E4417A-09

S E R V I C E   N O T E

Supersedes:
NONE

Agilent E4417A EPM-P Peak & Average Power Meter

Serial Numbers: GB00000000/GB99999999

Common Problems That May Not Be Caused By An Instrument Fault

Parts Required:

P/N	Description	Qty.
NONE		

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:
INFORMATION ONLY
AUTHOR: FC   PRODUCT LINE: PN
ADDITIONAL INFORMATION:

Agilent Technologies

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Situation:

A recent analysis of service records for the E4417A power meter has highlighted that some of the units returned for repair are being diagnosed as 'no trouble found'. In many of these cases, the apparent fault can be attributed to the fact that the instrument has not been set-up correctly.

Solution/Action:

The purpose of this Service Note is to provide information that can be used to quickly determine whether or not a fault is present in the power meter, saving both the inconvenience and cost of returning a working unit to an Agilent Service Center.

Display Is Blank:
- Switch on the power meter and allow 30 seconds for completion of the self-test process.
- If the display is too bright, hold down the softkey positioned directly below the 'Prev' hardkey (this will increase the display contrast to make it readable).
- If the display is too dark, hold down the softkey positioned 2 places below the 'Prev' hardkey (this will decrease the display contrast to make it readable).

Power Readings Are Incorrect:
- Is the unit in 'Relative' mode? Press 'Meas Setup', followed by 'Rel/Offset', and check to see whether 'Rel' is on or off.
- Is an offset being applied to the measurement window? Press 'Meas Setup', followed by 'Rel/Offset', and check to see whether 'Offset' is on or off.
- Is an offset being applied to the channel? Press 'Channel' and check to see whether 'Offset' is on or off.
- Is the Sensor Calibration Table being used? Press 'System', followed by 'Tables' & 'Sensor Cal Tables', and check whether this feature is on or off. If it is on, then make sure the correct table is in use for the sensor, and that the data in the table is accurate.
- Is the Frequency Dependent Offset Table being used? Press 'System', followed by 'Tables', & 'Freq. Dep. Offset', and check whether this feature is on or off. If it is on, then make sure the correct table is in use for the sensor, and that the data in the table is accurate.
- Does the sensor being used have a built in offset? Some sensors, such as the 8482B must be used with an external attenuator. The power meter expects this attenuator to be in place at all times, and as such will adjust the measured power accordingly.
- Is an attenuator being used? If the power meter offset feature is not used to take attenuation into account then measurements made may appear to be too low.

Cannot Communicate With The Power Meter:
- Has the correct programming language been selected? Press 'System', followed by 'Remote Interface' & 'Command Set', and check to see which one is in use.
- Has the correct remote interface been selected? Press 'System', followed by 'Remote Interface' & 'Select Interface', and check to see which one is in use.
- Has the correct GPIB address been selected? ? Press 'System', followed by 'Remote Interface', 'Configure Interface' & 'GPIB', and check to see which one is in use.
- Have the correct serial bus settings been applied? Press 'System', followed by 'Remote Interface', 'Configure Interface' & 'Serial', and check to see that all of the parameters match the host computer.

Cannot Zero The Power Meter / Sensor:
- Is the sensor attached to an enabled power source? The meter cannot be zeroed if power is applied to the sensor.

Cannot Calibrate The Power Meter / Sensor:
- Is the Power Reference connector clean? If this connector is contaminated it will have an adverse effect on the amount of power applied to the sensor.
- Is the power sensor connector clean and undamaged? If this connector is contaminated or damaged, it will have an adverse effect on the amount of power sensed.
- Is the power sensor functional? Check the sensor is functional by connecting it to a known good power source that is within it's operational range.
- Is an attenuator required for calibration? Some sensors, such as the 8481D, require the use of an attenuator during the calibration process. If this attenuator is not used, the calibration process will fail, and the sensor may also be damaged.

E9320 Series Sensors Will Not Work With The Power Meter:
- Is the correct sensor cable in use? E9320 series sensors can only be used with cables from the E9288x range. The power meter will generate an error if an E9320 series sensor is used with a cable from the 11730x range.