

Submitted Measured Data

<u>MEASUREMENT</u>	<u>EXHIBIT</u>	<u>NUMBER OF PAGES</u>
1. RF Power Output Data	6A	1
2. Audio Frequency Response	6B	1
3. Audio Low Pass Filter Response	6C	1
4. Modulation Limiting	6D	1
5. Occupied Bandwidth	6E	5
6. Radiated Spurious Emissions	6F	1
7. Conducted Spurious Emissions	6G	1
9. Frequency Stability (Volt/Temp)	6H	1
10. Transient Frequency Behavior	6I	2

**RF Power Output Data**

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

**154.5 MHz**

Measured RF output: 1.0 Watt  
Nominal DC voltage: 7.5 Volts  
Nominal DC Current: 0.830 mAmps  
Primary Supply Voltage: 7.5 Volts

Measured RF output: 3.0 Watts  
Nominal DC voltage: 7.5 Volts  
Nominal DC Current: 1250 mAmps  
Primary Supply Voltage: 7.5 Volts

Measured RF output: 6.6 Watts  
Nominal DC voltage: 7.5 Volts  
Nominal DC Current: 1810 mAmps  
Primary Supply Voltage: 7.5 Volts

**Audio Frequency Response** (Freq: 155.45MHz, ChSp: 12.5 kHz)

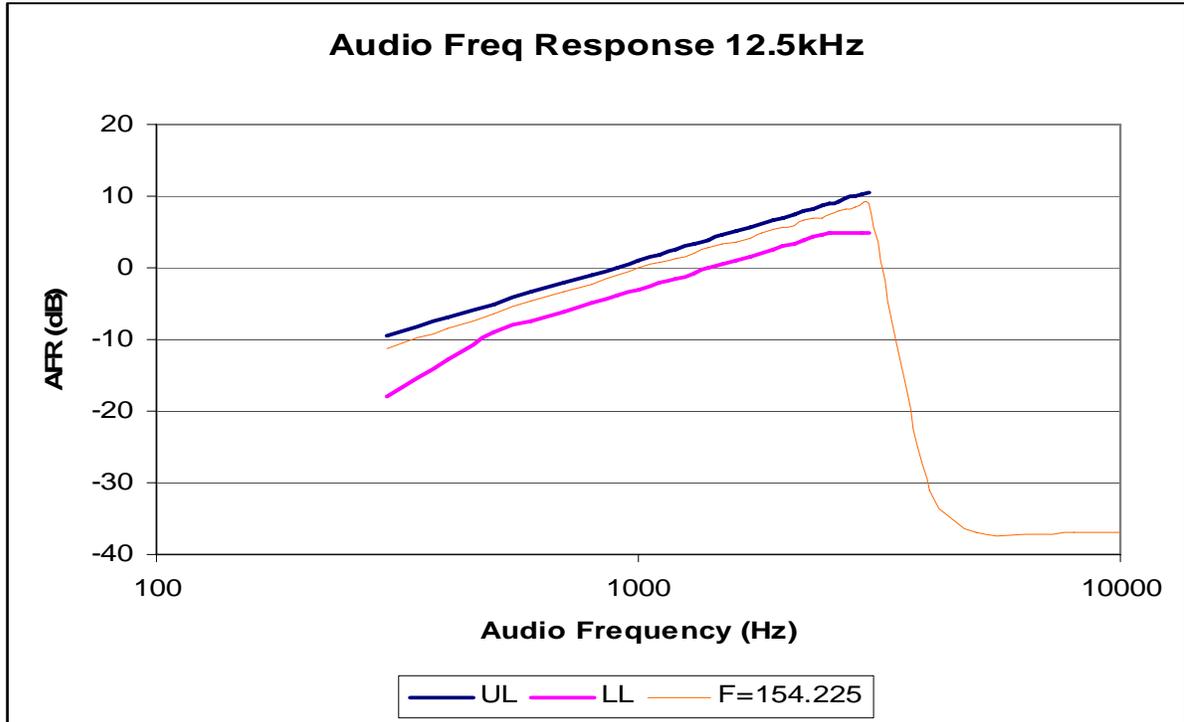


Exhibit 6B-1

**Audio Frequency Response** (Freq: 155.45MHz, ChSp: 25 kHz)

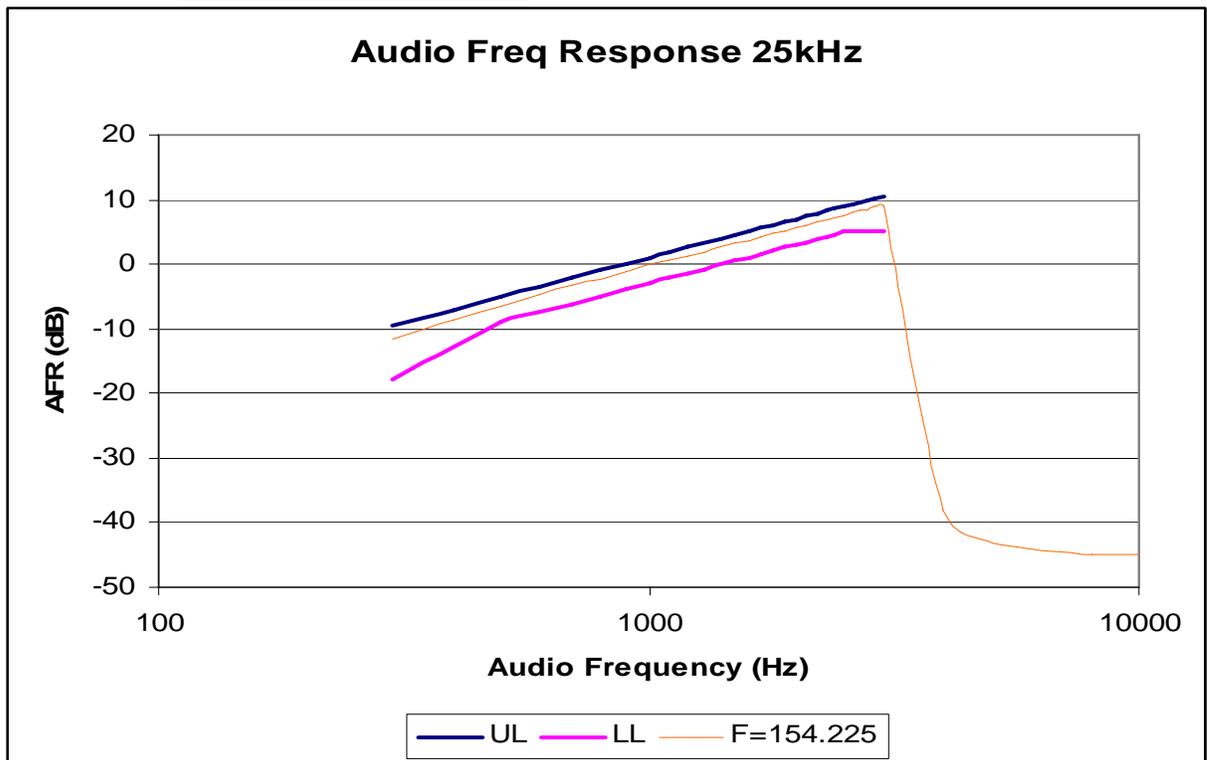


Exhibit 6B-2

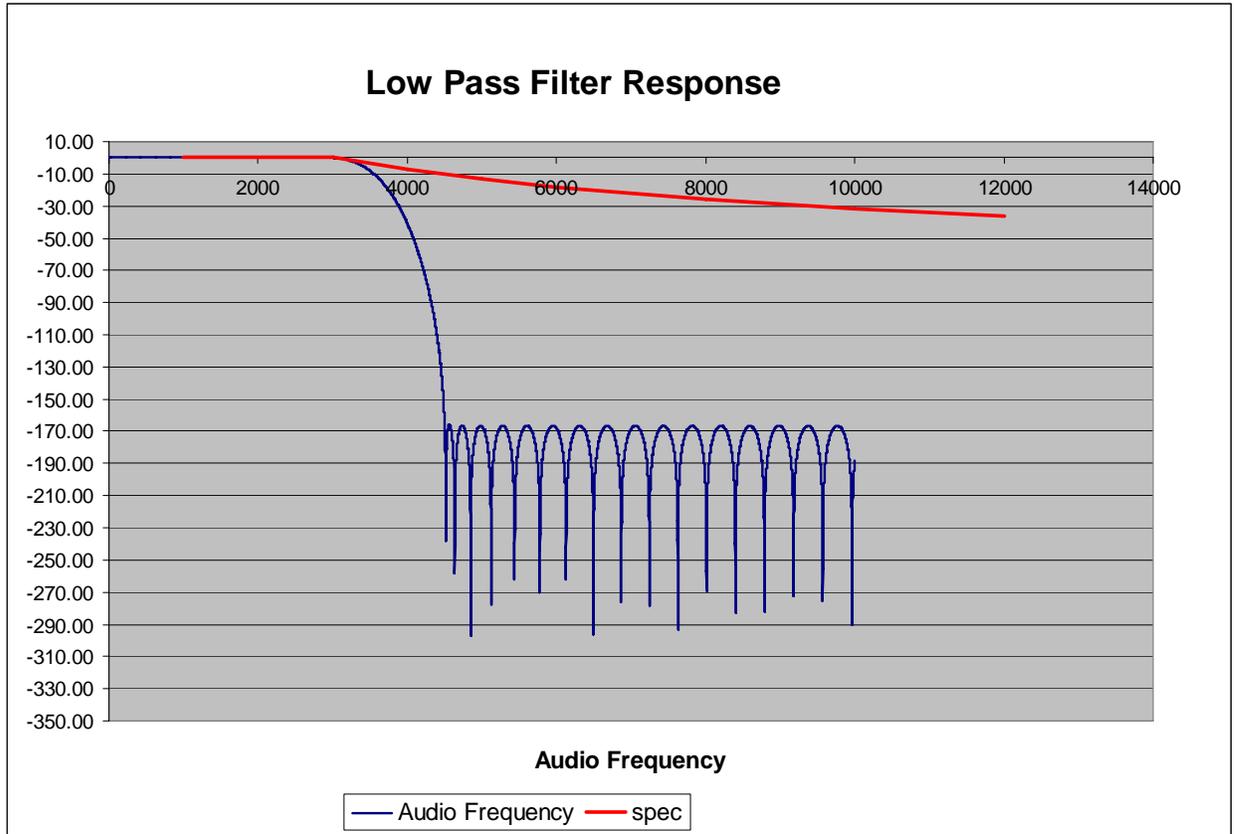
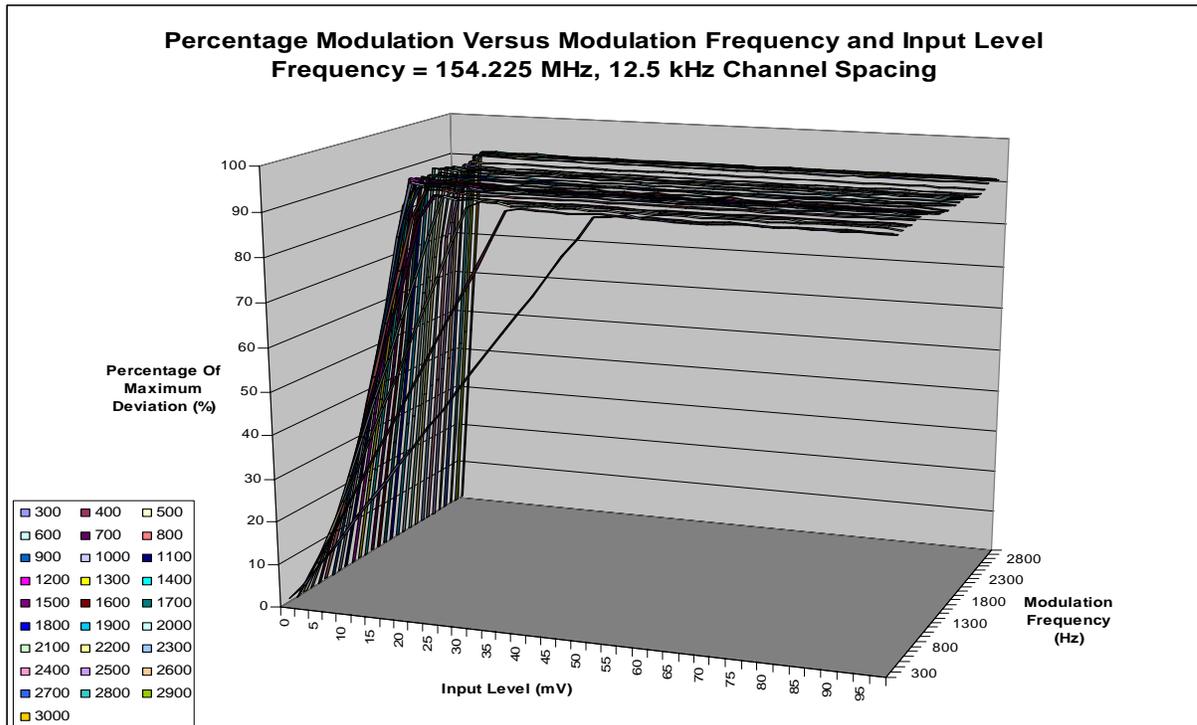


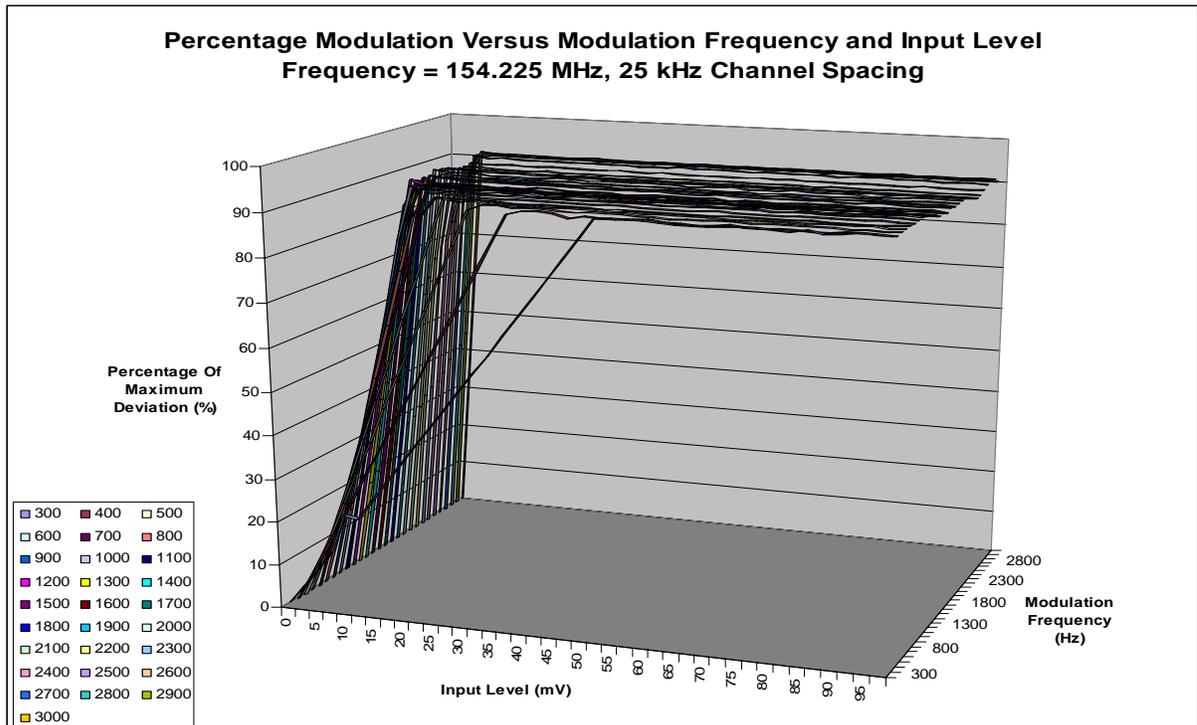
EXHIBIT 6C

**Modulation Limiting**



The Percentage of Max. Deviation on the "Z" axis is referenced to 2.5 kHz for 12.5kHz bandwidth

Exhibit 6D-1



The Percentage of Max. Deviation on the "Z" axis is referenced to 5.0 kHz for 25 kHz bandwidth

**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, Analog 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.

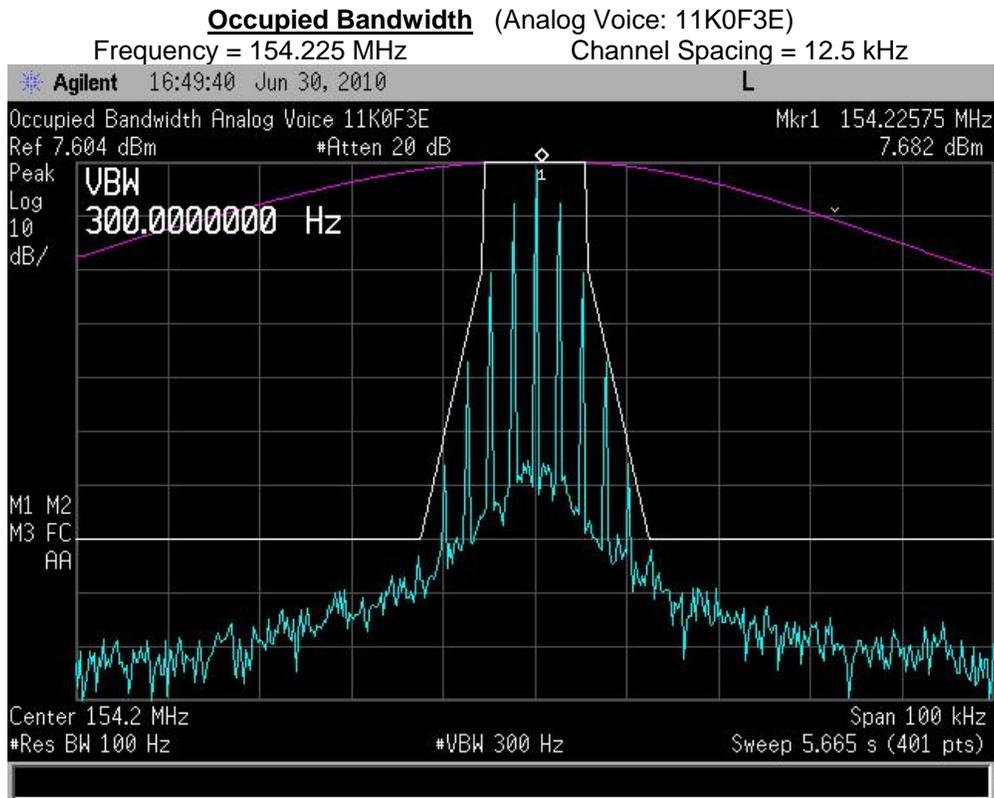


Exhibit 6E-1

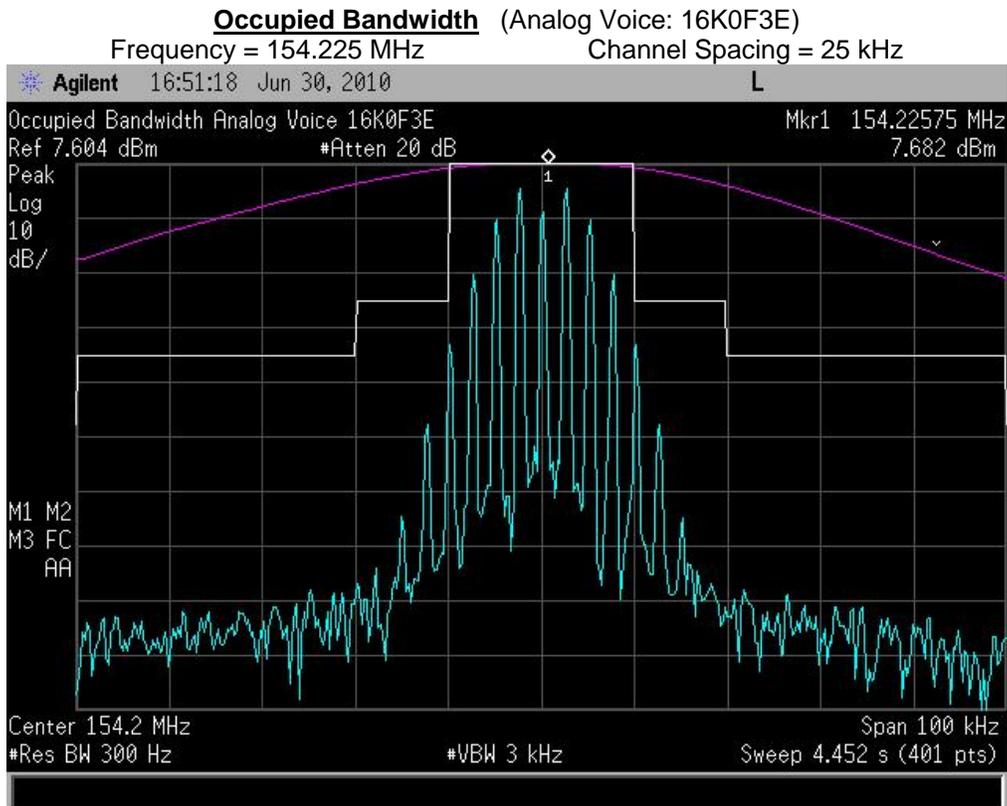


Exhibit 6E-2

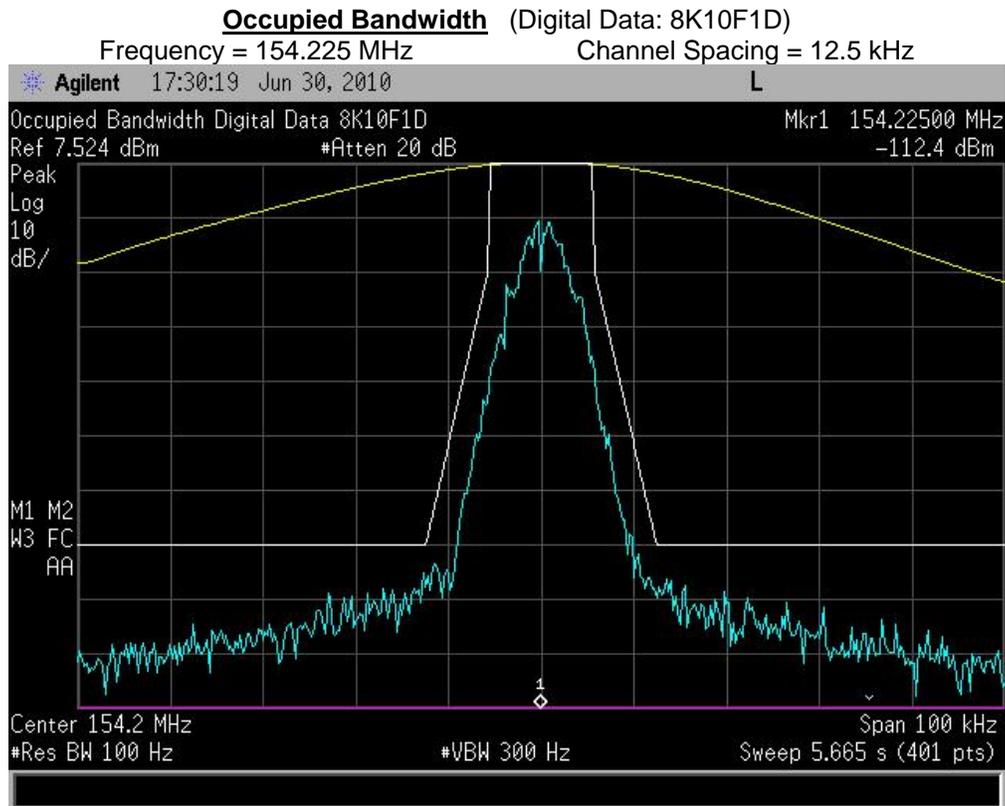


Exhibit 6E-3

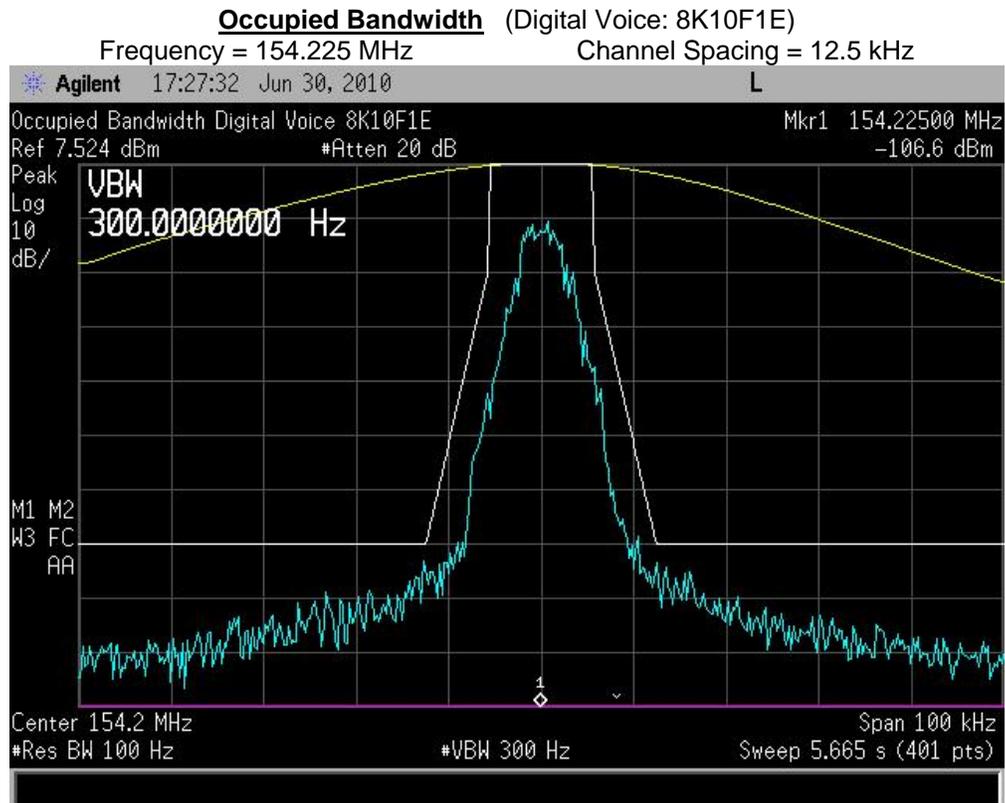


Exhibit 6E-4

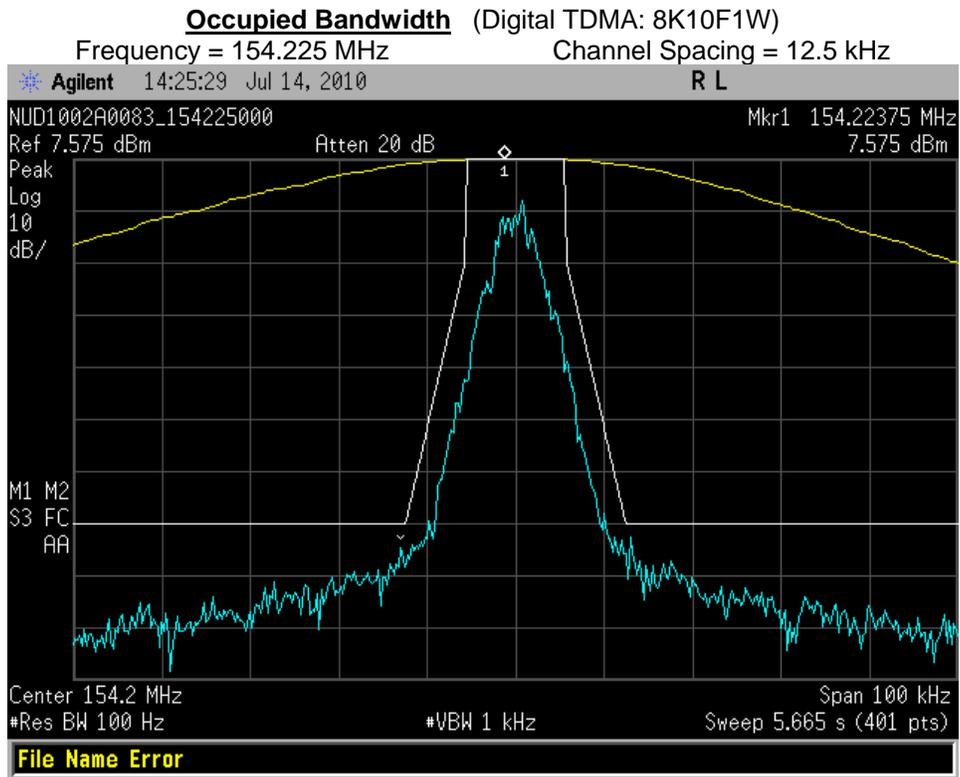
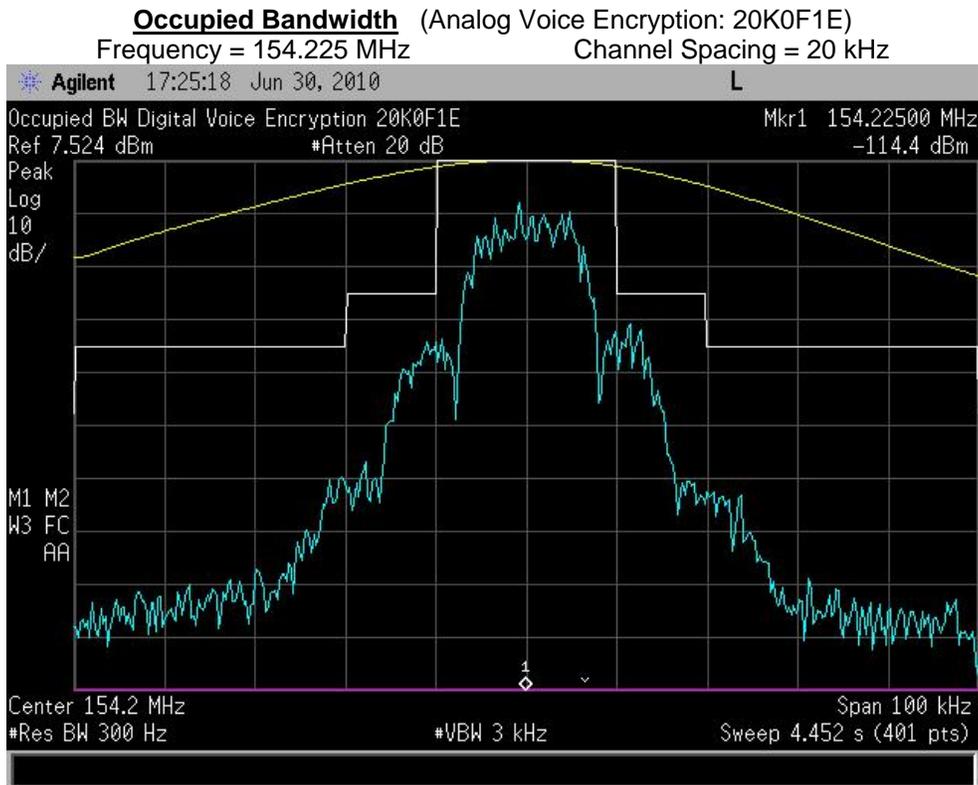


Exhibit 6E-5



**Transmit Radiated Spurious Emissions: APX6000-NUD1006A0091**

**Tx Power: 6.6 Watts**

**154.225 MHz**

**Channel Spacing 12.5kHz | S/N C6AC40256**

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
308.4500	-20	-73.25	-68.12
462.6750	-20	-70.61	-56.56
616.9000	-20	-72.18	-64.37
771.1250	-20	-68.17	-67.09
925.3500	-20	*	*
1079.5750	-20	*	*
1233.8000	-20	*	*
1388.0250	-20	*	*
1542.2500	-20	*	*

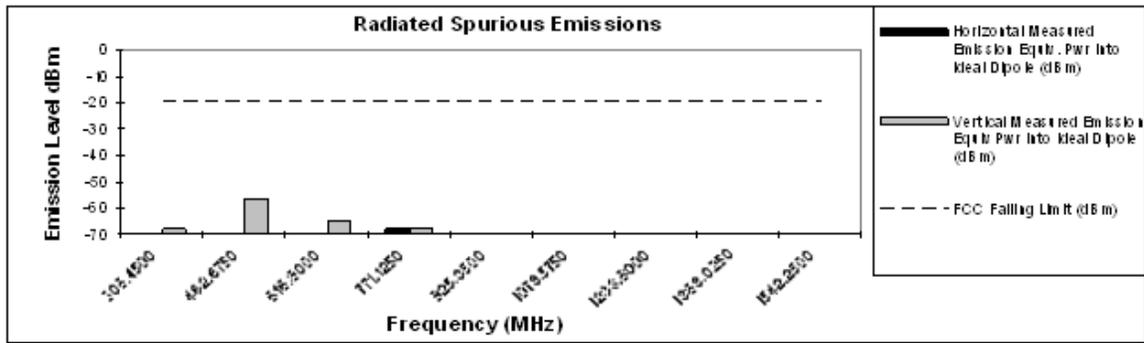


Exhibit 6F-1

**Transmitter Conducted Emissions**

Spurious response was measured at 154.650 MHz. Conducted emissions were measured to 2 GHz, beyond the tenth harmonic. No spurs were measured above the measurement noise floor of -65 dBm.

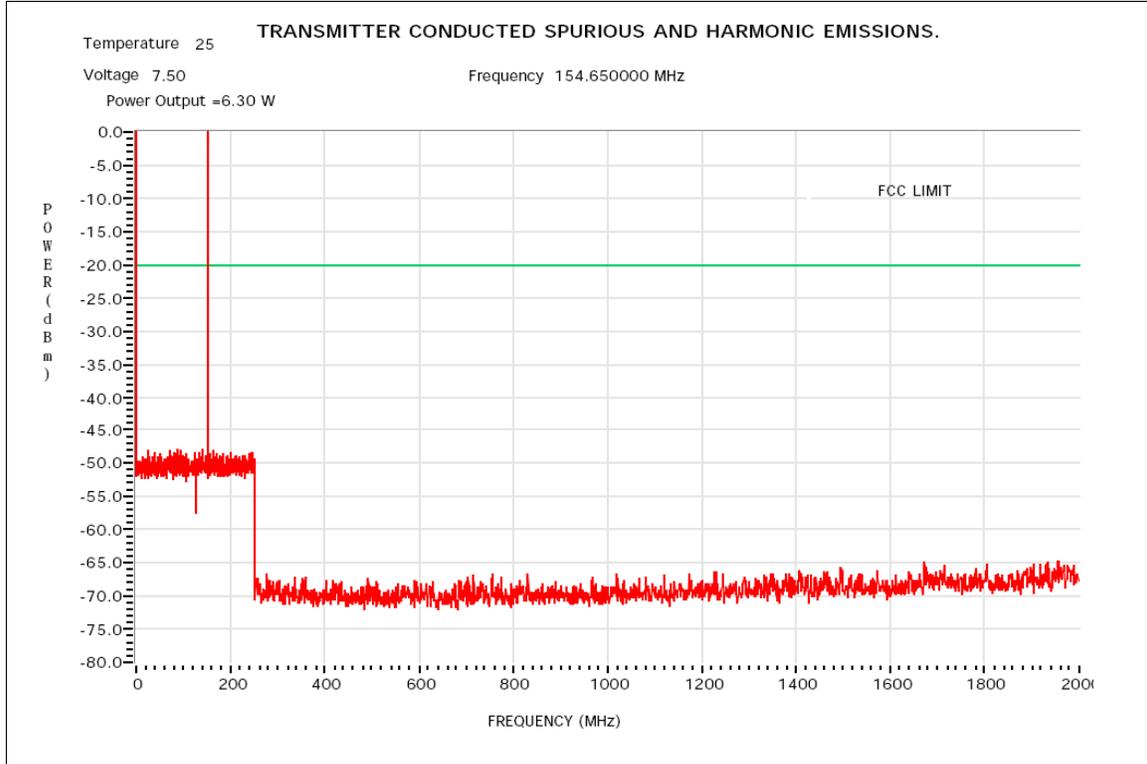


Exhibit 6G-1

Frequency Stability

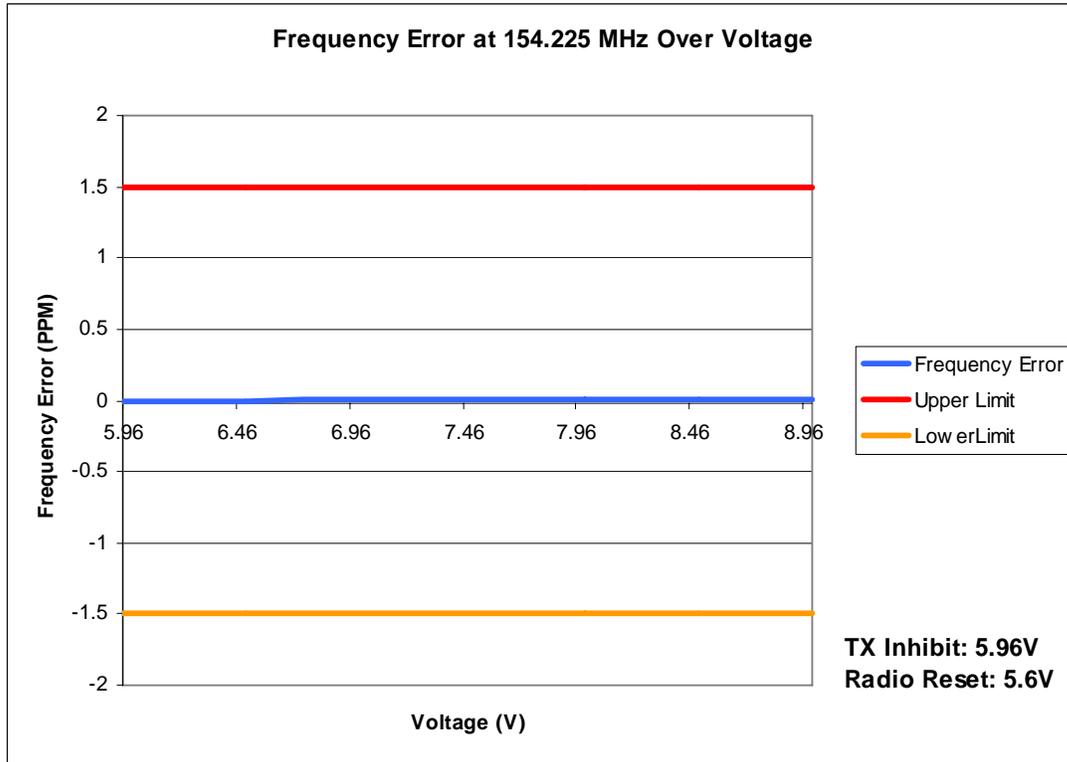


Exhibit 6H-1

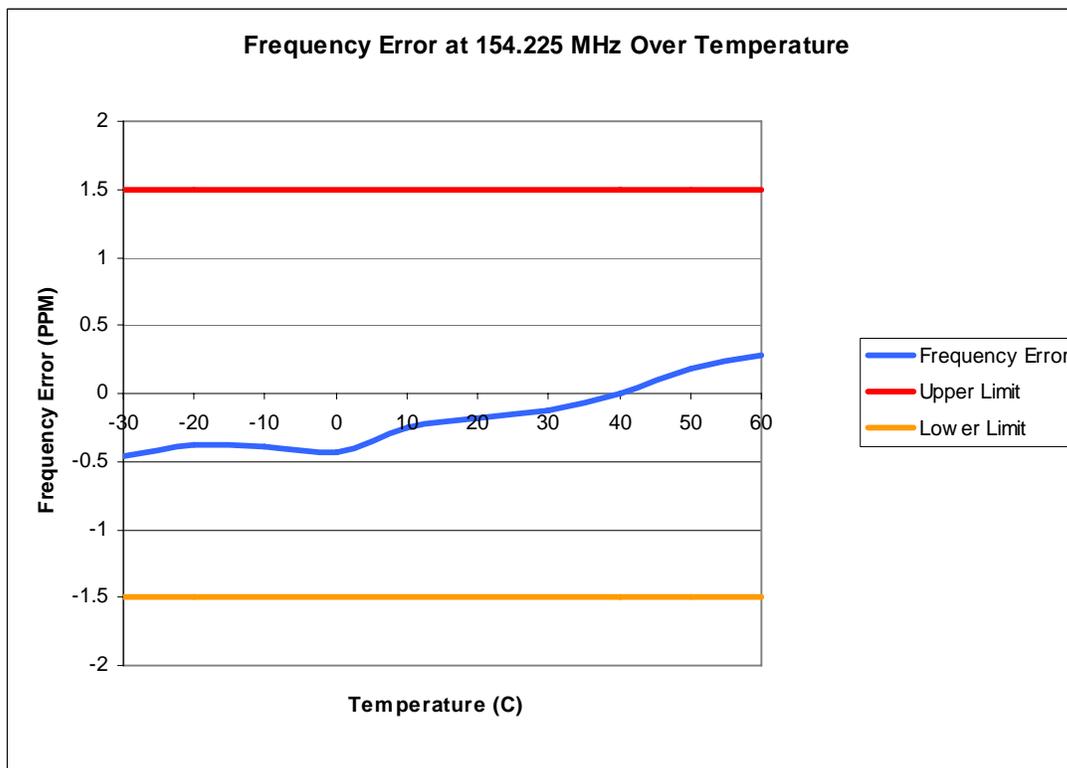


Exhibit 6H-2

Transient Frequency Behavior

TX 154.225MHz – 12.5 kHz Channel Spacing – Transmitter On

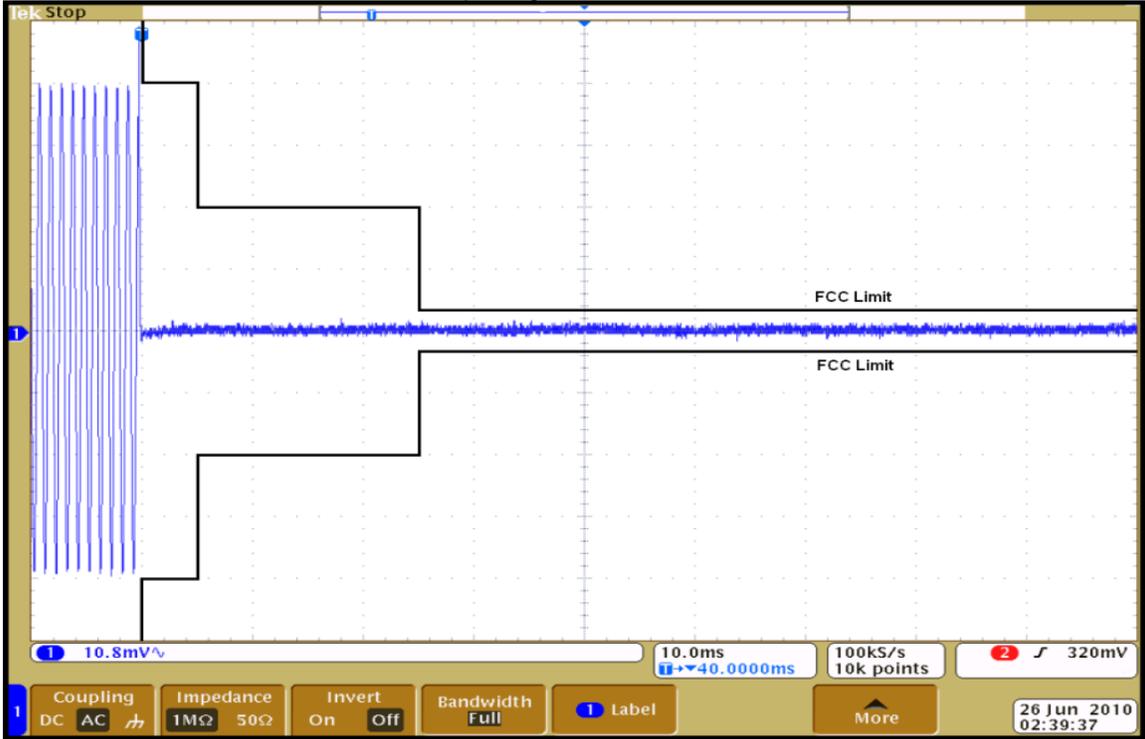


Exhibit 6I-1

TX 154.225Mhz – 12.5kHz Channel Spacing – Transmitter Off

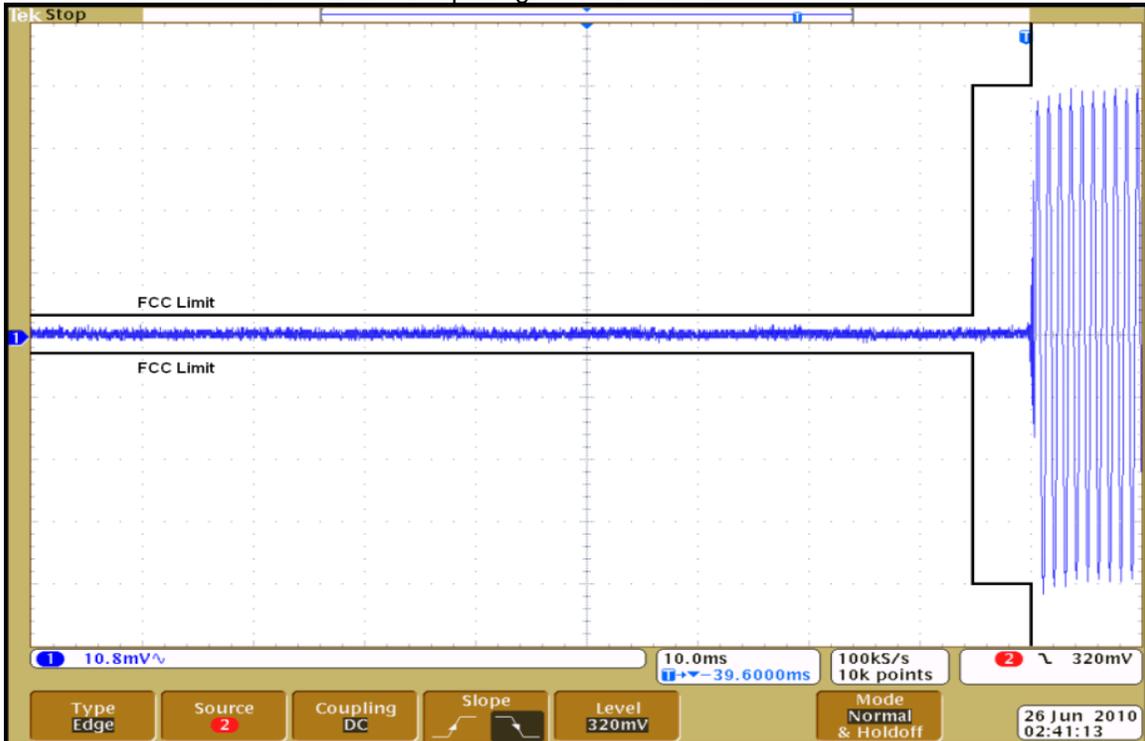


Exhibit 6I-2

Transmit at 154.225MHz – 25 kHz Channel Spacing – Transmitter On

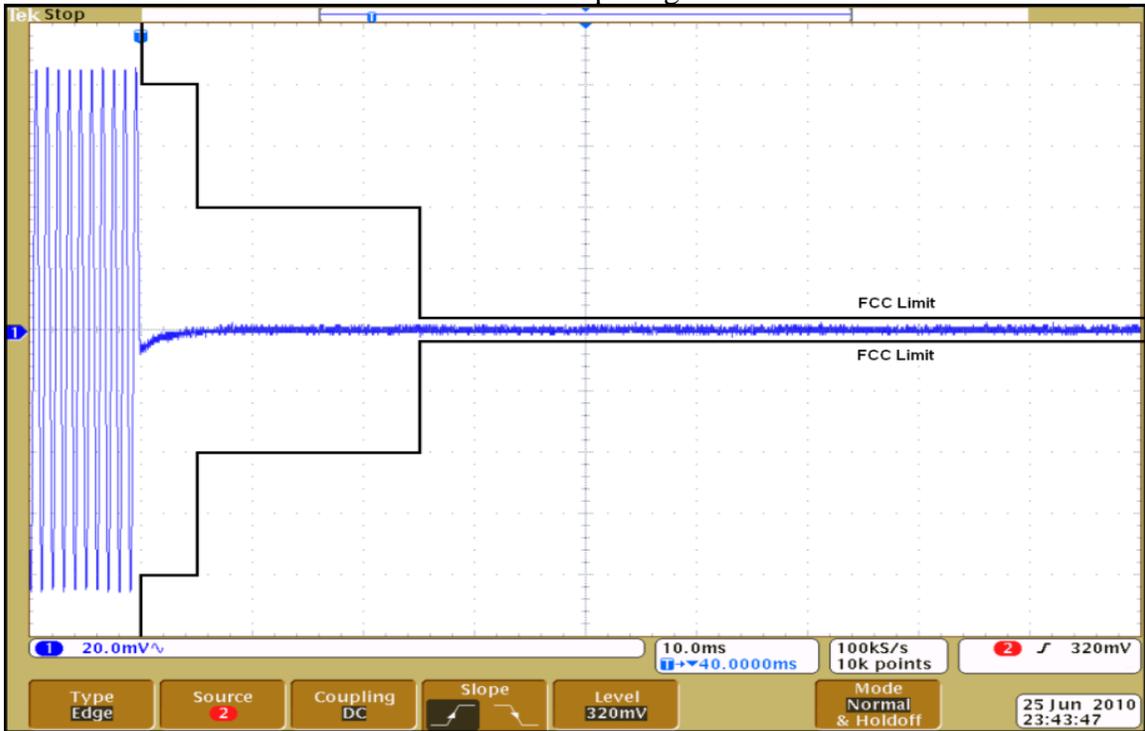


Exhibit 6I-3

Transmit at 154.225MHz – 25 kHz Channel Spacing – Transmitter Off

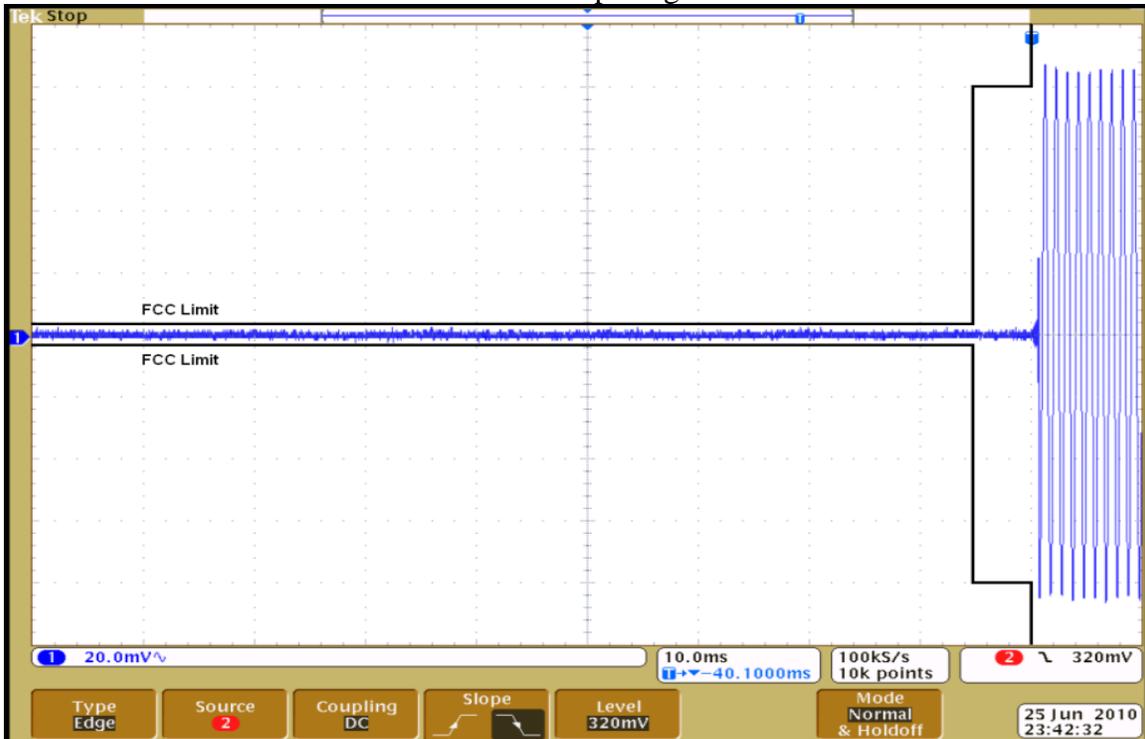


Exhibit 6I-4