

Error Messages

Agilent Technologies

PSG Family Signal Generators

This guide applies to the signal generator models and associated serial number prefixes listed below. Depending on your firmware revision, front panel operation may vary from descriptions in this guide.

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E8244A: US4124

E8251A: US4124
E8254A: US4124



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Error Messages

Introduction

If an error condition occurs in the signal generator, it is reported to both the front panel display error queue and the SCPI (remote interface) error queue. These two queues are viewed and managed separately.

NOTE When there is an unviewed message in the front panel error queue, the `ERR` annunciator appears on the signal generator's display.

Characteristic	Front Panel Display Error Queue	SCPI Remote Interface Error Queue
Capacity (#errors)	30	30
Overflow Handling	Circular (rotating). Drops oldest error as new error comes in.	Linear, first-in/first-out. Replaces newest error with: <code>-350, Queue overflow</code>
Viewing Entries	Press: Utility > Error Info > View Next (or Previous) Error Message	Use SCPI query <code>SYSTEM:ERROR?</code> or <code>STATUS:QUEUE?</code>
Clearing the Queue	Press: Utility > Error Info > Clear Error Queue(s)	Power up Send a <code>*CLS</code> command Read last item in the queue
Permanent Errors (errors that must be resolved. For example: unlock, avalanched, and hi/lo)	Re-reported after queue is cleared.	Re-reported after queue is cleared.

Error Message Format

The system-defined error numbers are chosen on an enumerated (“1 of N”) basis. The SCPI-defined error numbers and the <error_description> portions of the error query response are displayed on the instrument.

In this chapter, an explanation is included with each error to further clarify its meaning. The first error described in each class (for example, -400, -300, -200, -100) is a “generic” error. In selecting the proper error number to report, more specific error codes are preferred.

Error messages appear in the lower-left corner of the display.

Error Number	Error Message	Error Description (May be truncated on the display)
-222	Data out of range;	value clipped to lower limit.
	Indicates that the user has entered a deviation, depth or internal source frequency that is beyond the specified limits.	
	Explanation provided in this chapter (This is NOT displayed on the instrument)	

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Error Message Types

Events do not generate more than one type of error. For example, an event that generates a query error will not generate a device-specific, execution, or command error.

Query Errors (-499 to -400) indicate that the instrument's output queue control has detected a problem with the message exchange protocol described in IEEE 4888.2, Chapter 6. Errors in this class set the query error bit (bit 2) in the event status register (IEEE 488.2, section 11.5.1). These errors correspond to message exchange protocol errors described in IEEE 488.2, 6.5. In this case:

- Either an attempt is being made to read data from the output queue when no output is either present or pending, or
- data in the output queue has been lost.

Device Specific Errors (-399 to -300 and 201 to 702) indicate that a device operation did not properly complete, possibly due to an abnormal hardware or firmware condition. These codes are also used for self-test response errors. Errors in this class set the device-specific error bit (bit 3) in the event status register (IEEE 488.2, section 11.5.1).

The <error_message> string for a *positive* error is not defined by SCPI. A positive error indicates that the instrument detected an error within the GPIB system, within the instrument's firmware or hardware, during the transfer of block data, or during calibration.

Execution Errors (-299 to -200) indicate that an error has been detected by the instrument's execution control block. Errors in this class set the execution error bit (bit 4) in the event status register (IEEE 488.2, section 11.5.1). In this case:

- Either a <PROGRAM DATA> element following a header was evaluated by the device as outside of its legal input range or is otherwise inconsistent with the device's capabilities, or
- a valid program message could not be properly executed due to some device condition.

Execution errors are reported *after* rounding and expression evaluation operations are completed. Rounding a numeric data element, for example, is not reported as an execution error.

Command Errors (-199 to -100) indicate that the instrument's parser detected an IEEE 488.2 syntax error. Errors in this class set the command error bit (bit 5) in the event status register (IEEE 488.2, section 11.5.1). In this case:

- Either an IEEE 488.2 syntax error has been detected by the parser (a control-to-device message was received that is in violation of the IEEE 488.2 standard. Possible violations include a data element that violates device listening formats or whose type is unacceptable to the device.), or
- an unrecognized header was received. These include incorrect device-specific headers and incorrect or unimplemented IEEE 488.2 common commands.

0: No Error

0

No error, No Error Message(s) in Queue

The queue is empty. Every error in the queue has been read, or the queue was purposely cleared using either the **Clear Error Queue(s)** softkey or *CLS.

-499 to -400: Query Errors

The instrument's output queue control has detected a problem with the message exchange protocol described in IEEE 488.2, Chapter 6. Errors in this class set the query error bit (bit 2) in the event status register (IEEE 488.2, section 11.5.1). These errors correspond to message exchange protocol errors described in IEEE 488.2, 6.5.

In this case, either an attempt is being made to read data from the output queue when no output is either present or pending, or data in the output queue has been lost.

-440 Query UNTERMINATED after indefinite response

A query was received in the same program message in which a query requesting an indefinite response was executed (see IEEE 488.2, 6.3.7.5).

-430 Query DEADLOCKED

A condition causing a DEADLOCKED query error occurred (see IEEE 488.2, 6.3.1.7). For example, both the input buffer and the output buffer are full and the device cannot continue.

-430 Query DEADLOCKED

A SCPI output queue has filled, preventing further SCPI command execution, and there is no more room left in the corresponding SCPI input queue to accept a query to read from the output queue. The system automatically discards output to correct the deadlock.

-420 Query UNTERMINATED

A condition causing an UNTERMINATED query error occurred (see IEEE 488.2, 6.3.2.2). For example, the device was addressed to talk and an incomplete program message was received.

-410 Query INTERRUPTED

A condition causing an INTERRUPTED query error occurred (see IEEE 488.2, 6.3.2.7). For example, a query was followed by DAB or GET before a response was completely sent.

Error Messages

-499 to -400: Query Errors

-400

Query Error

This is a generic query error for devices that cannot detect more specific errors. The code indicates only that a query error as defined in IEE 488.2, 11.5.1.1.7 and 6.3 has occurred.

-399 to -300: Device-Specific Errors

Some device operations did not properly complete, possibly due to an abnormal hardware or firmware condition. These codes are also used for self-test response errors. Errors in this class set the device-specific error bit (bit 3) in the event status register (IEEE 488.2, section 11.5.1).

- 362 Framing error in program message
A stop bit was not detected when data was received (for example, a baud rate mismatch).
- 361 Parity error in program message
The parity bit was not correct when data was received (for example, an incorrect parity bit on a serial port).
- 360 Communication error
This is the generic communication error for devices that cannot detect the more specific errors described for errors -361 and -362.
- 350 Queue overflow
This is a specific code entered into the queue in lieu of the code that caused the error. This message indicates that there is no more room in the queue and an error occurred but was not recorded.
- 340 Calibration failed
The device has detected a failure during its calibration procedure.
- 330 Self-test failed
The device has detected a failure during its self-test procedure.
- 330 Self-test failed; EEPROM header checksum error <card_name>.
The card identification header for a hardware card is incorrect. If the card is not properly identified, the instrument is likely to be non-functional. Report this error to Agilent Technologies.

- 330 Self-test failed; Power supply self-test failure
The self-test for a particular power supply voltage has failed. The instrument is likely not functional. Report this error to Agilent Technologies.
- 321 Out of memory
An internal operation needed more memory than was available.
- 321 Out of memory
There is insufficient working memory available. Report this error to Agilent Technologies.
- 321 Out of memory
If this occurs during a memory catalog display, it means the system did not have enough free RAM to prepare the catalog.
- 321 Out of memory; Cannot create memory manager
A file system memory manager detected an internal error condition. Report this error to Agilent Technologies.
- 321 Out of memory; Cannot precalculate frequencies. Try fewer frequencies.
Indicates that memory was exhausted during frequency precalculation (used to speed the process of sweep/list mode). List mode cannot run until either fewer frequencies have been supplied or more memory becomes available and the same set of frequencies are sent again, `FREQ:MODE CW` is executed, or `:FREQ:MODE LIST` is executed.
- 321 Out of memory; Cannot uncompress file.
A `STATE:` file cannot be uncompressed because there is not enough memory to run the decompression algorithm. Recall will fail and there will be no instrument state change. Reduce the size of any sweep lists and try again.

- 321 Out of memory; Complementary Cumulative Distribution. Display cannot function.
There is insufficient working memory available. Report this error to Agilent Technologies.
- 321 Out of memory; Could not copy current istate.
An instrument state operation, such as save/recall, could not allocate enough space to copy an instrument state. The operation is aborted.
- 321 Out of memory; Display system out of memory. An abnormal display may result. Memory consumption should be reduced.
There was not enough memory in the system to properly update the display. Some inconsistencies may be seen. The size of any list/sweep should be reduced, and the source should be preset to clear up any inconsistencies. Report this error to Agilent Technologies.
- 321 Out of memory; Graph subsystem cannot function.
There is insufficient working memory available. Report this error to Agilent Technologies.
- 321 Out of memory; Histogram display cannot function.
There is insufficient working memory available. Report this error to Agilent Technologies.
- 321 Out of memory; Insufficient RAM
A memory comparison between a shadow RAM data area and the corresponding EEPROM data area could not be performed due to insufficient working RAM. This does *not* necessarily imply a memory problem, since this comparison is only used in stringent diagnostic situations.

- 321 Out of memory; List formation
- The device was unable to allocate space for a lookup table, such as for list mode precalculation. List mode cannot run until either fewer frequencies have been supplied or more memory becomes available and the same set of frequencies are sent again, `FREQ:MODE CW` is executed, or `:FREQ:MODE LIST` is executed.**
- 321 Out of memory; Memory allocation error.
- There is insufficient working memory available. Report this error to Agilent Technologies.**
- 321 Out of memory; Memory catalog failed.
- There is not enough memory to complete a catalog listing. Reduce the size of any sweep lists and try again.**
- 321 Out of memory; Memory request failed, out of indices. Memory request greater than total memory size.
- A file system memory manager detected an internal error condition. Report this error to Agilent Technologies.**
- 321 Out of memory; Not enough memory to buffer paging message.
- There is not enough memory to buffer the asynchronous paging message, so it will not be played. Reduce the size of any list/sweep, and preset the source to clear up any inconsistencies. If the problem persists report this error to Agilent Technologies.**
- 321 Out of memory; Not enough memory to create progress bar.
- There is not enough memory to create a progress bar. Reduce the size of any list/sweep, and preset the source to clear up any inconsistencies. If the problem persists report this error to Agilent Technologies.**

- 321 Out of memory; Not enough memory to read data file.
There is not enough memory to read the specified data file. Try a smaller file. Reduce the size of any list/sweep, and preset the source to clear up any inconsistencies. If the problem persists report this error to Agilent Technologies.
- 321 Out of memory; Object Memory Area
Indicates that memory was exhausted during instrument power-on. Report this error to Agilent Technologies.
- 321 Out of memory; The table editor cannot function properly until more memory is available.
There is insufficient working memory available. Reduce the size of any sweep lists and try again.
- 321 Out of memory; Unable to allocate memory for SCPI response.
There is not enough memory to execute this SCPI query. Reduce the size of any list/sweep, and preset the source to clear up any inconsistencies. If the problem persists report this error to Agilent Technologies.
- 321 Out of memory; Unable to verify instrument state file.
An instrument state file could not be accessed and verified because of insufficient memory. Reduce the size of any sweep lists and try again.
- 320 Storage fault
The firmware detected a fault when using data storage. This error is not an indication of physical damage or failure of any mass storage element.
- 315 Configuration memory lost
Indicates that non-volatile configuration data saved by the device has been lost. The meaning of this error is device-dependent.

Error Messages

-399 to -300: Device-Specific Errors

- 315 Configuration memory lost; Persistent state checksum is bad.
Using factory defaults.
The persistent state is corrupt and had to be reinitialized with the factory preset values.
- 315 Configuration memory lost; Persistent state preset. Using factory defaults.
The persistent state has been forced to return to factory preset values.
- 315 Configuration memory lost; Persistent state version is bad.
Using factory defaults.
The persistent state version is not recognized as valid and is assumed to be corrupt. The persistent state is reinitialized with the factory preset values.
- 314 Save/recall memory loss
The non-volatile data saved by the *SAV? command has been lost.
- 313 Calibration memory lost
Indicates that non-volatile calibration data has been lost.
- 312 PUD memory lost
The protected user data saved by the *PUD command has been lost.
- 311 Memory error
An error was detected in the device's memory.
- 311 Memory error; Unable to configure Save Recall registers from non-volatile memory. Save Recall registers re-initialized.
Indicates that saved states are no longer usable. Delete explicitly using Catalog.

-310 System error; Cannot change manual point until list mode error condition cleared.

An error is keeping the sweep/list from being able to set the frequency and/or power. Until the problem is addressed, the manual point cannot be changed.

-310 System error; File Not Found.

The specified file cannot be found. Verify that the file exists in the instrument file system.

-310 System error; RS232 buffer overflow: character lost.

The RS232 buffer has been exceeded. The most recent character has been dropped.

-310 System error; Unable to determine which attenuator is installed.

An invalid attenuator identification code has been detected. Possible causes include a loose attenuator control cable. The instrument will likely not produce the proper output power levels. Report this error to Agilent Technologies.

-300 Device-specific error

This is a generic device-dependent error for devices that cannot detect more specific errors. The code indicates only that a device-dependent error as defined in IEEE 488.2, 11.5.1.1.6 has occurred.

-299 to -200: Execution Errors

An error has been detected by the instrument's execution control block. Errors in this class set the execution error bit (bit 4) in the event status register (IEEE 488.2, section 11.5.1). In this case:

- Either a <PROGRAM DATA> element following a header was evaluated by the device as outside of its legal input range or is otherwise inconsistent with the device's capabilities, or
- a valid program message could not be properly executed due to some device condition.

Execution errors are reported *after* rounding and expression evaluation operations are completed. Rounding a numeric data element, for example, is not reported as an execution error.

- | | |
|------|---|
| -294 | Incompatible type
The type or structure of a memory item is inadequate. |
| -293 | Referenced name already exists
A downloaded program attempted to define an element (a variable, constant, filename, etc.) that had already been defined. |
| -292 | Referenced name does not exist
A downloaded program attempted to access an undefined element (a variable, constant, filename, etc.). |
| -291 | Out of memory
A downloaded program required more memory than was available in the instrument. |
| -290 | Memory use error
A user request has directly or indirectly caused an error related to memory or <data_handles>. This is not the same as "bad" memory. |

- 286 Program runtime error
A runtime error was detected in a downloaded program.
- 286 Program runtime error; Floating-Point Exception
A floating-point math error (such as a divide by zero) has been detected. The system will attempt to recover automatically. Report this error to Agilent Technologies.
- 285 Program syntax error
A syntax error appears within a downloaded program. The syntax used when parsing a downloaded program is device-specific.
- 284 Program currently running
Indicates that certain operations related to programs may be illegal while the program is running. For example, deleting a running program may be illegal.
- 283 Illegal variable name
An attempt was made to reference a nonexistent variable.
- 282 Illegal program name
The name used to reference a program was invalid. For example, redefining an existing program, deleting a nonexistent program, or in general, referencing a nonexistent program.
- 281 Cannot create program
An attempt to create a program was unsuccessful. This may be due to insufficient memory.
- 280 Program error
A downloaded program-related execution error occurred. This error message is used when the device cannot detect the more specific errors described for errors -281 through -289. The syntax used in a program and the mechanism for downloading a program is device-specific.

Error Messages

-299 to -200: Execution Errors

- 278 Macro header not found
A syntactically legal macro label in the *GMC? query could not be executed because the header was not previously defined.
- 277 Macro redefinition not allowed
The macro label defined in the *DMC command could not be executed because the macro label was already defined (see IEEE 488.2, 10.7.6.4).
- 276 Macro recursion error
A syntactically legal macro program data sequence could not be executed because the device found it to be recursive (see IEEE 488.2, 10.7.6.4).
- 275 Macro definition too long
A syntactically legal macro program data sequence could not be executed because the string or block contents were too long for the device to handle (see IEEE 488.2, 10.7.6.1).
- 274 Macro parameter error
The macro definition improperly used a macro parameter placeholder (see IEEE 488.2, 10.7.3).
- 273 Illegal macro label
The macro label defined in the *DMC command was a legal string syntax, but could not be accepted by the device (see IEEE 488.2, 10.7.3 and 10.7.6.2). For example, the label was too long, the same as a common command header, or contained invalid header syntax.
- 272 Macro execution error
A syntactically legal macro program data sequence could not be executed due to an error within the macro definition (see IEEE 488.2, 10.7.6.3).

- 271 Macro syntax error
A syntactically legal macro program data sequence, written in accordance with IEEE 488.2, 10.7.2, could not be executed due to a syntax error within the macro definition (see IEEE 488.2, 10.7.6.3).
- 270 Macro error
A macro-related execution error occurred. This error message is used when the device cannot detect the more specific errors described for errors -271 through -279.
- 261 Math error in expression
A syntactically legal expression program data element could not be executed due to a math error. For example, a divide-by-zero was attempted. The definition of a math error is device-specific.
- 260 Expression error
An expression data element-related error occurred. This error message is used when the device cannot detect the more specific errors described for errors -261 through -269.
- 258 Media protected
The device or user has attempted to write to a read-only memory subsystem (msus). The definition of a protected media is device-specific.
- 257 File name error
A legal program command or query could not be executed because a file name on the device media was in error. For example, an attempt was made to copy to a duplicate filename. The definition of what constitutes a file name error is device-specific.
- 257 File name error; Delete empty sequence <sequence_name>. Delete sequence ignored.
The user has attempted to delete a sequence that is empty (all registers unused). This is informational only. Typically this error is reported (several times) when the “Delete All Sequences” command is executed.

- 257 File name error; Delete a non-saved state register. Delete register ignored.
The user has attempted to delete a state that is empty (unused). This is informational only.
- 257 File name error; Directory does not support extenders.
An extender, which is specified by an @ sign followed by a memory subsystem name, has been specified for an explicit memory subsystem which does not allow the @ notation. Only the default (:) memory subsystem allows extenders.
- 257 File name error; Empty filename
A filename of " " was specified. This is not a legal filename.
- 257 File name error; Illegal extender
An illegal memory subsystem name was used after the @.
- 257 File name error; Illegal filename character
An illegal character was used within a filename. \, :, @ and all non-printable ASCII characters are illegal in filenames.
- 257 File name error; Only one ":" is allowed.
Indicates that only one colon is allowed in any filename specification. The text before the colon is a user memory subsystem.
- 257 File name error; Only one "@" is allowed.
Indicates that only one @ is allowed in any filename specification. It specifies the memory subsystem that a user file actually resides in.

- 256 File name not found
- A legal program command or query could not be executed because the file name on the device media could not be found. For example, an attempt was made to read or copy a nonexistent file. The definition of what constitutes a file not being found is device-specific.
- 256 File name not found; <filename>
- The user has attempted to delete a file that does not exist, or an internal table editor column file has been lost.
- 256 File name not found; The internal list file was not found.
There is no list data to return
- An internal list file has been lost, so a new one will have to be created. These files are the persistent information for list/sweep mode. They contain the dwell list, the frequency list, or the power list. Invoking the list editor will recreate the missing file to a length of one element.
- 255 Directory full
- A legal program command or query could not be executed because the media directory was full. The definition of what constitutes a full media directory is device-specific.
- 254 Media full
- A legal program command or query could not be executed because the media was full. For example, there is was no space left on the disk. The definition of what constitutes full media is device-specific.
- 254 Media full; Save a state register ignored.
- The state memory subsystem STATE: did not have enough room to save a register. You must free some memory by deleting a file or register using Catalog. Afterwards, try again.

Error Messages

-299 to -200: Execution Errors

- 254 Media full; Save a state register failed. State marked available.
- The state memory subsystem STATE: did not have enough room to save a register, so the register was lost and is now marked available. You must free some memory by deleting a file or register using Catalog. Afterwards, try again.**
- 254 Media full; Unable to delete saved state from non-volatile memory. No instrument state change.
- The state memory subsystem STATE: was unable to delete a register. You must free some memory by deleting a file or register using Catalog. Afterwards, try again.**
- 253 Corrupt media
- A legal program command or query could not be executed because of corrupt media, for instance a bad disk or incorrect disk format. The definition of what constitutes corrupt media is device-specific.**
- 253 Corrupt media; <media_name>
- A source media (possibly EEPROM) for a data file is corrupt. This error is usually seen in conjunction with errors concerning a certain file.**
- 253 Corrupt media; User File System
- The main memory area, used for storing instrument states and sequences as well as other data files, is corrupt. The system automatically clears and reconfigures this memory area. Potential causes: failing backup battery; the loss of line power to the instrument during a write operation.**
- 252 Missing media
- A legal program command or query could not be executed because of missing media, for instance no disk in the disk drive. The definition of what constitutes missing media is device-specific.**

- 253 Missing media
- If this occurs during a memory catalog display, it means the default memory system could not be located. The instrument is likely not functioning properly. Report this error to Agilent Technologies.
- 250 Mass storage error
- A mass storage error has occurred. This message is used when a device cannot detect the more specific errors described for errors -251 through -259.
- 250 Mass storage error; EEPROM write timeout on <filename>.
- The system was not able to program new data to an EEPROM. The system is still functional, but files written to EEPROM (such as updated calibration data) may be lost when the instrument's line power is cycled. Report this error to Agilent Technologies.
- 241 Hardware missing
- A legal program command or query could not be executed because of missing device hardware. For example, an option was not installed.
- 241 Hardware missing; <card_name>
- A test communication to a hardware card failed. The instrument is most likely not functional. Report this error to Agilent Technologies.
- 241 Hardware missing; Installed option boards do not match configuration information.
- A set of option boards have been installed that do not match the information that was given to the instrument as part of the installation. If this is the result of a customer installed option, the wrong option was specified during installation. If this is seen at any other time, the likely cause is an EEPROM failure on the option card.
- 241 Hardware missing; no such SIO address
- The expected board is not installed. Report this error to Agilent Technologies.

- 241 No Source Module connected
**Cannot turn on Source Module Mode if source module is not connected.
Check cable connection.**
- 240 Hardware error
A legal program command or query could not be executed because of a hardware problem in the device. The definition of what constitutes a hardware problem is completely device-specific. This error is used when the device cannot detect the more specific errors described for errors -241 through -249.
- 233 Invalid version
A legal program data element was parsed but could not be executed because the version of the data is incorrect to the device. This particular error is used when file or block data elements are recognized by the instrument, but cannot be executed for reasons of version incompatibility. For example, a non-supported file version or a non-supported instrument version.
- 232 Invalid format
A legal program data element was parsed but could not be executed because the data format or structure is inappropriate. For example, when loading memory tables or when sending a `SYSTEM:SET` parameter for an unknown instrument.
- 231 Data questionable
The measurement accuracy is questionable.
- 231 Data questionable; EEPROM copy of <filename>.
The EEPROM copy of a file has a correctable error. The system automatically performs the correction. A potential cause is a failing EEPROM. Report this error to Agilent Technologies.
- 231 Data questionable; RAM copy of <filename>.
The non-volatile RAM copy of a file has a correctable error. The system automatically performs the correction. A potential cause is a failing backup battery.

- 230 Data corrupt or stale
Possibly invalid data. A new reading was started but not completed since last access.
- 230 Data corrupt or stale; <filename>.
The sequence file that you are attempting to run is the wrong size.
- 230 Data corrupt or stale; <NAME> differs offset 0x<VALUE>: NVRAM 0x<VALUE>, EEPROM 0x<VALUE>.
This message can occur only if full power-on EEPROM comparison mode is set by the factory. If this mode is set, this message indicates that the data that was retained by the EEPROM did not match the shadow data that was retained by the shadow non-volatile RAM, even though no uncorrectable errors or CRC mismatch was found in the shadow memory. This error usually indicates that the instrument lost power during EEPROM programming. If the instrument was quiescent when it was powered off, report this error to Agilent Technologies.
- 230 Data corrupt or stale; EEPROM @ offset 0x<VALUE>: wrote 0x<VALUE>, read 0x<VALUE>.
After writing shadow RAM data to EEPROM, a memory comparison detected a difference. The EEPROM may not be retaining data properly. Report this error to Agilent Technologies.
- 230 Data corrupt or stale; EEPROM copy of <filename>.
The EEPROM copy of a file is either corrupt or otherwise unusable. The system automatically updates the non-volatile RAM copy of the EEPROM copy using a default initialization. The actual EEPROM file is left as it is. Report this error to Agilent Technologies.
- 230 Data corrupt or stale; file @ offset 0x<VALUE>: wrote 0x<VALUE>, retained 0x<VALUE>.
After writing shadow RAM data to EEPROM, a memory comparison detected a difference. The EEPROM may not be retaining data properly. Report this error to Agilent Technologies.

- 230 Data corrupt or stale; License file is obsolete, missing entries defaulted.
- This error can only occur during the instrument's first power up after having downloaded new firmware. It indicates that the software license file is missing entries for options supported by the current revision of firmware. The missing entries have been added to the file, and their license key values have been defaulted to zero. This error will occur during the first power up after downloading new firmware into the instrument.
- 230 Data corrupt or stale; RAM copy of <filename>.
- The non-volatile RAM copy of a file is either corrupt or is out of date with the EEPROM master copy (if one exists). The system automatically re-initializes the file from EEPROM (if appropriate) or from a default algorithm. A potential cause is a failing backup battery.
- 226 Lists not same length
- Attempted to use LIST structure having individual LISTs of unequal length.
- 225 Out of memory
- The device has insufficient memory to perform the requested operation.
- 224 Illegal parameter value
- Used where exact value, from a list of possibilities, was expected.
- 223 Too much data
- A legal program data element of block, expression or string type was received that contained more data than the device could handle due to memory or related device-specific requirements.
- 223 Too Much Data; The number of list points exceeds the maximum allowed.
- Some tables have a maximum number of entries. Sweep/List can only have 401 points, for example.

- 223 Too Much Data; The number of list points in the table exceeds the maximum allowed.
Some tables have a maximum number of entries. Sweep/List can only have 401 points, for example.
- 223 Too much data; The number of points in the table exceeds the maximum allowed.
This occurs when you try to create a table that is too big. For example, if you enter a list in SCPI that is longer than the maximum allowed length, or if you attempt to expand a table and the table is already at its maximum length.
- 222 Data out of range
A legal program data element was parsed but could not be executed because the interpreted value was outside the legal range defined by the device (see IEEE 488.2 11.5.1.1.5).
- 222 Data out of range; Manual point exceeds list sizes. Limiting to maximum point.
The sweep/list manual point has been reassigned to a smaller number value due to the longest list decreasing in size or being turned off. Its new value is the length of the longest enabled list (frequency or power).
- 222 Data out of range; Manual point exceeds frequency list size. Limiting to maximum point.
The sweep/list manual point has been reassigned to a smaller number value due to the longest list decreasing in size or being turned off. Its new value is the length of the frequency list that is the longest enabled list.
- 222 Data out of range; Manual point exceeds power list size. Limiting to maximum point.
The sweep/list manual point has been reassigned to a smaller number value due to the longest list shrinking, or being turned off. Its new value is the length of the power list, that is the longest enabled list.

- 222 Data out of range; Synthesizer: Frequency out of bounds.
The signal generator received an internal request for a frequency outside of its supported frequency range. Report this error to Agilent Technologies.
- 222 Data out of range; value clipped to lower limit.
An input value is below the minimum value allowed. Examples are: frequency setting, reference, or offset; output power; power reference and offset; modulation depth, deviation, or modulation source frequency; number of points and start/stop values for list mode; sequence or register values (save/recall); dwell time.
- 222 Data out of range; value clipped to upper limit.
An input value is above the maximum value allowed. Examples: frequency setting, reference, or offset; output power; power reference and offset; modulation depth, deviation, or modulation source frequency; number of points and start/stop values for list mode; sequence or register values (save/recall); dwell time.
- 221 Settings conflict
A legal program data element was parsed but could not be executed due to the current device state (see IEEE 488.2 11.5.1.1.5).
- 221 Settings conflict; FM1/PM1 value set less than FM2/PM2 value.
FM2/PM2 changed to match FM1/PM1 value.
The deviation of FM2/PM2 must always be less than or equal to the deviation settings for FM1/PM1. This error will be reported to the queue when FM2/PM2 is enabled and FM1/PM1 is also enabled and an adjustment to either FM1/PM1 deviation causes the FM1 or PM1 deviation to be less than the FM2 or PM2 deviation. It will also be reported when FM1/PM1 is being turned on, and the last FM2/PM2 deviation setting is greater than the current FM1/PM1 deviation setting. In both cases the FM2/PM2 deviation will be adjusted to match the FM1/PM1 deviation.

- 221 Settings conflict; FM2/PM2 value set greater than FM1/PM1 value. FM1/PM1 changed to match FM2/PM2 value.
- FM2/PM2 deviation must be \leq FM1/PM1 deviation. This error is reported when both FM1/PM1 and FM2/PM2 are enabled and an adjustment to either FM2/PM2 deviation causes the FM2 or PM2 deviation to be greater than the FM1 or PM1 deviation. It is also be reported as FM2/PM2 is turned on, and the last FM1/PM1 deviation setting is less than the current FM2/PM2 deviation setting. In both cases the FM1/PM1 deviation is adjusted to match the FM2/PM2 deviation.**
- 221 Settings conflict; FM & PM not allowed.
- There is a hardware conflict between FM and PM. The most recently requested modulation will be turned on, the previous modulation will be turned off.**
- 221 Settings conflict; Frequency list and dwell list are of unequal size. Set one list equal to size one, or make their sizes equal.
- The frequency list has more than one element and the dwell list has more than one element, and they are not of equal size. If any of the frequency, power, or dwell lists have more than one element, they must all have the same number of elements. A list of a single element is the same as a list of an equal size with the single element repeated the necessary number of times.**
- 221 Settings conflict; Frequency list and power list are of unequal size. Turn one list off, set one to size one, or make their sizes equal.
- The frequency list has more than one element and the power list has more than one element, and they are not of equal size. If any of the frequency, power, or dwell lists have more than one element, they must all have the same number of elements. A list of a single element is the same as a list of an equal size with the single element repeated the necessary number of times.**

- 221 Settings conflict; The frequency spacing has been limited by the number of tones.
The product of the multitone number of frequencies and frequency spacing must be less than or equal to 15 MHz.
- 221 Settings conflict; Incompatible step sweep frequency setting. Start, stop, center or span setting changed to be compatible with last command.
Incompatible step sweep frequency setting. Start, stop, center or span setting changed to be compatible with last command.
- 221 Settings conflict; Incompatible step sweep power setting. Start, stop, center or span setting changed to be compatible with last command.
Incompatible step sweep power setting. Start, stop, center or span setting changed to be compatible with last command.
- 221 Settings conflict; Power list and dwell list are of unequal size. Set one to size one, or make their sizes equal.
Both the dwell list and the power list have more than one element, and they are not of equal size. If any frequency, power, or dwell lists have more than one element, they must all have the same number of elements. A list of a single element is the same as a list of an equal size with the single element repeated the necessary number of times.
- 221 Settings conflict; Pulse period set less than pulse width. Pulse width changed to match period value.
A pulse period has been entered that is smaller than the pulse width. The instrument automatically adjusts the pulse period to match the pulse width.
- 221 Settings conflict; The selected external trigger setting conflicts with the previous setting.
The external trigger has been set to positive edge for one trigger source and negative edge for another trigger source.

- 220 Parameter error
- A program data element related error has occurred. This particular error message is used if the device cannot detect a more specific error described for errors -221 through -229.
- 220 Parameter error; <modulation file name>
- The specified file is not a modulation file type.
- 215 Arm deadlock
- The arm source for the initiation of a measurement is set to GET and a subsequent measurement query is received. The measurement cannot begin until a GET is received, but the GET would cause an INTERRUPTED error.
- 214 Trigger deadlock
- A trigger source for the initiation of a measurement is set to GET and a subsequent measurement query is received. The measurement cannot begin until a GET is received, but the GET would cause an INTERRUPTED error.
- 214 Trigger deadlock
- TRIGger:SOURce BUS was selected when a MEASurement? query was executed. No data is returned.
- 213 Init ignored
- A request for a measurement initiation was ignored as another measurement was already in progress.
- 213 Init ignored; Cannot initiate sweep in manual mode.
- The manual mode is on and therefore the instrument cannot sweep.
- 213 Init ignored; Sweep is already initiated.
- The list/sweep is currently initiated and sweeping, therefore the command is not legal according to SCPI.

Error Messages

-299 to -200: Execution Errors

- 213 Init ignored; Sweep is already continuously initiated.
The list/sweep is continuously initiated and sweeping, therefore the command is not legal according to SCPI.
- 213 Init ignored; Unable to sweep due to sweep being in an error state. The sweep error should be fixed.
The number of list, power, and/or dwell points are in conflict, or a serious system error has occurred in list/sweep. A previous error report should have described the error that is stalling list/sweep.
- 212 Arm ignored
An arming signal was received and recognized by the device but was ignored.
- 211 Trigger ignored
A GET, *TRG, or triggering signal was received and recognized by the device, but was ignored because of device timing considerations. For example, the device was not ready to respond.
- 210 Trigger error
A GET, *TRG, or a triggering signal could not be executed due to an error.
- 202 Settings lost due to rtl
A setting associated with a hard local control (see IEEE 488.2, 5.6.15) was lost when the device changed to LOCS from REMS or to LWLS from RWLS.
- 201 Invalid while in local
A command is not executable while the device is in local mode due to a hard local control (see IEEE 488.2, 5.6.1.5). For example, a device with a rotary switch receives a message which would change the switch's state, but the device is in local so the message cannot be executed.

- 200 Execution Error
- For devices that cannot detect more specific errors, this code indicates only that an execution error as defined in IEEE 488.2, 11.5.1.1.5 has occurred.
- 200 OPC Query Timeout Error: Frequency not settled.
- OPC query timeout occurred due to frequency being unsettled. This is probably related to a hardware failure. Report this error to Agilent Technologies.

-199 to -100: Command Errors

The instrument's parser detected an IEEE 488.2 syntax error. Errors in this class set the command error bit (bit 5) in the event status register (IEEE 488.2, section 11.5.1). In this case:

- Either an IEEE 488.2 syntax error has been detected by the parser (a control-to-device message was received that is in violation of the IEEE 488.2 standard. Possible violations include a data element which violates device listening formats or whose type is unacceptable to the device.), or
- an unrecognized header was received. These include incorrect device-specific headers and incorrect or unimplemented IEEE 488.2 common commands.

-184 Macro parameter error

A command inside the macro definition had the wrong number or type of parameters.

-183 Invalid inside macro definition

The program message unit sequence, sent with a *DDT or a *DMC command, is syntactically invalid (see IEEE 488.2, 10.7.6.3).

-181 Invalid outside macro definition

A macro parameter placeholder ($\$(\text{number})$) was encountered outside of a macro definition.

-180 Macro error

This error, as well as errors -181 through -189, are generated when defining a macro or executing a macro. This particular error message is used if the device cannot detect a more specific error.

-178 Expression data not allowed

A legal expression data was encountered, but was not allowed by the device at this point in parsing.

- 171 Invalid expression
The expression data element was invalid (see IEEE 488.2, 7.7.7.2). For example, unmatched parentheses or an illegal character.
- 170 Expression data error
This error, as well as errors -171 through -179, are generated when parsing an expression data element. This particular error message is used if the device cannot detect a more specific error.
- 168 Block data not allowed
A legal block data element was encountered, but not allowed by the device at this point in the parsing.
- 161 Invalid block data
A block data element was expected, but was invalid (see IEEE 488.2, 7.7.6.2). For example, an END message was received before the end length was satisfied.
- 160 Block data error
This error, as well as errors -161 through -169, are generated when parsing a block data element. This particular error message is used if the device cannot detect a more specific error.
- 158 String data not allowed
A string data element was encountered, but not allowed by the device at this point in the parsing.
- 151 Invalid string data
A string data element was expected, but was invalid (see IEEE 488.2, 7.7.5.2). For example, an END message was received before the terminal quote character.
- 151 Invalid string data; filename exceeds maximum of 23 characters.
The specified filename exceeds the maximum length.

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-199 to -100: Command Errors

- 151 Invalid string data; filename plus msus exceeds maximum of 30 characters.
The specified filename exceeds the maximum length.
- 150 String data error
This error, as well as errors -151 through -159, are generated when parsing a string data element. This particular error message is used if the device cannot detect a more specific error.
- 148 Character data not allowed
A legal character data element was encountered where prohibited by the device.
- 144 Character data too long
The character data element contains more than twelve characters (see IEEE 488.2, 7.7.1.4).
- 141 Invalid character data
Either the character data element contains an invalid character or the particular element received is not valid for the header.
- 140 Character data error
This error, as well as errors -141 through -149, are generated when parsing a character data element. This particular error message is used if the device cannot detect a more specific error.
- 138 Suffix not allowed
A suffix was encountered after a numeric element which does not allow suffixes.
- 134 Suffix too long
The suffix contained more than twelve characters (see IEEE 488.2, 7.7.3.4).

- 131 Invalid suffix
The suffix does not follow the syntax described in IEEE 488.2, 7.7.3.2, or the suffix is inappropriate for this device.
- 130 Suffix error
This error, as well as errors -131 through -139, are generated when parsing a suffix. This particular error message is used if the device cannot detect a more specific error.
- 128 Numeric data not allowed
A legal numeric data element was received, but the device does not accept one in this position for the header.
- 124 Too many digits
The mantissa of a decimal-numeric data element contained more than 255 digits excluding leading zeros (see IEEE 488.2, 7.7.2.4.1).
- 123 Exponent too large
The magnitude of an exponent was greater than 32000 (see IEEE 488.2, 7.7.2.4.1).
- 121 Invalid character in number
An invalid character for the data type being parsed was encountered. For example, an alpha in a decimal numeric or a “9” in octal data.
- 120 Numeric data error
This error, as well as errors -121 through -129, are generated when parsing a data element which appears to be numeric, including non-decimal numeric types. This particular error message is used if the device cannot detect a more specific error.
- 114 Header suffix out of range
The value of a header suffix attached to a program mnemonic makes the header invalid.

Error Messages

-199 to -100: Command Errors

- 113 Undefined header
The header is syntactically correct, but it is undefined for this specific device. For example, *XYZ is not defined for any device.
- 112 Program mnemonic too long
The header contains more than twelve characters (see IEEE 488.2, 7.6.1.4.1).
- 111 Header separator error
A character that is not a legal header separator was encountered while parsing the header.
- 110 Command header error
An error was detected in the header. This message is used when the device cannot detect the more specific errors described for errors -111 through -119.
- 109 Missing parameter
Fewer parameters were received than required for the header. For example, the *ESE common command requires one parameter, so receiving *ESE is not allowed.
- 108 Parameter not allowed
More parameters were received than expected for the header. For example, the *ESE common command only accepts one parameter, so receiving *ESE 0,1 is not allowed.
- 105 GET not allowed
A Group Execute Trigger was received within a program message (see IEEE 488.2, 7.7). Correct the GPIB controller program so that the GET does not occur within a line of GPIB program code.

- 104 Data type error
The parser recognized a data element that is not allowed. For example, numeric or string data was expected, but block data was encountered.
- 103 Invalid separator
The parser was expecting a separator and encountered an illegal character. For example, the semicolon was omitted after a program message unit.
- 102 Syntax error; Bad compatibility language character <character>.
In 8656/57 compatibility mode, illegal language input was received.
- 102 Syntax error; Bad compatibility language token <token>.
In 8656/57 compatibility mode, a known command or termination specifier was received when it was not expected. For example, a termination specifier was received with no currently active function.
- 102 Syntax error
An unrecognized command or data type was encountered. For example, a string was received when the device does not accept strings.
- 101 Invalid character
A syntactic command contains a character that is invalid for that type. For example, a header containing an ampersand, SETUP&. This error might be used in place of error numbers -114, -121, -141 and some others.
- 100 Command error; Unable to set new frequency with UP/DN command.
The instrument is unable to obtain the necessary information to calculate the new frequency in compatibility mode with the UP/DN command.
- 100 Command error; Unable to set new amplitude with UP/DN command.
The instrument is unable to obtain the necessary information to calculate the new amplitude in compatibility mode with the UP/DN command.

Error Messages

-199 to -100: Command Errors

- 100 Command error; Remote active function IS not available.
The instrument only supports the Increment Set (IS) command for Frequency (FR) and Amplitude (AP) in compatibility mode. All other uses of IS are invalid.
- 100 Command error; R0:No standby mode allowed.
In 8656/57 compatibility mode, R0 was received via GPIB. This command is not supported by the compatibility mode.
- 100 Command error; Remote active function DN/UP not available.
In 8656/57 compatibility mode, either DN or UP was received via GPIB. These commands are not supported by the compatibility mode.
- 100 Command error; LO: No low bandwidth ALC mode allowed.
In 8656/57 compatibility mode, LO was received via GPIB. This command is not supported by the compatibility mode.
- 100 Command error
This is a generic syntax error for devices that cannot detect more specific errors. The code indicates only that a command error as defined in IEEE 488.2, 11.5.1.1.4 has occurred.

201 to 702: Device-Specific Errors

Some device operations did not properly complete, possibly due to an abnormal hardware or firmware condition. These codes are also used for self-test response errors. Errors in this class set the device-specific error bit (bit 3) in the event status register (IEEE 488.2, section 11.5.1).

The <error_message> string for a *positive* error is not defined by SCPI. A positive error indicates that the instrument detected an error within the GPIB system, within the instrument's firmware or hardware, during the transfer of block data, or during calibration.

208 I/O Error; <file name>
Invalid file name.

208 I/O error; Delete a non-saved state register. Delete register ignored.
The user has attempted to delete an unused (empty) state. This error message is informational only.

208 I/O error; Delete empty sequence <sequence_name>. Delete sequence ignored.
The user has attempted to delete a sequence that is empty. This error message is informational only. Typically, this error is reported several times when the "Delete All Sequences" command is executed. If the file is displayed by Catalog, delete explicitly.

208 I/O error; Directory does not have a default file type.
Report this error to Agilent Technologies.

208 I/O error; Directory refuses to release ownership.
Report this error to Agilent Technologies.

208 I/O error; Save a state register ignored.
A STATE: file could not be saved due to insufficient space, file corruption, or another related problem.

- 208 I/O error; Trailing zero found in <filename>. Fixing...
A compressed state file has a zero at its end. This is a sign of file corruption. The device fixes the problem by concealing the zero such that it no longer triggers an error message. The file may be corrupt or unusable.
- 208 I/O error; Unable to delete saved state from non-volatile memory. No instrument state change.
A STATE: file could not be deleted due to the file not being found, file corruption, or another file-related problem. If the file is displayed by a memory catalog, delete it explicitly.
- 208 I/O error; Unable to read bit file.
There is an error reading the specified bit file. Try selecting the file again.
- 208 I/O error; Unable to recall from non-volatile memory. No instrument state change.
The state file is not readable and the recall was aborted.
- 214 Not owner; Unable to delete saved state from non-volatile memory. No instrument state change.
The user has attempted to write to a read-only memory subsystem.
- 222 Number of parameters are not an even number.
The number of user flatness calibration point values entered in the SCPI command are not an even number. Calibration points specified in the SCPI command should consist of frequency and amplitude value pairs, therefore making the total value count an even number. Omitting either a frequency or amplitude value from a pair will cause this error.
- 501 Attenuator hold setting over range; Frequency change forced attenuator adjust.
The firmware has changed the attenuator setting because, while in attenuator hold mode, a change in frequency setting has forced the ALC beyond its range.

501 Attenuator hold setting over range; Power set to lower limit.
The firmware has changed the power setting to a value other than the requested value due to the fact that, while in attenuator hold mode, the user has requested a power setting that is below the ALC range for the attenuator setting. The power has been set to the lower limit.

501 Attenuator hold setting over range; Power set to upper limit.
The firmware has changed the power setting to a value other than the requested value due to the fact that, while in attenuator hold mode, the user has requested a power setting that is above the ALC range for the attenuator setting.

508 Frac-N Loop unlocked
The synthesizer is unlocked. Service may be needed.

508 Sampler Loop unlocked
The synthesizer is unlocked. Service may be needed.

508 YO Loop unlocked
The synthesizer is unlocked. Service may be needed.

509 Output Section input overdrive
Internal error: report to factory.

511 Output unlevelled
The instrument's output is unlevelled.

512 Reference unlocked
The instrument's reference is unlocked. If an external reference is connected, check the frequency and power. It is possible for this to occur during a poor connection/disconnection of an external reference. If this error reoccurs when no external reference is connected, the instrument may require service.

- 513 1 GHz Oscillator unlocked
- The 1 GHz reference oscillator is unlocked. If an external reference is connected, check the frequency. If this error reoccurs when no external reference is connected, the instrument may require service.
- 514 Reference Oven cold
- The reference oven is not at the required operating temperature. This is normal if the instrument has been powered down for a while. If the error persists, the instrument may require service.
- 515 Reference board: 10 Mhz reference signal bad or missing
- The instrument's reference is unlocked. If an external reference is connected, check the frequency and power. It is possible for this to occur during a poor connection/disconnection of an external reference. If this error reoccurs when no external reference is connected, the instrument may require service.
- 517 Calibration failure; DCFM DC overrange
- The instrument was unable to perform a DCFM or DCΦM calibration due to the input signal being outside of the offset range that can be calibrated for.
- 517 Calibration failure; Upgrade calibration failed. Data not stored.
- The calibration stage of the instrument upgrade was not executed successfully. The calibration data has not been stored. The upgrade is not functional. Report this error to Agilent Technologies.
- 520 Sampler unlocked
- One of the signal generator's samplers is unlocked or one of the sampler circuits are malfunctioning. The instrument may require service.
- 521 Yig unlocked
- The Yig oscillator phase lock loop is unlocked. Problem may be due to a bad calibration. If not, then the instrument may require service.

- 522 Demodulator Unleveled; Input amplitude overrange.
The signal level is too high. Adjust the signal level for the VSA input.
- 522 Demodulator Unleveled; Input amplitude underrange.
The signal level is too low. Adjust the signal level for the VSA input.
- 523 Power meter timeout during user flatness calibration
The power meter times out when taking a reading during user flatness calibration. Check GPIB configuration, address, and cable connections.
- 524 Power meter reading invalid during user flatness calibration
The power meter reading is invalid during user flatness calibration. Check GPIB configuration, address, and cable connections.
- 525 Cannot set instrument into the GPIB controller mode
At the start of user flatness calibration, the instrument could not be set to the GPIB controller mode. Check GPIB configuration, address, and cable connections.
- 526 GPIB device could not be assigned
During the initialization of the user flatness calibration, the external power meter could not be assigned to the GPIB address. Check GPIB configuration, address, and cable connections.
- 527 User Flatness frequency calibration table empty
There were no frequency calibration points entered in the user flatness list table.

600 RPP has tripped.

The reverse power protection circuit has been triggered. Repeated tripping of this circuit can cause damage to the instrument.

600 **** CAUTION ****

REVERSE POWER PROTECTION (RPP) TRIPPED

Repeated RPP tripping may damage the instrument!

Damage can occur if an external signal was applied at the RF Output or ESD is detected at RF Output.

Damage will not occur if a poor RF output port match exists when the power level is set beyond the specified range.

601 Power search failed.

While executing power search, the level meter circuit failed to return a meaningful value. This event indicates that the power is in a range that the leveling loop cannot properly level. The power will be set to the last properly leveled power.

615 New wave shape changes limit for internal frequency; frequency changed to new limit.

When using the internal modulation source, the upper limit varies for the different waveforms. If the user changes the waveform when the internal source frequency is higher than that allowed for the new waveform, the frequency for the source will be changed, and the user informed of that change with this message.

- 616** Configuration Error; Attenuator configuration does not match actual installed attenuator type.
A mismatch was found between the configured and detected attenuator types. The instrument may not be fully functional. Report this error to Agilent Technologies.
- 616** Configuration Error; Option reconfiguration failed.
As a part of option reconfiguration, the instrument reboots. If the reconfiguration failed, it is reported when the instrument completes the reboot. Try repeating the option reconfiguration. Report this error to Agilent Technologies.
- 617** Configuration error; Could not start license system.
The Software License System has failed to operate. The software option cannot be enabled. Report this error to Agilent Technologies.
- 617** Configuration error; Illegal combination of installed option boards.
An option board or board combination that is not supported by the installed firmware has been specified or detected. Be sure that you have the proper instrument and firmware to support the option board, and that you have specified a supported combination of options.
- 617** Configuration error; Installed board not supported.
An option board or board combination that is not supported by the installed firmware has been specified or detected. Be sure that you have the proper instrument and firmware to support the option board, and that you have specified a supported combination of options.
- 617** Configuration error; Invalid file system configuration block size defaulted.
A block size configuration error was detected by the file system. A default value has been used. Report this error to Agilent Technologies.

- 617 Configuration error; Invalid file system configuration max files defaulted.
A maximum files configuration error was detected by the file system. A default value has been used. Report this error to Agilent Technologies.
- 617 Configuration error; Invalid file system configuration memory size defaulted.
A memory size configuration error was detected by the file system. A default value has been used. Report this error to Agilent Technologies.
- 617 Configuration error; Invalid option board configuration.
An invalid combination of option boards has been configured. If this error has occurred as the result of a customer-installed option, uninstall all options and then reinstall the correct options. Report this error to Agilent Technologies.
- 617 Configuration error; Old bootrom detected. File system and instrument state re-initialized due to firmware upgrade. Replace bootrom to avoid this in the future.
The firmware has detected that the instrument contains an old bootrom version. As a result the user file system and instrument states have been re-initialized. Instrument calibration files have not been affected. In the future, to avoid re-initialization of the file system and instrument states that will occur with firmware upgrades, return the instrument to Agilent Technologies for bootrom replacement.
- 617 Configuration error; <OPTION>, Invalid (inconsistent) license key.
The License Key for the indicated software option is invalid. If the option has not been purchased, then enter a value of zero for its key to disable the option, otherwise enter the correct value from the License Key Certificate.
- 618 RS232 times out; RS232 reset.
If further input is not received within the timeout time while a SCPI command is being processed, the command is aborted and the input buffer is cleared.

- 624 Lowband coupler detector fault: Power error below 2 GHz.
A lowband coupler detector fault has caused an error in the power level below 2 GHz. The signal generator may require service if precise power levels are required below 2 GHz.
- 625 Internal pulse generator unlocked
The internal pulse generator clock is unlocked. Service may be needed.
- 626 Internal modulation source unlocked
The internal modulation source clock is unlocked. Service may be needed.
- 627 Warning: Pulse Width too narrow for ALC
The pulse width is too narrow for the ALC to function properly. Turning off ALC will improve performance.
- 700 State Save Recall Error; Recall aborted. Unable to recall the state from non-volatile memory.
The state file was not readable, so the recall was aborted. If state file exists, delete explicitly using the memory catalog.
- 700 State Save Recall Error; Recall data different from FW revision. No instrument state change.
An attempt was made to recall a state that was saved with an incompatible version of the instrument firmware. This typically occurs when a state file is copied from an instrument with a newer version of firmware to an instrument with an older version of firmware. Newer versions of instrument firmware can read older state files.
- 700 State Save Recall Error; Recall non-saved state register. Recall ignored.
A recall was attempted for a state register that is unused. If state file exists, delete explicitly using catalog.
- 700 State Save Recall Error; Recalled state has a bad checksum. No instrument state change.
The state file was corrupt or out-of-date, so the recall was ignored. If state file exists, delete explicitly using the memory catalog.

- 700 State Save Recall Error; The state file is from a different firmware revision that does not support comments.
- An attempt was made to write a comment to a state file revision that does not support comments. Comments in saved state files are not supported by the A.01.00 and A.01.01 releases of the instrument firmware.**
- 702 Load/Store Error; Operation not allowed in Fail-Safe Preset Mode.
- This informs you that software or hardware options cannot be configured while in Fail-Safe Preset Mode. Cycle the instrument power and try again.**
- 702 Load/Store Error; Operation not allowed in Fail-Safe Preset Mode.
- A hardware option was installed while in fail-safe preset mode. After a fail-safe preset, the power must be cycled before a hardware option is installed.**