Submitted Measured Data

MEASUREMENT		EXHIBIT	NUMBER OF PAGES
1.	RF Power Output Data	6A	1
2.	Audio Frequency Response	6B	2
3.	Low Pass Filter Response	6C	1
4.	Modulation Limiting	6D	2
5.	Occupied Bandwidth	6E	3
6.	Adjacent Channel Power	6F	2
7.	Radiated Spurious Emissions	6G	4
8.	1559-1610MHz Radiated Emissions (GNSS)	6H	1
9.	Conducted Spurious Emissions	6I	4
10.	Power Line Conducted Spurious Emissions	6J	2
11.	Frequency Stability	6K	1

RF Power Output Data

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

775.9875 MHz

Measured RF output	3.0 Watts
Nominal DC voltage	7.5 Volts
Nominal DC Current	1.25 Amps
Primary Supply Voltage	7.5 Volts

Measured RF output	2.0 Watts
Nominal DC voltage	7.5 Volts
Nominal DC Current	1.00 Amps
Primary Supply Voltage	7.5 Volts

Measured RF output	1.0 Watt
Nominal DC voltage	7.5 Volts
Nominal DC Current	0.75 Amps
Primary Supply Voltage	7.5 Volts

851.0125 MHz

Measured RF output	3.0 Watts
Nominal DC voltage	7.5 Volts
Nominal DC Current	1.20 Amps
Primary Supply Voltage	7.5 Volts

Measured RF output	2.0 Watts
Nominal DC voltage	7.5 Volts
Nominal DC Current	0.95 Amps
Primary Supply Voltage	7.5 Volts

Measured RF output	1.0 Watt
Nominal DC voltage	7.5 Volts
Nominal DC Current	0.70 Amps
Primary Supply Voltage	7.5 Volts

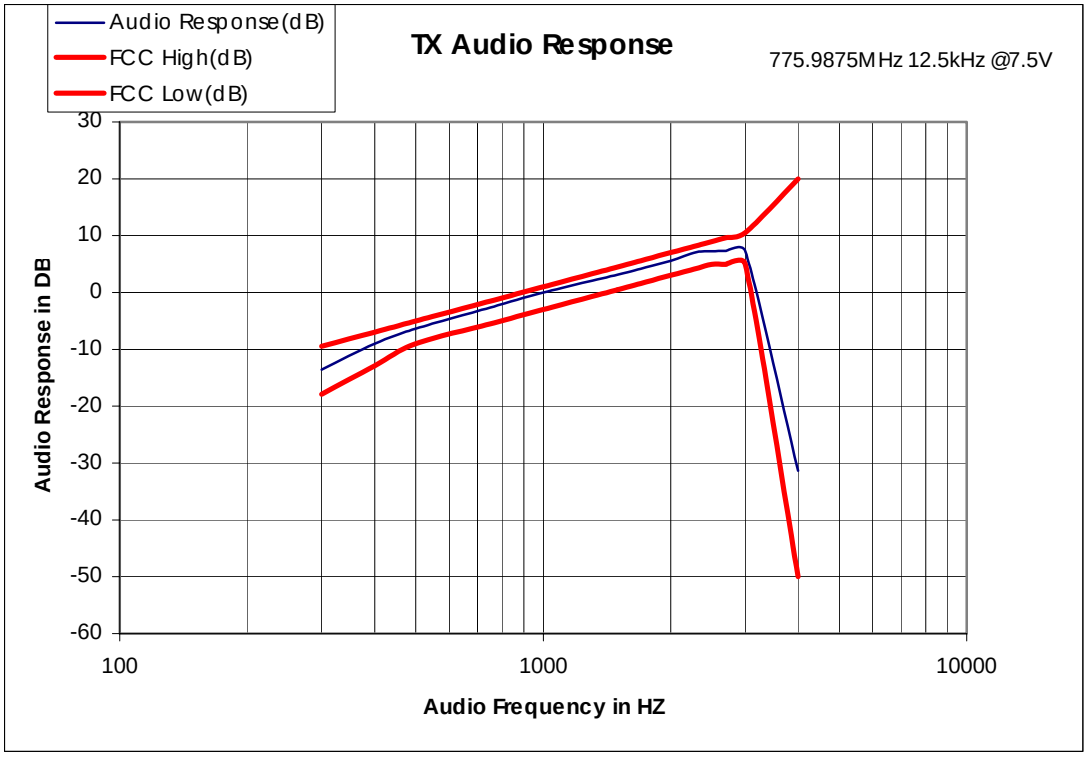
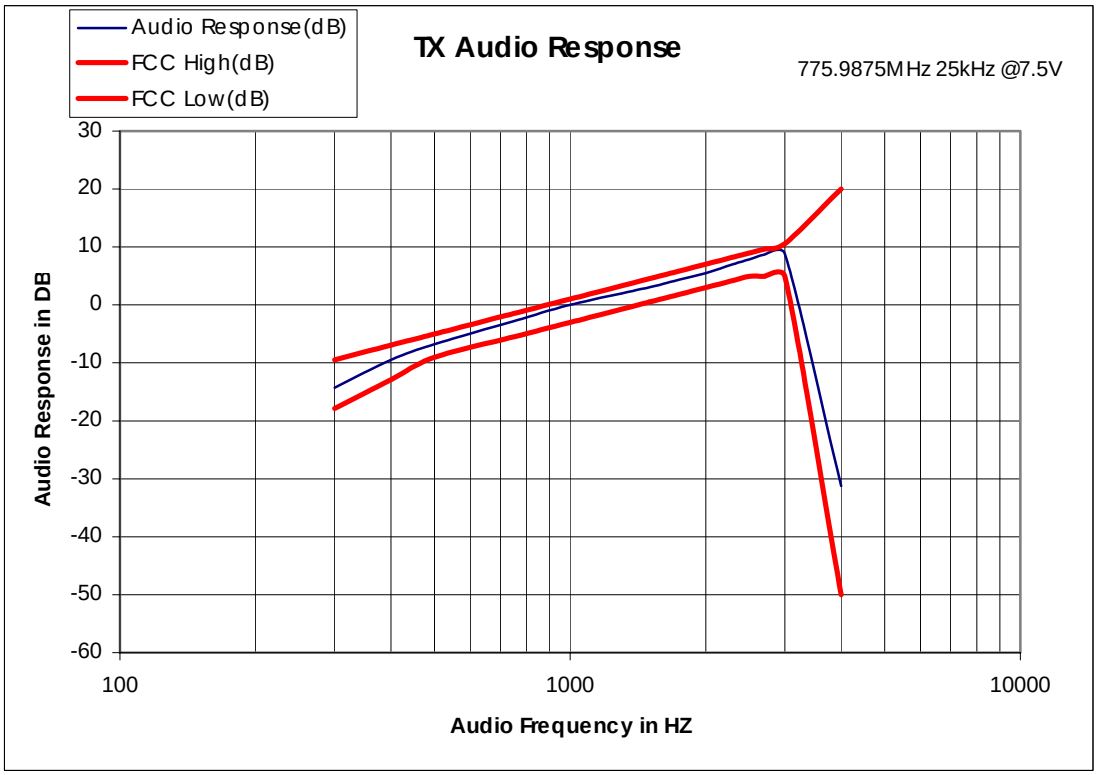


EXHIBIT 6B-1



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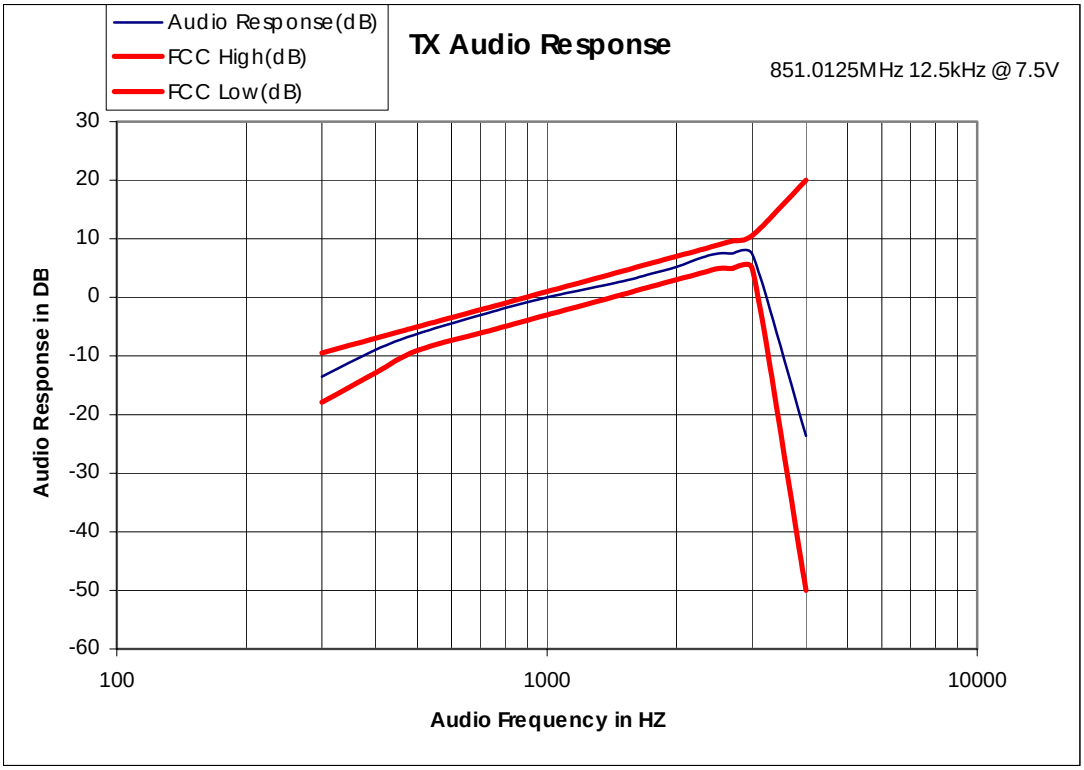

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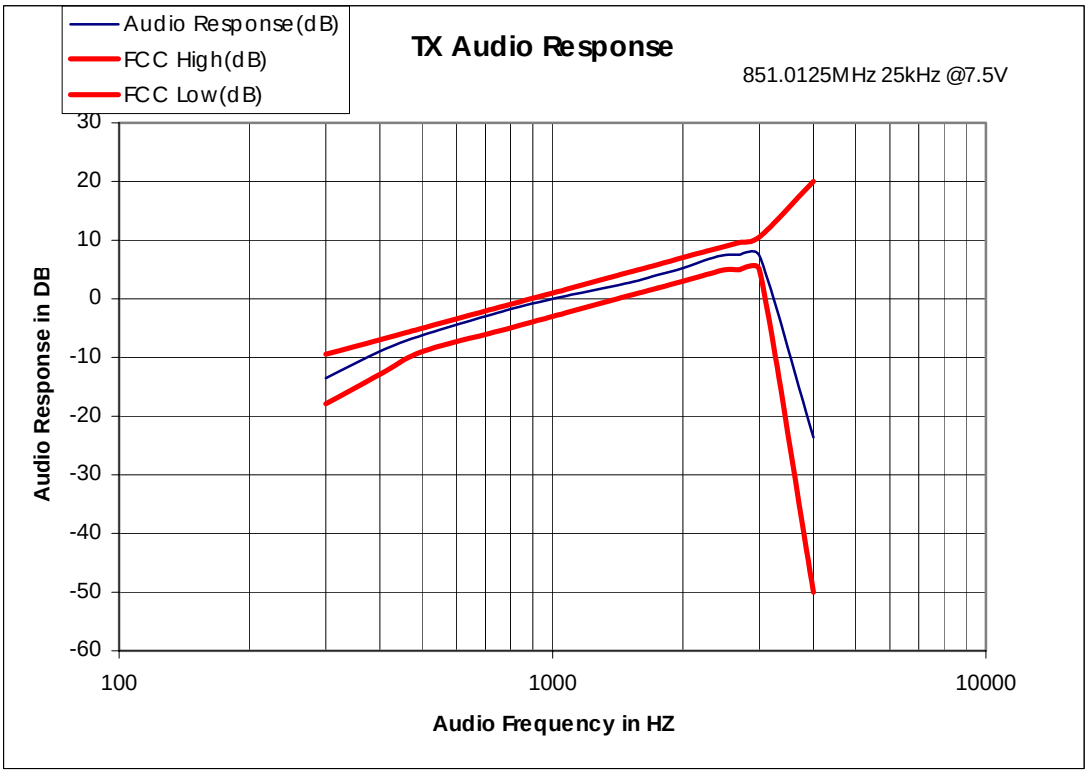

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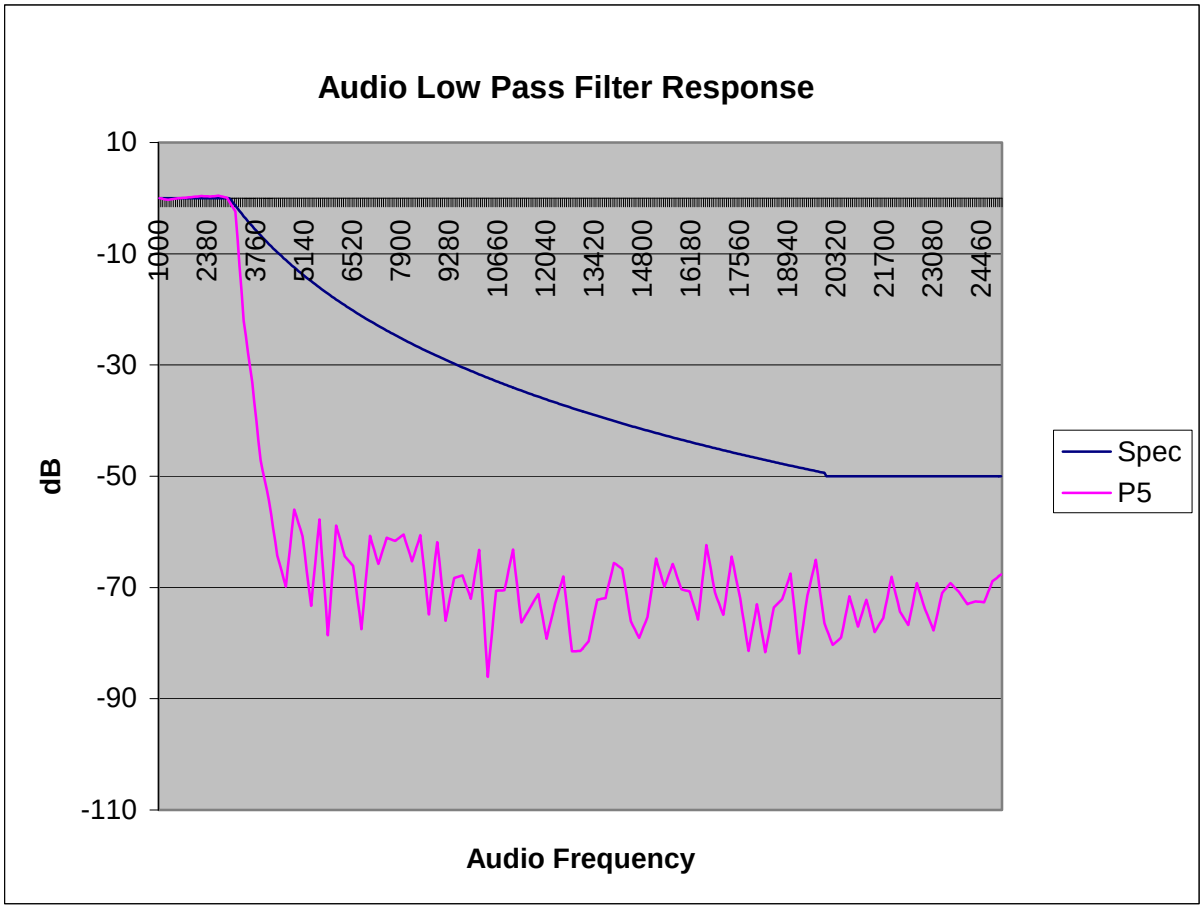

Audio Low Pass Filter Response
10
-10
-30
-50
-70
-90
-110
dB
1000
2380
3760
5140
6520
7900
9280
10660
12040
13420
14800
16180
17560
18940
20320
21700
23080
24460
Audio Frequency
Spec
P5

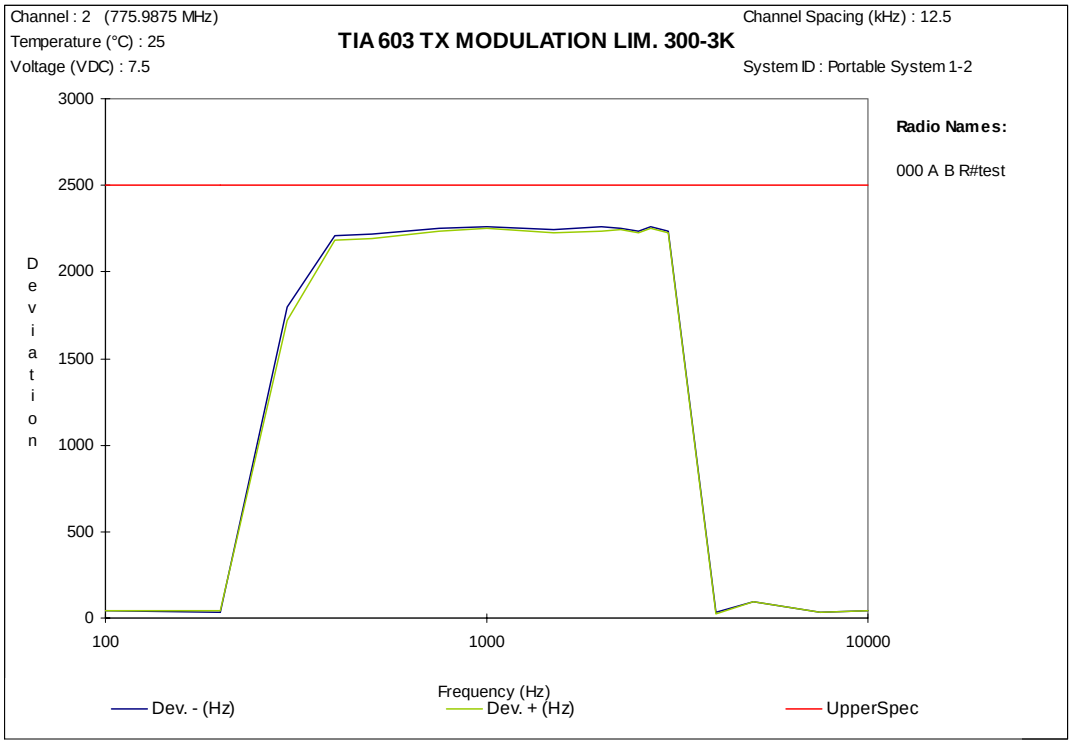
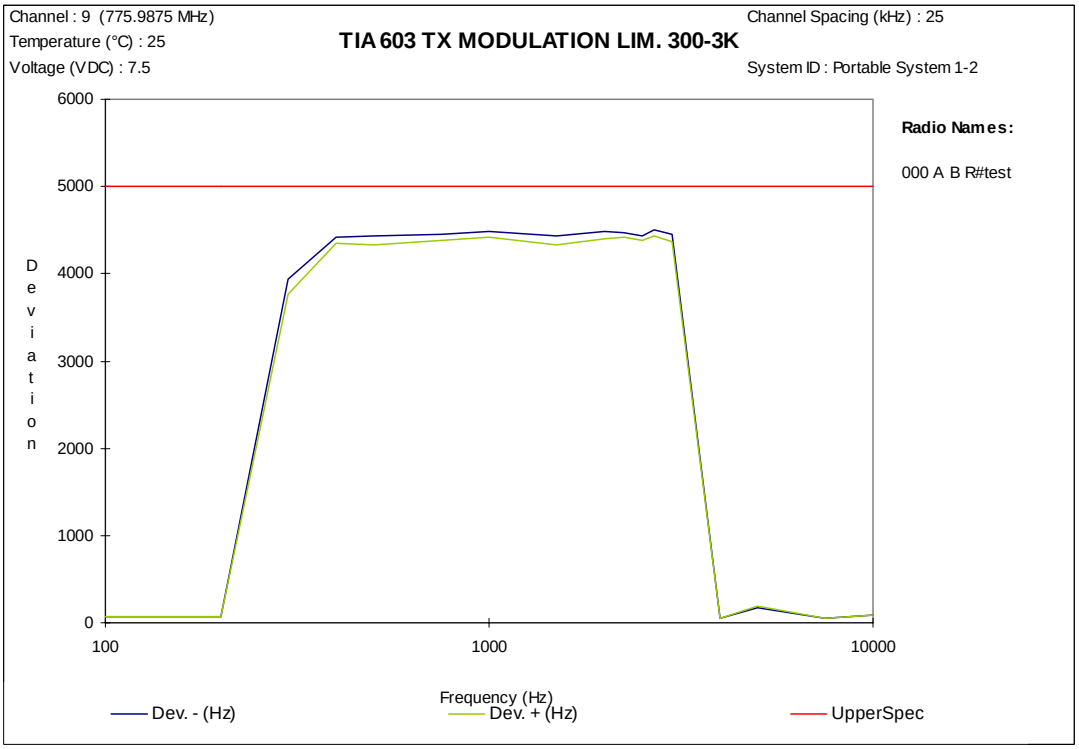


EXHIBIT 6D-1



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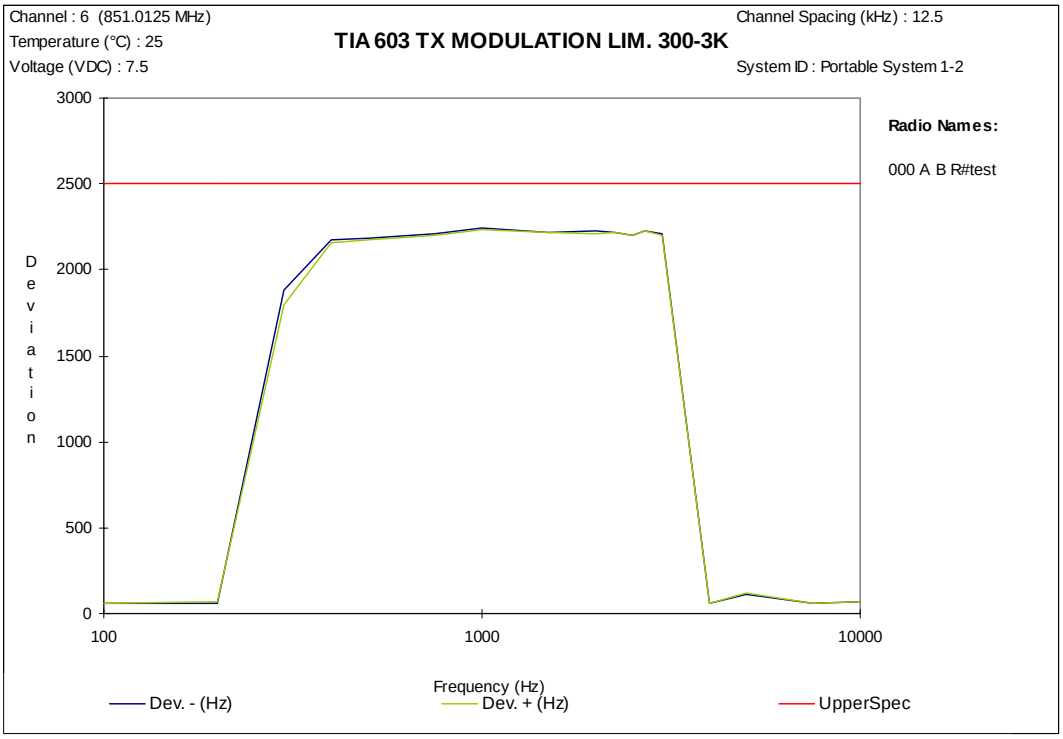


EXHIBIT 6D-3

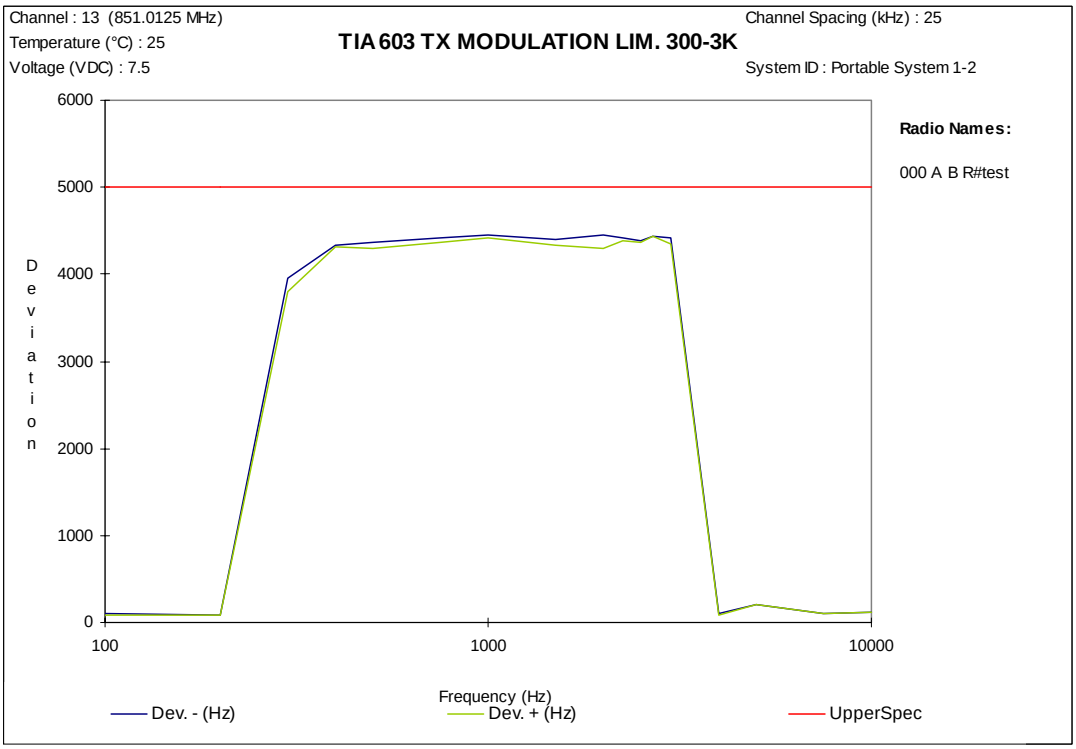


EXHIBIT 6D-4

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: AZ489FT5804.

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 kHz + 2.5 kHz) = 11 kHz ===> 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 kHz + 5 kHz) = 16 kHz ===> 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 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

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.

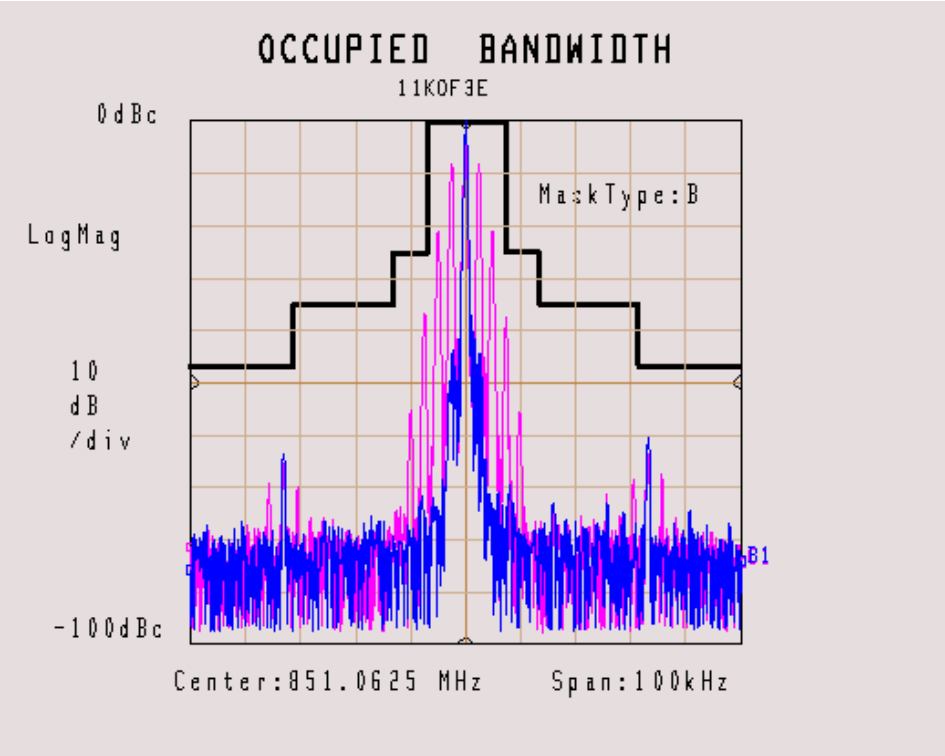
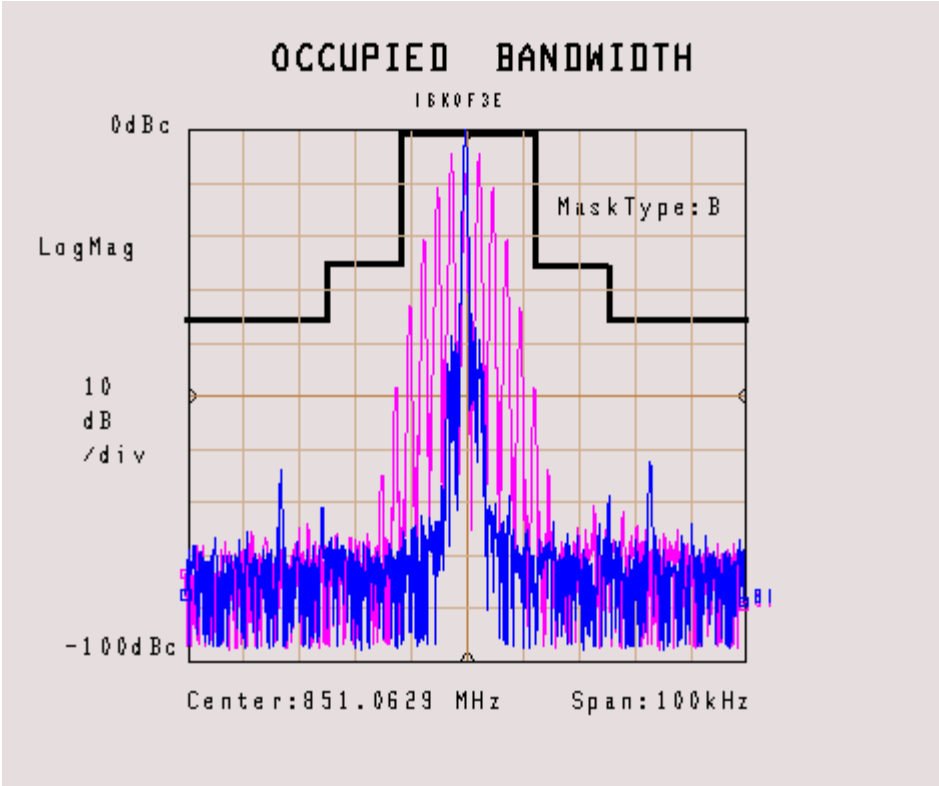


EXHIBIT 6E-1



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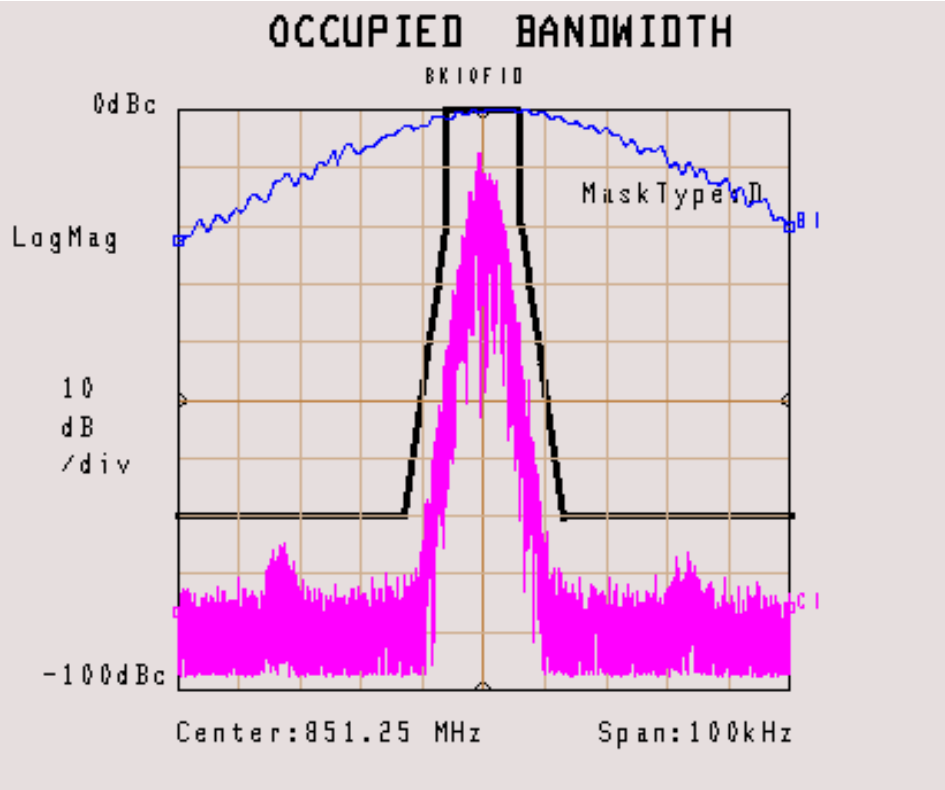


EXHIBIT 6E-3

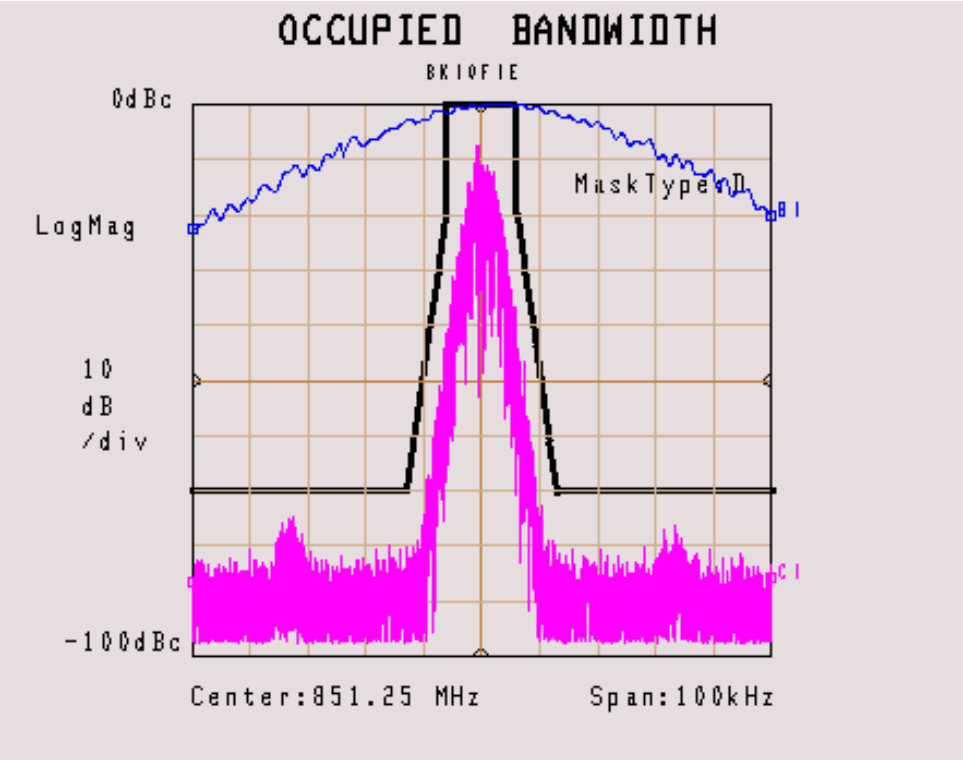


EXHIBIT 6E-4

Adjacent Channel Power

794.375 MHz **2.9 Watts** **Channel Spacing: 12.5kHz Digital**

Offset from Center Frequency (kHz)	Nominal Resolution	Measurement Bandwidth	ACP (dBc) low side	ACP (dBc) high side	FCC limit
9.375	100	6.25	-42.4	-42.3	-40
15.625	100	6.25	-74.2	-72.1	-60
21.875	100	6.25	-75.1	-73.1	-60
37.5	300	25	-66.6	-64.3	-60
62.5	300	25	-74.7	-74.3	-65
87.5	300	25	-78.8	-79	-65
150	1100	100	-75.8	-76	-65
250	1100	100	-66.2	-66.7	-65
350	1100	100	-80.2	-80.1	-65
>400KHz to 12MHz	30000	30 (swept)	<-75		-75
12MHz to paired Receive Band	30000	30 (swept)	<-75		-75
In the paired RX Band	30000	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).**

EXHIBIT 6F-1

Adjacent Channel Power

794.075 MHz **2.9 Watts** **Channel Spacing: 12.5kHz Analog**

Offset from Center Frequency (kHz)	Nominal Resolution	Measurement Bandwidth	ACP (dBc) low side	ACP (dBc) high side	FCC limit
9.375	100	6.25	-53.8	-50.1	-40
15.625	100	6.25	-70.5	-66.9	-60
21.875	100	6.25	-71.6	-70.2	-60
37.5	300	25	-68.6	-67	-60
62.5	300	25	-69	-68.7	-65
87.5	300	25	-70.1	-70.7	-65
150	1100	100	-74.2	-73.9	-65
250	1100	100	-67	-67.7	-65
350	1100	100	-76.5	-76.3	-65
>400KHz to 12MHz	30000	30 (swept)	<-75		-75
12MHz to paired Receive Band	30000	30 (swept)	<-75		-75
In the paired RX Band	30000	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).**

EXHIBIT 6F-2

Adjacent Channel Power

794.075 MHz **2.9 Watts** **Channel Spacing: 25kHz Analog**

Offset from Center Frequency (kHz)	Nominal Resolution	Measurement Bandwidth	ACP (dBc) low side	ACP (dBc) high side	FCC limit
15.625	100	6.25	-70.75	-66.9	-40
21.875	100	6.25	-71.7	-69.3	-60
37.5	300	25	-65.2	-63.5	-60
62.5	300	25	-69.8	-69.5	-65
87.5	300	25	-68	-69	-65
150	1100	100	-71.3	-71.2	-65
250	1100	100	-67	-67.4	-65
350	1100	100	-76.3	-76.4	-65
>400KHz to 12MHz	30000	30 (swept)	<-75		-75
12MHz to paired Receive Band	30000	30 (swept)	<-75		-75
In the paired RX Band	30000	30 (swept)	<-100		-100

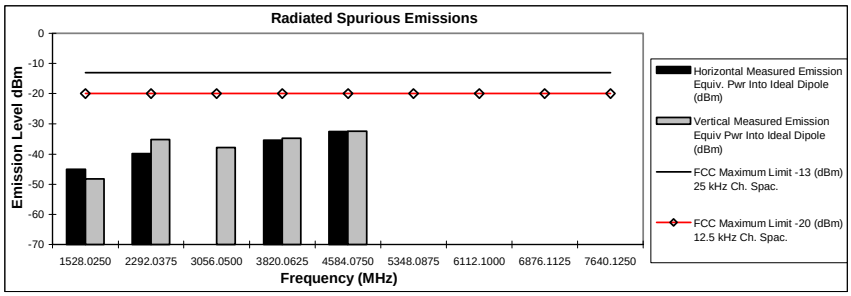
***** NOTE:** **This transmitter does not incorporate automatic power control. Therefore, it was tested to comply to the Maximum ACCP Relative (dBc) limits of FCC Rule Part 90.543(a).**

EXHIBIT 6F-3

Transmitter Radiated Spurious Emissions: XTS2500

764.0125 MHz **2.9 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	-45.01	-48.24
2292.0375	-13	-20	-39.89	-35.17
3056.0500	-13	-20	*	-37.84
3820.0625	-13	-20	-35.39	-34.76
4584.0750	-13	-20	-32.57	-32.43
5348.0875	-13	-20	*	*
6112.1000	-13	-20	*	*
6876.1125	-13	-20	*	*
7640.1250	-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.

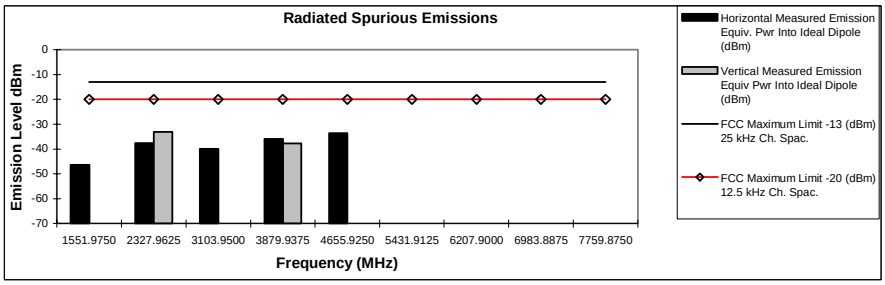
Motorola Plantation EMC Lab – Test Performed by: Philip Bagwell **August 23, 2001**
FCC Registration: 91932 / Industry Canada: IC3679

EXHIBIT 6G-1

Transmitter Radiated Spurious Emissions: XTS2500

775.9875 MHz **2.9 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	-46.33	*
2327.9625	-13	-20	-37.62	-33.17
3103.9500	-13	-20	-39.87	*
3879.9375	-13	-20	-35.98	-37.68
4655.9250	-13	-20	-33.60	*
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.

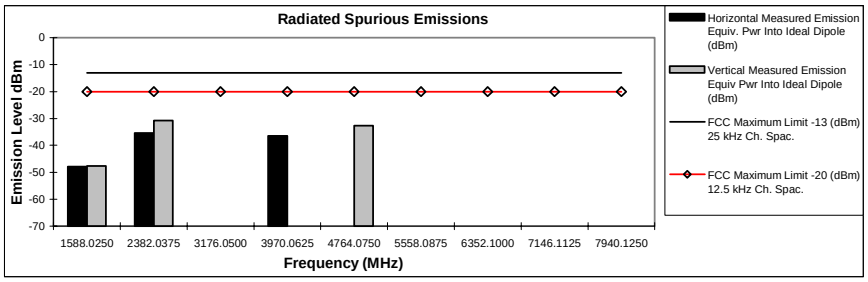
Motorola Plantation EMC Lab – Test Performed by: Philip Bagwell **August 23, 2001**
FCC Registration: 91932 / Industry Canada: IC3679

EXHIBIT 6G-2

Transmitter Radiated Spurious Emissions: XTS2500

794.0125 MHz **2.9 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	-47.92	-47.58
2382.0375	-13	-20	-35.38	-30.79
3176.0500	-13	-20	*	*
3970.0625	-13	-20	-36.42	*
4764.0750	-13	-20	*	-32.59
5558.0875	-13	-20	*	*
6352.1000	-13	-20	*	*
7146.1125	-13	-20	*	*
7940.1250	-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.

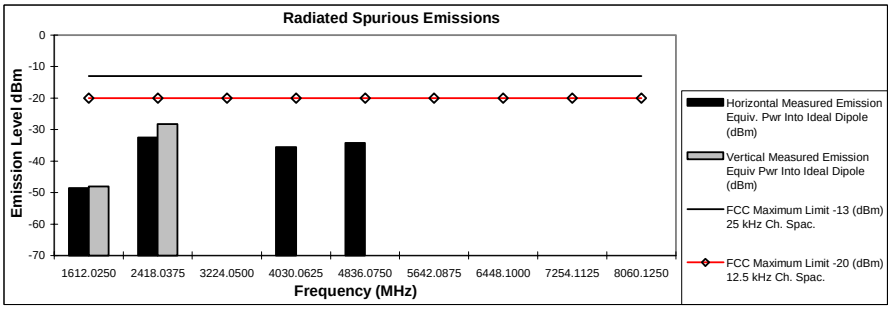
Motorola Plantation EMC Lab – Test Performed by: Philip Bagwell **August 23, 2001**
FCC Registration: 91932 / Industry Canada: IC3679

EXHIBIT 6G-3

Transmitter Radiated Spurious Emissions: XTS2500

806.0125 MHz **3.3 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)
1612.0250	-13	-20	-48.55	-48.00
2418.0375	-13	-20	-32.47	-28.24
3224.0500	-13	-20	*	*
4030.0625	-13	-20	-35.51	*
4836.0750	-13	-20	-34.28	*
5642.0875	-13	-20	*	*
6448.1000	-13	-20	*	*
7254.1125	-13	-20	*	*
8060.1250	-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.

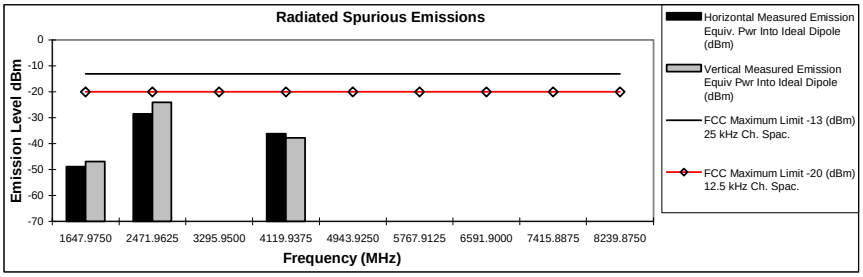
Motorola Plantation EMC Lab – Test Performed by: Philip Bagwell **August 23, 2001**
FCC Registration: 91932 / Industry Canada: IC3679

EXHIBIT 6G-4

Transmitter Radiated Spurious Emissions: XTS2500

823.9875 MHz **3.3 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)
1647.9750	-13	-20	-48.88	-46.86
2471.9625	-13	-20	-28.56	-24.05
3295.9500	-13	-20	*	*
4119.9375	-13	-20	-36.23	-37.78
4943.9250	-13	-20	*	*
5767.9125	-13	-20	*	*
6591.9000	-13	-20	*	*
7415.8875	-13	-20	*	*
8239.8750	-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.

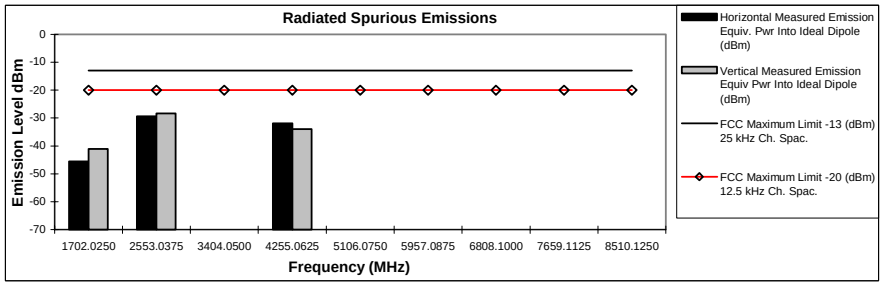
Motorola Plantation EMC Lab – Test Performed by: Philip Bagwell **August 23, 2001**
FCC Registration: 91932 / Industry Canada: IC3679

EXHIBIT 6G-5

Transmitter Radiated Spurious Emissions: XTS2500

851.0125 MHz **3.3 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)
1702.0250	-13	-20	-45.50	-41.15
2553.0375	-13	-20	-29.37	-28.41
3404.0500	-13	-20	*	*
4255.0625	-13	-20	-31.98	-33.95
5106.0750	-13	-20	*	*
5957.0875	-13	-20	*	*
6808.1000	-13	-20	*	*
7659.1125	-13	-20	*	*
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.

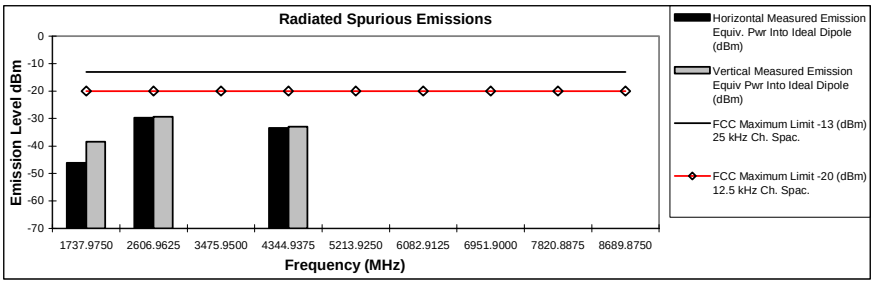
Motorola Plantation EMC Lab – Test Performed by: Philip Bagwell **August 23, 2001**
FCC Registration: 91932 / Industry Canada: IC3679

EXHIBIT 6G-6

Transmitter Radiated Spurious Emissions: XTS2500

868.9875 MHz **3.3 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)
1737.9750	-13	-20	-46.18	-38.50
2606.9625	-13	-20	-29.62	-29.35
3475.9500	-13	-20	*	*
4344.9375	-13	-20	-33.40	-32.89
5213.9250	-13	-20	*	*
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.

Motorola Plantation EMC Lab – Test Performed by: Philip Bagwell **August 23, 2001**
FCC Registration: 91932 / Industry Canada: IC3679

EXHIBIT 6G-7

1559 - 1610MHz Radiated Emissions (GNSS) Testing
(At 3 Meters EIRP)

Date:	8/15/01	**EMC#:**	EMC08152001-178	**Temp:**	87F 71%
Product:	XTS 2500 700/800 MHz	**Mode:**	12.5kHz Digital		

Notes: NAF5080 Antenna / NTN9857 Battery, 2.9W

Tx Freq. 794.0125

Spur	Frequency MHz	Horizontal Radiated Spur. Emiss. (dBm)	Vertical Radiated Spur. Emiss. (dBm)	FCC Limit (dBm)
2XFund	1588.0250	-51.62	-49.49	-40

Notes: NAF5080 Antenna / NTN9857 Battery, 2.9W

Tx Freq. 805.0000

Spur	Frequency MHz	Horizontal Radiated Spur. Emiss. (dBm)	Vertical Radiated Spur. Emiss. (dBm)	FCC Limit (dBm)
2XFund	1610.0000	-52.12	-49.41	-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.

Transmitter Conducted Spurious Emissions

FREQ: 764.01250 MHz

Power 3.0W

Spur Frequency	FCC Limit	Measured Value (dBm)

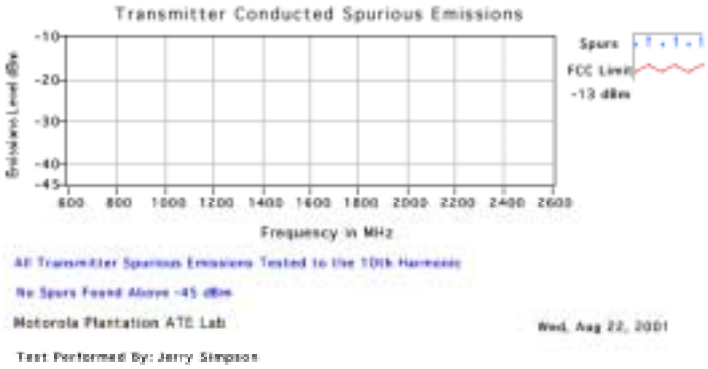


Exhibit 6I – 1 (12.5kHz Ch Sp)

Transmitter Conducted Spurious Emissions

FREQ: 775.98750 MHz

Power 3.0W

Spur Frequency	FCC Limit	Measured Value (dBm)

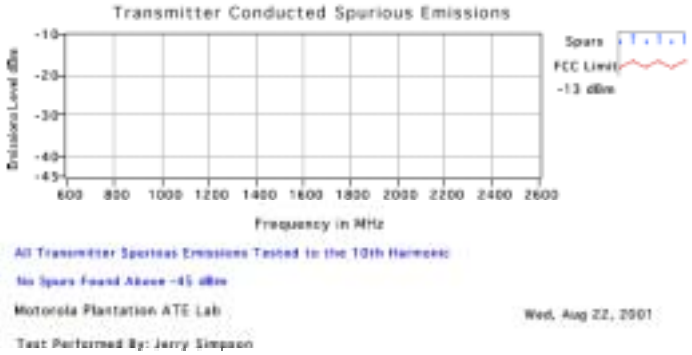


Exhibit 6I – 2 (12.5kHz Ch Sp)

Transmitter Conducted Spurious Emissions

FREQ: 794.01250 MHz

Power 3.0W

Spur Frequency	FCC Limit	Measured Value (dBm)
1012.50000	-13.0	-41.8

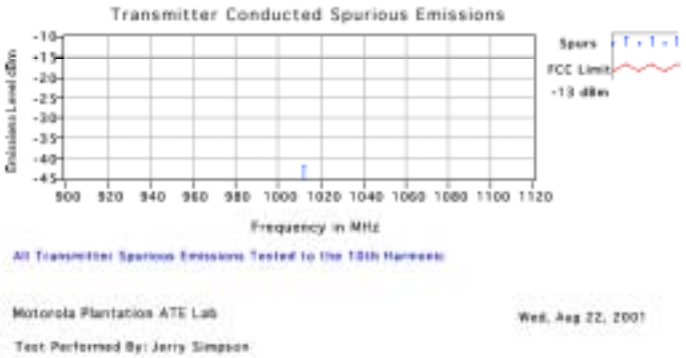


Exhibit 6I – 3 (12.5kHz Ch Sp)

Transmitter Conducted Spurious Emissions

FREQ: 806.01250 MHz

Power 3.0W

Spur Frequency	FCC Limit	Measured Value (dBm)
1022.00000	-13.0	-42.0

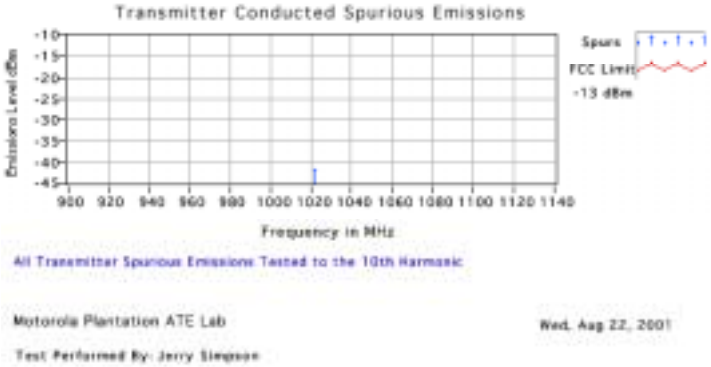


Exhibit 6I – 4 (12.5kHz Ch Sp)

Transmitter Conducted Spurious Emissions

FREQ: 823.98750 MHz

Power 3.0W

Spur Frequency	FCC Limit	Measured Value (dBm)

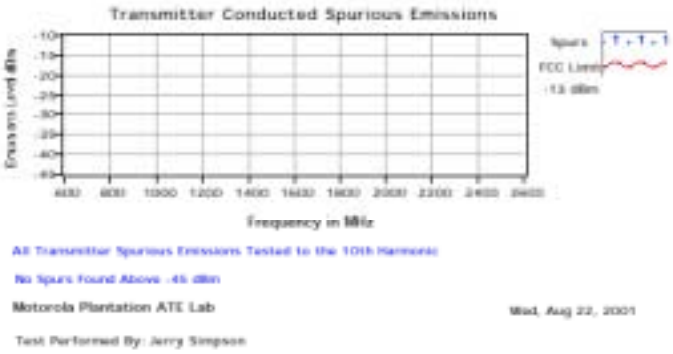


Exhibit 6I – 5 (12.5kHz Ch Sp)

Transmitter Conducted Spurious Emissions

FREQ: 851.01250 MHz

Power 3.0W

Spur Frequency	FCC Limit	Measured Value (dBm)
1024.00000	-13.0	-41.6

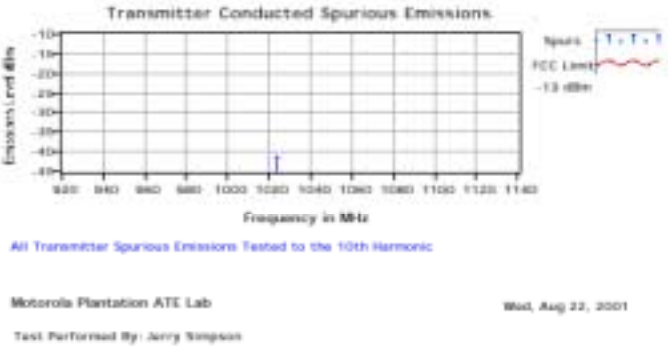


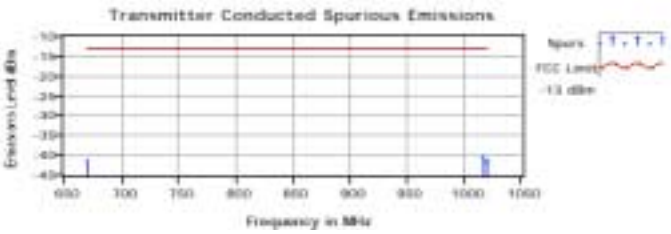
Exhibit 6I – 6 (12.5kHz Ch Sp)

Transmitter Conducted Spurious Emissions

FREQ: 868.98750 MHz

Power 3.0W

Spur Frequency	FCC Limit	Measured Value (dBm)
870.00000	-13.0	-41.6
1017.50000	-13.0	-40.6
1020.00000	-13.0	-41.4



All Transmitter Spurious Emissions Tested to the 10th Harmonic

Motorola Plantation ATE Lab

Wed, Aug 22, 2001

Test Performed By: Jerry Simpson

Exhibit 6I – 7 (12.5kHz Ch Sp)

Power Line Conducted Spurious Emissions

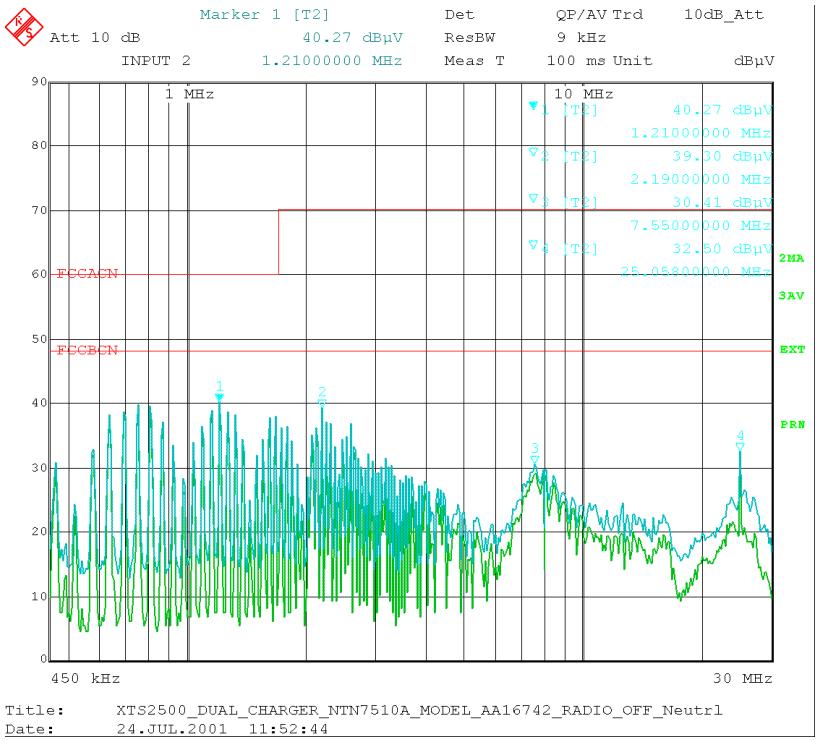


EXHIBIT 6J-1

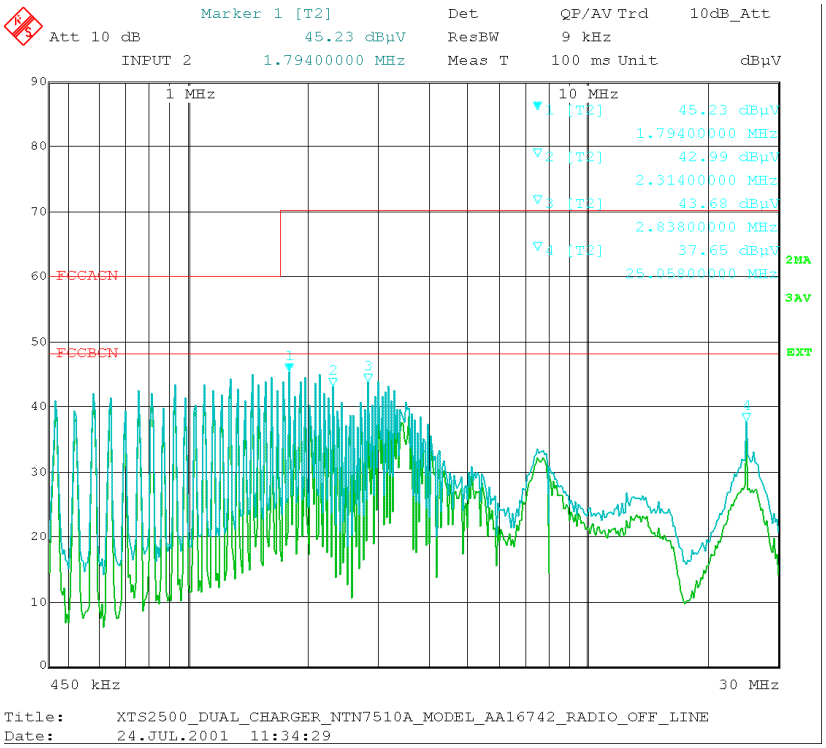


EXHIBIT 6J-2

Power Line Conducted Spurious Emissions

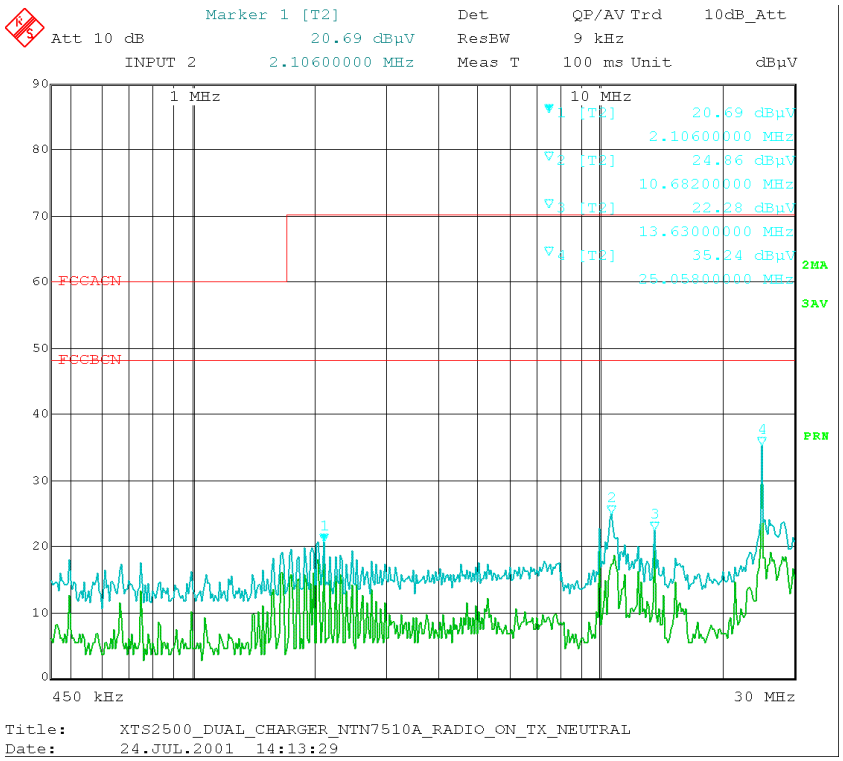


EXHIBIT 6J-3

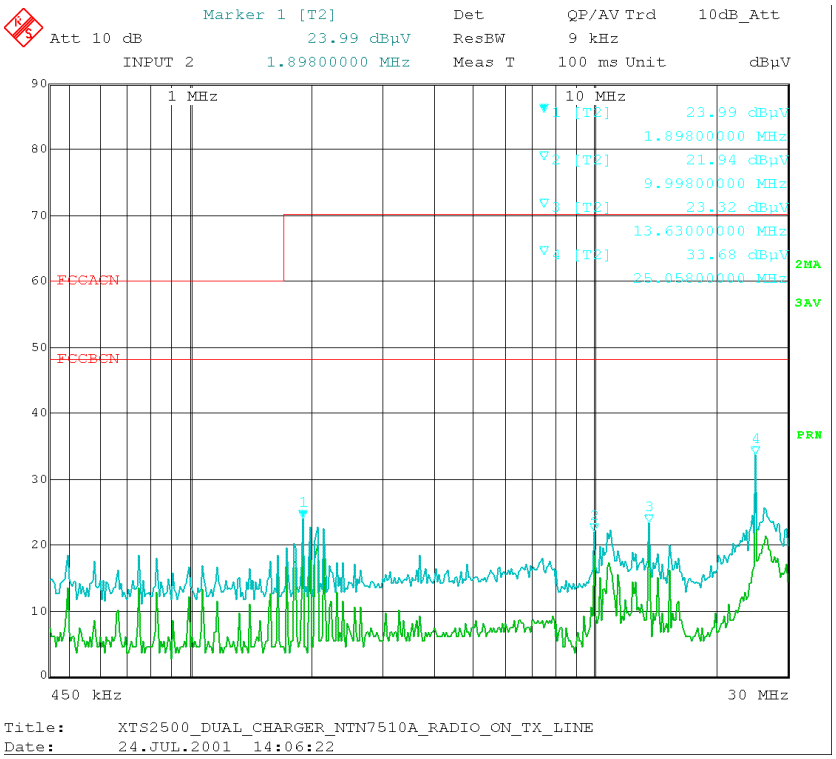


EXHIBIT 6J-4

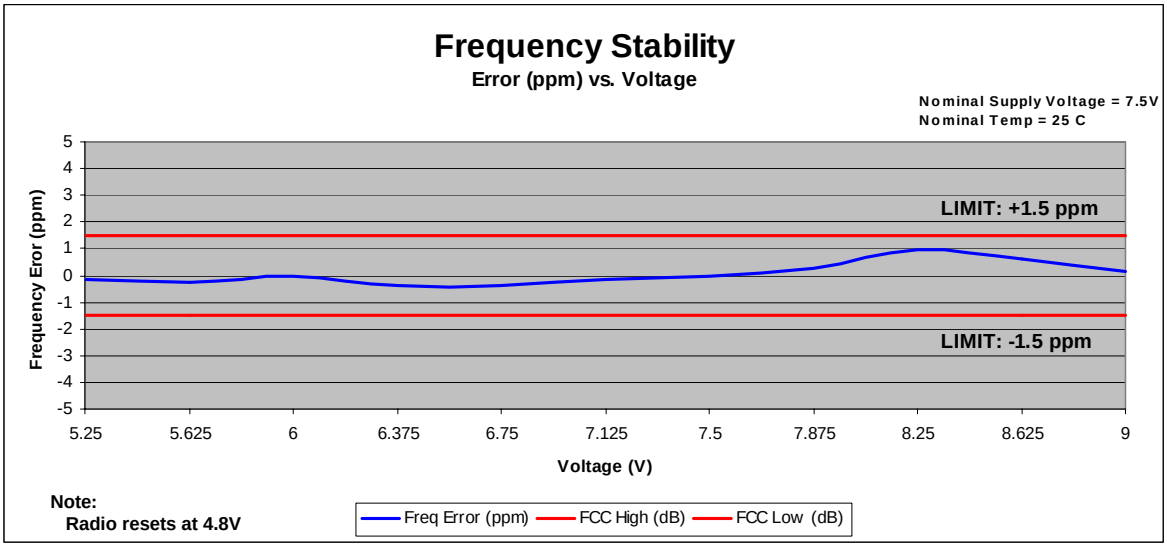


EXHIBIT 6K-1

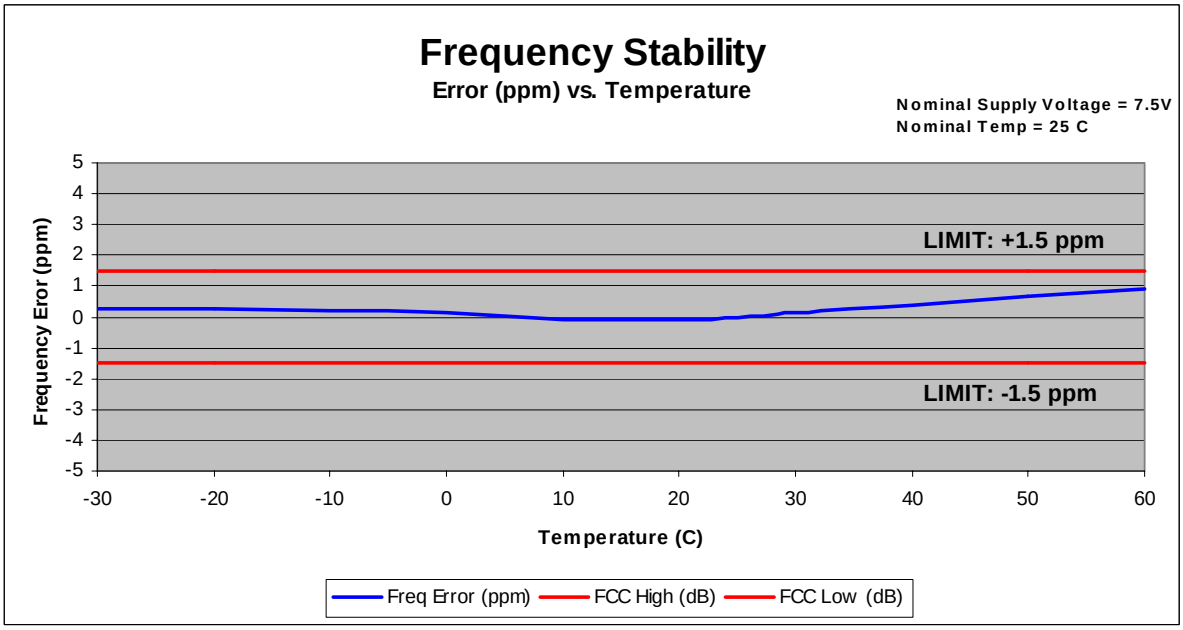


EXHIBIT 6K-2