

EXHIBIT 6d: MEASURED DATA – Pursuant 47 CFR 2.1041**6.7 Land Mobile Band Frequency Stability -- Pursuant 47 CFR 2.1055a(1) & 2.1055(d)2**

Frequency stability measurements were made as described in paragraph 7.4. Because of the transmitter's dependence on the stability of the base station oscillator, it is not possible to provide stability data for this transmitter as is commonly supplied for certification per 47 CFR 2.1055 for a radio with a locally stabilized oscillator.

The following information is provided to clarify how the transmitter attains the necessary accuracy of 2.5 PPM or better for 800MHz band operation and 1.5 PPM or better for 900MHz band operation. The transmitter's suppressed carrier emission is produced by impressing the baseband information signal directly onto a digitally synthesized injection frequency with a channel resolution of 12.5 kHz. The synthesized frequency is derived from a temperature compensated crystal oscillator (Y601 in Figure 4-1). Transmission frequency accuracy is enhanced by the radio receiver circuitry, which causes the radio operating frequency to become locked to within 0.4 PPM of the base station once it has acquired the primary control channel. Thus the temperature and voltage frequency stability of the transmitter is within 0.4 PPM accuracy of the higher stability base station oscillator.

The AFC routine and frequency locking mechanism are implemented using both hardware and software. The hardware and software combined provide an automatic frequency control function which locks the receiver to within 0.4 PPM of the control channel oscillator. Since the base station stability is FCC regulated to be 1.5 PPM or better for the 800MHz band and 0.1 PPM or better for the 900MHz band, the absolute accuracy of the transmitter is inherently better than 1.9 PPM in the 800MHz band and 0.5 PPM in the 900MHz band. This is accomplished by programming fine synthesizer adjustments to U600 while the radio is in operation.

Transmitter frequency stability is guaranteed over all specified environmental operating conditions (battery voltage, temperature, humidity, etc.) because of the nature of the base station frequency locking mechanism. The frequency stability of the transmitter is maintained from a fully charged battery voltage of 4.2V to a low battery voltage of 3.55V, below which the radio products shuts down in order to prevent transmitter malfunction.

NOTE 1: Frequency stability is independent of modulation scheme (Quad-QPSK, Quad-16QAM, Quad-64QAM) or TDM interleaving. The data shown in following tables was taken with the radio set to transmit a Quad-16QAM signal at 820.9875 and 899.48125 MHz while locked to a Motorola R2660C service monitor. Measured frequency error points over all extreme temperature and voltage conditions are substantially smaller than the allowable error.

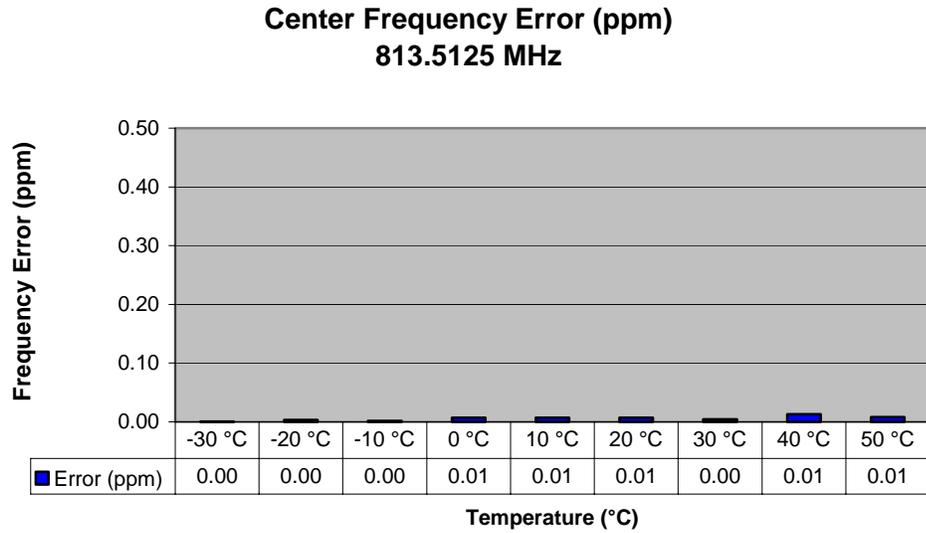


Figure 6-32: Transmitter Frequency Stability (800 MHz band) – Frequency Error vs. Temperature

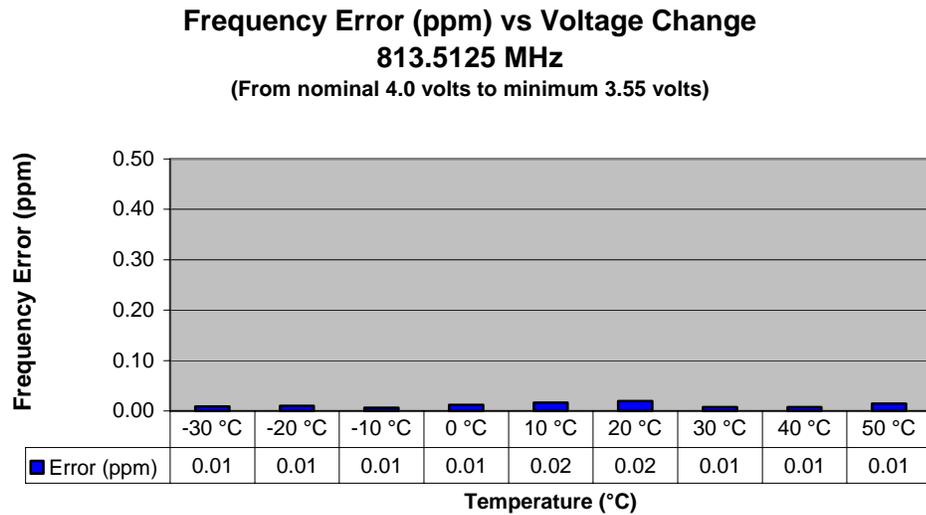


Figure 6-33: Transmitter Frequency Stability (900 MHz band) – Frequency Error vs. Battery Voltage

Center Frequency Error (ppm) @ 896.01875 MHz

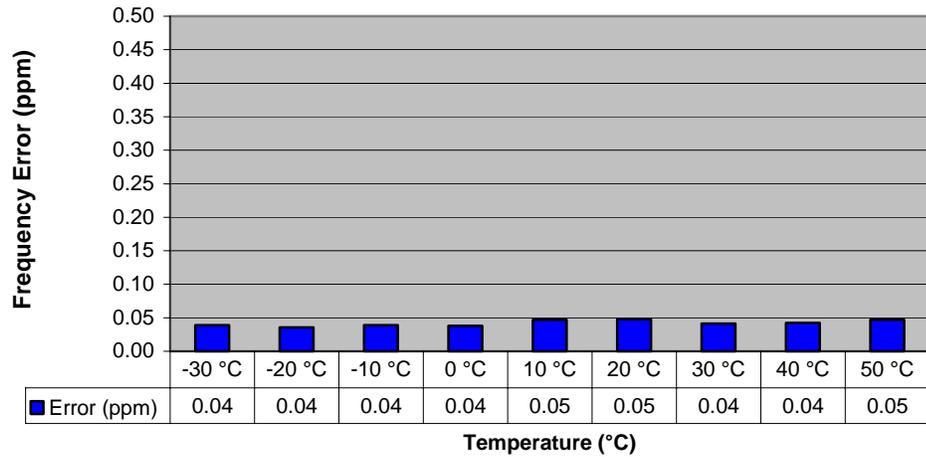


Figure 6-34: Transmitter Frequency Stability (900 MHz band) – Frequency Error vs. Temperature

Frequency Error (Hz) vs Voltage Change @ 896.01875 MHz
 (From nominal 4.0 volts to minimum 3.55 volts)

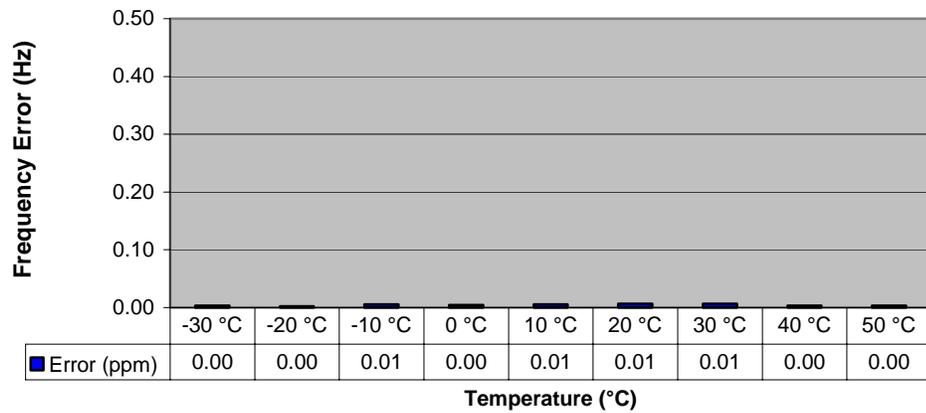


Figure 6-35: Transmitter Frequency Stability (900 MHz band) - Frequency Error vs. Voltage

6.8 Frequency Stability in the 900 MHz ISM Band -- Pursuant 47 CFR 2.1055a(1) & 2.1055(d)2

The transmitter output frequency stability in the ISM band depends upon the inherent frequency stability of the Temperature Compensated Crystal Oscillator (TCXO) used as the frequency reference in the frequency generation scheme described in section 4.2.1 of this application. The total variation of the reference TCXO frequency, including changes caused by ambient temperature, supply voltage variation, and aging of the crystal is specified to be less than 2.25 PPM. This TCXO performance results in a total variation of frequency in the 900 MHz ISM band of less than 2100 Hz from nominal frequency.

No pattern in response to the change in voltage could be identified. There were tens of hertz of noise (uncertainty) in the displayed frequency at all times. This frequency noise appears to have masked the effects of changing the supply voltage.

Frequency Error vs. Temperature and Battery Voltage @ 915.525 MHz

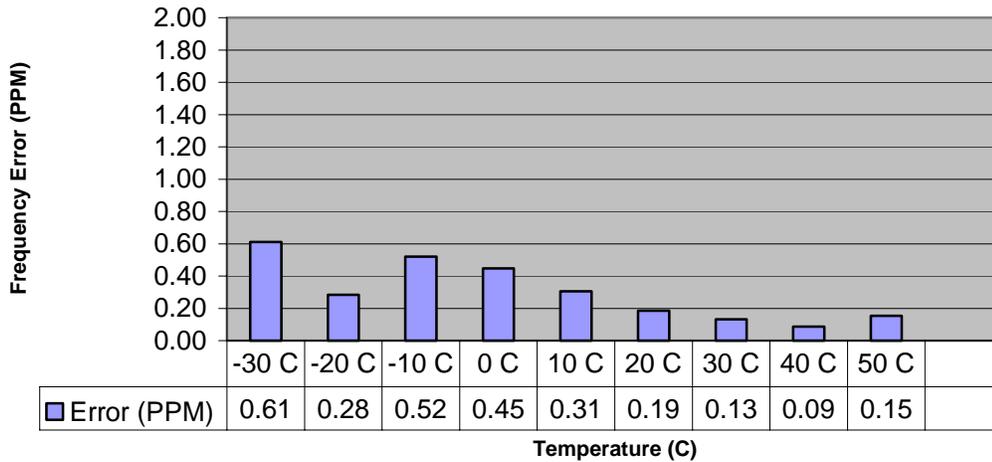


Figure 6-36: Transmitter Frequency Stability (900 MHz ISM band)- Frequency Error vs. Temperature and Voltage

Note: Total frequency variation is reported without separation of effects attributable to changing voltage supply to the transmitter being tested. The change of frequency due to changes in supply voltage could not be determined in the manual measurement made of this parameter. Random frequency variation, on the order of tens of hertz, were present in the measured frequency output. Close examination of frequency within the seconds around a voltage change did not reveal a reportable pattern associated with change in battery voltage. Test method is described in section 7.4.

6.9 Power Line Conducted Spurious Voltage -- Pursuant 47 CFR 15.207

Conducted voltage limits:

This radio product can transmit while resting in a battery charger that is connected to the AC power line only while in Land Mobile Mode. The ability to transmit in the ISM Band mode is disabled when the battery is charging. Figure 6-37 demonstrates compliance

with the cited limit. Each figure contains two measurement traces in addition to the two applicable limit lines, the higher being applicable to measurements utilizing a quasi-peak detector (QP Limit) and the lower being applicable to measurements utilizing an average detector (Average Limit). The upper data trace portrays the amplitude of the voltage measured at the phase line during sweeping with a peak detector. The lower trace represents the amplitude of the voltage measured at the neutral line.

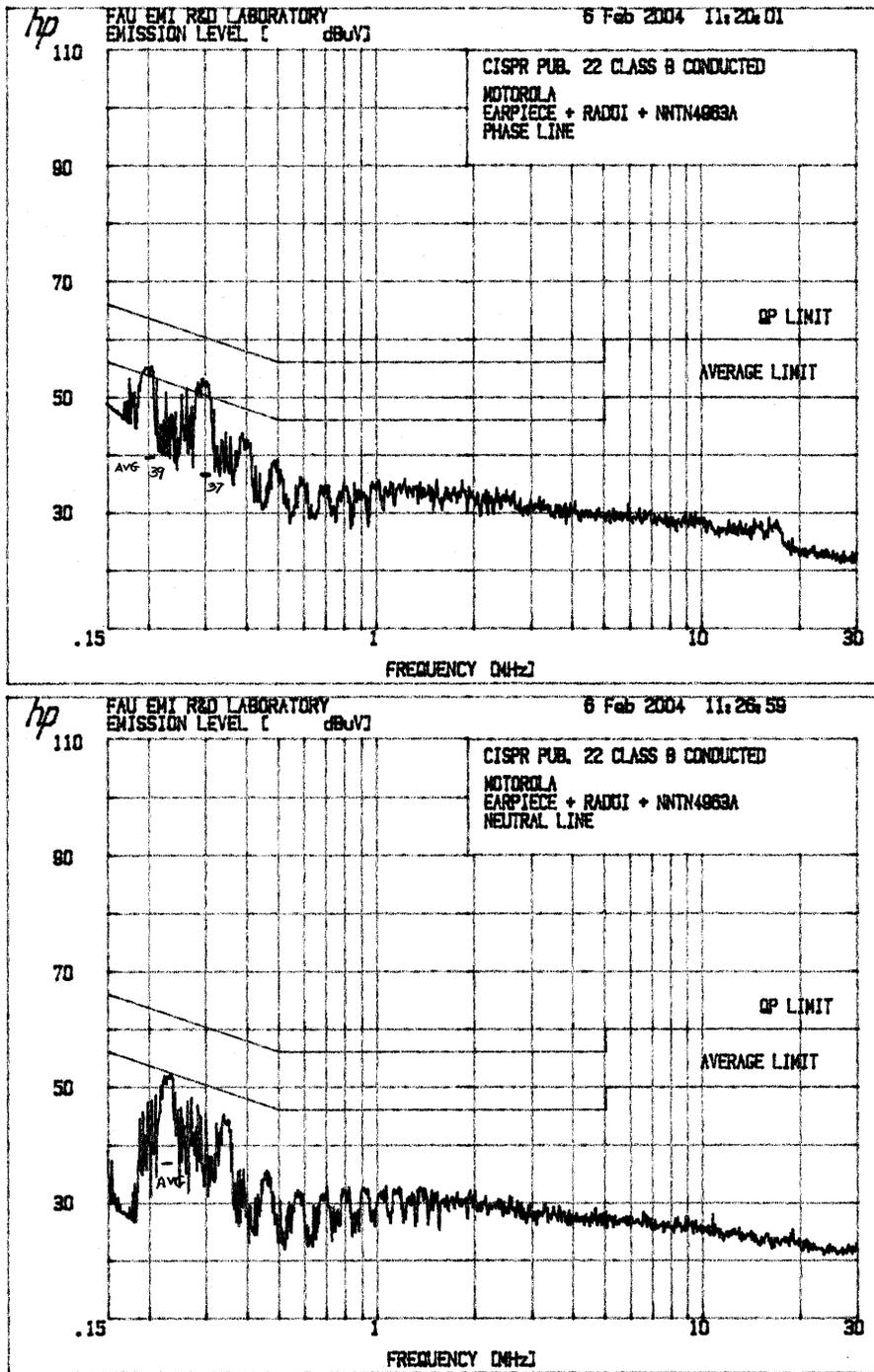


Figure 6-37: Phase and Neutral Line Voltage with a Peak and Average Detector (Radio in transmit mode at 806.0625 MHz)