

Exhibit 8HB

Report of Measurements for 156.0 – 162.0 MHz Transmitter

8HB.1 RF Power Output §2.1046

For each applicable frequency band of operation the RF power output into a 50 ohm dummy load was measured, as was the DC voltage and current input to the amplifying stage. The results are shown below.

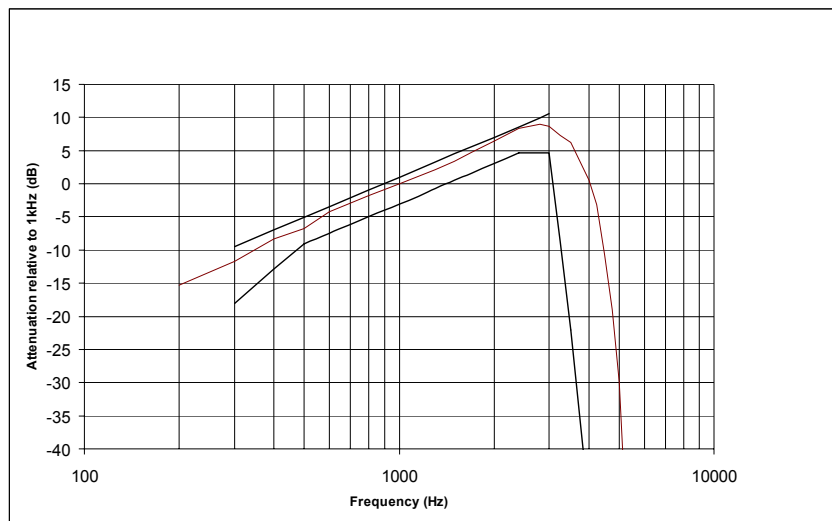
RF Power Output					
Frequency Band	Test frequency	Channel Spacing (kHz)	Measured RF Power Output (W)	Measured DC Voltage (V)	Measured DC Current (A)
156.0 - 162.0 MHz	159 MHz	12.5 / 25.0	33	13.6	7.1

8HB.2 Modulation Characteristics §2.1047(a)Applicable modes:

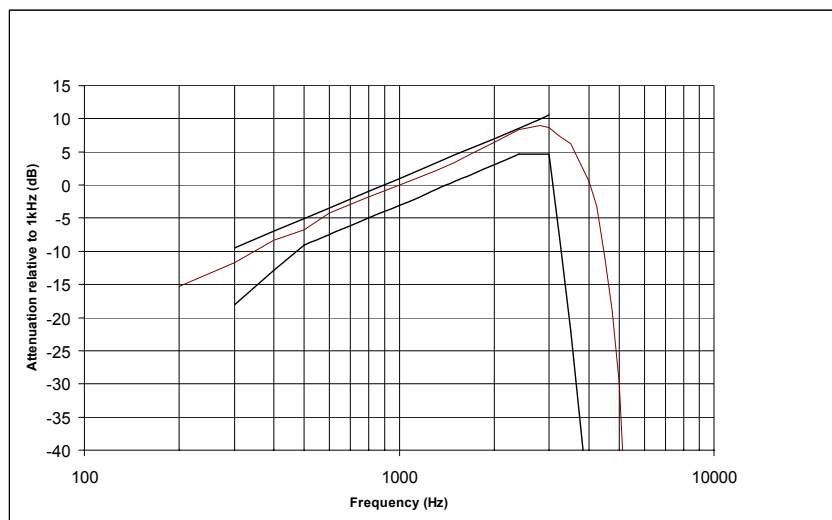
12.5kHz and 25kHz channel spaced 156-162.6MHz voice operation.

8HB.2.1 Audio Frequency Response and Audio Low Pass Filter Characteristic

Results: The following plots illustrate the frequency response of the voice modulation process of the UUT. The characteristic reveals pre-emphasis from 300Hz to 3000Hz and low pass filtering from 3000Hz to 10000Hz.



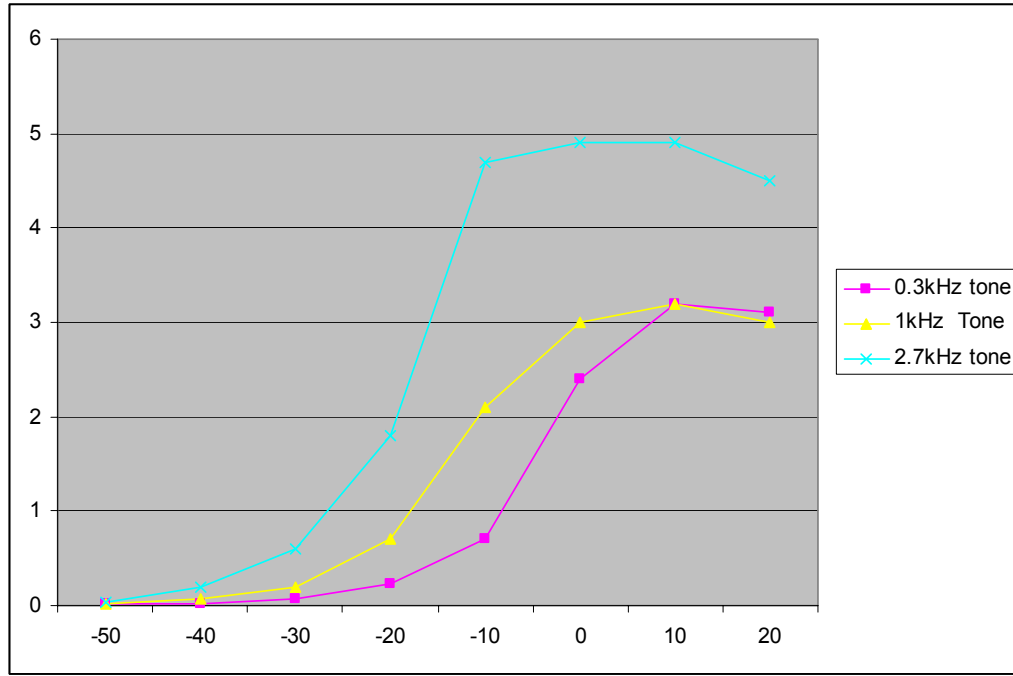
8HB.2.1.1 TX Audio Frequency Response, 159.000 MHz, 12.5 kHz channel spacing



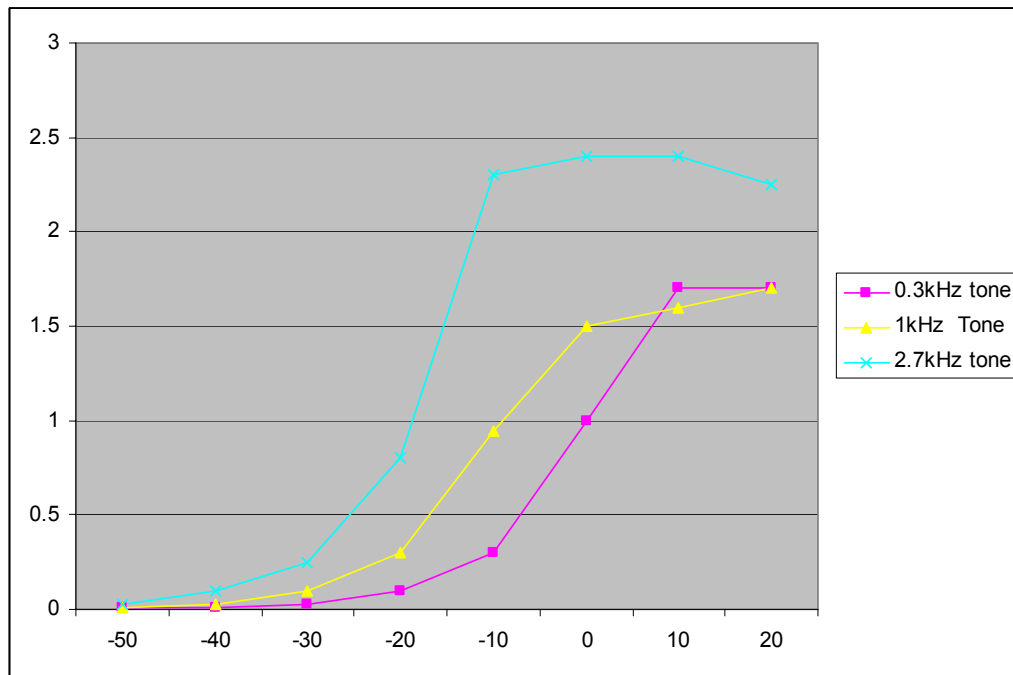
8HB.2.1.2 TX Audio Frequency Response, 159.000 MHz, 25 kHz channel spacing

8HB.2.2 Modulation Limiting

Results: The following plots demonstrate the UUT will not exceed its maximum rated deviation under the prescribed drive conditions.



8HB.2.2.2 Modulation Limiting, 159.000 MHz, 25 kHz channel spacing



8HB.2.2.1 Modulation Limiting, 159.000 MHz, 12.5 kHz channel spacing

8HB.3 Occupied Bandwidth §2.1049

Applicable modes: See chart under Results.

Results: The following plots demonstrate the UUT emissions are confined to the respective emission mask limits.

Occupied Bandwidth								
Fig 8HB.3.X	Band	Power Output	Test Frequency	Waveform	bit rate or deviation	Emission Designator	Mask	application
1	156-162 MHz	33W	159.000 MHz	0.22 GMSK	19.2 kbps	21K3F1D	C	25kHz P2P data
2	156-162 MHz	33W	159.000 MHz	1.0 GMSK	9.6kbps	14K4F1D	C	25kHz data
3	156-162 MHz	33W	159.000 MHz	0.30 GMSK	9.6 kbps	11K0F1D	D	12.5kHz data
4	156-162 MHz	33W	159.000 MHz	external tone	5 kHz pk	16K0F3E	B	25kHz voice channel
5	156-162 MHz	33W	159.000 MHz	external tone	2.5 kHz pk	11K0F3E	D	12.5kHz voice channel
6	156-162 MHz	33W	159.000 MHz	GFSK	4.8 kbps	6K50F1D	D	12.5kHz data

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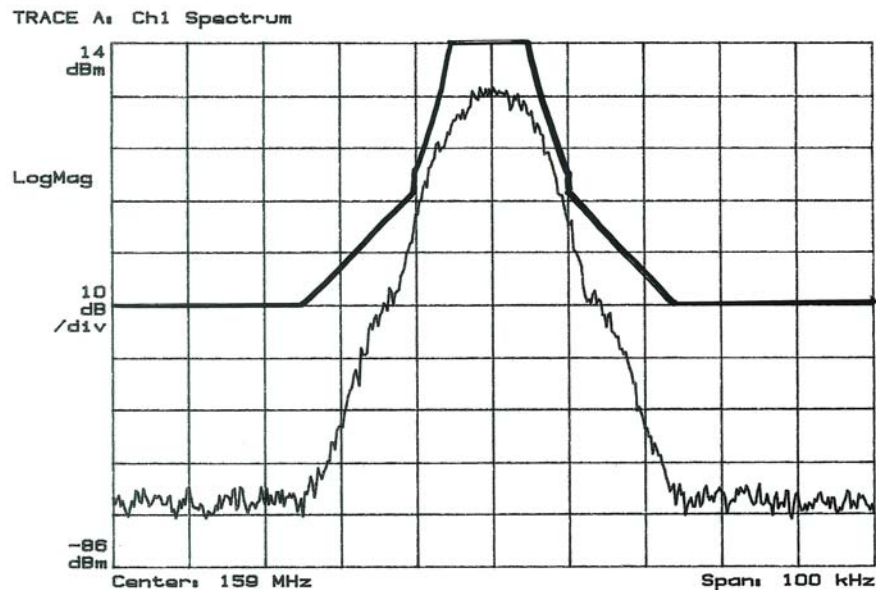
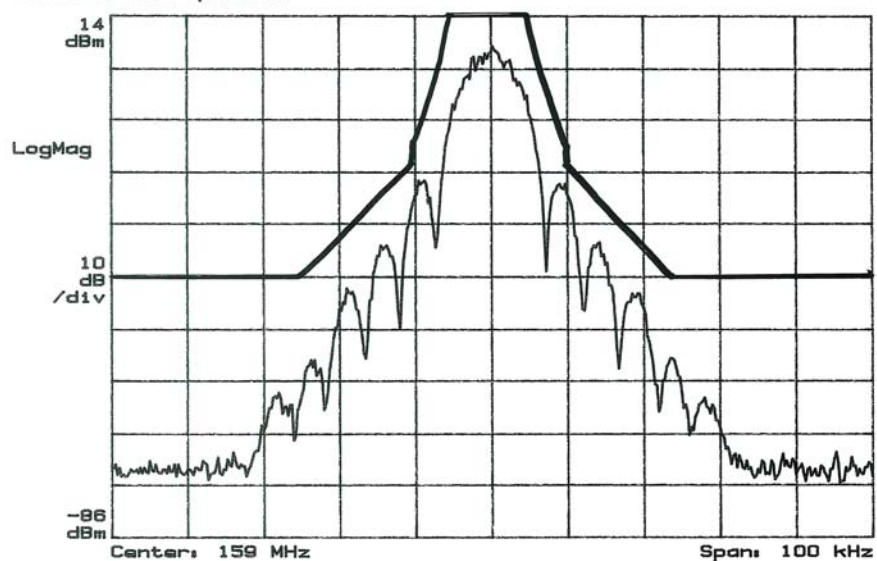


Figure 8HB3.1 $F_o = 159.000$ MHz, 19.2kbps GMSK $BT=.22$ 21K3F1D, Mask C

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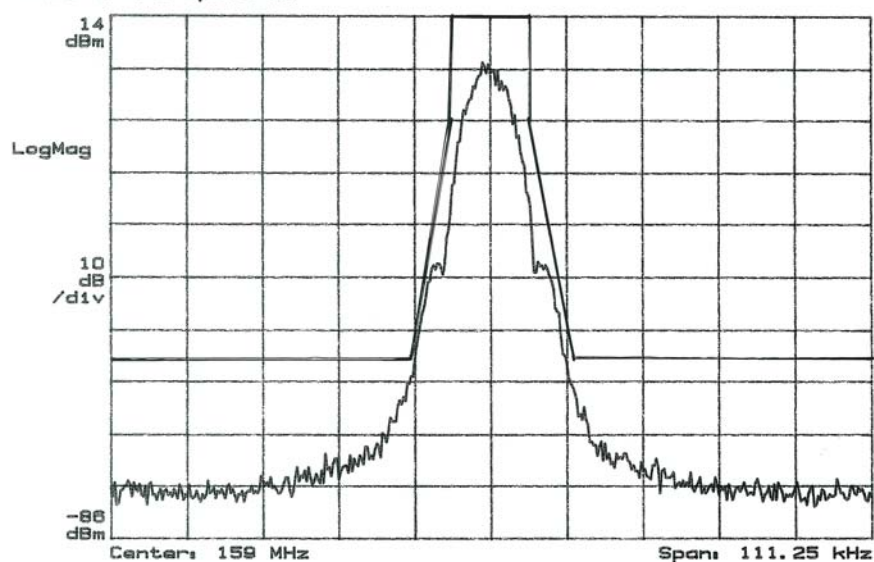
TRACE A: Ch1 Spectrum



**Figure 8HB3.2 $F_o = 159.000$ MHz, 9.6kbps GMSK BT=1.0
14K4F1D, Mask C**

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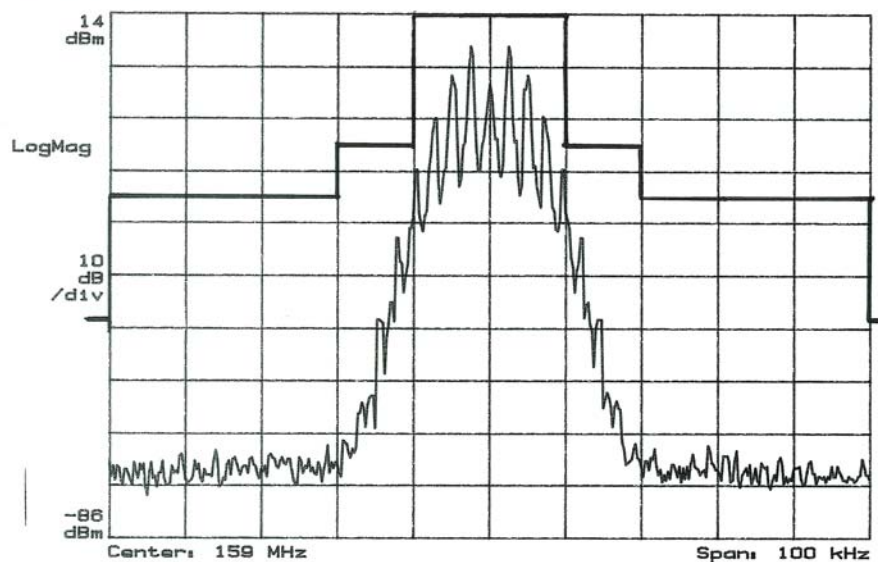
TRACE A: Ch1 Spectrum



**Figure 8HB3.3 $F_o = 159.000$ MHz, 9.6kbps GMSK BT=.30
11K0F1D, Mask D**

Date: 06-27-05 Time: 03:55 PM

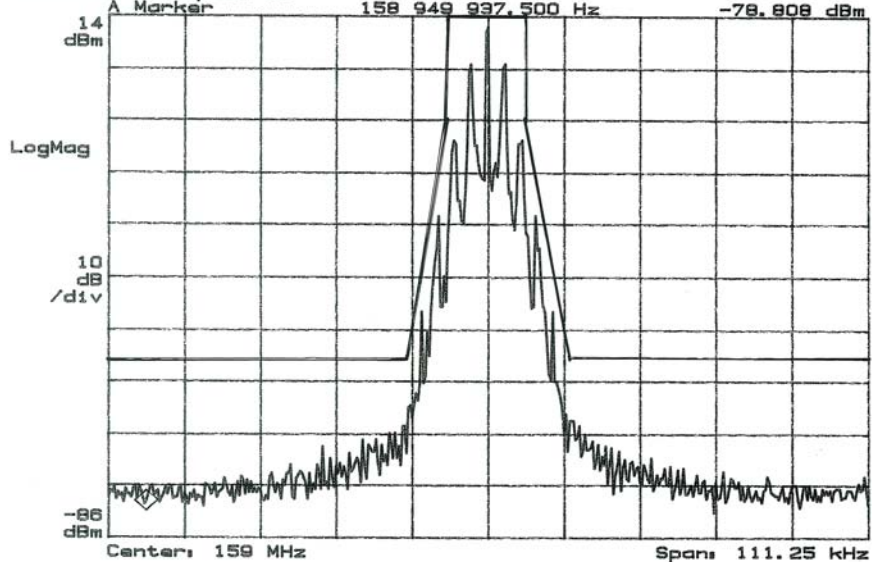
TRACE A: Ch1 Spectrum



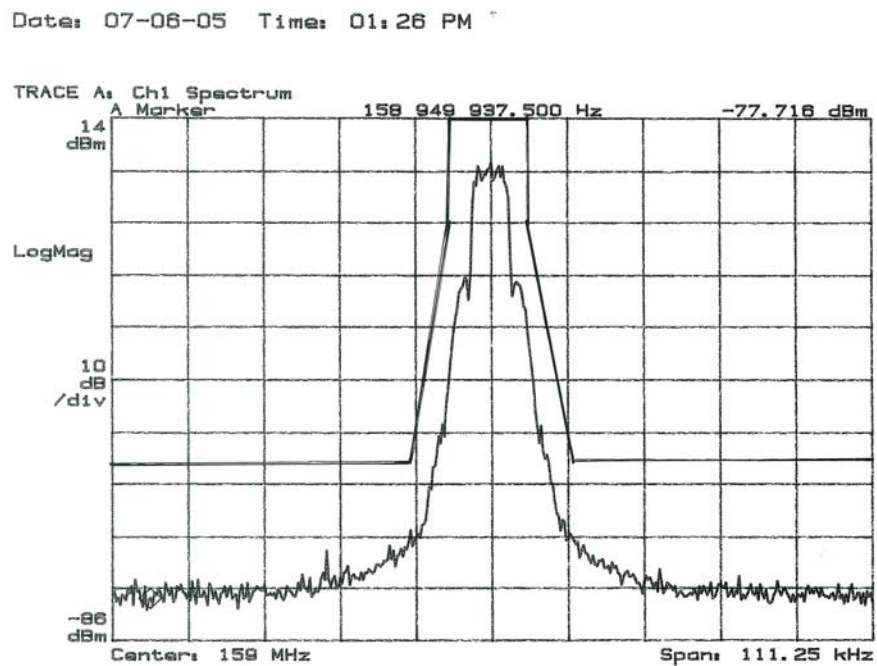
**Figure 8HB3.4 $F_o = 159.000$ MHz, 25kHz Voice
16K0F3E, Mask B**

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TRACE A: Ch1 Spectrum



**Figure 8HB3.5 $F_o = 159.000$ MHz, 12.5kHz Voice
11K0F3E, Mask D**



**Figure 8HB3.6 $F_o = 159.000$ MHz, 4.8kbps GFSK BT=0.5
6K50F1D, Mask D**

8HB.4 Transient Frequency Behavior, §90.214Results:

156.0 - 162.0 MHz for 25kHz channel spacing		
Time Instant	delay	Maximum Frequency Difference
t1	5mS	+/-25kHz
t2	20mS	+/-12.5kHz
t3	5mS	+/-25kHz

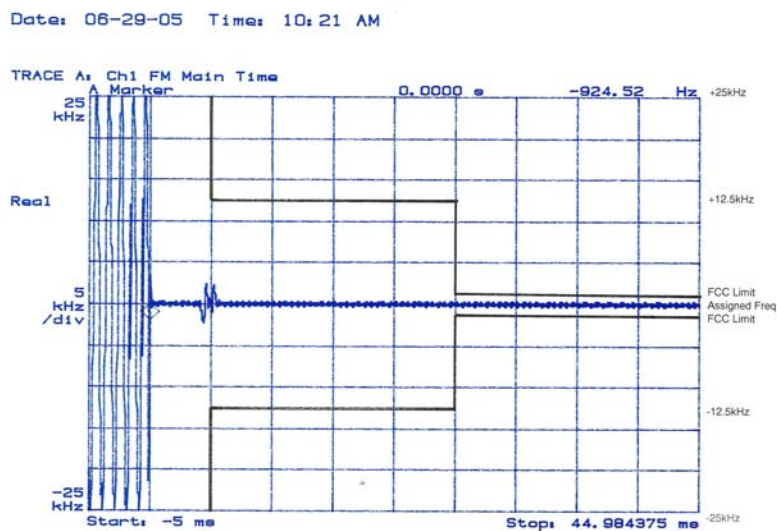


Figure 8HB.4.1 159.000MHz ON Transient Frequency Behavior, 25kHz channel spacing

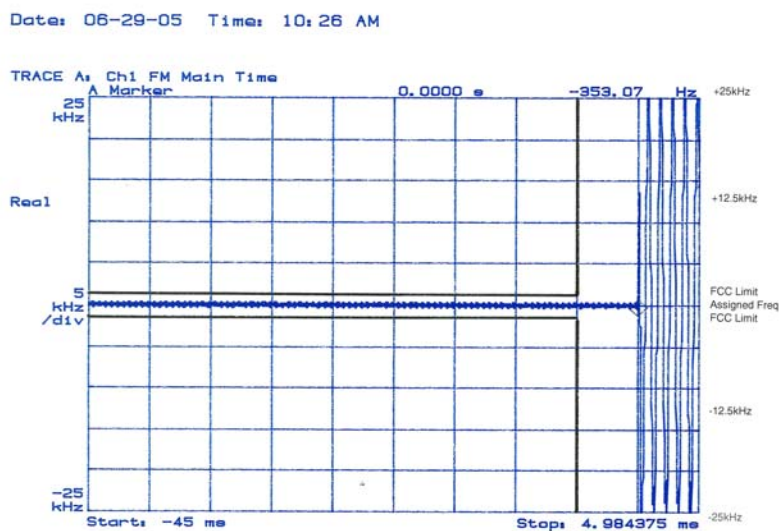


Figure 8HB.4.2 159.000MHz OFF Transient Frequency Behavior, 25kHz channel spacing

156.0 - 162.0 MHz for 12.5kHz channel spacing		
Time Instant	delay	Maximum Frequency Difference
t1	5mS	+/-12.5kHz
t2	20mS	+/-6.25kHz
t3	5mS	+/-12.5kHz

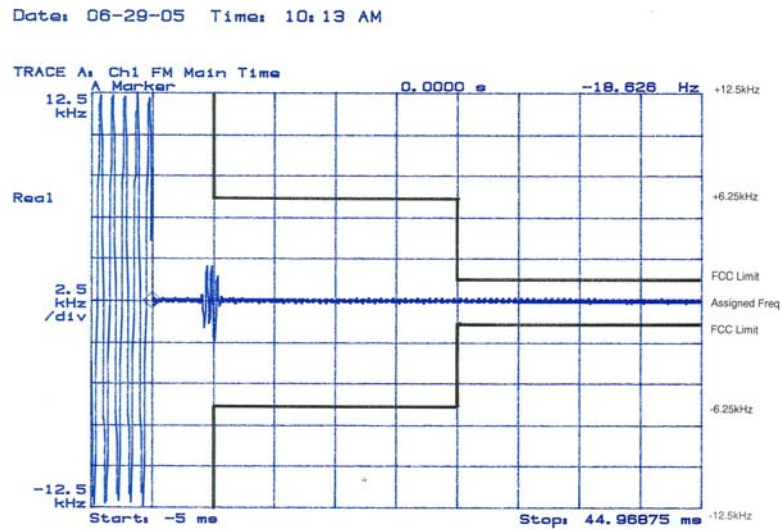


Figure 8HB.4.3 159.000MHz ON Transient Frequency Behavior, 12.5kHz channel spacing

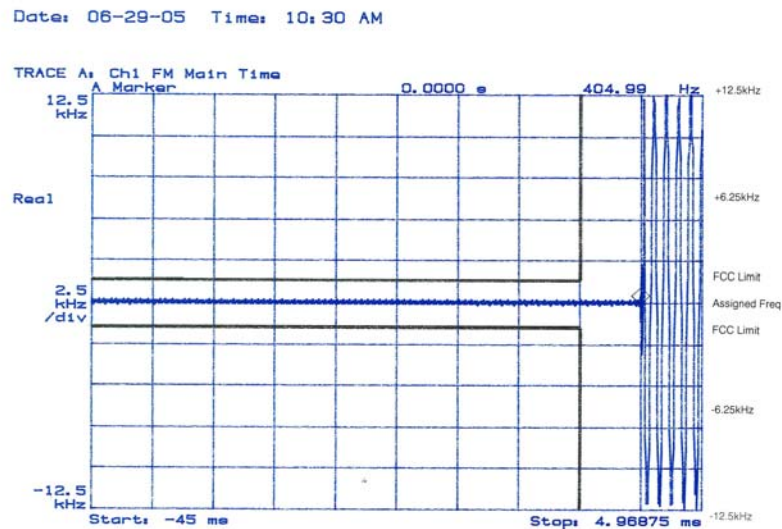


Figure 8HB.4.4 159.000MHz OFF Transient Frequency Behavior, 12.5kHz channel spacing

8HB.5 Spurious Emissions at Antenna Terminals §2.1051Applicable modes:

Conducted Spurious Emissions Test								
	Band	Power Output (W)	Test Frequency (MHz)	Emission Designator	Most restrictive Mask	Spurious Attenuation Limit		absolute level limit (dBm)
						formula	dBc	
1	156-162 MHz	33	156.050	11K2F1D	D	50+10logP	-64.8	-19.6
2	156-162 MHz	35	159.000	11K2F1D	D	50+10logP	-64.8	-19.3
3	156-162 MHz	35	161.975	11K2F1D	D	50+10logP	-64.8	-19.3

Results:

Results

State: 34W, 156.050MHz, 159.000MHz, 161.975 MHz

No.	Spurious Frequency (MHz)	Operating Frequency (MHz)	spurious level (dBm)	limit (dBm)	margin (dB)
1	312.100	156.050	-27.7	-20.0	7.7
2	163.400	156.050	-35.8	-20.0	15.8
3	468.150	156.050	-24.1	-20.0	4.1
4	318.000	159.000	-29.8	-20.0	9.8
5	477.000	159.000	-27.0	-20.0	7.0
6	323.950	161.975	-32.3	-20.0	12.3
7	485.925	161.975	-26.7	-20.0	6.7

See Figures 8HB.5.1-8HB5.6 showing emissions in 2MHz and 20MHz spans.
 All other measurable spurious emissions were more than 20dB below the limit.

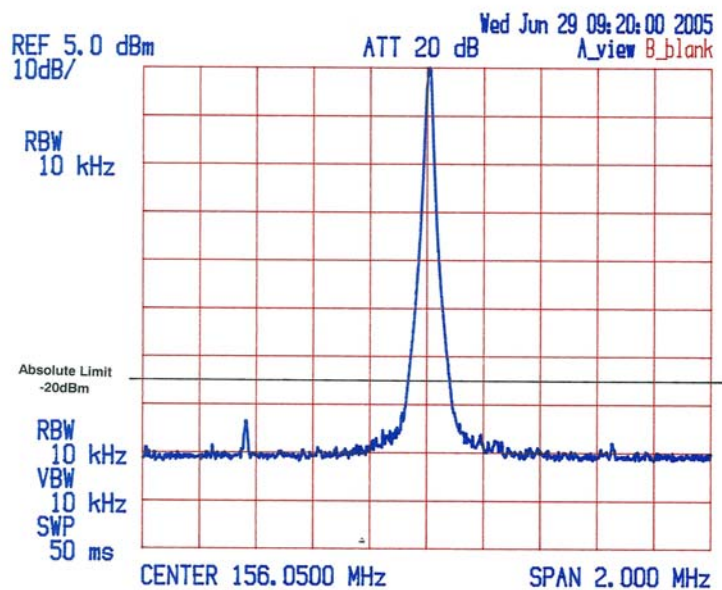


Figure 8HB.5.1 Fo=156.050 MHz, 2 MHz Span

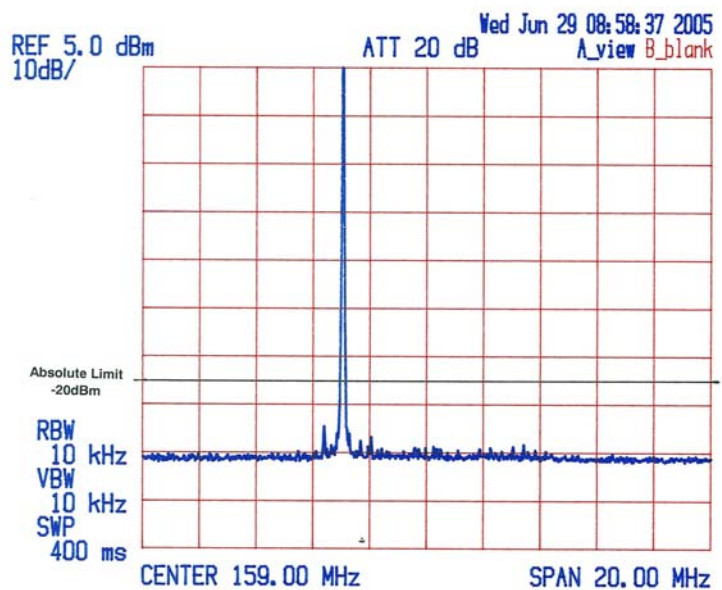


Figure 8HB.5.2 Fo=156.050 MHz, 20 MHz Span

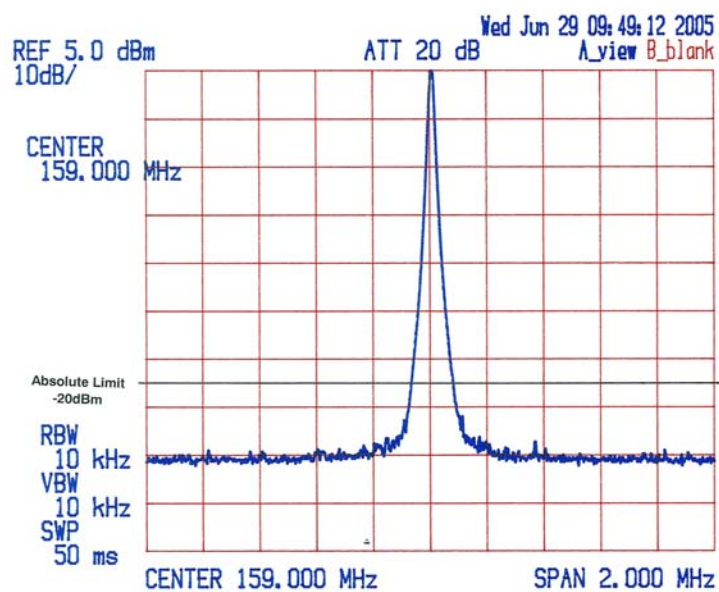


Figure 8HB.5.3 Fo=159.000 MHz, 2 MHz Span

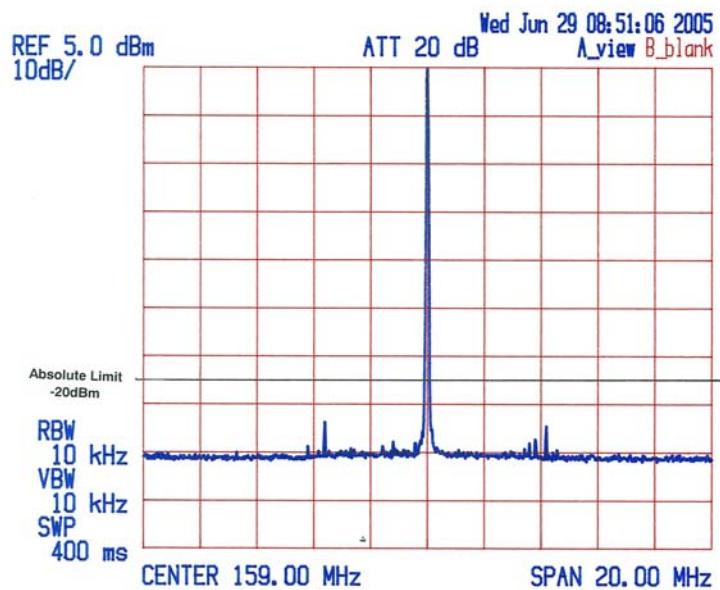


Figure 8HB.5.4 Fo=159.000 MHz, 20 MHz Span

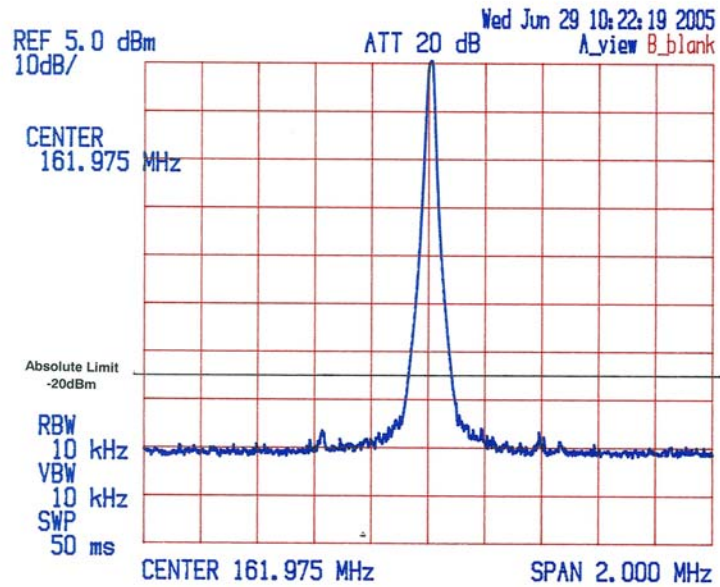


Figure 8HB.5.5 Fo= 161.975 MHz, 2 MHz Span

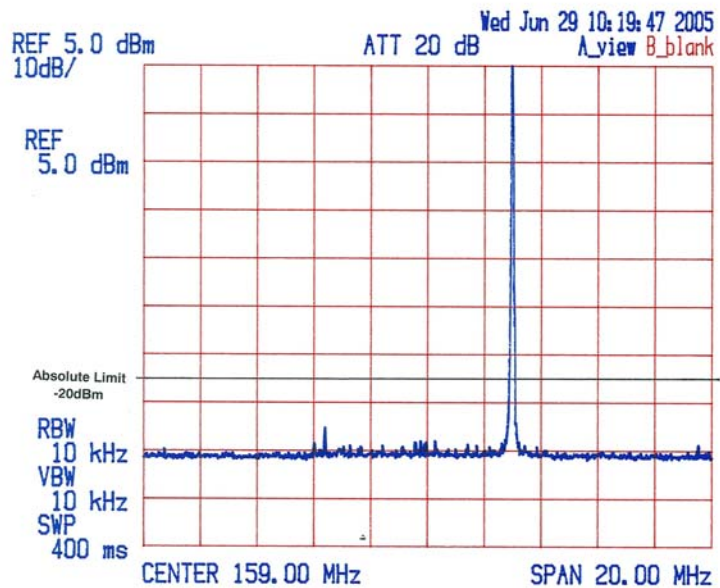


Figure 8HB.5.6 Fo= 161.975 MHz, 20 MHz Span

8HB.6 Field Strength of Spurious Radiation §2.1053

Applicable modes and results : See Exhibit 9 Test Report for Radiated Spurious Emissions.

8HB.7 Frequency Stability §2.1055

The requirements are, per §90.213, as follows:

Frequency Stability, Mobile/Fixed, 12.5kHz channel spacing				
	Band (MHz)	Power Output (W)	Channel Spacing (kHz)	Minimum Frequency Stability (ppm)
1	156.0-162.0	30	12.5/25	2.5

8HB.7.1 Frequency Stability Vs. Temperature, §2.1055(a)Results:

The data was recorded, and parts-per-million stability was calculated and graphed and is shown below.

Frequency Stability vs. Temperature 159.000000 MHz				Fo =
Temperature (degrees C)	Frequency (MHz)	Error (Hz)	Stability (ppm)	
-30	159000096	96	0.60	
-25	159000098	98	0.62	
-20	159000121	121	0.76	
-15	159000116	116	0.73	
-10	159000091	91	0.57	
-5	159000090	90	0.57	
0	159000106	106	0.67	
5	159000115	115	0.72	
10	159000119	119	0.75	
15	159000100	100	0.63	
20	159000080	80	0.50	
25	159000058	58	0.36	
30	159000046	46	0.29	
35	159000038	38	0.24	
40	159000039	39	0.25	
45	159000035	35	0.22	
50	159000031	31	0.19	
55	159000007	7	0.04	
60	158999972	-28	-0.18	

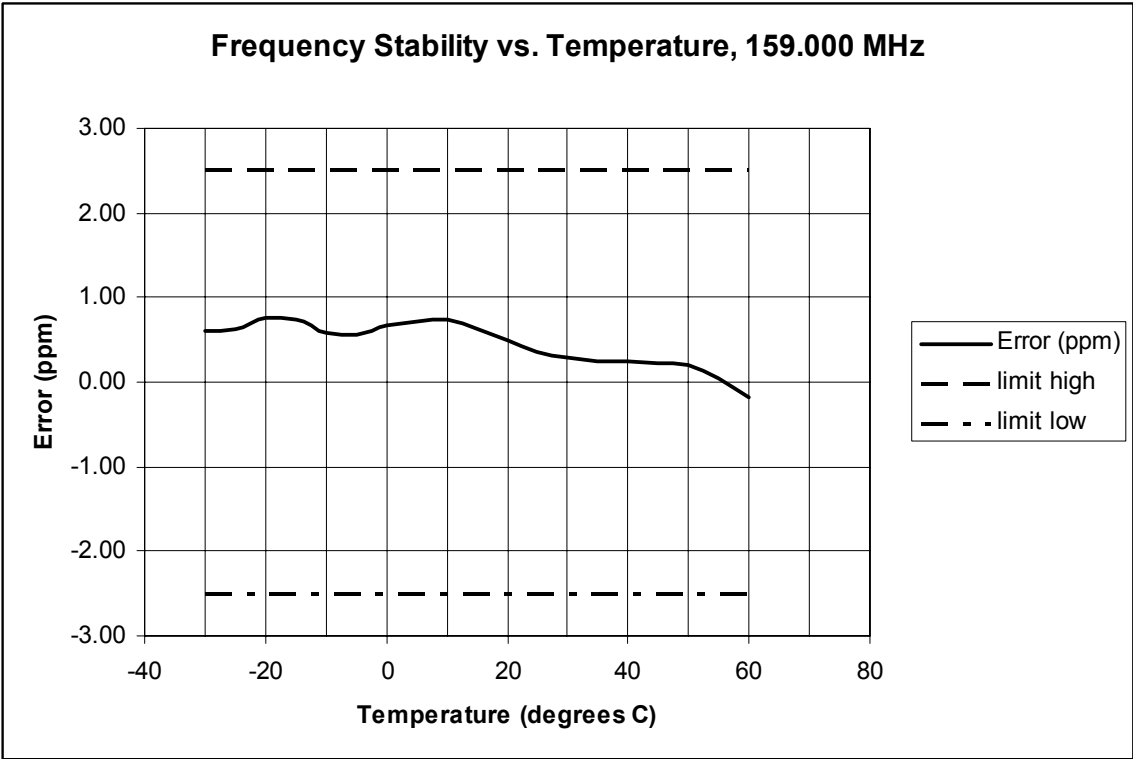


Figure 8HB.7.1 Frequency Stability vs. Temperature, fo=159.000 MHz

8HB.7.2 Frequency Stability Vs. Voltage, §2.1055(d)

Results:

The data was recorded, parts-per-million stability calculated and tabulated and is shown below.

Frequency Stability vs. Voltage					
	Power Supply Variation	Voltage (V)	Frequency (MHz)	Stability (ppm)	Limit (ppm)
1	85%	11.56	159000099	0.62	2.5
2	90%	12.24	159000099	0.62	2.5
3	95%	12.92	159000099	0.62	2.5
4	100%	13.6	159000099	0.62	2.5
5	105%	14.28	159000100	0.63	2.5
6	110%	14.96	159000100	0.63	2.5
7	115%	15.64	159000100	0.63	2.5