

Exhibit 7. Measurement Procedures -- 47 CFR. 2.947

This exhibit presents a summary of how the measurements were made.

7.1 RF Power -- Pursuant to 47 CFR 2.947(c)

Method of Conducted Output Power Measurement: Adaptation of TIA/EIA-603-A clause 2.2.1 for Pulsed Measurements

The RF output power is not adjustable by the user. The output power is controlled by the base station in response to the received signal strength or by or special radio service software. To obtain RF output power reading, the radio was programmed to utilize the maximum and minimum output power setting. To correct the average reading power meter, a setting of the duty cycle on the RF power meter was set to 12.5% for herein reported 8:1 TDM test signals.

A special DC/RF test fixture was utilized to interface with the radio test RF connector while simultaneously supplying the nominal operating voltage of 4.0V. The radio RF connector is utilized in all factory tuning and testing procedures, and provides a 50 ohm connection to the transmitter path while disconnecting the radio antenna. All conducted measurements were performed via this test port.

NOTE: This DC/RF test fixture is not offered for sale.

Method of Measurement for Effective Radiated Power: TIA/EIA-603-B 2.2.17.2

The ERP characteristic was measured while a radio was set to transmit a test mode signal at the maximum rated output power (+/- 5%) and was vertically mounted on a non-conducting platform/turntable in a 3 dimensional RF Anechoic Chamber. The power at the receive antenna was recorded on a power meter with the unit rotating about the z-axis. The azimuth of receiving antenna is rotated 180 degrees while the UUT is rotating producing a spiral antenna measurement. The power recorded from the meter is then corrected to compensate for path loss, cable losses, and amplifier and antenna gains at the given frequencies resulting in absolute radiated power.

7.2 Radiated Spurious Emissions -- Pursuant to 47 CFR 2.947(b)

Test Sites:

Open Area Test Site (OATS) of the Motorola EMC Lab, 8000 W Sunrise Blvd, Plantation, Florida 33322 which is accredited to ISO/IEC 25 from the American Association for Laboratory Accreditation (FCC Registration: 91932/Industry Canada: IC3679). The radiated emission testing was performed for minimum and maximum powers in transmit mode.

RF semi-anechoic chamber of TIMCO Engineering Inc, 849 NW SR 45, Newberry, FL 32669 which is accredited to ISO/IEC 17025-1999 from the American Association for Laboratory Accreditation (FCC Registration: 0955-01/Industry Canada: 2056-C). The radiated emission testing was performed for minimum and maximum powers in transmit mode.

Method of Measurement: TIA/EIA-603-A clause 2.2.12

1900 MHz Band

The equipment is placed on the turntable and placed in normal operation transmit mode of operation.

A broad-band receiving antenna located 3 meters from the transmitter receives any signal radiated from the transmitter and its operational accessories. The antenna is adjustable in height and can be rotated for horizontal or vertical polarization. A spectrum analyzer covering the necessary frequency range is used to detect and measure any radiation received by the antenna.

The transmitter's modulated pseudo random digital signal is monitored and adjusted to obtain peak reading of received signals wherever they occur in the spectrum by:

- (1) Rotating the transmitter under test.
- (2) Adjusting the antenna height.

The testing procedure is repeated for both horizontal and vertical polarization of the receiving antenna. Relative signal strength is indicated on the spectrum analyzer connected to this antenna. The spectrum analyzer resolution bandwidth was set to 10 kHz for emissions below 1 GHz, and 1 MHz for higher frequency emissions. To obtain actual radiated signal strength for each spurious and harmonic frequency observed, a standard signal generator with calibrated output is connected

to an antenna adjusted to in the range from 30 MHz to that harmonic frequency. This antenna is substituted for the transmitter under test. The signal generator output level is adjusted until a reading identical to that obtained with the actual transmitter is observed on the spectrum analyzer. Signal strength is then derived from the generator and appropriate cable losses due to set up. Measured emissions for both maximum and minimum transmit power levels are recorded in tables in Exhibit 6.

7.3 Frequency Stability -- Pursuant to 47 CFR 2.947(c)

The equipment under test is placed in an environmental chamber. The antenna port of the Equipment Under Test is directly coupled to the input of the measurement equipment through a specialized RF connector. A power supply is attached as the primary voltage supply.

Frequency measurements are made at the extremes of the temperature range -30°C to $+60^{\circ}\text{C}$ and at intervals of 10°C with the primary supply voltage set to the nominal battery operating voltage. A period of time sufficient to stabilize all components of the equipment is allowed at each frequency measurement. The maximum variation of frequency is measured.

7.4 Power Line Conducted Spurious Output Voltage Pursuant 47 CFR 15.107

Test Site:

Electrical Engineering Screen Room of the Motorola EMC Lab, 8000 W Sunrise Blvd, Plantation, Florida 33322 which is accredited to ISO/IEC 25 from the American Association for Laboratory Accreditation (FCC Registration: 91932/Industry Canada: IC3679).

Method of Measurement: TIA/TEA-603-A clause 2.1.3

Connect the receiver to the power line through a line stabilization network. A spectrum analyzer of nominal $50\ \Omega$ impedance to one terminal ("neutral") of the line stabilization network. The spectrum analyzer is then tuned to search for spurious outputs from *150kHz to 30 MHz pursuant 47 CFR 15.107*. All spurious voltages are recorded. Six highest local maxima are noted, measured with a "Quasi-peak" and "Average" detectors, and then tabulated.