



MOTOROLA

FCC ID: AZ489FT4852

TEST REPORT

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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 Conducted RF output	1.00	Watts
* Calculated Radiated RF output	575	milliwatts
Normal DC Voltage	4.20	Volts
Normal DC Current (GMRS)	760	milliampères
Primary Supply Voltage	4.20	Volts

RF Conducted output power measured at 4.2 Volts

*Calculated Radiated RF output. The conducted power measurements converted to dBm minus the antenna loss, Which is 2.4dB (see exhibit 6A-2) and converted back to watts ERP

Example: GMRS conducted RF output = 1.0 Watts
 $10\log(1.0w/1w) = 30.0\text{dBm}$
 $\text{ERP} = 30.0\text{dBm} - 2.4\text{dB} = 27.6\text{dBm}$
 $\text{ERP} = 10^{(27.6/10)} = 10^{2.5235} = 575 \text{ milli watts.}$

The antenna gain (loss) is measured in an anechoic chamber free of outside radiation, refraction, defraction and interference. The anechoic chamber's path loss = 37.9 dBm. The antenna was placed on an infinite ground plane, and 10dBm was transmitted from the antenna. The receiving spectrum analyzer registered -30.3 dBm. Therefore, the antenna gain = $P_r - P_t + \text{Path loss} = -30.3 - 10 + 37.9 = -2.4 \text{ dB.}$

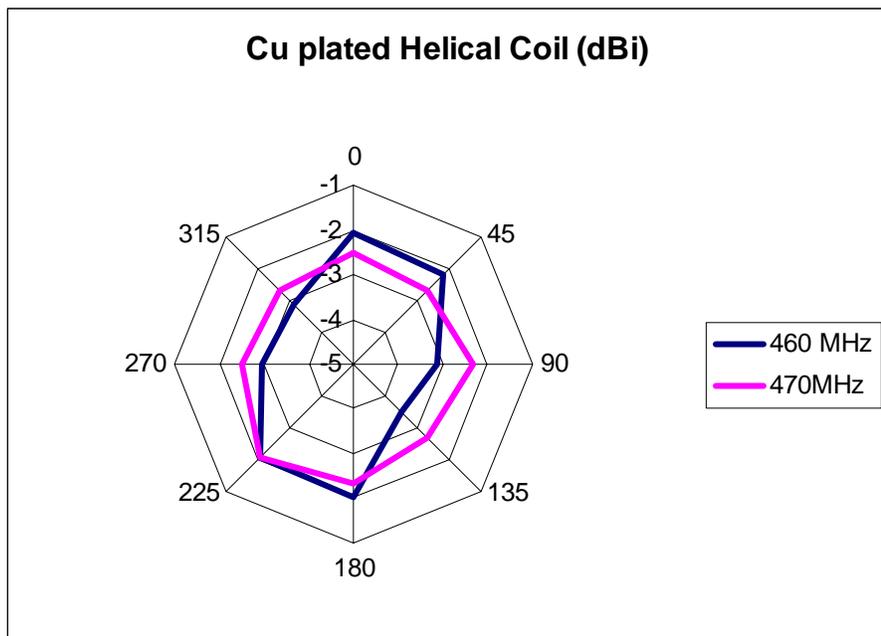
Antenna performance data over frequency is on the next page.



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Degree	Coil (Cu25 μ) dBi	
	460 MHz	470MHz
0	-2.05	-2.53
45	-2.15	-2.68
90	-3.15	-2.35
135	-3.49	-2.68
180	-2.02	-2.35
225	-2.05	-2.01
270	-2.95	-2.51
315	-3.15	-2.68
Average	-2.61	-2.47

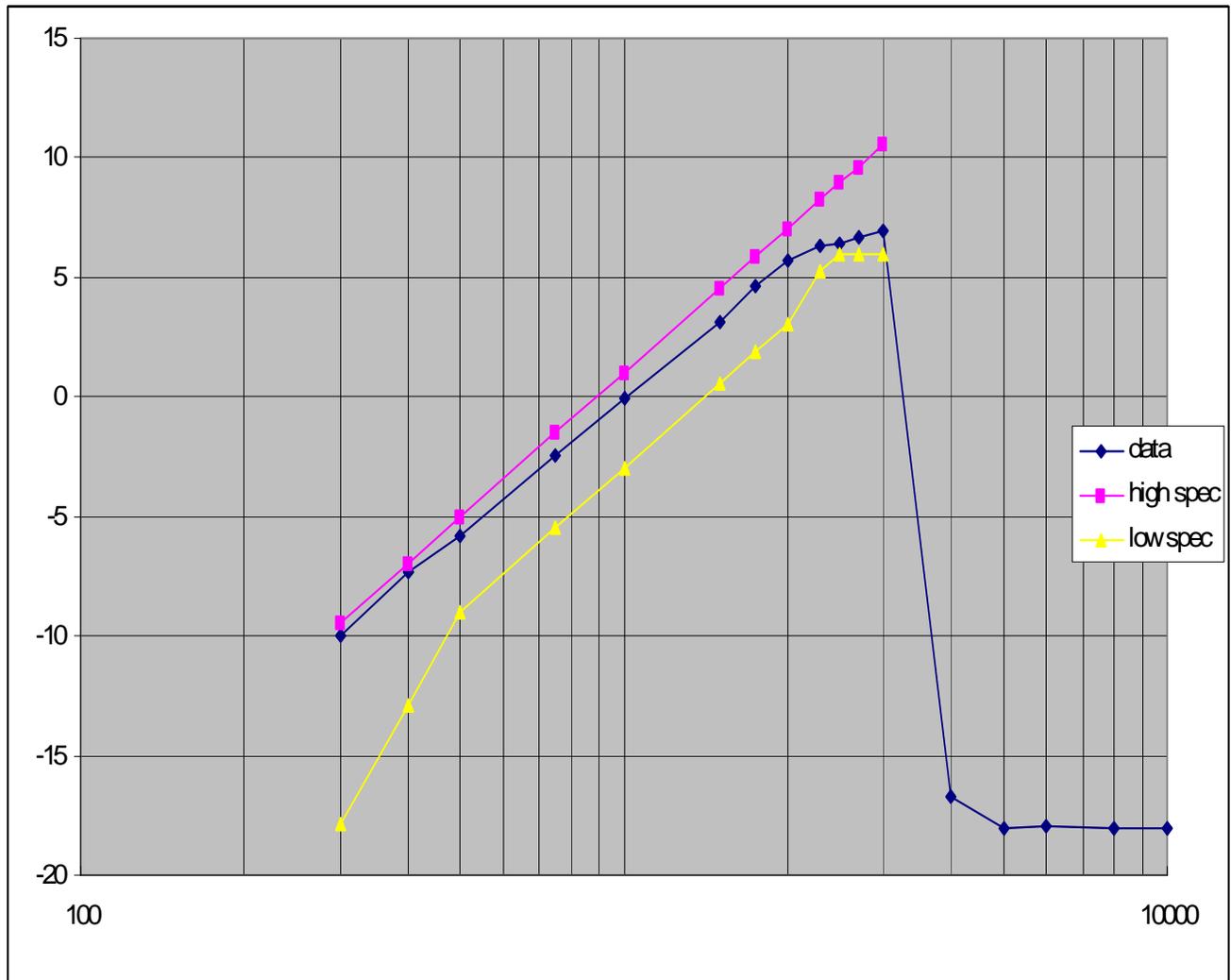




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AUDIO RESPONSE





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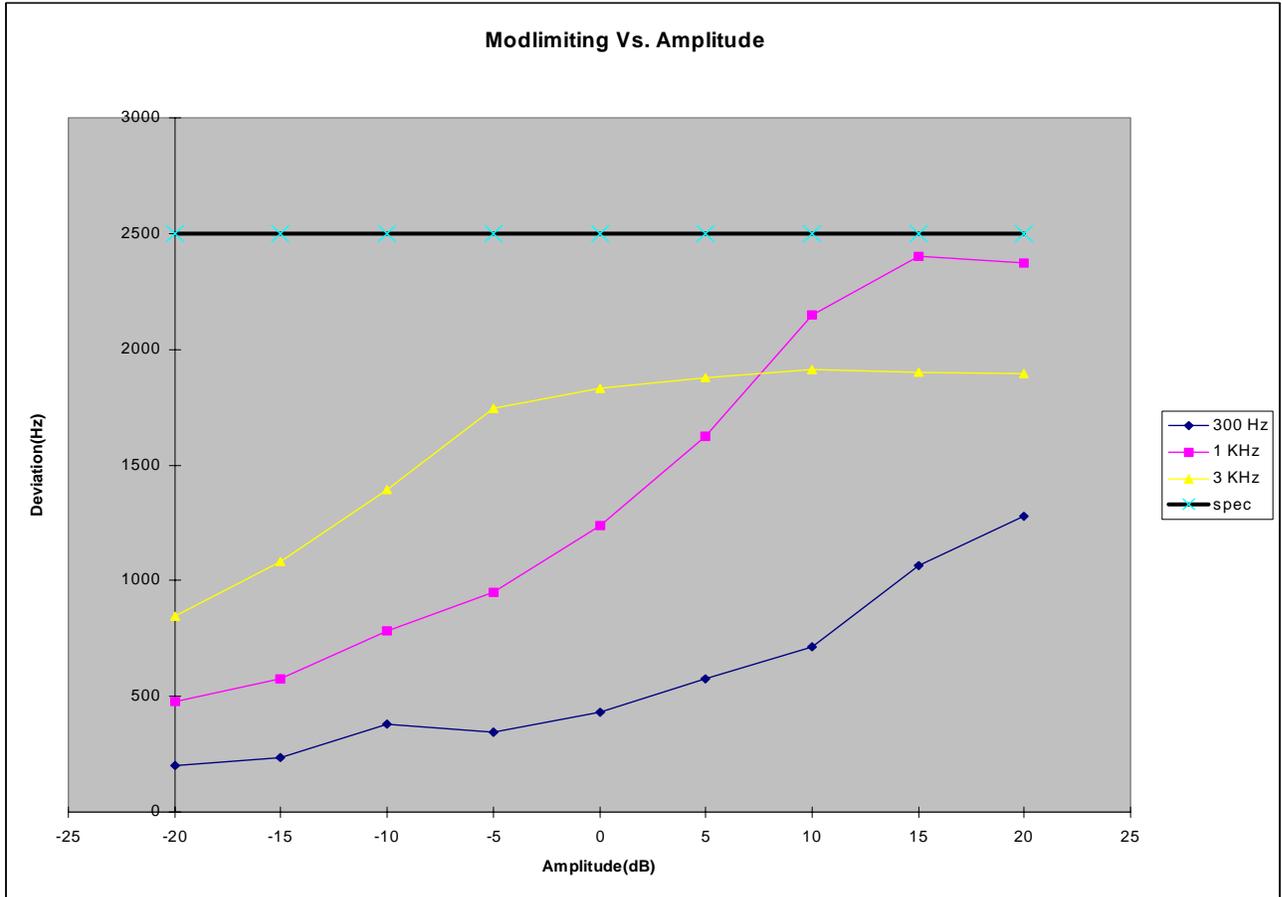


EXHIBIT 6C



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OCCUPIED BANDWIDTH DATA

12.5 kHz Channel Spacing

EXHIBIT 6E-1

2500 Hz Audio Modulation
Emission Type: 11K0F3E
Horizontal: 5 kHz/Div.
Vertical: 10 dB/Div.
Carrier Ref: 0 dB
Specification Mask D, 90.210

EXHIBIT 6E-2

2500 Hz & 77 Hz Tone "PL" Modulation
Emission Type: 11K0F3E
Horizontal: 5 kHz/Div.
Vertical: 10 dB/Div.
Carrier Ref: 0 dB
Specification Mask D, 90.210

CARSON'S RULE

11K0F3E:

$$BW = 2(M + D)$$

$$BW = 2 (3 \text{ kHz maximum modulation frequency} + 2.5 \text{ kHz deviation})$$

$$BW = 2 (5.5)$$

$$BW = 11 \text{ kHz}$$

EXHIBIT 6D



MOTOROLA

FCC ID: AZ489FT4852

1 Watt 12.5 kHz

Specification Mask D, Rule Part 90.210

Emission Type: 11K0F3E.

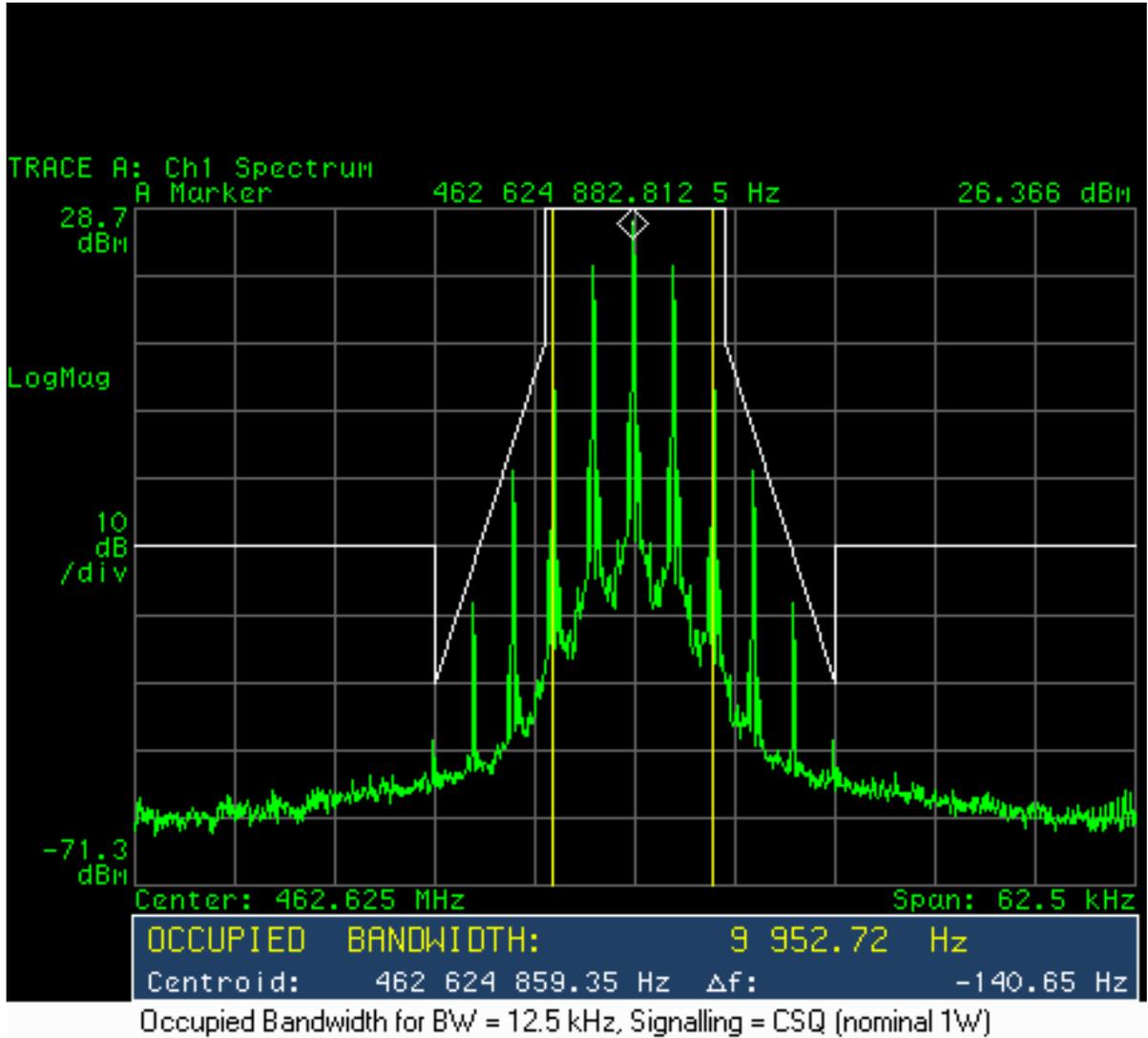


EXHIBIT 6D-1



MOTOROLA

FCC ID: AZ489FT4852

1 Watt 12.5 kHz

77 Hz Tone "PL" Modulations

Specification Mask D, Rule Part 90.210

Emission Type: 11K0F3E.

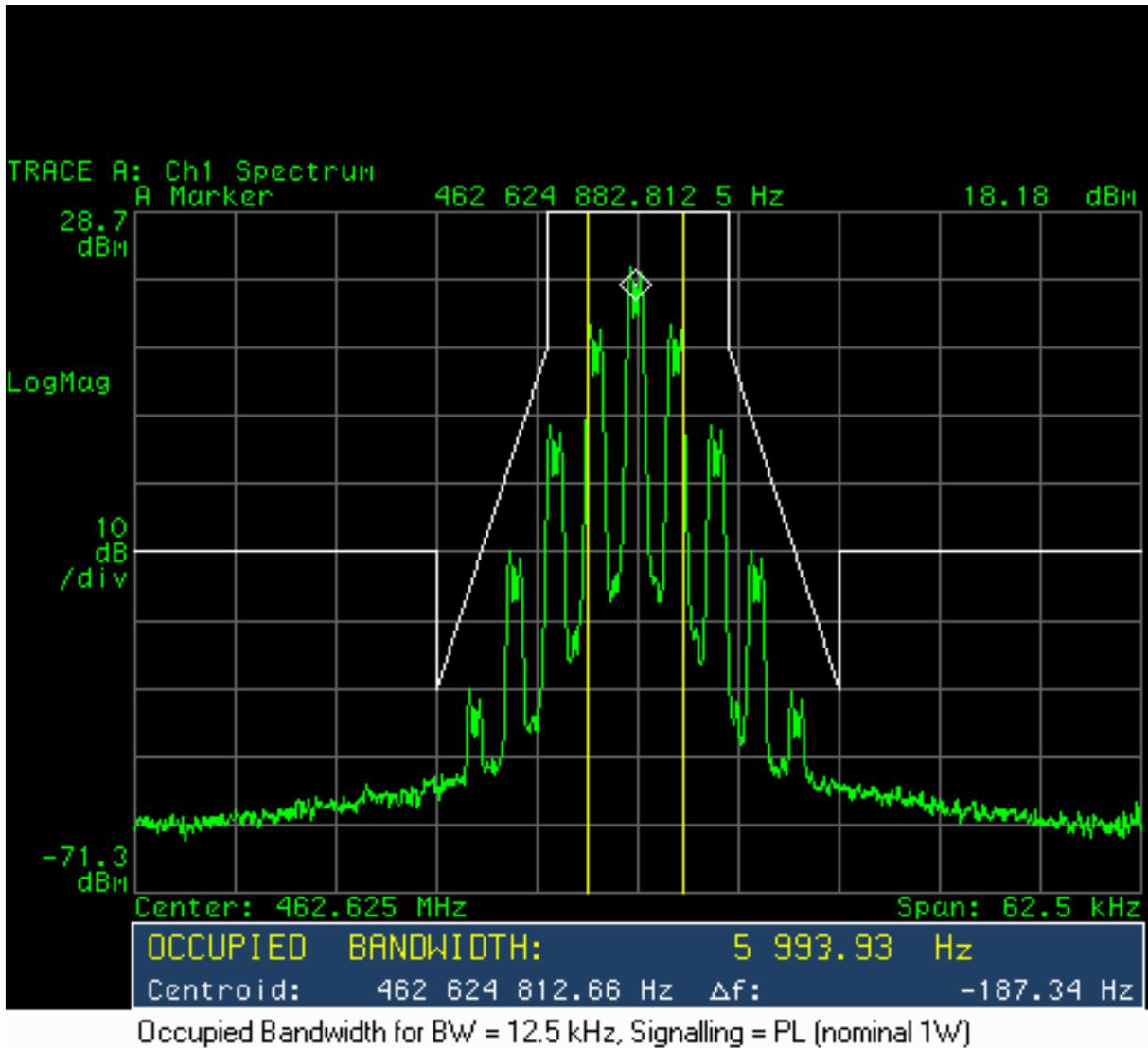


EXHIBIT 6D-2



MOTOROLA

FCC ID: AZ489FT4852

Transmitter Conducted Spurious Emissions

FCC ID: AZ489FT4852

462.56250 MHz

Power 1.0W

Spur Frequency	FCC Limit	Measured Value (dBm)
924.80000	-13.0	-41.7
1387.00000	-13.0	-27.9
1850.00000	-13.0	-43.0
2312.00000	-13.0	-53.1
2772.00000	-13.0	-47.1
3237.00000	-13.0	-39.1
3700.00000	-13.0	-45.3
4162.00000	-13.0	-51.7
4624.00000	-13.0	-42.7

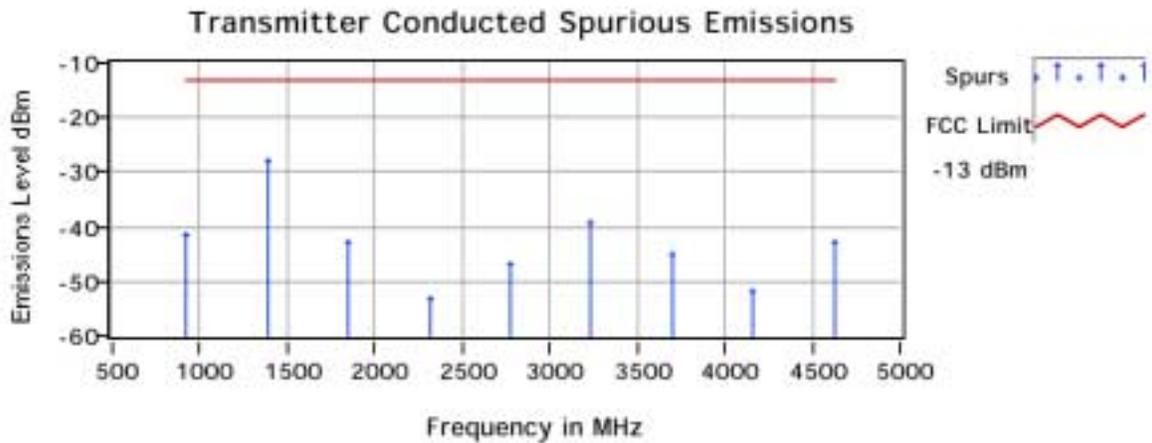


EXHIBIT 6E



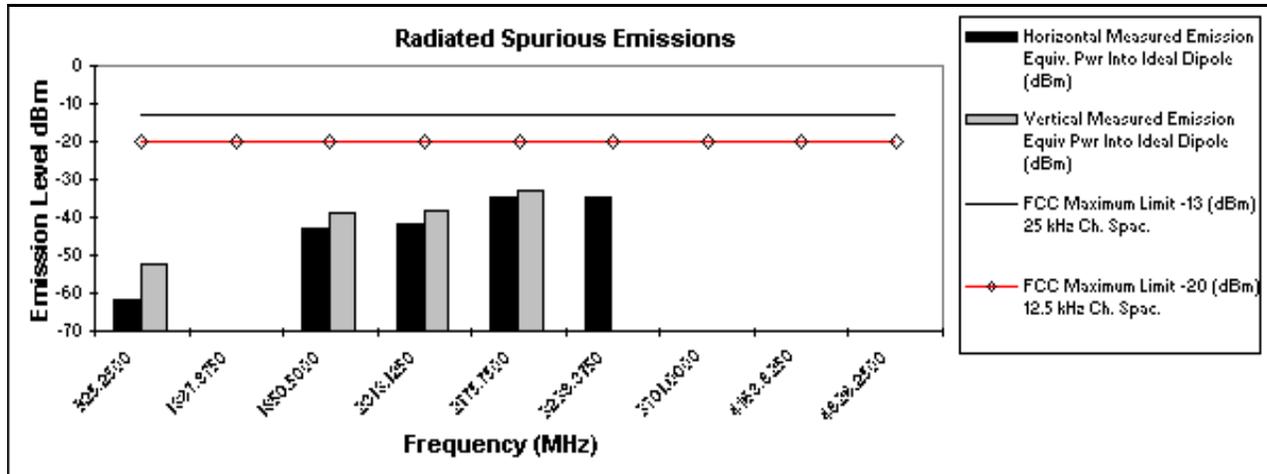
Transmitter Radiated Spurious Emissions:TalkAbout

462.625 MHz

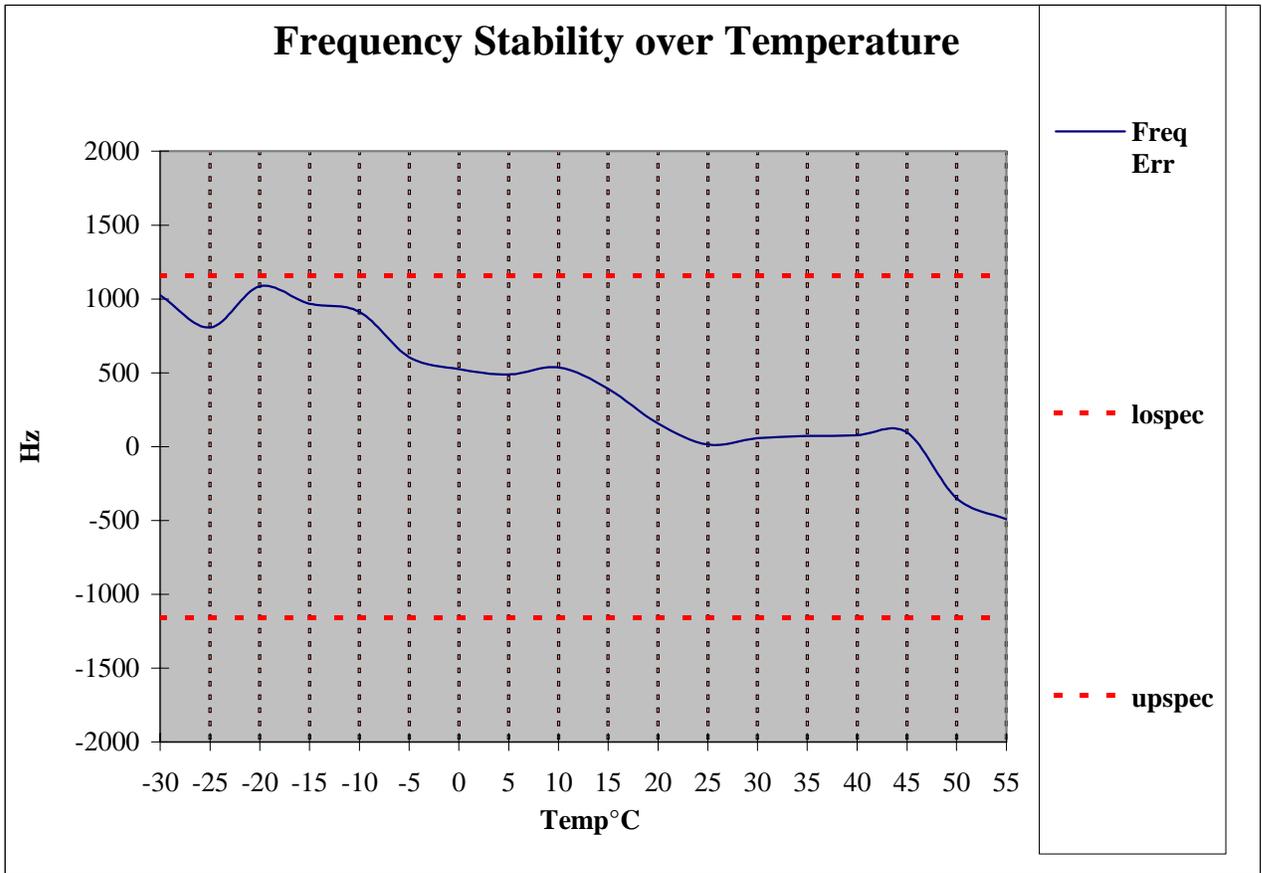
1 Watts

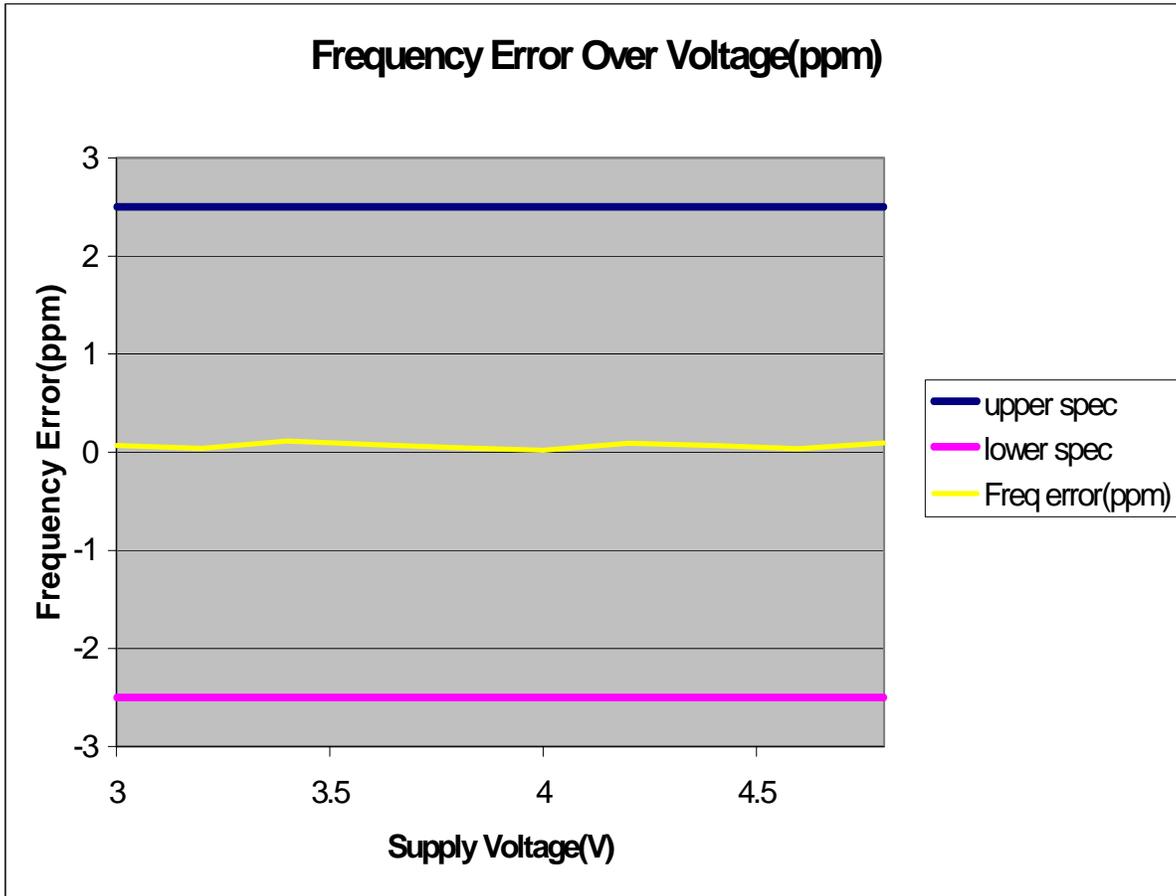
Channel Spacing 12.5

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)
925.2500	-13	-20	-61.64	-52.50
1387.8750	-13	-20	*	*
1850.5000	-13	-20	-42.96	-38.66
2313.1250	-13	-20	-41.97	-38.41
2775.7500	-13	-20	-34.67	-32.97
3238.3750	-13	-20	-34.51	*
3701.0000	-13	-20	*	*
4163.6250	-13	-20	*	*
4626.2500	-13	-20	*	*



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





Radio Resets at 2.75Volts



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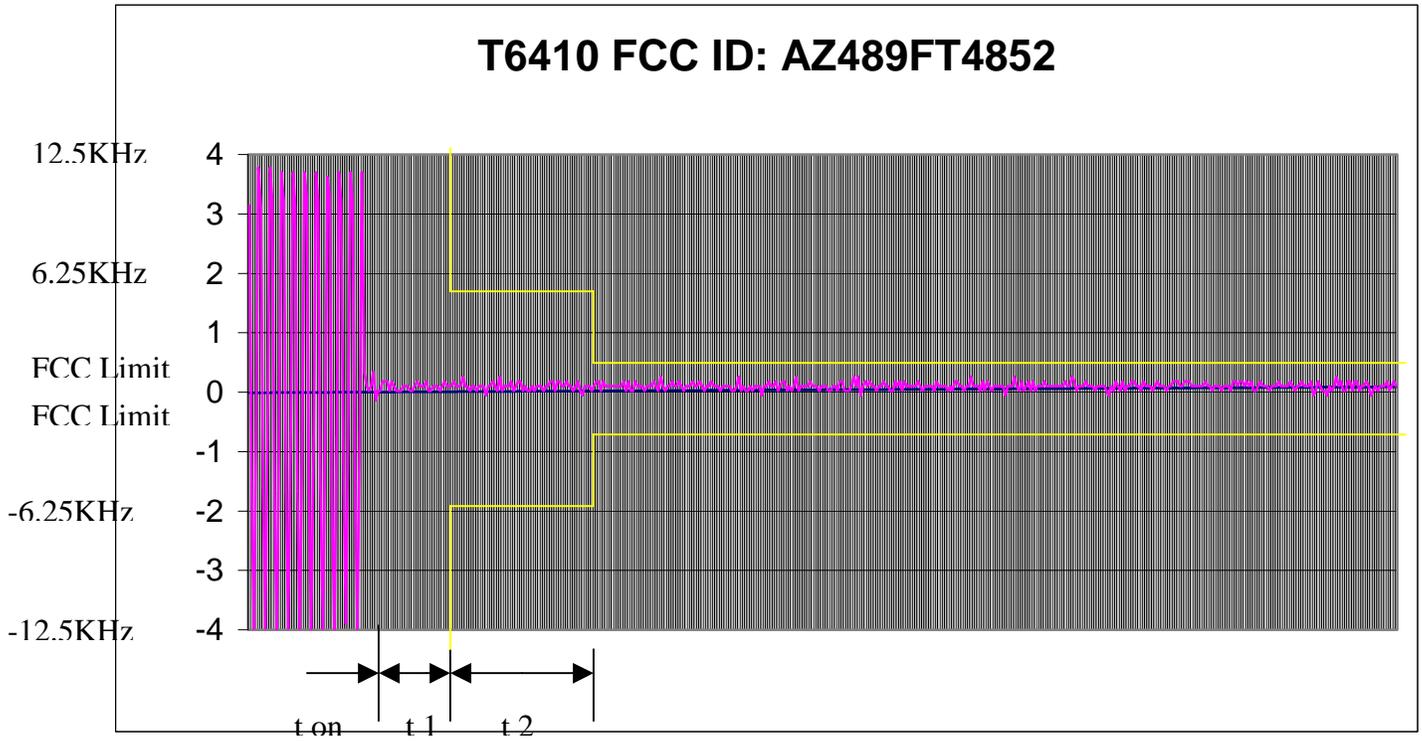


Exhibit 6H-1



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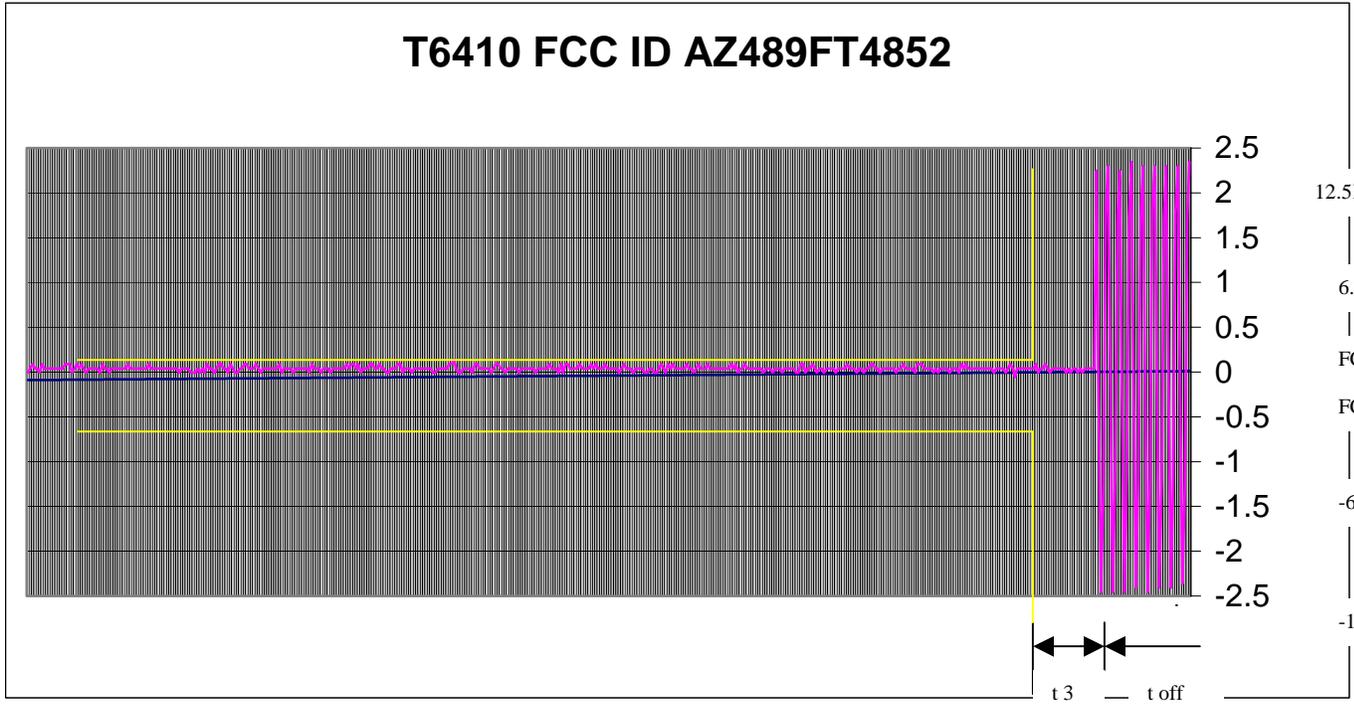


Exhibit 6H-2