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 (1 Graphs)
6B – 12.5 kHz Channel Spacing

EXHIBIT 6C - Transmit Audio Post Limiter Lowpass Filter Response (1 Graphs)
6C – 12.5 kHz Transmit Audio Post Limiter LPF Response

EXHIBIT 6D - Modulation Limiting Characteristics (3 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

EXHIBIT 6E – Modulation Techniques and Occupied Bandwidth (11 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

EXHIBIT 6F - Conducted Spurious Emissions (6 Graphs)
6F-1 – 48 Watts, 450.000 MHz
6F-2 – 48 Watts, 488.500 MHz
6F-3 – 48 Watts, 527.000 MHz
6F-4 – 1 Watts, 450.000 MHz
6F-5 – 1 Watts, 488.500 MHz
6F-6 – 1 Watts, 527.000 MHz

INDEX OF SUBMITTED MEASURED DATA (CONTINUED)

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 450.000 MHz

Measured RF Output Power:	48.0 Watts
Measured DC Voltage:	13.6 Volts
Measured DC Input Current:	8.83 Amperes
Measured DC Input Power:	120.0 Watts

LOW POWER SETTING, FREQUENCY 450.000 MHz

Measured RF Output Power:	1.0 Watts
Measured DC Voltage:	13.6 Volts
Measured DC Input Current:	3.21 Amperes
Measured DC Input Power:	43.7 Watts

HIGH POWER SETTING, FREQUENCY 481.000 MHz

Measured RF Output Power:	48.0 Watts
Measured DC Voltage:	13.6 Volts
Measured DC Input Current:	8.38 Amperes
Measured DC Input Power:	113.9 Watts

LOW POWER SETTING, FREQUENCY 481.000 MHz

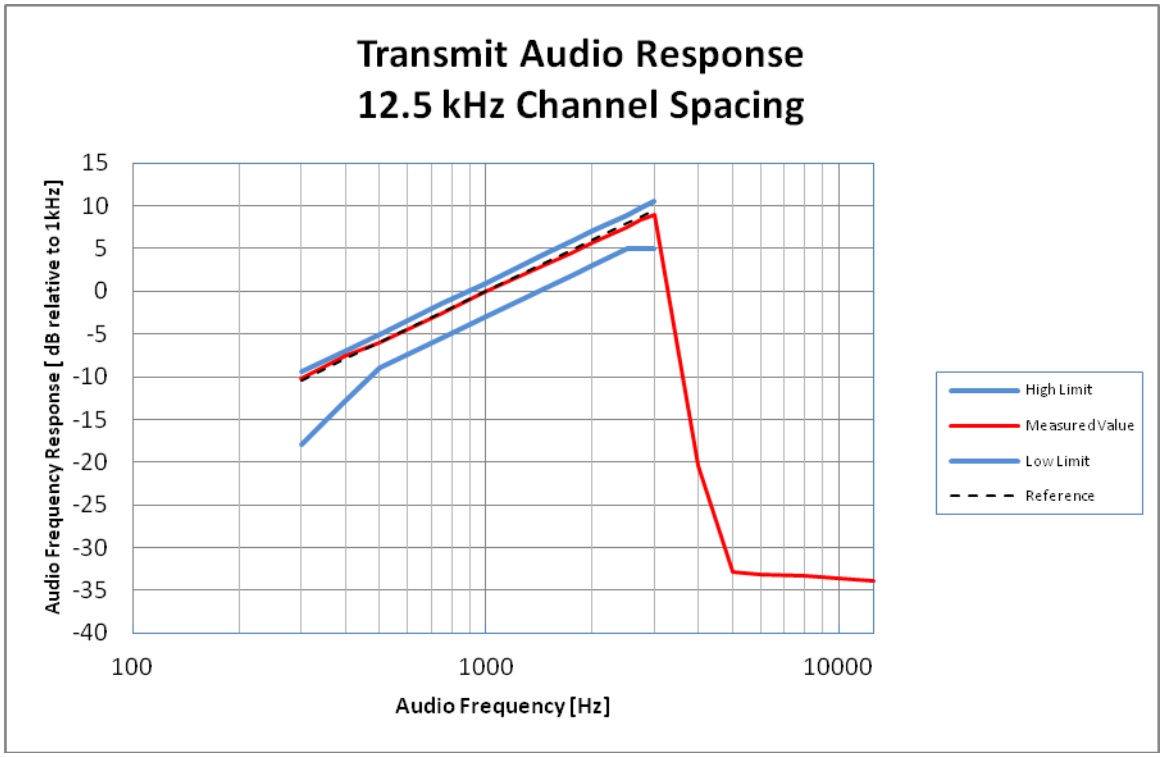
Measured RF Output Power:	1.0 Watts
Measured DC Voltage:	13.6 Volts
Measured DC Input Current:	3.18 Amperes
Measured DC Input Power:	43.2 Watts

HIGH POWER SETTING, FREQUENCY 512.000 MHz

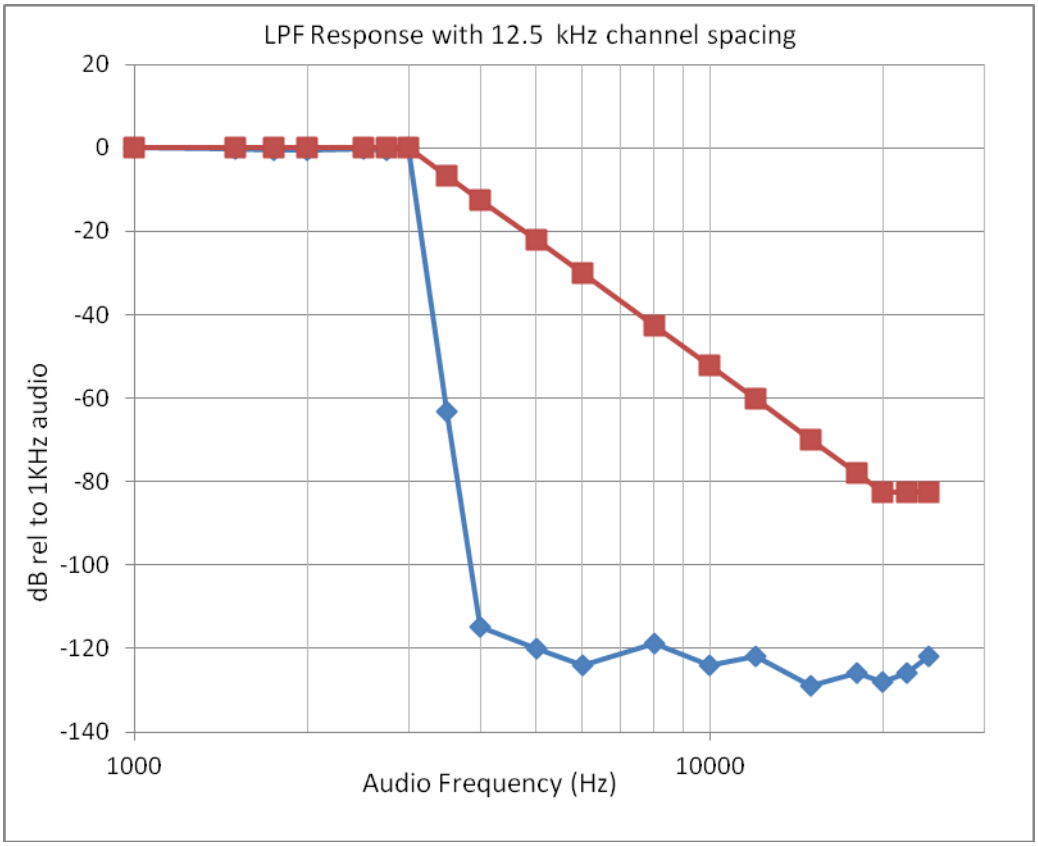
Measured RF Output Power:	48.0 Watts
Measured DC Voltage:	13.6 Volts
Measured DC Input Current:	8.66 Amperes
Measured DC Input Power:	117.8 Watts

LOW POWER SETTING, FREQUENCY 512.000 MHz

Measured RF Output Power:	1.0 Watts
Measured DC Voltage:	13.6 Volts
Measured DC Input Current:	3.16 Amperes
Measured DC Input Power:	43.0 Watts

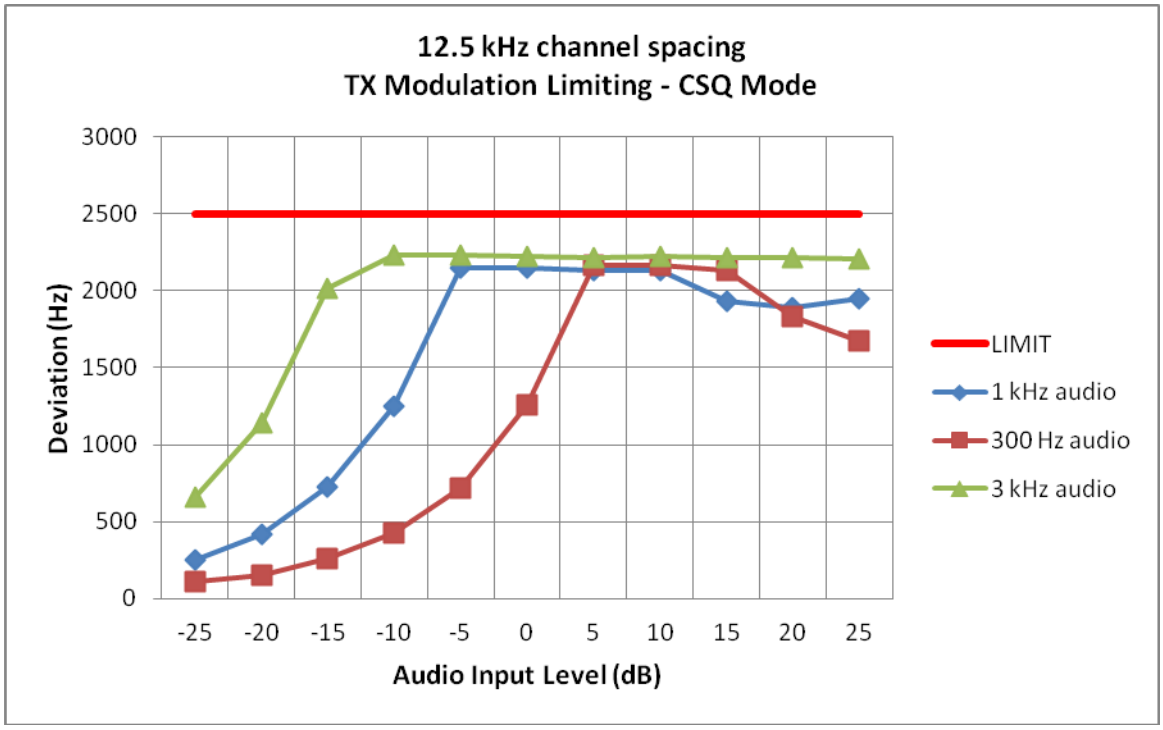

Transmit Audio Response
12.5 kHz Channel Spacing
Audio Frequency Response [dB relative to 1kHz]
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
100
1000
10000
Audio Frequency [Hz]
High Limit
Measured Value
Low Limit
Reference

POST-LIMITER LOWPASS FILTER RESPONSE
12.5 kHz Channel Spacing



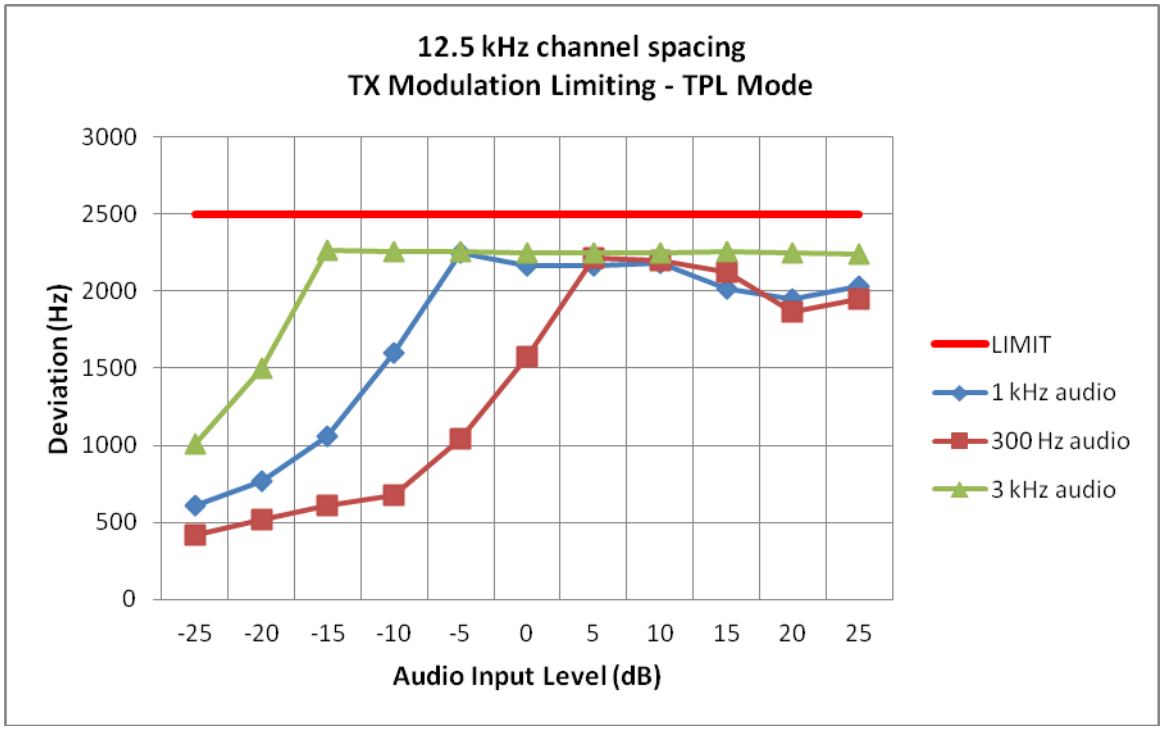
MODULATION LIMITING CHARACTERISTIC
12.5 kHz CARRIER SQUELCH MODE

PMUE4140A



MODULATION LIMITING CHARACTERISTIC
12.5 kHz TONE PL MODE

PMUE4140A



MODULATION LIMITING CHARACTERISTIC
12.5 kHz DPL MODE

PMUE4140A

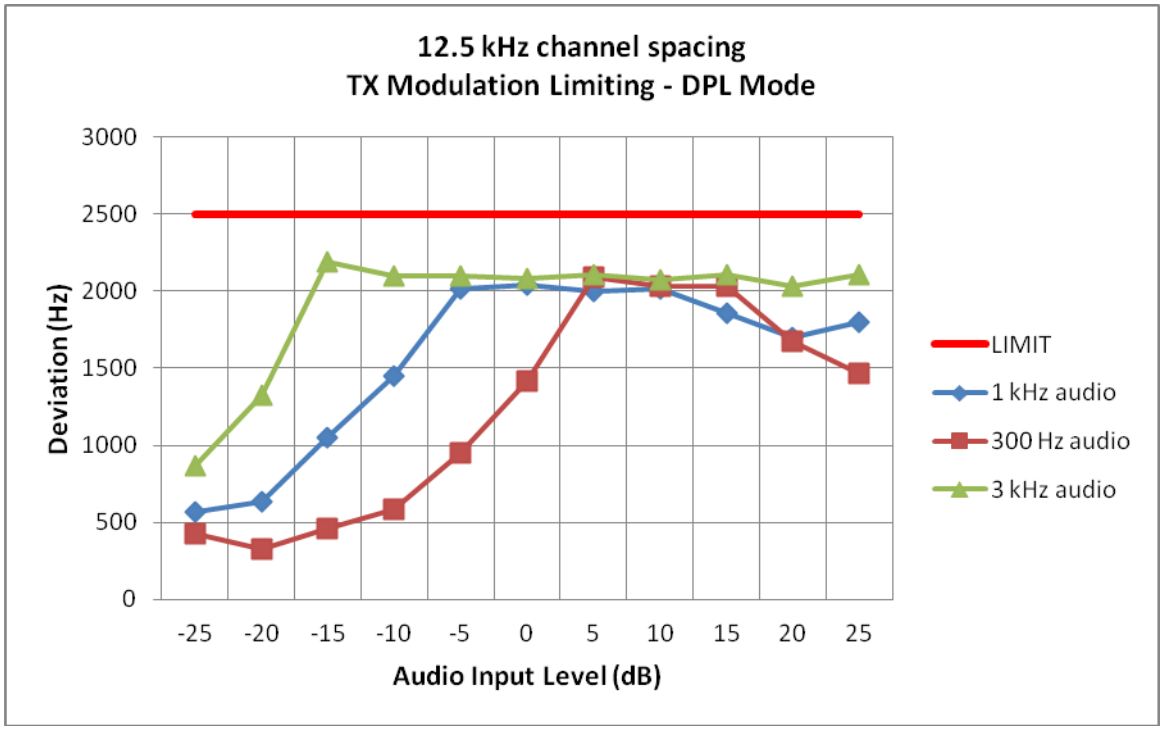


EXHIBIT 6E – MODULATION TECHNIQUES

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 kHz + 5.0 kHz) = 16 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 kHz + 2.5 kHz) = 11 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 in a 12.5 kHz channel, which is equivalent to 4800 bps per 6.25kHz. 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**

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

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**

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

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**

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

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).

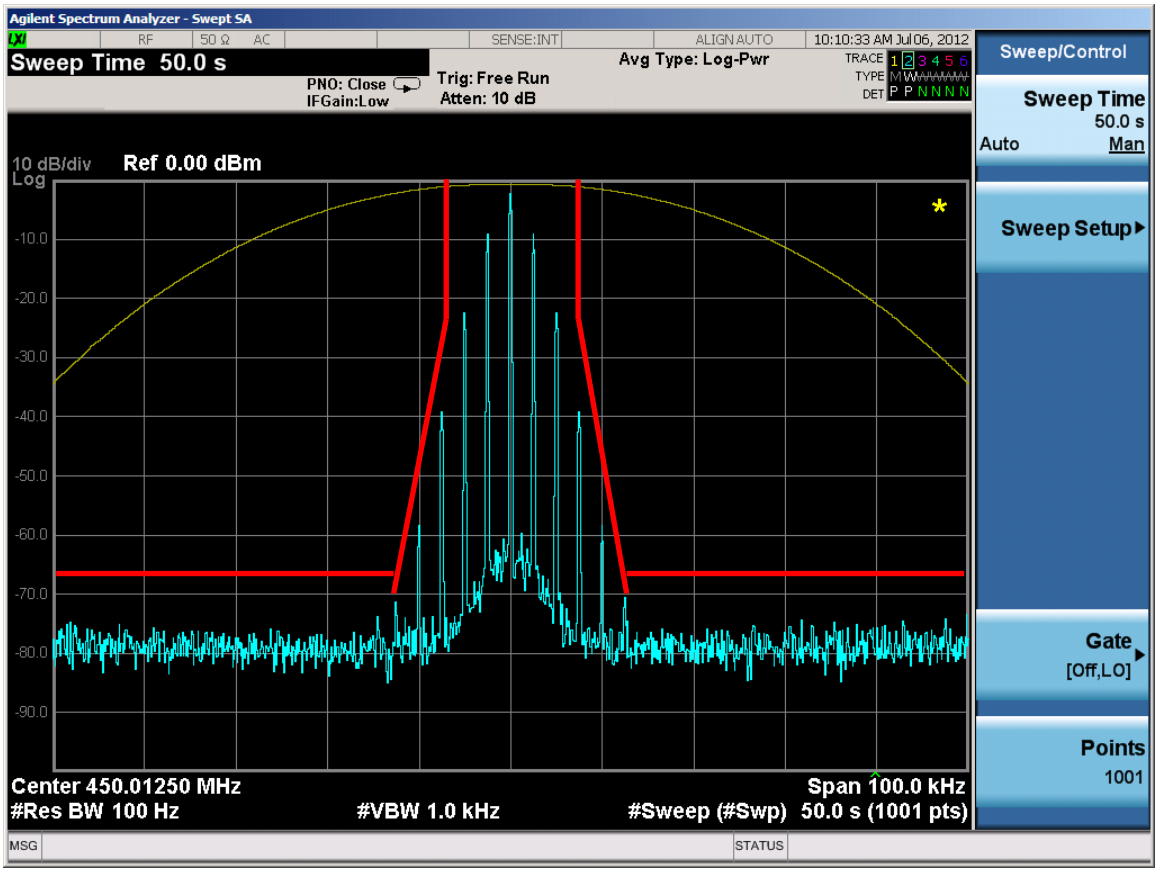
Per CFR Title 47, Part 2, Section 2.201:

Frequency Modulation …….... **F**
Case not otherwise covered ..…… **X**
Telephony (including sound broadcasting) ……..... **E**

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

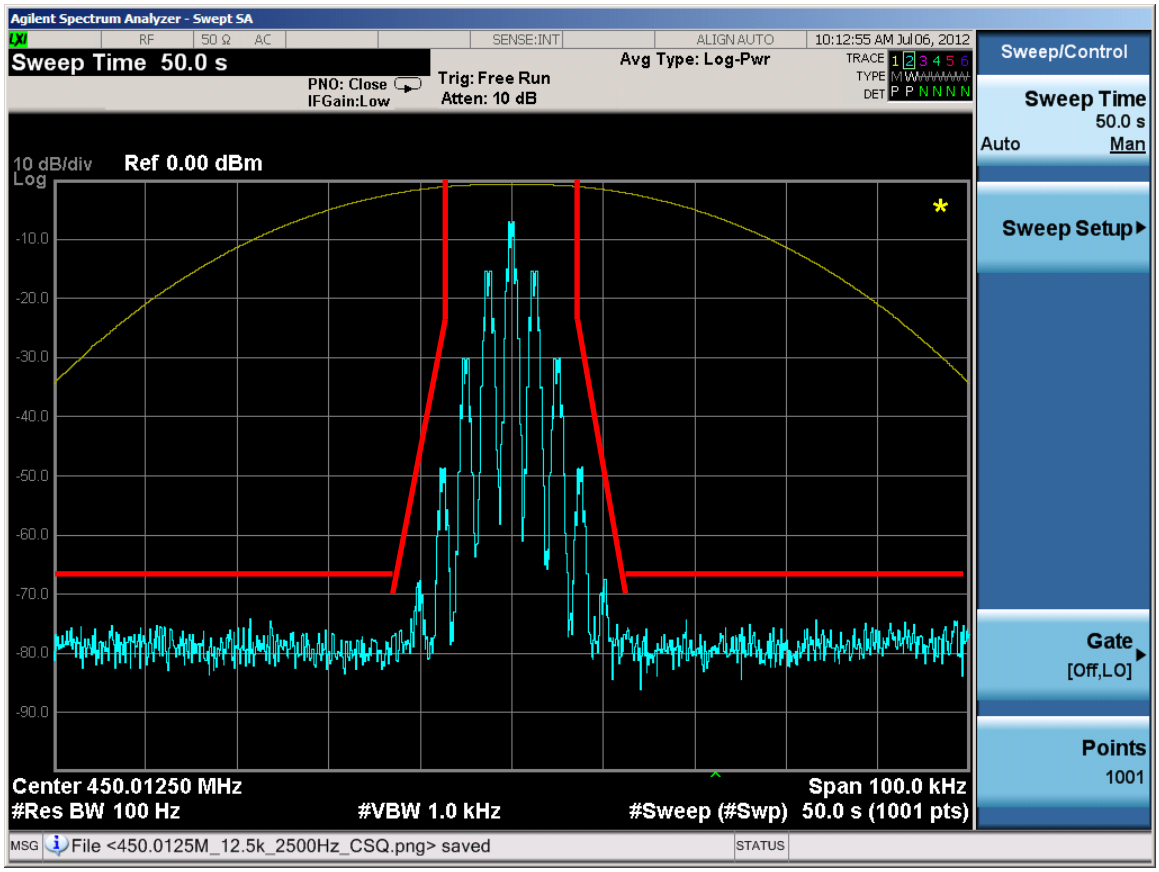
The complete emissions designator for this transmitter is **7K60FXE**.

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



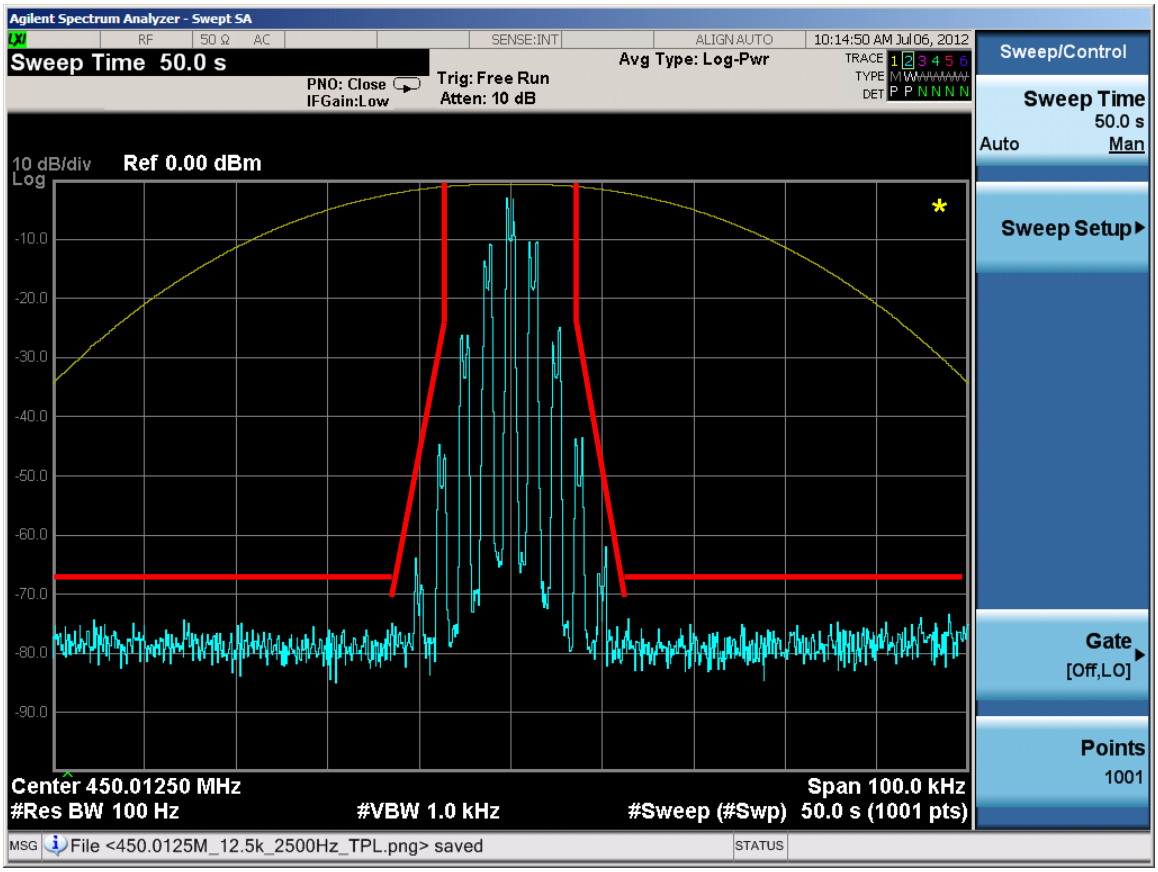
CENTER FREQUENCY:	450.0125 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

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



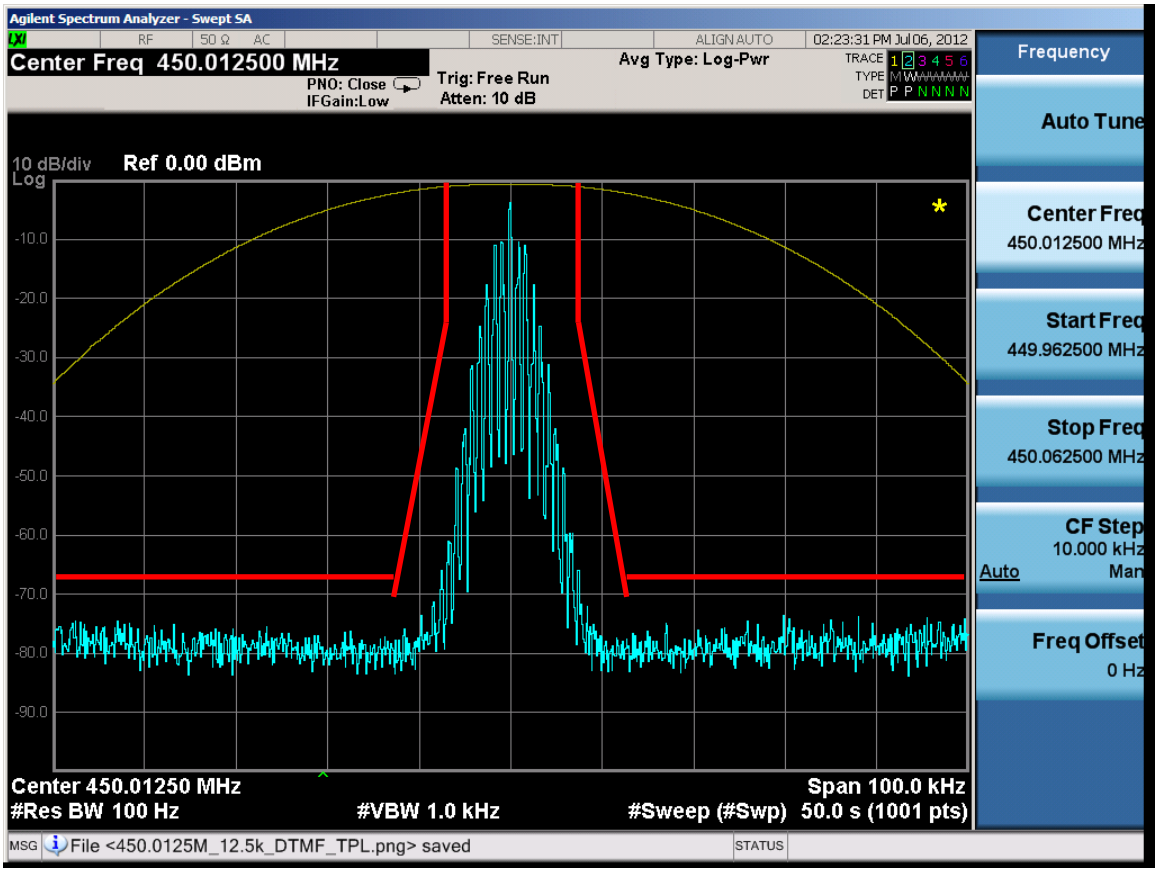
CENTER FREQUENCY:	450.0125 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

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



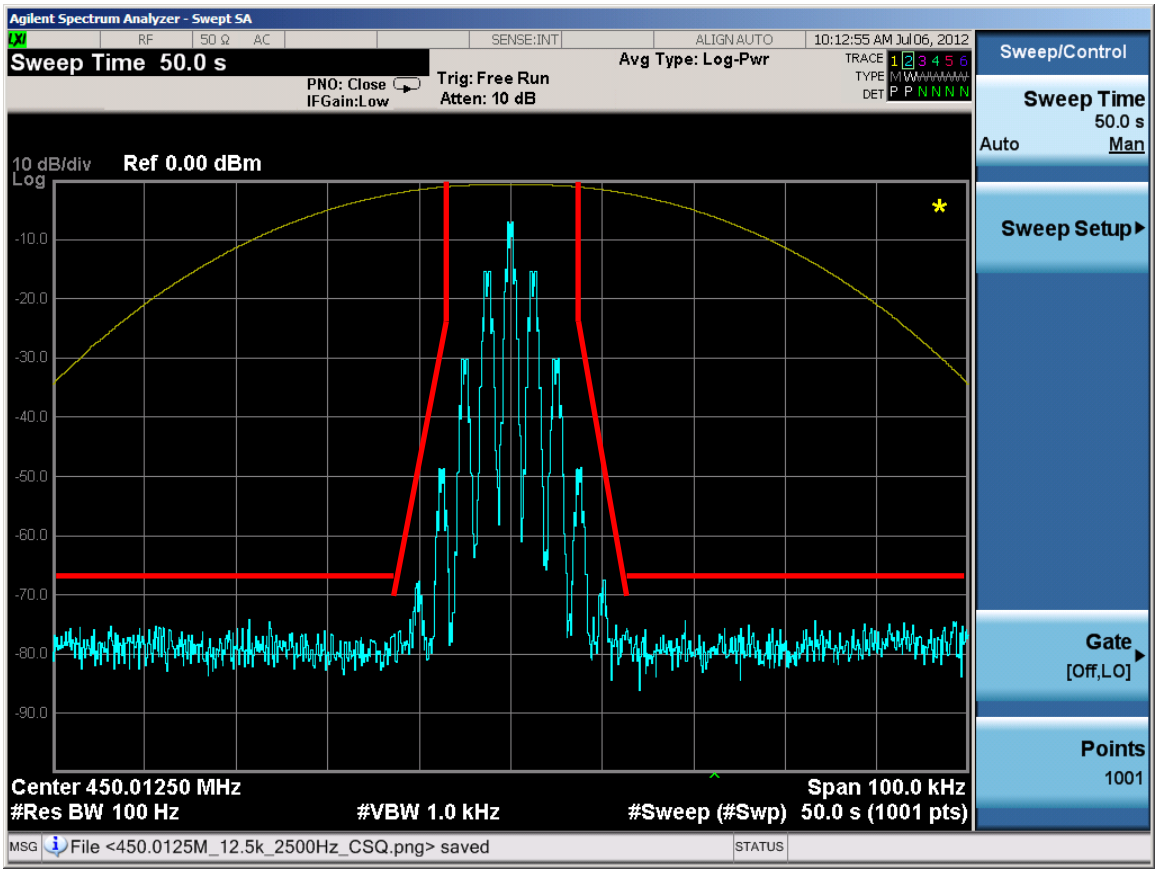
CENTER FREQUENCY:	450.0125 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

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



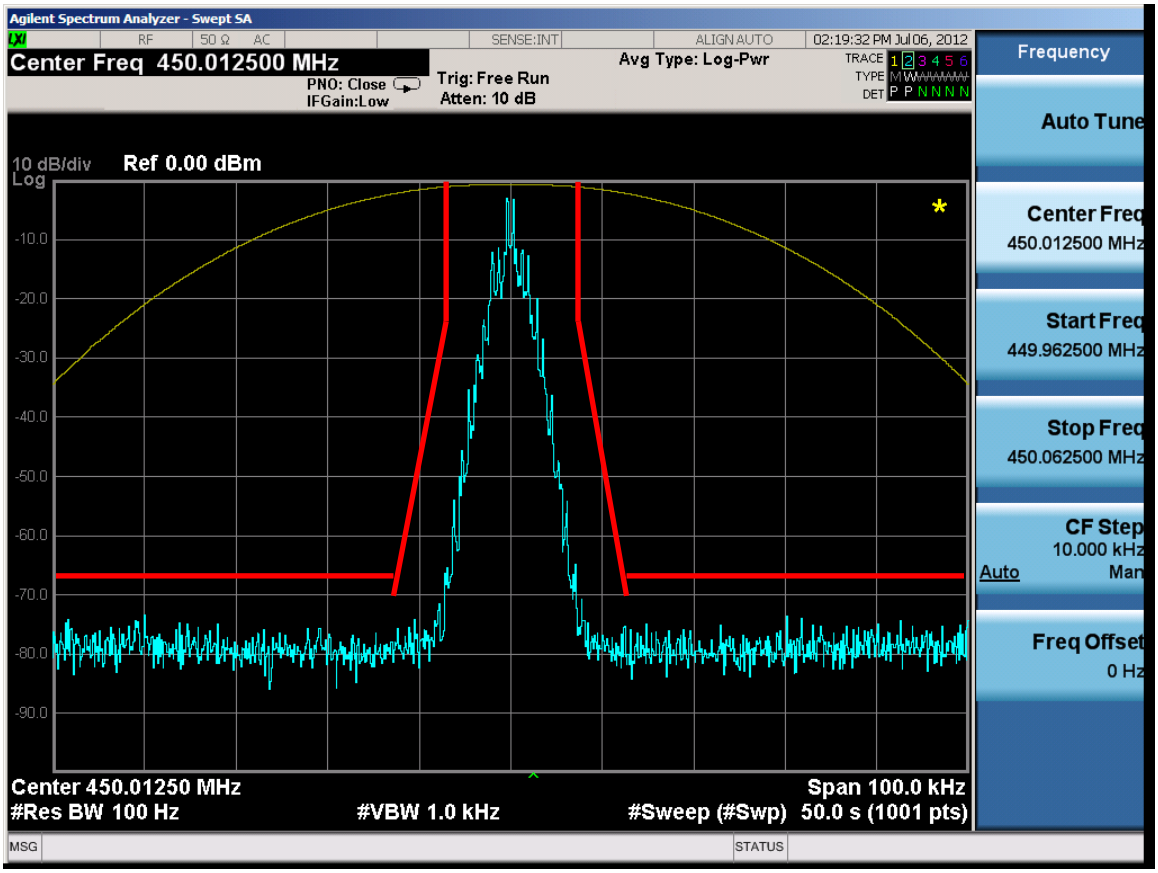
CENTER FREQUENCY:	450.0125 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

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



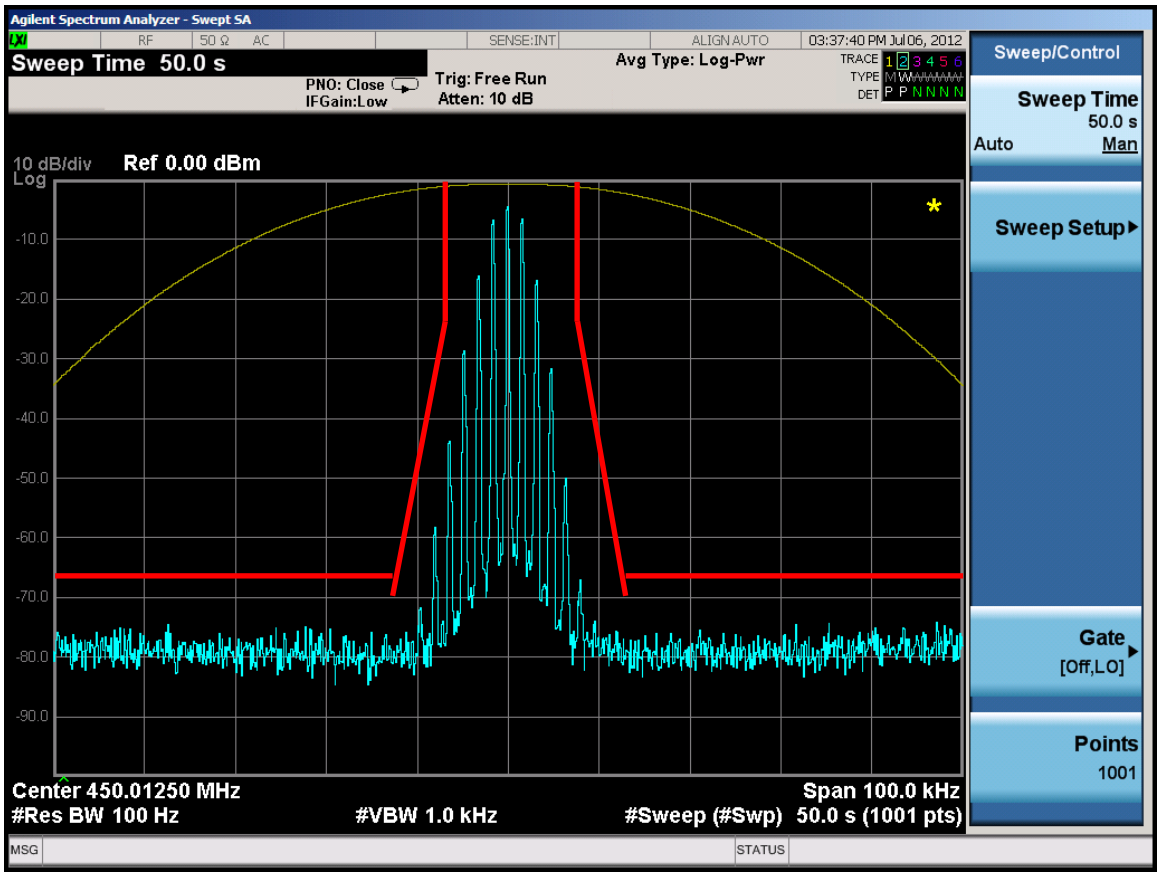
CENTER FREQUENCY:	450.0125 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

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



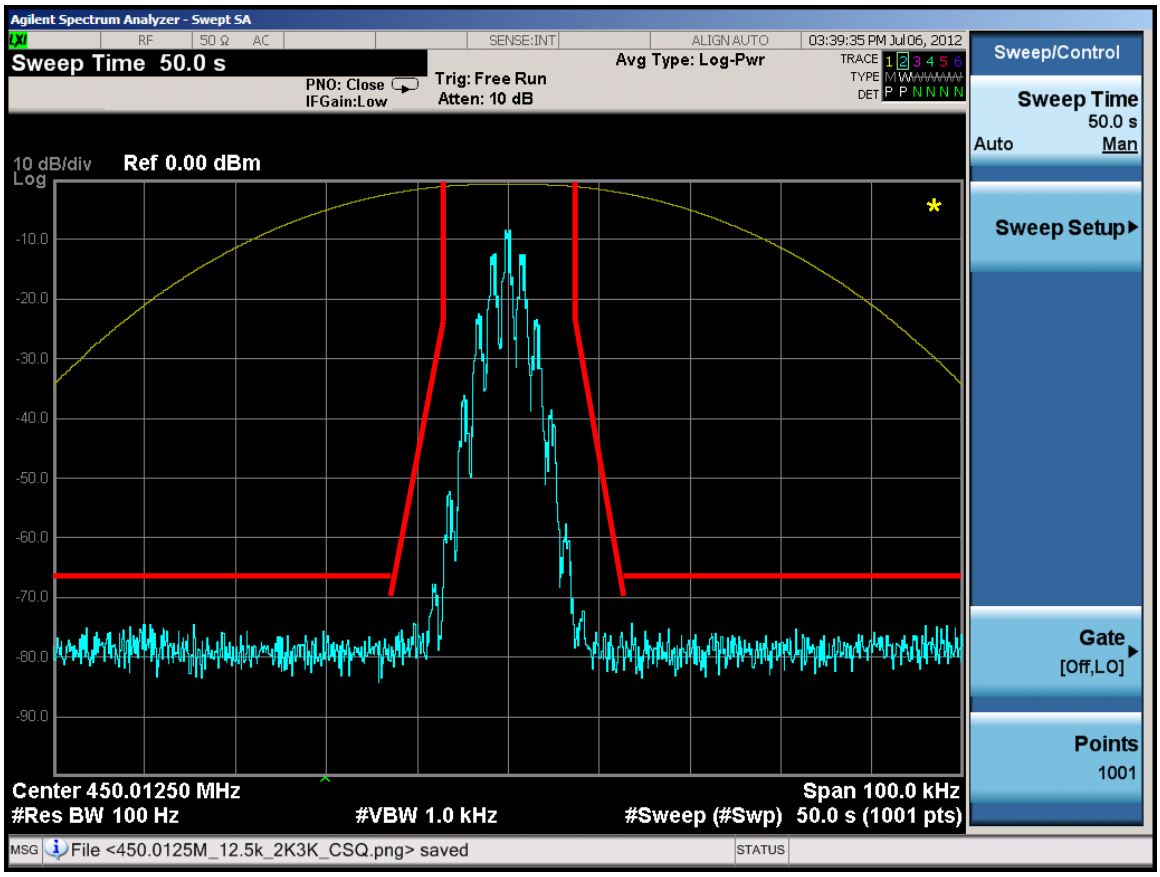
CENTER FREQUENCY:	450.0125 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

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



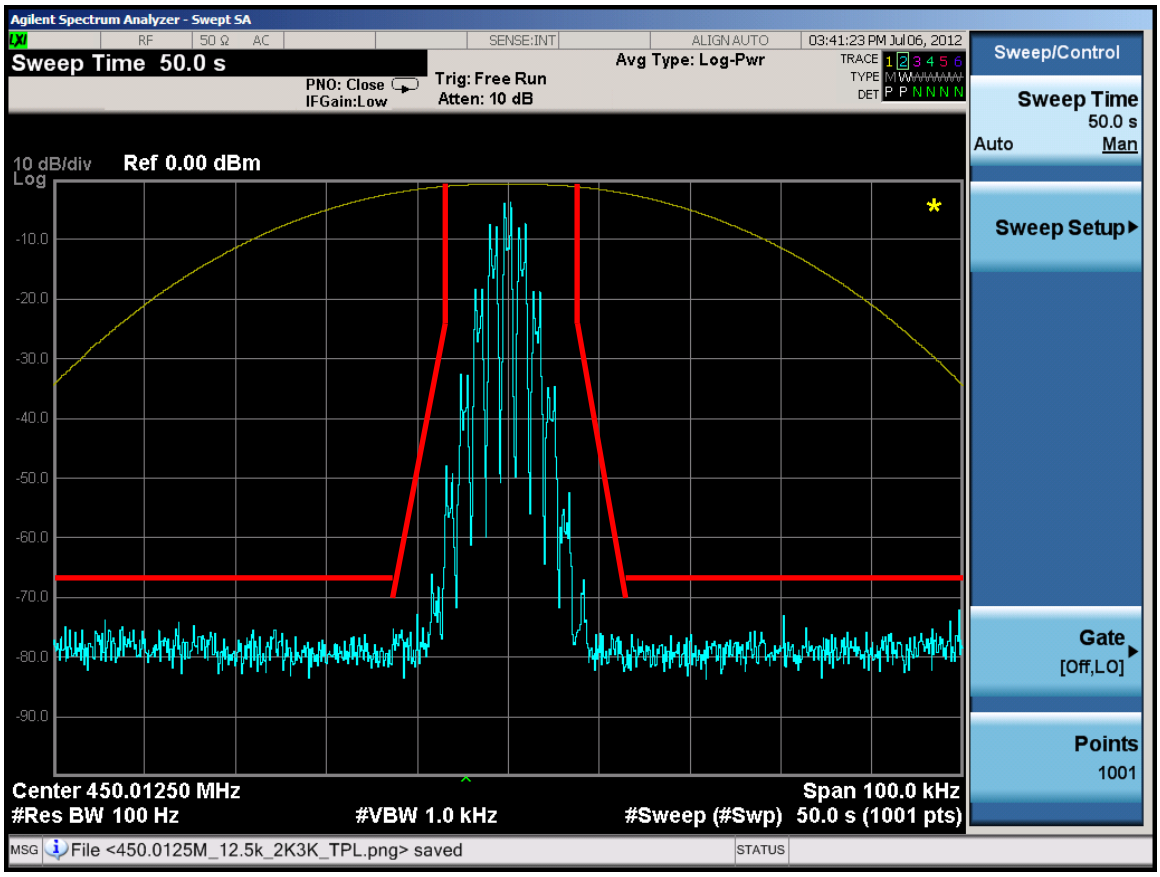
CENTER FREQUENCY:	450.0125 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

OCCUPIED BANDWIDTH MEASUREMENT FOR
12.5 kHz CHANNEL SPACING, 2000/3000 Hz FSK, TPL 250.3 Hz
EMISSION MASK: D



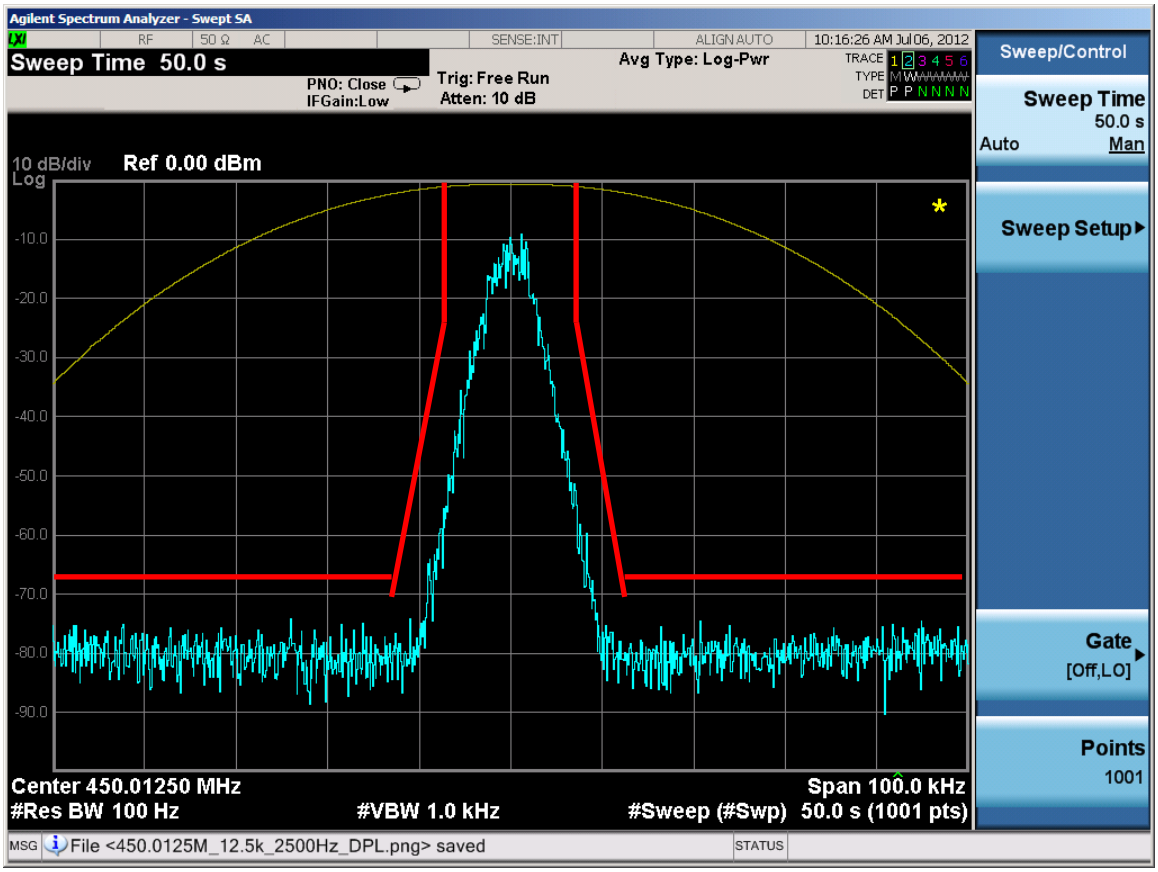
CENTER FREQUENCY:	450.0125 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

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



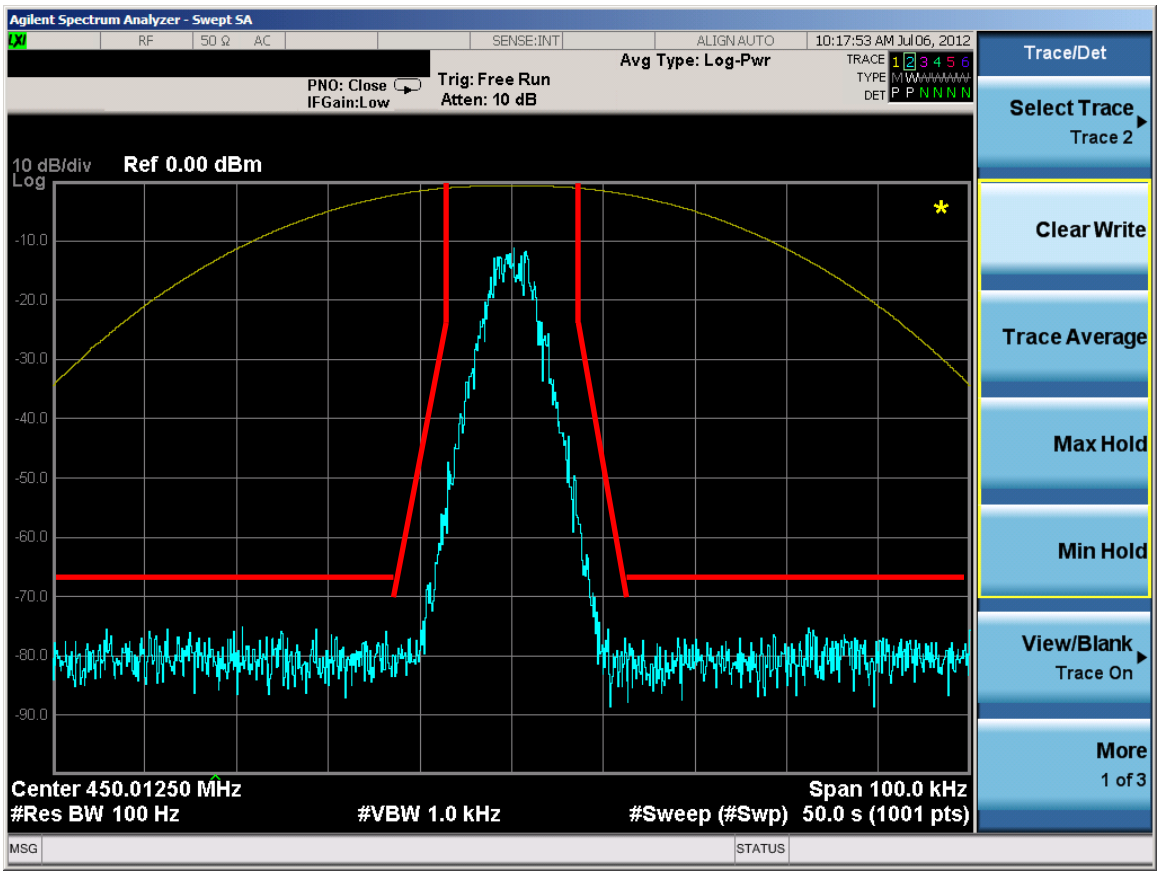
CENTER FREQUENCY:	450.0125 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

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



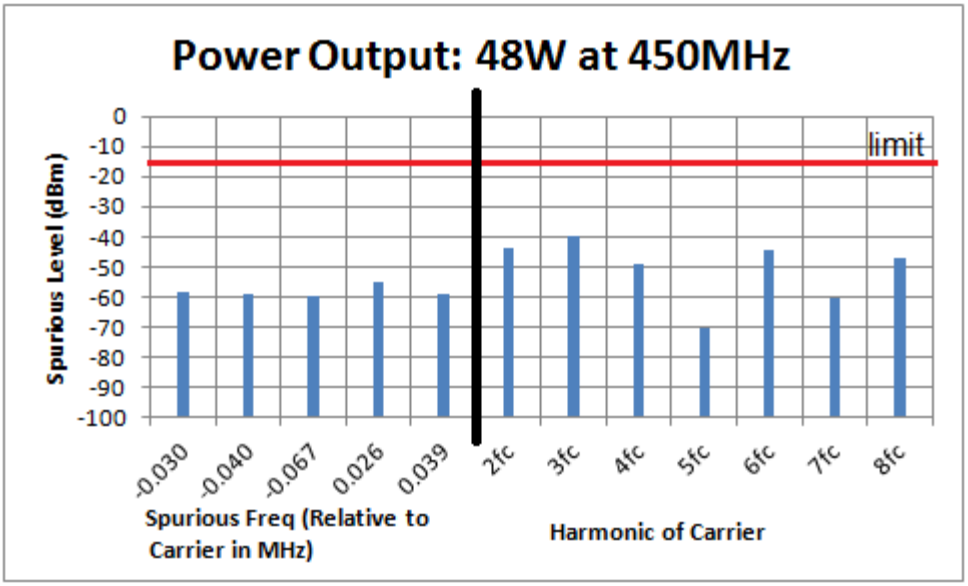
CENTER FREQUENCY:	450.0125 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

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



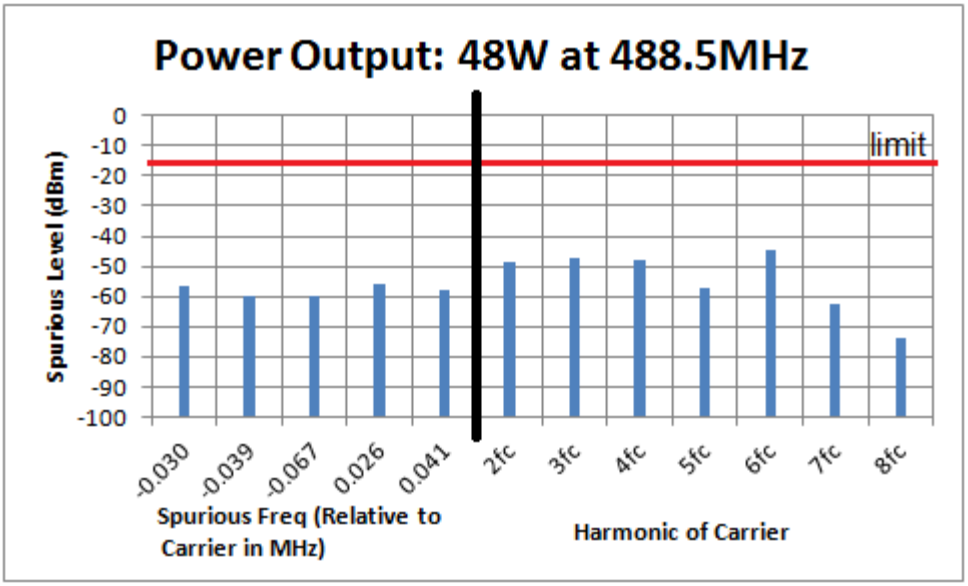
CENTER FREQUENCY:	450.0125 MHz
RESOLUTION BANDWIDTH:	100 Hz
VIDEO BANDWIDTH:	1 kHz
SPAN:	100 kHz
HORIZONTAL SCALE:	10 kHz/div
SWEEP TIME:	50 Sec.
VERTICAL SCALE:	10 dB/div
REFERENCE LEVEL:	0 dB (46.8 dBm)
ATTENUATION:	30 dB

CONDUCTED SPURIOUS EMISSIONS
HIGH POWER, 450.000 MHz



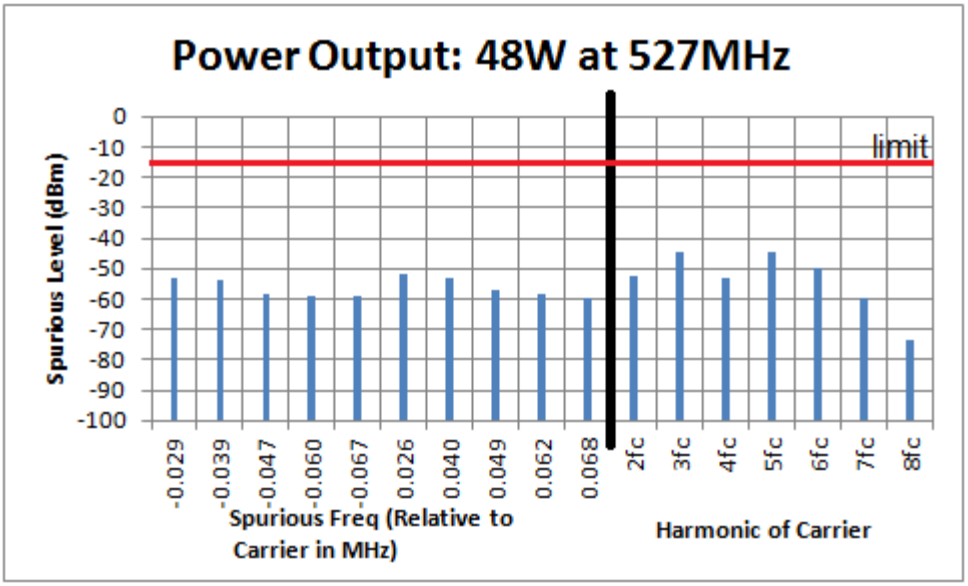
The conducted spurious level is plotted in dBm on the vertical axis.
The specification for conducted spurious emissions is -16 dBm.

CONDUCTED SPURIOUS EMISSIONS
HIGH POWER, 488.500 MHz



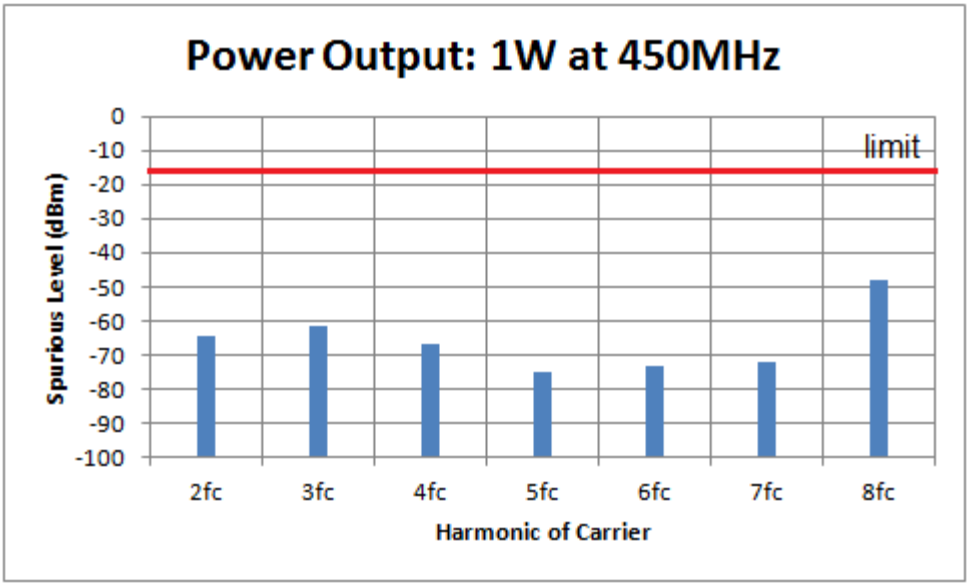
The conducted spurious level is plotted in dBm on the vertical axis.
The specification for conducted spurious emissions is -16 dBm.

CONDUCTED SPURIOUS EMISSIONS
HIGH POWER, 527.000 MHz



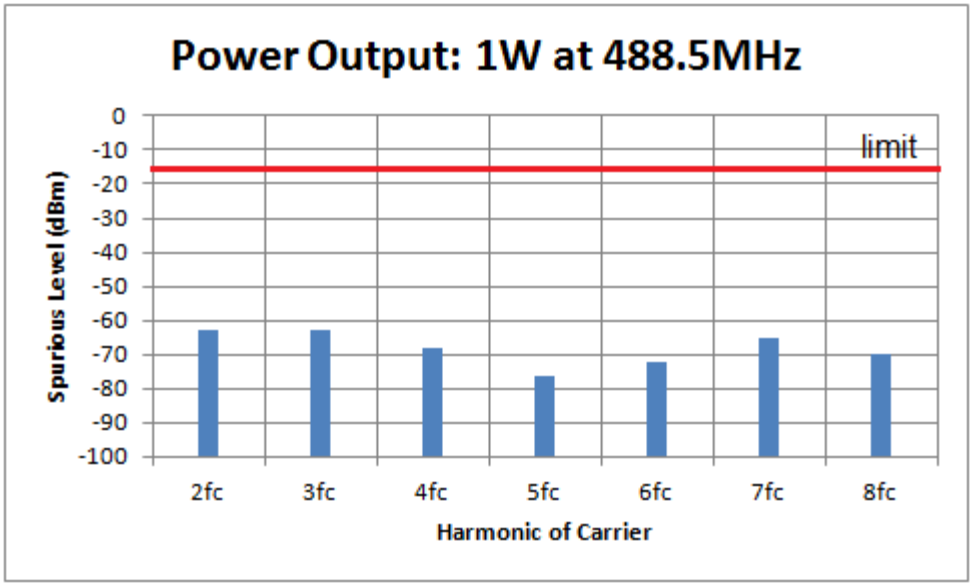
The conducted spurious level is plotted in dBm on the vertical axis.
The specification for conducted spurious emissions is -16 dBm.

CONDUCTED SPURIOUS EMISSIONS
LOW POWER, 450.000 MHz



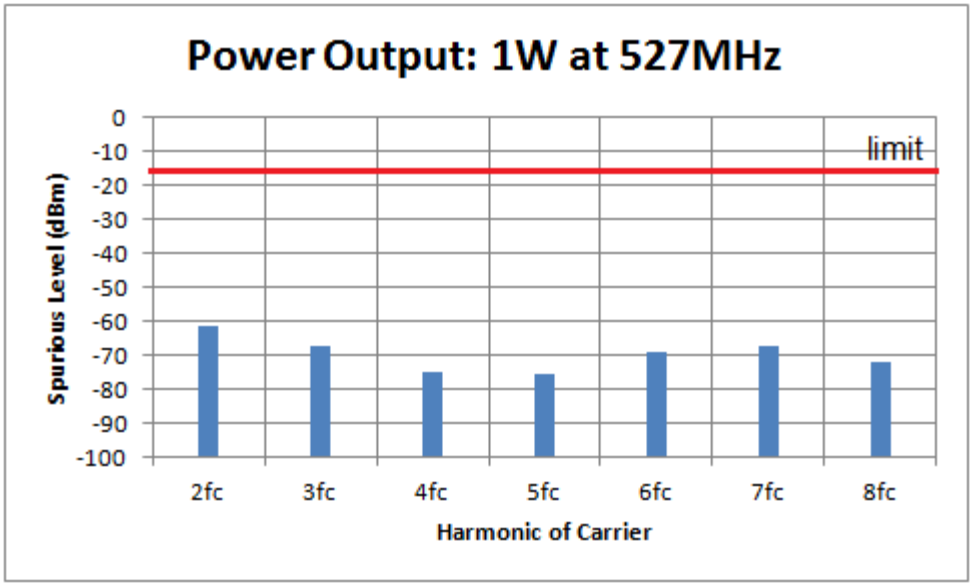
No spurs above -60dBm observed within -1MHz to +1MHz.
The conducted spurious level is plotted in dBm on the vertical axis.
The specification for conducted spurious emissions is -16 dBm.

CONDUCTED SPURIOUS EMISSIONS
LOW POWER, 488.500 MHz



No spurs above -60dBm observed within -1MHz to +1MHz.
The conducted spurious level is plotted in dBm on the vertical axis.
The specification for conducted spurious emissions is -16 dBm.

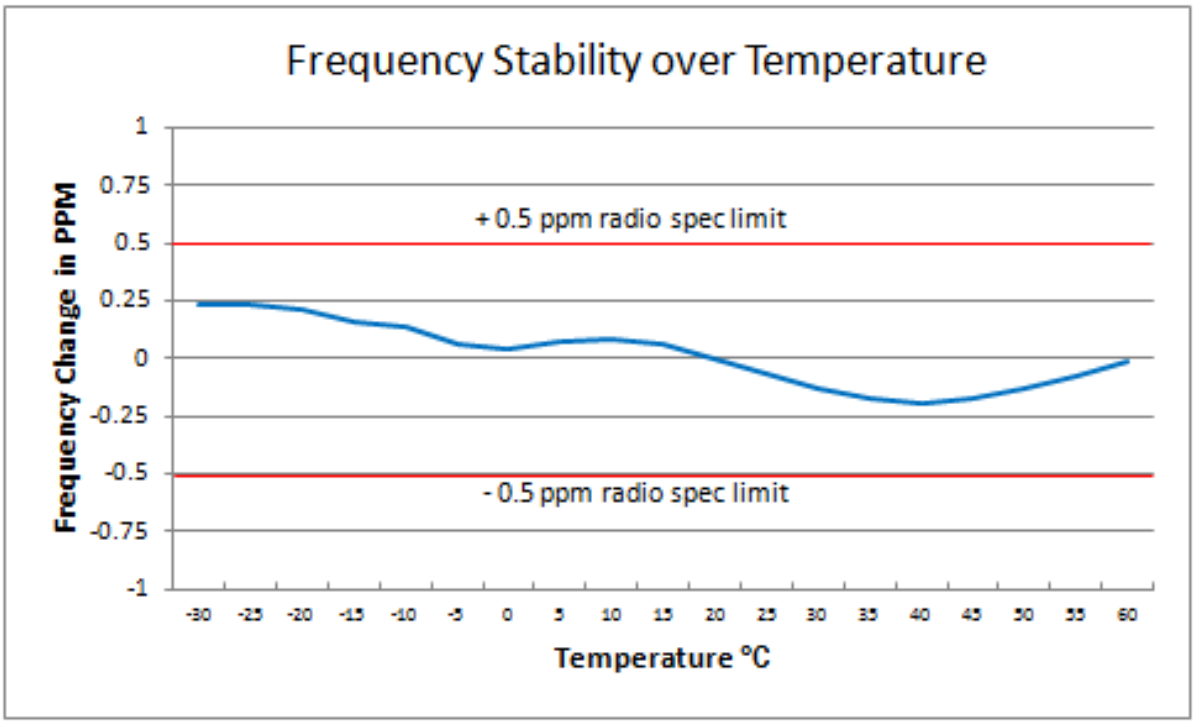
CONDUCTED SPURIOUS EMISSIONS
LOW POWER, 527.000 MHz



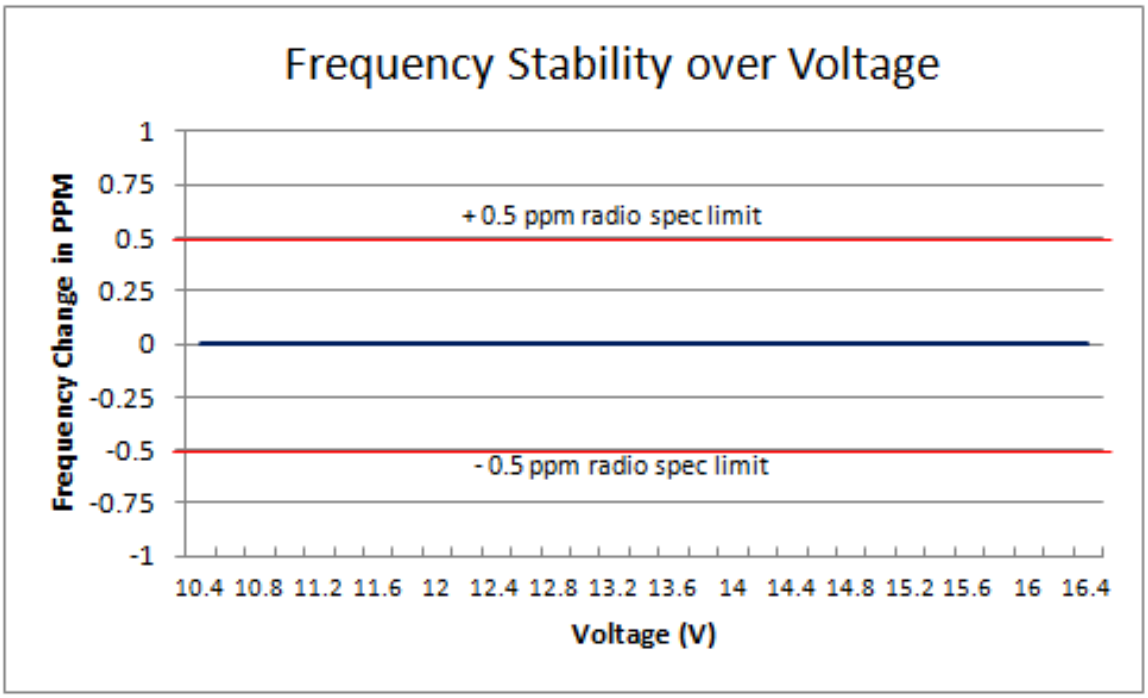
No spurs above -60dBm observed within -1MHz to +1MHz.
The conducted spurious level is plotted in dBm on the vertical axis.
The specification for conducted spurious emissions is -16 dBm.

Exhibit 6G Radiated Spurious Emissions **– See exhibit_06G_Test_Report_ACS.pdf**

FREQUENCY STABILITY VS. TEMPERATURE
SPECIFIED LIMITS: ±0.5 PPM (-30 TO +60 DEGREES C)

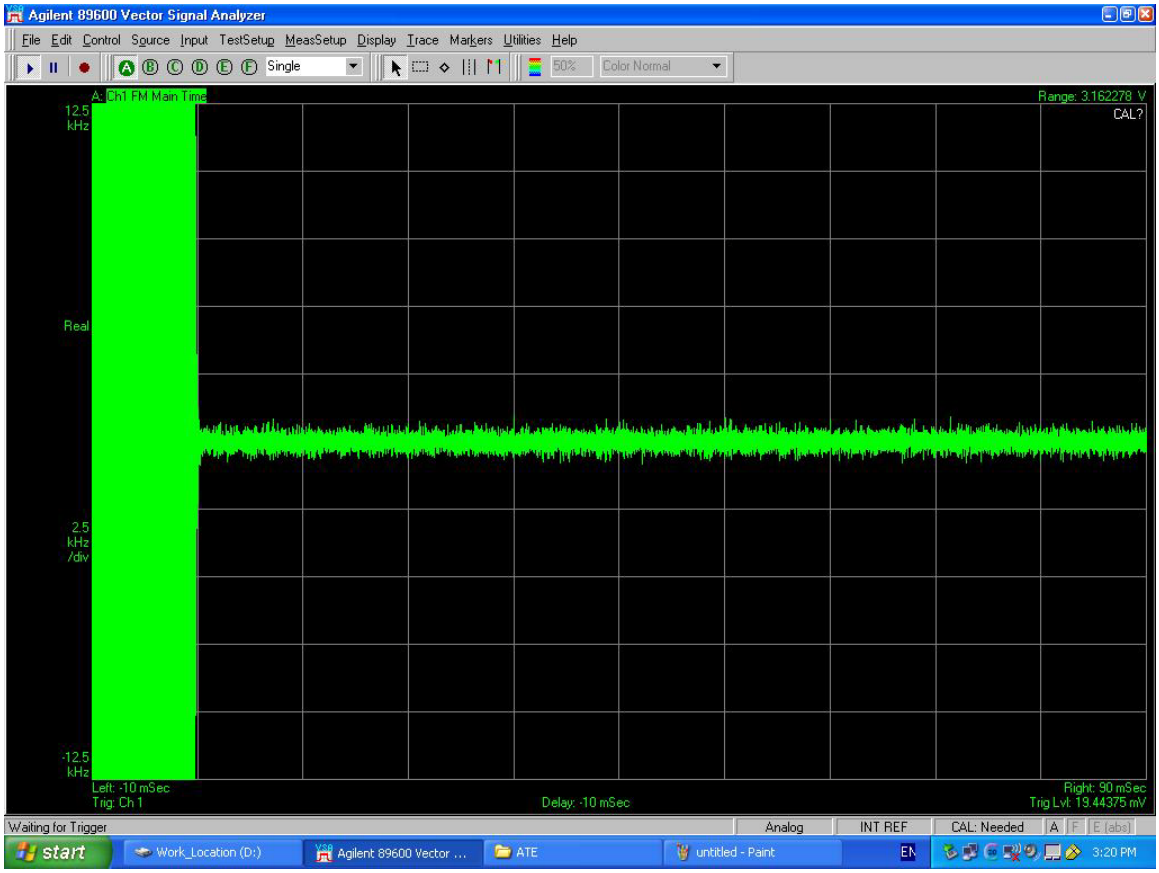


FREQUENCY STABILITY VS. SUPPLY VOLTAGE



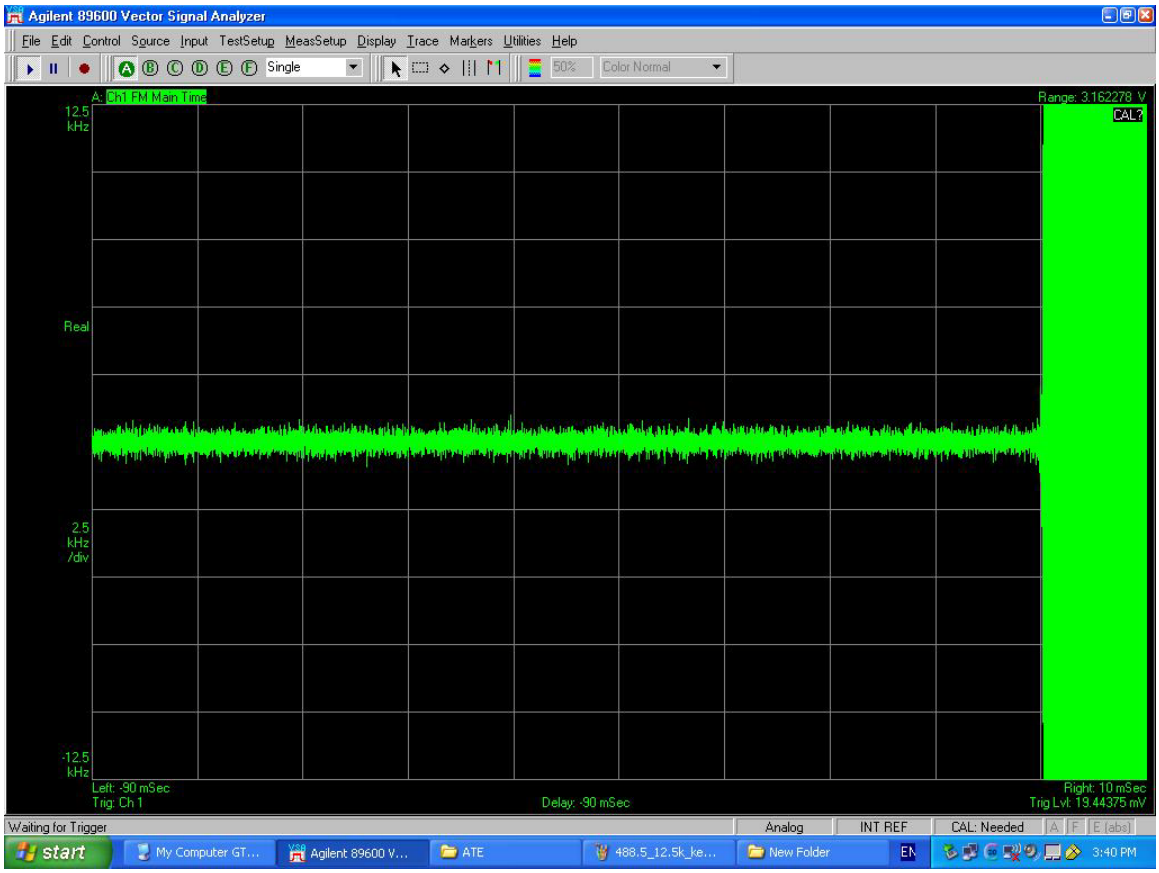
Transient Frequency Behavior

48 Watts,12.5kHz,Key-Up Attack Time



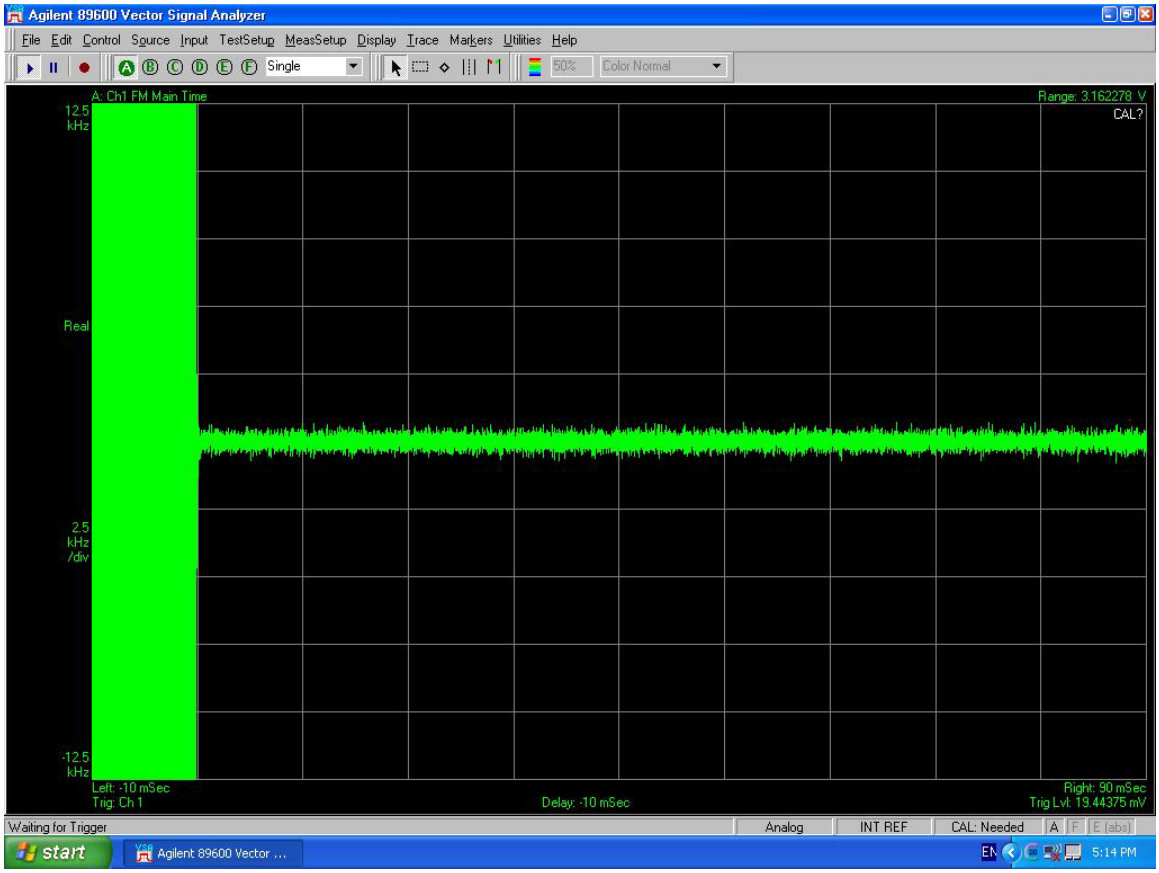
Transient Frequency Behavior

48 Watts,12.5kHz,De-Key Decay Time



Transient Frequency Behavior

1 Watts,12.5kHz,Key-Up Attack Time



Transient Frequency Behavior

1 Watts,12.5kHz,De-Key Decay Time