

TEST SET-UP PROCEDURES AND TEST EQUIPMENT USED

Pursuant to 47 CFR 2.1041

Except where otherwise stated, all measurements are made following the Telecommunications Industries Association/Electronic Industries Association (TIA/EIA) "Land Mobile FM or PM Communications Equipment Measurement and Performance Standards" (TIA/EIA-603-A).

This exhibit presents a brief summary of how the measurements were made, the required limits, and the test equipment used.

The following procedures are presented with this application:

- 1) Test Equipment List
- 2) RF Power Output
- 3) Transmit Audio Frequency Response
- 4) Post Limiter Lowpass Filter Response
- 5) Modulation Limiting Characteristic
- 6) Occupied Bandwidth
- 7) Conducted Spurious Emissions
- 8) Radiated Spurious Emissions
- 9) Frequency Stability vs. Temperature and Voltage
- 10) Transient Frequency Behavior

Test Equipment List

Pursuant to 47 CFR 2.1033(c)

The following test equipment was used to perform the measurements of the submitted data. The calibration of this equipment is performed at regular intervals.

Transmitter Frequency:

See Exhibit 6 – Elite test report ETR0800682-01

Temperature Measurement:

See Exhibit 6 – Elite test report ETR0800682-01

Transmitter RF Power:

See Exhibit 6 – Elite test report ETR0800682-01

DC Voltages and Currents:

See Exhibit 6 – Elite test report ETR0800682-01

Transmit Audio Responses:

HP 8901A Modulation Analyzer, HP 8903B Audio Analyzer, HP 6621A System DC Power Supply, PC with Labview

Transmit Audio Lowpass Splatter Filter Response:

HP E4431B Signal Generator, HP 8903B Audio Analyzer, Rohde & Schwarz UPV Audio Analyzer, HP 6621A System DC Power Supply, PC with Labview

Modulation Limiting Characteristic:

HP 8657A Signal Generator, HP 8903B Audio Analyzer, HP 8901B Modulation Analyzer
HP 6542A Power Supply

Transmitter Conducted Spurious and Harmonic Emissions:

See Exhibit 6 – Elite test report ETR0800682-01

Transmitter Occupied Bandwidth:

See Exhibit 6 – Elite test report ETR0800682-01

Transient Frequency Behavior:

See Exhibit 6 – Elite test report ETR0800682-01

Radiated Spurious and Harmonic Emissions:

See Exhibit 6 – Elite test report ETR0800682-01

Measurement Procedures Used for Submitted Data**EXHIBIT 6A - RF Power Output vs. DC Power Input – Pursuant to 47 CFR 2.1046**

See Exhibit 6 – Elite test report ETR0800682-01

EXHIBIT 6B - Transmitter Audio Frequency Response – Pursuant to 47 CFR 2.1047(a)

The transmitter output is monitored with an HP 8901B Modulation Analyzer, whose FM demodulator output is fed to an HP 8903B Audio Analyzer. De-emphasis is disabled and filtering above 15 kHz, internal to the test equipment, is used. An audio oscillator signal, derived from the HP 8903B Audio Analyzer, is connected to the microphone audio input of the transmitter. At a frequency of 1 kHz, the level is adjusted to obtain 20% of full system deviation to ensure that limiting does not occur at any frequency in the range of 300 Hz - 3000 Hz. A constant input level is then maintained and the oscillator frequency is varied between the range of 100 Hz to 5000 Hz. The frequency response is plotted, using a reference of 0 dB at 1 kHz.

EXHIBIT 6C - Transmitter Audio Post Limiter Lowpass Filter Response – Pursuant to 47 CFR 2.1047(a)

The audio oscillator portion of an HP 8903B Audio Analyzer is connected to the input of the post limiter lowpass filter. The output of the lowpass filter (OMAP TX SSI) is measured with the Rohde & Schwarz UPV Audio Analyzer. The response is swept between the limits of 100 Hz and 30 kHz. Oscillator level is chosen to be the as high as possible that will not cause limiting at any frequency, and is maintained constant vs. frequency.

EXHIBIT 6D - Modulation Limiting Characteristic – Pursuant to 47 CFR 2.1047(b)

An audio oscillator is connected to the microphone audio input. The transmitter output is monitored with an HP 8901B Modulation Analyzer. The flat frequency response FM demodulator output of the HP 8901B is fed to an HP 8903B Audio Analyzer. The 20 kHz lowpass filter of the modulation analyzer is used to reduce the level of residual high frequency noise. The oscillator level is adjusted at 1 kHz to obtain 60% of full-system deviation. The oscillator level is then varied over a range of ± 20 dB in 5 dB increments, and the resulting deviation is plotted. This measurement is repeated at 300 Hz and 3 kHz. The above procedure is performed four times, for conditions with Tone Private Line, Digital Private Line, Trunking (these are continuous subaudible signaling formats), and without subaudible signalling (referred to as "carrier squelch mode").

EXHIBIT 6E - Occupied Bandwidth – Pursuant to 47 CFR 2.1049(c)(1)

Procedure for Occupied Bandwidth Measurement for Voice Transmission

See Exhibit 6 – Elite test report ETR0800682-01

Procedure for Occupied Bandwidth Measurement for 2000/3000 Hz FSK Data

See Exhibit 6 – Elite test report ETR0800682-01

Procedure for Occupied Bandwidth Measurement for DTMF

See Exhibit 6 – Elite test report ETR0800682-01

Procedure for Occupied Bandwidth Measurement for 4-Level FSK Data

See Exhibit 6 – Elite test report ETR0800682-01

EXHIBIT 6F - Conducted Spurious Emissions – Pursuant to 47 CFR 2.1051

See Exhibit 6 – Elite test report ETR0800682-01

EXHIBIT 6G - Radiated Spurious Emissions – Pursuant to 47 CFR 2.1053

See Exhibit 6 – Elite test report ETR0800682-01

EXHIBIT 6H-1 and 7H-2 - Frequency Stability vs. Temperature and vs. Voltage – Pursuant to 47 CFR 2.1055(a)(b) and (d)

See Exhibit 6 – Elite test report ETR0800682-01

EXHIBIT 6I - Transient Frequency Behavior – Pursuant to 47 CFR 90.214

See Exhibit 6 – Elite test report ETR0800682-01