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DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR POWER METER AGILENT, MODEL E4419B

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REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

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SECTION I IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Power Meter, Agilent, Model E4419B. The manufacturer's manual was used as the prime data source in compiling these instructions. The equipment being calibrated will be referred to as the TI (test instrument) throughout this bulletin.

a. Model Variations. None.

b. Time and Technique. The time required for this calibration is approximately 4 hours, using the dc and low frequency and microwave technique.

2. Forms, Records, and Reports

a. Forms, records, and reports required for calibration personnel at all levels are prescribed by TB 750-25.

b. Adjustments to be reported are designated (R) at the end of the sentence in which they appear. When adjustments are in tables, the (R) follows the designated adjustment. Report only those adjustments made and designated with (R).

3. Calibration Description. TI parameters and performance specifications which pertain to this calibration are in table 1.

Table 1. Calibration Description

Test instrument parameters	Performance specifications
Zero set (digital settability of zero)	Accuracy: $\pm 0.5\%$ FS (most sensitive range. Decrease percentage by factor of 10 for each higher range ± 1 count)
Instrument accuracy	Range: -70dBm to $+44\text{dBm}$ (power sensor dependent) Accuracy: ± 0.02 dB (logarithmic) or 0.5% (linear)
Power reference	Range: 1 mW Accuracy: $\pm 0.9\%$ Frequency: 50 MHz

SECTION II EQUIPMENT REQUIREMENTS

4. Equipment Required. Table 2 identifies the specific equipment to be used in this calibration procedure. This equipment is issued with Secondary Transfer Calibration Standards Set AN/GSM-287, or AN/GSM-705. Alternate items may be used by the calibrating activity. The items selected must be verified to perform satisfactorily prior to use and must bear evidence of current calibration. The equipment must meet or exceed the minimum use specifications listed in table 2. The accuracies listed in table 2 provide a four-to-one ratio between the standard and TI. Where the four-to-one ratio cannot be met, the actual accuracy of the equipment selected is shown in parenthesis.