

**EXHIBIT 6****INDEX OF SUBMITTED MEASURED DATA**

This exhibit contains the measured data for this equipment as follows:

**EXHIBIT 6A – RF Power Output****EXHIBIT 6B – Transmit Audio Frequency Response**

6B-1 –481.0125 MHz, 12.5 kHz Channel Spacing

6B-2 –481.0125 MHz, 25 kHz Channel Spacing

**EXHIBIT 6C – Transmit Audio Low Pass Filter Response**

6C-1 –481.0125 MHz, 12.5 kHz Channel Spacing

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**EXHIBIT 6D – Modulation Limiting**

6D-1 –481.0125 MHz, 12.5 kHz Channel Spacing

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**EXHIBIT 6E – Occupied Bandwidth**

6E-1: 481.0125 MHz, Channel Spacing: 12.5 kHz, Analog Voice: 11K0F3E Mask D

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**EXHIBIT 6F –Transmit Radiated Spurious Emissions**

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6F-2 - 5.6 W, 481.0125 MHz, 12.5 kHz Channel Spacing

6F-3 - 5.6 W, 511.9875 MHz, 12.5 kHz Channel Spacing

6F-4 - 5.6 W, 519.9875 MHz, 12.5 kHz Channel Spacing (Not for FCC Review)

6F-5 - 5.6 W, 450.0125 MHz, 25 kHz Channel Spacing (IC)

6F-6 - 5.6 W, 485.0125 MHz, 25 kHz Channel Spacing

6F-7 - 5.6 W, 511.9875 MHz, 25 kHz Channel Spacing

6F-8 - 5.6 W, 519.9875 MHz, 25 kHz Channel Spacing (Not for FCC Review)

**EXHIBIT 6G - Conducted Spurious Emissions**

6G-1 - 5.6 W, 450.0125 MHz, 12.5 kHz Channel Spacing

6G-2 - 5.6 W, 481.0125 MHz, 12.5 kHz Channel Spacing

6G-3 - 5.6 W, 511.9875 MHz, 12.5 kHz Channel Spacing

6G-4 - 5.6 W, 519.9875 MHz, 12.5 kHz Channel Spacing (Not for FCC Review)

**EXHIBIT 6H – Frequency Stability (Volt/Temp)**

6H-1 – 481.0125 MHz vs. Supply Voltage

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6I-1 – 481.0125 MHz, 12.5 kHz Channel Spacing – Transmitter On

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6I-3 – 481.0125 MHz, 25 kHz Channel Spacing – Transmitter On

6I-4 – 481.0125 MHz, 25 kHz Channel Spacing – Transmitter Off

\*\* Please note that the above data were taken following the procedures and limits outlined in TIA 603-D, TIA 102-CAA-C and RSS 119 during the month of June 2014. See Table 2 in Ex07\_test procedures

Radio model tested: H84SDH9PW7AN

**Important Note: The data in this test report meets or exceeds the technical requirements of FCC Rule Parts 90**

**EXHIBIT 6A****RF Conducted Output Power:****Frequency= 450.0125 MHz:**

Output RF power	1.00 Watts
DC Voltage	7.50 Volts
DC Current	0.88 Amps

Output RF power	5.60 Watts
DC Voltage	7.50 Volts
DC Current	1.85 Amps

**Frequency= 481.0125 MHz:**

Output RF power	1.00 Watts
DC Voltage	7.50 Volts
DC Current	0.82 Amps

Output RF power	5.60 Watts
DC Voltage	7.50 Volts
DC Current	1.76 Amps

**Frequency= 511.9875 MHz:**

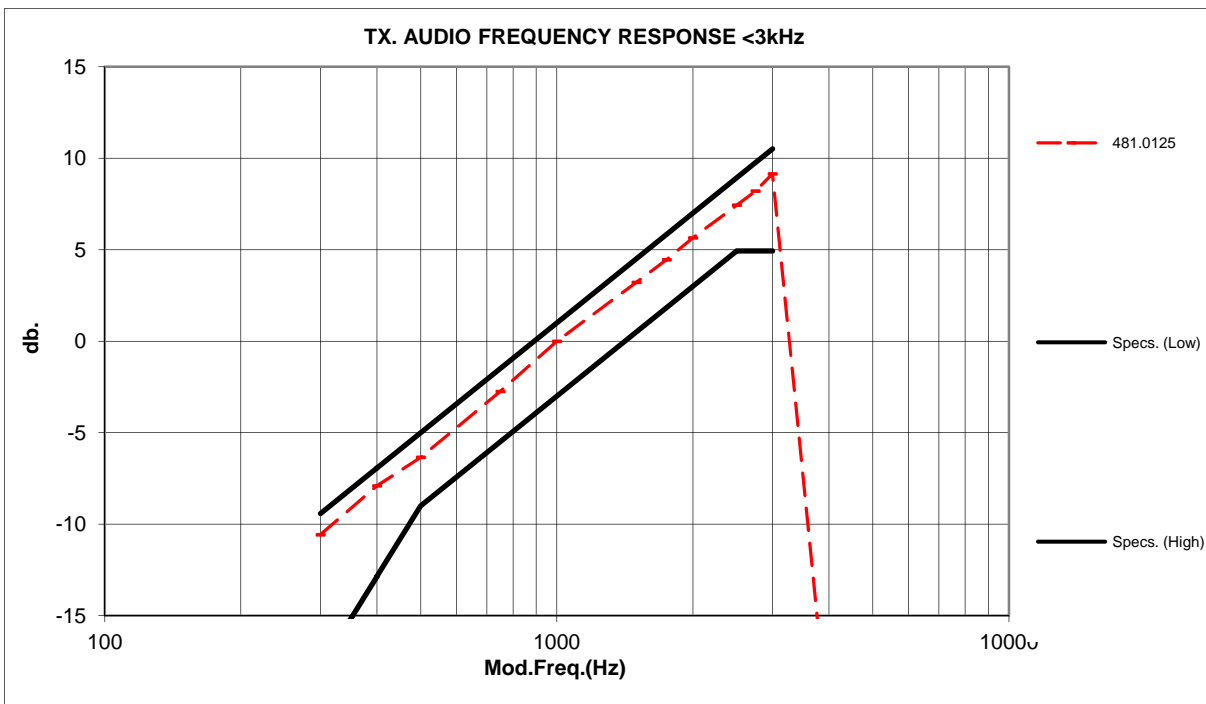
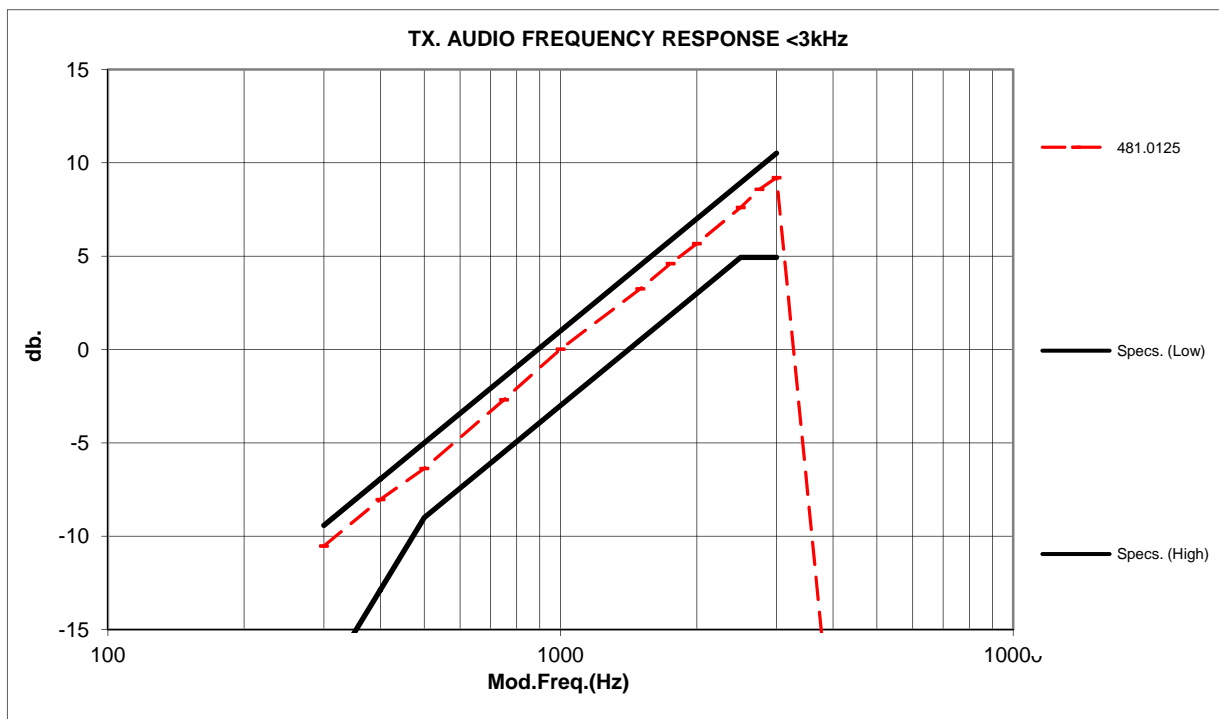
Output RF power	1.00 Watts
DC Voltage	7.50 Volts
DC Current	0.82 Amps

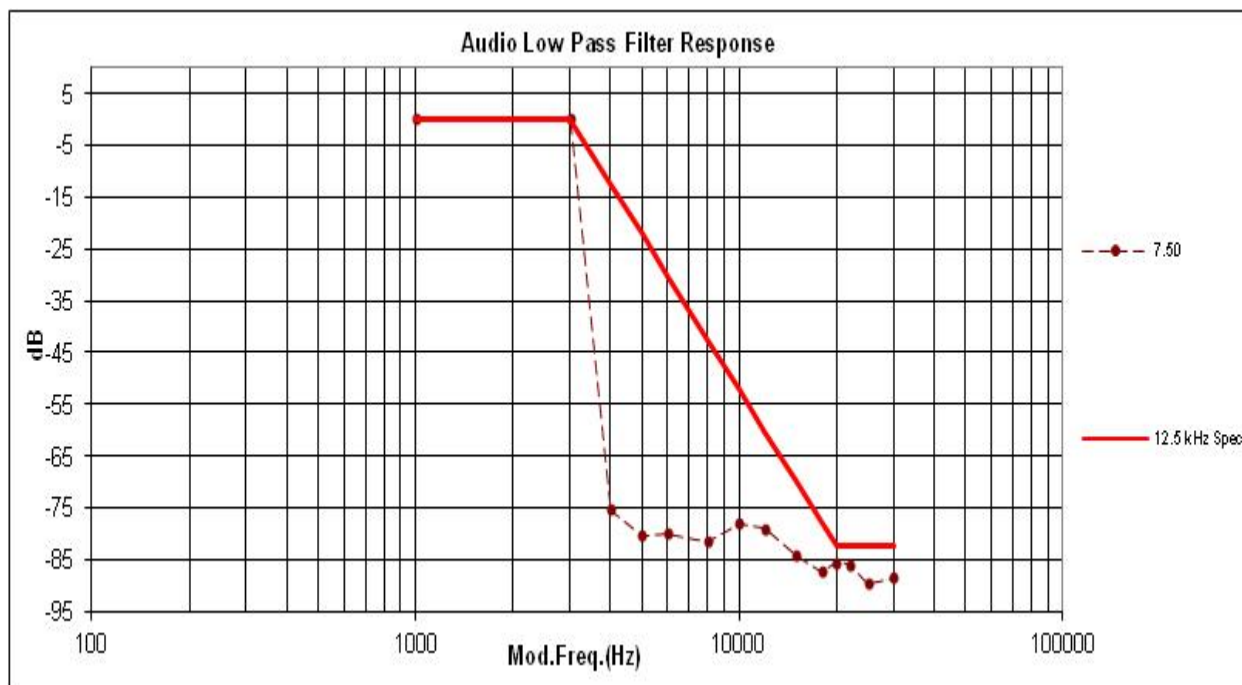
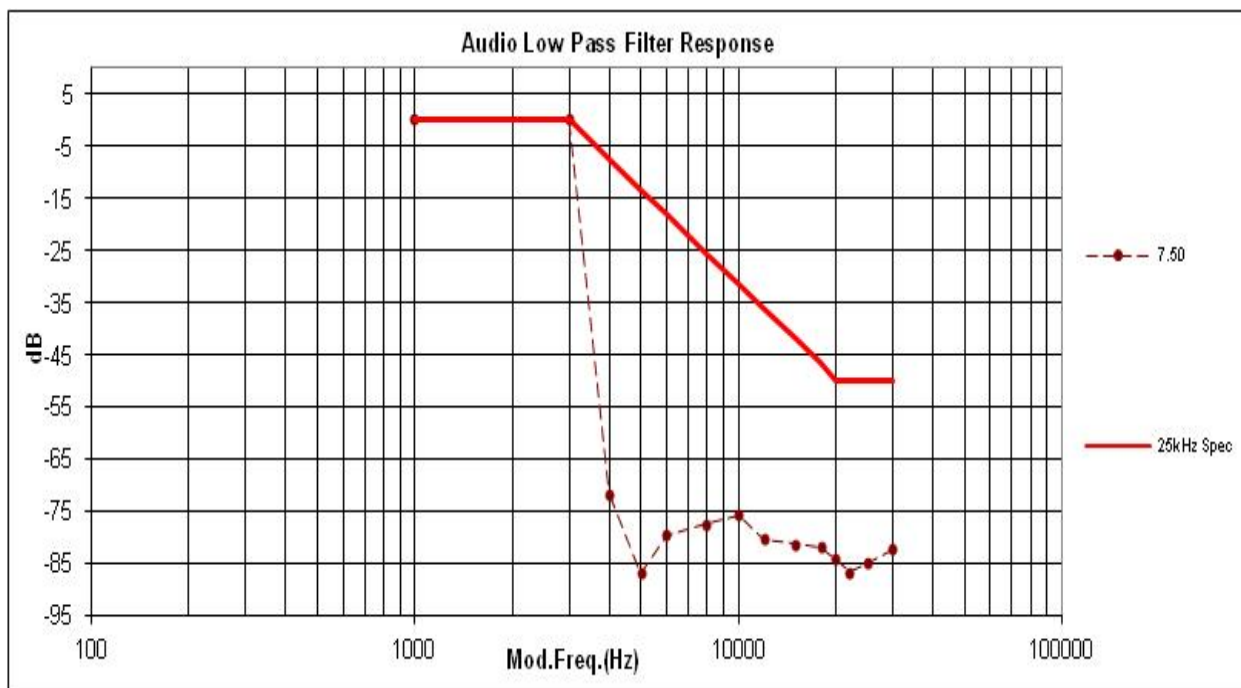
Output RF power	5.60 Watts
DC Voltage	7.50 Volts
DC Current	1.82 Amps

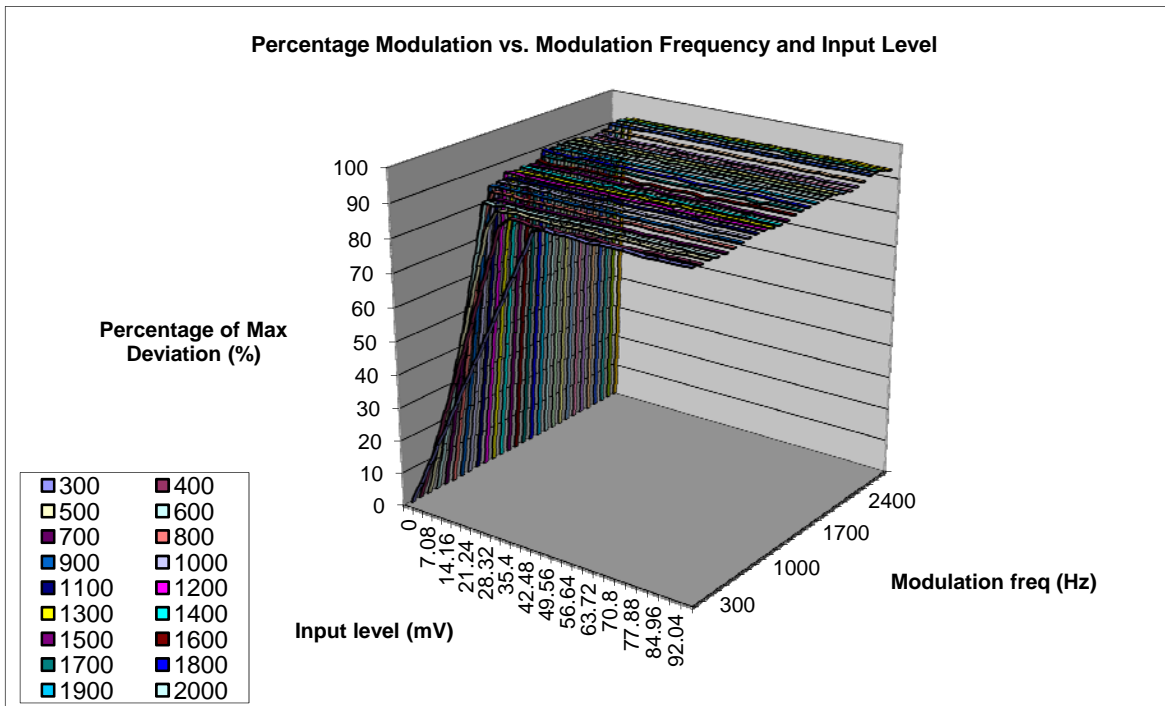
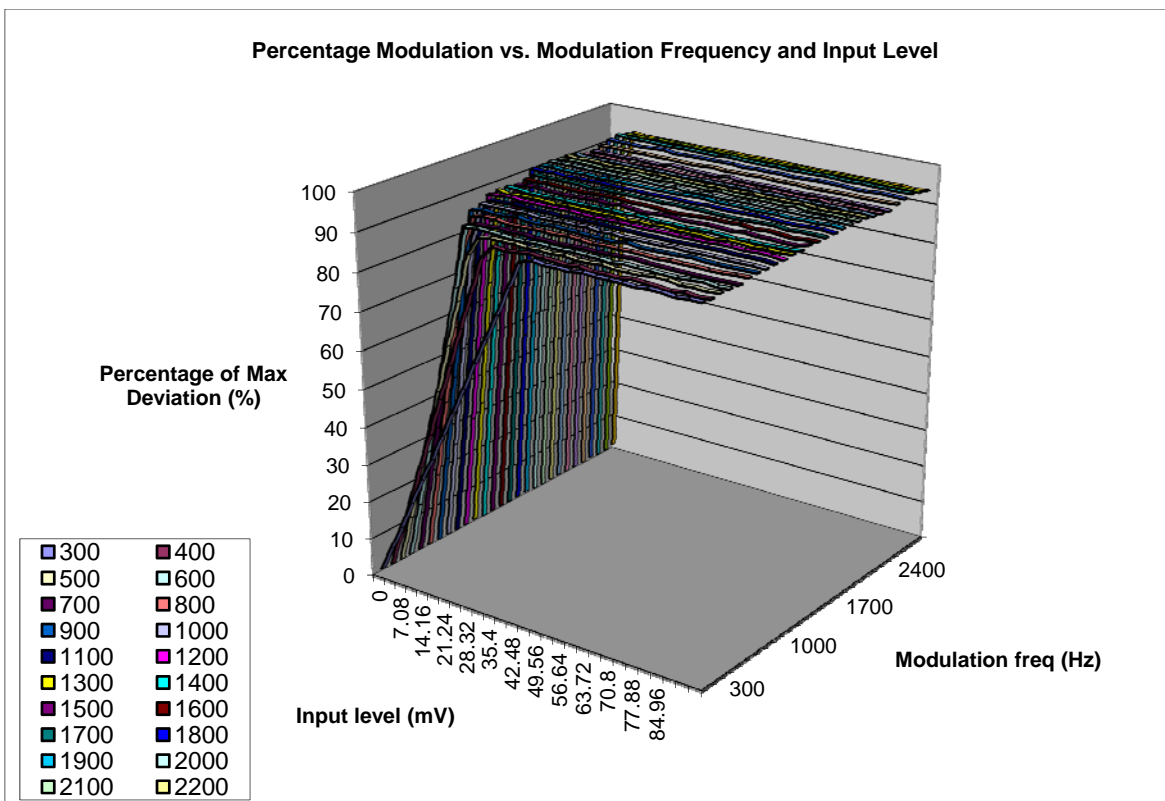
**Frequency= 519.9875 MHz:**

Output RF power	1.00 Watts
DC Voltage	7.50 Volts
DC Current	0.88 Amps

Output RF power	5.60 Watts
DC Voltage	7.50 Volts
DC Current	1.90 Amps

**EXHIBIT 6B****Transmit Audio Frequency Response****Figure 6B-1:** 12.5 kHz Channel Spacing, 481.0125 MHz, Transmit Audio Frequency Response**Figure 6B-2:** 25 kHz Channel Spacing, 481.0125 MHz, Transmit Audio Frequency Response

**EXHIBIT 6C****Transmit Audio Low Pass Filter Response****Figure 6C-1:** 12.5 kHz Channel Spacing, 481.0125 MHz, Transmit Audio Low Pass Filter Response**Figure 6C-2:** 25 kHz Channel Spacing, 481.0125 MHz, Transmit Audio Low Pass Filter Response

**EXHIBIT 6D****Modulation Limiting****Figure 6D-1: 12.5 kHz Channel Spacing, 481.0125 MHz, Modulation Limiting****Figure 6D-2: 25 kHz Channel Spacing, 481.0125 MHz, Modulation Limiting**

**EXHIBIT 6E****BANDWIDTH CALCULATIONS:**

Carson's Rule for FM modulation is utilized to compute the bandwidth shown in the FCC emission designator. Carson's Rule is:

$$BW = 2 * (M + D) \quad \text{where: } BW = \text{Bandwidth}$$

M= Maximum modulating frequency

D = Deviation

Shown below are the calculations required for FCC ID: **AZ489FT4920**.

**EXHIBIT 6E-1****Standard Audio Modulation (12.5 kHz Channelization, Analog Voice):**

Emission Designator 11K0F3E

In this case, the maximum modulating frequency is 3.0 kHz with a 2.5 kHz deviation.

$$BW = 2(M+D) = 2*(3.0 \text{ kHz} + 2.5 \text{ kHz}) = 11 \text{ kHz} \Rightarrow 11K0$$

F3E portion of the designator indicates voice.

Therefore, the entire designator for 12.5 kHz channelization analog voice is 11K0F3E.

**EXHIBIT 6E-2****Standard Audio Modulation (25 kHz Channelization, Analog Voice):**

Emission Designator 16K0F3E

In this case, the maximum modulating frequency is 3 kHz with a 5 kHz deviation.

$$BW = 2(M+D) = 2*(3 \text{ kHz} + 5 \text{ kHz}) = 16 \text{ kHz} \Rightarrow 16K0$$

F3E portion of the designator indicates voice.

Therefore, the entire designator for 25 kHz channelization analog voice is 16K0F3E.

**EXHIBIT 6E-3****Digital (12.5 kHz Channelization, Digital Data):**

Emission Designator 8K10F1D

The 99% energy rule (title 47CFR 2.1049 (h)) was used for digital mode and is more accurate than Carson's rule. It basically states that 99% of the modulation energy falls within X kHz, in this case, 8.10 kHz. Measurements were performed in accordance with TIA/EIA 102.CAAB Section 3.2.5. The emission mask was obtained from 47CFR 90.210(d).

F1D portion of the designator indicates digital data.

Therefore, the entire designator for 12.5 kHz channelization digital data is 8K10F1D.

**EXHIBIT 6E-4****Digital (12.5 kHz Channelization, Digital Voice):**

Emission Designator 8K10F1E

The 99% energy rule (title 47CFR 2.1049 (h)) was used for digital mode and is more accurate than Carson's rule. It basically states that 99% of the modulation energy falls within X kHz, in this case, 8.10 kHz. Measurements were performed in accordance with TIA/EIA 102.CAAB Section 3.2.5. The emission mask was obtained from 47CFR 90.210(d).

F1E portion of the designator indicates digital voice.

Therefore, the entire designator for 12.5 kHz channelization digital voice is 8K10F1E.

**EXHIBIT 6E-5**

**Digital (12.5 kHz Channelization, Digital TDMA):**

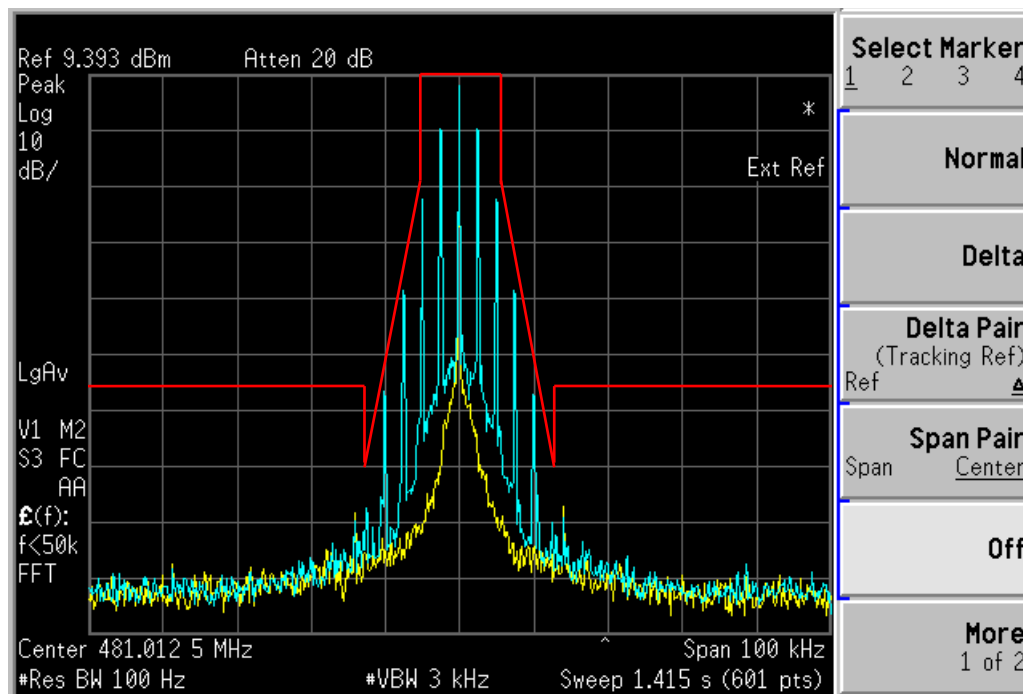
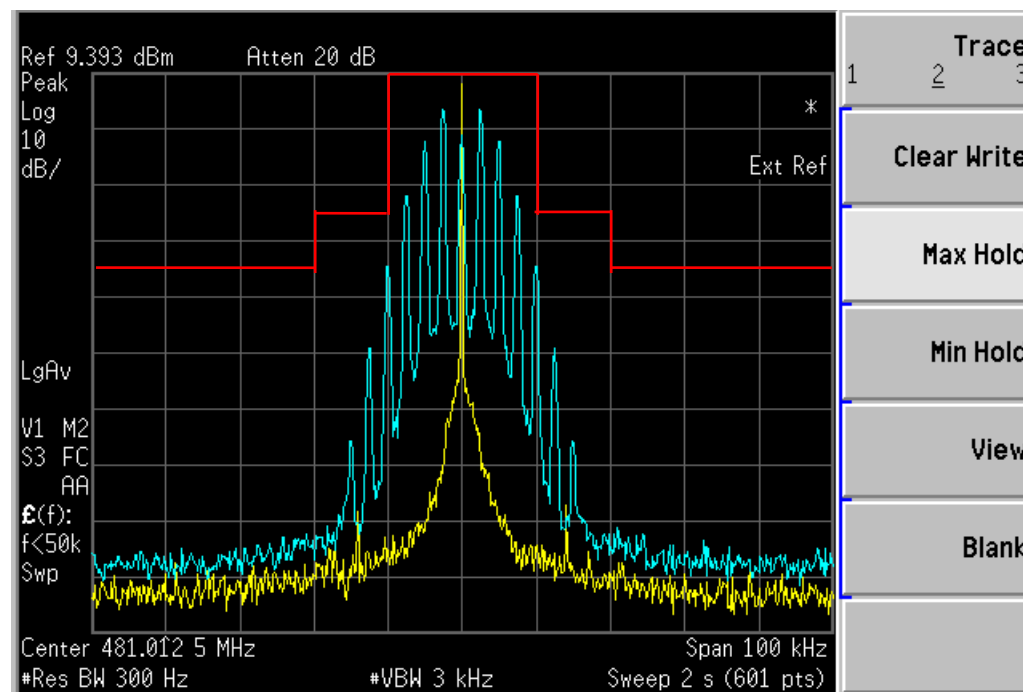
Emission Designator 8K10F1W

The 99% energy rule (title 47CFR 2.1049 (h)) was used for digital mode and is more accurate than Carson's rule. It basically states that 99% of the modulation energy falls within X kHz, in this case, 8.10 kHz. Measurements were performed in accordance with TIA/EIA 102.CAAB Section 3.2.5. The emission mask was obtained from 47CFR 90.210(d).

F1W portion of the designator indicates digital TDMA.

Therefore, the entire designator for 12.5 kHz channelization digital TDMA is 8K10F1W.



**Occupied Bandwidth Data****Figure 6E-1:** 481.0125MHz, Channel Spacing:12.5 kHz, Analog Voice: 11K0F3E, Mask D**Figure 6E-2:** 481.0125MHz, Channel Spacing: 25 kHz, Analog Voice: 16K0F3E, Mask B

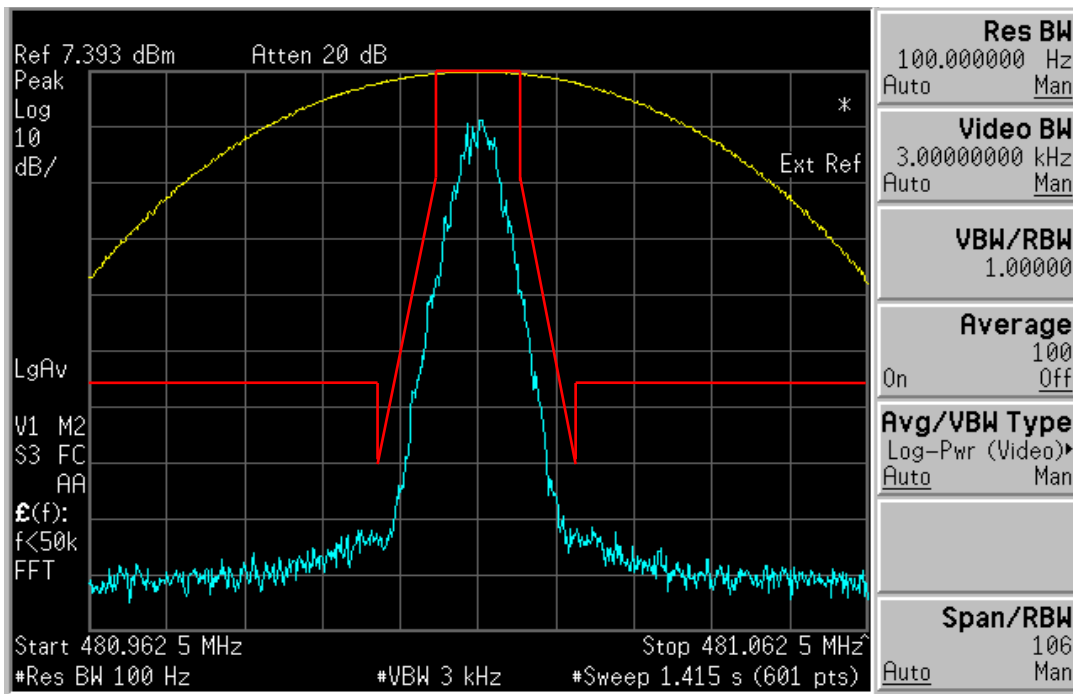


Figure 6E-3: 481.0125MHz, Channel Spacing: 12.5 kHz, Digital Voice: 8K10F1E Mask D

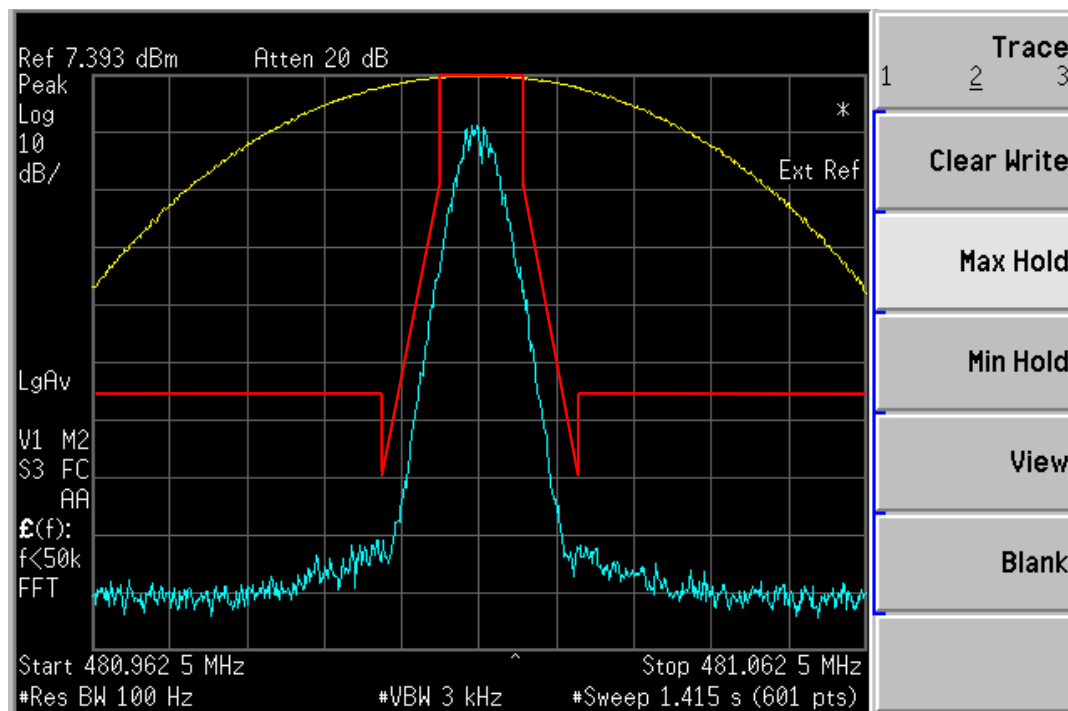
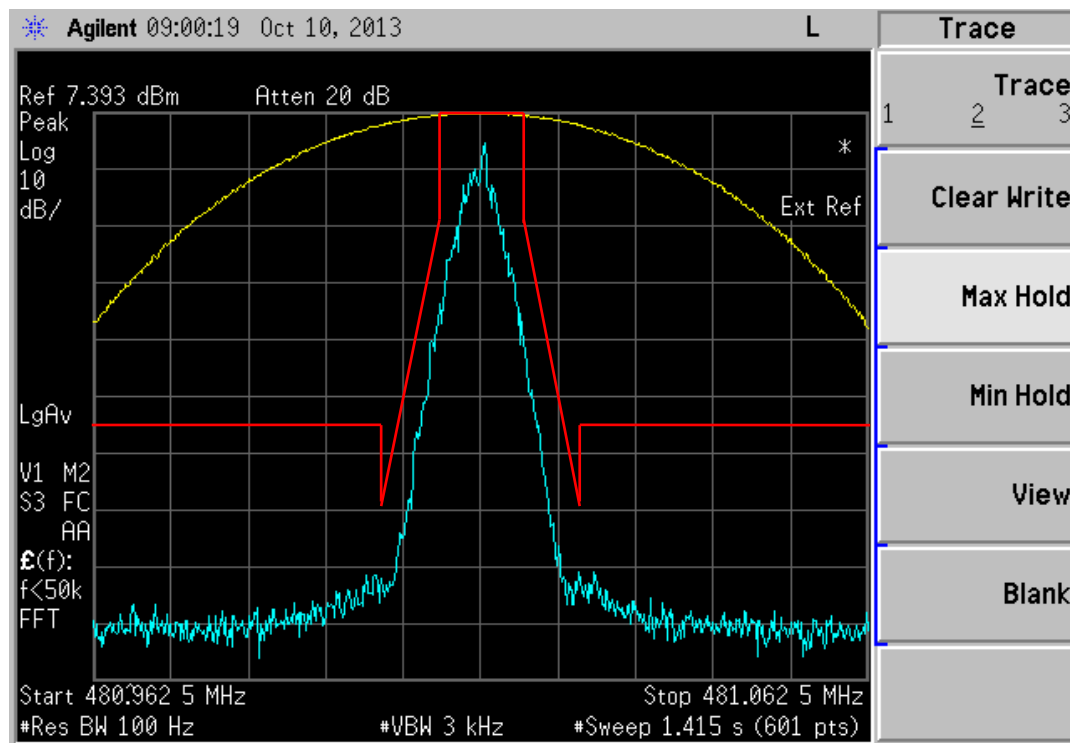


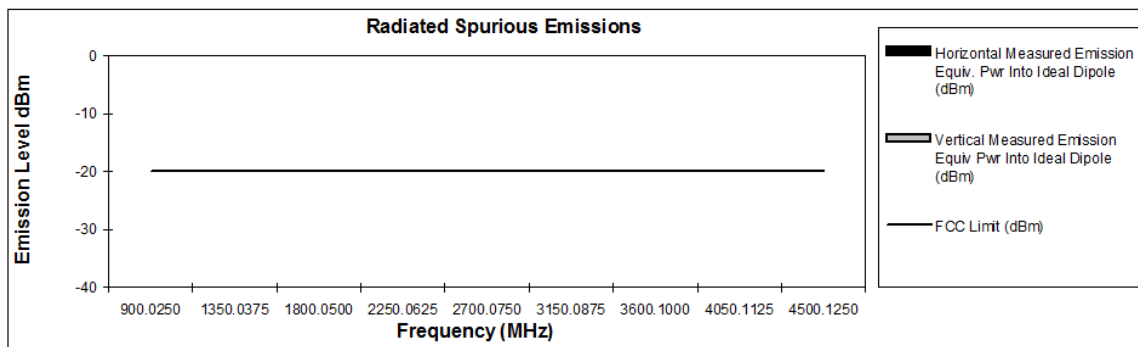
Figure 6E-4: 481.0125MHz, Channel Spacing: 12.5 kHz, Digital Data: 8K10F1D Mask D



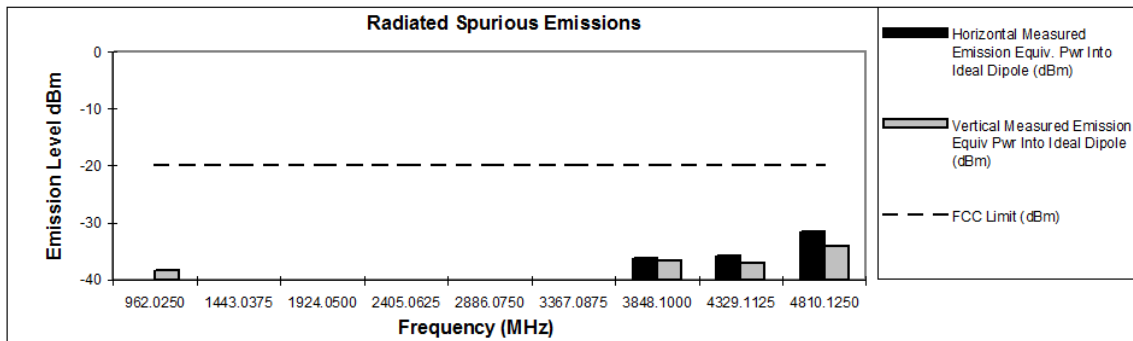
**Figure 6E-5:** 481.0125MHz, Channel Spacing: 12.5 kHz, Digital TDMA: 8K10F1W Mask D

**EXHIBIT 6F****Transmitter Radiated Spurious Emissions****Tx Power: 5.6 Watts****450.0125 MHz****Channel Spacing 12.5kHz | S/N 837TQH0077**

Frequency (MHz)	FCC Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
900.0250	-20	*	*
1350.0375	-20	*	*
1800.0500	-20	*	*
2250.0625	-20	*	*
2700.0750	-20	*	*
3150.0875	-20	*	*
3600.1000	-20	*	*
4050.1125	-20	*	*
4500.1250	-20	*	*

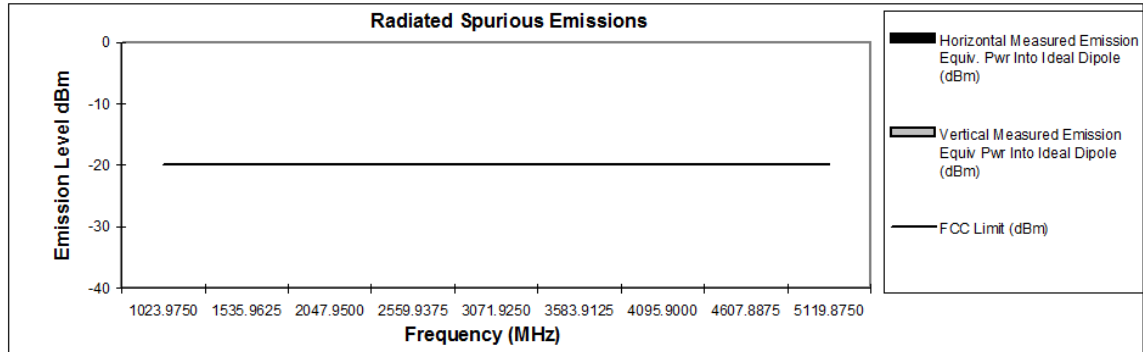
**Figure 6F-1: 5.60W 450.0125 MHz, 12.5 kHz Channel Spacing****Tx Power: 5.6 Watts****481.0125 MHz****Channel Spacing 12.5kHz | S/N 837TQH0077**

Frequency (MHz)	FCC Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
962.0250	-20	*	-38.27
1443.0375	-20	*	*
1924.0500	-20	*	*
2405.0625	-20	*	*
2886.0750	-20	*	*
3367.0875	-20	*	*
3848.1000	-20	-36.23	-36.59
4329.1125	-20	-35.82	-37.13
4810.1250	-20	-31.49	-34.14

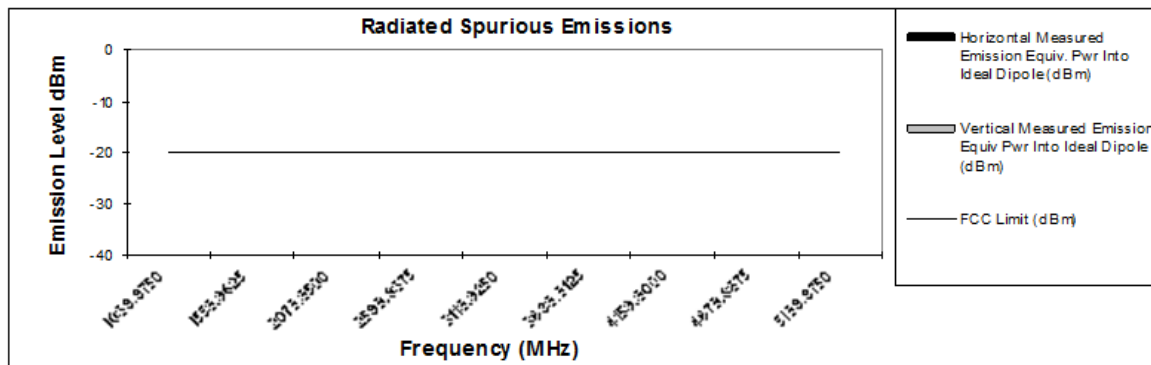
**Figure 6F-2: 5.60W 481.0125 MHz, 12.5 kHz Channel Spacing**

**Tx Power: 5.6 Watts****511.9875 MHz****Channel Spacing 12.5kHz | S/N 837TQH0077**

Frequency (MHz)	FCC Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1023.9750	-20	*	*
1535.9625	-20	*	*
2047.9500	-20	*	*
2559.9375	-20	*	*
3071.9250	-20	*	*
3583.9125	-20	*	*
4095.9000	-20	*	*
4607.8875	-20	*	*
5119.8750	-20	*	*

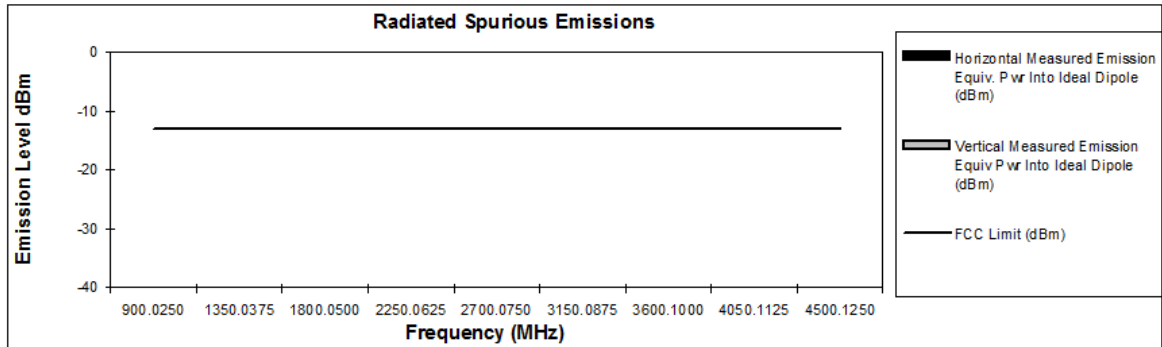
**Figure 6F-3: 5.60W 511.9875 MHz, 12.5 kHz Channel Spacing****Tx Power: 5.6 Watts****519.9875 MHz****Channel Spacing 12.5kHz | S/N 837TQH0077**

Frequency (MHz)	FCC Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)
1039.9750	-20	*	*
1559.9625	-20	*	*
2079.9500	-20	*	*
2599.9375	-20	*	*
3119.9250	-20	*	*
3639.9125	-20	*	*
4159.9000	-20	*	*
4679.8875	-20	*	*
5199.8750	-20	*	*

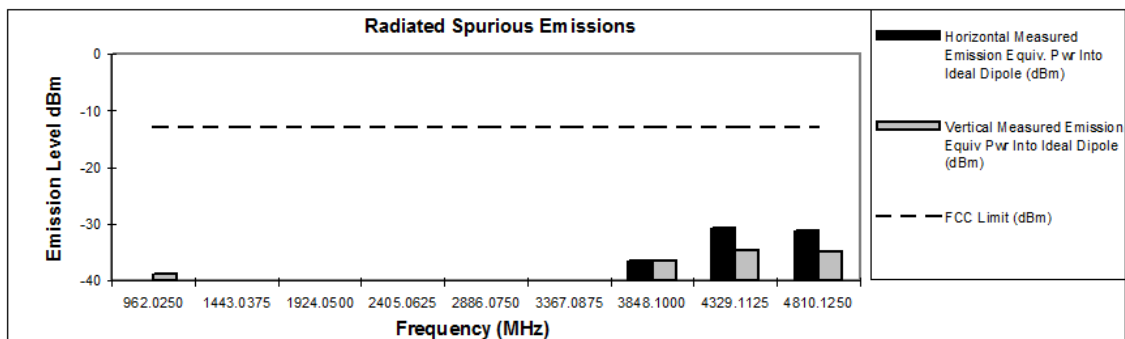
**Figure 6F-4: 5.60W 519.9875 MHz, 12.5 kHz Channel Spacing (Not for FCC Review)**

**Tx Power: 5.6 Watts****450.0125 MHz****Channel Spacing 25kHz | S/N 837TQH0077**

Frequency (MHz)	FCC Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
900.0250	-13	*	*
1350.0375	-13	*	*
1800.0500	-13	*	*
2250.0625	-13	*	*
2700.0750	-13	*	*
3150.0875	-13	*	*
3600.1000	-13	*	*
4050.1125	-13	*	*
4500.1250	-13	*	*

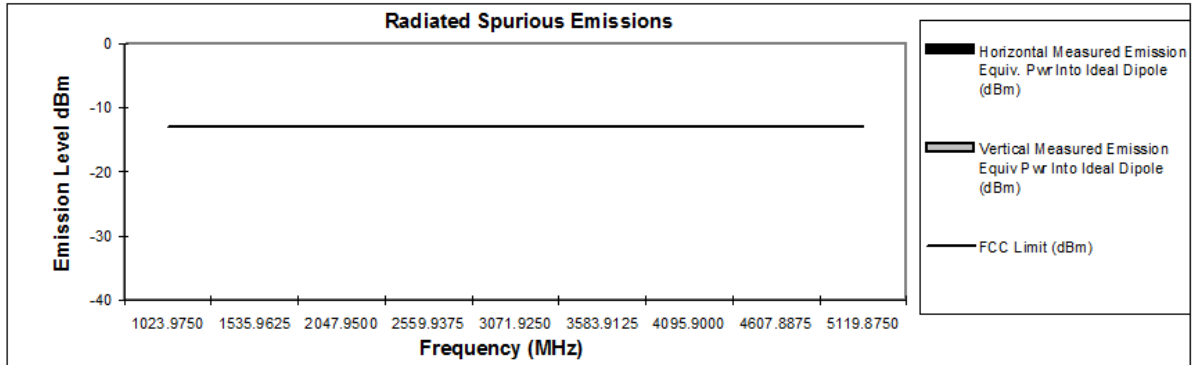
**Figure 6F-5: 5.60W 450.0125 MHz, 25 kHz Channel Spacing****Tx Power: 5.6 Watts****481.0125 MHz****Channel Spacing 25kHz | S/N 837TQH0077**

Frequency (MHz)	FCC Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
962.0250	-13	*	-38.95
1443.0375	-13	*	*
1924.0500	-13	*	*
2405.0625	-13	*	*
2886.0750	-13	*	*
3367.0875	-13	*	*
3848.1000	-13	-36.58	-36.53
4329.1125	-13	-30.64	-34.64
4810.1250	-13	-31.18	-34.96

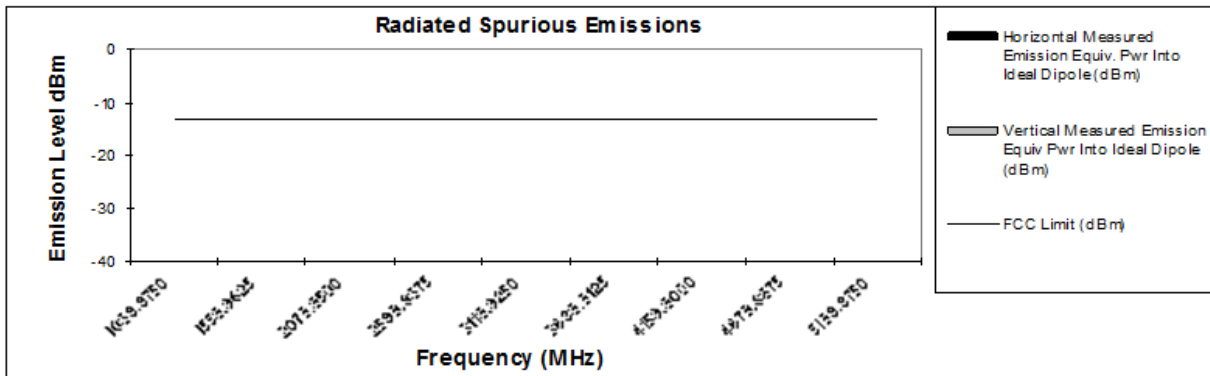
**Figure 6F-6: 5.60W 481.0125 MHz, 25 kHz Channel Spacing**

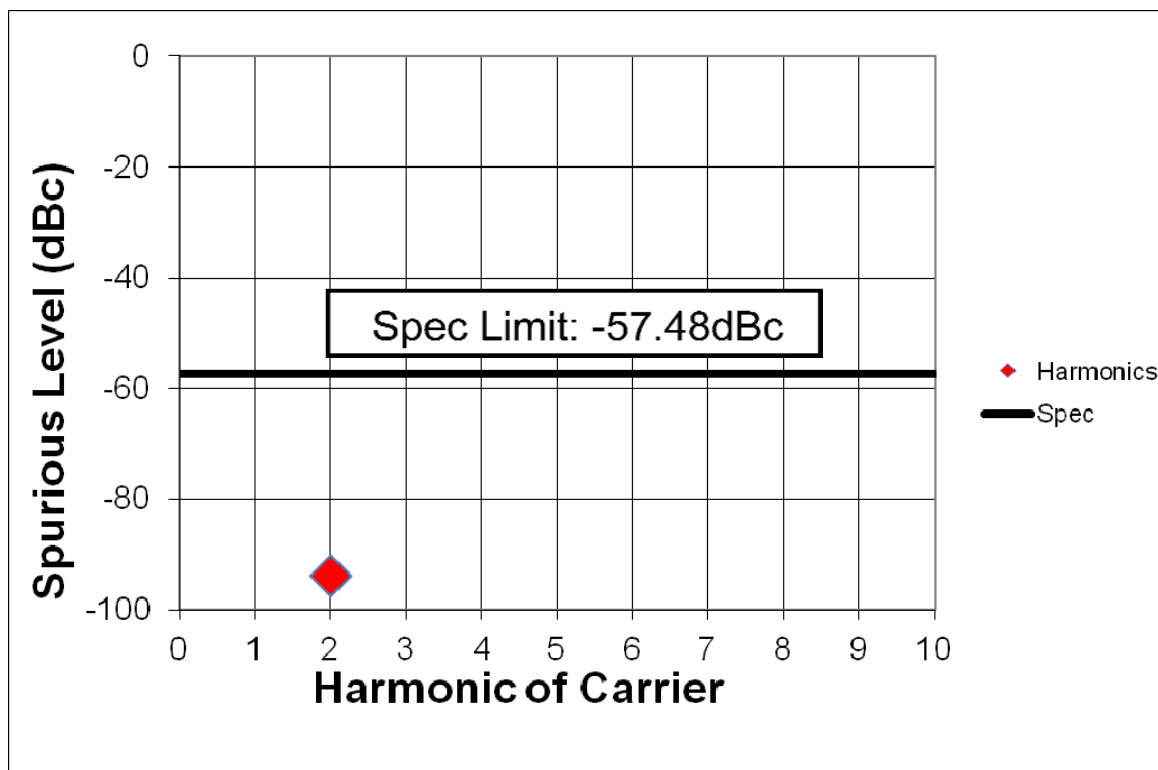
**Tx Power: 5.6 Watts****511.9875 MHz****Channel Spacing 25kHz | S/N 837TQH0077**

Frequency (MHz)	FCC Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1023.9750	-13	*	*
1535.9625	-13	*	*
2047.9500	-13	*	*
2559.9375	-13	*	*
3071.9250	-13	*	*
3583.9125	-13	*	*
4095.9000	-13	*	*
4607.8875	-13	*	*
5119.8750	-13	*	*

**Figure 6F-7: 5.60W 511.9875 MHz, 25 kHz Channel Spacing****Tx Power: 5.6 Watts****519.9875 MHz****Channel Spacing 25kHz | S/N 837TQH0077**

Frequency (MHz)	FCC Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1039.9750	-13	*	*
1559.9625	-13	*	*
2079.9500	-13	*	*
2599.9375	-13	*	*
3119.9250	-13	*	*
3639.9125	-13	*	*
4159.9000	-13	*	*
4679.8875	-13	*	*
5199.8750	-13	*	*

**Figure 6F-8: 5.60W 519.9875 MHz, 25 kHz Channel Spacing (Not for FCC Review)**

**EXHIBIT 6G - Conducted Spurious Emissions****Figure 6G-1:** 5.60W 450.0125 MHz, 12.5 kHz Channel Spacing**Figure 6G-2:** 5.60W 481.0125 MHz, 12.5 kHz Channel Spacing



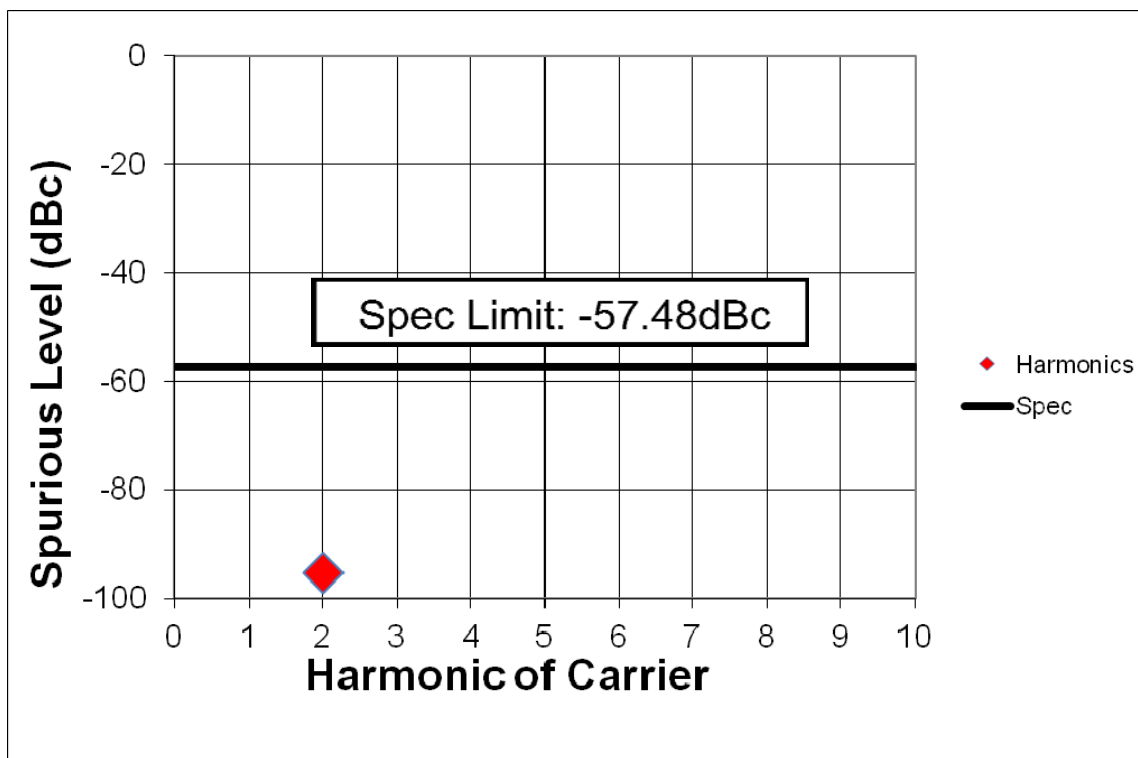


Figure 6G-3: 5.60W 511.9875 MHz, 12.5 kHz Channel Spacing

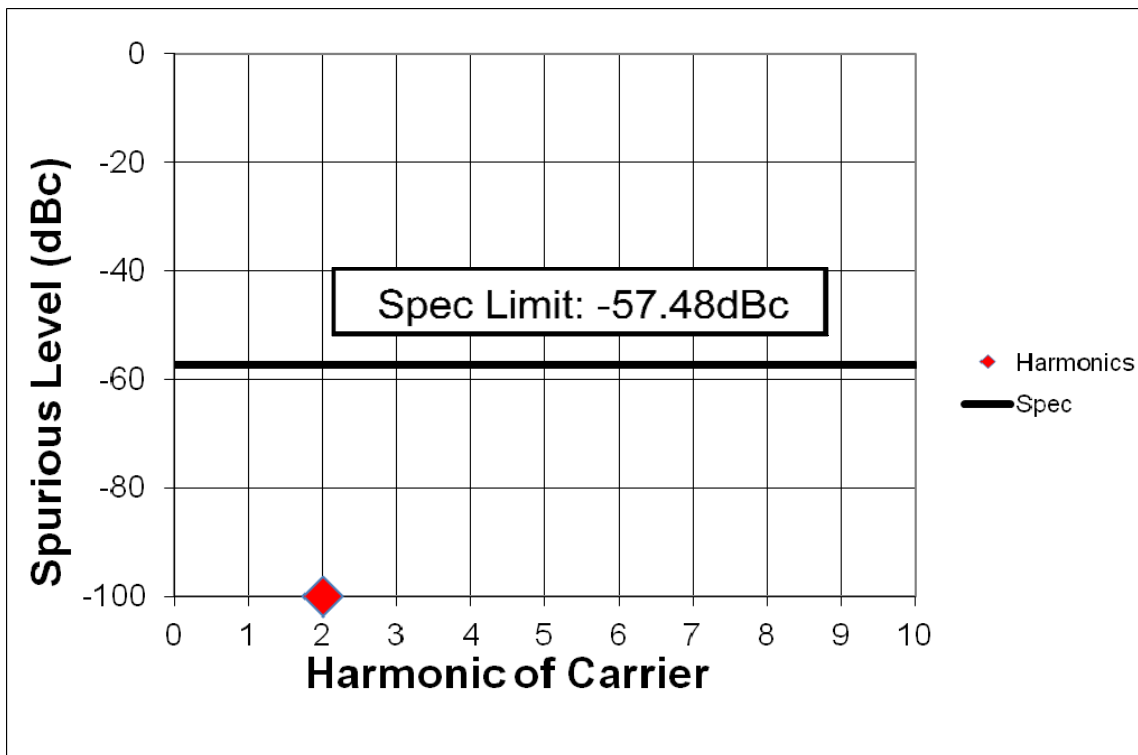
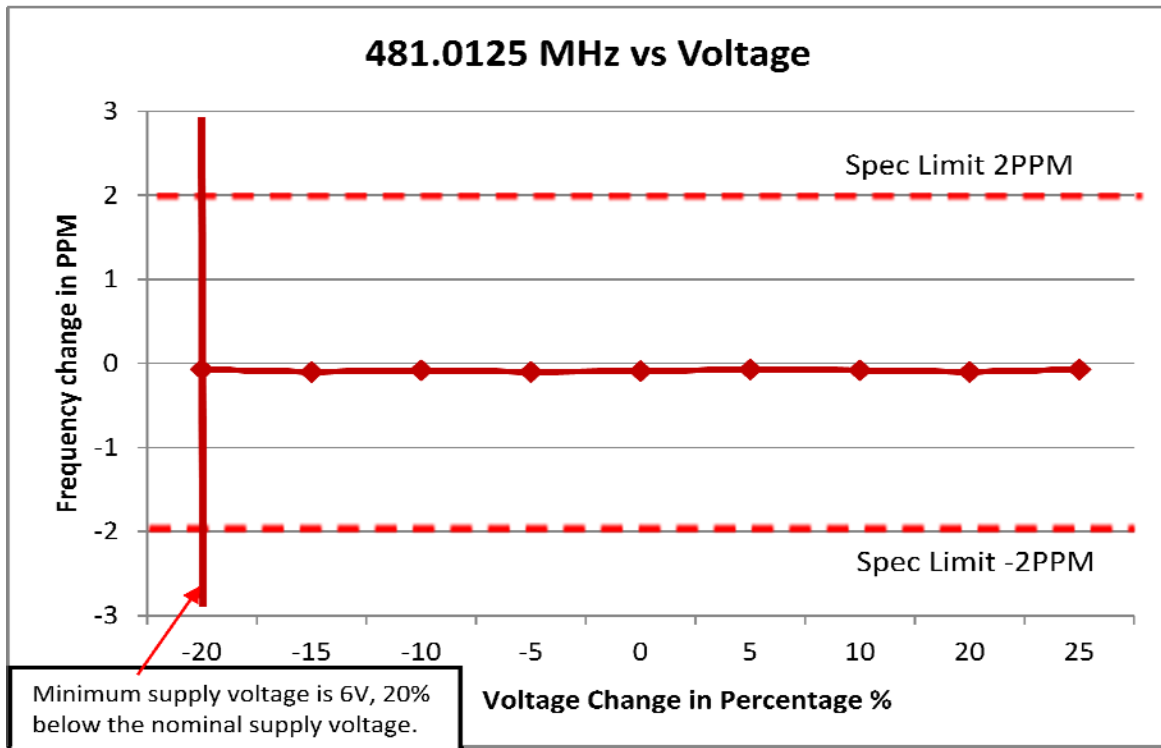
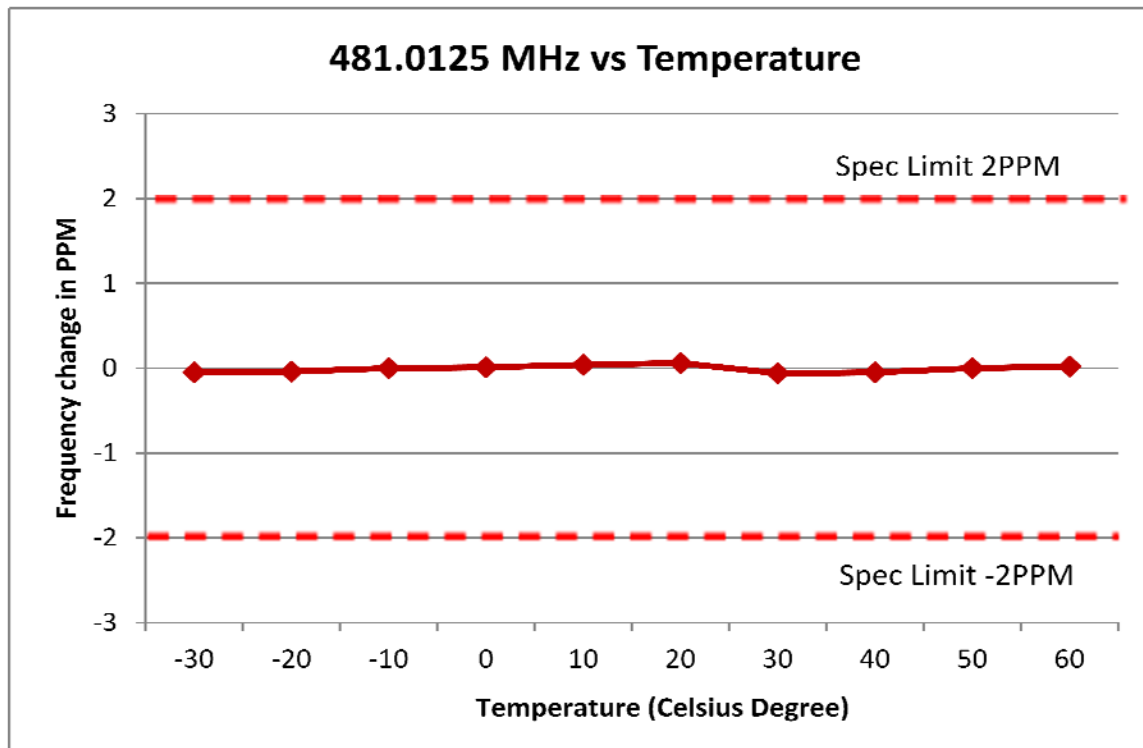
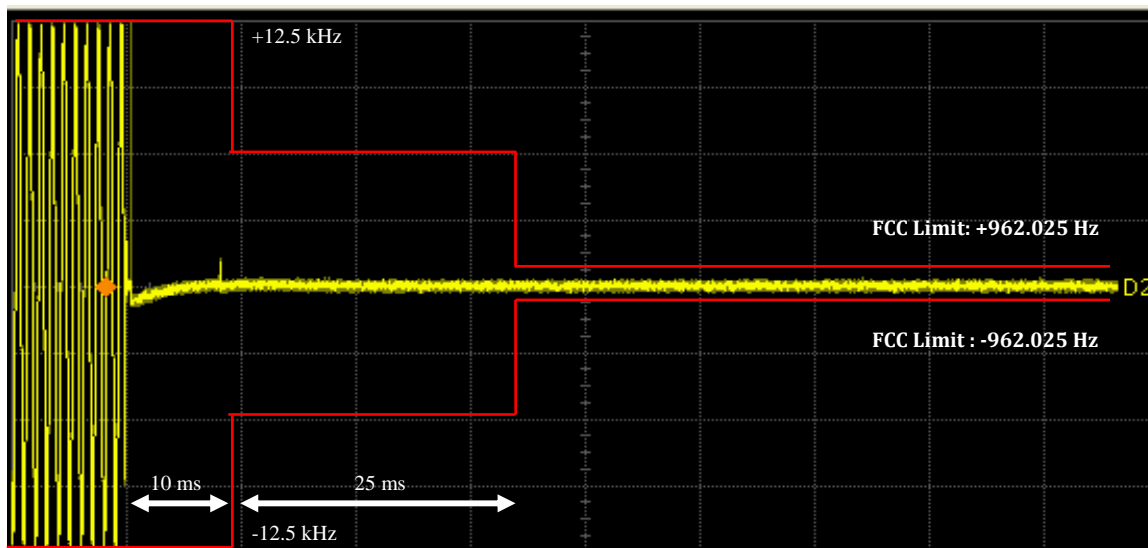
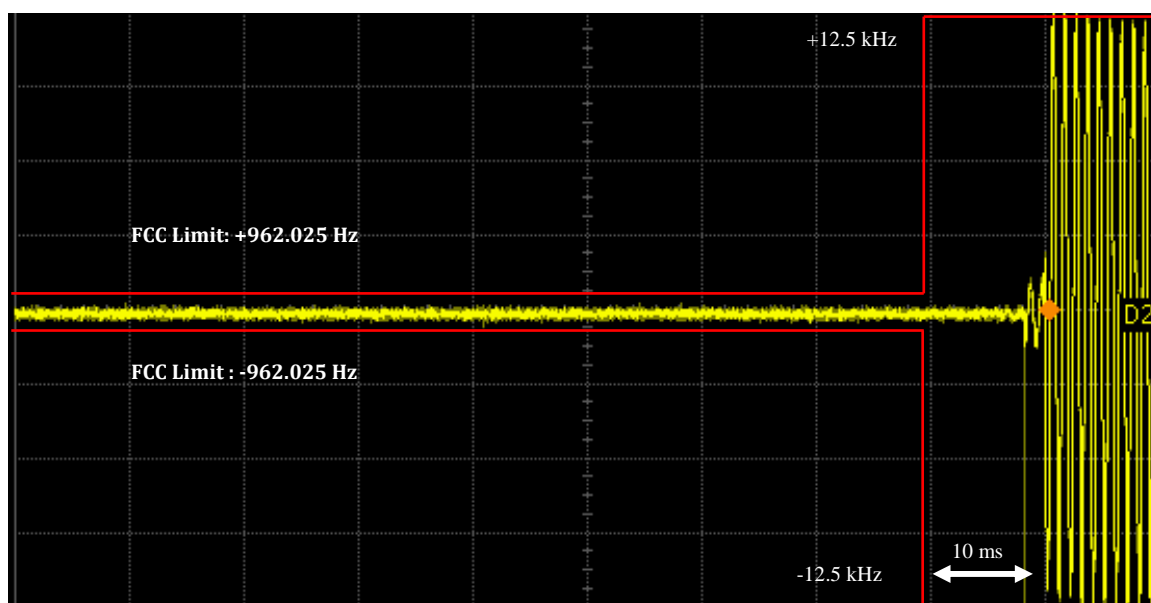


Figure 6G-4: 5.60W 519.9875 MHz, 12.5 kHz Channel Spacing (Not for FCC Review)

**EXHIBIT 6H****Frequency Stability (Volt/Temp)****Figure 6H-1: 2.0 ppm Frequency Stability vs. Supply Voltage****Figure 6H-2: 2.0 ppm Frequency Stability vs. Temperature**

**EXHIBIT 6I****Transient Frequency Behavior**

**Figure 6I-1:** TX 481.0125 MHz - 12.5 KHz Channel Spacing – Transmitter On



**Figure 6I-2:** TX 481.025 MHz - 12.5 KHz Channel Spacing – Transmitter Off

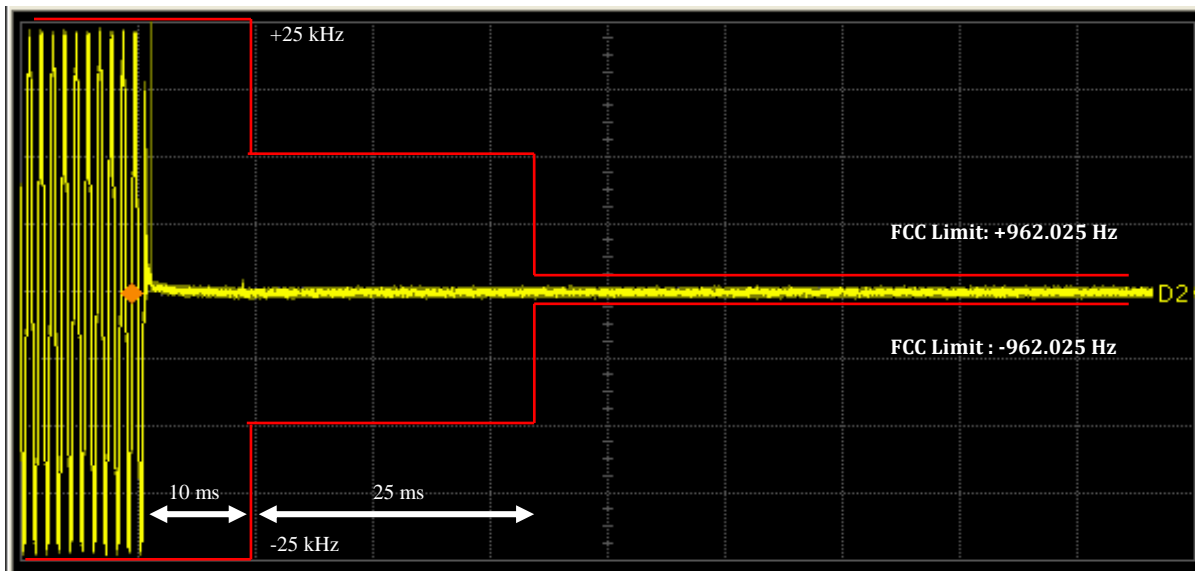


Figure 6I -3: TX 481.025 MHz – 25 KHz Channel Spacing – Transmitter On

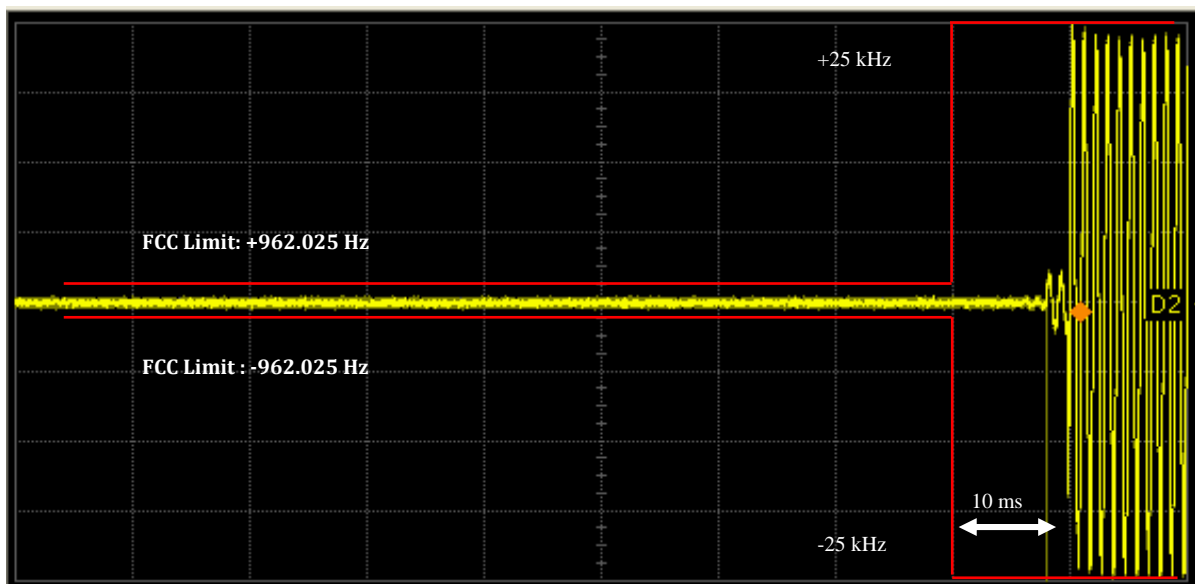


Figure 6I-4: TX 481.025 MHz – 25 KHz Channel Spacing – Transmitter Off