/Return: Marker01-Marker06

Description: Selects the specified marker.

Example:

```
CALCulate:MARKer02:SELect? Marker01
CALCulate:MARKer02:SELect?
Marker01
```

5.36 CALCulate:MARKer#:TRACe

Syntax:

CALCulate:MARKer#:TRACe
CALCulate:MARKer#:TRACe?

Parameter/Return: Trace01 | Trace02 | to Trace06

Description: Sets/returns which trace marker# is applied to.

Example:

```
CALCulate:MARKer01:TRACe
CALCulate:MARKer01:TRACe?
Trace01
```

5.37 CALCulate:FILTer:[GATE]:WINDow

Syntax:

CALCulate:FILTer:[GATE]:WINDow
CALCulate:FILTer:[GATE]:WINDow?

Parameter/Return: Rectangle, Blackman, Flattop, Hamming, Hanning, Kaiser, Triangle

Description: —

Example:

```
CALCulate:FILTer:GATE:WINDow Blackman
CALCulate:FILTer:GATE:WINDow?
Blackman
```

5.38 DISPlay:[WINDow]:TRACe:Y:[SCALe]:PDIVision

Syntax: DISPlay:[WINDow]:TRACe:Y:[SCALe]:PDIVision

Parameter/Return: NR1

Description: —

Example:

```
DISPlay:TRACe:Y:100:PDIVision
```

5.39 DISPlay:[WINDow]:TRACe:Y:[SCALe]:RLEVel

Syntax: DISPlay:[WINDow]:TRACe:Y:[SCALe]:RLEVel

Parameter/Return: NR2

Description: —

Example:

```
DISPlay:100:TRACe:Y:100:PDIVision:RLEVel
```

5.40 DISPlay:[WINDow]:TRACe:Y:[SCALe]:RLEVel:OFFSet

Syntax: DISPlay:[WINDow]:TRACe:Y:[SCALe]:RLEVel:OFFset?

Parameter/Return: ENABle

Description: —

Example:

```
DISPlay:WINDow:TRACe:Y:SCALe:RLEVel:OFFSet ENAble
DISPlay:WINDow:TRACe:Y:SCALe:RLEVel:OFFSet
0
```

5.41 DISPlay:TRACe#:STATe

Syntax:

DISPLAY:TRACe#:STATe
DISPLAY:TRACe#:STATe?

Parameter/Return: On | Off | 1 | 0

Description: To set or query the state of the trace with index #.

Example:

```
DISPLAY:TRACe1:STATe On
DISPLAY:TRACe1:STATe?
1
```

5.42 DISPlay:TRACe#:TYPE

Syntax:

DISPLAY:TRACe#:TYPE
DISPLAY:TRACe#:TYPE?

Parameter/Return: Off | ClearWrite | Capture | Average | Max | Min | Load

Description: Sets/returns the type of the trace with index #.

Example:

```
DISPLAY:TRACe1:TYPE ClearWrite
DISPLAY:TRACe1:TYPE?
ClearWrite
```

5.43 DISPlay:TRACe:CLEAr:ALL

Syntax: DISPLAY:TRACe:CLEAr:ALL

Parameter/Return: None

Description: Clears all traces on the screen

Example:

```
DISPlay:TRACe:CLEAr:ALL
```

5.44 DISPlay:TRACe:LENGth?

Syntax: DISPlay:TRACe:LENGth?

Parameter/Return:

Description: Defines the number of points in the trace

Example:

```
DISPlay:TRACe:LENGth?
601
```

5.45 DISPlay:TRACe:MODE

Syntax:

DISPlay:TRACe:MODE
DISPlay:TRACe:MODE?

Parameter/Return: Normal | Reference

Description: Choose if normal or reference trace type

Example:

```
DISPlay:TRACe:MODE Normal
DISPlay:TRACe:MODE?
NOrmal
```

5.46 DISPlay:TRACe:CAPTure:REFerence

Syntax: DISPlay:TRACe:CAPTure:REFerence

Parameter/Return: None

Description: To Capture the reference trace.

Example:

```
DISPlay:TRACe:CAPTure:REFerence
```

5.47 DISPlay:WINDow:TRACe:SCALe:AUTO

Syntax: DISPlay:WINDow:TRACe:SCALe:AUTO

Parameter/Return: None

Description: To Auto scale.

Example:

DISPlay:WINDow:TRACe:SCALe:AUTO

5.48 DISPlay:TRACe:SELect

Syntax:

DISPlay:TRACe:SELect
DISPlay:TRACe:SELect?

Parameter/Return: Trace01 | Trace02 | Trace03 | Trace04 | Trace05 | Trace06

Description: Sets/returns the selected trace.

Example:

```
DISPlay:TRACe:SELect Trace01
DISPlay:TRACe:SELect?
Trace01
```

5.49 SENSe:TRACe:SPAN

Syntax:

SENSe:TRACe:SPAN
SENSe:TRACe:SPAN?

Parameter/Return: CenterSpan | StartStop

Description: Sets/returns if the Center/Span or Start/Stop frequencies are used for the displayed interval.

Example:

```
DISPlay:TRACe:SPAN CenterSpan
DISPlay:TRACe:SPAN?
CenterSpan
```

5.50 DISPlay:WINDow[:SCALe]:Y:BOTTom

Syntax:

DISPlay:WINDow[:SCALe]:Y:BOTTom
DISPlay:WINDow[:SCALe]:Y:BOTTom?

Parameter/Return: Minimum: -2000; Maximum: 17; Type: Double.

Description: Sets/returns the bottom of the scale.

Example:

```
DISPlay:WINDow:SCALe:Y:BOTTom 0
DISPlay:WINDow:SCALe:Y:BOTTom?
0
```

5.51 DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel

Syntax:

DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel
DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel?

Parameter/Return: Minimum: -130; Maximum: 27; Type: Double.

Description: Sets/returns reference level.

Example:

```
DISPlay:WINDow:TRACe:Y:SCALe:RLEVel 0
DISPlay:WINDow:TRACe:Y:SCALe:RLEVel?
0
```

5.52 DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel:OFFSet

Syntax:

DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel:OFFSet
DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel:OFFSet?

Parameter/Return: Minimum: -200; Maximum: 200; Type: Double.

Description: Sets/returns reference level offset.

Example:

```
DISPlay:WINDow:TRACe:Y:SCALe:RLEVel:OFFSet 0
DISPlay:WINDow:TRACe:Y:SCALe:RLEVel:OFFSet?
0
```

5.53 DISPlay:WINDow[:SCALe]:Y:TOP

Syntax:

DISPlay:WINDow[:SCALe]:Y:TOP
DISPlay:WINDow[:SCALe]:Y:TOP?

Parameter/Return: Minimum: -130; Maximum: 27; Type: Double.

Description: Sets/returns the top of the scale.

Example:

```
DISPlay:WINDow:SCALe:Y:TOP 0
DISPlay:WINDow:SCALe:Y:TOP?
0
```

5.54 DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel:OFFSet:ENABle

Syntax:

DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel:OFFSet:ENABle
DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel:OFFSet:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the reference level offset enable.

Example:

```
DISPlay:WINDow:TRACe:Y:SCALe:RLEVel:OFFSet:ENABleOff
DISPlay:WINDow:TRACe:Y:SCALe:RLEVel:OFFSet:ENABle?
0
```

5.55 DISPlay[:WINDow]:TRACe:Y:[SCALe]:PDIVision

Syntax:

DISPlay[:WINDow]:TRACe:Y:[SCALe]:PDIVision
DISPlay[:WINDow]:TRACe:Y:[SCALe]:PDIVision?

Parameter/Return: Minimum: 1; Maximum: 200; Type: Int.e.

Description: Sets/returns the scale (dB/division) for the y-axis.

Example:

```
DISPlay:WINDow:TRACe:Y:SCALe:PDIVision 10
DISPlay:WINDow:TRACe:Y:SCALe:PDIVision?
10
```

5.56 SENSe:HOLD

Syntax:

SENSe:HOLD
SENSe:HOLD?

Parameter/Return: On | Off | 1 | 0

Description: Set or query the hold functionality.

Example:

```
SENSe:HOLD On
SENSe:HOLD?
0
```

5.57 SENSe:SWEep:MODE

Syntax:

SENSe:SWEep:MODE
SENSe:SWEep:MODE?

Parameter/Return: FFT | FilterBank | ZeroSpan | CZT

Description: Sets/returns the sweep mode.

Example:

```
SENSe:SWEep:MODE FFT
SENSe:SWEep:MODE?
FFT
```

5.58 SENSe:SWEep:CONTinuous

Syntax:

SENSe:SWEep:CONTinuous
SENSe:SWEep:CONTinuous?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the sweep mode.

Example:

```
SENSe:SWEep:CONTinuous On
SENSe:SWEep:CONTinuous?
1
```

5.59 SENSe:SWEep:POINts

Syntax:

SENSe:SWEep:POINts
SENSe:SWEep:POINts?

Parameter/Return: Minimum: 100; Maximum: 16384; Type: Int.

Description: Sets/returns the number of sweep points.

Example:

```
SENSe:SWEep:POINts 601
SENSe:SWEep:POINts?
601
```

5.60 SENSe:ZSPAN:TIME

Syntax:

SENSe:ZSPAN:TIME
SENSe:ZSPAN:TIME?

Parameter/Return: Minimum: 0.82; Maximum: 100000; Type: Double

Description: Sets/returns zero span time.

Example:

```
SENSe:ZSPAN:TIME 2.5
SENSe:ZSPAN:TIME?
2.5
```

5.61 SOURce:MARKer#:DELTa:DISPlay:FREQuency

Syntax:

SOURce:MARKer#:DELTa:DISPlay:FREQuency
SOURce:MARKer#:DELTa:DISPlay:FREQuency?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: You can query the frequency the delta of the specified marker is at.

Example:

SOURce:MARKer1:DELTa:DISPlay:FREQuency 0
SOURce:MARKer1:DELTa:DISPlay:FREQuency?
0

5.62 SENSe:BANDwidth:CHANnel

Syntax:

SENSe:BANDwidth:CHANnel
SENSe:BANDwidth:CHANnel?

Parameter Returns: Minimum: 25; Maximum: 5000000; Type: Double.

Description: Sets/returns the ACPower channel bandwidth - bound by current span and channel spacing.

Example:

```
SENSe:BANDwidth:CHANnel 20000
SENSe:BANDwidth:CHANnel?
20000
```

5.63 SENSe:BANDwidth:CHANnel:SPACing

Syntax:

```
SENSe:BANDwidth:CHANnel:SPACing
SENSe:BANDwidth:CHANnel:SPACing?
```

Parameter/Return: Minimum: 100; Maximum: 6020000000; Type: Double.

Description: You can AC Power channel spacing - bound by current span and channel bandwidth.

Example:

```
SENSe:BANDwidth:CHANnel:SPACing 40000
SENSe:BANDwidth:CHANnel:SPACing?
40000
```

5.64 SOURce:MARKer#:DELTa:FREQuency

Syntax:

SOURce:MARKer#:DELTa:FREQuency
SOURce:MARKer#:DELTa:FREQuency?

Parameter/Return: Minimum: 9000; Maximum: 6005000000; Type: Double.

Description: Sets/returns delta frequency of the specified marker.

Example:

```
SOURce:MARKer1:DELTa:FREQuency 1000000000
SOURce:MARKer1:DELTa:FREQuency?
1000000000
```

5.65 SOURce:MARKer#:DELTa:FREQuency:RELative

Syntax:

SOURce:MARKer#:DELTa:FREQuency:RELative
SOURce:MARKer#:DELTa:FREQuency:RELative?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns relative delta frequency of the specified marker.

Example:

```
SOURce:MARKer1:DELTa:FREQuency:RELative 0
SOURce:MARKer1:DELTa:FREQuency:RELative?
0
```

5.66 SENSe:POWer:ACHannel:MODE

Syntax:

SENSe:POWer:ACHannel:MODE
SENSe:POWer:ACHannel:MODE?

Parameter/Return: Abs | Rel

Description: Sets/returns power measure unit.

Example:

```
SENSe:POWer:ACHannel:MODE Abs
SENSe:POWer:ACHannel:MODE?
Abs
```

5.67 SENSe:FREquency:SPAN:MODE

Syntax:

SENSe:FREquency:SPAN:MODE
SENSe:FREquency:SPAN:MODE?

Parameter/Return: Spectrum|ZeroSpan

Description: Sets/returns Frequency span mode.

Example:

```
SENSe:FREquency:SPAN:MODE Spectrum
SENSe:FREquency:SPAN:MODE?
Spectrum
```

5.68 SOURce:MARKer#:DELTa:TIME

Syntax:

SOURce:MARKer#:DELTa:TIME
SOURce:MARKer#:DELTa:TIME?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns time of the delta of the specified marker.

Example:

```
SOURce:MARKer1:DELTa:TIME 0
SOURce:MARKer1:DELTa:TIME?
0
```

5.69 SOURce:MARKer#:DELTa:POSItion

Syntax:

SOURce:MARKer#:DELTa:POSItion
SOURce:MARKer#:DELTa:POSItion?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns horizontal position of the delta of the specified marker.

Example:

```
SOURce:MARKer1:DELTa:POSItion -1
SOURce:MARKer1:DELTa:POSItion?
-1
```

5.70 SENSe:AVERage:COUNt

Syntax:

SENSe:AVERage:COUNt
SENSe:AVERage:COUNt?

Parameter/Return: Minimum: 0; Maximum: 100; Type: Int.

Description: Sets/returns the number of average samples used to display the graph.

Example:

```
SENSe:AVERage:COUNt 1
SENSe:AVERage:COUNt?
1
```

5.71 SOURce:MARKer#:DELTa:X

Syntax:

SOURce:MARKer#:DELTa:X
SOURce:MARKer#:DELTa:X?

Parameter/Return: Minimum: 9000; Maximum: 6005000000; Type: Double.

Description: Sets/returns the frequency of the delta of the specified marker.

Example:

```
SOURce:MARKer1:DELTa:X 1000000000
SOURce:MARKer1:DELTa:X?
1000000000
```

5.72 SOURce:MARKer#:DELTa:Y

Syntax:

SOURce:MARKer#:DELTa:Y
SOURce:MARKer#:DELTa:Y?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the frequency of the delta of the specified marker.

Example:

```
SOURce:MARKer1:DELTa:Y 0
SOURce:MARKer1:DELTa:Y?
0
```

5.73 SOURce:MARKer#:DISPlay:FREQuency

Syntax:

SOURce:MARKer1:DISPlay:FREQuency
SOURce:MARKer1:DISPlay:FREQuency?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the displayed frequency of the specified marker.

Example:

```
SOURce:MARKer1:DISPlay:FREQuency 0
SOURce:MARKer1:DISPlay:FREQuency?
0
```

5.74 SOURce:MARKer#:FREQuency

Syntax:

SOURce:MARKer#:FREQuency
SOURce:MARKer#:FREQuency?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the frequency of the specified marker.

Example:

```
SOURce:MARKer1:FREQuency 1000000000
SOURce:MARKer1:FREQuency?
1000000000
```

5.75 SOURce:MARKer#:PEAK

Syntax:

SOURce:MARKer#:PEAK
SOURce:MARKer#:PEAK?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns if the marker always stays at the highest power.

Example:

SOURce:MARKer1:PEAK Off
SOURce:MARKer1:PEAK?
0

5.76 SOURce:MARKer#:NOISe[:STATe]

Syntax:

SOURce:MARKer#:NOISe[:STATe]
SOURce:MARKer#:NOISe[:STATe]?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the if the noise marker is turned On or Off for the of the specified marker.

Example:

```
SOURce:MARKer1:NOISe:STATe Off
SOURce:MARKer1:NOISe:STATe?
0
```

5.77 SOURce:MARKer#:TIME

Syntax:

SOURce:MARKer#:TIME
SOURce:MARKer#:TIME?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the time of the specified marker.

Example:

```
SOURce:MARKer1:TIME 0
SOURce:MARKer1:TIME?
0
```

5.78 SOURce:MARKer#:POSItion?

Syntax:

SOURce:MARKer#:POSItion
SOURce:MARKer#:POSItion?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the horizontal position of the specified marker. with index #.

Example:

```
SOURce:MARKer1:POSItion -1
SOURce:MARKer1:POSItion?
-1
```

5.79 SOURce:MARKer#:TYPE

Syntax:

SOURce:MARKer#:TYPE
SOURce:MARKer#:TYPE?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the type of the specified marker.

Example:

```
SOURce:MARKer1:TYPE Normal
SOURce:MARKer1:TYPE?
Normal
```

5.80 SOURce:MARKer#:X

Syntax:

SOURce:MARKer#:X
SOURce:MARKer#:X?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the frequency of the specified marker.

Example:

```
SOURce:MARKer1:X? 1000000000
SOURce:MARKer1:X?
1000000000
```

5.81 SENSe:BANDwidth:VIDeo

Syntax:

SENSe:BANDwidth:VIDeo
SENSe:BANDwidth:VIDeo?

Parameter/Return: Minimum: 5; Maximum: 5000000; Type: Double.

Description: Sets/returns the video bandwidth.

Example:

```
SENSe:BANDwidth:VIDeo 1000000
SENSe:BANDwidth:VIDeo?
1000000
```

5.82 SOURce:MARKer#:[STATe]

Syntax:

SOURce:MARKer:#[STATe]
SOURce:MARKer#:[STATe]?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Init.

Description: Sets/returns state of the specified marker.

Example:

```
SOURce:MARKer1:STATe Init
SOURce:MARKer1:STATe?
Init
```

5.83 SOURce:MARKer:AOFF

Syntax: SOURce:MARKer:AOFF?

Parameter/Return: # - None

Description: Turns all markers off.

Example:

```
SOURce:MARKer:AOFF
```

5.84 SOURce:MARKer#:Y?

Syntax: SOURce:MARKer#:Y?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: You can query power at the of the specified marker.

Example:

```
SOURce:MARKer1:Y?
0
```

5.85 SOURce:MARKer:MAXimum

Syntax: SOURce:MARKer:MAXimum

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Moves the selected marker to the peak (maximum) power.

Example:

```
SOURce:MARKer:MAXimum
```

5.86 SENSe:BANDwidth:VIDeo:MODE

Syntax:

SENSe:BANDwidth:VIDeo:MODE
SENSe:BANDwidth:VIDeo:MODE?

Parameter/Return: Auto|Manual

Description: Sets/returns video bandwidth mode.

Example:

```
SENSe:BANDwidth:VIDeo:MODE Auto
SENSe:BANDwidth:VIDeo:MODE?
Auto
```

5.87 SOURce:MARKer:MAXimum:LEFT

Syntax: SOURce:MARKer:MAXimum:LEFT

Parameter/Return: Minimum: 0.001; Maximum: 1000; Type: Double.

Description: Moves the selected marker to the next peak (maximum) power on the left of the marker.

Example:

```
SOURce:MARKer:MAXimum:LEFT
```

5.88 SOURce:MARKer:MAXimum:RIGHt

Syntax: SOURce:MARKer:MAXimum:RIGHt?

Parameter/Return: Minimum: 0.001; Maximum: 1000; Type: Double.

Description: Moves the selected marker to the next peak (maximum) power on the right of the marker.

Example:

```
SOURce:MARKer:MAXimum:RIGHt
```

5.89 SOURce:MARKer:SELect

Syntax:

SOURce:MARKer:SELect
SOURce:MARKer:SELect?

Parameter/Return: Marker01 | Marker02 | Marker03 | Marker04 | Marker05 | Marker06

Description: Sets/returns the selected marker.

Example:

```
SOURce:MARKer:SELect Marker01
SOURce:MARKer:SELect?
Marker01
```

5.90 SOURce:MARKer:MAXimum:NEXT

Syntax: SOURce:MARKer:MAXimum:NEXT

Parameter/Return: None.

Description: Moves the selected marker to the next peak (maximum) power.

Example:

```
SOURce:MARKer:MAXimum:NEXT
```

5.91 SOURce:MARKer:TABLe[:STATe]

Syntax:

SOURce:MARKer:TABLe[:STATe]
SOURce:MARKer:TABLe[:STATe]?

Parameter/Return: On | Off | 1 | 0

Description: Sets the marker table state.

Example:

```
SOURce:MARKer:TABLe:STATe Off
SOURce:MARKer:TABLe:STATe?
0
```

5.92 SOURce:MARKer[:SET]:CENTer

Syntax: SOURce:MARKer[:SET]:CENTer

Parameter/Return: None

Description: Moves the center frequency to the selected marker's frequency.

Example:

```
SOURce:MARKer:SET:CENTer
```

5.93 SENSe:BANDwidth:[RESolution]:MODE

Syntax:

SENSe:BANDwidth:[RESolution]:MODE
SENSe:BANDwidth:[RESolution]:MODE?

Parameter/Return: Auto|Manual

Description: Sets the bandwidth resolution mode.

Example:

```
SENSe:BANDwidth:RESolution:MODE Auto
SENSe:BANDwidth:RESolution:MODE?
Auto
```

5.94 SENSe:BANDwidth:RESolution

Syntax:

SENSe:BANDwidth:RESolution
SENSe:BANDwidth:RESolution?

Parameter/Return: Minimum: 45; Maximum: 5000000; Type: Double.

Description: Sets/returns resolution bandwidth.

Example:

```
SENSe:BANDwidth:RESolution 1000000
SENSe:BANDwidth:RESolution?
1000000
```

5.95 SENSe:BANDwidth[:RESolution]:ACTual

Syntax:

SENSe:BANDwidth[:RESolution]:ACTual
SENSe:BANDwidth[:RESolution]:ACTual?

Parameter/Return: Type: Double.

Description: Sets/returns actual resolution bandwidth.

Example:

```
SENSe:BANDwidth:RESolution:ACTual 0
SENSe:BANDwidth:RESolution:ACTual?
0
```

5.96 SENSe:BANDwidth:[RESolution]:RATio

Syntax:

SENSe:BANDwidth:[RESolution]:RATio
SENSe:BANDwidth:[RESolution]:RATio?

Parameter/Return: Minimum: 1; Maximum: 1000; Type: Int.

Description: Sets/returns resolution bandwidth ratio.

Example:

```
SENSe:BANDwidth:RESolution:RATio 100
SENSe:BANDwidth:RESolution:RATio?
100
```

5.97 SENSe:DETector[:FUNCtion]?

Syntax: SENSe:DETector:FUNCtion?

Parameter/Return: Peak | NegativePeak | Normal | RMS

Description: Detector function.

Example:

```
SENSe:DETector:FUNCtion?
Peak
```

5.98 SENSe:FREQuency:CENTer

Syntax:

SENSe:FREQuency:CENTer
SENSe:FREQuency:CENTer?

Parameter/Return: Minimum: 9050; Maximum: 6000000000; Type: Double.

Description: Sets/returns center frequency.

Example:

```
SENSe:FREQuency:CENTer 1000000000
SENSe:FREQuency:CENTer?
1000000000
```

5.99 SENSe:FREQuency:SPAN:FULL

Syntax: SENSe:FREQuency:SPAN:FULL

Parameter/Return: None

Description: Sets the span frequency to maximum.

Example:

```
SENSe:FREQuency:SPAN:FULL
```

5.100 SENSe:FREQuency:SPAN

Syntax:

SENSe:FREQuency:SPAN
SENSe:FREQuency:SPAN?

Parameter/Return: Minimum: 100; Maximum: 6004991000; Type: Double.

Description: Sets/returns span frequency.

Example:

```
SENSe:FREQuency:SPAN 100000000
SENSe:FREQuency:SPAN?
100000000
```

5.101 SENSe:FREQuency:SPAN:PREVious

Syntax: SENSe:FREQuency:SPAN:PREVious

Parameter/Return: None

Description: Sets the span frequency to the previous value.

Example:

```
SENSe:FREQuency:SPAN:PREVious
```

5.102 SENse:SPAN:ZERO

Syntax: SENSe:SPAN:ZERO

Parameter/Return: None

Description: Activates zero span measurement.

Example:

```
SENSe:SPAN:ZERO
```

5.103 SENSe:FREQuency:STARt

Syntax:

SENSe:FREQuency:STARt
SENSe:FREQuency:STARt?

Parameter/Return: Minimum: 9000; Maximum: 5999999950; Type: Double.

Description: Sets/returns start frequency.

Example:

```
SENSe:FREQuency:STARt 950000000
SENSe:FREQuency:STARt?
950000000
```

5.104 SENSe:FREQuency:STOP

Syntax:

SENSe:FREQuency:STOP
SENSe:FREQuency:STOP?

Parameter/Return: Event

Description:

Example:

```
SENSe:FREQuency:STOP 1050000000
SENSe:FREQuency:STOP?
1050000000
```

5.105 SENSe:OBANDwidth:PERCent

Syntax:

SENSe:OBANDwidth:PERCent
SENSe:OBANDwidth:PERCent?

Parameter/Return: Minimum: 0.1; Maximum: 99.99; Type: Double.

Description: Sets/returns occupied bandwidth power ratio.

Example:

```
SENSe:OBANDwidth:PERCent 99
SENSe:OBANDwidth:PERCent?
99
```

5.106 SENSe:OBANDwidth[:STATE]

Syntax:

SENSe:OBANDwidth[:STATE]
SENSe:OBANDwidth[:STATE]?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns occupied bandwidth state.

Example:

```
SENSe:OBANDwidth:STATE Off
SENSe:OBANDwidth:STATE?
0
```

5.107 SENSe:PORT

Syntax:

SENSe:PORT
SENSe:PORT?

Parameter/Return: RF_Duplex|RF_Input

Description: Sets/returns the input source.

Example:

```
SENSe:PORT RF_Duplex
SENSe:PORT?
RF_Duplex
```

5.108 SENSe:POWer[:RF]:ATTenuation

Syntax:

SENSe:POWer[:RF]:ATTenuation
SENSe:POWer[:RF]:ATTenuation?

Parameter/Return: Minimum: 0; Maximum: 40; Type: Int.

Description: Sets/returns RF Attenuation value.

Example:

```
SENSe:POWer:ATTenuation 0
SENSe:POWer:ATTenuation?
0
```

5.109 SENSe:POWer[:RF]:ATTenuation:Mode

Syntax:

SENSe:POWer[:RF]:ATTenuation:Mode
SENSe:POWer[:RF]:ATTenuation:Mode?

Parameter/Return: Auto|Manual

Description: Sets/returns RF Attenuation Mode.

Example:

```
SENSe:POWer:RF:ATTenuation:Mode Auto
SENSe:POWer:RF:ATTenuation:Mode?
Auto
```

5.110 SENSe:POWer[:RF]:ATTenuation

Syntax:

SENSe:POWer[:RF]:ATTenuation
SENSe:POWer[:RF]:ATTenuation?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns RF Attenuation Mode.

Example:

```
SENSe:POWer:RF:ATTenuation Off
SENSe:POWer:RF:ATTenuation?
0
```

5.111 SENSe:POWer[:RF]:GAIN:STATe

Syntax:

SENSe:POWer[:RF]:GAIN:STATe
SENSe:POWer[:RF]:GAIN:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the pre-amp.

Example:

```
SENSe:POWer:RF:GAIN:STATe Off
SENSe:POWer:RF:GAIN:STATe?
0
```

5.112 SENSe:SWEep:TIME:MANual

Syntax:

SENSe:SWEep:TIME:MANual
SENSe:SWEep:TIME:MANual?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns sweep time mode.

Example:

```
SENSe:SWEep:TIME:MANual Off
SENSe:SWEep:TIME:MANual?
0
```

5.113 SENSe:SWEep:TIME

Syntax:

SENSe:SWEep:TIME

SENSe:SWEep:TIME?

Parameter/Return: 0.000078 to 100000

Description: Sets/returns the sweep time.

Example:

```
SENSe:SWEep:TIME 0.0004
SENSe:SWEep:TIME?
0.0004
```

5.114 SENSe:SWEep:[ONCE]

Syntax: SENSe:SWEep:[ONCE]

Parameter/Return: None

Description: Performs one sweep in Single Sweep Mode.

Example:

SENSe:SWEep:ONCE

5.115 SENSe:TGENerator:ENABle

Syntax:

SENSe:TGENerator:ENABle
SENSe:TGENerator:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: Enables tracking gen.

Example:

```
SENSe:TGENerator:ENABle Off
SENSe:TGENerator:ENABle?
0
```

5.116 SENSe:TGENerator:LEVel

Syntax:

SENSe:TGENerator:LEVel
SENSe:TGENerator:LEVel?

Parameter/Return: Minimum: -130; Maximum: 30; Type: Double.

Description: Sets/returns tracking gen level.

Example:

```
SENSe:TGENerator:LEVel -30
SENSe:TGENerator:LEVel?
-30
```

5.117 SENSe:TGENerator:OFFSet

Syntax:

SENSe:TGENerator:OFFSet
SENSe:TGENerator:OFFSet?

Parameter/Return: Minimum: -30; Maximum: 30; Type: Double

Description: Sets/returns tracking gen level offset.

Example:

```
SENSe:TGENerator:OFFSet 0
SENSe:TGENerator:OFFSet?
0
```

5.118 SENSe:TGENerator:PORT

Syntax:

SENSe:TGENerator:PORT
SENSe:TGENerator:PORT?

Parameter/Return: RF_Duplex|RF_output

Description: Sets/returns tracking gen port.

Example:

```
SENSe:TGENerator:PORT RF_Duplex
SENSe:TGENerator:PORT?
RF_Duplex
```

5.119 TRIGger:SLOPe:FALLing

Syntax:

TRIGger:SLOPe:FALLing
TRIGger:SLOPe:FALLing?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns trigger level type.

Example:

```
TRIGger:SLOPe:FALLing Off
TRIGger:SLOPe:FALLing?
0
```

5.120 TRIGger:MODE

Syntax:

TRIGger:MODE
TRIGger:MODE?

Parameter/Return: Immediate|External|Video

Description: Sets/returns the trigger source.

Example:

```
TRIGger:MODE Immediate
TRIGger:MODE?
Immediate
```

5.121 TRIGger:SEQuence:VIDeo:DELay

Syntax:

TRIGger:SEQuence:VIDeo:DELay
TRIGger:SEQuence:VIDeo:DELay?

Parameter/Return: Minimum: 0; Maximum: 15; Type: Double.

Description: Sets/returns the video trigger delay.

Example:

```
TRIGger:SEQuence:VIDeo:DELay 0
TRIGger:SEQuence:VIDeo:DELay?
0
```

5.122 TRIGger:SEQuence:VIDeo:LEVel

Syntax:

TRIGger:SEQuence:VIDeo:LEVel
TRIGger:SEQuence:VIDeo:LEVel?

Parameter/Return: Minimum: 0; Maximum: 100; Type: Double.

Description: Sets/returns the video trigger level.

Example:

```
TRIGger:SEQuence:VIDeo:LEVel 50
TRIGger:SEQuence:VIDeo:LEVel?
50
```

5.123 TRIGger:ZSPAN:SLOPe:FALLing

Syntax:

TRIGger:ZSPAN:SLOPe:FALLing
TRIGger:ZSPAN:SLOPe:FALLing?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the trigger slope.

Example:

```
TRIGger:ZSPAN:SLOPe:FALLing Off
TRIGger:ZSPAN:SLOPe:FALLing?
0
```

5.124 TRIGger:ZSPAN:MODE

Syntax:

TRIGger:ZSPAN:MODE
TRIGger:ZSPAN:MODE?

Parameter/Return: Immediate | External | Video

Description: Sets/returns the trigger source.

Example:

```
TRIGger:ZSPAN:MODE Immediate
TRIGger:ZSPAN:MODE?
Immediate
```

5.125 MEASure:POWer:ACHannel:LOWer?

Syntax: MEASure:POWer:ACHannel:LOWer?

Parameter/Return: —

Description: Returns the lower side power.

Example:

```
MEASure:POWer:ACHannel:LOWer?
0
```

5.126 MEASure:POWer:ACHannel:UPPer?

Syntax: MEASure:POWer:ACHannel:UPPer?

Parameter/Return: —

Description: Returns the upper side power.

Example:

Query Response: -

```
MEASure:POWer:ACHannel:UPPer?
0
```

5.127 MEASure:POWer:CCHannel

Syntax: MEASure:POWer:CCHannel?

Parameter/Return: —

Description: Returns the center channel power.

Example:

```
MEASure:POWer:CCHannel?
0
```

5.128 MEASure:OBANDwidth CENTroid?

Syntax: MEASure:OBANDwidth:CENTRoid?

Parameter/Return: —

Description: Returns the center of the occupied channel bandwidth.

Example:

```
MEASure:OBANDwidth:CENTRoid?
100
```

5.129 MEASure:OBANDwidth?

Syntax: MEASure:OBANDwidth?

Parameter/Return: —

Description: Returns the Occupied Bandwidth frequency span.

Example:

```
MEASure:OBANDwidth?
100
```

5.130 MEASure:OBANDwidth:POWer?

Syntax: MEASure:OBANDwidth:POWer?

Parameter/Return: —

Description: Returns the Occupied Bandwidth Power.

Example:

```
MEASure:OBANDwidth:POWer?
100
```

5.131 MEASure:TRACe:DATA?

Syntax: MEASure:TRACe:DATA?

Parameter/Return: —

Description: Returns comma-delimited trace data.

Example:

```
MEASure:TRACe:Data?
-100.0,-99.9...,<xx.x>
```

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6

Channel Analyzer Commands

This chapter describes the following remote commands for configuring Channel Analyzer (CHANnelanalyzer) settings:

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6.1 DISPlay:TRACe:LENGth

Syntax:

DISPlay:TRACe:LENGth
DISPlay:TRACe:LENGth?

Parameter/Return: 1 to 10000 (default = 347)

Description: Sets/returns the trace length.

Examples:

```
DISPlay:TRACe:LENGth 1729
DISPlay:TRACe:LENGth?
1729
```

6.2 CALCulate:MARKer#:FREQuency

Syntax: CALCulate:MARKer#:FREQuency

Parameter/Return: # (marker index) = 1 to 6

Description: Sets the specified marker frequency in Hz.

Example:

```
CALCulate:MARKer1:FREQuency
```

6.3 CALCulate:MARKer#:TYPE

Syntax:

CALCulate:MARKer#:TYPE

CALCulate:MARKer#:TYPE?

Parameter/Return: Normal | Delta | Delta Pair

Note: Default = Normal

Description: Sets/returns the marker type.

Example:

```
CALCulate:MARKer1:TYPE Normal
CALCulate:MARKer1:TYPE?
Normal
```

6.4 CALCulate:MARKer#:X

Syntax:

CALCulate:MARKer#:X
CALCulate:MARKer#:X?

Parameter/Return:

(marker index) = 1 to 6

value range = 9000 to 6005000000

Description: Sets/returns the value of the specified marker

Examples:

```
CALCulate:MARKer1:X 500050000
CALCulate:MARKer1:X?
500050000
```

6.5 CALCulate:MARKer#:Y?

Syntax: CALCulate:MARKer#:Y?

Parameter/Return:

(marker index) = 1 to 6

value = Y value

Description: Returns the Y value of the specified marker.

Example:

```
CALCulate:MARKer2:Y?
0
```

6.6 CALCulate:MARKer#[:STATe]

Syntax:

CALCulate:MARKer#[:STATe]
CALCulate:MARKer#[:STATe]?

Parameter/Return:

(marker index) = 1 to 6

state = On | Off

Description: Sets/returns the state of the specified marker.

Examples:

```
CALCulate:MARKer02:STATe Init
CALCulate:MARKer02:STATe?
Init
```

6.7 CALCulate:MARKer:AOFF

Syntax: CALCulate:MARKer:AOFF

Parameter/Return: None

Description: Turns off all markers.

Example:

```
CALCulate:MARKer:AOFF
```

6.8 CALCulate:MARKer:MAXimum

Syntax:

CALCulate:MARKer:MAXimum

Parameter/Return: None

Description: Sets the marker to peak.

Example:

```
CALCulate:MARKer:MAXimum
```

6.9 CALCulate:MARKer:MAXimum:LEFT

Syntax:

CALCulate:MARKer:MAXimum:LEFT

CALCulate:MARKer:MAXimum:LEFT?

Parameter/Return: —

Description: Sets the marker to next peak left.

Example:

```
CALCulate:MARKer:MAXimum:LEFT
```

6.10 CALCulate:MARKer:MAXimum:NEXT

Syntax:

CALCulate:MARKer:MAXimum:NEXT

Parameter/Return: —

Description: Sets the marker to next peak.

Example:

```
CALCulate:MARKer:MAXimum:NEXT
```

6.11 CALCulate:MARKer:MAXimum:RIGHt

Syntax:

CALCulate:MARKer:MAXimu:RIGHt

Parameter/Return: None

Description: Sets the Marker to next peak right.

Example:

```
CALCulate:MARKer:MAXimum:RIGHt
```

6.12 CALCulate:MARKer:MINimum

Syntax:

CALCulate:MARKer:MINimum

Parameter/Return: —

Description: Sets marker to minimum.

Example:

```
CALCulate:MARKer:MINimum
```

6.13 CALCulate:MARKer:TABLe[:STATe]

Syntax:

CALCulate:MARKer:TABLE[:STATE]

CALCulate:MARKer:TABLE[:STATE]?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the marker table.

Example:

```
CALCulate:MARKer:TABLE:STATE Off
CALCulate:MARKer:TABLE:STATE?
0
```

6.14 CALCulate:MARKer[:SET]:STARt

Syntax:

CALCulate:MARKer[:SET]:STARt

Parameter/Return: 9000 to 6005000000

Description: Move start frequency to the selected markers frequency.

Examples:

```
CALCulate:MARKer:SET:STARt 10000
```

6.15 CALCulate:MARKer[:SET]:STOP

Syntax:

CALCulate:MARKer[:SET]:STOP

Parameter/Return: —

Description: Move center frequency to the selected marker's frequency.

Example:

```
CALCulate:MARKer:SET:STOP
```

6.16 CALCulate:MARKer[:SET]:CENTer

Syntax:

CALCulate:MARKer[:SET]:CENTer

Parameter/Return: —

Description: Move center frequency to the selected marker's frequency.

Example:

```
CALCulate:MARKer:SET:CENTer
```

6.17 CALCulate:MARKer#:PEAK:ALWays

Syntax:

CALCulate:MARKer#:PEAK:ALWays

CALCulate:MARKer#:PEAK:ALWays?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the marker # track peak state.

Example:

```
CALCulate:MARKer02:PEAK:ALWays Off
CALCulate:MARKer02:PEAK:ALWays?
0
```

6.18 CALCulate:MARKer#:TRACe

Syntax:

CALCulate:MARKer#:TRACe

CALCulate:MARKer#:TRACe?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the trace for marker #.

Example:

```
CALCulate:MARKer1:TRACe Trace01
CALCulate:MARKer1:TRACe?
Trace01
```

6.19 CALCulate:MARKer#:DELTa:FREQuency

Syntax:

CALCulate:MARKer#:DELTa:FREQuency
CALCulate:MARKer#:DELTa:FREQuency?

Parameter/Return: Minimum: 9000; Maximum: 6005000000; Type: Double.

Description: Sets/returns the delta marker frequency in Channel Analyzer.

Example:

```
CALCulate:MARKer02:DELTa:FREQuency 1000000000
CALCulate:MARKer02:DELTa:FREQuency?
1000000000
```

6.20 CALCulate:MARKer#:DELTa:FREQuency:RELative

Syntax:

CALCulate:MARKer#:DELTa:FREQuency:RELative
CALCulate:MARKer#:DELTa:FREQuency:RELative?

Parameter/Return: Minimum: 9000; Maximum: 6005000000; Type: Double.

Description: Sets/returns the Marker# (1-6) delta relative frequency

Example:

```
CALCulate:MARKer1:DELTa:FREQuency:RELative -500000000
CALCulate:MARKer1:DELTa:FREQuency:RELative?
-500000000
```

6.21 CALCulate:MARKer#:DELTa:POWer:DEP?

Syntax: CALCulate:MARKer#:DELTa:POWer:DEP?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Returns the delta marker power reading.

Example:

```
CALCulate:CALCulate:MARKer#:DELTa:POWer:DEP?
0
```

6.22 CALCulate:MARKer#?

Syntax: CALCulate:MARKer#?

Parameter/Return: Trace{01-06}

Description: Calculates the frequency of marker in Channel Analyzer.

Example:

```
CALCulate:MARKer1?
```

6.23 CALCulate:MARKer#:DELTa:TRACe

Syntax:

CALCulate:MARKer#:DELTa:TRACe
CALCulate:MARKer#:DELTa:TRACe?

Parameter/Return: Trace {01-06}

Description: Sets/returns the delta marker trace.

Example:

```
CALCulate:MARKer02:DELTa:TRACe Trace01
CALCulate:MARKer02:DELTa:TRACe?
Trace01
```

6.24 DISPlay:TRACe#:STATe

Syntax:

DISPlay:TRACe#:STATe
DISPlay:TRACe#:STATe?

Parameter/Return: Off | On

Description: Sets/returns the Set Trance # state.

Example:

```
DISPlay:TRACe1:STATe On
DISPlay:TRACe1:STATe?
1
```

6.25 DISPlay:TRACe#:TYPE

Syntax:

DISPlay:TRACe#:TYPE
DISPlay:TRACe#:TYPE?

Parameter/Return: ClearWrite | Capture | Max | Min | Load

Description: Sets/returns the trace type for Trace#.

Example:

```
DISPlay:TRACe01:TYPE ClearWrite
DISPlay:TRACe01:TYPE?
ClearWrite
```

6.26 CALCulate:MARKer#:DISPlay:DELTa:FREQuency?

Syntax: CALCulate:MARKer#:DISPlay:DELTa:FREQuency?

Parameter/Return: None

Description: Returns the Marker # delta frequency.

Example:

```
CALCulate:MARKer1:DISPlay:DELTa:FREQuency?
0
```

6.27 CALCulate:MARKer#:DISPlay:DELTa:FREQuency?

Syntax: CALCulate:MARKer#:DISPlay:DELTa:FREQuency?

Parameter/Return: None

Description: Returns the delta marker power.

Example:

```
CALCulate:MARKer1:DISPlay:DELTa:FREQuency?
0
```

6.28 CALCulate:MARKer#:DISPlay:FREQuency?

Syntax: CALCulate:MARKer#:DISPlay:FREQuency?

Parameter/Return: None

Description: Returns the marker # frequency.

Example:

```
CALCulate:MARKer1:DISPlay:FREQuency?
500000000
```

6.29 CALCulate:MARKer#:DISPlay:FREQuency:OFFSet?

Syntax: CALCulate:MARKer#:DISPlay:FREQuency:OFFSet?

Parameter/Return: None

Description: Returns the marker # delta frequency.

Example:

```
CALCulate:MARKer1:DISPlay:FREQuency:OFFSet?
500000000
```

6.30 CALCulate:MARKer#:DISPlay:POWer?

Syntax: CALCulate:MARKer#:DISPlay:POWer?

Parameter/Return: None

Description: Returns the marker # power.

Example:

```
CALCulate:MARKer1:DISPlay:POWer?
-76.402300638967 52
```

6.31 DISPlay:TRACe:OPERation

Syntax:

DISPlay:TRACe:OPERation
DISPlay:TRACe:OPERation?

Parameter/Return: Live | Minhold | Maxhold

Description: Sets/returns the trace mode.

Example:

```
DISPlay:TRACe:OPERation Live
```

```
DISPlay:TRACe:OPERation?
Live
```

6.32 DISPlay:TRACe:SELect

Syntax:

DISPlay:TRACe:SELect
DISPlay:TRACe:SELect?

Parameter/Return: Trace01 to Trace06

Description: Sets/returns the trace.

Example:

```
DISPlay:TRACe:SELect Trace01
```

```
DISPlay:TRACe:SELect?
Trace01
```

6.33 CALCulate:MARKer:SELect

Syntax:

CALCulate:MARKer:SELect
CALCulate:MARKer:SELect?

Parameter/Return: Marker {01-06}

Description: Sets/returns select or query the marker.

Example:

```
CALCulate:MARKer:SELect Marker01
CALCulate:MARKer:SELect?
Marker01
```

6.34 SENse:HOLD

Syntax:

SENse:HOLD
SENse:HOLD?

Parameter/Return: Off | On

Description: Sets/returns hold mode on or off in Channel Analyzer.

Example:

```
SENse:HOLD On
SENse:HOLD?
0
```

6.35 SENse:TRACe:SPAN

Syntax:

SENse:TRACe:SPAN
SENse:TRACe:SPAN?

Parameter/Return: CenterSpan | StartStop

Description: Sets/returns the span mode.

Example:

```
SENse:TRACe:SPAN CenterSpan
SENse:TRACe:SPAN?
CenterSpan
```

6.36 SENse:BANDwidth:RESolution:ACTual?

Syntax: SENse:BANDwidth:RESolution:ACTual?

Parameter/Return: None

Description: Returns actual resolution bandwidth when in Auto mode.

Example:

```
SENse:BANDwidth:RESolution:ACTual?
100
```

6.37 SENSe:FREQuency:CENTer

Syntax:

SENSe:FREQuency:CENTer
SENSe:FREQuency:CENTer?

Parameter/Return: 9000 to 6000000000; Type: Double.

Description: Center Frequency limited to 5MHz bandwidth around the programmed receiver frequency.

Example:

```
SENSe:FREQuency:CENTer 500050000
SENSe:FREQuency:CENTer?
500050000
```

6.38 SENSe:DETector:FUNCtion

Syntax:

SENSe:DETector:FUNCtion
SENSe:DETector:FUNCtion?

Parameter/Return: Normal | PositivePeak | NegativePeak | Mean

Description: Sets/returns the detector type.

Example:

```
SENSe:DETector:FUNCtion PositivePeak Normal
SENSe:DETector:FUNCtion?
```

Query Response: Normal

6.39 DISPlay[:WINDow]:TRACe:Y[:SCALe]:TOP

Syntax:

DISPlay[:WINDow]:TRACe:Y[SCALe]:TOP
DISPlay[:WINDow]:TRACe:Y[SCALe]:TOP?

Parameter/Return: -130 to 30

Description: Sets/returns the top of vertical scale.

Example:

```
DISPlay:WINDow:TRACe:Y:SCALe:TOP 0

DISPlay:WINDow:TRACe:Y:SCALe:TOP?
0
```

6.40 DISPlay[:WINDow]:TRACe:Y[:SCALe]:MODE

Syntax:
DISPlay[:WINDow]:TRACe:Y[:SCALe]:MODE
DISPlay[:WINDow]:TRACe:Y[:SCALe]:MODE?

Parameter/Return: Auto | Manual

Description: Sets/returns the Top of Scale mode.

Example:

```
DISPlay:WINDow:TRACe:Y:SCALe:MODE Manual

DISPlay:WINDow:TRACe:Y:SCALe:MODE?
Manual
```

6.41 DISPlay[:WINDow]:TRACe:Y[:SCALe]:PDIVision

Syntax:

DISPlay[:WINDow]:TRACe:Y[:SCALe]:PDIVision
DISPlay[:WINDow]:TRACe:Y[:SCALe]:PDIVision?

Parameter/Return: 1 to 200 dB

Description: Sets/returns the vertical scale per division in 1 dB steps.

Example:

```
DISPlay:WINDow:TRACe:Y:SCALe:PDIVision 10

DISPlay:WINDow:TRACe:Y:SCALe:PDIVision?
10
```

6.42 SENSe:FREQuency:SPAN

Syntax:

SENSe:FREQuency:SPAN
SENSe:FREQuency:SPAN?

Parameter/Return: 2000 - 6000000000

Description: Sets/returns the Channel Analyzer span.

Example:

```
SENSe:FREQuency:SPAN 100000

SENSe:FREQuency:SPAN?
100000
```

6.43 SENSe:FREQuency:STARt

Syntax:

SENSe:FREQuency:STARt
SENSe:FREQuency:STARt?

Parameter/Return: 9000 - 6000000000; Type: Double

Description: Start Frequency limited to 5MHz bandwidth around the programmed receiver frequency.

Example:

```
SENSe:FREQuency:STARt 500000000

SENSe:FREQuency:STARt?
500000000
```

6.44 SENSe:FREQuency:STOP

Syntax:

SENSe:FREQuency:STOP
SENSe:FREQuency:STOP?

Parameter/Return: 9000 - 6000000000; Type: Double

Description: Stop Frequency limited to 5MHz bandwidth around the programmed receiver frequency.

Example:

```
SENSe:FREQuency:STOP 500100000

SENSe:FREQuency:STOP?
500100000
```

6.45 CALCulate:FILTer[:GATE]:WINDow

Syntax:

CALCulate:FILTer[:GATE]:WINDow
CALCulate:FILTer[:GATE]:WINDow?

Parameter/Return: Rectangle | Blackman | Flattop | Hamming | Hanning | Triangle

Description: Sets/returns the filter window type.

Example:

```
CALCulate:FILTer:GATE:WINDow Blackman

CALCulate:FILTer:GATE:WINDow?
Blackman
```

6.46 SENSe:BANDwidth[:RESolution]

Syntax:

SENSe:BANDwidth[:RESolution]
SENSe:BANDwidth[:RESolution]?

Parameter/Return: 1, 2, 5, sequence in form: RBW_Auto | RBW_1Hz | RBW_2Hz | ... RBW_500Hz | RBW_1kHz | RBW_50kHz

Description: Sets/returns the resolution bandwidth.

Example:

```
SENSe:BANDwidth:RESolution RBW_100Hz

SENSe:BANDwidth:RESolution?
RBW_100Hz
```

6.47 SENSE:AVERage:COUNt

Syntax:

SENSe:AVERage:COUNt
SENSe:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns Channel Analyzer averaging.

Example:

```
SENSe:AVERage:COUNt 1

SENSe:AVERage:COUNt?
1
```

6.48 MEASure:TRACe:DATA?

Syntax: MEASure:TRACe:DATA?

Parameter/Return: None

Description: Returns trace data

Example:

```
MEASure:TRACe:DATA?
-76.47460611277405,-85.42396748181801,-84.680642400899
07,.....
```

7

Audio Analyzer Commands

This chapter describes the following remote commands for configuring Audio Analyzer (AUDioanalyzer) settings:

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7.1 CALCulate:MARKer#:TYPE

Syntax:

CALCulate:MARKer#:TYPE
CALCulate:MARKer#:TYPE?

Parameter/Return: Init | On | Off | 0 | 1

Description: Sets/returns the state of the specified marker.

Example:

```
CALCulate:MARKer01:TYPE Normal
CALCulate:MARKer01:TYPE?
Normal
```

7.2 CALCulate:MARKer#[:STATe]

Syntax:

CALCulate:MARKer#[:STATe]
CALCulate:MARKer#[:STATe]?

Parameter/Return: —

Description: Calculates the state of the Marker.

Example:

```
CALCulate:MARKer1:STATe Init
CALCulate:MARKer1:STATe?
Init
```

7.3 CALCulate:MARKer:AOFF

Syntax: CALCulate:MARKer:AOFF

Parameter/Return: —

Description: Turns off all markers.

Example:

```
CALCulate:MARKer:AOFF
```

7.4 CALCulate:MARKer:MAXimum

Syntax: CALCulate:MARKer:MAXimum

Parameter/Return: —

Description: Sets the Marker to peak.

Example:

```
CALCulate:MARKer:MAXimum
```

7.5 CALCulate:MARKer:MAXimum:LEFT

Syntax: CALCulate:MARKer:MAXimum:LEFT

Parameter/Return: —

Description: Sets the marker to next peak left.

Example:

```
CALCulate:MARKer:MAXimum:LEFT
```

7.6 CALCulate:MARKer:MAXimum:NEXT

Syntax: CALCulate:MARKer:MAXimum:NEXT

Parameter/Return: —

Description: Sets the marker to next peak.

Example:

```
CALCulate:MARKer:MAXimum:NEXT
```

7.7 CALCulate:MARKer:MAXimum:RIGHt

Syntax: CALCulate:MARKer:MAXimum:RIGHt

Parameter/Return: —

Description: Sets the marker to next peak right.

Example:

```
CALCulate:MARKer:MAXimum:RIGHt
```

7.8 CALCulate:MARKer:MINimum

Syntax: CALCulate:MARKer:MINimum

Parameter/Return: —

Description: Sets the marker to the minimum.

Example:

```
CALCulate:MARKer:MINimum
```

7.9 CALCulate:MARKer:TABLe[:STATe]

Syntax:

CALCulate:MARKer:TABLe[:STATe]
CALCulate:MARKer:TABLe[:STATe]?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the marker table state.

Example:

```
CALCulate:MARKer:TABLe:STATe Off
CALCulate:MARKer:TABLe:STATe?
0
```

7.10 CALCulate:MARKer[:SET]:CENTer

Syntax: CALCulate:MARKer[:SET]:CENTer

Parameter/Return: —

Description: Moves center frequency to the frequency of the marker.

Example:

```
CALCulate:MARKer:SET:CENTer
```

7.11 CALCulate:MARKer[:SET]:STARt

Syntax: CALCulate:MARKer[:SET]:STARt

Parameter/Return: None

Description: Moves the start frequency to the frequency of the marker.

Example:

```
CALCulate:MARKer:SET:STARt
```

7.12 CALCulate:MARKer[:SET]:STOP

Syntax: CALCulate:MARKer[:SET]:STOP

Parameter/Return: None

Description: Moves center frequency to the frequency of the marker.

Example:

```
CALCulate:MARKer:SET:STOP
```

7.13 CALCulate:MARKer#:PEAK:ALWAys

Syntax:

CALCulate:MARKer#PEAK:ALWAys
CALCulate:MARKer#PEAK:ALWAys?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the marker # Always Peak.

Example:

```
CALCulate:MARKer1:PEAK:ALWAys Off
CALCulate:MARKer1:PEAK:ALWAys?
0
```

7.14 CALCulate:MARKer#:TRACe

Syntax:

CALCulate:MARKer#:TRACe
CALCulate:MARKer#:TRACe?

Parameter/Return: Trace {01-06}

Description: Sets/returns what trace the specified marker is on.

Example:

```
CALCulate:MARKer3:TRACe Trace01
CALCulate:MARKer3:TRACe?
Trace01
```

7.15 CALCulate:MARKer#:DELTa:TRACe

Syntax:

CALCulate:MARKer#:DELTa:TRACe
CALCulate:MARKer#:DELTa:TRACe?

Parameter/Return: Trace {01-06}

Description: Sets/returns what the specified marker is on.

Example:

```
CALCulate:MARKer1:DELTa:TRACe Trace01
CALCulate:MARKer1:DELTa:TRACe?
Trace01
```

7.16 DISPlay[:WINDow]:TRACe:Y[:SCALe]:TOP

Syntax:

DISPlay[:WINDow]:TRACe:Y[:SCALe]:TOP
DISPlay[:WINDow]:TRACe:Y[:SCALe]:TOP?

Parameter/Return: 50 to -100 dBm

Description: Sets/returns the top of scale.

Example:

```
DISPlay:WINDow:TRACe:Y:SCALe:TOP 10
DISPlay:WINDow:TRACe:Y:SCALe:TOP?
10
```

7.17 DISPlay[:WINDow][:SCALe]:TYPE

Syntax:

DISPlay[:WINDow][:SCALe]:TYPE
DISPlay[:WINDow][:SCALe]:TYPE?

Parameter/Return: Linear | Logarithmic

Description: Sets/returns the scale type.

Example:

```
DISPlay:WINDow:SCALe:TYPE Linear
DISPlay:WINDow:SCALe:TYPE?
Linear
```

7.18 DISPlay:RBANDwidth:MODE

Syntax: DISPlay:RBANDwidth:MODE

Parameter/Return: Auto

Description: Sets limit R bandwidth.

Example:

```
DISPlay:RBANDwidth:MODE
```

7.19 CALCulate:SELect:MARKer

Syntax:

CALCulate:SELect:MARKer
CALCulate:SELect:MARKer?

Parameter/Return: # (marker index) = 1 to 6

Description: Sets/returns what marker is selected.

Example:

```
CALCulate:SELect:MARKer Marker1
CALCulate:SELect:MARKer?
Marker1
```

7.20 DISPlay:SELect:TRACe

Syntax:

DISPlay:SELect:TRACe
DISPlay:SELect:TRACe?

Parameter/Return: Trace{01-06}

Description: —

Example:

```
DISPlay:SELect:TRACe Trace01
DISPlay:SELect:TRACe?
Trace01
```

7.21 SENSe:SOURce?

Syntax: SENSe:SOURce?

Parameter/Return: Demod | AudioIn

Description: Returns the audio source.

Example:

```
SENSe:SOURce?
Demod
```

7.22 DISPlay:REFerence:LEVel

Syntax:

DISPlay:REFerence:LEVel
DISPlay:REFerence:LEVel?

Parameter/Return: -130 to 50

Description: Sets/returns the top of scale.

Example:

```
DISPlay:REFerence:LEVel 10
DISPlay:REFerence:LEVel?
10
```

7.23 DISPlay:SPAN

Syntax: DISPlay:SPAN

Parameter/Return: —

Description: Sets the span frequency.

Example:

```
DISPlay:SPAN
```

7.24 CALCulate:FILTer:GATE:WINDow

Syntax:

CALCulate:FILTer:GATE:WINDow
CALCulate:FILTer:GATE:WINDow?

Parameter/Return: Blackman

Description: —

Example:

```
CALCulate:FILTer:GATE:WINDow Blackman
CALCulate:FILTer:GATE:WINDow?
Blackman
```

7.25 DISPlay[:WINDow]:TRACe:Y[:SCALe]:PDIVision

Syntax:

DISPlay[:WINDow]:TRACe:Y[:SCALe]:PDIVision
DISPlay[:WINDow]:TRACe:Y[:SCALe]:PDIVision?

Parameter/Return: 1 to 200

Description: Sets/returns the Vertical scale per division.

Example:

```
DISPlay:WINDow:TRACe:Y:SCALe:PDIVision 10
DISPlay:WINDow:TRACe:Y:SCALe:PDIVision?
10
```

7.26 DISPlay[:WINDow]:SCALe:TYPE

Syntax:

DISPlay[:WINDow]:SCALe:TYPE
DISPlay[:WINDow]:SCALe:TYPE?

Parameter/Return: Logarithmic|Linear

Description: —

Example:

```
DISPlay:WINDow:SCALe:TYPE Linear
DISPlay:WINDow:SCALe:TYPE?
Linear
```

7.27 DISPlay:HOLD

Syntax: DISPlay:HOLD

Parameter/Return: On | Off | 1 | 0

Description: Set hold mode on or off.

Example:

```
DISPlay:HOLD On
```

7.28 SENSe:AVERage:COUNt

Syntax:

SENSe:AVERage:COUNt
SENSe:AVERage:COUNt?

Parameter/Return: 1 to 99

Description: Sets/returns the average count.

Example:

```
SENSe:AVERage:COUNt 1
SENSe:AVERage:COUNt?
1
```

7.29 SENSe:DETector:FUNCtion

Syntax:

SENSe:DETector:FUNCtion
SENSe:DETector:FUNCtion?

Parameter/Return: Normal | Peak | Average | NegativePeak | Sample

Description: Sets/returns the detector type.

Example:

```
SENSe:DETector:FUNCtion Average
SENSe:DETector:FUNCtion?
Average
```

7.30 SENSe:FREQuency:CENTer

Syntax:

SENSe:FREQuency:CENTer
SENSe:FREQuency:CENTer?

Parameter/Return: Minimum: 1; Maximum: 100000

Description: Sets/returns the center frequency (limited to 100 kHz)

Example:

```
SENSe:FREQuency:CENTer 12000.5

SENSe:FREQuency:CENTer?
12000.5
```

7.31 SENSe:FREQuency:STARt

Syntax:

SENSe:FREQuency:STARt
SENSe:FREQuency:STARt?

Parameter/Return: 1 to 100000

Description: Sets/returns frequency range start.

Example:

```
SENSe:FREQuency:STARt 1

SENSe:FREQuency:STARt?
1
```

7.32 SENSe:FREQuency:STOP

Syntax:

SENSe:FREQuency:STOP
SENSe:FREQuency:STOP?

Parameter/Return: 1 to 100000

Description: Sets/returns frequency range stop.

Example:

```
SENSe:FREQuency:STOP 24000

SENSe:FREQuency:STOP?
24000
```

7.33 SENSe:PEAKHold

Syntax:

SENSe:PEAKHold
SENSe:PEAKHold?

Parameter/Return: True | False

Description: Sets/returns the peakhold state.

Example:

```
SENSe:PEAKHold False
SENSe:PEAKHold?
False
```

7.34 SENSe:PLOTMode

Syntax:

SENSe:PLOTMode
SENSe:PLOTMode?

Parameter/Return: Live

Description: Sets/returns the plot mode.

Example:

```
SENSe:PLOTMode Live
SENSe:PLOTMode?
Live
```

7.35 SENSe:TRACe:SPAN

Syntax:

SENSe:TRACe:SPAN
SENSe:TRACe:SPAN?

Parameter/Return: CenterSpan | StartStop

Description: —

Example:

```
SENSe:TRACe:SPAN CenterSpan
SENSe:TRACe:SPAN?
CenterSpan
```

7.36 DISPlay:TRACe:STATe

Syntax:

DISPlay:TRACe:STATe
DISPlay:TRACe:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the trace.

Example:

```
DISPlay:TRACe1:STATe On
DISPlay:TRACe:STATe?
1
```

7.37 DISPlay:TRACe#:TYPE

Syntax:

DISPlay:TRACe#:TYPE
DISPlay:TRACe#:TYPE?

Parameter/Return: ClearWrite | Capture | Max | Min | Load

Description: Sets/returns the trace type.

Example:

```
DISPlay:TRACe1:TYPE ClearWrite
DISPlay:TRACe1:TYPE?
ClearWrite
```

7.38 DISPlay:TRACe#:CLEAr:ALL

Syntax:

DISPlay:TRACe#:CLEAr:ALL

Parameter/Return: Event

Description: Clears all traces.

Example:

```
DISPlay:TRACe1:CLEAr:ALL
```

7.39 DISPlay:WINDow:TRACe:LENGth?

Syntax: DISPlay:WINDow:TRACe:LENGth?

Parameter/Return: None

Description: Returns the trace length.

Example:

```
DISPlay:WINDow:TRACe:LENGth?
959
```

7.40 MEASure:TRACe:DATA?

Syntax: MEASure:TRACe:DATA?

Parameter/Return: —

Description: Returns the trace data.

Example:

```
MEASure:TRACe:DATA?
-26.430503845214844,-28.04916000366211,-29.10695266723
6328,-30.306522369384766,-29.041534423828125...
```

7.41 CALCulate:MARKer:FREQuency:OFFSet?

Syntax: CALCulate:MARKer:FREQuency:OFFSet?

Parameter/Return: None

Description: You can query the marker # frequency offset.

Example:

```
CALCulate:MARKer01:FREQuency:OFFSet?
0
```

7.42 CALCulate:MARKer#:DELTa:FREQuency

Syntax:

CALCulate:MARKer#:DELTa:FREQuency
CALCulate:MARKer#:DELTa:FREQuency?

Parameter/Return: Frequency in Hz

Description: Sets/returns the marker frequency delta.

Example:

```
CALCulate:MARKer1:DELTa:FREQuency 0
CALCulate:MARKer1:DELTa:FREQuency?
0
```

7.43 CALCulate:MARKer#:FREQuency

Syntax:

CALCulate:MARKer#:FREQuency
CALCulate:MARKer#:FREQuency?

Parameter/Return: Marker # 1 to 6

Description: You can calculate the frequency of marker.

Example:

```
CALCulate:MARKer1:FREQuency 0
CALCulate:MARKer1:FREQuency?
0
```

7.44 CALCulate:MARKer#:DELTa:FREQuency:RELative?

Syntax: CALCulate:MARKer#:DELTa:FREQuency:RELative?

Parameter/Return: None

Description: You can calculate the frequency of marker.

Example:

```
CALCulate:MARKer02:FREQuency?
0
```

7.45 CALCulate:MARKer#:DELTa:POWer

Syntax:

CALCulate:MARKer#:DELTa:POWer
CALCulate:MARKer#:DELTa:POWer?

Parameter/Return: Marker# 1 to 6

Description: Sets/returns the delta marker power.

Example:

```
CALCulate:MARKer1:DELTa:POWer 0
CALCulate:MARKer1:DELTa:POWer?
0
```

7.46 CALCulate:MARKer#:POWer?

Syntax: CALCulate:MARKer#:POWer?

Parameter/Return: marker # 1 to 6

Description: You can calculate the marker power.

Example:

```
CALCulate:MARKer1:POWer?
0
```

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8

Oscilloscope Commands

This chapter describes the following remote commands for configuring Oscilloscope (OSCilloscope) settings:

- CALCulate:MARKer#:PEAK:ALWays 8-3
- DISPlay[:WINDow]:TRACe#:SCALe:AM 8-3
- DISPlay[:WINDow]:TRACe#:SCALe:VOLT 8-3
- DISPlay[:WINDow]:TRACe:LENGth? 8-4
- DISPlay[:WINDow]:TRACe#:SCALe:FM 8-4
- DISPlay[:WINDow]:TRACe#:SCALe:PM 8-4
- SENSe:AVERage:COUNt 8-5
- CALCulate:MARKer#:DELTa:TRACe 8-5
- CALCulate:MARKer#:TRACe 8-5
- CALCulate:MARKer#:DELTa:POWer 8-6
- CALCulate:MARKer:SELect 8-6
- DISPlay:TRACe 8-6
- SENSe:SWEep? 8-7
- CALCulate:MARKer#:DELTa:TIME 8-7
- CALCulate:MARKer#:DELTa:TIME:RELative 8-7
- CALCulate:MARKer#:TIME 8-8
- MEASure:TRACE#[:DATA]? 8-8
- CALCulate:MARKer#:DISPlay:LEVel? 8-8
- CALCulate:MARKer#:DELTa:DISPlay:LEVel? 8-9
- CALCulate:MARKer#:DISPlay:TIME:RELative? 8-9
- CALCulate:MARKer#:DISPlay:DELTa:TIME? 8-9
- CALCulate:MARKer#:DISPlay:TIME? 8-9
- MEASure:TRACe#:DISPlay:DATA? 8-10
- SENSe:TRACe#:PROBe 8-10
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- TRIGger:EDGE 8-11
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- TRIGger:TYPE 8-12
- CALCulate:MARKer#:TYPE 8-12
- CALCulate:MARKer#:VIEW 8-12
- TRIGger:ARM 8-13
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8.1 CALCulate:MARKer#:PEAK:ALWays

Syntax:

CALCulate:MARKer#:PEAK:ALWays
CALCulate:MARKer#:PEAK:ALWays?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Marker # Peak Always.

Example:

```
CALCulate:MARKer1:PEAK:ALWays oFF

CALCulate:MARKer1:PEAK:ALWays?
0
```

8.2 DISPlay[:WINDow]:TRACe#:SCALe:AM

Syntax:
DISPlay[:WINDow]:TRACe#:SCALe:AM
DISPlay[:WINDow]:TRACe#:SCALe:AM?

Parameter/Return: Trace # 1-2

Description: Sets/returns Vertical Scale AM.

Example:

```
DISPlay:WINDow:TRACe1:SCALe:AM VSCALE_5PERC

DISPlay:WINDow:TRACe1:SCALe:AM?
VSCALE_5PERC
```

8.3 DISPlay[:WINDow]:TRACe#:SCALe:VOLT

Syntax:

DISPlay[:WINDow]:TRACe#:SCALe:VOLT
DISPlay[:WINDow]:TRACe#:SCALe:VOLT?

Parameter/Return: Trace # 1-2

Description: Sets/returns Vertical Scale Volts.

Example:

```
DISPlay:WINDow:TRACe1:SCALe:VOLT VSCALE_100mV

DISPlay:WINDow:TRACe1:SCALe:VOLT?
VSCALE_100mV
```

8.4 DISPlay[:WINDow]:TRACe:LENGth?

Syntax: DISPlay[:WINDow]:TRACe:LENGth?

Parameter/Return: None

Description: You can query Trace Length.

Example:

```
DISPlay[:WINDow]:TRACe:LENGth?
5000
```

8.5 DISPlay[:WINDow]:TRACe#:SCALe:FM

Syntax:

DISPlay[:WINDow]:TRACe#:SCALe:FM
DISPlay[:WINDow]:TRACe#:SCALe:FM?

Parameter/Return: Trace # 1-2

Description: Sets/returns Vertical Scale FM.

Example:

```
DISPlay:WINDow:TRACe1:SCALe:FM VSCALE_500Hz
DISPlay:WINDow:TRACe1:SCALe:FM?
VSCALE_500Hz
```

8.6 DISPlay[:WINDow]:TRACe#:SCALe:PM

Syntax:

DISPlay[:WINDow]:TRACe#:SCALe:PM?
DISPlay[:WINDow]:TRACe#:SCALe:PM?

Parameter/Return: DISPlay[:WINDow]:TRACe#:SCALe:PM

Description: Sets/returns Vertical Scale Radians.

Example:

```
DISPlay:WINDow:TRACe1:SCALe:PM VSCALE_1rad
DISPlay:WINDow:TRACe1:SCALe:PM?
VSCALE_1rad
```

8.7 SENSe:AVERage:COUNt

Syntax:

SENSe:AVERage:COUNt
SENSe:AVERage:COUNt?

Parameter/Return: Minimum: 0; Maximum: 100

Description: Sets/returns the number of average samples used to display the graph.

Example:

```
SENSe:AVERage:COUNt 100
SENSe:AVERage:COUNt?
100
```

8.8 CALCulate:MARKer#:DELTa:TRACe

Syntax:

CALCulate:MARKer#:DELTa:TRACe
CALCulate:MARKer#:DELTa:TRACe?

Parameter/Return: Marker # 1-6

Description: Sets/returns the Delta Marker # Trace.

Example:

```
CALCulate:MARKer1:DELTa:TRACe Trace01
CALCulate:MARKer1:DELTa:TRACe?
Trace01
```

8.9 CALCulate:MARKer#:TRACe

Syntax:

CALCulate:MARKer#:TRACe?
CALCulate:MARKer#:TRACe?

Parameter/Return: Marker # 1-6

Description: Marker # Trace Select.

Example:

```
CALCulate:MARKer1:TRACe Trace01
CALCulate:MARKer1:TRACe?
Trace01
```

8.10 CALCulate:MARKer#:DELTa:POWer

Syntax:

CALCulate:MARKer#:DELTa:POWer
CALCulate:MARKer#:DELTa:POWer?

Parameter/Return: NR2

Description: Sets/returns Delta Marker Power in Oscilloscope.

Example:

```
CALCulate:MARKer1:DELTa:POWer -10.5
CALCulate:MARKer1:DELTa:POWer?
```

8.11 CALCulate:MARKer:SELect

Syntax:

CALCulate:MARKer:SELect
CALCulate:MARKer:SELect?

Parameter/Return: Marker01-Marker06

Description: Sets/returns Marker Select.

Example:

```
CALCulate:MARKer:SELect Marker01
CALCulate:MARKer:SELect?
Marker01
```

8.12 DISPlay:TRACe

Syntax:

DISPlay:TRACe
DISPlay:TRACe?

Parameter/Return: Trace01-Trace06

Description: Sets/returns the cope Trace Selected - not used

Example:

```
DISPlay:TRACe Trace01
DISPlay:TRACe?
Trace01
```

8.13 SENSe:SWEep?

Syntax: SENSe:SWEep?

Parameter/Return:
SWEEP_10uS|20uS|50uS|100uS|200uS|500uS|1mS|2mS|5mS|10mS|20mS|50mS|100mS|200mS|500mS|1S

Description: You can query Sweep.

Example:

```
SENSe:SWEep?
SWEEP_10mS
```

8.14 CALCulate:MARKer#:DELTa:TIME

Syntax:

CALCulate:MARKer#:DELTa:TIME
CALCulate:MARKer#:DELTa:TIME?

Parameter/Return: Marker # 1-6

Description: Sets/returns Marker # Delta Time.

Example:

```
CALCulate:MARKer1:DELTa:TIME 0
CALCulate:MARKer1:DELTa:TIME?
0
```

8.15 CALCulate:MARKer#:DELTa:TIME:RELative

Syntax:

CALCulate:MARKer#:DELTa:TIME:RELative
CALCulate:MARKer#:DELTa:TIME:RELative?

Parameter/Return: Marker # 1-6

Description: Sets/returns Marker # Relative Delta Time.

Example:

```
CALCulate:MARKer1:DELTa:TIME:RELative 0
CALCulate:MARKer1:DELTa:TIME:RELative?
0
```

8.16 CALCulate:MARKer#:TIME

Syntax:

CALCulate:MARKer#:TIME
CALCulate:MARKer#:TIME?

Parameter/Return: Marker # 1-6

Description: Sets/returns Marker # Time.

Example:

```
CALCulate:MARKer1:TIME 0
CALCulate:MARKer1:TIME?
0
```

8.17 MEASure:TRACE#[:DATA]?

Syntax: MEASure:TRACE#[:DATA]?

Parameter/Return: None

Description: You can query Trace Data.

Example:

```
MEASure:TRACE1:DATA?
0,0,0,0,0,0,0,0,0,0,0.....
```

8.18 CALCulate:MARKer#:DISPlay:LEVel?

Syntax:
CALCulate:MARKer#:DISPlay:LEVel?

Parameter/Return: Marker # 1-6

Description: You can query the Query: Marker # Level.

Example:

```
CALCulate:MARKer1:DISPlay:LEVel?
0
```

8.19 CALCulate:MARKer#:DELTa:DISPlay:LEVel?

Syntax: CALCulate:MARKer#:DELTa:DISPlay:LEVel?

Parameter/Return: Query: Delta Marker # Level

Description: You can query the Delta Marker # Level.

Example:

```
CALCulate:MARKer1:DELTa:DISPlay:LEVel?
0
```

8.20 CALCulate:MARKer#:DISPlay:TIME:RELative?

Syntax: CALCulate:MARKer#:DISPlay:TIME:RELative?

Parameter/Return: Marker # 1-6

Description: You can query the Query: Marker # Time.

Example:

```
CALCulate:MARKer1:DISPlay:TIME:RELative?
0
```

8.21 CALCulate:MARKer#:DISPlay:DELTa:TIME?

Syntax: CALCulate:MARKer#:DISPlay:DELTa:TIME?

Parameter/Return: Marker # 1-6

Description: You can query the Marker # Delta Time.

Example:

```
CALCulate:MARKer1:DISPlay:DELTa:TIME?
0
```

8.22 CALCulate:MARKer#:DISPlay:TIME?

Syntax: CALCulate:MARKer1:DISPlay:TIME?

Parameter/Return: Marker # 1-6

Description: You can query the Query: Marker # Time - duplicate.

Example:

```
CALCulate:MARKer#:DISPlay:TIME?
0
```

8.23 MEASure:TRACe#:DISPlay:DATA?

Syntax: MEASure:TRACe1:DISPlay:DATA?

Parameter/Return: Trace # 1-6

Description: You can query Trace # Plot Data.

Example:

```
MEASure:TRACe1:DISPlay:DATA?
0,0,0,0.....
```

8.24 SENSe:TRACe#:PROBe

Syntax:

SENSe:TRACe#:PROBe
SENSe:TRACe#:PROBe?

Parameter/Return: Trace # 1-6

Description: Sets/returns Probe Type.

Example:

```
SENSe:TRACe1:PROBe 1x
SENSe:TRACe1:PROBe?
1x
```

8.25 SENSe:TRACe#:SOURce

Syntax:

SENSe:TRACe#:SOURce
SENSe:TRACe#:SOURce?

Parameter/Return: Trace # 1-6

Description: Sets/returns Trace Source.

Example:

```
SENSe:TRACe1:SOURce Demod
SENSe:TRACe1:SOURce?
Demod
```

8.26 TRIGger:EDGE

Syntax:

TRIGger:EDGE
TRIGger:EDGE?

Parameter/Return: Rising | Falling

Description: To set or query Trigger Edge.

Example:

```
TRIGger:EDGE Rising
TRIGger:EDGE?
Rising
```

8.27 TRIGger:LEVel

Syntax:

TRIGger:LEVel
TRIGger:LEVel?

Parameter/Return:

Description: To set or query Trigger Level - changes based on demod type.

Example:

```
TRIGger:LEVel 0
TRIGger:LEVel?
0
```

8.28 TRIGger:SOURce

Syntax:

TRIGger:SOURce
TRIGger:SOURce?

Parameter/Return: CH1 | EXT

Description: To set or query Trigger Source.

Example:

```
TRIGger:SOURce CH1
TRIGger:SOURce?
CH1
```

8.29 TRIGger:TYPE

Syntax:

TRIGger:TYPE
TRIGger:TYPE?

Parameter/Return: Auto | Normal | Single | FreeRun

Description: To set or query Trigger Type.

Example:

```
TRIGger:TYPE Auto
TRIGger:TYPE?
Auto
```

8.30 CALCulate:MARKer#:TYPE

Syntax:

CALCulate:MARKer#:TYPE
CALCulate:MARKer#:TYPE?

Parameter/Return: Marker# 1-6

Description: Sets/returns Marker # Type.

Example:

```
CALCulate:MARKer1:TYPE Normal
CALCulate:MARKer1:TYPE?
Normal
```

8.31 CALCulate:MARKer#:VIEW

Syntax:

CALCulate:MARKer#:VIEW
CALCulate:MARKer#:VIEW?

Parameter/Return: Marker # 1-6

Description: Sets/returns Marker # State.

Example:

```
CALCulate:MARKer1:VIEW Init
CALCulate:MARKer1:VIEW?
Init
```

8.32 TRIGger:ARM

Syntax: TRIGger:ARM

Parameter/Return: None

Description: To Arm Trigger.

Example:

```
TRIGger:ARM
```

8.33 TRIGger:FORCe

Syntax: TRIGger:FORCe

Parameter/Return: –

Description: To Force Trigger.

Example:

```
TRIGger:FORCe
```

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9

Tone Encoding Commands

This chapter describes the following remote commands for configuring Tone Encoding (TENCoding) settings:

- SOURce:AUDio:TYPE 9-4
- SOURce:MODulator:CTCSs:AM:LEVel 9-4
- SOURce:AUDio:CTCSs:ENABle 9-4
- SOURce:AUDio:CTCSs:LEVel 9-5
- SOURce:AUDio:CTCSs:TONE 9-5
- SOURce:AUDio:DCS:CODE 9-5
- SOURce:AUDio:DCS:LEVel 9-6
- SOURce:AUDio:DCS:STATe 9-6
- SOURce:AUDio:DTMF:MARK 9-6
- SOURce:AUDio:DTMF:PAUSe 9-7
- SOURce:AUDio:DTMF:SPACe 9-7
- SOURce:AUDio:DTMF:HTONe:LEVel 9-8
- SOURce:AUDio:DTMF:LTONe:LEVel 9-8
- SOURce:AUDio:DTMF:TWISt:TONE:LEVel 9-9
- SOURce:AUDio:DTMF:MODE 9-9
- SOURce:AUDio:DTMF:SEQuence 9-10
- SOURce:AUDio:DTMF:STATe 9-10
- SOURce:AUDio:DTMF:TWISt:LEVel 9-11
- SOURce:AUDio:REMote:TONE1:DURation 9-11
- SOURce:AUDio:REMote:TONE1:FREQuency 9-11
- SOURce:AUDio:REMote:LEVel 9-12
- SOURce:AUDio:REMote:TONE1:LEVel 9-12
- SOURce:AUDio:REMote:TONE2:LEVel 9-12
- SOURce:AUDio:REMote:TONE2:FREQuency 9-13
- SOURce:AUDio:REMote:TONE2:DURation 9-13
- SOURce:AUDio:REMote:TONE2:LEVel 9-13

- SOURce:AUDio:REMote:TONE3:LEVel 9-14
- SOURce:AUDio:REMote:TONE3:FREQuency 9-14
- SOURce:AUDio:REMote:TONE3:DURation 9-14
- SOURce:AUDio:SEQuential:ENABle 9-15
- SOURce:AUDio:SEQuential:PROTocol 9-15
- SOURce:AUDio:SEQuential:FSHIFt 9-15
- SOURce:AUDio:SEQuential:SEQuence 9-16
- SOURce:AUDio:SEQuential:DELay 9-16
- SOURce:AUDio:SEQuential:PAUSe 9-16
- SOURce:AUDio:SEQuential:SHIFt 9-17
- SOURce:AUDio:SEQuential:LEVel 9-17
- SOURce:AUDio:TTONe:ENABle 9-17
- SOURce:AUDio:TTONe:LEVel 9-18
- SOURce:AUDio:TTONe:TONE1:FREQuency 9-18
- SOURce:AUDio:TTONe:TONE1:DURation 9-18
- SOURce:AUDio:TTONe:TONE2:FREQuency 9-19
- SOURce:AUDio:TTONe:TONE2:DURation 9-19
- SOURce:AUDio:TTONe:SPACe 9-19
- SOURce:AUDio:GTONE:STARt 9-20
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- SOURce:MODulator:CTCSs:ENABle 9-20
- SOURce:MODulator:CTCSs:AM:LEVel 9-21
- SOURce:MODulator:CTCSs:FM:LEVel 9-21
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- SOURce:MODulator:CTCSs:TONE 9-22
- SOURce:MODulator:DCS:CODE 9-22
- SOURce:MODulator:DCS:AM:LEVel 9-22
- SOURce:MODulator:DCS:FM:LEVel 9-23
- SOURce:MODulator:DCS:PM:LEVel 9-23
- SOURce:MODulator:DCS:STATe 9-23
- SOURce:MODulator:DTMF:MARK 9-24
- SOURce:MODulator:DTMF:PAUSe 9-24
- SOURce:MODulator:DTMF:SPACe 9-24
- SOURce:MODulator:DTMF:HTONe:AM:LEVel 9-25
- SOURce:MODulator:DTMF:LTONE:AM:LEVel 9-25
- SOURce:MODulator:DTMF:HTONe:FM:LEVel 9-26
- SOURce:MODulator:DTMF:LTONE:FM:LEVel 9-26
- SOURce:MODulator:DTMF:HTONe:PM:LEVel 9-27
- SOURce:MODulator:DTMF:LTONE:PM:LEVel 9-27
- SOURce:MODulator:DTMF:HTONe:AM:OFFSet 9-28
- SOURce:MODulator:DTMF:LTONE:AM:OFFSet 9-28
- SOURce:MODulator:DTMF:HTONe:FM:OFFSet 9-28

- SOURce:MODulator:DTMF:LTONE:FM:OFFSet 9-29
- SOURce:MODulator:DTMF:HTONe:PM:OFFSet 9-29
- SOURce:MODulator:DTMF:LTONE:PM:OFFSet 9-29
- SOURce:MODulator:DTMF:MODE 9-30
- SOURce:MODulator:DTMF:SEQuence 9-30
- SOURce:MODulator:DTMF:STATe 9-31
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- SOURce:MODulator:REMote:AM:LEVel 9-32
- SOURce:MODulator:REMote:FM:LEVel 9-32
- SOURce:MODulator:REMote:PM:LEVel 9-32
- SOURce:MODulator:REMote:TONE1:LEVel 9-33
- SOURce:MODulator:REMote:TONE1:FREQuency 9-33
- SOURce:MODulator:REMote:TONE1:DURation 9-33
- SOURce:MODulator:REMote:TONE2:LEVel 9-34
- SOURce:MODulator:REMote:TONE2:FREQuency 9-34
- SOURce:MODulator:REMote:TONE2:DURation 9-34
- SOURce:MODulator:REMote:TONE3:LEVel 9-35
- SOURce:MODulator:REMote:TONE3:FREQuency 9-35
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- SOURce:MODulator:SEQuential:AM:LEVel 9-37
- SOURce:MODulator:SEQuential:FM:LEVel 9-38
- SOURce:MODulator:SEQuential:PM:LEVel 9-38
- SOURce:MODulator:TTONe:AM:LEVel 9-38
- SOURce:MODulator:TTONe:FM:LEVel 9-39
- SOURce:MODulator:TTONe:PM:LEVel 9-39
- SOURce:MODulator:TTONe:TONE1:FREQuency 9-39
- SOURce:MODulator:TTONe:TONE1:DURation 9-40
- SOURce:MODulator:TTONe:TONE2:FREQuency 9-40
- SOURce:MODulator:TTONe:TONE2:DURation 9-40
- SOURce:MODulator:TTONe:SPACe:DURation 9-41
- SOURce:MODulator:TYPE 9-41

9.1 SOURce:AUDio:TYPE

Syntax:

SOURce:AUDio:TYPE
SOURce:AUDio:TYPE?

Parameter/Return: OFF | DTMF | DCS | CTCSS | REMote | SEQuential | TwotoneSEQuential

Description: Sets/returns the Tone Encoding type.

Example:

```
SOURce:AUDio:TYPE OFF
SOURce:AUDio:TYPE?
OFF
```

9.2 SOURce:MODulator:CTCSs:AM:LEVel

Syntax:

SOURce:MODulator:CTCSs:AM:LEVel
SOURce:MODulator:CTCSs:AM:LEVel?

Parameter/Return: 0 to 100%

Description: Sets/returns the Tone Encoding type.

Example:

```
SOURce:MODulator:CTCSs:AM:LEVel 10
SOURce:MODulator:CTCSs:AM:LEVel?
10
```

9.3 SOURce:AUDio:CTCSs:ENABle

Syntax:

SOURce:AUDio:CTCSs:ENABle
SOURce:AUDio:CTCSs:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: —

Example:

```
SOURce:AUDio:CTCSs:ENABle Off
SOURce:AUDio:CTCSs:ENABle?
0
```

9.4 SOURce:AUDio:CTCSs:LEVel

Syntax:

SOURce:AUDio:CTCSs:LEVel
SOURce:AUDio:CTCSs:LEVel?

Parameter/Return: 0.0 to 5.7 V

Description: Sets/returns the CTCSS level.

Example:

```
SOURce:AUDio:CTCSs:LEVel 1.0
SOURce:AUDio:CTCSs:LEVel?
1.0
```

9.5 SOURce:AUDio:CTCSs:TONE

Syntax:

SOURce:AUDio:CTCSs:TONE
SOURce:AUDio:CTCSs:TONE?

Parameter/Return: 1 to 50

Description: Sets/returns the DCS code. A 3 digit octal code, not all numbers are valid DCS codes. An invalid code will create a system error (-200,Execution error)

Example:

```
SOURce:AUDio:CTCSs:TONE 1
SOURce:AUDio:CTCSs:TONE?
1
```

9.6 SOURce:AUDio:DCS:CODE

Syntax:
SOURce:AUDio:DCS:CODE
SOURce:AUDio:DCS:CODE?

Parameter/Return: NR1

Description: —

Example:

```
SOURce:AUDio:DCS:CODE 23
SOURce:AUDio:DCS:CODE?
23
```

9.7 SOURce:AUDio:DCS:LEVel

Syntax:

SOURce:AUDio:DCS:LEVel
SOURce:AUDio:DCS:LEVel?

Parameter/Return: 0.0 to 5.7 V

Description: Sets/returns the DCS Level in volts

Example:

```
SOURce:AUDio:DCS:LEVel 1

SOURce:AUDio:DCS:LEVel?
1
```

9.8 SOURce:AUDio:DCS:STATe

Syntax:

SOURce:AUDio:DCS:STATe
SOURce:AUDio:DCS:STATe?

Parameter/Return: OFF | Normal | Inverted

Description: Sets/returns the DCS state.

Example:

```
SOURce:AUDio:DCS:STATe OFF

SOURce:AUDio:DCS:STATe?
OFF
```

9.9 SOURce:AUDio:DTMF:MARK

Syntax:
SOURce:AUDio:DTMF:MARK
SOURce:AUDio:DTMF:MARK?

Parameter/Return: 10 mS to 5000mS

Description: Sets/returns the DTMF Mark Duration. When sending a DTMF tone, there is a tone time (Mark) and a space time.

Example:

```
SOURce:AUDio:DTMF:MARK 100

SOURce:AUDio:DTMF:MARK?
100
```

9.10 SOURce:AUDio:DTMF:PAUSe

Syntax:
SOURce:AUDio:DTMF:PAUSe
SOURce:AUDio:DTMF:PAUSe?

Parameter/Return: NR2

Description: —

Example:

```
SOURce:AUDio:DTMF:PAUSe 500

SOURce:AUDio:DTMF:PAUSe?
500
```

9.11 SOURce:AUDio:DTMF:SPACe

Syntax:

SOURce:AUDio:DTMF:SPACe
SOURce:AUDio:DTMF:SPACe?

Parameter/Return: 10 mS to 5000 mS

Description: Sets/returns the DTMF Space Duration. When sending a DTMF tone, there is a Tone time and a Space time.

Example:

```
SOURce:AUDio:DTMF:SPACe 90

SOURce:AUDio:DTMF:SPACe?
90
```

9.12 SOURce:AUDio:DTMF:HTONe:LEVel

Syntax:

SOURce:AUDio:DTMF:HTONe:LEVel
SOURce:AUDio:DTMF:HTONe:LEVel?

Parameter/Return: 0.0 to 5.7

Description: Sets/returns the DTMF High Tone level. The level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component.

Example:

```
SOURce:AUDio:DTMF:HTONe:LEVel 1

SOURce:AUDio:DTMF:HTONe:LEVel?
1
```

9.13 SOURce:AUDio:DTMF:LTONe:LEVel

Syntax:

SOURce:AUDio:DTMF:LTONe:LEVel
SOURce:AUDio:DTMF:LTONe:LEVel?

Parameter/Return: 0.0 to 5.7

Description: Sets/returns the DTMF Low Tone level. The level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component.

Example:

```
SOURce:AUDio:DTMF:LTONe:LEVel 1

SOURce:AUDio:DTMF:LTONe:LEVel?
1
```

9.14 SOURce:AUDio:DTMF:TWISt:TONE:LEVel

Syntax:

SOURce:AUDio:DTMF:TWISt:TONE:LEVel
SOURce:AUDio:DTMF:TWISt:TONE:LEVel?

Parameter/Return: 0.0 to 5.7

Description: Sets/returns the DTMF Twist Tine Level. High-frequency group tones are always transmitted at a level greater than low-frequency group tones. This sets the twist low-frequency group level.

Example:

```
SOURce:AUDio:DTMF:TWISt:TONE:LEVel 0
SOURce:AUDio:DTMF:TWISt:TONE:LEVel?
0
```

9.15 SOURce:AUDio:DTMF:MODE

Syntax:

SOURce:AUDio:DTMF:MODE
SOURce:AUDio:DTMF:MODE?

Parameter/Return: Normal | Twist

Description: Sets/returns the DTMF Twist Mode. Twist is when low frequency power is greater than high frequency. Normal is the reverse condition. Twist conditions are caused by a non-uniform frequency response.

Example:

```
SOURce:AUDio:DTMF:MODE Normal

SOURce:AUDio:DTMF:MODE?
Normal
```

9.16 SOURce:AUDio:DTMF:SEQuence

Syntax:
SOURce:AUDio:DTMF:SEQuence
SOURce:AUDio:DTMF:SEQuence?

Parameter/Return: 0-9, A-D, *#

Description: Sets/returns the FTMF String to send. Letters have to be upper case. String length of 30 char is allowed.

Example:

```
SOURce:AUDio:DTMF:SEQuence 123

SOURce:AUDio:DTMF:SEQuence?
123
```

9.17 SOURce:AUDio:DTMF:STATe

Syntax:

SOURce:AUDio:DTMF:STATe
SOURce:AUDio:DTMF:STATe?

Parameter/Return: OFF|CONTinuous|BURSt|LIVE

Description: Start/Stop DTMF operation. Burst will require the Start interface to trigger. Continous will repeatedly send the sequence string. Live will issue the DTMF symbol as it's entered on the keypad or as the sequence command is called.

Example:

```
SOURce:AUDio:DTMF:STATe Off

SOURce:AUDio:DTMF:STATe?
Off
```

9.18 SOURce:AUDio:DTMF:TWISt:LEVel

Syntax:

SOURce:AUDio:DTMF:TWISt:LEVel
SOURce:AUDio:DTMF:TWISt:LEVel?

Parameter/Return: -100 to 100 dB

Description: Sets/returns the High Twist level. High-frequency group tones are always transmitted at a level greater than low-frequency group tones. This sets the twist high-frequency group level.

Example:

```
SOURce:AUDio:DTMF:TWISt:LEVel 0.0
SOURce:AUDio:DTMF:TWISt:LEVel?
```

9.19 SOURce:AUDio:REMote:TONE1:DURation

Syntax:
SOURce:AUDio:REMote:TONE1:DURation
SOURce:AUDio:REMote:TONE1:DURation?

Parameter/Return: 20 to 500 mS

Description: Sets/returns the length of time (mS) that Tone #1 is active.

Example:

```
SOURce:AUDio:REMote:TONE1:DURation 120
SOURce:AUDio:REMote:TONE1:DURation?
120
```

9.20 SOURce:AUDio:REMote:TONE1:FREQuency

Syntax:

SOURce:AUDio:REMote:TONE1:FREQuency
SOURce:AUDio:REMote:TONE1:FREQuency?

Parameter/Return: 0 to 5000 Hz

Description: Sets/returns the length of time (mS) that Tone #1 is active.

Example:

```
SOURce:AUDio:REMote:TONE1:FREQuency 2175
SOURce:AUDio:REMote:TONE1:FREQuency?
2175
```

9.21 SOURce:AUDio:REMote:LEVel

Syntax:

SOURce:AUDio:REMote:LEVel
SOURce:AUDio:REMote:LEVel?

Parameter/Return: 0.0 to 5.657 Volts

Description: Sets/returns the bias level for Tone 1, 2, 3 level offsets.

Example:

```
SOURce:AUDio:REMote:LEVel 1
SOURce:AUDio:REMote:LEVel?
1
```

9.22 SOURce:AUDio:REMote:TONE1:LEVel

Syntax:

SOURce:AUDio:REMote:TONE1:LEVel
SOURce:AUDio:REMote:TONE1:LEVel?

Parameter/Return: -20 to 20 dB

Description: Sets/returns the level of Tone #1. The 0 dB point is Tone Remote Level.

Example:

```
SOURce:AUDio:REMote:TONE1:LEVel 1
SOURce:AUDio:REMote:TONE1:LEVel?
1
```

9.23 SOURce:AUDio:REMote:TONE2:LEVel

Syntax:

SOURce:AUDio:REMote:TONE2:LEVel
SOURce:AUDio:REMote:TONE2:LEVel?

Parameter/Return: NR2

Description: —

Example:

```
SOURce:AUDio:REMote:TONE2:LEVel 0
SOURce:AUDio:REMote:TONE2:LEVel?
0
```

9.24 SOURce:AUDio:REMote:TONE2:FREQuency

Syntax:

SOURce:AUDio:REMote:TONE2:FREQuency
SOURce:AUDio:REMote:TONE2:FREQuency?

Parameter/Return: 0 to 5000 Hz

Description: Sets/returns the frequency of Tone #2.

Example: —

```
SOURce:AUDio:REMote:TONE2:FREQuency 1000
SOURce:AUDio:REMote:TONE2:FREQuency?
1000
```

9.25 SOURce:AUDio:REMote:TONE2:DURation

Syntax:

SOURce:AUDio:REMote:TONE2:DURation
SOURce:AUDio:REMote:TONE2:DURation?

Parameter/Return: 20 to 500 ms

Description: Sets/returns the length of time (mS0 that Tone #2 is active.

Example:

```
SOURce:AUDio:REMote:TONE2:DURation 500
SOURce:AUDio:REMote:TONE2:DURation?
500
```

9.26 SOURce:AUDio:REMote:TONE2:LEVel

Syntax:

SOURce:AUDio:REMote:TONE2:LEVel
SOURce:AUDio:REMote:TONE2:LEVel?

Parameter/Return: 20 to 500 ms

Description: Sets/returns the Level of Tone#2. The 0 dB point is Tone Remote Level.

Example:

```
SOURce:AUDio:REMote:TONE2:LEVel 0
SOURce:AUDio:REMote:TONE2:LEVel?
0
```

9.27 SOURce:AUDio:REMote:TONE3:LEVel

Syntax:

SOURce:AUDio:REMote:TONE3:LEVel
SOURce:AUDio:REMote:TONE3:LEVel?

Parameter/Return: -20 to 20 dB

Description: Sets/returns the Level of Tone #3. The o dB point is Tone Remote Level.

Example:

```
SOURce:AUDio:REMote:TONE3:LEVel -1
SOURce:AUDio:REMote:TONE3:LEVel?
-1
```

9.28 SOURce:AUDio:REMote:TONE3:FREQuency

Syntax:

SOURce:AUDio:REMote:TONE3:FREQuency
SOURce:AUDio:REMote:TONE3:FREQuency?

Parameter/Return: 0 to 5000 Hz

Description: Sets/returns the frequency of Tone #3.

Example:

```
SOURce:AUDio:REMote:TONE3:FREQuency 1000
SOURce:AUDio:REMote:TONE3:FREQuency?
1000
```

9.29 SOURce:AUDio:REMote:TONE3:DURation

Syntax:

SOURce:AUDio:REMote:TONE3:DURation
SOURce:AUDio:REMote:TONE3:DURation?

Parameter/Return: 20 to 500 ms

Description: Sets/returns the length of time (mS0 that Tone #3 is active.

Example:

```
SOURce:AUDio:REMote:TONE3:DURation 120
SOURce:AUDio:REMote:TONE3:DURation?
120
```

9.30 SOURce:AUDio:SEQuential:ENABle

Syntax:

SOURce:AUDio:SEQuential:ENABle
SOURce:AUDio:SEQuential:ENABle?

Parameter/Return: On |Off | 1 | 0

Description: Sets/returns the tone sequence.

Example:

```
SOURce:AUDio:SEQuential:ENABle Off

SOURce:AUDio:SEQuential:ENABle?
0
```

9.31 SOURce:AUDio:SEQuential:PROTocol

Syntax:

SOURce:AUDio:SEQuential:PROTocol
SOURce:AUDio:SEQuential:PROTocol?

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: Sets/returns the Five/Six/Seven Tone frequency definition for each symbol.

Example:

```
SOURce:AUDio:SEQuential:PROTocol ZVEI1

SOURce:AUDio:SEQuential:PROTocol?
ZVEI1
```

9.32 SOURce:AUDio:SEQuential:FSHIFt

Syntax:

SOURce:AUDio:SEQuential:FSHIFt
SOURce:AUDio:SEQuential:FSHIFt?

Parameter/Return: -10 to 10%

Description: Sets/returns the Tone Sequential Frequency Shift. The tone frequencies used for each symbol may be tweaked by some percentage. This will change all tone values.

Example:

```
SOURce:AUDio:SEQuential:FSHIFt 0

SOURce:AUDio:SEQuential:FSHIFt?
0
```

9.33 SOURce:AUDio:SEQuential:SEQuence

Syntax:

SOURce:AUDio:SEQuential:SEQuence
SOURce:AUDio:SEQuential:SEQuence?

Parameter/Return: 8 Digits, 0-9, A-F, '-'

Description: Sets/returns the Tine Sequential Symbol Sequence. The tone sequence code which is made of 1 to 8 characters. The '-' is the Pause symbol, and requires quotes around the argument.

Example:

```
SOURce:AUDio:SEQuential:SEQuence 12345
SOURce:AUDio:SEQuential:SEQuence?
12345
```

9.34 SOURce:AUDio:SEQuential:DELay

Syntax:

SOURce:AUDio:SEQuential:DELay
SOURce:AUDio:SEQuential:DELay?

Parameter/Return: 0 to 9999 mS

Description: Sets/returns the Tone Sequential Call Delay. The first symbol transmitted may be lengthened some additional time in addition to the symbol time.

Example:

```
SOURce:AUDio:SEQuential:DELay 0
SOURce:AUDio:SEQuential:DELay?
0
```

9.35 SOURce:AUDio:SEQuential:PAUSe

Syntax:

SOURce:AUDio:SEQuential:PAUSe
SOURce:AUDio:SEQuential:PAUSe?

Parameter/Return: 0 to 9999 mS

Description: Sets/returns the length for the '-' symbol, which is called Pause.

Example:

```
SOURce:AUDio:SEQuential:PAUSe 0
SOURce:AUDio:SEQuential:PAUSe?
0
```

9.36 SOURce:AUDio:SEQuential:SHIFt

Syntax:

SOURce:AUDio:SEQuential:SHIFt
SOURce:AUDio:SEQuential:SHIFt?

Parameter/Return: NR2

Description: —

Example:

```
SOURce:AUDio:SEQuential:SHIFt Off
SOURce:AUDio:SEQuential:SHIFt?
Off
```

9.37 SOURce:AUDio:SEQuential:LEVel

Syntax:

SOURce:AUDio:SEQuential:LEVel
SOURce:AUDio:SEQuential:LEVel?

Parameter/Return: 0.0 to 5.7 Volts

Description: Sets/returns the Tone Sequential Level. This is the 0 dB point for data level.

Example:

```
SOURce:AUDio:SEQuential:LEVel 1
SOURce:AUDio:SEQuential:LEVel?
1
```

9.38 SOURce:AUDio:TTONe:ENABle

Syntax:

SOURce:AUDio:TTONe:ENABle
SOURce:AUDio:TTONe:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the two tone sequence.

Example:

```
SOURce:AUDio:TTONe:ENABle Off
SOURce:AUDio:TTONe:ENABle?
0
```

9.39 SOURce:AUDio:TTONe:LEVel

Syntax:

SOURce:AUDio:TTONe:LEVel
SOURce:AUDio:TTONe:LEVel?

Parameter/Return: 0.0 to 5.7 Volts

Description: Sets/returns the level for two tone modulation.

Example:

```
SOURce:AUDio:TTONe:LEVel 1

SOURce:AUDio:TTONe:LEVel?
1
```

9.40 SOURce:AUDio:TTONe:TONE1:FREQuency

Syntax:

SOURce:AUDio:TTONe:TONE1:FREQuency
SOURce:AUDio:TTONe:TONE1:FREQuency?

Parameter/Return: 0 to 5000 Hz.

Description: Sets/returns the frequency of the first tone.

Example:

```
SOURce:AUDio:TTONe:TONE1:FREQuency 500

SOURce:AUDio:TTONe:TONE1:FREQuency?
500
```

9.41 SOURce:AUDio:TTONe:TONE1:DURation

Syntax:

SOURce:AUDio:TTONe:TONE1:DURation
SOURce:AUDio:TTONe:TONE1:DURation?

Parameter/Return: 100 to 10000 mS

Description: Sets/returns the duratino tine of the first tone.

Example:

```
SOURce:AUDio:TTONe:TONE1:DURation 100

SOURce:AUDio:TTONe:TONE1:DURation?
100
```

9.42 SOURce:AUDio:TTONe:TONE2:FREQuency

Syntax:

SOURce:AUDio:TTONe:TONE2:FREQuency
SOURce:AUDio:TTONe:TONE2:FREQuency?

Parameter/Return: 0 to 5000 Hz

Description: Sets/returns the frequency of the second tone.

Example:

```
SOURce:AUDio:TTONe:TONE2:FREQuency 1000
SOURce:AUDio:TTONe:TONE2:FREQuency?
1000
```

9.43 SOURce:AUDio:TTONe:TONE2:DURation

Syntax:

SOURce:AUDio:TTONe:TONE2:DURation
SOURce:AUDio:TTONe:TONE2:DURation?

Parameter/Return: 100 to 10000 mS

Description: Sets/returns the duration time of the second tone.

Example:

```
SOURce:AUDio:TTONe:TONE2:DURation 300
SOURce:AUDio:TTONe:TONE2:DURation?
300
```

9.44 SOURce:AUDio:TTONe:SPACe

Syntax:

SOURce:AUDio:TTONe:SPACe
SOURce:AUDio:TTONe:SPACe?

Parameter/Return: NR2

Description: —

Example:

```
SOURce:AUDio:TTONe:SPACe 0
SOURce:AUDio:TTONe:SPACe?
0
```

9.45 SOURce:AUDio:GTONE:STARt

Syntax:

SOURce:AUDio:GTONE:STARt
SOURce:AUDio:GTONE:STARt?

Parameter/Return: Enabled | Disabled

Description: Sets/returns the DTMF Burst trigger. An argument is required and needs to alternate states on consecutive calls. This command is used in DTMF Burst, Tone Remote, Tone Sequential, Two Tone Sequential

Example:

```
SOURce:AUDio:GTONE:STARt Enabled
SOURce:AUDio:GTONE:STARt?
Enabled
```

9.46 SOURce:MODulator:TYPE

Syntax:

SOURce:MODulator:TYPE
SOURce:MODulator:TYPE?

Parameter/Return:
OFF|DTMF|DCS|CTCSS|TONEREMOTE|TONESEQ|TWOTONESEQ

Description: —

Example:

```
SOURce:MODulator:TYPE OFF
SOURce:MODulator:TYPE?
```

9.47 SOURce:MODulator:CTCSs:ENABle

Syntax: SOURce:MODulator:CTCSs:ENABle

Parameter/Return: Boolean

Description: —

Example:

```
SOURce:MODulator:CTCSs:ENABle
```

9.48 SOURce:MODulator:CTCSs:AM:LEVel

Syntax:

SOURce:MODulator:CTCSs:AM:LEVel
SOURce:MODulator:CTCSs:AM:LEVel?

Parameter/Return: NR2

Description: —

Example:

```
SOURce:MODulator:CTCSs:AM:LEVel 10
SOURce:MODulator:CTCSs:AM:LEVel?
10
```

9.49 SOURce:MODulator:CTCSs:FM:LEVel

Syntax:

SOURce:MODulator:CTCSs:FM:LEVel
SOURce:MODulator:CTCSs:FM:LEVel?

Parameter/Return: 1 Hz to 1000000 Hz

Description: Sets/returns modulation level of the CTCSS tone for FM modulation. When CTCSS Encode is active, it disables the M2 modulation source. Switching RF Gen Mod type will disable CTCSS encode type.

Example:

```
SOURce:MODulator:CTCSs:FM:LEVel 250
SOURce:MODulator:CTCSs:FM:LEVel?
250
```

9.50 SOURce:MODulator:CTCSs:PM:LEVel

Syntax:

SOURce:MODulator:CTCSs:PM:LEVel
SOURce:MODulator:CTCSs:PM:LEVel?

Parameter/Return: 0 Rad to 10 Rad

Description: Sets/returns the modulation level of the CTCSS tone for PM modulation.

Example:

```
SOURce:MODulator:CTCSs:PM:LEVel 1
SOURce:MODulator:CTCSs:PM:LEVel?
1
```

9.51 SOURce:MODulator:CTCSs:TONE

Syntax:

SOURce:MODulator:CTCSs:TONE
SOURce:MODulator:CTCSs:TONE?

Parameter/Return: NS Code, 1 to 50

Description: Sets/returns the CTCS Set Tone. Many radios use a matching set of numerical codes (non-standard) to represent corresponding tones. The GUI provides a table of all codes.

Example:

```
SOURce:MODulator:CTCSs:TONE 1
SOURce:MODulator:CTCSs:TONE?
1
```

9.52 SOURce:MODulator:DCS:CODE

Syntax:

SOURce:MODulator:DCS:CODE
SOURce:MODulator:DCS:CODE?

Parameter/Return: Octal: 000 to 777

Description: Sets/returns the DCS Set Code; a 3 digit octal code, not all numbers are valid DCS codes. An invalid code will create a system error (-200,Execution error)

Example:

```
SOURce:MODulator:DCS:CODE 23
SOURce:MODulator:DCS:CODE?
23
```

9.53 SOURce:MODulator:DCS:AM:LEVel

Syntax:

SOURce:MODulator:DCS:AM:LEVel
SOURce:MODulator:DCS:AM:LEVel?

Parameter/Return: 0 to 100%

Description: Sets/returns the modulation level of the DCS tone for AM modulation.

Example:

```
SOURce:MODulator:DCS:AM:LEVel 10
SOURce:MODulator:DCS:AM:LEVel?
10
```

9.54 SOURce:MODulator:DCS:FM:LEVel

Syntax:

SOURce:MODulator:DCS:FM:LEVel
SOURce:MODulator:DCS:FM:LEVel?

Parameter/Return: 0 Hz to 100000 Hz

Description: Sets/returns them odulation level of teh DCS tone for FM modulation.

Example:

```
SOURce:MODulator:DCS:FM:LEVel 350
SOURce:MODulator:DCS:FM:LEVel?
350
```

9.55 SOURce:MODulator:DCS:PM:LEVel

Syntax:

SOURce:MODulator:DCS:PM:LEVel
SOURce:MODulator:DCS:PM:LEVel?

Parameter/Return: 0 Rad to 10 Rad

Description: Sets/returns the modulation level of the DCS tone for PM modulation.

Example:

```
SOURce:MODulator:DCS:PM:LEVel 1
SOURce:MODulator:DCS:PM:LEVel?
1
```

9.56 SOURce:MODulator:DCS:STATe

Syntax:

SOURce:MODulator:DCS:STATe
SOURce:MODulator:DCS:STATe?

Parameter/Return: OFF | NORMAL | INVERTED

Description: Sets/returns the Tone Encode state.

Example:

```
SOURce:MODulator:DCS:STATe OFF
SOURce:MODulator:DCS:STATe?
OFF
```

9.57 SOURce:MODulator:DTMF:MARK

Syntax:

SOURce:MODulator:DTMF:MARK
SOURce:MODulator:DTMF:MARK?

Parameter/Return: 10 mS to 5000 mS

Description: Sets/returns the DTMF Mark Duration. When sending a DTMF tone, there is a tone time (Mark) and a space time.

Example:

```
SOURce:MODulator:DTMF:MARK 100

SOURce:MODulator:DTMF:MARK?
100
```

9.58 SOURce:MODulator:DTMF:PAUSe

Syntax:

SOURce:MODulator:DTMF:PAUSe
SOURce:MODulator:DTMF:PAUSe?

Parameter/Return: 10 mS to 5000 mS

Description: Sets/returns the Pause Duration. After sending a sequence of Mark/Space, then the Pause time elapses before restarting the DTMF sequence.

Example:

```
SOURce:MODulator:DTMF:PAUSe 500

SOURce:MODulator:DTMF:PAUSe?
500
```

9.59 SOURce:MODulator:DTMF:SPACe

Syntax:

SOURce:MODulator:DTMF:SPACe
SOURce:MODulator:DTMF:SPACe?

Parameter/Return: 10 mS to 5000 mS

Description: Sets/returns the space duration. When sending a DTMF tone, there is a tone time and a space time.

Example:

```
SOURce:MODulator:DTMF:SPACe 90

SOURce:MODulator:DTMF:SPACe?
90
```

9.60 SOURce:MODulator:DTMF:HTONe:AM:LEVel

Syntax:

SOURce:MODulator:DTMF:HTONe:AM:LEVel
SOURce:MODulator:DTMF:HTONe:AM:LEVel?

Parameter/Return: 0 to 100%

Description: Sets/returns level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component. This is used from DTMF Normal.

Example:

```
SOURce:MODulator:DTMF:HTONe:AM:LEVel 10
SOURce:MODulator:DTMF:HTONe:AM:LEVel?
10
```

9.61 SOURce:MODulator:DTMF:LTONE:AM:LEVel

Syntax:

SOURce:MODulator:DTMF:LTONE:AM:LEVel
SOURce:MODulator:DTMF:LTONE:AM:LEVel?

Parameter/Return: 0.0 % to 100.0 %

Description: Sets/returns the AM Low Tone Level. The level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component. This is used from DTMF Normal.

Example:

```
SOURce:MODulator:DTMF:LTONE:AM:LEVel 10
SOURce:MODulator:DTMF:LTONE:AM:LEVel?
10
```

9.62 SOURce:MODulator:DTMF:HTONe:FM:LEVel

Syntax:

SOURce:MODulator:DTMF:HTONe:FM:LEVel
SOURce:MODulator:DTMF:HTONe:FM:LEVel?

Parameter/Return: 0.0 Hz to 100000 Hz

Description: Sets/returns the FM High Tone Level. The level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component. This is used from DTMF Normal.

Example:

```
SOURce:MODulator:DTMF:HTONe:FM:LEVel 2500
SOURce:MODulator:DTMF:HTONe:FM:LEVel?
2500
```

9.63 SOURce:MODulator:DTMF:LTONE:FM:LEVel

Syntax:

SOURce:MODulator:DTMF:LTONE:FM:LEVel
SOURce:MODulator:DTMF:LTONE:FM:LEVel?

Parameter/Return: float: 0.0 Hz to 100000 Hz

Description: Sets/returns the FM Low Tone Level. The level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component. This is used from DTMF Normal.

Example:

```
SOURce:MODulator:DTMF:LTONE:FM:LEVel 2500
SOURce:MODulator:DTMF:LTONE:FM:LEVel?
2500
```

9.64 SOURce:MODulator:DTMF:HTONe:PM:LEVel

Syntax:

SOURce:MODulator:DTMF:HTONe:PM:LEVel
SOURce:MODulator:DTMF:HTONe:PM:LEVel?

Parameter/Return: 0.0 Rad to 10.0 Rad

Description: Sets/returns the PM High Tone Level. The level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component. This is used from DTMF Normal.

Example:

```
SOURce:MODulator:DTMF:HTONe:PM:LEVel 3
SOURce:MODulator:DTMF:HTONe:PM:LEVel?
3
```

9.65 SOURce:MODulator:DTMF:LTONE:PM:LEVel

Syntax:

SOURce:MODulator:DTMF:LTONE:PM:LEVel
SOURce:MODulator:DTMF:LTONE:PM:LEVel?

Parameter/Return: 0.0 Rad to 10.0 Rad

Description: Sets/returns the PM Low Tone Level. The level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component. This is used from DTMF Normal.

Example:

```
SOURce:MODulator:DTMF:LTONE:PM:LEVel 3
SOURce:MODulator:DTMF:LTONE:PM:LEVel?
3
```

9.66 SOURce:MODulator:DTMF:HTONe:AM:OFFSet

Syntax:

SOURce:MODulator:DTMF:HTONe:AM:OFFSet
SOURce:MODulator:DTMF:HTONe:AM:OFFSet?

Parameter/Return: 0.0 to 100.0%

Description: Sets/returns the AM Twist Tone level. High-frequency group tones are always transmitted at a level greater than low-frequency group tones. This sets the twist low-frequency group level.

Example:

```
SOURce:MODulator:DTMF:HTONe:AM:OFFSet 10
SOURce:MODulator:DTMF:HTONe:AM:OFFSet?
10
```

9.67 SOURce:MODulator:DTMF:LTONE:AM:OFFSet

Syntax: SOURce:MODulator:DTMF:LTONE:AM:OFFSet

Parameter/Return: NR2

Description: —

Example:

```
SOURce:MODulator:DTMF:LTONE:AM:OFFSet
```

9.68 SOURce:MODulator:DTMF:HTONe:FM:OFFSet

Syntax:

SOURce:MODulator:DTMF:HTONe:FM:OFFSet
SOURce:MODulator:DTMF:HTONe:FM:OFFSet?

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the FM Twist Tone Level. High-frequency group tones are always transmitted at a level greater than low-frequency group tones. This sets the twist low-frequency group level.

Example:

```
SOURce:MODulator:DTMF:HTONe:FM:OFFSet 2500
SOURce:MODulator:DTMF:HTONe:FM:OFFSet?
2500
```

9.69 SOURce:MODulator:DTMF:LTONE:FM:OFFSet

Syntax: SOURce:MODulator:DTMF:LTONE:FM:OFFSet

Parameter/Return: NR2

Description: —

Example:

```
SOURce:MODulator:DTMF:LTONE:FM:OFFSet
```

9.70 SOURce:MODulator:DTMF:HTONe:PM:OFFSet

Syntax:

SOURce:MODulator:DTMF:HTONe:PM:OFFSet
SOURce:MODulator:DTMF:HTONe:PM:OFFSet?

Parameter/Return: 0.0 Rad to 10.0 Rad

Description: Sets/returns the PM Twist Tone Level. High-frequency group tones are always transmitted at a level greater than low-frequency group tones. This sets the twist low-frequency group level.

Example:

```
SOURce:MODulator:DTMF:HTONe:PM:OFFSet 3
SOURce:MODulator:DTMF:HTONe:PM:OFFSet?
3
```

9.71 SOURce:MODulator:DTMF:LTONE:PM:OFFSet

Syntax: SOURce:MODulator:DTMF:LTONE:PM:OFFSet

Parameter/Return: NR2

Description: —

Example:

```
SOURce:MODulator:DTMF:LTONE:PM:OFFSet
```

9.72 SOURce:MODulator:DTMF:MODE

Syntax:

SOURce:MODulator:DTMF:MODE
SOURce:MODulator:DTMF:MODE?

Parameter/Return: NORMAL | TWIST

Description: Sets/returns the Twist mode. TWIST is when low frequency power is greater than high frequency. NORMAL is the reverse condition. Twist conditions are caused by a non-uniform frequency response.

Example:

```
SOURce:MODulator:DTMF:MODE Normal

SOURce:MODulator:DTMF:MODE?
NOrmal
```

9.73 SOURce:MODulator:DTMF:SEQuence

Syntax:

SOURce:MODulator:DTMF:SEQuence
SOURce:MODulator:DTMF:SEQuence?

Parameter/Return: string: 0-9, A-D, *#

Description: Sets/returns the String to Send. Letters have to be upper case. String length of 30 characters is allowed.

Example:

```
SOURce:MODulator:DTMF:SEQuence 123

SOURce:MODulator:DTMF:SEQuence?
123
```

9.74 SOURce:MODulator:DTMF:STATe

Syntax:

SOURce:MODulator:DTMF:STATe
SOURce:MODulator:DTMF:STATe?

Parameter/Return: OFF | CONT | BURST | LIVE

Description: Sets/returns the operation state. Start/Stop DTMF operation. Burst will require the Start interface to trigger. Continuous will repeatedly send the sequence string. Live will issue the DTMF symbol as it's entered on the keypad or as the sequence command is called.

Example:

```
SOURce:MODulator:DTMF:STATe OFF

SOURce:MODulator:DTMF:STATe?
OFF
```

9.75 SOURce:MODulator:DTMF:TWISt:LEVel

Syntax:

SOURce:MODulator:DTMF:TWISt:LEVel
SOURce:MODulator:DTMF:TWISt:LEVel?

Parameter/Return: OFF | CONT | BURST | LIVE

Description: Sets/returns the twist value. High-frequency group tones are always transmitted at a level greater than low-frequency group tones. This sets the twist high-frequency group level.

Example:

```
SOURce:MODulator:DTMF:TWISt:LEVel 0
SOURce:MODulator:DTMF:TWISt:LEVel?
0
```

9.76 SOURce:MODulator:REMote:AM:LEVel

Syntax:

SOURce:MODulator:REMote:AM:LEVel
SOURce:MODulator:REMote:AM:LEVel?

Parameter/Return: 0% to 100%

Description: You can set or quert the bias AM mod level for Tone 1, 2, 3 level offsets.

Example:

```
SOURce:MODulator:REMote:AM:LEVel 10
SOURce:MODulator:REMote:AM:LEVel?
10
```

9.77 SOURce:MODulator:REMote:FM:LEVel

Syntax:

SOURce:MODulator:REMote:FM:LEVel
SOURce:MODulator:REMote:FM:LEVel?

Parameter/Return: 0 Hz to 10000 Hz

Description: —

Example:

```
SOURce:MODulator:REMote:FM:LEVel 2000
SOURce:MODulator:REMote:FM:LEVel?
2000
```

9.78 SOURce:MODulator:REMote:PM:LEVel

Syntax:

SOURce:MODulator:REMote:PM:LEVel
SOURce:MODulator:REMote:PM:LEVel?

Parameter/Return: -20.0 dB to 20 dB

Description: Sets/returns the bias PM mod level for Tone 1,2,3 level offsets.

Example:

```
SOURce:MODulator:REMote:PM:LEVel 1
SOURce:MODulator:REMote:PM:LEVel?
1
```

9.79 SOURce:MODulator:REMote:TONE1:LEVel

Syntax:

SOURce:MODulator:REMote:TONE1:LEVel
SOURce:MODulator:REMote:TONE1:LEVel?

Parameter/Return: NR2

Description: Sets/returns the Level of Tone #1, the 0 dB point is Tone Remote Level. Uses Gen Mod #2.

Example:

```
SOURce:MODulator:REMote:TONE1:LEVel 1

SOURce:MODulator:REMote:TONE1:LEVel?
1
```

9.80 SOURce:MODulator:REMote:TONE1:FREQuency

Syntax:

SOURce:MODulator:REMote:TONE1:FREQuency
SOURce:MODulator:REMote:TONE1:FREQuency?

Parameter/Return: 0.0 Hz to 5000.0 Hz

Description: The frequency of Tone #1 is active. Uses Gen Mod #2 - Ensure sine wave active.

Example:

```
SOURce:MODulator:REMote:TONE1:FREQuency 2175

SOURce:MODulator:REMote:TONE1:FREQuency?
2175
```

9.81 SOURce:MODulator:REMote:TONE1:DURation

Syntax:

SOURce:MODulator:REMote:TONE1:DURation
SOURce:MODulator:REMote:TONE1:DURation?

Parameter/Return: 20.0 mS to 500 mS

Description: Sets/returns the length of time (mS) that Tone #1 is active.

Example:

```
SOURce:MODulator:REMote:TONE1:DURation 120

SOURce:MODulator:REMote:TONE1:DURation?
120
```

9.82 SOURce:MODulator:REMote:TONE2:LEVel

Syntax:

SOURce:MODulator:REMote:TONE2:LEVel
SOURce:MODulator:REMote:TONE2:LEVel?

Parameter/Return: -20.0 dB to 20 dB

Description: The frequency of Tone #1 is active. Uses Gen Mod #2 - Ensure sine wave active.

Example:

```
SOURce:MODulator:REMote:TONE2:LEVel 0

SOURce:MODulator:REMote:TONE2:LEVel?
0
```

9.83 SOURce:MODulator:REMote:TONE2:FREQuency

Syntax:

SOURce:MODulator:REMote:TONE2:FREQuency
SOURce:MODulator:REMote:TONE2:FREQuency?

Parameter/Return: 0.0 Hz to 5000.0 Hz

Description: The frequency of Tone #2 is active. Uses Gen Mod #2 - Ensure sine wave active.

Example:

```
SOURce:MODulator:REMote:TONE2:FREQuency 1000

SOURce:MODulator:REMote:TONE2:FREQuency?
1000
```

9.84 SOURce:MODulator:REMote:TONE2:DURation

Syntax:

SOURce:MODulator:REMote:TONE2:DURation
SOURce:MODulator:REMote:TONE2:DURation?

Parameter/Return: 20 mS to 500 mS

Description: Sets/returns the length of time (mS) that Tone #1 is active.

Example:

```
SOURce:MODulator:REMote:TONE2:DURation 0

SOURce:MODulator:REMote:TONE2:DURation?
0
```

9.85 SOURce:MODulator:REMote:TONE3:LEVel

Syntax:

SOURce:MODulator:REMote:TONE3:LEVel
SOURce:MODulator:REMote:TONE3:LEVel?

Parameter/Return: -20.0 dB to 20 dB

Description: The level of Tone #3, the 0 dB point is Tone Remote Level. Uses Gen Mod #2.

Example:

```
SOURce:MODulator:REMote:TONE3:LEVel -1

SOURce:MODulator:REMote:TONE3:LEVel?
-1
```

9.86 SOURce:MODulator:REMote:TONE3:FREQuency

Syntax:

SOURce:MODulator:REMote:TONE3:FREQuency
SOURce:MODulator:REMote:TONE3:FREQuency?

Parameter/Return: 0.0 Hz to 5000.0 Hz

Description: The frequency of Tone #3 is active. Uses Gen Mod #2 - Ensure sine wave active.

Example:

```
SOURce:MODulator:REMote:TONE3:FREQuency 2175

SOURce:MODulator:REMote:TONE3:FREQuency?
2175
```

9.87 SOURce:MODulator:REMote:TONE3:DURation

Syntax:

SOURce:MODulator:REMote:TONE3:DURation
SOURce:MODulator:REMote:TONE3:DURation?

Parameter/Return: 20.0 mS to 500 mS

Description: Sets/returns the length of time (mS) that Tone #3 is active.

Example: —

```
SOURce:MODulator:REMote:TONE3:DURation 120

SOURce:MODulator:REMote:TONE3:DURation?
120
```

9.88 SOURce:MODulator:SEQuential:PROTocol

Syntax:

SOURce:MODulator:SEQuential:PROTocol
SOURce:MODulator:SEQuential:PROTocol?

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: Sets/returns the Five/Six/Seven Tone frequency definition for each symbol.

Example:

```
SOURce:MODulator:SEQuential:PROTocol ZVEI1

SOURce:MODulator:SEQuential:PROTocol?
ZVEI1
```

9.89 SOURce:MODulator:SEQuential:SEQuence

Syntax:

SOURce:MODulator:SEQuential:SEQuence
SOURce:MODulator:SEQuential:SEQuence?

Parameter/Return: 8 Digits, 0-9, A-F, '-'

Description: This is the tone sequence code which is made of 1 to 8 characters. The '-' is the Pause symbol. The '-' will require quotes around the argument.

Example:

```
SOURce:MODulator:SEQuential:SEQuence 12345

SOURce:MODulator:SEQuential:SEQuence?
12345
```

9.90 SOURce:MODulator:SEQuential:DELay

Syntax:

SOURce:MODulator:SEQuential:DELay
SOURce:MODulator:SEQuential:DELay?

Parameter/Return: 0.0 to 999.0 mS

Description: Sets/returns the call delay. The first symbol transmitted may be lengthened some additional time (In addition to the symbol time).

Example:

```
SOURce:MODulator:SEQuential:DELay 0

SOURce:MODulator:SEQuential:DELay?
0
```

9.91 SOURce:MODulator:SEQuential:PAUSe

Syntax:

SOURce:MODulator:SEQuential:PAUSe
SOURce:MODulator:SEQuential:PAUSe?

Parameter/Return: 0.0 to 9999.0 mS

Description: Sets/returns the length for the '-' symbol, which is called Pause.

Example:

```
SOURce:MODulator:SEQuential:PAUSe 0

SOURce:MODulator:SEQuential:PAUSe?
0
```

9.92 SOURce:MODulator:SEQuential:FSHIFt

Syntax:

SOURce:MODulator:SEQuential:FSHIFt
SOURce:MODulator:SEQuential:FSHIFt?

Parameter/Return: -10% to 10%

Description: Sets/returns the Frequency Shift. The tone frequencies used for each symbol may be tweaked by some percentage. This will change all tone values.

Example:

```
SOURce:MODulator:SEQuential:FSHIFt 0

SOURce:MODulator:SEQuential:FSHIFt?
0
```

9.93 SOURce:MODulator:SEQuential:AM:LEVel

Syntax:

SOURce:MODulator:SEQuential:AM:LEVel
SOURce:MODulator:SEQuential:AM:LEVel?

Parameter/Return: 0.0 to 100.0 %

Description: This is the 0 dB point for data level. Will RF gen Modulator #2, ensure waveform is set to Sine.

Example: —

```
SOURce:MODulator:SEQuential:AM:LEVel 10

SOURce:MODulator:SEQuential:AM:LEVel?
10
```

9.94 SOURce:MODulator:SEQuential:FM:LEVel

Syntax:

SOURce:MODulator:SEQuential:FM:LEVel
SOURce:MODulator:SEQuential:FM:LEVel?

Parameter/Return: 0.0 to 100000.0 Hz

Description: This is the 0 dB point for data level. Will RF gen Modulator #2, ensure waveform is set to Sine.

Example:

```
SOURce:MODulator:SEQuential:FM:LEVel 1000

SOURce:MODulator:SEQuential:FM:LEVel?
1000
```

9.95 SOURce:MODulator:SEQuential:PM:LEVel

Syntax:

SOURce:MODulator:SEQuential:PM:LEVel
SOURce:MODulator:SEQuential:PM:LEVel?

Parameter/Return: 0.0 Rad to 10.0 Rad

Description: This is the 0 dB point for data level. Will RF gen Modulator #2, ensure waveform is set to Sine.

Example:

```
SOURce:MODulator:SEQuential:PM:LEVel 1

SOURce:MODulator:SEQuential:PM:LEVel?
1
```

9.96 SOURce:MODulator:TTONe:AM:LEVel

Syntax:

SOURce:MODulator:TTONe:AM:LEVel
SOURce:MODulator:TTONe:AM:LEVel?

Parameter/Return: 0.0 to 100.0%

Description: Sets/returns the AM mod level for two tone modulation. Used Mod Gen #2, ensure waveform is SINE.

Example:

```
SOURce:MODulator:TTONe:AM:LEVel 10

SOURce:MODulator:TTONe:AM:LEVel?
10
```

9.97 SOURce:MODulator:TTONe:FM:LEVel

Syntax:

SOURce:MODulator:TTONe:FM:LEVel
SOURce:MODulator:TTONe:FM:LEVel?

Parameter/Return: 0.0 to 100000.0 Hz

Description: Sets/returns the FM mod level for two tone modulation. Used Mod Gen #2, ensure waveform is SINE.

Example:

```
SOURce:MODulator:TTONe:FM:LEVel 1000

SOURce:MODulator:TTONe:FM:LEVel?
1000
```

9.98 SOURce:MODulator:TTONe:PM:LEVel

Syntax:

SOURce:MODulator:TTONe:PM:LEVel
SOURce:MODulator:TTONe:PM:LEVel?

Parameter/Return: 0.0 to 10.0 Rad

Description: You can the PM mod level for two tone modulation. Used Mod Gen #2, ensure waveform is SINE.

Example:

```
SOURce:MODulator:TTONe:PM:LEVel 1

SOURce:MODulator:TTONe:PM:LEVel?
1
```

9.99 SOURce:MODulator:TTONe:TONE1:FREQuency

Syntax:

SOURce:MODulator:TTONe:TONE1:FREQuency
SOURce:MODulator:TTONe:TONE1:FREQuency?

Parameter/Return: 0.0 to 5000 Hz

Description: Sets/returns the frequency of the first tone.

Example:

```
SOURce:MODulator:TTONe:TONE1:FREQuency 1000

SOURce:MODulator:TTONe:TONE1:FREQuency?
1000
```

9.100 SOURce:MODulator:TTONe:TONE1:DURation

Syntax:

SOURce:MODulator:TTONe:TONE1:DURation
SOURce:MODulator:TTONe:TONE1:DURation?

Parameter/Return: 0.0 to 10000.0 mS

Description: Sets/returns the duration time of the first tone.

Example:

```
SOURce:MODulator:TTONe:TONE1:DURation 100
SOURce:MODulator:TTONe:TONE1:DURation?
100
```

9.101 SOURce:MODulator:TTONe:TONE2:FREQuency

Syntax:

SOURce:MODulator:TTONe:TONE2:FREQuency
SOURce:MODulator:TTONe:TONE2:FREQuency?

Parameter/Return: NR2

Description: —

Example:

```
SOURce:MODulator:TTONe:TONE2:FREQuency 2000
SOURce:MODulator:TTONe:TONE2:FREQuency?
2000
```

9.102 SOURce:MODulator:TTONe:TONE2:DURation

Syntax:

SOURce:MODulator:TTONe:TONE2:DURation
SOURce:MODulator:TTONe:TONE2:DURation?

Parameter/Return: 0.0 to 10000.0 mS

Description: Sets/returns the duration time of the second tone.

Example:

```
SOURce:MODulator:TTONe:TONE2:DURation 300
SOURce:MODulator:TTONe:TONE2:DURation?
300
```

9.103 SOURce:MODulator:TTONe:SPACe:DURation

Syntax:

SOURce:MODulator:TTONe:SPACe:DURation
SOURce:MODulator:TTONe:SPACe:DURation?

Parameter/Return: 0.0 to 5000.0 mS

Description: Sets/returns the gap time between the two tones.

Example:

```
SOURce:MODulator:TTONe:SPACe:DURation 0

SOURce:MODulator:TTONe:SPACe:DURation?
0
```

9.104 SOURce:MODulator:TYPE

Syntax:

SOURce:MODulator:TYPE
SOURce:MODulator:TYPE?

Parameter/Return: OFF | DTMF | DCS | CTCSS | TONEREMOTE | TONESEQ | TWOTONESEQ

Description: Sets/returns tone encode type. When switching RF Gen mod types, this will set the encode type back to OFF. Sometimes an encode type will 'hijack' one or two analog mod gens.

Example:

```
SOURce:MODulator:TYPE 0

SOURce:MODulator:TYPE?
0
```

9.105 SOURce:MODulator:GTONE:STARt

Syntax:

SOURce:MODulator:GTONE:STARt
SOURce:MODulator:GTONE:STARt?

Parameter/Return: Enabled | Disabled

Description: Sets/returns the DTMF Burst Trigger. An argument is required and needs to alternate states on consecutive calls. This command (***) is used in DTMF Burst, Tone Remote, Tone Sequential, Two Tone Sequential

Example:

```
SOURce:MODulator:GTONE:STARt Enabled

SOURce:MODulator:GTONE:STARt?
Enabled
```

10

Tone Decoding Commands

This chapter describes the following remote commands for configuring Tone Decoding (TDECoding) settings:

- MEASure:AM:CTCSs:FREQuency? 10-3
- MEASure:AM:CTCSs:NS? 10-3
- MEASure:AM:CTCSs:TONE:FREQuency? 10-3
- MEASure:AM:DCS? 10-3
- MEASure:AM:DTMF? 10-4
- MEASure:AM:TONE:SEQ? 10-4
- MEASure:CTCSs:FREQuency? 10-4
- MEASure:CTCSs:PLVALue? 10-4
- MEASure:CTCSs:TONE:FREQuency? 10-5
- MEASure:CTCSs:VALue? 10-5
- MEASure:DCS? 10-5
- MEASure:DTMF? 10-5
- MEASure:FM:CTCSs:FREQuency? 10-6
- MEASure:FM:CTCSs:NS? 10-6
- MEASure:FM:CTCSs:TONE:FREQuency? 10-6
- MEASure:FM:DTMF? 10-6
- MEASure:FM:DCS? 10-7
- MEASure:FM:TONE:SEQ? 10-7
- MEASure:PM:CTCSs:FREQuency? 10-7
- MEASure:PM:CTCSs:NS? 10-7
- MEASure:PM:CTCSs:PLVALue? 10-8
- MEASure:PM:CTCSs:TONE:FREQuency? 10-8
- MEASure:PM:DCS? 10-8
- MEASure:PM:TONE:SEQ? 10-8
- MEASure:SSB:CTCSs:FREQuency? 10-9

- MEASure:SSB:CTCSs:NS? 10-9
- MEASure:SSB:CTCSs:PLVALue? 10-9
- MEASure:SSB:CTCSs:TONE:FREQuency? 10-9
- MEASure:SSB:DCS? 10-10
- MEASure:TONE:SEQuential? 10-10
- SENSe:AM:CLEar 10-10
- SENSe:AM:SEQuential:PROTocol 10-11
- SENSe:AM:TYPE 10-11
- SENSe:AUDio:CLEar 10-12
- SENSe:AUDio:DCS:MODE 10-12
- SENSe:AUDio:SEQuential:PROTocol 10-12
- SENSe:FM:CLEar 10-13
- SENSe:FM:DCS:MODE 10-13
- SENSe:FM:SEQuential:PROTocol 10-14
- SENSe:FM:TYPE 10-14
- SENSe:PM:CLEar 10-14
- SENSe:PM:DCS:MODE 10-15
- SENSe:PM:SEQuential:PROTocol 10-15
- SENSe:SSB:CLEar 10-16
- SENSe:SSB:DCS:MODE 10-16
- SENSe:SSB:SEQuential:PROTocol 10-17
- SENSe:SSB:TYPE 10-17

10.1 MEASure:AM:CTCSs:FREQuency?

Syntax: MEASure:AM:CTCSs:FREQuency?

Parameter/Return: None

Description: Returns the actual CTCSS frequency in Hz.

Example:

```
MEASure:AM:CTCSs:FREQuency?
0
```

10.2 MEASure:AM:CTCSs:NS?

Syntax: MEASure:AM:CTCSs:NS?

Parameter/Return: None

Description: Returns the numerical codes. Many radios use a matching set of numerical codes (non-standard) to represent corresponding tones.

Example:

```
MEASure:AM:CTCSs:NS?
0
```

10.3 MEASure:AM:CTCSs:TONE:FREQuency?

Syntax: MEASure:AM:CTCSs:TONE:FREQuency?

Parameter/Return: None

Description: Returns the target CTCSS frequency in Hz.

Example:

```
MEASure:AM:CTCSs:TONE:FREQuency?
0
```

10.4 MEASure:AM:DCS?

Syntax: MEASure:AM:DCS?

Parameter/Return: None

Description: Returns the DCS code detected or -1 for no code detected.

Example:

```
MEASure:AM:DCS?
0
```

10.5 MEASure:AM:DTMF?

Syntax: MEASure:AM:DTMF?

Parameter/Return: None

Description: Returns the DTMF string. If there is no DTMF string return value, returns "-200, Execution Error."

Example:

```
MEASure:AM:DTMF?
123
```

10.6 MEASure:AM:TONE:SEQ?

Syntax: MEASure:AM:TONE:SEQ?

Parameter/Return: None

Description: Returns the received tone sequence.

Example:

```
MEASure:AM:TONE:SEQ?
1060hZ Dur 69 Err 0.0039
```

10.7 MEASure:CTCSs:FREQuency?

Syntax: MEASure:CTCSs:FREQuency?

Parameter/Return: None

Description: Returns the received tone sequence.

Example:

```
MEASure:CTCSs:FREQuency?
0
```

10.8 MEASure:CTCSs:PLVALue?

Syntax: MEASure:CTCSs:PLVALue?

Parameter/Return: None

Description: Returns the CTCSS Decode PL Value.

Example:

```
MEASure:CTCSs:PLVALue?
N/A
```

10.9 MEASure:CTCSs:TONE:FREQuency?

Syntax: MEASure:CTCSs:TONE:FREQuency?

Parameter/Return: None

Description: Returns the CTCSS Decode tone frequency.

Example:

```
MEASure:CTCSs:TONE:FREQuency?
0
```

10.10 MEASure:CTCSs:VALue?

Syntax: MEASure:CTCSs:VALue?

Parameter/Return: None

Description: Returns the CTCSS Decode value

Example:

```
MEASure:CTCSs:VALue?
0
```

10.11 MEASure:DCS?

Syntax: MEASure:DCS?

Parameter/Return: None

Description: Returns the DCS Decode value.

Example:

```
MEASure:DCS?
0
```

10.12 MEASure:DTMF?

Syntax: MEASure:DTMF?

Parameter/Return: None

Description: Returns the DTMF Decode value.

Example:

```
MEASure:DTMF?
123
```

10.13 MEASure:FM:CTCSs:FREQuency?

Syntax: MEASure:FM:CTCSs:FREQuency?

Parameter/Return: None

Description: Returns actual CTCSS frequency in Hz.

Example:

```
MEASure:FM:CTCSs:FREQuency?
0
```

10.14 MEASure:FM:CTCSs:NS?

Syntax: MEASure:FM:CTCSs:NS?

Parameter/Return: None

Description: Returns CTCSS non-standard code. Many radios use a matching set of numerical codes (non-standard) to represent corresponding tones.

Example:

```
MEASure:FM:CTCSs:NS?
0
```

10.15 MEASure:FM:CTCSs:TONE:FREQuency?

Syntax: MEASure:FM:CTCSs:TONE:FREQuency?

Parameter/Return: None

Description: Returns the target CTCSS frequency in Hz.

Example:

```
MEASure:FM:CTCSs:TONE:FREQuency?
0
```

10.16 MEASure:FM:DTMF?

Syntax: MEASure:FM:DTMF?

Parameter/Return: None

Description: Returns the DTMF string. If no DTMF string then system:error? is returned stating “-200,Execution error”.

Example:

```
MEASure:FM:DTMF?
0
```

10.17 MEASure:FM:DCS?

Syntax: MEASure:FM:DCS?

Parameter/Return: None

Description: Returns the DCS code detected or -1 for no code detected.

Example:

```
MEASure:FM:DCS?
0
```

10.18 MEASure:FM:TONE:SEQ?

Syntax: MEASure:FM:TONE:SEQ?

Parameter/Return: None

Description: Returns the received tone sequence.

Example:

```
MEASure:FM:TONE:SEQ?
1060Hz   Dur69.02ms   Err0.0039%
```

10.19 MEASure:PM:CTCSs:FREQuency?

Syntax: MEASure:PM:CTCSs:FREQuency?

Parameter/Return: None

Description: Returns the actual CTCSS frequency in Hz.

Example:

```
MEASure:PM:CTCSs:FREQuency?
0
```

10.20 MEASure:PM:CTCSs:NS?

Syntax: MEASure:PM:CTCSs:NS?

Parameter/Return: None

Description: Returns the CTCSS non-standard code. Many radios use a matching set of numerical codes (non-standard) to represent corresponding tones.

Example:

```
MEASure:PM:CTCSs:NS?
0
```

10.21 MEASure:PM:CTCSs:PLVALue?

Syntax: MEASure:PM:CTCSs:PLVALue?

Parameter/Return: None

Description: Returns the PL code.

Example:

```
MEASure:PM:CTCSs:PLVALue?
N/A
```

10.22 MEASure:PM:CTCSs:TONE:FREQuency?

Syntax: MEASure:PM:CTCSs:TONE:FREQuency?

Parameter/Return: None

Description: Returns the target CTCSS frequency in Hz.

Example:

```
MEASure:PM:CTCSs:TONE:FREQuency?
0
```

10.23 MEASure:PM:DCS?

Syntax: MEASure:PM:DCS?

Parameter/Return: None

Description: Returns the DCS code detected or -1 for no code detected.

Example:

```
MEASure:PM:DCS?
0
```

10.24 MEASure:PM:TONE:SEQ?

Syntax: MEASure:PM:TONE:SEQ?

Parameter/Return: None

Description: Returns the received tone sequence

Example:

```
MEASure:PM:TONE:SEQ?
1060Hz Dur69.02ms Err0.0039%
```

10.25 MEASure:SSB:CTCSs:FREQuency?

Syntax: MEASure:SSB:CTCSs:FREQuency?

Parameter/Return: None

Description: Returns the actual CTCSS frequency in Hz.

Example:

```
MEASure:SSB:CTCSs:FREQuency?
0
```

10.26 MEASure:SSB:CTCSs:NS?

Syntax: MEASure:SSB:CTCSs:NS?

Parameter/Return: None

Description: Returns non-standard CTCSS codes. Many radios use a matching set of numerical codes (non-standard) to represent corresponding tones.

Example:

```
MEASure:SSB:CTCSs:NS?
0
```

10.27 MEASure:SSB:CTCSs:PLVALue?

Syntax: MEASure:SSB:CTCSs:PLVALue?

Parameter/Return: None

Description: Returns the PL code.

Example:

```
MEASure:SSB:CTCSs:PLVALue?
N/A
```

10.28 MEASure:SSB:CTCSs:TONE:FREQuency?

Syntax: MEASure:SSB:CTCSs:TONE:FREQuency?

Parameter/Return: None

Description: Returns the target CTCSS frequency in Hz.

Example:

```
MEASure:SSB:CTCSs:TONE:FREQuency?
0
```

10.29 MEASure:SSB:DCS?

Syntax: MEASure:SSB:DCS?

Parameter/Return: None

Description: Returns the DCS code detected or -1 for no code detected.

Example:

```
MEASure:SSB:DCS?
0
```

10.30 MEASure:TONE:SEQuential?

Syntax: MEASure:TONE:SEQuential?

Parameter/Return: None

Description: Returns the Tone Sequential Value.

Example:

```
MEASure:TONE:SEQuential?
12345
```

10.31 SENSe:AM:CLEar

Syntax: SENSe:AM:CLEar

Parameter/Return: None

Description: Clears the decoded tone symbols.

Example:

```
SENSe:AM:CLEar
```

10.32 SENSe:AM:DCS:MODE

Syntax:

SENSe:AM:DCS:MODE
SENSe:AM:DCS:MODE?

Parameter/Return: Normal | Inverted

Description: Sets/returns the Digital Code Squelch 23-bit word.

Example:

```
SENSe:AM:DCS:MODE Normal

SENSe:AM:DCS:MODE?
Normal
```

10.33 SENSe:AM:SEQuential:PROTocol

Syntax: SENSe:AM:SEQuential:PROTocol?

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: ZVEI is a family of selcall, CCIR Selcall are 5-tone selcall, EEA is a 5-tone selcall mode, MODAT is a 7-tone system, USER are user defined tones and durations..

Example:

```
SENSe:AM:SEQuential:PROTocol DZVEI

SENSe:AM:SEQuential:PROTocol?
```

Query Response: ZVEI1

10.34 SENSe:AM:TYPE

Syntax:

SENSe:AM:TYPE
SENSe:AM:TYPE?

Parameter/Return: OFF | DTMF | DCS | CTCSS | TONEREMOTE | TONESEQ | TWOTONESEQ

Description: Sets/returns the squelch type. Used in shared RF channels to separate users into functional groups.

Example:

```
SENSe:AM:TYPE OFF
SENSe:AM:TYPE?
OFF
```

10.35 SENSe:AUDio:CLEar

Syntax: SENSe:AUDIO:CLEar

Parameter/Return: none

Description: Clears the Tone Decode readings.

Example:

```
SENSe:AUDio:CLEar
```

10.36 SENSe:AUDio:DCS:MODE

Syntax:

SENSe:AUDio:DCS:MODE
SENSe:AUDio:DCS:MODE?

Parameter/Return: NORMAL | INVERTED

Description: Sets/returns the Digital Code Squelch 23-bit word.

Example:

```
SENSe:AUDio:DCS:MODE Normal
SENSe:AUDio:DCS:MODE?
Normal
```

10.37 SENSe:AUDio:SEQuential:PROTocol

Syntax:

SENSe:AUDio:SEQuential:PROTocol
SENSe:AUDio:SEQuential:PROTocol?

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: Sets/returns the Digital Code Squelch 23-bit word.

Example:

```
SENSe:AUDio:SEQuential:PROTocol ZVEI1
SENSe:AUDio:SEQuential:PROTocol?
ZVEI1
```

10.38 SENSe:AUDio:TYPE

Syntax:

SENSe:AUDio:TYPE
SENSe:AUDio:TYPE?

Parameter/Return: OFF | DTMF | DCS | CTCSS | TONEREMOTE | TONESEQ | TWOTONESEQ

Description: Sets/returns the Squelch Type. Used in shared RF channels to separate users into functional groups.

Example:

```
SENSe:AUDio:TYPE OFF
SENSe:AUDio:TYPE?
OFF
```

10.39 SENSe:FM:CLEar

Syntax: SENSe:FM:CLEar

Parameter/Return: None

Description: Clears the decoded tone symbols.

Example:

```
SENSe:FM:CLEar
```

10.40 SENSe:FM:DCS:MODE

Syntax:

SENSe:FM:DCS:MODE
SENSe:FM:DCS:MODE?

Parameter/Return: Normal | Inverted

Description: Sets/returns the Digital Code Squelch 23-bit word.

Example:

```
SENSe:FM:DCS:MODE Normal
SENSe:FM:DCS:MODE?
Normal
```

10.41 SENSe:FM:SEQuential:PROTocol

Syntax:

SENSe:FM:SEQuential:PROTocol
SENSe:FM:SEQuential:PROTocol?

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: ZVEI is a family of selcall, CCIR Selcall are 5-tone selcall, EEA is a 5-tone selcall mode, MODAT is a 7-tone system, USER are user defined tones and durations.

Example:

```
SENSe:FM:SEQuential:PROTocol ZVEI1
SENSe:FM:SEQuential:PROTocol?
ZVEI1
```

10.42 SENSe:FM:TYPE

Syntax:

SENSe:FM:TYPE
SENSe:FM:TYPE?

Parameter/Return: OFF | DTMF | DCS | CTCSS | TONEREMOTE | TONESEQ | TWOTONESEQ

Description: Sets/returns the Squelch type. Used in shared RF channels to separate users into functional groups.

Example:

```
SENSe:FM:TYPE OFF
SENSe:FM:TYPE?
OFF
```

10.43 SENSe:PM:CLEar

Syntax: SENSe:PM:CLEar

Parameter/Return: None

Description: Clears the decoded tone symbols.

Example:

```
SENSe:PM:CLEar
```

10.44 SENSe:PM:DCS:MODE

Syntax:

SENSe:PM:DCS:MODE
SENSe:PM:DCS:MODE?

Parameter/Return: NORMAL | INVERTED

Description: Sets/returns the Digital Code Squelch 23-bit word.

Example:

```
SENSe:PM:DCS:MODE NORMAL

SENSe:PM:DCS:MODE?
NOrmal
```

10.45 SENSe:PM:SEQuential:PROTocol

Syntax:

SENSe:PM:SEQuential:PROTocol
SENSe:PM:SEQuential:PROTocol?

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: ZVEI is a family of selcall, CCIR Selcall are 5-tone selcall, EEA is a 5-tone selcall mode, MODAT is a 7-tone system, USER are user defined tones and durations..

Example:

```
SENSe:PM:SEQuential:PROTocol ZVEI1

SENSe:PM:SEQuential:PROTocol?
ZVEI1
```

10.46 SENSe:PM:TYPE

Syntax:

SENSe:PM:TYPE
SENSe:PM:TYPE?

Parameter/Return: OFF | DTMF | DCS | CTCSS | TONEREMOTE | TONESEQ | TWOTONESEQ

Description: Sets/returns the Squelch Type. Used in shared RF channels to separate users into functional groups.

Example:

```
SENSe:PM:TYPE OFF
SENSe:PM:TYPE?
OFF
```

10.47 SENSe:SSB:CLEar

Syntax: SENSe:SSB:CLEar

Parameter/Return: None

Description: Clears the decoded tone symbols.

Example:

```
SENSe:SSB:CLEar
```

10.48 SENSe:SSB:DCS:MODE

Syntax:

SENSe:SSB:DCS:MODE
SENSe:SSB:DCS:MODE?

Parameter/Return: NORMAL | INVERTED

Description: Sets/returns the Digital Code Squelch 23-bit word.

Example:

```
SENSe:SSB:DCS:MODE Normal
SENSe:SSB:DCS:MODE?
Normal
```

10.49 SENSe:SSB:SEQuential:PROTocol

Syntax:

SENSe:SSB:SEQuential:PROTocol
SENSe:SSB:SEQuential:PROTocol?

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: ZVEI is a family of selcall, CCIR Selcall are 5-tone selcall, EEA is a 5-tone selcall mode, MODAT is a 7-tone system, USER are user defined tones and durations.

Example:

```
SENSe:SSB:SEQuential:PROTocol ZVEI1
SENSe:SSB:SEQuential:PROTocol?
ZVEI1
```

10.50 SENSe:SSB:TYPE

Syntax:

SENSe:SSB:TYPE
SENSe:SSB:TYPE?

Parameter/Return: OFF | DTMF | DCS | CTCSS | TONEREMOTE | TONESEQ | TWOTONESEQ

Description: ZVEI is a family of selcall, CCIR Selcall are 5-tone selcall, EEA is a 5-tone selcall mode, MODAT is a 7-tone system, USER are user defined tones and durations.

Example:

```
SENSe:SSB:TYPE OFF
SENSe:SSB:TYPE?
OFF
```

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11

AF Generator Commands

This chapter describes the following remote commands for configuring AF Generator (AFGenerator) settings:

- SOURce:GEN:UNIT 11-2
- SOURce:GEN1:ENABle 11-2
- SOURce:GEN1:FREQuency 11-2
- SOURce:GEN1:LEVel:VOLT 11-3
- SOURce:GEN1:LEVel:DBM 11-3
- SOURce:GEN1:SHAPe 11-3
- SOURce:GEN2:ENABle 11-4
- SOURce:GEN2:FREQuency 11-4
- SOURce:GEN2:LEVel:VOLT 11-4
- SOURce:GEN2:LEVel:DBM 11-5
- SOURce:GEN2:SHAPe 11-5
- SOURce:GEN3:ENABle 11-5
- SOURce:GEN3:FREQuency 11-6
- SOURce:GEN3:LEVel:VOLT 11-6
- SOURce:GEN3:LEVel:DBM 11-6
- SOURce:GEN3:SHAPe 11-7
- SOURce:GEN:IMPedance 11-7

11.1 SOURce:GEN:UNIT

Syntax:

SOURce:GEN:UNIT
SOURce:GEN:UNIT?

Parameter/Return: dBm | V

Description: Sets/returns generator unit in AF generator.

Example:

```
SOURce:GEN:UNIT V
SOURce:GEN:UNIT?
V
```

11.2 SOURce:GEN1:ENABle

Syntax:

SOURce:GEN1:ENABle
SOURce:GEN1:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: You can enable AF generator 1.

Example:

```
SOURce:GEN1:ENABle Off
SOURce:GEN1:ENABle?
0
```

11.3 SOURce:GEN1:FREQuency

Syntax:

SOURce:GEN1:FREQuency
SOURce:GEN1:FREQuency?

Parameter/Return: 1 Hz to 100000 Hz

Description: Sets/returns frequency in AF generator 1.

Example:

```
SOURce:GEN1:FREQuency 1000
SOURce:GEN1:FREQuency?
1000
```

11.4 SOURce:GEN1:LEVel:VOLT

Syntax:

SOURce:GEN1:LEVel:VOLT
SOURce:GEN1:LEVel:VOLT?

Parameter/Return: 0 - 5.657 Volts

Description: Sets/returns Volt level in AF generator 1.

Example:

```
SOURce:GEN1:LEVel:VOLT 0.0998814876483345
SOURce:GEN1:LEVel:VOLT?
0.0998814876483345
```

11.5 SOURce:GEN1:LEVel:DBM

Syntax:

SOURce:GEN1:LEVel:DBM
SOURce:GEN1:LEVel:DBM?

Parameter/Return: -100 to 28.1 dBm

Description: Sets/returns dBm level in AF generator 1.

Example:

```
SOURce:GEN1:LEVel:DBM -7
SOURce:GEN1:LEVel:DBM?
-7
```

11.6 SOURce:GEN1:SHAPe

Syntax:

SOURce:GEN1:SHAPe
SOURce:GEN1:SHAPe?

Parameter/Return: Sine | Triangle | Ramp | Square | DcPlus | DcMinus

Description: Sets/returns the AF Generator 1 shape.

Example:

```
SOURce:GEN1:SHAPe Sine
SOURce:GEN1:SHAPe?
Sine
```

11.7 SOURce:GEN2:ENABle

Syntax:

SOURce:GEN2:ENABle
SOURce:GEN2:ENABle?

Parameter/Return: None

Description: You can enable AF generator 2 from the list.

Example:

```
SOURce:GEN2:ENABle 0
SOURce:GEN2:ENABle?
0
```

11.8 SOURce:GEN2:FREQuency

Syntax:

SOURce:GEN2:FREQuency
SOURce:GEN2:FREQuency?

Parameter/Return: 1 to 100000 Hz

Description: Sets/returns frequency in AF generator 2.

Example:

```
SOURce:GEN2:FREQuency 300
SOURce:GEN2:FREQuency?
300
```

11.9 SOURce:GEN2:LEVel:VOLT

Syntax:

SOURce:GEN2:LEVel:VOLT
SOURce:GEN2:LEVel:VOLT?

Parameter/Return: 0 - 5.657 Volts

Description: Sets/returns Volt level in AF generator 2.

Example:

```
SOURce:GEN2:LEVel:VOLT 0.1
SOURce:GEN2:LEVel:VOLT?
0.1
```

11.10 SOURce:GEN2:LEVel:DBM

Syntax:

SOURce:GEN2:LEVel:DBM
SOURce:GEN2:LEVel:DBM?

Parameter/Return: NR2

Description: Sets/returns DBM level in AF generator 2.

Example:

```
SOURce:GEN2:LEVel:DBM -7
SOURce:GEN2:LEVel:DBM?
-7
```

11.11 SOURce:GEN2:SHAPe

Syntax:

SOURce:GEN2:SHAPe
SOURce:GEN2:SHAPe?

Parameter/Return: Sine | Triangle | Ramp | Square | DcPlus | DcMinus

Description: Sets/returns the AF Generator 2 shape.

Example:

```
SOURce:GEN2:SHAPe SINE
SOURce:GEN2:SHAPe?
SINE
```

11.12 SOURce:GEN3:ENABle

Syntax:

SOURce:GEN3:ENABle
SOURce:GEN3:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: You can enable AF generator 3 from the list.

Example:

```
SOURce:GEN3:ENABle On
SOURce:GEN3:ENABle?
0
```

11.13 SOURce:GEN3:FREQuency

Syntax:

SOURce:GEN3:FREQuency
SOURce:GEN3:FREQuency?

Parameter/Return: 1 to 100000 Hz

Description: Sets/returns frequency in AF generator 3.

Example:

```
SOURce:GEN3:FREQuency 3400
SOURce:GEN3:FREQuency?
3400
```

11.14 SOURce:GEN3:LEVel:VOLT

Syntax:

SOURce:GEN3:LEVel:VOLT
SOURce:GEN3:LEVel:VOLT?

Parameter/Return: 0 - 5.657 Volts

Description: Sets/returns Volt level in AF generator 3.

Example:

```
SOURce:GEN3:LEVel:VOLT 0.1
SOURce:GEN3:LEVel:VOLT?
0.1
```

11.15 SOURce:GEN3:LEVel:DBM

Syntax:

SOURce:GEN3:LEVel:DBM
SOURce:GEN3:LEVel:DBM?

Parameter/Return: -100 to -28.1 Volts

Description: Sets/returns DBM level in AF generator 3.

Example:

```
SOURce:GEN3:LEVel:DBM -7
SOURce:GEN3:LEVel:DBM?
-7
```

11.16 SOURce:GEN3:SHAPe

Syntax:

SOURce:GEN3:SHAPe
SOURce:GEN3:SHAPe?

Parameter/Return: Sine | Triangle | Ramp | Square| DcPlus | DcMinus

Description: Sets/returns the AF Gen 3 shape.

Example:

```
SOURce:GEN3:SHAPe SINE
SOURce:GEN3:SHAPe?
SINE
```

11.17 SOURce:GEN:IMPedance

Syntax:

SOURce:GEN:IMPedance
SOURce:GEN:IMPedance?

Parameter/Return: 1 ohm to 10000 ohm

Description: Used in the dBm calculation for AF Gen output level.

Example:

```
SOURce:GEN:IMPedance 50
SOURce:GEN:IMPedance?
50
```

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12

Analog Modulator Commands

This chapter describes the following remote commands for configuring Analog Modulator (AMODulator) settings:

- SOURce:MOD1:ENABle 12-2
- SOURce:MOD2:ENABle 12-2
- SOURce:MOD3:ENABle 12-2
- SOURce:MOD1:FREQuency 12-3
- SOURce:MOD2:FREQuency 12-3
- SOURce:MOD3:FREQuency 12-3
- SOURce:MOD1:SHAPe 12-4
- SOURce:MOD2:SHAPe 12-4
- SOURce:MOD3:SHAPe 12-4
- SOURce:MOD1:AM:LEVel 12-5
- SOURce:MOD1:FM:LEVel 12-5
- SOURce:MOD1:PM:LEVel 12-5
- SOURce:MOD2:AM:LEVel 12-6
- SOURce:MOD2:FM:LEVel 12-6
- SOURce:MOD2:PM:LEVel 12-6
- SOURce:MOD3:AM:LEVel 12-7
- SOURce:MOD3:FM:LEVel 12-7
- SOURce:MOD1:ENABle 12-7
- SOURce:EXTernal:ENABle 12-8
- SOURce:EXTernal:AM:LEVel 12-8
- SOURce:EXTernal:FM:LEVel 12-8
- SOURce:EXTernal:PM:LEVel 12-9
- SOURce:EXTernal:SOURce 12-9
- SOURce:TYPE 12-9

12.1 SOURce:MOD1:ENABle

Syntax:

SOURce:MOD1:ENABle
SOURce:MOD1:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: —

Example:

```
SOURce:MOD1:ENABle Off
SOURce:MOD1:ENABle?
0
```

12.2 SOURce:MOD2:ENABle

Syntax:

SOURce:MOD2:ENABle
SOURce:MOD2:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of analog modulator 2.

Example:

```
SOURce:MOD2:ENABle Off
SOURce:MOD2:ENABle?
0
```

12.3 SOURce:MOD3:ENABle

Syntax:

SOURce:MOD3:ENABle
SOURce:MOD3:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the control state of analog modulator 3.

Example:

```
SOURce:MOD3:ENABle Off
SOURce:MOD3:ENABle?
0
```

12.4 SOURce:MOD1:FREQuency

Syntax:

SOURce:MOD1:FREQuency
SOURce:MOD1:FREQuency?

Parameter/Return: 0.0 Hz to 100000.0 Hz

Description: Sets/returns the mod gen 1 rate.

Example:

```
SOURce:MOD1:FREQuency 1000
SOURce:MOD1:FREQuency?
1000
```

12.5 SOURce:MOD2:FREQuency

Syntax:

SOURce:MOD2:FREQuency
SOURce:MOD2:FREQuency?

Parameter/Return: 0.0 Hz to 100000.0 Hz

Description: Sets/returns the mod gen 2 rate.

Example:

```
SOURce:MOD2:FREQuency 300
SOURce:MOD2:FREQuency?
300
```

12.6 SOURce:MOD3:FREQuency

Syntax:

SOURce:MOD3:FREQuency
SOURce:MOD3:FREQuency?

Parameter/Return: float: 0.0 Hz to 100000.0 Hz

Description: Sets/returns Control mod gen 3 rate.

Example:

```
SOURce:MOD3:FREQuency 3400
SOURce:MOD3:FREQuency?
3400
```

12.7 SOURce:MOD1:SHAPe

Syntax:

SOURce:MOD1:SHAPe
SOURce:MOD1:SHAPe?

Parameter/Return: Sine | Square | Triangle | Ramp | Pulse

Description: Sets/returns the RF gen modulation wave shape of modulator #1.

Example:

```
SOURce:MOD1:SHAPe Sine

SOURce:MOD1:SHAPe?
Sine
```

12.8 SOURce:MOD2:SHAPe

Syntax:

SOURce:MOD2:SHAPe
SOURce:MOD2:SHAPe?

Parameter/Return: Sine | Square | Triangle | Ramp | Pulse

Description: Sets/returns the RF gen modulation wave shape, modulator #2

Example:

```
SOURce:MOD2:SHAPe Sine

SOURce:MOD2:SHAPe?
Sine
```

12.9 SOURce:MOD3:SHAPe

Syntax:

SOURce:MOD3:SHAPe
SOURce:MOD3:SHAPe?

Parameter/Return: Sine | Square | Triangle | Ramp | Pulse

Description: Sets/returns the RF gen modulation wave shape, modulator #3

Example:

```
SOURce:MOD3:SHAPe Sine

SOURce:MOD3:SHAPe?
Sine
```

12.10 SOURce:MOD1:AM:LEVel

Syntax:

SOURce:MOD1:AM:LEVel
SOURce:MOD1:AM:LEVel?

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the RF gen AM modulation level, modulator #1.

Example:

```
SOURce:MOD1:AM:LEVel 10
SOURce:MOD1:AM:LEVel?
10
```

12.11 SOURce:MOD1:FM:LEVel

Syntax:

SOURce:MOD1:FM:LEVel
SOURce:MOD1:FM:LEVel?

Parameter/Return: 0.0 Hz to 100000.0 Hz

Description: Sets/returns the RF gen FM modulation level for modulator #1

Example:

```
SOURce:MOD1:FM:LEVel 2500
SOURce:MOD1:FM:LEVel?
2500
```

12.12 SOURce:MOD1:PM:LEVel

Syntax:

SOURce:MOD1:PM:LEVel

SOURce:MOD1:PM:LEVel?

Parameter/Return: 0.0 Rad to 10.0 Rad

Description: Sets/returns the RF gen PM modulation level, modulator #1

Example:

```
SOURce:MOD1:PM:LEVel 3.1415
SOURce:MOD1:PM:LEVel?
3.1415
```

12.13 SOURce:MOD2:AM:LEVel

Syntax:

SOURce:MOD2:AM:LEVel
SOURce:MOD2:AM:LEVel?

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the RF gen AM modulation level of modulator #2

Example:

```
SOURce:MOD2:AM:LEVel 10
SOURce:MOD2:AM:LEVel?
10
```

12.14 SOURce:MOD2:FM:LEVel

Syntax:

SOURce:MOD2:FM:LEVel
SOURce:MOD2:FM:LEVel?

Parameter/Return: 0.0 Hz to 100000.0 Hz

Description: Sets/returns the RF gen FM modulation level, modulator #2

Example:

```
SOURce:MOD2:FM:LEVel 2500
SOURce:MOD2:FM:LEVel?
2500
```

12.15 SOURce:MOD2:PM:LEVel

Syntax:

SOURce:MOD2:PM:LEVel
SOURce:MOD2:PM:LEVel?

Parameter/Return: float: 0.0 Rad to 10.0 Rad

Description: Sets/returns the RF Gen PM Modulation Level for modulator 2.

Example:

```
SOURce:MOD2:PM:LEVel 3.1415
SOURce:MOD2:PM:LEVel?
3.1415
```

12.16 SOURce:MOD3:AM:LEVel

Syntax:

SOURce:MOD3:AM:LEVel
SOURce:MOD3:AM:LEVel?

Parameter/Return: float: 0.0 % to 100.0 %

Description: Sets/returns the RF gen AM modulation level, modulator #3

Example:

```
SOURce:MOD3:AM:LEVel 10

SOURce:MOD3:AM:LEVel?
10
```

12.17 SOURce:MOD3:FM:LEVel

Syntax:

SOURce:MOD3:FM:LEVel
SOURce:MOD3:FM:LEVel?

Parameter/Return: float: 0.0 Hz to 100000.0 Hz

Description: You can query or set the RF gen FM modulation level, modulator #3

Example:

```
SOURce:MOD3:FM:LEVel 2500

SOURce:MOD3:FM:LEVel?
2500
```

12.18 SOURce:MOD1:ENABle

Syntax:

SOURce:MOD1:ENABle
SOURce:MOD1:ENABle?

Parameter/Return: NR2

Description: Sets/returns the control state of analog modulator 1.

Example:

```
SOURce:MOD1:ENABle 0

SOURce:MOD1:ENABle?
0
```

12.19 SOURce:EXTernal:ENABle

Syntax:

SOURce:EXTernal:ENABle
SOURce:EXTernal:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the external source modulator 2 state.

Example:

```
SOURce:EXTernal:ENABle Off

SOURce:EXTernal:ENABle?
0
```

12.20 SOURce:EXTernal:AM:LEVel

Syntax:

SOURce:EXTernal:AM:LEVel
SOURce:EXTernal:AM:LEVel?

Parameter/Return: 0.0 % to 100.0 %

Description: The user can supply an external signal to Audio Input for AM modulation. This controls the scaling of that signal in percent per Vrms.

Example:

```
SOURce:EXTernal:AM:LEVel 10

SOURce:EXTernal:AM:LEVel?
10
```

12.21 SOURce:EXTernal:FM:LEVel

Syntax:
SOURce:EXTernal:FM:LEVel
SOURce:EXTernal:FM:LEVel?

Parameter/Return: 0.0 to 100000.0 Hz/Vrms

Description: The user can supply an external signal to Audio Input for FM modulation. This controls the scaling of that signal in Hz per Vrms.

Example:

```
SOURce:EXTernal:FM:LEVel 2500

SOURce:EXTernal:FM:LEVel?
2500
```

12.22 SOURce:EXTernal:PM:LEVel

Syntax:

SOURce:EXTernal:PM:LEVel
SOURce:EXTernal:PM:LEVel?

Parameter/Return: 0.0 to 10.0 Rad/Vrms

Description: The user can supply an external signal to Audio Input for AM modulation. This controls the scaling of that signal in Rad per Vrms.

Example:

```
SOURce:EXTernal:PM:LEVel 3.1415

SOURce:EXTernal:PM:LEVel?
3.1415
```

12.23 SOURce:EXTernal:SOURce

Syntax:

SOURce:EXTernal:SOURce
SOURce:EXTernal:SOURce?

Parameter/Return: AudioIn1 | AudioIn2 | AudioInBalanced | Acc | Fgen

Description: Sets/returns the RF Gen external modulation signal source.

Example:

```
SOURce:EXTernal:SOURce AudioIn1

SOURce:EXTernal:SOURce?
AudioIn1
```

12.24 SOURce:TYPE

Syntax:

SOURce:TYPE
SOURce:TYPE?

Parameter/Return: AM | FM | PM | FM50us| FM75us| FM750us| AM_USB | AM_LSB

Description: Sets/returns the RF generator modulation type.

Example:

```
SOURce:TYPE FM

SOURce:TYPE?
FM
```

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Analog Demodulator Commands

This chapter describes the following remote commands for configuring Analog Demodulator (ADEModulator) settings:

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13.1 SENSe:READing:TYPE

Syntax:

SENSe:READing:TYPE
SENSe:READing:TYPE?

Parameter/Return: LIVE | AVERAGE | MIN | MAX

Description: You can configure or query the receive demodulator for desired type. Interacts with Mod Type.

Examples:

```
SENSe:READing:TYPE LIVE
```

```
SENSe:READing:TYPE?
LIVE
```

13.2 SENSe:MEASure:TYPE

Syntax:

SENSe:MEASure:TYPE
SENSe:MEASure:TYPE?

Parameter/Return: PKPK2 | PKPOS | PKNEG | RMS

Description: Sets/returns the receive demodulator for Measurement type.

Examples:

```
SENSe:MEASure:TYPE PKPK2
```

```
SENSe:MEASure:TYPE?
PKPK2
```

13.3 SENSe:PFILTer

Syntax:

SENSe:PFILTer
SENSe:PFILTer?

Parameter/Return: CMSG | CCITT

Description: You can select or query the Psophometric filter.

Examples:

```
SENSe:PFILTer CMSG
```

```
SENSe:PFILTer?
CMSG
```

13.4 SENSe:PM:AFCOUNter:AVERage:COUNt

Syntax:

SENSe:PM:AFCOUNter:AVERage:COUNt
SENSe:PM:AFCOUNter:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see the input dialog.

Examples:

```
SENSe:PM:AFCOUNter:AVERage:COUNt 1

SENSe:PM:AFCOUNter:AVERage:COUNt?
1
```

13.5 SENSe:PM:AFCOUNter:READing:TYPE

Syntax:

SENSe:PM:AFCOUNter:READing:TYPE
SENSe:PM:AFCOUNter:READing:TYPE?

Parameter/Return: LIVE |AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:PM:AFCOUNter:READing:TYPE LIVE

SENSe:PM:AFCOUNter:READing:TYPE?
LIVE
```

13.6 SENSe:PM:AFCOUNter:SCALe

Syntax:

SENSe:PM:AFCOUNter:SCALe
SENSe:PM:AFCOUNter:SCALe?

Parameter/Return: Auto | 10 kHz | 20 kHz | 50 kHz | 100 kHz | 200 kHz | 500 kHz | 1 MHz | 2 MHz | 5 MHz

Description: You can change or query the meter scale. Auto will change the scale to keep measurement centered.

Examples:

```
SENSe:PM:AFCOUNter:SCALe Auto
SENSe:PM:AFCOUNter:SCALe?
Auto
```

13.7 SENSe:PM:AFCOUNter:RESet

Syntax: SENSe:PM:AFCOUNter:RESet

Parameter/Return: None

Description: Restart the AF Counter trace data capture. Need to use demod source.

Example:

```
SENSe:PM:AFCOUNter:RESet
```

13.8 SENSe:HFILTer

Syntax:

SENSe:HFILTer
SENSe:HFILTer?

Parameter/Return: NONE | HP50HZ | HP300HZ

Description: Sets/returns the Demod audio path high pass filter cutoff frequency.

Examples:

```
SENSe:HFILTer NONE
SENSe:HFILTer?
NONE
```

13.9 SENSe:LFILTer

Syntax:

SENSe:LFILTer
SENSe:LFILTer?

Parameter/Return: NONE | LP300HZ | LP3KHZ | LP3P4KHZ | LP5KHZ | LP15KHZ | LP20KHZ | LP40KHZ

Description: Sets/returns the demod audio path low pass filter cutoff frequency.

Example:

```
SENSe:LFILTer NONE
SENSe:LFILTer?
NONE
```

13.10 SENSe:FM:SCALe

Syntax:

SENSe:FM:SCALe
SENSe:FM:SCALe?

Parameter/Return: Auto | 1Hz | 2Hz | 5Hz | 10Hz | 20Hz | 50Hz | 100Hz | 200Hz | 500Hz | 1kHz | 2kHz | 5kHz | 10kHz | 20kHz | 50kHz | 100kHz

Description: Set the meter scale. Auto will change the scale to keep measurement centered.

Examples:

```
SENSe:FM:SCALe NONE
```

```
SENSe:FM:SCALe?
NONE
```

13.11 SENSe:FM:SINad:AVERage:COUNt

Syntax:

SENSe:FM:SINad:AVERage:COUNt
SENSe:FM:SINad:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Control or query the number of reading values used to compute the average reading. Need Reading Average active to see the Input dialog..

Examples:

```
SENSe:FM:SINad:AVERage:COUNt 20
```

```
SENSe:FM:SINad:AVERage:COUNt?
```

13.12 SENSe:FM:SINad:NOISe:TYPE

Syntax:

SENSe:FM:SINad:NOISe:TYPE
SENSe:FM:SINad:NOISe:TYPE?

Parameter/Return: sinad | distortion | humNoise

Description: Control or query the number of reading values used to compute the average reading. Need Reading Average active to see the Input dialog..

Examples:

```
SENSe:FM:SINad:NOISe:TYPE snr
SENSe:FM:SINad:NOISe:TYPE?
```

13.13 SENSe:AM:SCALe

Syntax:

SENSe:AM:SCALe
SENSe:AM:SCALe?

Parameter/Return: Auto |1% | 2% | 5% | 10% | 20% | 50% |100%

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Example:

```
SENSe:AM:SCALe Auto
SENSe:AM:SCALe?
Auto
```

13.14 SENSe:AM:SINad:NOISe:TYPE

Syntax:

SENSe:AM:SINad:NOISe:TYPE
SENSe:AM:SINad:NOISe:TYPE?

Parameter/Return: sinad | distortion | humNoise

Description: Sets/returns which style noise measurement is active and displayed.

Examples:

```
SENSe:AM:SINad:NOISe:TYPE sinad
SENSe:AM:SINad:NOISe:TYPE?
sinad
```

13.15 SENSe:FM:SINad:NOTCh:BANDwidth

Syntax:

SENSe:FM:SINad:NOTCh:BANDwidth
SENSe:FM:SINad:NOTCh:BANDwidth?

Parameter/Return: 10 to 200 Hz

Description: You can adjust or query the distortion notch filter bandwidth.

Examples:

```
SENSe:FM:SINad:NOTCh:BANDwidth 82

SENSe:FM:SINad:NOTCh:BANDwidth?
82
```

13.16 SENSe:FM:SINad:NOTCh:FREQuency

Syntax:

SENSe:FM:SINad:NOTCh:FREQuency
SENSe:FM:SINad:NOTCh:FREQuency?

Parameter/Return: 50 Hz to 40000 Hz

Description: You can adjust or query the distortion notch filter bandwidth.

Examples:

```
SENSe:FM:SINad:NOTCh:FREQuency 1000

SENSe:FM:SINad:NOTCh:FREQuency?
1000
```

13.17 SENSe:AM:SINad:NOTCh:BANDwidth

Syntax:

SENSe:AM:SINad:NOTCh:BANDwidth
SENSe:AM:SINad:NOTCh:BANDwidth?

Parameter/Return: 10 to 200 Hz

Description: You can adjust or query the distortion notch filter bandwidth.

Examples:

```
SENSe:AM:SINad:NOTCh:BANDwidth 82

SENSe:AM:SINad:NOTCh:BANDwidth?
82
```

13.18 SENSe:FM:SINad:READing:TYPE

Syntax:

SENSe:FM:SINad:READing:TYPE
SENSe:FM:SINad:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The “Speaker” routing for noise selects between Demod/Audio In.

Examples:

```
SENSe:FM:SINad:READing:TYPE Live
SENSe:FM:SINad:READing:TYPE?
Live
```

13.19 SENSe:FM:SINad:REFerence:LEVel

Syntax:

SENSe:FM:SINad:REFerence:LEVel

SENSe:FM:SINad:REFerence:LEVel?

Parameter/Return: None

Description: Sets the 0 dB point for dBr readings. Normally use the Set Reference control to fill in this value.

Example:

```
SENSe:FM:SINad:REFerence:LEVel
SENSe:FM:SINad:REFerence:LEVel?
0
```

13.20 SENSe:FM:SINad:RESet

Syntax: SENSe:FM:SINad:RESet

Parameter/Return: None

Description: This action will apply to SINAD, Distortion, and SNR for the Demod input.

Example:

```
SENSe:Fm:SINad:RESet
```

13.21 SENSe:AM:SINad:READing:TYPE

Syntax:

SENSe:AM:SINad:READing:TYPE
SENSe:AM:SINad:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The “Speaker” routing for noise selects between Demod/Audio In.

Examples:

```
SENSe:AM:SINad:READing:TYPE Live
```

```
SENSe:AM:SINad:READing:TYPE?
Live
```

13.22 SENSe:AM:SINad:REFerence:LEVel

Syntax: SENSe:AM:SINad:REFerence:LEVel

Parameter/Return: None

Description: Sets the 0 dB point for dBr readings. Normally use the Set Reference control to fill in this value.

Example:

```
SENSe:AM:SINad:REFerence:LEVel
```

13.23 SENSe:FM:SINad:SCALe

Syntax:

SENSe:FM:SINad:SCALe
SENSe:FM:SINad:SCALe?

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB... -80 dB | -90 dB | -100 dB

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:FM:SINad:SCALe Auto
```

```
SENSe:Fm:SINad:SCALe?
Auto
```

13.24 SENSe:FM:SINad:SREFerence

Syntax: SENSe:FM:SINad:SREFerence

Parameter/Return: dB | dBr

Description: This control will copy the live reading into the Reference Value. Need to set Noise Units to dBr to see this control.

Example:

```
SENSe:FM:SINad:SREFerence dBr
```

13.25 SENSe:FM:SINad:UNIT

Syntax:

SENSe:FM:SINad:UNIT
SENSe:FM:SINad:UNIT?

Parameter/Return: dB | dBr

Description: Sets/returns the meter units.

Examples:

```
SENSe:FM:SINad:UNIT dB
```

```
SENSe:FM:SINad:UNIT?
dB
```

13.26 SENSe:FM:SNR:AVERage:COUNt

Syntax:

SENSe:FM:SNR:AVERage:COUNt
SENSe:FM:SNR:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see the samples.

Examples:

```
SENSe:FM:SNR:AVERage:COUNt 1
```

```
SENSe:FM:SNR:AVERage:COUNt?
1
```

13.27 SENSe:FM:SNR:DELay

Syntax:

SENSe:FM:SNR:DELay
SENSe:FM:SNR:DELay?

Parameter/Return: 1.0 to 10.0 Sec

Description: Sets/returns the toggle rate for AF Gen (or Mod Gen), required for some receivers (digital) with large latency. Set Hum & Noise Type -> Normal. The Speaker icon, Noise setting, Mod Gen: select Audio In, AF Gen: select Demod.

Examples:

```
SENSe:FM:SNR:DELay 1
SENSe:FM:SNR:DELay?
1
```

13.28 SENSe:FM:SNR:NOTCh:BANDwidth

Syntax:

SENSe:FM:SNR:NOTCh:BANDwidth
SENSe:FM:SNR:NOTCh:BANDwidth?

Parameter/Return: 10 to 200 Hz

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see the samples.

Examples:

```
SENSe:FM:SNR:NOTCh:BANDwidth 82
SENSe:FM:SNR:NOTCh:BANDwidth?
82
```

13.29 SENSe:FM:SNR:NOTCh:FREQuency

Syntax:

SENSe:FM:SNR:NOTCh:BANDwidth:FREQuency
SENSe:FM:SNR:NOTCh:BANDwidth:FREQuency?

Parameter/Return: 50 Hz to 40000 Hz

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS. Set the notch frequency in Hz.

Examples:

```
SENSe:FM:SNR:NOTCh:FREQuency 300
SENSe:FM:SNR:NOTCh:FREQuency?
300
```

13.30 SENSe:FM:SNR:NOTCh:STATe

Syntax:

SENSe:FM:SNR:NOTCh:STATe
SENSe:FM:SNR:NOTCh:STATe?

Parameter/Return: Off | On | 1 |0

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS.

Examples:

```
SENSe:FM:SNR:NOTCh:STATe Off
SENSe:FM:SNR:NOTCh:STATe?
0
```

13.31 SENSe:FM:SNR:READing:TYPE

Syntax:

SENSe:FM:SNR:READing:TYPE
SENSe:FM:SNR:READing:TYPE?

Parameter/Return: LIVE |AVG | MAX |MIN

Description: Sets/returns the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:FM:SNR:READing:TYPE Live
SENSe:FM:SNR:READing:TYPE?
Live
```

13.32 SENSe:FM:SNR:RESet

Syntax: SENSe:FM:SNR:RESet

Parameter/Return: None

Description: This action will apply to SINAD, Distortion and SNR for the demod input.

Example:

```
SENSe:FM:SNR:RESet
```

13.33 SENSe:FM:SNR:SCALe

Syntax:
SENSe:FM:SNR:SCALe
SENSe:FM:SNR:SCALe?

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB... -80 dB | -90 dB | -100 dB

Description: Sets/returns the meter scale. Auto will change the scale to keep the measurement centered.

Example:

```
SENSe:FM:SNR:SCALe 40
SENSe:FM:SNR:SCALe?
Auto
```

13.34 SENSe:FM:SNR:SNR:TYPE

Syntax:

SENSe:FM:SNR:SNR:TYPE
SENSe:FM:SNR:SNR:TYPE?

Parameter/Return: NORMAL | HUMNOISE

Description: H&N measurement can be performed two way: Auto(Normal), Manual(Hum&Noise). Auto will use the defined delay and switch the generator on-off. Manual will require using the 'Set Reference' to set the dB point - you have to operate the generator manually.

Examples:

```
SENSe:FM:SNR:SNR:TYPE NORMAL
```

```
SENSe:FM:SNR:SNR:TYPE?
Normal
```

13.35 SENSe:FM:SNR:SREFerence

Syntax: SENSe:FM:SNR:SREFerence

Parameter/Return: None

Description: This control will copy the live reading into the Reference Value. Set Noise Units to dBr to see this control.

Example:

```
SENSe:FM:SNR:SREFerence
```

13.36 SENSe:AM:SINad:RESet

Syntax: SENSe:AM:SINad:RESet

Parameter/Return: None

Description: This action will apply to SINAD, Distortion, and SNR for the Demod input.

Example:

```
SENSe:AM:SINad:RESet
```

13.37 SENSe:AM:SINad:SCALe

Syntax:

SENSe:AM:SINad:SCALe
SENSe:AM:SINad:SCALe?

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB... -80 dB | -90 dB | -100 dB

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:AM:SINad:SCALe Auto
SENSe:AM:SINad:SCALe?
Auto
```

13.38 SENSe:AM:SINad:UNIT

Syntax:

SENSe:AM:SINad:UNIT
SENSe:AM:SINad:UNIT?

Parameter/Return: dB | dBr

Description: Sets/returns the meter units.

Examples:

```
SENSe:AM:SINad:UNIT dB

SENSe:AM:SINad:UNIT?
dB
```

13.39 SENSe:AM:SNR:AVERage:COUNt

Syntax:

SENSe:AM:SNR:AVERage:COUNt
SENSe:AM:SNR:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see the samples dialog.

Examples:

```
SENSe:AM:SNR:AVERage:COUNt 1

SENSe:AM:SNR:AVERage:COUNt?
1
```

13.40 SENSe:AM:SNR:DELay

Syntax:

SENSe:AM:SNR:DELay
SENSe:AM:SNR:DELay?

Parameter/Return: 1.0 sec to 10.0 sec

Description: Sets/returns the toggle rate for AF Gen (or Mod Gen) required for some receivers with large latency. Set Hum and Noise type to Normal. For the Speaker icon, Noise setting for Mod Gen: select Audio In. For AF Gen, select Demod.

Examples:

```
SENSe:AM:SNR:DELay 1

SENSe:AM:SNR:DELay?
1
```

13.41 SENSe:AM:SNR:NOTCh:BANDwidth

Syntax:

SENSe:AM:SNR:NOTCh:BANDwidth
SENSe:AM:SNR:NOTCh:BANDwidth?

Parameter/Return: 10 to 200 Hz

Description: Sets/returns the Notch bandwidth in Hz. Used to “notch out” an interfering signal such as DCS or CTCSS.

Examples:

```
SENSe:AM:SNR:NOTCh:BANDwidth 82

SENSe:AM:SNR:NOTCh:BANDwidth?
82
```

13.42 SENSe:AM:SNR:NOTCh:FREQuency

Syntax:

SENSe:AM:SNR:NOTCh:FREQuency
SENSe:AM:SNR:NOTCh:FREQuency?

Parameter/Return: 50 Hz to 40000 Hz

Description: Sets/returns the Notch frequency in Hz. Used to “notch out” an interfering signal such as DCS or CTCSS.

Examples:

```
SENSe:AM:SNR:NOTCh:FREQuency 300

SENSe:AM:SNR:NOTCh:FREQuency?
300
```

13.43 SENSe:AM:SNR:NOTCh:STATe

Syntax:

SENSe:AM:SNR:NOTCh:STATe
SENSe:AM:SNR:NOTCh:STATe?

Parameter/Return: On | Off | 1 |0

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS..

Examples:

```
SENSe:AM:SNR:NOTCh:STATe Off

SENSe:AM:SNR:NOTCh:STATe?
0
```

13.44 SENSe:AM:SNR:READing:TYPE

Syntax:

SENSe:AM:SNR:READing:TYPE
SENSe:AM:SNR:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:AM:SNR:READing:TYPE LIVE

SENSe:AM:SNR:READing:TYPE?
LIVE
```

13.45 SENSe:AM:SNR:RESet

Syntax: SENSe:AM:SNR:RESet

Parameter/Return: None

Description: This action will apply to SINAD, Distortion, and SNR for the Demod input.

Example:

```
SENSe:AM:SNR:RESet
```

13.46 SENSe:AM:SNR:SCALe

Syntax:

SENSe:AM:SNR:SCALe
SENSe:AM:SNR:SCALe?

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB... -80 dB | -90 dB | -100 dB

Description: You can change or query the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:AM:SNR:SCALe Auto

SENSe:AM:SNR:SCALe?
Auto
```

13.47 SENSe:AM:SNR:SNR:TYPE

Syntax:
SENSe:AM:SNR:SNR:TYPE
SENSe:AM:SNR:SNR:TYPE?

Parameter/Return: NORMAL | HUMNOISE

Description: H&N measurement can be performed two ways: Auto(Normal) and Manual(Hum&Noise). Auto will use the defined delay and switch the generator on-off. Manual will require using the 'Set Reference' to set the dB point. You have to operate the generator manually.

Examples:

```
SENSe:AM:SNR:SNR:TYPE NORMAL

SENSe:AM:SNR:SNR:TYPE?
NORMAL
```

13.48 SENSe:AM:SNR:SREFerence

Syntax: SENSe:AM:SNR:SREFerence

Parameter/Return: None

Description: Copies the live reading into the Reference Value. Set Noise Units to dBr to see this control.

Examples:

```
SENSe:AM:SNR:SREFerence
```

13.49 SENSe:AM:SINad:SREFerence

Syntax: SENSe:AM:SINad:SREFerence

Parameter/Return: None

Description: This control copies the live reading into the Reference Value. Set Noise Units to dBr to see this control.

Example:

```
SENSe:AM:SINad:SREFerence
```

13.50 SENSe:PM:SCALe

Syntax:

SENSe:PM:SCALe
SENSe:PM:SCALe?

Parameter/Return: Auto | 0.01 | 0.02 | 0.05 | 0.1 | 0.2 | 0.5 | 1 | 2 | 5 | 10 Rad

Description: Set the meter scale, Auto will change the scale to keep measurement centered.

Example:

```
SENSe:PM:SCALe 0.5
SENSe:PM:SCALe?
Auto
```

13.51 SENSe:PM:SINad:AVERage:COUNt

Syntax:

SENSe:PM:SINad:AVERage:COUNt
SENSe:PM:SINad:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see input dialog.

Examples:

```
SENSe:PM:SINad:AVERage:COUNt 1
SENSe:PM:SINad:AVERage:COUNt?
1
```

13.52 SENSe:PM:SINad:NOISe:TYPE

Syntax:

SENSe:PM:SINad:NOISe:TYPE
SENSe:PM:SINad:NOISe:TYPE?

Parameter/Return: sinad | distortion | humNoise

Description: Sets/returns which style noise measurement is active and displayed.

Examples:

```
SENSe:PM:SINad:NOISe:TYPE sinad
SENSe:PM:SINad:NOISe:TYPE?
sinad
```

13.53 SENSe:PM:SINad:NOTCh:BANDwidth

Syntax:

SENSe:PM:SINad:NOTCh:BANDwidth
SENSe:PM:SINad:NOTCh:BANDwidth?

Parameter/Return: 10 to 200 Hz

Description: You can adjust or query the distortion notch filter bandwidth.

Examples:

```
SENSe:PM:SINad:NOTCh:BANDwidth 82

SENSe:PM:SINad:NOTCh:BANDwidth?
82
```

13.54 SENSe:PM:SINad:NOTCh:FREQuency

Syntax:

SENSe:PM:SINad:NOTCh:FREQuency
SENSe:PM:SINad:NOTCh:FREQuency?

Parameter/Return: 50 Hz to 40000 Hz

Description: You can adjust or query the distortion notch filter frequency.

Examples:

```
SENSe:PM:SINad:NOTCh:FREQuency 1000

SENSe:PM:SINad:NOTCh:FREQuency?
1000
```

13.55 SENSe:PM:SINad:READing:TYPE

Syntax:

SENSe:PM:SINad:READing:TYPE
SENSe:PM:SINad:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:PM:SINad:READing:TYPE LIVE

SENSe:PM:SINad:READing:TYPE
LIVE
```

13.56 SENSe:PM:SINad:REFerence:LEVel

Syntax: SENSe:PM:SINad:REFerence:LEVel

Parameter/Return: None

Description: Sets the 0dB point for dBr readings. Normally use the Set Reference control to fill-in this value.

Example:

```
SENSe:PM:SINad:REFerence:LEVel
```

13.57 SENSe:PM:SINad:RESet

Syntax: SENSe:PM:SINad:RESet

Parameter/Return: None

Description: Clears the Noise Meter Plot. This action applies to SINAD, Distortion, and SNR for the demod input.

Example:

```
SENSe:PM:SINad:RESet
```

13.58 SENSe:PM:SINad:SCALe

Syntax:

SENSe:PM:SINad:SCALe
SENSe:PM:SINad:SCALe?

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB ... -80 dB | -90 dB | -100 dB

Description: You can set the meter scale. Auto will change the scale to keep measurement centered.

Examples:

```
SENSe:PM:SINad:SCALe Auto
```

```
SENSe:PM:SINad:SCALe?
Auto
```

13.59 SENSe:PM:SINad:SREFerence

Syntax:

SENSe:PM:SINad:SREFerence

Parameter/Return: None

Description: This control will copy the live reading into the Reference Value. Need to set Noise Units to dBr to see this control.

Example:

```
SENSe:PM:SINad:SREFerence
```

13.60 SENSe:PM:SINad:UNIT

Syntax:

SENSe:PM:SINad:UNIT
SENSe:PM:SINad:UNIT?

Parameter/Return: dB|dBr

Description: Sets or queries the meter units.

Examples:

```
SENSe:PM:SINad:UNIT dB
```

```
SENSe:PM:SINad:UNIT?
dB
```

13.61 SENSe:PM:SNR:AVERage:COUNt

Syntax:

SENSe:PM:SNR:AVERage:COUNt
SENSe:PM:SNR:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets or queries the number of reading values used to compute the average reading. Need Reading Average active to see the samples dialog.

Examples:

```
SENSe:PM:SNR:AVERage:COUNt 1
```

```
SENSe:PM:SNR:AVERage:COUNt?
1
```

13.62 SENSe:PM:SNR:DELay

Syntax:

SENSe:PM:SNR:DELay
SENSe:PM:SNR:DELay?

Parameter/Return: 1 to 100

Description: Sets/returns the toggle rate for AF Gen (or Mod Gen), required for some receivers (digital) with large latency. Set Hum & Noise Type is set to Normal. The Speaker icon, Noise setting, Mod Gen: select Audio In, AF Gen: select Demod.

Examples:

```
SENSe:PM:SNR:DELay 1
SENSe:PM:SNR:DELay?
1
```

13.63 SENSe:FM:AVERage:COUNt

Syntax:

SENSe:FM:AVERage:COUNt
SENSe:FM:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Control the number of reading values used to compute the average reading for AM, FM & PM. Need Reading Average active to see input dialog.

Examples:

```
SENSe:FM:AVERage:COUNt 10
SENSe:FM:AVERage:COUNt?
1
```

13.64 SENSe:PM:SNR:NOTCh:BANDwidth

Syntax:

SENSe:PM:SNR:NOTCh:BANDwidth
SENSe:PM:SNR:NOTCh:BANDwidth?

Parameter/Return: 10 to 200 Hz

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS. Set the Notch bandwidth in Hz.

Examples:

```
SENSe:PM:SNR:NOTCh:BANDwidth 82
SENSe:PM:SNR:NOTCh:BANDwidth?
82
```

13.65 SENSe:FM:DISTortion:NOTCh:FREQuency

Syntax:

SENSe:FM:DISTortion:NOTCh:FREQuency
SENSe:FM:DISTortion:NOTCh:FREQuency?

Parameter/Return: 50 Hz to 40000 Hz

Description: Adjust the distortion notch filter frequency. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
SENSe:FM:DISTortion:NOTCh:FREQuency 1000
SENSe:FM:DISTortion:NOTCh:FREQuency?
1000
```

13.66 SENSe:PM:SNR:NOTCh:STATe

Syntax:

SENSe:PM:SNR:NOTCh:STATe
SENSe:PM:SNR:NOTCh:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS.

Examples:

```
SENSe:PM:SNR:NOTCh:STATe Off
SENSe:PM:SNR:NOTCh:STATe?
0
```

13.67 SENSe:PM:SNR:READing:TYPE

Syntax:

SENSe:PM:SNR:READing:TYPE
SENSe:PM:SNR:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS.

Examples:

```
SENSe:PM:SNR:READing:TYPE LIVE

SENSe:PM:SNR:READing:TYPE?
LIVE
```

13.68 SENSe:PM:SNR:RESet

Syntax: SENSe:PM:SNR:RESet

Parameter/Return: None

Description: Clears the Noise Meter plot. This action applies to SINAD, Distortion, and SNR for the demod input.

Example:

```
SENSe:PM:SNR:RESet
```

13.69 SENSe:PM:SNR:SCALe

Syntax:

SENSe:PM:SNR:SCALe
SENSe:PM:SNR:SCALe?

Parameter/Return: Auto, 60 dB, 50 dB, 40 dB, ..., -80 dB, -90 dB, -100 dB

Description: Sets/returns the meter scale. Auto changes the scale to keep measurement centered.

Examples:

```
SENSe:PM:SNR:SCALe Auto

SENSe:PM:SNR:SCALe?
Auto
```

13.70 SENSe:PM:SNR:SNR:TYPE

Syntax:

SENSe:PM:SNR:SNR:TYPE
SENSe:PM:SNR:SNR:TYPE?

Parameter/Return: NORMAL | HUMNOISE

Description: Change or query the Hum and Noise control. H&N measurement can be performed two way: Auto(Normal), Manual(Hum&Noise). Auto will use the defined delay and switch the generator on-off. Manual will require using the 'Set Reference' to set the dB point - you'have to operate the generator manually.

Examples:

```
SENSe:PM:SNR:SNR:TYPE Normal

SENSe:PM:SNR:SNR:TYPE?
Normal
```

13.71 SENSe:PM:SNR:SREFerence

Syntax: SENSe:PM:SNR:SREFerence

Parameter/Return: None

Description: This control will copy the live reading into the Reference Value. Need to set Noise Units to dBr to see this control.

Example:

```
SENSe:PM:SNR:SREFerence
```

13.72 SENSe:FM:DISTortion:READing:TYPE

Syntax:

SENSe:FM:DISTortion:READing:TYPE
SENSe:FM:DISTortion:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Change or query the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:FM:DISTortion:READing:TYPE LIVE

SENSe:FM:DISTortion:READing:TYPE?
LIVE
```

13.73 SENSe:FM:DISTortion:NOTCh:BANDwidth

Syntax:

SENSe:FM:DISTortion:NOTCh:BANDwidth
SENSe:FM:DISTortion:NOTCh:BANDwidth?

Parameter/Return: 10 to 200 Hz

Description: Adjust the distortion notch filter bandwidth. Ensure that 'Speaker' routing for Noise is set to Demod.

Examples:

```
SENSe:FM:DISTortion:NOTCh:BANDwidth 82
SENSe:FM:DISTortion:NOTCh:BANDwidth?
82
```

13.74 SENSe:FM:DISTortion:RESet

Syntax: SENSe:FM:DISTortion:RESet

Parameter/Return: None.

Description: This action will apply to SINAD, Distortion and SNR for the demod input.

Example:

```
SENSe:FM:DISTortion:RESet
```

13.75 SENSe:FM:DISTortion:SCALe

Syntax:

SENSe:FM:DISTortion:SCALe
SENSe:FM:DISTortion:SCALe?

Parameter/Return: Auto | 100 | 50 | 20 | 10

Description: Set the meter scale, Auto will change the scale to keep measurement centered. Ensure that 'Speaker' routing for Noise is set to Demod.

Examples:

```
SENSe:FM:DISTortion:SCALe Auto
SENSe:FM:DISTortion:SCALe?
Auto
```

13.76 SENSe:AM:AVERage:COUNt

Syntax:

SENSe:AM:AVERage:COUNt
SENSe:AM:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compuite the average reading for AM, FM, and PM. Activate Reading Average to see the input dialog.

Examples:

```
SENSe:AM:AVERage:COUNt 1

SENSe:AM:AVERage:COUNt?
1
```

13.77 SENSe:PM:AVERage:COUNt

Syntax:

SENSe:PM:AVERage:COUNt
SENSe:PM:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Control the number of reading values used to compute the average reading for AM, FM & PM. Need Reading Average active to see input dialog.

Examples:

```
SENSe:PM:AVERage:COUNt 1

SENSe:PM:AVERage:COUNt?
1
```

13.78 SENSe:PM:DISTortion:NOTCh:BANDwidth

Syntax:

SENSe:PM:DISTortion:NOTCh:BANDwidth
SENSe:PM:DISTortion:NOTCh:BANDwidth?

Parameter/Return: 10 to 200 Hz

Description: Control the number of reading values used to compute the average reading for AM, FM & PM. Need Reading Average active to see input dialog.

Examples:

```
SENSe:PM:DISTortion:NOTCh:BANDwidth 82

SENSe:PM:DISTortion:NOTCh:BANDwidth?
82
```

13.79 SENSe:PM:DISTortion:NOTCh:FREQuency

Syntax:

SENSe:PM:DISTortion:NOTCh:FREQuency
SENSe:PM:DISTortion:NOTCh:FREQuency?

Parameter/Return: 10 to 200 Hz

Description: Adjust the distortion notch filter frequency. Ensure that 'Speaker' routing for Noise is set to Demod.

Examples:

```
SENSe:PM:DISTortion:NOTCh:FREQuency 1000
SENSe:PM:DISTortion:NOTCh:FREQuency?
1000
```

13.80 SENSe:PM:DISTortion:READing:TYPE

Syntax:

SENSe:PM:DISTortion:READing:TYPE
SENSe:PM:DISTortion:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:PM:DISTortion:READing:TYPE LIVE
SENSe:PM:DISTortion:READing:TYPE?
LIVE
```

13.81 SENSe:PM:DISTortion:RESet

Syntax: SENSe:PM:DISTortion:RESet

Parameter/Return: None

Description: Clears the Noise Meter Plot. This action will apply to SINAD, Distortion, and SNR for the demod input.

Example:

```
SENSe:PM:DISTortion:RESet
```

13.82 SENSe:PM:DISTortion:SCALe

Syntax:

SENSe:PM:DISTortion:SCALe
SENSe:PM:DISTortion:SCALe?

Parameter/Return: Auto | 100 | 50 | 20 | 10

Description: Set the meter scale, Auto will change the scale to keep measurement centered. Ensure that 'Speaker' routing for Noise is set to Demod.

Examples:

```
SENSe:PM:DISTortion:SCALe Auto

SENSe:PM:DISTortion:SCALe?
Auto
```

13.83 SENSe:AM:DISTortion:AVERage:COUNt

Syntax:

SENSe:AM:DISTortion:AVERage:COUNt
SENSe:AM:DISTortion:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: You can control or query the number of reading values used to compute the average reading. Need Reading Average active to see input dialog. Ensure that 'Speaker' routing for Noise is set to Demod.

Examples:

```
SENSe:AM:DISTortion:AVERage:COUNt 1

SENSe:AM:DISTortion:AVERage:COUNt?
1
```

13.84 SENSe:AM:DISTortion:NOTCh:BANDwidth

Syntax:

SENSe:AM:DISTortion:NOTCh:BANDwidth
SENSe:AM:DISTortion:NOTCh:BANDwidth?

Parameter/Return: 10 Hz to 200 Hz

Description: You can control or query the distortion notch filter bandwidth. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
SENSe:AM:DISTortion:NOTCh:BANDwidth 82
SENSe:AM:DISTortion:NOTCh:BANDwidth?
82
```

13.85 SENSe:AM:DISTortion:READing:TYPE

Syntax:

SENSe:AM:DISTortion:READing:TYPE
SENSe:AM:DISTortion:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can control or query the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:AM:DISTortion:READing:TYPE LIVE
SENSe:AM:DISTortion:READing:TYPE?
LIVE
```

13.86 SENSe:AM:DISTortion:RESet

Syntax: SENSe:AM:DISTortion:RESet

Parameter/Return: None

Description: This action applies to SINAD, Distortion, and SNR for the Demod input.

Example:

```
SENSe:AM:DISTortion:RESet
```

13.87 SENSe:AM:DISTortion:SCALe

Syntax:

SENSe:AM:DISTortion:SCALe
SENSe:AM:DISTortion:SCALe?

Parameter/Return: Auto | 100 | 50 | 20 | 10

Description: Sets/returns the meter scale, Auto will change the scale to keep measurement centered. Ensure that 'Speaker' routing for Noise is set to Demod.

Examples:

```
SENSe:AM:DISTortion:SCALe Auto
SENSe:AM:DISTortion:SCALe?
Auto
```

13.88 SENSe:AM:PEPOWer:SREFerence

Syntax: SENSe:AM:PEPOWer:SREFerence

Parameter/Return: None

Description: Updates the Reference level value from the current live reading.

Example:

```
SENSe:AM:PEPOWer:SREFerence
```

13.89 CALCulate:AM:AFCOUNter:LIMit:FAIL?

Syntax: CALCulate:AM:AFCOUNter:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the AM AF Counter Meter Pass/Fail Status

Example:

```
CALCulate:AM:AFCOUNter:LIMit:FAIL?
0
```

13.90 CALCulate:AM:LIMit:LOWer:STATe

Syntax:

CALCulate:AM:LIMit:LOWer:STATe
CALCulate:AM:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|0

Description: You can set or query the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:AM:LIMit:LOWer:STATe Off
CALCulate:AM:LIMit:LOWer:STATe?
0
```

13.91 CALCulate:AM:LIMIt:FAIL?

Syntax: CALCulate:AM:LIMIt:LOWer?

Parameter/Return: 0-Off|1-Pass|2- Fail High|3-Fail Low

Description: You can query the AM AD Counter F/F Status.

Example:

```
CALCulate:AM:LIMIt:FAIL?
0
```

13.92 CALCulate:AM:LIMIt:LOWer

Syntax:

CALCulate:AM:LIMIt:LOWer
CALCulate:AM:LIMIt:LOWer?

Parameter/Return:

Description: Sets/returns the AF Counter Lower limit for Pass/Fail indicators.

Examples:

```
CALCulate:AM:LIMIt:LOWer 0
CALCulate:AM:LIMIt:LOWer?
0
```

13.93 CALCulate:AM:LIMIt:LOWer:STATe

Syntax:

CALCulate:AM:LIMIt:LOWer:STATe
CALCulate:AM:LIMIt:LOWer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the lower limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:AM:LIMIt:LOWer:STATe Off
CALCulate:AM:LIMIt:LOWer:STATe?
0
```

13.94 CALCulate:AM:DBR:LIMit:LOWer

Syntax:

CALCulate:AM:DBR:LIMit:LOWer
CALCulate:AM:DBR:LIMit:LOWer?

Parameter/Return: -100 to 100 dB

Description: Sets/returns the AM dBR lower limit

Example:

```
CALCulate:AM:DBR:LIMit:LOWer -100
CALCulate:AM:DBR:LIMit:LOWer?
-100
```

13.95 CALCulate:AM:DISTortion:LIMit:FAIL?

Syntax: CALCulate:AM:DISTortion:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2Fail High|3- Fail Low

Description: You can query the AM Distortion Meter Pass/Fail Status

Example:

```
CALCulate:AM:DISTortion:LIMit:FAIL?
0
```

13.96 CALCulate:AM:DISTortion:LIMit:LOWer?

Syntax: CALCulate:AM:DISTortion:LIMit:LOWer?

Parameter/Return: 0-Off|1-Pass|2Fail High|3- Fail Low

Description: You can query the AM Distortion Meter Pass/Fail Status

Examples:

```
CALCulate:AM:DISTortion:LIMit:LOWer?
0
```

13.97 CALCulate:AM:DISTortion:LIMit:LOWer:STATe

Syntax:

CALCulate:AM:DISTortion:LIMit:LOWer:STATe
CALCulate:AM:DISTortion:LIMit:LOWer:STATe?

Parameter/Return: 0-Off|1-Pass|2Fail High|3- Fail Low

Description: Sets/returns the Lower Limit

Examples:

```
CALCulate:AM:DISTortion:LIMit:LOWer Off
```

```
CALCulate:AM:DISTortion:LIMit:LOWer?
0
```

13.98 CALCulate:AM:DISTortion:LIMit:UPPer

Syntax:

CALCulate:AM:DISTortion:LIMit:UPPer
CALCulate:AM:DISTortion:LIMit:UPPer?

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the Distortion Meter upper limit for meter Pass/Fail. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
CALCulate:AM:DISTortion:LIMit:UPPer 50
```

```
CALCulate:AM:DISTortion:LIMit:UPPer?
50
```

13.99 CALCulate:AM:LIMit:UPPer:STATe

Syntax:

CALCulate:AM:LIMit:UPPer:STATe
CALCulate:AM:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:AM:LIMit:UPPer:STATe Off

CALCulate:AM:LIMit:UPPer:STATe?
0
```

13.100 CALCulate:AM:PEPOWer:LIMit:FAIL

Syntax:

CALCulate:AM:PEPOWer:LIMit:FAIL
CALCulate:AM:PEPOWer:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the meter Pass/Fail status.

Examples:

```
CALCulate:AM:LIMit:UPPer:STATe Off

CALCulate:AM:LIMit:UPPer:STATe?
0
```

13.101 CALCulate:AM:LIMit:UPPer

Syntax:

CALCulate:AM:LIMit:UPPer
CALCulate:AM:LIMit:UPPer?

Parameter/Return: 0.0% to 100%

Description: Sets/returns the AM Mod Meter upper limit for meter Pass/Fail.

Examples:

```
CALCulate:AM:LIMit:UPPer 100

CALCulate:AM:LIMit:UPPer?
100
```

13.102 CALCulate:AM:DBR:LIMit:UPPer

Syntax:
CALCulate:AM:DBR:LIMit:UPPer
CALCulate:AM:DBR:LIMit:UPPer?

Parameter/Return: 0 Hz to 400000 Hz

Description: Sets/returns the AF Counter upper limit for meter Pass/Fail.

Examples:

```
CALCulate:AM:DBR:LIMit:UPPer 100
CALCulate:AM:DBR:LIMit:UPPer?
100
```

13.103 CALCulate:AM:AFCOUNter:LIMit:UPPer

Syntax:

CALCulate:AM:AFCOUNter:LIMit:UPPer
CALCulate:AM:AFCOUNter:LIMit:UPPer?

Parameter/Return: 0 Hz ti 40000 Hz

Description: Sets/returns the AF Counter upper limit for meter Pass/Fail.

Examples:

```
CALCulate:AM:AFCounter:LIMit:Upper 1000
CALCulate:AM:AFCounter:LIMit:Upper?
10000
```

13.104 CALCulate:AM:AFCOUNter:LIMit:UPPer:STATe

Syntax:

CALCulate:AM:AFCOUNter:LIMit:UPPer:STATe
CALCulate:AM:AFCOUNter:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the AF Counter upper limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:AM:AFCounter:LIMit:Upper:STATe Off
CALCulate:AM:AFCounter:LIMit:Upper:STATe?
0
```

13.105 CALCulate:AM:AFCOUNter:LIMit:LOWer

Syntax:

CALCulate:AM:AFCOUNter:LIMit:LOWer
CALCulate:AM:AFCOUNter:LIMit:LOWer?

Parameter/Return: 0 Hz ti 40000 Hz

Description: Sets/returns the AF Counter lower limit for meter Pass/Fail.

Examples:

```
CALCulate:AM:AFCounter:LIMit:LOWer 10
CALCulate:AM:AFCounter:LIMit:LOWer?
10
```

13.106 CALCulate:AM:AFCOUNter:LIMit:LOWer:STATe

Syntax:

CALCulate:AM:AFCOUNter:LIMit:UPPer:STATe
CALCulate:AM:AFCOUNter:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the AF Counter upper limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:AM:AFCounter:LIMit:LOWer:STATe Off
CALCulate:AM:AFCounter:LIMit:LOWer:STATe?
0
```

13.107 SENSe:AM:RLEVel?

Syntax: SENSe:AM:RLEVel?

Parameter/Return: None

Description: Returns the reference level.

Example:

```
SENSe:AM:RLEVel?
0
```

13.108 SENSe:AM:SREFerence

Syntax: SENSe:AM:SREFerence

Parameter/Return: None

Description: Sets the reference in dBr mode.

Example:

```
SENSe:AM:SREFerence
```

13.109 CALCulate:FM:LIMit:LOWer:STATE

Syntax:

CALCulate:FM:LIMit:LOWer:STATE
CALCulate:FM:LIMit:LOWer:STATE?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:FM:LIMit:LOWer:STATE Off
CALCulate:FM:LIMit:LOWer:STATE?
0
```

13.110 CALCulate:FM:DBR:LIMit:LOWer

Syntax:

CALCulate:FM:DBR:LIMit:LOWer
CALCulate:FM:DBR:LIMit:LOWer?

Parameter/Return: -100 dBr to 100 dBr

Description: Sets/returns the FM Mod Level Meter dBr Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:FM:DBR:LIMit:LOWer -100
CALCulate:FM:DBR:LIMit:LOWer?
-100
```

13.111 CALCulate:FM:KHZ:LIMit:LOWer

Syntax:

CALCulate:FM:KHZ:LIMit:LOWer
CALCulate:FM:KHZ:LIMit:LOWer?

Parameter/Return: 0.0 Hz to 100000 Hz

Description: Sets/returns the FMDeviation Meter kHz Lower Limit.

Examples:

```
CALCulate:FM:KHZ:LIMit:LOWer 0.001
CALCulate:FM:KHZ:LIMit:LOWer?
0.001
```

13.112 CALCulate:FM:LIMit:UPPer:STATe

Syntax:

CALCulate:FM:LIMit:UPPer:STATe
CALCulate:FM:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: You can query or set the Upper Level state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:FM:LIMit:UPPer:STATe Off
CALCulate:FM:LIMit:UPPer:STATe?
0
```

13.113 CALCulate:FM:SINad:DBR:LIMit:LOWer

Syntax:

CALCulate:FM:SINad:DBR:LIMit:LOWer
CALCulate:FM:SINad:DBR:LIMit:LOWer?

Parameter/Return: -100 dB to 100 dB

Description: You can query or set the Lower Level state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:FM:SINad:DBR:LIMit:LOWer 3
CALCulate:FM:SINad:DBR:LIMit:LOWer?
3
```

13.114 CALCulate:FM:LIMit:UPPer

Syntax:

CALCulate:FM:LIMit:UPPer
CALCulate:FM:LIMit:UPPer?

Parameter/Return: 0.0 Hz to 100000 Hz

Description: You can query or set the FM Deviation Meter Upper Limit.

Examples:

```
CALCulate:FM:LIMit:UPPer 90000
CALCulate:FM:LIMit:UPPer?
90000
```

13.115 CALCulate:FM:SINad:DBR:LIMit:UPPer

Syntax:

CALCulate:FM:SINad:DBR:LIMit:UPPer
CALCulate:FM:SINad:DBR:LIMit:UPPer?

Parameter/Return: -100 dBr to 100 dBr

Description: You can query or set the FM Deviation Meter dBr Upper Limit.

Examples:

```
CALCulate:FM:SINad:DBR:LIMit:UPPer 60
CALCulate:FM:SINad:DBR:LIMit:UPPer?
60
```

13.116 CALCulate:FM:SINad:LIMit:FAIL?

Syntax: CALCulate:FM:SINad:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail Low|3-Fail High

Description: You can query the FM Deviation Meter dBr Upper Limit.

Example:

```
CALCulate:FM:SINad:LIMit:FAIL?
0
```

13.117 CALCulate:FM:SINad:LIMit:LOWer

Syntax:

CALCulate:FM:SINad:LIMit:LOWer
CALCulate:FM:SINad:LIMit:LOWer?

Parameter/Return: -100 dBr to 100 dBr

Description: You can query or set the SINAD Meter (dB) Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:FM:SINad:LIMit:LOWer 3

CALCulate:FM:SINad:LIMit:LOWer?
3
```

13.118 CALCulate:FM:SINad:LIMit:LOWer:STATe

Syntax:

CALCulate:FM:SINad:LIMit:LOWer:STATe
CALCulate:FM:SINad:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|0

Description: You can query or set the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:FM:SINad:LIMit:LOWer:STATe Off

CALCulate:FM:SINad:LIMit:LOWer:STATe?
0
```

13.119 CALCulate:FM:SINad:LIMit:UPPer

Syntax:

CALCulate:FM:SINad:LIMit:UPPer
CALCulate:FM:SINad:LIMit:UPPer?

Parameter/Return: -100 dB to 100 dB

Description: You can query or set the SINAD Meter (dB) Upper Limit for Pass/Fail indicators.

Examples:

```
CALCulate:FM:SINad:LIMit:UPPer 60

CALCulate:FM:SINad:LIMit:UPPer?
60
```

13.120 CALCulate:FM:SINad:LIMit:UPPer:STATe

Syntax:

CALCulate:FM:SINad:LIMit:UPPer:STATe
CALCulate:FM:SINad:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: You can query or set the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:FM:SINad:LIMit:UPPer:STATe Off

CALCulate:FM:SINad:LIMit:UPPer:STATe?
0
```

13.121 CALCulate:FM:SNR:LIMit:FAIL?

Syntax: CALCulate:FM:SNR:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the FM Distortion Meter Pass Fail Status.

Example:

```
CALCulate:FM:SNR:LIMit:FAIL?
0
```

13.122 CALCulate:FM:SNR:LIMit:LOWer

Syntax:

CALCulate:FM:SNR:LIMit:LOWer
CALCulate:FM:SNR:LIMit:LOWer?

Parameter/Return: -100.0 dB to 100.0 dB

Description: Sets/returns the Hum and Noise Meter Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:FM:SNR:LIMit:LOWer 10

CALCulate:FM:SNR:LIMit:LOWer?
10
```

13.123 CALCulate:FM:SNR:LIMit:UPPer

Syntax:

CALCulate:FM:SNR:LIMit:UPPer
CALCulate:FM:SNR:LIMit:UPPer?

Parameter/Return: -100.0 dBr to 100.0 dBr

Description: Sets/returns the Hum and Noise Meter upper limit for meter Pass/Fail.

Examples:

```
CALCulate:FM:SNR:LIMit:UPPer 100
CALCulate:FM:SNR:LIMit:UPPer?
100
```

13.124 CALCulate:FM:SNR:LIMit:UPPer:STATe

Syntax:

CALCulate:FM:SNR:LIMit:UPPer:STATe
CALCulate:FM:SNR:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:FM:SNR:LIMit:UPPer:STATe Off
CALCulate:FM:SNR:LIMit:UPPer:STATe?
0
```

13.125 CALCulate:PM:AFCOUNter:LIMit:FAIL?

Syntax: CALCulate:PM:AFCOUNter:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the PM AF Counter Meter Pass/Fail Status.

Example:

```
CALCulate:PM:AFCOUNter:LIMit:FAIL?
0
```

13.126 CALCulate:PM:AFCOUNter:LIMit:LOWer

Syntax:

CALCulate:PM:AFCOUNter:LIMit:LOWer
CALCulate:PM:AFCOUNter:LIMit:LOWer?

Parameter/Return: 0 Hz to 40000 Hz

Description: Sets/returns the AF Counter Lower Limit for Pass\Fail Indicators.

Examples:

```
CALCulate:PM:AFCOUNter:LIMit:LOWer 10

CALCulate:PM:AFCOUNter:LIMit:LOWer?
10
```

13.127 CALCulate:PM:AFCOUNter:LIMit:LOWer:STATe

Syntax:

CALCulate:PM:AFCOUNter:LIMit:LOWer:STATe
CALCulate:PM:AFCOUNter:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit State. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:PM:AFCOUNter:LIMit:LOWer:STATe Off

CALCulate:PM:AFCOUNter:LIMit:LOWer:STATE?
0
```

13.128 CALCulate:PM:AFCOUNter:LIMit:UPPer

Syntax:
CALCulate:PM:AFCOUNter:LIMit:UPPer
CALCulate:PM:AFCOUNter:LIMit:UPPer?

Parameter/Return: 0 Hz to 40000 Hz

Description: Sets/returns the AF Counter upper limit for meter Pass/Fail.

Examples:

```
CALCulate:PM:AFCOUNter:LIMit:UPPer 10000

CALCulate:PM:AFCOUNter:LIMit:UPPer?
10000
```

13.129 CALCulate:PM:AFCOUNter:LIMit:UPPer:STATe

Syntax:

CALCulate:PM:AFCOUNter:LIMit:UPPer:STATe
CALCulate:PM:AFCOUNter:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:PM:AFCOUNter:LIMit:UPPer:STATe Off
CALCulate:PM:AFCOUNter:LIMit:UPPer:STATe?
0
```

13.130 CALCulate:FM:DISTortion:LIMit:FAIL?

Syntax: CALCulate:FM:DISTortion:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the FM Distortion Meter Pass Fail Status.

Example:

```
CALCulate:FM:DISTortion:LIMit:FAIL?
0
```

13.131 CALCulate:FM:DISTortion:LIMit:LOWer?

Syntax: CALCulate:FM:DISTortion:LIMit:LOWer?

Parameter/Return: 0.0% to 100.0%

Description: You can query the FM Distortion Meter Pass Fail Status.

Examples:

```
CALCulate:FM:DISTortion:LIMit:LOWer?
0
```

13.132 CALCulate:FM:DISTortion:LIMit:LOWer:STATe

Syntax:

CALCulate:FM:DISTortion:LIMit:LOWer:STATe
CALCulate:FM:DISTortion:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:FM:DISTortion:LIMit:LOWer:STATe

CALCulate:FM:DISTortion:LIMit:LOWer:STATe?
0
```

13.133 CALCulate:FM:DISTortion:LIMit:UPPer

Syntax:

CALCulate:FM:DISTortion:LIMit:UPPer
CALCulate:FM:DISTortion:LIMit:UPPer?

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the upper limit for meter Pass/Fail. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
CALCulate:FM:DISTortion:LIMit:LOWer:STATe 50

CALCulate:FM:DISTortion:LIMit:LOWer:STATe?
50
```

13.134 CALCulate:FM:DISTortion:LIMit:UPPer:STATe

Syntax:

CALCulate:FM:DISTortion:LIMit:UPPer:STATe
CALCulate:FM:DISTortion:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit State. Turn this feature on before setting the upper limit value.

Examples:

```
CALCulate:FM:DISTortion:LIMit:UPPer:STATe Off

CALCulate:FM:DISTortion:LIMit:UPPer:STATe?
0
```

13.135 CALCulate:FM:KHZ:LIMit:UPPer

Syntax:

CALCulate:FM:KHZ:LIMit:UPPer
CALCulate:FM:KHZ:LIMit:UPPer?

Parameter/Return: 0.0 Hz to 100000 Hz

Description: You can query or set the FM Deviation Meter hHz Upper Limit.

Examples:

```
CALCulate:FM:KHZ:LIMit:UPPer 90
CALCulate:FM:KHZ:LIMit:UPPer?
90
```

13.136 CALCulate:FM:LIMit:FAIL?

Syntax: CALCulate:FM:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail Low|3-Fail High

Description: You can query the FM Deviation Meter Pass\Fail status.

Example:

```
CALCulate:FM:LIMit:FAIL?
0
```

13.137 SENSe:FM:RLEVel?

Syntax: SENSe:FM:RLEVel?

Parameter/Return: None

Description: Queries the reference level

Example:

```
SENSe:FM:RLEVel?
2500
```

13.138 SENSe:FM:SREFerence

Syntax: SENSe:FM:SREFerence

Parameter/Return: None

Description: Sets the reference in dBr mode.

Example:

```
SENSe:FM:SREFerence
```

13.139 CALCulate:PM:LIMit:LOWer:STATe

Syntax:

CALCulate:PM:LIMit:LOWer:STATe
CALCulate:PM:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting the lower limit value.

Examples:

```
CALCulate:PM:LIMit:LOWer:STATe Off
CALCulate:PM:LIMit:LOWer:STATe?
0
```

13.140 CALCulate:PM:LIMit:LOWer

Syntax:

CALCulate:PM:LIMit:LOWer
CALCulate:PM:LIMit:LOWer?

Parameter/Return: 0.0 Rad to 10.0 Rad

Description: –

Examples:

```
CALCulate:PM:LIMit:LOWer 0
CALCulate:PM:LIMit:LOWer?
0
```

13.141 CALCulate:FM:LIMit:UPPer

Syntax:

CALCulate:FM:LIMit:UPPer
CALCulate:FM:LIMit:UPPer?

Parameter/Return: -100.0 dBr to 100 dBr

Description: You can query or set the FM Mod Meter upper dBr limit for meter Pass/Fail.

Example:

```
CALCulate:FM:LIMit:UPPer 90000
CALCulate:FM:LIMit:UPPer?
90000
```

13.142 CALCulate:PM:DBR:LIMit:LOWer

Syntax:

CALCulate:PM:DBR:LIMit:LOWer
CALCulate:PM:DBR:LIMit:LOWer?

Parameter/Return: -100.0 dBr to 100 dBr

Description: Sets/returns the PM Mod Level dBr Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:PM:DBR:LIMit:LOWer -100
```

```
CALCulate:PM:DBR:LIMit:LOWer
-100
```

13.143 CALCulate:PM:DISTortion:LIMit:FAIL?

Syntax: CALCulate:PM:DISTortion:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the PM Distortion Meter Pass/Fail status.

Example:

```
CALCulate:PM:DISTortion:LIMit:FAIL?
1
```

13.144 CALCulate:PM:DISTortion:LIMit:LOWer

Syntax:

CALCulate:PM:DISTortion:LIMit:LOWer
CALCulate:PM:DISTortion:LIMit:LOWer?

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the Distortion Lower Limit for Pass/Fail indicators. Ensure that “Speaker” routing for Noise is set to Demod.

Example:

```
CALCulate:PM:DISTortion:LIMit:LOWer 0
CALCulate:PM:DISTortion:LIMit:LOWer?
0
```

13.145 CALCulate:PM:DISTortion:LIMit:LOWer:STATe

Syntax:

CALCulate:PM:DISTortion:LIMit:LOWer:STATe
CALCulate:PM:DISTortion:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:PM:DISTortion:LIMit:LOWer:STATe Off
CALCulate:PM:DISTortion:LIMit:LOWer:STATe?
0
```

13.146 CALCulate:PM:DISTortion:LIMit:UPPer

Syntax:

CALCulate:PM:DISTortion:LIMit:UPPer
CALCulate:PM:DISTortion:LIMit:UPPer?

Parameter/Return: 0.0% to 100%

Description: Sets/returns the Distortion Meter upper limit for meter Pass/Fail. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
CALCulate:PM:DISTortion:LIMit:UPPer 50
CALCulate:PM:DISTortion:LIMit:UPPer?
50
```

13.147 CALCulate:PM:DISTortion:LIMit:UPPer:STATe

Syntax:

CALCulate:PM:DISTortion:LIMit:UPPer:STATe
CALCulate:PM:DISTortion:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:PM:DISTortion:LIMit:Upper:STATe Off
CALCulate:PM:DISTortion:LIMit:Upper:STATe
0
```

13.148 CALCulate:PM:LIMit:FAIL?

Syntax: CALCulate:PM:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You query the PM Deviation Meter Pass/Fail Status.

Example:

```
CALCulate:PM:LIMit:FAIL?
0
```

13.149 CALCulate:PM:LIMit:UPPer:STATe

Syntax:

CALCulate:PM:LIMit:UPPer:STATe
CALCulate:PM:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:PM:LIMit:UPPer:STATe Off
CALCulate:PM:LIMit:UPPer:STATe?
0
```

13.150 CALCulate:PM:LIMit:UPPer

Syntax:

CALCulate:PM:LIMit:UPPer
CALCulate:PM:LIMit:UPPer?

Parameter/Return: 0.0 Rad to 10.0 Rad

Description: Sets/returns the PM Mod Meter upper limit for meter Pass/Fail.

Examples:

```
CALCulate:PM:LIMit:UPPer 10
CALCulate:PM:LIMit:UPPer?
10
```

13.151 CALCulate:PM:SINad:DBR:LIMit:LOWer

Syntax:

CALCulate:PM:SINad:DBR:LIMit:LOWer
CALCulate:PM:SINad:DBR:LIMit:LOWer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dBr) Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:PM:SINad:DBR:LIMit:LOWer 3
CALCulate:PM:SINad:DBR:LIMit:LOWer?
3
```

13.152 CALCulate:PM:SINad:DBR:LIMit:UPPer

Syntax:

CALCulate:PM:SINad:DBR:LIMit:UPPer
CALCulate:PM:SINad:DBR:LIMit:UPPer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dBr) Upper Limit for Pass/Fail indicators.

Examples:

```
CALCulate:PM:SINad:DBR:LIMit:UPPer 60
CALCulate:PM:SINad:DBR:LIMit:UPPer?
60
```

13.153 CALCulate:PM:SINad:LIMit:FAIL?

Syntax: CALCulate:PM:SINad:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the PM SINAD Meter Pass/Fail status.

Example:

```
CALCulate:PM:SINad:LIMit:FAIL?
0
```

13.154 CALCulate:PM:SINad:LIMit:LOWer

Syntax:

CALCulate:PM:SINad:LIMit:LOWer
CALCulate:PM:SINad:LIMit:LOWer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Lower limit for Pass/Fail indicators.

Examples:

```
CALCulate:PM:SINad:LIMit:LOWer 3
CALCulate:PM:SINad:LIMit:LOWer?
3
```

13.155 CALCulate:PM:SINad:LIMit:LOWer:STATe

Syntax:

CALCulate:PM:SINad:LIMit:LOWer:STATe
CALCulate:PM:SINad:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|2

Description: Sets/returns the SINAD Meter (dB) Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:PM:SINad:LIMit:LOWer:STATe Off
CALCulate:PM:SINad:LIMit:LOWer:STATe?
0
```

13.156 CALCulate:PM:SINad:LIMit:UPPer

Syntax:

CALCulate:PM:SINad:LIMit:UPPer
CALCulate:PM:SINad:LIMit:UPPer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Upper Limit.

Examples:

```
CALCulate:PM:SINad:LIMit:UPPer 60
CALCulate:PM:SINad:LIMit:UPPer:STATe?
60
```

13.157 CALCulate:PM:SINad:LIMit:UPPer:STATe

Syntax:

CALCulate:PM:SINad:LIMit:UPPer:STATe
CALCulate:PM:SINad:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the SINAD Meter (dB) Lower Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:PM:SINad:LIMit:UPPer:STATe Off
CALCulate:PM:SINad:LIMit:UPPer:STATe?
0
```

13.158 CALCulate:PM:SNR:LIMit:FAIL?

Syntax: CALCulate:PM:SNR:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail high|3-Fail Low

Description: You can query the PM Hum and Noise Meter Pass/Fail status.

Example:

```
CALCulate:PM:SNR:LIMit:FAIL?
0
```

Query Response: 0

13.159 CALCulate:PM:SNR:LIMit:LOWer

Syntax:
CALCulate:PM:SNR:LIMit:LOWer
CALCulate:PM:SNR:LIMit:LOWer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the Hum and Noise Meter Lower limit for Pass/Fail indicators.

Examples:

```
CALCulate:PM:SNR:LIMit:LOWer 10
CALCulate:PM:SNR:LIMit:LOWer?
10
```

13.160 CALCulate:PM:SNR:LIMit:LOWer:STATe

Syntax:

CALCulate:PM:SNR:LIMit:LOWer:STATe
CALCulate:PM:SNR:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|2

Description: Sets/returns the OM Hum and Noise Meter Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:PM:SNR:LIMit:LOWer:STATe Off
CALCulate:PM:SNR:LIMit:LOWer:STATe?
0
```

13.161 CALCulate:PM:SNR:LIMit:UPPer

Syntax:

CALCulate:PM:SNR:LIMit:UPPer
CALCulate:PM:SNR:LIMit:UPPer?

Parameter/Return: -100 dBr to 100 dBr

Description: Sets/returns the Hum and Noise Meter Upper Limit for meter Pass/Fail.

Examples:

```
CALCulate:PM:SNR:LIMit:UPPer 100
CALCulate:PM:SNR:LIMit:UPPer?
100
```

13.162 CALCulate:PM:SNR:LIMit:UPPer:STATe

Syntax:

CALCulate:PM:SNR:LIMit:UPPer:STATe
CALCulate:PM:SNR:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:PM:SNR:LIMit:UPPer:STATe Off
CALCulate:PM:SNR:LIMit:UPPer:STATe?
0
```

13.163 CALCulate:RFCOUNter:LIMit:FAIL?

Syntax: CALCulate:RFCOUNter:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the RF Error Meter Pass/Fail status.

Example:

```
CALCulate:RFCOUNter:LIMit:FAIL?
0
```

13.164 CALCulate:RFCOUNter:LIMit:LOWer

Syntax:

CALCulate:RFCOUNter:LIMit:LOWer
CALCulate:RFCOUNter:LIMit:LOWer?

Parameter/Return: Float bounded by the Rec Freq and the IF bandwidth.

Description: Sets/returns the value of the RF Counter lower limit. Meter type set to counter and limit enabled.

Examples:

```
CALCulate:RFCOUNter:LIMit:LOWer 499985000
CALCulate:RFCOUNter:LIMit:LOWer?
499985000
```

13.165 CALCulate:PM:SNR:LIMit:LOWer:STATe

Syntax:

CALCulate:PM:SNR:LIMit:LOWer:STATe
CALCulate:PM:SNR:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|2

Description: Sets/returns the State of the RF Counter lower limit.

Examples:

```
CALCulate:RFCOUNter:LIMit:LOWer:STATe OFF
CALCulate:RFCOUNter:LIMit:LOWer:STATe?
0
```

13.166 CALCulate:RFCOUNter:LIMit:UPPer

Syntax:

CALCulate:RFCOUNter:LIMit:UPPer
CALCulate:RFCOUNter:LIMit:UPPer?

Parameter/Return: Float bounded by the rec freq and IF BW.

Description: Sets/returns the RF Counter Upper Limit for meter Pass/Fail. Meter type set to counter and limit enabled.

Examples:

```
CALCulate:RFCOUNter:LIMit:UPPer 500015000
CALCulate:RFCOUNter:LIMit:UPPer?
500015000
```

13.167 CALCulate:RFCOUNter:LIMit:UPPer:STATe

Syntax:

CALCulate:RFCOUNter:LIMit:UPPer:STATe
CALCulate:RFCOUNter:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:RFCOUNter:LIMit:UPPer:STATe Off

CALCulate:PM:SNR:LIMit:UPPer:STATe?
0
```

13.168 CALCulate:RFERRor:LIMit:FAIL?

Syntax: CALCulate:RFERRor:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the RF Error Meter (Hz) Pass/Fail status.

Example:

```
CALCulate:RFERRor:LIMit:FAIL?
4
```

13.169 SENSe:PM:RLEVel?

Syntax: SENSe:PM:RLEVel?

Parameter/Return: None

Description: You can query the reference level.

Example:

```
SENSe:PM:RLEVel?
0
```

13.170 SENSe:PM:SREFerence

Syntax: SENSe:PM:SREFerence

Parameter/Return: None

Description: Sets the reference in dBr mode.

Example:

```
SENSe:PM:SREFerence
```

13.171 CALCulate:SSB:LIMit:LOWer:STATE (Obsoleted)

Syntax:

CALCulate:SSB:LIMit:LOWer:STATE
CALCulate:SSB:LIMit:LOWer:STATE?

Parameter/Return: On|Off|1|0

Description: Sets/returns the SSB Lower Limit state.

Examples:

```
CALCulate:SSB:LIMit:LOWer:STATE Off
CALCulate:SSB:LIMit:LOWer:STATE?
0
```

13.172 CALCulate:SSB:LIMit:LOWer (Obsoleted)

Syntax:

CALCulate:SSB:LIMit:LOWer
CALCulate:SSB:LIMit:LOWer?

Parameter/Return: Float: 0% to 100%

Description: Sets/returns the Lower Level for SSB.

Examples:

```
CALCulate:SSB:LIMit:LOWer 0
CALCulate:SSB:LIMit:LOWer?
0
```

13.173 CALCulate:SSB:AFCOUNter:LIMit:FAIL?

Syntax: CALCulate:SSB:AFCOUNter:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the SSB AF Counter Meter Pass/Fail status.

Example:

```
CALCulate:SSB:AFCOUNter:LIMit:FAIL?
0
```

13.174 CALCulate:SSB:AFCOUNter:LIMit:LOWer

Syntax:

CALCulate:SSB:AFCOUNter:LIMit:LOWer
CALCulate:SSB:AFCOUNter:LIMit:LOWer?

Parameter/Return: 0 Hz to 40000 Hz

Description: Sets/returns the AF Counter Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:AFCOUNter:LIMit:LOWer 10
```

```
CALCulate:SSB:AFCOUNter:LIMit:LOWer?
10
```

13.175 CALCulate:SSB:AFCOUNter:LIMit:LOWer:STATe

Syntax:

CALCulate:SSB:AFCOUNter:LIMit:LOWer:STATe
CALCulate:SSB:AFCOUNter:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting the lower limit value.

Examples:

```
CALCulate:SSB:AFCOUNter:LIMit:LOWer:STATe Off
```

```
CALCulate:SSB:AFCOUNter:LIMit:LOWer:STATe?
0
```

13.176 CALCulate:SSB:AFCOUNter:LIMit:UPPer (Obsoleted)

Syntax:

CALCulate:SSB:AFCOUNter:LIMit:Upper
CALCulate:SSB:AFCOUNter:LIMit:Upper?

Parameter/Return: 0 Hz to 40000 Hz

Description: Sets/returns the AF Counter Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:AFCOUNter:LIMit:Upper 10000
CALCulate:SSB:AFCOUNter:LIMit:UPPer?
10000
```

13.177 CALCulate:SSB:DBR:LIMit:LOWer (Obsoleted)

Syntax:

CALCulate:SSB:DBR:LIMit:LOWer
CALCulate:SSB:DBR:LIMit:LOWer?

Parameter/Return: Float: -100.0 dBr to 100 dBr

Description: Sets/returns the SSB Mod Level Meter dBr Loer Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:DBR:LIMit:LOWer -100
CALCulate:SSB:DBR:LIMit:LOWer?
-100
```

13.178 CALCulate:SSB:LIMit:UPPer:STATe (Obsoleted)

Syntax:

CALCulate:SSB:LIMit:UPPer:STATe
CALCulate:SSB:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the SSB Upper Limit state.

Examples:

```
CALCulate:SSB:LIMit:UPPer:STATe Off
CALCulate:SSB:LIMit:UPPer:STATe?
0
```

13.179 CALCulate:SSB:SINad:DBR:LIMit:LOWer

Syntax:

CALCulate:SSB:SINad:DBR:LIMit:LOWer
CALCulate:SSB:SINad:DBR:LIMit:LOWer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dBr) Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:SINad:DBR:LIMit:LOWer 3
CALCulate:SSB:SINad:DBR:LIMit:LOWer?
3
```

13.180 CALCulate:SSB:SINad:DBR:LIMit:UPPer

Syntax:

CALCulate:SSB:SINad:DBR:LIMit:UPPer
CALCulate:SSB:SINad:DBR:LIMit:UPPer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dBr) Upper Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:SINad:DBR:LIMit:UPPer 60
CALCulate:SSB:SINad:DBR:LIMit:UPPer?
60
```

13.181 CALCulate:SSB:SINad:LIMit:FAIL?

Syntax: CALCulate:SSB:SINad:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the SSB AF Counter Meter Pass/Fail status.

Example:

```
CALCulate:SSB:SINad:LIMit:FAIL?
0
```

13.182 CALCulate:SSB:SINad:LIMit:LOWer

Syntax:

CALCulate:SSB:SINad:LIMit:LOWer
CALCulate:SSB:SINad:LIMit:LOWer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:SINad:LIMit:LOWer 3
CALCulate:SSB:SINad:LIMit:LOWer?
3
```

13.183 CALCulate:SSB:SINad:LIMit:LOWer:STATe

Syntax:

CALCulate:SSB:SINad:LIMit:LOWer:STATe
CALCulate:SSB:SINad:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting the lower limit value.

Examples:

```
CALCulate:SSB:SINad:LIMit:LOWer Off
CALCulate:SSB:SINad:LIMit:LOWer?
0
```

13.184 CALCulate:SSB:SINad:LIMit:UPPer

Syntax:

CALCulate:SSB:SINad:LIMit:UPPer
CALCulate:SSB:SINad:LIMit:UPPer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:SINad:LIMit:UPPer 60
CALCulate:SSB:SINad:LIMit:UPPer?
60
```

13.185 CALCulate:SSB:SINad:LIMit:Upper:STATe

Syntax:

CALCulate:SSB:SINad:LIMit:UPPER:STATe
CALCulate:SSB:SINad:LIMit:UPPER:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting the lower limit value.

Examples:

```
CALCulate:SSB:SINad:LIMit:UPPer:STATe Off
CALCulate:SSB:SINad:LIMit:UPPer:STATe?
0
```

13.186 CALCulate:SSB:SNR:LIMit:FAIL?

Syntax: CALCulate:SSB:SNR:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the SSB AF Counter Meter Pass/Fail status.

Example:

```
CALCulate:SSB:SNR:LIMit:FAIL?
0
```

13.187 CALCulate:SSB:SINad:LIMit:LOWer

Syntax:

CALCulate:SSB:SINad:LIMit:LOWer
CALCulate:SSB:SINad:LIMit:LOWer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the Hum and Noise Meter Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:SINad:LIMit:LOWer 0
CALCulate:SSB:SINad:LIMit:LOWer?
0
```

13.188 CALCulate:SSB:SNR:LIMit:LOWer:STATe

Syntax:

CALCulate:SSB:SNR:LIMit:LOWer:STATe
CALCulate:SSB:SNR:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting the lower limit value.

Examples:

```
CALCulate:SSB:SNR:LIMit:LOWer:STATe Off
CALCulate:SSB:SNR:LIMit:LOWer:STATe?
0
```

13.189 CALCulate:SSB:SNR:LIMit:UPPer

Syntax:

CALCulate:SSB:SNR:LIMit:UPPer

CALCulate:SSB:SNR:LIMit:UPPer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the Hum and Noise Meter Upper Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:SNR:LIMit:UPPer 100
CALCulate:SSB:SNR:LIMit:UPPer?
100
```

13.190 CALCulate:SSB:SNR:LIMit:UPPer:STATe

Syntax:

CALCulate:SSB:SNR:LIMit:UPPer:STATe
CALCulate:SSB:SNR:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting the lower limit value.

Examples:

```
CALCulate:SSB:SNR:LIMit:UPPer:STATe Off
CALCulate:SSB:SNR:LIMit:UPPer:STATe?
0
```

13.191 MEASure:AM:AFCOUNter:DATA?

Syntax: MEASure:AM:AFCOUNter:DATA?

Parameter/Return: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Description: You can query the averaged value using the number of averages. The “Speaker” routing for Noise will select source between Demod/Audio In.

Example:

```
MEASure:AM:AFCOUNter:DATA?
0,0,0,0,0....
```

13.192 MEASure:AM:AFCOUNter:LIVE?

Syntax: MEASure:AM:AFCOUNter:LIVE?

Parameter/Return: None

Description: You can query the live reading. The “Speaker” routing for Noise will select source between Demod/Audio In.

Example:

```
MEASure:AM:AFCOUNter:LIVE?
0
```

13.193 MEASure:AM:AVERage?

Syntax: MEASure:AM:AVERage?

Parameter/Return: None

Description: You can query the averaged value based on the number of averages.

Example:

```
MEASure:AM:AVERage?
0.2
```

13.194 MEASure:AM:DATA?

Syntax: MEASure:AM:DATA?

Parameter/Return: None

Description: Returns 100 CSV float values. X axis is a time plot of all incoming readings.

Example:

```
MEASure:AM:DATA?
NAN
```

13.195 MEASure:AM:DISTortion:LIVE?

Syntax: MEASure:AM:DISTortion:LIVE?

Description: You can query the live distortion reading.

Example:

```
MEASure:AM:DISTortion:LIVE?
0
```

13.196 MEASure:AM:LIVE?

Syntax: MEASure:AM:LIVE?

Description: You can query the live AM Mod reading

Example:

```
MEASure:AM:LIVE?
0.1
```

13.197 MEASure:AM:PEPOWer:AVERage?

Syntax: MEASure:AM:PEPOWer:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:AM:PEPOWer:AVERage?
-50.4073677062988
```

13.198 MEASure:AM:PEPOWer:DATA?

Syntax: MEASure:AM:PEPOWer:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:AM:PEPOWer:DATA?
-50.69408416748047,-51.506992340008789...
```

13.199 MEASure:AM:PEPOWer:LIVE?

Syntax: MEASure:AM:PEPOWer:LIVE?

Description: You can query the live AM PEP Meter reading.

Example:

```
MEASure:AM:PEPOWer:LIVE?
-50.6740379333496
```

13.200 MEASure:AM:SINad:AVERage?

Syntax: MEASure:AM:SINad:AVERage?

Description: You can query the averaged value using the number of averages. The 'Speaker' routing for Noise to select Demod.

Example:

```
MEASure:AM:SINad:AVERage?
0
```

13.201 MEASure:AM:SINad:DATA?

Syntax: MEASure:AM:SINad:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:AM:SINad:DATA?
0,0,0,0....
```

13.202 MEASure:AM:SINad:LIVE?

Syntax: MEASure:AM:SINad:LIVE?

Description: You can query the live SINAD Meter reading.The 'Speaker' routing for Noise to select Demod.

Example:

```
MEASure:AM:SINad:LIVE?
0
```

13.203 MEASure:AM:SNR:AVERage?

Syntax: MEASure:AM:SNR:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:AM:SNR:AVERage?
0.2
```

13.204 MEASure:AM:SNR:DATA?

Syntax: MEASure:AM:SNR:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings. The 'Speaker' routing for Noise will select

source between Demod/Audio In. This is a slow capture - takes approx 6.5 min to complete a trace.

Example:

```
MEASure:AM:SNR:DATA?
NAN
```

13.205 MEASure:AM:SNR:LIVE?

Syntax: MEASure:AM:SNR:LIVE?

Description: You can query the live Hum and Noise meter readings.

Example:

```
MEASure:AM:SNR:LIVE?
0.1
```

13.206 MEASure:FM:AFCOUNter:AVERage?

Syntax: MEASure:FM:AFCOUNter:AVERage?

Description: You can query the averaged value using the number of averages. The 'Speaker' routing for Noise will select source between Demod/Audio In

Example:

```
MEASure:FM:AFCOUNter:AVERage?
0
```

13.207 MEASure:FM:AFCOUNter:DATA?

Syntax: MEASure:FM:AFCOUNter:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:FM:AFCOUNter:DATA?
0,0,0,0....
```

13.208 MEASure:FM:AFCOUNter:LIVE?

Syntax: MEASure:FM:AFCOUNter:LIVE?

Description: You can query the lthe live reading. The 'Speaker' routing for Noise will select source between Demod/Audio In.

Example:

```
MEASure:FM:AFCOUNter:LIVE?
0
```

13.209 MEASure:FM:AVERage?

Syntax: MEASure:FM:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:FM:AVERage?
0
```

13.210 MEASure:FM:DATA?

Syntax: MEASure:FM:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:FM:DATA?
0,0,0,0...
```

13.211 MEASure:FM:DISTortion:AVERage?

Syntax: MEASure:FM:DISTortion:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:FM:DISTortion:AVERage?
0
```

13.212 MEASure:FM:DISTortion:DATA?

Syntax: MEASure:FM:DISTortion:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:FM:DISTortion:DATA?
0,0,0,0...
```

13.213 MEASure:FM:DISTortion:LIVE?

Syntax: MEASure:FM:DISTortion:LIVE?

Description: You can query the live distortion reading.

Example:

```
MEASure:FM:DISTortion:LIVE?
0
```

13.214 MEASure:FM:LIVE?

Syntax: MEASure:FM:LIVE?

Description: You can query the live FM Mod reading.

Example:

```
MEASure:FM:LIVE?
0
```

13.215 MEASure:FM:SINad:AVERage?

Syntax: MEASure:FM:SINad:AVERage?

Description: You can query the averaged value using the number of averages. The “Speaker” routing for Noise to select Demod.

Example:

```
MEASure:FM:SINad:AVERage?
0
```

13.216 MEASure:FM:SINad:DATA?

Syntax: MEASure:FM:SINad:DATA?

Description: Returns 100 CSV float values. X axis is a time plot of all incoming readings.

Example:

```
MEASure:FM:SINad:DATA?
0,0,0,0...
```

13.217 MEASure:FM:SINad:LIVE?

Syntax: MEASure:FM:SINad:LIVE?

Description: the live SINAD reading. The 'Speaker' routing for Noise to select Demod.

Example:

```
MEASure:FM:SINad:LIVE?
0
```

13.218 MEASure:FM:SNR:AVERage?

Syntax: MEASure:FM:SNR:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:FM:SNR:AVERage?
0.2
```

13.219 MEASure:FM:SNR:DATA?

Syntax: MEASure:FM:SNR:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings. The 'Speaker' routing for Noise will select source between Demod/Audio In. This is a slow capture that takes approx 6.5 min to complete a trace.

Example:

```
MEASure:FM:SNR:DATA?
NAN
```

13.220 MEASure:FM:SNR:LIVE?

Syntax: MEASure:FM:SNR:LIVE?

Description: You can query the live reading.

Example:

```
MEASure:FM:SNR:LIVE?
0.1
```

13.221 MEASure:PM:AFCOUNter:AVERage?

Syntax: MEASure:PM:AFCOUNter:AVERage?

Description: You can query the averaged value using the number of averages. The “Speaker” routing for Noise will select source between Demod/Audio In.

Example:

```
MEASure:PM:AFCOUNter:AVERage?
0
```

13.222 MEASure:PM:AFCOUNter:DATA?

Syntax: MEASure:PM:AFCOUNter:DATA?

Description: Returns 100 CSV float values. X axis is a time plot of all incoming readings.

Example:

```
MEASure:PM:AFCOUNter:DATA?
0,0,0,0...
```

13.223 MEASure:PM:AVERage?

Syntax: MEASure:PM:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:PM:AVERage?
0.2
```

13.224 MEASure:PM:DATA?

Syntax: MEASure:PM:DATA?

Description: Query returns 199 CSV float values. X axis is a time plot of all incoming readings.

Example:

```
MEASure:PM:DATA?
NAN
```

13.225 MEASure:PM:DISTortion:AVERage?

Syntax: MEASure:PM:DISTortion:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:PM:DISTortion:AVERage?
0
```

13.226 MEASure:PM:DISTortion:DATA?

Syntax: MEASure:PM:DISTortion:DATA?

Description: Query returns 199 CSV float values. X axis is a time plot of all incoming readings.

Example:

```
MEASure:PM:DISTortion:DATA?
0,0,0,0...
```

13.227 MEASure:PM:DISTortion:LIVE?

Syntax: MEASure:PM:DISTortion:LIVE?

Description: You can query the live PM Mod reading.

Example:

```
MEASure:PM:DISTortion:LIVE?
0
```

13.228 MEASure:MEASure:PM:LIVE?

Syntax: MEASure:PM:LIVE?

Description: You can query the live PM Mod reading.

Example:

```
MEASure:PM:LIVE?
0.1
```

13.229 MEASure:PM:SINad:DATA?

Syntax: MEASure:PM:SINad:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:PM:SINad:DATA?
0,0,0,0..
```

13.230 MEASure:PM:SINad:LIVE?

Syntax: MEASure:PM:SINad:LIVE?

Description: You can query the live SINAD reading. The “Speaker” routing for Noise to select Demod.

Example:

```
MEASure:PM:SINad:LIVE?
0
```

13.231 MEASure:PM:SNR:AVERage?

Syntax: MEASure:PM:SNR:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:PM:SNR:AVERage?
0.2
```

13.232 MEASure:PM:SNR:DATA?

Syntax: MEASure:PM:SNR:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings. The 'Speaker' routing for Noise will select source between Demod/Audio In. This is a slow capture that takes approx 6.5 min to complete a trace.

Example:

```
MEASure:PM:SNR:DATA?
NAN
```

13.233 MEASure:PM:SNR:LIVE?

Syntax: MEASure:PM:SNR:LIVE?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings. The 'Speaker' routing for Noise will select source between Demod/Audio In. This is a slow capture that takes approx 6.5 min to complete a trace.

Example:

```
MEASure:PM:SNR:LIVE?
0.1
```

13.234 MEASure:RFCOUNter:AVERage?

Syntax: MEASure:RFCOUNter:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:RFCOUNter:AVERage?
499999945.5356522
```

13.235 MEASure:RFCOUNter:DATA?

Syntax: MEASure:RFCOUNter:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:RFCOUNter:DATA?
```

499999964.65787506,499999921.0474777...

13.236 MEASure:RFCOUNter:LIVE?

Syntax: MEASure:RFCOUNter:LIVE?

Description: You can query the live reading.

Example:

```
MEASure:RFCOUNter:LIVE?
499999976.7029438
```

13.237 MEASure:RFERRor:AVERage?

Syntax: MEASure:RFERRor:AVERage?

Description: Read the averaged value using the number of averages.

Example:

```
MEASure:RFERRor:AVERage?
132.7052612304688
```

13.238 MEASure:RFERRor:DATA?

Syntax: MEASure:RFERRor:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:RFERRor:DATA?
-42.463203430175 78,-19.619848251342773....
```

13.239 MEASure:RFERRor:PPM:AVERage?

Syntax: MEASure:RFERRor:PPM:AVERage?

Description: Read the averaged value using the number of averages.

Example:

```
MEASure:RFERRor:PPM:AVERage?
-0.06253871154785157
```

13.240 MEASure:RFERRor:LIVE?

Syntax: MEASure:RFERRor:LIVE?

Description: Return the live reading in Hz.

Example:

```
MEASure:RFERRor:LIVE?
-88.75410461425781
```

13.241 MEASure:RFERRor:PPM:DATA?

Syntax: MEASure:RFERRor:PPM:DATA?

Description: Returns 199 CSV float values. X axis is a time plot of all incoming readings.

Example:

```
MEASure:RFERRor:PPM:DATA?
0.06599487304687 5,-0.11152513885498047...
```

13.242 MEASure:RFERRor:PPM:LIVE?

Syntax: MEASure:RFERRor:PPM:LIVE?

Description: Return the live reading in ppm.

Example:

```
MEASure:RFERRor:PPM:LIVE?
-0.04709855270385742,-0.015711085319519043...
```

13.243 MEASure:RFPOWer:AVERage?

Syntax: MEASure:RFPOWer:AVERage?

Description: Read the averaged value using the number of averages.

Example:

```
MEASure:RFPOWer:AVERage?
-61.01457214355469
```

13.244 MEASure:RFPOWer:DATA?

Syntax: MEASure:RFPOWer:DATA?

Description: Returns 199 CSV float values. X axis is a time plot of all incoming readings.

Example:

```
MEASure:RFPOWer:DATA?
-61.062385559082O3,-60.936038970947266...
```

13.245 MEASure:RFPOWer:LIVE?

Syntax: MEASure:RFPOWer:LIVE?

Description: Return the live RF Power reading.

Example:

```
MEASure:RFPOWer:LIVE?
-61.01457214355469
```

13.246 MEASure:SQUelch?

Syntax: MEASure:SQUelch?

Description: Returns true/false value for squelch status.

Example:

```
MEASure:SQUelch?
TRUE
```

13.247 MEASure:SSB:AFCOUNter:AVERage?

Syntax: MEASure:SSB:AFCOUNter:AVERage?

Description: Read the averaged value using the number of averages. The “Speaker” routing for Noise will select source between Demod/Audio In.

Example:

```
MEASure:SSB:AFCOUNter:AVERage?
0
```

13.248 MEASure:SSB:AFCOUNter:DATA?

Syntax: MEASure:SSB:AFCOUNter:DATA?

Description: Returns 199 CSV float values. The X axis is a time plot of all incomng readings.

Example:

```
MEASure:SSB:AFCOUNter:DATA?
0,0,0,0...
```

13.249 MEASure:SSB:AFCOUNter:LIVE?

Syntax: MEASure:SSB:AFCOUNter:LIVE?

Description: Return the live AF Counter reading. The “Speaker” routing for Noise will select source between Demod/Audio In.

Example:

```
MEASure:SSB:AFCOUNter:LIVE?
0
```

13.250 MEASure:SSB:DISTortion:AVERage?

Syntax: MEASure:SSB:DISTortion:AVERage?

Description: Read the averaged value using the number of averages.

Example:

```
MEASure:SSB:DISTortion:AVERage?
0
```

13.251 MEASure:SSB:DISTortion:DATA?

Syntax: MEASure:SSB:DISTortion:DATA?

Description: Returns 199 CSV float values. The X axis is a time plot of all incoming readings.

Example:

```
MEASure:SSB:DISTortion:DATA?
0,0,0,0....
```

13.252 MEASure:SSB:DISTortion:LIVE?

Syntax: MEASure:SSB:DISTortion:LIVE?

Description: Return the live distortion reading.

Example:

```
MEASure:SSB:DISTortion:LIVE?
0
```

13.253 MEASure:SSB:SINad:AVERage?

Syntax: MEASure:SSB:SINad:AVERage?

Description: Read the averaged value using the number of averages. The “Speaker” routing for Noise to select Demod.

Example:

```
MEASure:SSB:SINad:AVERage?
0
```

13.254 MEASure:SSB:SINad:DATA?

Syntax: MEASure:SSB:SINad:DATA?

Description: Returns 199 CSV float values. The X axis is a time plot of all incoming readings.

Example:

```
MEASure:SSB:SINad:DATA?
0,0,0...
```

13.255 MEASure:SSB:SINad:LIVE?

Syntax: MEASure:SSB:SINad:LIVE?

Description: Read the live SINAD reading. The 'Speaker' routing for Noise to select Demod.

Example:

```
MEASure:SSB:SINad:LIVE?
0
```

13.256 MEASure:SSB:SNR:AVERage?

Syntax: MEASure:SSB:SNR:AVERage?

Description: Read the averaged value using the number of averages.

Example:

```
MEASure:SSB:SNR:AVERage?
0.2
```

13.257 MEASure:SSB:SNR:DATA?

Syntax: MEASure:SSB:SNR:DATA?

Description: Returns 199 CSV float values. The X axis is a time plot of all incoming readings. The 'Speaker' routing for Noise will select source between Demod/Audio In. This is a slow capture that takes approx 6.5 min to complete a trace

Example:

```
MEASure:SSB:SNR:DATA?
NAN
```

13.258 MEASure:SSB:SNR:LIVE?

Syntax: MEASure:SSB:SNR:LIVE?

Description: Return the live reading.

Example:

```
MEASure:SSB:SNR:LIVE?
0.1
```

13.259 CALCulate:SSB:DBR:LIMit:UPPer

Syntax:

CALCulate:SSB:DBR:LIMit:UPPer
CALCulate:SSB:DBR:LIMit:UPPer?

Parameter/Return: float: -100.0 dBr to 100 dBr

Description: Sets/returns the SSB Mod Meter upper dBr limit for meter Pass/Fail.

Example:

```
CALCulate:SSB:DBR:LIMit:UPPer 100
CALCulate:SSB:DBR:LIMit:UPPer?
100
```

13.260 CALCulate:SSB:DISTortion:LIMit:FAIL?

Syntax: CALCulate:SSB:DISTortion:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the SSB Distortion Meter Pass/Fail status.

Example:

```
CALCulate:SSB:DISTortion:LIMit:FAIL?
0
```

13.261 CALCulate:SSB:DISTortion:LIMit:LOWer

Syntax:

CALCulate:SSB:DISTortion:LIMit:LOWer
CALCulate:SSB:DISTortion:LIMit:LOWer?

Parameter/Return:0.0% to 100.0%

Description: Sets/returns the Distortion Lower Limit for Pass/Fail indicators. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
CALCulate:SSB:DISTortion:LIMit:LOWer 0
CALCulate:SSB:DISTortion:LIMit:LOWer?
0
```

13.262 CALCulate:SSB:DISTortion:LIMit:LOWer:STATe

Syntax:

CALCulate:SSB:DISTortion:LIMit:LOWer:STATe
CALCulate:SSB:DISTortion:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:SSB:DISTortion:LIMit:LOWer:STATe Off
CALCulate:SSB:DISTortion:LIMit:LOWer:STATe?
0
```

13.263 CALCulate:SSB:DISTortion:LIMit:UPPer

Syntax:

CALCulate:SSB:DISTortion:LIMit:UPPer
CALCulate:SSB:DISTortion:LIMit:UPPer?

Parameter/Return:0.0% to 100.0%

Description: Sets/returns the Distortion Upper Limit for Pass/Fail indicators. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
CALCulate:SSB:DISTortion:LIMit:UPPer 50
CALCulate:SSB:DISTortion:LIMit:UPPer?
50
```

13.264 CALCulate:SSB:DISTortion:LIMit:UPper:STATe

Syntax: CALCulate:SSB:DISTortion:LIMit:Upper:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:SSB:DISTortion:LIMit:UPPer:STATe Off
CALCulate:SSB:DISTortion:LIMit:UPPer:STATe?
0
```

13.265 CALCulate:SSB:LIMit:FAIL?

Syntax: CALCulate:SSB:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the SSB Deviatino Meter Pass/Fail Status.

Example:

```
CALCulate:SSB:LIMit:FAIL?
0
```

13.266 SENSe:AM:AFCOUNter:AVERage:COUNt

Syntax:

SENSe:AM:AFCOUNter:AVERage:COUNt
SENSe:AM:AFCOUNter:AVERage:COUNt?

Parameter/Return: 1 - 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see the input dialog.

Examples:

```
SENSe:AM:AFCOUNter:AVERage:COUNt 1
SENSe:AM:AFCOUNter:AVERage:COUNt?
1
```

13.267 SENSe:AM:AFCOUNter:READing:TYPE

Syntax:

SENSe:AM:AFCOUNter:READing:TYPE
SENSe:AM:AFCOUNter:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The “Speaker” routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:AM:AFCOUNter:READing:TYPE LIVE
SENSe:AM:AFCOUNter:READing:TYPE?
LIVE
```

13.268 SENSe:AM:AFCOUNter:RESet

Syntax: SENSe:AM:AFCOUNter:RESet

Parameter/Return: None

Description: Restart the AF Counter trace data capture. Need to use demod source.

Example:

```
SENSe:AM:AFCOUNter:RESet
```

13.269 SENSe:AM:AFCOUNter:SCALe

Syntax:

SENSe:AM:AFCOUNter:SCALe
SENSe:AM:AFCOUNter:SCALe?

Parameter/Return: Auto | 10 kHz | 20 kHz | 50 kHz | 100 kHz | 200 kHz | 500 kHz | 1 MHz | 2 MHz | 5 MHz

Description: Sets/returns the meter scale. Auto will change the scale to keep the measurement centered.

Examples:

```
SENSe:AM:AFCOUNter:SCALe Auto
SENSe:AM:AFCOUNter:SCALe?
Auto
```

13.270 SENSe:SSB:RLEVel? (Obsoleted)

Syntax: SENSe:SSB:RLEVel?

Parameter/Return: None

Description: Returns the reference level.

Example:

```
SENSe:SSB:RLEVel?
0
```

13.271 SENSe:SSB:SCALe:ADEModulator (Obsoleted)

Syntax:

SENSe:SSB:SCALe:ADEModulator
SENSe:SSB:SCALe:ADEModulator?

Parameter/Return: Auto, 1%, 2%, 5%, 10%, 20%, 50%, 100% | -100 dB to 60 dB in dBr mode

Description: Sets/returns the meter scale. Auto will change the scale to keep the measurement centered.

Examples:

```
SENSe:SSB:SCALe:ADEModulator Auto
SENSe:SSB:SCALe:ADEModulator?
Auto
```

13.272 SENSe:SSB:SINad:AVERage:COUNt

Syntax:

SENSe:SSB:SINad:AVERage:COUNt
SENSe:SSB:SINad:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see input dialog.

Examples:

```
SENSe:SSB:SINad:AVERage:COUNt 1
SENSe:SSB:SINad:AVERage:COUNt?
1
```

13.273 SENSe:SSB:SINad:NOISe:TYPE

Syntax:

SENSe:SSB:SINad:NOISe:TYPE
SENSe:SSB:SINad:NOISe:TYPE?

Parameter/Return: sinad | distortion | humNoise

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see input dialog.

Examples:

```
SENSe:SSB:SINad:NOISe:TYPE sinad
SENSe:SSB:SINad:NOISe:TYPE?
sinad
```

13.274 SENSe:SSB:SINad:NOTCh:BANDwidth

Syntax:

SENSe:SSB:SINad:NOTCh:BANDwidth
SENSe:SSB:SINad:NOTCh:BANDwidth?

Parameter/Return: 10 Hz to 200 Hz

Description: Sets/returns the distortion notch filter bandwidth.

Examples:

```
SENSe:SSB:SINad:NOTCh:BANDwidth 82
SENSe:SSB:SINad:NOTCh:BANDwidth?
82
```

13.275 SENSe:SSB:SINad:NOTCh:FREQuency

Syntax:

SENSe:SSB:SINad:NOTCh:FREQuency
SENSe:SSB:SINad:NOTCh:FREQuency?

Parameter/Return: 50 Hz ti 40000 Hz

Description: Sets/returns the distortion notch filter frequency.

Examples:

```
SENSe:SSB:SINad:NOTCh:FREQuency 1000
SENSe:SSB:SINad:NOTCh:FREQuency?
1000
```

13.276 SENSe:SSB:SINad:READing:TYPE

Syntax:

SENSe:SSB:SINad:READing:TYPE
SENSe:SSB:SINad:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:SSB:SINad:READing:TYPE LIVE
SENSe:SSB:SINad:READing:TYPE?
LIVE
```

Query Response: LIVE

13.277 SENSe:SSB:SINad:REFerence:LEVel?

Syntax: SENSe:SSB:SINad:REFerence:LEVel?

Parameter/Return: None

Description: Sets the 0 dB point for dBr readings. Normally use the Set Reference control to fill-in this value.

Example:

```
SENSe:SSB:SINad:REFerence:LEVel?
0
```

13.278 SENSe:SSB:SINad:RESet

Syntax: SENSe:SSB:SINad:RESet

Parameter/Return: None

Description: Resets the Noise Meter plot. This action applies to SINAD, Distortion, and SNR for the demod input.

Example:

```
SENSe:SSB:SINad:RESet
```

13.279 SENSe:SSB:SINad:SCALe

Syntax:

SENSe:SSB:SINad:SCALe
SENSe:SSB:SINad:SCALe?

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB ... -80 dB | -90 dB | -100 dB

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered.

Examples:

```
SENSe:SSB:SINad:SCALe Auto
```

```
SENSe:SSB:SINad:SCALe?
Auto
```

13.280 SENSe:SSB:SINad:SREFerence

Syntax: SENSe:SSB:SINad:SREFerence

Parameter/Return: None

Description: Copies the live reading into the Reference value. Set Noise Units to dBr to see this control.

Example:

```
SENSe:SSB:SINad:SREFerence
```

13.281 SENSe:SSB:SINad:UNIT

Syntax:

SENSe:SSB:SINad:UNIT
SENSe:SSB:SINad:UNIT?

Parameter/Return: dB | dBr

Description: Sets/returns the meter units.

Examples:

```
SENSe:SSB:SINad:UNIT dB
```

```
SENSe:SSB:SINad:UNIT?
dB
```

13.282 SENSe:SSB:SNR:AVERage:COUNt

Syntax:

SENSe:SSB:SNR:AVERage:COUNt
SENSe:SSB:SNR:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see the samples dialog.

Examples:

```
SENSe:SSB:SNR:AVERage:COUNt 1

SENSe:SSB:SNR:AVERage:COUNt?
1
```

13.283 SENSe:SSB:SNR:DELay

Syntax:

SENSe:SSB:SNR:Delay
SENSe:SSB:SNR:Delay?

Parameter/Return: 1.0 to 10.0 sec

Description: Sets/returns the toggle rate for AF Gen (or Mod Gen), required for some receivers (digital) with large latency. Set Hum & Noise Type to Normal. The Speaker icon, Noise setting, Mod Gen: select Audio In, AF Gen: select Demod.

Examples:

```
SENSe:SSB:SNR:DELay 1

SENSe:SSB:SNR:DELay?
1
```

13.284 SENSe:SSB:SNR:NOTCh:BANDwidth

Syntax:

SENSe:SSB:SNR:NOTCh:BANDwidth
SENSe:SSB:SNR:NOTCh:BANDwidth?

Parameter/Return: 10 to 200 Hz

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS. Set the Notch bandwidth in Hz.

Examples:

```
SENSe:SSB:SNR:NOTCh:BANDwidth 82
SENSe:SSB:SNR:NOTCh:BANDwidth?
82
```

13.285 SENSe:SSB:SNR:NOTCh:FREQuency

Syntax:

SENSe:SSB:SNR:NOTCh:FREQuency
SENSe:SSB:SNR:NOTCh:FREQuency?

Parameter/Return: 50 Hz to 40000 Hz

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS. Set the Notch frequency in Hz.

Examples:

```
SENSe:SSB:SNR:NOTCh:FREQuency 300
SENSe:SSB:SNR:NOTCh:FREQuency?
300
```

13.286 SENSe:SSB:SNR:NOTCh:STATe

Syntax:

SENSe:SSB:SNR:NOTCh:STATe
SENSe:SSB:SNR:NOTCh:STATe?

Parameter/Return: 50 Hz to 40000 Hz

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS.

Examples:

```
SENSe:SSB:SNR:NOTCh:STATe 50
SENSe:SSB:SNR:NOTCh:STATe?
50
```

13.287 SENSe:SSB:SNR:READing:TYPE

Syntax:

SENSe:SSB:SNR:READing:TYPE
SENSe:SSB:SNR:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the reading detector characteristics. The “Speaker” routing for Noise selects between Demod/Audio In.

Examples:

```
SENSe:SSB:SNR:READing:TYPE LIVE
SENSe:SSB:SNR:READing:TYPE?
LIVE
```

13.288 SENSe:SSB:SNR:RESet

Syntax: SENSe:SSB:SNR:RESet

Parameter/Return: None

Description: Resets the Noise Meter plot. This action applies to SINAD, Distortion, and SNR.

Example:

```
SENSe:SSB:SNR:RESet
```

13.289 SENSe:SSB:SNR:SCALe

Syntax:

SENSe:SSB:SNR:SCALe
SENSe:SSB:SNR:SCALe?

Parameter/Return: None

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:SSB:SNR:SCALe Auto
SENSe:SSB:SNR:SCALe?
Auto
```

13.290 SENSe:SSB:SNR:SNR:TYPE

Syntax:

SENSe:SSB:SNR:SNR:TYPE
SENSe:SSB:SNR:SNR:TYPE?

Parameter/Return: NORMAL |HUMNOISE

Description: H&N measurement can be performed two way: Auto(Normal), Manual(Hum&Noise). Auto will use the defined delay and switch the generator on-off. Manual will require using the 'Set Reference' to set the dB point. Operate the generator manually.

Examples:

```
SENSe:SSB:SNR:SNR:TYPE NORMAL

SENSe:SSB:SNR:SNR:TYPE?
NORMAL
```

13.291 SENSe:SSB:SNR:SREFerence

Syntax: SENSe:SSB:SNR:SREFerence

Parameter/Return: None

Description: Copies the live reading into the Reference Value. Set Noise Units to dBr to see this control.

Example:

```
SENSe:SSB:SNR:SREFerence
```

13.292 SENSe:SSB:SREFerence

Syntax: SENSe:SSB:SREFerence

Parameter/Return: None

Description: Sets the reference in dBr mode.

Example:

```
SENSe:SSB:SREFerence
```

13.293 SENSe:FM:RESet

Syntax: SENSe:FM:RESet

Parameter/Return: None

Description: Clears the Mod Meter Plot.

Example:

```
SENSe:FM:RESet
```

13.294 SENSe:AM:RESet

Syntax: SENSe:AM:RESet

Parameter/Return: None

Description: Clears the Mod Meter plot.

Example:

```
SENSe:AM:RESet
```

13.295 SENSe:PM:RESet

Syntax: SENSe:PM:RESet

Parameter/Return: None

Description: Clears the Mod Meter Plot.

Example:

```
SENSe:PM:RESet
```

13.296 SENSe:SSB:RESet

Syntax: SENSe:SSB:RESet

Parameter/Return: None

Description: Clears the Mod Meter Plot.

Example:

```
SENSe:SSB:RESet
```

13.297 SENSe:SQUelch:LEVel

Syntax:

SENSe:SQUelch:LEVel
SENSe:SQUelch:LEVel?

Parameter/Return: -150 dBm to 50 dBm

Description: Sets/returns the squelch level.

Examples:

```
SENSe:SQUelch:LEVel -30
SENSe:SQUelch:LEVel
-30
```

13.298 SENSe:SSB:AFCOUNter:AVERage:COUNt

Syntax:

SENSe:SSB:AFCOUNter:AVERage:COUNt
SENSe:SSB:AFCOUNter:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see the input dialog.

Examples:

```
SENSe:SSB:AFCOUNter:AVERage:COUNt 1
SENSe:SSB:AFCOUNter:AVERage:COUNt?
1
```

13.299 SENSe:SSB:AFCOUNter:READing:TYPE

Syntax:

SENSe:SSB:AFCOUNter:READing:TYPE
SENSe:SSB:AFCOUNter:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:SSB:AFCOUNter:READing:TYPE LIVE
SENSe:SSB:AFCOUNter:READing:TYPE?
LIVE
```

13.300 SENSe:SSB:AFCOUNter:RESet

Syntax: SENSe:SSB:AFCOUNter:RESet

Parameter/Return: None

Description: Restarts the AF Counter trace data capture. Need to use Demod source.

Examples:

```
SENSe:SSB:AFCOUNter:RESet
```

13.301 SENSe:SSB:AFCOUNter:SCALe

Syntax:

SENSe:SSB:AFCOUNter:SCALe
SENSe:SSB:AFCOUNter:SCALe?

Parameter/Return: Auto | 10 kHz | 20 kHz | 50 kHz | 100 kHz | 200 kHz | 500 kHz | 1 MHz | 2 MHz | 5 MHz

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:SSB:AFCOUNter:SCALe Auto
SENSe:SSB:AFCOUNter:SCALe?"
Auto
```

13.302 SENSe:SSB:AVERage:COUNt (Obsoleted)

Syntax:

SENSe:SSB:AVERage:COUNt
SENSe:SSB:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Control the number of reading values used to compute the average reading. Need Reading Average active to see input dialog. Ensure that 'Speaker' routing for Noise is set to Demod.

Examples:

```
SENSe:SSB:AVERage:COUNt 1
SENSe:SSB:AVERage:COUNt?
1
```

13.303 SENSe:SSB:DISTortion:NOTCh:BANDwidth

Syntax:

SENSe:SSB:DISTortion:NOTCh:BANDwidth
SENSe:SSB:DISTortion:NOTCh:BANDwidth?

Parameter/Return: 10 to 200 Hz

Description: Sets/returns the distortion notch filter bandwidth. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
SENSe:SSB:DISTortion:NOTCh:BANDwidth 82

SENSe:SSB:DISTortion:NOTCh:BANDwidth?
82
```

13.304 SENSe:SSB:DISTortion:NOTCh:FREQuency

Syntax:

SENSe:SSB:DISTortion:NOTCh:FREQuency
SENSe:SSB:DISTortion:NOTCh:FREQuency?

Parameter/Return: 50 Hz to 40000 Hz

Description: Sets/returns the distortion notch filter frequenct. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
SENSe:SSB:DISTortion:NOTCh:FREQuency 1000

SENSe:SSB:DISTortion:NOTCh:FREQuency?
1000
```

13.305 SENSe:SSB:DISTortion:READing:TYPE

Syntax:

SENSe:SSB:DISTortion:READing:TYPE
SENSe:SSB:DISTortion:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:SSB:DISTortion:READing:TYPE LIVE

SENSe:SSB:DISTortion:READing:TYPE?
LIVE
```

13.306 SENSe:SSB:DISTortion:RESet

Syntax: SENSe:SSB:DISTortion:RESet

Parameter/Return: None

Description: Clears the Noise Meter plot. This action applies to SINAD, Distortion, and SNR for the Demod input.

Example:

```
SENSe:SSB:DISTortion:RESet
```

13.307 SENSe:SSB:DISTortion:SCALe

Syntax:

SENSe:SSB:DISTortion:SCALe
SENSe:SSB:DISTortion:SCALe?

Parameter/Return: Auto | 100 | 50 | 20 | 10

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered. Ensure that 'Speaker' routing for Noise is set to Demod

Examples:

```
SENSe:SSB:DISTortion:SCALe Auto
SENSe:SSB:DISTortion:SCALe?
Auto
```

13.308 SENSe:AM:UNIT

Syntax: SENSe:AM:UNIT?

Parameter/Return:% | dBr

Description: You can query or set the AM units.

Examples:

```
SENSe:AM:UNIT %
SENSe:AM:UNIT?
%
```

13.309 SENSe:FM:AFCOUNter:AVERage:COUNt

Syntax:

SENSe:FM:AFCOUNter:AVERage:COUNt
SENSe:FM:AFCOUNter:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see the input dialog.

Examples:

```
SENSe:FM:AFCOUNter:AVERage:COUNt 1
SENSe:FM:AFCOUNter:AVERage:COUNt?
1
```

13.310 SENSe:FM:AFCOUNter:READing:TYPE

Syntax:

SENSe:FM:AFCOUNter:READing:TYPE

SENSe:FM:AFCOUNter:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The “Speaker” routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:FM:AFCOUNter:READing:TYPE LIVE
SENSe:FM:AFCOUNter:READing:TYPE?
LIVE
```

13.311 SENSe:FM:AFCOUNter:SCALe

Syntax:

SENSe:FM:AFCOUNter:SCALe
SENSe:FM:AFCOUNter:SCALe?

Parameter/Return: Auto | 10 kHz | 20 kHz | 50 kHz | 100 kHz | 200 kHz | 500 kHz | 1 MHz | 2 MHz | 5 MHz

Description: You can change or query the Meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:FM:AFCOUNter:SCALe
SENSe:FM:AFCOUNter:SCALe?
```

13.312 SENSe:FM:AFCOUNter:RESet

Syntax: SENSe:FM:AFCOUNter:RESet

Parameter/Return: None

Description: Restart the AF Counter trace data capture. Need to use Demod source.

Example:

```
SENSe:FM:AFCOUNter:RESet
```

13.313 SENSe:PM:UNIT

Syntax:

SENSe:PM:UNIT

SENSe:PM:UNIT?

Parameter/Return: rad | dBr

Description: Sets/returns the PM units.

Examples:

```
SENSe:PM:UNIT rad
SENSe:PM:UNIT?
rad
```

13.314 SENSe:SSB:UNIT (Obsoleted)

Syntax:

SENSe:SSB:UNIT
SENSe:SSB:UNIT?

Parameter/Return: % | Br

Description: Sets/returns the SSB units.

Examples:

```
SENSe:SSB:UNIT %
SENSe:SSB:UNIT?
%
```

13.315 SENSe:TYPE

Syntax:

SENSe:TYPE
SENSe:TYPE?

Parameter/Return: AM | FM | PM | FM50us | FM75us | FM750us | SSB

Description: Sets/returns the receive demodulator for the desired type. Interacts with Mod Level Type.

Examples:

```
SENSe:TYPE FM
SENSe:TYPE?
FM
```

13.316 SENSe:RFERRor:UNIT

Syntax: SENSe:RFERRor:UNIT?

Parameter/Return: ppm | Hz

Description: Sets/returns the RF Error Meter units. For the RF Error meter, allow Hz or ppm units. ppm is based on the RF Receiver frequency in use.

Examples:

```
SENSe:RFERRor:UNIT Hz
SENSe:RFERRor:UNIT?
Hz
```

13.317 SENSe:RFPOWer:AVERage:COUNt

Syntax:

SENSe:RFPOWer:AVERage:COUNt

SENSe:RFPOWer:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see input dialog..

Examples:

```
SENSe:RFPOWer:AVERage:COUNt 1
SENSe:RFPOWer:AVERage:COUNt?
1
```

13.318 SENSe:RFERRor:SCALe

Syntax:

SENSe:RFERRor:SCALe

SENSe:RFERRor:SCALe?

Parameter/Return: Auto | 10 kHz | 20 kHz | 50 kHz | 100 kHz | 200 kHz | 500 kHz | 1 MHz | 2 MHz | 5 MHz

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered.

Examples:

```
SENSe:RFERRor:SCALe Auto
SENSe:RFERRor:SCALe?
Auto
```

13.319 SENSe:RFERRor:SCALe:PPM

Syntax:

SENSe:RFERRor:SCALe:PPM

SENSe:RFERRor:SCALe:PPM?

Parameter/Return: Auto | 1 ppm | 2 ppm | 5 ppm | 10 ppm | 20 ppm | 50 ppm | 100 ppm

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered.

Example:

```
SENSe:RFERRor:SCALe:PPM Auto
SENSe:RFERRor:SCALe:PPM?
Auto
```

13.320 SENSe:RFERRor:AVERage:COUNt

Syntax:

SENSe:RFERRor:AVERage:COUNt
SENSe:RFERRor:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: You can set or configure the number of reading values used to compute the average reading. Activate Reading Average to see the input dialog.

Examples:

```
SENSe:RFERRor:AVERage:COUNt 1
SENSe:RFERRor:AVERage:COUNt?
1
```

13.321 CALCulate:RFERRor:LIMit:LOWer

Syntax:

CALCulate:RFERRor:LIMit:LOWer

CALCulate:RFERRor:LIMit:LOWer?

Parameter/Return: Float 0 Hz to 150000 Hz

Description: RF Error Meter Lower Limit for Pass/Fail indicators. Use this command for Absolute Freq Counter.

Examples:

```
CALCulate:RFERRor:LIMit:LOWer -1000

CALCulate:RFERRor:LIMit:LOWer?
-1000
```

13.322 CALCulate:RFERRor:LIMit:LOWer:STATe

Syntax:
CALCulate:RFERRor:LIMit:LOWer:STATe
CALCulate:RFERRor:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:RFERRor:LIMit:LOWer:STATe Off

CALCulate:RFERRor:LIMit:LOWer:STATe?
0
```

13.323 CALCulate:RFERRor:LIMit:UPPer

Syntax:

CALCulate:RFERRor:LIMit:UPPer
CALCulate:RFERRor:LIMit:UPPer?

Parameter/Return: Float 0 Hz to 150000 Hz

Description: RF Error Meter upper limit for meter Pass/Fail. Use this command for Absolute Freq Counter.

Examples:

```
CALCulate:RFERRor:LIMit:UPPer 1000
CALCulate:RFERRor:LIMit:UPPer?
1000
```

13.324 CALCulate:RFERRor:LIMit:UPPer:STATe

Syntax:

CALCulate:RFERRor:LIMit:UPPer:STATe
CALCulate:RFERRor:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before

Examples:

```
CALCulate:RFERRor:LIMit:UPPer:STATe Off
CALCulate:RFERRor:LIMit:UPPer:STATe?
0
```

13.325 CALCulate:RFERRor:PPM:LIMit:FAIL?

Syntax: CALCulate:RFERRor:PPM:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the RF Error Meter (ppm) Pass/Fail Status

Example:

```
CALCulate:RFERRor:PPM:LIMit:FAIL?
4
```

13.326 CALCulate:RFERRor:PPM:LIMit:LOWer

Syntax:

CALCulate:RFERRor:PPM:LIMit:LOWer
CALCulate:RFERRor:PPM:LIMit:LOWer?

Parameter/Return: -141.5 to 141.5

Description: Sets/returns the RF Error Meter Lower Limit for Pass/Fail indicators. Use this command for Absolute Freq Counter.

Examples:

```
CALCulate:RFERRor:PPM:LIMit:LOWer -1
CALCulate:RFERRor:PPM:LIMit:LOWer?
-1
```

13.327 CALCulate:RFERRor:PPM:LIMit:UPPer

Syntax:

CALCulate:RFERRor:PPM:LIMit:UPPer

CALCulate:RFERRor:PPM:LIMit:UPPer?

Parameter/Return: -141.5 to 141.5

Description: Sets/returns the RF Error Meter Upper Limit for Pass/Fail indicators. Use this command for Absolute Freq Counter.

Examples:

```
CALCulate:RFERRor:PPM:LIMit:UPPer 1
CALCulate:RFERRor:PPM:LIMit:UPPer?
1
```

13.328 SENSe:RFERRor:ERRor:TYPE

Syntax:

SENSe:RFERRor:ERRor:TYPE
SENSe:RFERRor:ERRor:TYPE?

Parameter/Return: Error | Counter

Description: You can change or query the meter from relative to absolute.

Examples:

```
SENSe:RFERRor:ERRor:TYPE Error
SENSe:RFERRor:ERRor:TYPE?
Error
```

13.329 SENSe:RFERRor:READing:TYPE

Syntax:

SENSe:RFERRor:READing:TYPE

SENSe:RFERRor:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics.

Example:

```
SENSe:RFERRor:READing:TYPE LIVE
SENSe:RFERRor:READing:TYPE?
LIVE
```

13.330 SENSe:RFERRor:RESet

Syntax: SENSe:RFERRor:RESet

Parameter/Return: None

Description: Restart the RF Error trace data capture.

Example:

```
SENSe:RFERRor:RESet
```

13.331 SENSe:RFERRor:SREFerence

Syntax: SENSe:RFERRor:SREFerence

Parameter/Return: None

Description: Copies the live reading into the Reference Value.

Example:

```
SENSe:RFERRor:SREFerence
```

13.332 SENSe:RFCOUNter:SCALe

Syntax:

SENSe:RFCOUNter:SCALe
SENSe:RFCOUNter:SCALe?

Parameter/Return: string: Auto | 5000 MHz to 5 kHz in 5, 2, 1 sequence

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:RFCOUNter:SCALe Auto
```

```
SENSe:RFCOUNter:SCALe?
Auto
```

13.333 SENSe:RFCOUNter:RESet

Syntax: SENSe:RFCOUNter:RESet

Parameter/Return: None

Description: Restart the RF Error trace data capture.

Example:

```
SENSe:RFCOUNter:RESet
```

13.334 CALCulate:AM:PEPOWer:LIMit:LOWer:STATE

Syntax:

CALCulate:AM:PEPOWer:LIMit:LOWer:STATE
CALCulate:AM:PEPOWer:LIMit:LOWer:STATE?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value. RF Power set to PEP. Receiver demod needs to be set to AM. RF power set to PEP.

Examples:

```
CALCulate:AM:PEPOWer:LIMit:LOWer:STATE Off
```

```
CALCulate:AM:PEPOWer:LIMit:LOWer:STATe?
0
```

13.335 CALCulate:AM:PEPOWer:LIMit:LOWer

Syntax:

CALCulate:AM:PEPOWer:LIMit:LOWer
CALCulate:AM:PEPOWer:LIMit:LOWer?

Parameter/Return: float: -120 dBm to 60 dBm

Description: Sets/returns Lower limit for Pass/Fail indicators. Value depends on unit selection and scale. Receiver demod needs to be set to AM. RF power set to PEP.

Example:

```
CALCulate:AM:PEPOWer:LIMit:LOWer
CALCulate:AM:PEPOWer:LIMit:LOWer?
```

13.336 CALCulate:AM:PEPOWer:LIMit:UPPer:STATe

Syntax:
CALCulate:AM:PEPOWer:LIMit:UPPer:STATe
CALCulate:AM:PEPOWer:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the upper limit for Pass/Fail indicators. Values depend on unit selection and scale. AM PEP upper limit for meter Pass/Fail. Receiver demod needs to be set to AM. RF Power set to PEP.

Example:

```
CALCulate:AM:PEPOWer:LIMit:UPPer:STATe Off
CALCulate:AM:PEPOWer:LIMit:UPPer:STATe?
0
```

13.337 CALCulate:AM:SINad:DBR:LIMit:LOWer

Syntax:

CALCulate:AM:SINad:DBR:LIMit:LOWer
CALCulate:AM:SINad:DBR:LIMit:LOWer?

Parameter/Return: On|Off|1|0

Description: Sets/returns the SINAD Meter (dBr) Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:AM:SINad:DBR:LIMit:LOWer Off

CALCulate:AM:SINad:DBR:LIMit:LOWer ?
0
```

13.338 CALCulate:AM:SINad:DBR:LIMit:UPPer

Syntax:

CALCulate:AM:SINad:DBR:LIMit:UPPer
CALCulate:AM:SINad:DBR:LIMit:UPPer?

Parameter/Return: On|Off|1|0

Description: Sets/returns the SINAD Meter (dBr) Upper Limit for Pass/Fail indicators.

Examples:

```
CALCulate:AM:SINad:DBR:LIMit:UPPer Off
CALCulate:AM:SINad:DBR:LIMit:UPPer?
0
```

13.339 CALCulate:AM:SINad:LIMit:FAIL?

Syntax: CALCulate:AM:SINad:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the AM SINAD meter Pass/Fail status.

Example:

```
CALCulate:AM:SINad:LIMit:FAIL?
0
```

13.340 CALCulate:AM:SINad:LIMit:LOWer

Syntax:

CALCulate:AM:SINad:LIMit:LOWer
CALCulate:AM:SINad:LIMit:LOWer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:AM:SINad:LIMit:LOWer 0
CALCulate:AM:SINad:LIMit:LOWer?
0
```

13.341 CALCulate:AM:SINad:LIMit:UPPer

Syntax:

CALCulate:AM:SINad:LIMit:UPPer

CALCulate:AM:SINad:LIMit:UPPer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Upper Limit for Pass/Fail indicators.

Examples:

```
CALCulate:AM:SINad:LIMit:UPPer 60
CALCulate:AM:SINad:LIMit:UPPer?
60
```

13.342 CALCulate:AM:SINad:LIMit:UPPer:STATe

Syntax:

CALCulate:AM:SINad:LIMit:UPPer:STATe
CALCulate:AM:SINad:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn on this feature before setting upper limit value.

Examples:

```
CALCulate:AM:SINad:LIMit:UPPer:STATe Off
CALCulate:AM:SINad:LIMit:UPPer:STATe?
0
```

13.343 CALCulate:AM:SNR:LIMit:FAIL?

Syntax:

CALCulate:AM:SNR:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3- Fail Low

Description: You can query the AM Hum and Noise Meter Pass/Fail status.

Examples:

CALCulate:AM:SNR:LIMit:FAIL?
0

13.344 CALCulate:AM:SNR:LIMit:LOWer?

Syntax: CALCulate:AM:SNR:LIMit:LOWer?

Parameter/Return: -100.0 dB to 100.0 dB

Description: You can query the AM Hum and Noise Meter Pass/Fail status.

Examples:

```
CALCulate:AM:SNR:LIMit:LOWer?
10
```

13.345 CALCulate:AM:SNR:LIMit:LOWer:STATe

Syntax:

CALCulate:AM:SNR:LIMit:LOWer:STATe
CALCulate:AM:SNR:LIMit:LOWer:STATe?

Parameter/Return: Off|On|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:AM:SNR:LIMit:LOWer:STATe Off
CALCulate:AM:SNR:LIMit:LOWer:STATe?
0
```

13.346 CALCulate:AM:SNR:LIMit:UPPer

Syntax:

CALCulate:AM:SNR:LIMit:UPPer

CALCulate:AM:SNR:LIMit:UPPer?

Parameter/Return: -100 dBr to 100 dBr

Description: Sets/returns the Hum and Noise upper limit for meter Pass/Fail.

Examples:

```
CALCulate:AM:SNR:LIMit:UPPer 100
CALCulate:AM:SNR:LIMit:UPPer?
100
```

13.347 CALCulate:AM:SNR:LIMit:UPPer:STATe

Syntax:

CALCulate:AM:SNR:LIMit:UPPer:STATe
CALCulate:AM:SNR:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Hum and Noise upper limit for meter Pass/Fail.

Examples:

```
CALCulate:AM:SNR:LIMit:UPPer:STATe Off
CALCulate:AM:SNR:LIMit:UPPer:STATe?
0
```

13.348 SENSe:AM:PEPOWer:UNIT

Syntax:

SENSe:AM:PEPOWer:UNIT

SENSe:AM:PEPOWer:UNIT?

Parameter/Return: dBm | W | dBW | dBr | V | dBuV

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value. Receiver demod needs to be set to AM. RF power is set to PEP.

Example:

```
SENSe:AM:PEPOWer:UNIT dBm
SENSe:AM:PEPOWer:UNIT?
dBm
```

13.349 CALCulate:AM:dBr:LIMit:UPPer

Syntax:

CALCulate:AM:dBr:LIMit:UPPer
CALCulate:AM:dBr:LIMit:UPPer?

Parameter/Return: -100 to 100 dB

Description: Sets/returns the AM dBr upper limit.

Examples:

```
CALCulate:AM:dBr:LIMit:UPPer 100
CALCulate:AM:dBr:LIMit:UPPer?
100
```

13.350 CALCulate:FM:AFCOUNter:LIMit:FAIL?

Syntax: CALCulate:FM:AFCOUNter:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the FM AF Counter Meter Pass/Fail Status.

Example:

```
CALCulate:FM:AFCOUNter:LIMit:FAIL?
0
```

13.351 CALCulate:FM:AFCOUNter:LIMit:LOWer

Syntax:

CALCulate:FM:AFCOUNter:LIMit:LOWer

CALCulate:FM:AFCOUNter:LIMit:LOWer?

Parameter/Return: 0 Hz to 40000 Hz

Description: Sets/returns the FM AF Counter Meter Lower Limit.

Examples:

```
CALCulate:FM:AFCOUNter:LIMit:LOWer 10
CALCulate:FM:AFCOUNter:LIMit:LOWer?
10
```

13.352 CALCulate:FM:AFCOUNter:LIMit:LOWer:STATe?

Syntax:

CALCulate:FM:AFCOUNter:LIMit:LOWer:STATe
CALCulate:FM:AFCOUNter:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|0

Description: You can query or set the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:FM:AFCOUNter:LIMit:LOWer:STATe Off
CALCulate:FM:AFCOUNter:LIMit:LOWer:STATe?
0
```

13.353 CALCulate:FM:AFCOUNter:LIMit:UPPer

Syntax:

CALCulate:FM:AFCOUNter:LIMit:UPPer

CALCulate:FM:AFCOUNter:LIMit:UPPer?

Parameter/Return: 0 Hz to 40000 Hz

Description: Sets/returns the FM AF Counter Meter Lower Limit.

Examples:

```
CALCulate:FM:AFCOUNter:LIMit:Upper 10000
CALCulate:FM:AFCOUNter:LIMit:UPPer?
10000
```

13.354 CALCulate:FM:AFCOUNter:LIMit:UPPer:STATe

Syntax:

CALCulate:FM:AFCOUNter:LIMit:UPPer:STATe
CALCulate:FM:AFCOUNter:LIMit:UPPer:STATe?

Parameter/Return: On|Off|1|0

Description: You can query or set the Upper Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:FM:AFCOUNter:LIMit:UPPer:STATe Off
CALCulate:FM:AFCOUNter:LIMit:UPPer:STATe?
0
```

13.355 SENSe:RFPOWer:UNIT

Syntax:

SENSe:RFPOWer:UNIT

SENSe:RFPOWer:UNIT?

Parameter/Return: dBm | W | dBW | dBr | V | dBuV

Description: Sets/returns the meter units.

Examples:

```
SENSe:RFPOWer:UNIT dBm
SENSe:RFPOWer:UNIT?
dBm
```

13.356 SENSe:RFPOWer:SCALe

Syntax:

SENSe:RFPOWer:SCALe
SENSe:RFPOWer:SCALe?

Parameter/Return: Auto | 60 dBm | 50 dBm | 40 dBm ... -80 dBm | -90 dBm | -100 dBm

Description: Sets/returns the meter scale to center readings. Auto will change the scale to keep measurement centered.

Examples:

```
SENSe:RFPOWer:SCALe Auto

SENSe:RFPOWer:SCALe?
AUto
```

13.357 SENSe:RFPOWer:SCALe:WATT

Syntax:

SENSe:RFPOWer:SCALe:WATT

SENSe:RFPOWer:SCALe:WATT?

Parameter/Return: Auto|1 pW - 200 W in 1,2,5 sequence

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered.

Example:

```
SENSe:RFPOWer:SCALe:WATT Auto
SENSe:RFPOWer:SCALe:WATT?
Auto
```

13.358 SENSe:RFPOWer:SCALe:DBW

Syntax:

SENSe:RFPOWer:SCALe:DBW
SENSe:RFPOWer:SCALe:DBW?

Parameter/Return: Auto|-90 dBw to 60 dBw in 10 dB steps

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:RFPOWer:SCALe:DBW Auto

SENSe:RFPOWer:SCALe:DBW?
Auto
```

13.359 SENSe:RFPOWer:SCALe:VOLTs

Syntax:

SENSe:RFPOWer:SCALe:VOLTs
SENSe:RFPOWer:SCALe:VOLTs?

Parameter/Return: Auto | 200 V | 100 V | 50 V ... 5 pV | 2 pV | 1 pV

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:RFPOWer:SCALe:VOLTs Auto

SENSe:RFPOWer:SCALe:VOLTs?"
Auto
```

13.360 SENSe:RFPOWer:SCALe:WATTs

Syntax:

SENSe:RFPOWer:SCALe:WATTs
SENSe:RFPOWer:SCALe:WATTs?

Parameter/Return: Auto | 200 W | 100 W | 50 W ... 5 pW | 2 pW | 1 pW

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:RFPOWer:SCALe:WATTs Auto

SENSe:RFPOWer:SCALe:WATTs?"
Auto
```

13.361 SENSe:RFPOWer:SCALe:DBR

Syntax:

SENSe:RFPOWer:SCALe:DBR
SENSe:RFPOWer:SCALe:DBR?

Parameter/Return: Auto | 200 dBr | 100 dBr | 50 dBr ... -80 dBr | -90 dBr | -100 dBr

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered.

Examples:

```
SENSe:RFPOWer:SCALe:DBR Auto

SENSe:RFPOWer:SCALe:DBR?
Auto
```

13.362 SENSe:RFPOWer:SCALe:DBUV

Syntax:

SENSe:RFPOWer:SCALe:DBUV
SENSe:RFPOWer:SCALe:DBUV?

Parameter/Return: Auto | 150 dBuV | 140 dBuV | 130 dBuV ... -80 dBuV | -90 dBuV | -100 dBuV

Description: Sets/returns the meter scale. Auto changes the scale to keep measurement centered.

Examples:

```
SENSe:RFPOWer:SCALe:DBUV Auto
SENSe:RFPOWer:SCALe:DBUV?”
Auto
```

13.363 SENSe:RFPOWer:SCALe:VOLT

Syntax:

SENSe:RFPOWer:SCALe:VOLT
SENSe:RFPOWer:SCALe:VOLT?

Parameter/Return: Auto|1 pV to 200 V in 1,2,5 sequence

Description: Sets/returns the meter scale, Auto will change the scale to keep measurement centered.

Example:

```
SENSe:RFPOWer:SCALe:VOLT
SENSe:RFPOWer:SCALe:VOLT?
Auto
```

13.364 CALCulate:RFPOWer:LIMit:LOWer:STATe

Syntax:

CALCulate:RFPOWer:LIMit:LOWer:STATe
CALCulate:RFPOWer:LIMit:LOWer:STATe?

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit State. Turn this feature on before setting the Lower Limit value.

Examples:

```
CALCulate:RFPOWer:LIMit:LOWer:STATe Off
CALCulate:RFPOWer:LIMit:LOWer:STATe?
0
```

13.365 CALCulate:RFPOWer:LIMit:LOWer

Syntax:

CALCulate:RFPOWer:LIMit:LOWer

CALCulate:RFPOWer:LIMit:LOWer?

Parameter/Return: Float: -130 dBm to 60 dBm

Description: You can set the Rec dBm Power Reading Lower Limit for Pass/Fail indocators. Turn on the Lower Limit State to view this parameter.

Examples:

```
CALCulate:RFPOWer:LIMit:LOWer -30
CALCulate:RFPOWer:LIMit:LOWer?
-30
```

13.366 CALCulate:RFPOWer:DBW:LIMit:LOWer

Syntax:

CALCulate:RFPOWer:DBW:LIMit:LOWer

CALCulate:RFPOWer:DBW:LIMit:LOWer?

Parameter/Return: -160 dBW to 30dBW

Description: Sets/returns the Rec dBW Power Reading Lower Limit for Pass/Fail indicators. Turn on the Lower Limit State to view this parameter.

Examples:

```
CALCulate:RFPOWer:DBW:LIMit:LOWer -30
CALCulate:RFPOWer:DBW:LIMit:LOWer?
-30
```

13.367 CALCulate:RFPOWer:DBR:LIMit:LOWer

Syntax:

CALCulate:RFPOWer:DBR:LIMit:LOWer

CALCulate:RFPOWer:DBR:LIMit:LOWer?

Parameter/Return: float: -100 dB to 100 dB

Description: Rec dBr power reading Lower Limit for Pass/Fail indicators. Turn on the Lower Limit State to view this parameter.

Examples:

```
CALCulate:RFPOWer:DBR:LIMit:LOWer 10
CALCulate:RFPOWer:DBR:LIMit:LOWer?
10
```

13.368 CALCulate:RFPOWer:DBUV:LIMit:LOWer

Syntax:

CALCulate:RFPOWer:DBUV:LIMit:LOWer
CALCulate:RFPOWer:DBUV:LIMit:LOWer?

Parameter/Return: Float: -23 dBuV to 1676 dBuV

Description: Rec dBuV power reading Lower Limit for Pass/Fail indicators. Need to have the lower limit state turned on to view this parameter.

Examples:

```
CALCulate:RFPOWer:DBUV:LIMit:LOWer -30
CALCulate:RFPOWer:DBUV:LIMit:LOWer?
-30
```

13.369 CALCulate:RFPOWer:LIMit:FAIL?

Syntax:

CALCulate:RFPOWer:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the RF Power Meter Pass/Fail Status.

Example:

```
CALCulate:RFPOWer:LIMit:FAIL?
0
```

13.370 CALCulate:RFPOWer:VOLT:LIMit:LOWer

Syntax:

CALCulate:RFPOWer:VOLT:LIMit:LOWer
CALCulate:RFPOWer:VOLT:LIMit:LOWer?

Parameter/Return: Float: 0 V to 223.6 V

Description: Sets/returns the Rec Volt power reading Lower Limit for Pass/Fail indocators. Need to have the lower limit state turned on to view this paramter.

Examples:

```
CALCulate:RFPOWer:VOLT:LIMit:LOWer 30
CALCulate:RFPOWer:VOLT:LIMit:LOWer?
30
```

13.371 CALCulate:RFPOWer:LIMit:UPPer:STATe

Syntax:

CALCulate:RFPOWer:LIMit:UPPer:STATe
CALCulate:RFPOWer:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 2

Description: Sets/returns the Upper Limit state. Turn this feature on before setting the upper limit value.

Examples:

```
CALCulate:RFPOWer:LIMit:UPPer:STATe Off
CALCulate:RFPOWer:LIMit:UPPer:STATe?
0
```

13.372 CALCulate:RFPOWer:LIMit:UPPer

Syntax:

CALCulate:RFPOWer:LIMit:UPPer

CALCulate:RFPOWer:LIMit:UPPer?

Parameter/Return: Float: -130 dBm to 60 dBm

Description: Sets/returns the RF Power Meter upper limit for meter Pass/Fail.

Example:

```
CALCulate:RFPOWer:LIMit:UPPer 30
CALCulate:RFPOWer:LIMit:UPPer?
30
```

13.373 CALCulate:RFPOWer:DBW:LIMit:UPPer

Syntax:

CALCulate:RFPOWer:DBW:LIMit:UPPer
CALCulate:RFPOWer:DBW:LIMit:UPPer?

Parameter/Return: Float: -160 dBuW to 30 dBuW

Description: Sets/returns the RF Power Meter dBW upper limit for meter Pass/Fail.

Example:

```
CALCulate:RFPOWer:DBW:LIMit:UPPer 30
CALCulate:RFPOWer:DBW:LIMit:UPPer?
30
```

13.374 CALCulate:RFPOWer:DBR:LIMit:UPPer

Syntax:

CALCulate:RFPOWer:DBR:LIMit:UPPer
CALCulate:RFPOWer:DBR:LIMit:UPPer?

Parameter/Return: Float -100 dB to 100 dB

Description: Sets/returns the RF Power Meter dBr Upper Limit for meter Pass/Fail.

Example:

```
CALCulate:RFPOWer:DBR:LIMit:UPPer 30
CALCulate:RFPOWer:DBR:LIMit:UPPer?
30
```

13.375 CALCulate:RFPOWer:DBUV:LIMit:UPPer

Syntax:

CALCulate:RFPOWer:DBUV:LIMit:UPPer
CALCulate:RFPOWer:DBUV:LIMit:UPPer?

Parameter/Return: Float: -23 dBuV to 167 dBuV

Description: Sets/returns the RF Power Meter dBuV upper limit for meter Pass/Fail.

Examples:

```
CALCulate:RFPOWer:DBUV:LIMit:UPPer 30
```

```
CALCulate:RFPOWer:DBUV:LIMit:UPPer?
30
```

13.376 CALCulate:RFPOWer:WATTs:LIMit:LOWer

Syntax:

CALCulate:RFPOWer:WATTs:LIMit:LOWer
CALCulate:RFPOWer:WATTs:LIMit:LOWer?

Parameter/Return: Float: 1e-16 W to 1000 W

Description: Sets/returns the RF Power Meter dBuV lower limit for meter Pass/Fail.

Examples:

```
CALCulate:RFPOWer:WATTs:LIMit:LOWer 0.001
```

```
CALCulate:RFPOWer:WATTs:LIMit:LOWer?
0.001
```

13.377 CALCulate:RFPOWer:WATTs:LIMit:UPPer

Syntax:
CALCulate:RFPOWer:WATTs:LIMit:UPPer
CALCulate:RFPOWer:WATTs:LIMit:UPPer?

Parameter/Return: Float: 1e-16 W to 1000 W

Description: Sets/returns the RF Power Meter dBuV upper limit for meter Pass/Fail.

Examples:

```
CALCulate:RFPOWer:WATTs:LIMit:UPPer 30
CALCulate:RFPOWer:WATTs:LIMit:UPPer?
30
```

13.378 CALCulate:RFPOWer:VOLT:LIMit:UPPer

Syntax:

CALCulate:RFPOWer:VOLT:LIMit:UPPer
CALCulate:RFPOWer:VOLT:LIMit:UPPer?

Parameter/Return: Float 0 V to 223.6 V

Description: You can query or set the RF Power Meter Volt upper limit for meter Pass/Fail.

Examples:

```
CALCulate:RFPOWer:VOLT:LIMit:UPPer 30
CALCulate:RFPOWer:VOLT:LIMit:UPPer?
30
```

13.379 SENSe:RFPOWer:REFerence:LEVel?

Syntax: SENSe:RFPOWer:REFerence:LEVel?

Parameter/Return: None

Description: When using dBr units, this is the 0 dB point. This value can be set manually. Typically the Set Reference button will use the current live reading for a reference value.

Example:

```
SENSe:RFPOWer:REFerence:LEVel?
0
```

13.380 SENSe:RFPOWer:READing:TYPE

Syntax:

SENSe:RFPOWer:READing:TYPE

SENSe:RFPOWer:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the reading detector characteristics.

Examples:

```
SENSe:RFPOWer:READing:TYPE LIVE
SENSe:RFPOWer:READing:TYPE?
LIVE
```

13.381 SENSe:RFPOWer:MODE

Syntax:

SENSe:RFPOWer:MODE
SENSe:RFPOWer:MODE?

Parameter/Return: Rssi | PEP

Description: Sets/returns the reading mode.

Examples:

```
SENSe:RFPOWer:MODE PEP
SENSe:RFPOWer:MODE?
PEP
```

13.382 SENSe:RFPOWer:RESet

Syntax: SENSe:RFPOWer:RESet

Parameter/Return: None

Description: Restart the RF Power trace data capture.

Example:

```
SENSe:RFPOWer:RESet
```

13.383 SENSe:RFPOWer:SREFerence

Syntax: SENSe:RFPOWer:SREFerence

Parameter/Return: None

Description: Sets the power meter reference level.

Example:

```
SENSe:RFPOWer:SREFerence
```

13.384 SENSe:AM:READing:TYPE

Syntax: SENSe:AM:READing:TYPE

Parameter/Return: Live|Average|Min|Max

Description: Sets the analog demodulation reading type.

Example:

```
SENSe:AM:READing:TYPE
```

13.385 SENSe:AM:PEAKPos:READing:TYPE

Syntax: SENSe:AM:PEAKPos:READing:TYPE

Parameter/Return: Live|Average|Min|Max

Description: Sets the analog demodulation reading type.

Example:

```
SENSe:AM:PEAKPos:READing:TYPE
```

13.386 SENSe:AM:PEAKNeg:READing:TYPE

Syntax: SENSe:AM:PEAKNeg:READing:TYPE

Parameter/Return: Live|Average|Min|Max

Description: Sets the analog demodulation reading type.

Example:

```
SENSe:AM:PEAKNeg:READing:TYPE
```

13.387 SENSe:AM:RMS:READing:TYPE

Syntax: SENSe:AM:RMS:READing:TYPE

Parameter/Return: Live|Average|Min|Max

Description: Sets the analog demodulation reading type.

Example:

```
SENSe:AM:RMS:READing:TYPE
```

13.388 SENSe:FM:READing:TYPE

Syntax: SENSe:FM:READing:TYPE

Parameter/Return: Live|Average|Min|Max

Description: Sets the analog demodulation reading type.

Example:

```
SENSe:FM:READing:TYPE
```

13.389 SENSe:FM:PEAKPos:READing:TYPE

Syntax: SENSe:FM:PEAKPos:READing:TYPE

Parameter/Return: Live|Average|Min|Max

Description: Sets the analog demodulation reading type.

Example:

```
SENSe:FM:PEAKPos:READing:TYPE
```

13.390 SENSe:FM:PEAKNeg:READing:TYPE

Syntax: SENSe:FM:PEAKNeg:READing:TYPE

Parameter/Return: Live|Average|Min|Max

Description: Sets the analog demodulation reading type.

Example:

```
SENSe:FM:PEAKNeg:READing:TYPE
```

13.391 SENSe:FM:RMS:READing:TYPE

Syntax: SENSe:FM:RMS:READing:TYPE

Parameter/Return: Live|Average|Min|Max

Description: Sets the analog demodulation reading type.

Example:

```
SENSe:FM:RMS:READing:TYPE
```

13.392 SENSe:PM:READing:TYPE

Syntax: SENSe:PM:READing:TYPE

Parameter/Return: Live|Average|Min|Max

Description: Sets the analog demodulation reading type.

Example:

```
SENSe:PM:READing:TYPE
```

13.393 SENSe:PM:PEAKPos:READing:TYPE

Syntax: SENSe:PM:PEAKPos:READing:TYPE

Parameter/Return: Live|Average|Min|Max

Description: Sets the analog demodulation reading type.

Example:

```
SENSe:PM:PEAKPos:READing:TYPE
```

13.394 SENSe:PM:PEAKNeg:READing:TYPE

Syntax: SENSe:PM:PEAKNeg:READing:TYPE

Parameter/Return: Live|Average|Min|Max

Description: Sets the analog demodulation reading type.

Example:

```
SENSe:PM:PEAKNeg:READing:TYPE
```

13.395 SENSe:PM:RMS:READing:TYPE

Syntax: SENSe:PM:RMS:READing:TYPE

Parameter/Return: Live|Average|Min|Max

Description: Sets the analog demodulation reading type.

Example:

```
SENSe:PM:RMS:READing:TYPE
```

14

Analog Input Commands

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14.1 ROUTe:SOURce

Syntax:

ROUTe:SOURce
ROUTe:SOURce?

Parameter/Return: AudioIn1|AudioIn2|Acc|AudioInBalanced|Fgen

Description: Sets/returns Select the input signal hardware configuration. Fgen is an internal path to the function generator

Example:

```
ROUTe:SOURce AudioIn1
ROUTe:SOURce?
AudioIn1
```

14.2 ROUTe:ANDX:SOURce

Syntax:

ROUTe:ANDX:SOURce
ROUTe:ANDX:SOURce?

Parameter/Return: AudioIn1 | AudioIn2 | AudioInBalanced | Acc | Fgen

Description: You can select or query the input signal hardware configuration. Fgen is an internal path to the function generator.

Example:

```
ROUTe:ANDX:SOURce AudioIn1
ROUTe:ANDX:SOURce?
AudioIn1
```

14.3 ROUTe:ANTX:SOURce

Syntax:

ROUTe:ANTX:SOURce
ROUTe:ANTX:SOURce?

Parameter/Return: AudioIn1 | AudioIn2 | AudioInBalanced | Acc | Fgen

Description: You can select or query the input signal hardware configuration. Fgen is an internal path to the function generator.

Example:

```
ROUTe:ANTX:SOURce AudioIn1
ROUTe:ANTX:SOURce?
AudioIn1
```

14.4 ROUTe:SOURce

Syntax:
ROUTe:SOURce
ROUTe:SOURce?

Parameter/Return: AudioIn1 | AudioIn2 | AudioInBalanced | Acc | Fgen

Description: Sets/returns the input signal hardware configuration. Fgen is an internal path to the function generator.

Example:

```
ROUTe:SOURce AudioIn1

ROUTe:SOURce?
AudioIn1
```

14.5 ROUTe:P25DX:SOURce

Syntax:

ROUTe:P25DX:SOURce
ROUTe:P25DX:SOURce?

Parameter/Return: AudioIn1 | AudioIn2 | AudioInBalanced | Acc | Fgen

Description: Sets/returns the input signal hardware configuration. Fgen is an internal path to the function generator.

Example:

```
ROUTe:P25DX:SOURce AudioIn1

ROUTe:P25DX:SOURce?
AudioIn1
```

14.6 ROUTe:P25TX:SOURce

Syntax:

ROUTe:P25TX:SOURce
ROUTe:P25TX:SOURce?

Parameter/Return: AudioIn1 | AudioIn2 | AudioInBalanced | Acc | Fgen

Description: Sets/returns the input signal hardware configuration. Fgen is an internal path to the function generator.

Example:

```
ROUTe:P25TX:SOURce AudioIn1

ROUTe:P25TX:SOURce?
AudioIn1
```

14.7 ROUTe:P25RX:SOURce

Syntax:

ROUTe:P25RX:SOURce
ROUTe:P25RX:SOURce?

Parameter/Return: AudioIn1 | AudioIn2 | AudioInBalanced | Acc | Fgen

Description: Sets/returns the input signal hardware configuration. Fgen is an internal path to the function generator.

Example:

```
ROUTe:P25RX:SOURce Fgen

ROUTe:P25RX:SOURce?
Fgen
```

14.8 ROUTe:PFILTer

Syntax:

ROUTe:PFILTer
ROUTe:PFILTer?

Parameter/Return: None | CMSG | CCITT

Description: Audio input signal conditioning using a weighted filter. When active, will disable the HPF and LPF operations

Example:

```
ROUTe:PFILTer NONE

ROUTe:PFILTer?
NONE
```

14.9 ROUTe:HFILTer

Syntax:

ROUTe:HFILTer
ROUTe:HFILTer?

Parameter/Return: NONE|HP50HZ|HP300HZ

Description: —

Example:

```
ROUTe:HFILTer HP50HZ
ROUTe:HFILTer?
HP50HZ
```

14.10 ROUTe:LFILTer

Syntax:

ROUTe:LFILTer
ROUTe:LFILTer?

Parameter/Return: NONE | LP300HZ | LP3KHZ | LP3P4KHZ | LP5KHZ | LP15KHZ | LP20KHZ | LP40KHZ

Description: Sets/returns the audio in signal low-pass filter characteristics.

Example:

```
ROUTe:LFILTer LP40KHZ
ROUTe:LFILTer?
LP40KHZ
```

14.11 ROUTe:RANGe

Syntax:

ROUTe:RANGe
ROUTe:RANGe?

Parameter/Return: Volt_2 | Volt_20 | Volt_200

Description: Sets/returns the Audio input signal scaling.

Example:

```
ROUTe:RANGe Volt_200
ROUTe:RANGe?
Volt_200
```

14.12 ROUTe:AUD1:IMPedance

Syntax:

ROUTe:AUD1:IMPedance
ROUTe:AUD1:IMPedance?

Parameter/Return: Ohm100 | Ohm600 | Ohm300

Description: Sets/returns built-in resistive loads on the signal input path.

Example:

```
ROUTe:AUD1:IMPedance Ohm300
ROUTe:AUD1:IMPedance?
Ohm300
```

14.13 ROUTe:AUD2:IMPedance

Syntax:

ROUTe:AUD2:IMPedance
ROUTe:AUD2:IMPedance?

Parameter/Return: Ohm100 | Ohm600 | Ohm300

Description: Sets/returns built-in resistive loads on the signal input path.

Example:

```
ROUTe:AUD2:IMPedance Ohm300
ROUTe:AUD2:IMPedance?
Ohm300
```

14.14 ROUTe:ACCessory:IMPedance

Syntax:

ROUTe:ACCessory:IMPedance
ROUTe:ACCessory:IMPedance?

Parameter/Return: Ohm300|Ohm600|KOhm100

Description: —

Example:

```
ROUTe:ACCessory:IMPedance Ohm300
ROUTe:ACCessory:IMPedance?
Ohm300
```

14.15 ROUTe:BALanced:IMPedance

Syntax:

ROUTe:BALanced:IMPedance
ROUTe:BALanced:IMPedance?

Parameter/Return: Ohm100 | Ohm600 | Ohm300

Description: You can configure or query built-in resistive loads on the signal input path.

Example:

```
ROUTe:BALanced:IMPedance Ohm600
ROUTe:BALanced:IMPedance?
Ohm600
```

14.16 ROUTe:COUPling

Syntax:

ROUTe:COUPling
ROUTe:COUPling?

Parameter/Return: Ac | Dc

Description: The input signal coupling is used in concert with the speaker icon to route signals to baseband meters.

Example:

```
ROUTe:COUPling Ac

ROUTe:COUPling?
Ac
```

14.17 ROUTe:EXTernal:TRIGger:IN:POLarity

Syntax:

ROUTe:EXTernal:TRIGger:IN:POLarity
ROUTe:EXTernal:TRIGger:IN:POLarity?

Parameter/Return: NONE | HP50HZ | HP300HZ

Description: Sets/returns the audio in signal high-pass filter characteristics.

Example:

```
ROUTe:EXTernal:TRIGger:IN:POLarity HP50HZ

ROUTe:EXTernal:TRIGger:IN:POLarity?
HP50HZ
```

14.18 SENSe:AFCOUNter:AVERage:COUNt

Syntax:

SENSe:AFCOUNter:AVERage:COUNt
SENSe:AFCOUNter:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see input dialog.

Example:

```
SENSe:AFCOUNter:AVERage:COUNt 15

SENSe:AFCOUNter:AVERage:COUNt?
15
```

14.19 SENSe:AFCOUNter:READing:TYPE

Syntax:

SENSe:AFCOUNter:READing:TYPE
SENSe:AFCOUNter:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns tthe reading detector characteristics. The 'Speaker' routing for AF Counter should be set to Audio In.

Example:

```
SENSe:AFCOUNter:READing:TYPE AVG

SENSe:AFCOUNter:READing:TYPE?
AVG
```

14.20 SENSe:AFCOUNter:RESet

Syntax: SENSe:AFCOUNter:RESet

Parameter/Return: None

Description: Reset the AF counter.

Example:

```
SENSe:AFCOUNter:RESet
```

14.21 SENSe:AFCOUNter:READing:TYPE

Syntax:

SENSe:AFCOUNter:READing:TYPE
SENSe:AFCOUNter:READing:TYPE?

Parameter/Return: Auto | 100 Hz | 200 Hz | 500 Hz | 1 kHz | 2 kHz | 5 kHz | 10 kHz | 20 kHz | 50 kHz

Description: Sets/returns the meter scale, Auto will change the scale to keep measurement centered. The 'Speaker' routing for AF Counter should.

Example:

```
SENSe:AFCOUNter:READing:TYPE Auto

SENSe:AFCOUNter:READing:TYPE?
Auto
```

14.22 SENSe:AFLEVel:AVERage:COUNt

Syntax:

SENSe:AFLEVel:AVERage:COUNt
SENSe:AFLEVel:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see input dialog.

Example:

```
SENSe:AFLEVel:AVERage:COUNt 20

SENSe:AFLEVel:AVERage:COUNt?
20
```

14.23 SENSe:AFLEVel:READing:TYPE

Syntax:

SENSe:AFLEVel:READing:TYPE
SENSe:AFLEVel:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the reading detector characteristics. The 'Speaker' routing for AF Level will select the various Audio In selections.

Example:

```
SENSe:AFLEVel:READing:TYPE AVG

SENSe:AFLEVel:READing:TYPE?
AVG
```

14.24 SENSe:AFLEVel:RESet

Syntax: SENSe:AFLEVel:RESet

Parameter/Return: None

Description: Resets the AF Level meter.

Example:

```
SENSe:AFLEVel:READing:TYPE
```

14.25 SENSe:AFLEVel:RLEVel

Syntax: SENSe:AFLEVel:RLEVel

Parameter/Return: None

Description: Set the 0 dB power used in dBr readings. Normally use Set Reference button to automatically set this value.

Example:

```
SENSe:AFLEVel:RLEVel
```

14.26 SENSe:AFLEVel:SCALe:DBM

Syntax:

SENSe:AFLEVel:SCALe:DBM
SENSe:AFLEVel:SCALe:DBM?

Parameter/Return: Auto | 60 dB | 50 dB ... -90 dB | -100 dB

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered. Can use the external load control.

Example:

```
SENSe:AFLEVel:SCALe:DBM Auto
SENSe:AFLEVel:SCALe:DBM?
Auto
```

14.27 SENSe:AFLEVel:SCALe:DBR

Syntax:

SENSe:AFLEVel:SCALe:DBR
SENSe:AFLEVel:SCALe:DBR?

Parameter/Return: Auto | 60 dB | 50 dB ... -90 dB | -100 dB

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered. Will use the Set Reference button to establish 0 dB.

Example:

```
SENSe:AFLEVel:SCALe:DBR Auto
SENSe:AFLEVel:SCALe:DBR?
Auto
```

14.28 SENSe:AFLEVel:SCALe:VOLT

Syntax:

SENSe:AFLEVel:SCALe:VOLT
SENSe:AFLEVel:SCALe:VOLT?

Parameter/Return: Auto | 1 V | 3 V | 10 V | 30 V

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered.

Example:

```
SENSe:AFLEVel:SCALe:VOLT Auto

SENSe:AFLEVel:SCALe:VOLT?
Auto
```

14.29 SENSe:AFLEVel:SREFerence

Syntax: SENSe:AFLEVel:SREFerence

Parameter/Return: none

Description: Sets the AF Level meter Reference level.

Example:

```
SENSe:AFLEVel:SREFerence
```

14.30 SENSe:AFLEVel:UNIT

Syntax:

SENSe:AFLEVel:UNIT
SENSe:AFLEVel:UNIT?

Parameter/Return: V | dBm | dBV | dBr

Description: Sets/returns the reading/limit units for meter. Some AF level features only exist under certain units - dBr & dBm are notable.

Example:

```
SENSe:AFLEVel:UNIT V

SENSe:AFLEVel:UNIT?
V
```

14.31 SENSe:DISTortion:NOISe:TYPE

Syntax:

SENSe:DISTortion:NOISe:TYPE
SENSe:DISTortion:NOISe:TYPE?

Parameter/Return: 1 to 100

Description: Sets/returns the noise measurement type. The humnoise argument is SNR.

Example:

```
SENSe:DISTortion:NOISe:TYPE sinad

SENSe:DISTortion:NOISe:TYPE?
sinad
```

14.32 SENSe:DISTortion:NOTCh:FREQuency

Syntax:

SENSe:DISTortion:NOTCh:FREQuency
SENSe:DISTortion:NOTCh:FREQuency?

Parameter/Return: 50 Hz to 40000 Hz

Description: Sets/returns the distortion notch filter bandwidth. Ensure that “Speaker” routing for Noise is set to Audio.

Example:

```
SENSe:DISTortion:NOTCh:FREQuency 1000

SENSe:DISTortion:NOTCh:FREQuency?
1000
```

14.33 SENSe:DISTortion:READing:TYPE

Syntax:

SENSe:DISTortion:READing:TYPE
SENSe:DISTortion:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the distortion notch filter bandwidth. Ensure that “Speaker” routing for Noise is set to Audio.

Example:

```
SENSe:DISTortion:READing:TYPE AVG

SENSe:DISTortion:READing:TYPE?
AVG
```

14.34 SENSe:DISTortion:SCALe

Syntax:

SENSe:DISTortion:SCALe
SENSe:DISTortion:SCALe?

Parameter/Return: Auto | 100% | 50% | 20% | 10%

Description: Sets/returns the meter scale, Auto will change the scale to keep measurement centered. Ensure that 'Speaker' routing for Noise is set to Audio In.

Example:

```
SENSe:DISTortion:SCALe Auto

SENSe:DISTortion:SCALe?
Auto
```

14.35 SENSe:DISTortion:RESet

Syntax: SENSe:DISTortion:RESet

Parameter/Return: None

Description: Reset the Distortion Meter.

Example:

```
SENSe:DISTortion:RESet
```

14.36 SENSe:DVM:AVERage:COUNt

Syntax:

SENSe:DVM:AVERage:COUNt
SENSe:DVM:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see the input dialog.

Example:

```
SENSe:DVM:AVERage:COUNt 1

SENSe:DVM:AVERage:COUNt?
1
```

14.37 SENSe:DVM:MODE

Syntax:

SENSe:DVM:MODE
SENSe:DVM:MODE?

Parameter/Return: PositivePeak | NegativePeak | RMS | Mean

Description: Sets/returns the AC measurement mode. This control only applies to AV volts measurements. When in DC, it is not used.

Example:

```
SENSe:DVM:MODE RMS

SENSe:DVM:MODE?
RMS
```

14.38 SENSe:DVM:READing:TYPE

Syntax:

SENSe:DVM:READing:TYPE
SENSe:DVM:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the reading detector characteristics. This is an AC responding meter even if the input is DC coupled.

Example:

```
SENSe:DVM:READing:TYPE LIVE

SENSe:DVM:READing:TYPE?
LIVE
```

14.39 SENSe:DVM:RESet

Syntax: SENSe:DVM:RESet

Parameter/Return: None

Description: Reset the DVM Meter.

Example:

```
SENSe:DVM:RESet
```

14.40 SENSe:DVM:SCALe

Syntax:

SENSe:DVM:SCALe
SENSe:DVM:SCALe?

Parameter/Return: Auto | 1 V | 2 V | 5 V | 10 V | 20 V | 50 V

Description: Sets/returns the meter scale. Auto changes the scale to keep measurement centered.

Example:

```
SENSe:DVM:SCALe Auto

SENSe:DVM:SCALe?
Auto
```

14.41 SENSe:SINad:AVERage:COUNt

Syntax:

SENSe:SINad:AVERage:COUNt
SENSe:SINad:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see input dialog.

Example:

```
SENSe:SINad:AVERage:COUNt 1

SENSe:SINad:AVERage:COUNt?
1
```

14.42 SENSe:SINad:NOISe:TYPE

Syntax:

SENSe:SINad:NOISe:TYPE
SENSe:SINad:NOISe:TYPE?

Parameter/Return: sinad | distortion | humnoise

Description: Sets/returns the noise measurement type. The 'humnoise' arg is SNR.

Example:

```
SENSe:SINad:NOISe:TYPE sinad

SENSe:SINad:NOISe:TYPE?
sinad
```

14.43 SENSe:SINad:NOTCh:BANDwidth

Syntax:

SENSe:SINad:NOTCh:BANDwidth
SENSe:SINad:NOTCh:BANDwidth?

Parameter/Return: 10 to 200 Hz

Description: Sets/returns the SINAD notch filter bandwidth..

Example:

```
SENSe:SINad:NOTCh:BANDwidth 82

SENSe:SINad:NOTCh:BANDwidth?
82
```

14.44 SENSe:SINad:NOTCh:FREQuency

Syntax:

SENSe:SINad:NOTCh:FREQuency
SENSe:SINad:NOTCh:FREQuency?

Parameter/Return: 50 Hz to 40000 Hz

Description: Sets/returns the SINAD notch filter frequency.

Example:

```
SENSe:SINad:NOTCh:FREQuency 1000

SENSe:SINad:NOTCh:FREQuency?
1000
```

14.45 SENSe:SINad:READing:TYPE

Syntax:

SENSe:SINad:READing:TYPE
SENSe:SINad:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Change the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Example:

```
SENSe:SINad:READing:TYPE LIVE

SENSe:SINad:READing:TYPE?
LIVE
```

14.46 SENSe:SINad:REFerence:LEVel

Syntax:

SENSe:SINad:REFerence:LEVel
SENSe:SINad:REFerence:LEVel?

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB ... -80 dB | -90 dB | -100 dB

Description: Change the 0 dB point for dBr readings. Normally use the Set Reference control to fill-in this value.

Example:

```
SENSe:SINad:REFerence:LEVel 30 dB
SENSe:SINad:REFerence:LEVel?
30dB
```

14.47 SENSe:SINad:SCALe:DBR

Syntax:

SENSe:SINad:SCALe:DBR

SENSe:SINad:SCALe:DBR?

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB ... -80 dB | -90 dB | -100 dB

Description: Sets/returns the meter scale for dBr, Auto will change the scale to keep measurement centered.

Example:

```
SENSe:SINad:SCALe:DBR Auto
SENSe:SINad:SCALe:DBR?
Auto
```

14.48 SENSe:SINad:SREFerence

Syntax: SENSe:SINad:SREFerence

Parameter/Return: None

Description: Sets the reference level in dBr mode.

Example:

```
SENSe:SINad:SREFerence
```

14.49 SENSe:SINad:UNIT

Syntax:

SENSe:SINad:UNIT
SENSe:SINad:UNIT?

Parameter/Return: dB | dBr

Description: Sets/returns the meter units. dBr is dB relative with the reference value taken from a live reading or user input. dBr will expose the 'set reference' and Reference level widgets.

Example:

```
SENSe:SINad:UNIT dB
SENSe:SINad:UNIT?
dB
```

14.50 SENSe:SNR:AVERage:COUNt

Syntax:

SENSe:SNR:AVERage:COUNt
SENSe:SNR:AVERage:COUNt?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see the samples dialog.

Example:

```
SENSe:SNR:AVERage:COUNt 1
SENSe:SNR:AVERage:COUNt?
1
```

14.51 SENSe:SNR:DELay

Syntax:

SENSe:SNR:DELay
SENSe:SNR:DELay?

Parameter/Return: 1.0 to 10.0 sec

Description: Sets/returns the toggle rate for AF Gen (or Mod Gen), required for some receivers (digital) with large latency. Set Hum & Noise Type -> Normal. The Speaker icon, Noise setting, Mod Gen: select Audio In, AF Gen: select Demod.

Example:

```
SENSe:SNR:DELay 1

SENSe:SNR:DELay?
1
```

14.52 SENSe:SNR:NOISe:TYPE

Syntax:

SENSe:SNR:NOISe:TYPE
SENSe:SNR:NOISe:TYPE?

Parameter/Return: sinad | distortion | humnoise

Description: Sets/returns the noise measurement type. The 'humnoise' arg is SNR.

Example:

```
SENSe:SNR:NOISe:TYPE sinad

SENSe:SNR:NOISe:TYPE?
sinad
```

14.53 SENSe:SNR:NOTCh:BANDwidth

Syntax:

SENSe:SNR:NOTCh:BANDwidth
SENSe:SNR:NOTCh:BANDwidth?

Parameter/Return: 10 to 200 Hz

Description: Sets/returns the Notch bandwidth in Hz. Used to “notch out” an interfering signal such as DCS or CTCSS.

Example:

```
SENSe:SNR:NOTCh:BANDwidth 82

SENSe:SNR:NOTCh:BANDwidth?
82
```

14.54 SENSe:SNR:NOTCh:ENABle

Syntax:

SENSe:SNR:NOTCh:ENABle
SENSe:SNR:NOTCh:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Notch state. Used to “notch out” an interfering signal such as DCS or CTCSS.

Example:

```
SENSe:SNR:NOTCh:ENABle Off

SENSe:SNR:NOTCh:ENABle?
0
```

14.55 SENSe:SNR:NOTCh:FREQuency

Syntax:

SENSe:SNR:NOTCh:FREQuency
SENSe:SNR:NOTCh:FREQuency?

Parameter/Return: 50 Hz to 40000 Hz

Description: Sets/returns the Notch frequency in Hz. Used to “notch out” an interfering signal such as DCS or CTCSS.

Example:

```
SENSe:SNR:NOTCh:FREQuency 300

SENSe:SNR:NOTCh:FREQuency?
300
```

14.56 SENSe:SNR:READing:TYPE

Syntax:

SENSe:SNR:READing:TYPE
SENSe:SNR:READing:TYPE?

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Example:

```
SENSe:SNR:READing:TYPE AVG

SENSe:SNR:READing:TYPE?
AVG
```

14.57 SENSe:SNR:SINad:AVERage

Syntax:

SENSe:SNR:SINad:AVERage
SENSe:SNR:SINad:AVERage?

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see the samples dialog.

Example:

```
SENSe:SNR:SINad:AVERage 1

SENSe:SNR:SINad:AVERage?
1
```

14.58 SENSe:SNR:SREFerence

Syntax: SENSe:SNR:SREFerence

Parameter/Return: None

Description: HUM & Noise meter set reference.

Example:

```
SENSe:SNR:SREFerence
```

14.59 SENSe:SNR:TYPE

Syntax:

SENSe:SNR:TYPE
SENSe:SNR:TYPE?

Parameter/Return: NORMAL | HUMNOISE

Description: H&N measurement can be performed two way: Auto(Normal), Manual(Hum&Noise). Auto will use the defined delay and switch the generator on-off. Manual will require using the 'Set Reference' to set the dB point - you have to operate the generator manually.

Example:

```
SENSe:SNR:TYPE NORMAL
SENSe:SNR:TYPE?
NORMAL
```

14.60 SENSe:SNR:RESet

Syntax: SENSe:SNR:RESet

Parameter/Return: None

Description: Resets the Hum and Noise meter.

Example:

```
SENSe:SNR:RESet
```

14.61 MEASure:AFCOUNter:AVERage?

Syntax: MEASure:AFCOUNter:AVERage?

Parameter/Return: None

Description: Returns the AF Coutner average reading.

Example:

```
MEASure:AFCOUNter:AVERage?
0
```

14.62 CALCulate:AFCOUNter:LIMit:FAIL?

Syntax: CALCulate:AFCOUNter:LIMit:FAIL?

Parameter/Return: None

Description: Returns the AF Counter limit status.

Example:

```
CALCulate:AFCOUNter:LIMit:FAIL?
0
```

14.63 CALCulate:AFCOUNter:LIMit:LOWer

Syntax:

CALCulate:AFCOUNter:LIMit:LOWer
CALCulate:AFCOUNter:LIMit:LOWer?

Parameter/Return: 0 to 40000 Hz

Description: Sets/returns the AF Counter Lower Limit for Pass/Fail indicators.

Example:

```
CALCulate:AFCOUNter:LIMit:LOWer 900
CALCulate:AFCOUNter:LIMit:LOWer?
900
```

14.64 CALCulate:AFCOUNter:LIMit:LOWer:STATe

Syntax:

CALCulate:AFCOUNter:LIMit:LOWer:STATe
CALCulate:AFCOUNter:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the AF Counter Lower Limit state.

Example:

```
CALCulate:AFCOUNter:LIMit:LOWer:STATe Off
CALCulate:AFCOUNter:LIMit:LOWer:STATe?
0
```

14.65 CALCulate:AFCOUNter:LIMit:UPPer

Syntax:

CALCulate:AFCOUNter:LIMit:Upper
CALCulate:AFCOUNter:LIMit:Upper?

Parameter/Return: 0 to 40000 Hz

Description: Sets/returns the AF Counter Upper Limit for Pass/Fail indicators.

Example:

```
CALCulate:AFCOUNter:LIMit:UPPer 1100
CALCulate:AFCOUNter:LIMit:Upper?
1100
```

14.66 CALCulate:AFCOUNter:LIMit:UPPer:STATe

Syntax:

CALCulate:AFCOUNter:LIMit:UPPer:STATe
CALCulate:AFCOUNter:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the AF Counter Upper Limit state.

Example:

```
CALCulate:AFCOUNter:LIMit:UPPer:STATe Off
CALCulate:AFCOUNter:LIMit:UPPer:STATe?
0
```

14.67 CALCulate:AFLEVel:DBM:LIMit:UPPer

Syntax:

CALCulate:AFLEVel:DBM:LIMit:UPPer
CALCulate:AFLEVel:DBM:LIMit:UPPer?

Parameter/Return: float -100 dB to 100 dB

Description: Sets/returns the AF Counter Upper Limit state.

Example:

```
CALCulate:AFLEVel:DBM:LIMit:UPPer 0

CALCulate:AFLEVel:DBM:LIMit:UPPer?
0
```

14.68 CALCulate:AFLEVel:DBM:LIMit:LOWer

Syntax:

CALCulate:AFLEVel:DBM:LIMit:LOWer
CALCulate:AFLEVel:DBM:LIMit:LOWer?

Parameter/Return: float -100 dB to 100 dB

Description: Sets/returns the AF level meter Lower Limit value for Pass/Fail indicators. This is used for the dB relative units.

Example:

```
CALCulate:AFLEVel:DBM:LIMit:LOWer -30

CALCulate:AFLEVel:DBM:LIMit:UPPer?
-30
```

14.69 CALCulate:AFLEVel:DBR:LIMit:UPPer

Syntax:

CALCulate:AFLEVel:DBR:LIMit:UPPer
CALCulate:AFLEVel:DBR:LIMit:UPPer?

Parameter/Return: float -100 dB to 100 dB

Description: Sets/returns the AF level meter Upper Limit value for Pass/Fail indicators. This is used for the dB relative units.

Example:

```
CALCulate:AFLEVel:DBR:LIMit:UPPer 0

CALCulate:AFLEVel:DBR:LIMit:UPPer?
0
```

14.70 CALCulate:AFLEVel:DBV:LIMit:LOWer

Syntax:

CALCulate:AFLEVel:DBR:LIMit:LOWer
CALCulate:AFLEVel:DBR:LIMit:LOWer?

Parameter/Return: float -100 dB to 100 dB

Description: Sets/returns the AF level Meter Lower Limit Value for Pass/Fail indicators. This is used for the dBV Units.

Example:

```
CALCulate:AFLEVel:DBV:LIMit:LOWer -30

CALCulate:AFLEVel:DBV:LIMit:LOWer?
-30
```

14.71 CALCulate:AFLEVel:DBV:LIMit:UPPer

Syntax:

CALCulate:AFLEVel:DBV:LIMit:UPPer
CALCulate:AFLEVel:DBV:LIMit:UPPer?

Parameter/Return: float -100 dB to 100 dB

Description: Sets/returns the Upper limit value for Pass/Fail indicators.

Example:

```
CALCulate:AFLEVel:DBV:LIMit:UPPer 0

CALCulate:AFLEVel:DBV:LIMit:UPPer?
0
```

14.72 CALCulate:CALCulate:AFLEVel:DBM:LIMit:LOWer

Syntax:

CALCulate:AFLEVel:DBM:LIMit:LOWer
CALCulate:AFLEVel:DBM:LIMit:LOWer?

Parameter/Return: float: -100 dB to 100 dB

Description: Sets/returns the AF level meter Lower Limit value for Pass/Fail indiators. This is used for the dBm units.

Example:

```
CALCulate:AFLEVel:DBM:LIMit:LOWer -30

CALCulate:AFLEVel:DBM:LIMit:LOWer?
-30
```

14.73 MEASure:AFLEVel:AVERage?

Syntax: MEASure:AFLEVel:AVERage?

Parameter/Return: None

Description: Returns the AF Level average reading.

Example:

```
MEASure:AFLEVel:AVERage?
0.00001753916330926 58
```

14.74 MEASure:AFLEVel:LIVE?

Syntax: MEASure:AFLEVel:LIVE?

Parameter/Return: None

Description: Returns the AF Level Live meter average reading.

Example:

```
MEASure:AFLEVel:LIVE?
0.0000176020348590 1
```

14.75 MEASure:AFLEVel:DATA?

Syntax: MEASure:AFLEVel:DATA?

Parameter/Return: None

Description: Returns the AF level meter array data.

Example:

```
MEASure:AFLEVel:DATA?
-1.72379441210068 76e-5...
```

14.76 CALCulate:AFLEVel:LIMit:FAIL?

Syntax: CALCulate:AFLEVel:LIMit:FAIL?

Parameter/Return: None

Description: Returns the AF Level limit status

Example:

```
CALCulate:AFLEVel:LIMit:FAIL?
0
```

14.77 CALCulate:AFLEVel:LIMit:LOWer:STATe

Syntax:

CALCulate:AFLEVel:LIMit:LOWer:STATe
CALCulate:AFLEVel:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the AF Level Meter Lower Limit State for Pass/Fail indicators.

Example:

```
CALCulate:AFLEVel:LIMit:LOWer:STATe Off
CALCulate:AFLEVel:LIMit:LOWer:STATe?
0
```

14.78 CALCulate:AFLEVel:LIMit:UPPer:STATe

Syntax:

CALCulate:AFLEVel:LIMit:UPPer:STATe
CALCulate:AFLEVel:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the AF Level Meter Lower Limit State for Pass/Fail indicators.

Example:

```
CALCulate:AFLEVel:LIMit:UPPer:STATe Off
CALCulate:AFLEVel:LIMit:UPPer:STATe?
0
```

14.79 CALCulate:AFLEVel:VOLT:LIMit:LOWer

Syntax:

CALCulate:AFLEVel:VOLT:LIMit:LOWer
CALCulate:AFLEVel:VOLT:LIMit:LOWer?

Parameter/Return: float: 0.0 to 30.0 Volts

Description: Sets/returns the AF level Meter Lower Limit Value for Pass/Fail indicators. This is used for the Volt Units.

Example:

```
CALCulate:AFLEVel:VOLT:LIMit:LOWer 0.1
CALCulate:AFLEVel:VOLT:LIMit:LOWer?
0.1
```

14.80 CALCulate:AFLEVel:VOLT:LIMit:UPPer

Syntax:

CALCulate:AFLEVel:VOLT:LIMit:UPPer
CALCulate:AFLEVel:VOLT:LIMit:UPPer?

Parameter/Return: float: 0.0 to 30.0 Volts

Description: Sets/returns the AF level Meter Upper Limit Value for Pass/Fail indicators. This is used for the Volt Units.

Example:

```
CALCulate:AFLEVel:VOLT:LIMit:UPPer 1
CALCulate:AFLEVel:VOLT:LIMit:UPPer?
1
```

14.81 MEASure:CTCSs:PLVALue?

Syntax: MEASure:CTCSs:PLVALue?

Parameter/Return: String (Query only)

Description: —

Example:

```
MEASure:CTCSs:PLVALue?
NONE
```

14.82 MEASure:DISTortion:AVERage?

Syntax: MEASure:DISTortion:AVERage?

Parameter/Return: None

Description: Returns the Distortion meter average reading

Example:

```
MEASure:DISTortion:AVERage?
99.9476776123046
```

14.83 MEASure:DISTortion:DATA?

Syntax: MEASure:DISTortion:DATA?

Parameter/Return: None

Description: Returns the Distortion meter array data.

Example:

```
MEASure:DISTortion:DATA?
99.966796875...
```

14.84 CALCulate:DISTortion:LIMit:FAIL?

Syntax: CALCulate:DISTortion:LIMit:FAIL?

Parameter/Return: None

Description: Returns the Distortion Limit status.

Example:

```
CALCulate:DISTortion:LIMit:FAIL?
0
```

14.85 CALCulate:DISTortion:LIMit:LOWer

Syntax:

CALCulate:DISTortion:LIMit:LOWer
CALCulate:DISTortion:LIMit:LOWer?

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the Distortion Lower Limit for Pass/Fail indicators. Ensure that “Speaker” routing for Noise is set to Audio In.

Example:

```
CALCulate:DISTortion:LIMit:LOWer 0
CALCulate:DISTortion:LIMit:LOWer?
0
```

14.86 CALCulate:DISTortion:LIMit:LOWer:STATe

Syntax:

CALCulate:DISTortion:LIMit:LOWer:STATe
CALCulate:DISTortion:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Example:

```
CALCulate:DISTortion:LIMit:LOWer:STATe Off

CALCulate:DISTortion:LIMit:LOWer:STATe?
0
```

14.87 CALCulate:DISTortion:LIMit:UPPer

Syntax:

CALCulate:DISTortion:LIMit:UPPer
CALCulate:DISTortion:LIMit:UPPer?

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the Distortion Lower Limit for Pass/Fail indicators. Ensure that “Speaker” routing for Noise is set to Audio In.

Example:

```
CALCulate:DISTortion:LIMit:UPPer 50

CALCulate:DISTortion:LIMit:UPPer?
50
```

14.88 CALCulate:DISTortion:LIMit:UPPer:STATe

Syntax: CALCulate:DISTortion:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Example:

```
CALCulate:DISTortion:LIMit:UPPer:STATe Off

CALCulate:DISTortion:LIMit:UPPer:STATe?
0
```

14.89 MEASure:DVM:AVERage?

Syntax: MEASure:DVM:AVERage?

Parameter/Return: None

Description: Returns the DVM average reading.

Example:

```
MEASure:DVM:AVERage?
0
```

14.90 MEASure:DVM:LIVE?

Syntax: MEASure:DVM:LIVE?

Parameter/Return: None

Description: Returns the DVM live reading.

Example:

```
MEASure:DVM:LIVE?
0
```

14.91 MEASure:DVM:DATA?

Syntax: MEASure:DVM:DATA?

Parameter/Return: None

Description: Returns the DVM array data.

Example:

```
MEASure:DVM:DATA?
0,0,0,0....
```

14.92 CALCulate:DVM:LIMit:FAIL?

Syntax: CALCulate:DVM:LIMit:FAIL?

Parameter/Return: None

Description: Returns the DVM Limit Status.

Example:

```
CALCulate:DVM:LIMit:FAIL?
0
```

14.93 CALCulate:DVM:LIMit:LOWer

Syntax:

CALCulate:DVM:LIMit:LOWer
CALCulate:DVM:LIMit:LOWer?

Parameter/Return: 0.0 V to 20.0 V

Description: Sets/returns the DVM Lower Limit value for Pass/Fail indicators.

Example:

```
CALCulate:DVM:LIMit:LOWer 0

CALCulate:DVM:LIMit:LOWer?
0
```

14.94 CALCulate:DVM:LIMit:LOWer:STATe

Syntax:

CALCulate:DVM:LIMit:LOWer:STATe
CALCulate:DVM:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the DVM Lower Limit value for Pass/Fail indicators.

Example:

```
CALCulate:DVM:LIMit:LOWer:STATe Off

CALCulate:DVM:LIMit:LOWer:STATe?
0
```

14.95 CALCulate:DVM:LIMit:UPPer

Syntax:

CALCulate:DVM:LIMit:UPPer
CALCulate:DVM:LIMit:UPPer?

Parameter/Return: 0.0 V to 30.0 V

Description: Sets/returns the DVM Upper Limit value for Pass/Fail indicators.

Example:

```
CALCulate:DVM:LIMit:UPPer 7

CALCulate:DVM:LIMit:UPPer?
7
```

14.96 CALCulate:DVM:LIMit:UPPer:STATe

Syntax:

CALCulate:DVM:LIMit:UPPer:STATe
CALCulate:DVM:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the DVM Lower Limit value for Pass/Fail indicators.

Example:

```
CALCulate:DVM:LIMit:UPPer:STATe Off
CALCulate:DVM:LIMit:UPPer:STATe?
0
```

14.97 CALCulate:SINad:DB:LIMit:LOWer

Syntax:

CALCulate:SINad:DB:LIMit:LOWer
CALCulate:SINad:DB:LIMit:LOWer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Lower Limit for Pass/Fail indicators.

Example:

```
CALCulate:SINad:DB:LIMit:LOWer 3
CALCulate:SINad:DB:LIMit:LOWer?
3
```

14.98 CALCulate:SINad:DB:LIMit:UPPer

Syntax:

CALCulate:SINad:DB:LIMit:UPPer
CALCulate:SINad:DB:LIMit:UPPer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Upper Limit for Pass/Fail indicators.

Example:

```
CALCulate:SINad:DB:LIMit:UPPer 60
CALCulate:SINad:DB:LIMit:UPPer?
60
```

14.99 CALCulate:SINad:DBR:LIMit:UPPer

Syntax:

CALCulate:SINad:DBR:LIMit:UPPer
CALCulate:SINad:DBR:LIMit:UPPer?

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns SINAD Meter (dBr) Upper Limit for Pass/Fail indicators.

Example:

```
CALCulate:SINad:DBR:LIMit:UPPer 60
CALCulate:SINad:DBR:LIMit:UPPer?
60
```

14.100 CALCulate:SINad:LIMit:UPPer:STATe

Syntax:

CALCulate:SINad:LIMit:UPPer:STATe
CALCulate:SINad:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the LOWer Limit state.

Example:

```
CALCulate:SINad:LIMit:UPPer:STATe Off
CALCulate:SINad:LIMit:UPPer:STATe?
0
```

14.101 CALCulate:SINad:LIMit:LOWer:STATe

Syntax:

CALCulate:SINad:LIMit:LOWer:STATe
CALCulate:SINad:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Lower Limit state.

Example:

```
CALCulate:SINad:LIMit:LOWer:STATe Off
CALCulate:SINad:LIMit:LOWer:STATe?
0
```

14.102 CALCulate:SNR:LIMit:LOWer

Syntax:

CALCulate:SNR:LIMit:LOWer
CALCulate:SNR:LIMit:LOWer?

Parameter/Return: -100.0 dB to 100.0 dB

Description: Sets/returns the Lower Limit state.

Example:

```
CALCulate:SNR:LIMit:LOWer 0

CALCulate:SNR:LIMit:LOWer?
0
```

14.103 CALCulate:SNR:LIMit:UPPer

Syntax:

CALCulate:SNR:LIMit:UPPer
CALCulate:SNR:LIMit:UPPer?

Parameter/Return: -100.0 dB to 100.0 dB

Description: Sets/returns the Hum & Noise Meter upper limit for meter Pass/Fail..

Example:

```
CALCulate:SNR:LIMit:UPPer 100

CALCulate:SNR:LIMit:UPPer?
100
```

14.104 CALCulate:SNR:LIMit:LOWer:STATe

Syntax:

CALCulate:SNR:LIMit:LOWer:STATe
CALCulate:SNR:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Example:

```
CALCulate:SNR:LIMit:LOWer:STATe Off

CALCulate:SNR:LIMit:LOWer:STATe?
0
```

14.105 CALCulate:SNR:LIMit:UPPer:STATe

Syntax:

CALCulate:SNR:LIMit:UPPer:STATe
CALCulate:SNR:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Upper Limit state.

Example:

```
CALCulate:SNR:LIMit:UPPer:STATe Off
CALCulate:SNR:LIMit:UPPer:STATe?
0
```

14.106 MEASure:SNR:AVERage

Syntax: MEASure:SNR:AVERage?

Parameter/Return: None

Description: Returns the SNR meter average reading.

Example:

```
MEASure:SNR:AVERage?
```

Query Response: 0.2

14.107 MEASure:SNR:LIVE?

Syntax: MEASure:SNR:LIVE?

Parameter/Return: None

Description: Returns the SNR meter live reading.

Example:

```
MEASure:SNR:LIVE?
0.1
```

14.108 MEASure:SNR:DATA?

Syntax: MEASure:SNR:DATA?

Parameter/Return: None

Description: Returns the SNR meter array data.

Example:

```
MEASure:SNR:DATA?
NAN
```

14.109 CALCulate:SNR:LIMit:FAIL?

Syntax: CALCulate:SNR:LIMit:FAIL?

Parameter/Return: None

Description: Returns the SNR limit status.

Example:

```
CALCulate:SNR:LIMit:FAIL?
1
```

14.110 MEASure:SINad:AVERage?

Syntax: MEASure:SINad:AVERage?

Parameter/Return: None

Description: Returns the SINAD meter average reading.

Example:

```
MEASure:SINad:AVERage?
0.00242896121926605
```

14.111 MEASure:SINad:LIVE?

Syntax: MEASure:SINad:LIVE?

Parameter/Return: None

Description: Returns the SINAD meter live reading.

Example:

```
MEASure:SINad:LIVE?
0.002126533770933 74
```

14.112 CALCulate:SINad:LIMit:FAIL?

Syntax: CALCulate:SINad:LIMit:FAIL?

Parameter/Return: None

Description: Returns the SINAD Limit status.

Example:

```
CALCulate:SINad:LIMit:FAIL?
0
```

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15

Analog Output Commands

This chapter describes the following remote commands for configuring Analog Output (AOUTput) settings:

- ROUTe:DESTination 15-2
- ROUTe:SOURce 15-2
- ROUTe:COUPling 15-2
- ROUTe:SPEaker:SOURce 15-3
- ROUTe:VOLume:LEVel 15-3
- ROUTe:EXTernal:TRIGger:OUT:SOURce 15-3
- ROUTe:EXTernal:TRIGger:IN:POLarity 15-4

15.1 ROUTe:DESTination

Syntax:

ROUTe:DESTination
ROUTe:DESTination?

Parameter/Return: FGen | ACC

Description: Sets/returns the Audio Output destination port

Example:

```
ROUTe:DESTination ACC

ROUTe:DESTination?
ACC
```

15.2 ROUTe:SOURce

Syntax:

ROUTe:SOURce
ROUTe:SOURce?

Parameter/Return: FGen | Demod

Description: Will route demod or fgen to the AF output connector.

Example:

```
ROUTe:SOURce Demod

ROUTe:SOURce?
Demod
```

15.3 ROUTe:COUPling

Syntax:

ROUTe:COUPling
ROUTe:COUPling?

Parameter/Return: Ac | Dc

Description: Sets/returns the control coupling of the AF output connector.

Example:

```
ROUTe:COUPling Ac

ROUTe:COUPling?
Ac
```

15.4 ROUTe:SPEaker:SOURce

Syntax:

ROUTe:SPEaker:SOURce
ROUTe:SPEaker:SOURce?

Parameter/Return: Audio_Input | Demod | AFGen

Description: Sets/returns the speaker output source.

Example:

```
ROUTe:SPEaker:SOURce AFGen

ROUTe:SPEaker:SOURce?
AFGen
```

15.5 ROUTe:VOLume:LEVel

Syntax:

ROUTe:VOLume:LEVel
ROUTe:VOLume:LEVel?

Parameter/Return: 0 - 100%

Description: Sets/returns the volume.

Example:

```
ROUTe:VOLume:LEVel 0

ROUTe:VOLume:LEVel?
0
```

15.6 ROUTe:EXTernal:TRIGger:OUT:SOURce

Syntax:

ROUTe:EXTernal:TRIGger:OUT:SOURce
ROUTe:EXTernal:TRIGger:OUT:SOURce?

Parameter/Return: None | Tin

Description: Sets/returns the trigger out source.

Example:

```
ROUTe:EXTernal:TRIGger:OUT:SOURce Tin

ROUTe:EXTernal:TRIGger:OUT:SOURce?
Tin
```

15.7 ROUTe:EXTernal:TRIGger:IN:POLarity

Syntax:

ROUTe:EXTernal:TRIGger:IN:POLarity
ROUTe:EXTernal:TRIGger:IN:POLarity?

Parameter/Return: Normal|Inverted

Description: —

Example:

```
ROUTe:EXTernal:TRIGger:IN:POLarity Inverted
ROUTe:EXTernal:TRIGger:IN:POLarity?
Inverted
```

16

P25 Modulator Commands

This chapter describes the following remote commands for configuring P25 Modulator (P25Modulator) settings:

- SOURce:ALGID 16-2
- SOURce:BER:PATTern 16-2
- SOURce:EMERgency 16-2
- SOURce:HCPM:MODE 16-3
- SOURce:HCPM:PATTern 16-3
- SOURce:HCPM:SLOT 16-3
- SOURce:HDQPsk:PATTern 16-4
- SOURce:LCO? 16-4
- SOURce:MFID 16-4
- SOURce:NAC 16-5
- SOURce:PRIority 16-5
- SOURce:SERvice:OPTion 16-5
- SOURce:SOURce:ID 16-6
- SOURce:STATus 16-6
- SOURce:TGID 16-6
- SOURce:TYPE 16-7

16.1 SOURce:ALGID

Syntax: SOURce:ALGID?

Parameter/Return: 0 to 0xFF

Description: Sets/returns the ALGID.

Example:

```
SOURce:ALGID 80

SOURce:ALGID?
80
```

16.2 SOURce:BER:PATTern

Syntax:

SOURce:BER:PATTern
SOURce:BER:PATTern?

Parameter/Return: STD 511 | STD 1011 | STD Cal | STD Silence | STD AFC | STD Busy | STD Idle | STD Interferer | STD LDU1 | STD LDU2 | STD SymbolRate | 1011 | Silence | Stored Speech

Description: Sets/returns the BER Pattern.

Example:

```
SOURce:BER:PATTern STD 1011

SOURce:BER:PATTern?
STD 1011
```

16.3 SOURce:EMERgency

Syntax:

SOURce:EMERgency
SOURce:EMERgency?

Parameter/Return: Off | On | 0 | 1

Description: Sets/returns Emergency.

Example:

```
SOURce:EMERgency Off

SOURce:EMERgency?
0
```

16.4 SOURce:HCPM:MODE

Syntax:

SOURce:HCPM:MODE

SOURce:HCPM:MODE?

Parameter/Return: 0 to 0xFF

Description: Sets/returns the HCPM Mode.

Example:

```
SOURce:HCPM:MODE Sync

SOURce:HCPM:MODE?
Sync
```

16.5 SOURce:HCPM:PATTern

Syntax:

SOURce:HCPM:PATTern
SOURce:HCPM:PATTern?

Parameter/Return: IB STD 1031 | IB STD Cal | IB STD Silence

Description: Sets/returns the HCPM pattern.

Example:

```
SOURce:HCPM:PATTern IB STD 1031

SOURce:HCPM:PATTern?
IB STD 1031
```

16.6 SOURce:HCPM:SLOT

Syntax:

SOURce:HCPM:SLOT
SOURce:HCPM:SLOT?

Parameter/Return: Slot 0 | Slot 1

Description: Sets/returns the HCPM slot.

Example:

```
SOURce:HCPM:SLOT Slot 0

SOURce:HCPM:SLOT?
Slot 0
```

16.7 SOURce:HDQPsk:PATTern

Syntax:

SOURce:HDQPsk:PATTern
SOURce:HDQPsk:PATTern?

Parameter/Return: OB STD 1031 | OB STD Cal | OB STD Silence

Description: Sets/returns the ALGID.

Example:

```
SOURce:HDQPsk:PATTern OB STD 1031

SOURce:HDQPsk:PATTern?
OB STD 1031
```

16.8 SOURce:LCO?

Syntax: SOURce:LCO?

Parameter/Return: None

Description: You can query the ALGID.

Example:

```
SOURce:LCO?
0 - LC_GRP_V_CH_USR
```

16.9 SOURce:MFID

Syntax:

SOURce:MFID
SOURce:MFID?

Parameter/Return: 0 to 0xFF

Description: Sets/returns the ALGID.

Example:

```
SOURce:MFID 0

SOURce:MFID?
0
```

16.10 SOURce:NAC

Syntax:

SOURce:NAC
SOURce:NAC?

Parameter/Return: 0 to 0xFF

Description: Sets/returns NAC.

Example:

```
SOURce:NAC 659

SOURce:NAC?
659
```

16.11 SOURce:PRIority

Syntax:

SOURce:PRIority
SOURce:PRIority?

Parameter/Return: 0 to 7

Description: Sets/returns the Priority.

Example:

```
SOURce:PRIority 0

SOURce:PRIority?
0
```

16.12 SOURce:SERvice:OPTion

Syntax:

SOURce:SERvice:OPTion
SOURce:SERvice:OPTion?

Parameter/Return: 0 to 0xFF

Description: Sets/returns the Service Option.

Example:

```
SOURce:SERvice:OPTion 0

SOURce:SERvice:OPTion?
0
```

16.13 SOURce:SOURce:ID

Syntax:

SOURce:SOURce:ID
SOURce:SOURce:ID?

Parameter/Return: 0 to 0xFFFFFF

Description: Sets/returns the Source ID.

Example:

```
SOURce:SOURce:ID 0

SOURce:SOURce:ID?
0
```

16.14 SOURce:STATus

Syntax:

SOURce:STATus
SOURce:STATus?

Parameter/Return: 0 to 3

Description: Sets/returns the Status.

Example:

```
SOURce:STATus 0

SOURce:STATus?
0
```

16.15 SOURce:TGID

Syntax:

SOURce:TGID
SOURce:TGID?

Parameter/Return: 0 to 0xFFFF

Description: Sets/returns the TGID.

Example:

```
SOURce:TGID 1

SOURce:TGID?
1
```

16.16 SOURce:TYPE

Syntax:

SOURce:TYPE
SOURce:TYPE?

Parameter/Return: C4FM | LSM | CQPSK | HCPM | HDQPSK | FM

Description: Sets/returns the TYPE.

Example:

```
SOURce:TYPE HCPM

SOURce:TYPE?
HCPM
```

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17

P25 Demodulator Commands

This chapter describes the following remote commands for configuring P25 Demodulator (P25Demodulator) settings:

- CALCulate:BER:LIMit:FAIL? 17-5
- CALCulate:BER:LIMit:LOWer 17-5
- CALCulate:BER:LIMit:LOWer:STATe 17-5
- CALCulate:BER:LIMit:UPPer 17-6
- CALCulate:BER:LIMit:UPPer:STATe 17-6
- CALCulate:MFIDelity:LIMit:FAIL? 17-6
- CALCulate:MFIDelity:LIMit:LOWer 17-7
- CALCulate:MFIDelity:LIMit:LOWer:STATe 17-7
- CALCulate:MFIDelity:LIMit:UPPer 17-7
- CALCulate:MFIDelity:LIMit:UPPer:STATe 17-8
- CALCulate:RFERRor:LIMit:FAIL? 17-8
- CALCulate:RFERRor:LIMit:LOWer 17-8
- CALCulate:RFERRor:LIMit:LOWer:STATe 17-9
- CALCulate:RFERRor:LIMit:UPPer 17-9
- CALCulate:RFERRor:LIMit:UPPer:STATe 17-9
- CALCulate:RFERRor:PPM:LIMit:FAIL? 17-10
- CALCulate:SCLOCk:LIMit:LOWer 17-10
- CALCulate:SCLOCk:LIMit:UPPer 17-10
- CALCulate:SCLOCk:LIMit:FAIL? 17-11
- CALCulate:SCLOCk:LIMit:LOWer:STATe 17-11
- CALCulate:SCLOCk:LIMit:UPPer:STATe 17-11
- CALCulate:SCLOCk:LIMit:LOWer 17-12
- CALCulate:SCLOCk:LIMit:UPPer 17-12
- CALCulate:SDEViation:LIMit:FAIL? 17-12
- CALCulate:SDEViation:LIMit:LOWer 17-13

- CALCulate:SDEViation:LIMit:LOWer:STATe 17-13
- CALCulate:SDEViation:LIMit:UPPer 17-13
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- CALCulate:SPOWer:LIMit:LOWer. 17-14
- CALCulate:SPOWer:LIMit:UPPer 17-14
- CALCulate:SPOWer:LIMit:LOWer. 17-15
- CALCulate:SPOWer:LIMit:UPPer 17-15
- CALCulate:SPOWer:LIMit:FAIL? 17-15
- CALCulate:SPOWer:LIMit:LOWer:STATe 17-16
- CALCulate:SPOWer:LIMit:UPPer:STATe 17-16
- CALCulate:SPOWer:LIMit:LOWer. 17-16
- CALCulate:SPOWer:LIMit:UPPer 17-17
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- DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP 17-17
- MEASure:ALGID? 17-18
- MEASure:BER?. 17-18
- MEASure:BER:AVERage 17-18
- MEASure:BER:MAXimum? 17-19
- MEASure:BER:MINimum? 17-19
- MEASure:DATA:SIGNal 17-19
- MEASure:EMERgency? 17-20
- MEASure:KEYID? 17-20
- MEASure:LCONTrol? 17-20
- MEASure:MFID? 17-20
- MEASure:MFIDelity? 17-21
- MEASure:MFIDelity:AVERage 17-21
- MEASure:MFIDelity:MAXimum? 17-21
- MEASure:MFIDelity:MINimum? 17-22
- MEASure:NAC? 17-22
- MEASure:RFERRor? 17-22
- MEASure:RFERRor:AVERage? 17-22
- MEASure:RFERRor:MAXimum? 17-23
- MEASure:RFERRor:PPM? 17-23
- MEASure:RFERRor:PPM:AVERage? 17-23
- MEASure:RFERRor:PPM:MAXimum? 17-23
- MEASure:RFERRor:PPM:MINimum? 17-24
- MEASure:SCLOCk? 17-24
- MEASure:SCLOCk:AVERage? 17-24
- MEASure:SCLOCk:MAXimum? 17-24
- MEASure:SCLOCk:MINimum? 17-25
- MEASure:SDEViation? 17-25
- MEASure:SDEViation:AVERage? 17-25

- MEASure:SDEViation:MAXimum? 17-25
- MEASure:SDEViation:MINimum? 17-26
- MEASure:SPOWer? 17-26
- MEASure:SPOWer:AVERage? 17-26
- MEASure:SPOWer:MAXimum? 17-26
- MEASure:SPOWer:MINimum? 17-27
- MEASure:STATion:ID 17-27
- MEASure:TGID 17-27
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- SENSe:BER:AVERage:COUNt 17-28
- SENSe:BER:NAC 17-28
- SENSe:BER:PATTern 17-29
- SENSe:BER:SCALe 17-29
- SENSe:BER:TYPE 17-29
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- SENSe:MFIDelity:AVERage:COUNt. 17-30
- SENSe:MFIDelity:SCALe 17-30
- SENSe:MFIDelity:TYPE 17-31
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- SENSe:PPROFile:AVERage:COUNt 17-31
- SENSe:PPROFile:MODE 17-32
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- SENSe:RFErr:AVERage:COUNt 17-33
- SENSe:RFErr:SCALe 17-33
- SENSe:RFErr:TYPE 17-34
- SENSe:SCLOCk:AVERage:COUNt 17-34
- SENSe:SCLOCk:DECimal:PRECision 17-34
- SENSe:SCLOCk:HZ:SCALe. 17-35
- SENSe:SCLOCk:PPM:SCALe 17-35
- SENSe:SCLOCk:TYPE. 17-35
- SENSe:SCLOCk:UNIT 17-36
- SENSe:SDEViation:AVERage:COUNt 17-36
- SENSe:SDEViation:DECimal:PRECision 17-36
- SENSe:SDEViation:SCALe 17-37
- SENSe:SDEViation:TYPE 17-37
- SENSe:SPOWer:AVERage:COUNt 17-37
- SENSe:SPOWer:DBM:SCALe 17-38
- SENSe:SPOWer:DBR:SCALe 17-38
- SENSe:SPOWer:DECimal:PRECision 17-38
- SENSe:SPOWer:RLEVel? 17-39

- SENSe:SPOWer:SREFerence 17-39
- SENSe:SPOWer:TYPE 17-39
- SENSe:SPOWer:UNIT 17-40
- SENSe:SPOWer:WATT:SCALe 17-40
- SENSe:TYPE 17-40
- SOURce:ALGID 17-41
- SOURce:BER:PATTern 17-41
- SOURce:EMERgency 17-41
- SOURce:HCPM:MODE 17-42
- SOURce:HCPM:PATTern 17-42
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- SOURce:MFID 17-43
- SOURce:NAC? 17-44
- SOURce:PRIority 17-44
- SOURce:SERvice:OPTion 17-44
- SOURce:SOURce:ID 17-45
- SOURce:STATus 17-45
- SOURce:TGID 17-45
- SOURce:TYPE 17-46

17.1 CALCulate:BER:LIMit:FAIL?

Syntax: CALCulate:BER:LIMit:FAIL?

Parameter/Return: 0-Off, 1-Pass, 2-Fail High, 3-Fail Low

Description: You can query BER Limit Status.

Example:

```
CALCulate:BER:LIMit:FAIL?
0
```

17.2 CALCulate:BER:LIMit:LOWer

Syntax:
CALCulate:BER:LIMit:LOWer
CALCulate:BER:LIMit:LOWer?

Parameter/Return: 0-99.9

Description: Sets/returns Lower Limit Value.

Example:

```
CALCulate:BER:LIMit:LOWer 0
CALCulate:BER:LIMit:LOWer?
0
```

17.3 CALCulate:BER:LIMit:LOWer:STATe

Syntax:

CALCulate:BER:LIMit:LOWer:STATe
CALCulate:BER:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Lower Limit State.

Example:

```
CALCulate:BER:LIMit:LOWer:STATe Off
CALCulate:BER:LIMit:LOWer:STATe?
0
```

17.4 CALCulate:BER:LIMit:UPPer

Syntax:

CALCulate:BER:LIMit:UPPer
CALCulate:BER:LIMit:UPPer?

Parameter/Return: 0-99.9

Description: Sets/returns Upper Limit Value.

Example:

```
CALCulate:BER:LIMit:UPPer 0
CALCulate:BER:LIMit:UPPer?
0
```

17.5 CALCulate:BER:LIMit:UPPer:STATe

Syntax:

CALCulate:BER:LIMit:UPPer:STATe
CALCulate:BER:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Upper Limit State.

Example:

```
CALCulate:BER:LIMit:UPPer:STATe Off
CALCulate:BER:LIMit:UPPer:STATe?
0
```

17.6 CALCulate:MFIDelity:LIMit:FAIL?

Syntax: CALCulate:MFIDelity:LIMit:FAIL?

Parameter/Return: None

Description: You can query Limit Status.

Example:

```
CALCulate:MFIDelity:LIMit:FAIL?
0
```

17.7 CALCulate:MFIDelity:LIMit:LOWer

Syntax:

CALCulate:MFIDelity:LIMit:LOWer
CALCulate:MFIDelity:LIMit:LOWer?

Parameter/Return: 0-99.9

Description: Sets/returns Lower Limit.

Example:

```
CALCulate:MFIDelity:LIMit:LOWer 0

CALCulate:MFIDelity:LIMit:LOWer?
0
```

17.8 CALCulate:MFIDelity:LIMit:LOWer:STATe

Syntax:

CALCulate:MFIDelity:LIMit:LOWer:STATe
CALCulate:MFIDelity:LIMit:LOWer:STATe?

Parameter/Return: Off | On

Description: Sets/returns Lower Limit State

Example:

```
CALCulate:MFIDelity:LIMit:LOWer:STATe On

CALCulate:MFIDelity:LIMit:LOWer:STATe?
On
```

17.9 CALCulate:MFIDelity:LIMit:UPPer

Syntax:

CALCulate:MFIDelity:LIMit:UPPer
CALCulate:MFIDelity:LIMit:UPPer?

Parameter/Return: 0-99.9

Description: Sets/returns Upper Limit.

Example:

```
CALCulate:MFIDelity:LIMit:UPPer 0

CALCulate:MFIDelity:LIMit:UPPer?
0
```

17.10 CALCulate:MFIDelity:LIMit:UPPer:STATe

Syntax:

CALCulate:MFIDelity:LIMit:UPPer:STATe
CALCulate:MFIDelity:LIMit:UPPer:STATe?

Parameter/Return: Off | On

Description: Sets/returns Upper Limit State.

Example:

```
CALCulate:MFIDelity:LIMit:UPPer:STATe On
CALCulate:MFIDelity:LIMit:UPPer:STATe?
On
```

17.11 CALCulate:RFERRor:LIMit:FAIL?

Syntax: CALCulate:RFERRor:LIMit:FAIL?

Parameter/Return: 0-Off, 1-Pass, 2-Fail High, 3-Fail Low

Description: You can query Freq Error Limit status.

Example:

```
CALCulate:RFERRor:LIMit:FAIL?
0
```

17.12 CALCulate:RFERRor:LIMit:LOWer

Syntax:

CALCulate:RFERRor:LIMit:LOWer
CALCulate:RFERRor:LIMit:LOWer?

Parameter/Return: -999 to 999

Description: Sets/returns Lower Limit

Example:

```
CALCulate:RFERRor:LIMit:LOWer 0
CALCulate:RFERRor:LIMit:LOWer?
0
```

17.13 CALCulate:RFERRor:LIMit:LOWer:STATe

Syntax:

CALCulate:RFERRor:LIMit:LOWer:STATe
CALCulate:RFERRor:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Lower Limit State.

Example:

```
CALCulate:RFERRor:LIMit:LOWer:STATe Off
CALCulate:RFERRor:LIMit:LOWer:STATe?
0
```

17.14 CALCulate:RFERRor:LIMit:UPPer

Syntax:

CALCulate:RFERRor:LIMit:UPPer

CALCulate:RFERRor:LIMit:UPPer?

Parameter/Return: -999 to 999

Description: Sets/returns Upper Limit.

Example:

```
CALCulate:RFERRor:LIMit:UPPer 0
CALCulate:RFERRor:LIMit:UPPer?
0
```

17.15 CALCulate:RFERRor:LIMit:UPPer:STATe

Syntax:

CALCulate:RFERRor:LIMit:UPPer:STATe

CALCulate:RFERRor:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Upper Limit State.

Example:

```
CALCulate:RFERRor:LIMit:UPPer:STATe Off
CALCulate:RFERRor:LIMit:UPPer:STATe?
0
```

17.16 CALCulate:RFERRor:PPM:LIMit:FAIL?

Syntax: CALCulate:RFERRor:PPM:LIMit:FAIL?

Parameter/Return: 0-Off, 1-Pass, 2-Fail High, 3-Fail Low

Description: You can query Freq Error PPM Limit Status.

Example:

```
CALCulate:RFERRor:PPM:LIMit:FAIL?
0
```

17.17 CALCulate:SCLOCk:LIMit:LOWer

Syntax:

CALCulate:SCLOCk:LIMit:LOWer
CALCulate:SCLOCk:LIMit:LOWer?

Parameter/Return: 0-1000

Description: Sets/returns Lower Limit Hz.

Example:

```
CALCulate:SCLOCk:LIMit:LOWer 0
CALCulate:SCLOCk:LIMit:LOWer?
0
```

17.18 CALCulate:SCLOCk:LIMit:UPPer

Syntax:

CALCulate:SCLOCk:LIMit:UPPer
CALCulate:SCLOCk:LIMit:UPPer?

Parameter/Return: 0-1000

Description: Sets/returns Upper Limit.

Example:

```
CALCulate:SCLOCk:LIMit:UPPer 0
CALCulate:SCLOCk:LIMit:UPPer?
0
```

17.19 CALCulate:SCLOCk:LIMit:FAIL?

Syntax: CALCulate:SCLOCk:LIMit:FAIL?

Parameter/Return: 0-Off, 1-Pass, 2-Fail High, 3-Fail Low

Description: You can query Symbol Clock Error Limit Status.

Example:

```
CALCulate:SCLOCk:LIMit:FAIL?
0
```

17.20 CALCulate:SCLOCk:LIMit:LOWer:STATe

Syntax:

CALCulate:SCLOCk:LIMit:LOWer:STATe
CALCulate:SCLOCk:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Lower Limit State.

Example:

```
CALCulate:SCLOCk:LIMit:LOWer:STATe Off
CALCulate:SCLOCk:LIMit:LOWer:STATe?
0
```

17.21 CALCulate:SCLOCk:LIMit:UPPer:STATe

Syntax:

CALCulate:SCLOCk:LIMit:UPPer:STATe
CALCulate:SCLOCk:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Upper Limit State

Example:

```
CALCulate:SCLOCk:LIMit:UPPer:STATe Off
CALCulate:SCLOCk:LIMit:UPPer:STATe?
0
```

17.22 CALCulate:SCLOCk:LIMit:LOWer

Syntax:

CALCulate:SCLOCk:LIMit:LOWer
CALCulate:SCLOCk:LIMit:LOWer?

Parameter/Return: 0-999

Description: Sets/returns Lower Limit Value.

Example:

```
CALCulate:SCLOCk:LIMit:LOWer 0
CALCulate:SCLOCk:LIMit:LOWer?
0
```

17.23 CALCulate:SCLOCk:LIMit:UPPer

Syntax:

CALCulate:SCLOCk:LIMit:UPPer
CALCulate:SCLOCk:LIMit:UPPer?

Parameter/Return: 0-999

Description: Sets/returns Upper Limit

Example:

```
CALCulate:SCLOCk:LIMit:UPPer 0
CALCulate:SCLOCk:LIMit:UPPer?
0
```

17.24 CALCulate:SDEViation:LIMit:FAIL?

Syntax: CALCulate:SDEViation:LIMit:FAIL?

Parameter/Return: 0-Off, 1-Pass, 2-Fail High, 3-Fail Low

Description: You can query Limit Status.

Example:

```
CALCulate:SDEViation:LIMit:FAIL?
0
```

17.25 CALCulate:SDEViation:LIMit:LOWer

Syntax:

CALCulate:SDEViation:LIMit:LOWer

CALCulate:SDEViation:LIMit:LOWer?

Parameter/Return: 0-9999

Description: Sets/returns Lower Limit

Example:

```
CALCulate:SDEViation:LIMit:LOWer 0
CALCulate:SDEViation:LIMit:LOWer?
0
```

17.26 CALCulate:SDEViation:LIMit:LOWer:STATe

Syntax:

CALCulate:SDEViation:LIMit:LOWer:STATe

CALCulate:SDEViation:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Lower Limit Enable

Example:

```
CALCulate:SDEViation:LIMit:LOWer:STATe Off
CALCulate:SDEViation:LIMit:LOWer:STATe?
0
```

17.27 CALCulate:SDEViation:LIMit:UPPer

Syntax:

CALCulate:SDEViation:LIMit:UPPer
CALCulate:SDEViation:LIMit:UPPer ?

Parameter/Return: 0-9999

Description: Sets/returns Upper Limit.

Example:

```
CALCulate:SDEViation:LIMit:UPPer 0
CALCulate:SDEViation:LIMit:UPPer?
0
```

17.28 CALCulate:SDEViation:LIMit:UPPer:STATe

Syntax: CALCulate:SDEViation:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Upper Limit Enable

Example:

```
CALCulate:SDEViation:LIMit:UPPer:STATe Off
CALCulate:SDEViation:LIMit:UPPer:STATe?
0
```

17.29 CALCulate:SPOWer:LIMit:LOWer

Syntax:

CALCulate:SPOWer:LIMit:LOWer
CALCulate:SPOWer:LIMit:LOWer?

Parameter/Return: -100 to 50

Description: Sets/returns Lower Limit dBm

Example:

```
CALCulate:SPOWer:LIMit:LOWer 0
CALCulate:SPOWer:LIMit:LOWer?
0
```

17.30 CALCulate:SPOWer:LIMit:UPPer

Syntax:

CALCulate:SPOWer:LIMit:UPPer
CALCulate:SPOWer:LIMit:UPPer?

Parameter/Return: -100 to 50

Description: Sets/returns Upper Limit dBm.

Example:

```
CALCulate:SPOWer:LIMit:UPPer 0
CALCulate:SPOWer:LIMit:UPPer?
0
```

17.31 CALCulate:SPOWer:LIMit:LOWer

Syntax:

CALCulate:SPOWer:LIMit:LOWer
CALCulate:SPOWer:LIMit:LOWer?

Parameter/Return: -100 to 50

Description: Sets/returns Lower Limit dBr

Example:

```
CALCulate:SPOWer:DBR:LIMit:LOWer 0

CALCulate:SPOWer:DBR:LIMit:LOWer?
0
```

17.32 CALCulate:SPOWer:LIMit:UPPer

Syntax:

CALCulate:SPOWer:LIMit:UPPer
CALCulate:SPOWer:LIMit:UPPer?

Parameter/Return: -100 to 50

Description: Sets/returns Upper Limit dBr

Example:

```
CALCulate:SPOWer:LIMit:UPPer 10

CALCulate:SPOWer:LIMit:UPPer?
10
```

17.33 CALCulate:SPOWer:LIMit:FAIL?

Syntax: CALCulate:SPOWer:LIMit:FAIL?

Parameter/Return: 0-Off, 1-Pass, 2-Fail High, 3-Fail Low

Description: You can query Signal Power Limit Status.

Example:

```
CALCulate:SPOWer:LIMit:FAIL?
0
```

17.34 CALCulate:SPOWer:LIMit:LOWer:STATe

Syntax:

CALCulate:SPOWer:LIMit:LOWer:STATe
CALCulate:SPOWer:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Lower Limit Enable.

Example:

```
CALCulate:SPOWer:LIMit:LOWer:STATe Off
CALCulate:SPOWer:LIMit:LOWer:STATe?
0
```

17.35 CALCulate:SPOWer:LIMit:UPPer:STATe

Syntax:

CALCulate:SPOWer:LIMit:UPPer:STATe
CALCulate:SPOWer:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Upper Limit Enable.

Example:

```
CALCulate:SPOWer:LIMit:UPPer:STATe Off
CALCulate:SPOWer:LIMit:UPPer:STATe?
0
```

17.36 CALCulate:SPOWer:LIMit:LOWer

Syntax:

CALCulate:SPOWer:LIMit:LOWer

CALCulate:SPOWer:LIMit:LOWer?

Parameter/Return: 0-100

Description: Sets/returns Lower Limit Watts.

Example:

```
CALCulate:SPOWer:LIMit:LOWer 0
CALCulate:SPOWer:LIMit:LOWer?
0
```

17.37 CALCulate:SPOWer:LIMit:UPPer

Syntax:

CALCulate:SPOWer:LIMit:UPPer
CALCulate:SPOWer:LIMit:UPPer?

Parameter/Return: 0-100

Description: Sets/returns Upper Limit Watts.

Example:

```
CALCulate:SPOWer:LIMit:UPPer 0
CALCulate:SPOWer:LIMit:UPPer?
0
```

17.38 DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision

Syntax:

DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision

DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision?

Parameter/Return: VSCALE_1dB | VSCALE_2dB | VSCALE_5dB | VSCALE_10dB | VSCALE_15dB | VSCALE_20dB

Description: Sets/returns vertical scale per division.

Example:

```
DISPlay:PPROFile:WINDow:TRACe:Y:SCALe:PDIVision
VSCALE_10dB
DISPlay:PPROFile:WINDow:TRACe:Y:SCALe:PDIVision?
VSCALE_10dB
```

17.39 DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP

Syntax:
DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP
DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP?

Parameter/Return: -130 to 30

Description: Sets/returns Top of vertical scale.

Example:

```
DISPlay:PPROFile:WINDow:TRACe:Y:SCALe:TOP 10
DISPlay:PPROFile:WINDow:TRACe:Y:SCALe:TOP?
10
```

17.40 MEASure:ALGID?

Syntax: MEASure:ALGID?

Parameter/Return: None

Description: You can query ALGID Reading.

Example:

```
MEASure:ALGID?
0
```

17.41 MEASure:BER?

Syntax: MEASure:BER?

Parameter/Return: None

Description: You can query BER Live Reading.

Example:

```
MEASure:BER?
0
```

17.42 MEASure:BER:AVERage

Syntax:

MEASure:BER:AVERage

MEASure:BER:AVERage?

Parameter/Return: None

Description: Sets/returns BER Average Reading

Example:

```
MEASure:BER:AVERage 0
MEASure:BER:AVERage?
0
```

17.43 MEASure:BER:MAXimum?

Syntax: MEASure:BER:MAXimum?

Parameter/Return: None

Description: You can query BER Maximum Reading.

Example:

```
MEASure:BER:MAXimum?
0
```

17.44 MEASure:BER:MINimum?

Syntax: MEASure:BER:MINimum?

Parameter/Return: None

Description: You can query BER Minimum Reading.

Example:

```
MEASure:BER:MINimum?
0
```

17.45 MEASure:DATA:SIGNal

Syntax:

MEASure:DATA:SIGNal

MEASure:DATA:SIGNal?

Parameter/Return: None

Description: Sets/returns Data Signal.

Example:

```
MEASure:DATA:SIGNal On
MEASure:DATA:SIGNal?
On
```

17.46 MEASure:EMERgency?

Syntax: MEASure:EMERgency?

Parameter/Return: None

Description: You can query Emergency

Example:

```
MEASure:EMERgency?
0
```

17.47 MEASure:KEYID?

Syntax: MEASure:KEYID?

Parameter/Return: None

Description: You can query Key ID.

Example:

```
MEASure:KEYID?
0
```

17.48 MEASure:LCONTrol?

Syntax: MEASure:LCONTrol?

Parameter/Return: None

Description: You can query Link Control.

Example:

```
MEASure:LCONTrol?
0
```

17.49 MEASure:MFID?

Syntax: MEASure:MFID?

Parameter/Return: None

Description: You can query to measure MFID.

Example:

```
MEASure:MFID?
0
```

17.50 MEASure:MFIDelity?

Syntax: MEASure:MFIDelity?

Parameter/Return: None

Description: You can query Live Reading.

Example:

```
MEASure:MFIDelity?
0
```

17.51 MEASure:MFIDelity:AVERage

Syntax:

MEASure:MFIDelity:AVERage
MEASure:MFIDelity:AVERage?

Parameter/Return: None

Description: Sets/returns Average Reading

Example:

```
MEASure:MFIDelity:AVERage 0
MEASure:MFIDelity:AVERage?
0
```

17.52 MEASure:MFIDelity:MAXimum?

Syntax: MEASure:MFIDelity:MAXimum?

Parameter/Return: None

Description: You can query Maximum Reading.

Example:

```
MEASure:MFIDelity:MAXimum?
0
```

17.53 MEASure:MFIDelity:MINimum?

Syntax: MEASure:MFIDelity:MINimum?

Parameter/Return: None

Description: You can query Minimum Reading.

Example:

```
MEASure:MFIDelity:MINimum?
0
```

17.54 MEASure:NAC?

Syntax: MEASure:NAC?

Parameter/Return: None

Description: You can query NAC Reading.

Example:

```
MEASure:NAC?
0
```

17.55 MEASure:RFERRor?

Syntax: MEASure:RFERRor?

Parameter/Return: None

Description: You can query Live Freq Error Meter Reading.

Example:

```
MEASure:RFERRor?
0
```

17.56 MEASure:RFERRor:AVERage?

Syntax: MEASure:RFERRor:AVERage?

Parameter/Return: None

Description: You can query Average Freq Error Meter Reading.

Example:

```
MEASure:RFERRor:AVERage?
0
```

17.57 MEASure:RFERRor:MAXimum?

Syntax: MEASure:RFERRor:MAXimum?

Parameter/Return: None

Description: You can query Minimum Freq Error Meter Reading

Example:

```
MEASure:RFERRor:MINimum?
0
```

17.58 MEASure:RFERRor:PPM?

Syntax: MEASure:RFERRor:PPM?

Parameter/Return: None

Description: You can query Freq Error Meter PPM Reading.

Example:

```
MEASure:RFERRor:PPM?
0
```

17.59 MEASure:RFERRor:PPM:AVERage?

Syntax: MEASure:RFERRor:PPM:AVERage?

Parameter/Return: None

Description: You can query Average Freq Error Meter PPM Reading.

Example:

```
MEASure:RFERRor:PPM:AVERage?
0
```

17.60 MEASure:RFERRor:PPM:MAXimum?

Syntax: MEASure:RFERRor:PPM:MAXimum?

Parameter/Return: None

Description: You can query Maximum Freq Error Meter PPM Reading.

Example:

```
MEASure:RFERRor:PPM:MAXimum?
0
```

17.61 MEASure:RFERRor:PPM:MINimum?

Syntax: MEASure:RFERRor:PPM:MINimum?

Parameter/Return: None

Description: You can query Minimum Freq Error Meter PPM Reading.

Example:

```
MEASure:RFERRor:PPM:MINimum?
0
```

17.62 MEASure:SCLOCk?

Syntax: MEASure:SCLOCk?

Parameter/Return: None

Description: You can query Live Symbol Clock Error.

Example:

```
MEASure:SCLOCk?
0
```

17.63 MEASure:SCLOCk:AVERage?

Syntax: MEASure:SCLOCk:AVERage?

Parameter/Return: None

Description: You can query Symbol Clock Error Average.

Example:

```
MEASure:SCLOCk:AVERage?
0
```

17.64 MEASure:SCLOCk:MAXimum?

Syntax: MEASure:SCLOCk:MAXimum?

Parameter/Return: None

Description: You can query Maximum Symbol Clock Error.

Example:

```
MEASure:SCLOCk:MAXimum?
0
```

17.65 MEASure:SCLOCk:MINimum?

Syntax: MEASure:SCLOCk:MINimum?

Parameter/Return: None

Description: Sets/returns Minimum Symbol Clock Error.

Example:

```
MEASure:SCLOCk:MINimum?
0
```

17.66 MEASure:SDEViation?

Syntax: MEASure:SDEViation?

Parameter/Return: None

Description: You can query Live Symbol Deviation.

Example:

```
MEASure:SDEViation?
0
```

17.67 MEASure:SDEViation:AVERage?

Syntax: MEASure:SDEViation:AVERage?

Parameter/Return: None

Description: You can query Symbol Deviation Average.

Example:

```
MEASure:SDEViation:AVERage?
0
```

17.68 MEASure:SDEViation:MAXimum?

Syntax: MEASure:SDEViation:MAXimum?

Parameter/Return: None

Description: You can query Maximum Symbol Deviation.

Example:

```
MEASure:SDEViation:MAXimum?
0
```

17.69 MEASure:SDEViation:MINimum?

Syntax: MEASure:SDEViation:MINimum?

Parameter/Return: None

Description: You can query Minimum Symbol Deviation.

Example:

```
MEASure:SDEViation:MINimum?
0
```

17.70 MEASure:SPOWer?

Syntax: MEASure:SPOWer?

Parameter/Return: None

Description: You can query Live Signal Power.

Example:

```
MEASure:SPOWer?
0
```

17.71 MEASure:SPOWer:AVERage?

Syntax: MEASure:SPOWer:AVERage?

Parameter/Return: None

Description: You can query Signal Power Average.

Example:

```
MEASure:SPOWer:AVERage?
0
```

17.72 MEASure:SPOWer:MAXimum?

Syntax: MEASure:SPOWer:MAXimum?

Parameter/Return: None

Description: You can query Signal Power Maximum.

Example:

```
MEASure:SPOWer:MAXimum?
0
```

17.73 MEASure:SPOWer:MINimum?

Syntax: MEASure:SPOWer:MINimum?

Parameter/Return: None

Description: You can query Signal Power Minimum

Example:

```
MEASure:SPOWer:MINimum?
0
```

17.74 MEASure:STATion:ID

Syntax: MEASure:STATion:ID?

Parameter/Return: None

Description: You can query Station ID.

Example:

```
MEASure:STATion:ID?
0
```

17.75 MEASure:TGID

Syntax: MEASure:TGID?

Parameter/Return: None

Description: You can query to measure TGID.

Example:

```
MEASure:TGID?
1
```

17.76 SENSe:AUDio:FILTer

Syntax:

SENSe:AUDio:FILTer
SENSe:AUDio:FILTer?

Parameter/Return: None

Description: Sets/returns Filter Selection.

Example:

```
SENSe:AUDio:FILTer None
SENSe:AUDio:FILTer?
None
```

17.77 SENSe:BER:AVERage:COUNt

Syntax:
SENSe:BER:AVERage:COUNt
SENSe:BER:AVERage:COUNt?

Parameter/Return: 1-99

Description: Sets/returns Average Count.

Example:

```
SENSe:BER:AVERage:COUNt 1
SENSe:BER:AVERage:COUNt?
1
```

17.78 SENSe:BER:NAC

Syntax:

SENSe:BER:NAC
SENSe:BER:NAC?

Parameter/Return: 0-0x7FFFFFF but must be entered in the decimal equivalent of 0-2147483647

Description: Sets/returns NAC.

Example:

```
SENSe:BER:NAC 659
SENSe:BER:NAC?
659
```

17.79 SENSe:BER:PATTern

Syntax:

SENSe:BER:PATTern

SENSe:BER:PATTern?

Parameter/Return: STD 1011 | STD Cal | STD 511 | STD Interferer | STD Busy | STD AFC | STD Idle | Framesync

Description: Sets/returns Ber Pattern.

Example:

```
SENSe:BER:PATTern STD 1011

SENSe:BER:PATTern?
STD 1011
```

17.80 SENSe:BER:SCALe

Syntax:

SENSe:BER:SCALe
SENSe:BER:SCALe?

Parameter/Return: Auto | 100% | 50% | 20% | 10% | 5% | 2% | 1%

Description: Sets/returns Scale.

Example:

```
SENSe:BER:SCALe Auto

SENSe:BER:SCALe?
Auto
```

17.81 SENSe:BER:TYPE

Syntax:

SENSe:BER:TYPE
SENSe:BER:TYPE?

Parameter/Return: Live | Min | Max | Avg

Description: Sets/returns Reading Type.

Example:

```
SENSe:BER:TYPE Live

SENSe:BER:TYPE?
Live
```

17.82 SENSe:HOLD

Syntax:

SENSe:HOLD
SENSe:HOLD?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Hold.

Example:

```
SENSe:HOLD Off

SENSe:HOLD?
0
```

17.83 SENSe:MFIDelity:AVERage:COUNt

Syntax:

SENSe:MFIDelity:AVERage:COUNt
SENSe:MFIDelity:AVERage:COUNt?

Parameter/Return: 1-99

Description: Sets/returns Average Count.

Example:

```
SENSe:MFIDelity:AVERage:COUNt 1

SENSe:MFIDelity:AVERage:COUNt?
1
```

17.84 SENSe:MFIDelity:SCALe

Syntax: SENSe:MFIDelity:SCALe?

Parameter/Return: Auto | 100% | 50% | 20% | 10% | 5% | 2% | 1%

Description: Sets/returns Scale.

Example:

```
SENSe:MFIDelity:SCALe Auto

SENSe:MFIDelity:SCALe?
Auto
```

17.85 SENSe:MFIDelity:TYPE

Syntax:

SENSe:MFIDelity:TYPE
SENSe:MFIDelity:TYPE?

Parameter/Return: Live | Min | Max | Avg

Description: Sets/returns Reading Type.

Example:

```
SENSe:MFIDelity:TYPE Live

SENSe:MFIDelity:TYPE?
Live
```

17.86 SENSe:PHASe2:BER:PATTern

Syntax:

SENSe:PHASe2:BER:PATTern
SENSe:PHASe2:BER:PATTern?

Parameter/Return: STD 1031 | STD Cal | STD Silence

Description: Sets/returns Phase II Ber Pattern.

Example:

```
SENSe:PHASe2:BER:PATTern STD 1031

SENSe:PHASe2:BER:PATTern?
STD 1031
```

17.87 SENSe:PPROFile:AVERage:COUNt

Syntax:

SENSe:PPROFile:AVERage:COUNt
SENSe:PPROFile:AVERage:COUNt?

Parameter/Return: 1-99

Description: Sets/returns SENSe:PPROFile:AVERage:COUNt 1

Example:

```
SENSe:PPROFile:AVERage:COUNt 1

SENSe:PPROFile:AVERage:COUNt?
1
```

17.88 SENSe:PPROFile:MODE

Syntax:

SENSe:PPROFile:MODE

SENSe:PPROFile:MODE?

Parameter/Return: FULL | RAMPS

Description: Sets/returns the Mode.

Example:

```
SENSe:PPROFile:MODE FULL
SENSe:PPROFile:MODE?
FULL
```

17.89 SENSe:PPROFile:PERSistence

Syntax:

SENSe:PPROFile:PERSistence

SENSe:PPROFile:PERSistence?

Parameter/Return: 1-10

Description: Sets/returns Persistence.

Example:

```
SENSe:PPROFile:PERSistence 1
SENSe:PPROFile:PERSistence?
1
```

17.90 SENSe:PPROFile:SLOT

Syntax:

SENSe:PPROFile:SLOT
SENSe:PPROFile:SLOT?

Parameter/Return: SlotA | SlotB

Description: Sets/returns Slot.

Example:

```
SENSe:PPROFile:SLOT SlotA
SENSe:PPROFile:SLOT?
SlotA
```

17.91 SENSe:RESet

Syntax: SENSe:RESet

Parameter/Return: None

Description: You can Reset Acquisition.

Example:

```
SENSe:RESet
```

17.92 SENSe:RFErr:AVERage:COUNt

Syntax:

SENSe:RFErr:AVERage:COUNt
SENSe:RFErr:AVERage:COUNt?

Parameter/Return: 1-99

Description: Sets/returns Average Count.

Example:

```
SENSe:RFErr:AVERage:COUNt 1
SENSe:RFErr:AVERage:COUNt?
1
```

17.93 SENSe:RFErr:SCALe

Syntax:

SENSe:RFErr:SCALe
SENSe:RFErr:SCALe?

Parameter/Return: Auto| 5 MHz | 2 MHz | 1 MHz | 500 kHz | 200 kHz | 100 kHz | 50 kHz | 20 kHz | 10 kHz | 5 kHz | 2 kHz | 1 kHz | 500 Hz | 200

Hz | 100 Hz

Description: Sets/returns Scale.

Example:

```
SENSe:RFErr:SCALe Auto
SENSe:RFErr:SCALe?
Auto
```

17.94 SENSe:RFErr:TYPE

Syntax:

SENSe:RFErr:TYPE
SENSe:RFErr:TYPE?

Parameter/Return: Live | Min | Max | Avg

Description: Sets/returns Reading Type

Example:

```
SENSe:RFErr:TYPE Live

SENSe:RFErr:TYPE?
Live
```

17.95 SENSe:SCLOCk:AVERage:COUNt

Syntax:

SENSe:SCLOCk:AVERage:COUNt
SENSe:SCLOCk:AVERage:COUNt?

Parameter/Return:

Description: Sets/returns the Average Clock Count.

Example:

```
SENSe:SCLOCk:AVERage:COUNt 1

SENSe:SCLOCk:AVERage:COUNt?
1
```

17.96 SENSe:SCLOCk:DECimal:PRECision

Syntax: SENSe:SCLOCk:DECimal:PRECision?

Parameter/Return: 0-9

Description: Sets/returns the Decimal Precision.

Example:

```
SENSe:SCLOCk:DECimal:PRECision 1

SENSe:SCLOCk:DECimal:PRECision?
1
```

17.97 SENSe:SCLOCk:HZ:SCALe

Syntax:

SENSe:SCLOCk:HZ:SCALe
SENSe:SCLOCk:HZ:SCALe?

Parameter/Return: Auto | 1000 mHz | 500 mHz | 200 mHz | 100 mHz | 50 mHz | 20 mHz | 10 mHz | 5 mHz | 2 mHz | 1 mHz

Description: Sets/returns the Hz Scale.

Example:

```
SENSe:SCLOCk:HZ:SCALe Auto

SENSe:SCLOCk:HZ:SCALe?
Auto
```

17.98 SENSe:SCLOCk:PPM:SCALe

Syntax: SENSe:SCLOCk:PPM:SCALe?

Parameter/Return: Auto | 100 ppm | 50 ppm | 20 ppm | 10 ppm | 5 ppm | 2 ppm | 1 ppm

Description: Sets/returns the PPM Scale.

Example:

```
SENSe:SCLOCk:PPM:SCALe Auto

SENSe:SCLOCk:PPM:SCALe?
Auto
```

17.99 SENSe:SCLOCk:TYPE

Syntax:

SENSe:SCLOCk:TYPE
SENSe:SCLOCk:TYPE?

Parameter/Return: Live | Min | Max | Avg

Description: Sets/returns Reading Type.

Example:

```
SENSe:SCLOCk:TYPE Live

SENSe:SCLOCk:TYPE?
Live
```

17.100 SENSe:SCLOCk:UNIT

Syntax:

SENSe:SCLOCk:UNIT

SENSe:SCLOCk:UNIT?

Parameter/Return: ppm | mHz

Description: Sets/returns the clock Unit.

Example:

```
SENSe:SCLOCk:UNIT ppm
SENSe:SCLOCk:UNIT?
ppm
```

17.101 SENSe:SDEViation:AVERage:COUNt

Syntax:

SENSe:SDEViation:AVERage:COUNt
SENSe:SDEViation:AVERage:COUNt?

Parameter/Return: 1-99

Description: Sets/returns Average Count.

Example:

```
SENSe:SDEViation:AVERage:COUNt 1
SENSe:SDEViation:AVERage:COUNt?
1
```

17.102 SENSe:SDEViation:DECimal:PRECision

Syntax:

SENSe:SDEViation:DECimal:PRECision
SENSe:SDEViation:DECimal:PRECision?

Parameter/Return: 0-9

Description: Sets/returns Decimal Precision.

Example:

```
SENSe:SDEViation:DECimal:PRECision 0
SENSe:SDEViation:DECimal:PRECision?
0
```

17.103 SENSe:SDEViation:SCALe

Syntax:

SENSe:SDEViation:SCALe
SENSe:SDEViation:SCALe?

Parameter/Return: Auto | 10 kHz - 1 Hz in 1, 2, 5 sequence

Description: Sets/returns the Deviation Scale.

Example:

```
SENSe:SDEViation:SCALe Auto
SENSe:SDEViation:SCALe?
Auto
```

17.104 SENSe:SDEViation:TYPE

Syntax:

SENSe:SDEViation:TYPE
SENSe:SDEViation:TYPE?

Parameter/Return: Live | Min | Max | Avg

Description: Sets/returns the Reading Type.

Example:

```
SENSe:SDEViation:TYPE Live
SENSe:SDEViation:TYPE?
Live
```

17.105 SENSe:SPOWer:AVERage:COUNt

Syntax:

SENSe:SPOWer:AVERage:COUNt

SENSe:SPOWer:AVERage:COUNt?

Parameter/Return: 1-99

Description: Sets/returns the Average Signal Power Count.

Example:

```
SENSe:SPOWer:AVERage:COUNt 1
SENSe:SPOWer:AVERage:COUNt?
1
```

17.106 SENSe:SPOWer:DBM:SCALe

Syntax:

SENSe:SPOWer:DBM:SCALe?
SENSe:SPOWer:DBM:SCALe?

Parameter/Return: Auto | 60 dBm to -100 dBm in 10 dB steps

Description: Sets/returns the dBm Scale.

Example:

```
SENSe:SPOWer:DBM:SCALe Auto

SENSe:SPOWer:DBM:SCALe?
Auto
```

17.107 SENSe:SPOWer:DBR:SCALe

Syntax:

SENSe:SPOWer:DBR:SCALe
SENSe:SPOWer:DBR:SCALe?

Parameter/Return: Auto | 60 dBm to -100 dBm in 10 dB steps

Description: Sets/returns the dBr Scale.

Example:

```
SENSe:SPOWer:DBR:SCALe Auto

SENSe:SPOWer:DBR:SCALe?
Auto
```

17.108 SENSe:SPOWer:DECimal:PRECision

Syntax:

SENSe:SPOWer:DECimal:PRECision
SENSe:SPOWer:DECimal:PRECision?

Parameter/Return: 0-9

Description: Sets/returns the Signal Power Decimal Precision.

Example:

```
SENSe:SPOWer:DECimal:PRECision 1

SENSe:SPOWer:DECimal:PRECision?
1
```

17.109 SENSe:SPOWer:RLEVel?

Syntax: SENSe:SPOWer:RLEVel?

Parameter/Return: None

Description: You can query the Reference Level of Signal Power.

Example:

```
SENSe:SPOWer:RLEVel?
0
```

17.110 SENSe:SPOWer:SREFerence

Syntax: SENSe:SPOWer:SREFerence

Parameter/Return: None

Description: You can set the RSSI Reference Level.

Example:

```
SENSe:SPOWer:SREFerence
```

17.111 SENSe:SPOWer:TYPE

Syntax:

SENSe:SPOWer:TYPE

SENSe:SPOWer:TYPE?

Parameter/Return: Live | Min | Max | Avg

Description: Sets/returns Signal Power Reading Type.

Example:

```
SENSe:SPOWer:TYPE Live
SENSe:SPOWer:TYPE?
Live
```

17.112 SENSe:SPOWer:UNIT

Syntax:

SENSe:SPOWer:UNIT
SENSe:SPOWer:UNIT?

Parameter/Return: dBm | dBr | W

Description: Sets/returns the Signal Power Unit.

Example:

```
SENSe:SPOWer:UNIT dBm
SENSe:SPOWer:UNIT?
dBm
```

17.113 SENSe:SPOWer:WATT:SCALe

Syntax:

SENSe:SPOWer:WATT:SCALe
SENSe:SPOWer:WATT:SCALe?

Parameter/Return: Auto | 1 pW - 200 W in 1,2,5 sequence

Description: Sets/returns Signal Power Scale Watts.

Example:

```
SENSe:SPOWer:WATT:SCALe Auto
SENSe:SPOWer:WATT:SCALe?
Auto
```

17.114 SENSe:TYPE

Syntax:

SENSe:TYPE
SENSe:TYPE?

Parameter/Return: C4FM | HCPM | HDQPSK | FM

Description: Sets/returns Demod Type.

Example:

```
SENSe:TYPE C4FM
SENSe:TYPE?
C4FM
```

17.115 SOURce:ALGID

Syntax:

SOURce:ALGID
SOURce:ALGID?

Parameter/Return: 0-0xFF

Description: Sets/returns ALGID.

Example:

```
SOURce:ALGID 80

SOURce:ALGID?
80
```

17.116 SOURce:BER:PATTern

Syntax:

SOURce:BER:PATTern
SOURce:BER:PATTern?

Parameter/Return: STD 511 | STD 1011 | STD Cal | STD Silence | STD AFC | STD Busy | STD Idle | STD Interferer | STD LDU1 | STD LDU2 | STD SymbolRate | 1011 | Silence | Stored Speech

Description: Sets/returns Pattern.

Example:

```
SOURce:BER:PATTern 1011

SOURce:BER:PATTern?
1011
```

17.117 SOURce:EMERgency

Syntax:

SOURce:EMERgency
SOURce:EMERgency?

Parameter/Return: Off | On | 0 | 1

Description: Sets/returns Emergency.

Example:

```
SOURce:EMERgency Off

SOURce:EMERgency?
0
```

17.118 SOURce:HCPM:MODE

Syntax:

SOURce:HCPM:MODE?
SOURce:HCPM:MODE?

Parameter/Return: Sync | Free Run

Description: Sets/returns the HCPM Mode.

Example:

```
SOURce:HCPM:MODE Free Run

SOURce:HCPM:MODE?
Free Run
```

17.119 SOURce:HCPM:PATTern

Syntax:

SOURce:HCPM:PATTern
SOURce:HCPM:PATTern?

Parameter/Return: IB STD 1031 | IB STD Cal | IB STD Silence

Description: Sets/returns the HCPM Pattern.

Example:

```
SOURce:HCPM:PATTern IB STD Cal

SOURce:HCPM:PATTern?
IB STD Cal
```

17.120 SOURce:HCPM:SLOT

Syntax:

SOURce:HCPM:SLOT
SOURce:HCPM:SLOT?

Parameter/Return: Slot 0 | Slot 1

Description: Sets/returns the HCPM Slot.

Example:

```
SOURce:HCPM:SLOT Slot 0

SOURce:HCPM:SLOT Slot?
Slot 0
```

17.121 SOURce:HDQPsk:PATTern

Syntax:

SOURce:HDQPsk:PATTern

SOURce:HDQPsk:PATTern?

Parameter/Return: OB STD 1031 | OB STD Cal | OB STD Silence

Description: Sets/returns HDQPsk Pattern.

Example:

```
SOURce:HDQPsk:PATTern OB STD 1011
SOURce:HDQPsk:PATTern?
OB STD 1011
```

17.122 SOURce:LCO

Syntax:

SOURce:LCO

SOURce:LCO?

Parameter/Return: 0-0x3F

Description: Sets/returns LCO.

Example:

```
SOURce:LCO 0
SOURce:LCO?
0
```

17.123 SOURce:MFID

Syntax:

SOURce:MFID
SOURce:MFID?

Parameter/Return: 0-0xFF

Description: Sets/returns MFID.

Example:

```
SOURce:MFID 0
SOURce:MFID?
0
```

17.124 SOURce:NAC?

Syntax: SOURce:NAC?

Parameter/Return: 0-0xFFF

Description: You can set or the query NAC.

Example:

```
SOURce:NAC?
659
```

17.125 SOURce:PRIority

Syntax:

SOURce:PRIority
SOURce:PRIority?

Parameter/Return: 0-7

Description: Sets/returns the Priority.

Example:

```
SOURce:PRIority 0
SOURce:PRIority?
0
```

17.126 SOURce:SERvice:OPTion

Syntax:

SOURce:SERvice:OPTion

SOURce:SERvice:OPTion?

Parameter/Return: 0-0xFF

Description: Sets/returns the Service Option.

Example:

```
SOURce:SERvice:OPTion 0
SOURce:SERvice:OPTion?
0
```

17.127 SOURce:SOURce:ID

Syntax:

SOURce:SOURce:ID
SOURce:SOURce:ID?

Parameter/Return: 0-0xFFFFFF

Description: Sets/returns Source ID

Example:

```
SOURce:SOURce:ID 1

SOURce:SOURce:ID?
1
```

17.128 SOURce:STATus

Syntax:

SOURce:STATus

SOURce:STATus?

Parameter/Return: 0-3

Description: Sets/returns the Source Status.

Example:

```
SOURce:STATus 0

SOURce:STATus?
0
```

17.129 SOURce:TGID

Syntax:

SOURce:TGID
SOURce:TGID?

Parameter/Return: 0-0xFFFF

Description: Sets/returns TGID.

Example:

```
SOURce:TGID 1

SOURce:TGID?
1
```

17.130 SOURce:TYPE

Syntax:

SOURce:TYPE
SOURce:TYPE?

Parameter/Return: C4FM | LSM | CQPSK | HCPM | HDQPSK | FM

Description: Sets/returns the Source Type.

Example:

```
SOURce:TYPE C4FM

SOURce:TYPE?
C4FM
```

18

DMR Modulator Commands

This chapter describes the following remote commands for configuring DMR Modulator (DMRModulator) settings:

- SOURce:BER:CALLid 18-2
- SOURce:BER:COLor:CODE 18-2
- SOURce:BER:PATTern 18-3
- SOURce:BER:PRIority 18-3
- SOURce:BER:RADioid 18-4
- SOURce:BER:SLOT 18-4
- SOURce:CURRent? 18-5
- SOURce:FM1:FREQuency 18-5
- SOURce:FM1:LEVel 18-5
- SOURce:FM1:STATe 18-6
- SOURce:FM2:FREQuency 18-6
- SOURce:FM2:LEVel 18-7
- SOURce:FM2:STATe 18-7
- SOURce:FM3:FREQuency 18-8
- SOURce:FM3:LEVel 18-8
- SOURce:FM3:STATe 18-9
- SOURce:MODE 18-9
- SOURce:TYPE 18-10

18.1 SOURce:BER:CALLid

Syntax:

SOURce:BER:CALLid

SOURce:BER:CALLid?

Parameter/Return: 0 to 15

Note: Default = 0

Description: Sets/returns the BER call ID.

Examples:

```
SOURce:BER:CALLid 1
SOURce:BER:CALLid?
1
```

18.2 SOURce:BER:COLor:CODE

Syntax:

SOURce:BER:COLor:CODE

SOURce:BER:COLor:CODE?

Parameter/Return: 0 to 15

Note: Default = 0

Description: Sets/returns the BER color code.

Examples:

```
SOURce:BER:COLor:CODE 1
SOURce:BER:COLor:CODE?
1
```

18.3 SOURce:BER:PATTern

Syntax:

SOURce:BER:PATTern

SOURce:BER:PATTern?

Parameter/Return: IB STD 1031 | IB STD 0.153 | IB STD Calibration | IB STD Silence | IB STD Voice Sync | IB STD Data Sync | OB Tsync | IB 1031 |IB 0.153| IB Calibration | IB Silence | Stored Speech

Note: Default = IB STD 1031

Description: Sets/returns the BER pattern.

Examples:

```
SOURce:BER:PATTern IB STD 1031
SOURce:BER:PATTern?
IB STD 1031
```

18.4 SOURce:BER:PRIority

Syntax:

SOURce:BER:PRIority

SOURce:BER:PRIority?

Parameter/Return: 0 to 7

Note: Default = 0

Description: Sets/returns the BER priority.

Examples:

```
SOURce:BER:PRIority 1
SOURce:BER:PRIority?
1
```

18.5 SOURce:BER:RADioid

Syntax:

SOURce:BER:RADioid

SOURce:BER:RADioid?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the BER radio ID.

Examples:

```
SOURce:BER:RADioid 1
SOURce:BER:RADioid?
1
```

18.6 SOURce:BER:SLOT

Syntax:

SOURce:BER:SLOT

SOURce:BER:SLOT?

Parameter/Return: 0 to 1

Note: Default = 0

Description: Sets/returns the BER slot.

Examples:

```
SOURce:BER:SLOT Slot1
SOURce:BER:SLOT?
Slot1
```

18.7 SOURce:CURRent?

Syntax: SOURce:CURRent?

Parameter/Return: On | Off

Note: Default = Off

Description: Sets/returns the DMR status.

Examples:

```
SOURce:BER:RADioid On
SOURce:BER:RADioid?
On
```

18.8 SOURce:FM1:FREQuency

Syntax:

SOURce:FM1:FREQuency

SOURce:FM1:FREQuency?

Parameter/Return: 0 to 20000

Note: Default = 0

Description: Sets/returns the MOD1 frequency (Hz).

Examples:

```
SOURce:FM1:FREQuency 1000
SOURce:FM1:FREQuency?
1000
```

SOURce:FM1:LEVel

Syntax:

18.9 SOURce:FM1:LEVel

SOURce:FM1:LEVel?

Parameter/Return: 0 to 100000

Note: Default = 0

Description: Sets/returns the MOD1 level (Hz).

Examples:

```
SOURce:FM1:LEVel 2500
SOURce:FM1:LEVel?
2500
```

18.10 SOURce:FM1:STATe

Syntax:

SOURce:FM1:STATe

SOURce:FM1:STATe?

Parameter/Return: Off | On | 0 | 1

Note: Default = Off

Description: Sets/returns the MOD1 status.

Examples:

```
SOURce:FM1:STATe On
SOURce:FM1:STATe?
1
```

18.11 SOURce:FM2:FREQuency

Syntax:

SOURce:FM2:FREQuency

SOURce:FM2:FREQuency?

Parameter/Return: 0 to 20000

Note: Default = 20000

Description: Sets/returns the MOD2 frequency (Hz).

Examples:

```
SOURce:FM2:FREQuency 1000
SOURce:FM2:FREQuency?
1000
```

18.12 SOURce:FM2:LEVel

Syntax:

SOURce:FM2:LEVel

SOURce:FM2:LEVel?

Parameter/Return: 0 to 100000

Note: Default = 0

Description: Sets/returns the MOD2 level (Hz).

Examples:

```
SOURce:FM2:LEVel 10000
SOURce:FM2:LEVel?
10000
```

18.13 SOURce:FM2:STATe

Syntax:

SOURce:FM2:STATe

SOURce:FM2:STATe?

Parameter/Return: Off | On | 0 | 1

Note: Default = Off

Description: Sets/returns the MOD2 status.

Examples:

```
SOURce:FM2:STATe On
SOURce:FM2:STATe?
1
```

18.14 SOURce:FM3:FREQuency

Syntax:

SOURce:FM3:FREQuency

SOURce:FM3:FREQuency?

Parameter/Return: 0 to 20000

Note: Default = 0

Description: Sets/returns the MOD3 frequency (Hz).

Examples:

```
SOURce:FM3:FREQuency 10000
SOURce:FM3:FREQuency?
10000
```

18.15 SOURce:FM3:LEVel

Syntax:

SOURce:FM3:LEVel

SOURce:FM3:LEVel?

Parameter/Return: 0 to 100000

Note: Default = 0

Description: Sets/returns the MOD3 level (Hz).

Examples:

```
SOURce:FM3:LEVel 1000
SOURce:FM3:LEVel?
1000
```

18.16 SOURce:FM3:STATe

Syntax:

SOURce:FM3:STATe

SOURce:FM3:STATe?

Parameter/Return: Off | On | 0 | 1

Note: Default = Off

Description: Sets/returns the MOD3 status.

Examples:

```
SOURce:FM3:STATe On
SOURce:FM3:STATe?
1
```

18.17 SOURce:MODE

Syntax:

SOURce:MODE

SOURce:MODE?

Parameter/Return: Sync | Direct

Note: Default = Sync

Description: Sets/returns the DMR mode.

Examples:

```
SOURce:MODE Direct
SOURce:MODE?
Direct
```

18.18 SOURce:TYPE

Syntax:

SOURce:TYPE

SOURce:TYPE?

Parameter/Return: FM | DMR

Note: Default = DMR

Description: Sets/returns the modulation type.

Examples:

```
SOURce:FM3:STATe DMR

SOURce:FM3:STATe?
DMR
```

19

DMR Demodulator Commands

This chapter describes the following remote commands for configuring DMR Demodulator (DMRDemodulator) settings:

- CALCulate:BER:LIMit:FAIL? 19-5
- CALCulate:BER:LIMit:LOWer 19-5
- CALCulate:BER:LIMit:UPPer 19-5
- CALCulate:BER:LIMit:UPPer:STATe 19-6
- CALCulate:FERRor:LIMit:FAIL? 19-6
- CALCulate:FERRor:LIMit:LOWer 19-6
- CALCulate:FERRor:LIMit:LOWer:STATe 19-7
- CALCulate:FERRor:LIMit:UPPer:STATe 19-7
- CALCulate:MERRor:LIMit:FAIL? 19-7
- CALCulate:MERRor:LIMit:LOWer:STATe 19-8
- CALCulate:MERRor:LIMit:UPPer 19-8
- CALCulate:MERRor:LIMit:UPPer:STATe 19-9
- CALCulate:MFIDelity:LIMit:FAIL? 19-9
- CALCulate:MFIDelity:LIMit:LOWer 19-9
- CALCulate:MFIDelity:LIMit:LOWer:STATe 19-10
- CALCulate:MFIDelity:LIMit:UPPer 19-10
- CALCulate:MFIDelity:LIMit:UPPer:STATe 19-10
- CALCulate:SCLOCk:LIMit:FAIL? 19-11
- CALCulate:SCLOCk:LIMit:LOWer 19-11
- CALCulate:SCLOCk:LIMit:LOWer:STATe 19-11
- CALCulate:SCLOCk:LIMit:UPPer 19-12
- CALCulate:SCLOCk:LIMit:UPPer:STATe 19-12
- CALCulate:SDEViation:LIMit:FAIL? 19-12
- CALCulate:SDEViation:LIMit:LOWer 19-13
- CALCulate:SDEViation:LIMit:LOWer:STATe 19-13

- CALCulate:SDEViation:LIMit:UPPer 19-13
- CALCulate:SDEViation:LIMit:UPPer:STATe 19-14
- CALCulate:SLOT:POWer:LIMit:FAIL 19-14
- CALCulate:SLOT:POWer:LIMit:LOWer. 19-14
- CALCulate:SLOT:POWer:LIMit:LOWer:STATe 19-15
- CALCulate:SLOT:POWer:LIMit:UPPer 19-15
- CALCulate:SLOT:POWer:LIMit:UPPer:STATe 19-15
- CALCulate:SLOT:POWer:RATio:LIMit:Fail 19-16
- CALCulate:SLOT:POWer:RATio:LIMit:LOWer 19-16
- CALCulate:SLOT:POWer:RATio:LIMit:LOWer:STATe 19-16
- CALCulate:FERRor:LIMit:LOWer 19-17
- CALCulate:SLOT:POWer:RATio:LIMit:UPPer 19-17
- CALCulate:SLOT:POWer:RATio:LIMit:UPPer:STATe 19-17
- CALCulate:SPOWer:LIMit:FAIL? 19-18
- CALCulate:SPOWer:LIMit:LOWer. 19-18
- CALCulate:SPOWer:LIMit:LOWer:STATe 19-18
- CALCulate:SPOWer:LIMit:UPPer 19-19
- CALCulate:SPOWer:LIMit:UPPer:STATe 19-19
- DISPlay:DMR:HOLD 19-19
- DISPlay:HOLD 19-20
- DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:PDIVision 19-20
- DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP 19-20
- MEASure:BER?. 19-21
- MEASure:BER:AVERage? 19-21
- MEASure:BER:MAXimum? 19-21
- MEASure:BER:MINimum? 19-21
- MEASure:CLEar:STATion:ID? 19-22
- MEASure:COLor? 19-22
- MEASure:EMERgency? 19-22
- MEASure:FERRor? 19-22
- MEASure:FERRor:AVERage? 19-23
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19.1 CALCulate:BER:LIMit:FAIL?

Syntax: CALCulate:BER:LIMit:FAIL?

Parameter/Return: None

Description: You can query the BER Limit Status.1- Pass | 2- Fail High | 3- Fail Low

Example:

```
CALCulate:BER:LIMit:FAIL?
0
```

19.2 CALCulate:BER:LIMit:LOWer

Syntax:

CALCulate:BER:LIMit:LOWer
CALCulate:BER:LIMit:LOWer?

Parameter/Return: On | Off

Description: Sets/returns the BER Lower limit.

Example:

```
CALCulate:BER:LIMit:LOWer On
CALCulate:BER:LIMit:LOWer?
On
```

19.3 CALCulate:BER:LIMit:UPPer

Syntax:

CALCulate:BER:LIMit:UPPer
CALCulate:BER:LIMit:UPPer?

Parameter/Return: 0.0 to 90.0%

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:BER:LIMit:UPPer 20
CALCulate:BER:LIMit:UPPer?
20
```

19.4 CALCulate:BER:LIMit:UPPer:STATe

Syntax: CALCulate:BER:LIMit:UPPer:STATe?

Parameter/Return: On | Off

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:BER:LIMit:UPPer:STATe On
CALCulate:BER:LIMit:UPPer:STATe?
On
```

19.5 CALCulate:FERRor:LIMit:FAIL?

Syntax: CALCulate:FERRor:LIMit:FAIL?

Parameter/Return: None

Description: Queries the Frequency Error Limit Status. Returns 0 if Off, 1 if Pass, 2 if Fail High, 3 if Fail Low.

Example:

```
CALCulate:FERRor:LIMit:FAIL?
0
```

19.6 CALCulate:FERRor:LIMit:LOWer

Syntax:

CALCulate:FERRor:LIMit:LOWer
CALCulate:FERRor:LIMit:LOWer?

Parameter/Return: On | Off

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:FERRor:LIMit:LOWer Off
CALCulate:FERRor:LIMit:LOWer?
Off
```

19.7 CALCulate:FERRor:LIMit:LOWer:STATe

Syntax:

CALCulate:FERRor:LIMit:LOWer:STATe

CALCulate:FERRor:LIMit:LOWer:STATe?

Parameter/Return: Off | On | 0 | 1

Description: Sets/returns the Frequency Error Lower Limit State.

Example:

```
CALCulate:FERRor:LIMit:LOWer:STATe On

CALCulate:FERRor:LIMit:LOWer:STATe?
1
```

19.8 CALCulate:FERRor:LIMit:UPPer:STATe

Syntax:

CALCulate:FERRor:LIMit:UPPer:STATe
CALCulate:FERRor:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Frequency Error Upper Limit State.

Example:

```
CALCulate:FERRor:LIMit:UPPer:STATe On

CALCulate:FERRor:LIMit:UPPer:STATe?
1
```

19.9 CALCulate:MERRor:LIMit:FAIL?

Syntax:
CALCulate:MERRor:LIMit:FAIL?

Parameter/Return: None

Description: Queries the Magnitude Error Limit Status. Returns 0 if off, 1 if Pass, 2 if Fail high, three if Fail Low.

Example:

```
CALCulate:MERRor:LIMit:FAIL?
0
```

19.10 CALCulate:MERRor:LIMit:LOWer:STATe

Syntax:

CALCulate:MERRor:LIMit:LOWer:STATe

CALCulate:MERRor:LIMit:LOWer:STATe?

Parameter/Return: Off | On | 1 | 0

Description: Sets/returns the Magnitude Error Lower Limit State

Example:

```
CALCulate:MERRor:LIMit:LOWer:STATe On
CALCulate:MERRor:LIMit:LOWer:STATe?
1
```

19.11 CALCulate:MERRor:LIMit:UPPer

Syntax:

CALCulate:MERRor:LIMit:UPPer
CALCulate:MERRor:LIMit:UPPer?

Parameter/Return: 0.0 to 99.0

Description: Sets/returns the Magnitude Error Lower Limit.

Example:

```
CALCulate:MERRor:LIMit:UPPer 20.0
CALCulate:MERRor:LIMit:UPPer?
20.0
```

19.12 CALCulate:MERRor:LIMit:UPPer:STATe

Syntax:

CALCulate:MERRor:LIMit:UPPer:STATe
CALCulate:MERRor:LIMit:UPPer:STATe?

Parameter/Return: On | Off

Description: Sets/returns the Magnitude Error Upper Limit State.

Example:

```
CALCulate:MERRor:LIMit:UPPer:STATe On
CALCulate:MERRor:LIMit:UPPer:STATe?
On
```

19.13 CALCulate:MFIDelity:LIMit:FAIL?

Syntax: CALCulate:MFIDelity:LIMit:FAIL?

Parameter/Return: None

Description: You can query the Mod Fidelity Limit Status. Returns 0 if Off, 1 if Pass, 2 if Fail High, 3 if Fail Low.

Example:

```
CALCulate:MFIDelity:LIMit:FAIL?
```

19.14 CALCulate:MFIDelity:LIMit:LOWer

Syntax:

CALCulate:MFIDelity:LIMit:LOWer
CALCulate:MFIDelity:LIMit:LOWer?

Parameter/Return: 0.0 to 99.0%

Description: Sets/returns the Mod Fidelity Lower Limit.

Example:

```
CALCulate:FERRor:LIMit:LOWer 10.0
CALCulate:FERRor:LIMit:LOWer?
10.0
```

19.15 CALCulate:MFIDelity:LIMit:LOWer:STATe

Syntax:

CALCulate:MFIDelity:LIMit:LOWer:STATe
CALCulate:MFIDelity:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Mod Fidelity Limit Lower State.

Example:

```
CALCulate:MFIDelity:LIMit:LOWer:STATe On
CALCulate:MFIDelity:LIMit:LOWer:STATe?
1
```

19.16 CALCulate:MFIDelity:LIMit:UPPer

Syntax: CALCulate:MFIDelity:LIMit:UPPer?

Parameter/Return: 0.0 to 99.0%

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:MFIDelity:LIMit:UPPer 10.0
CALCulate:MFIDelity:LIMit:UPPer?
10.0
```

19.17 CALCulate:MFIDelity:LIMit:UPPer:STATe

Syntax:

CALCulate:MFIDelity:LIMit:UPPer:STATe?
CALCulate:MFIDelity:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:MFIDelity:LIMit:UPPer:STATe On
CALCulate:MFIDelity:LIMit:UPPer:STATe?
1
```

19.18 CALCulate:SCLOCk:LIMit:FAIL?

Syntax: CALCulate:SCLOCk:LIMit:FAIL?

Parameter/Return: None

Description: You can query the Symbol Clock Error Limit Status. Returns 0 if Off, 1 if Pass, 2 if Fail High, 3 if Fail Low.

Example:

```
CALCulate:FERRor:LIMit:LOWer?
0
```

19.19 CALCulate:SCLOCk:LIMit:LOWer

Syntax:

CALCulate:SCLOCk:LIMit:LOWer
CALCulate:SCLOCk:LIMit:LOWer?

Parameter/Return: 0-1000mHz | 0-208.3ppm

Description: Sets/returns the Symbol Clock Error Lower Limit.

Example:

```
CALCulate:SCLOCk:LIMit:LOWer 10.0
CALCulate:SCLOCk:LIMit:LOWer?
10.0
```

19.20 CALCulate:SCLOCk:LIMit:LOWer:STATe

Syntax:

CALCulate:SCLOCk:LIMit:LOWer:STATe
CALCulate:SCLOCk:LIMit:LOWer:STATe?

Parameter/Return: On | Off

Description: Sets/returns the Symbol Clock Error Lower Limit State.

Example:

```
CALCulate:SCLOCk:LIMit:LOWer:STATe On
CALCulate:SCLOCk:LIMit:LOWer:STATe?
On
```

19.21 CALCulate:SCLOCk:LIMit:UPPer

Syntax:

CALCulate:SCLOCk:LIMit:UPPer

CALCulate:SCLOCk:LIMit:UPPer?

Parameter/Return: 0-1000mHz | 0-208.3ppm

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:SCLOCk:LIMit:UPPer 0
CALCulate:SCLOCk:LIMit:UPPer?
0
```

19.22 CALCulate:SCLOCk:LIMit:UPPer:STATe

Syntax:

CALCulate:SCLOCk:LIMit:UPPer:STATe

CALCulate:SCLOCk:LIMit:UPPer:STATe?

Parameter/Return: On | Off

Description: Sets/returns the Symbol Clock Error Upper Limit State.

Example:

```
CALCulate:SCLOCk:LIMit:UPPer:STATe On
CALCulate:SCLOCk:LIMit:UPPer:STATe?
On
```

19.23 CALCulate:SDEViation:LIMit:FAIL?

Syntax: CALCulate:SDEViation:LIMit:FAIL?

Parameter/Return: None

Description: You can query the Symbol Deviation Limit Status: Return 0 if Off, 1 if Pass, 2 if Fail high, 3 if Fail low

Example:

```
CALCulate:SDEViation:LIMit:FAIL?
0
```

19.24 CALCulate:SDEViation:LIMit:LOWer

Syntax:

CALCulate:SDEViation:LIMit:LOWer
CALCulate:SDEViation:LIMit:LOWer?

Parameter/Return: 0-9.999 kHz

Description: Sets/returns the Symbol Deviation Lower Limit.

Example:

```
CALCulate:SDEViation:LIMit:LOWer 1.0
CALCulate:SDEViation:LIMit:LOWer?
1.0
```

19.25 CALCulate:SDEViation:LIMit:LOWer:STATe

Syntax:

CALCulate:SDEViation:LIMit:LOWer:STATe
CALCulate:SDEViation:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Symbol Deviation Lower Limit State

Example:

```
CALCulate:SDEViation:LIMit:LOWer:STATe On
CALCulate:SDEViation:LIMit:LOWer:STATe?
1
```

19.26 CALCulate:SDEViation:LIMit:UPPer

Syntax:

CALCulate:SDEViation:LIMit:UPPer
CALCulate:SDEViation:LIMit:UPPer?

Parameter/Return: 0-9.999 kHz

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:SDEViation:LIMit:UPPer 2.0
CALCulate:SDEViation:LIMit:UPPer?
2.0
```

19.27 CALCulate:SDEViation:LIMit:UPPer:STATe

Syntax:

CALCulate:SDEViation:LIMit:UPPer:STATe
CALCulate:SDEViation:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 0 | 1

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:SDEViation:LIMit:UPPer:STATe On
CALCulate:SDEViation:LIMit:UPPer:STATe?
1
```

19.28 CALCulate:SLOT:POWer:LIMit:FAIL

Syntax: CALCulate:SLOT:POWer:LIMit:FAIL?

Parameter/Return: On | Off

Description: You can query the Slot Power Limit Status: Return 0 if off, 1 if pass, 2 if fail high, 3 if fail low.

Example:

```
CALCulate:SLOT:POWer:LIMit:FAIL On
CALCulate:FERRor:LIMit:LOWer?
```

19.29 CALCulate:SLOT:POWer:LIMit:LOWer

Syntax:

CALCulate:FERRor:LIMit:LOWer

CALCulate:FERRor:LIMit:LOWer?

Parameter/Return: -130 dBm to 60 dBm | -130 dBW to 60 dBW |-130 W to 60 W | -130 V to 60 V | -130 dBuV to 60 dBuV

Description: Sets/returns the Slot Power Lower Limit.

Example:

```
CALCulate:SLOT:POWer:LIMit:LOWer 10.0
CALCulate:SLOT:POWer:LIMit:LOWer?
10.0
```

19.30 CALCulate:SLOT:POWer:LIMit:LOWer:STATe

Syntax:

CALCulate:SLOT:POWer:LIMit:LOWer:STATe

CALCulate:SLOT:POWer:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 0 | 1

Description: Sets/returns the Slot Power Lower Limit State

Example:

```
CALCulate:SLOT:POWer:LIMit:LOWer:STATe On
CALCulate:SLOT:POWer:LIMit:LOWer:STATe?
1
```

19.31 CALCulate:SLOT:POWer:LIMit:UPPer

Syntax:

CALCulate:SLOT:POWer:LIMit:UPPer

CALCulate:SLOT:POWer:LIMit:UPPer?

Parameter/Return: -130 dBm to 60 dBm | -130 dBW to 60 dBW |-130 W to 60 W | -130 V to 60 V | -130 dBuV to 60 dBuV

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:SLOT:POWer:LIMit:UPPer 10.0
CALCulate:SLOT:POWer:LIMit:UPPer?
10.0
```

19.32 CALCulate:SLOT:POWer:LIMit:UPPer:STATe

Syntax:

CALCulate:SLOT:POWer:LIMit:UPPer:STATe

CALCulate:SLOT:POWer:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Slot Power Limit Upper State.

Example:

```
CALCulate:SLOT:POWer:LIMit:UPPer:STATe On
CALCulate:SLOT:POWer:LIMit:UPPer:STATe?
1
```

19.33 CALCulate:SLOT:POWer:RATio:LIMit:Fail

Syntax:

CALCulate:SLOT:POWer:RATio:LIMit:Fail

CALCulate:SLOT:POWer:RATio:LIMit:Fail?

Parameter/Return: On | Off

Description: Sets/returns the Slot Power Ratio Limit Status. Returns 0 if off, 1 if pass, 2 if fail high, 3 if fail low.

Example:

```
CALCulate:SLOT:POWer:RATio:LIMit:Fail Off
CALCulate:SLOT:POWer:RATio:LIMit:Fail?
0
```

19.34 CALCulate:SLOT:POWer:RATio:LIMit:LOWer

Syntax:

CALCulate:SLOT:POWer:RATio:LIMit:LOWer

CALCulate:SLOT:POWer:RATio:LIMit:LOWer?

Parameter/Return: 0.0 to 99.0 dB

Description: Sets/returns the Slot Power Ratio Lower Limit.

Example:

```
CALCulate:SLOT:POWer:RATio:LIMit:LOWer 0
CALCulate:SLOT:POWer:RATio:LIMit:LOWer?
0
```

19.35 CALCulate:SLOT:POWer:RATio:LIMit:LOWer:STATe

Syntax:

CALCulate:SLOT:POWer:RATio:LIMit:LOWer:STATe

CALCulate:SLOT:POWer:RATio:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Slot Power Ratio Lower Limit State

Example:

```
CALCulate:SLOT:POWer:RATio:LIMit:LOWer:STATe On
CALCulate:SLOT:POWer:RATio:LIMit:LOWer:STATe?
1
```

19.36 CALCulate:FERRor:LIMit:LOWer

Syntax: CALCulate:FERRor:LIMit:LOWer?

Parameter/Return: On | Off

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:FERRor:LIMit:LOWer Off

CALCulate:FERRor:LIMit:LOWer?
0
```

19.37 CALCulate:SLOT:POWer:RATio:LIMit:UPPer

Syntax:

CALCulate:SLOT:POWer:RATio:LIMit:UPPer
CALCulate:SLOT:POWer:RATio:LIMit:UPPer?

Parameter/Return: 0.0 to 99.0 dB

Description: Sets/returns the Slot Power Ratio Upper limit.

Example:

```
CALCulate:SLOT:POWer:RATio:LIMit:UPPer 20

CALCulate:SLOT:POWer:RATio:LIMit:UPPer?
20
```

19.38 CALCulate:SLOT:POWer:RATio:LIMit:UPPer:STATe

Syntax:

CALCulate:SLOT:POWer:RATio:LIMit:UPPer:STATe
CALCulate:SLOT:POWer:RATio:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:SLOT:POWer:RATio:LIMit:UPPer:STATe Off

CALCulate:SLOT:POWer:RATio:LIMit:UPPer:STATe?
0
```

19.39 CALCulate:SPOWer:LIMit:FAIL?

Syntax: CALCulate:SPOWer:LIMit:FAIL?

Parameter/Return: None

Description: You can query the Signal Power Limit Status. Returns 0 if Off, 1 if Pass, 2 if Fail High, 3 if Fail Low.

Example:

```
CALCulate:SPOWer:LIMit:FAIL?
0
```

19.40 CALCulate:SPOWer:LIMit:LOWer

Syntax:

CALCulate:SPOWer:LIMit:LOWer
CALCulate:SPOWer:LIMit:LOWer?

Parameter/Return: -130 to 60 dBm|-100 to 60 dBW|-130 to 60 W|-130 to 60 V|-130 to 60 dBuV

Description: Sets/returns the Signal Power Lower limit.

Example:

```
CALCulate:SPOWer:LIMit:LOWer 10.0
CALCulate:SPOWer:LIMit:LOWer?
10.0
```

19.41 CALCulate:SPOWer:LIMit:LOWer:STATe

Syntax:

CALCulate:SPOWer:LIMit:LOWer:STATe
CALCulate:SPOWer:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Signal Power Lower Limit State.

Example:

```
CALCulate:SPOWer:LIMit:LOWer:STATe Off
CALCulate:SPOWer:LIMit:LOWer:STATe?
0
```

19.42 CALCulate:SPOWer:LIMit:UPPer

Syntax:

CALCulate:SPOWer:LIMit:UPPer
CALCulate:SPOWer:LIMit:UPPer?

Parameter/Return: -130 to 60 dBm|-100 to 60 dBW|-130 to 60 W|-130 to 60 V|-130 to 60 dBuV

Description: Sets/returns the Signal Power Upper limit.

Example:

```
CALCulate:SPOWer:LIMit:UPPer 10.0
CALCulate:SPOWer:LIMit:UPPer?
10.0
```

19.43 CALCulate:SPOWer:LIMit:UPPer:STATe

Syntax: CALCulate:SPOWer:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Signal Power Upper limit State.

Example:

```
CALCulate:SPOWer:LIMit:UPPer:STATe Off
CALCulate:SPOWer:LIMit:UPPer:STATe?
0
```

19.44 DISPlay:DMR:HOLD

Syntax:

DISPlay:DMR:HOLD

DISPlay:DMR:HOLD?

Parameter/Return: On | Off

Description: Sets/returns the DMR Hold Screen.

Example:

```
DISPlay:DMR:HOLD On
DISPlay:DMR:HOLD?
On
```

19.45 DISPlay:HOLD

Syntax: DISPlay:HOLD?

Parameter/Return: On | Off

Description: Sets/returns the Hold screen.

Example:

```
DISPlay:HOLD On

DISPlay:HOLD?
On
```

19.46 DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:PDIVision

Syntax: DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:PDIVision?

Parameter/Return:
VSCALE_1dB|VSCALE_2dB|VSCALE_5dB|VSCALE_10dB|VSCALE_15dB|VSCALE_20dB

Description: Sets/returns the BER Upper limit.

Example:

```
DISPlay:PPROFile:WINDow:TRACe:Y:SCALe:PDIVision
VSCALE_10dB

DISPlay:PPROFile:WINDow:TRACe:Y:SCALe:PDIVision?
VSCALE_10dB
```

19.47 DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP

Syntax:

```
DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP
DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP?
```

Parameter/Return: None

Description: Sets/returns the Power Profile Top of Scale.

Example:

```
DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP 10

DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP?
10
```

19.48 MEASure:BER?

Syntax: MEASure:BER?

Parameter/Return: None

Description: You can query the BER live reading.

Example:

```
MEASure:BER?
0
```

19.49 MEASure:BER:AVERage?

Syntax: MEASure:BER:AVERage?

Parameter/Return: On | Off

Description: You can query the BER Average Reading.

Example:

```
MEASure:BER:AVERage?
0
```

19.50 MEASure:BER:MAXimum?

Syntax: MEASure:BER:MAXimum?

Parameter/Return: None

Description: You can query the BER Maximum Reading.

Example:

```
MEASure:BER:MAXimum?
0
```

19.51 MEASure:BER:MINimum?

Syntax: MEASure:BER:MINimum?

Parameter/Return: None

Description: You can query the BER Minimum Reading.

Example:

```
MEASure:BER:MINimum?
0
```

19.52 MEASure:CLEar:STATion:ID?

Syntax: MEASure:CLEar:STATion:ID?

Parameter/Return: None

Description: You can query the Clear Station ID.

Example:

```
MEASure:CLEar:STATion:ID?
0
```

19.53 MEASure:COLor?

Syntax: MEASure:COLor?

Parameter/Return: On | Off

Description: You can query the DMR color.

Example:

```
MEASure:COLor?
0
```

19.54 MEASure:EMERgency?

Syntax: MEASure:EMERgency?

Parameter/Return: On | Off

Description: You can query DMR Emergency.

Example:

```
MEASure:EMERgency?
0
```

19.55 MEASure:FERRor?

Syntax: MEASure:FERRor?

Parameter/Return: None

Description: You can query the Frequency Error Live Reading.

Example:

```
MEASure:FERRor?
0
```

19.56 MEASure:FERRor:AVERage?

Syntax: MEASure:FERRor:AVERage?

Parameter/Return: None

Description: You can query the Frequency Error Average Reading

Example:

```
MEASure:FERRor:AVERage?
0
```

19.57 MEASure:FERRor:MAXimum?

Syntax: MEASure:FERRor:MAXimum?

Parameter/Return: None

Description: You can query the Frequency Error Maximum.

Example:

```
MEASure:FERRor:MAXimum?
0
```

19.58 MEASure:FERRor:MINimum?

Syntax: MEASure:FERRor:MINimum?

Parameter/Return: None

Description: You can query the Frequency Error Maximum.

Example:

```
MEASure:FERRor:MINimum?
0
```

19.59 MEASure:LCONTrol?

Syntax: MEASure:LCONTrol?

Parameter/Return: None

Description: You can query the Link Control.

Example:

```
MEASure:LCONTrol?
0
```

19.60 MEASure:MERRor?

Syntax: MEASure:MERRor?

Parameter/Return: None

Description: You can query the Magnitude Error Live Reading.

Example:

```
MEASure:MERRor?
0
```

19.61 MEASure:MERRor:AVERage?

Syntax: MEASure:MERRor:AVERage?

Parameter/Return: None

Description: Sets/returns the BER Upper limit.

Example:

```
MEASure:MERRor:AVERage?
0
```

19.62 MEASure:MERRor:MAXimum?

Syntax: MEASure:MERRor:MAXimum?

Parameter/Return: None

Description: You can query the Magnitude Error Maximum Reading

Example:

```
MEASure:MERRor:MAXimum?
0
```

19.63 MEASure:MERRor:MINimum?

Syntax: MEASure:MERRor:MINimum?

Parameter/Return: None

Description: You can query the Magnitude Error Minimum Reading.

Example:

```
MEASure:MERRor:MINimum?
0
```

19.64 MEASure:PRIVacy?

Syntax: MEASure:PRIVacy?

Parameter/Return: On | Off

Description: You can query privacy.

Example:

```
MEASure:PRIVacy?
Off
```

19.65 MEASure:RADio:ID

Syntax:

MEASure:RADio:ID
MEASure:RADio:ID?

Parameter/Return: On | Off

Description: Sets/returns the BER Upper limit.

Example:

```
MEASure:RADio:ID On
MEASure:RADio:ID?
0
```

19.66 MEASure:SCLOCk?

Syntax: MEASure:SCLOCk?

Parameter/Return: None

Description: You can query the Symbol Clock Live Reading.

Example:

```
MEASure:SCLOCk?
0
```

19.67 MEASure:SCLOCk:AVERage?

Syntax: MEASure:SCLOCk:AVERage?

Parameter/Return: None

Description: You can query the Symbol Clock Average Reading.

Example:

```
MEASure:SCLOCk:AVERage?
0
```

19.68 MEASure:SCLOCk:MAXimum?

Syntax: MEASure:SCLOCk:MAXimum?

Parameter/Return: None

Description: You can query the Symbol Clock Average Reading.

Example:

```
MEASure:SCLOCk:MAXimum?
0
```

19.69 MEASure:SCLOCk:MINimum?

Syntax: MEASure:SCLOCk:MINimum?

Parameter/Return: None

Description: You can query the Symbol Clock Minimum Reading.

Example:

```
MEASure:SCLOCk:MINimum?
0
```

19.70 MEASure:SDEViation?

Syntax: MEASure:SDEViation?

Parameter/Return: None

Description: Returns the Symbol Deviation Live reading.

Example:

```
MEASure:SDEViation?
0
```

19.71 MEASure:SDEViation:AVERage?

Syntax: MEASure:SDEViation:AVERage?

Parameter/Return: None

Description: Returns the Symbol Deviation Average reading.

Example:

```
MEASure:SDEViation:AVERage?
0
```

19.72 MEASure:SDEViation:MAXimum?

Syntax: MEASure:SDEViation:MAXimum?

Parameter/Return: None

Description: Returns the Symbol Deviation Maximum reading.

Example:

```
MEASure:SDEViation:MAXimum?
0
```

19.73 MEASure:SDEViation:MINimum?

Syntax: MEASure:SDEViation:MINimum?

Parameter/Return: None

Description: Returns the Symbol Deviation Minimum reading.

Example:

```
MEASure:SDEViation:MINimum?
0
```

19.74 MEASure:SERVice:OPTion?

Syntax: MEASure:SERVice:OPTion?

Parameter/Return: None

Description: Returns the Service Option.

Example:

```
MEASure:SERVice:OPTion?
0
```

19.75 MEASure:SLOT?

Syntax: MEASure:SLOT?

Parameter/Return: None

Description: Returns the slot.

Example:

```
MEASure:SLOT?
0
```

19.76 MEASure:SLOT:POWer?

Syntax: MEASure:SLOT:POWer?

Parameter/Return: None

Description: Returns the Slot Power live reading.

Example:

```
MEASure:SLOT:POWer?
0
```

19.77 MEASure:SLOT:POWer:AVERage?

Syntax: MEASure:SLOT:POWer:AVERage?

Parameter/Return: None

Description: Returns the Slot Power average reading.

Example:

```
MEASure:SLOT:POWer:AVERage?
0
```

19.78 MEASure:SLOT:POWer:MAXimum?

Syntax: MEASure:SLOT:POWer:MAXimum?

Parameter/Return: None

Description: Returns the Slot Power Maximum reading.

Example:

```
MEASure:SLOT:POWer:MAXimum?
0
```

19.79 MEASure:SLOT:POWer:MINimum?

Syntax: MEASure:SLOT:POWer:MINimum?

Parameter/Return: None

Description: Returns the Slot Power Minimum reading.

Example:

```
MEASure:SLOT:POWer:MINimum?
0
```

19.80 MEASure:SLOT:POWer:RATio?

Syntax: MEASure:SLOT:POWer:RATio?

Parameter/Return: None

Description: Returns the Slot Power Ratio live reading.

Example:

```
MEASure:SLOT:POWer:RATio?
0
```

19.81 MEASure:SLOT:POWer:RATio:AVERage?

Syntax: MEASure:SLOT:POWer:RATio:AVERage?

Parameter/Return: None

Description: Returns the Slot Power Ratio average reading.

Example:

```
MEASure:SLOT:POWer:RATio:AVERage?
0
```

19.82 MEASure:SLOT:POWer:RATio:MAXimum?

Syntax: MEASure:SLOT:POWer:RATio:MAXimum?

Parameter/Return: None

Description: Returns the Slot Power Ratio maximum reading.

Example:

```
MEASure:SLOT:POWer:RATio:MAXimum?
0
```

19.83 MEASure:SLOT:POWer:RATio:MINimum?

Syntax: MEASure:SLOT:POWer:RATio:MINimum?

Parameter/Return: None

Description: Returns the Slot Power Ratio minimum reading.

Example:

```
MEASure:SLOT:POWer:RATio:MINimum?
0
```

19.84 MEASure:SPOWer?

Syntax: MEASure:SPOWer?

Parameter/Return: None

Description: Returns the Signal Power live reading.

Example:

```
MEASure:SPOWer?
0
```

19.85 MEASure:SPOWer:AVERage?

Syntax: MEASure:SPOWer:AVERage?

Parameter/Return: None

Description: Returns the Signal Power average reading.

Example:

```
MEASure:SPOWer:AVERage?
0
```

19.86 MEASure:SPOWer:MAXimum?

Syntax: MEASure:SPOWer:MAXimum?

Parameter/Return: None

Description: Returns the Signal Power maximum reading.

Example:

```
MEASure:SPOWer:MAXimum?
0
```

19.87 MEASure:SPOWer:MINimum?

Syntax: MEASure:SPOWer:MINimum?

Parameter/Return: None

Description: Returns the Signal Power minimum reading.

Example:

```
MEASure:SPOWer:MINimum?
0
```

19.88 MEASure:STATion:ID?

Syntax: MEASure:STATion:ID?

Parameter/Return: None

Description: Returns the Station ID.

Example:

```
MEASure:STATion:ID?
0
```

19.89 MEASure:TRACe:DISTribution?

Syntax: MEASure:TRACe:DISTribution?

Parameter/Return: None

Description: Returns the Trace Distribution.

Example:

```
MEASure:TRACe:DISTribution?
0,0,0,0...
```

19.90 MEASure:TRACe:EYE:DIAGram?

Syntax: MEASure:TRACe:EYE:DIAGram?

Parameter/Return: None

Description: Returns the Eye Diagram.

Example:

```
MEASure:TRACe:EYE:DIAGram?
0,0,0,0...
```

19.91 MEASure:TRACe:IQTRAJectory?

Syntax: MEASure:TRACe:IQTRAJectory?

Parameter/Return: None

Description: Returns the IQ Trajectory.

Example:

```
MEASure:TRACe:IQTRAJectory?
0,0,0,0....
```

19.92 MEASure:TRAJectory:TRACe:DATA:X?

Syntax: MEASure:TRAJectory:TRACe:DATA:X?

Parameter/Return: None

Description: Returns IQ Trajectory X.

Example:

```
MEASure:TRAJectory:TRACe:DATA:X?
NAN
```

19.93 MEASure:TRACe:PPROFile?

Syntax: MEASure:TRACe:PPROFile?

Parameter/Return: None

Description: Returns the Power Profile trace.

Example:

```
MEASure:TRACe:PPROFile?
0,0,0,0...
```

19.94 MEASure:TRAJectory:TRACe:DATA:Y?

Syntax: MEASure:TRAJectory:TRACe:DATA:Y?

Parameter/Return: None

Description: Returns IQ Trajectory Y.

Example:

```
MEASure:TRAJectory:TRACe:DATA:Y?
NAN
```

19.95 SENSe:BER:AVERage:COUNt

Syntax:

SENSe:BER:AVERage:COUNt
SENSe:BER:AVERage:COUNt?

Parameter/Return: 1 to 99

Description: Sets/returns the BER average count.

Example:

```
SENSe:BER:AVERage:COUNt 1

SENSe:BER:AVERage:COUNt?
1
```

19.96 SENSe:BER:DECimal:PRECision

Syntax:

SENSe:BER:DECimal:PRECision

SENSe:BER:DECimal:PRECision?

Parameter/Return: 0 to 9

Description: Sets/returns the BER Decimal Precision.

Example:

```
SENSe:BER:DECimal:PRECision 0

SENSe:BER:DECimal:PRECision?
0
```

19.97 SENSe:BER:PATTern

Syntax:

SENSe:BER:PATTern
SENSe:BER:PATTern?

Parameter/Return: IB STD 1031 | IB STD 0.153 | IB STD Calibration | IB STD Silence | IB STD Voice Sync | IB STD Data Sync| OB Tsync| IB 1031 | IB

0.153|IB Calibration|IB Silence|Stored Speech

Description: Sets/returns the BER Upper limit.

Example:

```
SENSe:BER:PATTern "IB STD 1031"

SENSe:BER:PATTern?
IB STD 1031
```

19.98 SENSe:BER:SCALe

Syntax:

SENSe:BER:SCALe
SENSe:BER:SCALe?

Parameter/Return: Auto |100% | 50% | 20% | 10% | 5% | 2% | 1%

Description: Sets/returns the BER Upper limit.

Example:

```
SENSe:BER:SCALe Auto

SENSe:BER:SCALe?
Auto
```

19.99 SENSe:BER:TYPE

Syntax:

SENSe:BER:TYPE

SENSe:BER:TYPE?

Parameter/Return: Live | Max | Min | Avg

Description: Sets/returns the BER Upper limit.

Example:

```
SENSe:BER:TYPE Live

SENSe:BER:TYPE?
Live
```

19.100 SENSe:CURRent?

Syntax: SENSe:CURRent?

Parameter/Return: None

Description: Returns whether DMR is the current system.

Example:

```
SENSe:CURRent?
no
```

19.101 SENSe:FERRor:AVERage:COUNt

Syntax:

SENSe:FERRor:AVERage:COUNt
SENSe:FERRor:AVERage:COUNt?

Parameter/Return: 1 to 99

Description: Sets/returns Frequency Error average count.

Example:

```
SENSe:FERRor:AVERage:COUNt 1
SENSe:FERRor:AVERage:COUNt?
1
```

19.102 SENSe:FERRor:DECimal:PRECision

Syntax:

SENSe:FERRor:DECimal:PRECision

SENSe:FERRor:DECimal:PRECision?

Parameter/Return: 0 to 9

Description: Sets/returns the Frequency Error decimal position.

Example:

```
SENSe:FERRor:DECimal:PRECision 1
SENSe:FERRor:DECimal:PRECision?
1
```

19.103 SENSe:FERRor:SCALe

Syntax:

SENSe:FERRor:SCALe
SENSe:FERRor:SCALe?

Parameter/Return: Auto | 100000Hz | 50000Hz | 20000Hz | 10000Hz | 5000Hz | 2000Hz | 1000Hz | 500Hz | 200Hz | 100Hz | 50Hz | 20Hz | 10Hz | 5Hz | 2Hz | 1Hz

Description: Sets/returns the Frequency Error scale.

Example:

```
SENSe:FERRor:SCALe Auto
SENSe:FERRor:SCALe?
Auto
```

19.104 SENSe:FERRor:TYPE

Syntax:

SENSe:FERRor:TYPE
SENSe:FERRor:TYPE?

Parameter/Return: Live | Max | Min | Avg

Description: Sets/returns the Frequency Error Reading type.

Example:

```
SENSe:FERRor:TYPE Live
SENSe:FERRor:TYPE?
Live
```

19.105 SENSe:MERRor:AVERage:COUNt

Syntax:

SENSe:MERRor:AVERage:COUNt
SENSe:MERRor:AVERage:COUNt?

Parameter/Return: 1 to 99

Description: Sets/returns Magnitude Error average count.

Example:

```
SENSe:MERRor:AVERage:COUNt
SENSe:MERRor:AVERage:COUNt?
1
```

19.106 SENSe:MERRor:DECimal:PRECision

Syntax:

SENSe:MERRor:DECimal:PRECision
SENSe:MERRor:DECimal:PRECision?

Parameter/Return: 0 to 9

Description: Sets/returns Magnitude Error decimal precision.

Example:

```
SENSe:MERRor:DECimal:PRECision 1
SENSe:MERRor:DECimal:PRECision?
1
```

19.107 SENSe:MERRor:SCALe

Syntax:

SENSe:MERRor:SCALe
SENSe:MERRor:SCALe?

Parameter/Return: Auto | 100% | 50% | 20% | 10% | 5% | 2% | 1%

Description: Sets/returns Magnitude Error scale.

Example:

```
SENSe:MERRor:SCALe Auto

SENSe:MERRor:SCALe?
Auto
```

19.108 SENSe:MERRor:TYPE

Syntax:

SENSe:MERRor:TYPE
SENSe:MERRor:TYPE?

Parameter/Return: Live | Max | Min | Avg

Description: Sets/returns Magnitude Error decimal precision.

Example:

```
SENSe:MERRor:TYPE Live

SENSe:MERRor:TYPE?
Live
```

19.109 SENSe:MERRor:DECimal:PRECision

Syntax:

SENSe:MERRor:DECimal:PRECision
SENSe:MERRor:DECimal:PRECision?

Parameter/Return: 0 to 9

Description: Sets/returns Magnitude Error decimal precision.

Example:

```
SENSe:MERRor:DECimal:PRECision 1

SENSe:MERRor:DECimal:PRECision?
1
```

19.110 SENSe:PPROFile:MODE

Syntax:

SENSe:PPROFile:MODE
SENSe:PPROFile:MODE?

Parameter/Return: RAMP | FULL

Description: Sets/returns the Power Profile mode.

Example:

```
SENSe:PPROFile:MODE FULL

SENSe:PPROFile:MODE?
FULL
```

19.111 SENSe:PPROFile:PERSistence

Syntax:

SENSe:PPROFile:PERSistence
SENSe:PPROFile:PERSistence?

Parameter/Return: 1 to 10

Description: Sets/returns Magnitude Error decimal precision.

Example:

```
SENSe:PPROFile:PERSistence 1

SENSe:PPROFile:PERSistence?
1
```

19.112 SENSe:PPROFile:SLOT

Syntax:

SENSe:PPROFile:SLOT

SENSe:PPROFile:SLOT?

Parameter/Return: 1 | 2

Description: Sets/returns the Power Profile slot.

Example:

```
SENSe:MERRor:DECimal:PRECision 1

SENSe:MERRor:DECimal:PRECision?
1
```

19.113 SENSe:RESet

Syntax: SENSe:RESet

Parameter/Return: None

Description: Resets acquisition.

Example:

```
SENSe:RESet
```

19.114 SENSe:SCLOCk:AVERage:COUNt

Syntax: SENSe:SCLOCk:AVERage:COUNt?

Parameter/Return: 1 to 99

Description: Sets/returns the Symbol Clock Error average count.

Example:

```
SENSe:SCLOCk:AVERage:COUNt 1
SENSe:SCLOCk:AVERage:COUNt?
1
```

19.115 SENSe:SCLOCk:DECimal:PRECision

Syntax:

SENSe:SCLOCk:DECimal:PRECision

SENSe:SCLOCk:DECimal:PRECision?

Parameter/Return: 0 to 9

Description: Sets/returns Symbol Clock Error decimal precision.

Example:

```
SENSe:SCLOCK:DECimal:PRECision 0
SENSe:SCLOCK:DECimal:PRECision?
0
```

19.116 SENSe:SCLOCk:SCALe:HZ

Syntax:

SENSe:SCLOCk:SCALe:HZ

SENSe:SCLOCk:SCALe:HZ?

Parameter/Return: Auto | 1000mHz | 500mHz | 200mHz | 100mHz | 50mHz | 20mHz | 10mHz | 5mHz | 2mHz | 1mHz

Description: Sets/returns Symbol Clock Error scale.

Example:

```
SENSe:SCLOCk:SCALe:HZ Auto

SENSe:SCLOCk:SCALe:HZ?
Auto
```

19.117 SENSe:SCLOCk:SCALe:HZ

Syntax:

SENSe:SCLOCk:SCALe:HZ

SENSe:SCLOCk:SCALe:HZ?

Parameter/Return: Auto | 1000mHz | 500mHz | 200mHz | 100mHz | 50mHz | 20mHz | 10mHz | 5mHz | 2mHz | 1mHz

Description: Sets/returns the Symbol Clock Error scale.

Example:

```
SENSe:SCLOCk:SCALe:HZ Auto

SENSe:SCLOCk:SCALe:HZ?
Auto
```

19.118 SENSe:SCLOCk:SCALe:PPM

Syntax:

SENSe:SCLOCk:SCALe:PPM

SENSe:SCLOCk:SCALe:PPM?

Parameter/Return: Auto | 100ppm | 50ppm | 20ppm | 10ppm | 5ppm | 2ppm | 1ppm

Description: Sets/returns the Symbol Clock Error scale.

Example:

```
SENSe:SCLOCk:SCALe:PPM 10ppm

SENSe:SCLOCk:SCALe:PPM?
10ppm
```

19.119 SENSe:SCLOCk:TYPE

Syntax:

SENSe:SCLOCk:TYPE
SENSe:SCLOCk:TYPE?

Parameter/Return: Live | Max | Min | Avg

Description: Sets/returns the Symbol Clock Error Reading type.

Example:

```
SENSe:SCLOCk:TYPE Live

SENSe:SCLOCk:TYPE
Live
```

19.120 SENSe:SCLOCk:UNIT

Syntax:

SENSe:SCLOCk:UNIT
SENSe:SCLOCk:UNIT?

Parameter/Return: ppm | mHz

Description: Sets/returns the Symbol Clock Error Reading unit.

Example:

```
SENSe:SCLOCk:UNIT ppm

SENSe:SCLOCk:UNIT?
ppm
```

19.121 SENSe:SDEViation:AVERage:COUNt

Syntax:

SENSe:SDEViation:AVERage:COUNt
SENSe:SDEViation:AVERage:COUNt?

Parameter/Return: 1 to 99

Description: Sets/returns Symbol Clock Error decimal precision.

Example:

```
SENSe:SDEViation:AVERage:COUNt -1

SENSe:SDEViation:AVERage:COUNt?
-1
```

19.122 SENSe:SDEViation:DECimal:PRECision

Syntax: SENSe:SDEViation:DECimal:PRECision?

Parameter/Return: 0 to 9

Description: Sets/returns Symbol Deviation decimal precision.

Example:

```
SENSe:SDEViation:DECimal:PRECision 2
SENSe:SDEViation:DECimal:PRECision?
2
```

19.123 SENSe:SDEViation:SCALe

Syntax:

SENSe:SDEViation:SCALe

SENSe:SDEViation:SCALe?

Parameter/Return: Auto | 1000Hz | 500Hz | 200Hz | 100Hz |50Hz | 20Hz | 10Hz | 5Hz | 2Hz | 1Hz

Description: Sets/returns the Symbol Deviation scale.

Example:

```
SENSe:SDEViation:SCALe Auto
SENSe:SDEViation:SCALe?
Auto
```

19.124 SENSe:SDEViation:TYPE

Syntax:

SENSe:SDEViation:TYPE

SENSe:SDEViation:TYPE?

Parameter/Return: 0 to 9

Description: Sets/returns Symbol Clock Error decimal precision.

Example:

```
SENSe:SDEViation:TYPE 1
SENSe:SDEViation:TYPE?
1
```

19.125 SENSe:SLOT:POWer:AVERage:COUNt

Syntax:

SENSe:SLOT:POWer:AVERage:COUNt

SENSe:SLOT:POWer:AVERage:COUNt?

Parameter/Return: 1 to 99

Description: Sets/returns Symbol Clock Error decimal precision.

Example:

```
SENSe:SLOT:POWer:AVERage:COUNt 1
SENSe:SLOT:POWer:AVERage:COUNt?
1
```

19.126 SENSe:SLOT:POWer:DECimal:PRECision

Syntax:

SENSe:SLOT:POWer:DECimal:PRECision

SENSe:SLOT:POWer:DECimal:PRECision?

Parameter/Return: 0 to 9

Description: Sets/returns the Slot Power Decimal Precision.

Example:

```
SENSe:SLOT:POWer:DECimal:PRECision 0
SENSe:SLOT:POWer:DECimal:PRECision?
0
```

19.127 SENSe:SLOT:POWer:RATio:AVERage:COUNt

Syntax:

SENSe:SLOT:POWer:RATio:AVERage:COUNt

SENSe:SLOT:POWer:RATio:AVERage:COUNt?

Parameter/Return: 1 to 99

Description: Sets/returns the Slot Power Ratio Average Count.

Example:

```
SENSe:SLOT:POWer:RATio:AVERage:COUNt 5
SENSe:SLOT:POWer:RATio:AVERage:COUNt?
5
```

19.128 SENSe:SLOT:POWer:RATio:AVERage:COUNt

Syntax:

SENSe:SLOT:POWer:RATio:AVERage:COUNt

SENSe:SLOT:POWer:RATio:AVERage:COUNt?

Parameter/Return: 1 to 99

Description: Sets/returns the Slot Power Ratio Average Count.

Example:

```
SENSe:SLOT:POWer:RATio:AVERage:COUNt 1
SENSe:SLOT:POWer:RATio:AVERage:COUNt?
1
```

19.129 SENSe:SLOT:POWer:RATio:DECimal:PRECision

Syntax:

SENSe:SLOT:POWer:RATio:DECimal:PRECision
SENSe:SLOT:POWer:RATio:DECimal:PRECision?

Parameter/Return: 0 to 9

Description: Sets/returns the Slot Power Ratio Decimal Precision.

Example:

```
SENSe:SLOT:POWer:RATio:DECimal:PRECision 0
SENSe:SLOT:POWer:RATio:DECimal:PRECision?
0
```

19.130 SENSe:SLOT:POWer:RATio:AVERage:COUNt

Syntax: SENSe:SLOT:POWer:RATio:AVERage:COUNt?

Parameter/Return: Auto | 1 dBr to 100 dBr in 1,2,5 sequence

Description: Sets/returns the Slot Power Ratio scale

Example:

```
SENSe:SLOT:POWer:RATio:SCALe Auto
SENSe:SLOT:POWer:RATio:SCALe?
Auto
```

19.131 SENSe:SLOT:POWer:RATio:TYPE

Syntax:

SENSe:SLOT:POWer:RATio:TYPE

SENSe:SLOT:POWer:RATio:TYPE?

Parameter/Return: Live | Max | Min | Avg

Description: Sets/returns the Slot Power Ratio Reading Type.

Example:

```
SENSe:SLOT:POWer:RATio:TYPE Live
SENSe:SLOT:POWer:RATio:TYPE?
Live
```

19.132 SENSe:SLOT:POWer:SCALe:VOLT

Syntax:

SENSe:SLOT:POWer:SCALe:VOLT

SENSe:SLOT:POWer:SCALe:VOLT?

Parameter/Return: Auto | 1 uV to 200 V in 1,2,5 sequence

Description: Sets/returns the Slot Power Ratio Reading Type.

Example:

```
SENSe:SLOT:POWer:SCALe:VOLT Auto
SENSe:SLOT:POWer:SCALe:VOLT?
Auto
```

19.133 SENSe:SLOT:POWer:SCALe:WATT

Syntax:

SENSe:SLOT:POWer:SCALe:WATT

SENSe:SLOT:POWer:SCALe:WATT?

Parameter/Return: Auto | 1 pW to 200 W in 1,2,5 sequence

Description: Sets/returns the Slot Power Ratio Reading Type.

Example:

```
SENSe:SLOT:POWer:SCALe:WATT Auto
SENSe:SLOT:POWer:SCALe:WATT?
Auto
```

19.134 SENSe:SLOT:POWer:SCALe:dBW

Syntax:

SENSe:SLOT:POWer:SCALe:dBW
SENSe:SLOT:POWer:SCALe:dBW?

Parameter/Return: Auto | -100 dBW to 60 dBW in 10 dBW steps

Description: Sets/returns the Slot Power Scale dBw.

Example:

```
SENSe:SLOT:POWer:SCALe:dBW Auto

SENSe:SLOT:POWer:SCALe:dBW?
Auto
```

19.135 SENSe:SLOT:POWer:SCALe:dBm

Syntax:

SENSe:SLOT:POWer:SCALe:dBm

SENSe:SLOT:POWer:SCALe:dBm?

Parameter/Return: Auto | -100 dBm to 60 dBm in 10dBm steps

Description: Sets/returns the Slot Power Scale dBm.

Example:

```
SENSe:SLOT:POWer:SCALe:dBm Auto

SENSe:SLOT:POWer:SCALe:dBm?
Auto
```

19.136 SENSe:SLOT:POWer:SCALe:dBuV

Syntax:

SENSe:SLOT:POWer:SCALe:dBuV
SENSe:SLOT:POWer:SCALe:dBuV?

Parameter/Return: Auto | -100 dBuW to 60 dBuW in 10 dBuW steps

Description: Sets/returns the Slot Power Scale dBuV.

Example:

```
SENSe:SLOT:POWer:SCALe:VOLT Auto

SENSe:SLOT:POWer:SCALe:VOLT?
Auto
```

19.137 SENSe:SLOT:POWer:TYPE

Syntax:

SENSe:SLOT:POWer:TYPE
SENSe:SLOT:POWer:TYPE?

Parameter/Return: Live | Max | Min | Avg

Description: Sets/returns the Slot Power Reading Type.

Example:

```
SENSe:SLOT:POWer:TYPE Max

SENSe:SLOT:POWer:TYPE?
Max
```

19.138 SENSe:SLOT:POWer:UNIT

Syntax:

SENSe:SLOT:POWer:UNIT
SENSe:SLOT:POWer:UNIT?

Parameter/Return: dBm | dBW | W | V | dBuV

Description: Sets/returns the Slot Power Ratio Reading Type.

Example:

```
SENSe:SLOT:POWer:UNIT dBm

SENSe:SLOT:POWer:UNIT?
dBm
```

19.139 SENSe:SPOWer:DECimal:PRECision

Syntax:

SENSe:SPOWer:DECimal:PRECision
SENSe:SPOWer:DECimal:PRECision?

Parameter/Return: 0 to 9

Description: Sets/returns the Slot Power decimal precision.

Example:

```
SENSe:SPOWer:DECimal:PRECision 0
SENSe:SPOWer:DECimal:PRECision?
0
```

19.140 SENSe:SPOWer:SCALe:VOLT

Syntax:

SENSe:SPOWer:SCALe:VOLT
SENSe:SPOWer:SCALe:VOLT?

Parameter/Return: Auto | 1uV to 200 V in 1,2,5 sequence

Description: Sets/returns the Slot Power scale in Volts.

Example:

```
SENSe:SPOWer:SCALe:VOLT Auto
SENSe:SPOWer:SCALe:VOLT?
Auto
```

19.141 SENSe:SPOWer:SCALe:WATT

Syntax:

SENSe:SPOWer:SCALe:WATT

SENSe:SPOWer:SCALe:WATT?

Parameter/Return: Auto | 1uV to 200 V in 1,2,5 sequence

Description: Sets/returns the Slot Power scale in Watts.

Example:

```
SENSe:SPOWer:SCALe:WATT Auto
SENSe:SPOWer:SCALe:WATT?
Auto
```

19.142 SENSe:SPOWer:SCALe:dBW

Syntax:

SENSe:SPOWer:SCALe:dBW
SENSe:SPOWer:SCALe:dBW?

Parameter/Return: Auto | -100 dBW to 60 dBW in 10 dBW steps

Description: Sets/returns the Slot Power scale in dBW.

Example:

```
SENSe:SPOWer:SCALe:dBW Auto

SENSe:SPOWer:SCALe:dBW?
Auto
```

19.143 SENSe:SPOWer:SCALe:dBm

Syntax:

SENSe:SPOWer:SCALe:dBm
SENSe:SPOWer:SCALe:dBm?

Parameter/Return: Auto | -100 dBm to 60 dBm in 10dBm steps

Description: Sets/returns the Slot Power scale in dBm.

Example:

```
SENSe:SPOWer:SCALe:dBm Auto

SENSe:SPOWer:SCALe:dBm?
Auto
```

19.144 SENSe:SPOWer:SCALe:dBuV

Syntax:

SENSe:SPOWer:SCALe:dBuV
SENSe:SPOWer:SCALe:dBuV?

Parameter/Return: Auto | -100 dBuW to 60 dBuW in 10 dBuW steps

Description: Sets/returns the Slot Power scale in dBuV.

Example:

```
SENSe:SPOWer:SCALe:dBuV Auto

SENSe:SPOWer:SCALe:dBuV?
Auto
```

19.145 SENSe:SPOWer:TYPE

Syntax:

SENSe:SPOWer:TYPE

SENSe:SPOWer:TYPE?

Parameter/Return: Live | Max | Min | Avg

Description: Sets/returns the Signal Power type.

Example:

```
SENSe:SPOWer:TYPE Live
SENSe:SPOWer:TYPE?
Live
```

19.146 SENSe:SPOWer:UNIT

Syntax:

SENSe:SPOWer:UNIT

SENSe:SPOWer:UNIT?

Parameter/Return: dBm | dBW | W | V | dBuV

Description: Sets/returns the Signal Power units.

Example:

```
SENSe:SPOWer:UNIT dBm
SENSe:SPOWer:UNIT?
dBm
```

19.147 SENSe:TYPE (Obsoleted)

Syntax:

SENSe:TYPE
SENSe:TYPE?

Parameter/Return: FM | DMR

Description: Sets/returns the Demodulation type.

Example:

```
SENSe:TYPE DMR
SENSe:TYPE?
DMR
```

20

TETRA Modulator Commands

This chapter describes the following remote commands for configuring TETRA Modulator (TETRAModulator) settings:

- SOURce:AUTO:SYNC:OFFSet 20-2
- SOURce:BCC 20-2
- SOURce:CURRent? 20-2
- SOURce:MCC 20-3
- SOURce:MNC 20-3
- SOURce:MOD:TYPE 20-4
- SOURce:MODE 20-4
- SOURce:MST1:CHANnel 20-4
- SOURce:PARameter:MODE 20-5
- SOURce:UUT:TYPE 20-5
- SOURce:PULSe:SYNC:EDGE 20-6
- SOURce:PULSe:SYNC:OFFSET 20-6
- SOURce:SYNC:MODE 20-7

20.1 SOURce:AUTO:SYNC:OFFSet

Syntax:

SOURce:AUTO:SYNC:OFFSet

SOURce:AUTO:SYNC:OFFSet?

Parameter/Return: 0 to 9999.99

Note: Default = 0

Description: Sets/returns the auto-sync offset.

Examples:

```
SOURce:AUTO:SYNC:OFFSet 100.00
SOURce:AUTO:SYNC:OFFSet?
100.00
```

20.2 SOURce:BCC

Syntax:

SOURce:BCC

SOURce:BCC?

Parameter/Return: 0 to 15

Note: Default = 0

Description: Sets/returns the BCC value.

Examples:

```
SOURce:BCC 1
SOURce:BCC?
1
```

20.3 SOURce:CURRent?

Syntax: SOURce:CURRent?

Parameter/Return: Yes (On) | No (off)

Note: Default = No

Description: Returns the on/off state of the Tetra system.

Example:

```
SOURCe:CURRent?
No
```

20.4 SOURce:MCC

Syntax:

SOURce:MCC

SOURce:MCC?

Parameter/Return: 0 to 15

Note: Default = 0

Description: Sets/returns the Tetra MCC value.

Examples:

```
SOURce:MCC 1
SOURce:MCC?
1
```

20.5 SOURce:MNC

Syntax:

SOURce:MNC

SOURce:MNC?

Parameter/Return: 0 to 15

Note: Default = 0

Description: Sets/returns the Tetra MNC value.

Examples:

```
SOURce:MNC 1
SOURce:MNC?
1
```

20.6 SOURce:MOD:TYPE

Syntax:

SOURce:MOD:TYPE

SOURce:MOD:TYPE?

Parameter/Return: TCH/7.2

Description: Sets/returns the Tetra mod type.

Examples:

```
SOURce:MOD:TYPE TCH/7.2
SOURce:MOD:TYPE?
TCH/7.2
```

20.7 SOURce:MODE

Syntax:

SOURce:MODE

SOURce:MODE?

Parameter/Return: Auto | Manual

Description: Sets/returns the mode.

Examples:

```
SOURce:MODE Auto
SOURce:MODE?
Auto
```

20.8 SOURce:MST1:CHANnel

Syntax:

SOURce:MST1:CHANnel

SOURce:MST1:CHANnel?

Parameter/Return: Normal | Control

Description: Sets/returns the MST1 channel.

Examples:

```
SOURce:MST1:CHANnel Normal
SOURce:MST1:CHANnel?
Normal
```

20.9 SOURce:PARameter:MODE

Syntax:

SOURce:PARameter:MODE

SOURce:PARameter:MODE?

Parameter/Return: Auto | Manual

Description: Sets/returns the parameter mode.

Examples:

```
SOURce:PARameter:MODE Manual
SOURce:PARameter:MODE?
Manual
```

20.10 SOURce:UUT:TYPE

Syntax:

SOURce:UUT:TYPE

SOURce:UUT:TYPE?

Parameter/Return: BST1 | MST1

Note: Default = BST1

Description: Sets/returns the pattern.

Examples:

```
SOURce:UUT:TYPE BST1
SOURce:UUT:TYPE?
BST1
```

20.11 SOURce:PULSe:SYNC:EDGE

Syntax:

SOURce:PULSe:SYNC:EDGE

SOURce:PULSe:SYNC:EDGE?

Parameter/Return: Falling | Rising

Description: Sets/returns the BST1 pulse sync edge.

Examples:

```
SOURce:PULSe:SYNC:EDGE Rising
SOURce:PULSe:SYNC:EDGE?
Rising
```

20.12 SOURce:PULSe:SYNC:OFFSET

Syntax:

SOURce:PULSe:SYNC:OFFSET

SOURce:PULSe:SYNC:OFFSET?

Parameter/Return: 0 to 1020

Note: Default = 0

Description: Sets/returns the pulse sync offset.

Examples:

```
SOURce:PULSe:SYNC:OFFSET 100.00
SOURce:PULSe:SYNC:EDGE?
100.00
```

20.13 SOURce:SYNC:MODE

Syntax:

SOURce:SYNC:MODE

SOURce:SYNC:MODE?

Parameter/Return: FreeRun | Auto| Pulse

Note: Default = Auto

Description: Sets/returns the BST1 sync mode.

Examples:

```
SOURce:SYNC:MODE FreeRun

SOURce:SYNC:MODE?
FreeRun
```

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21

TETRA Demodulator Commands

This chapter describes the following remote commands for configuring TETRA Demodulator (TETRADemodulator) settings:

- CALCulate:BER:LIMit:FAIL? 21-5
- CALCulate:BER:LIMit:LOWer 21-5
- CALCulate:BER:LIMit:LOWer:STATe 21-5
- CALCulate:BER:LIMit:UPPer 21-6
- CALCulate:BER:LIMit:UPPer:STATe 21-6
- CALCulate:CARRier:FEED:LIMit:FAIL? 21-6
- CALCulate:CARRier:FEED:LIMit:LOWer 21-7
- CALCulate:CARRier:FEED:LIMit:LOWer:STATe 21-7
- CALCulate:CARRier:FEED:LIMit:UPPer 21-7
- CALCulate:CARRier:FEED:LIMit:UPPer:STATe 21-8
- CALCulate:FERRor:LIMit:FAIL? 21-8
- CALCulate:FOFFSet:LIMit:FAIL? 21-8
- CALCulate:FOFFSet:LIMit:LOWer 21-9
- CALCulate:FOFFSet:LIMit:LOWer:STATe 21-9
- CALCulate:FOFFSet:LIMit:UPPer 21-9
- CALCulate:FOFFSet:LIMit:UPPer:STATe 21-10
- CALCulate:OBANDwidth:LIMit:FAIL? 21-10
- CALCulate:OBANDwidth:LIMit:LOWer 21-10
- CALCulate:OBANDwidth:LIMit:LOWer:STATe 21-11
- CALCulate:OBANDwidth:LIMit:UPPer 21-11
- CALCulate:OBANDwidth:LIMit:UPPer:STATe 21-11
- CALCulate:PEAK:EVM:LIMit:FAIL? 21-12
- CALCulate:PEAK:EVM:LIMit:LOWer 21-12
- CALCulate:PEAK:EVM:LIMit:LOWer:STATe 21-12
- CALCulate:PEAK:EVM:LIMit:UPPer 21-13
- CALCulate:PEAK:EVM:LIMit:UPPer:STATe 21-13

- CALCulate:RMS:EVM:LIMit:FAIL? 21-13
- CALCulate:RMS:EVM:LIMit:LOWer 21-14
- CALCulate:RMS:EVM:LIMit:LOWer:STATe 21-14
- CALCulate:RMS:EVM:LIMit:UPPer 21-15
- CALCulate:RMS:EVM:LIMit:UPPer:STATe 21-15
- CALCulate:SPOWer:LIMit:FAIL? 21-15
- CALCulate:SPOWer:LIMit:LOWer 21-16
- CALCulate:SPOWer:LIMit:LOWer:STATe 21-16
- CALCulate:SPOWer:LIMit:UPPer 21-16
- CALCulate:SPOWer:LIMit:UPPer:STATe 21-17
- CALCulate:SRATE:LIMit:FAIL? 21-17
- CALCulate:SRATE:LIMit:LOWer 21-17
- CALCulate:SRATE:LIMit:LOWer:STATe 21-18
- CALCulate:SRATE:LIMit:UPPer 21-18
- CALCulate:SRATE:LIMit:UPPer:STATe 21-18
- DISPlay:HOLD? 21-19
- DISPlay:PPROFile[:WINDow]:TRACe:X:SCALe:PDIVision 21-19
- DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision 21-19
- MEASure:BCC? 21-20
- MEASure:BER? 21-20
- MEASure:BER:AVERage? 21-20
- MEASure:BER:MAXimum? 21-20
- MEASure:BER:MINimum? 21-21
- MEASure:CARRier:FEED? 21-21
- MEASure:CARRier:FEED:AVERage? 21-21
- MEASure:CARRier:FEED:MAXimum? 21-21
- MEASure:CARRier:FEED:MINimum? 21-22
- MEASure:FOFFSet? 21-22
- MEASure:FOFFSet:AVERage? 21-22
- MEASure:FOFFSet:MAXimum? 21-22
- MEASure:FOFFSet:MIINimum? 21-23
- MEASure:MCC? 21-23
- MEASure:MNC? 21-23
- MEASure:OBANDwidth? 21-23
- MEASure:OBANDwidth:AVERage? 21-24
- MEASure:OBANDwidth:MAXimum? 21-24
- MEASure:OBANDwidth:MINimum? 21-24
- MEASure:PEAK:EVM? 21-24
- MEASure:PEAK:EVM:AVERage? 21-25
- MEASure:PEAK:EVM:MAXimum? 21-25
- MEASure:PEAK:EVM:MINimum? 21-25
- MEASure:RMS:EVM? 21-25

- MEASure:RMS:EVM:AVERage? 21-26
- MEASure:RMS:EVM:MAXimum? 21-26
- MEASure:RMS:EVM:MINimum? 21-26
- MEASure:SPOWer? 21-26
- MEASure:SPOWer:AVERage? 21-27
- MEASure:SPOWer:MAXimum? 21-27
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- MEASure:SRATE:MAXimum? 21-28
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- SENSe:BER:AVERage:COUNt 21-30
- SENSe:BER:DECimal:PRECision 21-30
- SENSe:BER:READing:TYPE 21-31
- SENSe:BER:SCALe 21-31
- SENSe:CARRier:FEED:AVERage:COUNt 21-32
- SENSe:CARRier:FEED:DECimal:PRECision 21-32
- SENSe:CARRier:FEED:READing:TYPE 21-33
- SENSe:CARRier:FEED:SCALe 21-33
- SENSe:CURRent? 21-33
- SENSe:FOFFSet:AVERage:COUNt 21-34
- SENSe:FOFFSet:DECimal:PRECision 21-34
- SENSe:FOFFSet:READing:TYPE 21-35
- SENSe:FOFFSet:RESet 21-35
- SENSe:FOFFSet:SCALe 21-35
- SENSe:OBANDwidth:AVERage:COUNt 21-36
- SENSe:OBANDwidth:DECimal:PRECision 21-36
- SENSe:OBANDwidth:READing:TYPE 21-37
- SENSe:OBANDwidth:RESet 21-37
- SENSe:OBANDwidth:SCALe 21-37
- SENSe:PATTern 21-38
- SENSe:PEAK:EVM:AVERage:COUNt 21-38
- SENSe:PEAK:EVM:DECimal:PRECision 21-39
- SENSe:PEAK:EVM:READing:TYPE 21-39
- SENSe:PEAK:EVM:RESet 21-39
- SENSe:PEAK:EVM:SCALe 21-40
- SENSe:PPROFile:LEFT:RAMP:FREQuency:CENTer 21-40
- SENSe:PPROFile:MODE 21-40

- SENSe:PPROFile:PERSistence 21-41
- SENSe:PPROFile:RIGHt:RAMP:FREQuency:CENTer. 21-41
- SENSe:PPROFile:SLOT 21-42
- SENSe:RESet 21-42
- SENSe:RMS:EVM:AVERage:COUNt 21-42
- SENSe:RMS:EVM:DECimal:PRECision 21-43
- SENSe:RMS:EVM:READing:TYPE. 21-43
- SENSe:RMS:EVM:RESet 21-43
- SENSe:RMS:EVM:SCALe 21-44
- SENSe:SPOWer:AVERage:COUNt 21-44
- SENSe:SPOWer:DECimal:PRECision 21-45
- SENSe:SPOWer:READing:TYPE 21-45
- SENSe:SPOWer:RESet 21-45
- SENSe:SPOWer:SCALe:DBM 21-46
- SENSe:SPOWer:SCALe:DBUV 21-46
- SENSe:SPOWer:SCALe:DBW 21-47
- SENSe:SPOWer:SCALe:VOLT. 21-47
- SENSe:SPOWer:SCALe:WATT 21-48
- SENSe:SPOWer:UNIT 21-48
- SENSe:SRATE:AVERage:COUNt 21-49
- SENSe:SRATE:DECimal:PRECision 21-49
- SENSe:SRATE:READing:TYPE 21-50
- SENSe:SRATE:RESet 21-50
- SENSe:SRATE:SCALe 21-50

21.1 CALCulate:BER:LIMit:FAIL?

Syntax: CALCulate:BER:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the BER limit.

Example:

```
CALCulate:BER:LIMit:FAIL?
0
```

21.2 CALCulate:BER:LIMit:LOWer

Syntax:

CALCulate:BER:LIMit:LOWer

CALCulate:BER:LIMit:LOWer?

Parameter/Return: 0 to 99%

Note: Default = 0.0

Description: Sets/returns the BER lower limit.

Examples:

```
CALCulate:BER:LIMit:LOWer 10.0
CALCulate:BER:LIMit:LOWer?
10.0
```

21.3 CALCulate:BER:LIMit:LOWer:STATe

Syntax:

CALCulate:BER:LIMit:LOWer:STATe

CALCulate:BER:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the BER lower limit.

Examples:

```
CALCulate:BER:LIMit:LOWer:STATe On
CALCulate:BER:LIMit:LOWer:STATe?
On
```

21.4 CALCulate:BER:LIMit:UPPer

Syntax:

CALCulate:BER:LIMit:UPPer

CALCulate:BER:LIMit:UPPer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the BER upper limit.

Examples:

```
CALCulate:BER:LIMit:UPPer 10.0
CALCulate:BER:LIMit:UPPer?
10.0
```

21.5 CALCulate:BER:LIMit:UPPer:STATe

Syntax:

CALCulate:BER:LIMit:UPPer:STATe

CALCulate:BER:LIMit:Upper:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the BER upper limit.

Examples:

```
CALCulate:BER:LIMit:UPPer:STATe On
CALCulate:BER:LIMit:UPPer:STATe?
1
```

21.6 CALCulate:CARRier:FEED:LIMit:FAIL?

Syntax:

CALCulate:CARRier:FEED:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the carrier feed limit status.

Example:

```
CALCulate:CARRier:FEED:LIMit:FAIL?
0
```

21.7 CALCulate:CARRier:FEED:LIMit:LOWer

Syntax:

CALCulate:CARRier:FEED:LIMit:LOWer

CALCulate:CARRier:FEED:LIMit:LOWer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the carrier feed lower limit.

Examples:

```
CALCulate:CARRier:FEED:LIMit:LOWer 10.0
CALCulate:CARRier:FEED:LIMit:LOWer?
10.0
```

21.8 CALCulate:CARRier:FEED:LIMit:LOWer:STATe

Syntax:

CALCulate:CARRier:FEED:LIMit:LOWer:STATe

CALCulate:CARRier:FEED:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the carrier feed lower limit.

Examples:

```
CALCulate:CARRier:FEED:LIMit:LOWer:STATe On
CALCulate:CARRier:FEED:LIMit:LOWer:STATe?
1
```

21.9 CALCulate:CARRier:FEED:LIMit:UPPer

Syntax:

CALCulate:CARRier:FEED:LIMit:UPPer

CALCulate:CARRier:FEED:LIMit:UPPer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the carrier feed upper limit.

Examples:

```
CALCulate:CARRier:FEED:LIMit:UPPer 10.0
CALCulate:CARRier:FEED:LIMit:UPPer?
10.0
```

21.10 CALCulate:CARRier:FEED:LIMit:UPPer:STATe

Syntax:

CALCulate:CARRier:FEED:LIMit:UPPer:STATe

CALCulate:CARRier:FEED:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the carrier feed upper limit.

Examples:

```
CALCulate:CARRier:FEED:LIMit:UPPer:STATe On
CALCulate:CARRier:FEED:LIMit:UPPer:STATe?
1
```

21.11 CALCulate:FERRor:LIMit:FAIL?

Syntax: CALCulate:FERRor:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the frequency error limit.

Example:

```
CALCulate:FERRor:LIMit:FAIL?
0
```

21.12 CALCulate:FOFFSet:LIMit:FAIL?

Syntax: CALCulate:BER:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the frequency offset limit.

Example:

```
CALCulate:BER:LIMit:FAIL?
0
```

21.13 CALCulate:FOFFSet:LIMit:LOWer

Syntax:

CALCulate:FOFFSet:LIMit:LOWer

CALCulate:FOFFSet:LIMit:LOWer?

Parameter/Return: -99 to 99 kHz (default = 0.0)

Description: Sets/returns the frequency offset lower limit.

Examples:

```
CALCulate:FOFFSet:LIMit:LOWer 10.0
CALCulate:FOFFSet:LIMit:LOWer?
10.0
```

21.14 CALCulate:FOFFSet:LIMit:LOWer:STATe

Syntax:

CALCulate:FOFFSet:LIMit:LOWer:STATe

CALCulate:FOFFSet:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the frequency offset lower limit.

Examples:

```
CALCulate:FOFFSet:LIMit:LOWer:STATe On
CALCulate:FOFFSet:LIMit:LOWer:STATe?
1
```

21.15 CALCulate:FOFFSet:LIMit:UPPer

Syntax:

CALCulate:FOFFSet:LIMit:UPPer

CALCulate:FOFFSet:LIMit:UPPer?

Parameter/Return: -99 to 99 kHz (default = 0.0)

Description: Sets/returns the frequency offset upper limit.

Examples:

```
CALCulate:BER:LIMit:UPPer 10.0
CALCulate:BER:LIMit:UPPer?
10.0
```

21.16 CALCulate:FOFFSet:LIMit:UPPer:STATe

Syntax:

CALCulate:FOFFSet:LIMit:UPPer:STATe

CALCulate:FOFFSet:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the frequency offset upper limit.

Examples:

```
CALCulate:FOFFSet:LIMit:UPPer:STATe On
CALCulate:FOFFSet:LIMit:UPPer:STATe?
1
```

21.17 CALCulate:OBANDwidth:LIMit:FAIL?

Syntax: CALCulate:OBANDwidth:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the occupied bandwidth meter limit.

Example:

```
CALCulate:OBANDwidth:LIMit:FAIL?
0
```

21.18 CALCulate:OBANDwidth:LIMit:LOWer

Syntax:

CALCulate:OBANDwidth:LIMit:LOWer

CALCulate:OBANDwidth:LIMit:LOWer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the occupied bandwidth lower limit.

Examples:

```
CALCulate:OBANDwidth:LIMit:LOWer 10.0
CALCulate:OBANDwidth:LIMit:LOWer?
10.0
```

21.19 CALCulate:OBANDwidth:LIMit:LOWer:STATe

Syntax:

CALCulate:OBANDwidth:LIMit:LOWer:STATe

CALCulate:OBANDwidth:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the occupied bandwidth lower limit.

Examples:

```
CALCulate:OBANDwidth:LIMit:LOWer:STATe On
CALCulate:OBANDwidth:LIMit:LOWer:STATe?
1
```

21.20 CALCulate:OBANDwidth:LIMit:UPPer

Syntax:

CALCulate:OBANDwidth:LIMit:UPPer

CALCulate:OBANDwidth:LIMit:UPPer?

Parameter/Return: 0 to 99 % (default = 0.0)

Description: Sets/returns the occupied bandwidth upper limit.

Examples:

```
CALCulate:OBANDwidth:LIMit:UPPer 10.0
CALCulate:OBANDwidth:LIMit:UPPer?
10.0
```

21.21 CALCulate:OBANDwidth:LIMit:UPPer:STATe

Syntax:

CALCulate:OBANDwidth:LIMit:UPPer:STATe

CALCulate:OBANDwidth:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the occupied bandwidth upper limit.

Examples:

```
CALCulate:OBANDwidth:LIMit:UPPer:STATe On
CALCulate:OBANDwidth:LIMit:UPPer:STATe?
1
```

21.22 CALCulate:PEAK:EVM:LIMit:FAIL?

Syntax: CALCulate:PEAK:EVM:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the peak EVM limit.

Example:

```
CALCulate:PEAK:EVM:LIMit:FAIL?
0
```

21.23 CALCulate:PEAK:EVM:LIMit:LOWer

Syntax:

CALCulate:PEAK:EVM:LIMit:LOWer

CALCulate:PEAK:EVM:LIMit:LOWer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the peak EVM lower limit.

Examples:

```
CALCulate:PEAK:EVM:LIMit:LOWer 10.0
CALCulate:PEAK:EVM:LIMit:LOWer?
10.0
```

21.24 CALCulate:PEAK:EVM:LIMit:LOWer:STATe

Syntax:

CALCulate:PEAK:EVM:LIMit:LOWer:STATe

CALCulate:PEAK:EVM:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the peak EVM lower limit.

Examples:

```
CALCulate:PEAK:EVM:LIMit:LOWer:STATe On
CALCulate:PEAK:EVM:LIMit:LOWer:STATe?
1
```

21.25 CALCulate:PEAK:EVM:LIMit:UPPer

Syntax:

CALCulate:PEAK:EVM:LIMit:UPPer

CALCulate:PEAK:EVM:LIMit:UPPer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the peak EVM upper limit.

Examples:

```
CALCulate:PEAK:EVM:LIMit:UPPer 10.0
CALCulate:PEAK:EVM:LIMit:UPPer?
10.0
```

21.26 CALCulate:PEAK:EVM:LIMit:UPPer:STATe

Syntax:

CALCulate:PEAK:EVM:LIMit:UPPer:STATe

CALCulate:PEAK:EVM:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the peak EVM upper limit.

Examples:

```
CALCulate:PEAK:EVM:LIMit:UPPer:STATe On
CALCulate:PEAK:EVM:LIMit:UPPer:STATe?
1
```

21.27 CALCulate:RMS:EVM:LIMit:FAIL?

Syntax: CALCulate:RMS:EVM:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the RMS EVM limit.

Example:

```
CALCulate:RMS:EVM:LIMit:FAIL?
0
```

21.28 CALCulate:RMS:EVM:LIMit:LOWer

Syntax:

CALCulate:RMS:EVM:LIMit:LOWer

CALCulate:RMS:EVM:LIMit:LOWer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the RMS EVM lower limit.

Examples:

```
CALCulate:RMS:EVM:LIMit:LOWer 10.0
CALCulate:RMS:EVM:LIMit:LOWer?
10.0
```

21.29 CALCulate:RMS:EVM:LIMit:LOWer:STATe

Syntax:

CALCulate:RMS:EVM:LIMit:LOWer:STATe

CALCulate:RMS:EVM:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the RMS EVM lower limit.

Examples:

```
CALCulate:RMS:EVM:LIMit:LOWer:STATe On
CALCulate:RMS:EVM:LIMit:LOWer:STATe?
1
```

21.30 CALCulate:RMS:EVM:LIMit:UPPer

Syntax:

CALCulate:RMS:EVM:LIMit:UPPer

CALCulate:RMS:EVM:LIMit:UPPer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the RMS EVM upper limit.

Examples:

```
CALCulate:RMS:EVM:LIMit:UPPer 10.0
CALCulate:RMS:EVM:LIMit:UPPer?
10.0
```

21.31 CALCulate:RMS:EVM:LIMit:UPPer:STATe

Syntax:

CALCulate:RMS:EVM:LIMit:UPPer:STATe

CALCulate:RMS:EVM:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the RMS EVMupper limit.

Examples:

```
CALCulate:RMS:EVM:LIMit:UPPer:STATe On
CALCulate:RMS:EVM:LIMit:UPPer:STATe?
1
```

21.32 CALCulate:SPOWer:LIMit:FAIL?

Syntax: CALCulate:SPOWer:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the signal power limit.

Example:

```
CALCulate:SPOWer:LIMit:FAIL?
0
```

21.33 CALCulate:SPOWer:LIMit:LOWer

Syntax:

CALCulate:SPOWer:LIMit:LOWer

CALCulate:SPOWer:LIMit:LOWer?

Parameter/Return: -130 to 60 dBm | -100 to 60 dBW | -130 to 60 W | -130 to 60 V |-130 to 60 dBuV

Description: Sets/returns the signal power lower limit.

Examples:

```
CALCulate:SPOWer:LIMit:LOWer 10.0
CALCulate:SPOWer:LIMit:LOWer?
10.0
```

21.34 CALCulate:SPOWer:LIMit:LOWer:STATe

Syntax:

CALCulate:SPOWer:LIMit:LOWer:STATe

CALCulate:SPOWer:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the signal power lower limit.

Examples:

```
CALCulate:SPOWer:LIMit:LOWer:STATe On
CALCulate:SPOWer:LIMit:LOWer:STATe?
1
```

21.35 CALCulate:SPOWer:LIMit:UPPer

Syntax:

CALCulate:SPOWer:LIMit:UPPer

CALCulate:SPOWer:LIMit:UPPer?

Parameter/Return: -130 to 60 dBm | -100 to 60 dBW | -130 to 60 W | -130 to 60 V |-130 to 60 dBuV

Description: Sets/returns the signal power upper limit.

Examples:

```
CALCulate:SPOWer:LIMit:UPPer 10.0
CALCulate:SPOWer:LIMit:UPPer?
10.0
```

21.36 CALCulate:SPOWer:LIMit:UPPer:STATe

Syntax:

CALCulate:SPOWer:LIMit:UPPer:STATe

CALCulate:SPOWer:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the signal power upper limit.

Examples:

```
CALCulate:SPOWer:LIMit:UPPer:STATe On
CALCulate:SPOWer:LIMit:UPPer:STATe?
1
```

21.37 CALCulate:SRATE:LIMit:FAIL?

Syntax: CALCulate:SRATE:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the symbol rate limit.

Example:

```
CALCulate:SRATE:LIMit:FAIL?
0
```

21.38 CALCulate:SRATE:LIMit:LOWer

Syntax:

CALCulate:SRATE:LIMit:LOWer

CALCulate:SRATE:LIMit:LOWer?

Parameter/Return: 0 to 99%

Description: Sets/returns the symbol rate lower limit.

Examples:

```
CALCulate:SRATE:LIMit:LOWer 10.0
CALCulate:SRATE:LIMit:LOWer?
10.0
```

21.39 CALCulate:SRATE:LIMit:LOWer:STATe

Syntax:

CALCulate:SRATE:LIMit:LOWer:STATe

CALCulate:SRATE:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the symbol rate lower limit.

Examples:

```
CALCulate:SRATE:LIMit:LOWer:STATe On
CALCulate:SRATE:LIMit:LOWer:STATe?
1
```

21.40 CALCulate:SRATE:LIMit:UPPer

Syntax:

CALCulate:SRATE:LIMit:UPPer

CALCulate:SRATE:LIMit:UPPer?

Parameter/Return: 0 to 99%

Description: Sets/returns the symbol rate upper limit.

Examples:

```
CALCulate:SRATE:LIMit:UPPer 10.0
CALCulate:SRATE:LIMit:UPPer?
10.0
```

21.41 CALCulate:SRATE:LIMit:UPPer:STATe

Syntax:

CALCulate:SRATE:LIMit:UPPer:STATe

CALCulate:SRATE:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the symbol rate upper limit.

Examples:

```
CALCulate:SRATE:LIMit:UPPer:STATe On
CALCulate:SRATE:LIMit:UPPer:STATe?
1
```

21.42 DISPlay:HOLD?

Syntax: DISPlay:HOLD?

Parameter/Return: On | Off

Description: Returns the state of the display hold.

Example:

```
DISPlay:HOLD?
On
```

21.43 DISPlay:PPROFile[:WINDow]:TRACe:X:SCALe:PDIVision

Syntax:

DISPlay:PPROFile[:WINDow]:TRACe:X:SCALe:PDIVision

DISPlay:PPROFile[:WINDow]:TRACe:X:SCALe:PDIVision?

Parameter/Return: —

Description: Sets/returns the power profile horizontal scale.

Examples:

```
DISPlay:PPROFile:WINDow:TRACe:X:SCALe:PDIVision
TIMESCALE_200us
DISPlay:PPROFile:WINDow:TRACe:X:SCALe:PDIVision?
TIMESCALE_200us
```

21.44 DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision

Syntax:

DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision

DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision?

Parameter/Return: VSCALE_1dB | VSCALE_2dB | VSCALE_5dB | VSCLAE_10dB | VSCALE_15dB | VSCALE_20dB

Description: Sets/returns the power profile vertical scale.

Examples:

```
DISPlay:PPROFile:WINDow:TRACe:Y:SCALe:PDIVision
VSCALE_5dB
DISPlay:PPROFile:WINDow:TRACe:Y:SCALe:PDIVision?
VSCALE_5dB
```

21.45 MEASure:BCC?

Syntax: MEASure:BCC?

Parameter/Return: —

Description: Returns the live BS BCC reading.

Example:

```
MEASure:BCC?
10.0
```

21.46 MEASure:BER?

Syntax: MEASure:BER?

Parameter/Return: —

Description: Returns the live BER reading.

Example:

```
MEASure:BER?
10.0
```

21.47 MEASure:BER:AVERage?

Syntax: MEASure:BER:AVERage?

Parameter/Return: —

Description: Returns the average BER reading.

Example:

```
MEASure:BER:AVERage?
10.0
```

21.48 MEASure:BER:MAXimum?

Syntax: MEASure:BER:MAXimum?

Parameter/Return: —

Description: Returns the maximum BER reading.

Example:

```
MEASure:BER:MAXimum?
10.0
```

21.49 MEASure:BER:MINimum?

Syntax: MEASure:BER:MINimum?

Parameter/Return: —

Description: Returns the minimum BER reading.

Example:

```
MEASure:BER:MINimum?
10.0
```

21.50 MEASure:CARRier:FEED?

Syntax: MEASure:CARRier:FEED?

Parameter/Return: —

Description: Returns the live carrier-feed reading.

Example:

```
MEASure:CARRier:FEED?
10.0
```

21.51 MEASure:CARRier:FEED:AVERage?

Syntax: MEASure:CARRier:FEED:AVERage?

Parameter/Return: —

Description: Returns the average carrier-feed reading.

Example:

```
MEASure:CARRier:FEED:AVERage?
10.0
```

21.52 MEASure:CARRier:FEED:MAXimum?

Syntax: MEASure:CARRier:FEED:MAXimum?

Parameter/Return: —

Description: Returns the maximum-carrier feed reading.

Example:

```
MEASure:CARRier:FEED:MAXimum?
10.0
```

21.53 MEASure:CARRier:FEED:MINimum?

Syntax: MEASure:CARRier:FEED:MINimum?

Parameter/Return: —

Description: Returns the minimum carrier-feed reading (%).

Example:

```
MEASure:CARRier:FEED:MINimum?
10.0
```

21.54 MEASure:FOFFSet?

Syntax: MEASure:FOFFSet?

Parameter/Return: —

Description: Returns the live frequency-offset reading.

Example:

```
MEASure:FOFFSet?
10.0
```

21.55 MEASure:FOFFSet:AVERage?

Syntax MEASure:FOFFSet:AVERage?

Parameter/Return: —

Description: Returns the average frequency offset reading.

Example:

```
MEASure:FOFFSet:AVERage?
10
```

21.56 MEASure:FOFFSet:MAXimum?

Syntax: MEASure:FOFFSet:MAXimum?

Parameter/Return: —

Description: Returns the maximum frequency-offset reading.

Example:

```
MEASure:FOFFSet:MAXimum?
10
```

21.57 MEASure:FOFFSet:MIINimum?

Syntax: MEASure:FOFFSet:MINimum?

Parameter/Return: —

Description: Returns the minimum frequency-offset reading.

Example:

```
MEASure:FOFFSet:MINimum?
1
```

21.58 MEASure:MCC?

Syntax: MEASure:MCC?

Parameter/Return: —

Description: Returns the live MCC reading.

Example:

```
MEASure:MCC?
10
```

21.59 MEASure:MNC?

Syntax: MEASure:MCC?

Parameter/Return: —

Description: Returns the live MNC reading.

Example:

```
MEASure:MNC?
10
```

21.60 MEASure:OBANDwidth?

Syntax: MEASure:OBANDwidth?

Parameter/Return: —

Description: Returns the live occupied bandwidth reading.

Example:

```
MEASure:OBANDwidth?
10
```

21.61 MEASure:OBANDwidth:AVERage?

Syntax: MEASure:OBANDwidth:AVERage?

Parameter/Return: —

Description: Returns the average occupied bandwidth reading.

Example:

```
MEASure:OBANDwidth:AVERage?
10
```

21.62 MEASure:OBANDwidth:MAXimum?

Syntax: MEASure:OBANDwidth:MAXimum?

Parameter/Return: —

Description: Returns the maximum occupied bandwidth reading.

Example:

```
MEASure:OBANDwidth:MAXimum?
10
```

21.63 MEASure:OBANDwidth:MINimum?

Syntax: MEASure:OBANDwidth:MINimum?

Parameter/Return: —

Description: Returns the minimum occupied bandwidth reading.

Example:

```
MEASure:OBANDwidth:MINimum?
10
```

21.64 MEASure:PEAK:EVM?

Syntax: MEASure:PEAK:EVM?

Parameter/Return: —

Description: Returns the live peak EVM reading.

Example:

```
MEASure:PEAK:EVM?
10
```

21.65 MEASure:PEAK:EVM:AVERage?

Syntax: MEASure:PEAK:EVM:AVERage?

Parameter/Return: —

Description: Returns the average peak EVM reading.

Example:

```
MEASure:PEAK:EVM:AVERage?
10
```

21.66 MEASure:PEAK:EVM:MAXimum?

Syntax: MEASure:PEAK:EVM:MAXimum?

Parameter/Return: —

Description: Returns the maximum peak EVM reading.

Example:

```
MEASure:PEAK:EVM:MAXimum?
10
```

21.67 MEASure:PEAK:EVM:MINimum?

Syntax: MEASure:PEAK:EVM:MINimum?

Parameter/Return: —

Description: Returns the minimum peak EVM reading.

Example:

```
MEASure:PEAK:EVM:MINimum?
10
```

21.68 MEASure:RMS:EVM?

Syntax: MEASure:RMS:EVM?

Parameter/Return: —

Description: Returns the live RMS EVM reading.

Example:

```
MEASure:RMS:EVM?
10
```

21.69 MEASure:RMS:EVM:AVERage?

Syntax: MEASure:RMS:EVM:AVERage?

Parameter/Return: —

Description: Returns the average RMS EVM reading.

Example:

```
MEASure:RMS:EVM:AVERage?
10
```

21.70 MEASure:RMS:EVM:MAXimum?

Syntax: MEASure:RMS:EVM:MAXimum?

Parameter/Return: —

Description: Returns the maximum RMS EVM reading.

Example:

```
MEASure:PEAK:RMS:MAXimum?
10
```

21.71 MEASure:RMS:EVM:MINimum?

Syntax: MEASure:RMS:EVM:MINimum?

Parameter/Return: —

Description: Returns the minimum RMS EVM reading.

Example:

```
MEASure:RMS:EVM:MINimum?
10
```

21.72 MEASure:SPOWer?

Syntax: MEASure:SPOWer?

Parameter/Return: —

Description: Returns the live signal power reading.

Example:

```
MEASure:SPOWer?
10
```

21.73 MEASure:SPOWer:AVERage?

Syntax: MEASure:SPOWer:AVERage?

Parameter/Return: —

Description: Returns the average signal power reading.

Example:

```
MEASure:SPOWer:AVERage?
10
```

21.74 MEASure:SPOWer:MAXimum?

Syntax: MEASure:SPOWer:MAXimum?

Parameter/Return: —

Description: Returns the maximum signal power reading.

Example:

```
MEASure:SPOWer:MAXimum?
10
```

21.75 MEASure:SPOWer:MINimum?

Syntax: MEASure:SPOWer:MINimum?

Parameter/Return: —

Description: Returns the minimum signal power reading.

Example:

```
MEASure:SPOWer:MINimum?
10
```

21.76 MEASure:SRATE?

Syntax: MEASure:SRATE?

Parameter/Return: —

Description: Returns the live symbol rate error reading.

Example:

```
MEASure:SRATE?
10
```

21.77 MEASure:SRATE:AVERage?

Syntax: MEASure:SRATE:AVERage?

Parameter/Return: —

Description: Returns the average symbol rate error reading.

Example:

```
MEASure:SRATE:AVERage?
10
```

21.78 MEASure:SRATE:MAXimum?

Syntax: MEASure:SRATE:MAXimum?

Parameter/Return: —

Description: Returns the maximum symbol rate error reading.

Example:

```
MEASure:SRATE:MAXimum?
10
```

21.79 MEASure:SRATE:MINimum?

Syntax: MEASure:SRATE:MINimum?

Parameter/Return: —

Description: Returns the minimum symbol rate error reading.

Example:

```
MEASure:SRATE:MINimum?
10
```

21.80 MEASure:TRACe:CONSTellation?

Syntax: MEASure:TRACe:CONSTellation?

Parameter/Return: —

Description: Returns the constellation trace.

Example:

```
MEASure:TRACe:CONSTellation?
10
```

21.81 MEASure:TRACe:EYE:DIAGram?

Syntax: MEASure:TRACe:EYE:DIAGram?

Parameter/Return: —

Description: Returns the eye-diagram trace.

Example:

```
MEASure:TRACe:EYE:DIAGram?
10
```

21.82 MEASure:TRACe:PPROFile?

Syntax: MEASure:TRACe:PPROFile?

Parameter/Return: —

Description: Returns the power profile trace.

Example:

```
MEASure:TRACe:PPROFile?
10
```

21.83 MEASure:TRACe:TRAJectory?

Syntax: MEASure:TRACe:TRAJectory?

Parameter/Return: —

Description: Returns the trajectory trace.

Example:

```
MEASure:TRACe:TRAJectory?
10
```

21.84 SENSe:BER:AVERage:COUNt

Syntax:

SENSe:BER:AVERage:COUNt

SENSe:BER:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 1

Description: Sets/returns the BER average count.

Examples:

```
SENSe:BER:AVERage:COUNt 2
SENSe:BER:AVERage:COUNt?
2
```

21.85 SENSe:BER:DECimal:PRECision

Syntax:

SENSe:BER:DECimal:PRECision

SENSe:BER:DECimal:PRECision?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Set/returns the BER decimal precision.

Examples:

```
SENSe:BER:DECimal:PRECision 3
SENSe:BER:DECimal:PRECision
3
```

21.86 SENSe:BER:READing:TYPE

Syntax:

SENSe:BER:READing:TYPE

SENSe:BER:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = LIVE

Description: Sets/returns the BER reading type.

Examples:

```
SENSe:BER:READing:TYPE MAX
SENSe:BER:READing:TYPE?
MAX
```

21.87 SENSe:BER:SCALe

Syntax:

SENSe:BER:SCALe

SENSe:BER:SCALe?

Parameter/Return: Auto | 100% | 50% | 20% | 10% | 5% | 2% | 1%

Note: Default = Auto

Description: Sets/returns the BER scale.

Examples:

```
SENSe:BER:SCALe 10%
SENSe:BER:SCALe?
10%
```

21.88 SENSe:CARRier:FEED:AVERage:COUNt

Syntax:

SENSe:CARRier:FEED:AVERage:COUNt

SENSe:CARRier:FEED:AVERage:COUNt?

Parameter/Return: 1 to 99

Default = 1

Description: Sets/returns the carrier-feed count.

Examples:

```
SENSe:CARRier:FEED:AVERage:COUNt 5
SENSe:CARRier:FEED:AVERage:COUNt?
5
```

21.89 SENSe:CARRier:FEED:DECimal:PRECision

Syntax:

SENSe:CARRier:FEED:DECimal:PRECision

SENSe:CARRier:FEED:DECimal:PRECision?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Sets/returns the carrier-feed decimal precision.

Examples:

```
SENSe:CARRier:FEED:DECimal:PRECision 3
SENSe:CARRier:FEED:DECimal:PRECision?
3
```

21.90 SENSe:CARRier:FEED:READing:TYPE

Syntax:

SENSe:CARRier:FEED:READing:TYPE

SENSe:CARRier:FEED:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = LIVE

Description: Sets/returns the carrier-feed reading type.

Examples:

```
SENSe:CARRier:FEED:READing:TYPE
SENSe:CARRier:FEED:READing:TYPE?
AVG
```

21.91 SENSe:CARRier:FEED:SCALe

Syntax:

SENSe:CARRier:FEED:SCALe

SENSe:CARRier:FEED:SCALe?

Parameter/Return: Auto | 100000Hz | 50000Hz | 20000Hz | 10000Hz | 5000Hz | 2000Hz | 1000Hz | 500Hz | 200Hz | 100Hz | 50Hz | 20Hz | 10Hz | 5Hz | 2Hz | 1Hz

Note: Default = Auto

Description: Sets/returns the carrier-feed scale.

Examples:

```
SENSe:CARRier:FEED:SCALe 20Hz
SENSe:CARRier:FEED:SCALe?
20Hz
```

21.92 SENSe:CURRent?

Syntax: SENSe:CURRent?

Parameter/Return: Yes (On) | No (off)

Note: Default = No

Description: Returns the on/off state of the Tetra system.

Example:

```
SENSe:CURRent?
No
```

21.93 SENSe:FOFFSet:AVERage:COUNt

Syntax:

SENSe:FOFFSet:AVERage:COUNt

SENSe:FOFFSet:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 1

Description: Sets/returns the average frequency-offset count.

Examples:

```
SENSe:FOFFSet:AVERage:COUNt 2
SENSe:FOFFSet:AVERage:COUNt?
2
```

21.94 SENSe:FOFFSet:DECimal:PRECision

Syntax:

SENSe:FOFFSet:DECimal:PRECision

SENSe:FOFFSet:DECimal:PRECision?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Sets/returns frequency-offset decimal precision.

Examples:

```
SENSe:FOFFSet:DECimal:PRECision 2
SENSe:FOFFSet:DECimal:PRECision?
2
```

21.95 SENSe:FOFFSet:READing:TYPE

Syntax:

SENSe:FOFFSet:READing:TYPE

SENSe:FOFFSet:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = LIVE

Description: Sets/returns the frequency-offset reading type.

Examples:

```
SENSe:FOFFSet:READing:TYPE AVG
SENSe:FOFFSet:READing:TYPE?
AVG
```

21.96 SENSe:FOFFSet:RESet

Syntax: SENSe:FOFFSet:RESet

Parameter/Return: —

Description: Resets the frequency-offset acquisition.

Example:

```
SENSe:FOFFSet:RESet
```

21.97 SENSe:FOFFSet:SCALe

Syntax:

SENSe:FOFFSet:SCALe

SENSe:FOFFSet:SCALe?

Parameter/Return: Auto | 100000Hz | 50000Hz | 20000Hz | 10000Hz | 5000Hz | 2000Hz | 1000Hz | 500Hz | 200Hz | 100Hz | 50Hz | 20Hz | 10Hz | 5Hz | 2Hz | 1Hz

Note: Default = Auto

Description: Sets/returns the frequency-offset scale.

Examples:

```
SENSe:FOFFSet:SCALe 20Hz
SENSe:FOFFSet:SCALe?
20Hz
```

21.98 SENSe:OBANDwidth:AVERage:COUNt

Syntax:

SENSe:OBANDwidth:AVERage:COUNt

SENSe:OBANDwidth:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 1

Description: Sets/returns the average occupied-bandwidth count.

Examples:

```
SENSe:OBANDwidth:AVERage:COUNt 2
SENSe:OBANDwidth:AVERage:COUNt?
2
```

21.99 SENSe:OBANDwidth:DECimal:PRECision

Syntax:

SENSe:OBANDwidth:DECimal:PRECision

SENSe:OBANDwidth:DECimal:PRECision?

Parameter/Return: 0 to 9

Default = 1

Description: Sets/returns the occupied-bandwidth decimal precision.

Examples:

```
SENSe:OBANDwidth:DECimal:PRECision 3
SENSe:OBANDwidth:DECimal:PRECision?
3
```

21.100 SENSe:OBANDwidth:READing:TYPE

Syntax:

SENSe:OBANDwidth:READing:TYPE

SENSe:OBANDwidth:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = LIVE

Description: Sets/returns the occupied-bandwidth reading type.

Examples:

```
SENSe:OBANDwidth:READing:TYPE AVG
SENSe:OBANDwidth:READing:TYPE?
AVG
```

21.101 SENSe:OBANDwidth:RESet

Syntax: SENSe:OBANDwidth:RESet

Parameter/Return: —

Description: Resets the occupied-bandwidth acquisition.

Example:

```
SENSe:OBANDwidth:RESet
```

21.102 SENSe:OBANDwidth:SCALe

Syntax:

SENSe:OBANDwidth:SCALe

SENSe:OBANDwidth:SCALe?

Parameter/Return: Auto | 100000Hz | 50000Hz | 20000Hz | 10000Hz | 5000Hz | 2000Hz | 1000Hz | 500Hz | 200Hz | 100Hz | 50Hz | 20Hz | 10Hz | 5Hz | 2Hz | 1Hz

Note: Default = Auto

Description: Sets/returns the occupied-bandwidth scale.

Examples:

```
SENSe:OBANDwidth:SCALe AVG
SENSe:OBANDwidth:SCALe?
AVG
```

21.103 SENSe:PATTern

Syntax:

SENSe:PATTern

SENSe:PATTern?

Parameter/Return: BST1 | MST1 | DM

Description: Sets/returns the Tetra pattern.

Examples:

```
SENSe:PATTern BST1
SENSe:PATTern?
BST1
```

21.104 SENSe:PEAK:EVM:AVERage:COUNt

Syntax:

SENSe:PEAK:EVM:AVERage:COUNt

SENSe:PEAK:EVM:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 1

Description: Sets/returns the peak EVM average count.

Examples:

```
SENSe:PEAK:EVM:AVERage:COUNt 2
SENSe:PEAK:EVM:AVERage:COUNt?
2
```

21.105 SENSe:PEAK:EVM:DECimal:PRECision

Syntax:

SENSe:PEAK:EVM:DECimal:PRECision

SENSe:PEAK:EVM:DECimal:PRECision?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Sets/returns the peak EVM decimal precision.

Examples:

```
SENSe:PEAK:EVM:DECimal:PRECision 3
SENSe:PEAK:EVM:DECimal:PRECision?
3
```

21.106 SENSe:PEAK:EVM:READing:TYPE

Syntax:

SENSe:PEAK:EVM:READing:TYPE

SENSe:PEAK:EVM:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = AVG

Description: Sets/returns the peak EVM reading type.

Examples:

```
SENSe:PEAK:EVM:READing:TYPE AVG
SENSe:PEAK:EVM:READing:TYPE?
AVG
```

21.107 SENSe:PEAK:EVM:RESet

Syntax: SENSe:PEAK:EVM:RESet

Parameter/Return: —

Description: Resets the peak EVM acquisition.

Example:

```
SENSe:PEAK:EVM:RESet
```

21.108 SENSe:PEAK:EVM:SCALe

Syntax:

SENSe:PEAK:EVM:SCALe

SENSe:PEAK:EVM:SCALe?

Parameter/Return: Auto

Description: Sets/returns the peak EVM scale.

Examples:

```
SENSe:PEAK:EVM:SCALe Auto
SENSe:PEAK:EVM:SCALe?
Auto
```

21.109 SENSe:PPROFile:LEFT:RAMP:FREQuency:CENTer

Syntax:

SENSe:PPROFile:LEFT:RAMP:FREQuency:CENTer

SENSe:PPROFile:LEFT:RAMP:FREQuency:CENTer?

Parameter/Return: —

Description: Sets/returns the left-ramp center frequency.

Examples:

```
SENSe:PPROFile:LEFT:RAMP:FREQuency:CENTer 100000000
SENSe:PPROFile:LEFT:RAMP:FREQuency:CENTer?
100000000
```

21.110 SENSe:PPROFile:MODE

Syntax:

SENSe:PPROFile:MODE

SENSe:PPROFile:MODE?

Parameter/Return: FULL | RAMPS

Description: Sets/returns the power profile mode.

Examples:

```
SENSe:PPROFile:MODE FULL
SENSe:PPROFile:MODE?
FULL
```

21.111 SENSe:PPROFile:PERSistence

Syntax:

SENSe:PPROFile:PERSistence

SENSe:PPROFile:PERSistence?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Sets/returns the power profile persistence.

Examples:

```
SENSe:PPROFile:PERSistence 2
SENSe:PPROFile:PERSistence?
2
```

21.112 SENSe:PPROFile:RIGHt:RAMP:FREQuency:CENTer

Syntax:

SENSe:PPROFile:RIGHt:RAMP:FREQuency:CENTer

SENSe:PPROFile:RIGHt:RAMP:FREQuency:CENTer?

Parameter/Return: —

Description: Sets/returns the right ramp center frequency.

Examples:

```
SENSe:PPROFile:RIGHt:RAMP:FREQuency:CENTer 100000000
SENSe:PPROFile:RIGHt:RAMP:FREQuency:CENTer?
100000000
```

21.113 SENSe:PPROFile:SLOT

Syntax:

SENSe:PPROFile:SLOT

SENSe:PPROFile:SLOT?

Parameter/Return: Slot A | Slot B

Note: Default = Slot A

Description: Sets/returns the power profile slot.

Examples:

```
SENSe:PPROFile:SLOT Slot B
SENSe:PPROFile:SLOT?
Slot B
```

21.114 SENSe:RESet

Syntax: SENSe:RESet

Parameter/Return: —

Description: Resets the acquisition.

Example:

```
SENSe:RESet
```

21.115 SENSe:RMS:EVM:AVERage:COUNt

Syntax:

SENSe:RMS:EVM:AVERage:COUNt

SENSe:RMS:EVM:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 1

Description: Sets/returns the average RMS EVM count.

Examples:

```
SENSe:RMS:EVM:AVERage:COUNt 2
SENSe:RMS:EVM:AVERage:COUNt?
2
```

21.116 SENSe:RMS:EVM:DECimal:PRECision

Syntax:

SENSe:RMS:EVM:DECimal:PRECision

SENSe:RMS:EVM:DECimal:PRECision?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Sets/returns the RMS EVM decimal precision.

Examples:

```
SENSe:RMS:EVM:DECimal:PRECision 3
SENSe:RMS:EVM:DECimal:PRECision?
3
```

21.117 SENSe:RMS:EVM:READing:TYPE

Syntax:

SENSe:RMS:EVM:READing:TYPE

SENSe:RMS:EVM:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = LIVE

Description: Sets/returns the RMS EVM reading type.

Examples:

```
SENSe:RMS:EVM:READing:TYPE AVG
SENSe:RMS:EVM:READing:TYPE?
AVG
```

21.118 SENSe:RMS:EVM:RESet

Syntax: SENSe:RMS:EVM:RESet

Parameter/Return: —

Description: Resets the RMS EVM acquisition.

Example:

```
SENSe:RMS:EVM:RESet
```

21.119 SENSe:RMS:EVM:SCALe

Syntax:

SENSe:RMS:EVM:SCALe

SENSe:RMS:EVM:SCALe?

Parameter/Return: Auto

Description: Sets/returns the RMS EVM scale.

Examples:

```
SENSe:RMS:EVM:SCALe Auto
SENSe:RMS:EVM:SCALe?
Auto
```

21.120 SENSe:SPOWer:AVERage:COUNt

Syntax:

SENSe:SPOWer:AVERage:COUNt

SENSe:SPOWer:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 1

Description: Sets/returns the average signal power count.

Examples:

```
SENSe:SPOWer:AVERage:COUNt 2
SENSe:SPOWer:AVERage:COUNt?
2
```

21.121 SENSe:SPOWer:DECimal:PRECision

Syntax:

SENSe:SPOWer:DECimal:PRECision

SENSe:SPOWer:DECimal:PRECision?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Sets/returns the signal power decimal precision.

Examples:

```
SENSe:SPOWer:DECimal:PRECision 3
SENSe:SPOWer:DECimal:PRECision?
3
```

21.122 SENSe:SPOWer:READing:TYPE

Syntax:

SENSe:SPOWer:READing:TYPE

SENSe:SPOWer:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = LIVE

Description: Sets/returns the signal power reading type.

Examples:

```
SENSe:SPOWer:READing:TYPE AVG
SENSe:SPOWer:READing:TYPE?
AVG
```

21.123 SENSe:SPOWer:RESet

Syntax: SENSe:SPOWer:RESet

Parameter/Return: —

Description: Resets the signal power acquisition.

Example:

```
SENSe:SPOWER:RESet
```

21.124 SENSe:SPOWer:SCALe:DBM

Syntax:

SENSe:SPOWer:SCALe:DBM

SENSe:SPOWer:SCALe:DBM?

Parameter/Return: Auto | -100 dBm to 60 dBm in 10-dBm steps

Note: Default = Auto

Description: Sets/returns the signal power DBM scale.

Examples:

```
SENSe:SPOWer:SCALe:DBM 10
SENSe:SPOWer:SCALe:DBM?
10
```

21.125 SENSe:SPOWer:SCALe:DBUV

Syntax:

SENSe:SPOWer:SCALe:DBUV

SENSe:SPOWer:SCALe:DBUV?

Parameter/Return: Auto | -100 dBuV to 60 dBuV in 10-dBuV steps

Note: Default = Auto

Description: Sets/returns the signal power DBuV scale.

Examples:

```
SENSe:SPOWer:SCALe:DBUV 10
SENSe:SPOWer:SCALe:DBUV?
10
```

21.126 SENSe:SPOWer:SCALe:DBW

Syntax:

SENSe:SPOWer:SCALe:DBW

SENSe:SPOWer:SCALe:DBW?

Parameter/Return: Auto | -100 dBW to 60 dBW in 10-dBW steps

Note: Default = Auto

Description: Sets/returns the signal power DBW scale.

Examples:

```
SENSe:SPOWer:SCALe:DBW 10
SENSe:SPOWer:SCALe:DBW?
10
```

21.127 SENSe:SPOWer:SCALe:VOLT

Syntax:

SENSe:SPOWer:SCALe:VOLT

SENSe:SPOWer:SCALe:VOLT?

Parameter/Return: Auto | 1 uV to 200 uV in 1, 2, 5, sequence.

Note: Default = Auto

Description: Sets/returns the signal power volts scale.

Examples:

```
SENSe:SPOWer:SCALe:VOLT Auto
SENSe:SPOWer:SCALe:VOLT?
Auto
```

21.128 SENSe:SPOWer:SCALe:WATT

Syntax:

SENSe:SPOWer:SCALe:WATT

SENSe:SPOWer:SCALe:WATT?

Parameter/Return: Auto | 1 pW to 200 pW in 1, 2, 5, sequence.

Note: Default = Auto

Description: Sets/returns the signal power watts scale.

Examples:

```
SENSe:SPOWer:SCALe:WATT Auto
SENSe:SPOWer:SCALe:WATT?
Auto
```

21.129 SENSe:SPOWer:UNIT

Syntax:

SENSe:SPOWer:UNIT

SENSe:SPOWer:UNIT?

Parameter/Return: dBm | dBW | W | V | dBuV.

Note: Default = dBm

Description: Sets/returns the signal power units.

Examples:

```
SENSe:SPOWer:UNIT dBW
SENSe:SPOWer:SCALe:WATT?
dBW
```

21.130 SENSe:SRATE:AVERage:COUNt

Syntax:

SENSe:SRATE:AVERage:COUNt

SENSe:SRATE:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 1

Description: Sets/returns the average symbol rate count.

Examples:

```
SENSe:SRATE:AVERage:COUNt 2
SENSe:SRATE:AVERage:COUNt?
2
```

21.131 SENSe:SRATE:DECimal:PRECision

Syntax:

SENSe:SRATE:DECimal:PRECision

SENSe:SRATE:DECimal:PRECision?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Sets/returns the symbol rate decimal precision.

Examples:

```
SENSe:SRATE:DECimal:PRECision 3
SENSe:SRATE:DECimal:PRECision?
3
```

21.132 SENSe:SRATE:READing:TYPE

Syntax:

SENSe:SRATE:READing:TYPE

SENSe:SRATE:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = LIVE

Description: Sets/returns the symbol rate reading type.

Examples:

```
SENSe:SRATE:READing:TYPE AVG
SENSe:SRATE:READing:TYPE?
AVG
```

21.133 SENSe:SRATE:RESet

Syntax: SENSe:SRATE:RESet

Parameter/Return: —

Description: Resets the symbol rate acquisition.

Example:

```
SENSe:SRATE:RESet
```

21.134 SENSe:SRATE:SCALe

Syntax:

SENSe:SRATE:SCALe

SENSe:SRATE:SCALe?

Parameter/Return: Auto | 100000Hz | 50000Hz | 20000Hz | 10000Hz | 5000Hz | 2000Hz | 1000Hz | 500Hz | 200Hz | 100Hz | 50Hz | 20Hz| 10Hz | 5Hz | 2Hz | 1Hz

Note: Default = Auto

Description: Sets/returns the symbol rate scale.

Examples:

```
SENSe:SRATE:SCALe 10Hz
SENSe:SRATE:SCALe?
10Hz
```

22

Record Commands

This chapter describes the following remote commands for configuring Record (RECord) settings:

- SENSe:FILE? 22-2
- SENSe:TIME. 22-2
- SENSe:INITiate. 22-2
- SENSe:SRATE 22-3
- SENSe:STATus? 22-3

22.1 SENSe:FILE?

Syntax: SENSe:FILE?

Parameter/Return: None

Description: Returns the file path.

Example:

```
SENSe:FILE?
Idle
```

22.2 SENSe:TIME

Syntax:

SENSe:TIME

SENSe:TIME?

Parameter/Return: 0.0 to 1000 s

Description: Sets/returns the record time.

Example:

```
SENSe:TIME 20
SENse:TIME?
20
```

22.3 SENSe:INITiate

Syntax: SENSe:INITiate

Parameter/Return: None

Description: Begins recording.

Example:

```
SENSe:INITiate
```

22.4 SENSe:SRATE

Syntax:

SENSe:SRATE
SENSe:SRATE?

Parameter/Return: None

Description: Sets/returns the Displayed sample rate.

Example:

```
SENSe:SRATE 78000
SENSe:SRATE?
78000
```

22.5 SENSe:STATus?

Syntax: SENSe:STATus?

Parameter/Return: None

Description: Returns the recording status: Status Idle | Playing | Recording

Example:

```
SENSe:STATus?
Idle
```

This page intentionally left blank.

23

Playback Commands

This chapter describes the following remote commands for configuring Playback (PLAYback) settings:

- SOURce:FILE 23-2
- SOURce:DATE? 23-2
- SOURce:REPeat:STATe 23-2
- SOURce:SRATE? 23-3
- SOURce:STATus? 23-3

23.1 SOURce:FILE

Syntax:

SOURce:FILE

SOURce:FILE?

Parameter/Return: None

Description: You set or query the file path.

Example:

```
SOURce:FILE Idle
SOURce:FILE?
Idle
```

23.2 SOURce:DATE?

Syntax: SOURce:DATE?

Parameter/Return: None

Description: You can query the date in file.

Example:

```
SOURce:DATE?
00/00/0000
```

23.3 SOURce:REPeat:STATe

Syntax:

SOURce:REPeat:STATe
SOURce:REPeat:STATe?

Parameter/Return: Off | On | 0 | 1

Description: Sets/returns the Repeat State.

Example:

```
SOURce:REPeat:STATe Off
SOURce:REPeat:STATe?
0
```

23.4 SOURce:SRATE?

Syntax: SOURce:SRATE?

Parameter/Return: None

Description: Returns the displayed sample rate.

Example:

```
SOURce:SRATE?
78000
```

23.5 SOURce:STATus?

Syntax: SOURce:STATus?

Parameter/Return: None

Description: Returns the Playback status: Status Idle | Playing | Recording

Example:

```
SOURce:STATus?
Idle
```

This page intentionally left blank.

24

Vector Network Analyzer Commands

This chapter describes the remote commands for configuring Vector Network Analyzer (VNA) settings:

- CALCulate:CABLe:FILE. 24-3
- CALCulate:CABLe:FILE:TYPE 24-3
- CALCulate:CABLe:LOSS. 24-4
- CALCulate:CABLe:VELocity 24-4
- CALCulate:MARKer#:DELTa:TRACe:DTF 24-5
- CALCulate:MARKer#:DELTa:TRACe:VSWR 24-5
- CALCulate:MARKer#:DELTa:X:DTF 24-6
- CALCulate:MARKer#:DELTa:X:RELative:DTF 24-6
- CALCulate:MARKer#:DELTa:X:RELative:VSWR 24-7
- CALCulate:MARKer#:DELTa:X:VSWR. 24-7
- CALCulate:MARKer#:DISPlay:DISTance:DTF? 24-8
- CALCulate:MARKer#:DISPlay:FREQuency:VSWR? 24-8
- CALCulate:MARKer#:DISTance:DTF 24-8
- CALCulate:MARKer#:FREQuency:VSWR 24-9
- CALCulate:MARKer#:PEAK:ALWAys:DTF. 24-9
- CALCulate:MARKer#:PEAK:ALWAys:VSWR. 24-10
- CALCulate:MARKer#:TRACE:DTF. 24-10
- CALCulate:MARKer#:TRACE:VSWR. 24-11
- CALCulate:MARKer#:TYPE:DTF 24-11
- CALCulate:MARKer#:TYPE:VSWR 24-12
- CALCulate:MARKer#:VALue:DTF? 24-12
- CALCulate:MARKer#:VALue:VSWR? 24-13
- CALCulate:MARKer#[:STATe]:DTF 24-13
- CALCulate:MARKer#[:STATe]:VSWR 24-14
- CALCulate:MARKer:CENTer 24-14
- CALCulate:MARKer:MINimum 24-14

- CALCulate:MARKer:PEAK:LEFT 24-15
- CALCulate:MARKer:PEAK:NEXT 24-15
- CALCulate:MARKer:PEAK:RIGHt 24-15
- CALCulate:MARKer:PEAK:SEARch 24-15
- CALCulate:MARKer:SELect:DTF 24-16
- CALCulate:MARKer:SELect:VSWR 24-16
- CALCulate:MARKer:STARt 24-17
- CALCulate:MARKer:STOP 24-17
- CALCulate:TRACe:X:UNITs 24-17
- DISPlay:HOLD:DTF 24-18
- DISPlay:HOLD:VSWR 24-18
- DISPlay:TRACe#:DTF:TYPE 24-19
- DISPlay:TRACe#:VSWR:STATe 24-19
- DISPlay:TRACe#:VSWR:TYPE 24-20
- DISPlay:TRACe:CLEar:DTF:ALL 24-20
- DISPlay:TRACe:CLEar:VSWR:ALL 24-21
- DISPlay:WINDow:TRACe:Y:DTF:SCALe:PDIVision 24-21
- DISPlay:WINDow:TRACe:Y:DTF:SCALe:TOP 24-22
- DISPlay:WINDow:TRACe:Y:VSWR:SCALe:PDIVision 24-22
- DISPlay:WINDow:TRACe:Y:VSWR:SCALe:TOP 24-23
- MEASure:TRACe:DTF:DATA? 24-23
- MEASure:TRACe:VSWR:DATA? 24-23
- SENSe:DISTance:STARt:FEET 24-24
- SENSe:DISTance:STARt:METer 24-24
- SENSe:DISTance:STOP:FEET 24-25
- SENSe:DISTance:STOP:METer 24-25
- SENSe:DTF:TYPE 24-26
- SENSe:FREQuency:CENTer 24-26
- SENSe:FREQuency:SPAN:VSWR 24-27
- SENSe:FREQuency:SPAN:VSWR:FULL 24-27
- SENSe:FREQuency:STARt 24-27
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- SENSe:MEASurement:MODE (Obsoleted) 24-28
- SENSe:SWEep:DTF:POINts 24-29
- SENSe:SWEep:VSWR:POINts 24-29
- SENSe:VSWR:MEASure:TYPE 24-30
- SENSe:VSWR:TRACe:SPAN 24-30

24.1 CALCulate:CABLe:FILE

Syntax:

CALCulate:CABLe:FILE

CALCulate:CABLe:FILE?

Parameter/Return: —

Description: Sets/returns the name of the cable file in use.

Examples:

```
CALCulate:CABLe:FILE CableFile.ext
CALCulate:CABLe:FILE?
CableFile.ext
```

Query Response: Default

24.2 CALCulate:CABLe:FILE:TYPE

Syntax:

CALCulate:CABLe:FILE:TYPE

CALCulate:CABLe:FILE:TYPE?

Parameter/Return: Standard | User

Note: Default = Standard

Description: Sets/returns the type of cable file in use.

Examples:

```
CALCulate:CABLe:FILE:TYPE User
CALCulate:CABLe:FILE?
User
```

Query Response: Standard

24.3 CALCulate:CABLe:LOSS

Syntax:

CALCulate:CABLe:LOSS

CALCulate:CABLe:LOSS?

Parameter/Return: —

Note: Default = 4.9

Description: Sets/returns the attenuation factor of the cable in use, in dB/100ft unit.

Examples:

```
CALCulate:CABLe:LOSS 9.22
CALCulate:CABLe:LOSS?
9.22
```

Query Response: 4.9

24.4 CALCulate:CABLe:VELocity

Syntax:

CALCulate:CABLe:VELocity

CALCulate:CABLe:VELocity?

Parameter/Return: —

Note: Default = 0.66

Description: Sets/returns the velocity factor of the cable in use.

Examples:

```
CALCulate:CABLe:VELocity 0.7
CALCulate:CABLe:VELocity?
0.7
```

Query Response: 0.66

24.5 CALCulate:MARKer#:DELTa:TRACe:DTF

Syntax:

CALCulate:MARKer1:DELTa:TRACe:DTF

CALCulate:MARKer1:DELTa:TRACe:DTF?

Parameter/Return: Trace01 to Trace 06

Note:

Default = Trace01

Marker Index (#) = 1 to 6

Description: Sets/returns the DTF trace for the delta marker.

Examples:

```
CALCulate:MARKer1:DELTa:TRACe:DTF Trace02
CALCulate:MARKer1:DELTa:TRACe:DTF?
Trace02
```

Query Response: Trace01

24.6 CALCulate:MARKer#:DELTa:TRACe:VSWR

Syntax:

CALCulate:MARKer1:DELTa:TRACe:VSWR

CALCulate:MARKer1:DELTa:TRACe:VSWR?

Parameter/Return: Trace01 to Trace 06

Note:

Default = Trace01

Marker Index (#) = 1 to 6

Description: Sets/returns the VSWR trace for the delta marker.

Examples:

```
CALCulate:MARKer1:DELTa:TRACe:VSWR
CALCulate:MARKer1:DELTa:TRACe:VSWR?
```

Query Response: Trace01

24.7 CALCulate:MARKer#:DELTa:X:DTF

Syntax:

CALCulate:MARKer1:DELTa:X:DTF

CALCulate:MARKer1:DELTa:X:DTF?

Parameter/Return: —

Note:

Default = 0

Marker Index (#) = 1 to 6

Description: Sets/returns the delta distance for the DTF marker.

Examples:

```
CALCulate:MARKer1:DELTa:X:DTF 50
CALCulate:MARKer1:DELTa:X:DTF?
50
```

Query Response: 5

24.8 CALCulate:MARKer#:DELTa:X:RELative:DTF

Syntax:

CALCulate:MARKer1:DELTa:X:RELative:DTF

CALCulate:MARKer1:DELTa:X:RELative:DTF?

Parameter/Return: —

Note:

Default = 0

Marker Index (#) = 1 to 6

Description: Sets/returns the delta relative distance for the DTF marker.

Examples:

```
CALCulate:MARKer1:DELTa:X:RELative:DTF 0
CALCulate:MARKer1:DELTa:X:RELative:DTF?
0
```

Query Response: 0

24.9 CALCulate:MARKer#:DELTa:X:RELative:VSWR

Syntax:

CALCulate:MARKer1:DELTa:X:RELative:VSWR

CALCulate:MARKer1:DELTa:X:RELative:VSWR?

Parameter/Return: —

Note:

Default = 0

Marker Index (#) = 1 to 6

Description: Sets/returns the delta relative frequency for the VSWR marker.

Examples:

```
CALCulate:MARKer1:DELTa:X:RELative:VSWR 0
CALCulate:MARKer1:DELTa:X:RELative:VSWR?
0
```

Query Response: 0

24.10 CALCulate:MARKer#:DELTa:X:VSWR

Syntax:

CALCulate:MARKer1:DELTa:X:VSWR

CALCulate:MARKer1:DELTa:X:VSWR?

Parameter/Return: —

Note:

Default = 0

Marker Index (#) = 1 to 6

Description: Sets/returns the delta relative frequency for the VSWR marker.

Examples:

```
CALCulate:MARKer1:DELTa:X:VSWR 0
CALCulate:MARKer1:DELTa:X:VSWR?
0
```

Query Response: 1000000000

24.11 CALCulate:MARKer#:DISPlay:DISTance:DTF?

Syntax: CALCulate:MARKer1:DISPlay:DISTance:DTF?

Parameter/Return: —

Note: Marker Index (#) = 1 to 6

Description: Returns the distance of the DTF marker.

Example:

```
CALCulate:MARKer1:DISPlay:DISTance:DTF?
100
```

Query Response: 0

24.12 CALCulate:MARKer#:DISPlay:FREQuency:VSWR?

Syntax: CALCulate:MARKer1:DISPlay:FREQuency:VSWR?

Parameter/Return: —

Note: Marker Index (#) = 1 to 6

Description: Returns the frequency of the VSWR marker.

Example:

```
CALCulate:MARKer1:DISPlay:FREQuency:VSWR?
1000000000
```

Query Response: 0

24.13 CALCulate:MARKer#:DISTance:DTF

Syntax:

CALCulate:MARKer1:DISTance:DTF

CALCulate:MARKer1:DISTance:DTF?

Parameter/Return: —

Note: Marker Index (#) = 1 to 6

Description: Sets/returns the distance of the DTF marker.

Examples:

```
CALCulate:MARKer1:DISTance:DTF 100
CALCulate:MARKer1:DISTance:DTF?
100
```

Query Response: 5

24.14 CALCulate:MARKer#:FREQuency:VSWR

Syntax:

CALCulate:MARKer1:FREQuency:VSWR

CALCulate:MARKer1:FREQuency:VSWR?

Parameter/Return: —

Note: Marker Index (#) = 1 to 6

Description: Sets/returns the frequency of the VSWR marker.

Examples:

```
CALCulate:MARKer1:FREQuency:VSWR 1500000000
CALCulate:MARKer1:FREQuency:VSWR?
1500000000
```

Query Response: 1000000000

24.15 CALCulate:MARKer#:PEAK:ALWAys:DTF

Syntax:

CALCulate:MARKer1:PEAK:ALWAys:DTF

CALCulate:MARKer1:PEAK:ALWAys:DTF?

Parameter/Return: On | Off | 1 | 0

Note:

Default = Off

Marker Index (#) = 1 to 6

Description: Sets/returns the track peak state of the DTF marker.

Examples:

```
CALCulate:Marker1:PEAK:ALWAys:DTF On
CALCulate:Marker1:PEAK:ALWAys:DTF?
On
```

Query Response: Off

24.16 CALCulate:MARKer#:PEAK:ALWAys:VSWR

Syntax:

CALCulate:MARKer1:PEAK:ALWAys:VSWR

CALCulate:MARKer1:PEAK:ALWAys:VSWR?

Parameter/Return: On | Off | 1 | 0

Note:

Default = Off

Marker Index (#) = 1 to 6

Description: Sets/returns the track peak state of the VSWR marker.

Examples:

```
CALCulate:Marker1:PEAK:ALWAys:VSWR On
CALCulate:Marker1:PEAK:ALWAys:VSWR?
On
```

Query Response: Off

24.17 CALCulate:MARKer#:TRACE:DTF

Syntax:

CALCulate:MARKer1:TRACE:DTF

CALCulate:MARKer1:TRACE:DTF?

Parameter/Return: Trace01 to Trace 06

Note:

Default = Trace01

Marker Index (#) = 1 to 6

Description: Sets/returns the DTF trace for the marker.

Examples:

```
CALCulate:Marker1:TRACE:DTF Trace02
CALCulate:Marker1:TRACE:DTF?
Trace02
```

Query Response: Trace01

24.18 CALCulate:MARKer#:TRACE:VSWR

Syntax:

CALCulate:MARKer1:TRACE:VSWR

CALCulate:MARKer1:TRACE:VSWR?

Parameter/Return: Trace01 to Trace 06

Note:

Default = Trace01

Marker Index (#) = 1 to 6

Description: Sets/returns the VSWR trace for the marker.

Examples:

```
CALCulate:Marker1:TRACE:VSWR Trace02
CALCulate:Marker1:TRACE:VSWR?
Trace02
```

Query Response: Trace01

24.19 CALCulate:MARKer#:TYPE:DTF

Syntax:

CALCulate:MARKer1:TYPE:DTF

CALCulate:MARKer1:TYPE:DTF?

Parameter/Return: Normal | Delta | DeltaPair

Note:

Default = Normal

Marker Index (#) = 1 to 6

Description: Sets/returns the DTF marker type.

Examples:

```
CALCulate:Marker1:TYPE:DTF DeltaPair
CALCulate:Marker1:TYPE:DTF?
DeltaPair
```

Query Response: Normal

24.20 CALCulate:MARKer#:TYPE:VSWR

Syntax:

CALCulate:MARKer1:TYPE:VSWR

CALCulate:MARKer1:TYPE:VSWR?

Parameter/Return: Normal | Delta | DeltaPair

Note:

Default = Normal

Marker Index (#) = 1 to 6

Description: Sets/returns the VSWR marker type.

Examples:

```
CALCulate:Marker1:TYPE:VSWR DeltaPair
CALCulate:Marker1:TYPE:VSWR?
DeltaPair
```

Query Response: Normal

24.21 CALCulate:MARKer#:VALue:DTF?

Syntax: CALCulate:MARKer1:VALue:DTF?

Parameter/Return: —

Note: Marker Index (#) = 1 to 6

Description: Returns the level of the DTF marker.

Example:

```
CALCulate:MARKer1:VALue:DTF?
0
```

Query Response: 0

24.22 CALCulate:MARKer#:VALue:VSWR?

Syntax: CALCulate:MARKer1:VALue:VSWR?

Parameter/Return: —

Note: Marker Index (#) = 1 to 6

Description: Returns the level of the VSWR marker.

Example:

```
CALCulate:MARKer1:VALue:VSWR?
10
```

Query Response: 0

24.23 CALCulate:MARKer#[:STATe]:DTF

Syntax:

CALCulate:MARKer1:STATe:DTF

CALCulate:MARKer1:STATe:DTF?

Parameter/Return: On | Off | 1 | 0

Note:

Default = Off

Marker Index (#) = 1 to 6

Description: Sets/returns the state of the DTF marker.

Examples:

```
CALCulate:MARKer1:STATe:DTF On
CALCulate:MARKer1:STATe:DTF?
On
```

Query Response: Init

24.24 CALCulate:MARKer#[:STATe]:VSWR

Syntax:

CALCulate:MARKer1:STATe:VSWR

CALCulate:MARKer1:STATe:VSWR?

Parameter/Return: On | Off | 1 | 0

Note:

Default = Off

Marker Index (#) = 1 to 6

Description: Sets/returns the state of the VSWR marker.

Examples:

```
CALCulate:MARKer1:STATe:VSWR On
CALCulate:MARKer1:STATe:VSWR?
On
```

Query Response: Init

24.25 CALCulate:MARKer:CENTer

Syntax: CALCulate:MARKer:CENTer?

Parameter/Return: —

Description: Sets the center frequency to the frequency of the active marker.

Example:

```
CALCulate:MARKer:CENTer
```

Query Response: -

24.26 CALCulate:MARKer:MINimum

Syntax: CALCulate:MARKer:MINimum?

Parameter/Return: —

Description: Sets the active marker to the minimum.

Example:

```
CALCulate:MARKer:MINimum
```

Query Response: -

24.27 CALCulate:MARKer:PEAK:LEFT

Syntax: CALCulate:MARKer:PEAK:LEFT?

Parameter/Return: —

Description: Sets the active marker to the next peak left.

Example:

```
CALCulate:MARKer:PEAK:LEFT
```

Query Response: -

24.28 CALCulate:MARKer:PEAK:NEXT

Syntax: CALCulate:MARKer:PEAK:NEXT?

Parameter/Return: —

Description: Sets the active marker to the next peak.

Example:

```
CALCulate:MARKer:PEAK:NEXT
```

Query Response: -

24.29 CALCulate:MARKer:PEAK:RIGHt

Syntax: CALCulate:MARKer:PEAK:RIGHt?

Parameter/Return: —

Description: Sets the active marker to the next peak right.

Example:

```
CALCulate:MARKer:PEAK:RIGHt
```

24.30 CALCulate:MARKer:PEAK:SEARch

Syntax: CALCulate:MARKer:PEAK:SEARch?

Parameter/Return: —

Description: Sets the active marker to the peak.

Example:

```
CALCulate:MARKer:PEAK:SEARch
```

Query Response: -

24.31 CALCulate:MARKer:SELect:DTF

Syntax:

CALCulate:MARKer:SELect:DTF

CALCulate:MARKer:SELect:DTF?

Parameter/Return: Marker01 to Marker06

Note: Default = Marker01

Description: Sets/returns the DTF marker.

Examples:

```
CALCulate:MARKer:SELect:DTF Marker02
CALCulate:MARKer:SELect:DTF?
Marker02
```

Query Response: Marker01

24.32 CALCulate:MARKer:SELect:VSWR

Syntax:

CALCulate:MARKer:SELect:VSWR

CALCulate:MARKer:SELect:VSWR?

Parameter/Return: Marker01 to Marker06

Note: Default = Marker01

Description: Sets/returns the VSWR marker.

Examples:

```
CALCulate:MARKer:SELect:VSWR Marker02
CALCulate:MARKer:SELect:VSWR?
Marker02
```

Query Response: Marker02

24.33 CALCulate:MARKer:STARt

Syntax: CALCulate:MARKer:STARt?

Parameter/Return: —

Description: Sets the start frequency to the frequency of the active marker.

Example:

```
CALCulate:MARKer:STARt
```

Query Response: -

24.34 CALCulate:MARKer:STOP

Syntax: CALCulate:MARKer:STOP?

Parameter/Return: —

Description: Sets the stop frequency to the frequency of the active marker.

Example:

```
CALCulate:MARKer:STOP
```

Query Response: -

24.35 CALCulate:TRACe:X:UNITs

Syntax:

CALCulate:TRACe:X:UNITs

CALCulate:TRACe:X:UNITs?

Parameter/Return: m | ft

Note: Default = m

Description: Sets/returns the DTF units.

Examples:

```
CALCulate:TRACe:X:UNITs ft
CALCulate:TRACe:X:UNITs?
ft
```

Query Response: m

24.36 DISPlay:HOLD:DTF

Syntax:

DISPlay:HOLD:DTF

DISPlay:HOLD:DTF?

Parameter/Return: On | Off

Note: Default = Off

Description: Sets/returns the DTF hold setting.

Examples:

```
DISPlay:HOLD:DTF On
DISPlay:HOLD:DTF?
On
```

Query Response: Off

24.37 DISPlay:HOLD:VSWR

Syntax:

DISPlay:HOLD:VSWR

DISPlay:HOLD:VSWR?

Parameter/Return: On | Off

Note: Default = Off

Description: Sets/returns the VSWR hold setting.

Examples:

```
DISPlay:HOLD:VSWR On
DISPlay:HOLD:VSWR?
On
```

Query Response: Off

24.38 DISPlay:TRACe#:DTF:TYPE

Syntax:

DISPlay:TRACe1:DTF:TYPE

DISPlay:TRACe1:DTF:TYPE?

Parameter/Return: Off | ClearWrite | Capture | Load

Note:

Default = ClearWrite

Trace Index (#) = 01 to 06

Description: Sets/returns the type of the DTF trace.

Examples:

```
DISPlay:TRACe01:DTF:TYPE Capture
DISPlay:TRACe01:DTF:TYPE?
Capture
```

Query Response: ClearWrite

24.39 DISPlay:TRACe#:VSWR:STATe

Syntax:

DISPlay:TRACe1:VSWR:STATe

DISPlay:TRACe1:VSWR:STATe?

Parameter/Return: On | Off

Note:

Default = On

Trace Index (#) = 01 to 06

Description: Sets/returns the state of the VSWR trace.

Examples:

```
DISPlay:TRACe01:VSWR:STATe Off
DISPlay:TRACe01:VSWR:STATe?
Off
```

Query Response: On

24.40 DISPlay:TRACe#:VSWR:TYPE

Syntax:

DISPlay:TRACe1:VSWR:TYPE

DISPlay:TRACe1:VSWR:TYPE?

Parameter/Return: Off | ClearWrite | Capture | Load

Note:

Default = ClearWrite

Trace Index (#) = 01 to 06

Description: Sets/returns the type of the DTF trace.

Examples:

```
DISPlay:TRACe01:VSWR:TYPE Capture
DISPlay:TRACe01:VSWR:TYPE?
Capture
```

Query Response: ClearWrite

24.41 DISPlay:TRACe:CLEar:DTF:ALL

Syntax:

DISPlay:TRACe:CLEar:DTF:ALL

DISPlay:TRACe:CLEar:DTF:ALL?

Parameter/Return: —

Description: Clears all DTF traces.

Examples:

```
DISPlay:TRACe:CLEar:DTF:ALL
DISPlay:TRACe:CLEar:DTF:ALL?
```

Query Response: -

24.42 DISPlay:TRACe:CLEar:VSWR:ALL

Syntax:

DISPlay:TRACe:CLEar:VSWR:ALL

DISPlay:TRACe:CLEar:VSWR:ALL?

Parameter/Return: —

Description: Clears all VSWR traces,

Examples:

```
DISPlay:TRACe:CLEar:VSWR:ALL
DISPlay:TRACe:CLEar:VSWR:ALL?
```

Query Response: -

24.43 DISPlay:WINDow:TRACe:Y:DTF:SCALe:PDIVision

Syntax:

DISPlay:WINDow:TRACe:Y:DTF:SCALe:PDIVision

DISPlay:WINDow:TRACe:Y:DTF:SCALe:PDIVision?

Parameter/Return: —

Note: Default = 10

Description: Sets/returns the DTF vertical scale per division.

Examples:

```
DISPlay:WINDow:TRACe:Y:DTF:SCALe:PDIVision 12
DISPlay:WINDow:TRACe:Y:DTF:SCALe:PDIVision?
12
```

Query Response: 10

24.44 DISPlay:WINDow:TRACe:Y:DTF:SCALe:TOP

Syntax:

DISPlay:WINDow:TRACe:Y:DTF:SCALe:TOP

DISPlay:WINDow:TRACe:Y:DTF:SCALe:TOP?

Parameter/Return: —

Note: Default = 10

Description: Sets/returns the DTF top of scale.

Examples:

```
DISPlay:WINDow:TRACe:Y:DTF:SCALe:TOP 8
DISPlay:WINDow:TRACe:Y:DTF:SCALe:TOP?
8
```

Query Response: 10

24.45 DISPlay:WINDow:TRACe:Y:VSWR:SCALe:PDIVision

Syntax:

DISPlay:WINDow:TRACe:Y:VSWR:SCALe:PDIVision

DISPlay:WINDow:TRACe:Y:VSWR:SCALe:PDIVision?

Parameter/Return: —

Note: Default = 10

Description: Sets/returns the VSWR vertical scale per division.

Examples:

```
DISPlay:WINDow:TRACe:Y:VSWR:SCALe:PDIVision 12
DISPlay:WINDow:TRACe:Y:VSWR:SCALe:PDIVision?
12
```

Query Response: 10

24.46 DISPlay:WINDow:TRACe:Y:VSWR:SCALe:TOP

Syntax:

DISPlay:WINDow:TRACe:Y:VSWR:SCALe:TOP

DISPlay:WINDow:TRACe:Y:VSWR:SCALe:TOP?

Parameter/Return: —

Note: Default = 10

Description: Sets/returns the VSWR top of scale.

Examples:

```
DISPlay:WINDow:TRACe:Y:VSWR:SCALe:TOP 8
DISPlay:WINDow:TRACe:Y:VSWR:SCALe:TOP
8
```

Query Response: 10

24.47 MEASure:TRACe:DTF:DATA?

Syntax: MEASure:TRACe:DTF:DATA?

Parameter/Return: —

Description: Returns the distance-to-fault (DTF) measurement (in dB).

Example:

```
MEASure:TRACe:DTF:DATA?
10
```

Query Response: NAN

24.48 MEASure:TRACe:VSWR:DATA?

Syntax: MEASure:TRACe:VSWR:DATA?

Parameter/Return: —

Description: Returns the Voltage Standing Wave Ratio (VSWR) measurement.

Example:

```
MEASure:TRACe:VSWR:DATA? 10
10
```

Query Response: NAN

24.49 SENSe:DISTance:STARt:FEET

Syntax:

SENSe:DISTance:STARt:FEET

SENSe:DISTance:STARt:FEET?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the DTF distance start in feet.

Examples:

```
SENSe:DISTance:STARt:FEET 1.0
SENSe:DISTance:STARt:FEET?
1.0
```

Query Response: 0

24.50 SENSe:DISTance:STARt:METer

Syntax:

SENSe:DISTance:STARt:METer

SENSe:DISTance:STARt:METer?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the DTF distance start in meters.

Examples:

```
SENSe:DISTance:STARt:METer 1.0
SENSe:DISTance:STARt:METer?
1.0
```

Query Response: 0

24.51 SENSe:DISTance:STOP:FEET

Syntax:

SENSe:DISTance:STOP:FEET

SENSe:DISTance:STOPt:FEET?

Parameter/Return: —

Note: Default = 328.1

Description: Sets/returns the DTF distance stop in feet.

Examples:

```
SENSe:DISTance:STOP:FEET 30.1
SENSe:DISTance:STOP:FEET?
30.1
```

Query Response: 328.804

24.52 SENSe:DISTance:STOP:METer

Syntax:

SENSe:DISTance:STOP:METer

SENSe:DISTance:STOPt:METer?

Parameter/Return: —

Note: Default = 100

Description: Sets/returns the DTF distance stop in meters.

Examples:

```
SENSe:DISTance:STOP:METer 10.5
SENSe:DISTance:STOP:METer?
10.5
```

Query Response: 100

24.53 SENSe:DTF:TYPE

Syntax:

SENSe:DTF:TYPE

SENSe:DTF:TYPE?

Parameter/Return: MeasDtfReturnLoss | MeasDtfVswr

Note: Default = MeasDtfVswr

Description: Sets/returns the DTF measurement type.

Examples:

```
SENSe:DTF:TYPE MeasDtfReturnLoss
SENSe:DTF:TYPE?
MeasDtfReturnLoss
```

Query Response: MeasDtfVswr

24.54 SENSe:FREQuency:CENTer

Syntax:

SENSe:FREQuency:CENTer

SENSe:FREQuency:CENTer?

Parameter/Return: 9025 Hz to 5.5GHz

Note: Default = 1.5GHz

Description: Sets/returns the center frequency.

Examples:

```
SENSe:FREQuency:CENTer 1500000000
SENSe:FREQuency:CENTer?
1500000000
```

Query Response: 505000000

24.55 SENSe:FREQuency:SPAN:VSWR

Syntax:

SENSe:FREQuency:SPAN:VSWR

SENSe:FREQuency:SPAN:VSWR?

Parameter/Return: —

Note: Default = 1 GHz

Description: Sets/returns the frequency span.

Examples:

```
SENSe:FREQuency:SPAN:VSWR 500000000
SENSe:FREQuency:SPAN:VSWR?
500000000
```

Query Response: 990000000

24.56 SENSe:FREQuency:SPAN:VSWR:FULL

Syntax: SENSe:FREQuency:SPAN:VSWR:FULL?

Parameter/Return: —

Description: Sets the frequency full span mode.

Example:

```
SENSe:FREQuency:SPAN:VSWR:FULL
```

Query Response: -

24.57 SENSe:FREQuency:STARt

Syntax:

SENSe:FREQuency:STARt

SENSe:FREQuency:STARt?

Parameter/Return: —

Note: Default = 1 GHz

Description: Sets/returns the frequency start.

Examples:

```
SENSe:FREQuency:STARt 500000000
SENSe:FREQuency:STARt?
500000000
```

Query Response: 10000000

24.58 SENSe:FREQuency:STOP

Syntax:

SENSe:FREQuency:STOP

SENSe:FREQuency:STOP?

Parameter/Return: —

Note: Default = 2 GHz

Description: Sets/returns the frequency stop.

Examples:

```
SENSe:FREQuency:STOP 300000000
SENSe:FREQuency:STOP?
300000000
```

Query Response: 1000000000

24.59 SENSe:MEASurement:MODE (Obsoleted)

Syntax:

SENSe:MEASurement:MODE

SENSe:MEASurement:MODE?

Parameter/Return: VSWR | measureOff | DTF

Note: Default = VSWR

Description: Sets/returns the measurement mode.

Examples:

```
SENSe:MEASurement:MODE DTF
SENSe:MEASurement:MODE?
DTF
```

Query Response: Vswr

24.60 SENSe:SWEep:DTF:POINts

Syntax:

SENSe:SWEep:DTF:POINts

SENSe:SWEep:DTF:POINts?

Parameter/Return: —

Note: Default = 101

Description: Sets/returns the number of DTF sweep points.

Examples:

```
SENSe:SWEep:DTF:POINts 102
SENSe:SWEep:DTF:POINts?
102
```

Query Response: 101

24.61 SENSe:SWEep:VSWR:POINts

Syntax:

SENSe:SWEep:VSWR:POINts

SENSe:SWEep:VSWR:POINts?

Parameter/Return: —

Note: Default = 101

Description: Sets/returns the number of VSWR sweep points.

Examples:

```
SENSe:SWEep:VSWR:POINts 102
SENSe:SWEep:VSWR:POINts?
102
```

Query Response: 101

24.62 SENSe:VSWR:MEASure:TYPE

Syntax:

SENSe:VSWR:MEASure:TYPE

SENSe:VSWR:MEASure:TYPE?

Parameter/Return: MeasReturnLoss | MeasVswr

Note: Default = MeasVswr

Description: Sets/returns the VSWT measurement type.

Examples:

```
SENSe:VSWR:MEASure:TYPE MeasReturnLoss
SENSe:VSWR:MEASure:TYPE?
MeasReturnLoss
```

Query Response: MeasVswr

24.63 SENSe:VSWR:TRACe:SPAN

Syntax:

SENSe:VSWR:TRACe:SPAN

SENSe:VSWR:TRACe:SPAN?

Parameter/Return: CenterSpan | StartStop

Note: Default = CenterSpan

Description: Sets/returns the VSWR trace span type.

Examples:

```
SENSe:VSWR:TRACe:SPAN StartStop
SENSe:VSWR:TRACe:SPAN?
StartStop
```

Query Response: CenterSpan

25

External Power Commands

This chapter describes the following remote commands for configuring External Power (EXTPOWer) settings:

- CALCulate:CCDF:LIMit:FAIL? 25-5
- CALCulate:CCDF:LIMit:LOWer 25-5
- CALCulate:CCDF:LIMit:LOWer:STATe 25-5
- CALCulate:CCDF:LIMit:UPPer 25-6
- CALCulate:CCDF:LIMit:UPPer:STATe 25-6
- CALCulate:CRESt:DB:LIMit:LOWer 25-7
- CALCulate:CRESt:DB:LIMit:UPPer 25-7
- CALCulate:CRESt:LIMit:FAIL? 25-7
- CALCulate:CRESt:LIMit:LOWer 25-8
- CALCulate:CRESt:LIMit:LOWer:STATe 25-8
- CALCulate:CRESt:LIMit:UPPer 25-9
- CALCulate:CRESt:LIMit:UPPer:STATe 25-9
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25.1 CALCulate:CCDF:LIMit:FAIL?

Syntax: CALCulate:CCDF:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the CCDF Meter pass-fail status.

Example:

```
CALCulate:CCDF:LIMit:FAIL?
0
```

25.2 CALCulate:CCDF:LIMit:LOWer

Syntax:

CALCulate:CCDF:LIMit:LOWer

CALCulate:CCDF:LIMit:LOWer?

Parameter/Return: —

Note: Default = 0%

Description: Sets/returns the CCDF Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:CCDF:LIMit:LOWer 0
CALCulate:CCDF:LIMit:LOWer?
0
```

25.3 CALCulate:CCDF:LIMit:LOWer:STATe

Syntax:

CALCulate:CCDF:LIMit:LOWer:STATe

CALCulate:CCDF:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the CCDF Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:CCDF:LIMit:LOWer:STATe O
CALCulate:CCDF:LIMit:LOWer:STATe?
0
```

25.4 CALCulate:CCDF:LIMit:UPPer

Syntax:

CALCulate:CCDF:LIMit:UPPer

CALCulate:CCDF:LIMit:UPPer?

Parameter/Return: —

Note: Default = 100%

Description: Sets/returns the CCDF Meter upper limit for Pass/Fail

Examples:

```
CALCulate:CCDF:LIMit:UPPer 50
CALCulate:CCDF:LIMit:UPPer?
50
```

25.5 CALCulate:CCDF:LIMit:UPPer:STATe

Syntax:

CALCulate:CCDF:LIMit:UPPer:STATe

CALCulate:CCDF:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the CCDF Meter upper limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:CCDF:LIMit:UPPer:STATe Off
CALCulate:CCDF:LIMit:UPPer:STATe?
0
```

25.6 CALCulate:CRESt:DB:LIMit:LOWer

Syntax:

CALCulate:CRESt:DB:LIMit:LOWer

CALCulate:CRESt:DB:LIMit:LOWer?

Parameter/Return: —

Note: Default = 0 dB

Description: Sets/returns the Crest Factor Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:CRESt:DB:LIMit:LOWer 10
CALCulate:CRESt:DB:LIMit:LOWer?
10
```

25.7 CALCulate:CRESt:DB:LIMit:UPPer

Syntax:

CALCulate:CRESt:DB:LIMit:UPPer

CALCulate:CRESt:DB:LIMit:UPPer?

Parameter/Return: —

Note: Default = 100 dB

Description: Sets/returns the Crest Factor Meter upper limit for Pass/Fail.

Examples:

```
CALCulate:CRESt:DB:LIMit:UPPer 100
CALCulate:CRESt:DB:LIMit:UPPer?
100
```

25.8 CALCulate:CRESt:LIMit:FAIL?

Syntax: CALCulate:CRESt:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the Crest Factor meter pass-fail status.

Example:

```
CALCulate:CRESt:LIMit:FAIL?
1
```

25.9 CALCulate:CRESt:LIMit:LOWer

Syntax:

CALCulate:CRESt:LIMit:LOWer

CALCulate:CRESt:LIMit:LOWer?

Parameter/Return:—

Note: Default = 1 dB

Description: Sets/returns the Crest Factor Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:CRESt:LIMit:LOWer 1
CALCulate:CRESt:LIMit:LOWer?
1
```

25.10 CALCulate:CRESt:LIMit:LOWer:STATe

Syntax:

CALCulate:CRESt:LIMit:LOWer:STATe

CALCulate:CRESt:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Crest Factor Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:CRESt:LIMit:LOWer:STATe Off
CALCulate:CRESt:LIMit:LOWer:STATe?
0
```

25.11 CALCulate:CRESt:LIMit:UPPer

Syntax:

CALCulate:CRESt:LIMit:UPPer

CALCulate:CRESt:LIMit:UPPer?

Parameter/Return: —

Note: Default = 100 dB

Description: Sets/returns the Crest Factor Meter upper limit for Pass/Fail.

Examples:

```
CALCulate:CRESt:LIMit:UPPer 100
CALCulate:CRESt:LIMit:UPPer?
100
```

25.12 CALCulate:CRESt:LIMit:UPPer:STATe

Syntax:

CALCulate:CRESt:LIMit:UPPer:STATe

CALCulate:CRESt:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the Crest Factor upper limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:CRESt:LIMit:UPPer:STATe Off
CALCulate:CRESt:LIMit:UPPer:STATe?
0
```

25.13 CALCulate:DUTYCYCLe:LIMit:FAIL?

Syntax: CALCulate:DUTYCYCLe:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the Duty Cycle meter pass-fail status.

Example:

```
CALCulate:DUTYCYCLe:LIMit:FAIL?
1
```

25.14 CALCulate:DUTYCYCLe:LIMit:LOWer

Syntax:

CALCulate:DUTYCYCLe:LIMit:LOWer

CALCulate:DUTYCYCLe:LIMit:LOWer?

Parameter/Return: —

Note: Default = 0%

Description: Sets/returns the Duty Cycle Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:DUTYCYCLe:LIMit:LOWer 0
CALCulate:DUTYCYCLe:LIMit:LOWer?
0
```

25.15 CALCulate:DUTYCYCLe:LIMit:LOWer:STATe

Syntax:

CALCulate:DUTYCYCLe:LIMit:LOWer:STATe

CALCulate:DUTYCYCLe:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Duty Cycle Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:DUTYCYCLe:LIMit:LOWer:STATe On
CALCulate:DUTYCYCLe:LIMit:LOWer:STATe?
1
```

25.16 CALCulate:DUTYCYCLe:LIMit:UPPer

Syntax:

CALCulate:DUTYCYCLe:LIMit:UPPer

CALCulate:DUTYCYCLe:LIMit:UPPer?

Parameter/Return: —

Note: Default = 100%

Description: Sets/returns the Duty Cycle Meter upper limit for Pass/Fail.

Examples:

```
CALCulate:DUTYCYCLe:LIMit:UPPer 75
CALCulate:DUTYCYCLe:LIMit:UPPer?
75
```

25.17 CALCulate:DUTYCYCLe:LIMit:UPPer:STATe

Syntax:

CALCulate:DUTYCYCLe:LIMit:UPPer:STATe

CALCulate:DUTYCYCLe:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Duty Cycle Meter upper limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:DUTYCYCLe:LIMit:UPPer:STATe Off
CALCulate:DUTYCYCLe:LIMit:UPPer:STATe?
0
```

25.18 CALCulate:FORWard:DBM:LIMit:LOWer

Syntax:

CALCulate:FORWard:DBM:LIMit:LOWer

CALCulate:FORWard:DBM:LIMit:LOWer?

Parameter/Return: —

Note: Default = -100 dBm

Description: Sets/returns the Forward Power (dBm) Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:FORWard:DBM:LIMit:LOWer -100
CALCulate:FORWard:DBM:LIMit:LOWer?
-100
```

25.19 CALCulate:FORWard:DBM:LIMit:UPPer

Syntax:

CALCulate:FORWard:DBM:LIMit:UPPer

CALCulate:FORWard:DBM:LIMit:UPPer?

Parameter/Return: —

Note: Default = 56 dBm

Description: Sets/returns the Forward Power (dBm) Meter upper limit for Pass/Fail.

Examples:

```
CALCulate:FORWard:DBM:LIMit:UPPer 57
CALCulate:FORWard:DBM:LIMit:UPPer?
57
```

25.20 CALCulate:FORWard:LIMit:FAIL?

Syntax: CALCulate:FORWard:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the Forward Power (dBm) Meter pass-fail status.

Example:

```
CALCulate:FORWard:LIMit:FAIL?
0
```

25.21 CALCulate:FORWard:LIMit:LOWer:STATe

Syntax:

CALCulate:FORWard:LIMit:LOWer:STATe

CALCulate:FORWard:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Forward Power (dBm) Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:FORWard:LIMit:LOWer:STATe Off
CALCulate:FORWard:LIMit:LOWer:STATe?
0
```

25.22 CALCulate:FORWard:LIMit:UPPer:STATe

Syntax:

CALCulate:FORWard:LIMit:UPPer:STATe

CALCulate:FORWard:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Forward Power (dBm) Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:FORWard:LIMit:UPPer:STATe Off
CALCulate:FORWard:LIMit:UPPer:STATe?
0
```

25.23 CALCulate:FORWard:WATT:LIMit:LOWer

Syntax:

CALCulate:FORWard:WATT:LIMit:LOWer

CALCulate:FORWard:WATT:LIMit:LOWer?

Parameter/Return: —

Note: Default = 1e-13 W

Description: Sets/returns the Forward Power (Watt) Meter lower limit.

Examples:

```
CALCulate:FORWard:WATT:LIMit:LOWer 1e-13
CALCulate:FORWard:WATT:LIMit:LOWer?
1e-13
```

25.24 CALCulate:FORWard:WATT:LIMit:UPPer

Syntax:

CALCulate:FORWard:WATT:LIMit:UPPer

CALCulate:FORWard:WATT:LIMit:UPPer?

Parameter/Return: —

Note: Default = 100 W

Description: Sets/returns the Forward Power (Watt) Meter upper limit.

Examples:

```
CALCulate:FORWard:WATT:LIMit:UPPer 100
CALCulate:FORWard:WATT:LIMit:UPPer?
100
```

25.25 CALCulate:REFLection:DBM:LIMit:LOWer

Syntax:

CALCulate:REFLection:DBM:LIMit:LOWer

CALCulate:REFLection:DBM:LIMit:LOWer?

Parameter/Return: —

Note: Default = -100 dBm

Description: Sets/returns the Reflected Power (dBm) Meter lower limit for pass-fail.

Examples:

```
CALCulate:REFLection:DBM:LIMit:LOWer -100
CALCulate:REFLection:DBM:LIMit:LOWer?
-100
```

25.26 CALCulate:REFLection:DBM:LIMit:UPPer

Syntax:

CALCulate:REFLection:DBM:LIMit:UPPer

CALCulate:REFLection:DBM:LIMit:UPPer?

Parameter/Return: —

Note: Default = 56 dBm

Description: Sets/returns the Reflected Power (dBm) Meter upper limit for pass-fail.

Examples:

```
CALCulate:REFLection:DBM:LIMit:UPPer 56
CALCulate:REFLection:DBM:LIMit:UPPer?
56
```

25.27 CALCulate:REFLection:LIMit:FAIL?

Syntax: CALCulate:REFLection:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the Reflected Power (dBm) Meter pass-fail status.

Example:

```
CALCulate:REFLection:LIMit:FAIL?
0
```

25.28 CALCulate:REFLection:LIMit:LOWer:STATe

Syntax:

CALCulate:REFLection:LIMit:LOWer:STATe

CALCulate:REFLection:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Reflected Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:REFLection:LIMit:LOWer:STATe Off
CALCulate:REFLection:LIMit:LOWer:STATe?
0
```

25.29 CALCulate:REFLection:LIMit:UPPer:STATe

Syntax:

CALCulate:REFLection:LIMit:UPPer:STATe

CALCulate:REFLection:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Reflected Meter upper limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:REFLection:LIMit:UPPer:STATe Off
CALCulate:REFLection:LIMit:UPPer:STATe?
0
```

25.30 CALCulate:REFLection:WATT:LIMit:LOWer

Syntax:

CALCulate:REFLection:WATT:LIMit:LOWer

CALCulate:REFLection:WATT:LIMit:LOWer?

Parameter/Return: —

Note: Default = 1e-13

Description: Sets/returns the Reflected Power Meter (Watt) lower limit for Pass/Fail.

Examples:

```
CALCulate:REFLection:WATT:LIMit:LOWer 1e-13
CALCulate:REFLection:WATT:LIMit:LOWer?
1e-13
```

25.31 CALCulate:REFLection:WATT:LIMit:UPPer

Syntax:

CALCulate:REFLection:WATT:LIMit:UPPer

CALCulate:REFLection:WATT:LIMit:UPPer?

Parameter/Return: —

Note: Default = 100

Description: Sets/returns the Reflected Power Meter (Watt) upper limit for Pass/Fail.

Examples:

```
CALCulate:REFLection:WATT:LIMit:UPPer 99
CALCulate:REFLection:WATT:LIMit:UPPer?
99
```

25.32 CALCulate:RHO:LIMit:FAIL?

Syntax: CALCulate:RHO:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the RHO Meter pass-fail status.

Example:

```
CALCulate:RHO:LIMit:FAIL?
0
```

25.33 CALCulate:RHO:LIMit:LOWer

Syntax:

CALCulate:RHO:LIMit:LOWer

CALCulate:RHO:LIMit:LOWer?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the RHO Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:RHO:LIMit:LOWer 0
CALCulate:RHO:LIMit:LOWer?
0
```

25.34 CALCulate:RHO:LIMit:LOWer:STATe

Syntax:

CALCulate:RHO:LIMit:LOWer:STATe

CALCulate:RHO:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the RHO Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:RHO:LIMit:LOWer:STATe Off
CALCulate:RHO:LIMit:LOWer:STATe?
0
```

25.35 CALCulate:RHO:LIMit:UPPer

Syntax:

CALCulate:RHO:LIMit:UPPer

CALCulate:RHO:LIMit:UPPer?

Parameter/Return: —

Note: Default = 1

Description: Sets/returns the RHO Meter upper limit for Pass/Fail.

Examples:

```
CALCulate:RHO:LIMit:UPPer 5
CALCulate:RHO:LIMit:UPPer?
5
```

25.36 CALCulate:RHO:LIMit:UPPer:STATe

Syntax:

CALCulate:RHO:LIMit:UPPer:STATe

CALCulate:RHO:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the RHO Meter upper limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:RHO:LIMit:UPPer:STATe Off
CALCulate:RHO:LIMit:UPPer:STATe?
0
```

25.37 CALCulate:RL:LIMit:FAIL?

Syntax: CALCulate:RL:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the Return Loss Meter pass-fail status.

Example:

```
CALCulate:RL:LIMit:FAIL?
1
```

25.38 CALCulate:RL:LIMit:LOWer

Syntax:

CALCulate:RL:LIMit:LOWer

CALCulate:RL:LIMit:LOWer?

Parameter/Return: —

Note: Default = 0 dB

Description: Sets/returns the Return Loss Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:RL:LIMit:LOWer 0
CALCulate:RL:LIMit:LOWer?
0
```

25.39 CALCulate:RL:LIMit:LOWer:STATe

Syntax:

CALCulate:RL:LIMit:LOWer:STATe

CALCulate:RL:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Return Loss Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:RL:LIMit:LOWer:STATe Off
CALCulate:RL:LIMit:LOWer:STATe?
0
```

25.40 CALCulate:RL:LIMit:UPPer

Syntax:

CALCulate:RL:LIMit:UPPer

CALCulate:RL:LIMit:UPPer?

Parameter/Return: —

Note: Default = 100 dB

Description: Sets/returns the Return Loss Meter upper limit for Pass/Fail.

Examples:

```
CALCulate:RL:LIMit:UPPer 80
CALCulate:RL:LIMit:UPPer?
80
```

25.41 CALCulate:RL:LIMit:UPPer:STATe

Syntax:

CALCulate:RL:LIMit:UPPer:STATe

CALCulate:RL:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Return Loss Meter upper limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:RL:LIMit:UPPer:STATe Off
CALCulate:RL:LIMit:UPPer:STATe?
0
```

25.42 CALCulate:VSWR:LIMit:FAIL?

Syntax: CALCulate:VSWR:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the VSWR Meter pass-fail status.

Example:

```
CALCulate:VSWR:LIMit:FAIL?
0
```

25.43 CALCulate:VSWR:LIMit:LOWer

Syntax:

CALCulate:VSWR:LIMit:LOWer

CALCulate:VSWR:LIMit:LOWer?

Parameter/Return:—

Note: Default = 1

Description: Sets/returns the VSWR Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:VSWR:LIMit:LOWer 1
CALCulate:VSWR:LIMit:LOWer?
1
```

25.44 CALCulate:VSWR:LIMit:LOWer:STATe

Syntax:

CALCulate:VSWR:LIMit:LOWer:STATe

CALCulate:VSWR:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the VSWR Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:VSWR:LIMit:LOWer:STATe Off
CALCulate:VSWR:LIMit:LOWer:STATe?
0
```

25.45 CALCulate:VSWR:LIMit:UPPer

Syntax:

CALCulate:VSWR:LIMit:UPPer

CALCulate:VSWR:LIMit:UPPer?

Parameter/Return: —

Note: Default = 50

Description: Sets/returns the VSWR Meter upper limit for Pass/Fail.

Examples:

```
CALCulate:VSWR:LIMit:UPPer 50
CALCulate:VSWR:LIMit:UPPer?
50
```

25.46 CALCulate:VSWR:LIMit:UPPer:STATe

Syntax:

CALCulate:VSWR:LIMit:UPPer:STATe

CALCulate:VSWR:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the VSWR Meter upper limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:VSWR:LIMit:UPPer:STATe Off
CALCulate:VSWR:LIMit:UPPer:STATe?
0
```

25.47 DISPlay:HOLD

Syntax:

DISPlay:HOLD

DISPlay:HOLD?

Parameter/Return: On | Off

Note: Default = Off

Description: Sets/returns the hold state.

Examples:

```
DISPlay:HOLD On
DISPlay:HOLD?
On
```

25.48 MEASure:CCDF?

Syntax: MEASure:CCDF?

Parameter/Return: —

Note: Default = 0%

Description: Returns the live CCDF Meter reading.

Example:

```
MEASure:CCDF?
0
```

25.49 MEASure:CCDF:MAXimum

Syntax:

MEASure:CCDF:MAXimum

MEASure:CCDF:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the CCDF Curved Meter maximum.

Examples:

```
MEASure:CCDF:MAXimum 10000
MEASure:CCDF:MAXimum?
10000
```

25.50 MEASure:CCDF:MINimum

Syntax:

MEASure:CCDF:MINimum

MEASure:CCDF:MINimum?

Parameter/Return:

Note: Default = 0

Description: Sets/returns the CCDF Curved Meter minimum.

Examples:

```
MEASure:CCDF:MINimum 0
MEASure:CCDF:MINimum?
0
```

25.51 MEASure:CCDF:PRECision?

Syntax: MEASure:CCDF:PRECision?

Parameter/Return: —

Note: Default = 2

Description: Returns the precision of the current CCDF readings.

Example:

```
MEASure:CCDF:PRECision?
2
```

25.52 MEASure:CCDF:READing:AVERage?

Syntax: MEASure:CCDF:READing:AVERage?

Parameter/Return: —

Note: Default = 0%

Description: Returns the CCDF Meter average reading.

Example:

```
MEASure:CCDF:READing:AVERage?
0
```

25.53 MEASure:CCDF:READing:MAXimum?

Syntax: MEASure:CCDF:READing:MAXimum?

Parameter/Return: —

Note: Default = 0%

Description: Returns the CCDF Meter maximum reading.

Example:

```
MEASure:CCDF:READing:MAXimum?
0
```

25.54 MEASure:CCDF:READing:MINimum?

Syntax: MEASure:CCDF:READing:MINimum?

Parameter/Return: —

Note: Default = 0%

Description: Returns the CCDF Meter minimum reading.

Example:

```
MEASure:CCDF:READing:MINimum?
0
```

25.55 MEASure:CRESt?

Syntax: MEASure:CRESt?

Parameter/Return: —

Note: Default = 0

Description: Returns the Crest Factor Meter live reading.

Example:

```
MEASure:CRESt?
0
```

25.56 MEASure:CRESt:MAXimum

Syntax:

MEASure:CRESt:MAXimum

MEASure:CRESt:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the Crest Factor Curved Meter maximum.

Examples:

```
MEASure:CRESt:MAXimum 10000
MEASure:CRESt:MAXimum?
10000
```

25.57 MEASure:CRESt:MINimum

Syntax:

MEASure:CRESt:MINimum

MEASure:CRESt:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the Crest Factor Curved Meter minimum.

Examples:

```
MEASure:CRESt:MINimum 0
MEASure:CRESt:MINimum?
0
```

25.58 MEASure:CRESt:PRECision?

Syntax: MEASure:CRESt:PRECision?

Parameter/Return: —

Note: Default = 0

Description: Returns the precision of the current Crest Factor readings.

Example:

```
MEASure:CRESt:PRECision?
0
```

25.59 MEASure:CRESt:READing:AVERage?

Syntax: MEASure:CRESt:READing:AVERage?

Parameter/Return: —

Note: Default = 0

Description: Returns the Crest Factor Meter average reading.

Example:

```
MEASure:CRESt:READing:AVERage?
0
```

25.60 MEASure:CRESt:READing:MAXimum?

Syntax: MEASure:CRESt:READing:MAXimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Crest Factor Meter maximum reading.

Example:

```
MEASure:CRESt:READing:MAXimum?
0
```

25.61 MEASure:CRESt:READing:MINimum?

Syntax: MEASure:CRESt:READing:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Crest Factor Meter minimum reading.

Example:

```
MEASure:CRESt:READing:MINimum?
0
```

25.62 MEASure:CRESt:UNITs

Syntax:

MEASure:CRESt:UNITs

MEASure:CRESt:UNITs?

Parameter/Return: dB| Ratio

Note: Default = dB

Description: Sets/returns the units of the Crest Factor Meter.

Examples:

```
MEASure:CRESt:UNITs dB
MEASure:CRESt:UNITs?
dB
```

25.63 MEASure:DUTYCYCLe?

Syntax: MEASure:DUTYCYCLe?

Parameter/Return: —

Note: Default = 0%

Description: Returns the live Duty Cycle Meter reading.

Example:

```
MEASure:DUTYCYCLe?
0
```

25.64 MEASure:DUTYCYCLe:MAXimum

Syntax:

MEASure:DUTYCYCLe:MAXimum

MEASure:DUTYCYCLe:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the Duty Cycle Curved Meter maximum.

Examples:

```
MEASure:DUTYCYCLe:MAXimum 10000
MEASure:DUTYCYCLe:MAXimum?
10000
```

25.65 MEASure:DUTYCYCLe:MINimum

Syntax:

MEASure:DUTYCYCLe:MINimum

MEASure:DUTYCYCLe:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the Duty Cycle Curved Meter minimum.

Examples:

```
MEASure:DUTYCYCLe:MINimum 0
MEASure:DUTYCYCLe:MINimum?
0
```

25.66 MEASure:DUTYCYCLe:PRECision?

Syntax: MEASure:DUTYCYCLe:PRECision?

Parameter/Return: —

Note: Default = 2

Description: Returns the precision of the current Duty Cycle readings.

Example:

```
MEASure:DUTYCYCLe:PRECision?
0
```

25.67 MEASure:DUTYCYCLe:READing:AVERage?

Syntax: MEASure:DUTYCYCLe:READing:AVERage?

Parameter/Return: —

Note: Default = 0%

Description: Returns the Duty Cycle Meter average reading.

Example:

```
MEASure:DUTYCYCLe:READing:AVERage?
0
```

25.68 MEASure:DUTYCYCLe:READing:MAXimum?

Syntax: MEASure:DUTYCYCLe:READing:MAXimum?

Parameter/Return: —

Note: Default = 0%

Description: Returns the Duty Cycle Meter maximum reading.

Example:

```
MEASure:DUTYCYCLe:READing:MAXimum?
0
```

25.69 MEASure:DUTYCYCLe:READing:MINimum?

Syntax: MEASure:DUTYCYCLe:READing:MINimum?

Parameter/Return: —

Note: Default = 0%

Description: Returns the Duty Cycle Meter minimum reading.

Example:

```
MEASure:DUTYCYCLe:READing:MINimum?
0
```

25.70 MEASure:FL:UNITs

Syntax:

MEASure:FL:UNITs

MEASure:FL:UNITs?

Parameter/Return: dBm | W

Note: Default = dBm

Description: Sets/returns the Reflected Power Meter units.

Examples:

```
MEASure:FL:UNITs dBm
MEASure:FL:UNITs?
dBm
```

25.71 MEASure:FORWard?

Syntax: MEASure:FORWard?

Parameter/Return: —

Note: Default = 0

Description: Returns the live Forward Power Meter reading.

Example:

```
MEASure:FORWard?
29.520704399009304
```

25.72 MEASure:FORWard:MAXimum

Syntax:

MEASure:FORWard:MAXimum

MEASure:FORWard:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the Forward Power Curved Meter maximum.

Examples:

```
MEASure:FORWard:MAXimum 50
MEASure:FORWard:MAXimum?
50
```

25.73 MEASure:FORWard:MINimum

Syntax:

MEASure:FORWard:MINimum

MEASure:FORWard:MINimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the Forward Power Curved Meter minimum.

Examples:

```
MEASure:FORWard:MINimum 0
MEASure:FORWard:MINimum?
0
```

25.74 MEASure:FORWard:PRECision?

Syntax: MEASure:FORWard:PRECision?

Parameter/Return: —

Note: Default = 2

Description: Returns the precision of the current Forward Power readings.

Example:

```
MEASure:FORWard:PRECision?
2
```

25.75 MEASure:FORWard:READing:AVERage?

Syntax: MEASure:FORWard:READing:AVERage?

Parameter/Return: —

Note: Default = 0

Description: Returns the Forward Power average reading.

Example:

```
MEASure:FORWard:READing:AVERage?
0
```

25.76 MEASure:FORWard:READing:MAXimum?

Syntax: MEASure:FORWard:READing:MAXimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Forward Power maximum reading.

Example:

```
MEASure:FORWard:READing:MAXimum?
29.520704399009304
```

25.77 MEASure:FORWard:READing:MINimum?

Syntax: MEASure:FORWard:READing:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Forward Power minimum reading.

Example:

```
MEASure:FORWard:READing:MINimum?
29.520704399009304
```

25.78 MEASure:FORWard:UNITs

Syntax:

MEASure:FORWard:UNITs

MEASure:FORWard:UNITs?

Parameter/Return: dBm | W

Note: Default = dBm

Description: Sets/returns the Forward Power Meter units.

Examples:

```
MEASure:FORWard:UNITs dBM
MEASure:FORWard:UNITs?
dBm
```

25.79 MEASure:REFLection?

Syntax: MEASure:REFLection?

Parameter/Return: —

Note: Default = 0

Description: Returns the live Reflected Power Meter reading.

Example:

```
MEASure:REFLection?
20.831154522213332
```

25.80 MEASure:REFLection:MAXimum

Syntax:

MEASure:REFLection:MAXimum

MEASure:REFLection:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the Reflected Power Curved Meter maximum.

Examples:

```
MEASure:REFLection:MAXimum 10000
MEASure:REFLection:MAXimum?
10000
```

25.81 MEASure:REFLection:MINimum

Syntax:

MEASure:REFLection:MINimum

MEASure:REFLection:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the Reflected Power Curved Meter minimum.

Examples:

```
MEASure:REFLection:MINimum -10
MEASure:REFLection:MINimum?
-10
```

25.82 MEASure:REFLection:PRECision?

Syntax: MEASure:REFLection:PRECision?

Parameter/Return: —

Note: Default = 2

Description: Returns the precision of the current Reflected Power readings.

Example:

```
MEASure:REFLection:PRECision?
2
```

25.83 MEASure:REFLection:READing:AVERage?

Syntax: MEASure:REFLection:READing:AVERage?

Parameter/Return: —

Note: Default = 0

Description: Returns the Reflected Power average reading.

Example:

```
MEASure:REFLection:READing:AVERage?
20.831154522213332
```

25.84 MEASure:REFLection:READing:MAXimum?

Syntax: MEASure:REFLection:READing:MAXimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Reflected Power maximum reading.

Example:

```
MEASure:REFLection:READing:MAXimum?
20.831154522213332
```

25.85 MEASure:REFLection:READing:MINimum?

Syntax: MEASure:REFLection:READing:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Reflected Power minimum reading.

Example:

```
MEASure:REFLection:READing:MINimum?
20.831154522213332
```

25.86 MEASure:RHO?

Syntax: MEASure:RHO?

Parameter/Return: —

Note: Default = 0

Description: Returns the live Rho (Reflection Coefficient) Meter reading.

Example:

```
MEASure:RHO?
0
```

25.87 MEASure:RHO:MAXimum

Syntax:

MEASure:RHO:MAXimum

MEASure:RHO:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the Rho (Reflection Coefficient) Curved Meter maximum.

Examples:

```
MEASure:RHO:MAXimum 10000
MEASure:RHO:MAXimum?
10000
```

25.88 MEASure:RHO:MINimum

Syntax:

MEASure:RHO:MINimum

MEASure:RHO:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the Rho (Reflection Coefficient) Curved Meter minimum.

Examples:

```
MEASure:RHO:MINimum 0
MEASure:RHO:MINimum?
0
```

25.89 MEASure:RHO:PRECision?

Syntax: MEASure:RHO:PRECision?

Parameter/Return: —

Note: Default = 2

Description: Returns the precision of the current Rho (Reflection Coefficient) readings.

Example:

```
MEASure:RHO:PRECision?
0
```

25.90 MEASure:RHO:READing:AVERage?

Syntax: MEASure:RHO:READing:AVERage?

Parameter/Return: —

Note: Default = 0

Description: Returns the Rho (Reflection Coefficient) average reading.

Example:

```
MEASure:RHO:READing:AVERage?
0
```

25.91 MEASure:RHO:READing:MAXimum?

Syntax: MEASure:RHO:READing:MAXimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Rho (Reflection Coefficient) maximum reading.

Example:

```
MEASure:RHO:READing:MAXimum?
0
```

25.92 MEASure:RHO:READing:MINimum?

Syntax: MEASure:RHO:READing:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Rho (Reflection Coefficient) minimum reading.

Example:

```
MEASure:RHO:READing:MINimum?
0.367591478243911
```

25.93 MEASure:RL?

Syntax: MEASure:RL?

Parameter/Return: —

Note: Default = 0 dB

Description: Returns the live Return Loss Meter reading.

Example:

```
MEASure:RL?
0
```

25.94 MEASure:RL:MAXimum

Syntax:

MEASure:RL:MAXimum

MEASure:RL:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the Return Loss Curved Meter maximum.

Examples:

```
MEASure:RL:MAXimum 10000
MEASure:RL:MAXimum?
10000
```

25.95 MEASure:RL:MINimum

Syntax:

MEASure:RL:MINimum

MEASure:RL:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the Return Loss Curved Meter minimum.

Examples:

```
MEASure:RL:MINimum 0
MEASure:RL:MINimum?
0
```

25.96 MEASure:RL:PRECision?

Syntax: MEASure:RL:PRECision?

Parameter/Return: —

Note: Default = 2

Description: Returns the precision of the current Return Loss Meter readings.

Example:

```
MEASure:RL:PRECision?
2
```

25.97 MEASure:RL:READing:AVERage?

Syntax: MEASure:RL:READing:AVERage?

Parameter/Return: —

Note: Default = 0 dB

Description: Returns the Return Loss average reading.

Example:

```
MEASure:RL:READing:AVERage?
0
```

25.98 MEASure:RL:READing:MAXimum?

Syntax: MEASure:RL:READing:MAXimum?

Parameter/Return: —

Note: Default = 0 dB

Description: Returns the Return Loss maximum reading.

Example:

```
MEASure:RL:READing:MAXimum?
0
```

25.99 MEASure:RL:READing:MINimum?

Syntax: MEASure:RL:READing:MINimum?

Parameter/Return: —

Note: Default = 0 dB

Description: Returns the Return Loss minimum reading.

Example:

```
MEASure:RL:READing:MINimum?
0
```

25.100 MEASure:VSWR?

Syntax: MEASure:VSWR?

Parameter/Return: —

Note: Default = 0

Description: Returns the live VSWR Meter reading.

Example:

```
MEASure:VSWR?
0
```

25.101 MEASure:VSWR:MAXimum

Syntax:

MEASure:VSWR:MAXimum

MEASure:VSWR:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the VSWR Curved Meter maximum.

Examples:

```
MEASure:VSWR:MAXimum 10000
MEASure:VSWR:MAXimum?
10000
```

25.102 MEASure:VSWR:MINimum

Syntax:

MEASure:VSWR:MINimum

MEASure:VSWR:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the VSWR Curved Meter minimum.

Examples:

```
MEASure:VSWR:MINimum 0
MEASure:VSWR:MINimum?
0
```

25.103 MEASure:VSWR:PRECision?

Syntax: MEASure:VSWR:PRECision?

Parameter/Return: —

Note: Default = 2

Description: Returns the precision of the current VSWR Meter readings.

Example:

```
MEASure:VSWR:PRECision?
2
```

25.104 MEASure:VSWR:READing:AVERage?

Syntax: MEASure:VSWR:READing:AVERage?

Parameter/Return: —

Note: Default = 0

Description: Returns the VSWR Meter average reading.

Example:

```
MEASure:VSWR:READing:AVERage?
0
```

25.105 MEASure:VSWR:READing:MAXimum?

Syntax: MEASure:VSWR:READing:MAXimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the VSWR Meter maximum reading.

Example:

```
MEASure:VSWR:READing:MAXimum?
0
```

25.106 MEASure:VSWR:READing:MINimum?

Syntax: MEASure:VSWR:READing:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the VSWR Meter minimum reading.

Example:

```
MEASure:VSWR:READing:MINimum?
0
```

25.107 SENSe:CCDF:AVERage:COUNt

Syntax:

SENSe:CCDF:AVERage:COUNt

SENSe:CCDF:AVERage:COUNt?

Parameter/Return: —

Note: Default = 1

Description: Sets/returns the average number of samples to be used for the CCDF Average Meter.

Examples:

```
SENSe:CCDF:AVERage:COUNt 1
SENSe:CCDF:AVERage:COUNt?
1
```

25.108 SENSe:CCDF:LIMit

Syntax:

SENSe:CCDF:LIMit

SENSe:CCDF:LIMit?

Parameter/Return: 125 W

Note: Default = 125 W

Description: Sets/returns the External Power Sensor with given CCDF limit.

Examples:

```
SENSe:CCDF:LIMit 125
SENSe:CCDF:LIMit?
125
```

25.109 SENSe:CCDF:MEASure:TYPE

Syntax:

SENSe:CCDF:MEASure:TYPE

SENSe:CCDF:MEASure:TYPE?

Parameter/Return: Live | Avg

Note: Default = Live

Description: Sets/returns the reading type for the CCDF Meter.

Examples:

```
SENSe:CCDF:MEASure:TYPE Live
SENSe:CCDF:MEASure:TYPE?
Live
```

25.110 SENSe:CCDF:MODE

Syntax:

SENSe:CCDF:MODE

SENSe:CCDF:MODE?

Parameter/Return: Auto | Custom | 1% to 100% in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the CCDF Curved Meter.

Examples:

```
SENSe:CCDF:MODE Auto
SENSe:CCDF:MODE?
Auto
```

25.111 SENSe:CRESt:AVERage:COUNt

Syntax:

SENSe:CRESt:AVERage:COUNt

SENSe:CRESt:AVERage:COUNt?

Parameter/Return:—

Note: Default = 1

Description: Sets/returns the number of average samples to be used for the Crest Factor Average Meter.

Examples:

```
SENSe:CRESt:AVERage:COUNt 1
SENSe:CRESt:AVERage:COUNt?
1
```

25.112 SENSe:CRESt:DB:MODE

Syntax:

SENSe:CRESt:DB:MODE

SENSe:CRESt:DB:MODE?

Parameter/Return: Auto | Custom | 1 dB to 50 dB in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the Crest Factor Curved Meter.

Examples:

```
SENSe:CRESt:DB:MODE Auto
SENSe:CRESt:DB:MODE?
Auto
```

25.113 SENSe:CRESt:MEASure:TYPE

Syntax:

SENSe:CRESt:MEASure:TYPE

SENSe:CRESt:MEASure:TYPE?

Parameter/Return: Live | Avg

Note: Default = Live

Description: Sets/returns the reading type for the Crest Factor Meter.

Examples:

```
SENSe:CRESt:MEASure:TYPE Kive
SENSe:CRESt:MEASure:TYPE?
Live
```

25.114 SENSe:CRESt:MODE

Syntax:

SENSe:CRESt:MODE

SENSe:CRESt:MODE?

Parameter/Return: Auto | Custom | 2 to 10000 in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the Crest Factor Curved Meter.

Examples:

```
SENSe:CRESt:MODE Auto
SENSe:CRESt:MODE?
Auto
```

25.115 SENSe:DUTYCYCLe:MODE

Syntax:

SENSe:DUTYCYCLe:MODE

SENSe:DUTYCYCLe:MODE?

Parameter/Return: Auto | Custom | 1% to 100% in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the Duty Cycle Curved Meter.

Examples:

```
SENSe:DUTYCYCLe:MODE Auto
SENSe:DUTYCYCLe:MODE?
Auto
```

25.116 SENSe:FILTer

Syntax:

SENSe:FILTer

SENSe:FILTer?

Parameter/Return: 4.5 kHz | 400 kHz

Note: Default = 4.5 kHz

Description: Sets/returns the External Power Sensor with the given Video Filter.

Examples:

```
SENSe:FILTer 400 kHz

SENSe:FILTer?
400 kHz
```

25.117 SENSe:FORWard:AVERage:COUNt

Syntax:

SENSe:FORWard:AVERage:COUNt

SENSe:FORWard:AVERage:COUNt?

Parameter/Return: —

Note: Default = 1

Description: Sets/returns the average number samples to be used for the Forward Power Average Meter.

Examples:

```
SENSe:FORWard:AVERage:COUNt 1

SENSe:FORWard:AVERage:COUNt?
1
```

25.118 SENSe:FORWard:MEASure:TYPE

Syntax:

SENSe:FORWard:MEASure:TYPE

SENSe:FORWard:MEASure:TYPE?

Parameter/Return: Live | Avg | Peak | Burst

Note: Default = Live

Description: Sets/returns the reading type to be used for the Forward Power Meter.

Examples:

```
SENSe:FORWard:MEASure:TYPE Live
SENSe:FORWard:MEASure:TYPE?
Live
```

25.119 SENSe:FORWard:WATT:MODE

Syntax:

SENSe:FORWard:WATT:MODE

SENSe:FORWard:WATT:MODE?

Parameter/Return: Auto | Custom | 1 uW to 200 W in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the Forward Power (W) Curved Meter.

Examples:

```
SENSe:FORWard:WATT:MODE Auto
SENSe:FORWard:WATT:MODE?
Auto
```

25.120 SENSe:MEASure:TYPE

Syntax:

SENSe:MEASure:TYPE

SENSe:MEASure:TYPE?

Parameter/Return: Forward | Reflected | MatchRho | MatchVswr | MatchRl | Crest | CCDF | DutyCycle

Note: Default = Forward

Description: Sets/returns the External Power Sensor with the given Measure Type.

Examples:

```
SENSe:MEASure:TYPE Reflected
SENSe:MEASure:TYPE?
Reflected
```

25.121 SENSe:REFLection:AVERage:COUNt

Syntax:

SENSe:REFLection:AVERage:COUNt

SENSe:REFLection:AVERage:COUNt?

Parameter/Return:—

Note: Default = 1

Description: Sets/returns the average number samples to be used for the Reflected Power Average Meter.

Examples:

```
SENSe:REFLection:AVERage:COUNt 1
SENSe:REFLection:AVERage:COUNt?
1
```

25.122 SENSe:REFLection:DBM:MODE

Syntax:

SENSe:REFLection:DBM:MODE

SENSe:REFLection:DBM:MODE?

Parameter/Return: Auto | Custom | 60 dBm to -100 dBm in 10-dB steps

Note: Default = Auto

Description: Sets/returns the scaling mode for the Reflected Power (dBm) Curved Meter.

Examples:

```
SENSe:REFLection:DBM:MODE Auto
SENSe:REFLection:DBM:MODE?
Auto
```

25.123 SENSe:REFLection:MEASure:TYPE

Syntax:

SENSe:REFLection:MEASure:TYPE

SENSe:REFLection:MEASure:TYPE?

Parameter/Return: Live | Avg

Note: Default = Live

Description: Sets/returns the reading type to be used for the Reflected Power Meter.

Examples:

```
SENSe:REFLection:MEASure:TYPE Live
SENSe:REFLection:MEASure:TYPE?
Live
```

25.124 SENSe:REFLection:WATT:MODE

Syntax:

SENSe:REFLection:WATT:MODE

SENSe:REFLection:WATT:MODE?

Parameter/Return: Auto | Custom | 1 uW to 200 W in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the Reflected Power (W) Curved Meter.

Examples:

```
SENSe:REFLection:WATT:MODE Auto
SENSe:REFLection:WATT:MODE?
Auto
```

25.125 SENSe:RHO:AVERage:COUNt

Syntax:

SENSe:RHO:AVERage:COUNt

SENSe:RHO:AVERage:COUNt?

Parameter/Return: —

Note: Default = 1

Description: Sets/returns the average number of sample to be used for the Rho Average Meter.

Examples:

```
SENSe:RHO:AVERage:COUNt 1
SENSe:RHO:AVERage:COUNt?
1
```

25.126 SENSe:RHO:MEASure:TYPE

Syntax:

SENSe:RHO:MEASure:TYPE

SENSe:RHO:MEASure:TYPE?

Parameter/Return: Live | Avg | Peak

Note: Default = Live

Description: Sets/returns the reading type to be used for the Rho (Reflection Coefficient) Meter.

Examples:

```
SENSe:RHO:MEASure:TYPE Live
SENSe:RHO:MEASure:TYPE?
Live
```

25.127 SENSe:RHO:MODE

Syntax:

SENSe:RHO:MODE

SENSe:RHO:MODE?

Parameter/Return: Auto | Custom | 0.01 to 1.0 in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the Rho (Reflection Coeffecient) Curved Meter.

Examples:

```
SENSe:RHO:MODE Auto
SENSe:RHO:MODE?
Auto
```

25.128 SENSe:RL:MODE

Syntax:

SENSe:RL:MODE

SENSe:RL:MODE?

Parameter/Return: Auto | Custom | 1 dB to 50 dB in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the Return Loss Curved Meter.

Examples:

```
SENSe:RL:MODE Custom

SENSe:RL:MODE?
Custom
```

25.129 SENSe:VSWR:MODE

Syntax:

SENSe:VSWR:MODE

SENSe:VSWR:MODE?

Parameter/Return: Auto | Custom | 1 dB to 100 dB in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the VSWR Curved Meter.

Examples:

```
SENSe:VSWR:MODE Custom

SENSe:VSWR:MODE?
Custom
```

25.130 SENSe:ZERO:STATe

Syntax:

SENSe:ZERO:STATe

SENSe:ZERO:STATe?

Parameter/Return: Idle = Not running | Waiting = Waiting for confirmation | Running = Currently zeroing

Note: Default = Idle

Description: Sets/returns the status of Zeroing operation.

Examples:

```
SENSe:ZERO:STATe Waiting
SENSe:ZERO:STATe?
Waiting
```

25.131 SENSe:ZERO:STATus?

Syntax: SENSe:ZERO:STATus?

Parameter/Return: Pass | Fail | Timeout | Rejected | NotRan

Note: Default = NotRan

Description: Returns zeroing results.

Examples:

```
SENSe:ZERO:STATus?
Pass
```

25.132 SOURce:LEVel:OFFSet

Syntax:

SOURce:LEVel:OFFSet

SOURce:LEVel:OFFSet?

Parameter/Return: —

Note: Default = 0 dB

Description: Sets/returns the offset to be used in the calculation for the Forward Power Meter.

Examples:

```
SOURce:LEVel:OFFSet 0
SOURce:LEVel:OFFSet?
0
```

25.133 SOURce:SELect

Syntax:

SOURce:SELect

SOURce:SELect?

Parameter/Return: Internal | External

Note: Default = Internal

Description: Sets/returns the source to be used for the RF Power Meter.

Examples:

```
SOURce:SELect External

SOURce:SELect?
External
```

CX200 SiteXpert

Communications Service Monitor
Remote Programming Manual

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