

SUBMITTED MEASURED DATA

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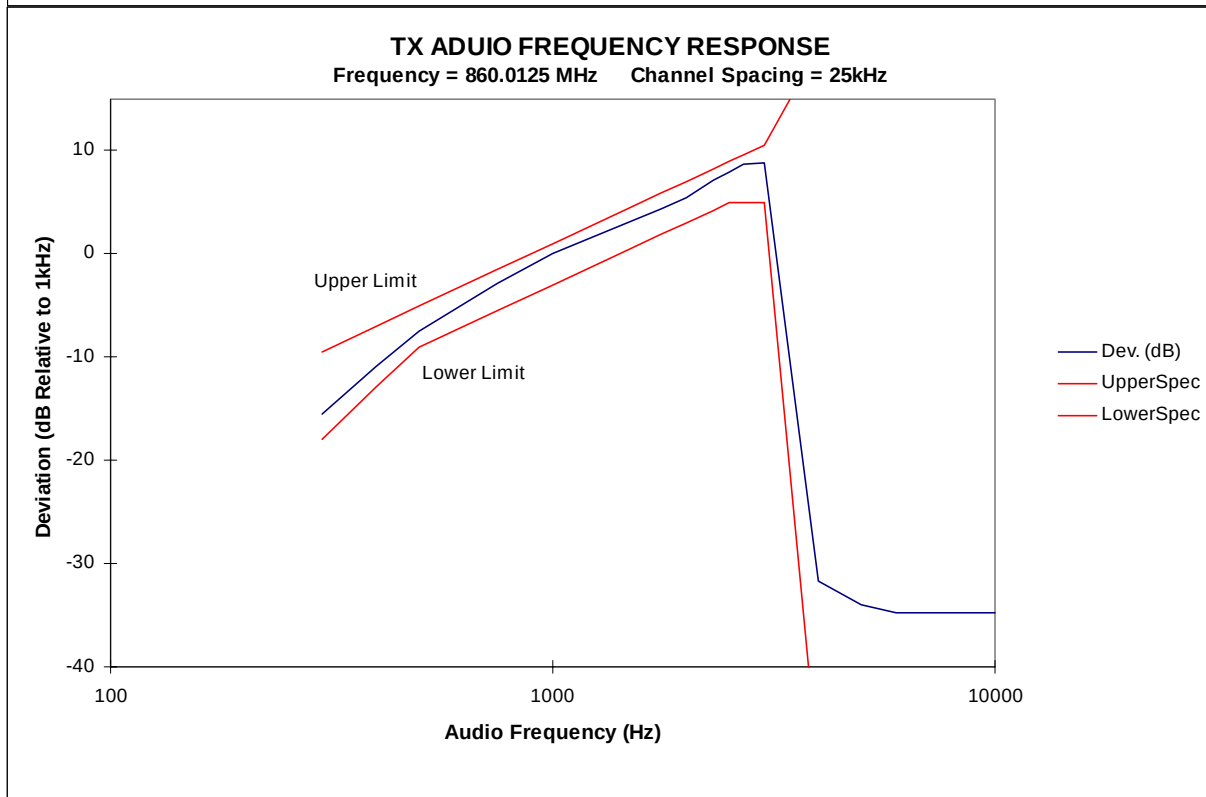
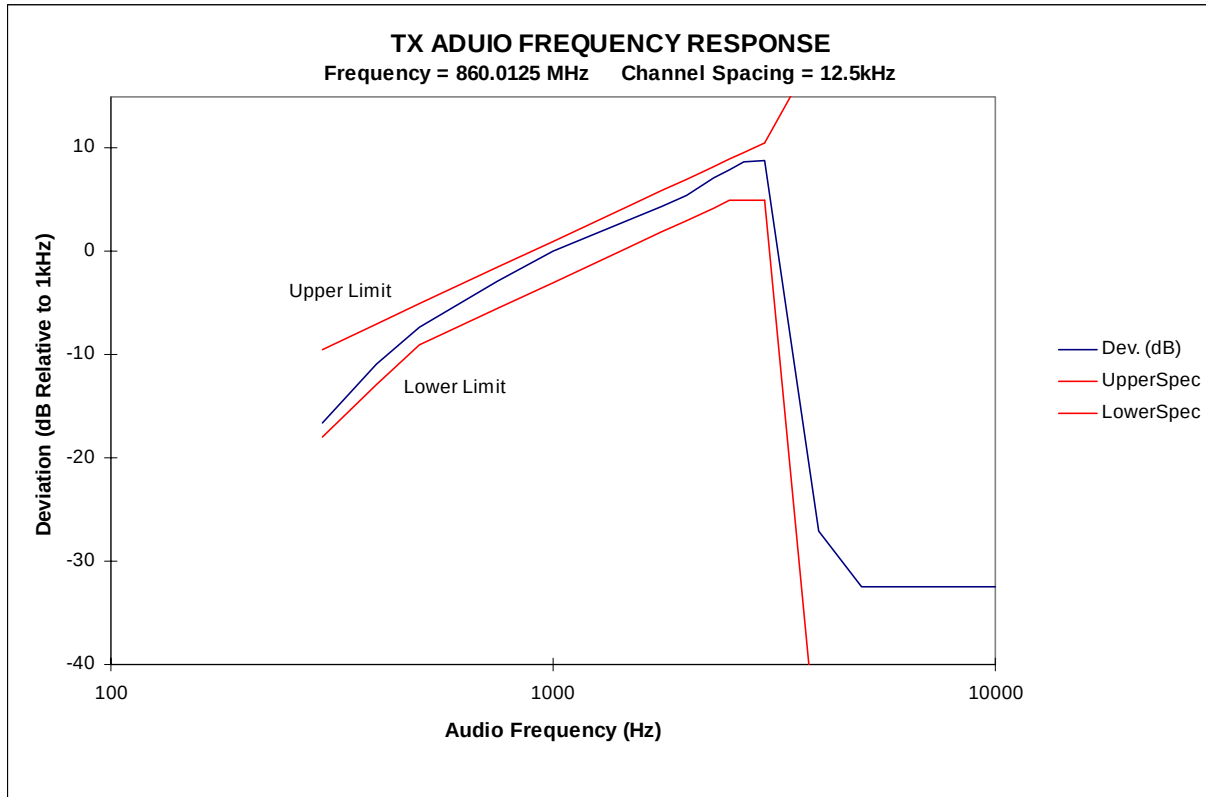
RF POWER OUTPUT DATA

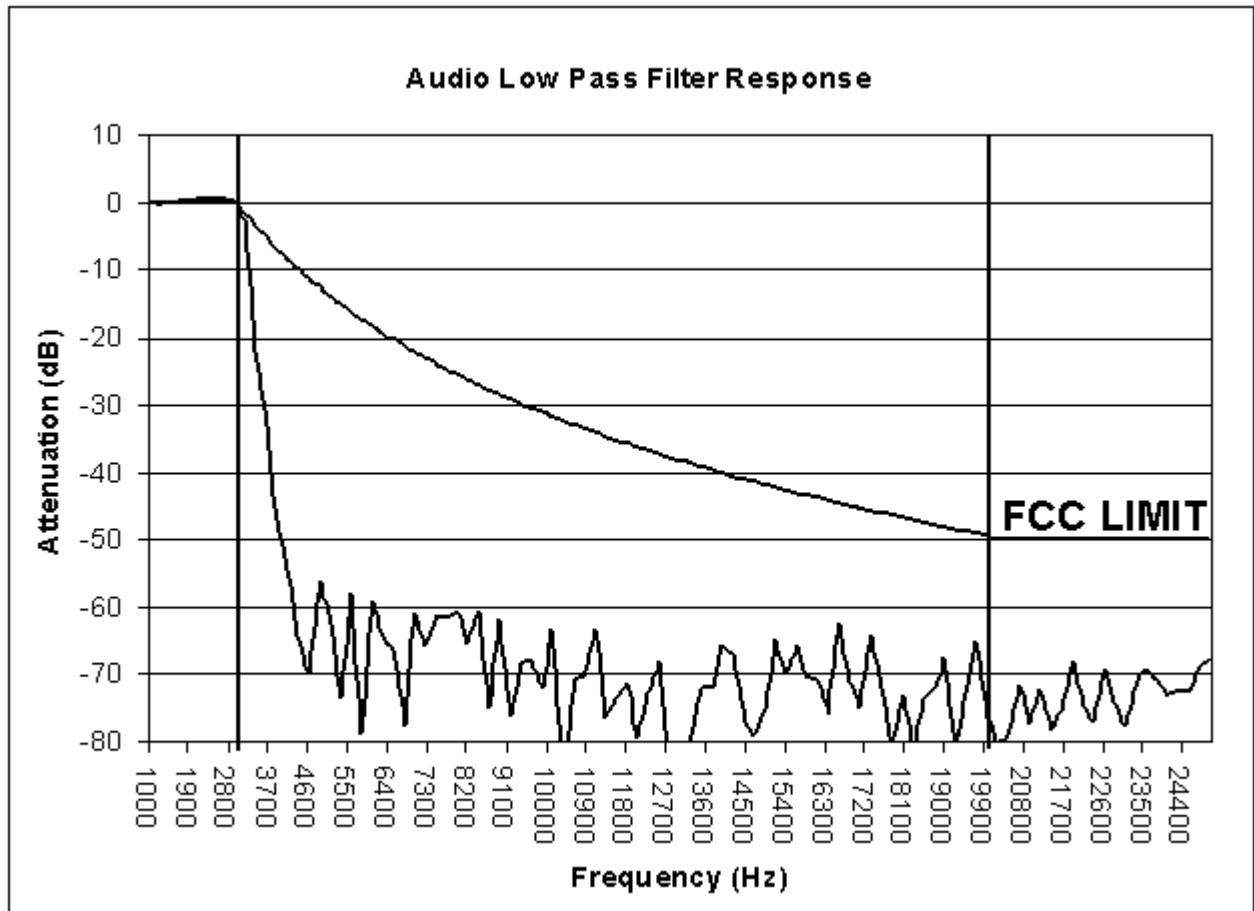
The RF power output was measured with the indicated voltage applied to and current into the final RF amplifying device.

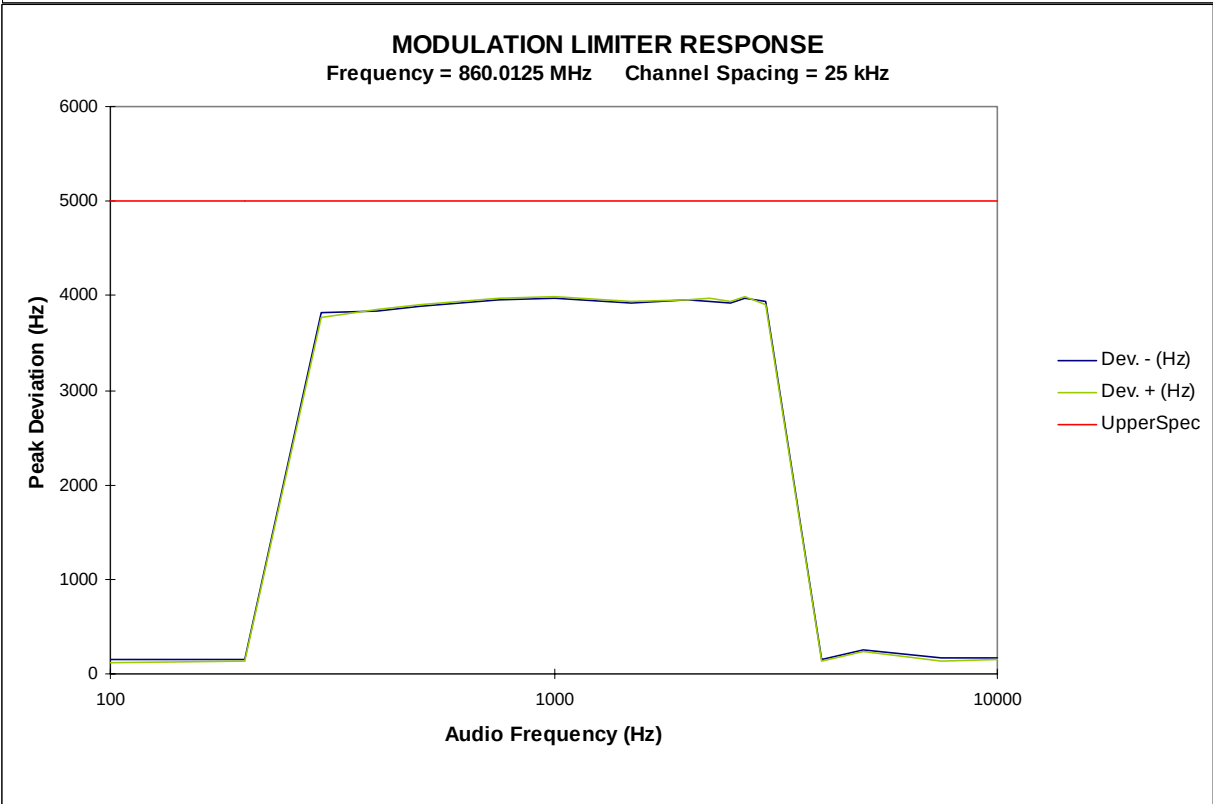
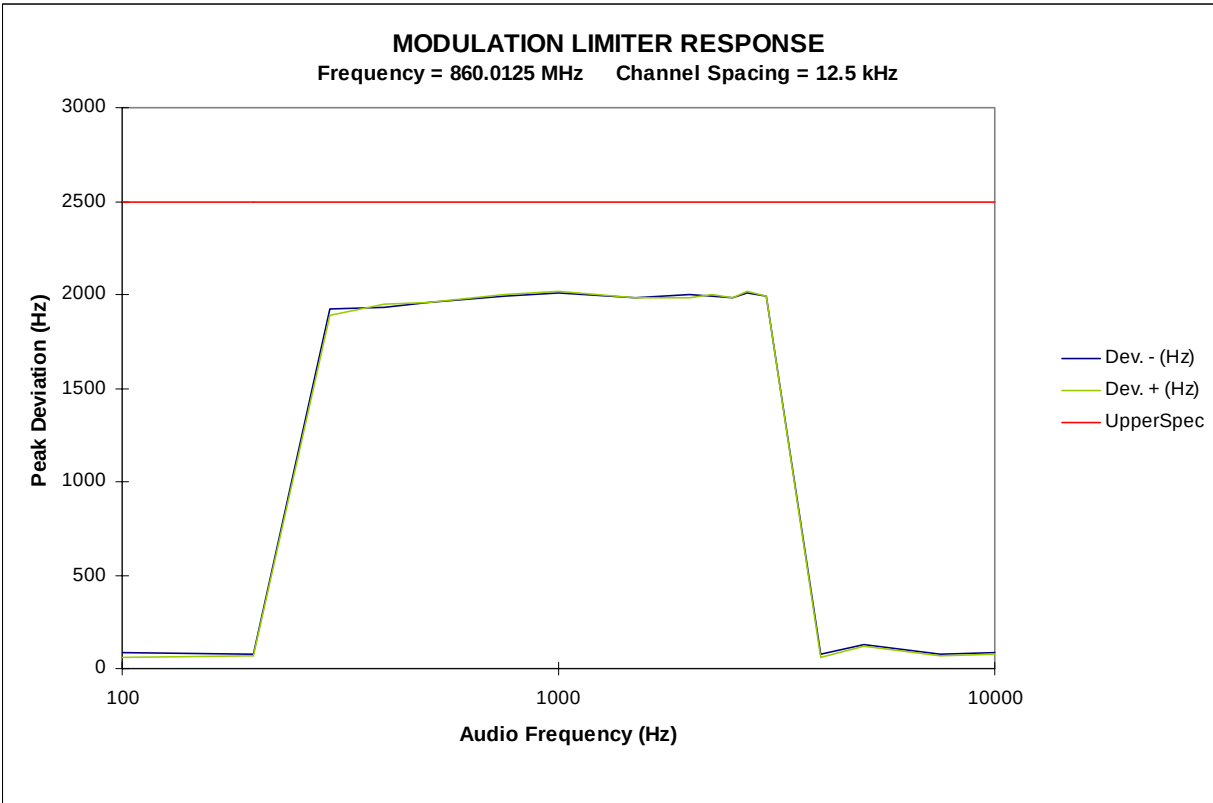
Measured RF output	1.2 Watt
Nominal DC voltage	7.5 Volts
Nominal DC Current	820 mAmps
Primary Supply Voltage	7.5 Volts

Measured RF output	2.2 Watt
Nominal DC voltage	7.5 Volts
Nominal DC Current	1075 mAmps
Primary Supply Voltage	7.5 Volts

Measured RF output	3.0 Watts
Nominal DC voltage	7.5 Volts
Nominal DC Current	1230 mAmps
Primary Supply Voltage	7.5 Volts







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:

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

Shown below are the calculations required for FCC ID: **AZ489FT5806**

EXHIBIT 6E-1

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-2

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-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 TIA/EIA 102.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 with Encryption):

Emission Designator 8K10F1E (Per 47CFR 90.212(b))

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 102.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 (with encryption) is 8K10F1E.

EXHIBIT 6E-5

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 102.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.

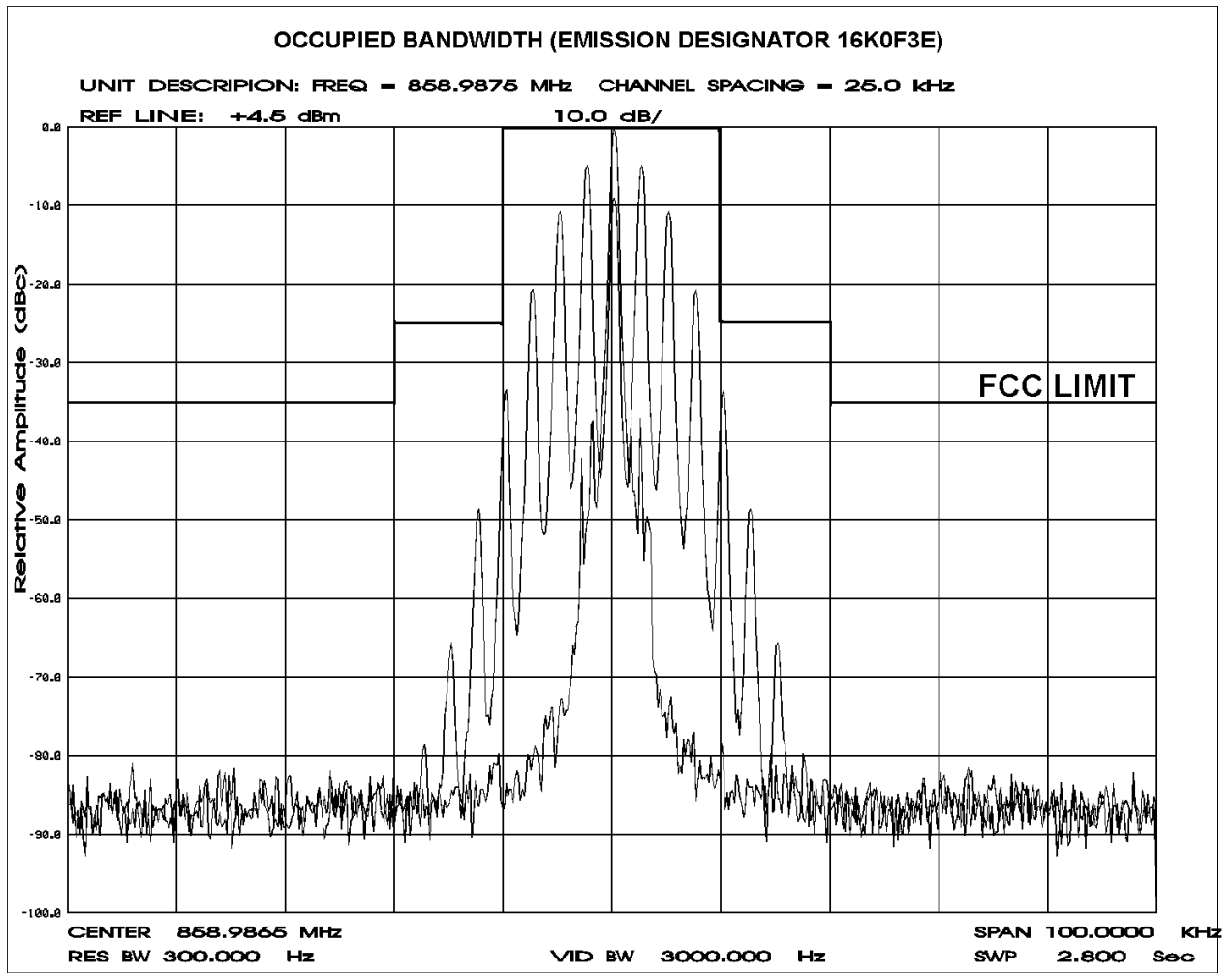
Note: The 90.203(j) efficiency standard for "F1D" emission is met by sending 2 bits at a time, at a rate of 4800 symbols/second. This yields 9600 bits/second, which is achieved using the modulation technique described in the note below. Modulation results from one of the digital 4-level standard symbol patterns applied to the modulation at a rate of 9600 bits/second. The modulation technique is 4-level FM. The information bits are commonly represented by a symbol that corresponds to one of 4 levels of FM deviation according to the following table.

<u>Information Bits</u>	<u>Symbol</u>	<u>C4FM Deviation</u>
01	+3	+1.8 kHz
00	+1	+0.6 kHz
10	-1	-0.6 kHz
11	-3	-1.8 kHz

For example, an 8-bit binary pattern of 0010 1101 would be sent as symbols +1, -1, -3, +3, which would cause a modulation signal (Frequency-Shift-Keyed) of +1.8 kHz, -600 Hz, -1.8 kHz, and +1.8 kHz. This results in 9600 bits/second of information being sent on a 12.5 kHz channel, which is the equivalent of 4800 bits/second per 6.25 kHz.

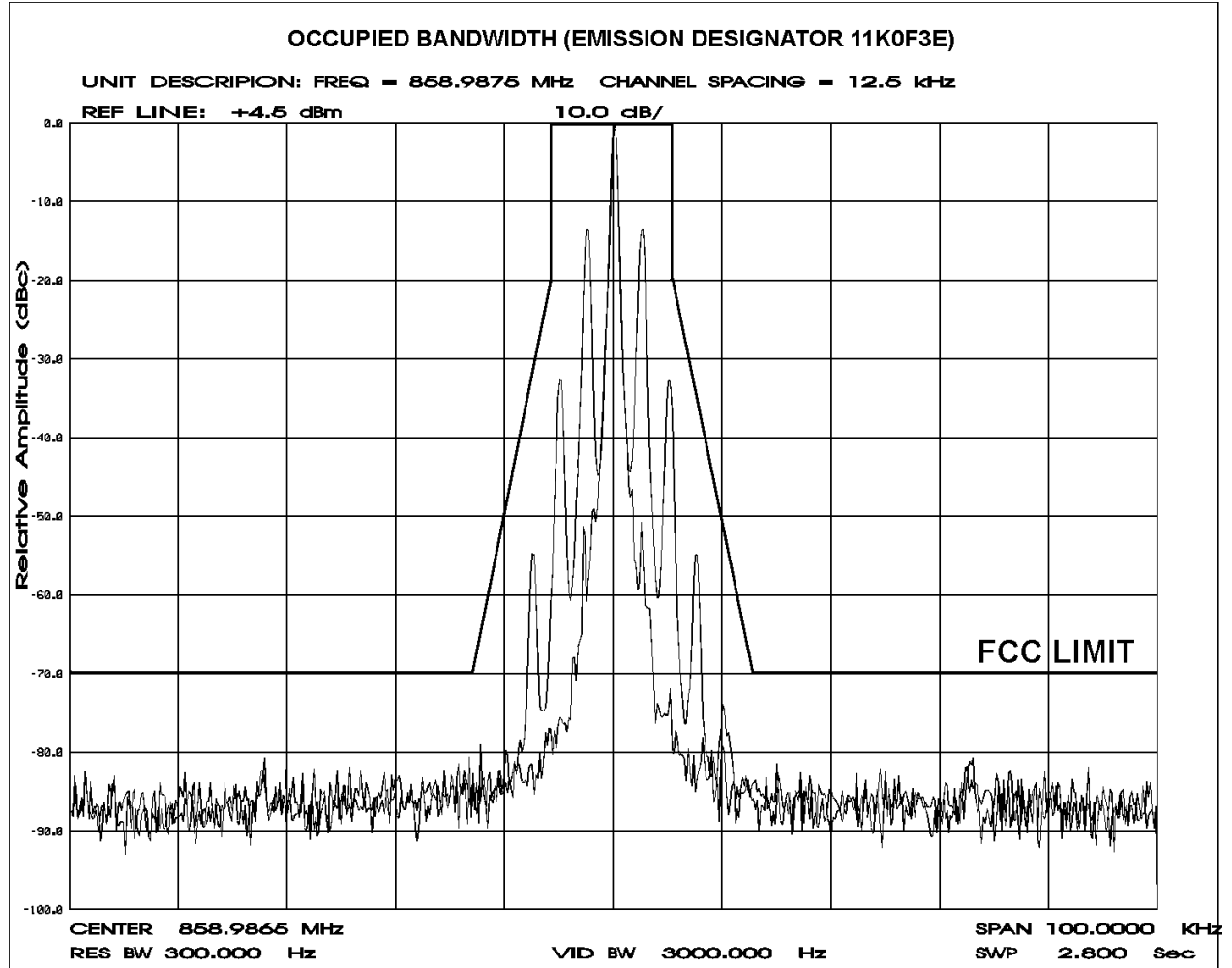
Note: The "F1D" and "F1E" signal parameters are described as follows: The modulation is 4-level FSK with +/-600 Hz and +/-1.8 kHz shifting (+/-600 Hz and +/-1.8 kHz are the 4 distinct levels of signals). The digital voice test pattern is created by a 2500 Hz sine wave modulated at a level that is 16 dB above that required to produce 50% deviation at the radio output. The digital data test signal is generated by an internally generated pseudo random test pattern based on ITU-T 0.153 (formally CCITT V.52).

EXHIBIT 6E



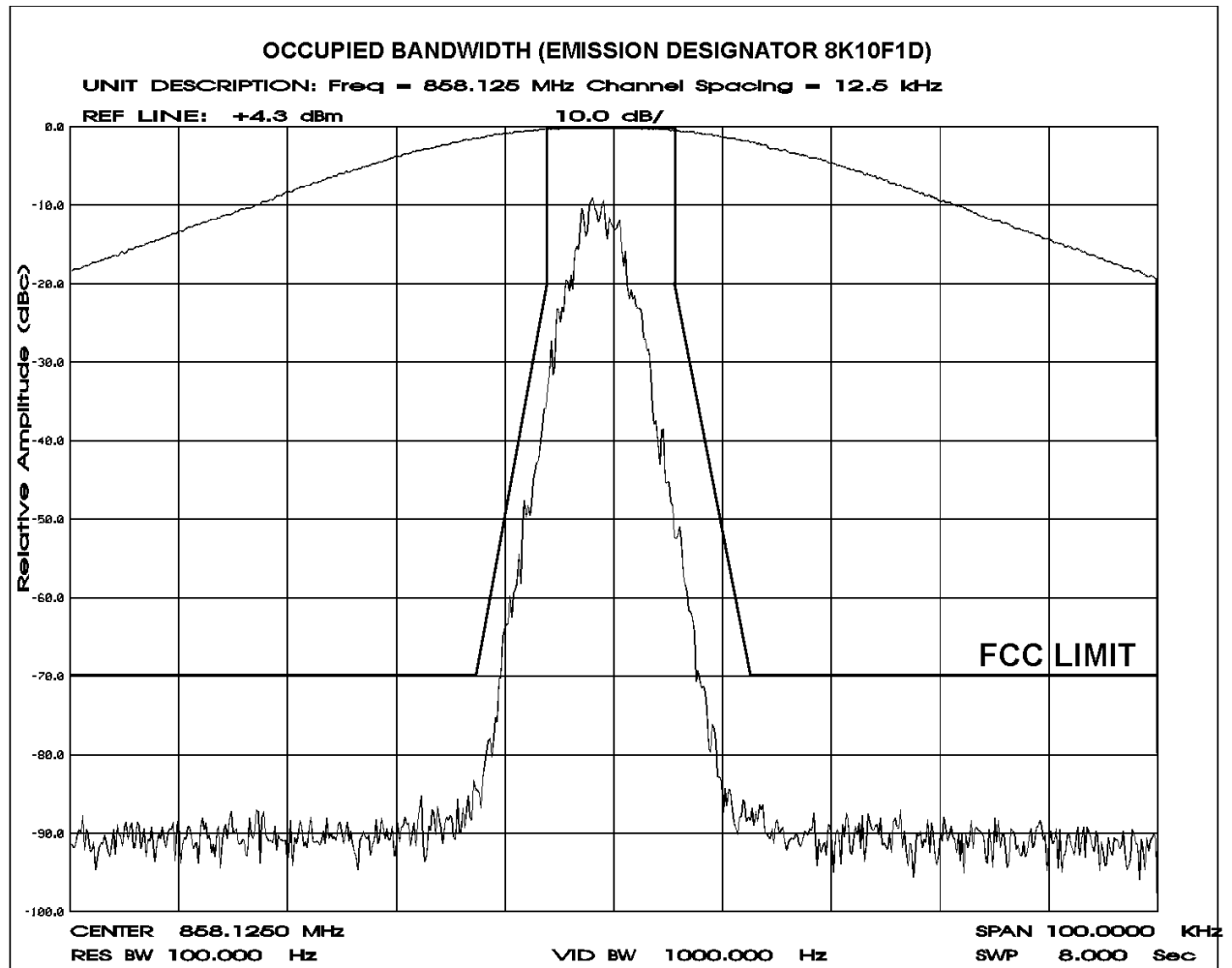
Mask B

EXHIBIT 6E-1



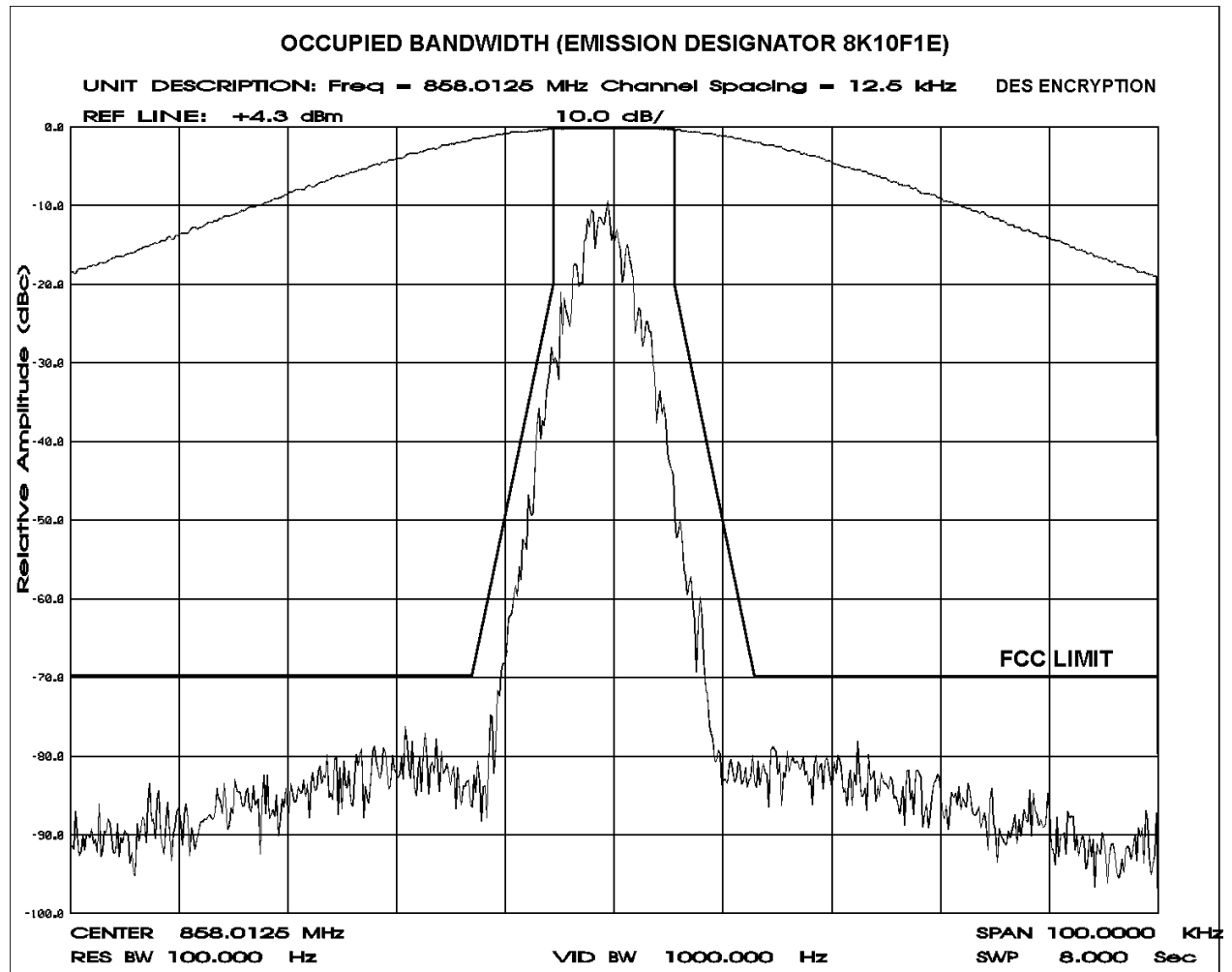
Mask D

EXHIBIT 6E-2



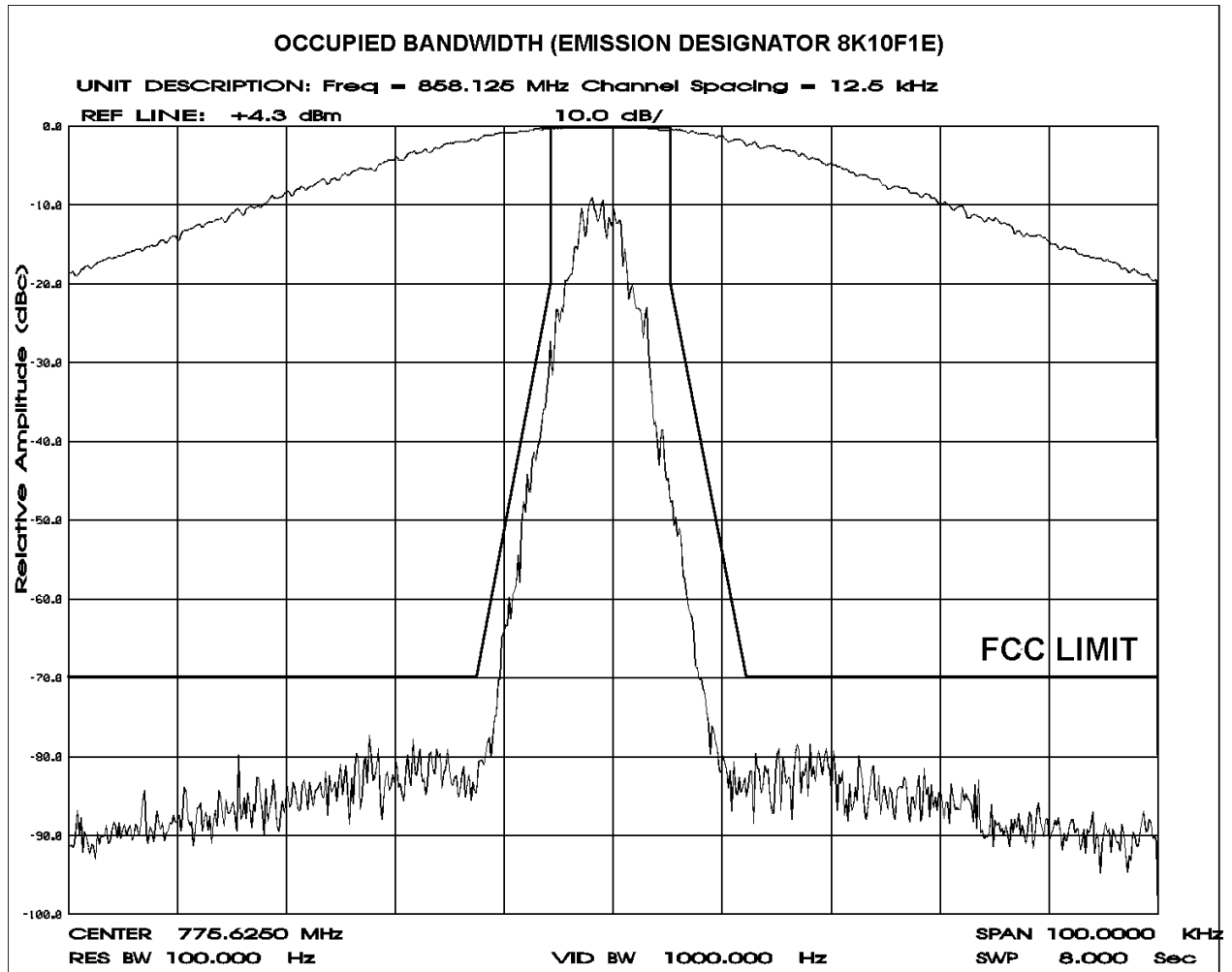
Mask D

EXHIBIT 6E-3



Mask D

EXHIBIT 6E-4



Mask D

EXHIBIT 6E-5

Adjacent Channel Coupled Power Ratios

794.075 MHZ 25.0 kHz Channel Spacing ANALOG						
Emission Designator 16K0F3E						
Ref Power Level (dBm) =						13.3
Offset (kHz)	Meas BW (kHz)		LOWER		UPPER	Spec (dBc)
15.625	6.250		-76.7		-76.8	-40
21.875	6.250		-79.9		-80.0	-60
37.500	25.000		-75.5		-75.5	-65
62.500	25.000		-76.1		-76.1	-65
87.500	25.000		-76.2		-76.1	-65
150.000	100.000		-70.6		-70.5	-65
250.000	100.000		-71.2		-71.2	-65
350.000	100.000		-71.4		-71.4	-65
>400K - 12M	30 (Swept)		< -75			-75
12M - RX Band	30 (Swept)		< -75			-75
in RX Band	30 (Swept)		< -100			-100

794.075 MHZ 12.5 kHz Channel Spacing ANALOG						
Emission Designator 11K0F3E						
Ref Power Level (dBm) =						13.4
Offset (kHz)	Meas BW (kHz)		LOWER		UPPER	Spec (dBc)
9.375	6.250		-55.0		-55.2	-40
15.625	6.250		-77.7		-78.0	-60
21.875	6.250		-80.0		-80.2	-60
37.500	25.000		-75.5		-75.6	-65
62.500	25.000		-76.1		-76.1	-65
87.500	25.000		-76.2		-76.2	-65
150.000	100.000		-70.7		-70.6	-65
250.000	100.000		-71.2		-71.2	-65
350.000	100.000		-71.5		-71.4	-65
>400K - 12M	30 (Swept)		< -75			-75
12M - RX Band	30 (Swept)		< -75			-75
in RX Band	30 (Swept)		< -100			-100

Note: This transmitter does not incorporate automatic power control. Therefore, it was tested to comply to the Maximum ACCP Relative (dBc) limits of FCC Rule Part 90.543(a).

Adjacent Channel Coupled Power Ratios

794.075 MHZ 12.5 kHz Channel Spacing DIGITAL DATA						
Emission Designator 8K1F3D						
Ref Power Level (dBm) = 14.1						
Offset (kHz)	Meas BW (kHz)		LOWER		UPPER	Spec (dBc)
9.375	6.250		-43.7		-50.0	-40
15.625	6.250		-77.7		-78.1	-60
21.875	6.250		-80.2		-80.2	-60
37.500	25.000		-75.5		-75.6	-65
62.500	25.000		-76.0		-76.0	-65
87.500	25.000		-76.0		-76.1	-65
150.000	100.000		-70.5		-70.5	-65
250.000	100.000		-71.1		-71.1	-65
350.000	100.000		-71.3		-71.2	-65
>400K - 12M	30 (Swept)		< -75			-75
12M - RX Band	30 (Swept)		< -75			-75
in RX Band	30 (Swept)		< -100			-100

794.075 MHZ 12.5 kHz Channel Spacing DIGITAL VOICE						
Emission Designator 8K1F3E						
Ref Power Level (dBm) = 14.1						
Offset (kHz)	Meas BW (kHz)		LOWER		UPPER	Spec (dBc)
9.375	6.250		-43.7		-50.0	-40
15.625	6.250		-77.7		-78.1	-60
21.875	6.250		-80.2		-80.2	-60
37.500	25.000		-75.5		-75.6	-65
62.500	25.000		-76.0		-76.0	-65
87.500	25.000		-76.0		-76.1	-65
150.000	100.000		-70.5		-70.5	-65
250.000	100.000		-71.1		-71.1	-65
350.000	100.000		-71.3		-71.2	-65
>400K - 12M	30 (Swept)		< -75			-75
12M - RX Band	30 (Swept)		< -75			-75
in RX Band	30 (Swept)		< -100			-100

Note: This transmitter does not incorporate automatic power control. Therefore, it was tested to comply to the Maximum ACCP Relative (dBc) limits of FCC Rule Part 90.543(a).

Adjacent Channel Coupled Power Ratios

794.075 MHZ 12.5 kHz Channel Spacing DES ENCRYPTION						
Emission Designator 8K1F3E						
				Ref Power Level (dBm) = 14.1		
Offset (kHz)	Meas BW (kHz)		LOWER		UPPER	Spec (dBc)
9.375	6.250		-44.3		-49.3	-40
15.625	6.250		-77.8		-78.2	-60
21.875	6.250		-80.2		-80.3	-60
37.500	25.000		-75.4		-75.5	-65
62.500	25.000		-76.1		-76.1	-65
87.500	25.000		-76.0		-76.1	-65
150.000	100.000		-70.5		-70.6	-65
250.000	100.000		-71.1		-71.1	-65
350.000	100.000		-71.2		-71.3	-65
>400K - 12M	30 (Swept)		< -75			-75
12M - RX Band	30 (Swept)		< -75			-75
in RX Band	30 (Swept)		< -100			-100

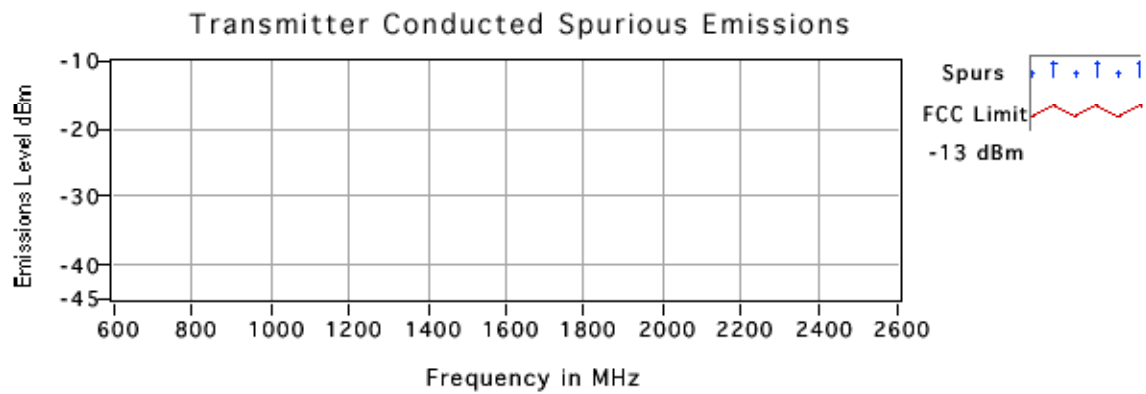
Note: This transmitter does not incorporate automatic power control. Therefore, it was tested to comply to the Maximum ACCP Relative (dBc) limits of FCC Rule Part 90.543(a).

Transmitter Conducted Spurious Emissions

FREQ: 764.01250 MHz

Power 3.0W

Spur Frequency	FCC Limit	Measured Value (dBm)
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All Transmitter Spurious Emissions Tested to the 10th Harmonic

No Spurs Found Above -45 dBm

Motorola Plantation ATE Lab

Thu, Aug 23, 2001

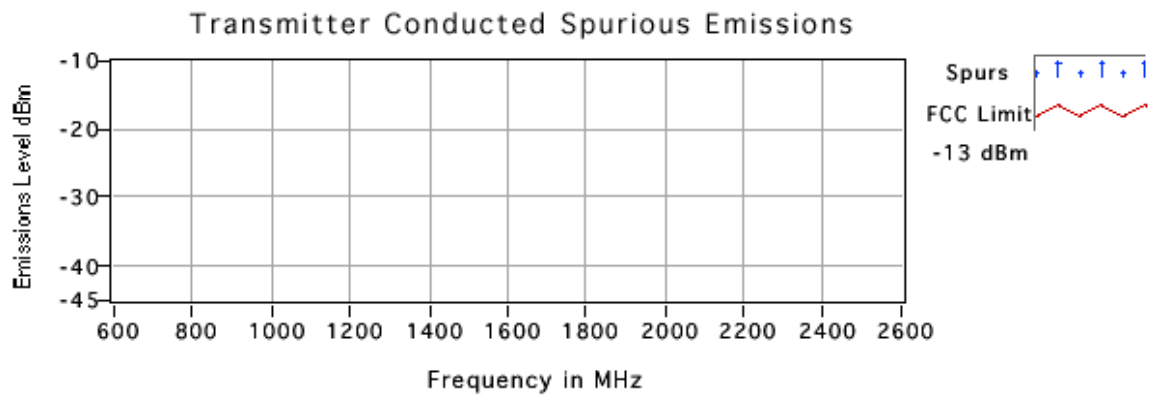
Test Performed By: Jerry Simpson

Transmitter Conducted Spurious Emissions

FREQ: 775.98750 MHz

Power 3.0W

Spur Frequency	FCC Limit	Measured Value (dBm)
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All Transmitter Spurious Emissions Tested to the 10th Harmonic

No Spurs Found Above -45 dBm

Motorola Plantation ATE Lab

Thu, Aug 23, 2001

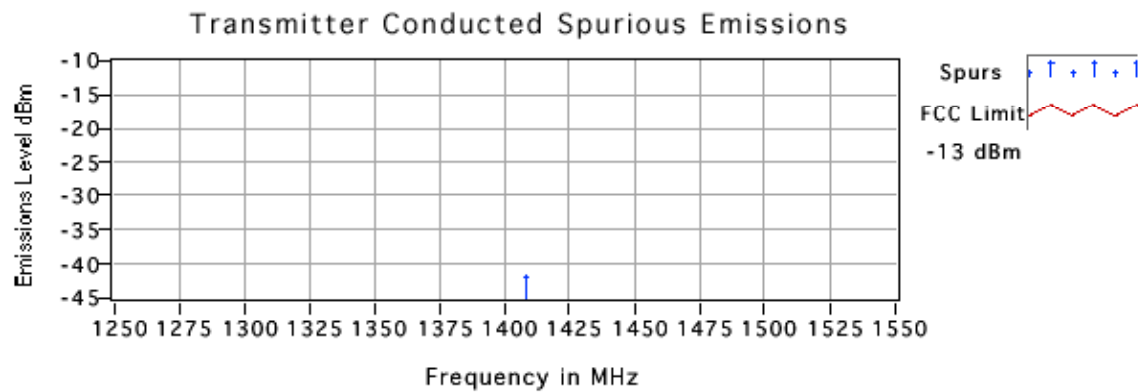
Test Performed By: Jerry Simpson

Transmitter Conducted Spurious Emissions

FREQ: 794.01250 MHz

Power 3.0W

Spur Frequency	FCC Limit	Measured Value (dBm)
1408.00000	-13.0	-41.7



All Transmitter Spurious Emissions Tested to the 10th Harmonic

Motorola Plantation ATE Lab

Thu, Aug 23, 2001

Test Performed By: Jerry Simpson

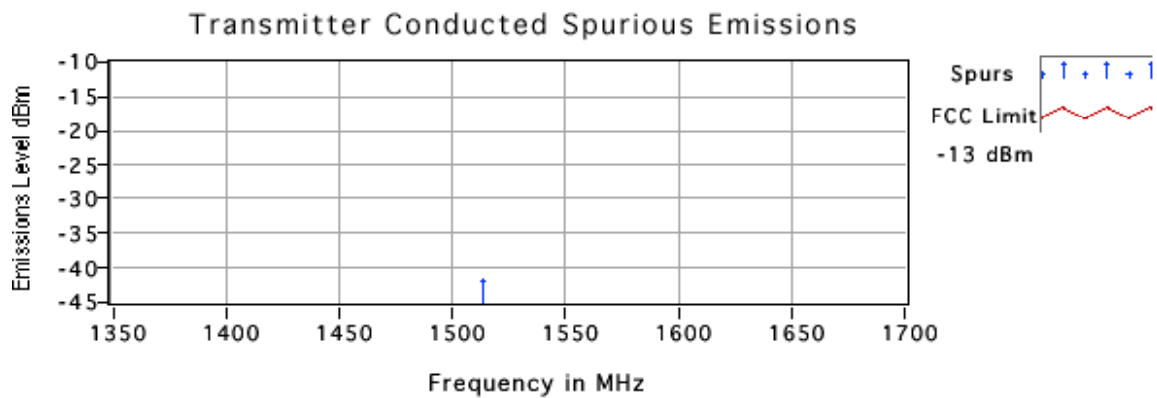
Transmitter Conducted Spurious Emissions

FCC ID: .

814.01250 MHz

Power 3.0W

Spur Frequency	FCC Limit	Measured Value (dBm)
1513.00000	-13.0	-42.0



Motorola Plantation ATE Lab

Fri, Aug 17, 2001

Test Performed By: Jerry Simpson

All Transmitter Spurious Emissions Tested to the 10th Harmonic

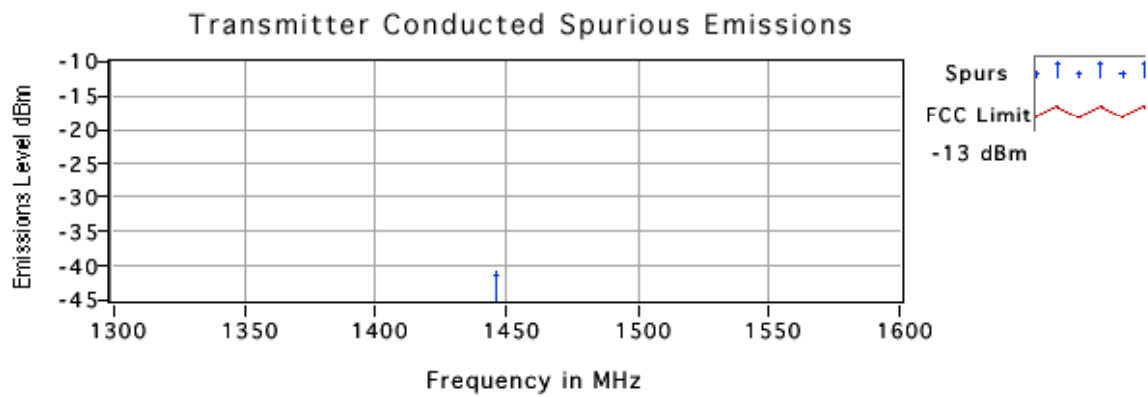
EXHIBIT 6G-4

Transmitter Conducted Spurious Emissions

851.01250 MHz

Power 3.0W

Spur Frequency	FCC Limit	Measured Value (dBm)
1445.80000	-13.0	-41.2



Motorola Plantation ATE Lab

Fri, Aug 17, 2001

Test Performed By: Jerry Simpson

All Transmitter Spurious Emissions Tested to the 10th Harmonic

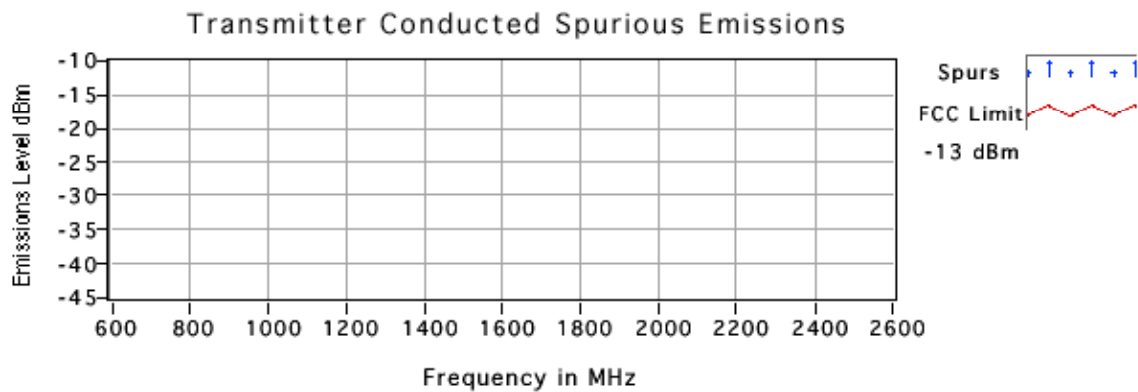
EXHIBIT 6G-5

Transmitter Conducted Spurious Emissions

860.01250 MHz

Power 3.0W

Spur Frequency	FCC Limit	Measured Value (dBm)
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No Spurs Found Above -45 dBm

Motorola Plantation ATE Lab

Fri, Aug 17, 2001

Test Performed By: Jerry Simpson

All Transmitter Spurious Emissions Tested to the 10th Harmonic

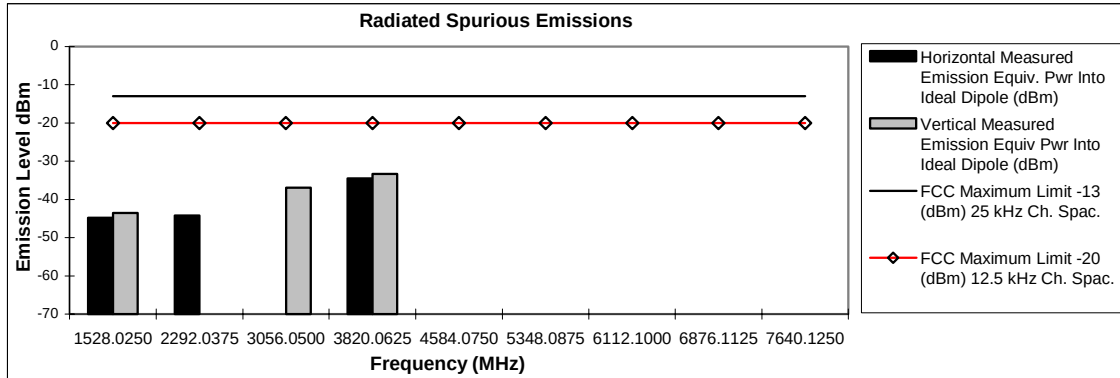
Transmitter Radiated Spurious Emissions: XTS5000 700/800MHz

764.0125 MHz

3.2 Watts

Channel Spacing 12.5kHz

Frequency (MHz)	FCC Maximum Limit -13 (dBm) 25 kHz Ch. Spac.	FCC Maximum Limit -20 (dBm) 12.5 kHz Ch. Spac.	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1528.0250	-13	-20	-44.86	-43.55
2292.0375	-13	-20	-44.23	*
3056.0500	-13	-20	*	-36.95
3820.0625	-13	-20	-34.54	-33.34
4584.0750	-13	-20	*	*
5348.0875	-13	-20	*	*
6112.1000	-13	-20	*	*
6876.1125	-13	-20	*	*
7640.1250	-13	-20	*	*



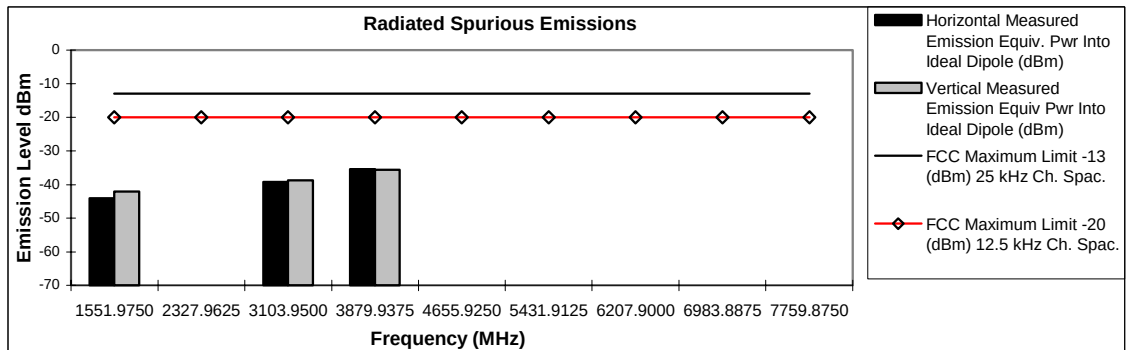
Transmitter Radiated Spurious Emissions: XTS5000 700/800MHz

775.9875 MHz

3.2 Watts

Channel Spacing 12.5kHz

Frequency (MHz)	FCC Maximum Limit -13 (dBm) 25 kHz Ch. Spac.	FCC Maximum Limit -20 (dBm) 12.5 kHz Ch. Spac.	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1551.9750	-13	-20	-44.06	-42.08
2327.9625	-13	-20	*	*
3103.9500	-13	-20	-39.26	-38.70
3879.9375	-13	-20	-35.39	-35.54
4655.9250	-13	-20	*	*
5431.9125	-13	-20	*	*
6207.9000	-13	-20	*	*
6983.8875	-13	-20	*	*
7759.8750	-13	-20	*	*



* Indicates the spurious emission was less than -70dBm or 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.

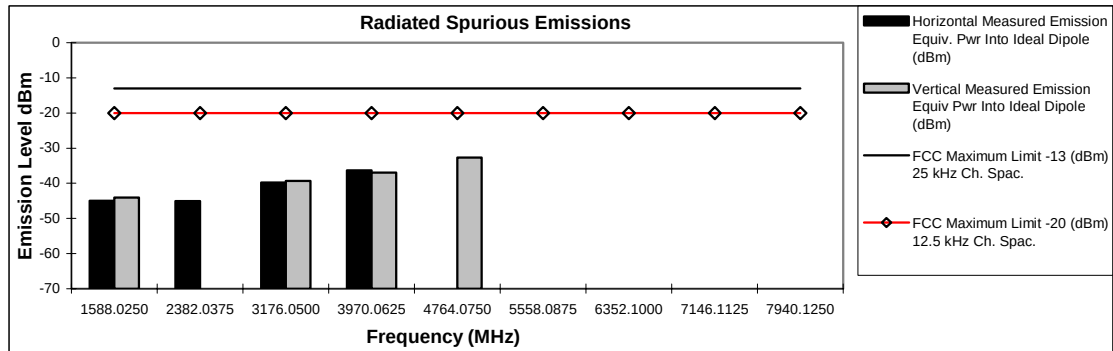
Transmitter Radiated Spurious Emissions: XTS5000 700/800MHz

794.0125 MHz

3.2 Watts

Channel Spacing 12.5kHz

Frequency (MHz)	FCC Maximum Limit -13 (dBm) 25 kHz Ch. Spac.	FCC Maximum Limit -20 (dBm) 12.5 kHz Ch. Spac.	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1588.0250	-13	-20	-45.00	-44.15
2382.0375	-13	-20	-45.08	*
3176.0500	-13	-20	-39.78	-39.31
3970.0625	-13	-20	-36.29	-36.98
4764.0750	-13	-20	*	-32.71
5558.0875	-13	-20	*	*
6352.1000	-13	-20	*	*
7146.1125	-13	-20	*	*
7940.1250	-13	-20	*	*

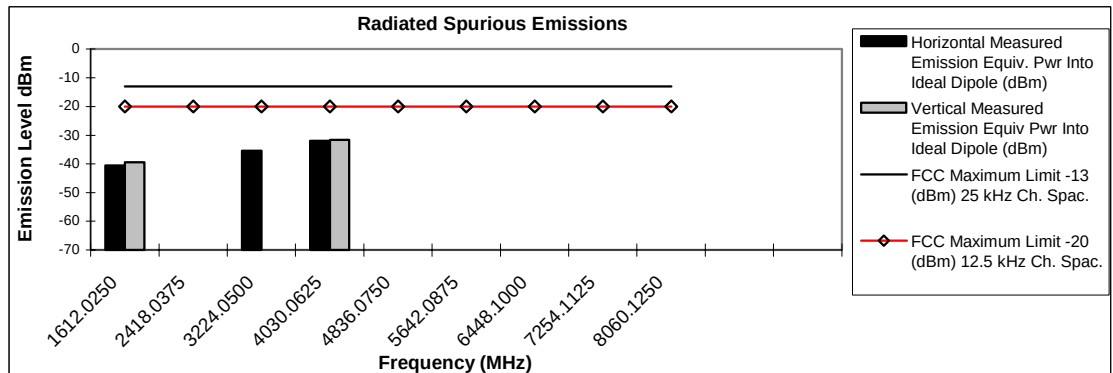


806.0125 MHz

3.2 Watts

Channel Spacing 12.5kHz | S/N PROTOTYPE

Frequency (MHz)	FCC Maximum Limit -13 (dBm) 25 kHz Ch. Spac.	FCC Maximum Limit -20 (dBm) 12.5 kHz Ch. Spac.	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1612.0250	-13	-20	-40.54	-39.44
2418.0375	-13	-20	*	*
3224.0500	-13	-20	-35.40	*
4030.0625	-13	-20	-31.94	-31.57
4836.0750	-13	-20	*	*
5642.0875	-13	-20	*	*
6448.1000	-13	-20	*	*
7254.1125	-13	-20	*	*
8060.1250	-13	-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.

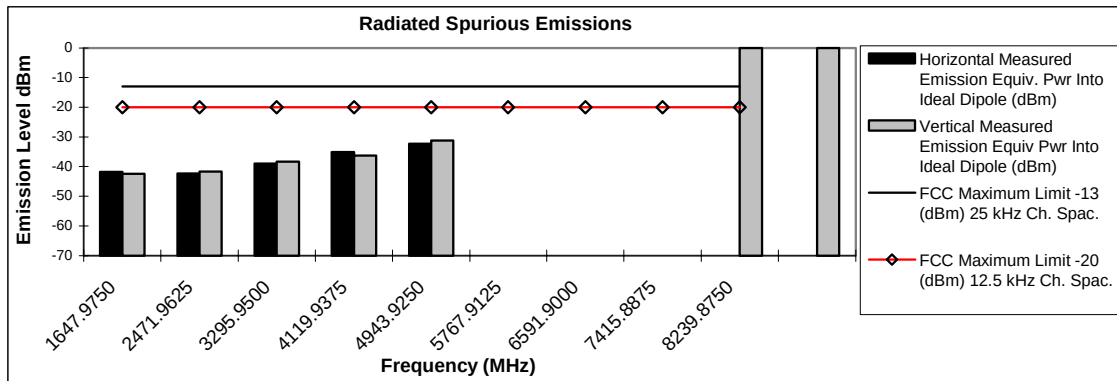
Transmitter Radiated Spurious Emissions: XTS 5000 700/800 MHz

823.9875 MHz

3.2 Watts

Ch.Sp.: 12.5kHz

Frequency (MHz)	FCC Maximum Limit -13 (dBm) 25 kHz Ch. Spac.	FCC Maximum Limit -20 (dBm) 12.5 kHz Ch. Spac.	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1647.9750	-13	-20	-41.79	-42.41
2471.9625	-13	-20	-42.29	-41.69
3295.9500	-13	-20	-38.96	-38.36
4119.9375	-13	-20	-35.15	-36.34
4943.9250	-13	-20	-32.33	-31.30
5767.9125	-13	-20	*	*
6591.9000	-13	-20	*	*
7415.8875	-13	-20	*	*
8239.8750	-13	-20	*	3.2 Watts

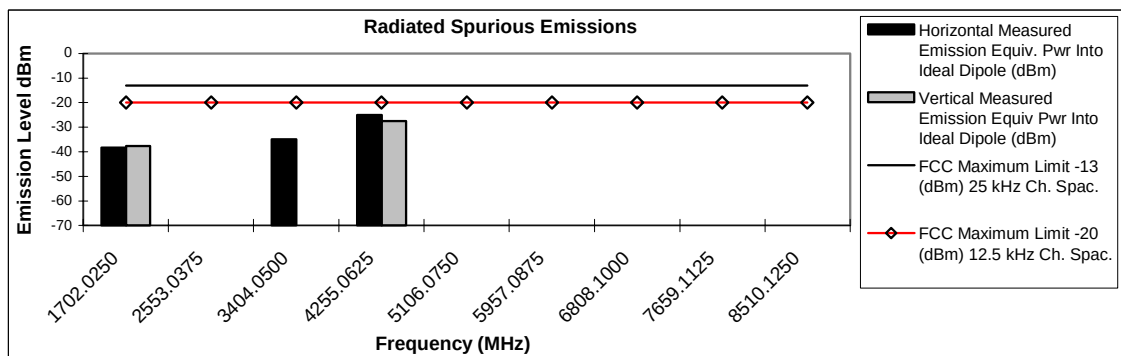


851.0125 MHz

3.2 Watts

Channel Spacing 12.5kHz | S/N PROTOTYPE

Frequency (MHz)	FCC Maximum Limit -13 (dBm) 25 kHz Ch. Spac.	FCC Maximum Limit -20 (dBm) 12.5 kHz Ch. Spac.	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1702.0250	-13	-20	-38.34	-37.72
2553.0375	-13	-20	*	*
3404.0500	-13	-20	-34.89	*
4255.0625	-13	-20	-25.00	-27.43
5106.0750	-13	-20	*	*
5957.0875	-13	-20	*	*
6808.1000	-13	-20	*	*
7659.1125	-13	-20	*	#REF!
8510.1250	-13	-20	*	*

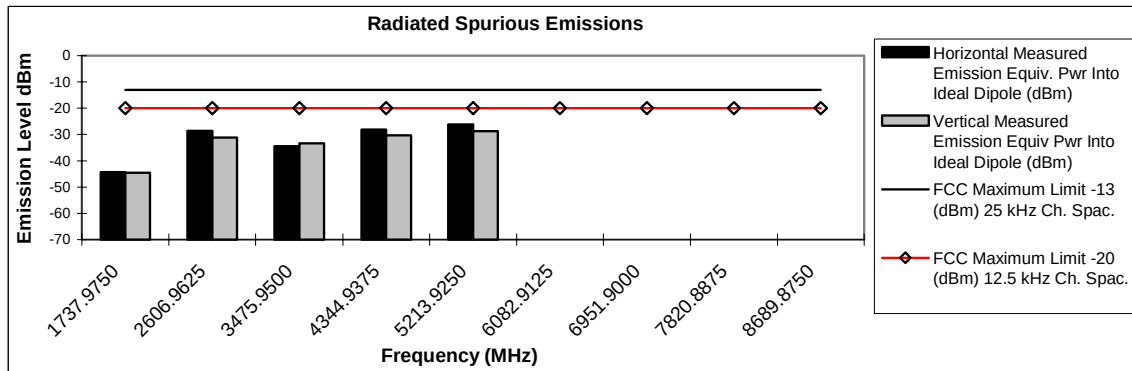


* Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

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

Transmitter Radiated Spurious Emissions: XTS 5000 700/800 MHz**868.9875 MHz****3.2 Watts****Ch.Sp.: 12.5kHz**

Frequency (MHz)	FCC Maximum Limit -13 (dBm) 25 kHz Ch. Spac.	FCC Maximum Limit -20 (dBm) 12.5 kHz Ch. Spac.	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1737.9750	-13	-20	-44.27	-44.50
2606.9625	-13	-20	-28.54	-31.13
3475.9500	-13	-20	-34.38	-33.27
4344.9375	-13	-20	-28.09	-30.27
5213.9250	-13	-20	-26.20	-28.76
6082.9125	-13	-20	*	*
6951.9000	-13	-20	*	*
7820.8875	-13	-20	*	*
8689.8750	-13	-20	*	*



* Indicates the spurious emission was less than -70dBm or 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.

GNSS Testing				
At 3 Meters EIRP				
Date:	8/21/01	EMC#:	EMC08212001-185	
Product:	XTS5000 700/800MHz	S/N	Channel Spacing: 12.5kHz	
		Notes:	High Power GNSS	
Tx Freq.	794.0125	Horizontal Radiated	Vertical Radiated	
		Spur. Emiss. (dBm)	Spur. Emiss. (dBm)	
Spur 2XFund	1588.0250	-45.50	-45.2	
Notes:				
Tx Freq.	805.0000	Horizontal Radiated	Vertical Radiated	
		Spur. Emiss. (dBm)	Spur. Emiss. (dBm)	
Spur 2XFund	1610.0000	-47.70	-48.40	

Note 1: Spurious emissions are independent of modulation type. For the reported results, 4-level FM digital modulation was used.

Note 2: The reported emissions are wideband (>700Hz) spurs.

Note 3: Emissions more than 20dB below the limit are not reported.

