

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	2
7. Conducted Spurious Emissions	6G	2
8. Frequency Stability (Temp/Volt)	6H	1
9. 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.

Power Level [W]	Frequency [MHz]	Channel Spacing [KHz]	Nominal DC Voltage [V]	Nominal DC Current [A]
120	425.025	12.5	13.4	20.323
110	425.025	12.5	13.4	19.174
55	425.025	12.5	13.4	12.718
25	425.025	12.5	13.4	8.591

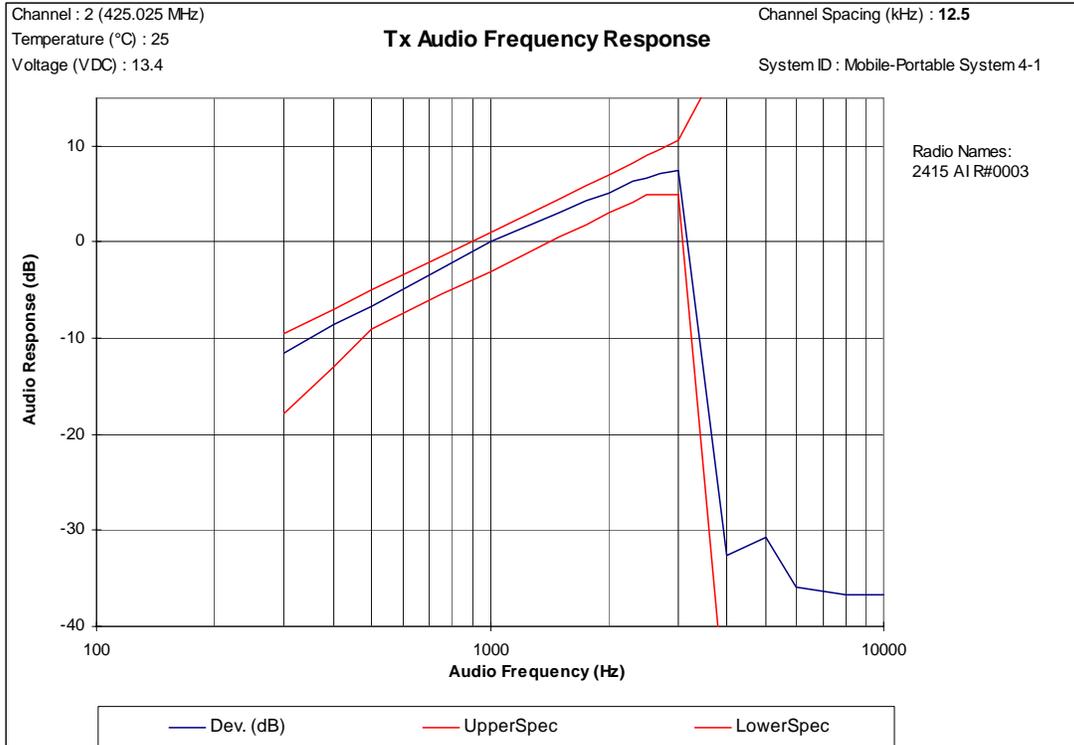


EXHIBIT 6B-1

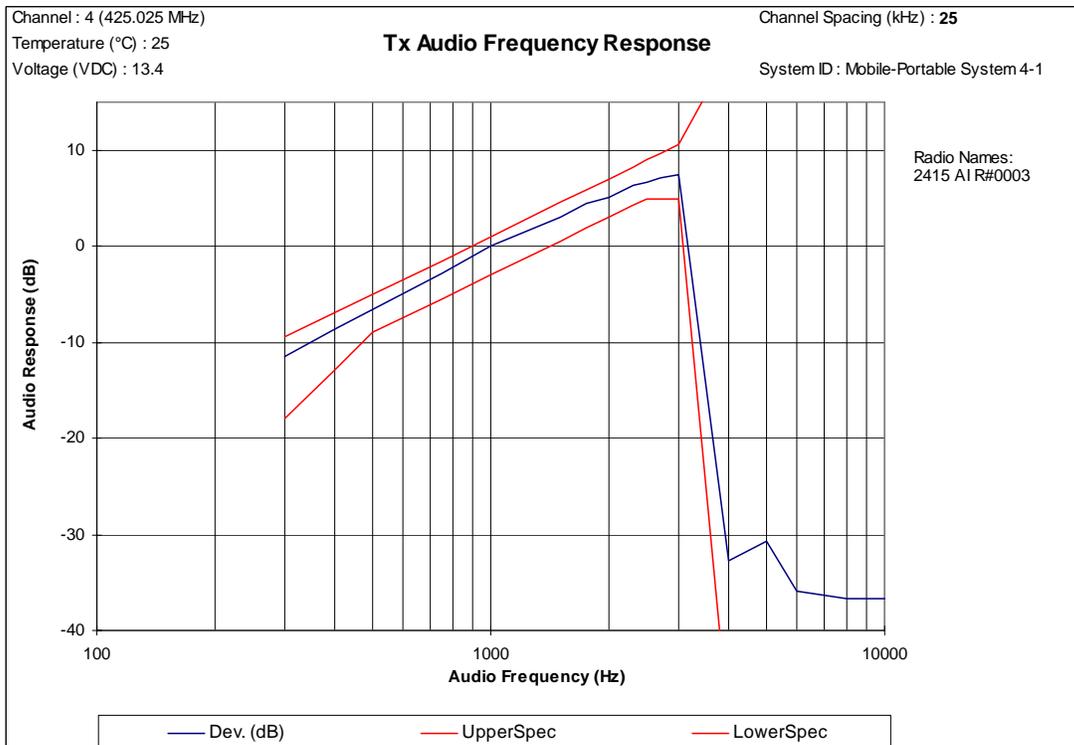


EXHIBIT 6B-2

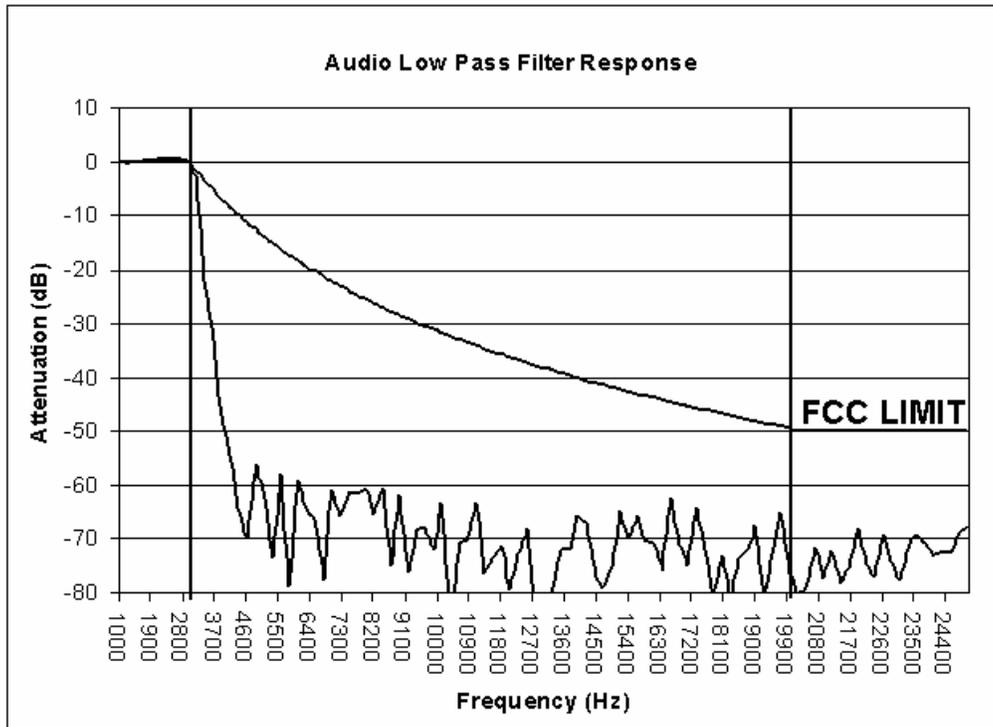
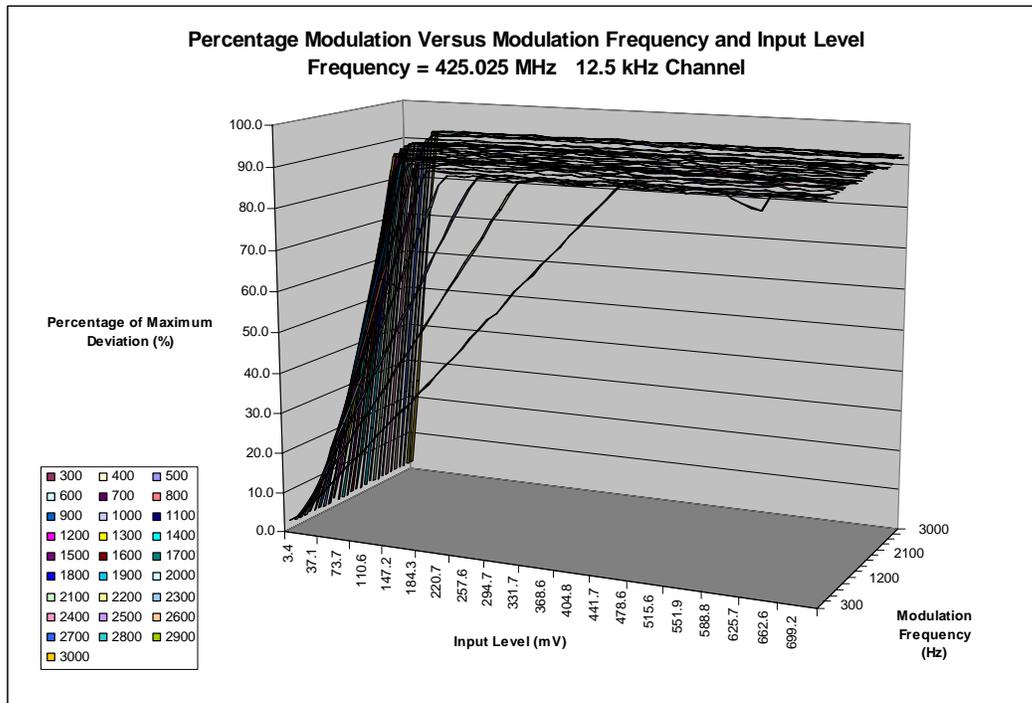
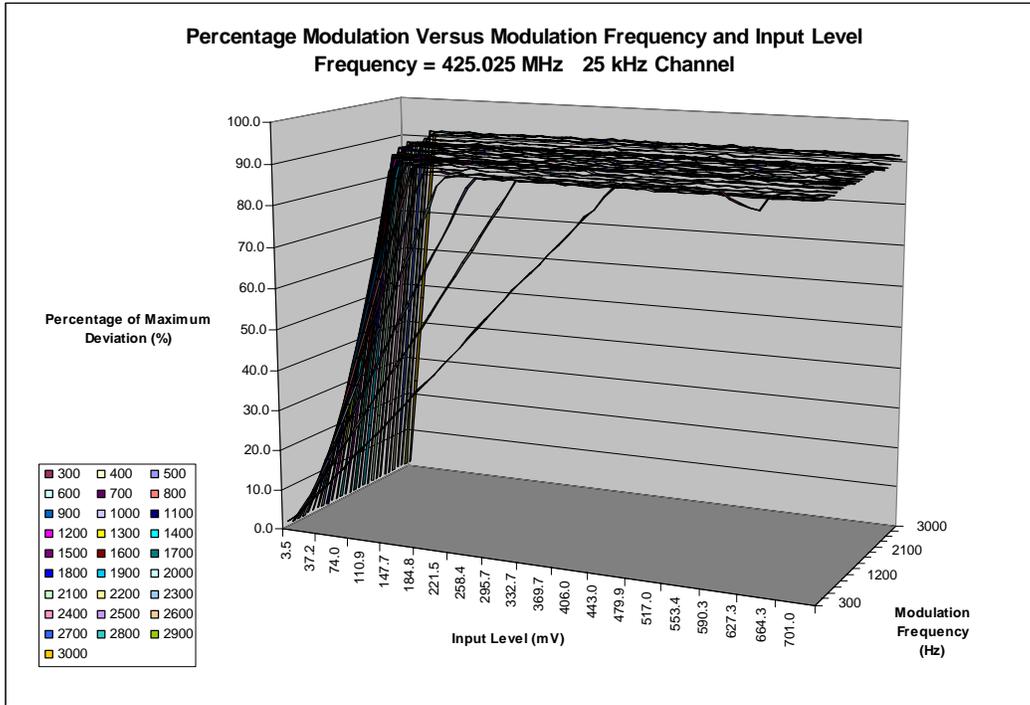


EXHIBIT 6C



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

EXHIBIT 6D-1



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

EXHIBIT 6D-2

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: AZ492FT4870**.

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.

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

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

Measurements per Rule Part 2.202 Section C (4) were done because Part 2.202 Section g Table III A, 1 formulation produces an excessive result using the value of K recommended in the Table. Therefore, 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 EIA/TIA 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

Measurements per Rule Part 2.202 Section C (4) were done because Part 2.202 Section g Table III A, 1 formulation produces an excessive result using the value of K recommended in the Table. Therefore, 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 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.

$$BW = 2(M+D) = 2*(6 \text{ kHz} + 4 \text{ kHz}) = 20 \text{ kHz} \implies 20K0$$

F1E portion of the designator indicates digital voice.

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

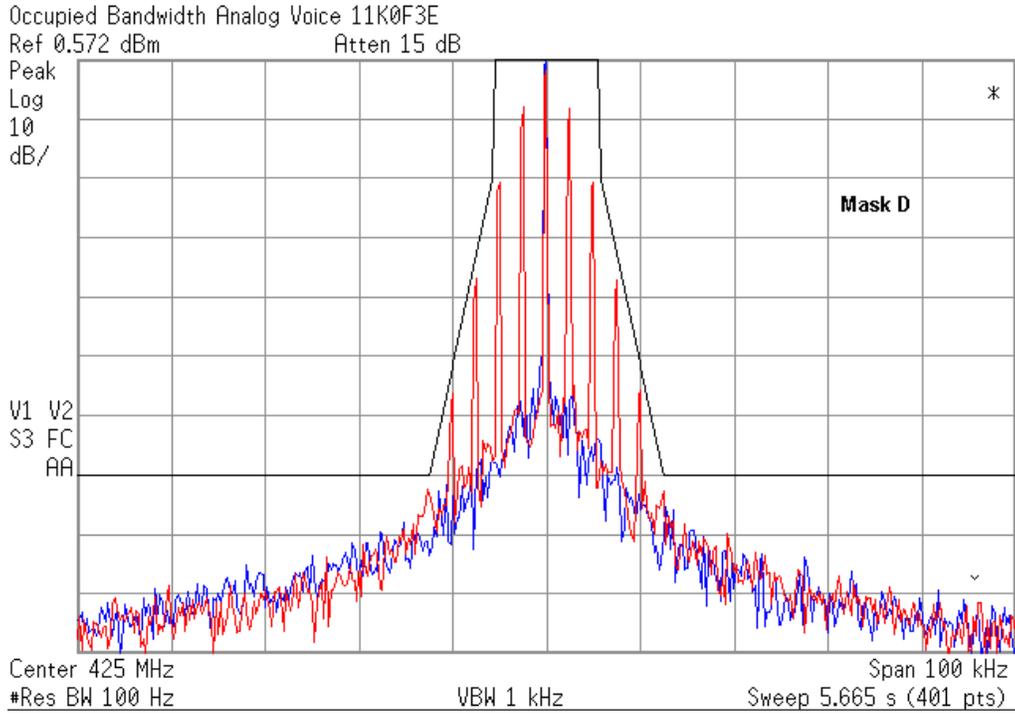


EXHIBIT 6E-1

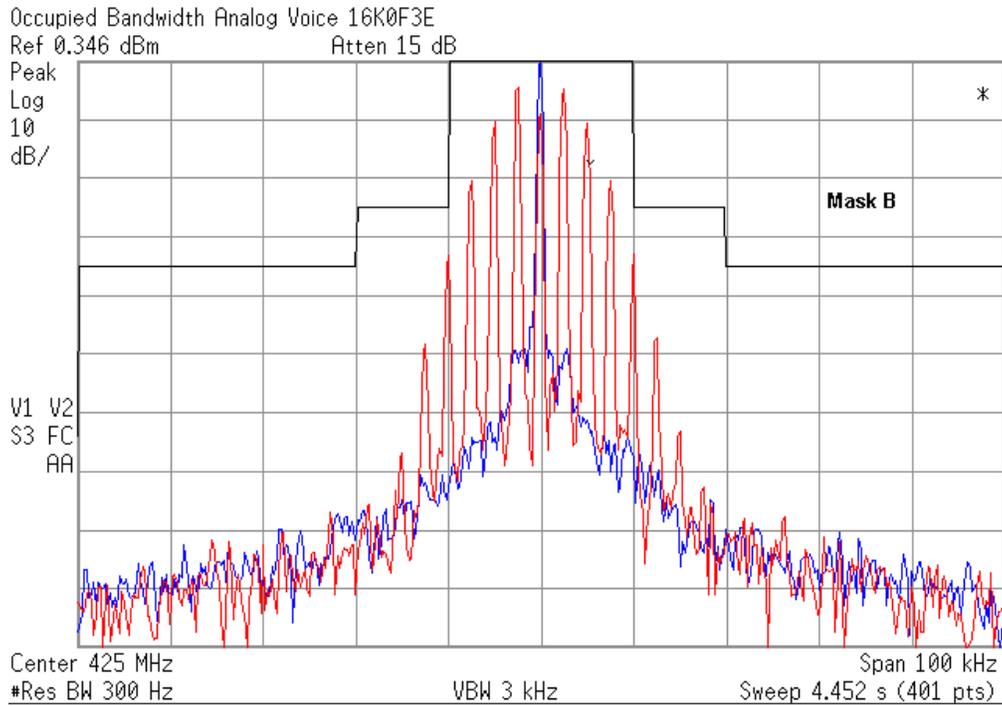


EXHIBIT 6E-2

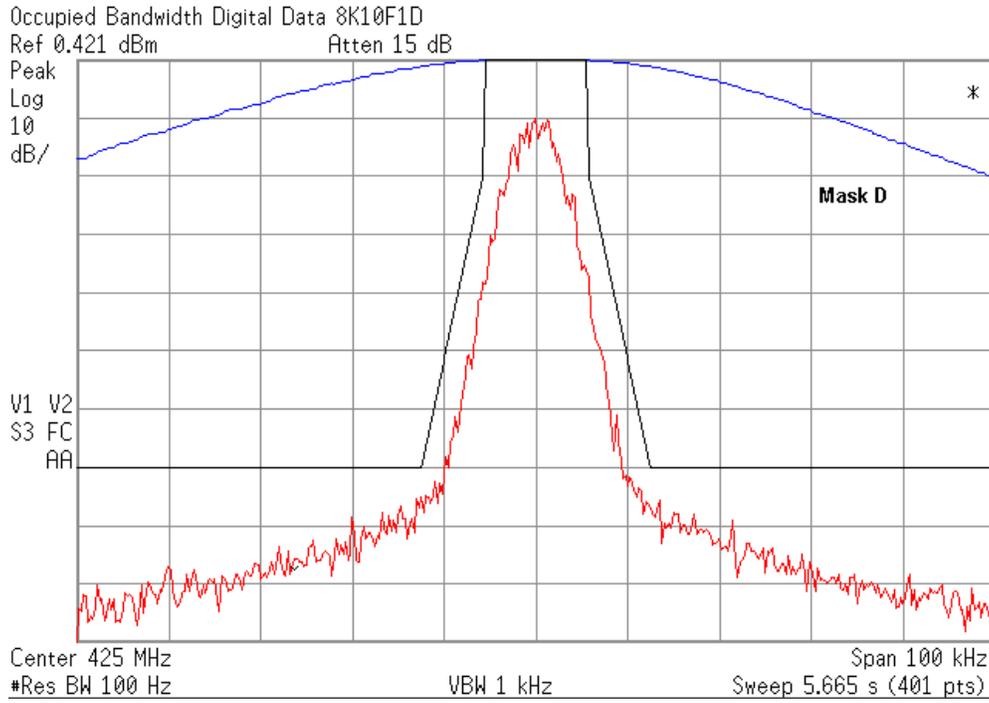


EXHIBIT 6E-3

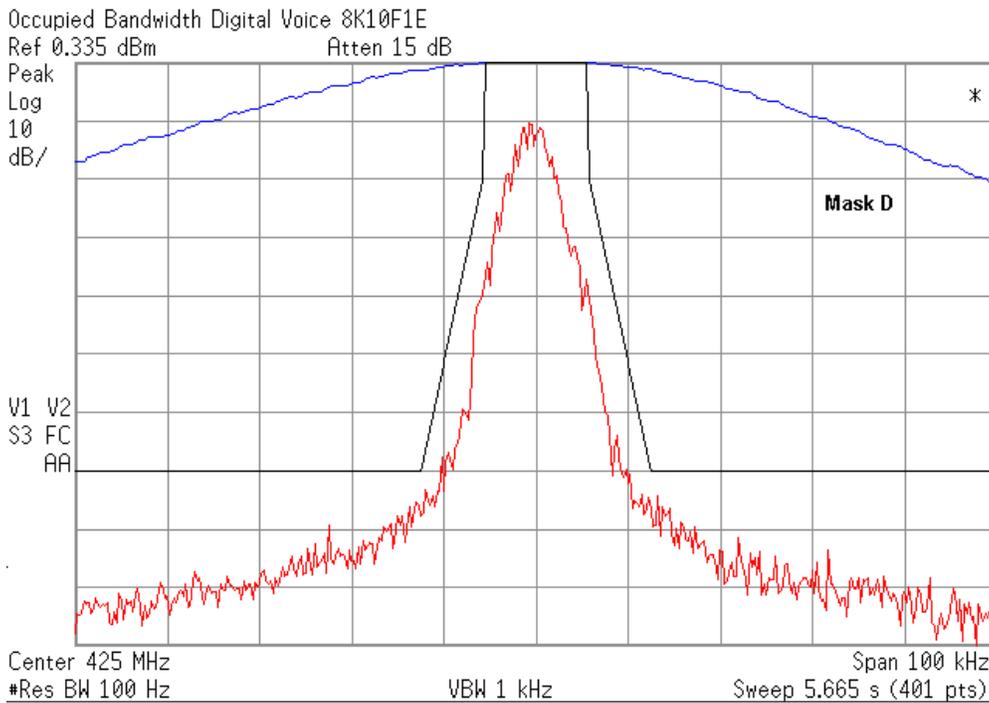


EXHIBIT 6E-4

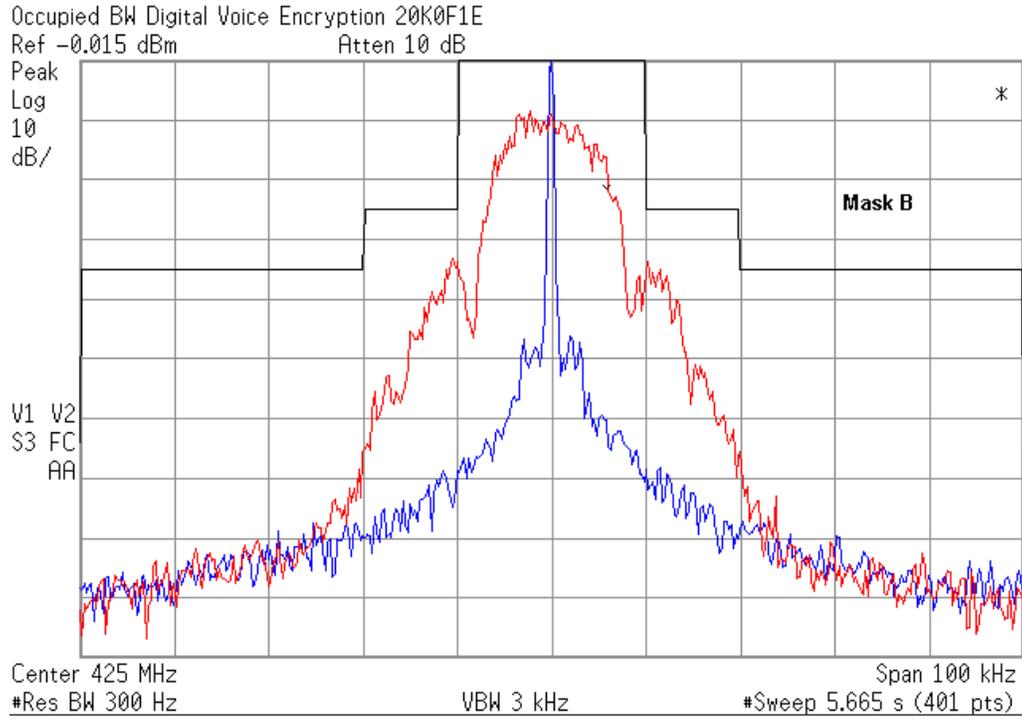
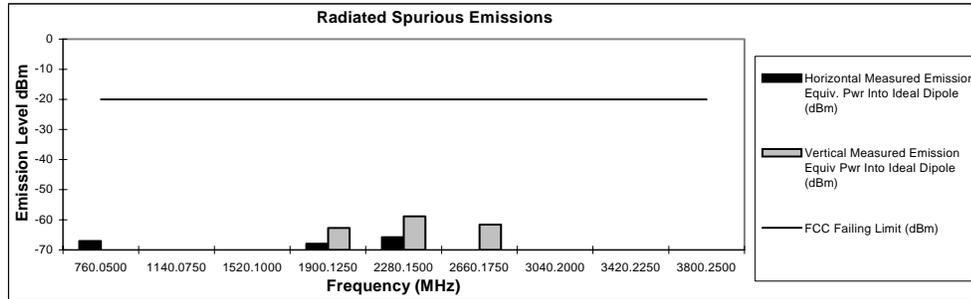


EXHIBIT 6E-5

Transmit Radiated Spurious Emissions: Quest-Millennium
Tx Power: 120 Watts

380.025 MHz **Channel Spacing 12.5kHz | S/N FCC # 1**

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
760.0500	-20	-67.03	-70.69
1140.0750	-20	-71.98	*
1520.1000	-20	*	*
1900.1250	-20	-67.95	-62.68
2280.1500	-20	-65.79	-58.85
2660.1750	-20	*	-61.61
3040.2000	-20	*	*
3420.2250	-20	*	*
3800.2500	-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.

Motorola Plantation EMC Lab – Test Performed by: Curt Mc Lennan
 FCC Registration: 91932 / Industry Canada: IC3679

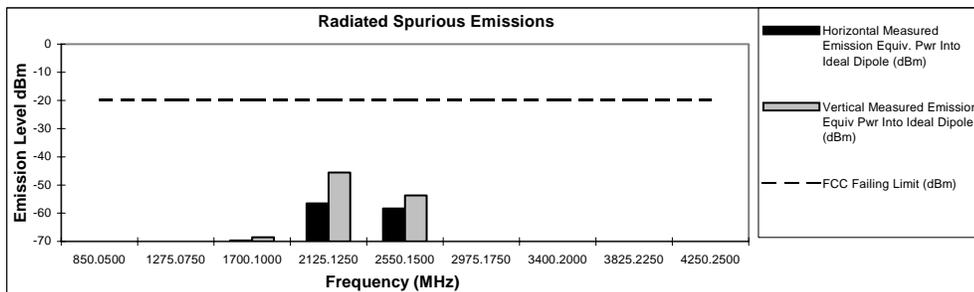
October 9, 2004

EXHIBIT 6F-1

Transmit Radiated Spurious Emissions: Quest-Millennium
Tx Power: 120 Watts

425.025 MHz **Channel Spacing 12.5kHz | S/N FCC # 1**

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
850.0500	-20	*	*
1275.0750	-20	-69.97	-71.48
1700.1000	-20	-69.62	-68.50
2125.1250	-20	-56.55	-45.58
2550.1500	-20	-58.30	-53.64
2975.1750	-20	*	*
3400.2000	-20	*	*
3825.2250	-20	*	*
4250.2500	-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.

Motorola Plantation EMC Lab – Test Performed by: Curt Mc Lennan
 FCC Registration: 91932 / Industry Canada: IC3679

October 9, 2004

EXHIBIT 6F-2

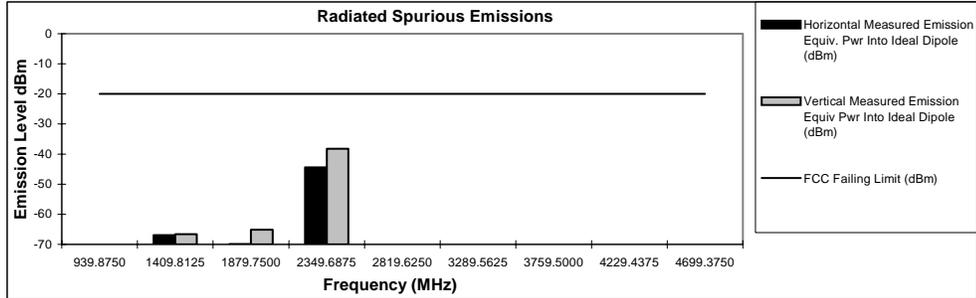
Transmit Radiated Spurious Emissions: Quest-Millennium

Tx Power: 120 Watts

469.9375 MHz

Channel Spacing 12.5kHz | S/N FCC # 1

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
939.8750	-20	*	*
1409.8125	-20	-66.92	-66.55
1879.7500	-20	-69.95	-65.13
2349.6875	-20	-44.36	-38.18
2819.6250	-20	*	*
3289.5625	-20	*	*
3759.5000	-20	*	*
4229.4375	-20	*	*
4699.3750	-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.

Motorola Plantation EMC Lab – Test Performed by: Curt Mc Lennan
FCC Registration: 91932 / Industry Canada: IC3679

October 9, 2004

Frequency: 382.025 MHz (Ch 1)

Channel Spacing: 12.5 kHz
Power: 120 W
Voltage: 13.4 V
Temp: 25 C

2415 A I R#0003

Data ———
Spec - - - - -

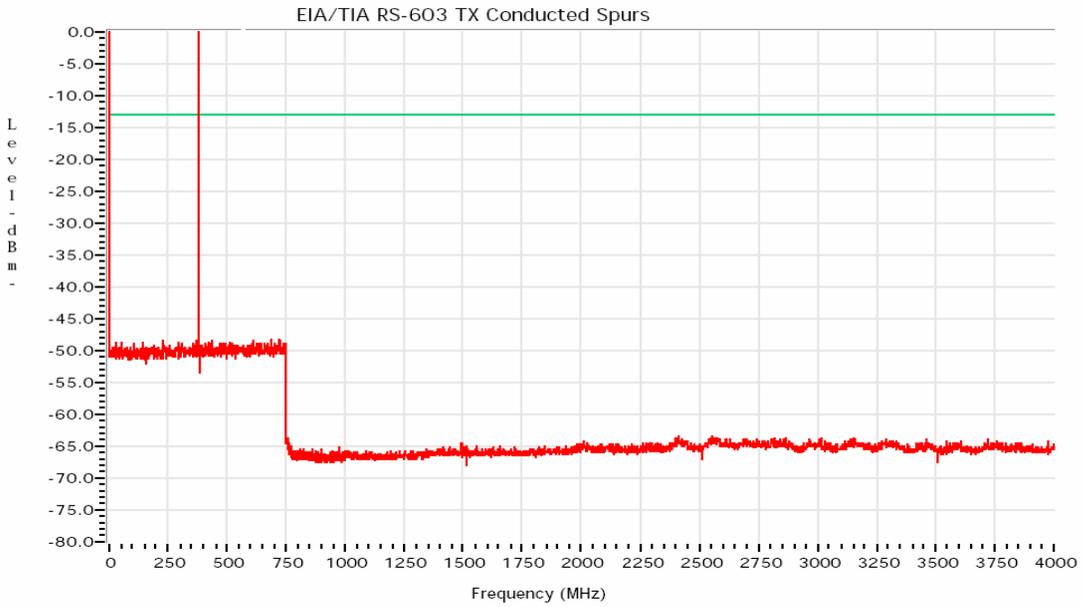


Exhibit 6G – 1

Frequency: 425.025 MHz (Ch 2)

Channel Spacing: 12.5 kHz
Power: 120 W
Voltage: 13.4 V
Temp: 25 C

2415 A I R#0003

Data ———
Spec - - - - -

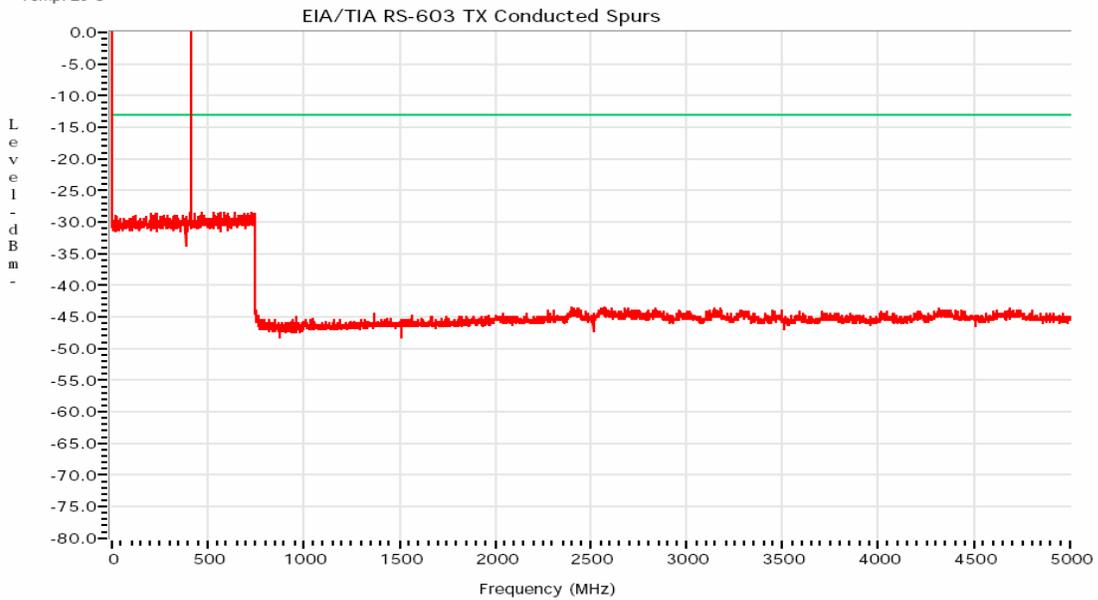


Exhibit 6G – 2

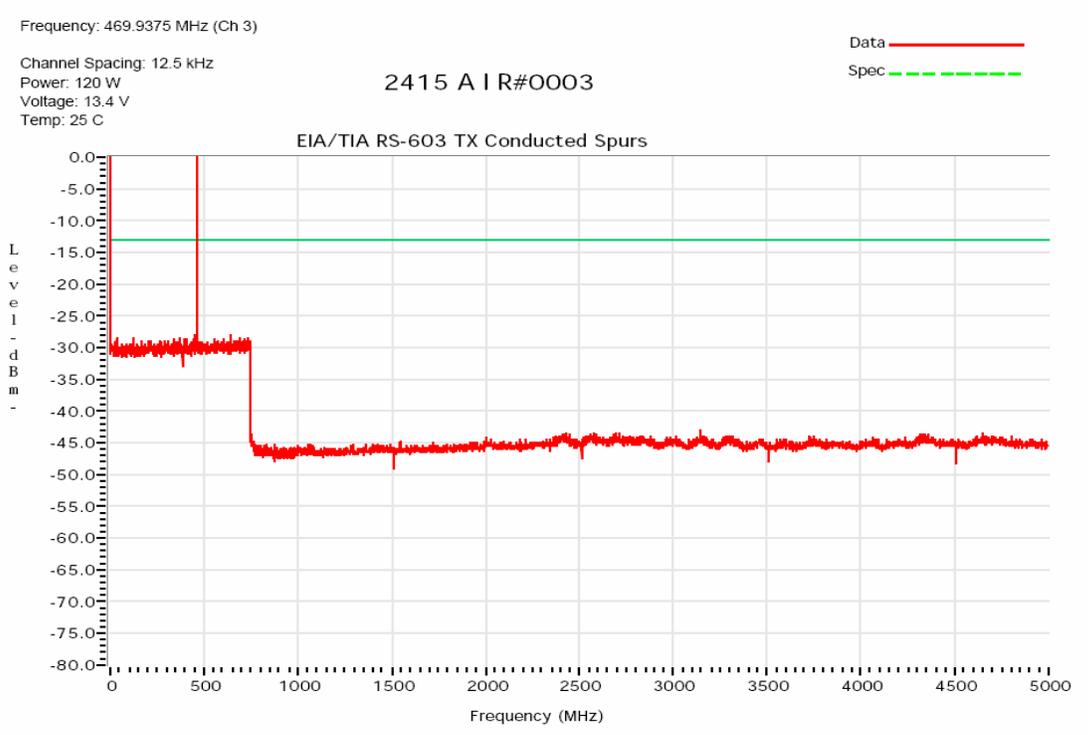


Exhibit 6G - 3

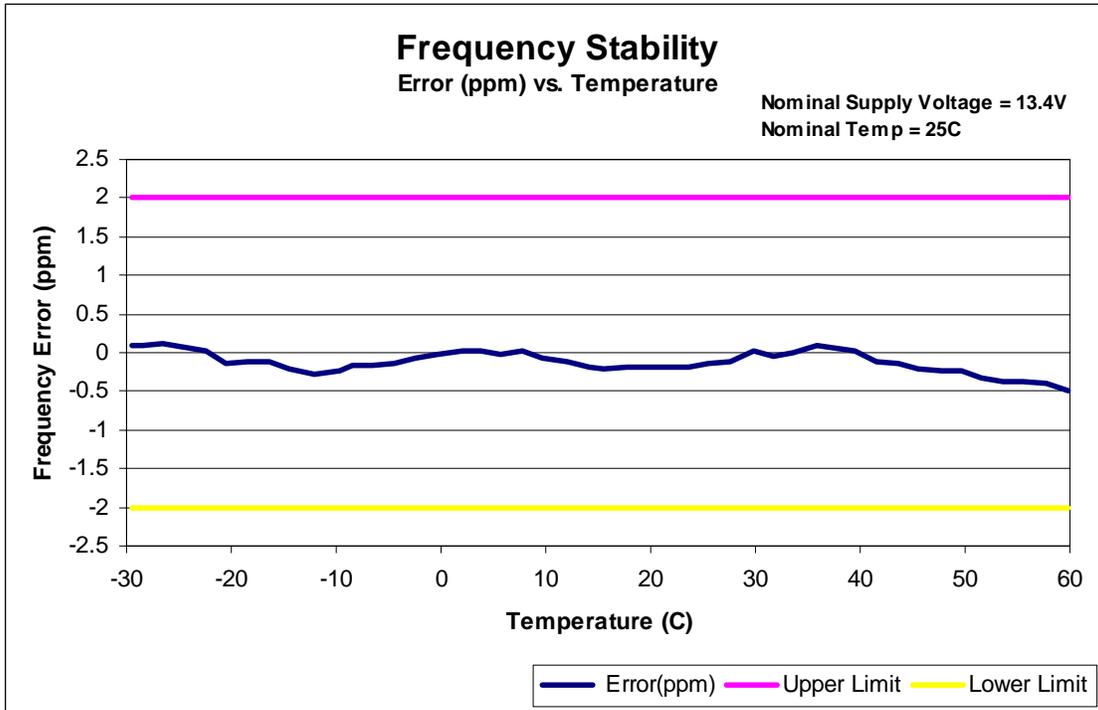


EXHIBIT 6H-1

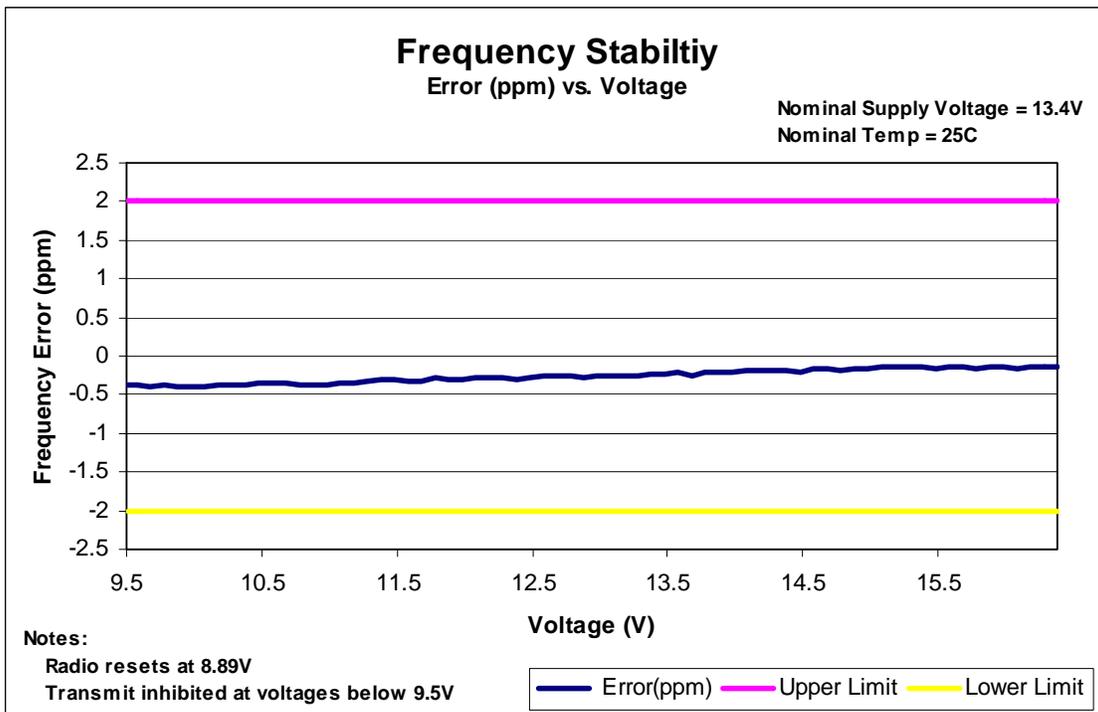


EXHIBIT 6H-2

Transmitter Transient Frequency Behavior
Frequency = 425.025 MHz Channel Spacing = 12.5 kHz

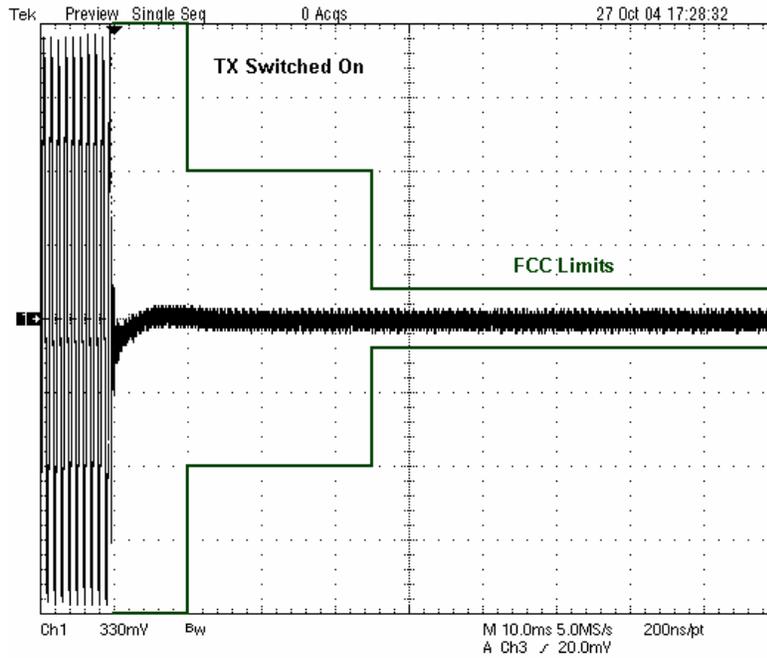


EXHIBIT 6I-1

Transmitter Transient Frequency Behavior
Frequency = 425.025 MHz Channel Spacing = 12.5 kHz

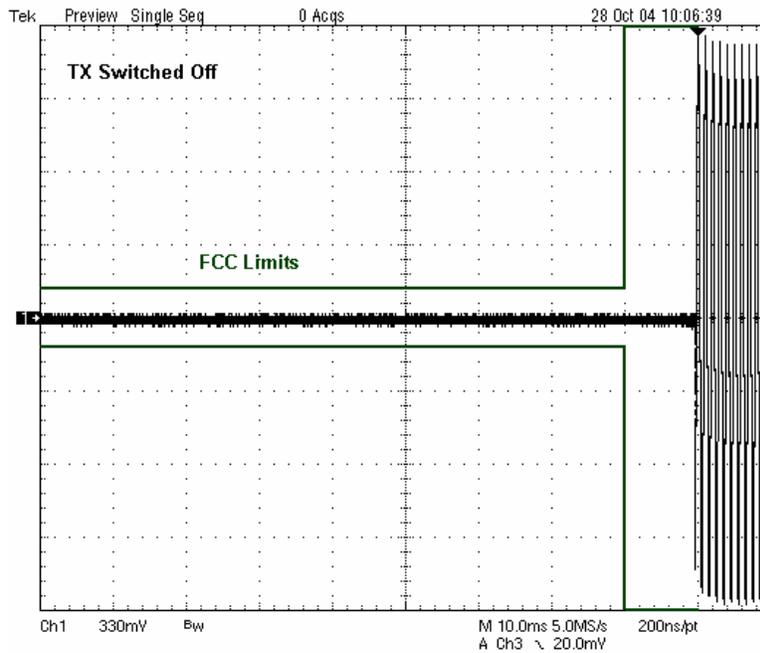


EXHIBIT 6I-2

Transmitter Transient Frequency Behavior
Frequency = 425.025 MHz Channel Spacing = 25 kHz

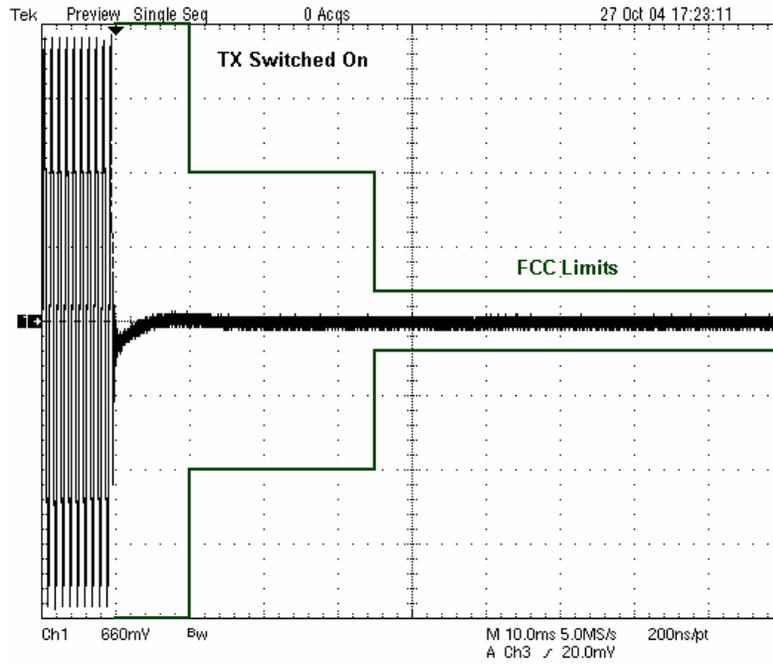


EXHIBIT 6I-3

Transmitter Transient Frequency Behavior
Frequency = 425.025 MHz Channel Spacing = 25 kHz

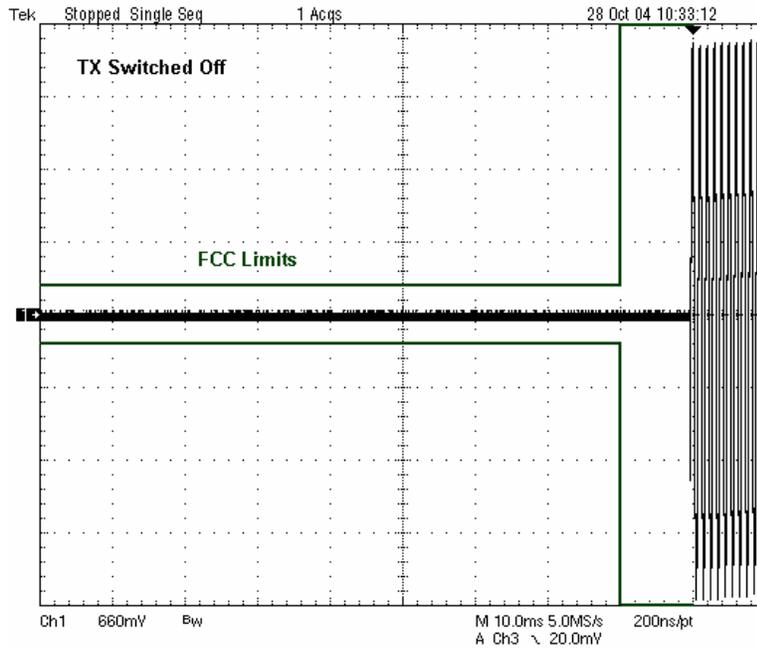


EXHIBIT 6I-4