

EXHIBIT 6

INDEX OF SUBMITTED MEASURED DATA

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

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TDMA- F2

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6H-1 – Frequency Stability vs. Temperature
6H-2 – Frequency Stability vs. Supply Voltage

EXHIBIT 6I- Transient Frequency Behavior

Analog Mode

Figure 6I-1: Transient Frequency Behavior, 155.0125MHz, 25 kHz Channel Spacing, Key Up Transient
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Figure 6I-4: Transient Frequency Behavior, 155.0125MHz, 12.5 kHz Channel Spacing, De-Key Transient

EXHIBIT 6A

RF Conducted Power Output Data -- Pursuant 47 CFR 2.1046(a), 2.1033(c)(6), 2.1033(c)(7) and 2.1033(c)(8)

The RF power output was measured with the indicated voltage applied to and current into the final RF amplifying device (Q403).

At maximum output power setting, Frequency 136.0125 MHz:

Output RF power	60.0 Watts
DC Voltage	13.6 Volts
DC Current	9.378 A

At minimum output power setting, Frequency 136.0125 MHz:

Output RF power	11 Watts
DC Voltage	13.6Volts
DC Current	4.34 A

At maximum output power setting, Frequency 155.0125 MHz:

Output RF power	60.1 Watts
DC Voltage	13.6 Volts
DC Current	7.90 A

At minimum output power setting, Frequency 155.0125 MHz:

Output RF power	11.02 Watts
DC Voltage	13.6 Volts
DC Current	3.66 A

At maximum output power setting, Frequency 173.9875 MHz:

Output RF power	60.0 Watts
DC Voltage	13.6 Volts
DC Current	8.70 A

At minimum output power setting, Frequency 173.9875 MHz:

Output RF power	11.01 Watts
DC Voltage	13.6 Volts
DC Current	4.01 A

EXHIBIT 6B
Transmit Audio Frequency Response - Pursuant 47 CFR 2.1047 and 2.1033(c)(13)

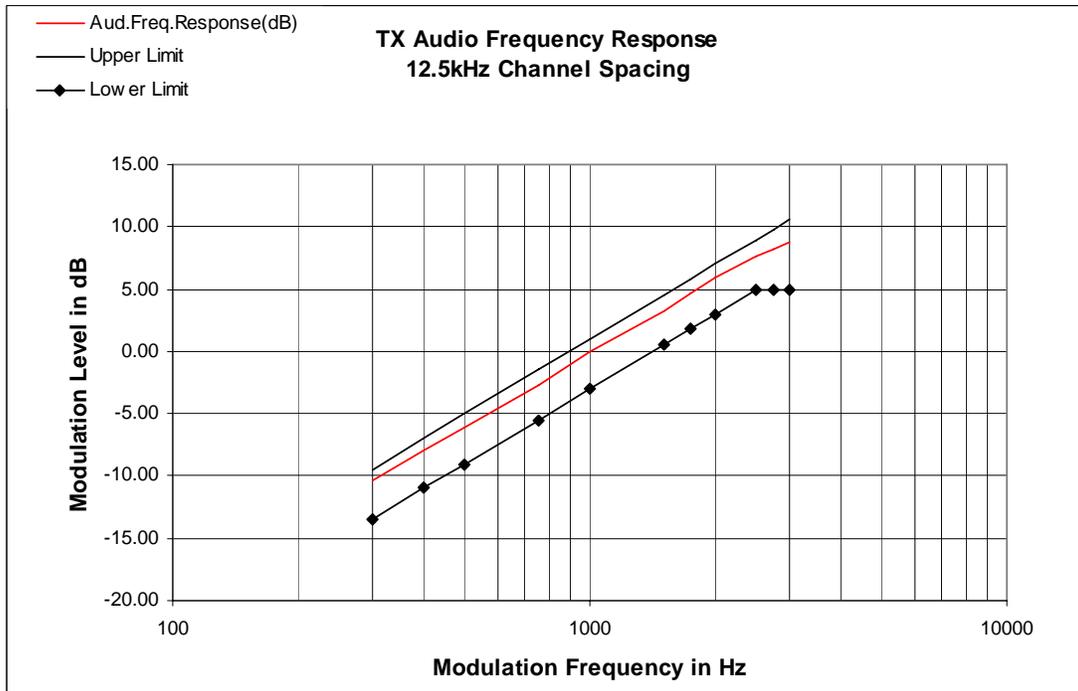


Figure 6B-1: 12.5 kHz Channel Spacing, 155.0125 MHz, Transmit Audio Frequency Response

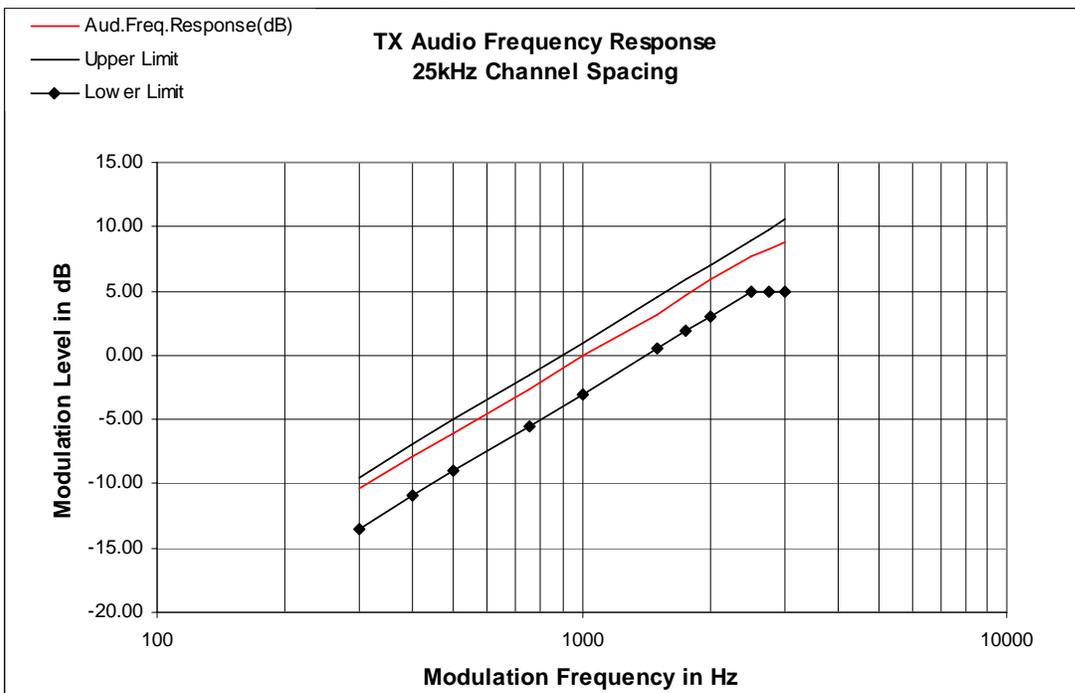


Figure 6B-2: 25 kHz Channel Spacing, 155.0125 MHz, Transmit Audio Frequency Response

EXHIBIT 6C
Transmit Audio Post Limiter Low Pass Filter Response - Pursuant 47 CFR 2.1047 and 2.1033(c) (13)

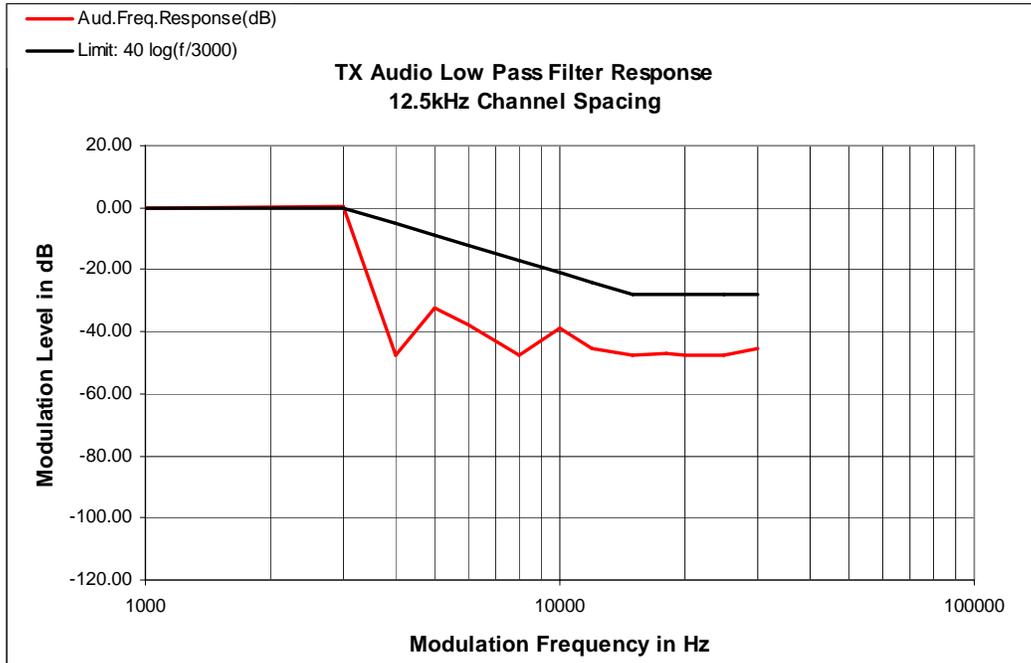


Figure 6C-1: 12.5 kHz Channel Spacing, 155.025 MHz, Transmit Audio Low Pass Filter Response

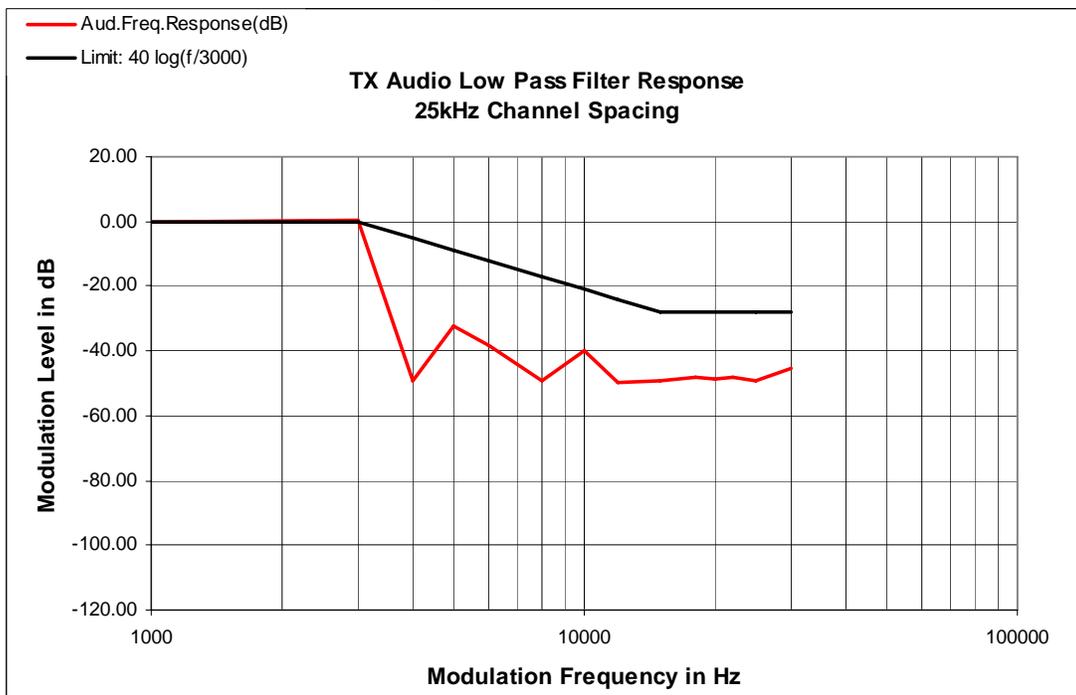


Figure 6C-2: 25 kHz Channel Spacing, 155.025 MHz, Transmit Audio Low Pass Filter Response

EXHIBIT 6D

Modulation Limiting Characteristics - Pursuant 47 CFR 2.1047 and 2.1033(c)(13)

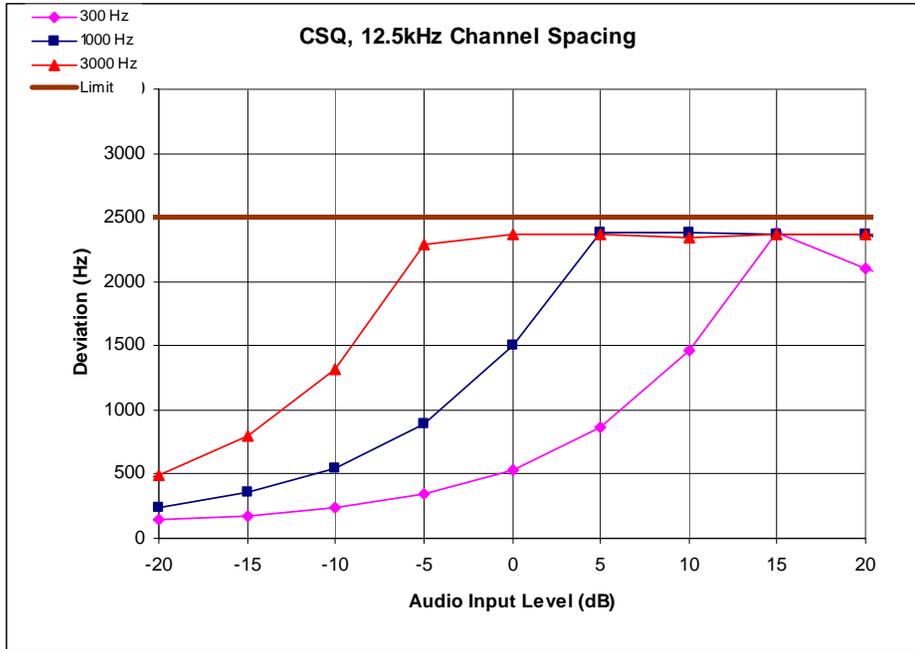


Figure 6D-1: 12.5 kHz Channel Spacing, 155.0125 MHz, Carrier Squelch (CSQ) Mode

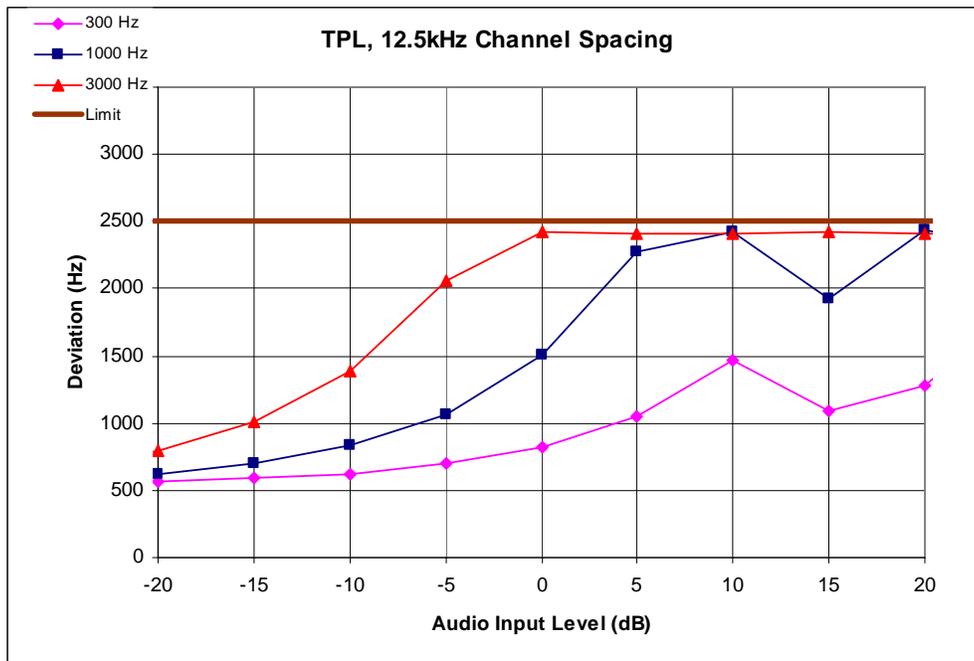


Figure 6D-2: 12.5 kHz Channel Spacing, 155.025 MHz, Tone Private Line (TPL) Mode

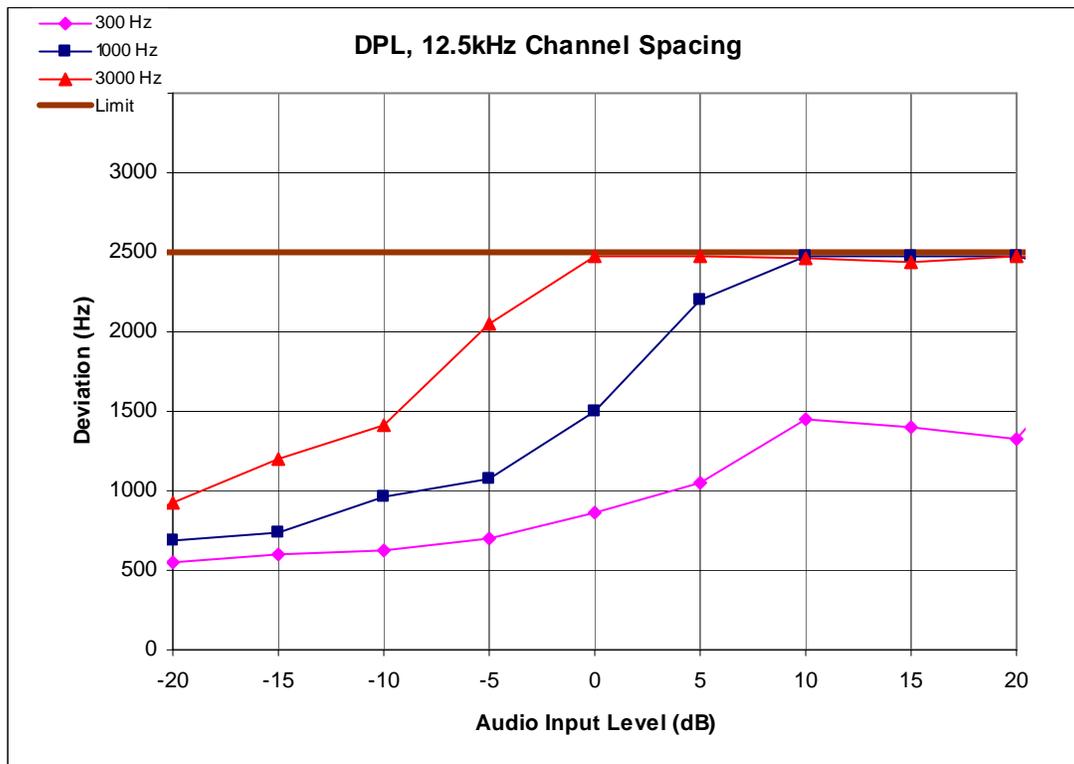


Figure 6D-3: 12.5 kHz Channel Spacing, 155.025 MHz, Digital Private Line (DPL) Mode

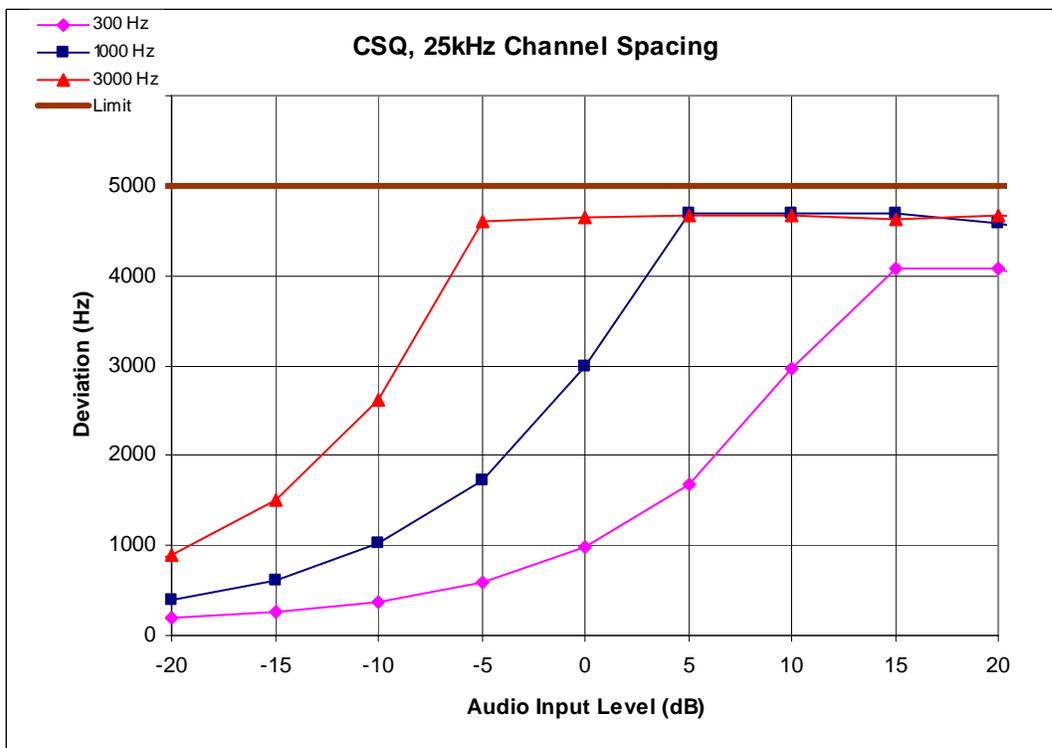


Figure 6D-4: 25 kHz Channel Spacing, 155.025 MHz, Carrier Squelch (CSQ) Mode

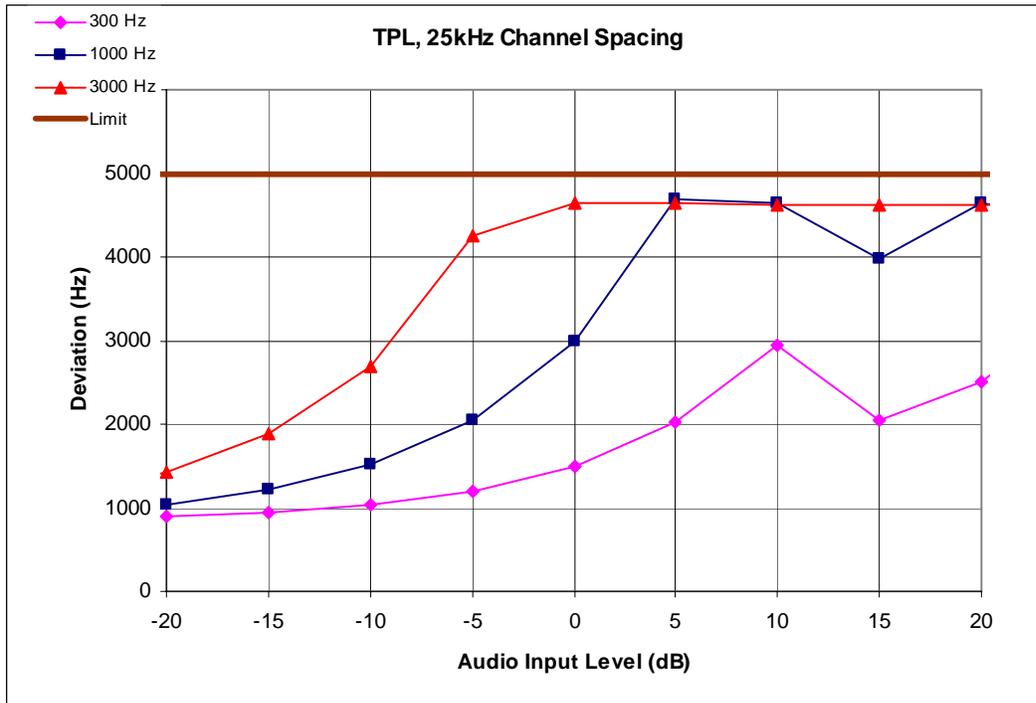


Figure 6D-5: 25 kHz Channel Spacing, 155.025 MHz, Tone Private Line (TPL) Mode

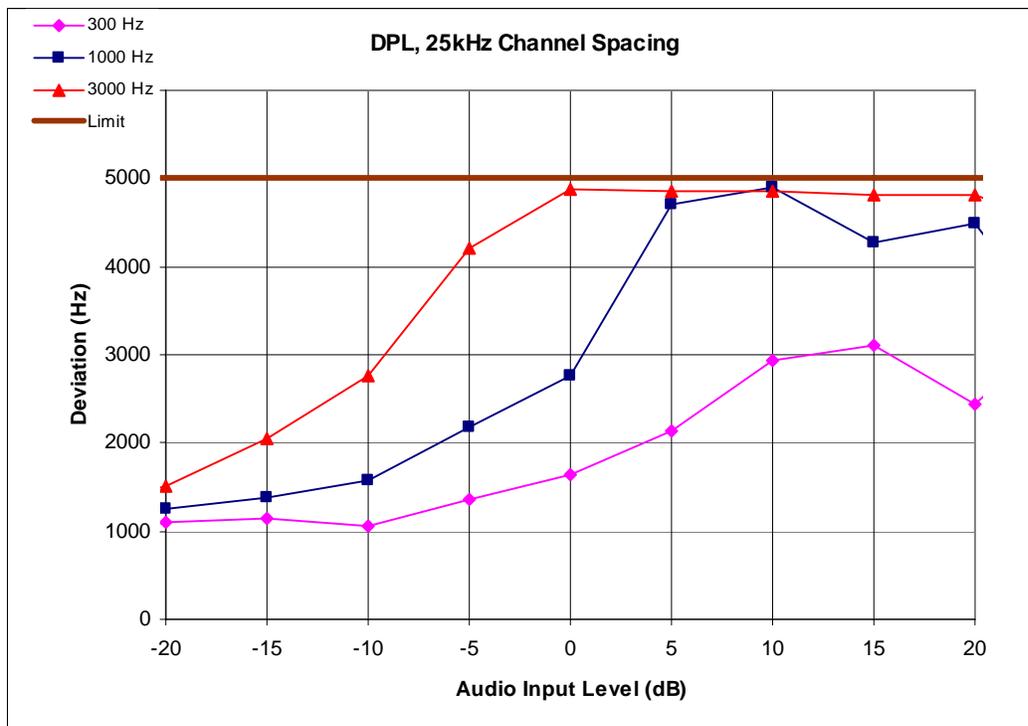


Figure 6D-6: 25 kHz Channel Spacing, 155.025 MHz, Digital Private Line (DPL) Mode

EXHIBIT 6E
Occupied Bandwidth Data

BANDWIDTH CALCULATIONS:

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

Carson's Rule is: $BW = 2 * (M + D)$ where: BW = Bandwidth
M= Maximum modulating frequency
D = Deviation

Shown below are the calculations required for FCC ID: AZ489FT3824.

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 2.989) 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 TSB102.CAAB Section 2.2.5.2. 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 2.989) 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 TSB102.CAAB Section 2.2.5.2. 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 2.989) 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 TSB102.CAAB Section 2.2.5.2. 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.

EXHIBIT 6E-6

Digital Modulation (20 kHz Channelization, Digital Voice with encryption):
Emission Designator 20K0F1E

In this case, the maximum modulating frequency is 6 kHz with a 4 kHz deviation.

$BW = 2(M+D) = 2*(6 \text{ kHz} + 4 \text{ kHz}) = 20 \text{ kHz} \Rightarrow 20K0$
F1E portion of the designator indicates digital voice.

Therefore, the entire designator for 20 kHz channelization analog voice is 20K0F1E.

Occupied Bandwidth Data -- Pursuant 47 CFR 2.1049, 90.210(g) and 90.691

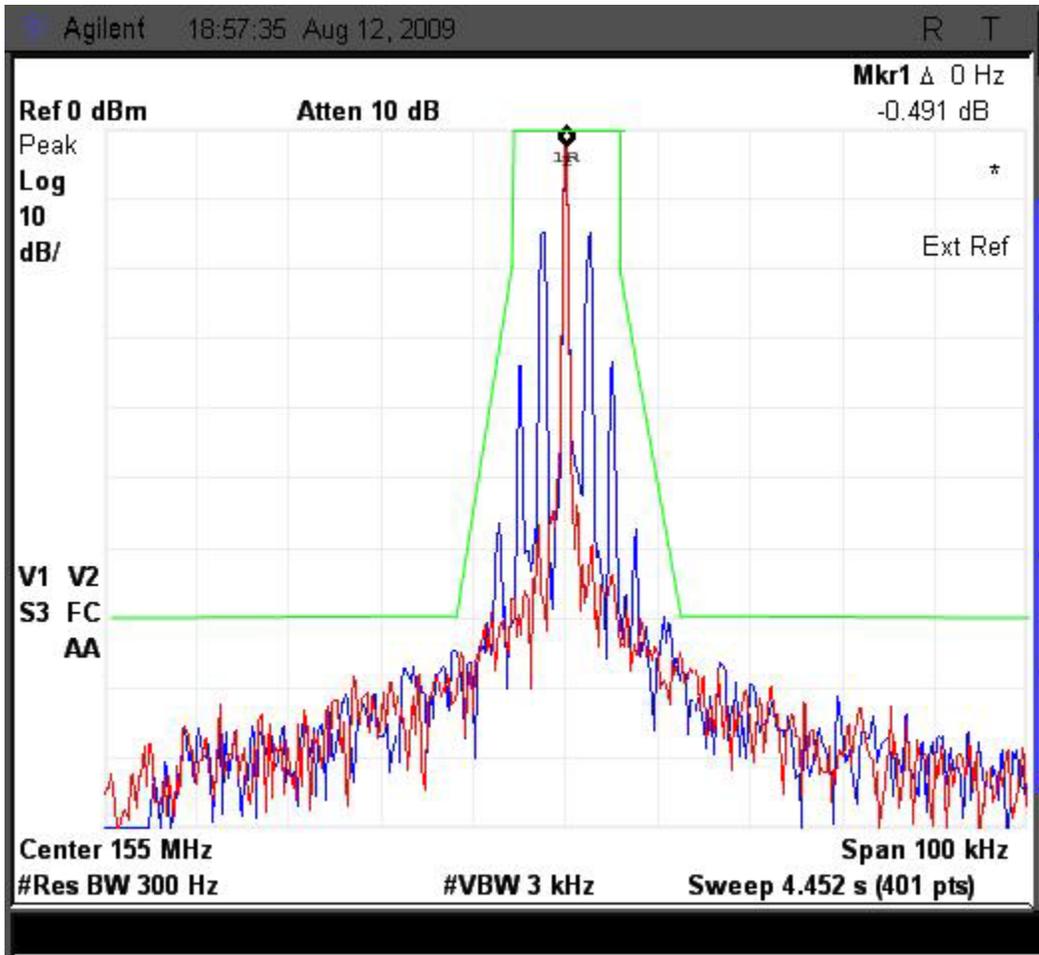


Figure 6E-1: 12.5 kHz Channel Spacing, 155.0125 MHz, Analog Voice, 11K0F3E

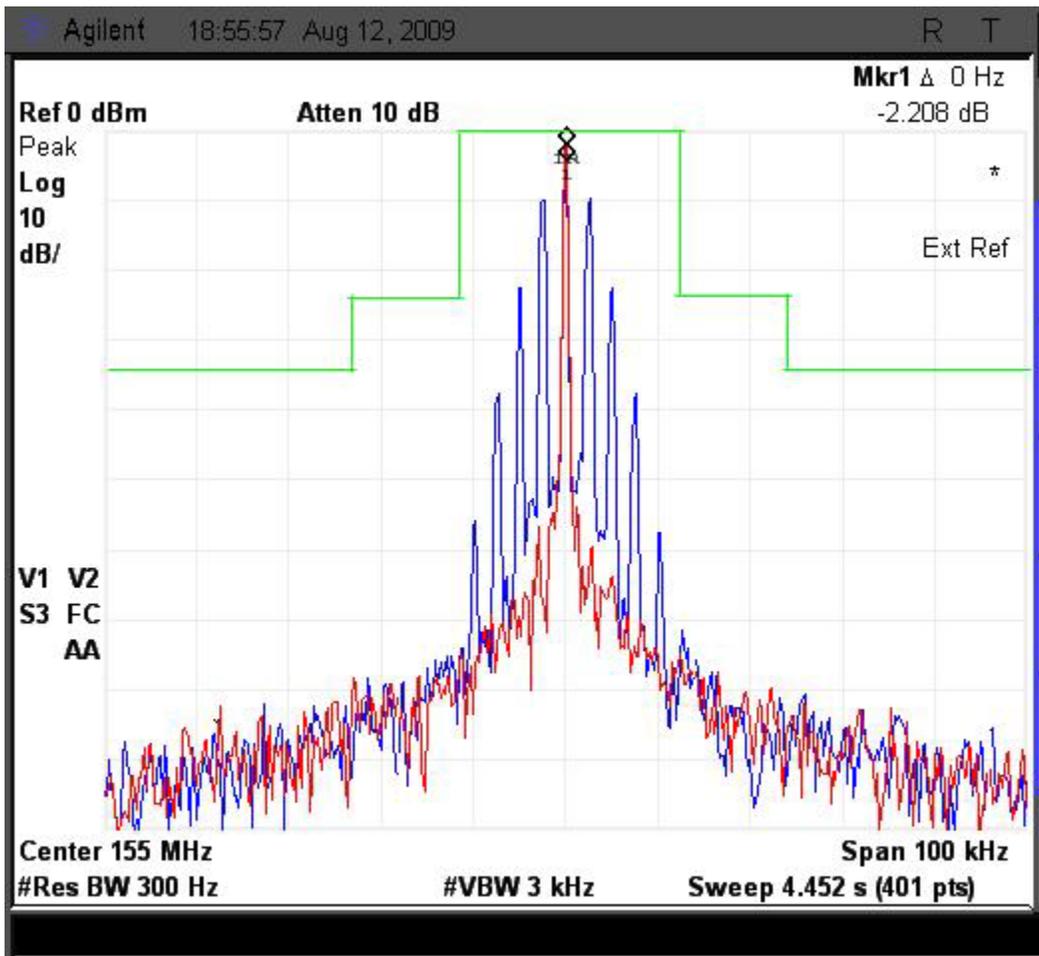


Figure 6E-2: 25 kHz Channel Spacing, 155.0125 MHz, Analog Voice, Mask B 16K0F3E

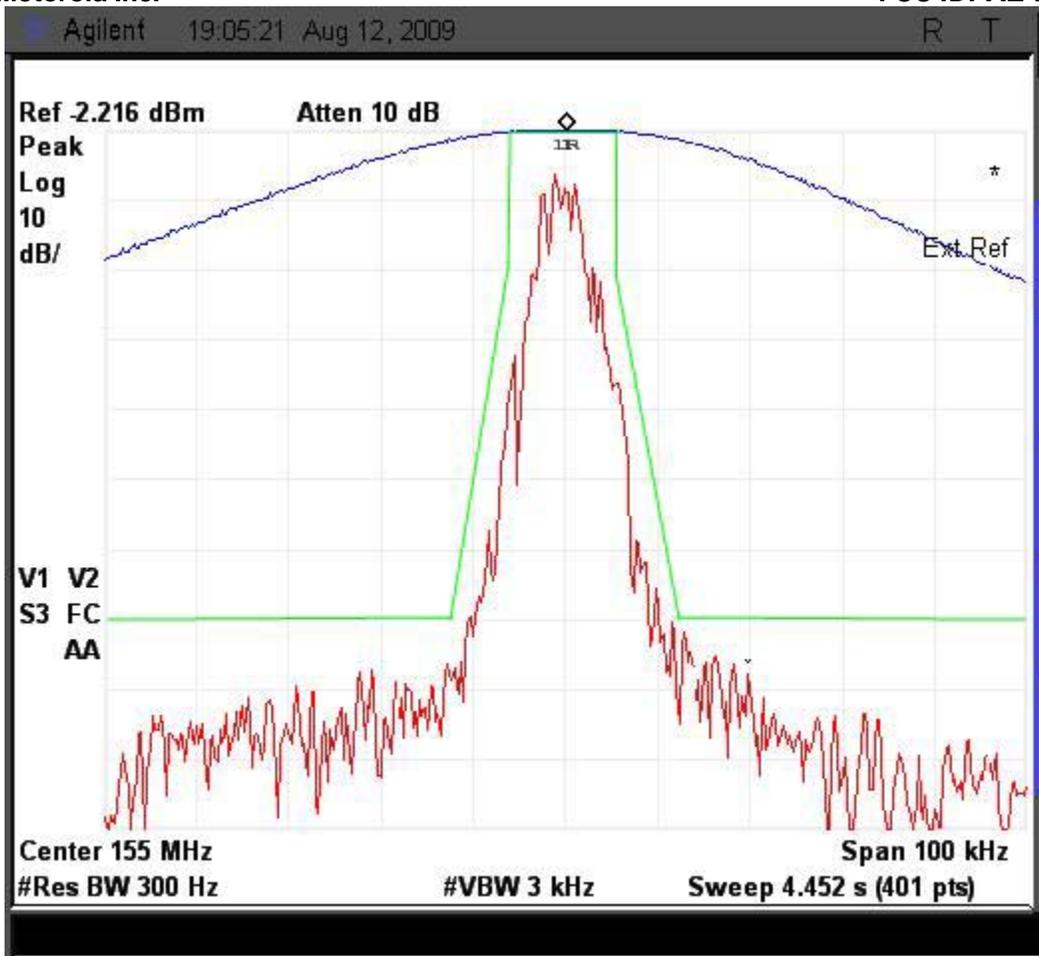


Figure 6E-3: 12.5 kHz Channel Spacing, 155.0125 MHz, Digital Data, Mask D 8K10F1D

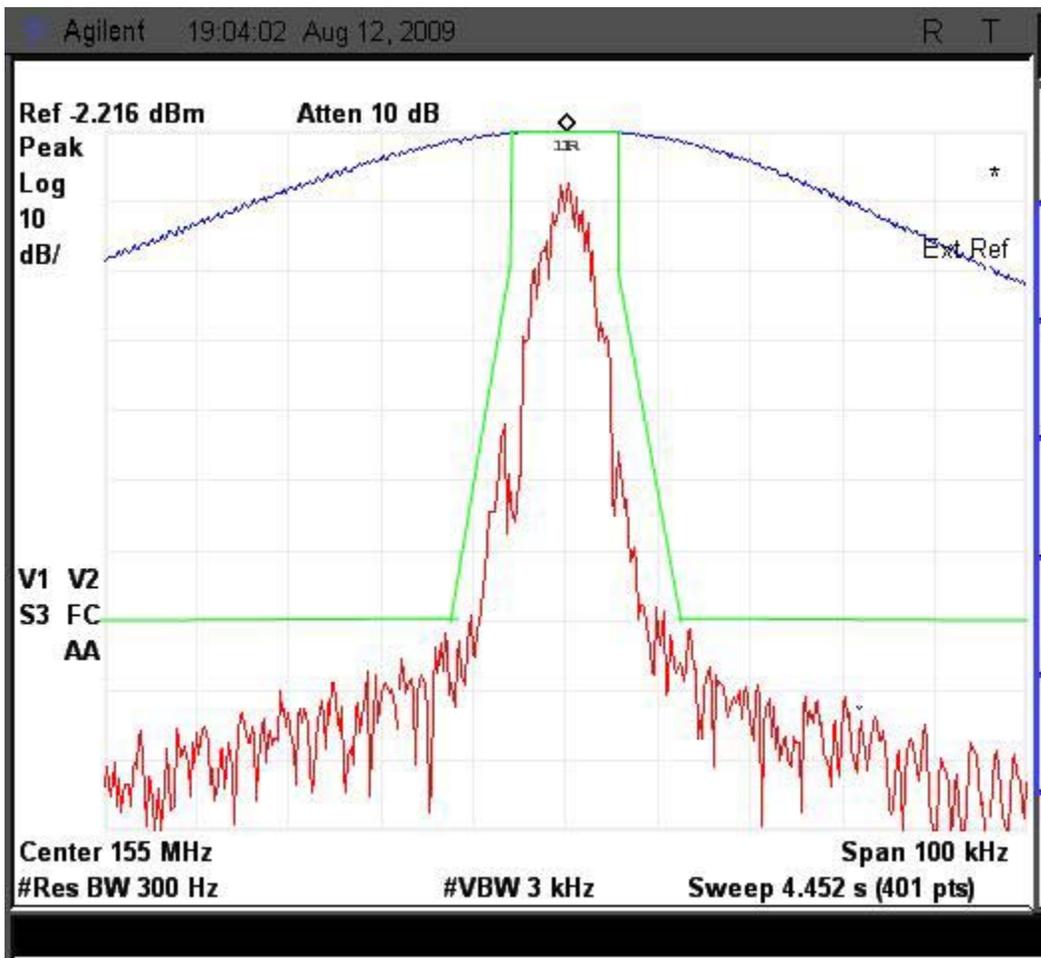


Figure 6E-4: 12.5 kHz Channel Spacing, 155.0125 MHz, Digital Voice, Mask D 8K10F1E

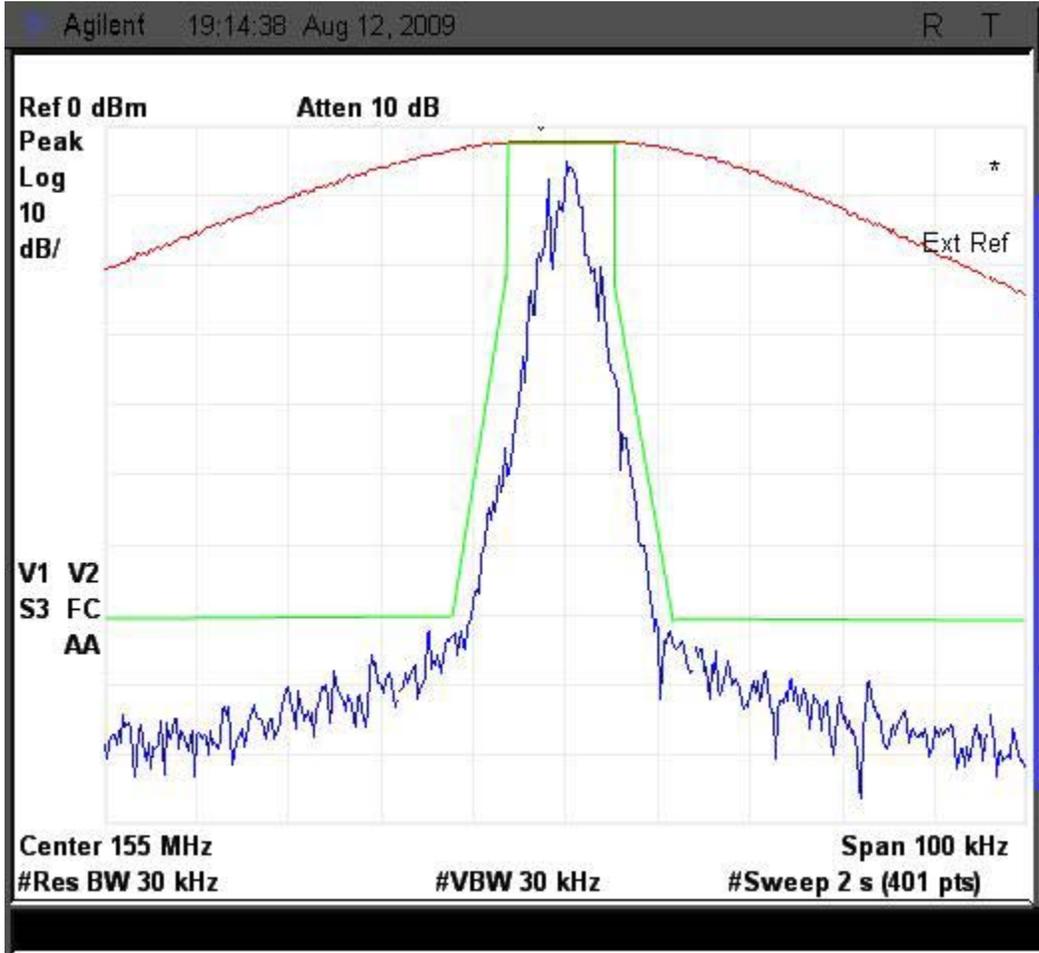


Figure 6E-5: 12.5 kHz Channel Spacing, 155.0125 MHz, Digital TDMA, MASK D 8K10F1W

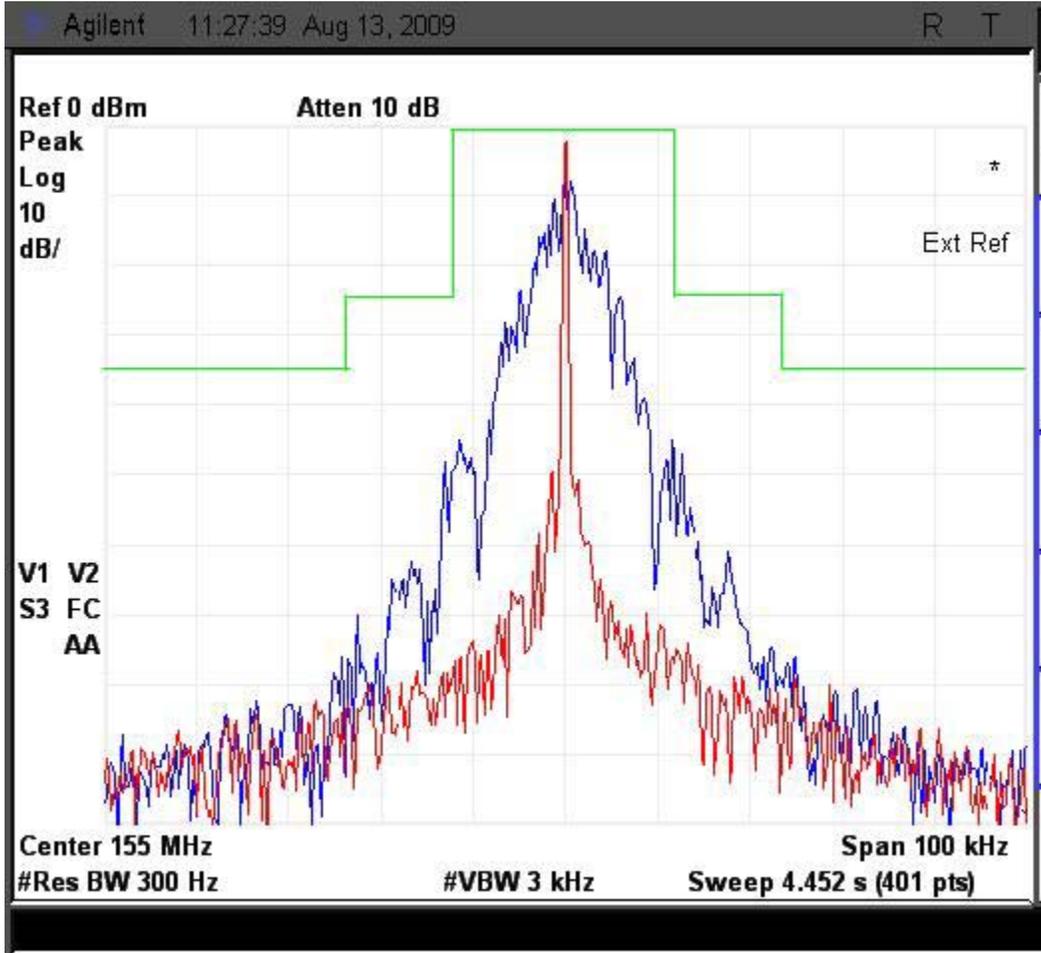


Figure 6E-6: 20 kHz Channel Spacing, 155.0125 MHz, Analog Voice Encryption Mask B 20K0F1E

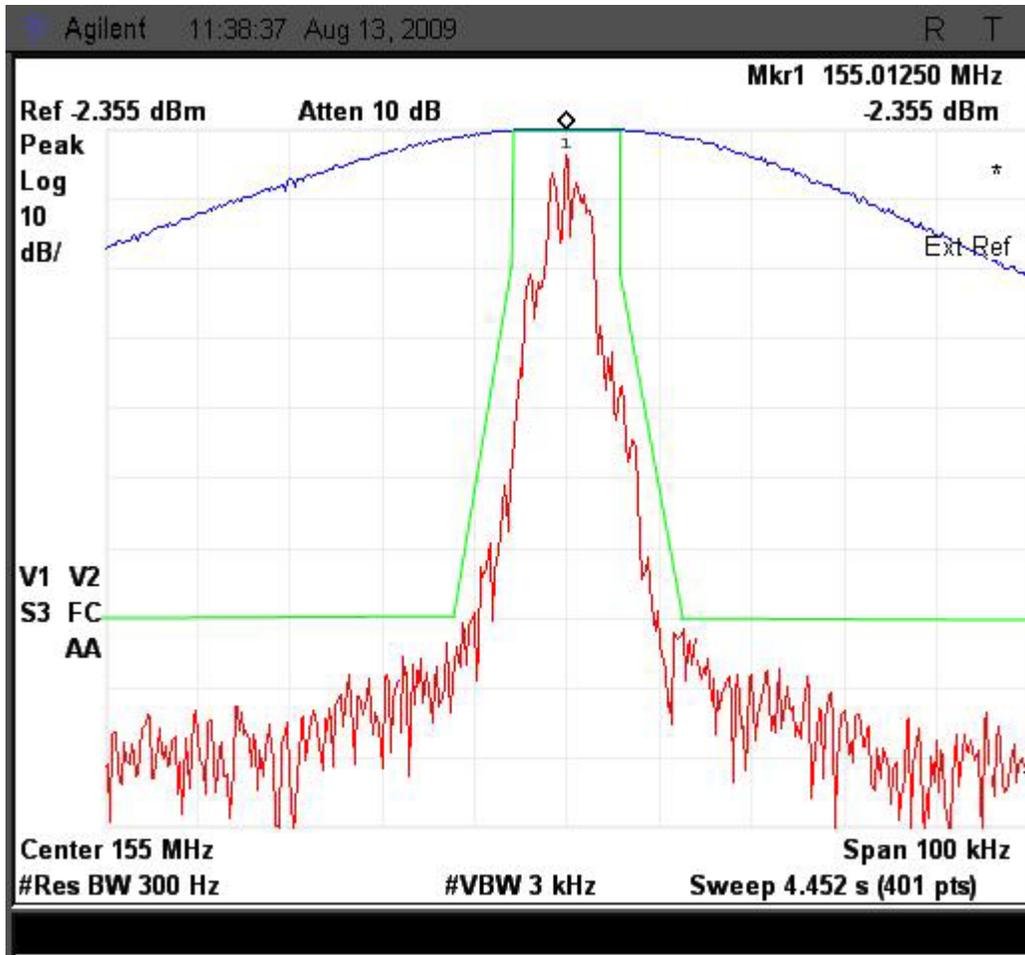


Figure 6F-7: 12.5 kHz Channel Spacing, 155.0125 MHz, Digital Voice Encryption Mask D 8K10F1E

EXHIBIT 6F

Conducted Spurious Emissions - Pursuant 47 CFR 2.1047 and 2.1033(c) (13)

Note: Red lines on graphs correspond to the FCC limit of -20 dBm for 12.5 kHz channel spacing and -13 dBm for 25 kHz channel spacing.

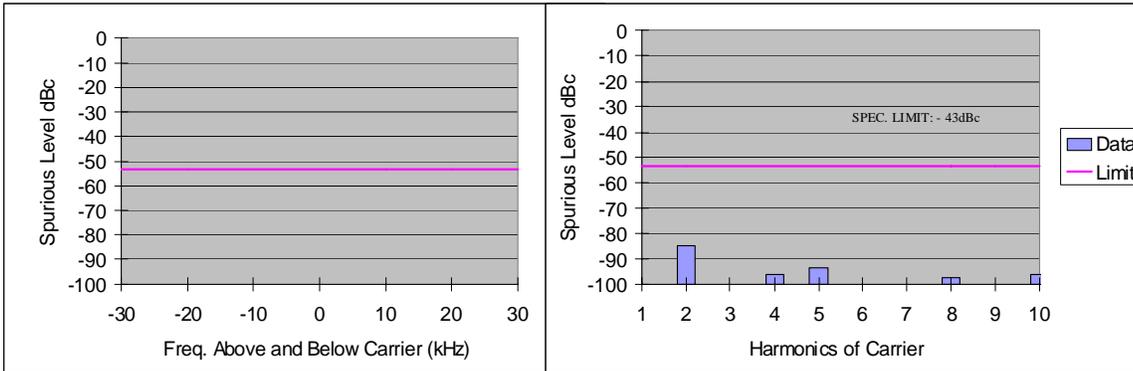


Figure 6F-7: 11 Watt Harmonic of Carrier 136.025 MHz, 25 kHz Channel Spacing

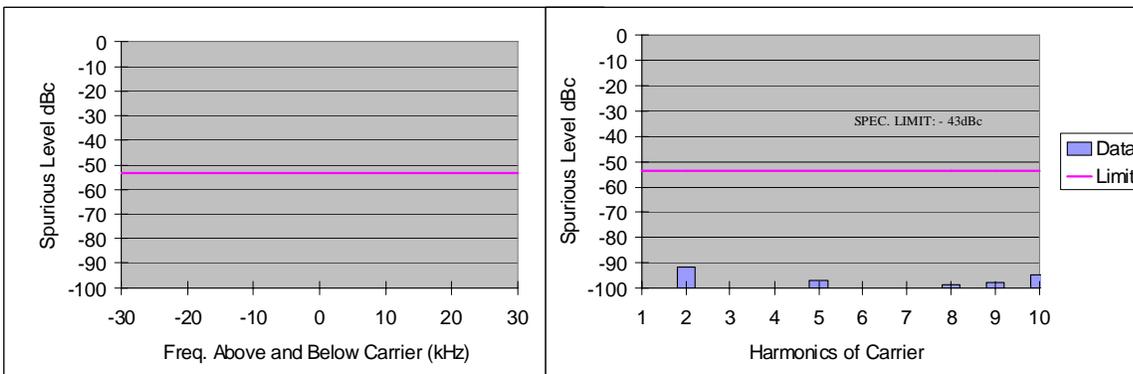


Figure 6F-8: 11 Watt Harmonic of Carrier 155.025 MHz, 25 kHz Channel Spacing

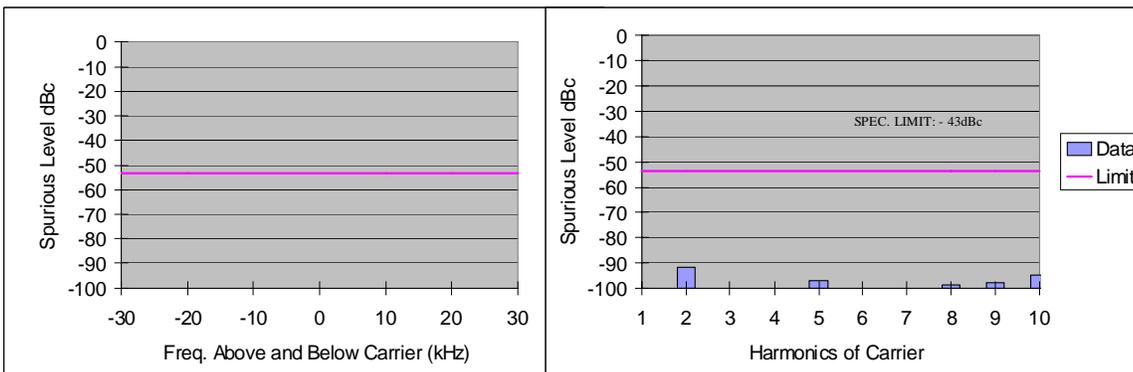


Figure 6F-9: 11 Watt Harmonic of Carrier 173.975 MHz, 25 kHz Channel Spacing

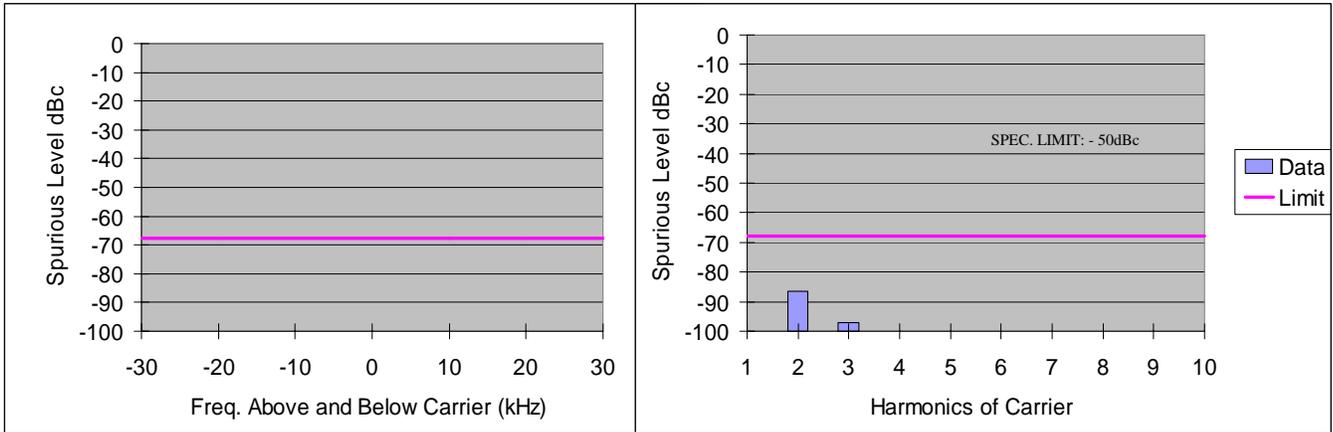


Figure 6F-10: 60 Watts Harmonic of Carrier 136.025 MHz, 25 kHz Channel Spacing

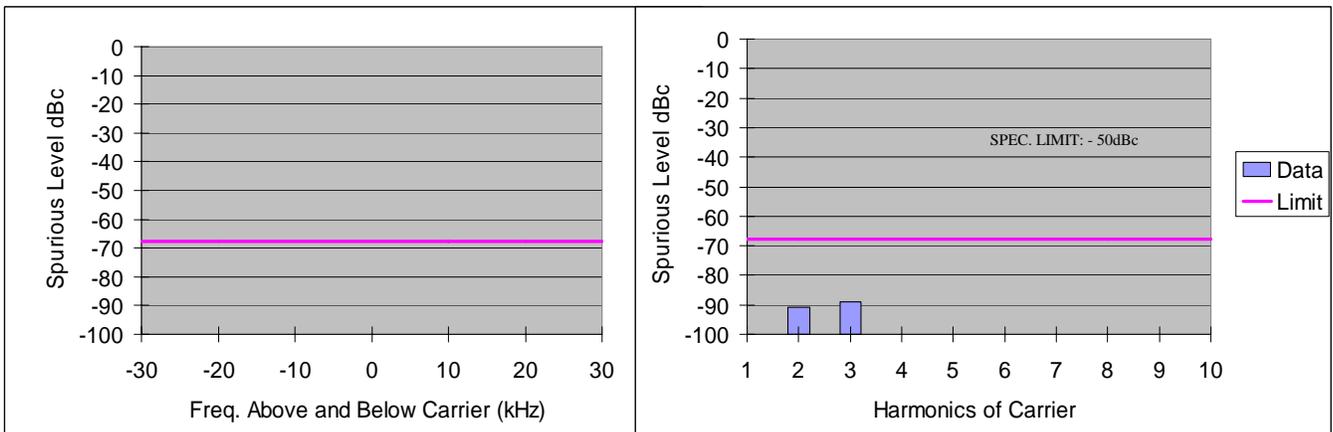


Figure 6F-11: 60 Watts Harmonic of Carrier 155.025 MHz, 25 kHz Channel Spacing

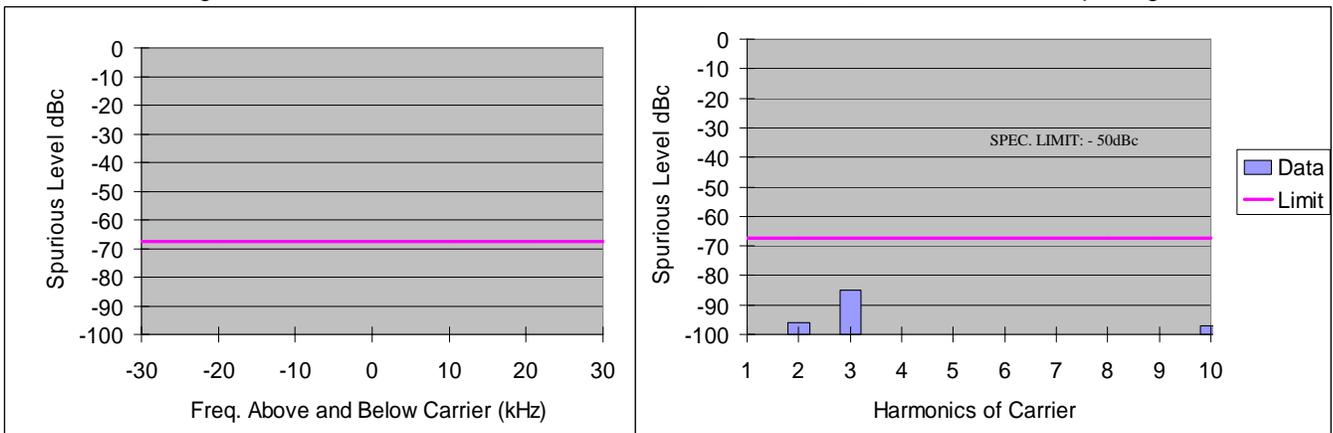


Figure 6F-12: 60 Watts Harmonic of Carrier 173.975 MHz, 25 kHz Channel Spacing

APCO Digital

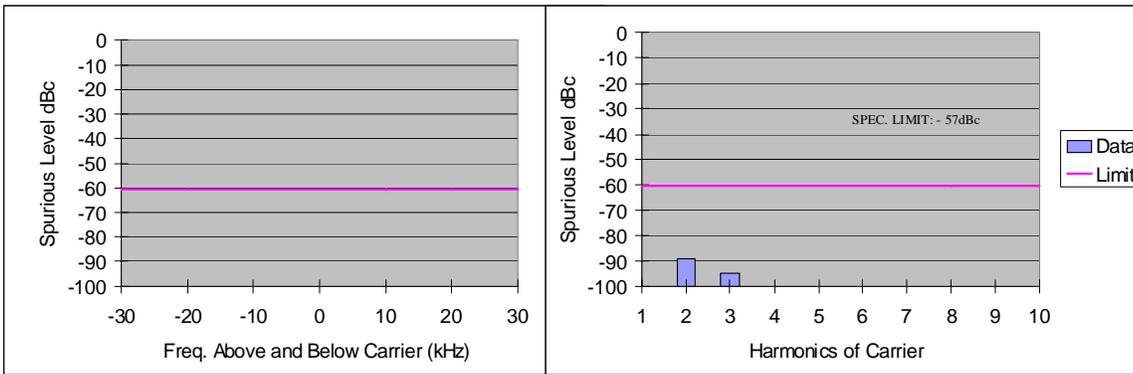


Figure 6F-13: 11 Watts Harmonic of Carrier 136.0125 MHz, 12.5 kHz Channel Spacing

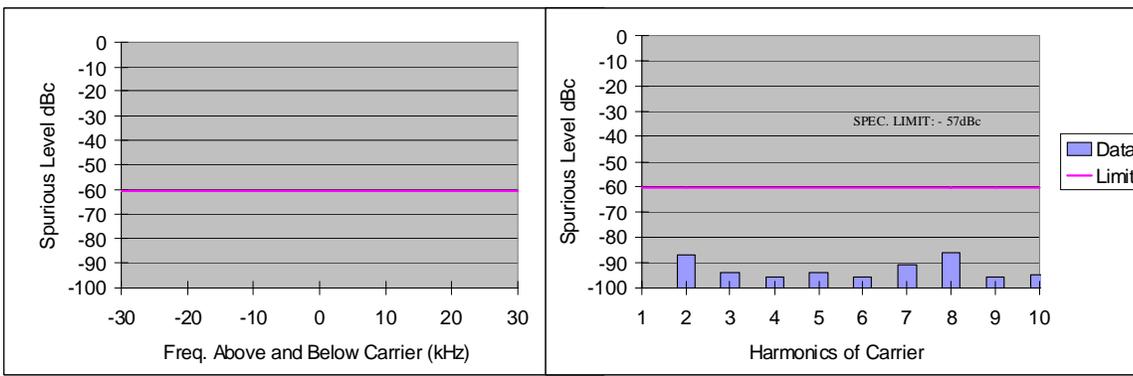


Figure 6F-14: 11 Watts Harmonic of Carrier 155.0125 MHz, 12.5 kHz Channel Spacing

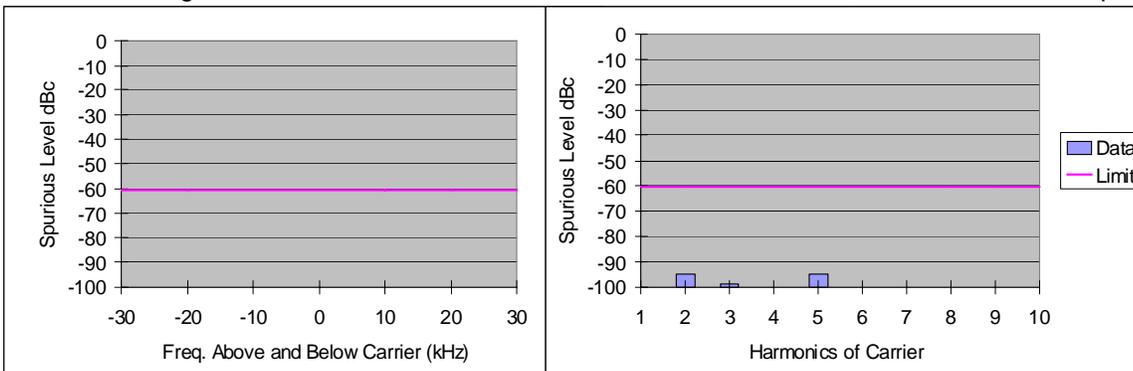


Figure 6F-15: 11 Watts Harmonic of Carrier 173.9875 MHz, 12.5 kHz Channel Spacing

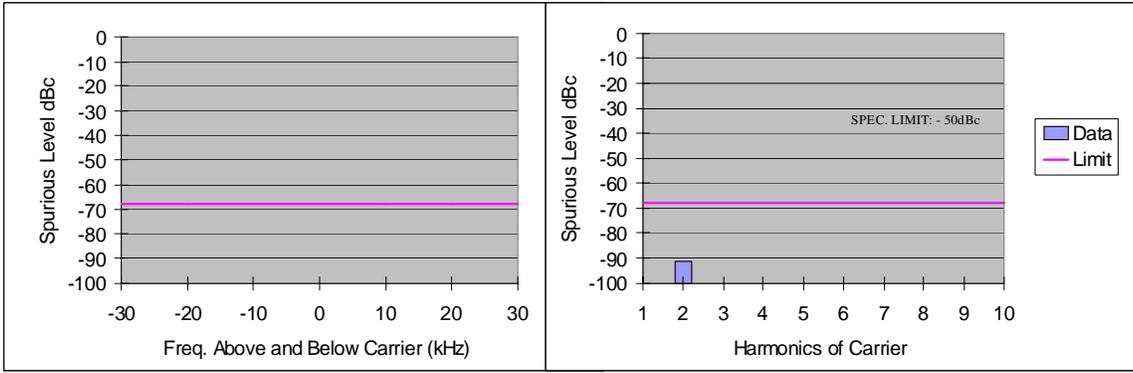


Figure 6F-16: 60 Watts Harmonic of Carrier 136.0125 MHz, 12.5 kHz Channel Spacing

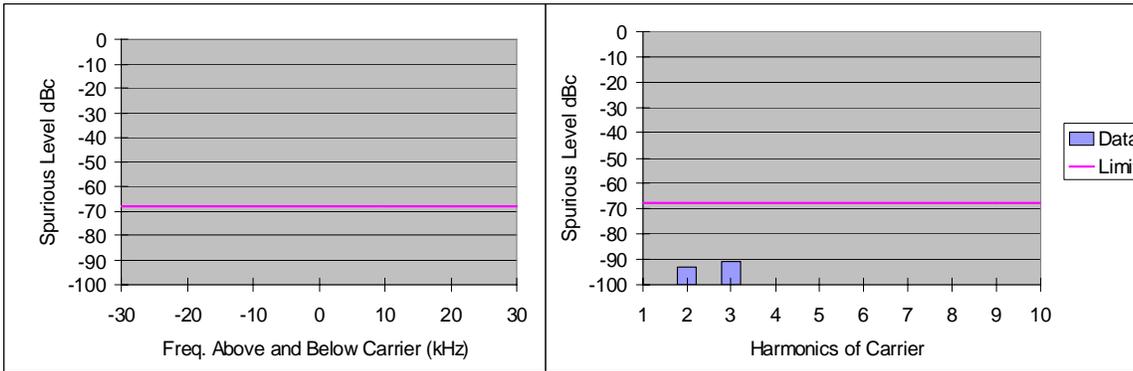


Figure 6F-17: 60Watts Harmonic of Carrier 155.0125 MHz, 12.5 kHz Channel Spacing

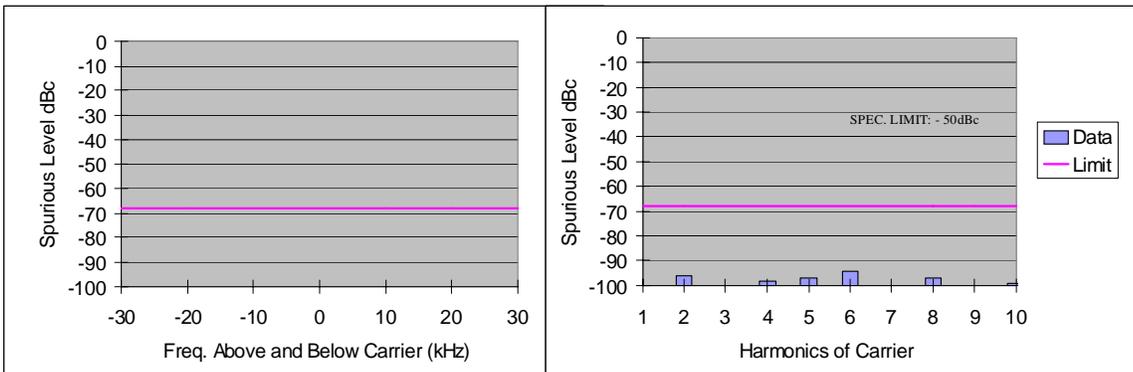


Figure 6F-18: 60 Watts Harmonic of Carrier 173.9875 MHz, 12.5 kHz Channel Spacing

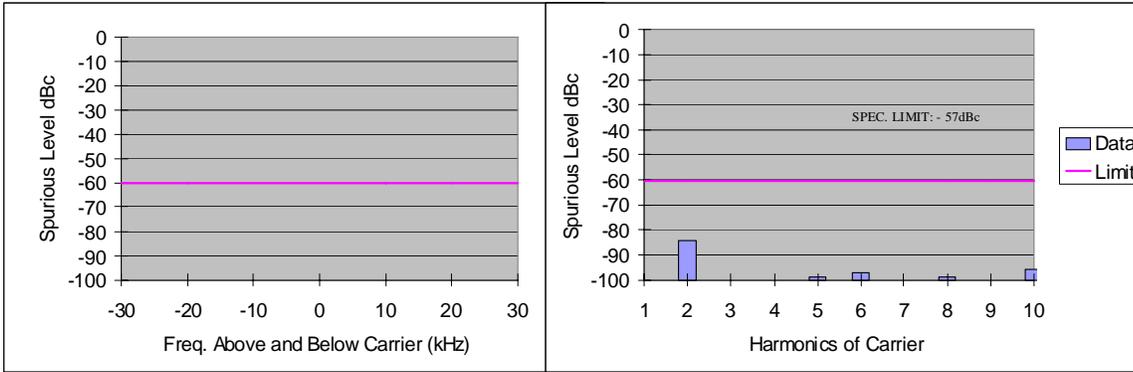


Figure 6F-19: 11 Watts Harmonic of Carrier 136.0125 MHz, 12.5 kHz Channel Spacing

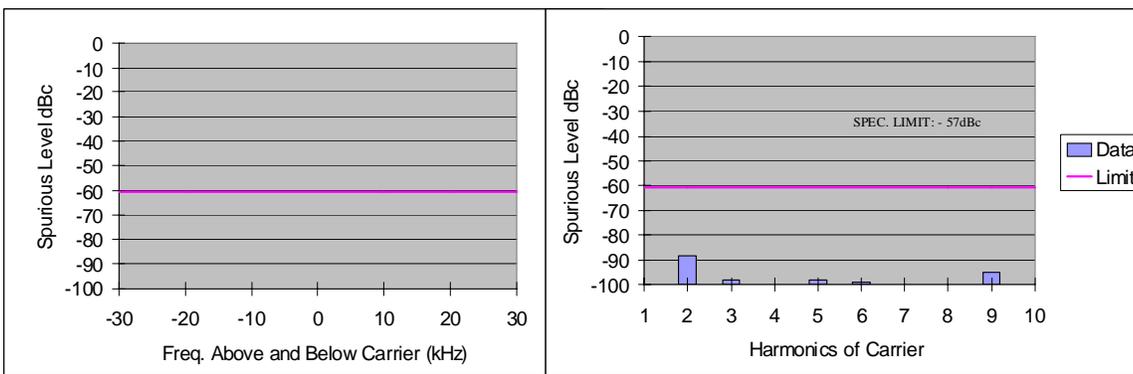


Figure 6F-20: 11 Watts Harmonic of Carrier 155.0125 MHz, 12.5 kHz Channel Spacing

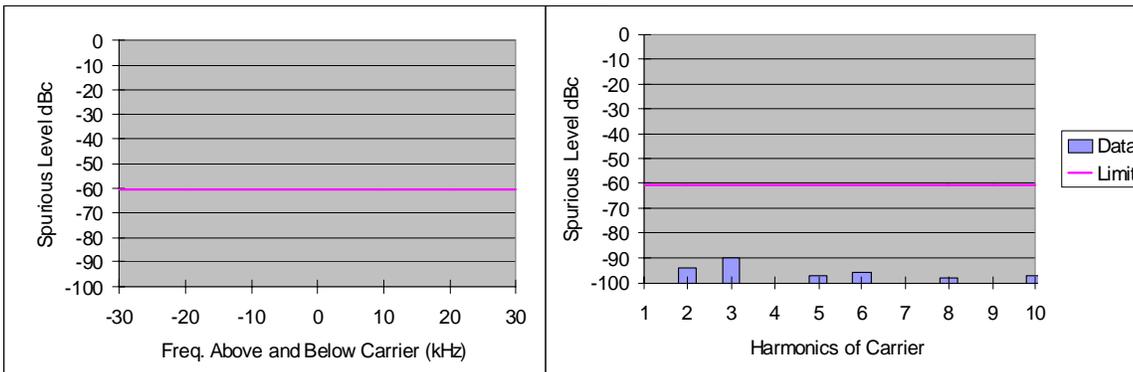


Figure 6F-21: 11 Watts Harmonic of Carrier 173.9875 MHz, 12.5 kHz Channel Spacing

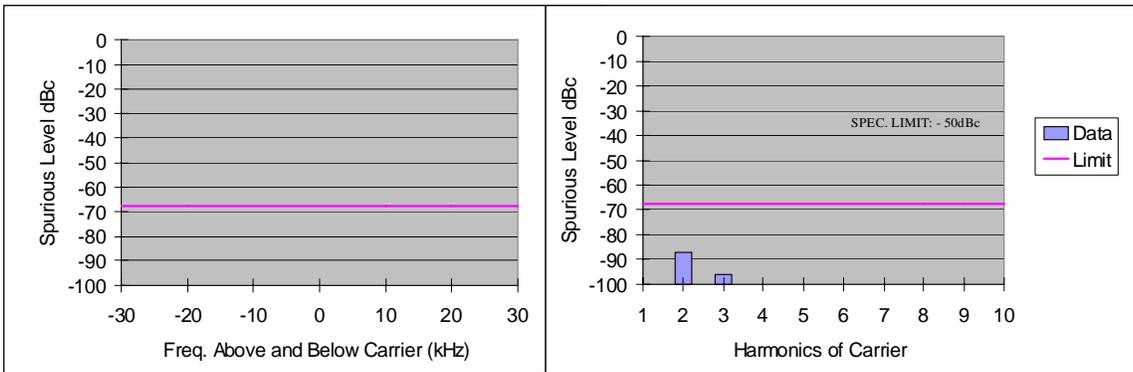


Figure 6F-22: 60 Watts Harmonic of Carrier 136.0125 MHz, 12.5 kHz Channel Spacing

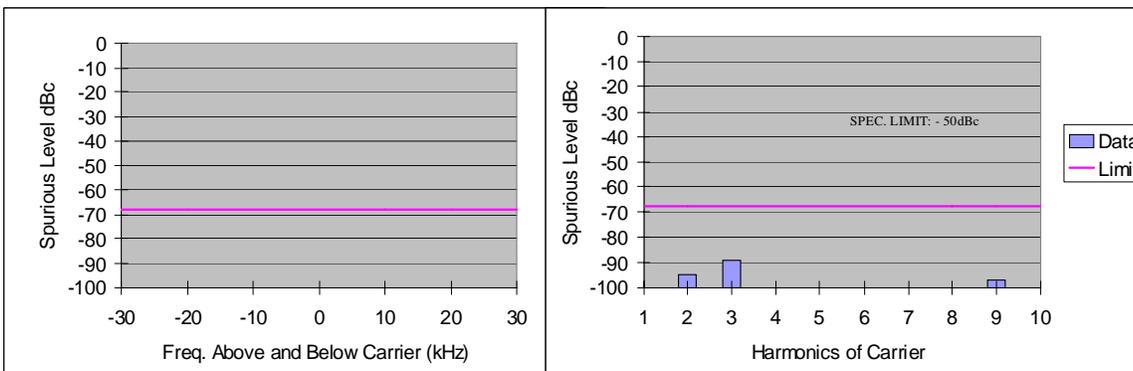


Figure 6F-23: 60Watts Harmonic of Carrier 155.0125 MHz, 12.5 kHz Channel Spacing

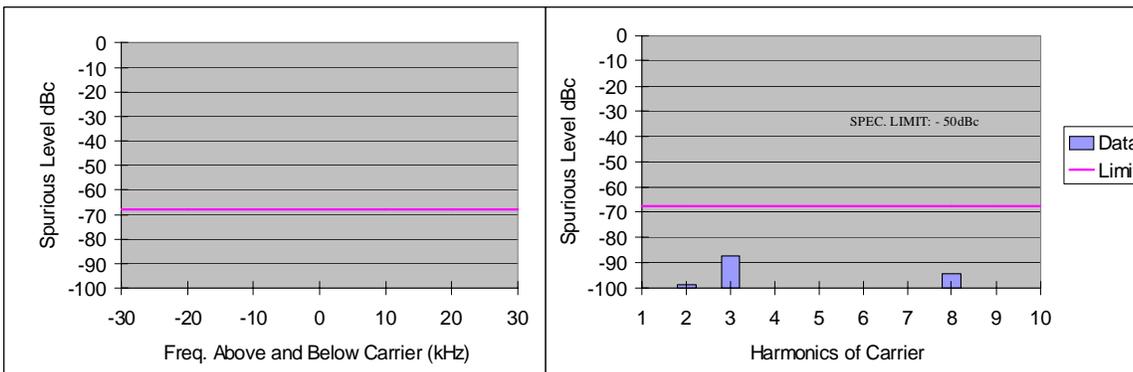


Figure 6F-24: 60 Watts Harmonic of Carrier 173.9875 MHz, 12.5 kHz Channel Spacing

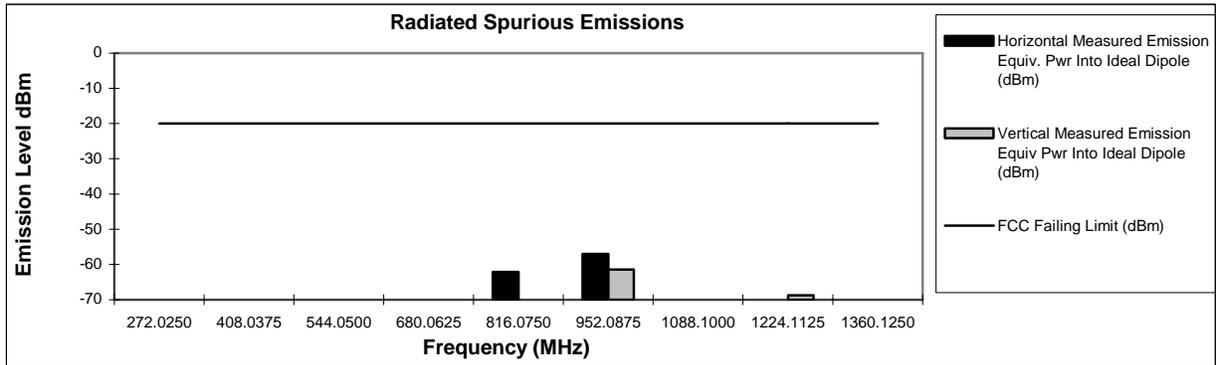
Transmit Radiated Spurious Emissions: Mackinaw APX7500

Tx Power: 57 Watts

136.0125 MHz

Channel Spacing 12.5kHz | S/N QM0KW05X

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
272.0250	-20	*	*
408.0375	-20	-76.84	-72.42
544.0500	-20	*	*
680.0625	-20	*	*
816.0750	-20	-62.12	*
952.0875	-20	-57.04	-61.42
1088.1000	-20	*	*
1224.1125	-20	-71.03	-68.77
1360.1250	-20	-74.99	*



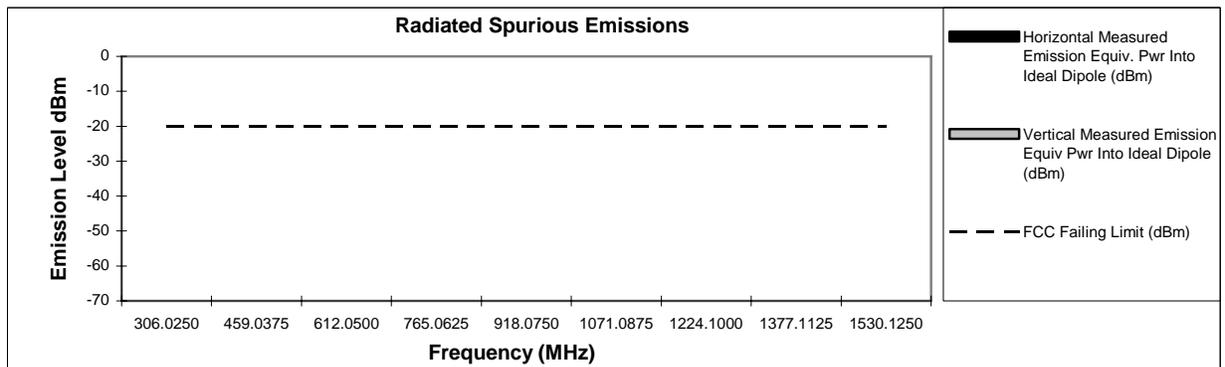
Transmit Radiated Spurious Emissions: Mackinaw APX7500

Tx Power: 57 Watts

153.0125 MHz

Channel Spacing 12.5kHz | S/N QM0KW05X

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
306.0250	-20	*	*
459.0375	-20	-81.30	*
612.0500	-20	*	*
765.0625	-20	-72.27	*
918.0750	-20	-71.57	*
1071.0875	-20	*	*
1224.1000	-20	-76.51	*
1377.1125	-20	*	*
1530.1250	-20	*	*



* Indicates the spurious emission could not be detected due to noise limitations or ambients.

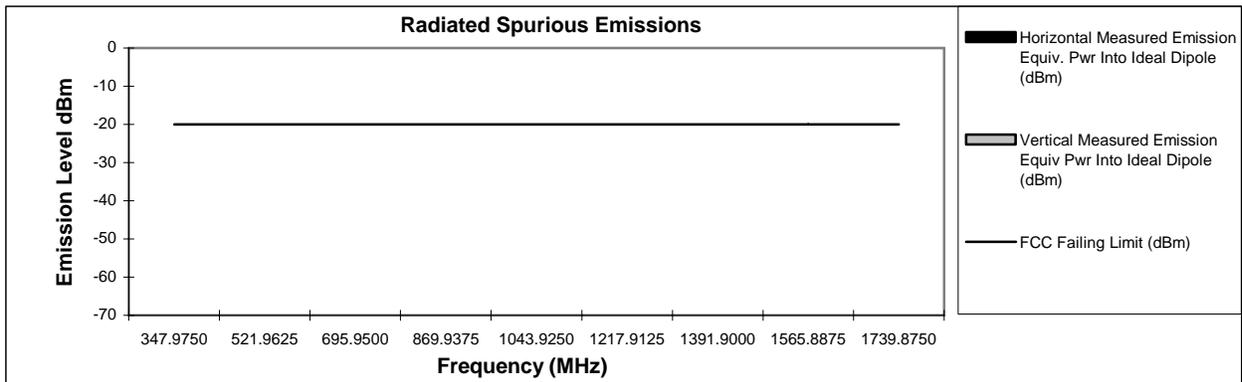
The data presented here was taken using the substitution method as found in the TIA/EIA-603 document.

Transmit Radiated Spurious Emissions: Mackinaw APX7500
Tx Power: 57 Watts

173.9875 MHz

Channel Spacing 12.5kHz | S/N QM0KW05X

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
347.9750	-20	*	*
521.9625	-20	*	*
695.9500	-20	*	*
869.9375	-20	*	*
1043.9250	-20	*	*
1217.9125	-20	*	*
1391.9000	-20	*	*
1565.8875	-20	*	*
1739.8750	-20	*	*



* Indicates the spurious emission could not be detected due to noise limitations or ambients.

The data presented here was taken using the substitution method as found in the TIA/EIA-603 document.

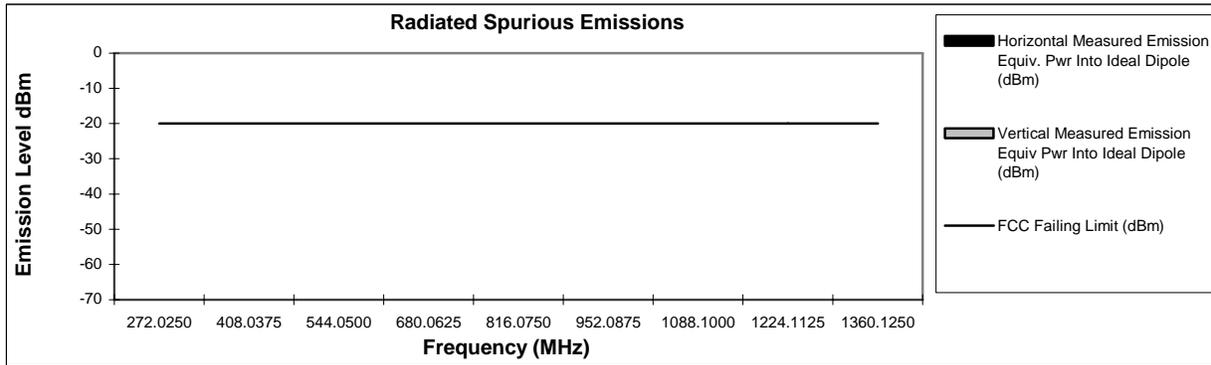
Transmit Radiated Spurious Emissions: Mackinaw APX7500

Tx Power: 11 Watts

136.0125 MHz

Channel Spacing 12.5kHz | S/N QM0KW05X

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
272.0250	-20	*	*
408.0375	-20	*	*
544.0500	-20	*	*
680.0625	-20	*	*
816.0750	-20	*	*
952.0875	-20	*	*
1088.1000	-20	*	*
1224.1125	-20	*	*
1360.1250	-20	*	*



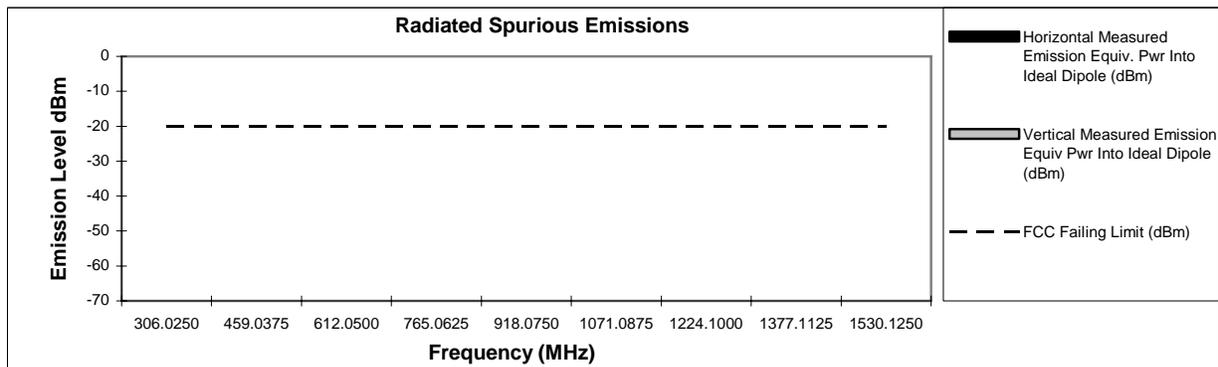
Transmit Radiated Spurious Emissions: Mackinaw APX7500

Tx Power: 11 Watts

153.0125 MHz

Channel Spacing 12.5kHz | S/N QM0KW05X

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
306.0250	-20	*	*
459.0375	-20	*	*
612.0500	-20	*	*
765.0625	-20	*	*
918.0750	-20	*	*
1071.0875	-20	*	*
1224.1000	-20	*	*
1377.1125	-20	*	*
1530.1250	-20	*	*



* Indicates the spurious emission could not be detected due to noise limitations or ambients.

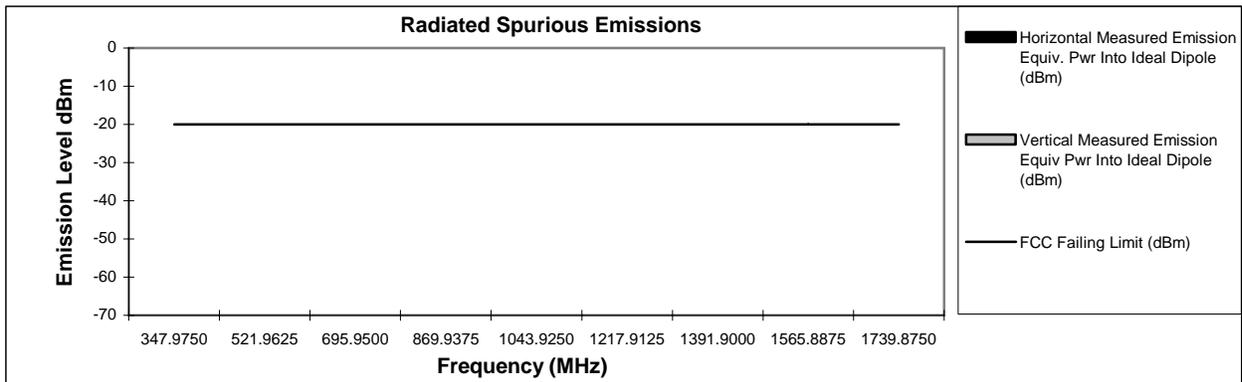
The data presented here was taken using the substitution method as found in the TIA/EIA-603 document.

Transmit Radiated Spurious Emissions: Mackinaw APX7500
Tx Power: 11 Watts

173.9875 MHz

Channel Spacing 12.5kHz | S/N QM0KW05X

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
347.9750	-20	*	*
521.9625	-20	*	*
695.9500	-20	*	*
869.9375	-20	*	*
1043.9250	-20	*	*
1217.9125	-20	*	*
1391.9000	-20	*	*
1565.8875	-20	*	*
1739.8750	-20	*	*



* Indicates the spurious emission could not be detected due to noise limitations or ambients.

The data presented here was taken using the substitution method as found in the TIA/EIA-603 document.

EXHIBIT 6H
Frequency Stability - Pursuant 47 CFR 2.1047 and 2.1033(c)(13)

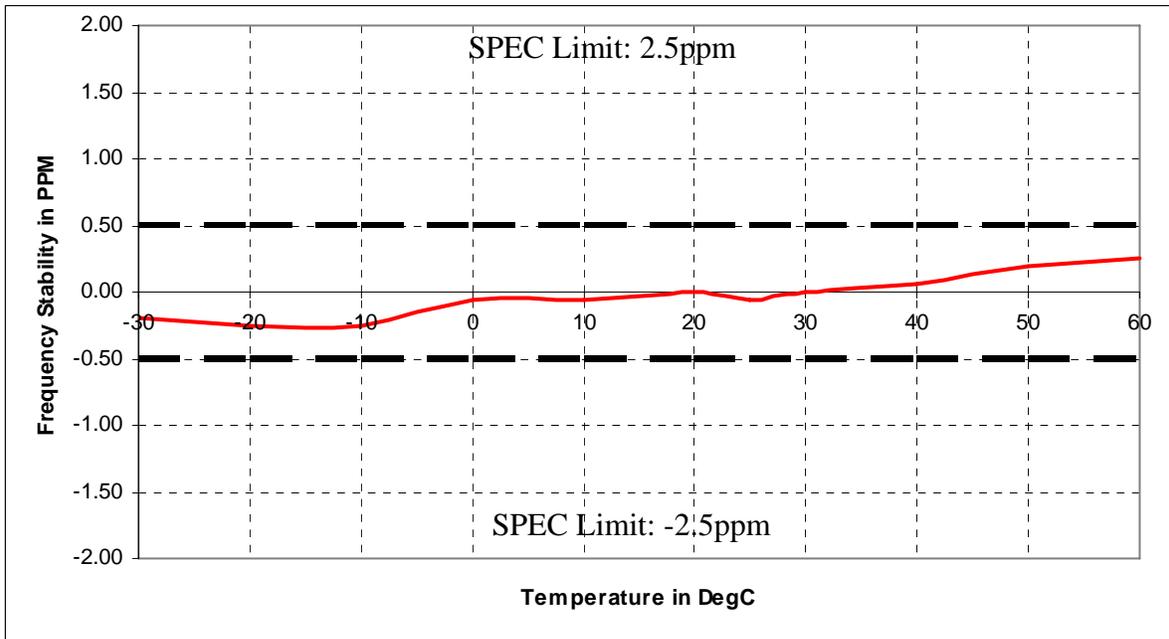


Figure 6H-1: Frequency Stability vs. Temperature

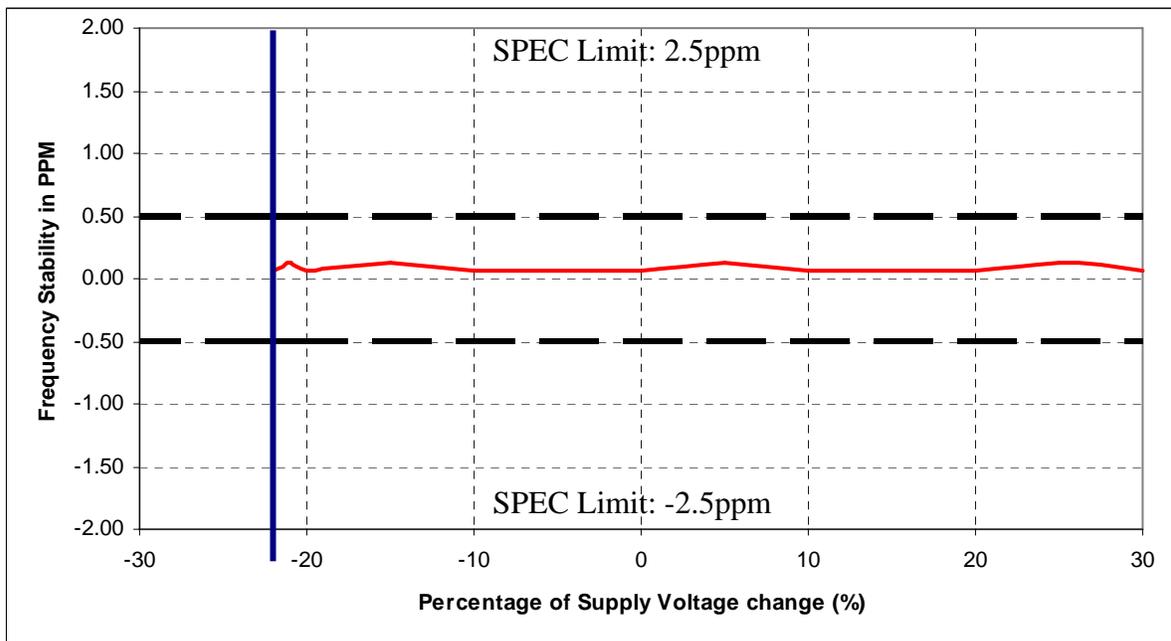


Figure 6H-2: Frequency Stability vs. Supply Voltage

EXHIBIT 6I Transient Frequency Behavior

Analog Mode

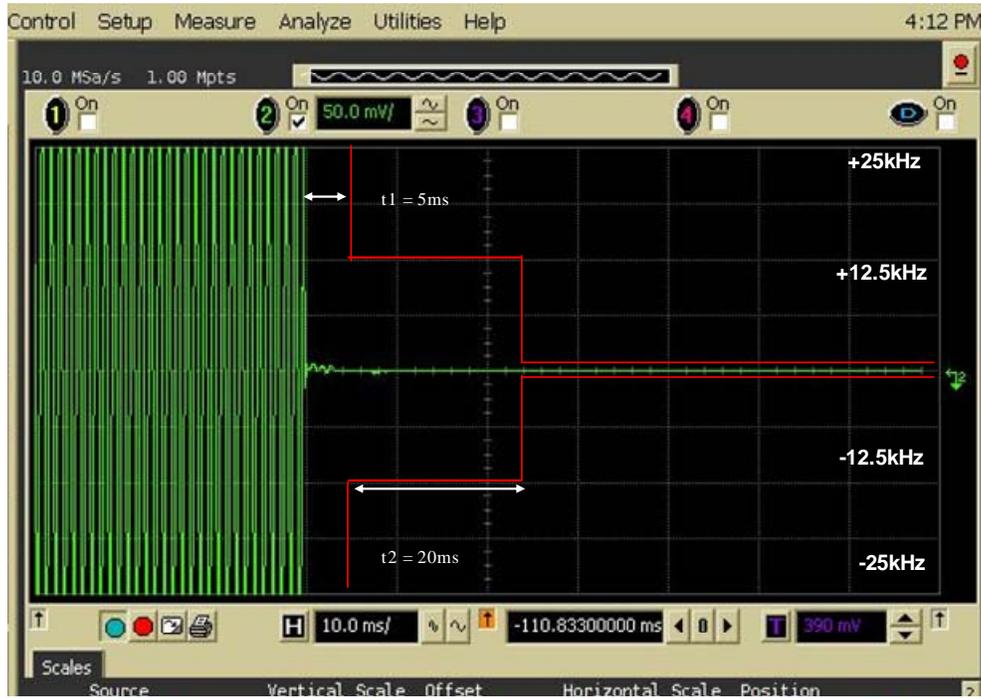


Figure 6I-1: Transient Frequency Behavior, 155.0125 MHz, 25 kHz Channel Spacing, Key Up Transient



Figure 6I-2: Transient Frequency Behavior, 155.0125MHz, 25 kHz Channel Spacing, De- Key Transient

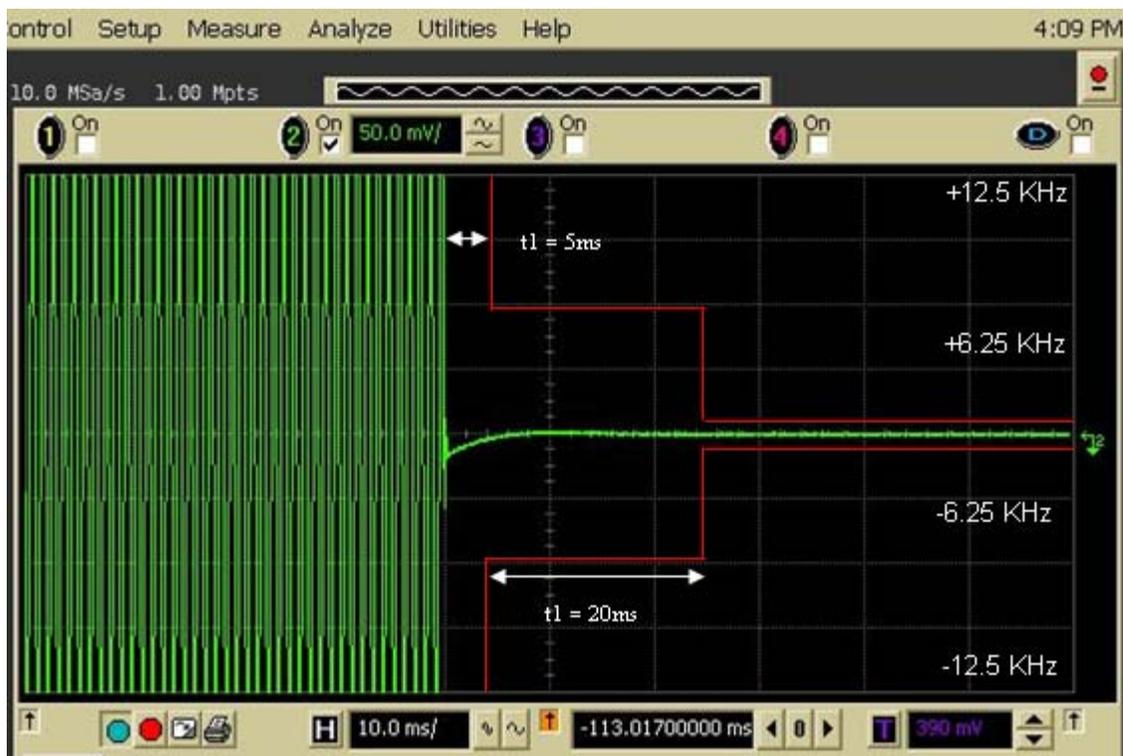


Figure 6I-3: Transient Frequency Behavior, 155.0125MHz, 12.5 kHz Channel Spacing, Key Up Transient

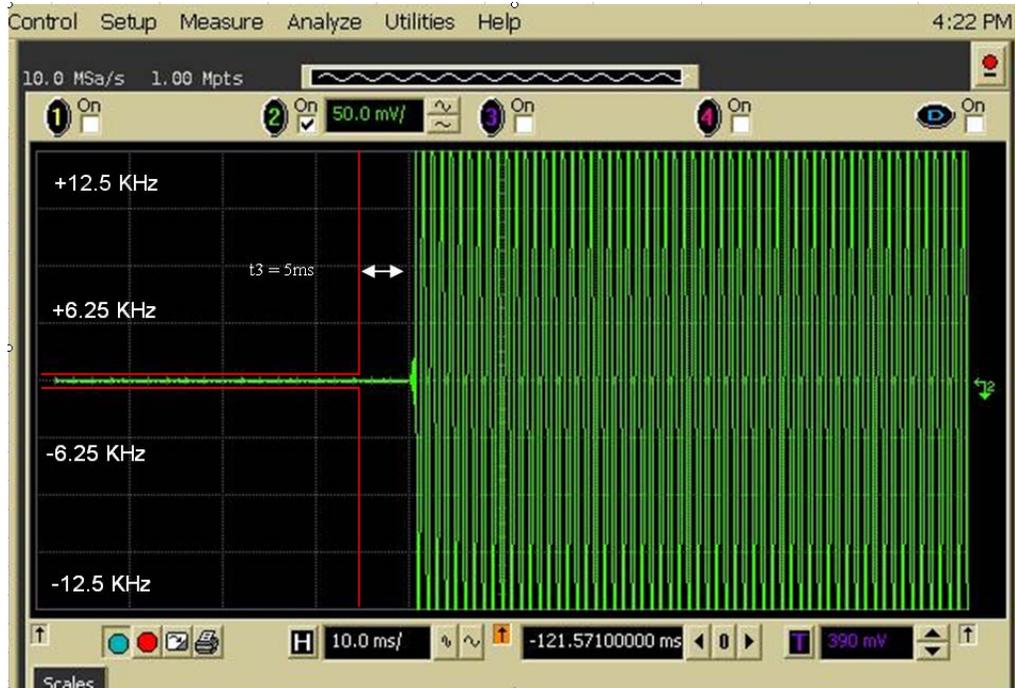


Figure 6I-4: Transient Frequency Behavior, 155.0125MHz, 12.5 kHz Channel Spacing, De-Key Transient