

**INDEX OF SUBMITTED MEASURED DATA**

This exhibit contains the measured data for this equipment as follows:

**EXHIBIT 6A** - RF Power Output (Table)**EXHIBIT 6B** - Transmit Audio Response (2 Graphs)

6B-1 – 12.5 kHz Channel Spacing

6B-2 – 25 kHz Channel Spacing (Not for FCC Review)

**EXHIBIT 6C** - Transmit Audio Post Limiter Lowpass Filter Response ( 2 Graphs)

6C-1 – 12.5 kHz Transmit Audio Post Limiter LPF Response

6D-2 – 25 kHz Transmit Audio Post Limiter LPF Response (Not for FCC Review)

**EXHIBIT 6D** - Modulation Limiting Characteristics (6 Graphs)

6D-1 – 12.5 kHz Carrier Squelch Mode

6D-2 – 12.5 kHz Tone Private Line (CTCSS) Mode

6D-3 – 12.5 kHz Digital Private Line (CDCSS) Mode

6D-4 – 25 kHz Carrier Squelch Mode (Not for FCC Review)

6D-5 – 25 kHz Tone Private Line (CTCSS) Mode (Not for FCC Review)

6D-6 – 25 kHz Digital Private Line (CDCSS) Mode (Not for FCC Review)

**EXHIBIT 6E** - Modulation Techniques and Occupied Bandwidth (20 Spectrum Analyzer Plots)

6E-1 – 12.5 kHz 2500 Hz Audio Modulation Only

6E-2 – 12.5 kHz 2500 Hz Audio and TPL (CTCSS) Modulation

6E-3 – 12.5 kHz 2500 Hz Audio and DPL (CDCSS) Modulation

6E-4 – 12.5 kHz DTMF Modulation Only

6E-5 – 12.5 kHz DTMF Modulation and TPL (CTCSS) Modulation

6E-6 – 12.5 kHz DTMF Modulation and DPL (CDCSS) Modulation

6E-7 – 12.5 kHz 2000/3000 Hz FSK Data Modulation Only

6E-8 – 12.5 kHz 2000/3000 Hz FSK Data and TPL (CTCSS) Modulation

6E-9 – 12.5 kHz 2000/3000 Hz FSK Data and DPL (CDCSS) Modulation

6E-10 – 12.5 kHz 4-Level FSK Digital Data

6E-11 – 12.5 kHz 4-Level FSK Digital Voice and Data

6E-12 – 25 kHz 2500 Hz Audio Modulation Only (Not for FCC Review)

6E-13 – 25 kHz 2500 Hz Audio and TPL (CTCSS) Modulation (Not for FCC Review)

6E-14 – 25 kHz 2500 Hz Audio and DPL (CDCSS) Modulation (Not for FCC Review)

6E-15 – 25 kHz DTMF Modulation Only (Not for FCC Review)

6E-16 – 25 kHz DTMF Modulation and TPL (CTCSS) Modulation (Not for FCC Review)

6E-17 – 25 kHz DTMF Modulation and DPL (CDCSS) Modulation (Not for FCC Review)

6E-18 – 25 kHz 2000/3000 Hz FSK Data Modulation Only (Not for FCC Review)

6E-19 – 25 kHz 2000/3000 Hz FSK Data and TPL (CTCSS) Modulation (Not for FCC Review)

6E-20 – 25 kHz 2000/3000 Hz FSK Data and DPL (CDCSS) Modulation (Not for FCC Review)

**EXHIBIT 6F** - Conducted Spurious Emissions (6 Graphs)

6F-1 – 30 Watts, 136.000 MHz

6F-2 – 30 Watts, 155.000 MHz

6F-3 – 30 Watts, 173.9875 MHz

6F-4 – 1 Watt, 136.000 MHz

6F-5 – 1 Watt, 155.000 MHz

6F-6 – 1 Watt, 173.9875 MHz

**INDEX OF SUBMITTED MEASURED DATA (CONTINUED)****EXHIBIT 6G – Radiated Spurious Emissions – (16 Graphs)**

6G-1 – 30 Watts, 136.0125 MHz, 12.5 kHz  
6G-2 – 30 Watts, 150.8125 MHz, 12.5 kHz  
6G-3 – 30 Watts, 162.4125 MHz, 12.5 kHz  
6G-4 – 30 Watts, 173.9875 MHz, 12.5 kHz  
6G-5 – 1 Watt, 136.0125 MHz, 12.5 kHz  
6G-6 – 1 Watt, 150.8125 MHz, 12.5 kHz  
6G-7 – 1 Watt, 162.4125 MHz, 12.5 kHz  
6G-8 – 1 Watt, 173.9875 MHz, 12.5 kHz  
6G-9 – 30 Watts, 136.0125 MHz, 25 kHz (Not for FCC Review)  
6G-10 – 30 Watts, 150.8125 MHz, 25 kHz (Not for FCC Review)  
6G-11 – 30 Watts, 162.4125 MHz, 25 kHz (Not for FCC Review)  
6G-12 – 30 Watts, 173.9875 MHz, 25 kHz (Not for FCC Review)  
6G-13 – 1 Watt, 136.0125 MHz, 25 kHz (Not for FCC Review)  
6G-14 – 1 Watt, 150.8125 MHz, 25 kHz (Not for FCC Review)  
6G-15 – 1 Watt, 162.4125 MHz, 25 kHz (Not for FCC Review)  
6G-16 – 1 Watt, 173.9875 MHz, 25 kHz (Not for FCC Review)

**EXHIBIT 6H – Frequency Stability (2 Graphs)**

6H-1 – Frequency Stability vs. Temperature  
6H-2 – Frequency Stability vs. Voltage

**EXHIBIT 6I – Transient Frequency Behavior (8 Graphs)**

6I-1 – 30 Watts, 12.5 kHz Key-Up Attack Time  
6I-2 – 30 Watts, 12.5 kHz De-Key Decay Time  
6I-3 – 30 Watts, 25 kHz Key-Up Attack Time (Not for FCC Review)  
6I-4 – 30 Watts, 25 kHz De-Key Decay Time (Not for FCC Review)  
6I-5 – 1 Watt, 12.5 kHz Key-Up Attack Time  
6I-6 – 1 Watt, 12.5 kHz De-Key Decay Time  
6I-7 – 1 Watt, 25 kHz Key-Up Attack Time (Not for FCC Review)  
6I-8 – 1 Watt, 25 kHz De-Key Decay Time (Not for FCC Review)

**RF OUTPUT DATA**

The RF power output was measured with the indicated voltage applied to and current into the final RF amplifying device, pursuant to 47 CFR 2.1033(c)(8) and 2.1046.

**HIGH POWER SETTING, FREQUENCY 136.0125 MHz**

Measured RF Output Power:	30.0 Watts
Measured DC Voltage:	13.6 Volts
Measured DC Input Current:	4.37 Amperes
Measured DC Input Power:	59.4 Watts

**LOW POWER SETTING, FREQUENCY 136.0125 MHz**

Measured RF Output Power:	1.0 Watt
Measured DC Voltage:	13.6 Volts
Measured DC Input Current:	1.52 Amperes
Measured DC Input Power:	20.7 Watts

**HIGH POWER SETTING, FREQUENCY 155 MHz**

Measured RF Output Power:	30.0 Watts
Measured DC Voltage:	13.6 Volts
Measured DC Input Current:	5.22 Amperes
Measured DC Input Power:	71.0 Watts

**LOW POWER SETTING, FREQUENCY 155 MHz**

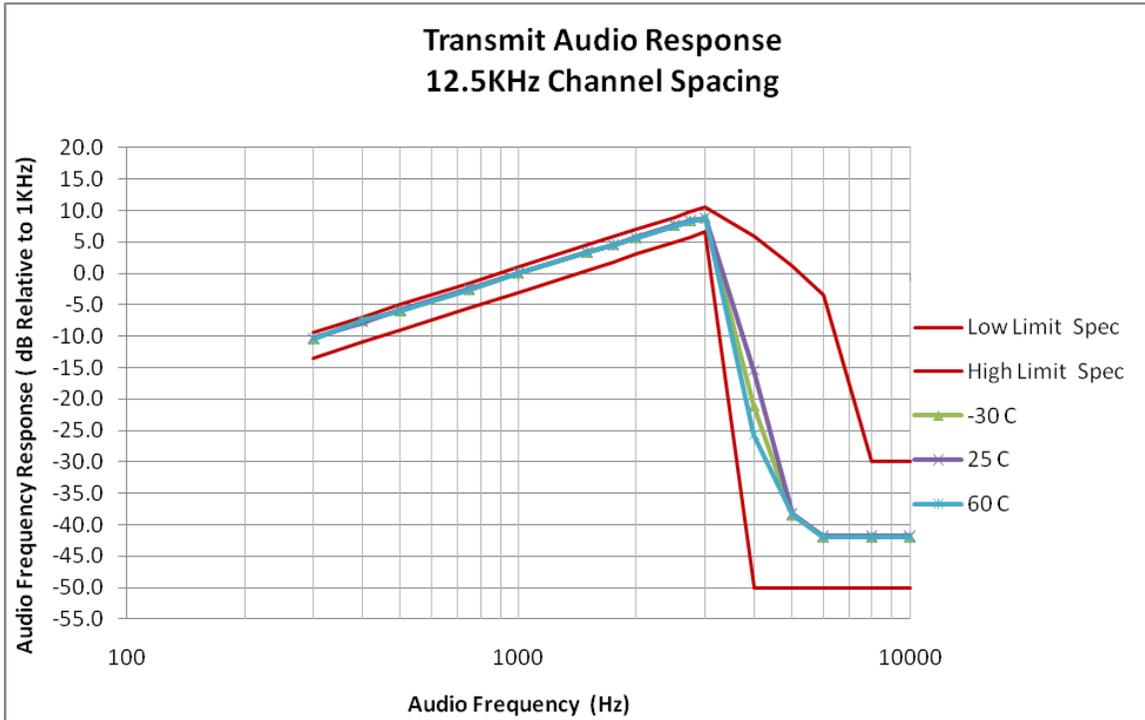
Measured RF Output Power:	1.0 Watt
Measured DC Voltage:	13.6 Volts
Measured DC Input Current:	1.63 Amperes
Measured DC Input Power:	21.7 Watts

**HIGH POWER SETTING, FREQUENCY 173.9875 MHz**

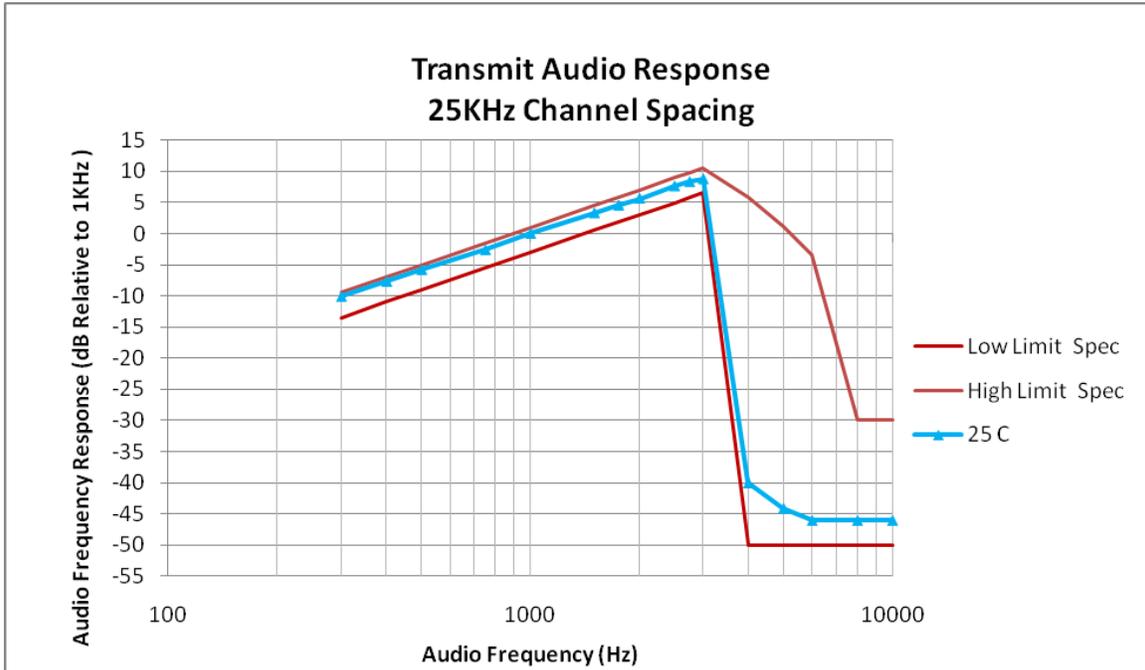
Measured RF Output Power:	30.0 Watts
Measured DC Voltage:	13.6 Volts
Measured DC Input Current:	5.39 Amperes
Measured DC Input Power:	72.9 Watts

**LOW POWER SETTING, FREQUENCY 173.9875 MHz**

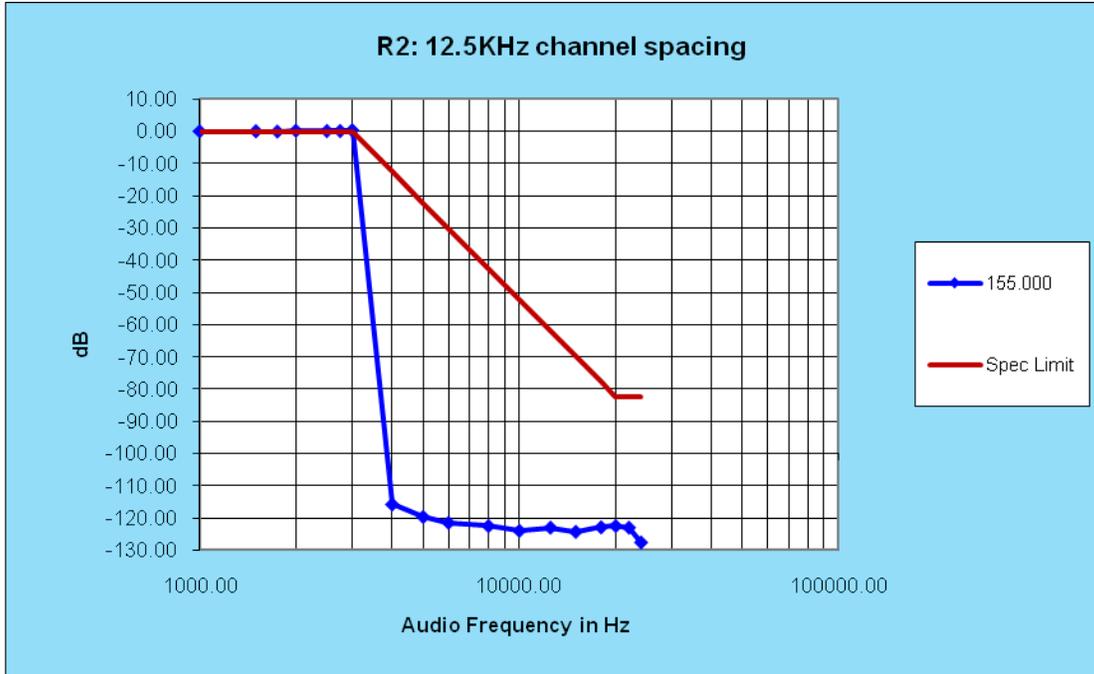
Measured RF Output Power:	1.0 Watt
Measured DC Voltage:	13.6 Volts
Measured DC Input Current:	1.65 Amperes
Measured DC Input Power:	22.4 Watts



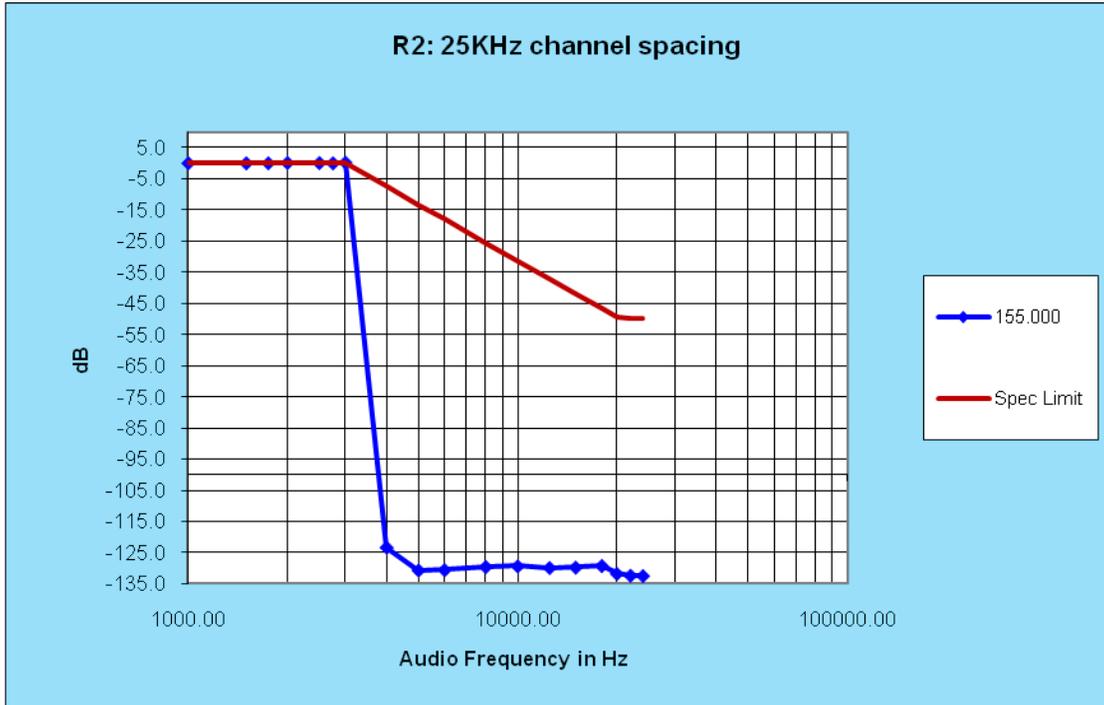
(Not for FCC Review)



**POST-LIMITER LOWPASS FILTER RESPONSE**  
**12.5 kHz Channel Spacing**

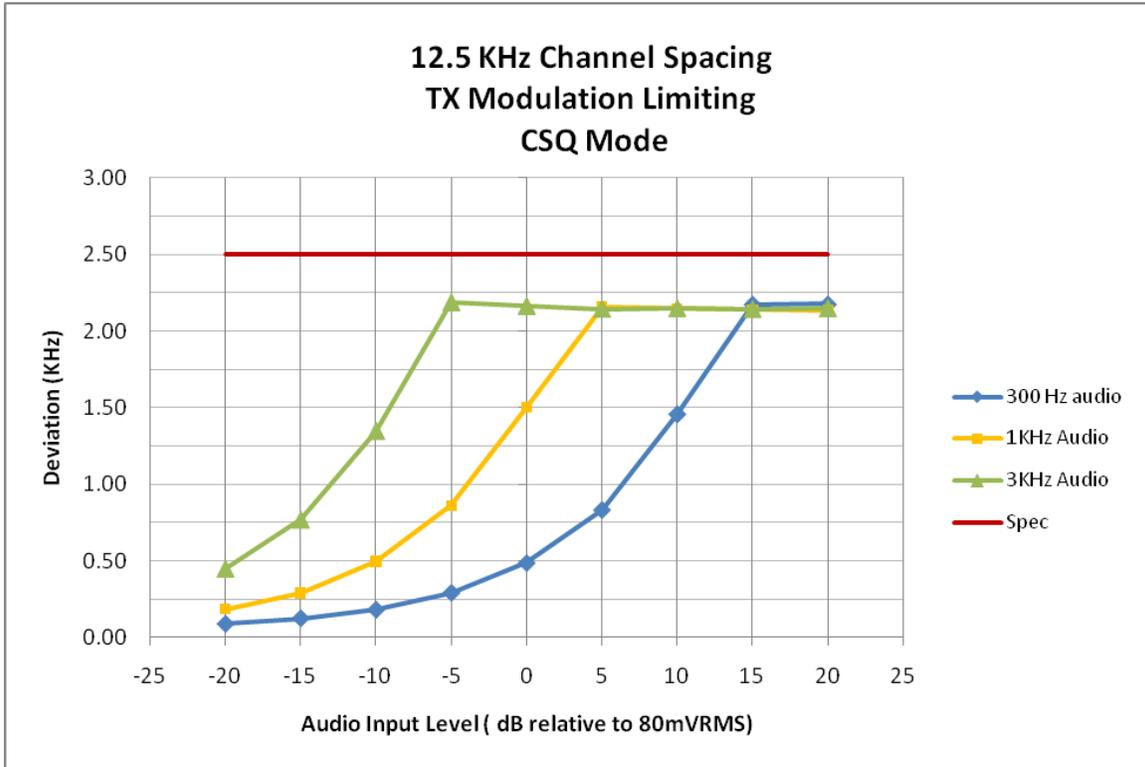


**POST-LIMITER LOWPASS FILTER RESPONSE**  
**25 kHz Channel Spacing**  
**(Not for FCC Review)**



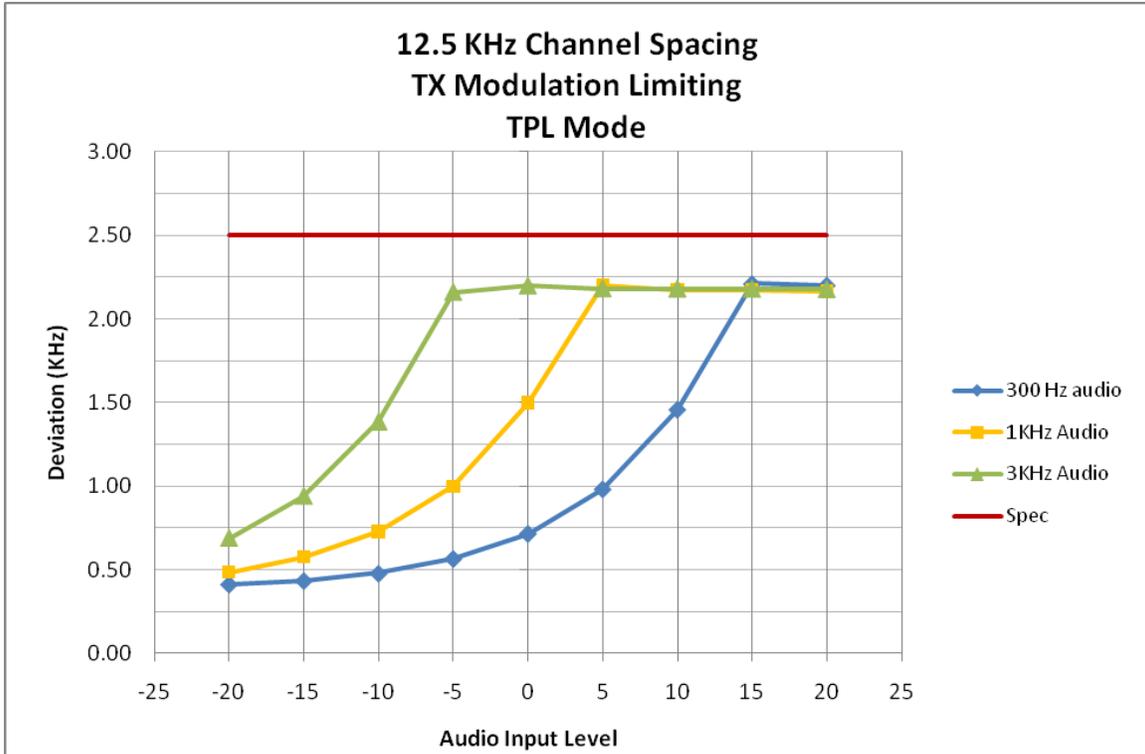
**MODULATION LIMITING CHARACTERISTIC  
12.5 kHz CARRIER SQUELCH MODE**

**XPR 5550**



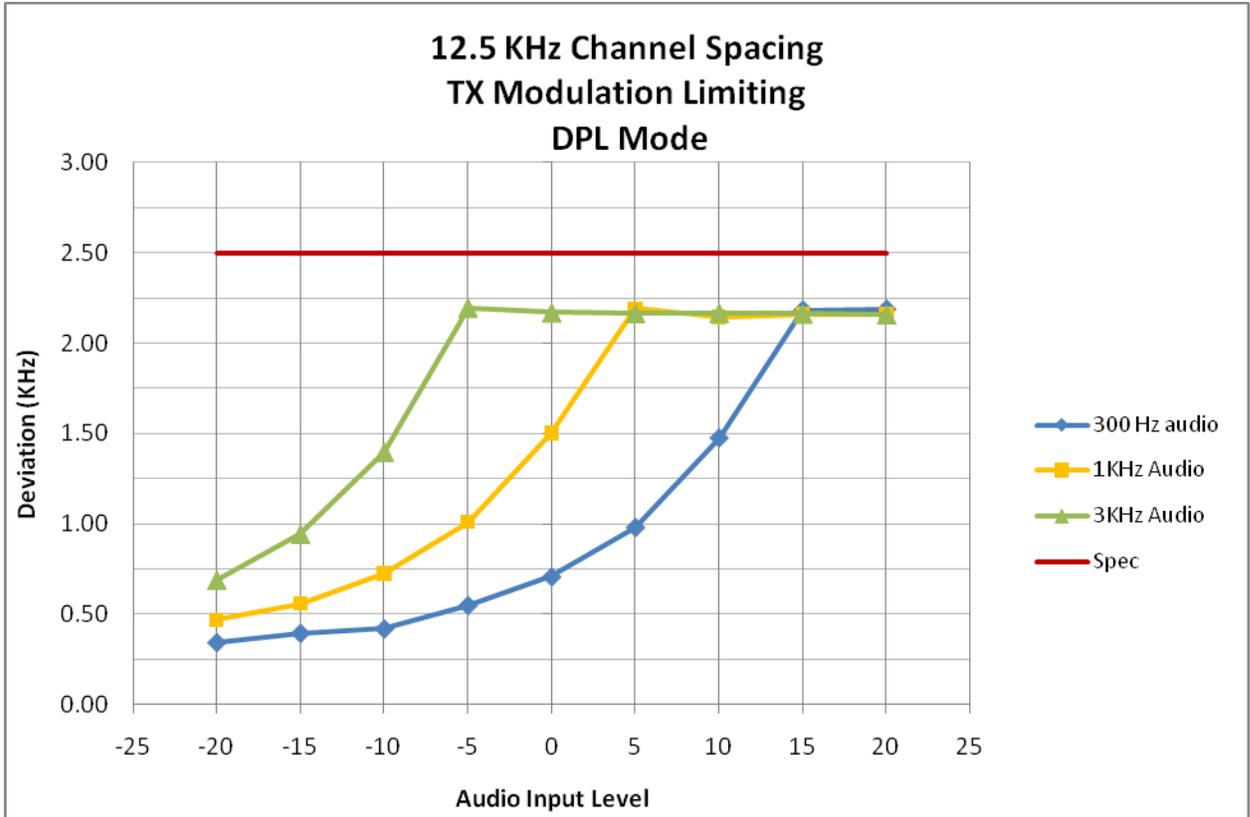
**MODULATION LIMITING CHARACTERISTIC  
12.5 kHz TONE PL MODE**

**XPR 5550**



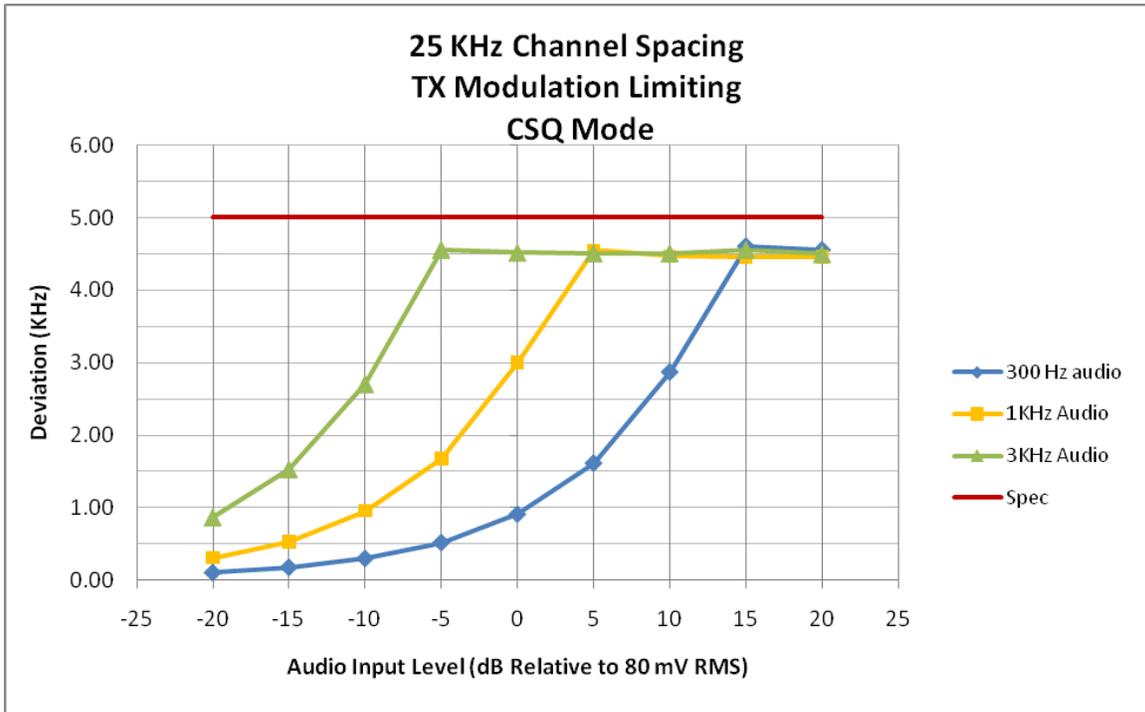
MODULATION LIMITING CHARACTERISTIC  
12.5 kHz DPL MODE

XPR 5550



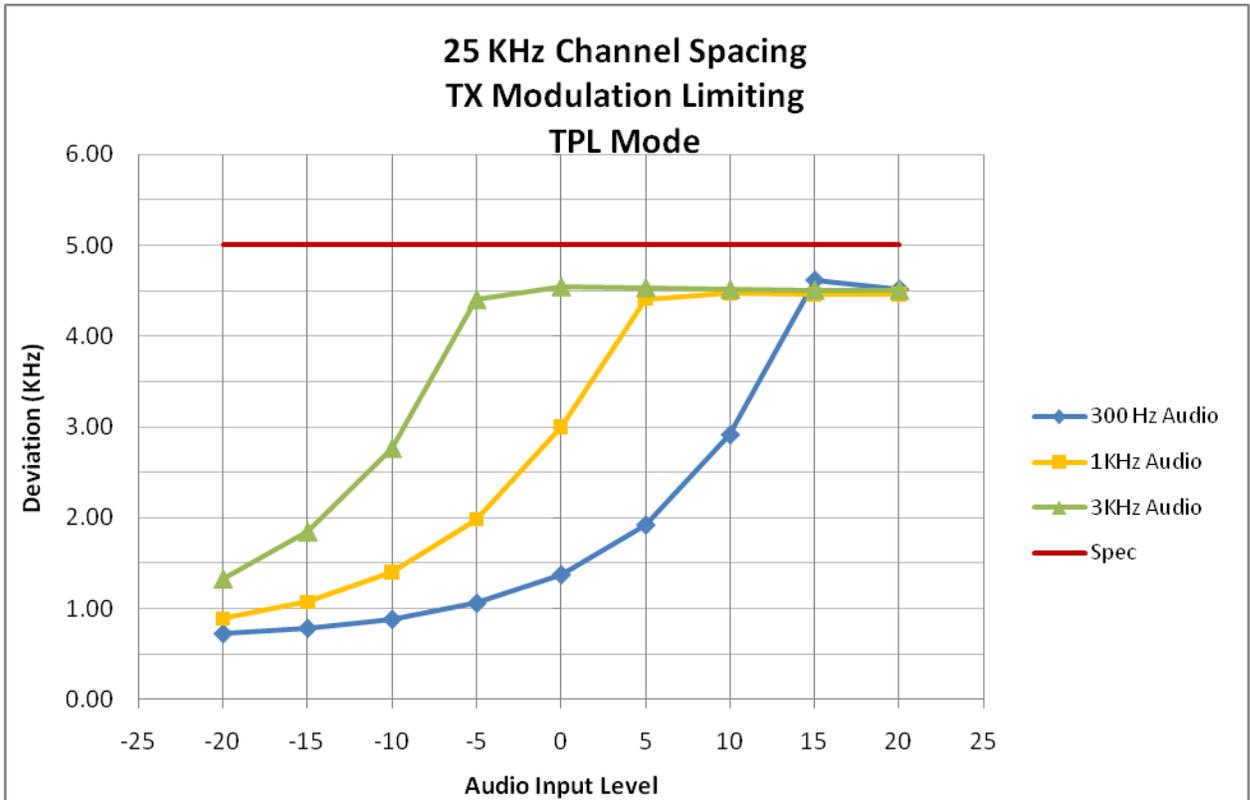
**MODULATION LIMITING CHARACTERISTIC  
25 kHz CARRIER SQUELCH MODE  
(Not for FCC Review)**

XPR 5550



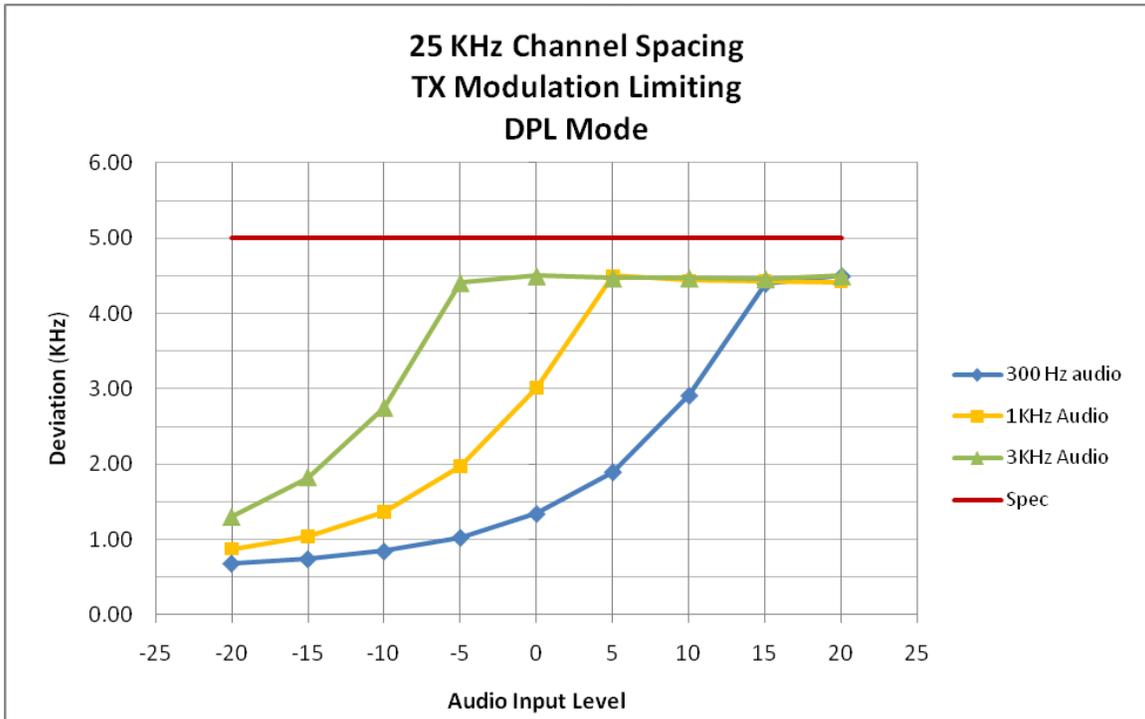
**MODULATION LIMITING CHARACTERISTIC  
25 kHz TONE PL MODE  
(Not for FCC Review)**

XPR 5550



**MODULATION LIMITING CHARACTERISTIC  
25 kHz DPL MODE  
(Not for FCC Review)**

XPR 5550



**EXHIBIT 6 E – MODULATION TECHNIQUES**

The transmitter is capable of the following types of modulation:

- i) Modulation of PL (Private Line) – Direct FM tone modulation of 67 Hz to 250.3 Hz at 15% of full system deviation. Also referred to as TPL (Tone Private Line).
- ii) Modulation of DPL (Digital Private Line) – Direct FM modulation at 134 bps at 15% of full system deviation.
- iii) Modulation of 2000/3000 Hz FSK Data – FM modulation at nominally 60% of full system deviation.
- iv) Modulation of DTMF (Dual Tone Multi Frequency) – FM modulation at nominally 60% of full system deviation
- v) Modulation of 9600 bps 4 level FSK Data

Standard Audio Modulation (25 kHz Channelization, Analog Voice) (Not for FCC Review)

Per CFR Title 47, Part 2, Section 2.201, the Carson’s Rule calculation for necessary bandwidth,  $BW = 2M + 2DK$ , where M = maximum modulating frequency in Hz, D = peak deviation in Hz, and K=1, is as follows:

In this case the maximum modulating frequency is 3.0 kHz with a 5.0 kHz deviation.

$BW = 2(M+D) = 2*(3.0 \text{ kHz} + 5.0 \text{ kHz}) = 16 \text{ kHz}$  (**16K0** designator)

Per CFR Title 47, Part 2, Section 2.201:

- Frequency Modulation ..... **F**
- A single channel containing analogue information ..... **3**
- Telephony (including sound broadcasting) ..... **E**

The complete emissions designator for this transmitter is **16K0F3E**.

Standard Audio Modulation (12.5 kHz Channelization, Analog Voice)

Per CFR Title 47, Part 2, Section 2.201, the Carson’s Rule calculation for necessary bandwidth,  $BW = 2M + 2DK$ , where M = maximum modulating frequency in Hz, D = peak deviation in Hz, and K=1, is as follows:

In this case the maximum modulating frequency is 3.0 kHz with a 2.5 kHz deviation.

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

Per CFR Title 47, Part 2, Section 2.201:

- Frequency Modulation ..... **F**
- A single channel containing analogue information ..... **3**
- Telephony (including sound broadcasting)..... **E**

The complete emissions designator for this transmitter is **11K0F3E**.

4 Level FSK Digital Modulation Techniques

The modulation sends 4800 symbols/sec with each symbol conveying 2 bits of information for a data rate of 9600 bps. The maximum deviation, *D*, of the symbol is defined as:

$$D = 3h / 2T$$

where:

- $h$  is the deviation index defined for the modulation
- $T$  is the symbol time (1/4800) in seconds

The deviation index,  $h$ , is 0.27. This yields a symbol deviation of 1.944 kHz at the symbol center. The mapping between symbols and bits is shown below:

Information Bits		Symbol	4FSK Deviation
Bit 1	Bit 0		
0	1	+3	+1.944 kHz
0	0	+1	+0.648 kHz
1	0	-1	-0.648 kHz
1	1	-3	-1.944 kHz

A Square Root Raised Cosine Filter is implemented for the modulation low pass filter. The input to the modulation low pass filter consists of a series of impulses separated in time by 208.33 microseconds (1/4800 sec). The group delay of the filter is flat over the passband for  $|f| < 2880$  Hz. The magnitude response of the filter is given by the following formula.

$|F(f)|$  = magnitude response of the Square Root Raised Cosine Filter

- $|F(f)| = 1$  for  $|f| \leq 1920$  Hz
- $|F(f)| = |\cos(\pi f / 1920)|$  for  $1920 \text{ Hz} < |f| \leq 2880$  Hz
- $|F(f)| = 0$  for  $|f| > 2880$  Hz

where  $f$  = frequency in hertz.

The 4FSK modulator consists of a Square Root Raised Cosine Filter, cascaded with a frequency modulator.



4 Level FSK Digital Modulation (12.5 kHz Channelization, Digital Data)

Measurement's per Rule Part 2.202(c)(4) where employed because Part 2.202(g) Table III A formulation produces an excessive result using the value of K recommended in the Table. Therefore, the 99% energy rule (Title 47 CFR 2.989) was used for digital mode and is more accurate than Carson's rule. It states that 99% of the modulation energy falls within X kHz, which in this case is 7.6 kHz (**7K60** designator).

Per CFR Title 47, Part 2, Section 2.201:

- Frequency Modulation ..... **F**
- A single channel containing quantized or digital information without the use of a modulating sub-carrier, excluding time-division multiplex ..... **1**
- Data Transmission, telemetry, telecommand ..... **D**

The complete emissions designator for this transmitter is **7K60F1D**.

4 Level FSK Digital Modulation (12.5 kHz Channelization, Digital Voice and Data)

Measurement's per Rule Part 2.202(c)(4) where employed because Part 2.202(g) Table III A formulation produces an excessive result using the value of K recommended in the Table. Therefore the 99% energy rule (title 47CFR2.989) was used for digital mode and is more accurate than Carson's rule. It states that 99% of the modulation energy falls within X kHz, which in this case is 7.6 kHz (7K60 designator).

Per CFR Title 47, Part 2, Section 2.201:

- Frequency Modulation ..... F
- A single channel containing quantized or digital information without the use of a modulating sub-carrier, excluding time-division multiplex ..... 1
- Telephony (including sound broadcasting) ..... E

The complete emissions designator for this transmitter is 7K60F1E.

Digital (12.5 kHz Channelization, Digital TDMA)

Measurement's per Rule Part 2.202(c)(4) where employed because Part 2.202(g) Table III A formulation produces an excessive result using the value of K recommended in the Table. Therefore the 99% energy rule (title 47CFR2.989) was used for digital mode and is more accurate than Carson's rule. It states that 99% of the modulation energy falls within X kHz, which in this case is 7.6 kHz (7K60 designator).

Per CFR Title 47, Part 2, Section 2.201:

- Frequency Modulation ..... F
- A single channel containing quantized or digital information without the use of a modulating sub-carrier, excluding time-division multiplex ..... 1
- Combination of Data Transmission, telemetry, telecommand (D), and Telephony (E)...W

The complete emissions designator for this transmitter is 7K60F1W.

4 Level FSK Digital Modulation (12.5 kHz Channelization, Digital Data)

Measurement's per Rule Part 2.202(c)(4) where employed because Part 2.202(g) Table III A formulation produces an excessive result using the value of K recommended in the Table. Therefore, the 99% energy rule (Title 47 CFR 2.989) was used for digital mode and is more accurate than Carson's rule. It states that 99% of the modulation energy falls within X kHz, which in this case is 7.6 kHz (7K60 designator).

Per CFR Title 47, Part 2, Section 2.201:

- Frequency Modulation ..... F
- Case not otherwise covered ..... X
- Data Transmission, telemetry, telecommand ..... D

Note: This product utilizes a Time Division Multiple Access (TDMA) protocol.

The complete emissions designator for this transmitter is 7K60FXD.

4 Level FSK Digital Modulation (12.5 kHz Channelization, Digital Voice and Data)

Measurement's per Rule Part 2.202(c)(4) where employed because Part 2.202(g) Table III A formulation produces an excessive result using the value of K recommended in the Table. Therefore the 99% energy rule (title 47CFR2.989) was used for digital mode and is more accurate than Carson's rule. It states that 99% of the modulation energy falls within X kHz, which in this case is 7.6 kHz (**7K60** designator).

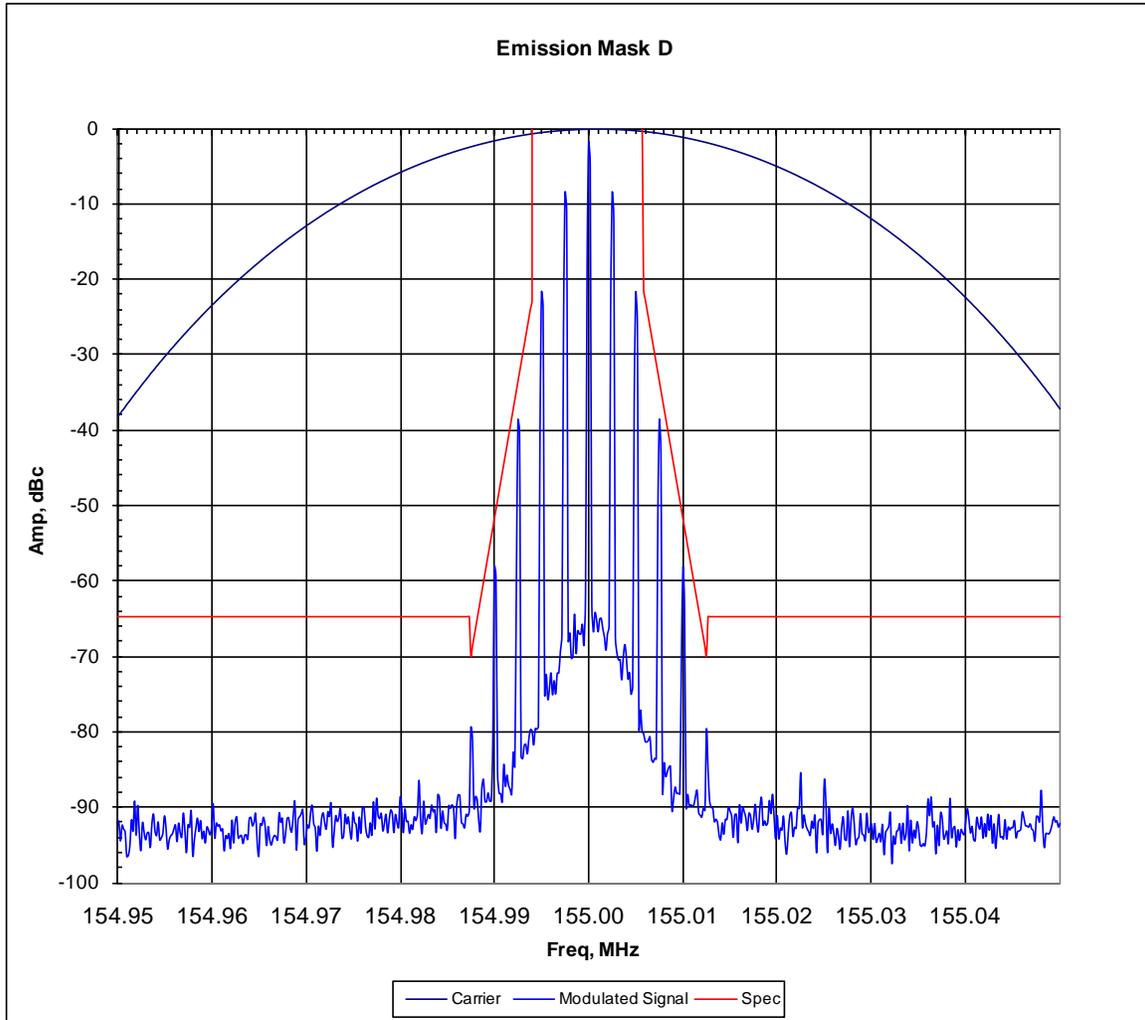
Per CFR Title 47, Part 2, Section 2.201:

Frequency Modulation .....	<b>F</b>
Case not otherwise covered .....	<b>X</b>
Telephony (including sound broadcasting) .....	<b>E</b>

Note: This product utilizes a Time Division Multiple Access (TDMA) protocol.

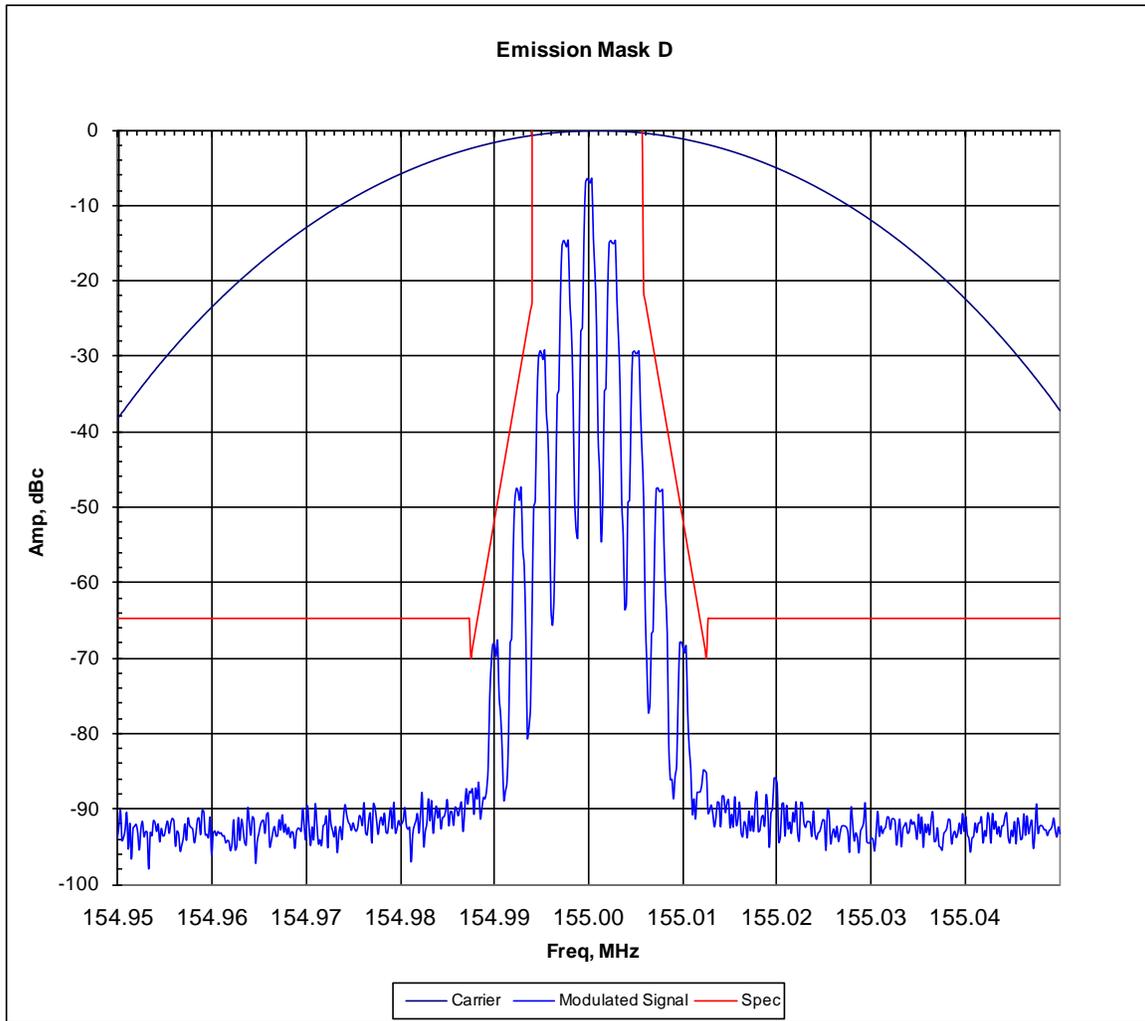
The complete emissions designator for this transmitter is **7K60FXE**.

**OCCUPIED BANDWIDTH MEASUREMENT FOR  
12.5 kHz CHANNEL SPACING, 2500 Hz TONE, CARRIER SQUELCH  
EMISSION MASK: D**



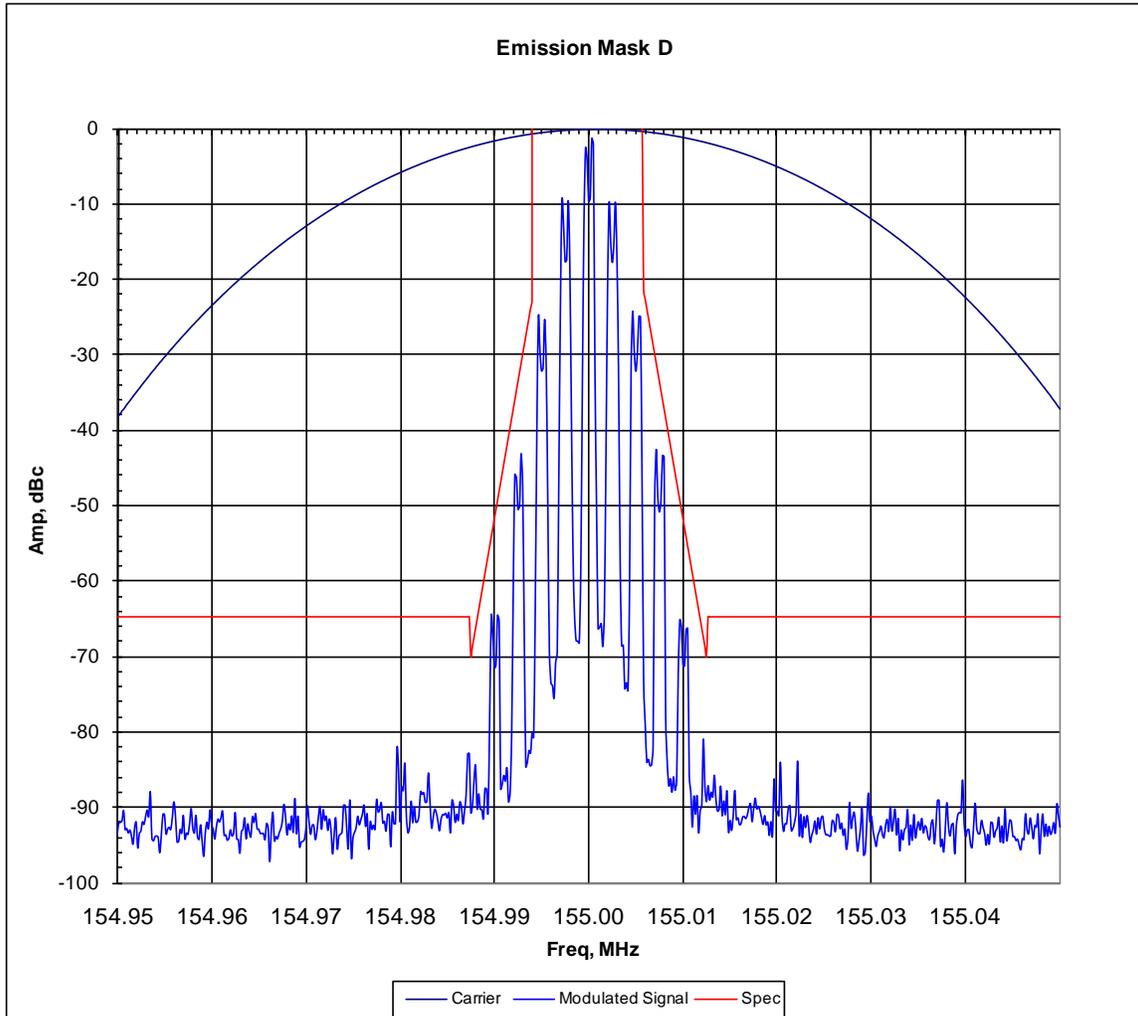
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

OCCUPIED BANDWIDTH MEASUREMENT FOR  
12.5 kHz CHANNEL SPACING, 2500 Hz TONE, TPL 250.3 Hz  
EMISSION MASK: D



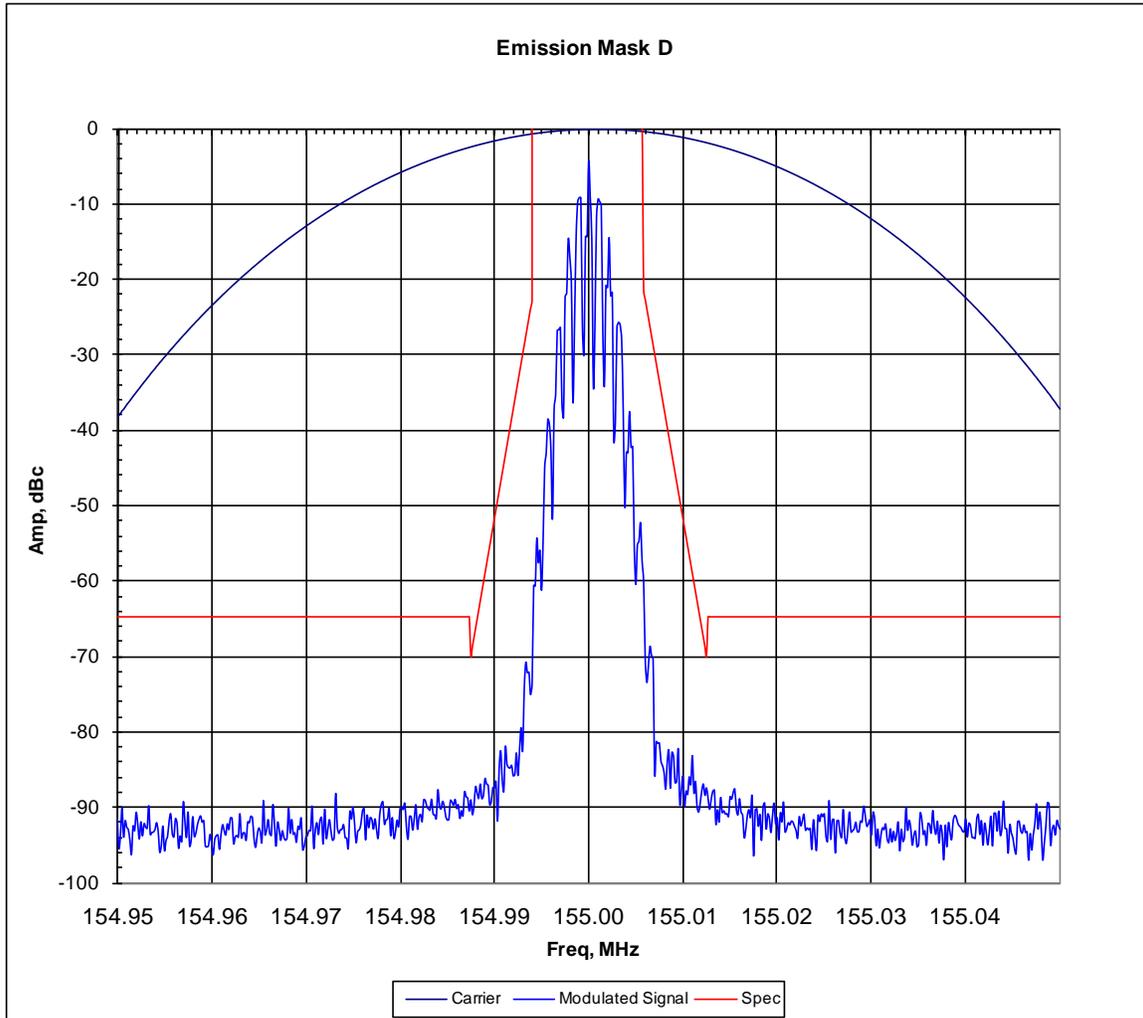
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

**OCCUPIED BANDWIDTH MEASUREMENT FOR  
12.5 kHz CHANNEL SPACING, 2500 Hz TONE, DPL 131  
EMISSION MASK: D**



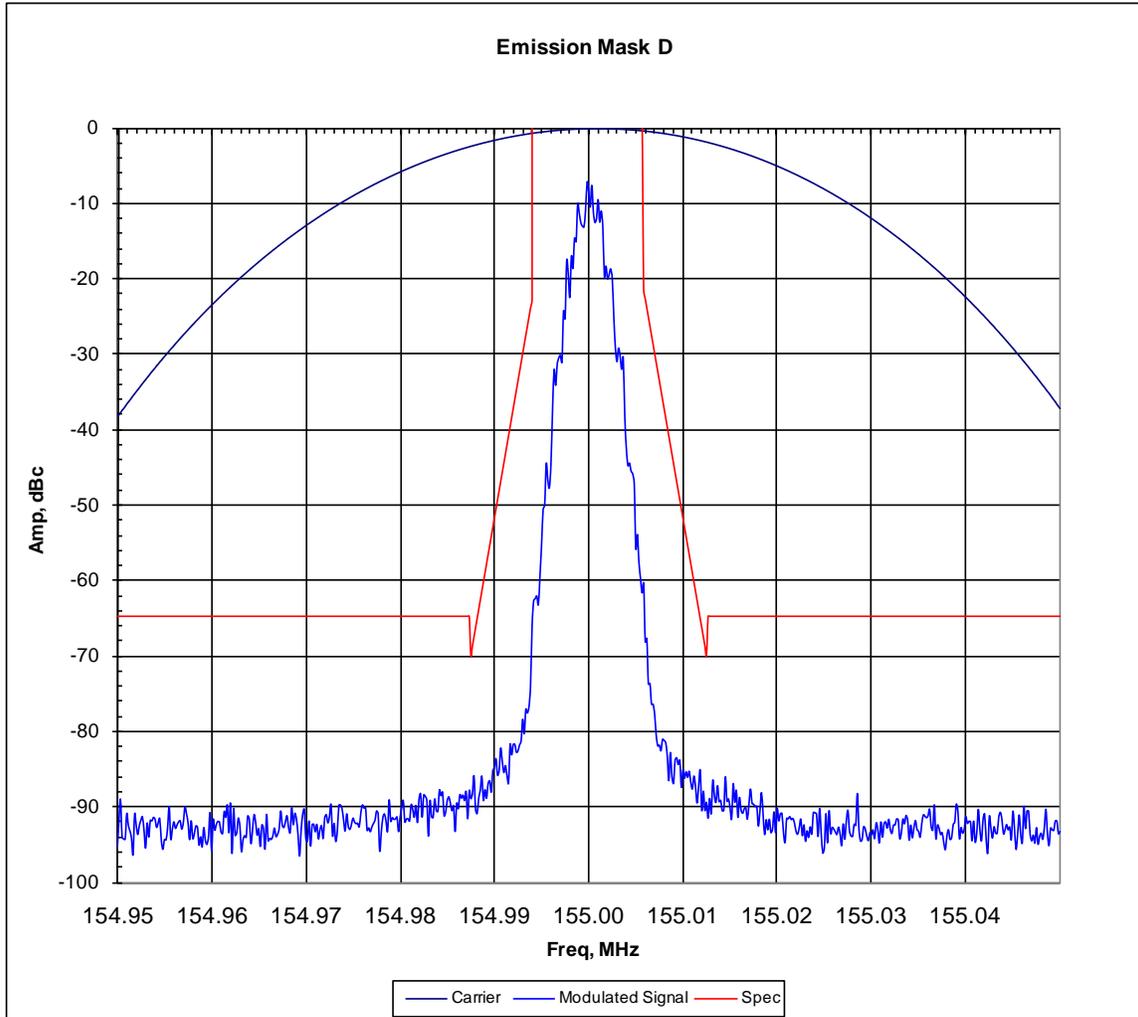
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

OCCUPIED BANDWIDTH MEASUREMENT FOR  
12.5 kHz CHANNEL SPACING, DTMF MODULATION, CARRIER SQUELCH  
EMISSION MASK: D



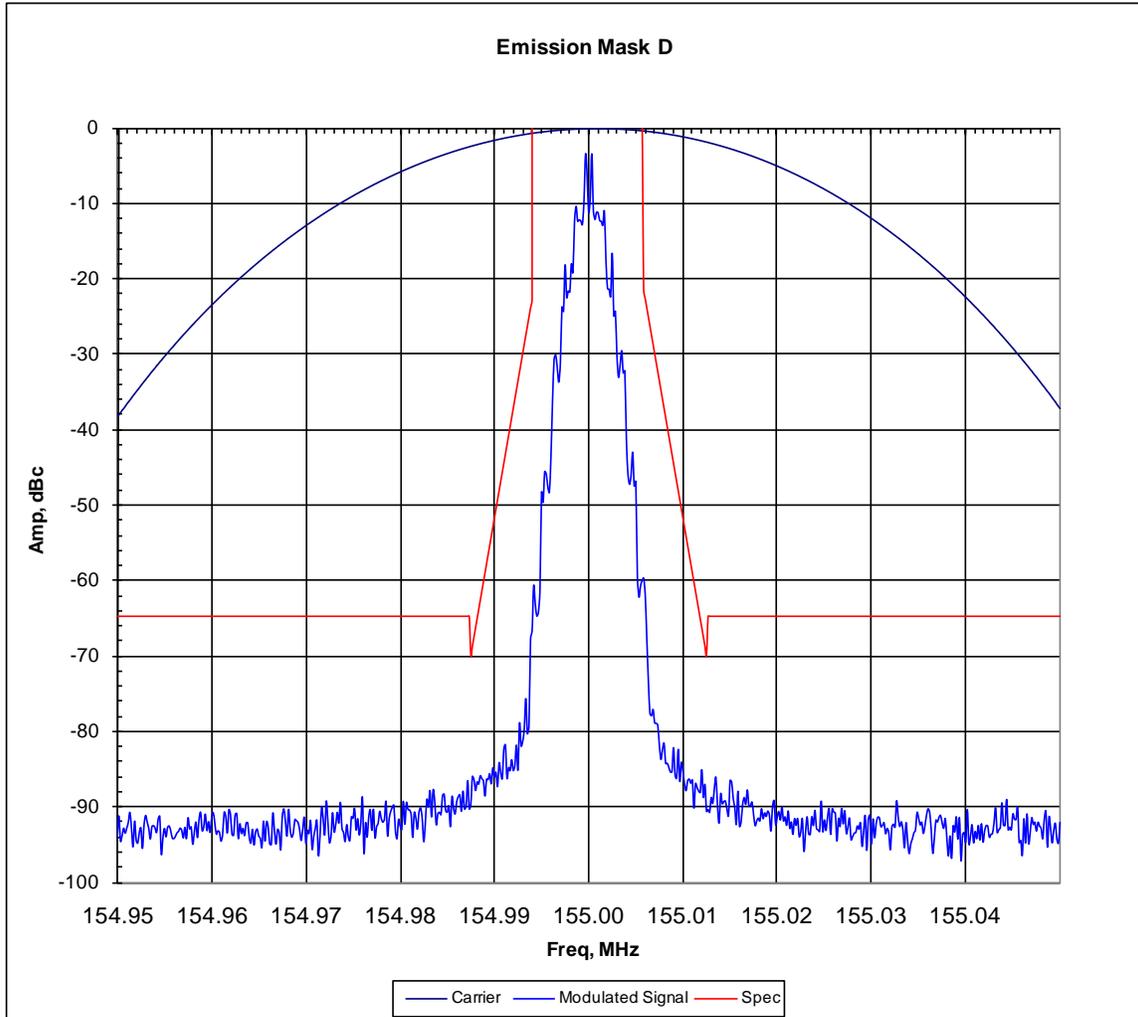
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RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

**OCCUPIED BANDWIDTH MEASUREMENT FOR  
12.5 kHz CHANNEL SPACING, DTMF MODULATION, TPL 250.3 Hz  
EMISSION MASK: D**



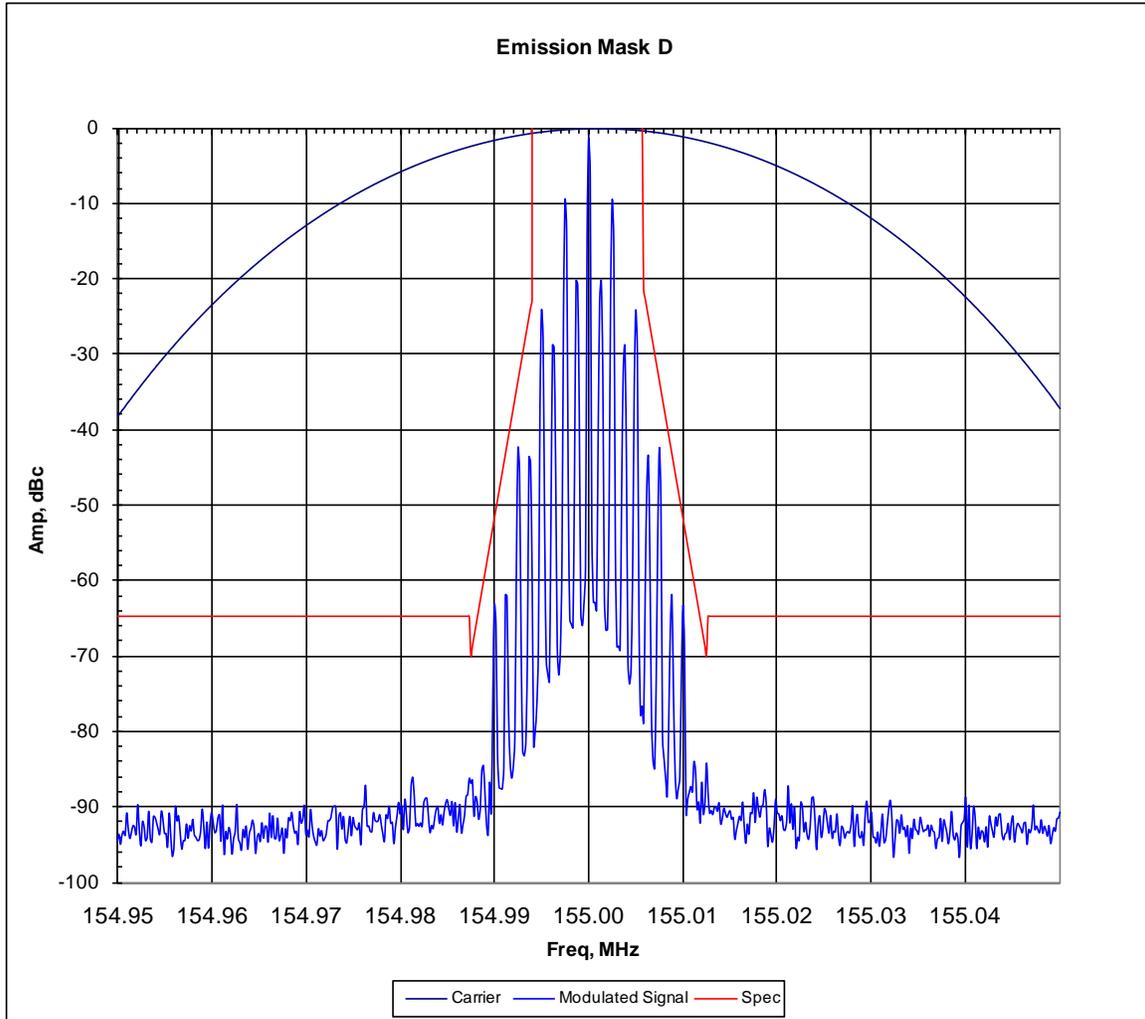
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

**OCCUPIED BANDWIDTH MEASUREMENT FOR  
12.5 kHz CHANNEL SPACING, DTMF MODULATION, DPL 131  
EMISSION MASK: D**



CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

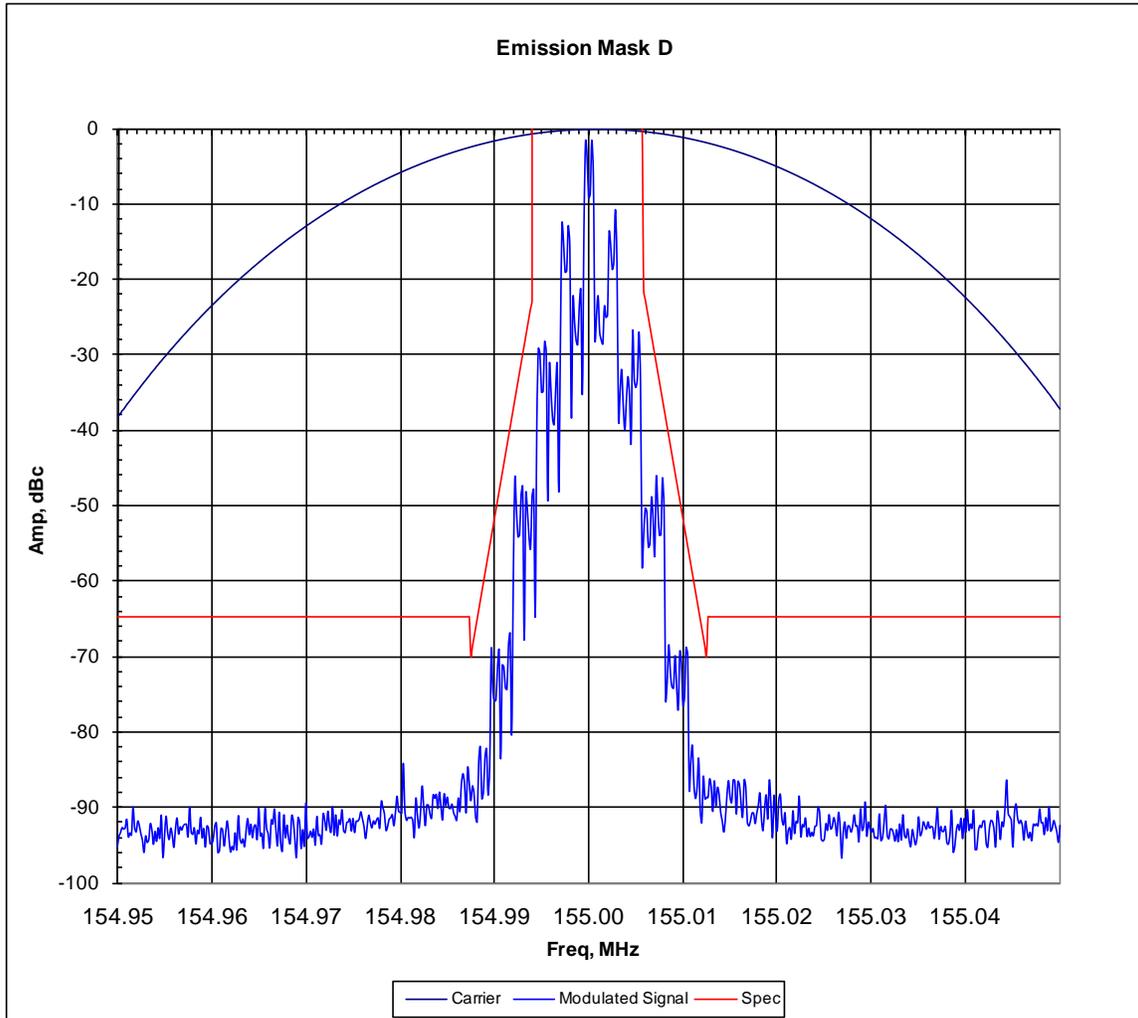
OCCUPIED BANDWIDTH MEASUREMENT FOR  
12.5 kHz CHANNEL SPACING, 2000/3000 Hz FSK, CARRIER SQUELCH  
EMISSION MASK: D



CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

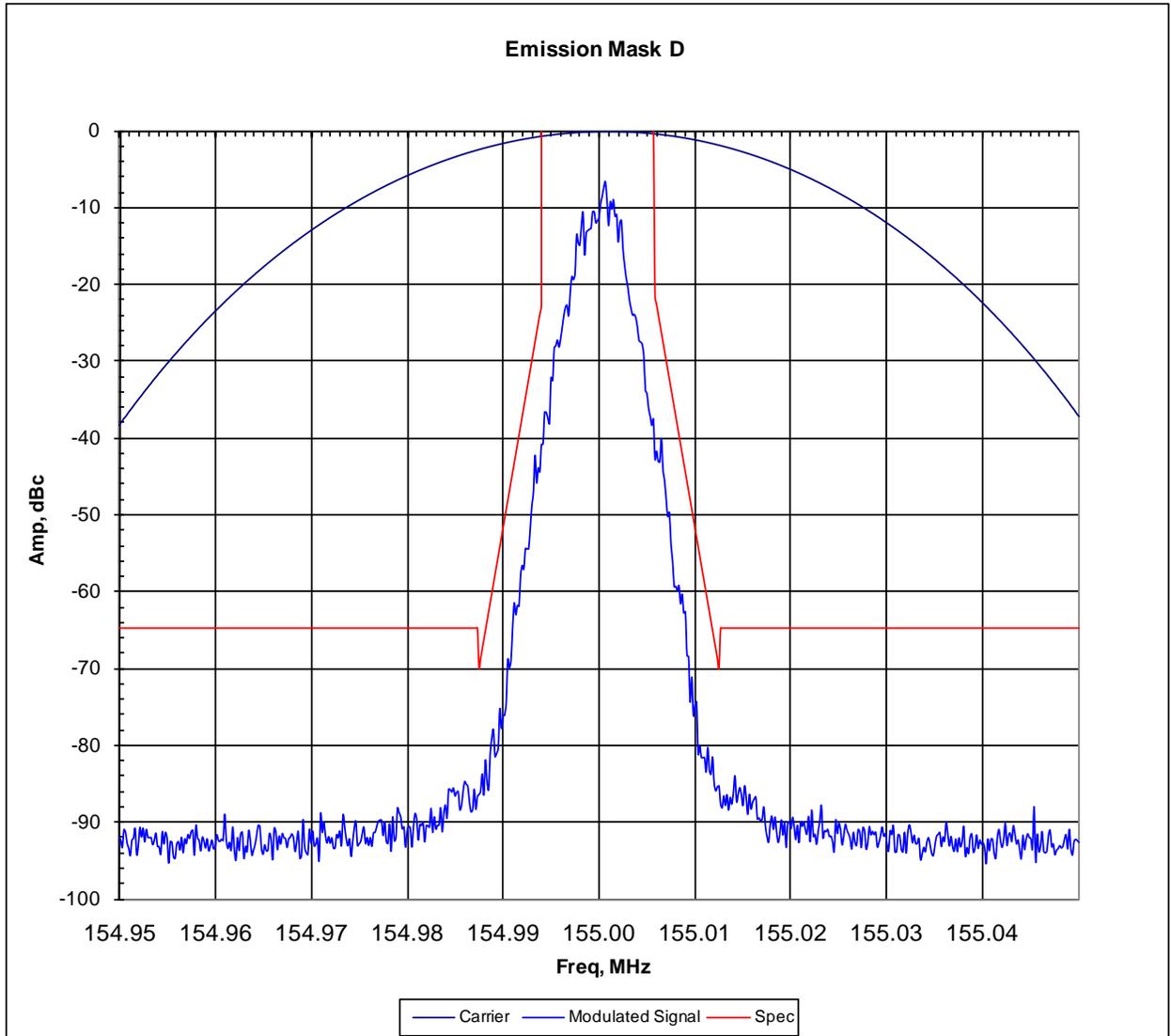


**OCCUPIED BANDWIDTH MEASUREMENT FOR  
12.5 kHz CHANNEL SPACING, 2000/3000 Hz FSK, DPL 131  
EMISSION MASK: D**



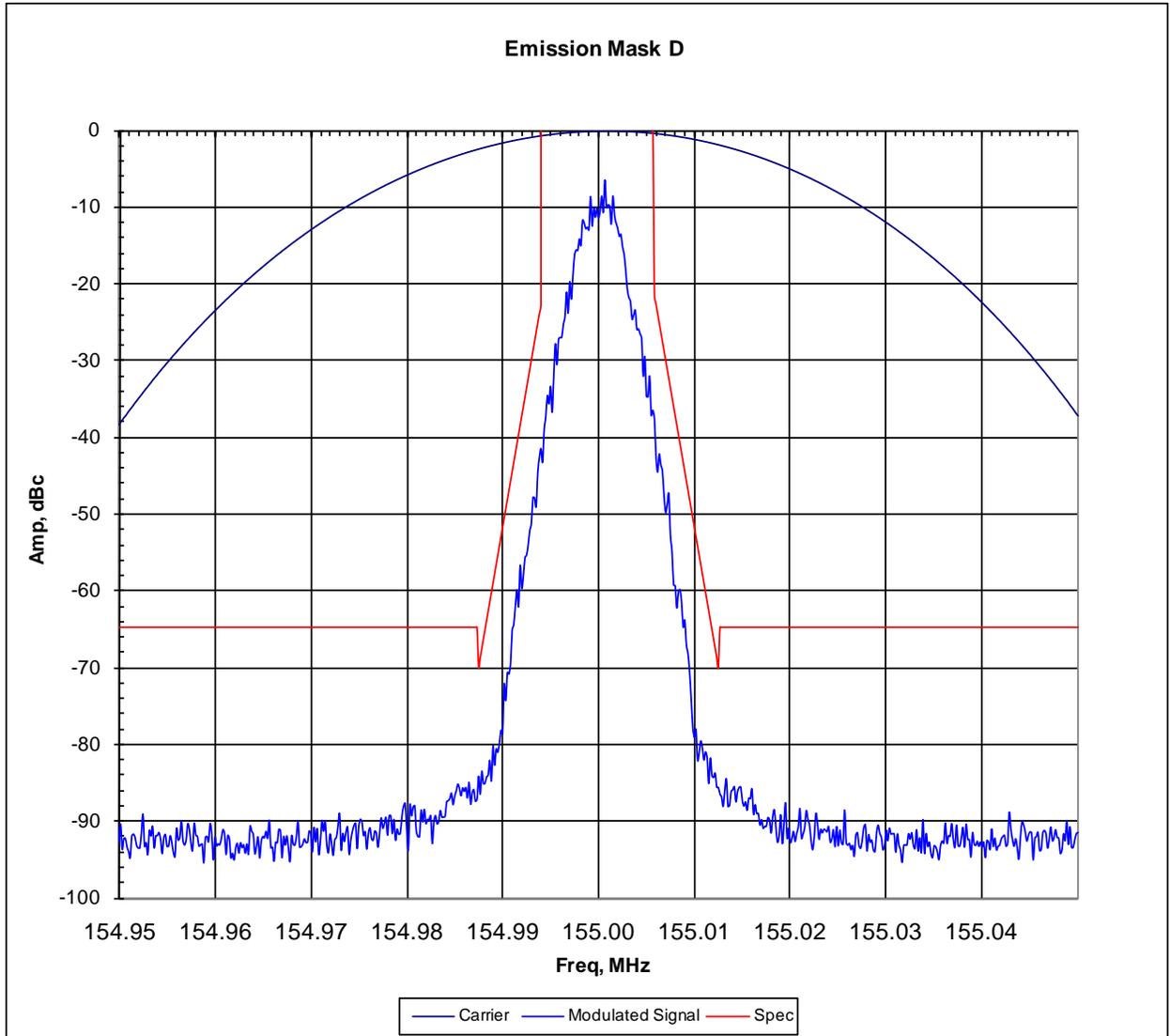
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

**OCCUPIED BANDWIDTH MEASUREMENT FOR  
12.5 kHz CHANNEL SPACING, 4-LEVEL FSK DATA  
EMISSION MASK: D**



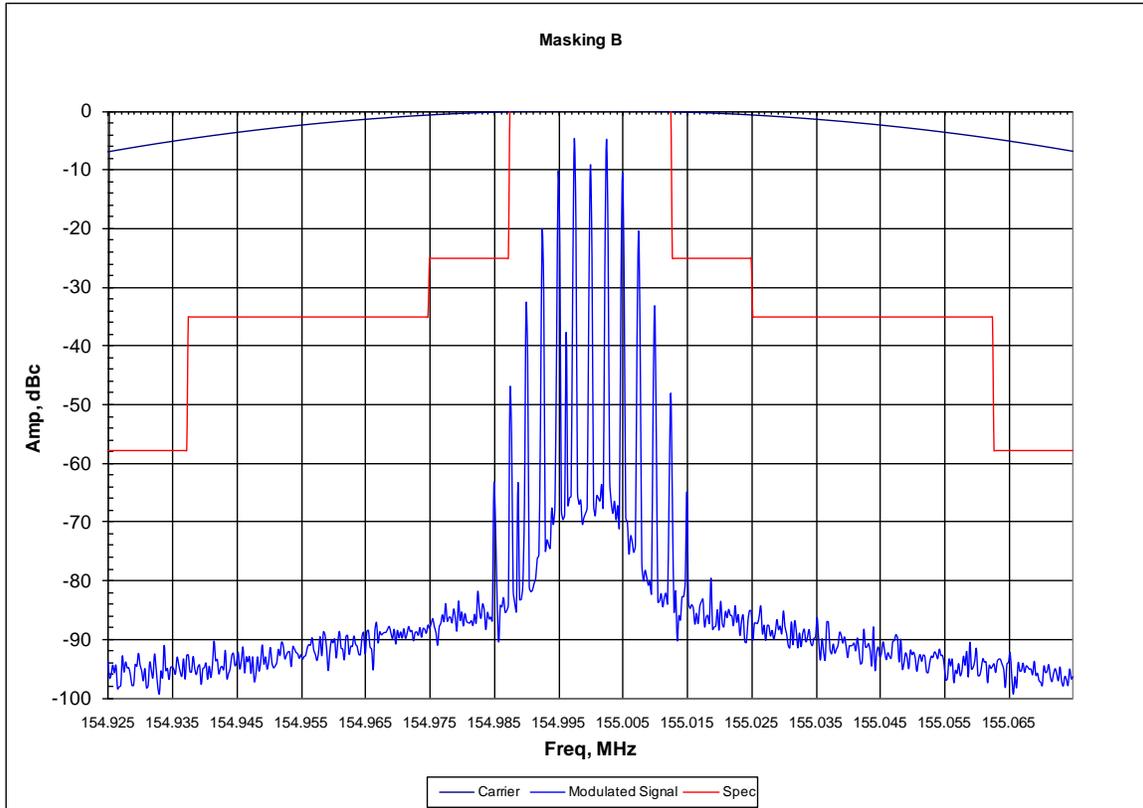
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

**OCCUPIED BANDWIDTH MEASUREMENT FOR  
12.5 kHz CHANNEL SPACING, 4-LEVEL FSK VOICE AND DATA  
EMISSION MASK: D**



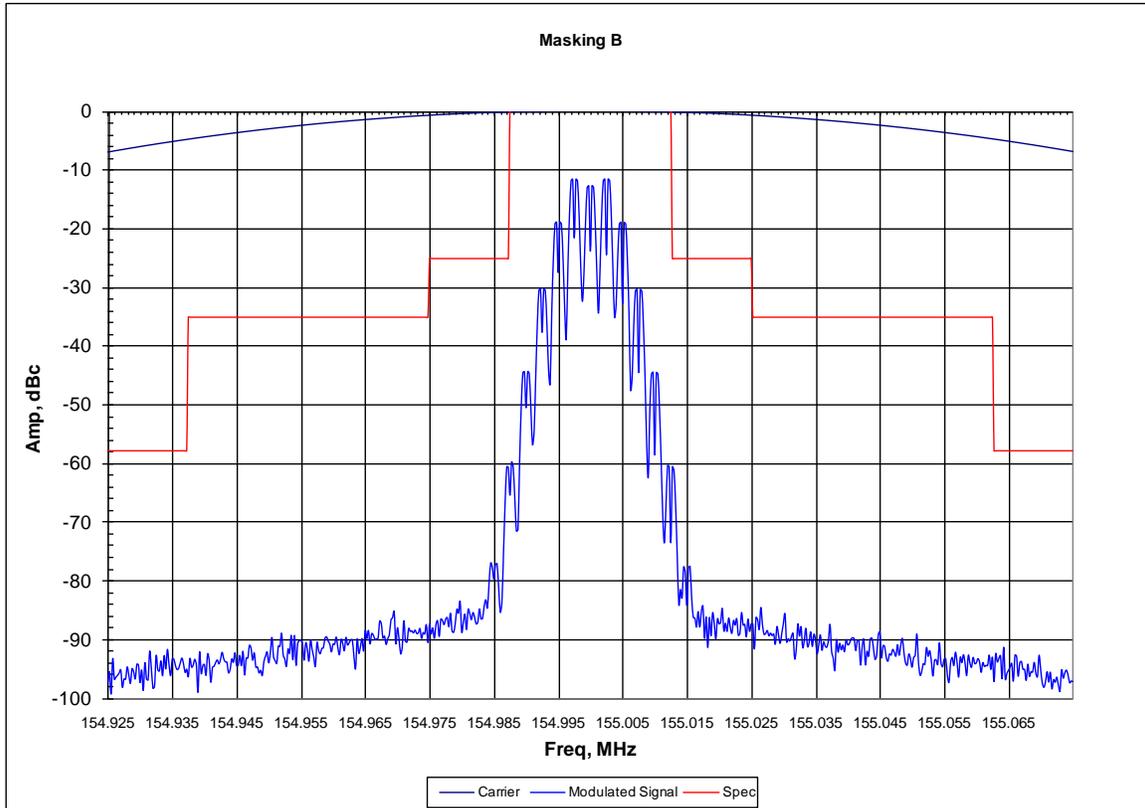
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

**OCCUPIED BANDWIDTH MEASUREMENT FOR  
25 kHz CHANNEL SPACING, 2500 Hz TONE, CARRIER SQUELCH  
EMISSION MASK: B  
(Not for FCC Review)**



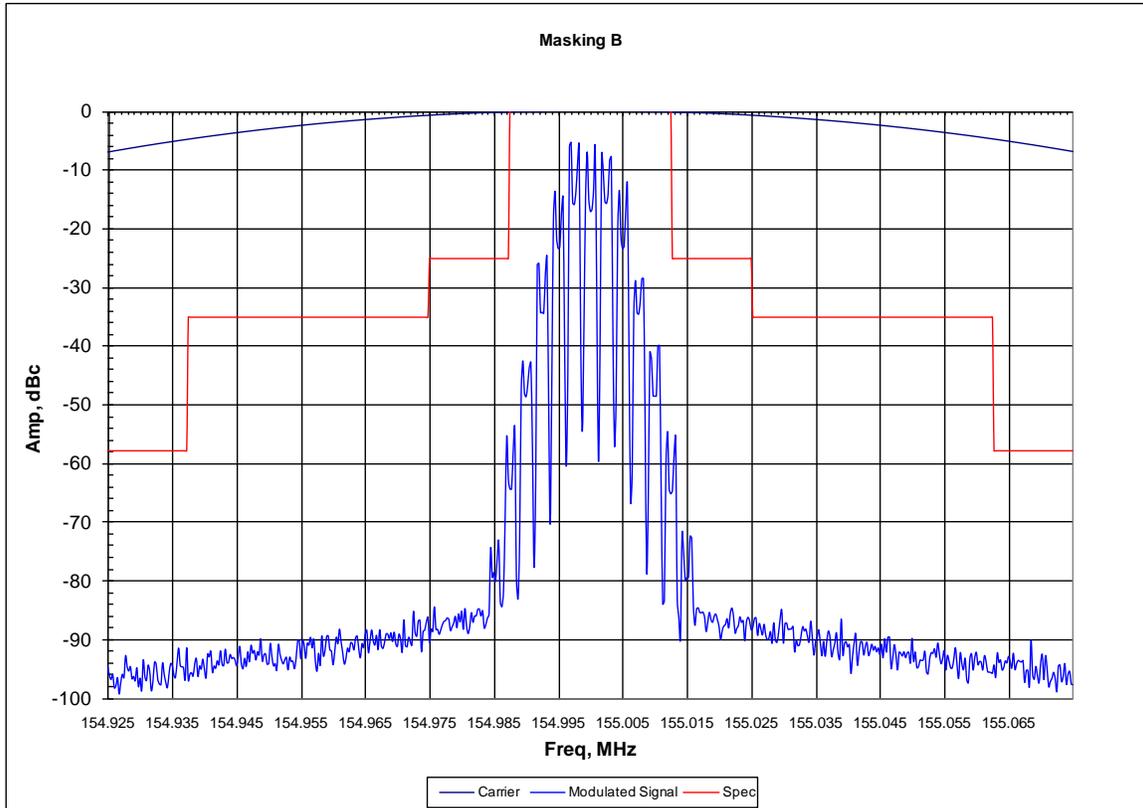
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

**OCCUPIED BANDWIDTH MEASUREMENT FOR  
25 kHz CHANNEL SPACING, 2500 Hz TONE, TPL 250.3 Hz  
EMISSION MASK: B  
(Not for FCC Review)**



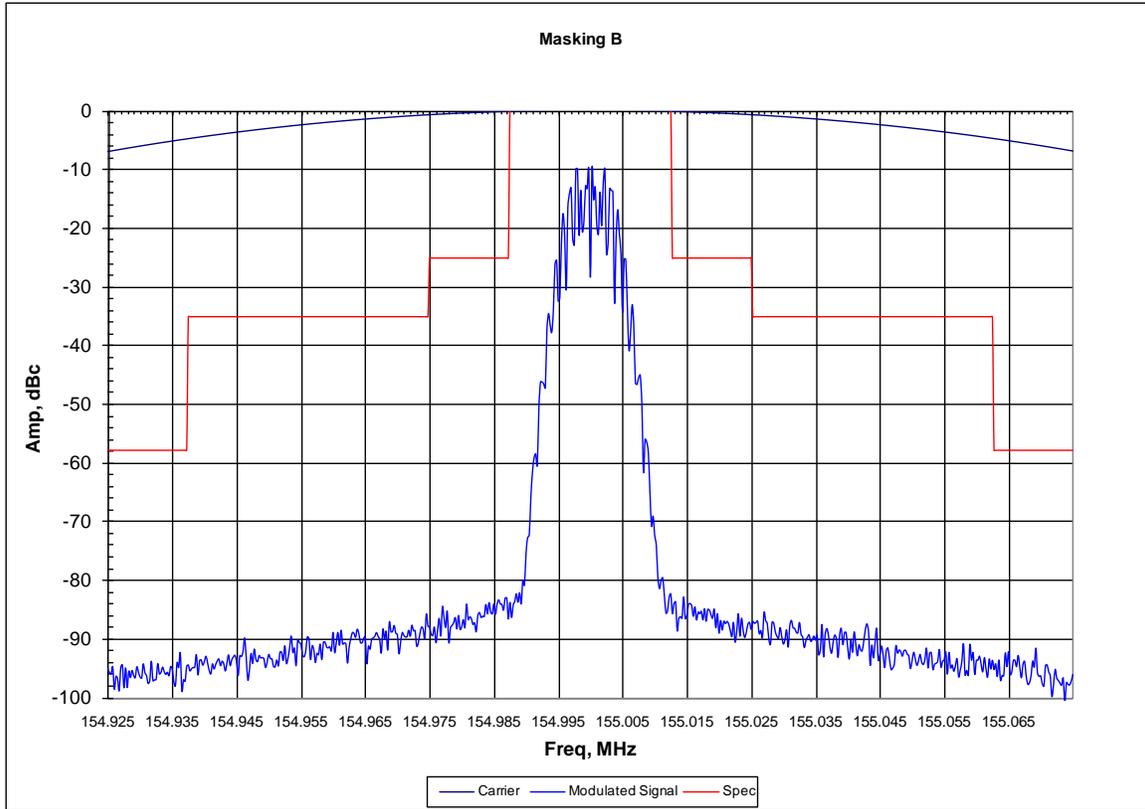
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

**OCCUPIED BANDWIDTH MEASUREMENT FOR  
25 kHz CHANNEL SPACING, 2500 Hz TONE, DPL 131  
EMISSION MASK: B  
(Not for FCC Review)**



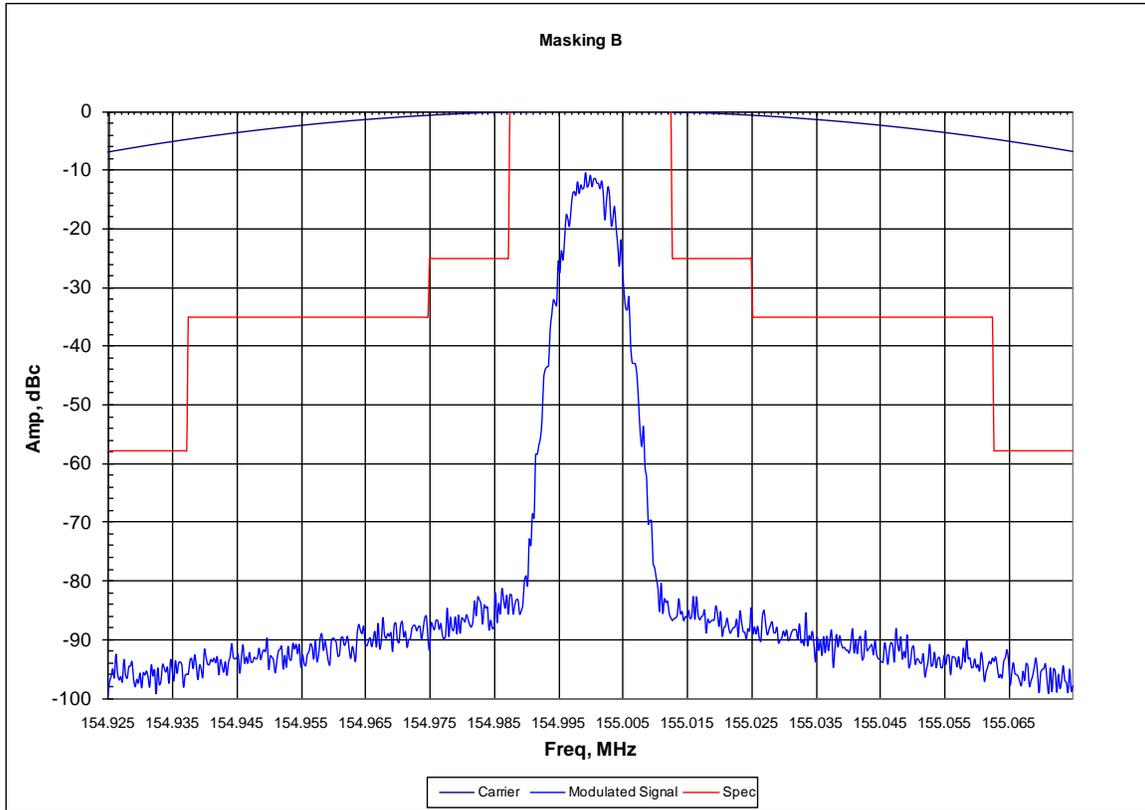
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

**OCCUPIED BANDWIDTH MEASUREMENT FOR  
25 kHz CHANNEL SPACING, DTMF MODULATION, CARRIER SQUELCH  
EMISSION MASK: B  
(Not for FCC Review)**



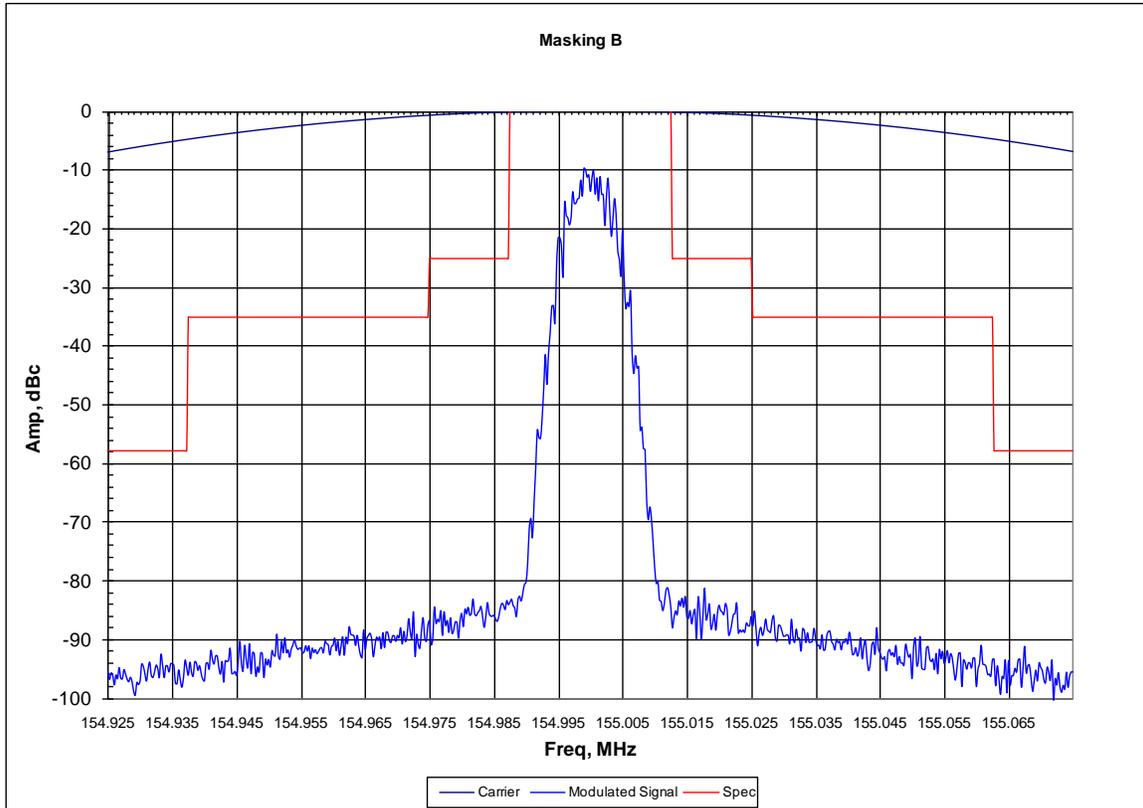
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

**OCCUPIED BANDWIDTH MEASUREMENT FOR  
25 kHz CHANNEL SPACING, DTMF MODULATION, TPL 250.3 Hz  
EMISSION MASK: B  
(Not for FCC Review)**



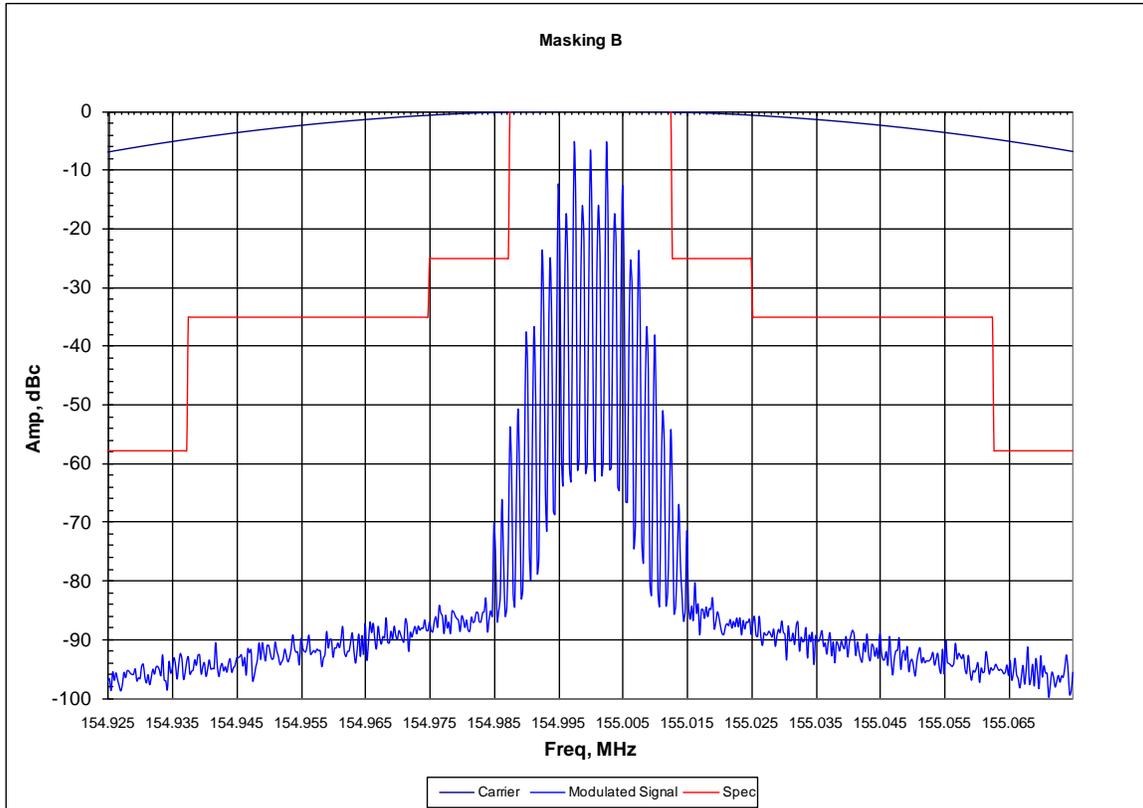
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

**OCCUPIED BANDWIDTH MEASUREMENT FOR  
25 kHz CHANNEL SPACING, DTMF MODULATION, DPL 131  
EMISSION MASK: B  
(Not for FCC Review)**



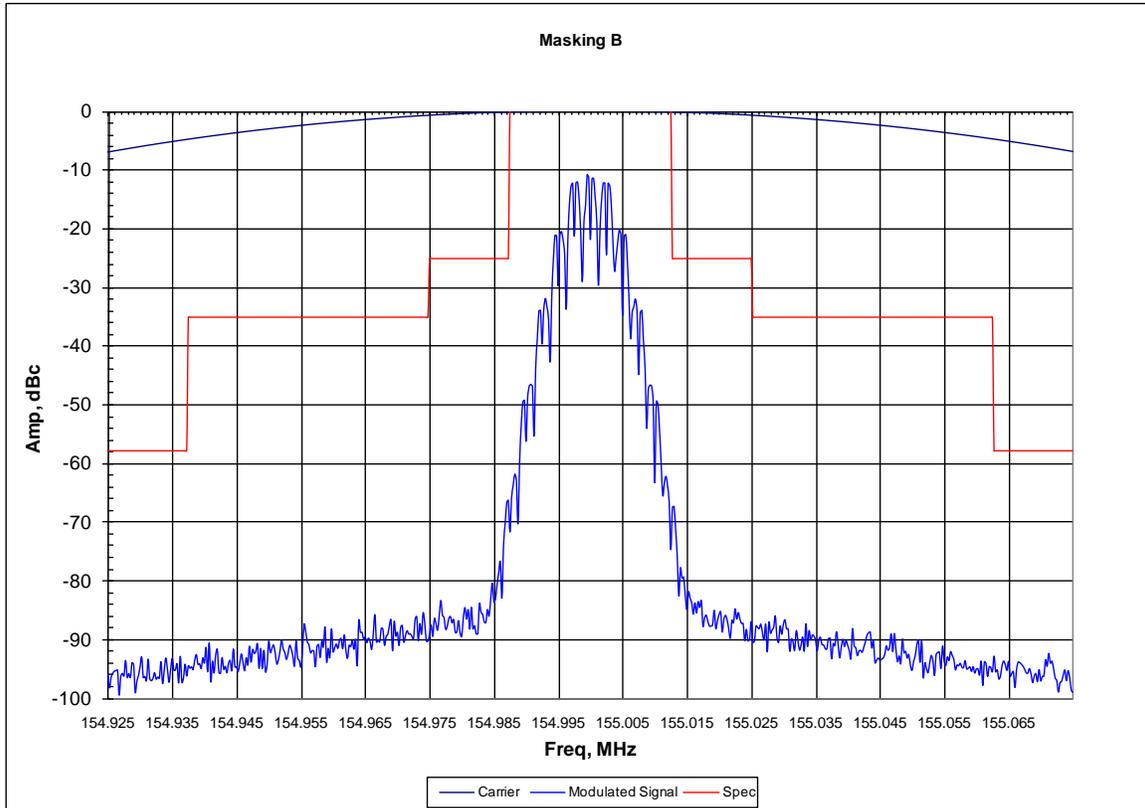
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

**OCCUPIED BANDWIDTH MEASUREMENT FOR  
25 kHz CHANNEL SPACING, 2000/3000 Hz FSK, CARRIER SQUELCH  
EMISSION MASK: B  
(Not for FCC Review)**



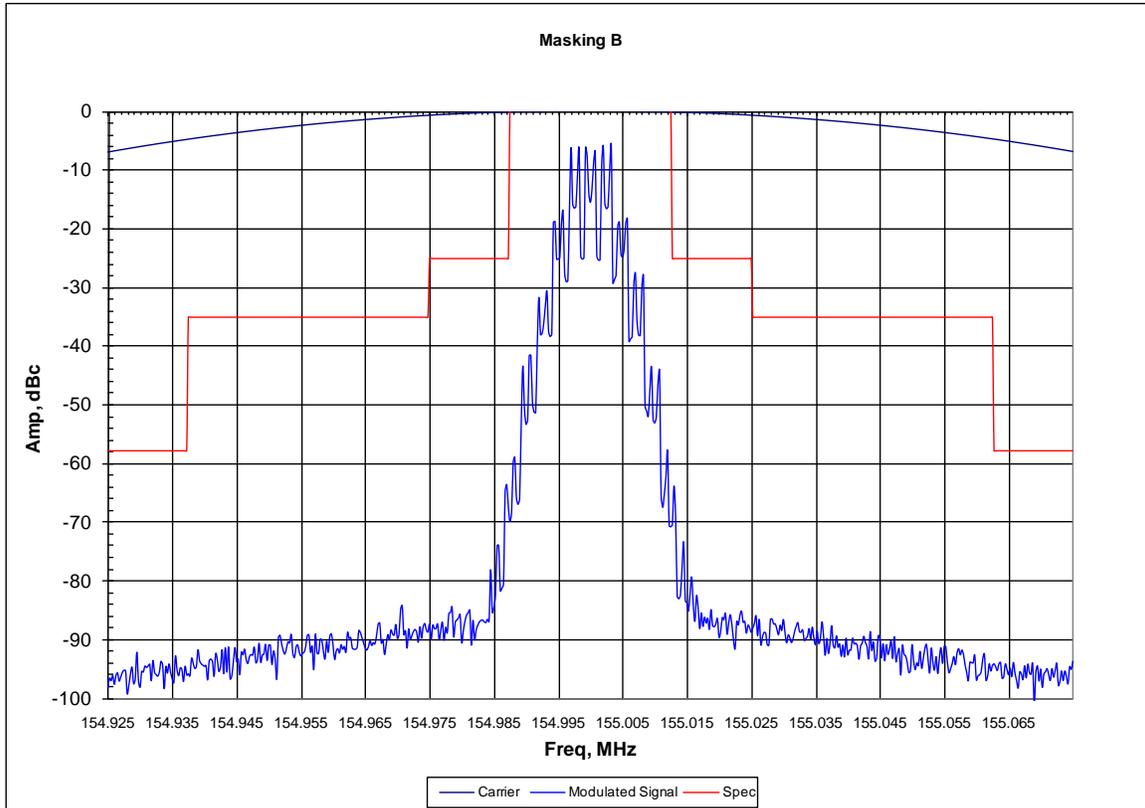
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

**OCCUPIED BANDWIDTH MEASUREMENT FOR  
25 kHz CHANNEL SPACING, 2000/3000 Hz FSK, TPL 250.3 Hz  
EMISSION MASK: B  
(Not for FCC Review)**



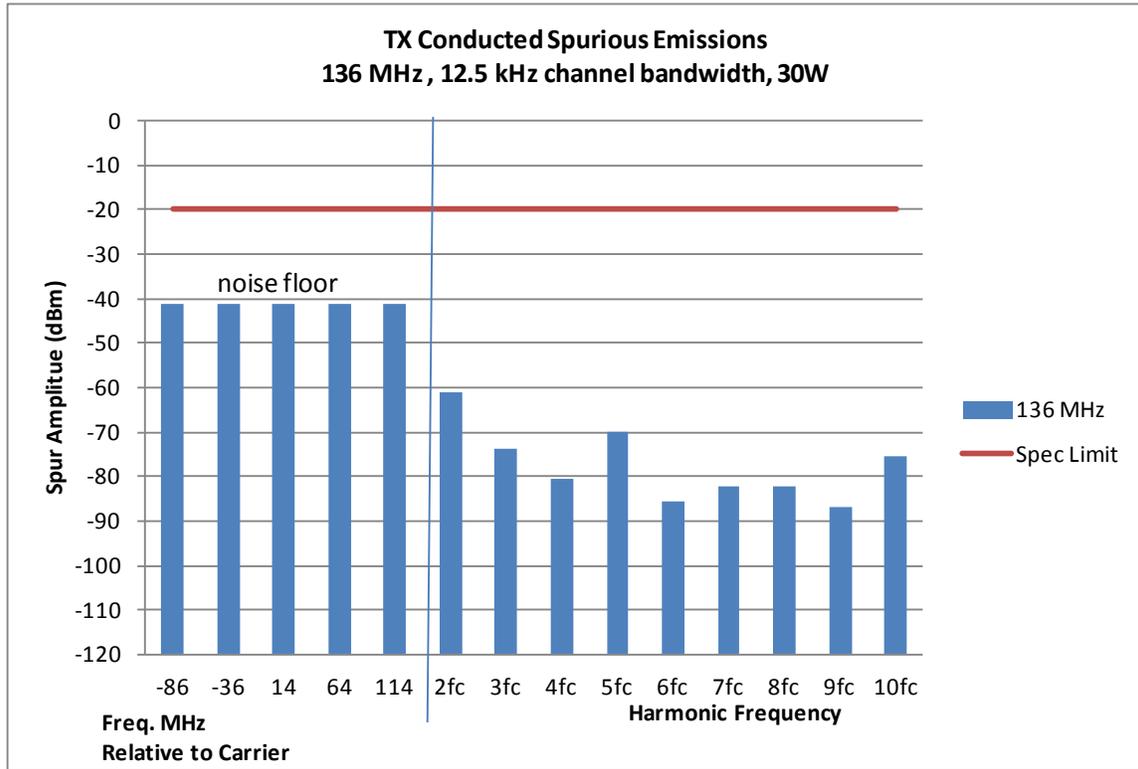
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

**OCCUPIED BANDWIDTH MEASUREMENT FOR  
25 kHz CHANNEL SPACING, 2000/3000 Hz FSK, DPL 131  
EMISSION MASK: B  
(Not for FCC Review)**



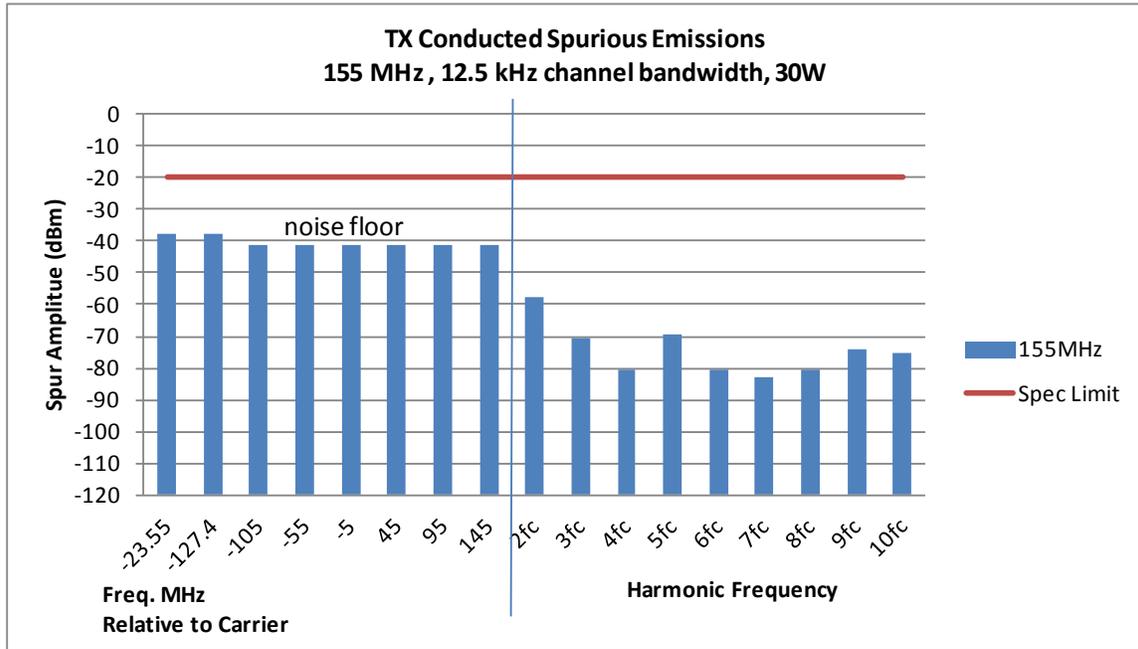
CENTER FREQUENCY:	155.00 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

**CONDUCTED SPURIOUS EMISSIONS  
HIGH POWER, 136.000 MHz**



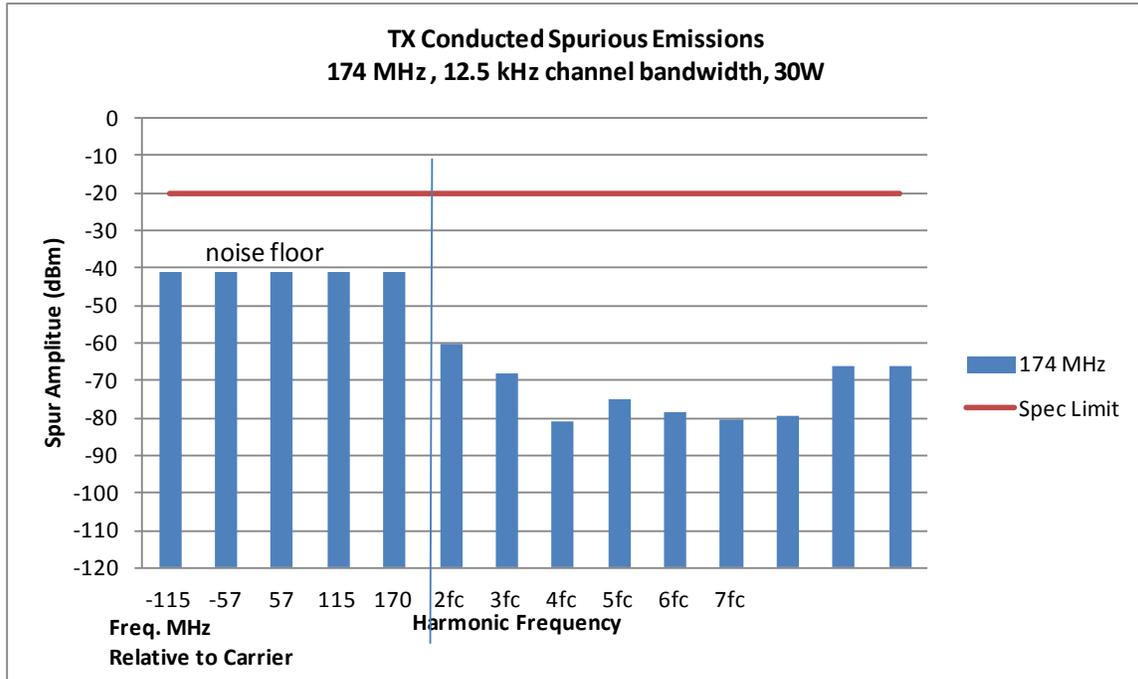
The conducted spurious level is plotted in dBm on the vertical axis.  
The specification for conducted spurious emissions is -20 dBm.

**CONDUCTED SPURIOUS EMISSIONS  
HIGH POWER, 155.000 MHz**



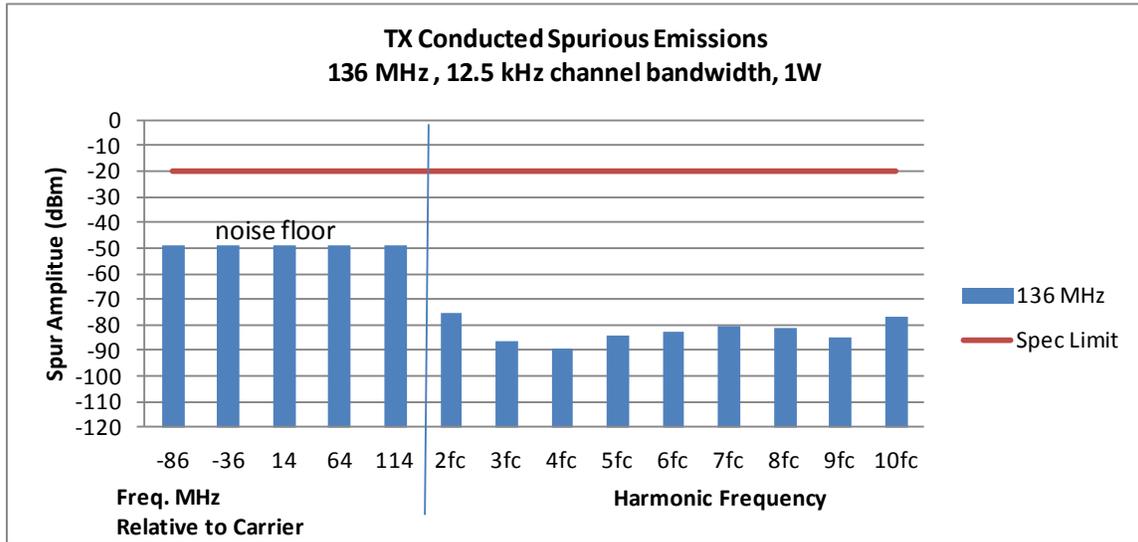
The conducted spurious level is plotted in dBm on the vertical axis.  
The specification for conducted spurious emissions is -20 dBm.

**CONDUCTED SPURIOUS EMISSIONS  
HIGH POWER, 173.9875 MHz**



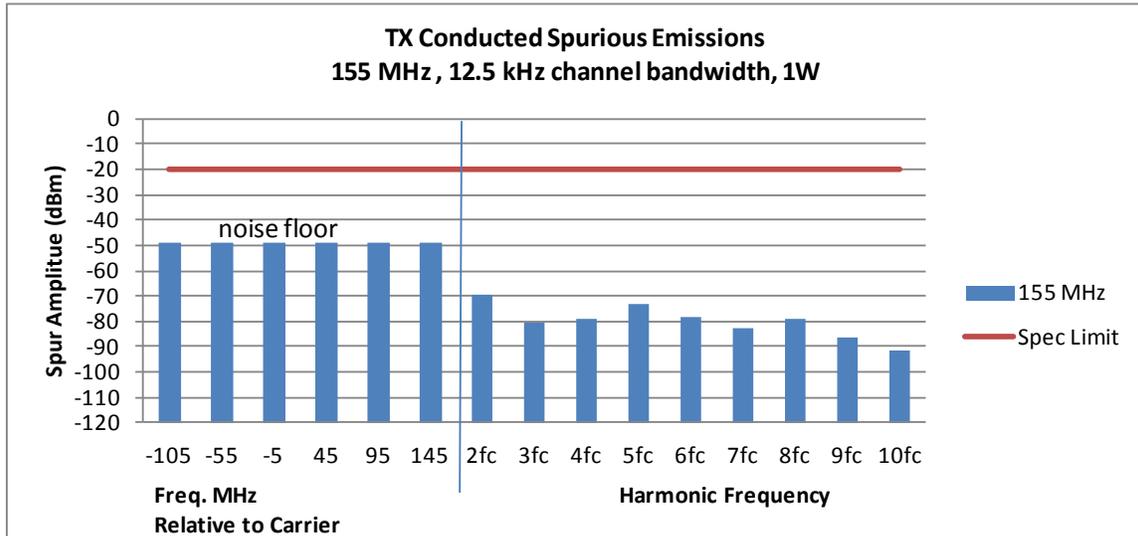
The conducted spurious level is plotted in dBm on the vertical axis.  
The specification for conducted spurious emissions is -20 dBm.

**CONDUCTED SPURIOUS EMISSIONS  
LOW POWER, 136.000 MHz**



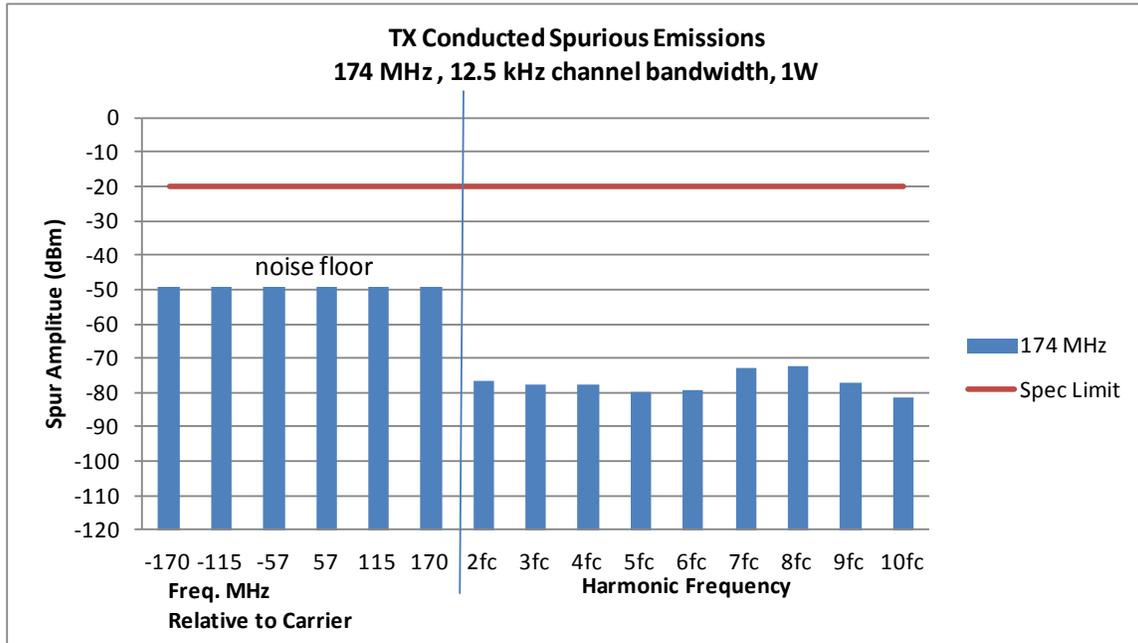
The conducted spurious level is plotted in dBm on the vertical axis.  
The specification for conducted spurious emissions is -20 dBm.

**CONDUCTED SPURIOUS EMISSIONS  
LOW POWER, 155.000 MHz**



The conducted spurious level is plotted in dBm on the vertical axis.  
The specification for conducted spurious emissions is -20 dBm.

**CONDUCTED SPURIOUS EMISSIONS  
LOW POWER, 173.9875 MHz**



The conducted spurious level is plotted in dBm on the vertical axis.  
The specification for conducted spurious emissions is -20 dBm.



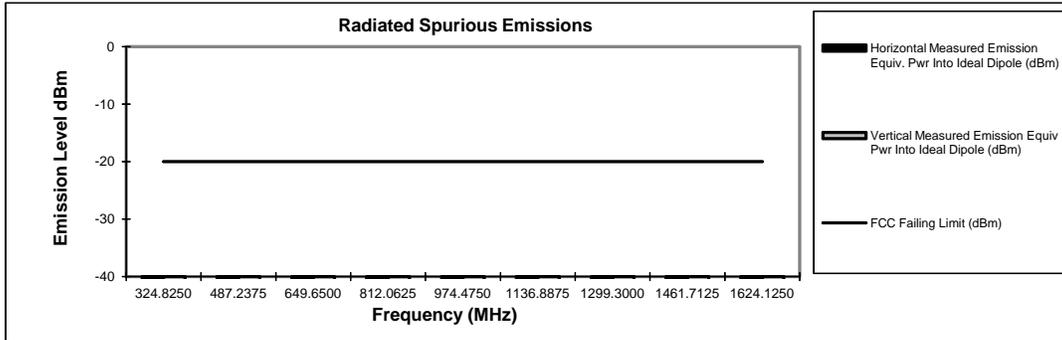
**Transmit Radiated Spurious Emissions: PMUD2566A XPR 5550/5350**

**Tx Power: 30 Watts**

**162.4125 MHz**

**Channel Spacing 12.5kHz | S/N 511TMV0175**

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
324.8250	-20	*	*
487.2375	-20	*	*
649.6500	-20	*	*
812.0625	-20	*	*
974.4750	-20	*	*
1136.8875	-20	*	*
1299.3000	-20	*	*
1461.7125	-20	*	*
1624.1250	-20	*	*



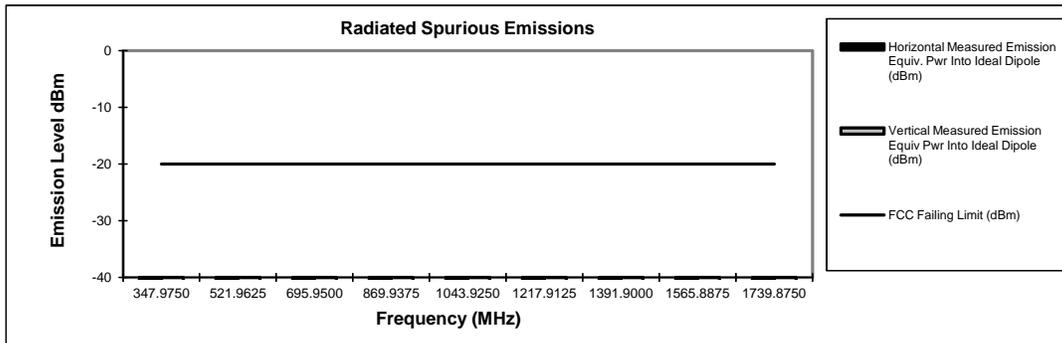
**Transmit Radiated Spurious Emissions: PMUD2566A XPR 5550/5350**

**Tx Power: 30 Watts**

**173.9875 MHz**

**Channel Spacing 12.5kHz | S/N 511TMV0175**

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
347.9750	-20	*	*
521.9625	-20	*	*
695.9500	-20	*	*
869.9375	-20	*	*
1043.9250	-20	*	*
1217.9125	-20	*	*
1391.9000	-20	*	*
1565.8875	-20	*	*
1739.8750	-20	*	*



\* Indicates the spurious emission could not be detected due to noise limitations or ambients.

Pursuant to CFR 47 Part 2.1057(c), emissions attenuated more than 20 dB below the permissible limit are not reported.

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: Alberto Cordero**

**November 30, 2011**

**FCC Registration: 91932 / Industry Canada: IC109U-1**

**EXHIBIT 6G-3, 4**



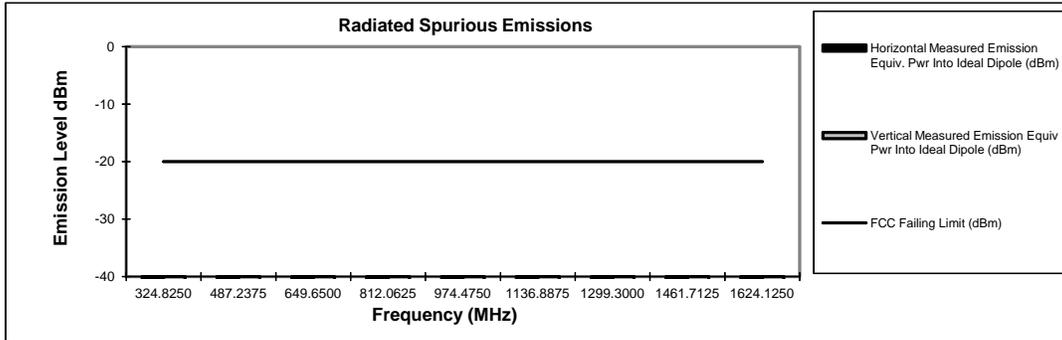
**Transmit Radiated Spurious Emissions: PMUD2566A XPR 5550/5350**

**Tx Power: 1 Watts**

**162.4125 MHz**

**Channel Spacing 12.5kHz | S/N 511TMV0175**

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
324.8250	-20	*	*
487.2375	-20	*	*
649.6500	-20	*	*
812.0625	-20	*	*
974.4750	-20	*	*
1136.8875	-20	*	*
1299.3000	-20	*	*
1461.7125	-20	*	*
1624.1250	-20	*	*



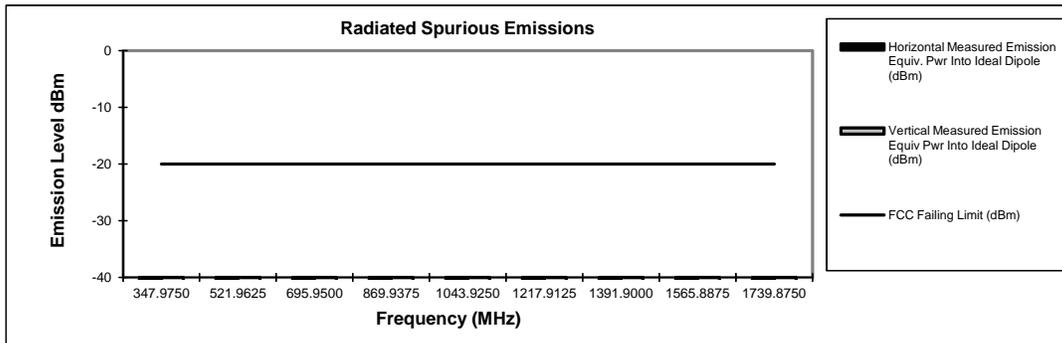
**Transmit Radiated Spurious Emissions: PMUD2566A XPR 5550/5350**

**Tx Power: 1 Watts**

**173.9875 MHz**

**Channel Spacing 12.5kHz | S/N 511TMV0175**

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
347.9750	-20	*	*
521.9625	-20	*	*
695.9500	-20	*	*
869.9375	-20	*	*
1043.9250	-20	*	*
1217.9125	-20	*	*
1391.9000	-20	*	*
1565.8875	-20	*	*
1739.8750	-20	*	*



\* Indicates the spurious emission could not be detected due to noise limitations or ambients.

Pursuant to CFR 47 Part 2.1057(c), emissions attenuated more than 20 dB below the permissible limit are not reported.

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: Alberto Cordero**

**November 30, 2011**

**FCC Registration: 91932 / Industry Canada: IC109U-1**

**EXHIBIT 6G-7,8**



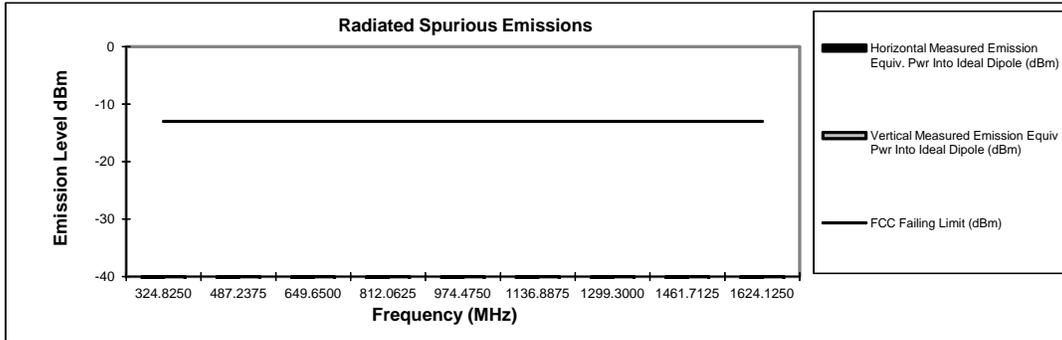
**Transmit Radiated Spurious Emissions: PMUD2566A XPR 5550/5350**

**Tx Power: 30 Watts**

**162.4125 MHz**

**Channel Spacing 25kHz | S/N 511TMV0175**

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
324.8250	-13	*	*
487.2375	-13	*	*
649.6500	-13	*	*
812.0625	-13	*	*
974.4750	-13	*	*
1136.8875	-13	*	*
1299.3000	-13	*	*
1461.7125	-13	*	*
1624.1250	-13	*	*



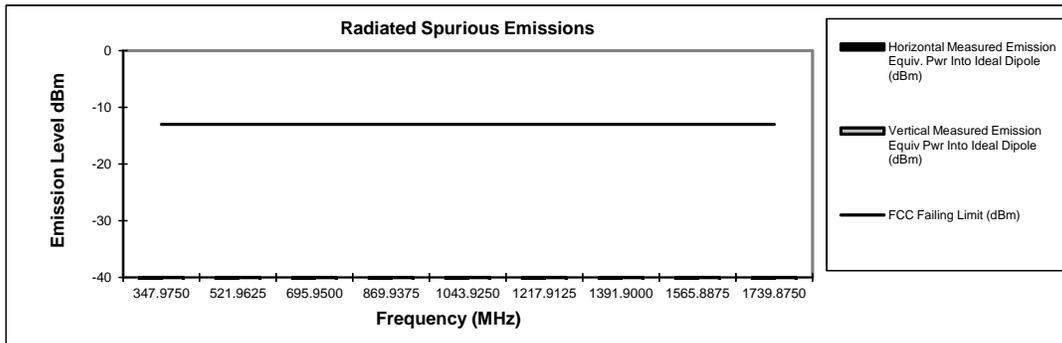
**Transmit Radiated Spurious Emissions: PMUD2566A XPR 5550/5350**

**Tx Power: 30 Watts**

**173.9875 MHz**

**Channel Spacing 25kHz | S/N 511TMV0175**

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
347.9750	-13	*	*
521.9625	-13	*	*
695.9500	-13	*	*
869.9375	-13	*	*
1043.9250	-13	*	*
1217.9125	-13	*	*
1391.9000	-13	*	*
1565.8875	-13	*	*
1739.8750	-13	*	*



\* Indicates the spurious emission could not be detected due to noise limitations or ambients.

Pursuant to CFR 47 Part 2.1057(c), emissions attenuated more than 20 dB below the permissible limit are not reported.

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: Andy Gessner**

**November 30, 2011**

**FCC Registration: 91932 / Industry Canada: IC109U-1**

**EXHIBIT 6G-11, 12 (Not for FCC Review)**



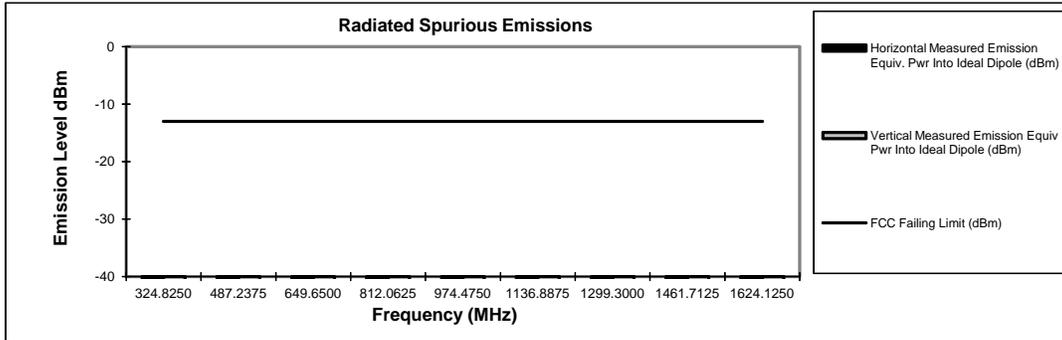
**Transmit Radiated Spurious Emissions: PMUD2566A XPR 5550/5350**

**Tx Power: 1 Watts**

**162.4125 MHz**

**Channel Spacing 25kHz | S/N 511TMV0175**

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
324.8250	-13	*	*
487.2375	-13	*	*
649.6500	-13	*	*
812.0625	-13	*	*
974.4750	-13	*	*
1136.8875	-13	*	*
1299.3000	-13	*	*
1461.7125	-13	*	*
1624.1250	-13	*	*



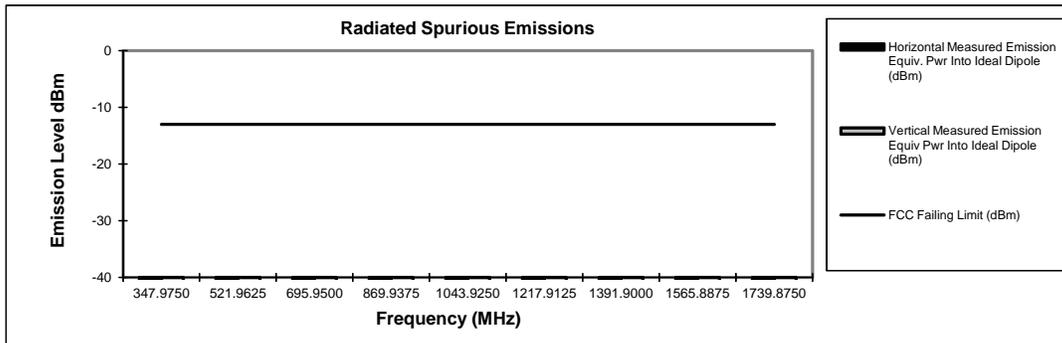
**Transmit Radiated Spurious Emissions: PMUD2566A XPR 5550/5350**

**Tx Power: 1 Watts**

**173.9875 MHz**

**Channel Spacing 25kHz | S/N 511TMV0175**

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
347.9750	-13	*	*
521.9625	-13	*	*
695.9500	-13	*	*
869.9375	-13	*	*
1043.9250	-13	*	*
1217.9125	-13	*	*
1391.9000	-13	*	*
1565.8875	-13	*	*
1739.8750	-13	*	*



\* Indicates the spurious emission could not be detected due to noise limitations or ambients.

Pursuant to CFR 47 Part 2.1057(c), emissions attenuated more than 20 dB below the permissible limit are not reported.

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

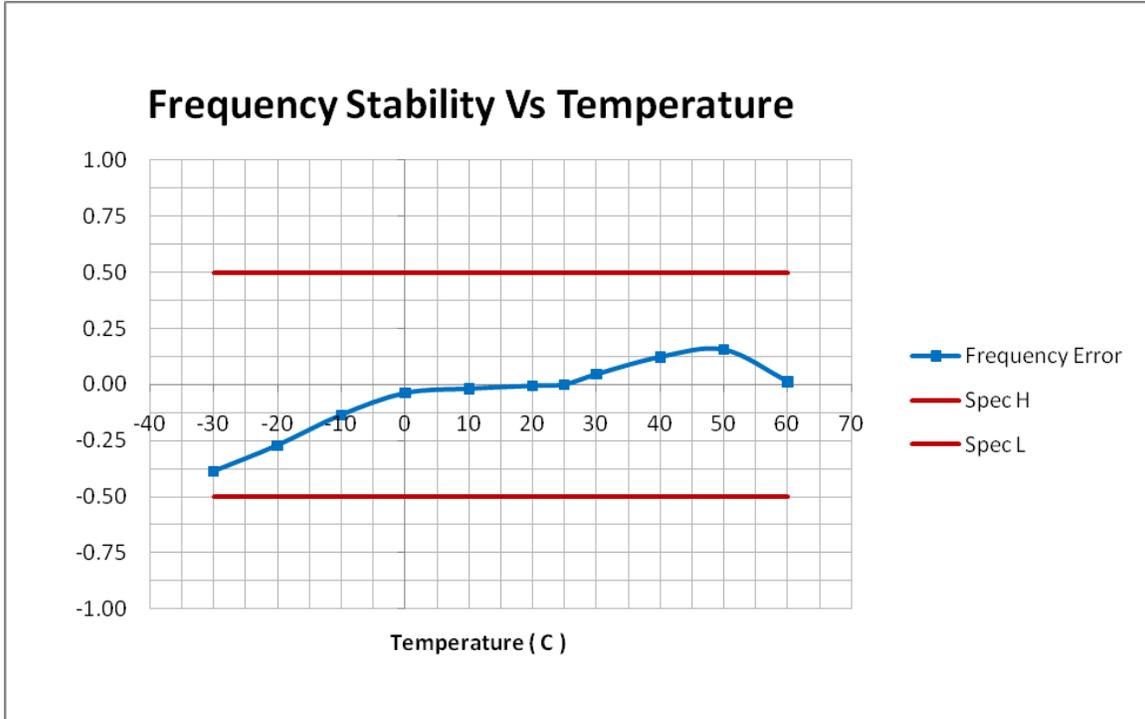
Motorola Plantation EMC Lab – Test Performed by: Andy Gessner

November 30, 2011

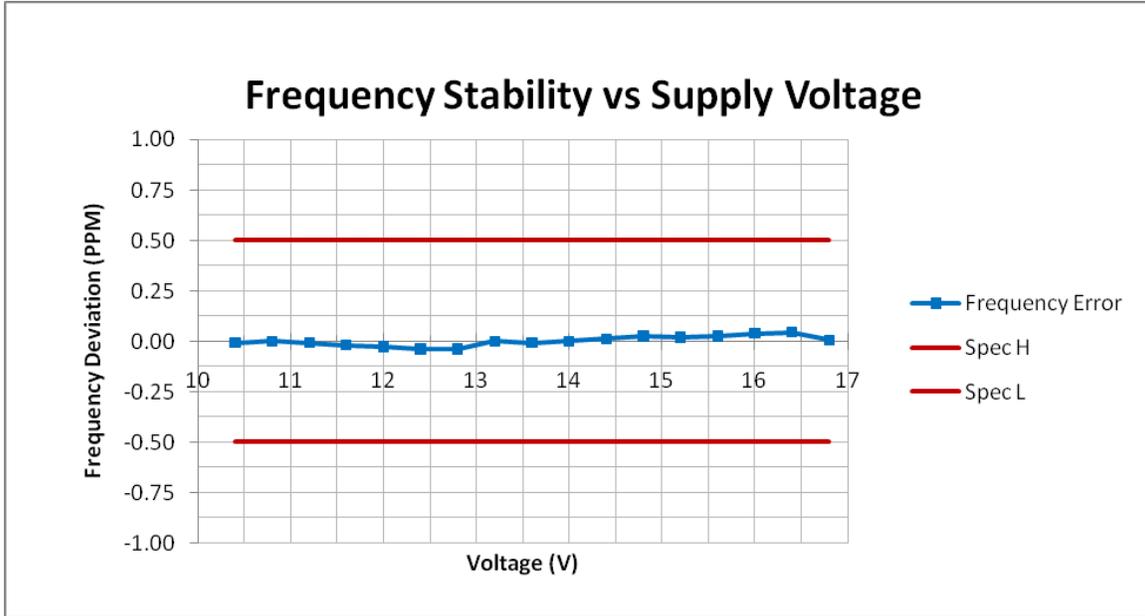
FCC Registration: 91932 / Industry Canada: IC109U-1

EXHIBIT 6G-15, 16 (Not for FCC Review)

**FREQUENCY STABILITY VS. TEMPERATURE**  
**SPECIFIED LIMITS:  $\pm 0.5$  PPM (-30 TO +60 DEGREES C)**



FREQUENCY STABILITY VS. SUPPLY VOLTAGE



RADIO LOW-VOLTAGE RESET OCCURS AT 5.5 VOLTS DC.

### TRANSIENT FREQUENCY BEHAVIOR 30 Watts, 12.5KHz, Key-up Attack Time

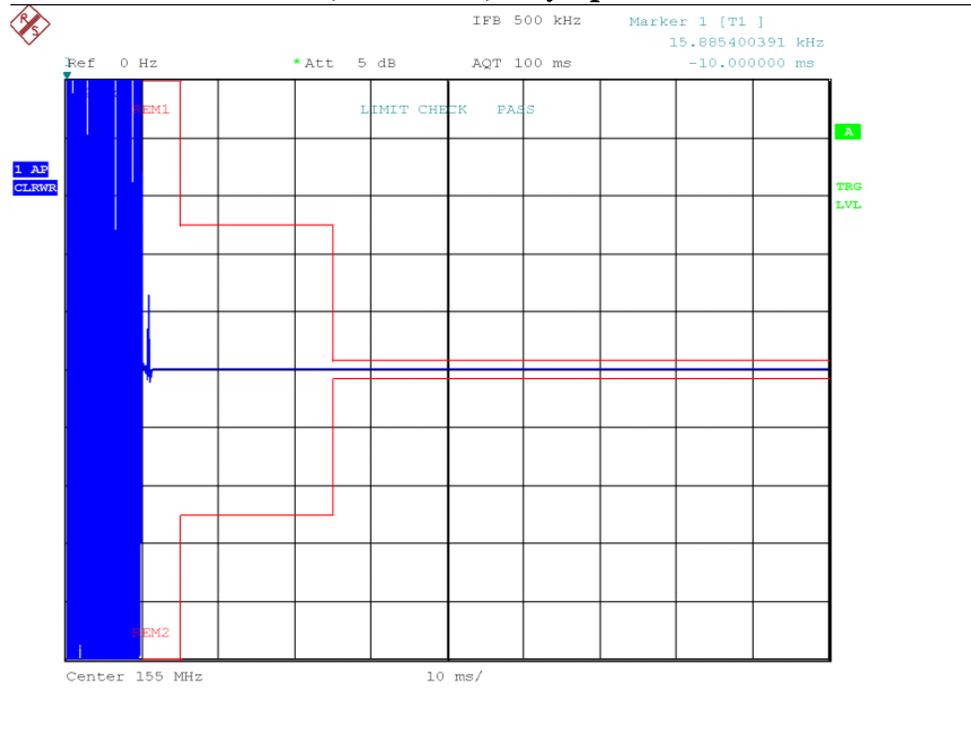


EXHIBIT 6I-1

### TRANSIENT FREQUENCY BEHAVIOR 30 Watts, 12.5KHz, De-key Decay Time

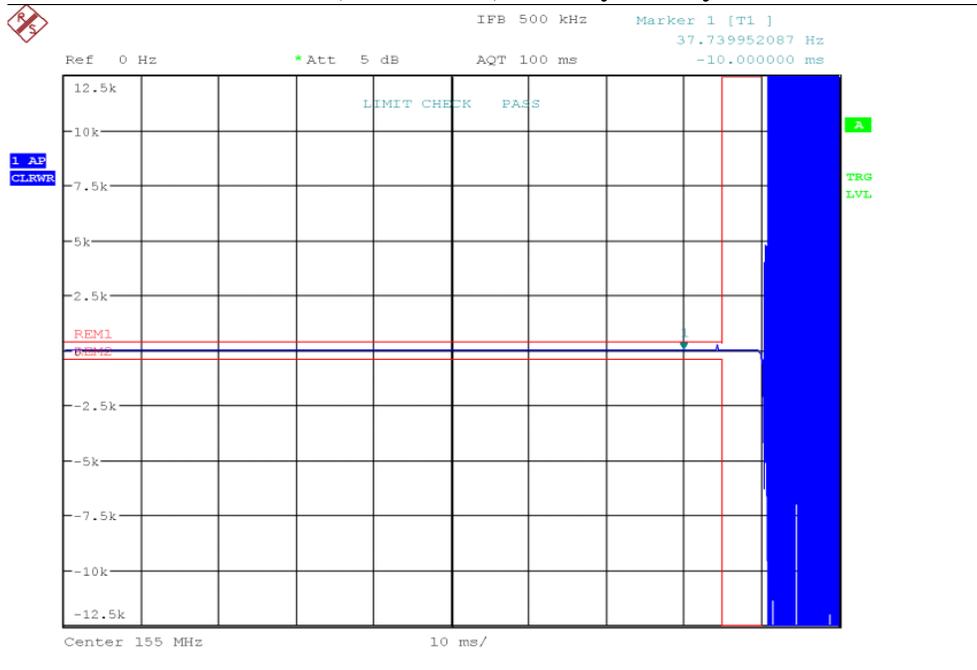


EXHIBIT 6I-2

### TRANSIENT FREQUENCY BEHAVIOR 30 Watts, 25KHz, Key-up Attack Time (Not for FCC Review)

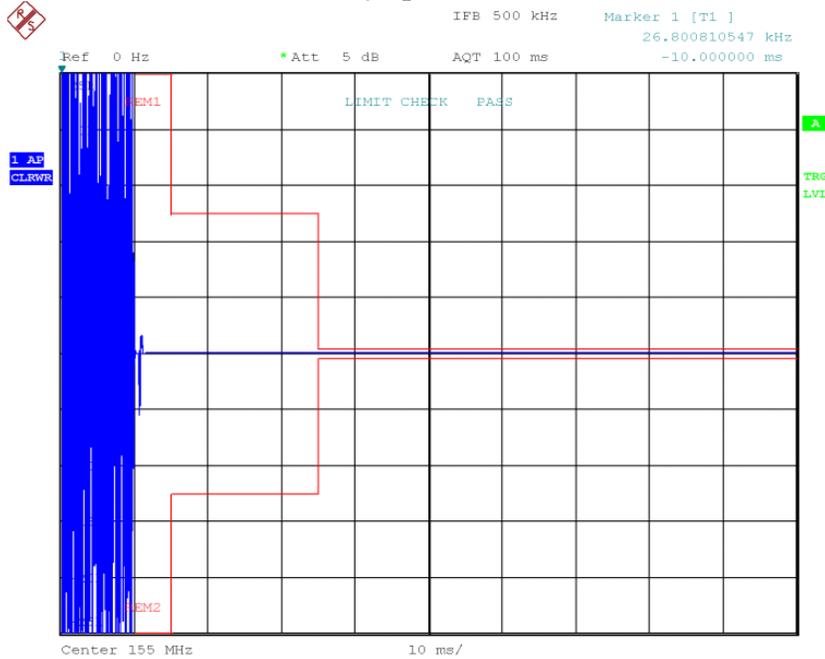


EXHIBIT 6I-3

### TRANSIENT FREQUENCY BEHAVIOR 30 Watts, 25KHz, De-key Decay Time (Not for FCC Review)

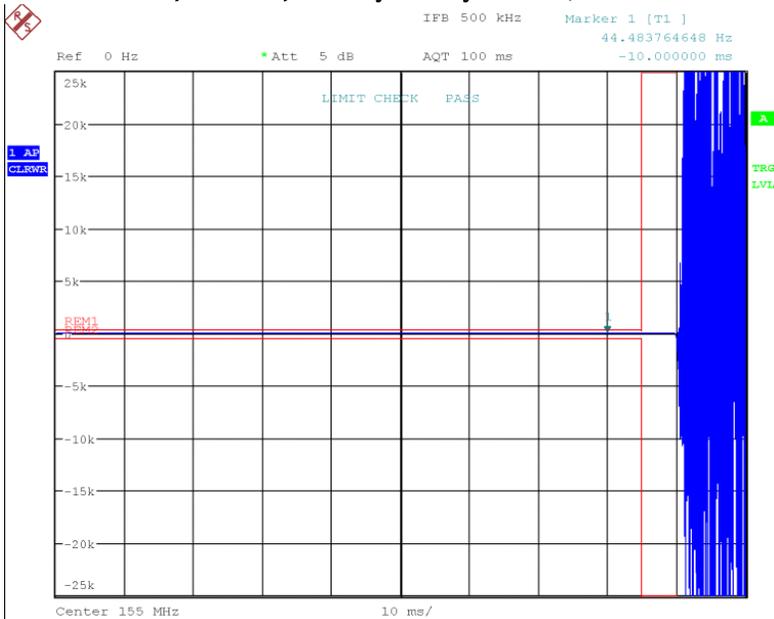


EXHIBIT 6I-4

### TRANSIENT FREQUENCY BEHAVIOR 1 Watt, 12.5KHz, Key-up Attack Time

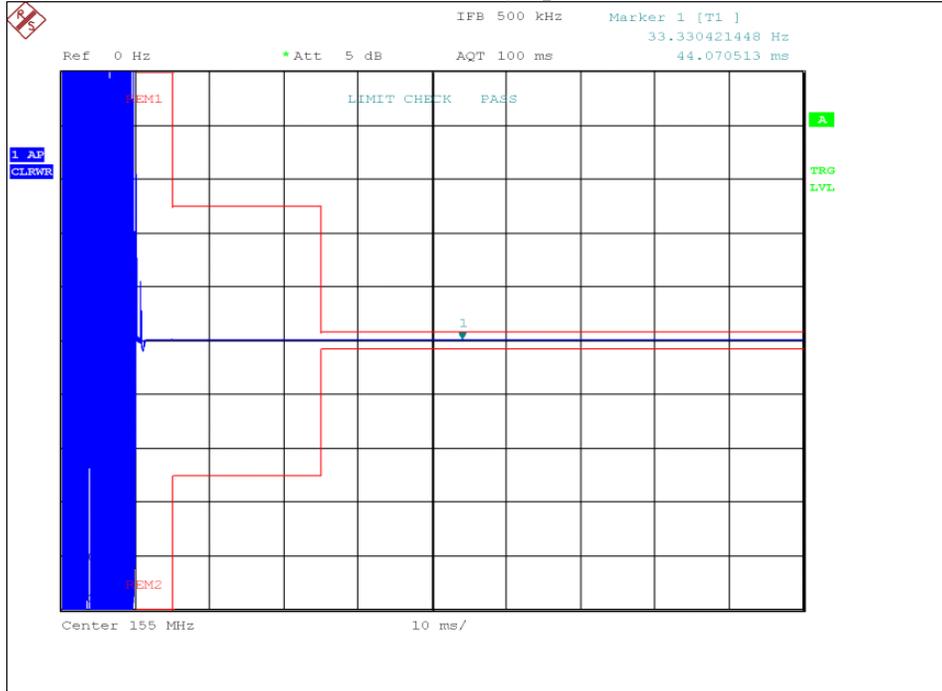


EXHIBIT 6I-5

### TRANSIENT FREQUENCY BEHAVIOR 1 Watt, 12.5KHz, De-key Decay Time

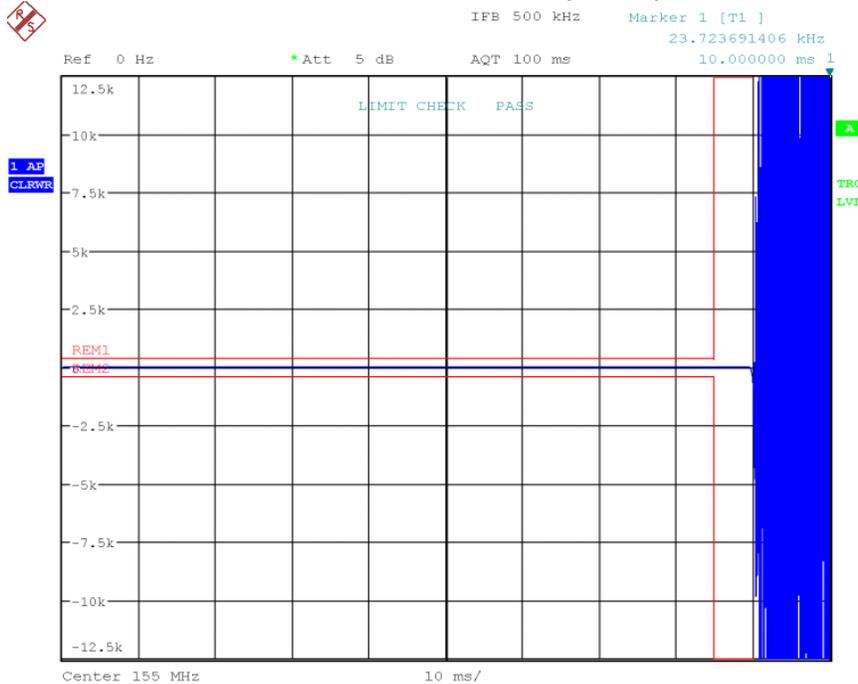


EXHIBIT 6I-6

### TRANSIENT FREQUENCY BEHAVIOR 1 Watt, 25KHz, Key-up Attack Time (Not for FCC Review)

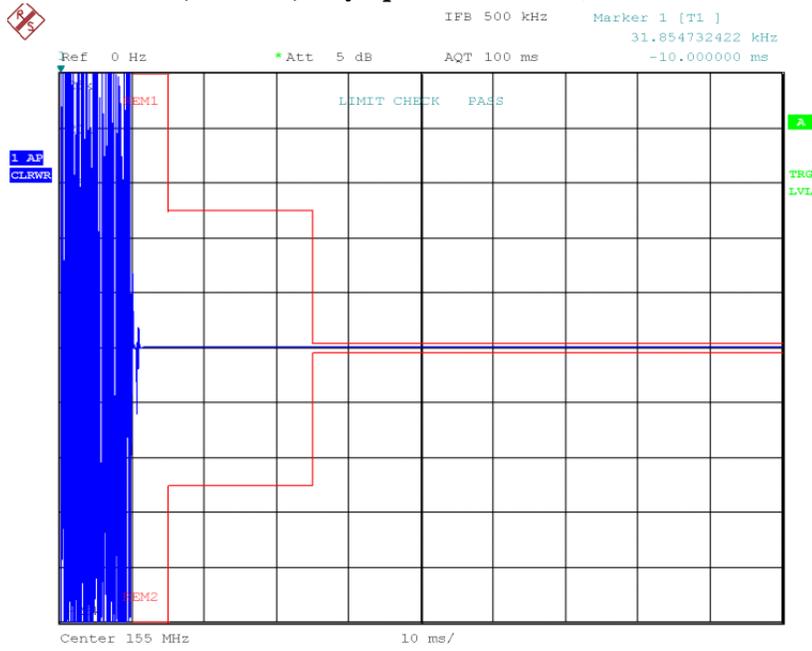


EXHIBIT 6I-7

### TRANSIENT FREQUENCY BEHAVIOR 1 Watt, 25KHz, De-key Decay Time (Not for FCC Review)

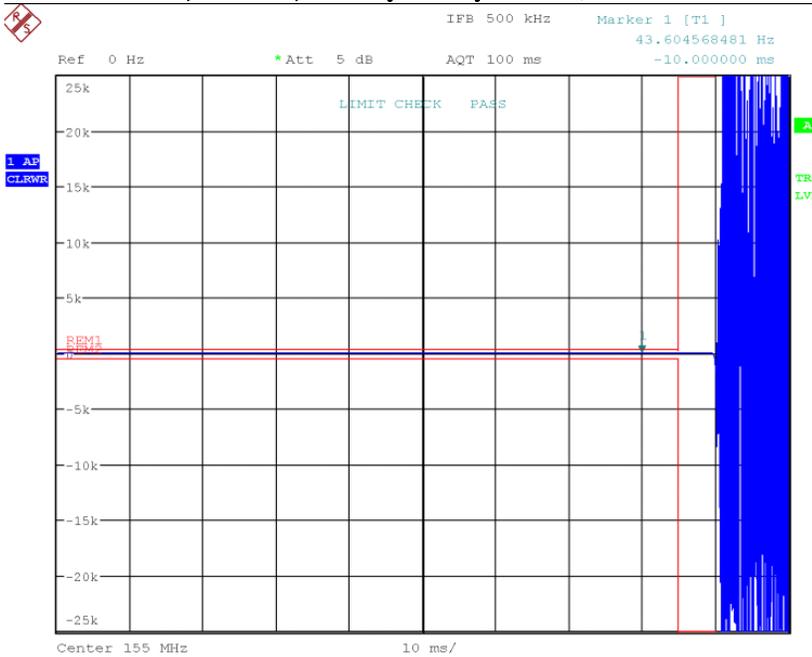


EXHIBIT 6I-8