

LABORATORY TEST REPORT

RADIO PERFORMANCE MEASUREMENTS

for the

TMBH5B Mobile Transceiver

Tested in accordance with:

FCC 47 CFR Parts 22, 74 and 90

RSS-119 Issue 11
RSS-Gen Issue 3

Report Revision:

1

Issue Date:

13-November-2013

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M. C. James

Laboratory Technical Manager



OATS FCC LISTING REGISTRATION: 837095
OATS IC LISTING REGISTRATION: SITE# 737A-1

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation.

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REVISION

Date	Revision	Comments
13-November-2013	1	Initial test report

INTRODUCTION

REASON FOR REPORT					
This report demonstrates that the TMBH5B mobile transceiver complies with FCC 47 Parts 22, 74 & 90, and RSS-119 Issue 11 & RSS-Gen Issue 3. This radio supports analog, digital FFSK, P25 phase-1, P25 phase-2, and Digital Mobile Radio modulations:					
Modulation		Channel Spacing	Speech Channels	Symbol Rate (symbols/sec)	Data Rate (bps)
Analogue FM		12.5 kHz 25.0 kHz	1	-	-
FFSK	Fast Frequency Shift Keying	12.5 kHz 25.0 kHz	-	1200	1200
		12.5 kHz 25.0 kHz	-	2400	2400
Digital Mobile Radio (DMR)	4 Level FSK (2 slot TDMA) (ETSI TS102 361-1)	12.5 kHz	2	4800	9600
APCO P25 Phase 1	C4FM (TIA 102)	12.5 kHz	1	4800	9600
APCO P25 Phase 2	H-CPM (2 slot TDMA) (TIA 102)	12.5 kHz	2	6000	12000

in accordance with:

FCC 47 CFR Parts 22, 74 and 90
RSS-119 Issue 11 & RSS-Gen Issue 3

REPORT PREPARED FOR

Tait Communications
PO Box 1645
558 Wairakei Road
Christchurch
New Zealand

DESCRIPTION OF SAMPLE

Manufacturer: Tait Limited
Equipment: Mobile Transceiver
Type: TMBH5B
Product Code: T02-00012-WBAA
Serial Number(s): 20150426
Frequency Range: 400 – 470 MHz
Quantity: 1

HARDWARE & SOFTWARE

Analog & DMR

Type	Code and Version
Hardware ID	TMBB14-H500_0006
Boot Code	QMB1B_S00_3.00.03.0001
DSP	QMB1A_E00_1.02.00.0021
Radio Application	QMB1F_E00_1.02.00.0021
FPGA Image	QMB1G_S00_1.02.00.0010

P25 Phase I

Type	Code and Version
Hardware ID	TMBB14-H500_0006
Boot Code	QMB1B_S00_3.00.03.0001
DSP	QMB1A_A00_1.03.02.0043
Radio Application	QMB1F_A00_1.03.02.0043
FPGA Image	QMB1G_S00_1.02.00.0010

P25 Phase II

Type	Code and Version
Hardware ID	TMBB14-H500_0006
Boot Code	QMB1B_S00_3.00.03.0001
DSP	QMB1A_A00_1.03.02.0043
Radio Application	QMB1F_A00_1.03.02.0043
FPGA Image	QMB1G_S00_1.00.02.0001_P2.a

TEST CONDITIONS

All testing was performed between 25 October → 12 November 2013, and under the following conditions:

Ambient temperature: 15°C → 30°C
Relative Humidity: 20% → 75%
Standard Test Voltage 13.8 V_{DC}

STATEMENT OF COMPLIANCE

We, TELTEST LABORATORIES of 558 Wairakei Road, Christchurch, New Zealand, declare under our sole responsibility that the product:

Equipment: Mobile Transceiver
Type: TMBH5B
Product Code: T02-00012-WBAA
Serial Number(s): 20150426
Quantity: 1

to which this declaration relates, is in conformity with the following standards:

FCC 47 CFR Parts 22, 74 and 90

RSS-119 Issue 11 & RSS-Gen Issue 3

Signature: _____

M. C. James
Laboratory Technical Manager

Date: _____

Emission Designators – Continued

Fast Frequency Shift Keying (FFSK – 2400 bps) 12.5 kHz Bandwidth

Necessary bandwidth

$$M = 2.4 \text{ kHz}$$

D = 1.5 kHz (60% of peak deviation)

$$B_n = (2 \times 2.4) + (2 \times 1.5) \times 1 \\ = 7.8 \text{ kHz}$$

Emission Designator

7K80F2D

F2D represents a FM data transmission with the use of a modulating sub carrier

Fast Frequency Shift Keying (FFSK – 2400 bps) 25.0 kHz Bandwidth

Necessary bandwidth

$$M = 2.4 \text{ kHz}$$

D = 3.0 kHz (60% of peak deviation)

$$B_n = (2 \times 2.4) + (2 \times 3.0) \times 1 \\ = 10.8 \text{ kHz}$$

Emission Designator

10K80F2D

F2D represents a FM data transmission with the use of a modulating sub carrier

Digital Voice / Data C4FM 4800 bps

Digital Voice/data transmissions use a 4 level frequency shift keying modulation scheme.

The necessary bandwidth has been measured using the 99% energy rule, and in accordance with TIA/EIA 102 CAAB 2.2.5.2

Digital Voice 12.5 kHz Bandwidth P25 phase 1

99% bandwidth

$$= 8.1 \text{ kHz}$$

Emission Designator

8K10F1E

F1E represents a digital FM voice transmission

8K10F7E

F7E represents two or more channels containing quantized or digital voice information

Digital Voice 12.5 kHz Bandwidth P25 phase 2

99% bandwidth

$$= 8.1 \text{ kHz}$$

Emission Designator

8K10F1W

F1W represents a single FM telephony channel

Digital Voice 12.5 kHz Bandwidth DMR

99% bandwidth

$$= 7.6 \text{ kHz}$$

Emission Designator

7K60FXW

FXW represents a FM Time Division Multiple Access (TDMA) combination of data and telephony

Digital Data 12.5 kHz Bandwidth P25 phase 1

99% bandwidth

$$= 8.1 \text{ kHz}$$

Emission Designator

8K10F1D

F1D represents an digital FM data transmission

8K10F7D

F7D represents two or more channels containing quantized or digital information

Digital Data 12.5 kHz Bandwidth P25 phase 2

99% bandwidth

$$= 8.1 \text{ kHz}$$

Emission Designator

8K10F1W

F1W represents digital FM data transmission

Digital Data 12.5 kHz Bandwidth DMR

99% bandwidth

$$= 7.6 \text{ kHz}$$

Emission Designator

7K60FXD

FXD represents FM Time Division Multiple Access (TDMA) data only

TEST RESULTS

TRANSMITTER OUTPUT POWER (CONDUCTED)

SPECIFICATION: FCC 47 CFR 2.1046
RSS-119 5.4

GUIDE: TIA/EIA-603D 2.2.1

MEASUREMENT PROCEDURE:

1. Refer Annex A for Equipment set up.
2. The coaxial attenuator has an impedance of 50 Ohms.
3. The unmodulated output power was measured with an RF Power meter.

MEASUREMENT RESULTS:

Manufacturer's Rated Output Power:

Switchable: 40 W and 10 W

Nominal 40 W	406.2 MHz	418.1 MHz	429.9 MHz	450.1 MHz	459.9 MHz	469.9 MHz
Measured	38.7	36.9	38.4	36.6	37.6	38.6
Variation (%)	-3.4	-7.7	-4.1	-8.5	-6.1	-3.5
Variation (dB)	-0.1	-0.3	-0.2	-0.4	-0.3	-0.2
Nominal 10 W	406.2 MHz	418.1 MHz	429.9 MHz	450.1 MHz	459.9 MHz	469.9 MHz
Measured	9.4	9.5	9.2	9.3	9.5	8.9
Variation (%)	-5.6	-5.1	-8.2	-7.1	-4.9	-10.8
Variation (dB)	-0.2	-0.2	-0.4	-0.3	-0.2	-0.5
Measurement Uncertainty	± 0.6 dB					

LIMIT CLAUSES:

FCC 47 CFR 90.205 (s)

The output power shall not exceed by more than 20%... the manufacturer's rated output power for the particular transmitter specifically listed on the authorization.

RSS-119 5.4

The output power shall be within ±1.0 dB of the manufacturer's rated power.

TRANSMITTER AUDIO FREQUENCY RESPONSE - PRE-EMPHASIS

SPECIFICATION: FCC 47 CFR 2.1047 (a)

GUIDE: TIA/EIA-603D 2.2.6

MEASUREMENT PROCEDURE:

1. Refer Annex A for Equipment set up.
2. An audio input tone of 1000 Hz was applied with the level set to obtain 20% of maximum deviation. This was used as the 0 dB reference point.
3. The AF was varied while the audio level was held constant.
4. The response in dB relative to 1000 Hz was measured.

MEASUREMENT RESULTS:

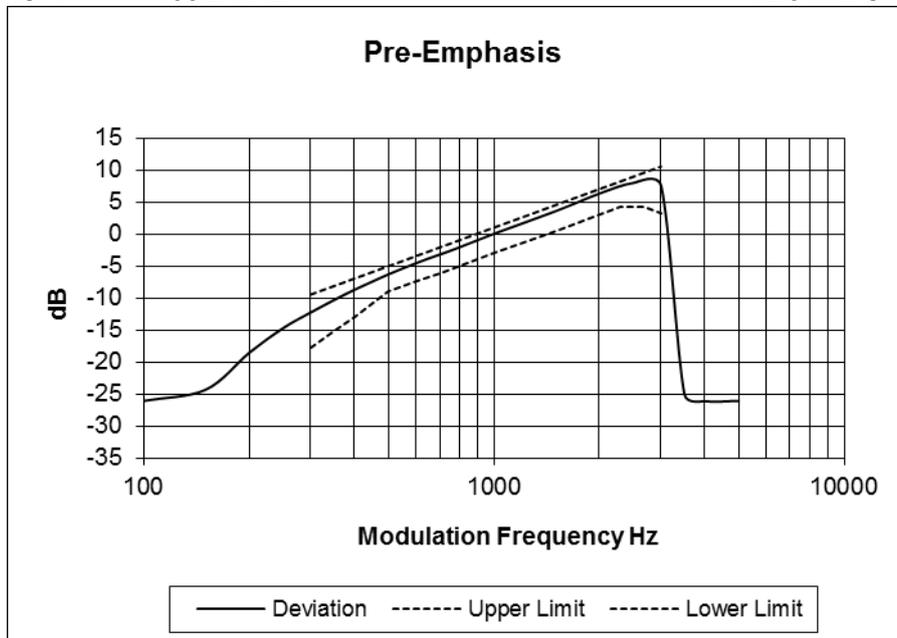
See the plots on the following pages for 12.5 kHz & 25.0 kHz channel spacings, tested at 40 W transmit power.

LIMIT CLAUSE: TIA/EIA-603D 3.2.6

SPECIFICATION: FCC CFR 2.1047 (a)

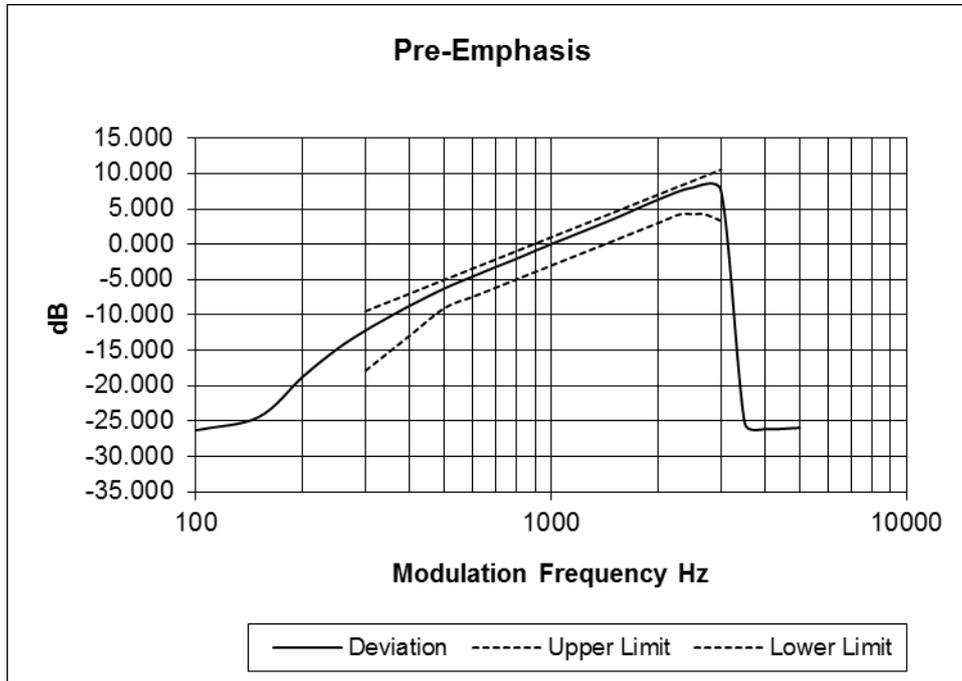
Tx FREQUENCY: 406.2 MHz

12.5 kHz Channel Spacing

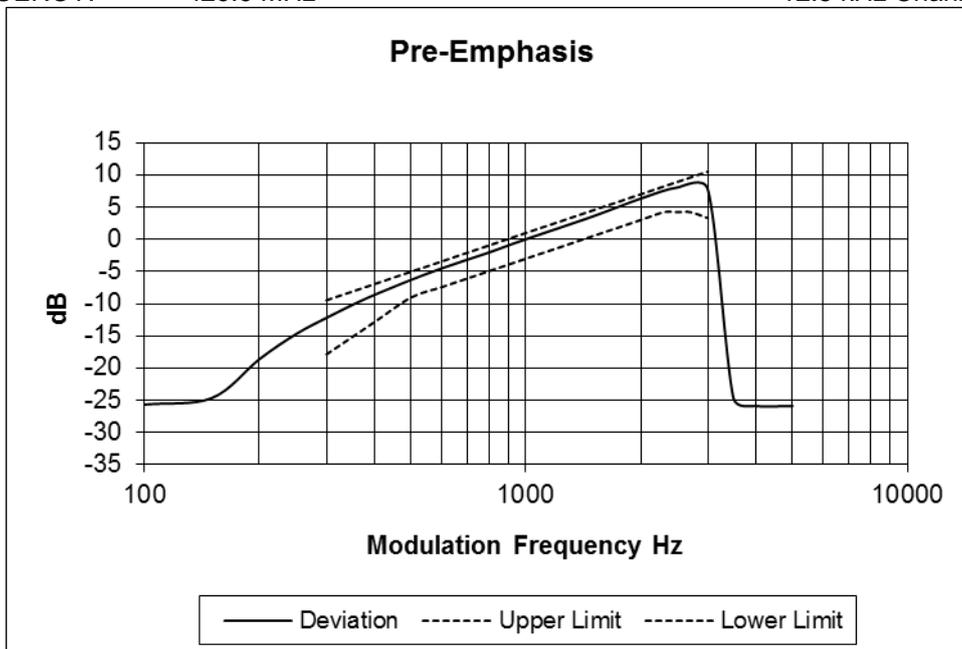


Transmitter Audio Frequency Response – Pre-emphasis

Tx FREQUENCY: 418.1 MHz 12.5 kHz Channel Spacing



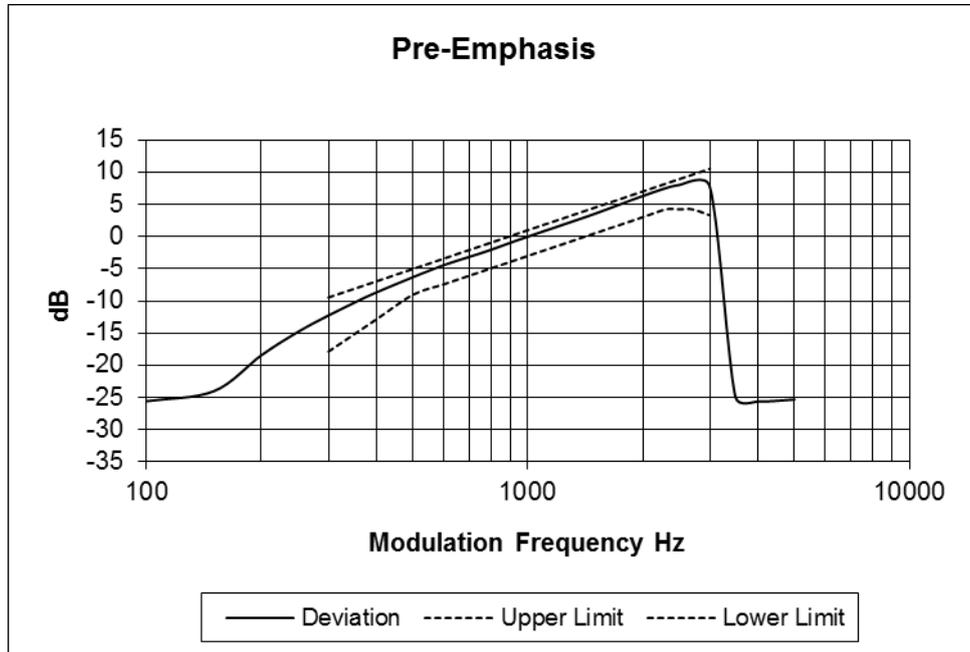
Tx FREQUENCY: 429.9 MHz 12.5 kHz Channel Spacing



Transmitter Audio Frequency Response – Pre-emphasis

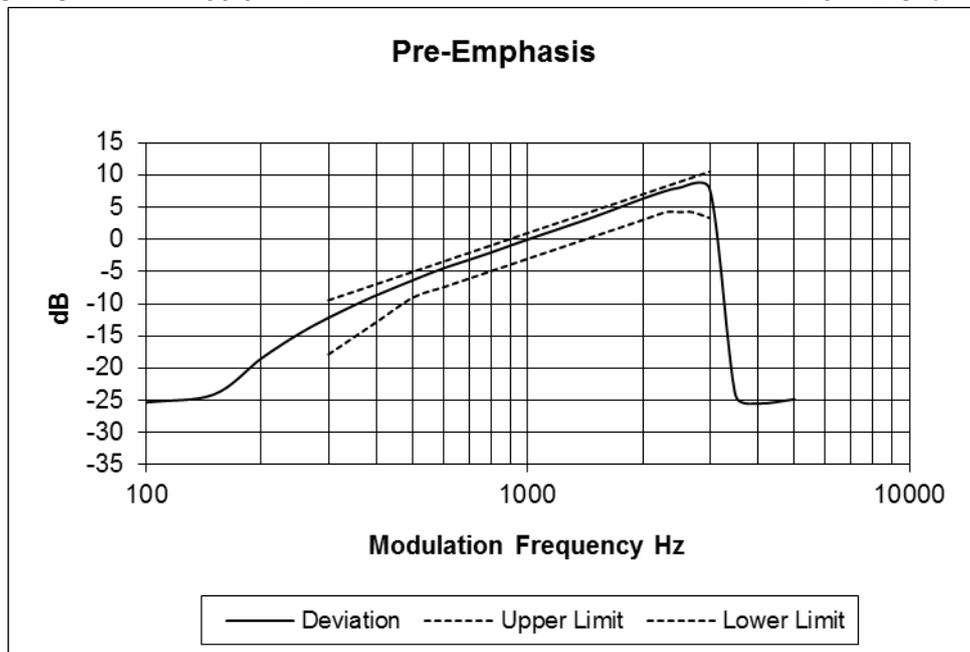
Tx FREQUENCY: 450.1 MHz

12.5 kHz Channel Spacing



Tx FREQUENCY: 459.9 MHz

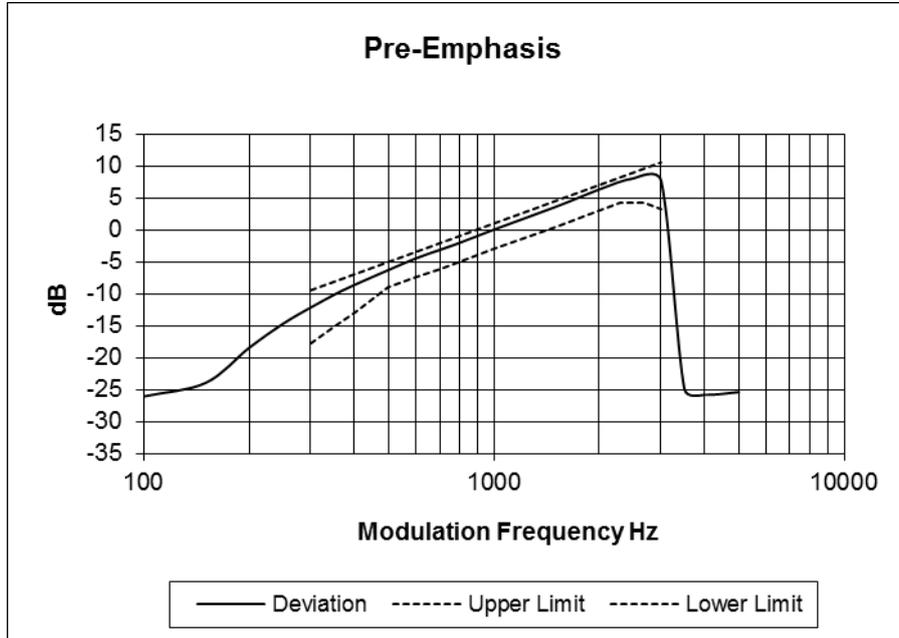
12.5 kHz Channel Spacing



Transmitter Audio Frequency Response – Pre-emphasis

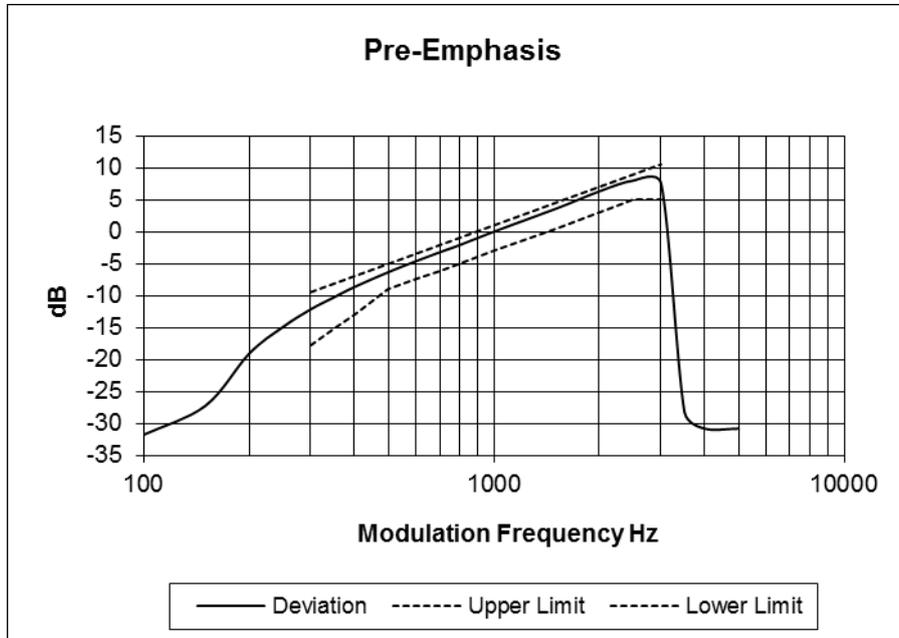
Tx FREQUENCY: 469.9 MHz

12.5 kHz Channel Spacing



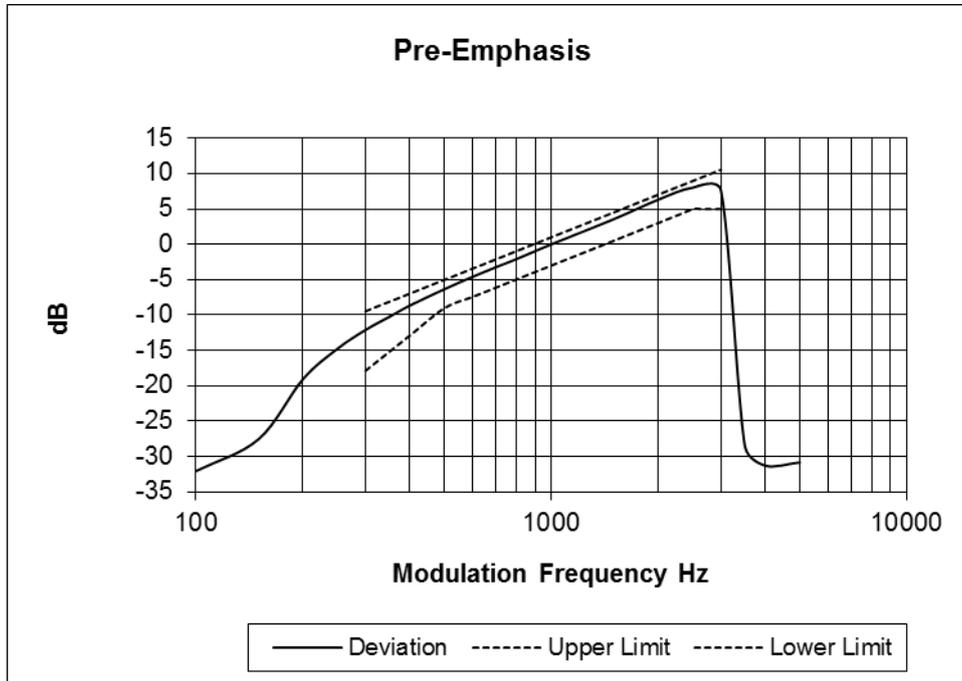
Tx FREQUENCY: 406.2 MHz

25.0 kHz Channel Spacing

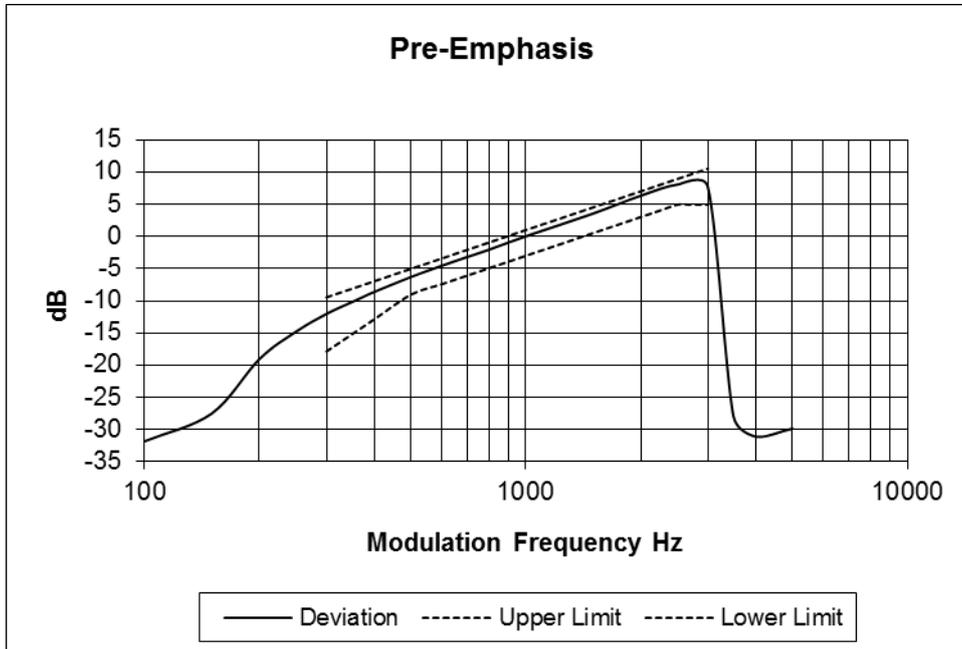


Transmitter Audio Frequency Response – Pre-emphasis

Tx FREQUENCY: 418.1 MHz 25.0 kHz Channel Spacing

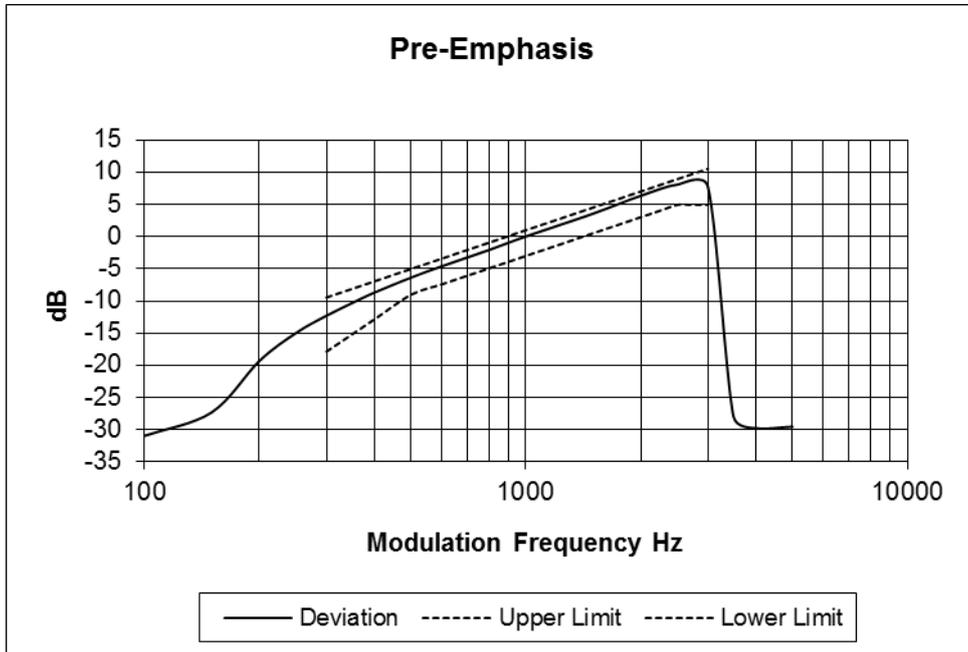


Tx FREQUENCY: 429.9 MHz 25.0 kHz Channel Spacing

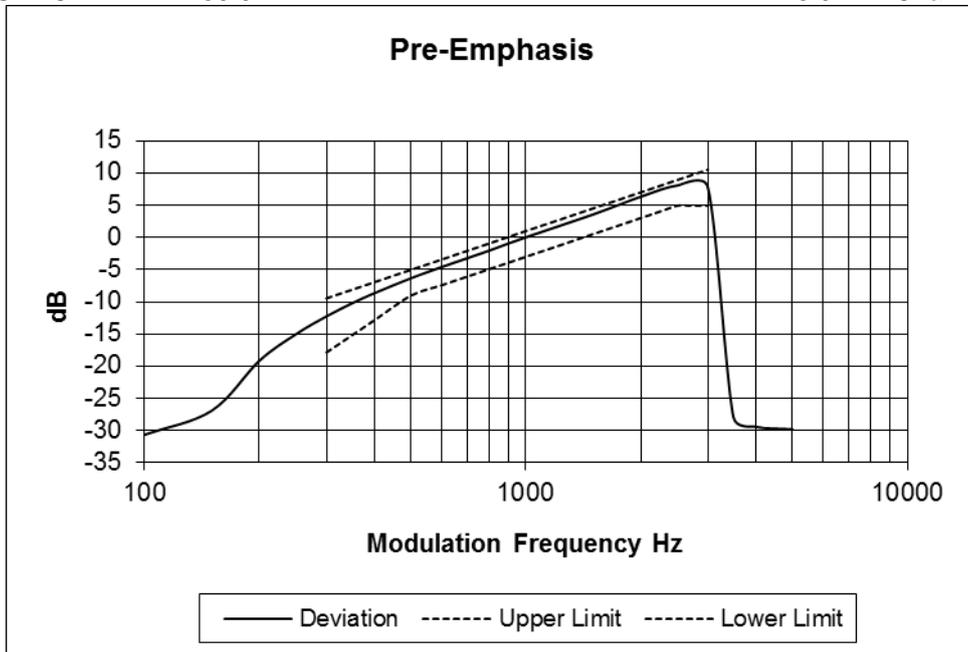


Transmitter Audio Frequency Response – Pre-emphasis

Tx FREQUENCY: 450.1 MHz 25.0 kHz Channel Spacing



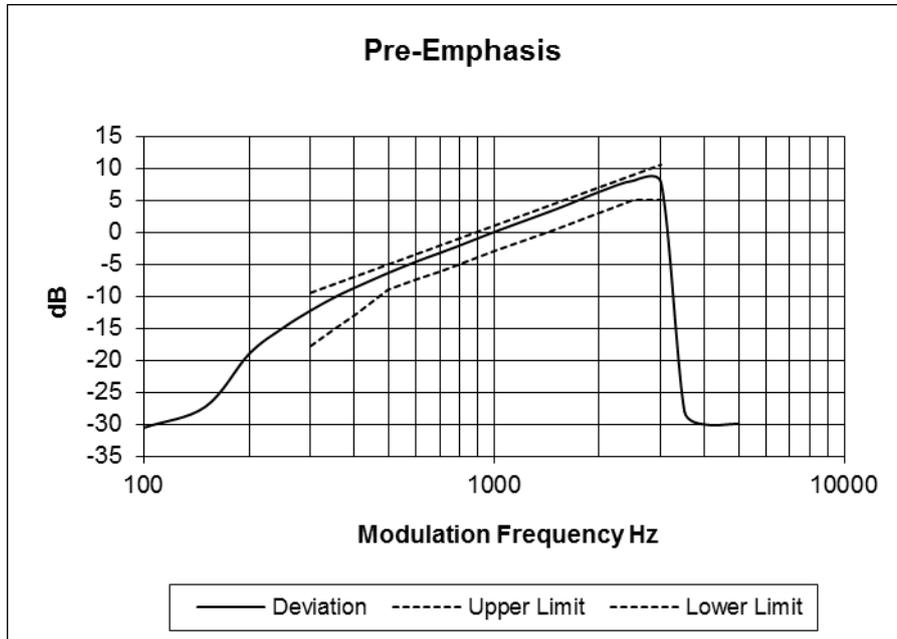
Tx FREQUENCY: 459.9 MHz 25.0 kHz Channel Spacing



Transmitter Audio Frequency Response – Pre-emphasis

Tx FREQUENCY: 469.9 MHz

25.0 kHz Channel Spacing



TRANSMITTER MODULATION LIMITING

SPECIFICATION: FCC 47 CFR 2.1047 (b)

GUIDE: TIA/EIA-603D 2.2.3

MEASUREMENT PROCEDURE:

1. Refer Annex A for Equipment set up.
2. The modulation response was measured at three audio frequencies while varying the input level.
3. Measurements were made for both Positive and Negative Deviation.

MEASUREMENT RESULTS:

See the plots on the following pages for 12.5 kHz & 25.0 kHz channel spacings.

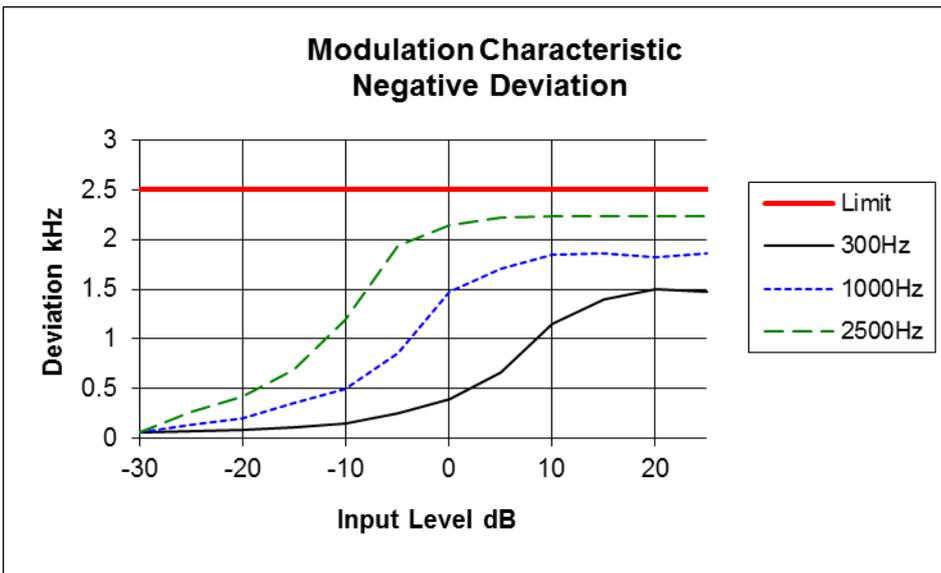
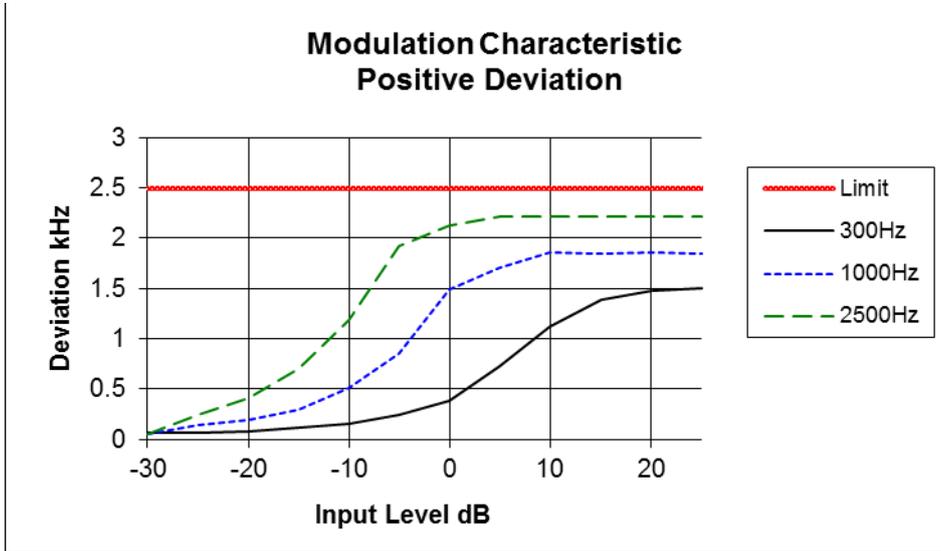
LIMIT CLAUSE: TIA/EIA-603D 1.3.4.4

Transmitter Modulation Limiting

SPECIFICATION: FCC CFR 2.1047 (b)

Tx FREQUENCY: 406.2 MHz

12.5 kHz Channel Spacing

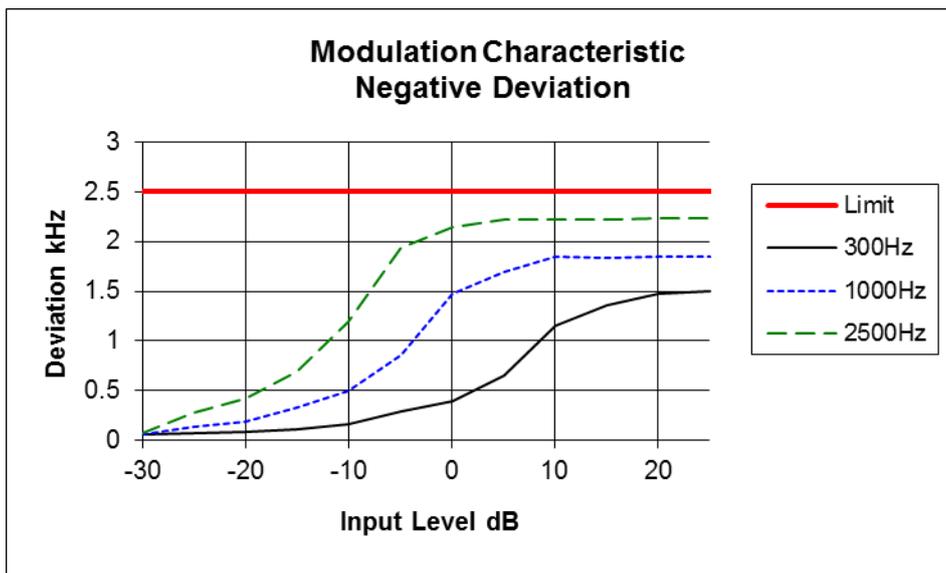
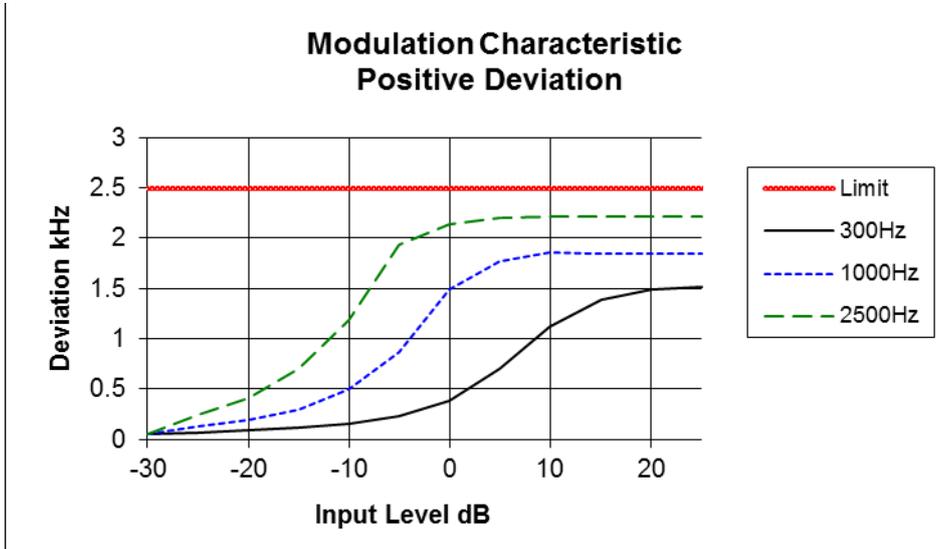


Transmitter Modulation Limiting

SPECIFICATION: FCC CFR 2.1047 (b)

Tx FREQUENCY: 418.1 MHz

12.5 kHz Channel Spacing

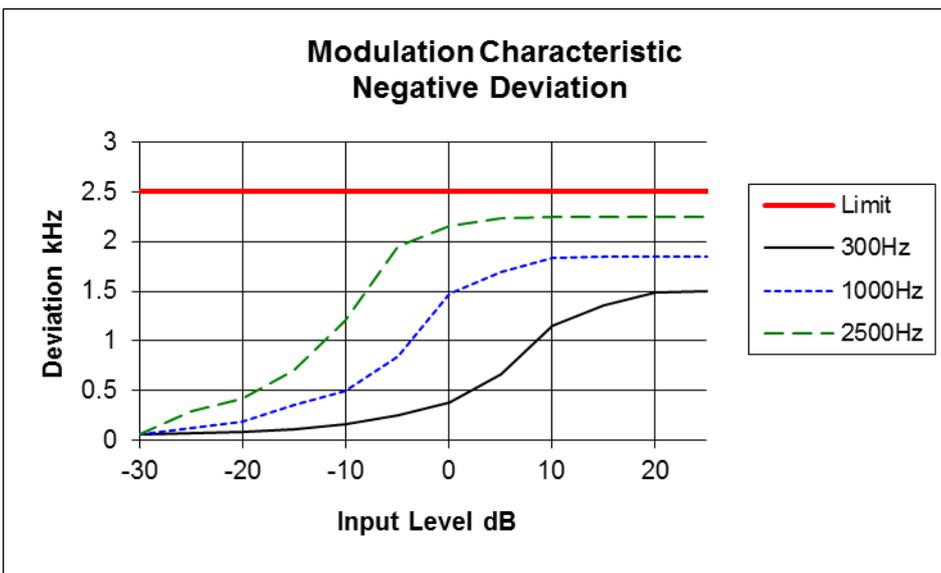
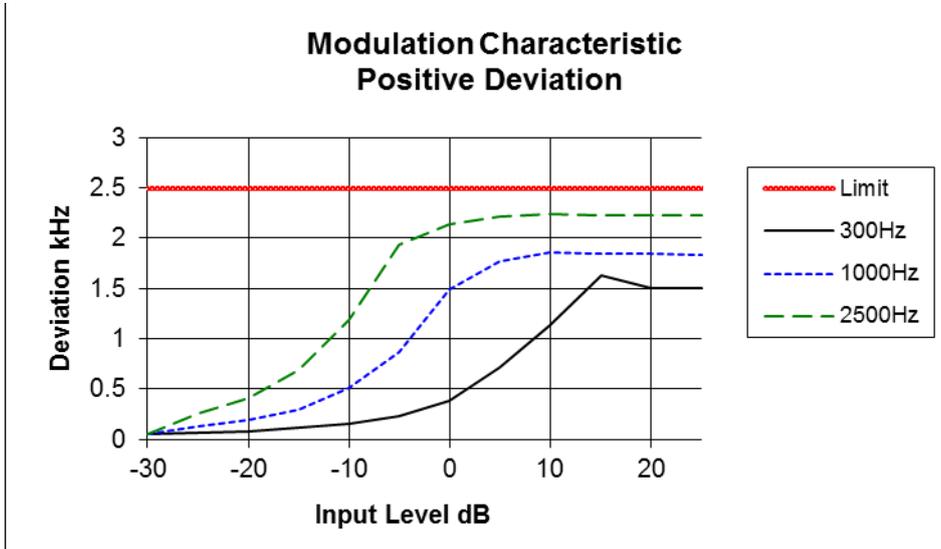


Transmitter Modulation Limiting

SPECIFICATION: FCC CFR 2.1047 (b)

Tx FREQUENCY: 429.9 MHz

12.5 kHz Channel Spacing

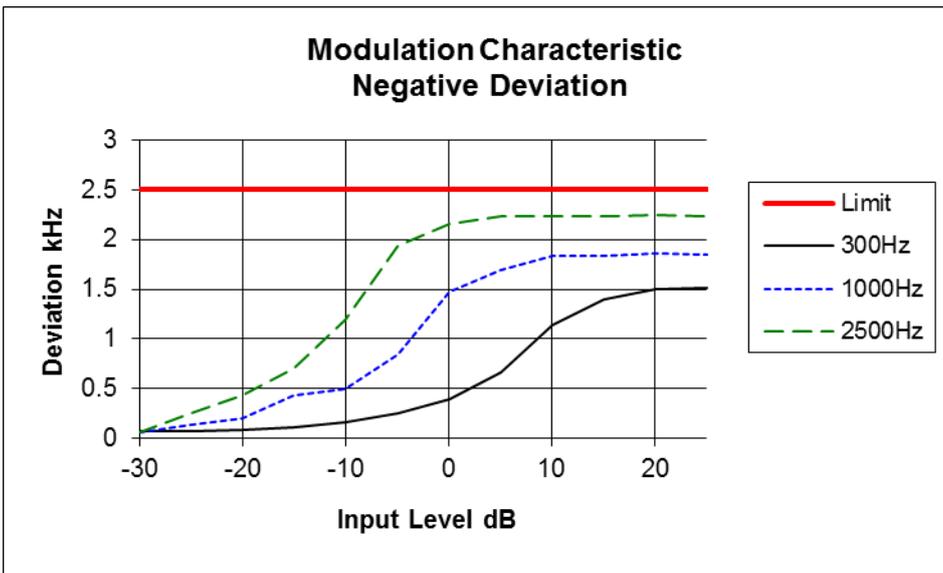
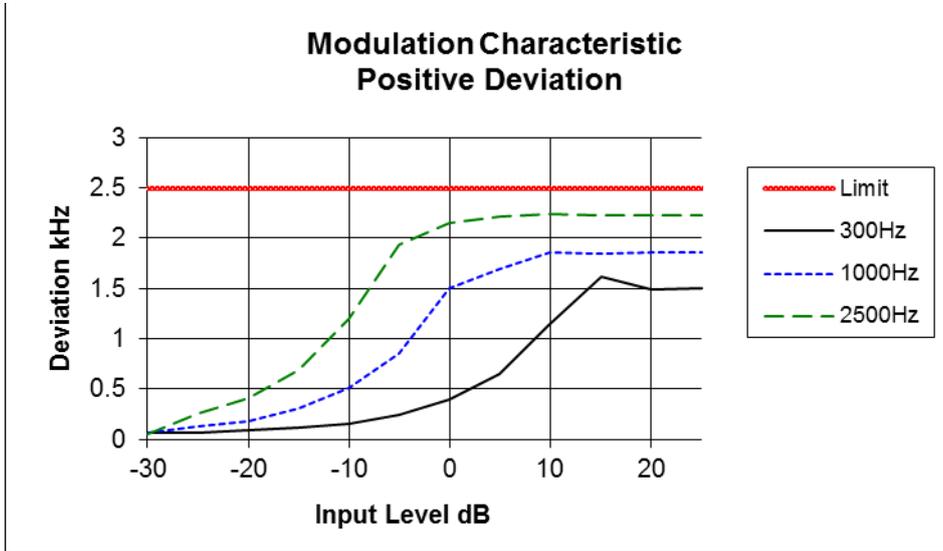


Transmitter Modulation Limiting

SPECIFICATION: FCC CFR 2.1047 (b)

Tx FREQUENCY: 450.1 MHz

12.5 kHz Channel Spacing

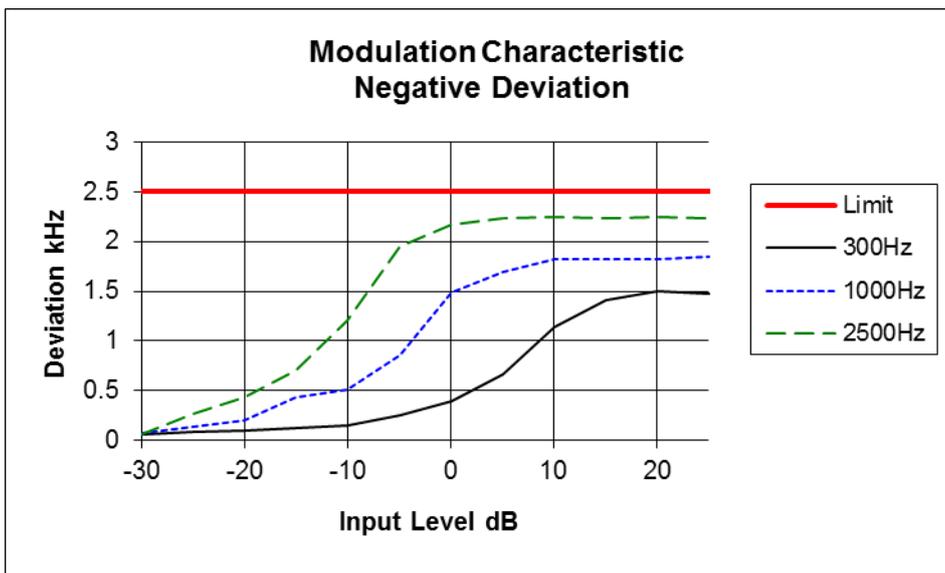
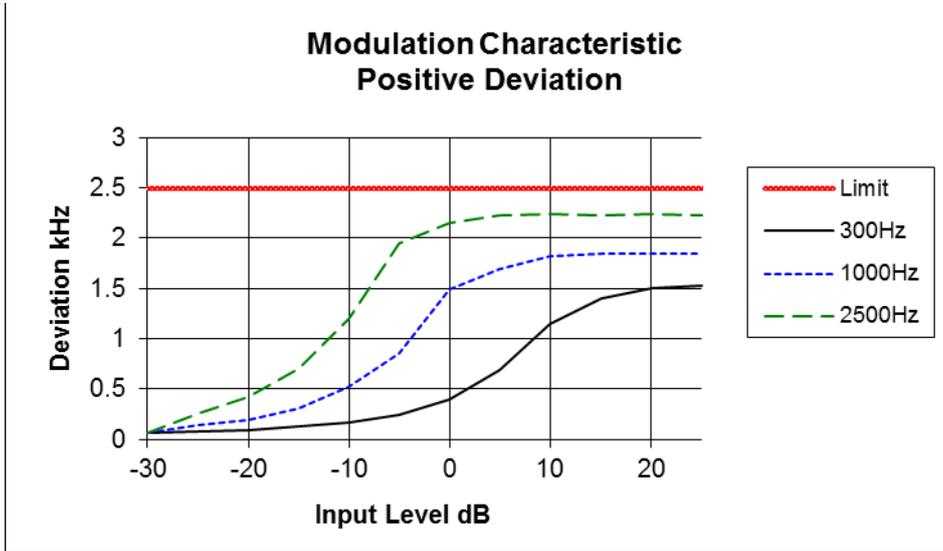


Transmitter Modulation Limiting

SPECIFICATION: FCC CFR 2.1047 (b)

Tx FREQUENCY: 459.9 MHz

12.5 kHz Channel Spacing

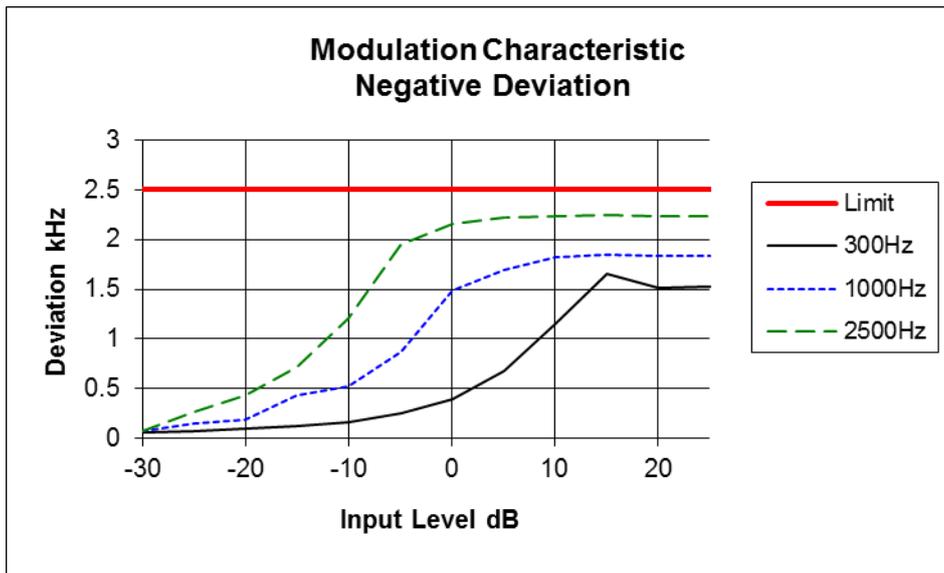
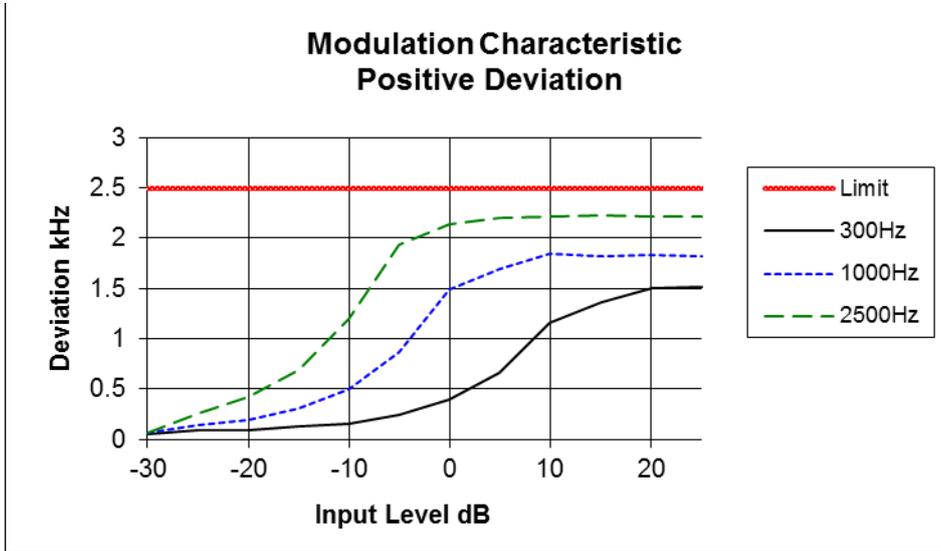


Transmitter Modulation Limiting

SPECIFICATION: FCC CFR 2.1047 (b)

Tx FREQUENCY: 469.9 MHz

12.5 kHz Channel Spacing

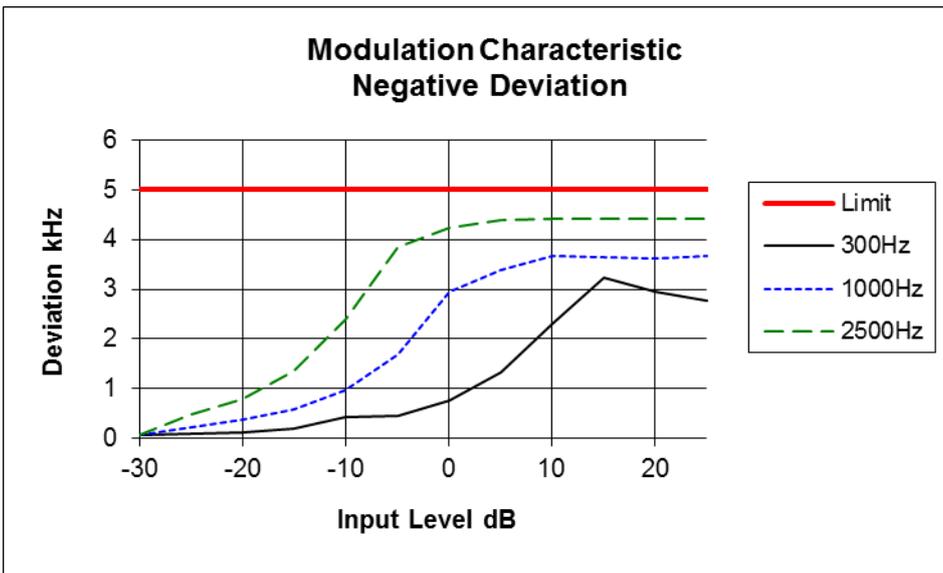
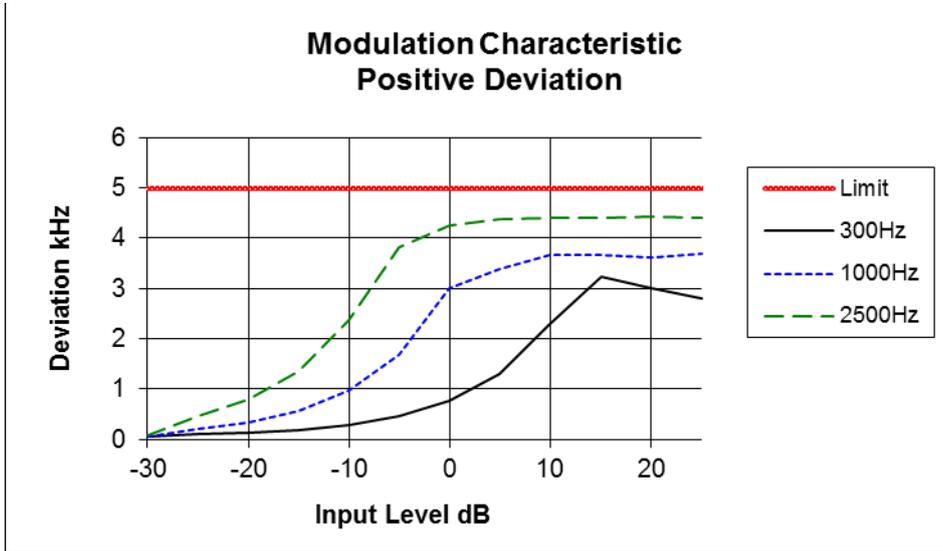


Transmitter Modulation Limiting

SPECIFICATION: FCC CFR 2.1047 (b)

Tx FREQUENCY: 406.2 MHz

25.0 kHz Channel Spacing

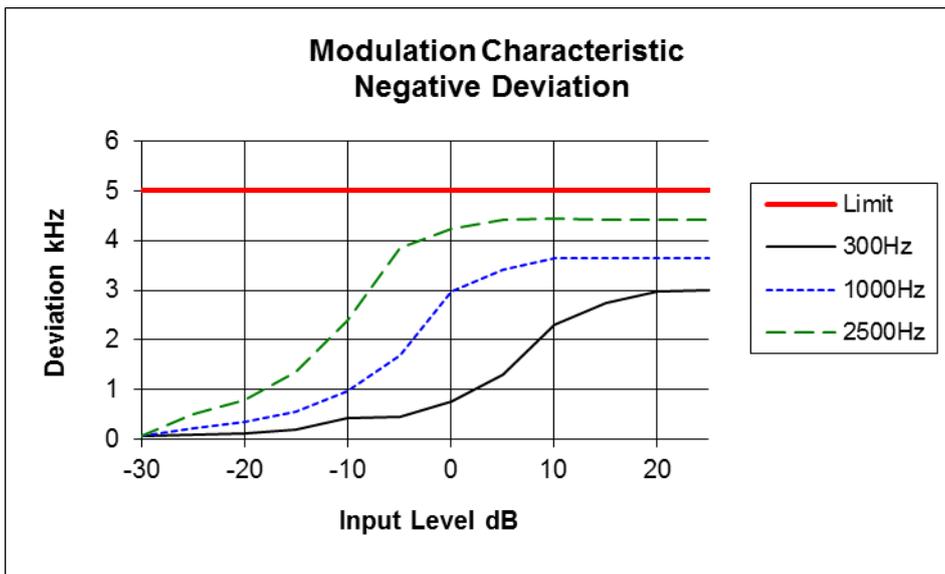
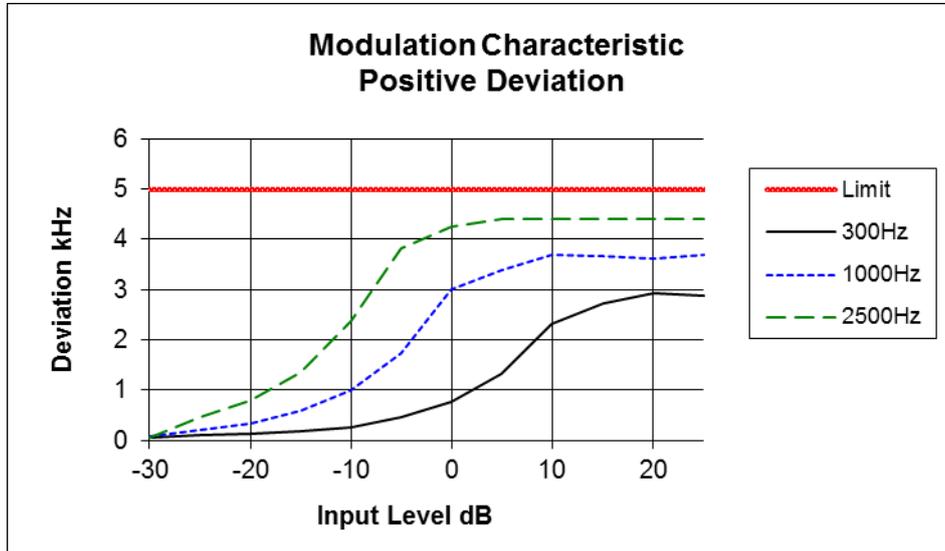


Transmitter Modulation Limiting

SPECIFICATION: FCC CFR 2.1047 (b)

Tx FREQUENCY: 418.1 MHz

25.0 kHz Channel Spacing

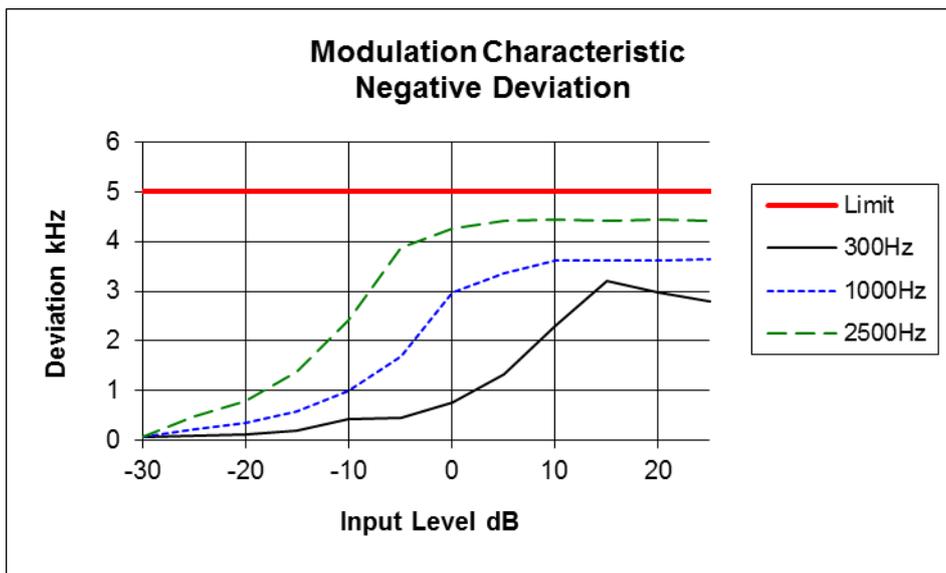


Transmitter Modulation Limiting

SPECIFICATION: FCC CFR 2.1047 (b)

Tx FREQUENCY: 429.9 MHz

25.0 kHz Channel Spacing

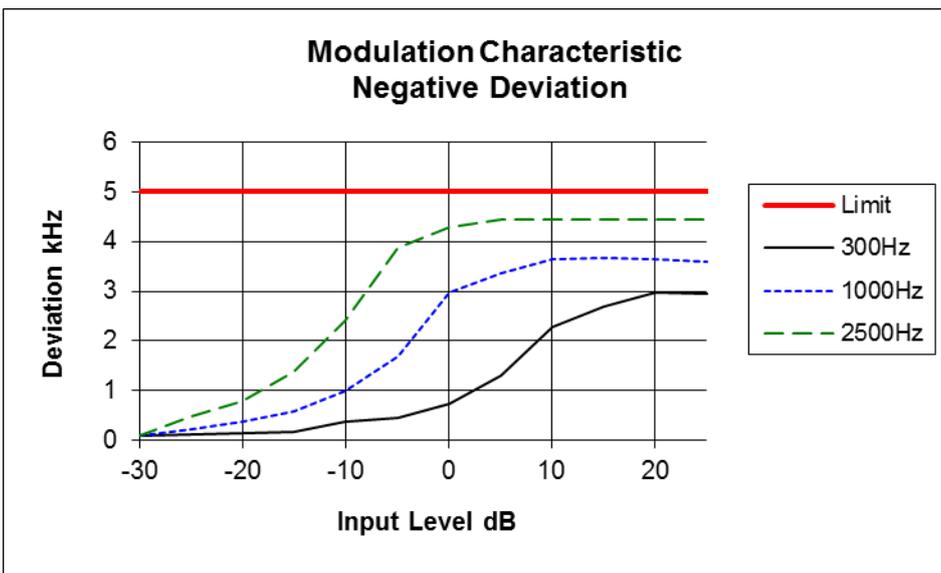
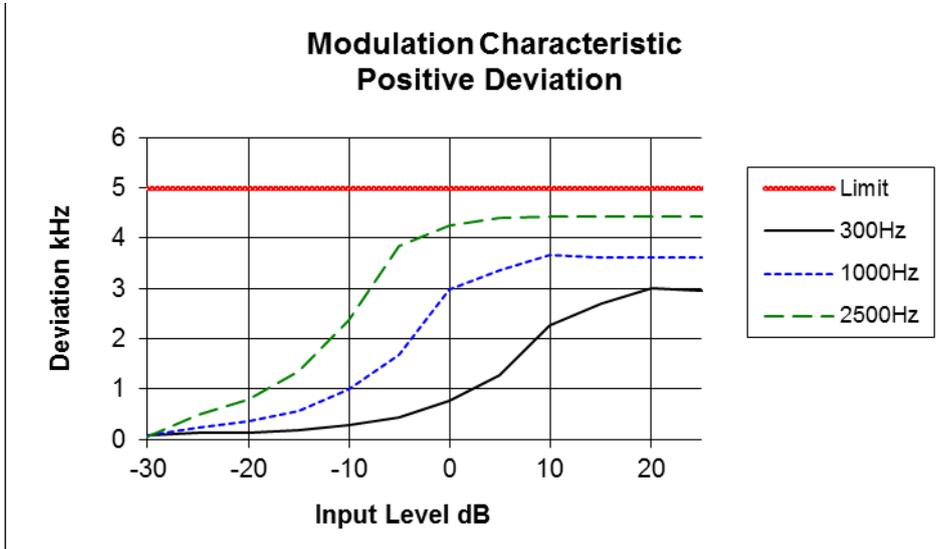


Transmitter Modulation Limiting

SPECIFICATION: FCC CFR 2.1047 (b)

Tx FREQUENCY: 450.1 MHz

25.0 kHz Channel Spacing

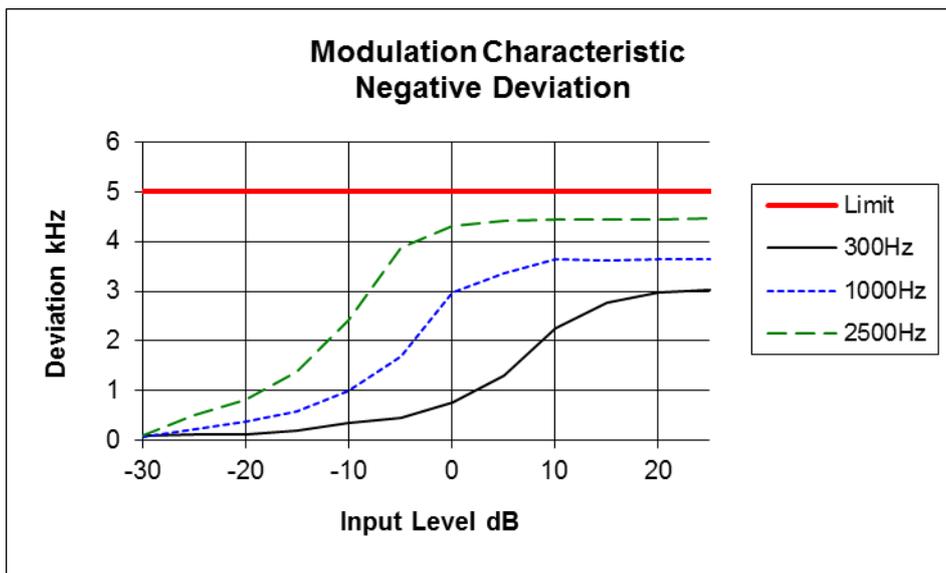
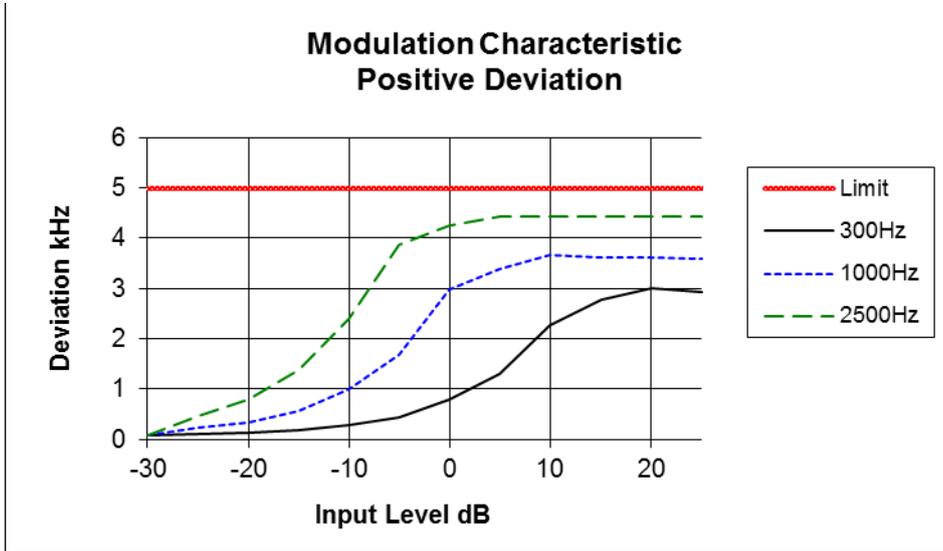


Transmitter Modulation Limiting

SPECIFICATION: FCC CFR 2.1047 (b)

Tx FREQUENCY: 459.9 MHz

25.0 kHz Channel Spacing

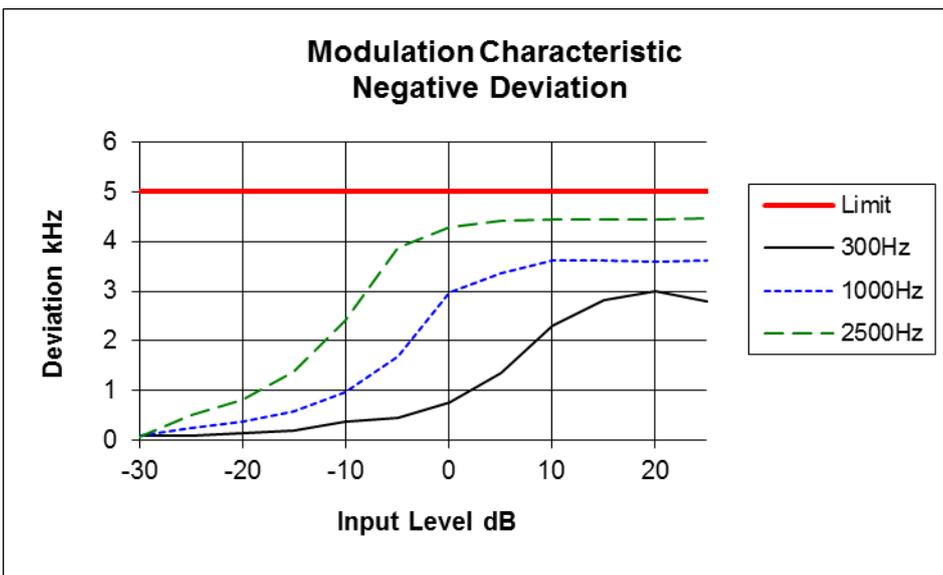
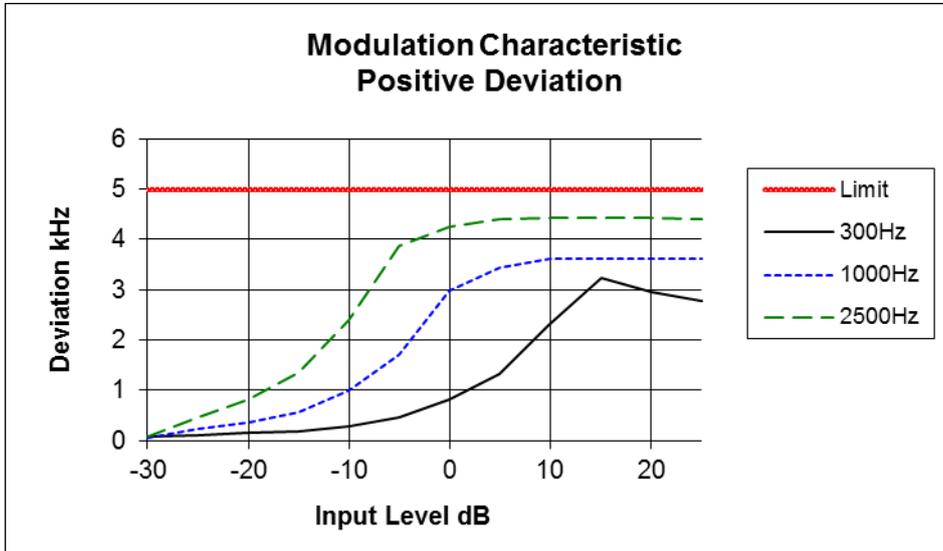


Transmitter Modulation Limiting

SPECIFICATION: FCC CFR 2.1047 (b)

Tx FREQUENCY: 469.9 MHz

25.0 kHz Channel Spacing



SIDEBAND SPECTRUM

SPECIFICATION: FCC 47 CFR 2.1049 (c) RSS-119 5.5

GUIDE: TIA/EIA-603D 2.2.11

MEASUREMENT PROCEDURE:

1. Refer Annex A for Equipment Set up.
2. For analog measurements: The EUT was modulated by a 2500 Hz tone at an input level 16 dB above a level that produced 50% deviation. The input level was established at the frequency of maximum response of the audio modulating circuit.
For Data measurements: The EUT was modulated with an internally generated pseudo random bit sequence at the appropriate Baud rates.
3. The Occupied Bandwidth was measured on the Spectrum Analyser, with bandwidth settings as follows.

Emission Mask D – Resolution Bandwidth = 100 Hz, Video Bandwidth = 1 kHz
Emission Mask B – Resolution bandwidth = 300 Hz, Video Bandwidth = 3 kHz

MEASUREMENT RESULTS:

See the plots on the following pages for 12.5 kHz & 25.0 kHz channel spacings.

LIMIT CLAUSE: FCC 47 CFR 90.210 RSS-119 5.5

EMISSION MASKS:

Emission Mask D	12.5 kHz Channel Spacing	Analog, FFSK, Digital Voice/Data
Emission Mask B	25.0 kHz Channel Spacing	Analog, FFSK

DATA SPEED:

FFSK	12.5 kHz Channel Spacing	1200 bps & 2400 bps
FFSK	25.0 kHz Channel Spacing	1200 bps & 2400 bps
DMR Digital Voice	12.5 kHz Channel Spacing	9600 bps
DMR Digital Data	12.5 kHz Channel Spacing	9600 bps
P25 phase 1 Digital Voice	12.5 kHz Channel Spacing	9600 bps
P25 phase 1 Digital Data	12.5 kHz Channel Spacing	9600 bps
P25 phase 2 Digital Voice / Data	12.5 kHz Channel Spacing	12000 bps

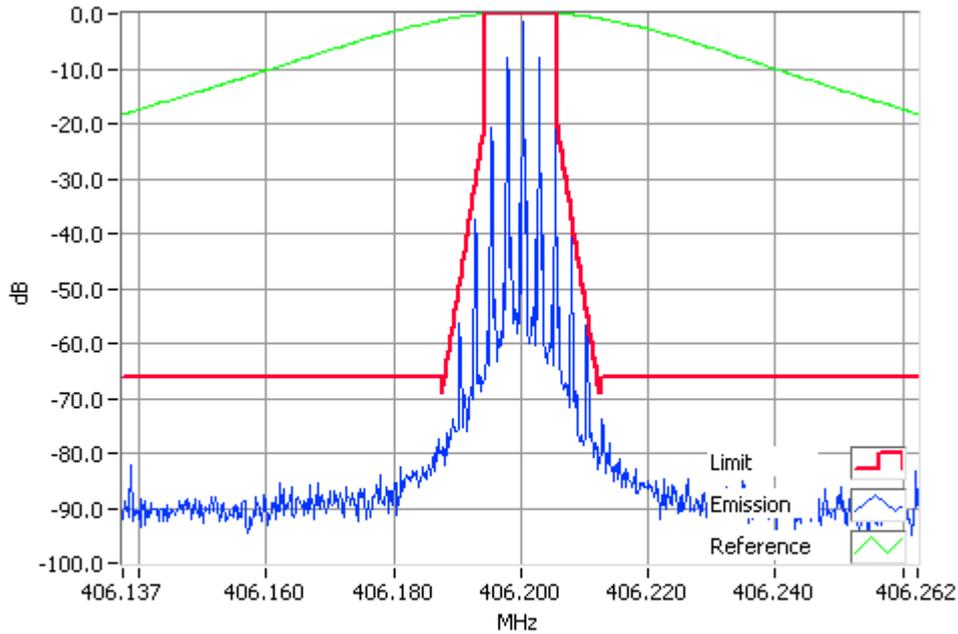
Occupied Bandwidth and Spectrum Masks

ANALOG VOICE

SPECIFICATION: FCC CFR 2.1049 (c)

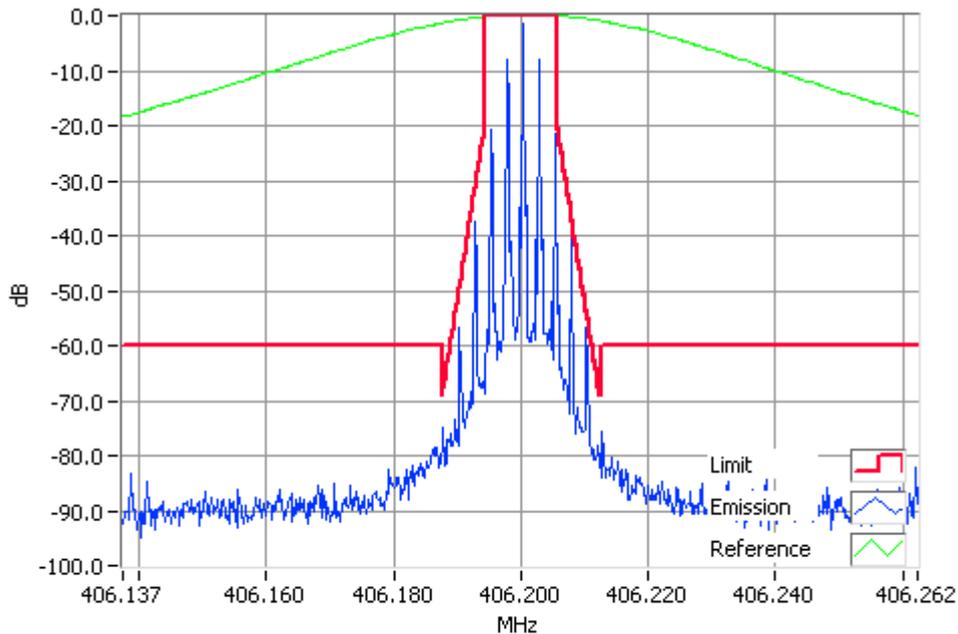
RSS-119 5.5

Tx FREQUENCY: 406.2 MHz 40 W 12.5 kHz Channel Spacing



Analogue Modulation 406.2000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 406.2 MHz 10 W 12.5 kHz Channel Spacing



Analogue Modulation 406.2000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

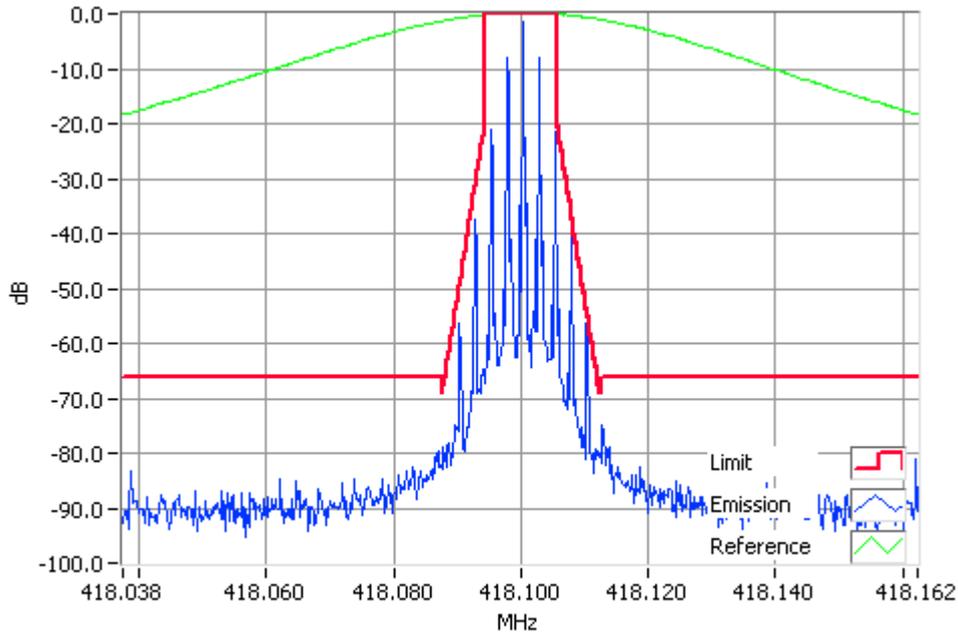
Occupied Bandwidth and Spectrum Masks

ANALOG VOICE

SPECIFICATION: FCC CFR 2.1049 (c)

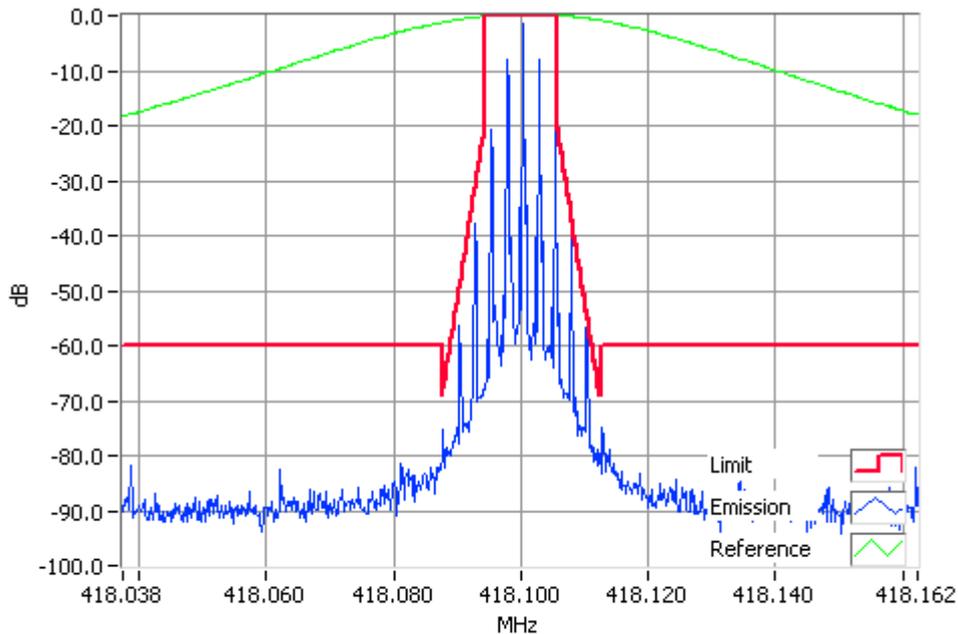
RSS-119 5.5

Tx FREQUENCY: 418.1 MHz 40 W 12.5 kHz Channel Spacing



Analogue Modulation 418.1000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 418.1 MHz 10 W 12.5 kHz Channel Spacing



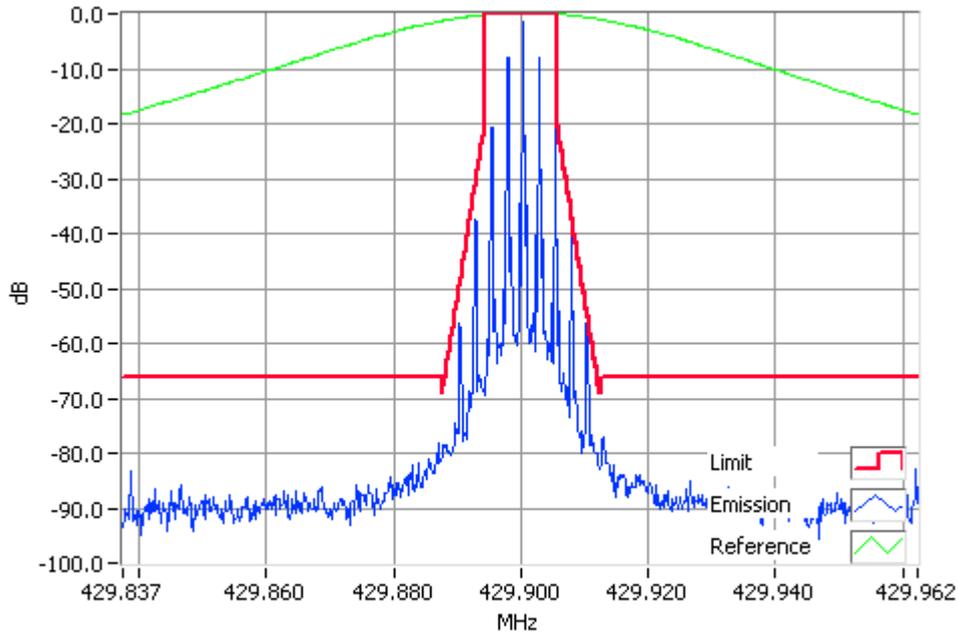
Analogue Modulation 418.1000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

ANALOG VOICE

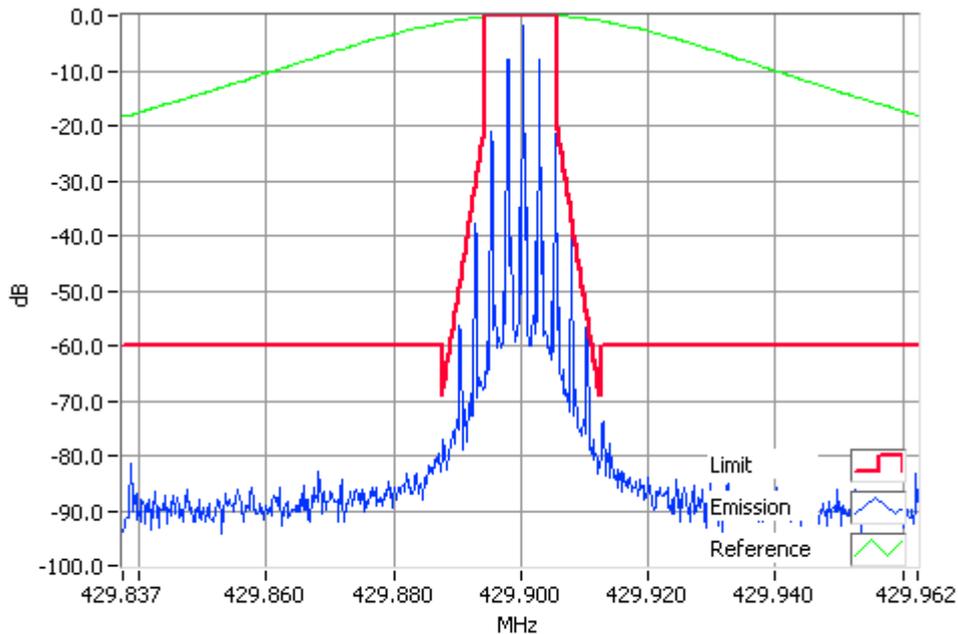
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 429.9 MHz 40 W 12.5 kHz Channel Spacing



Analogue Modulation 429.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 429.9 MHz 10 W 12.5 kHz Channel Spacing



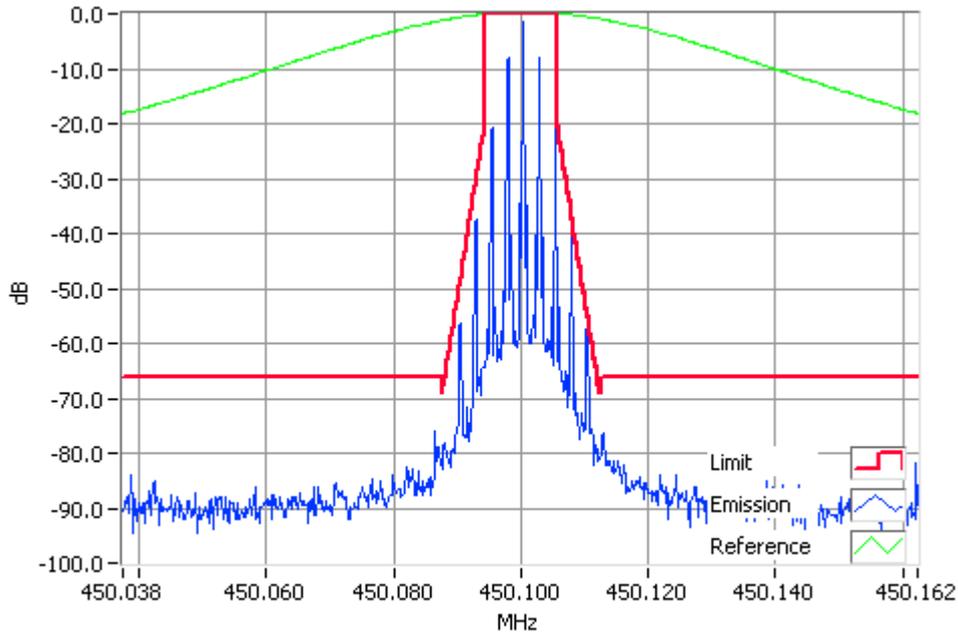
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RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

ANALOG VOICE

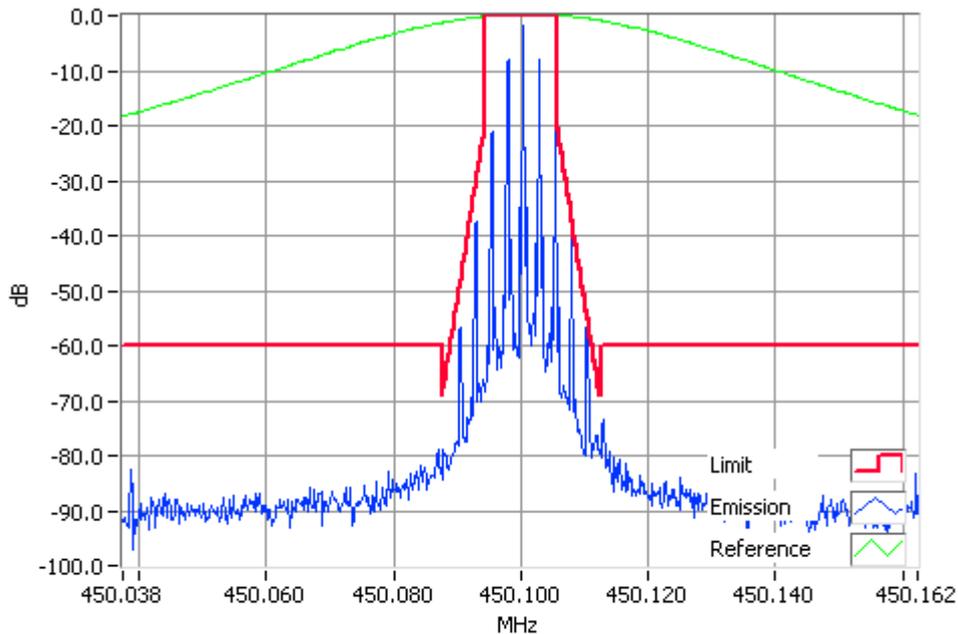
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 450.1 MHz 40 W 12.5 kHz Channel Spacing



Analogue Modulation 450.1000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 450.1 MHz 10 W 12.5 kHz Channel Spacing



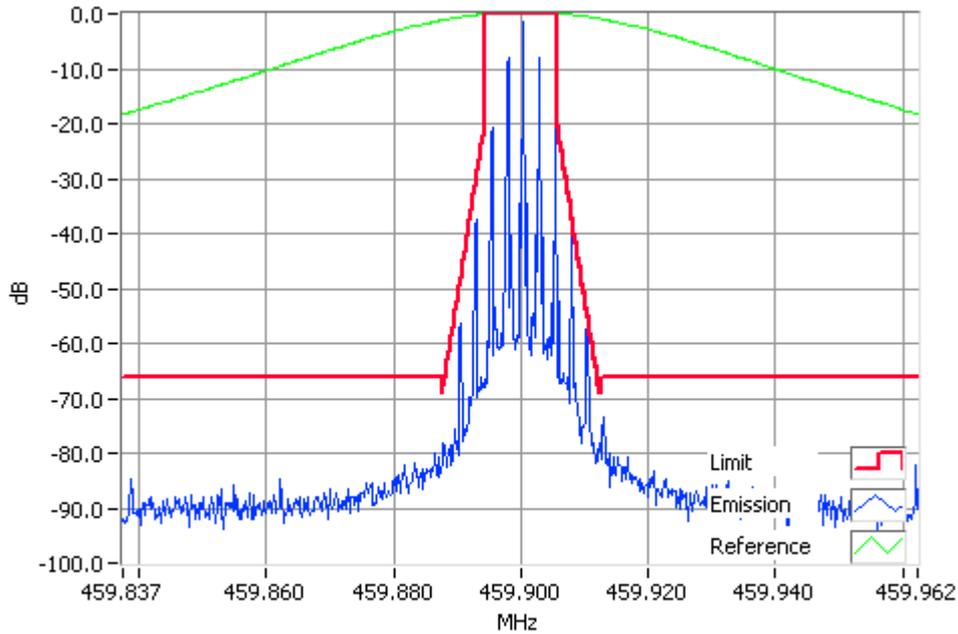
Analogue Modulation 450.1000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

ANALOG VOICE

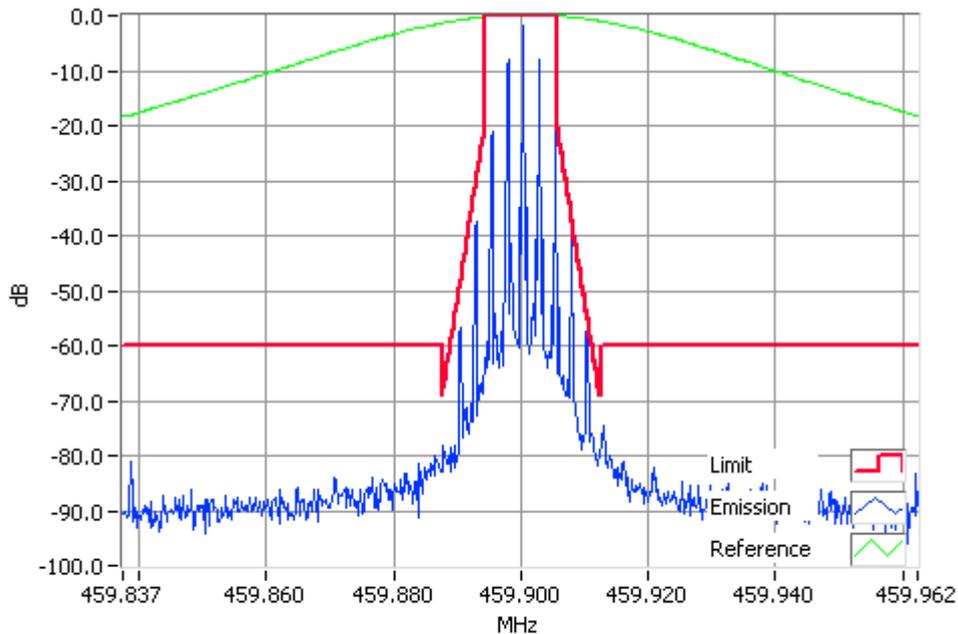
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 459.9 MHz 40 W 12.5 kHz Channel Spacing



Analogue Modulation 459.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 459.9 MHz 10 W 12.5 kHz Channel Spacing



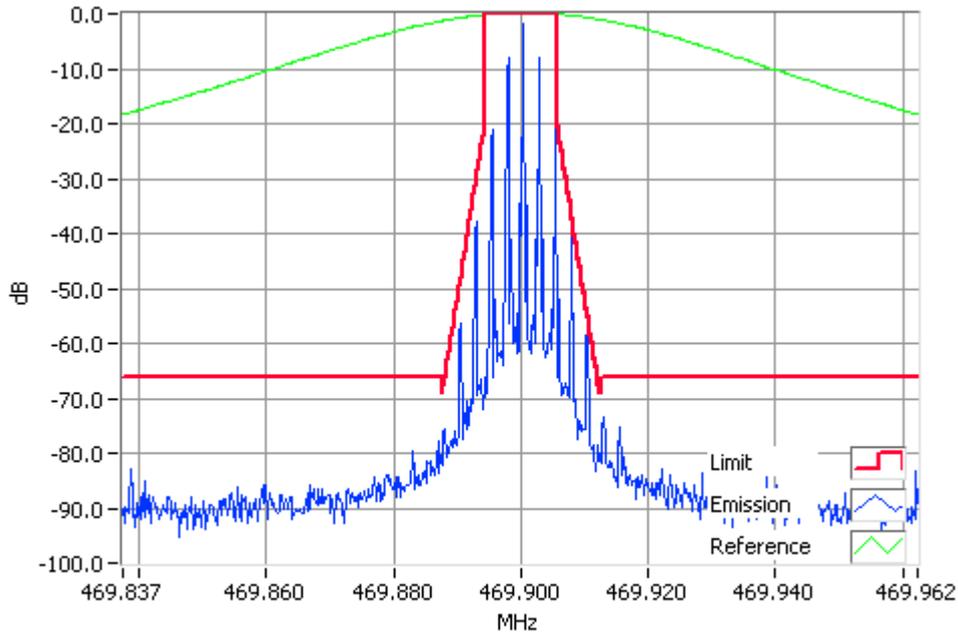
Analogue Modulation 459.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

ANALOG VOICE

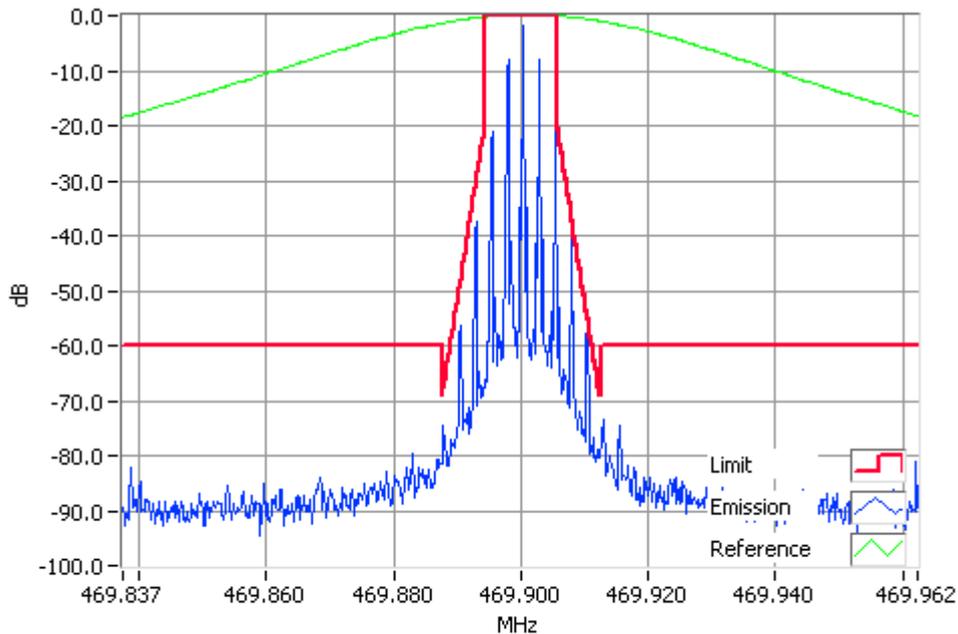
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 469.9 MHz 40 W 12.5 kHz Channel Spacing



Analogue Modulation 469.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 469.9 MHz 10 W 12.5 kHz Channel Spacing



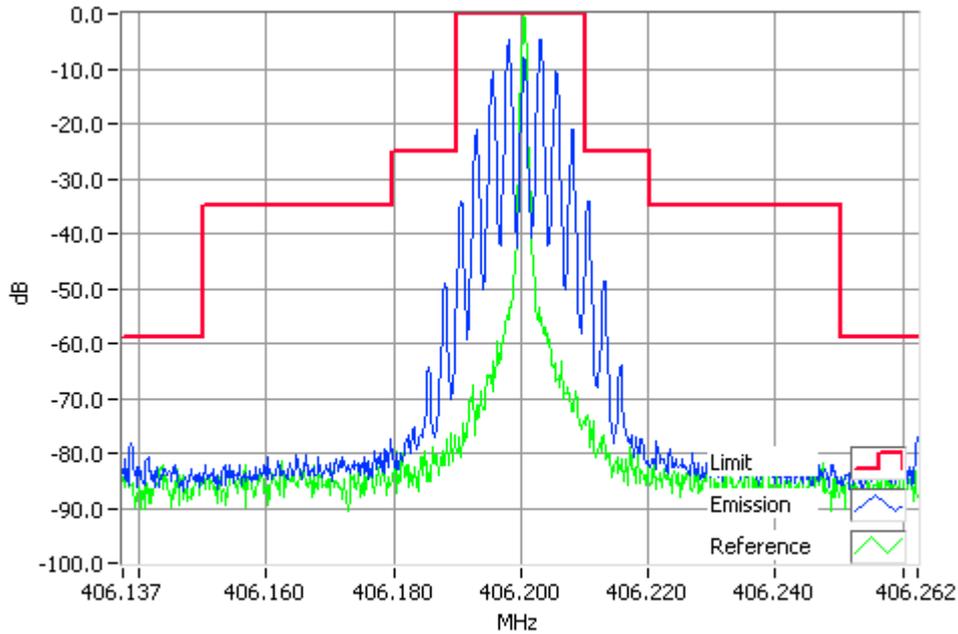
Analogue Modulation 469.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

ANALOG VOICE

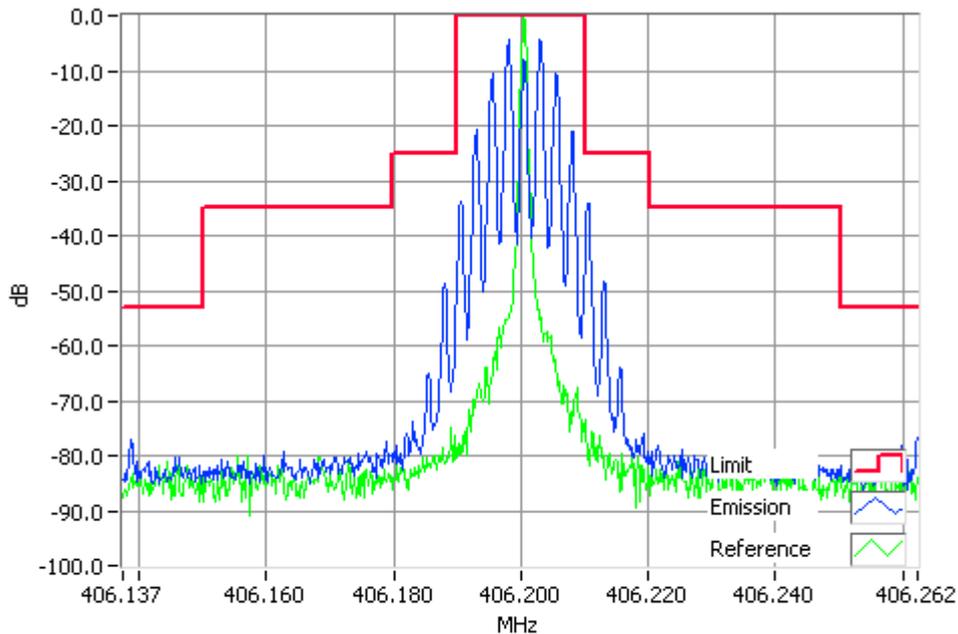
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 406.2 MHz 40 W 25.0 kHz Channel Spacing



Analogue Modulation 406.2000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 406.2 MHz 10 W 25.0 kHz Channel Spacing



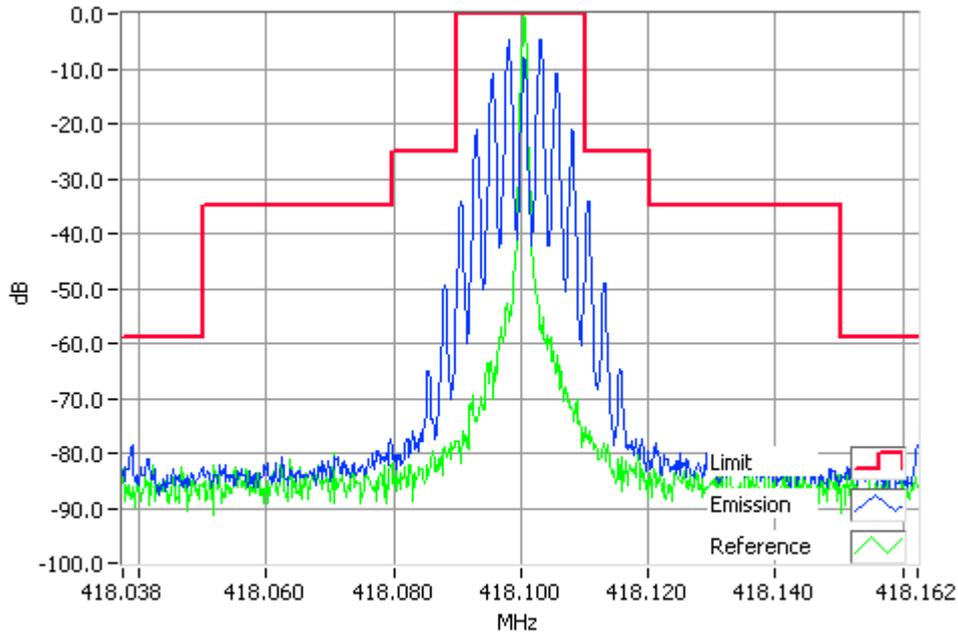
Analogue Modulation 406.2000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

ANALOG VOICE

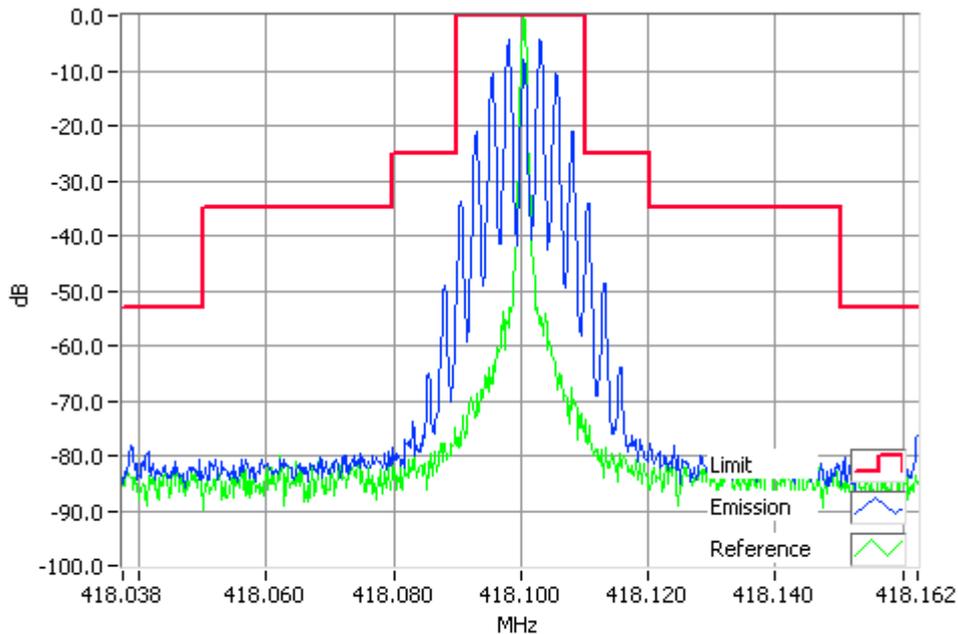
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 418.1 MHz 40 W 25.0 kHz Channel Spacing



Analogue Modulation 418.1000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 418.1 MHz 10 W 25.0 kHz Channel Spacing



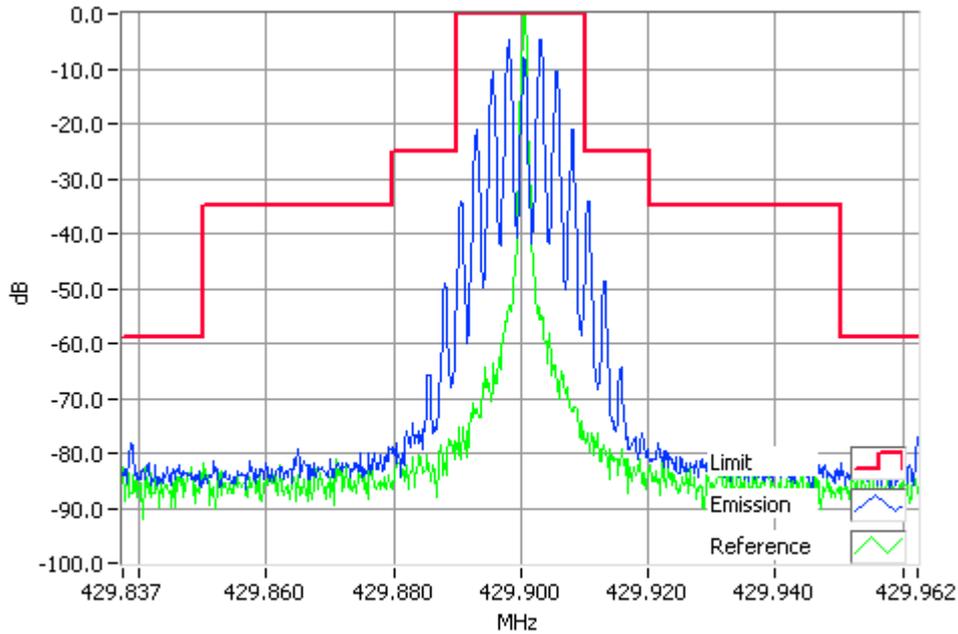
Analogue Modulation 418.1000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

ANALOG VOICE

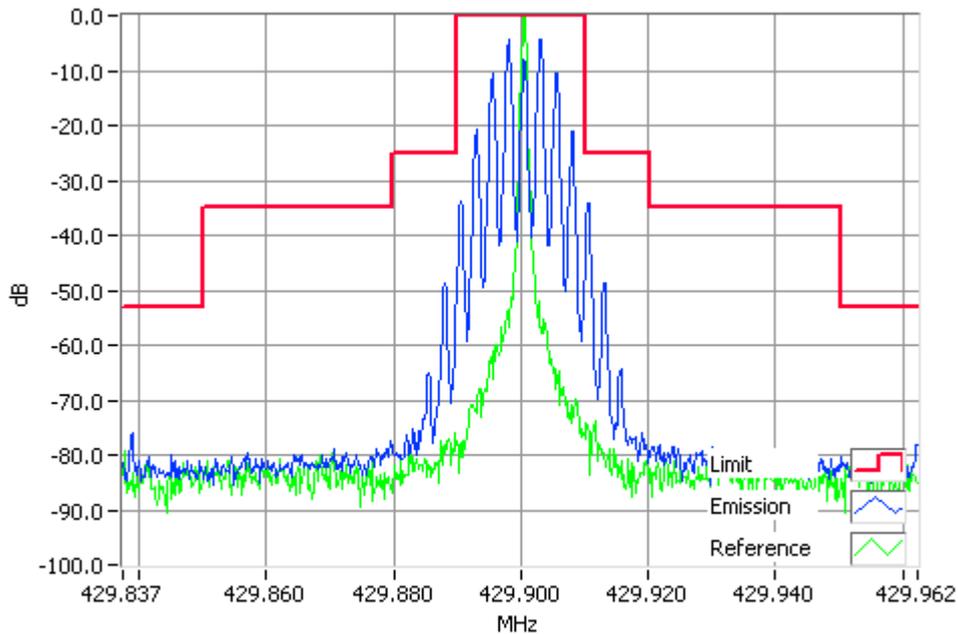
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 429.9 MHz 40 W 25.0 kHz Channel Spacing



**Analogue Modulation 429.9000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass**

Tx FREQUENCY: 429.9 MHz 10 W 25.0 kHz Channel Spacing



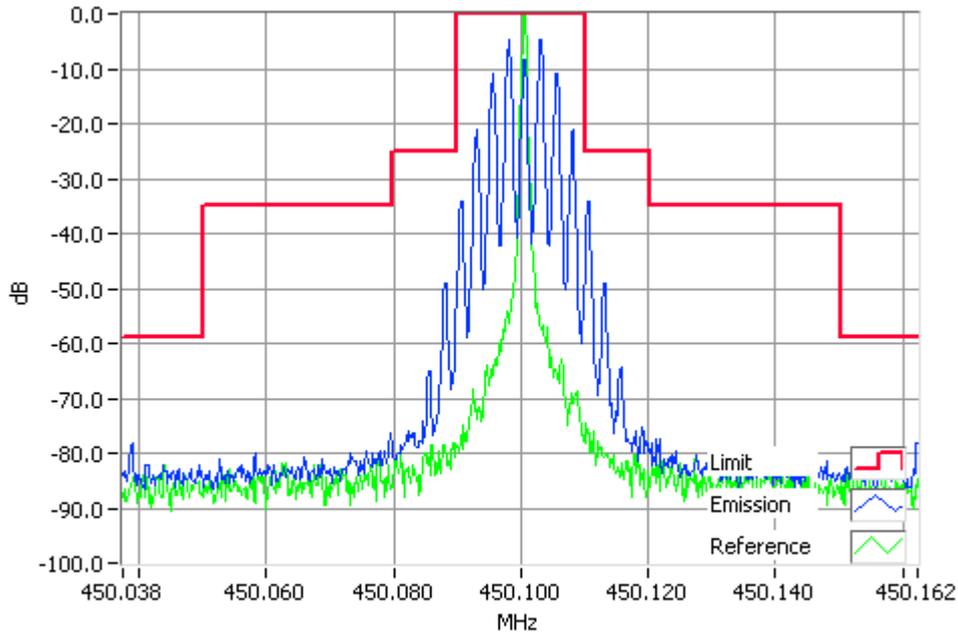
**Analogue Modulation 429.9000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass**

Occupied Bandwidth and Spectrum Masks

ANALOG VOICE

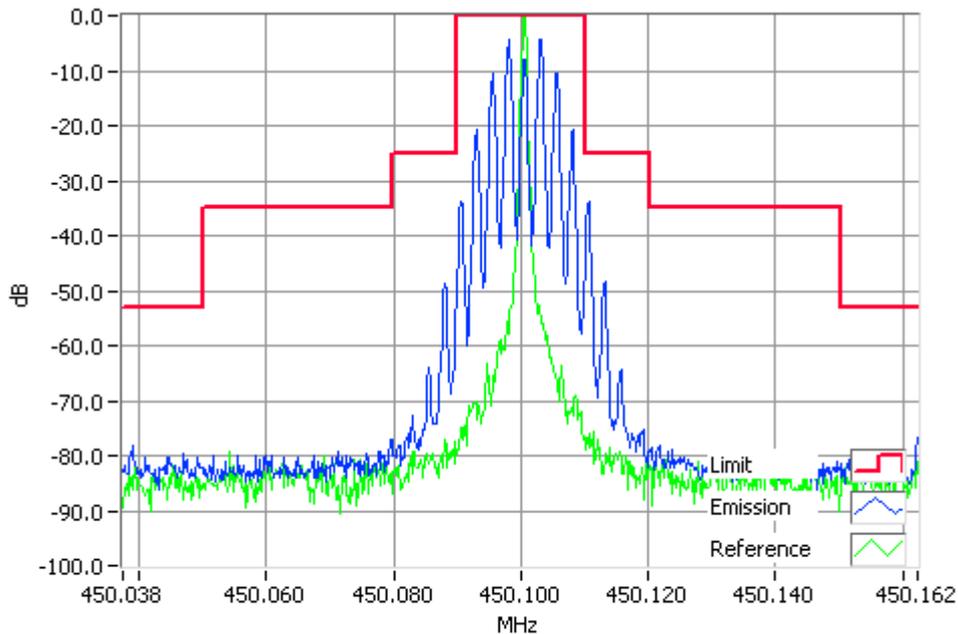
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 450.1 MHz 40 W 25.0 kHz Channel Spacing



Analogue Modulation 450.1000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 450.1 MHz 10 W 25.0 kHz Channel Spacing



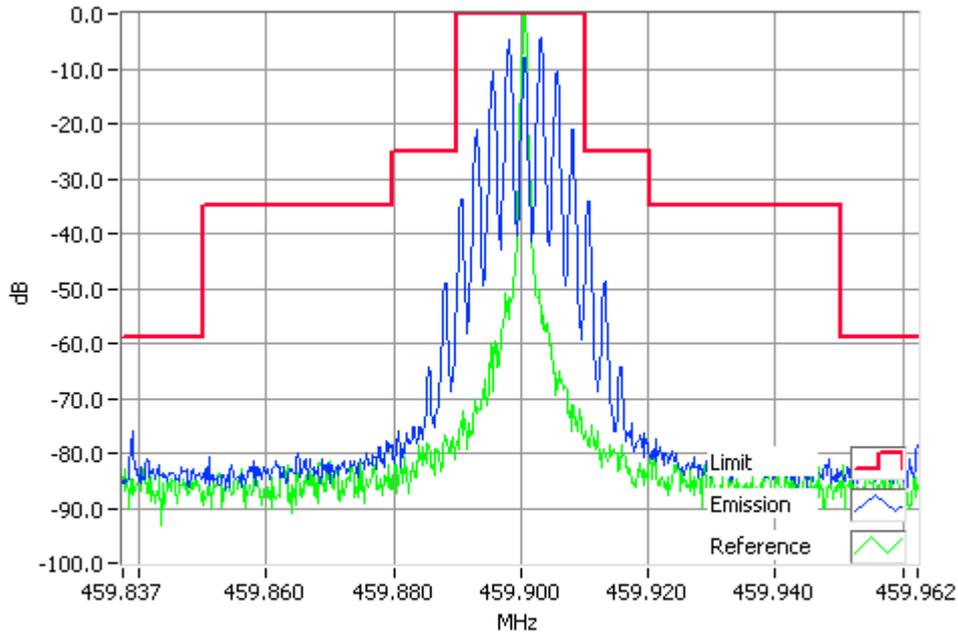
Analogue Modulation 450.1000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

ANALOG VOICE

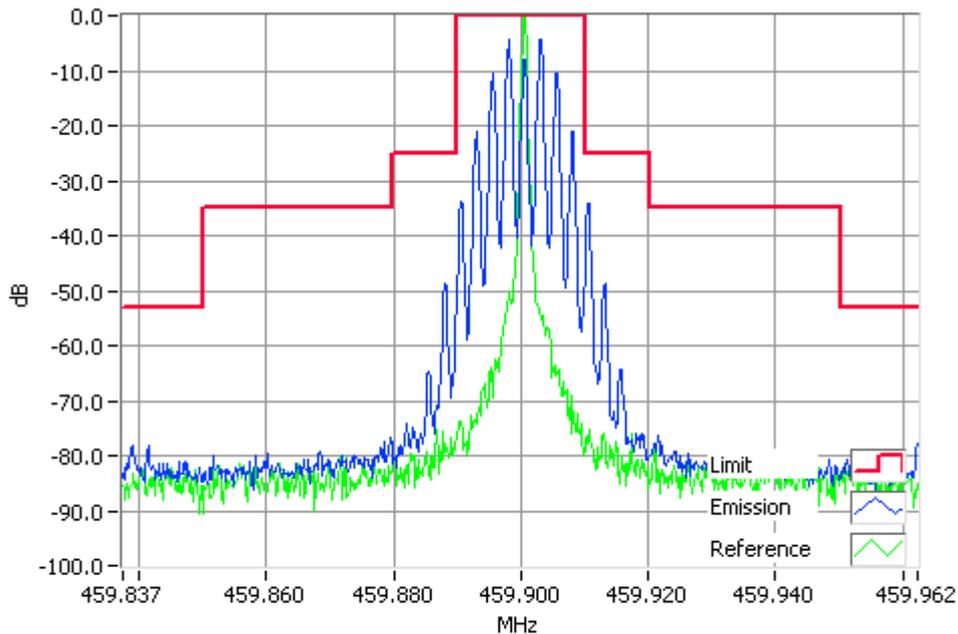
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 459.9 MHz 40 W 25.0 kHz Channel Spacing



Analogue Modulation 459.9000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 459.9 MHz 10 W 25.0 kHz Channel Spacing



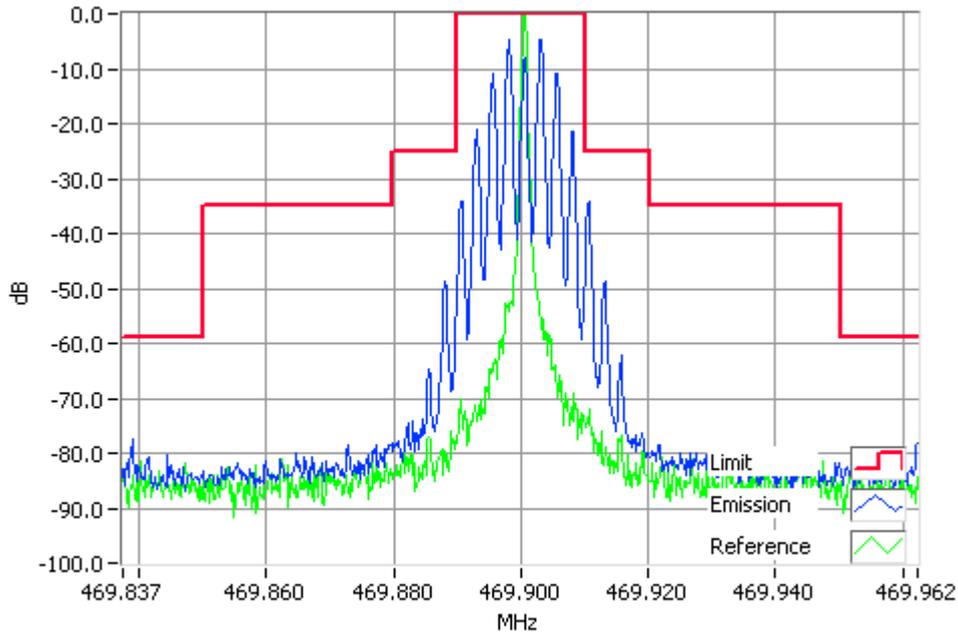
Analogue Modulation 459.9000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

ANALOG VOICE

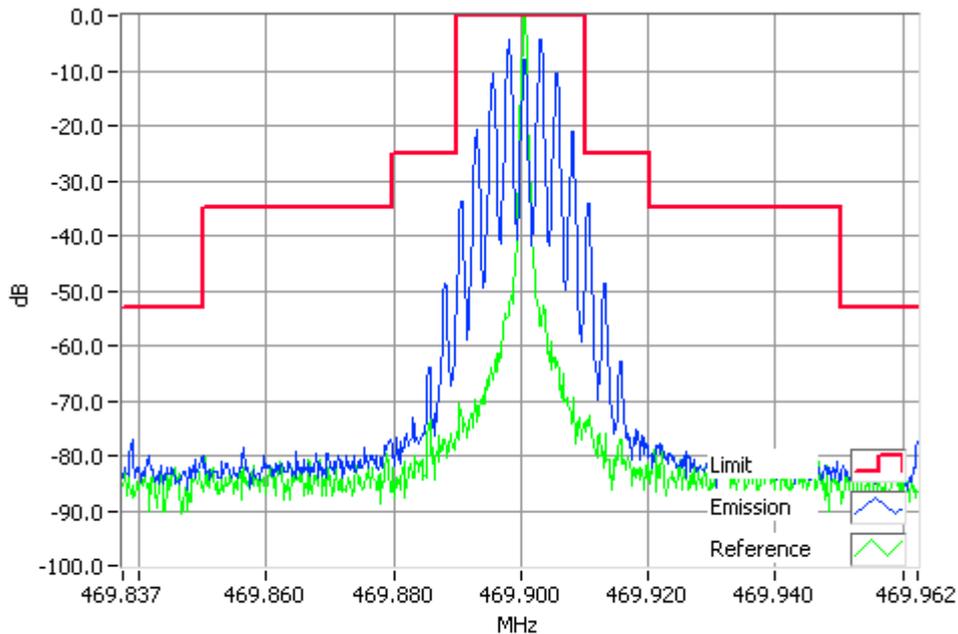
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 469.9 MHz 40 W 25.0 kHz Channel Spacing



Analogue Modulation 469.9000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 469.9 MHz 10 W 25.0 kHz Channel Spacing



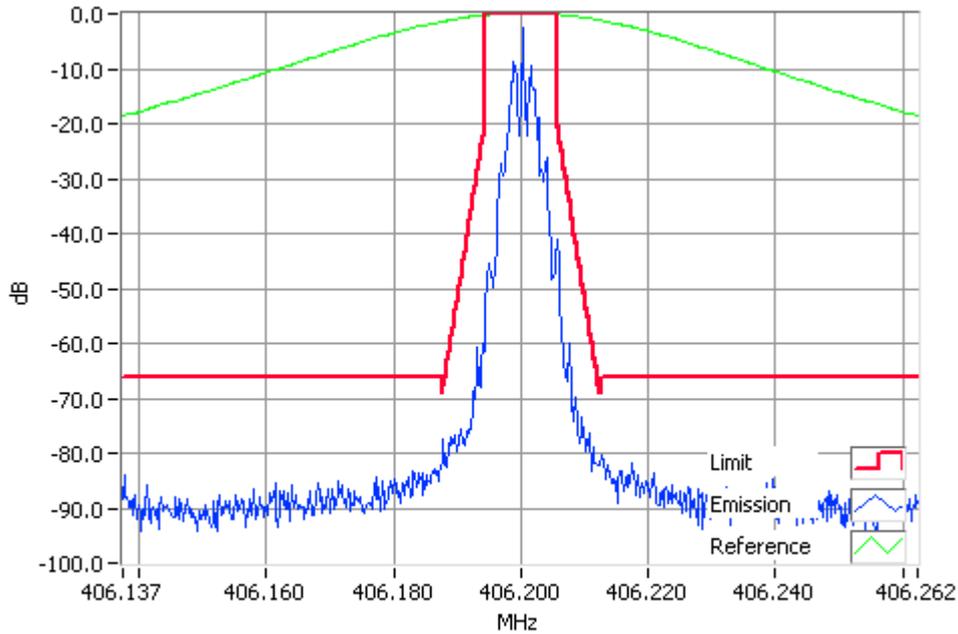
Analogue Modulation 469.9000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 1200 bps

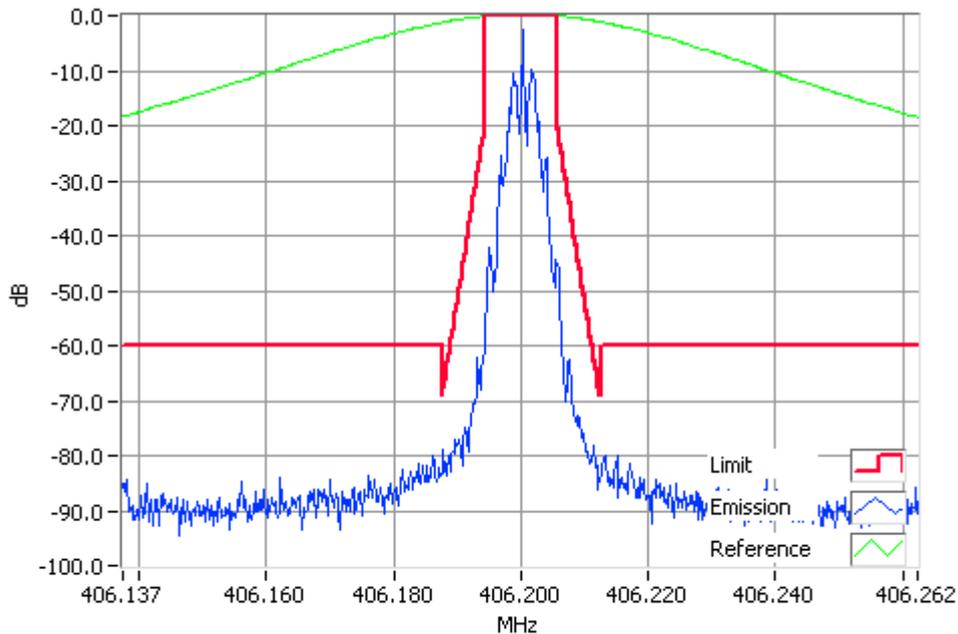
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 406.2 MHz 40 W 12.5 kHz Channel Spacing



FFSK1200 406.2000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 406.2 MHz 10 W 12.5 kHz Channel Spacing



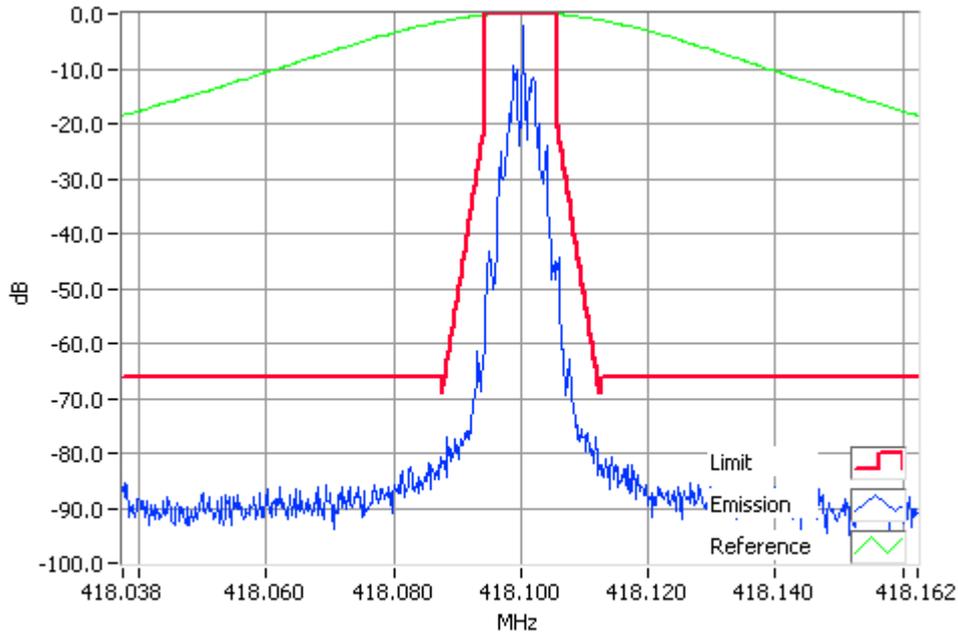
FFSK1200 406.2000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 1200 bps

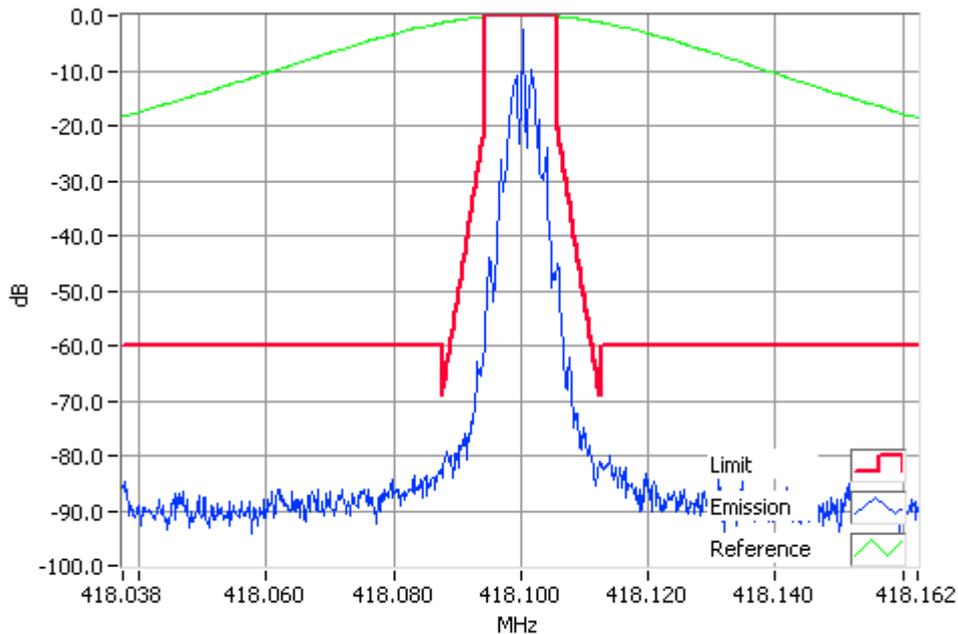
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 418.1 MHz 40 W 12.5 kHz Channel Spacing



FFSK1200 418.1000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 418.1 MHz 10 W 12.5 kHz Channel Spacing



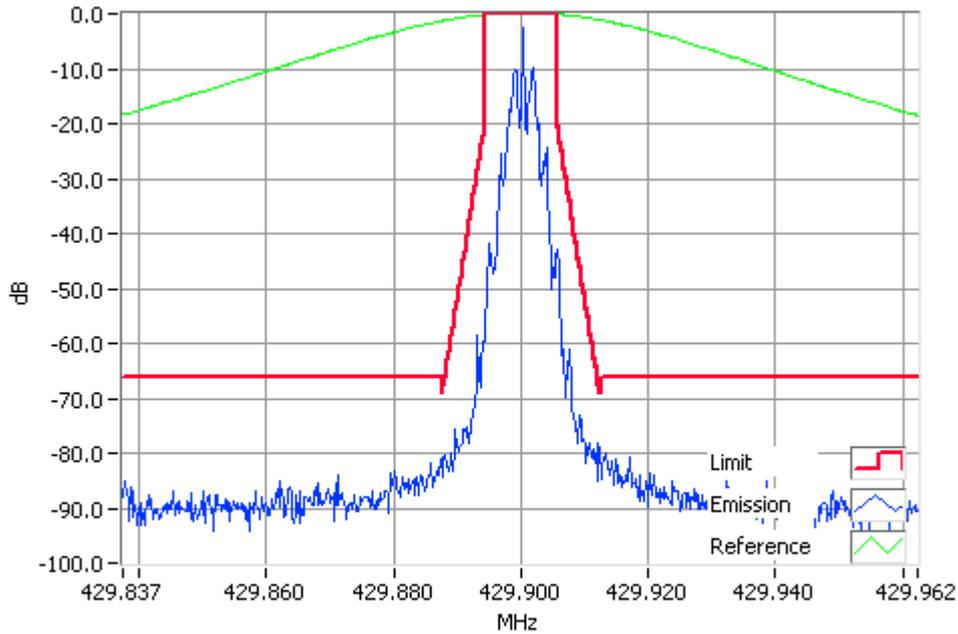
FFSK1200 418.1000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 1200 bps

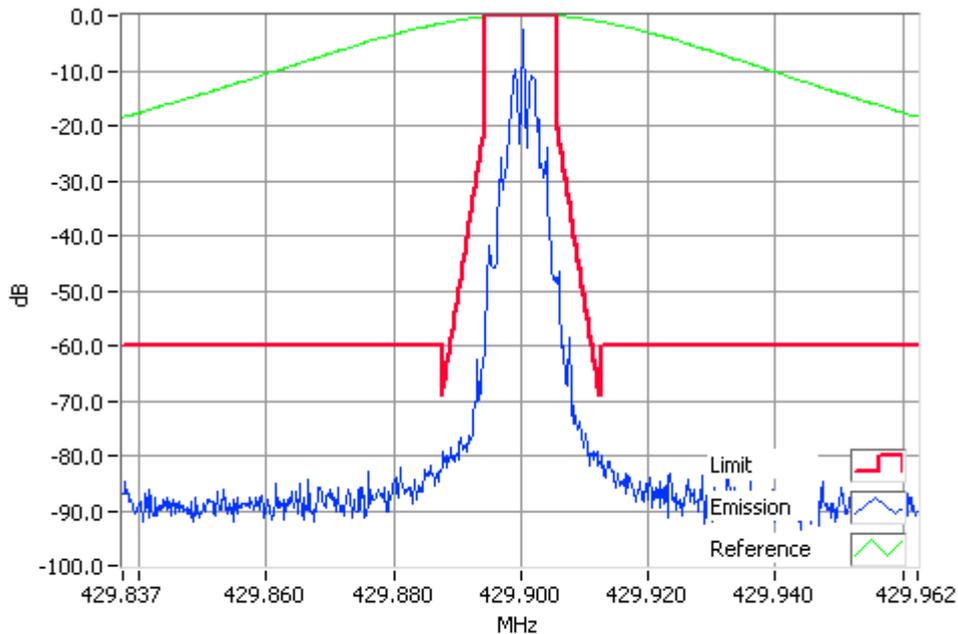
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 429.9 MHz 40 W 12.5 kHz Channel Spacing



FFSK1200 429.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 429.9 MHz 10 W 12.5 kHz Channel Spacing



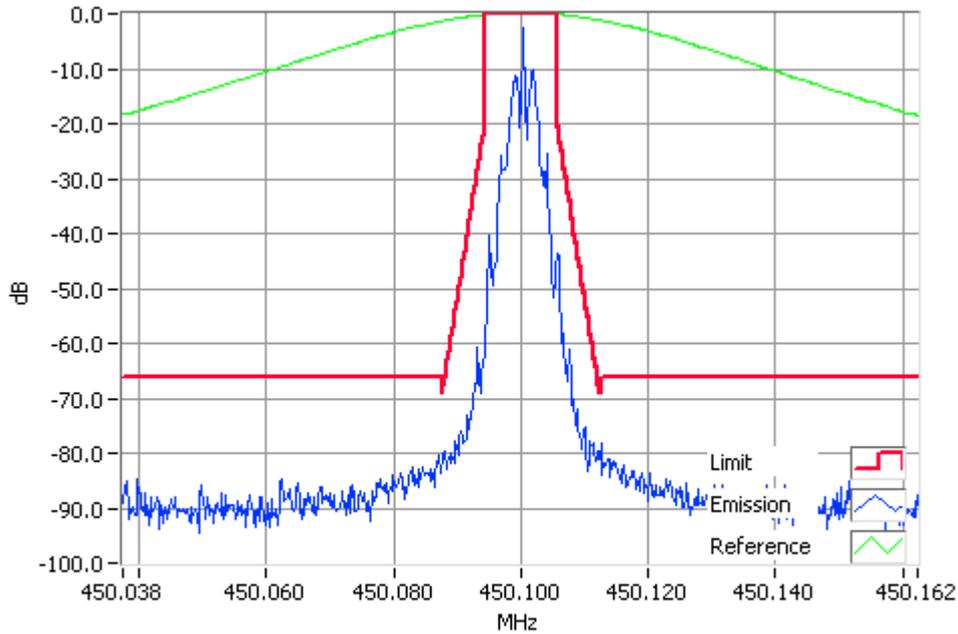
FFSK1200 429.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 1200 bps

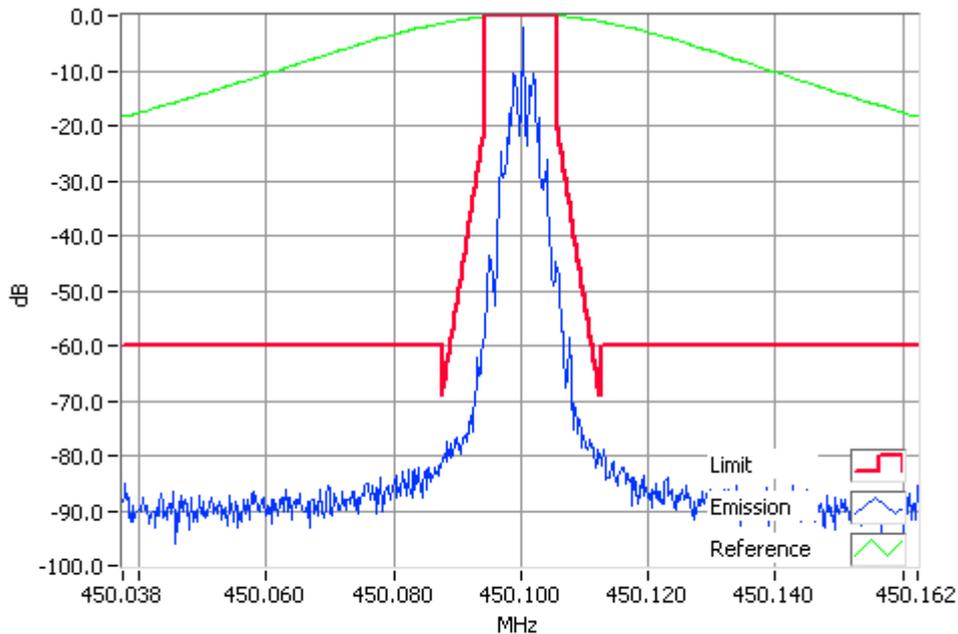
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 450.1 MHz 40 W 12.5 kHz Channel Spacing



FFSK1200 450.1000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 450.1 MHz 10 W 12.5 kHz Channel Spacing



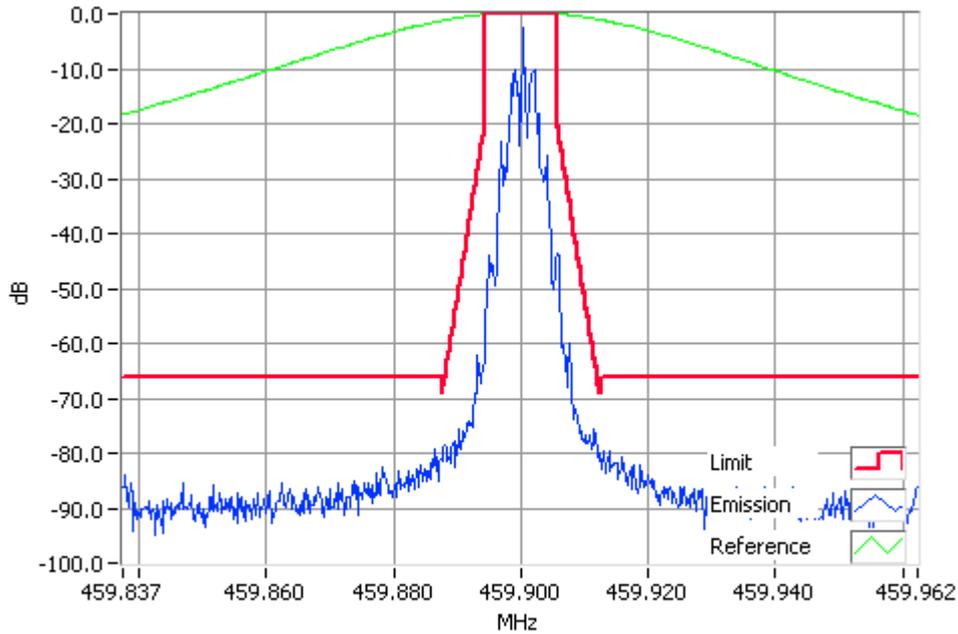
FFSK1200 450.1000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 1200 bps

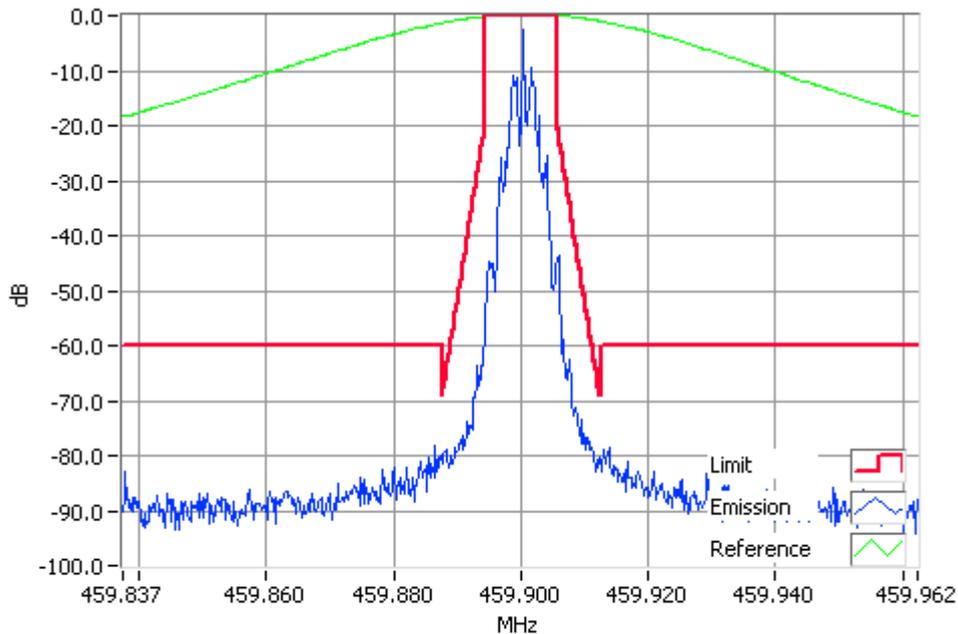
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 459.9 MHz 40 W 12.5 kHz Channel Spacing



FFSK1200 459.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 459.9 MHz 10 W 12.5 kHz Channel Spacing



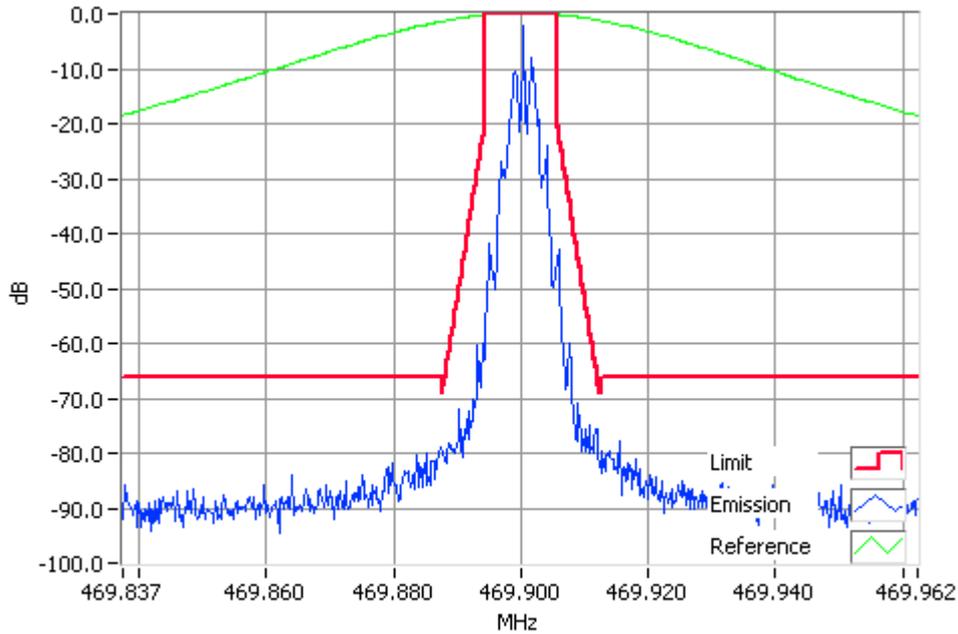
FFSK1200 459.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 1200 bps

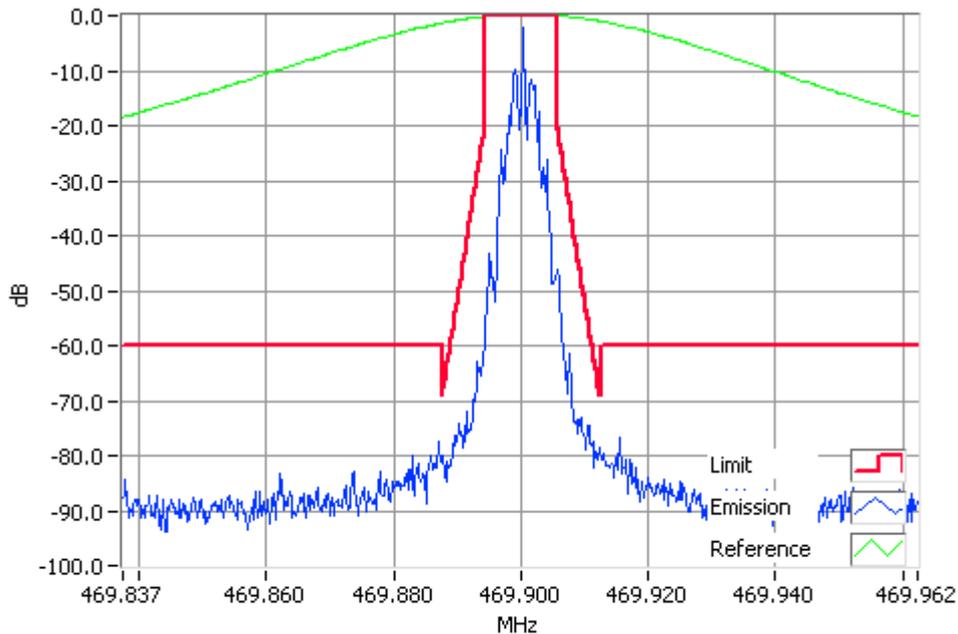
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 469.9 MHz 40 W 12.5 kHz Channel Spacing



FFSK1200 469.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 469.9 MHz 10 W 12.5 kHz Channel Spacing



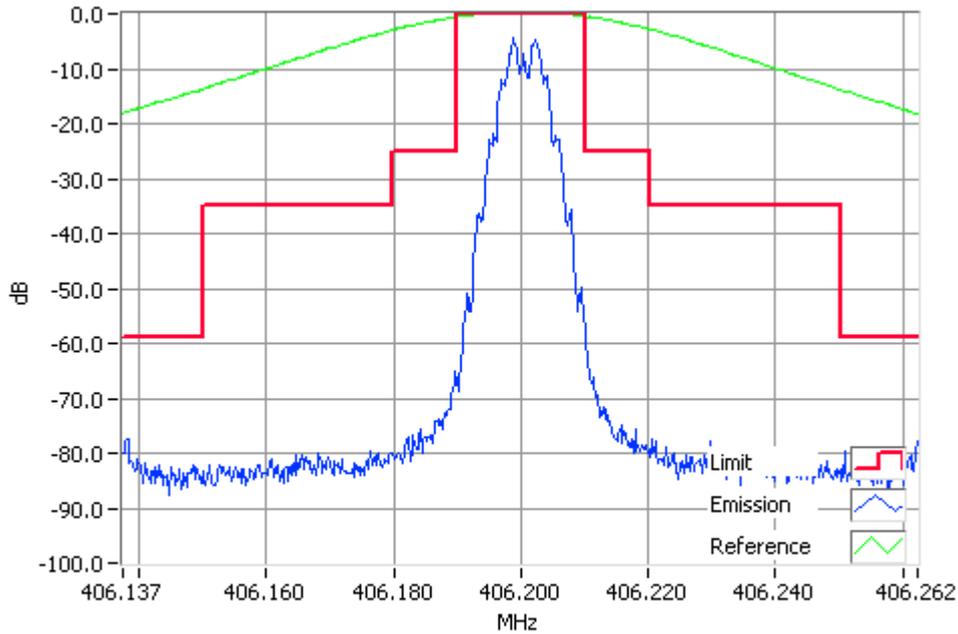
FFSK1200 469.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 1200 bps

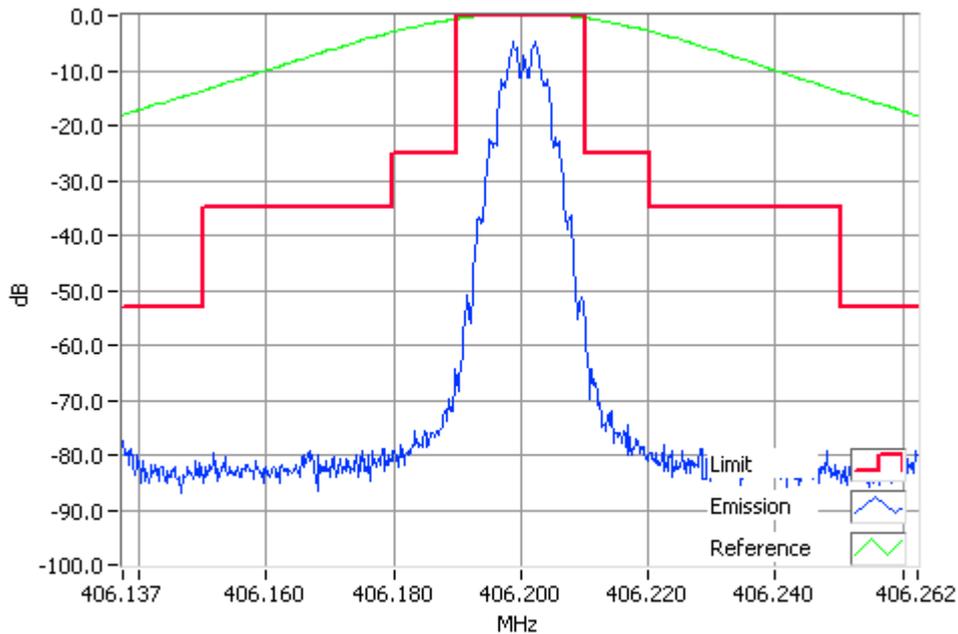
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 406.2 MHz 40 W 25.0 kHz Channel Spacing



FFSK1200 406.2000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 406.2 MHz 10 W 25.0 kHz Channel Spacing



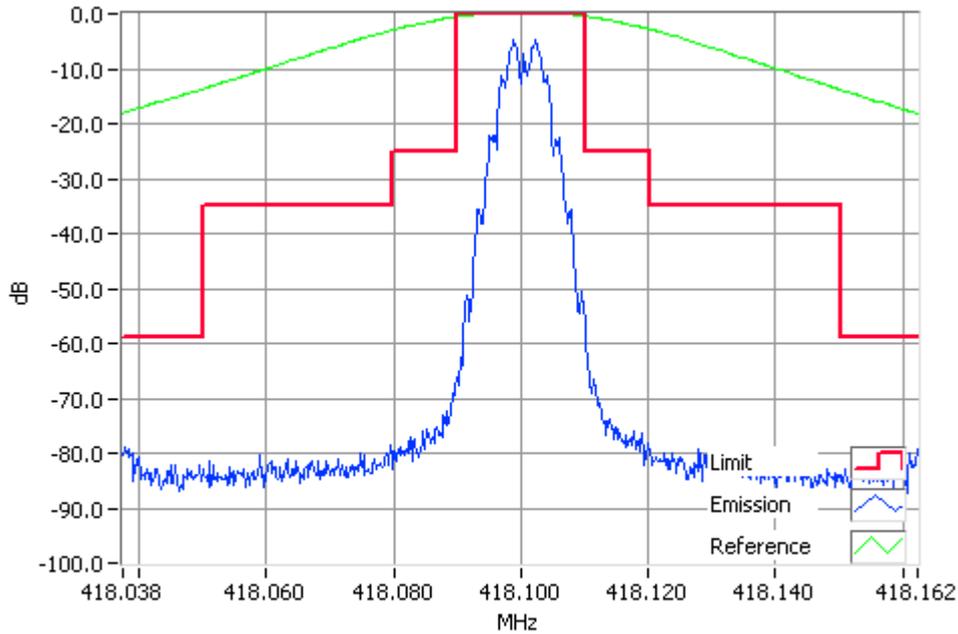
FFSK1200 406.2000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 1200 bps

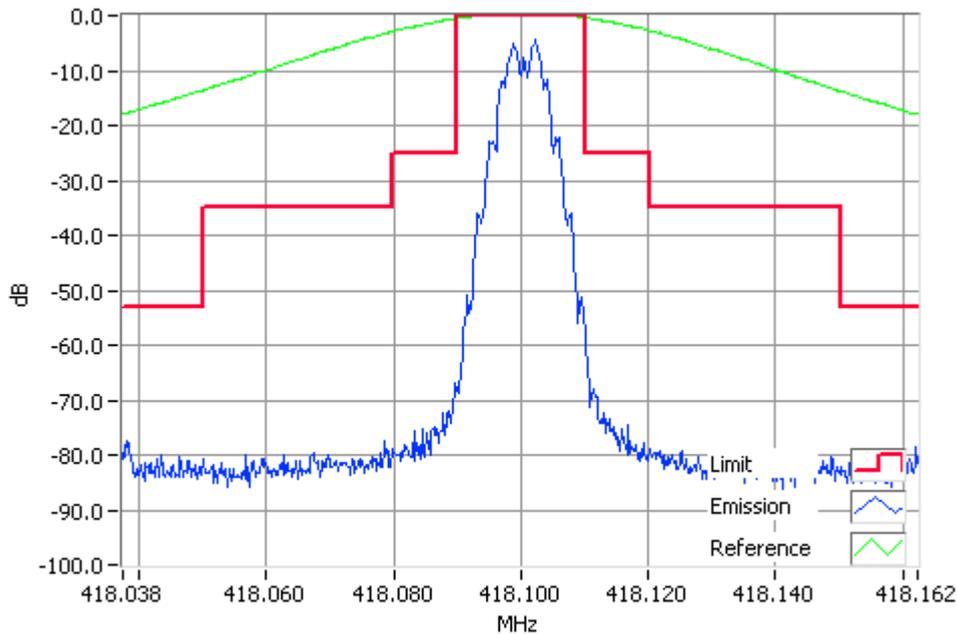
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 418.1 MHz 40 W 25.0 kHz Channel Spacing



FFSK1200 418.1000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 418.1 MHz 10 W 25.0 kHz Channel Spacing



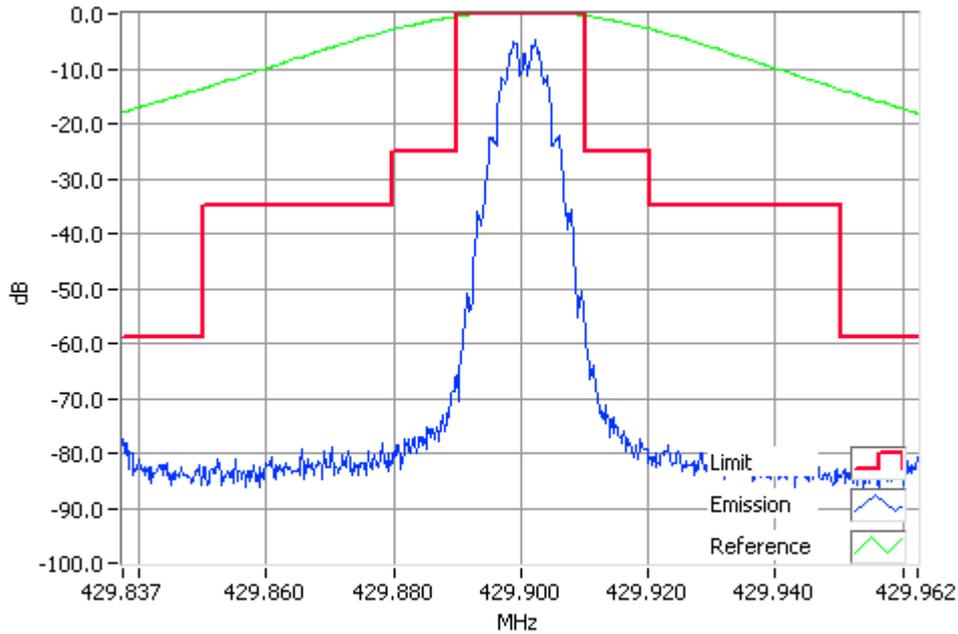
FFSK1200 418.1000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 1200 bps

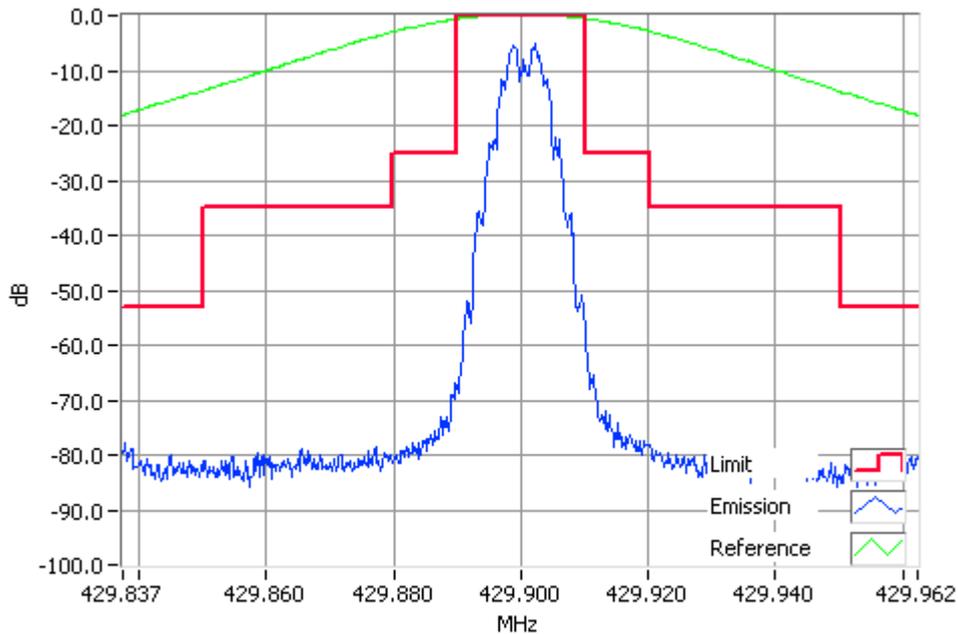
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 429.9 MHz 40 W 25.0 kHz Channel Spacing



FFSK1200 429.9000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 429.9 MHz 10 W 25.0 kHz Channel Spacing



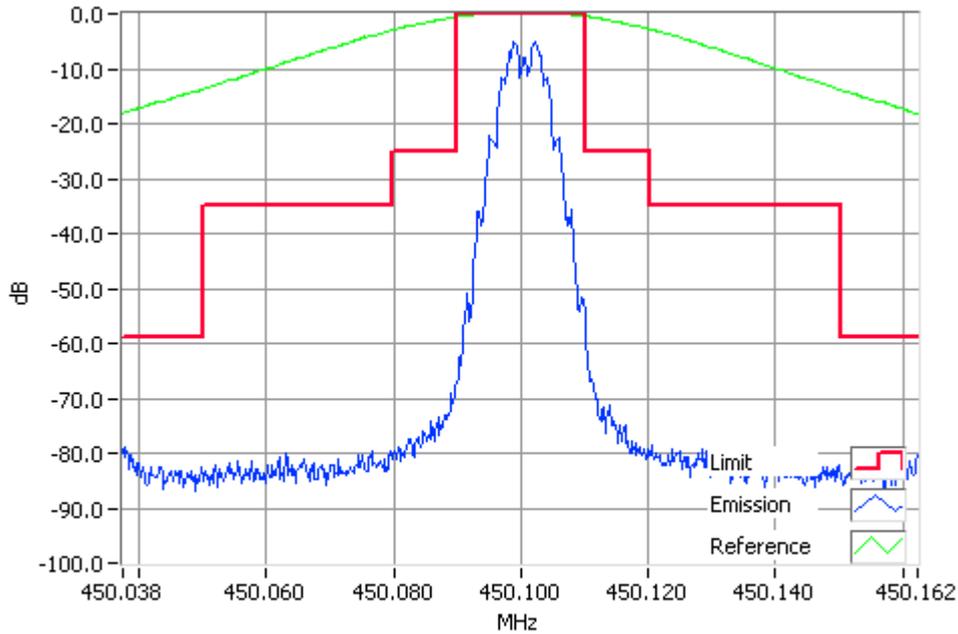
FFSK1200 429.9000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 1200 bps

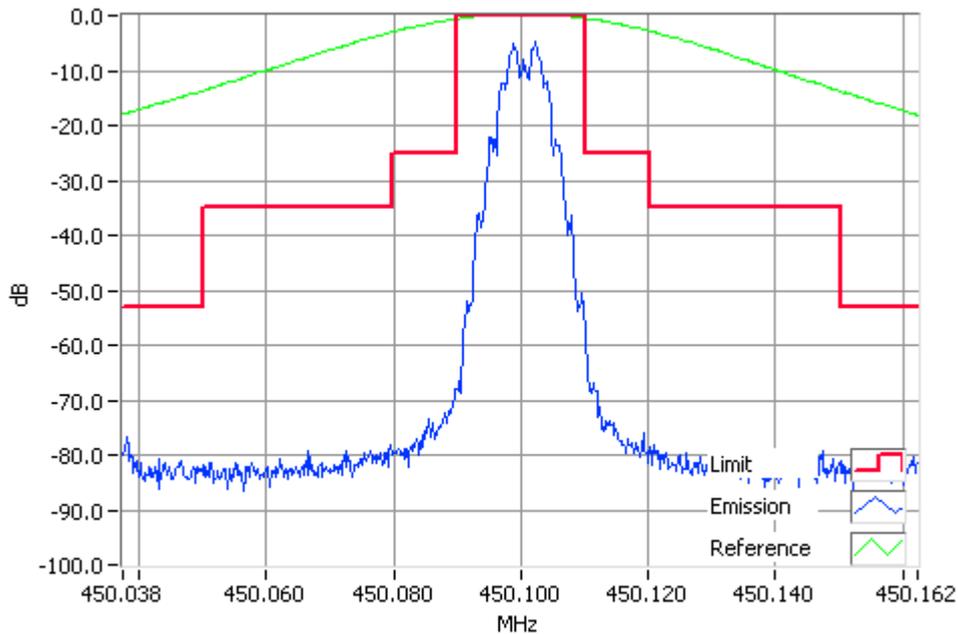
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 450.1 MHz 40 W 25.0 kHz Channel Spacing



FFSK1200 450.1000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 450.1 MHz 10 W 25.0 kHz Channel Spacing



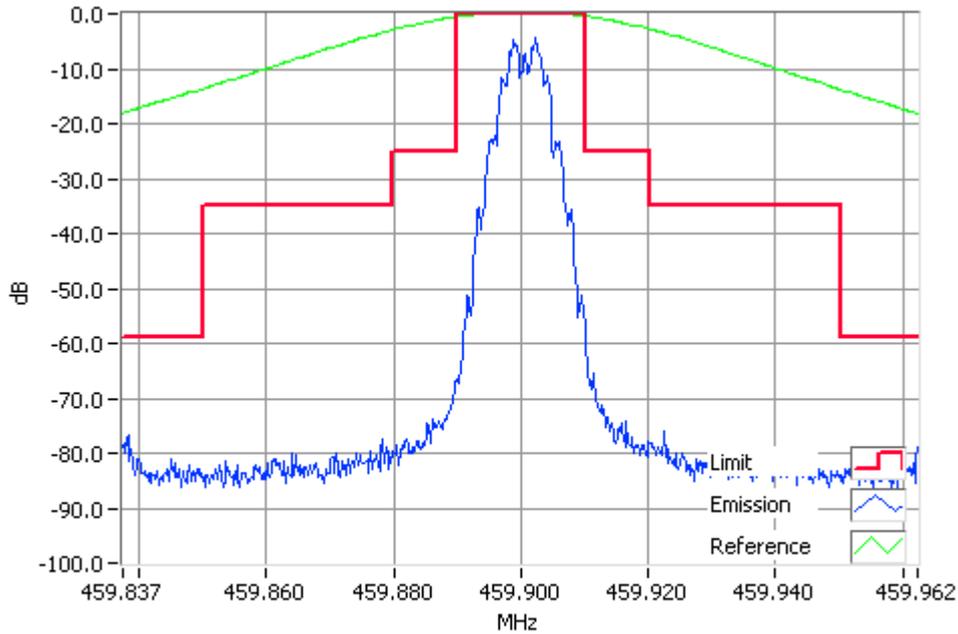
FFSK1200 450.1000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 1200 bps

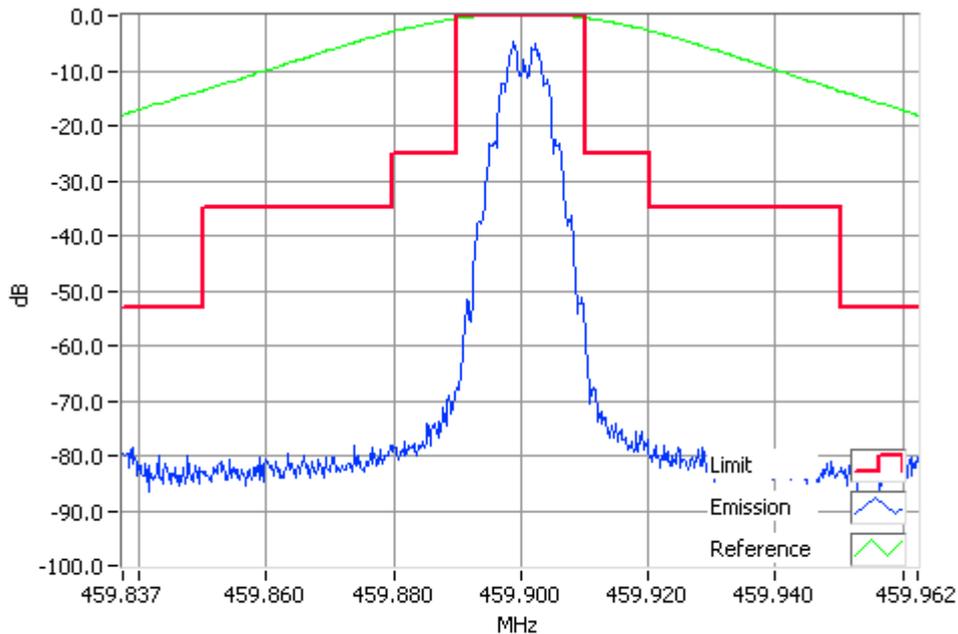
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 459.9 MHz 40 W 25.0 kHz Channel Spacing



FFSK1200 459.9000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 459.9 MHz 10 W 25.0 kHz Channel Spacing



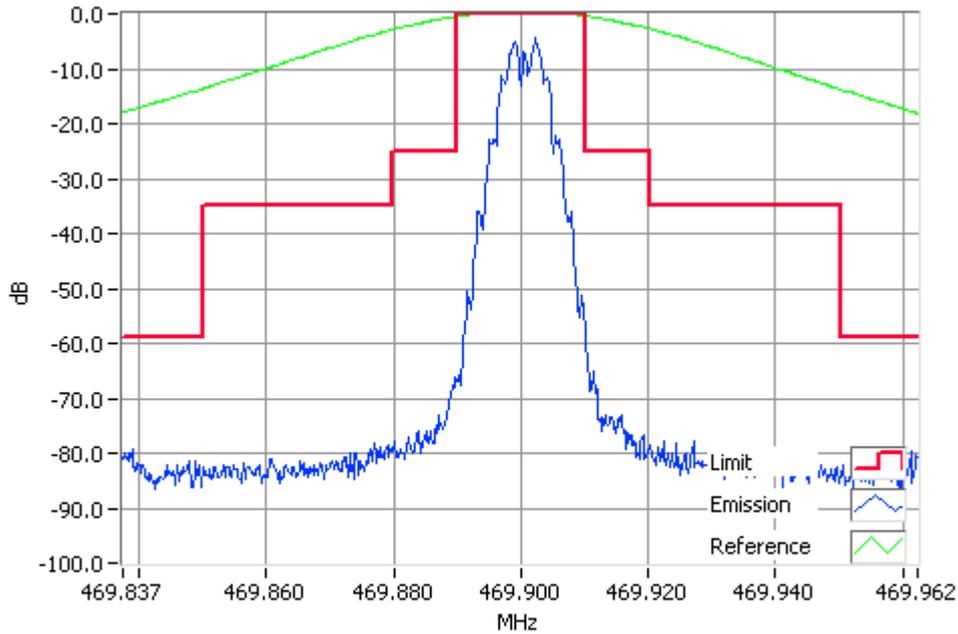
FFSK1200 459.9000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 1200 bps

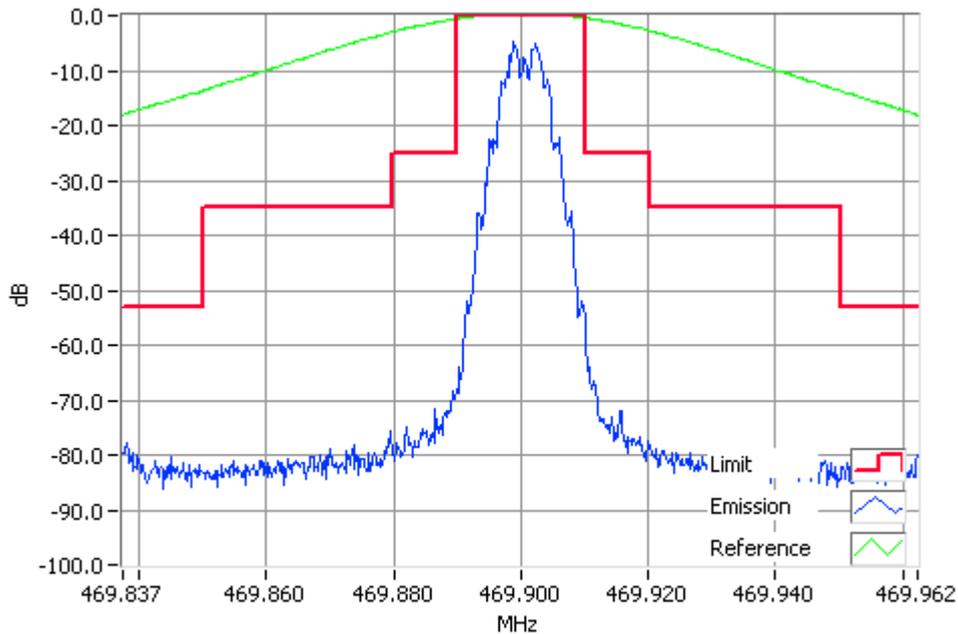
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 469.9 MHz 40 W 25.0 kHz Channel Spacing



FFSK1200 469.9000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 469.9 MHz 10 W 25.0 kHz Channel Spacing



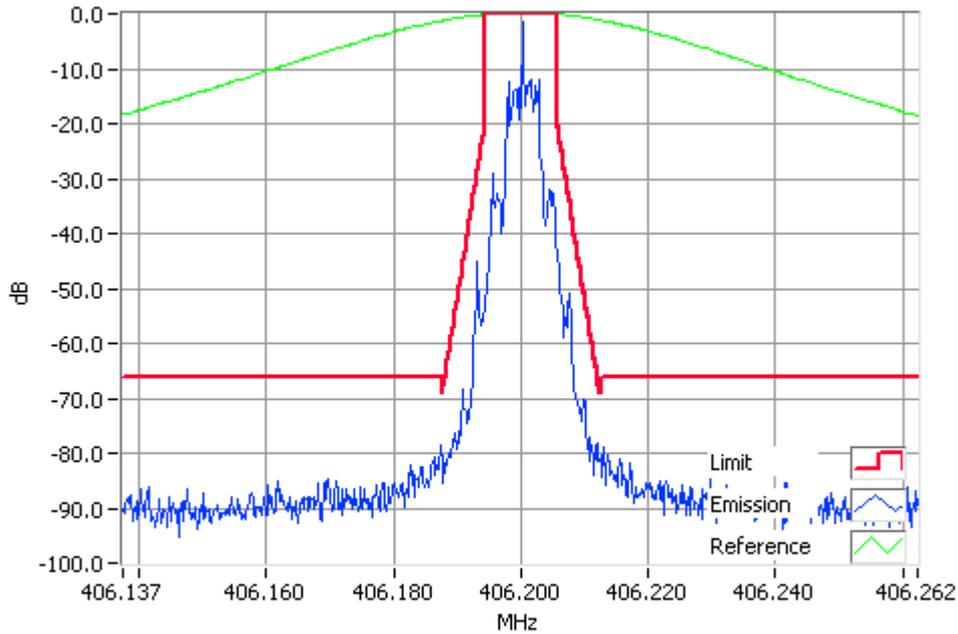
FFSK1200 469.9000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 2400 bps

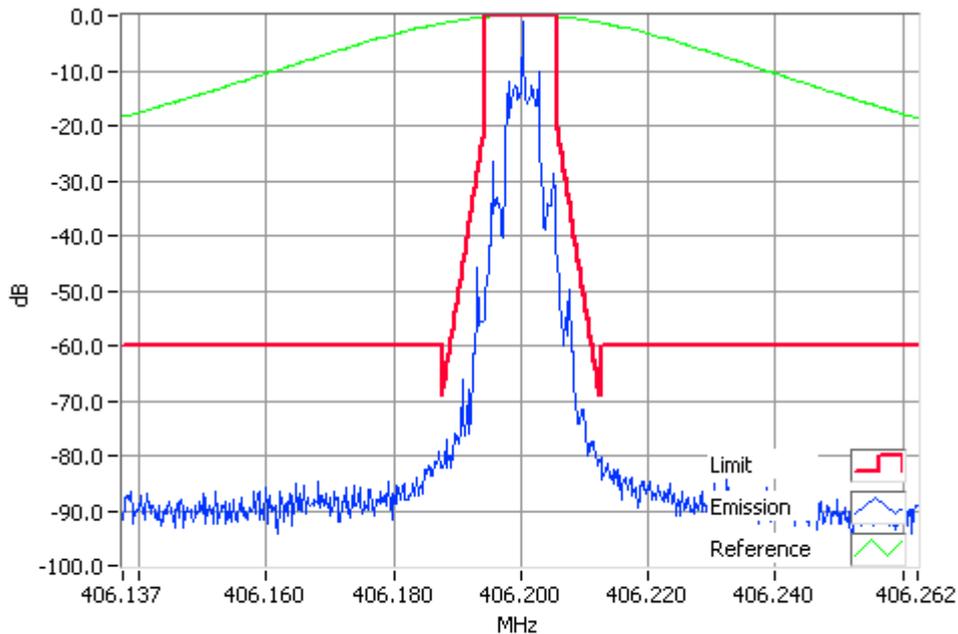
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 406.2 MHz 40 W 12.5 kHz Channel Spacing



FFSK2400 406.2000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 406.2 MHz 10 W 12.5 kHz Channel Spacing



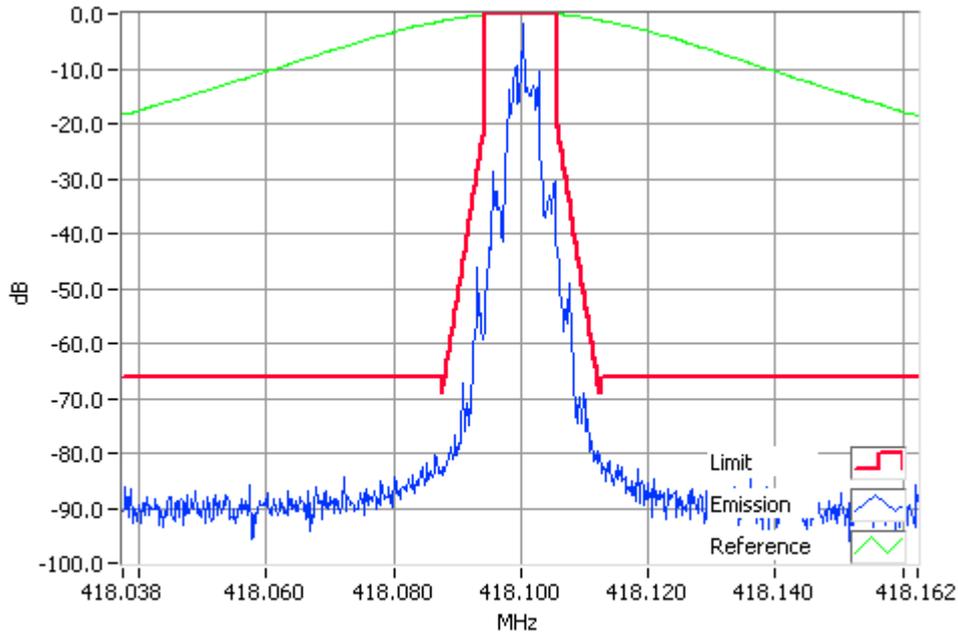
FFSK2400 406.2000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 2400 bps

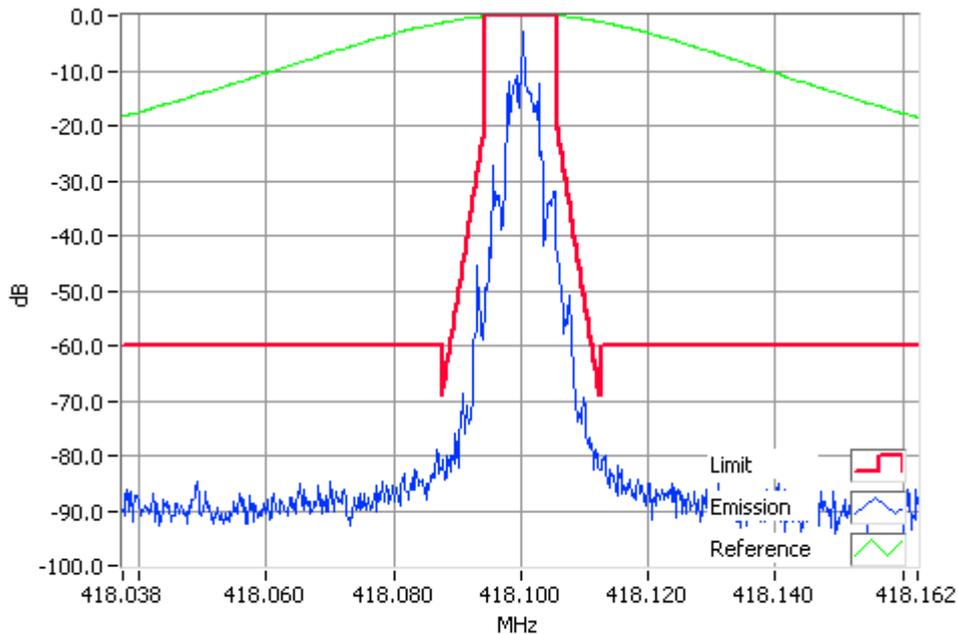
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 418.1 MHz 40 W 12.5 kHz Channel Spacing



FFSK2400 418.1000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 418.1 MHz 10 W 12.5 kHz Channel Spacing



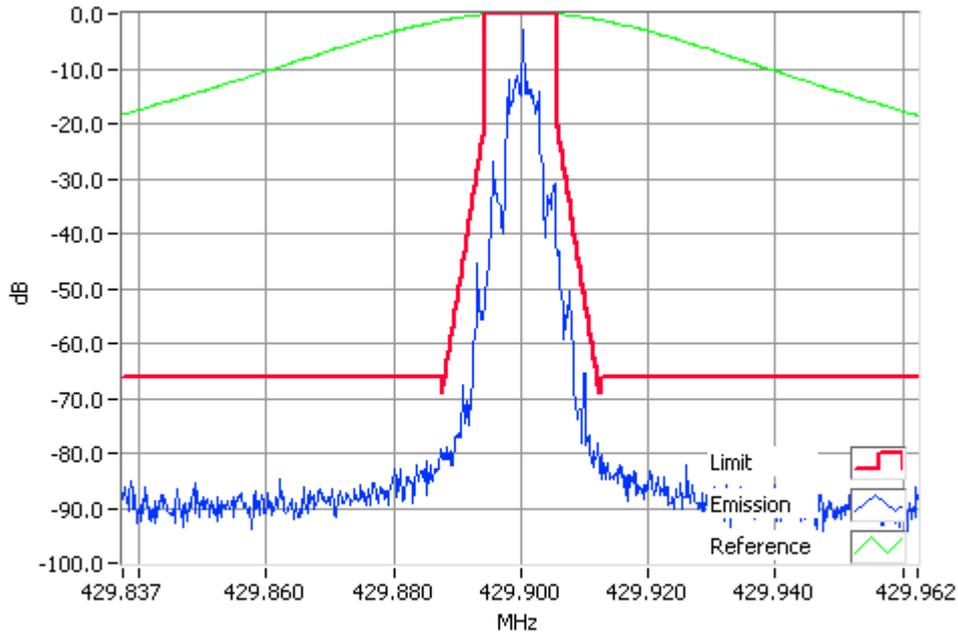
FFSK2400 418.1000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 2400 bps

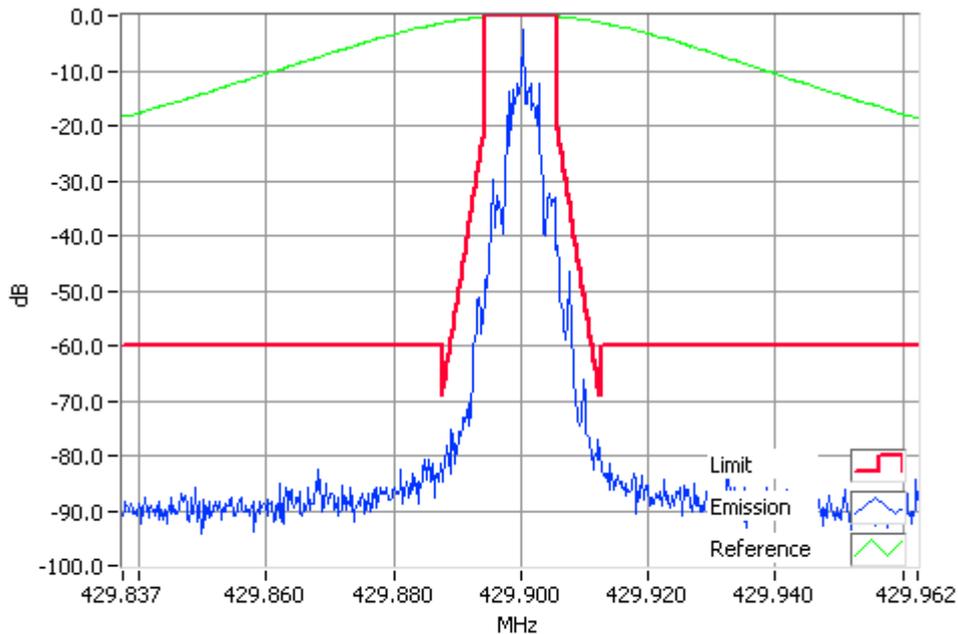
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 429.9 MHz 40 W 12.5 kHz Channel Spacing



FFSK2400 429.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 429.9 MHz 10 W 12.5 kHz Channel Spacing



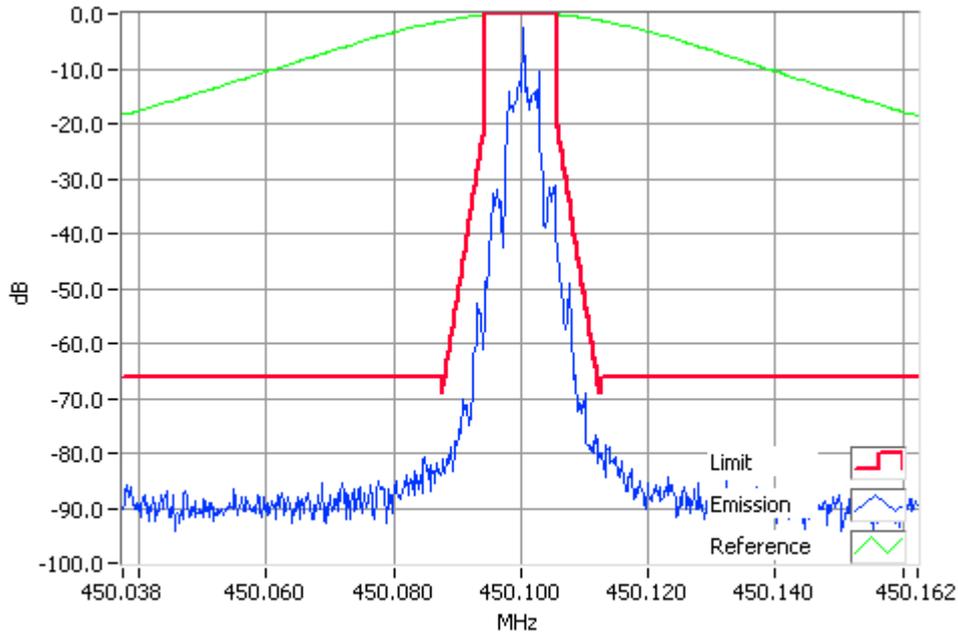
FFSK2400 429.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 2400 bps

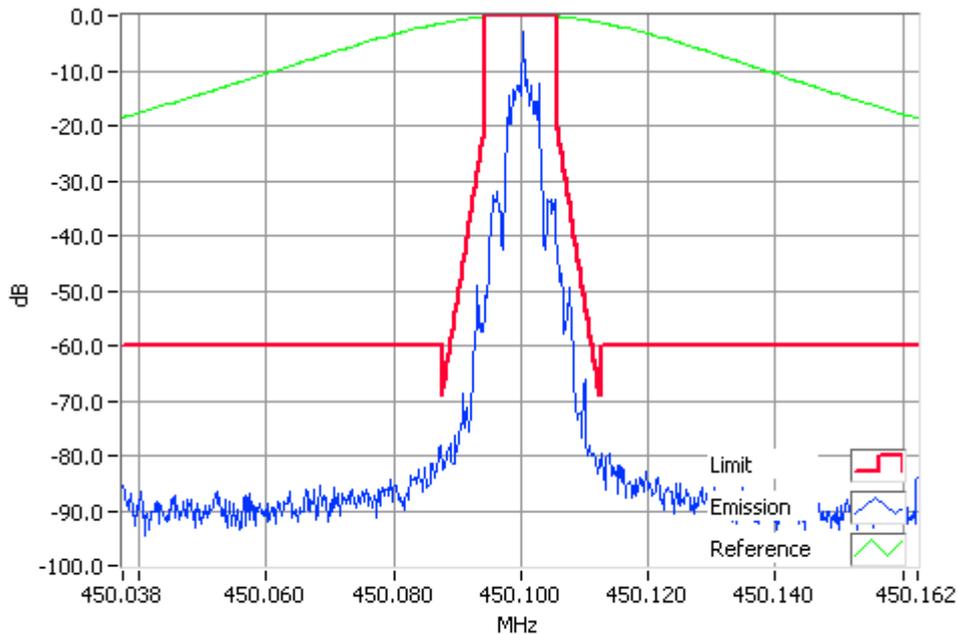
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 450.1 MHz 40 W 12.5 kHz Channel Spacing



FFSK2400 450.1000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 450.1 MHz 10 W 12.5 kHz Channel Spacing



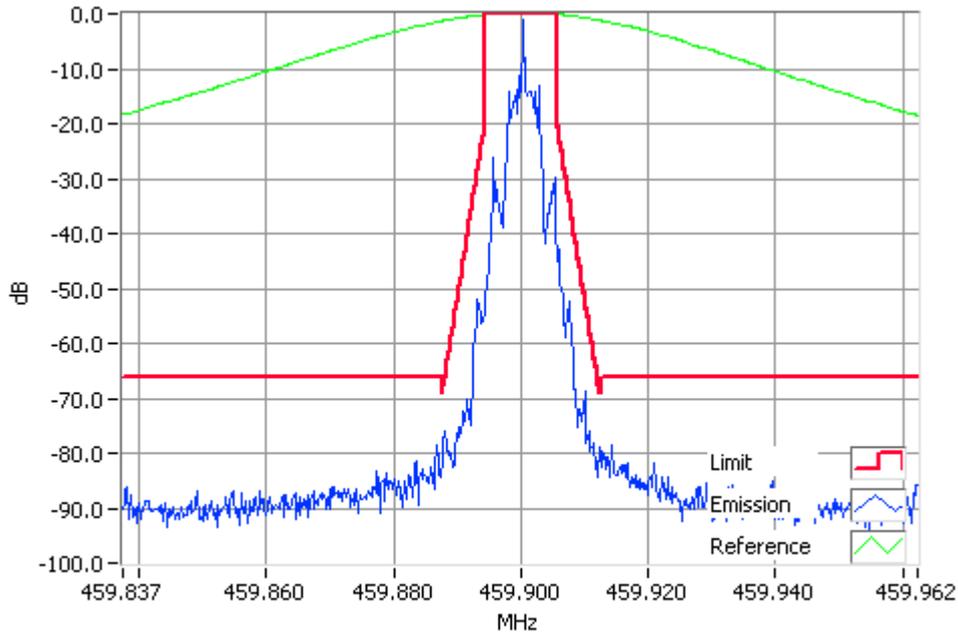
FFSK2400 450.1000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 2400 bps

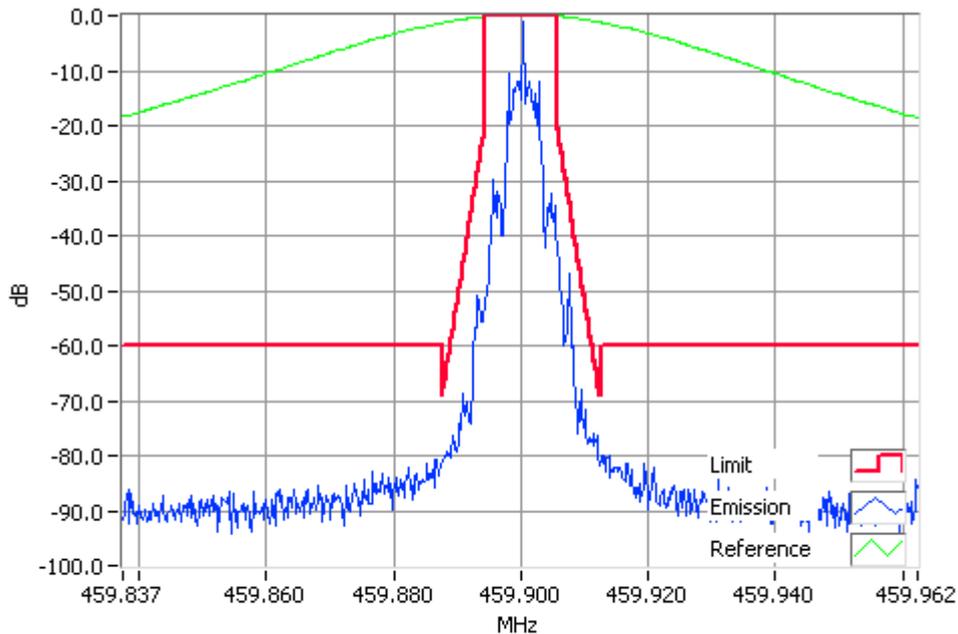
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 459.9 MHz 40 W 12.5 kHz Channel Spacing



FFSK2400 459.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 459.9 MHz 10 W 12.5 kHz Channel Spacing



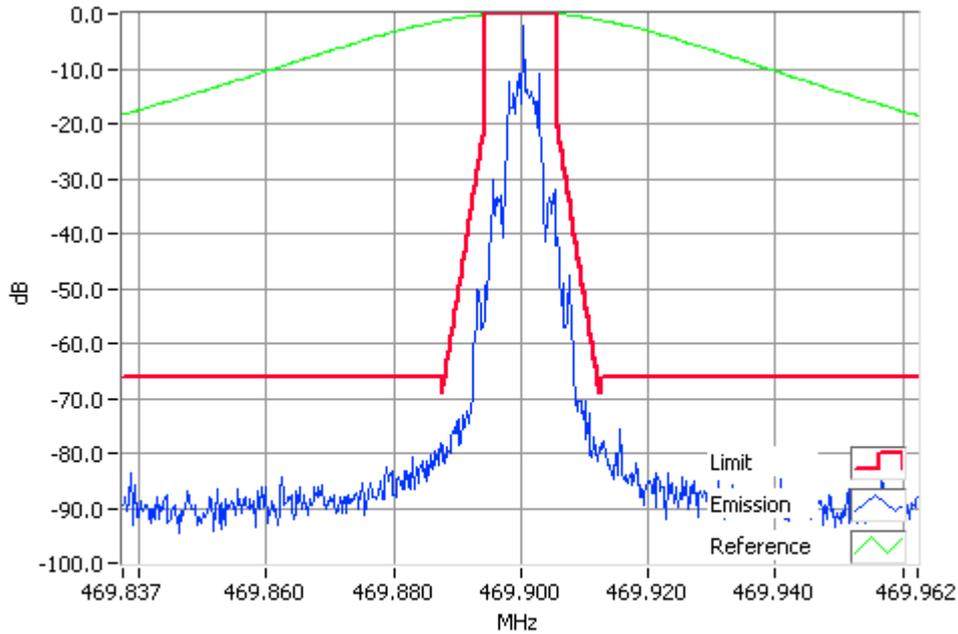
FFSK2400 459.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 2400 bps

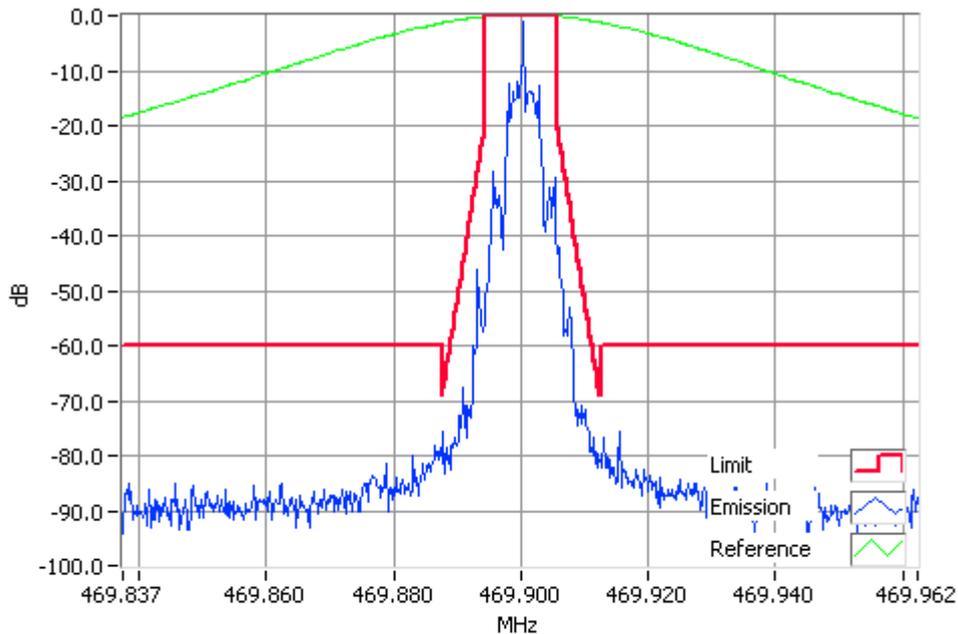
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 469.9 MHz 40 W 12.5 kHz Channel Spacing



FFSK2400 469.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 469.9 MHz 10 W 12.5 kHz Channel Spacing



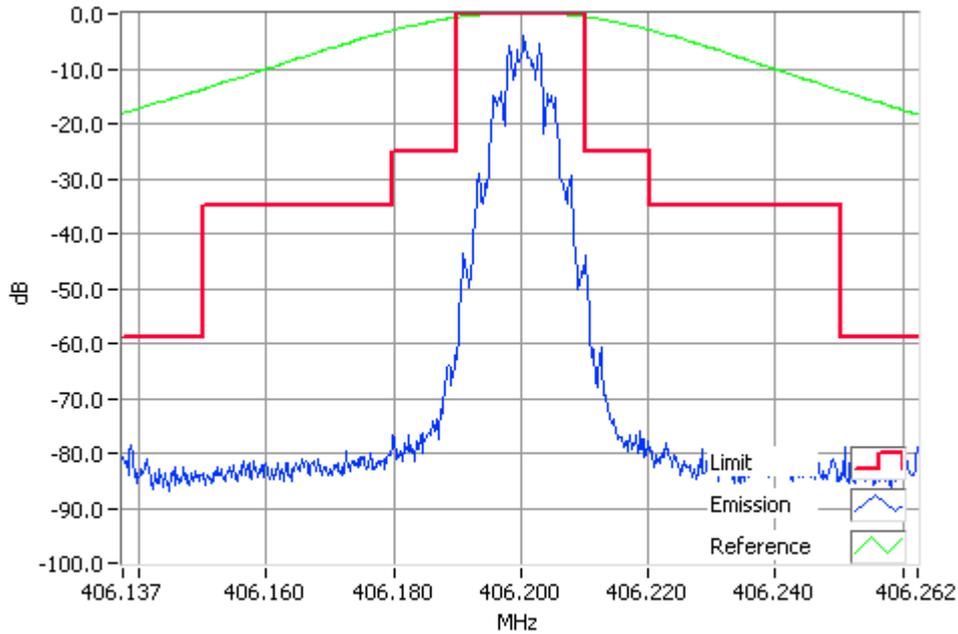
FFSK2400 469.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 2400 bps

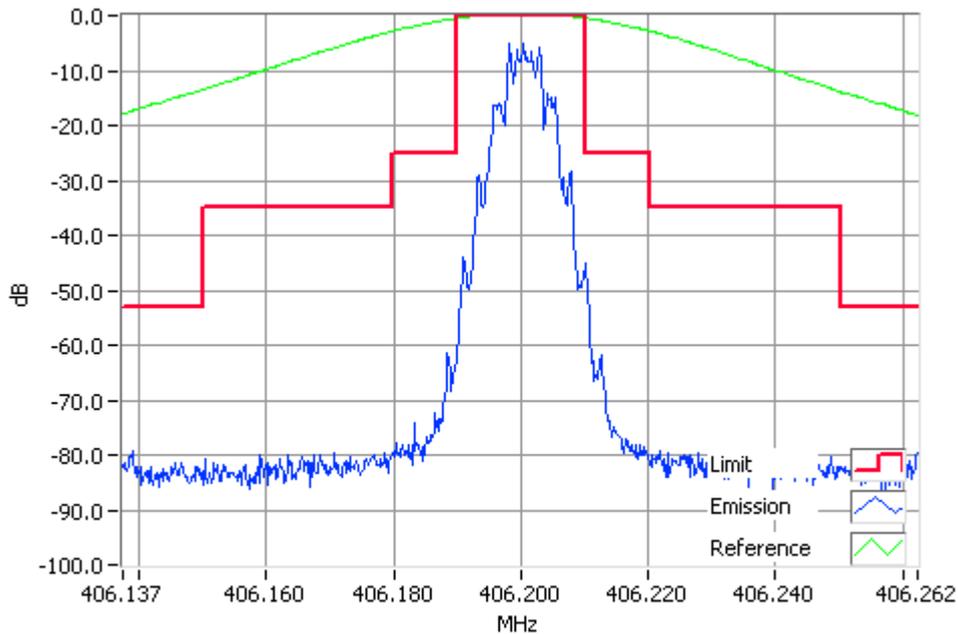
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 406.2 MHz 40 W 25.0 kHz Channel Spacing



FFSK2400 406.2000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 406.2 MHz 10 W 25.0 kHz Channel Spacing



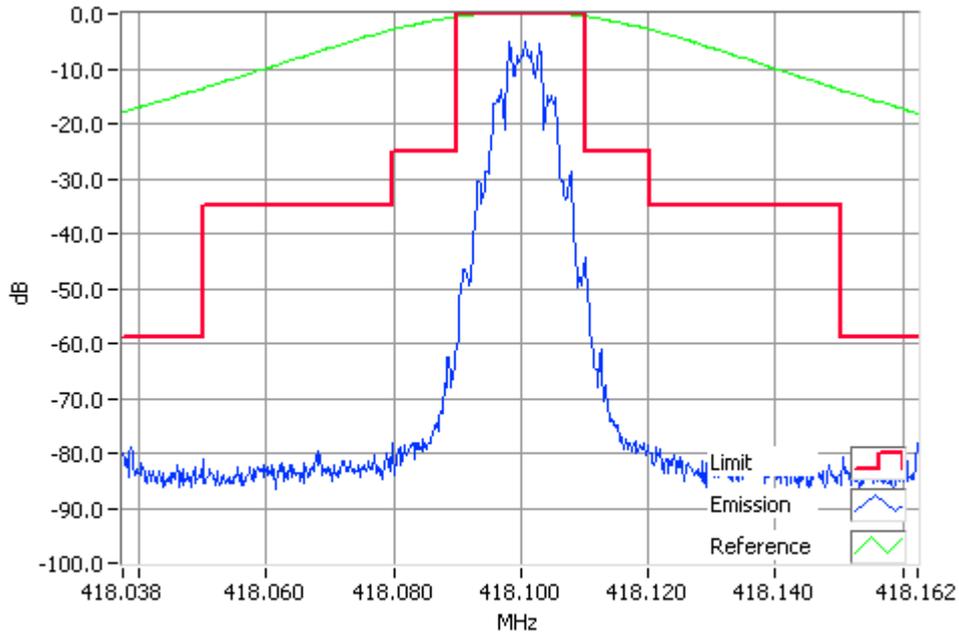
FFSK2400 406.2000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 2400 bps

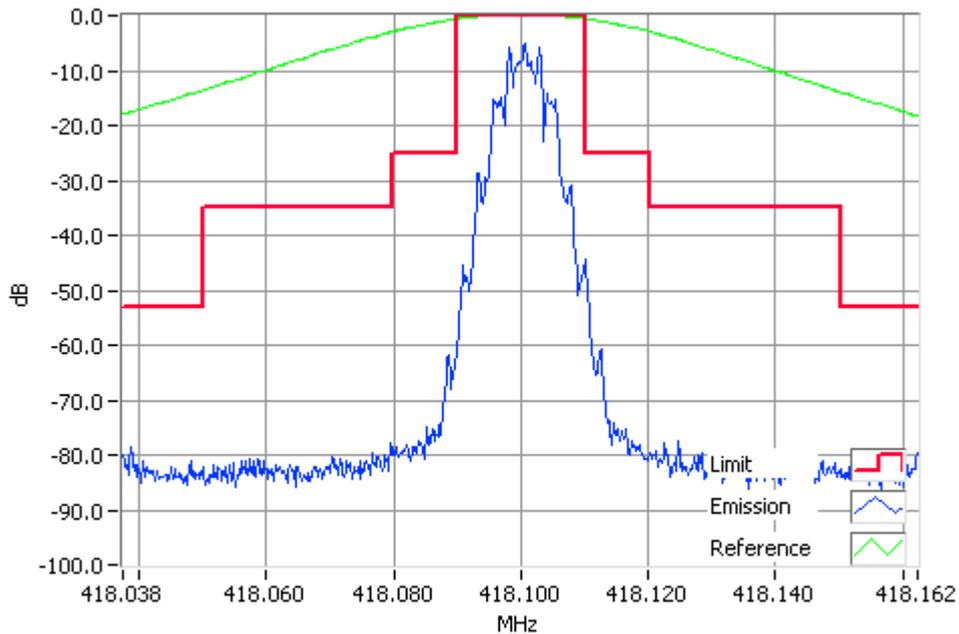
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 418.1 MHz 40 W 25.0 kHz Channel Spacing



FFSK2400 418.1000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 418.1 MHz 10 W 25.0 kHz Channel Spacing



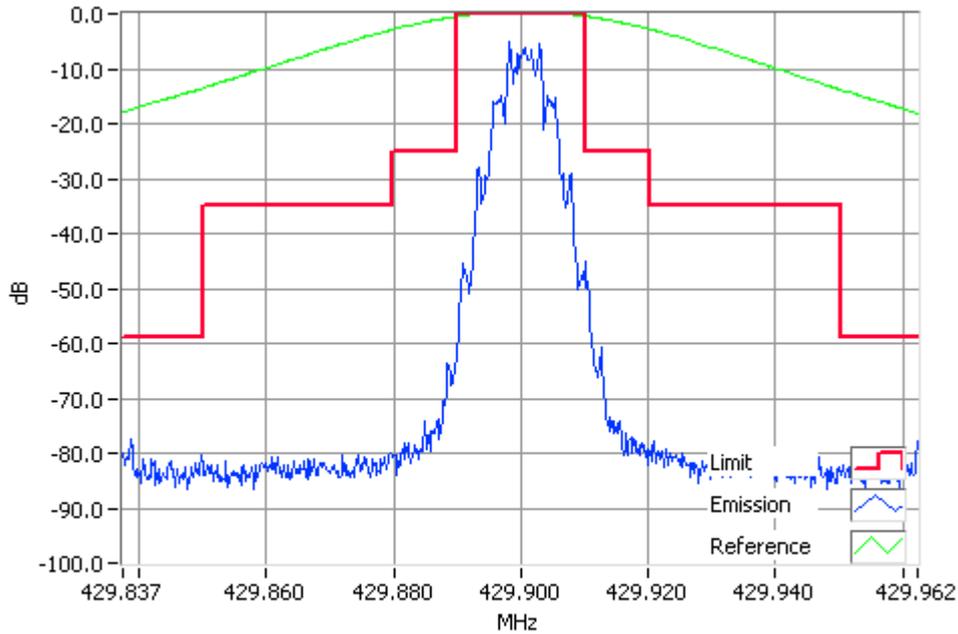
FFSK2400 418.1000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 2400 bps

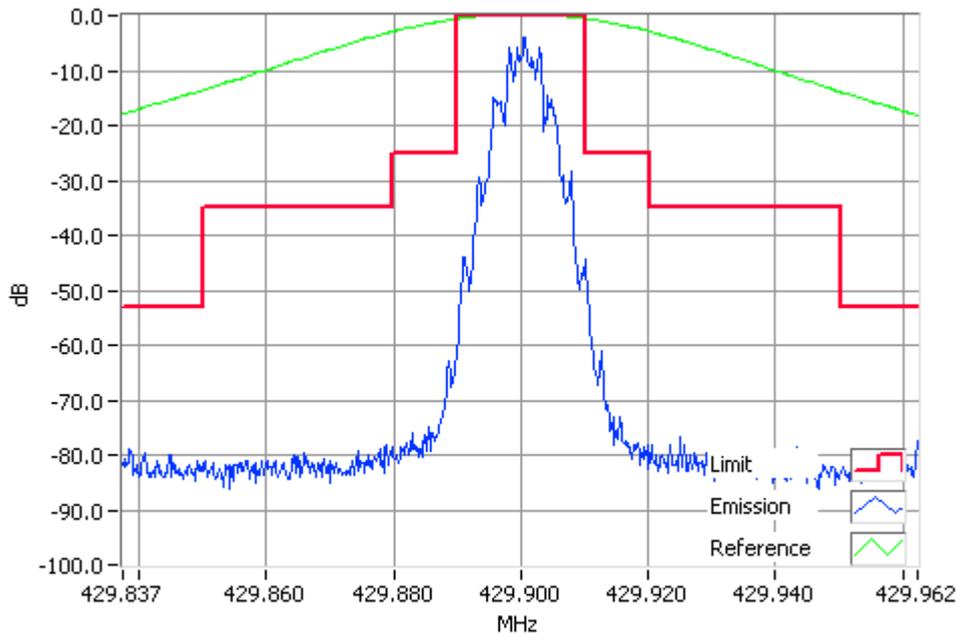
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 429.9 MHz 40 W 25.0 kHz Channel Spacing



FFSK2400 429.9000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 429.9 MHz 10 W 25.0 kHz Channel Spacing



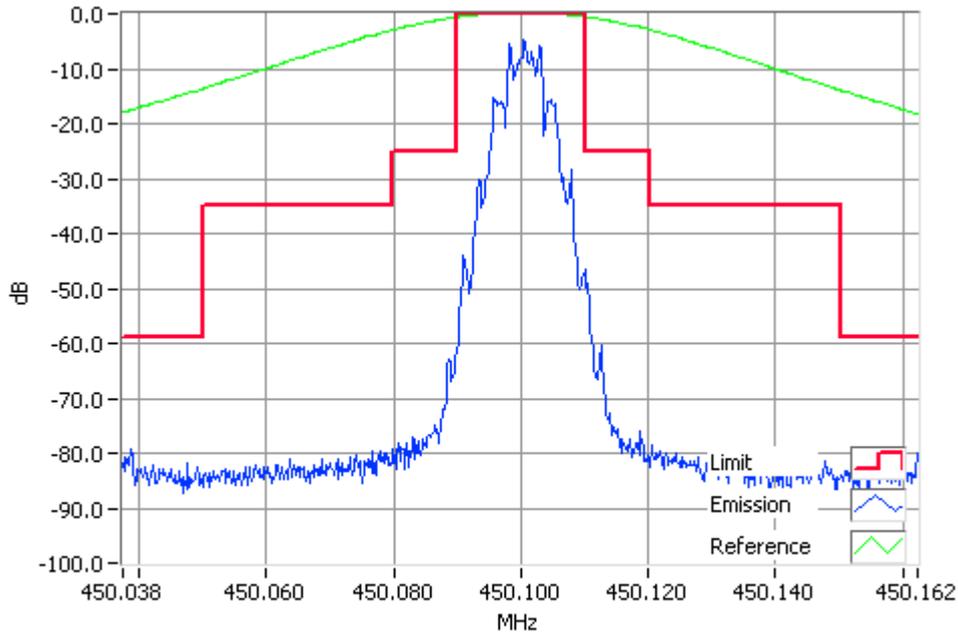
FFSK2400 429.9000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 2400 bps

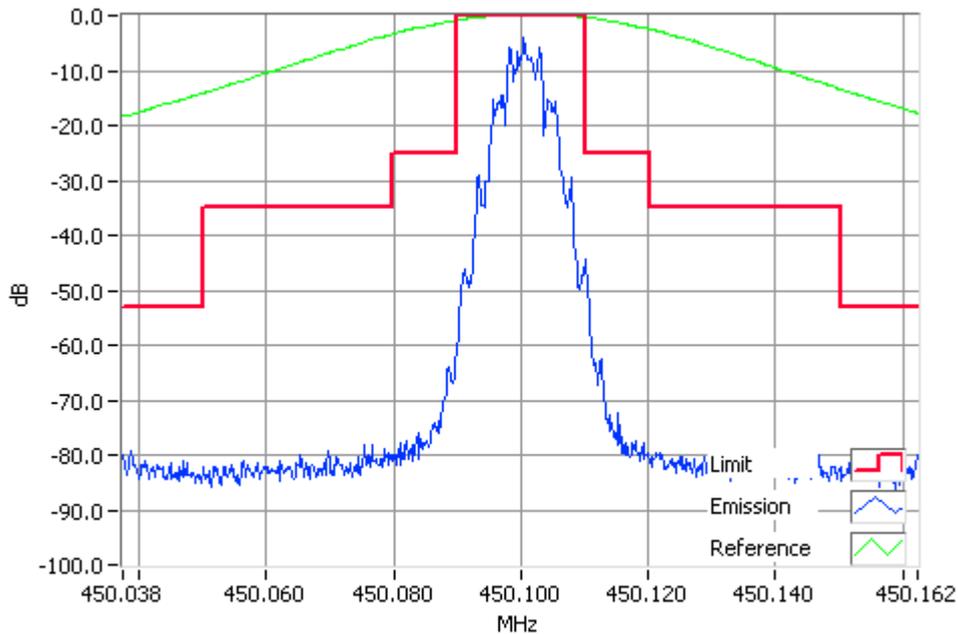
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 450.1 MHz 40 W 25.0 kHz Channel Spacing



FFSK2400 450.1000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 450.1 MHz 10 W 25.0 kHz Channel Spacing



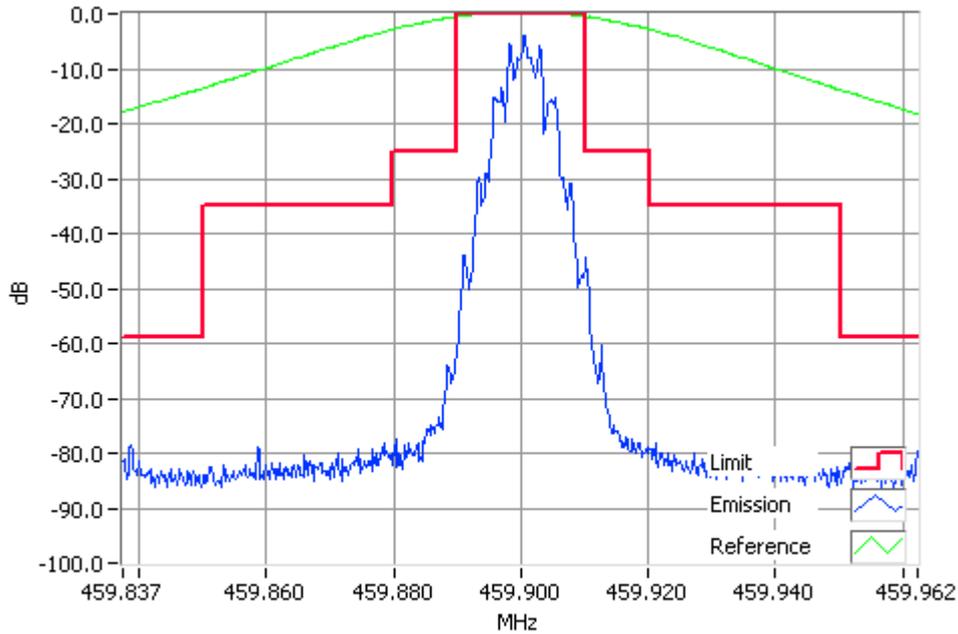
FFSK2400 450.1000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 2400 bps

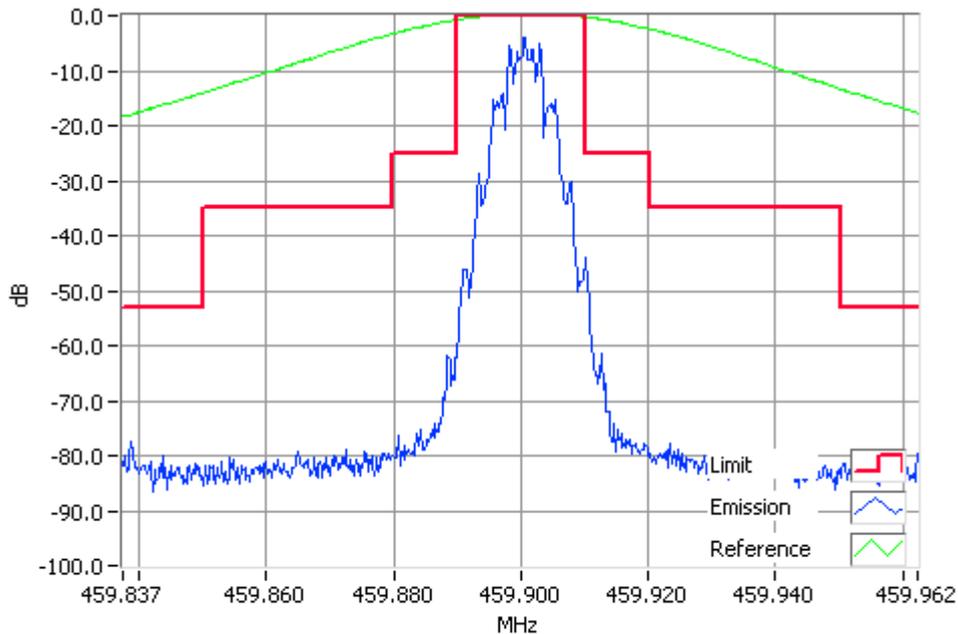
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 459.9 MHz 40 W 25.0 kHz Channel Spacing



FFSK2400 459.9000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 459.9 MHz 10 W 25.0 kHz Channel Spacing



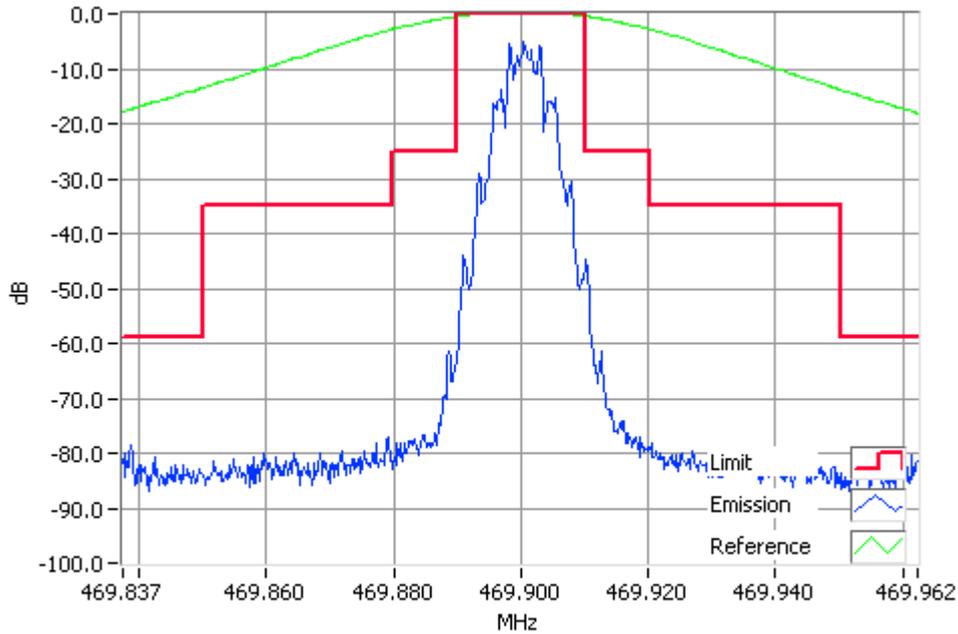
FFSK2400 459.9000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

FFSK – 2400 bps

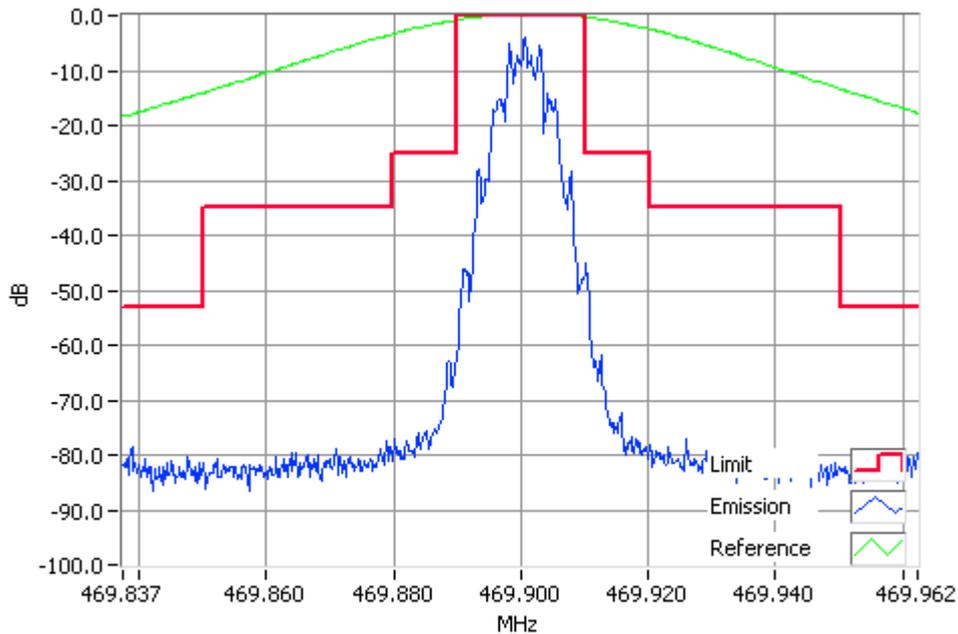
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 469.9 MHz 40 W 25.0 kHz Channel Spacing



FFSK2400 469.9000MHz Mask B 40W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 469.9 MHz 10 W 25.0 kHz Channel Spacing



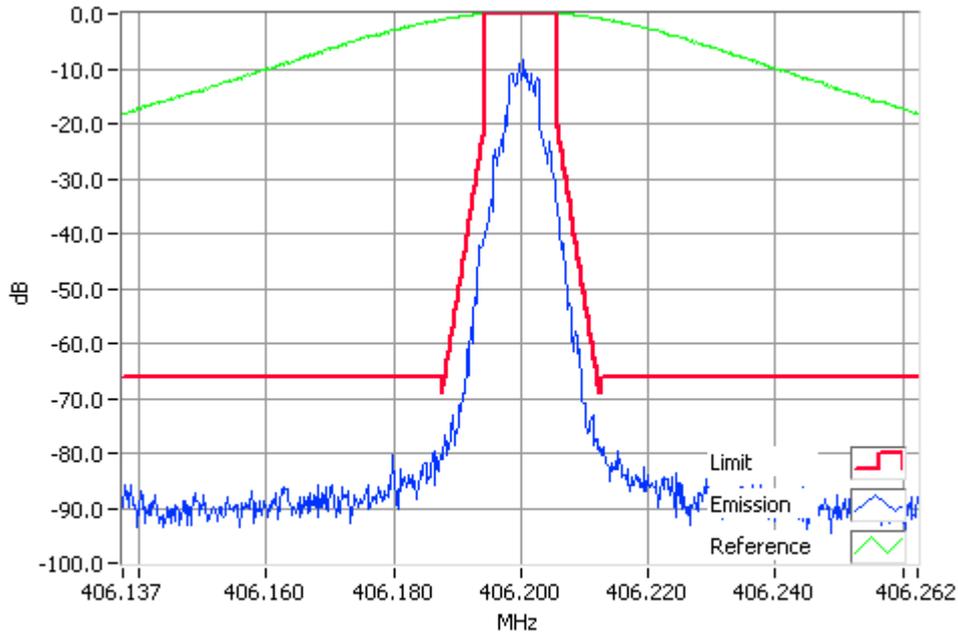
FFSK2400 469.9000MHz Mask B 10W
RBW=300Hz, VBW=3000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

DMR

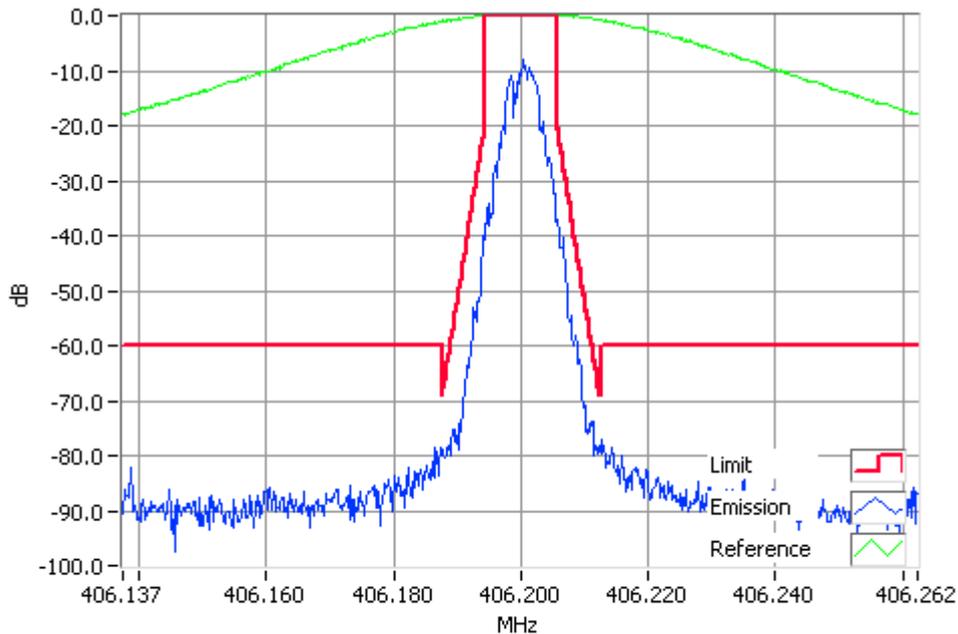
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 406.2 MHz 40 W 12.5 kHz Channel Spacing



DMR 406.2000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 406.2 MHz 10 W 12.5 kHz Channel Spacing



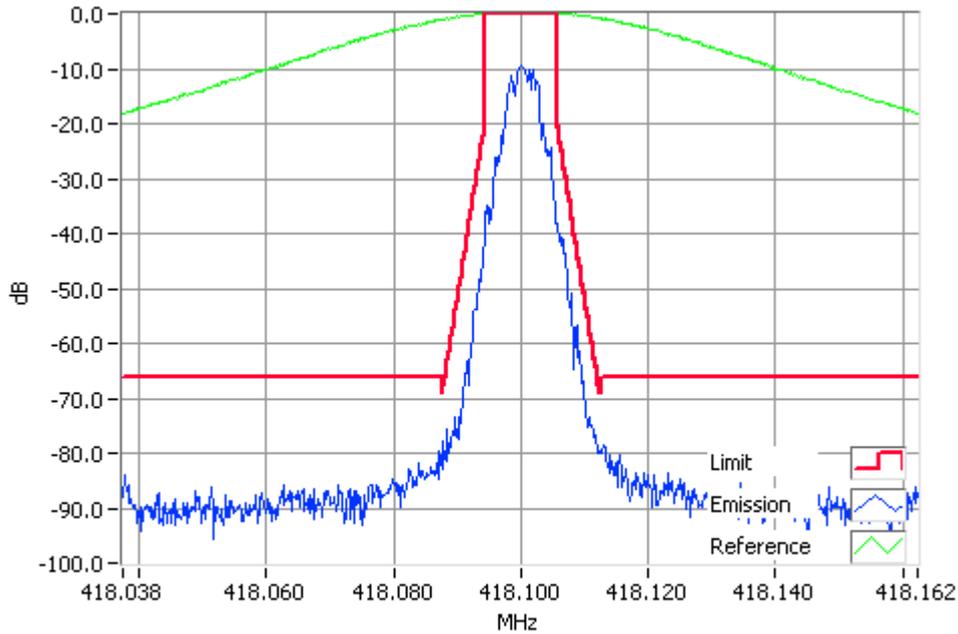
DMR 406.2000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

DMR

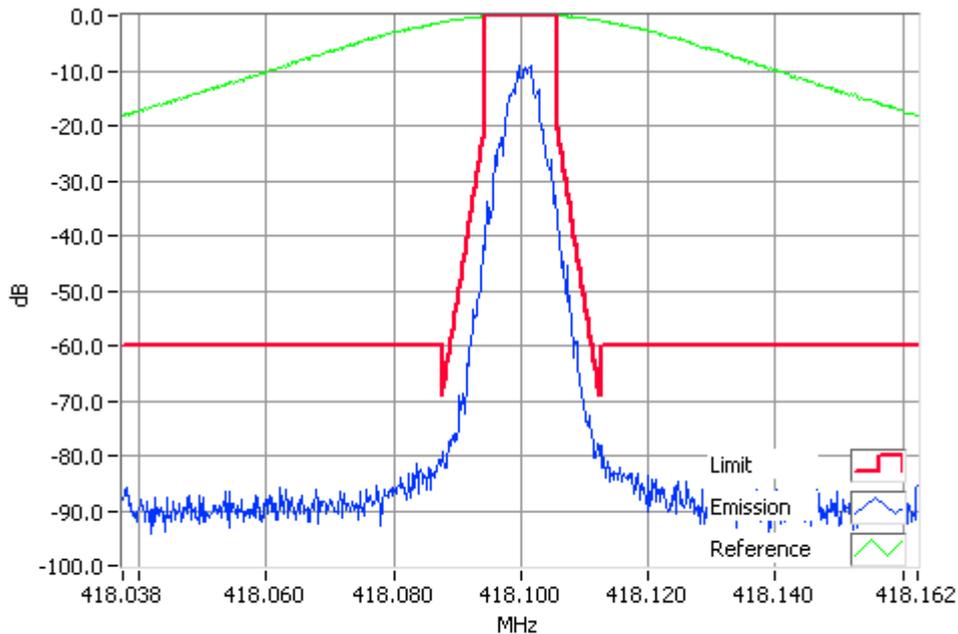
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 418.1 MHz 40 W 12.5 kHz Channel Spacing



DMR 418.1000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 418.1 MHz 10 W 12.5 kHz Channel Spacing



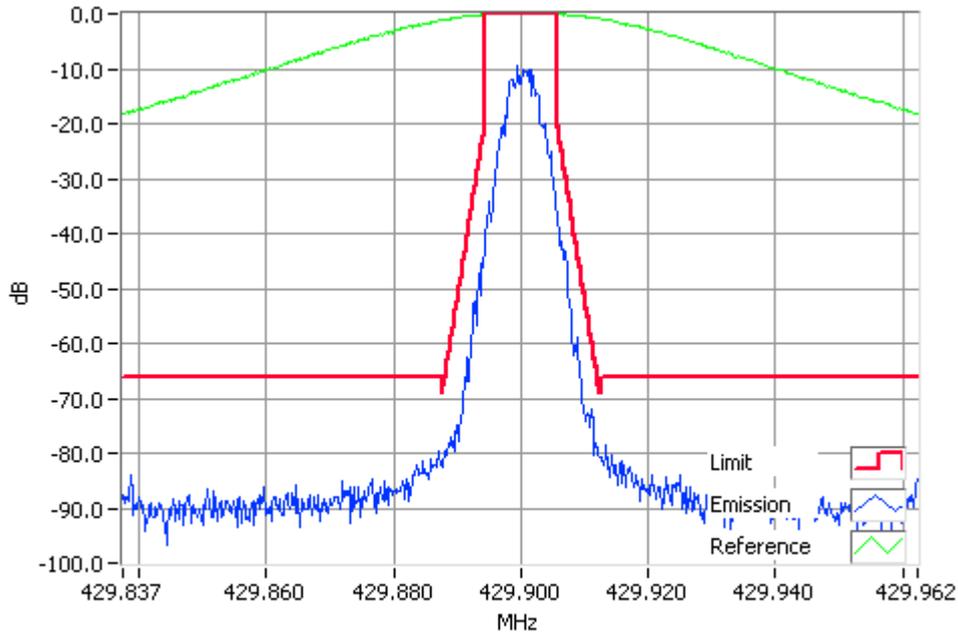
DMR 418.1000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

DMR

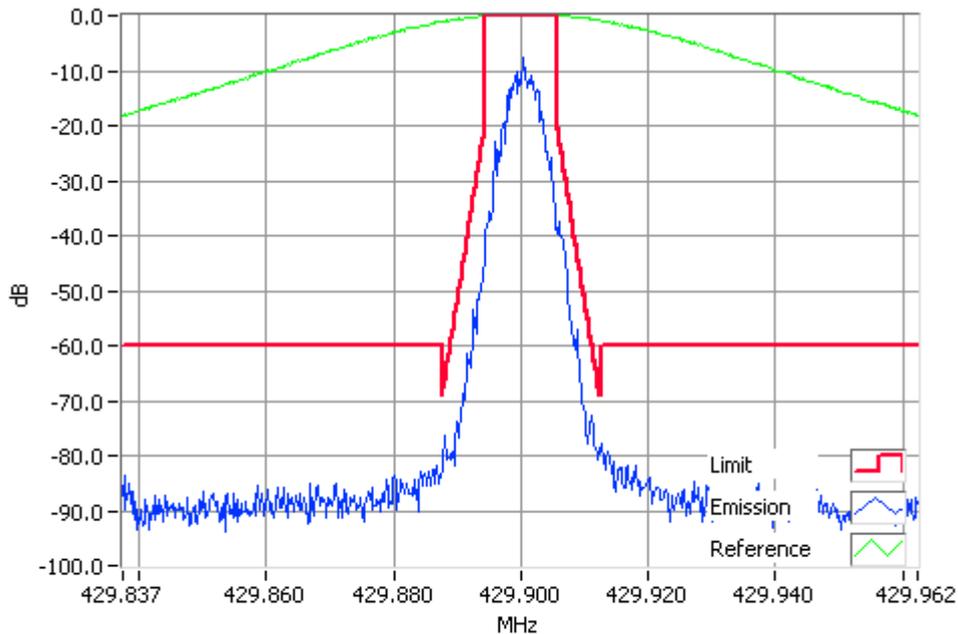
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 429.9 MHz 40 W 12.5 kHz Channel Spacing



DMR 429.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 429.9 MHz 10 W 12.5 kHz Channel Spacing



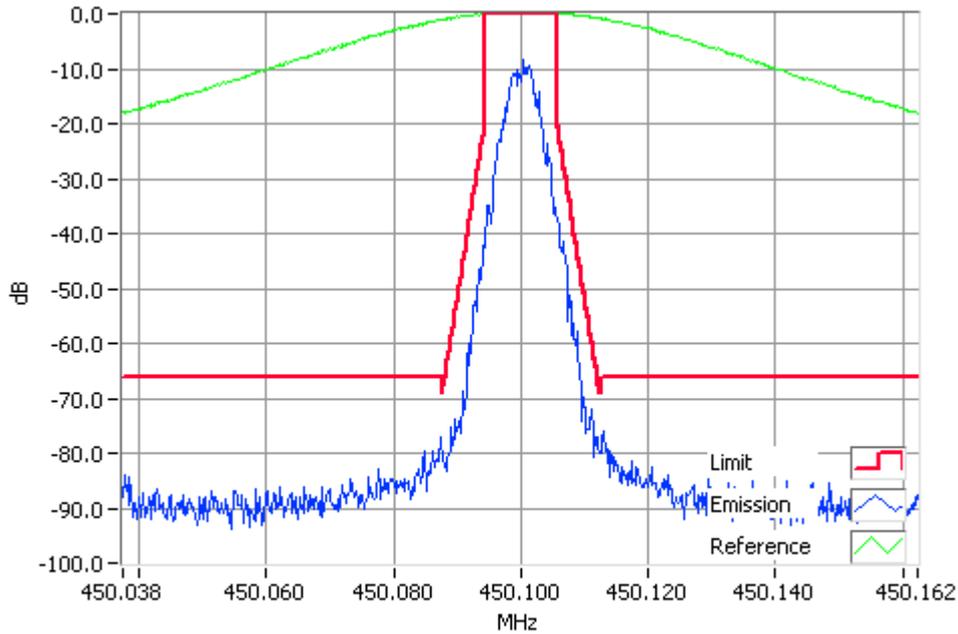
DMR 429.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

DMR

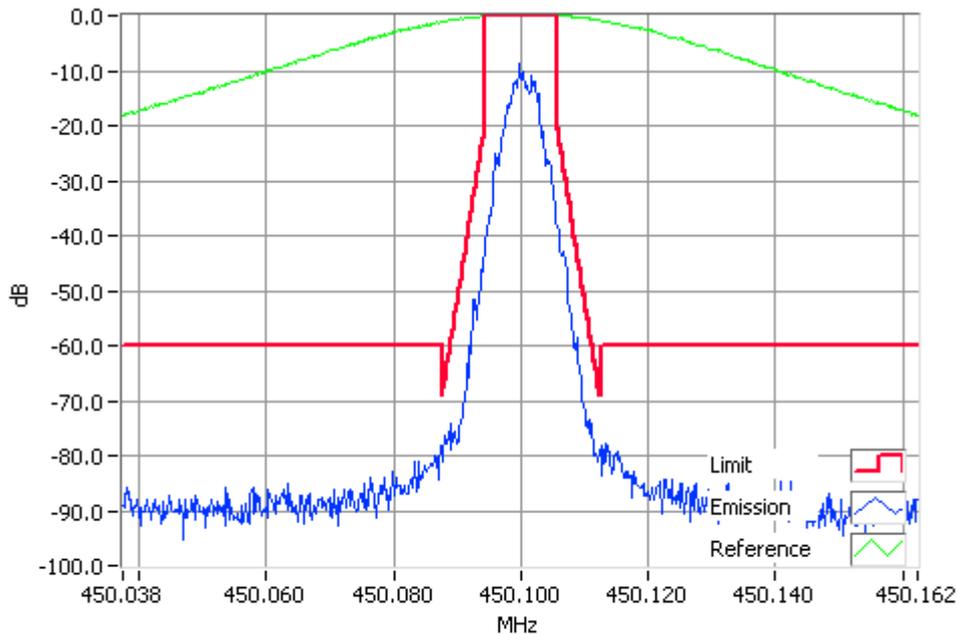
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 450.1 MHz 40 W 12.5 kHz Channel Spacing



DMR 450.1000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 450.1 MHz 10 W 12.5 kHz Channel Spacing



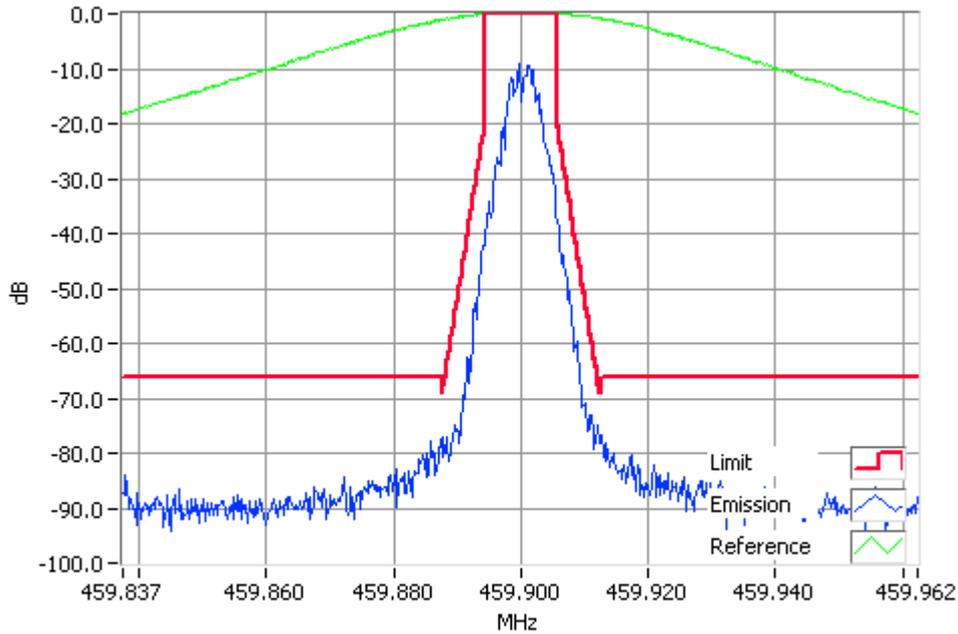
DMR 450.1000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

DMR

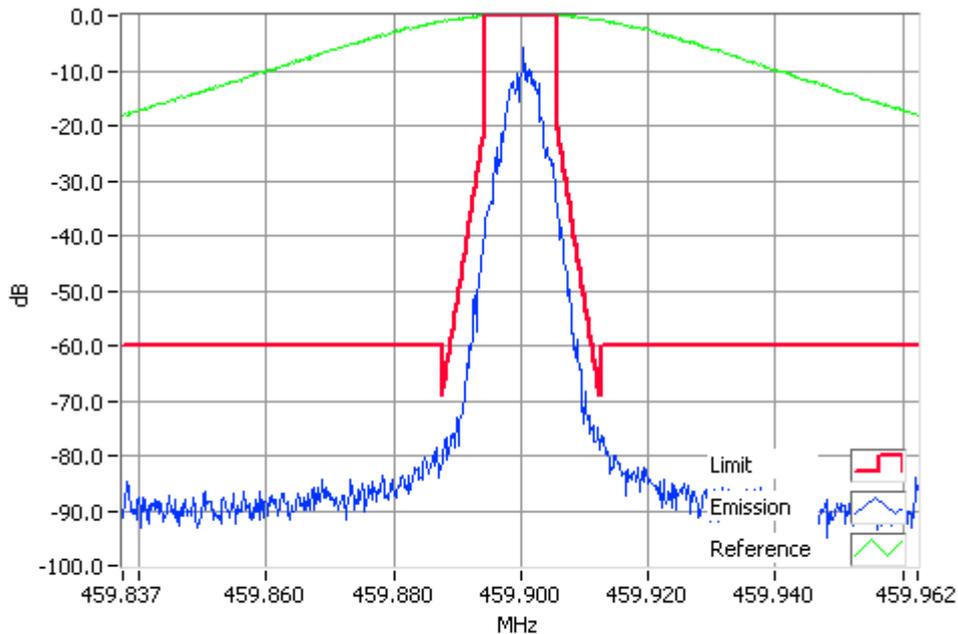
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 459.9 MHz 40 W 12.5 kHz Channel Spacing



DMR 459.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 459.9 MHz 10 W 12.5 kHz Channel Spacing



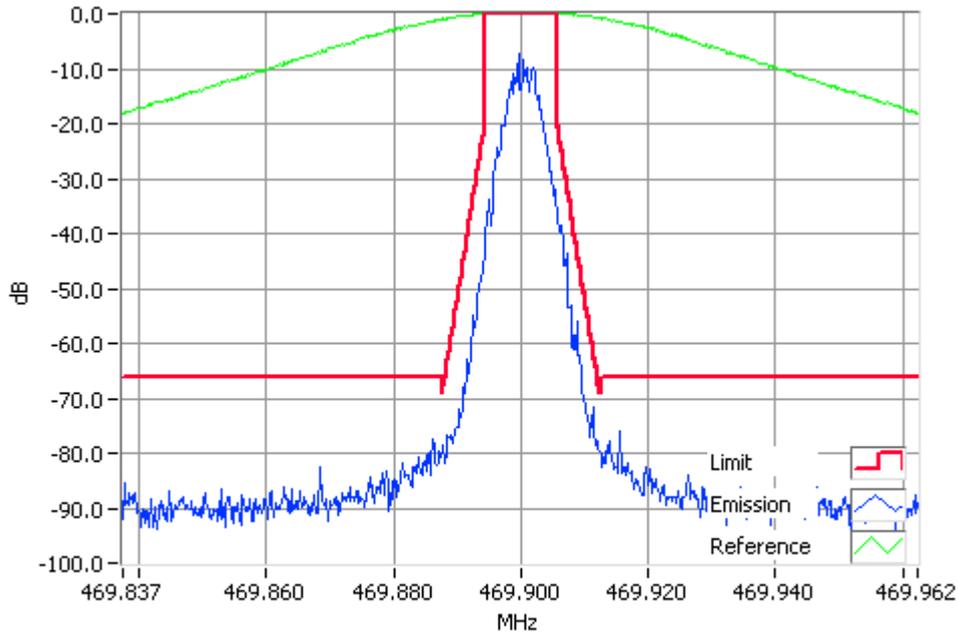
DMR 459.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

DMR

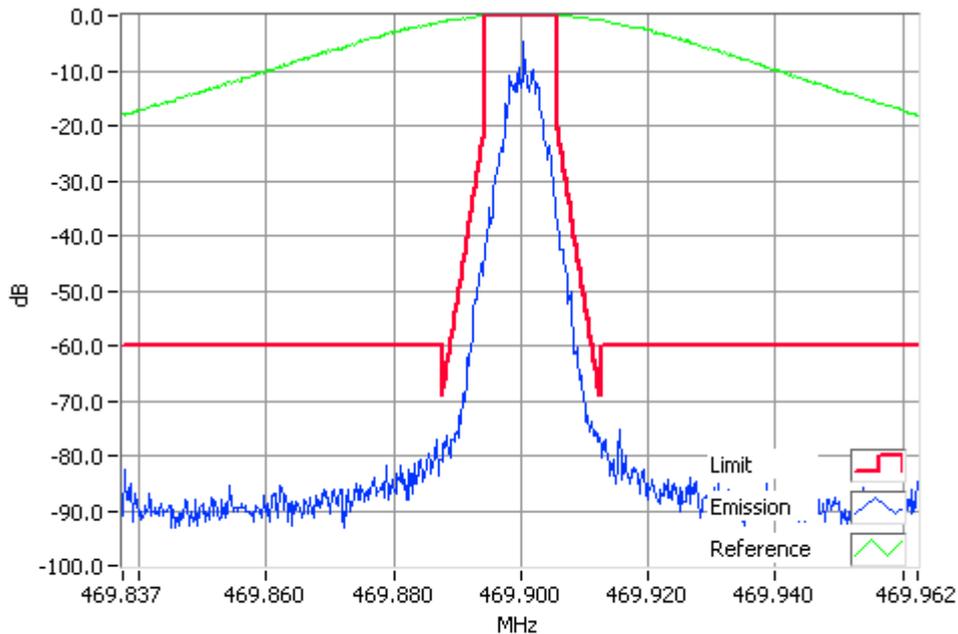
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 469.9 MHz 40W 12.5 kHz Channel Spacing



DMR 469.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 469.9 MHz 10 W 12.5 kHz Channel Spacing



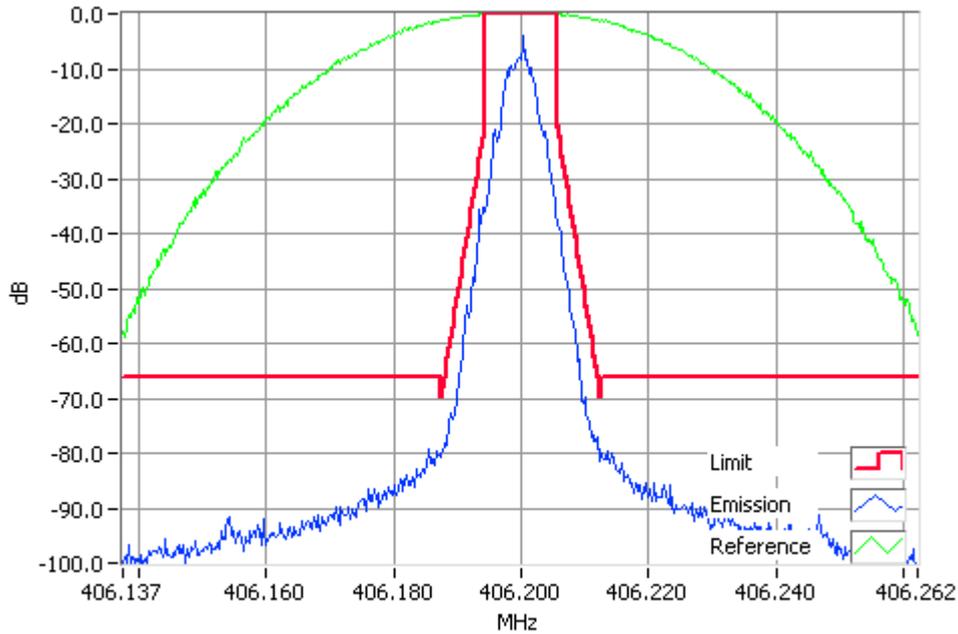
DMR 469.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

P25 Phase-1

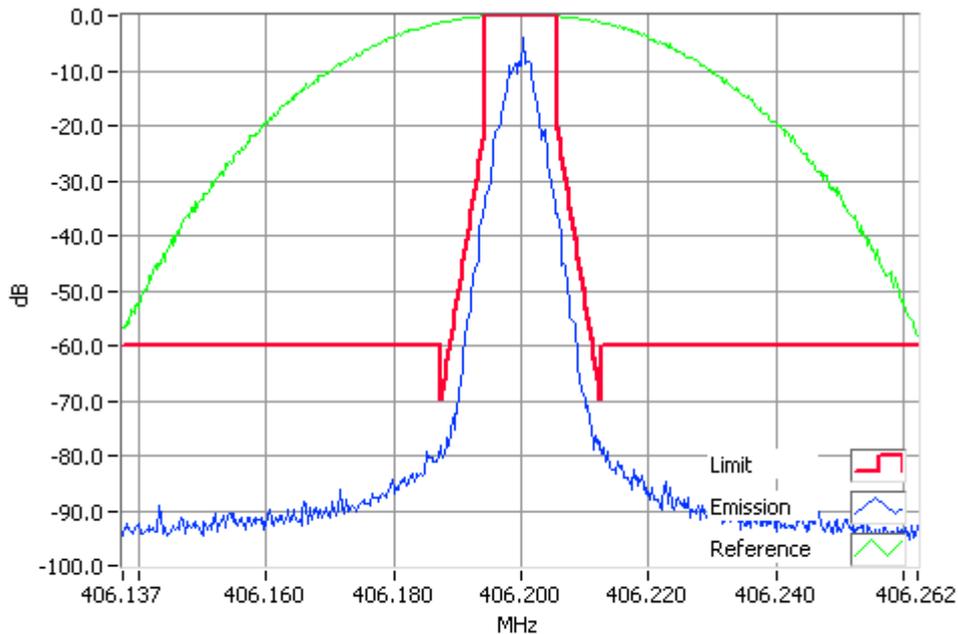
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 406.2 MHz 40 W 12.5 kHz Channel Spacing



P25I 406.2000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 406.2 MHz 10 W 12.5 kHz Channel Spacing



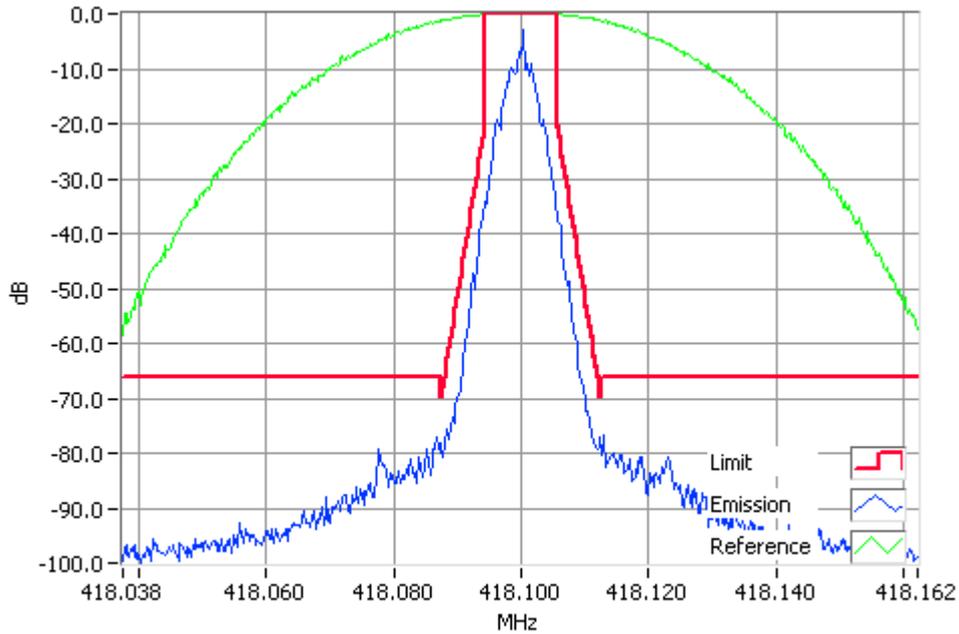
P25I 406.2000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

P25 Phase-1

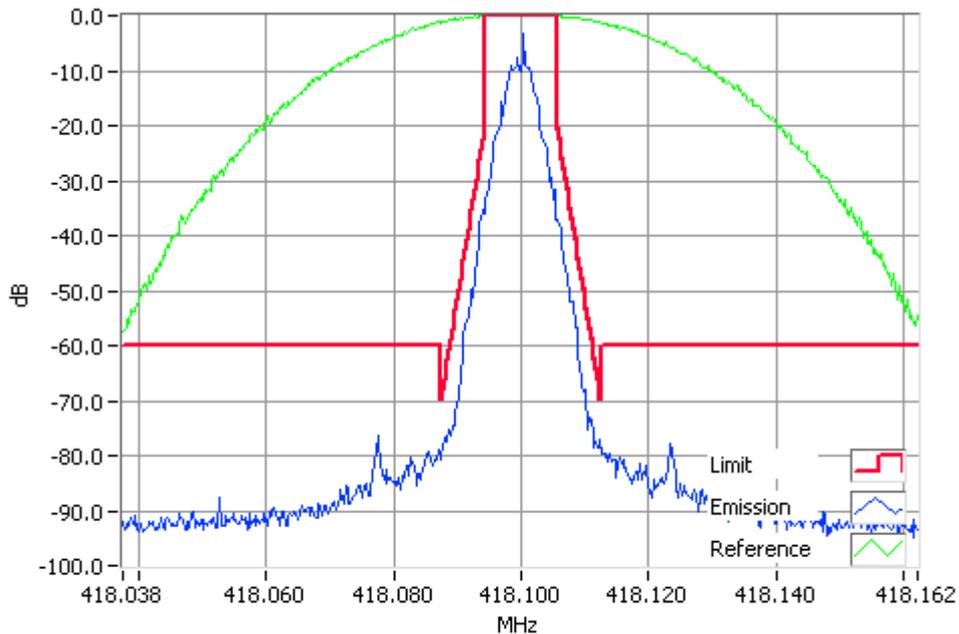
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 418.1 MHz 40 W 12.5 kHz Channel Spacing



P25I 418.1000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 418.1 MHz 10 W 12.5 kHz Channel Spacing



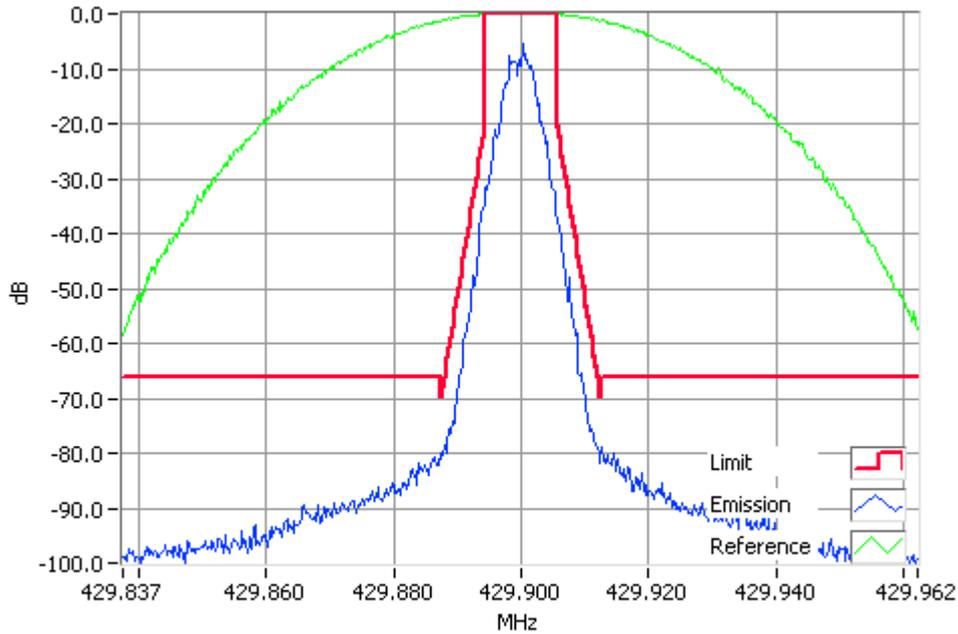
P25I 418.1000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

P25 Phase-1

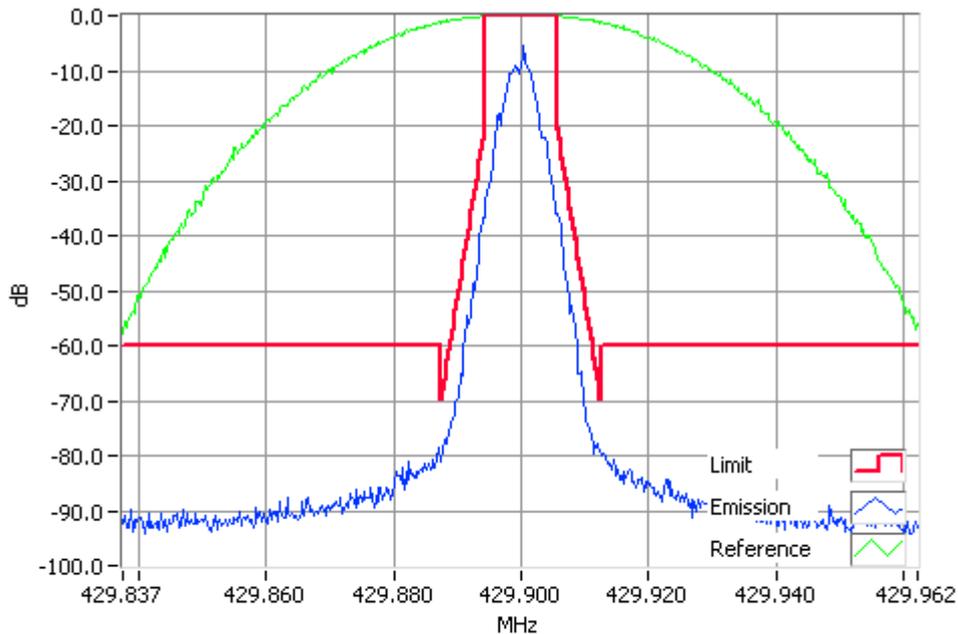
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 429.9 MHz 40 W 12.5 kHz Channel Spacing



P25I 429.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 429.9 MHz 10 W 12.5 kHz Channel Spacing



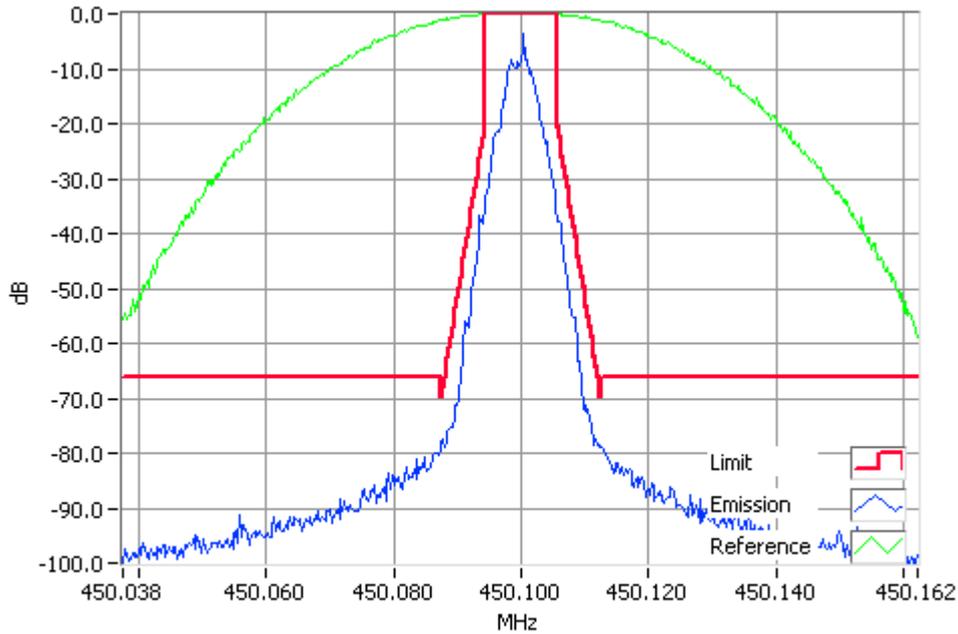
P25I 429.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

P25 Phase-1

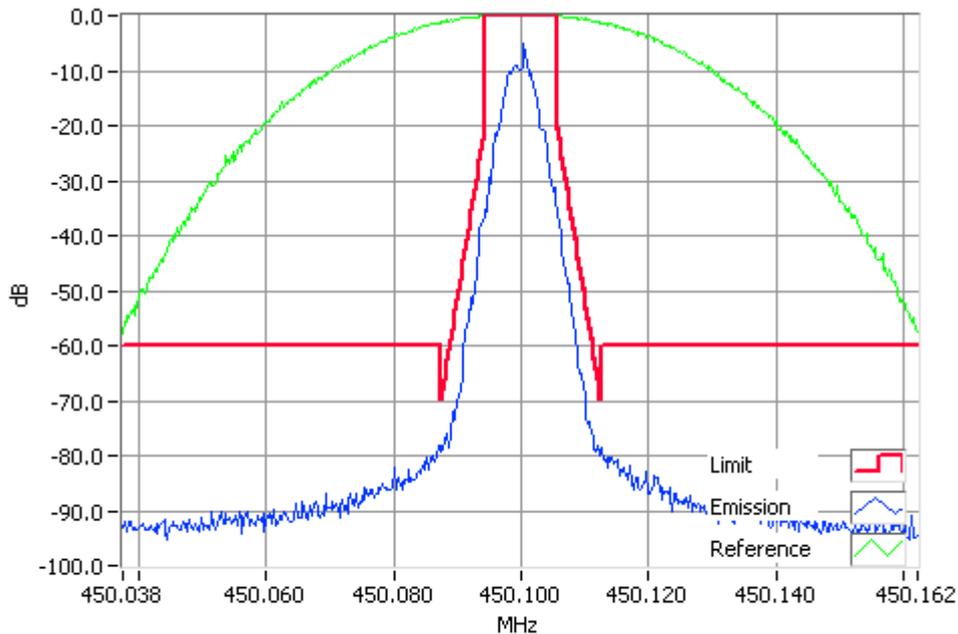
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 450.1 MHz 40 W 12.5 kHz Channel Spacing



P25I 450.1000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 450.1 MHz 10 W 12.5 kHz Channel Spacing



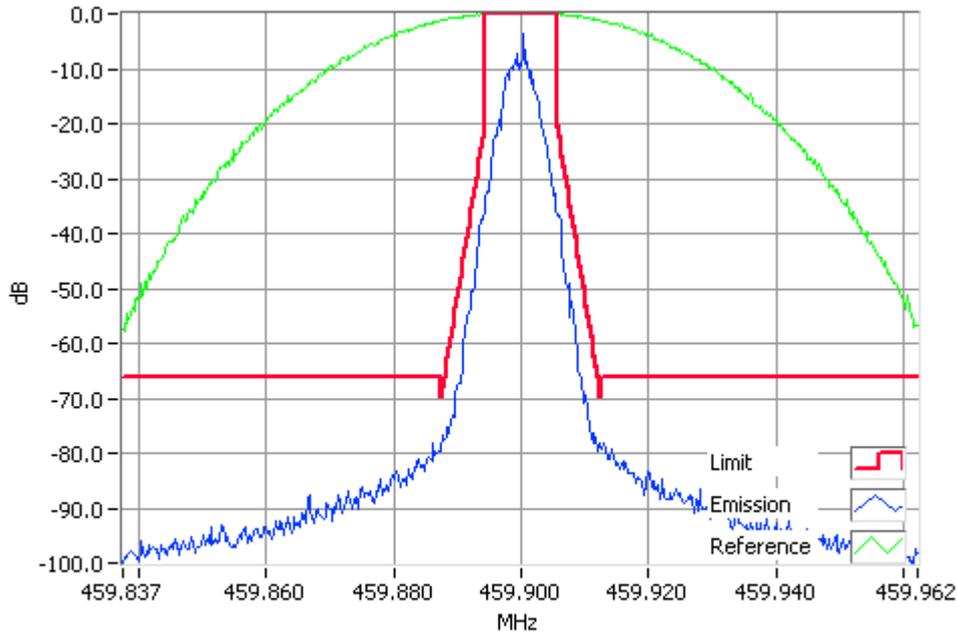
P25I 450.1000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

P25 Phase-1

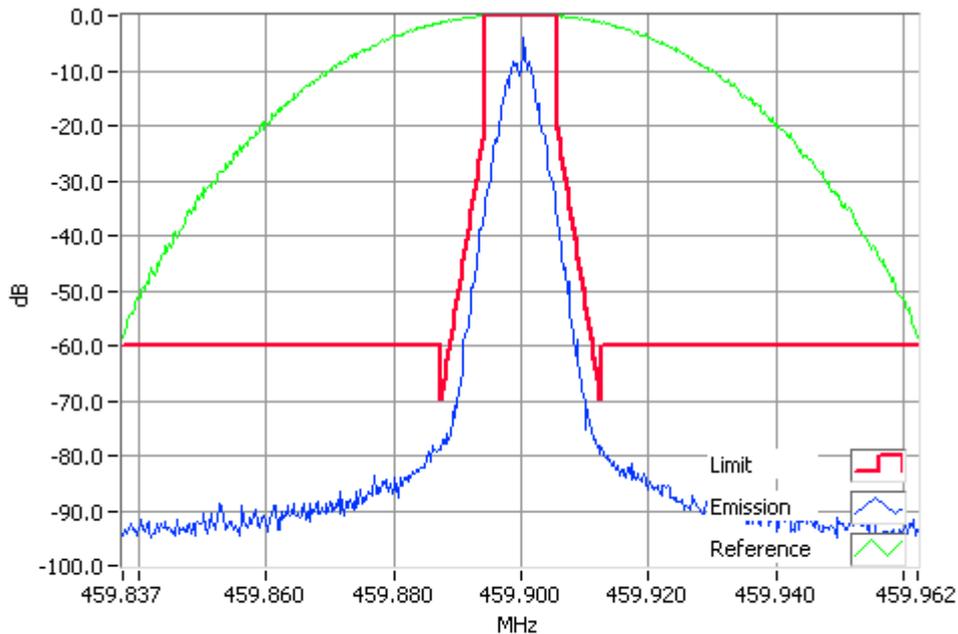
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 459.9 MHz 40 W 12.5 kHz Channel Spacing



P25I 459.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 459.9 MHz 10 W 12.5 kHz Channel Spacing



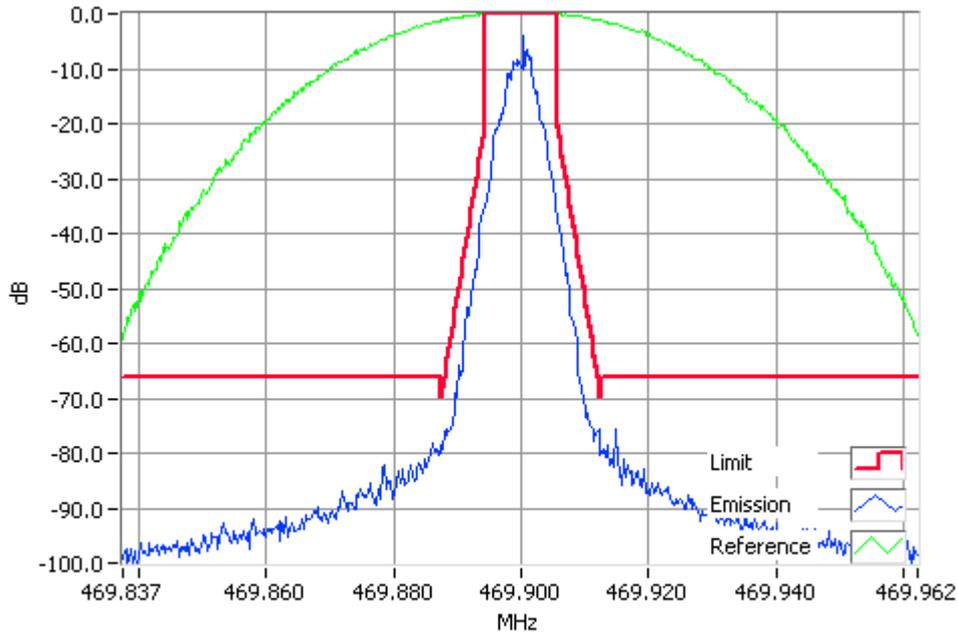
P25I 459.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

P25 Phase-1

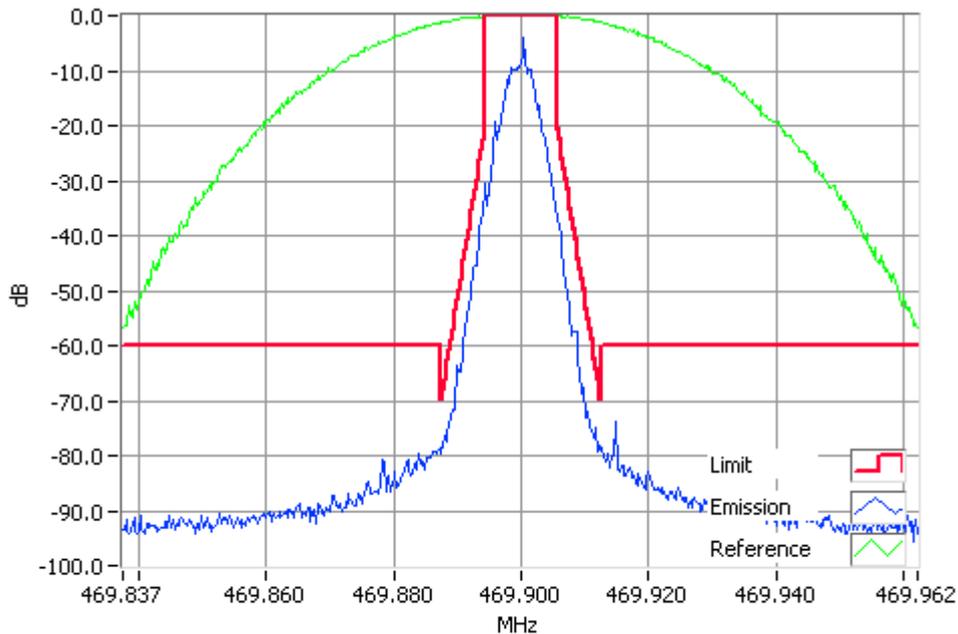
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 469.9 MHz 40 W 12.5 kHz Channel Spacing



P25I 469.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 469.9 MHz 10 W 12.5 kHz Channel Spacing



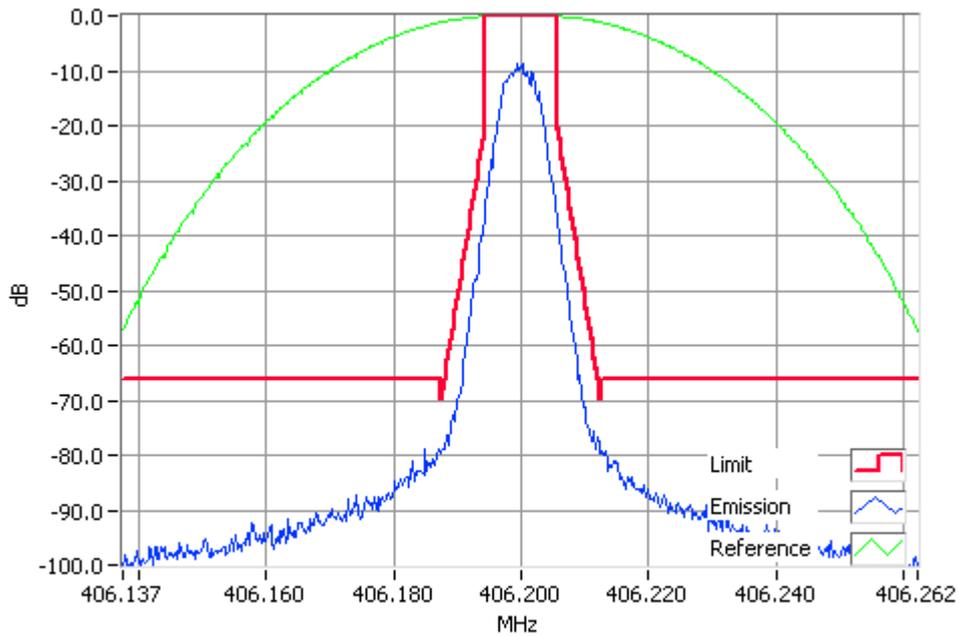
P25I 469.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

P25 Phase-2

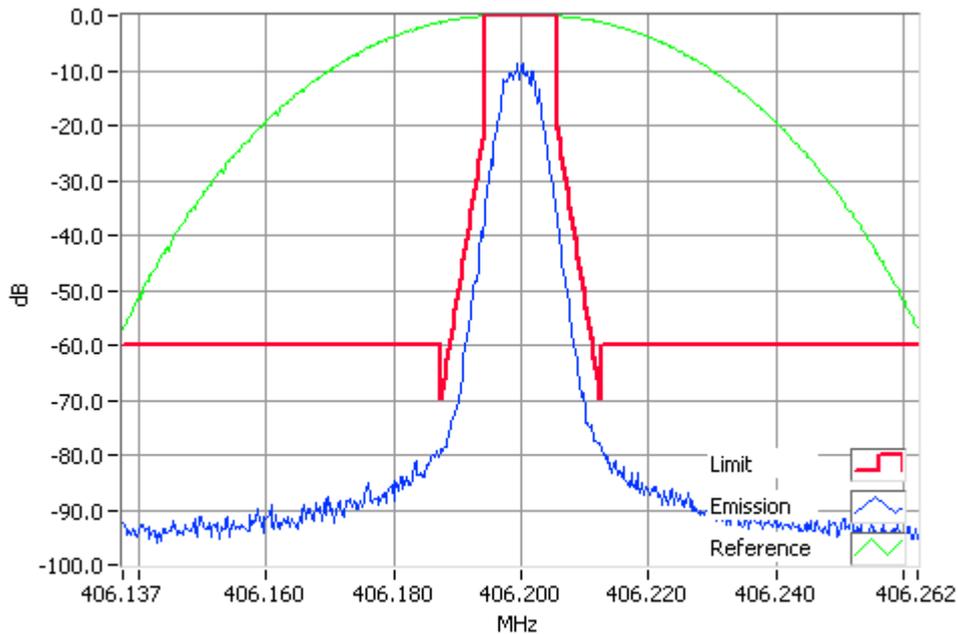
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 406.2 MHz 40 W 12.5 kHz Channel Spacing



P25II 406.2000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 406.2 MHz 10 W 12.5 kHz Channel Spacing



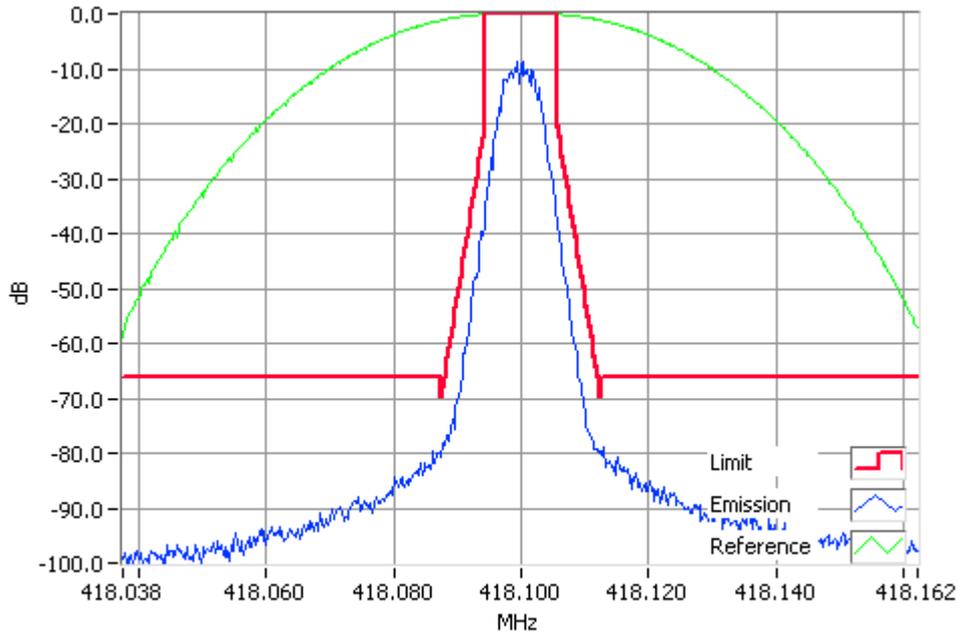
P25II 406.2000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

P25 Phase-2

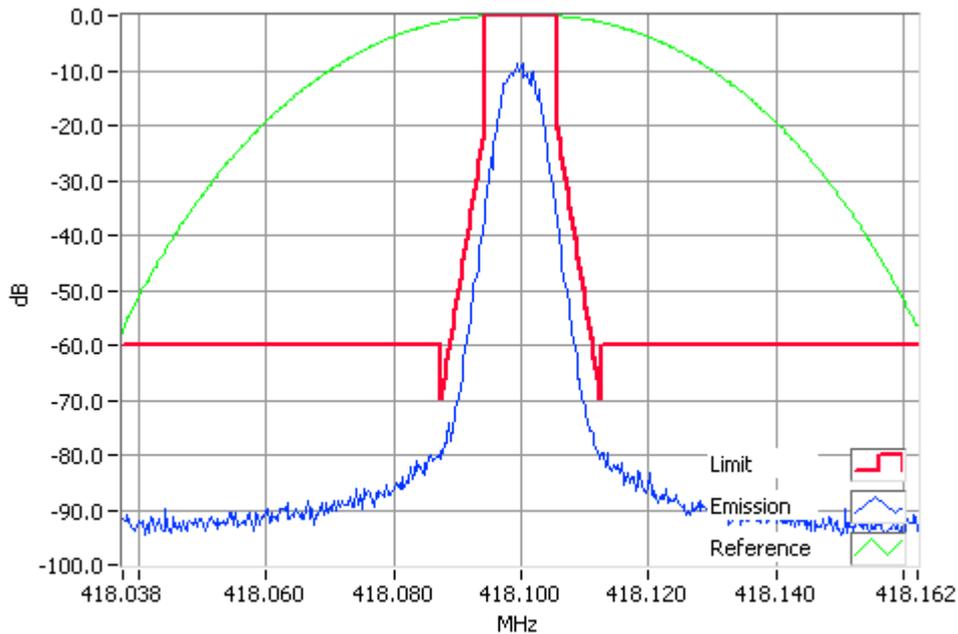
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 418.1 MHz 40 W 12.5 kHz Channel Spacing



P25II 418.1000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 418.1 MHz 10 W 12.5 kHz Channel Spacing



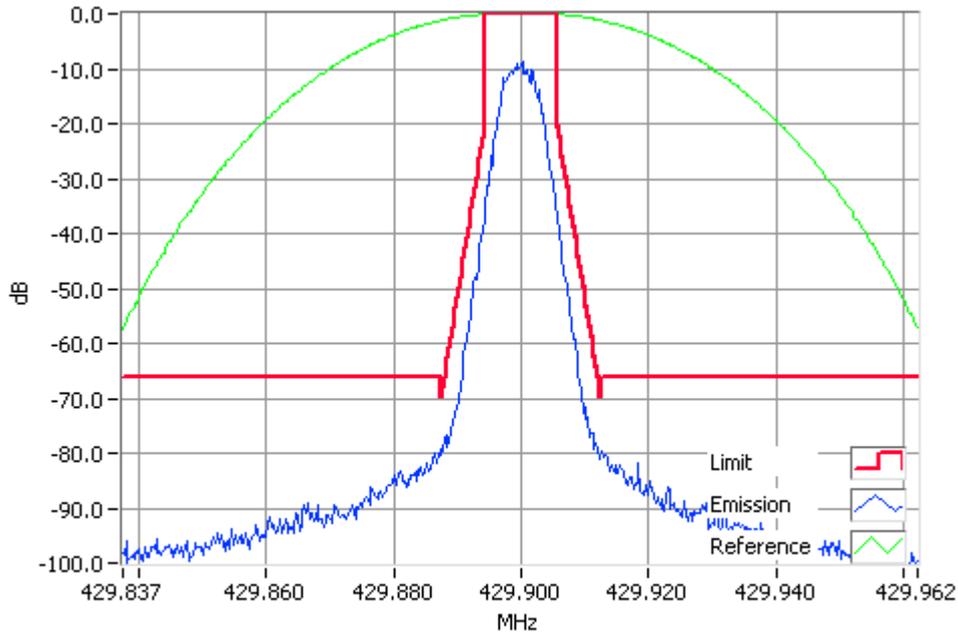
P25II 418.1000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

P25 Phase-2

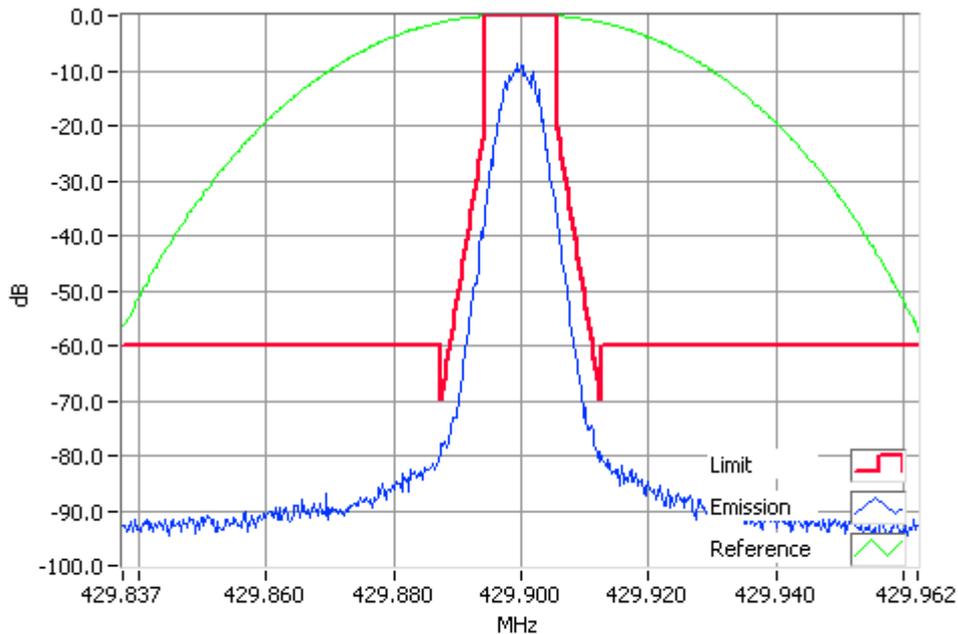
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 429.9 MHz 40 W 12.5 kHz Channel Spacing



P25II 429.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 429.9 MHz 10 W 12.5 kHz Channel Spacing



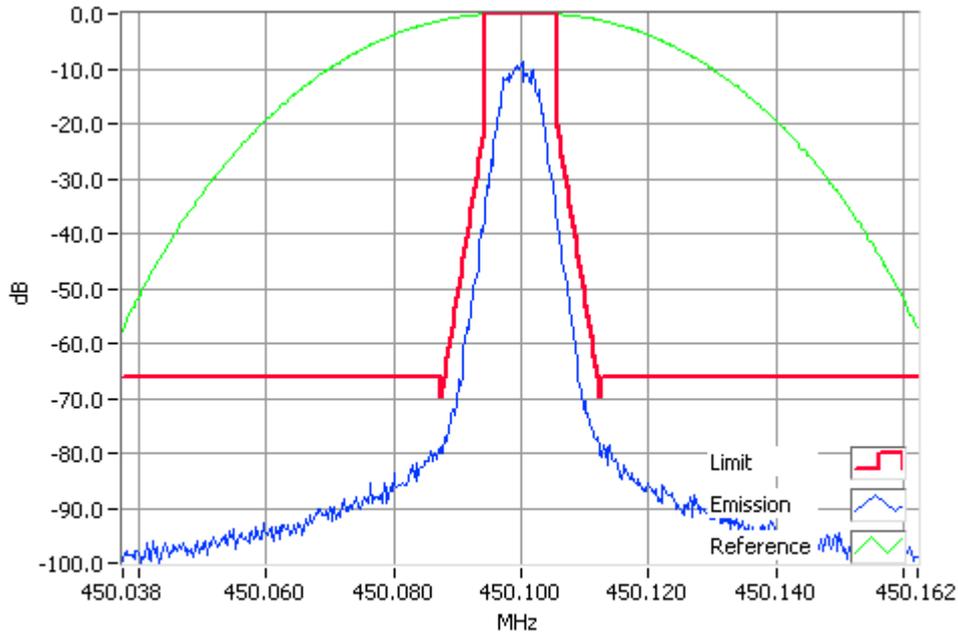
P25II 429.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

P25 Phase-2

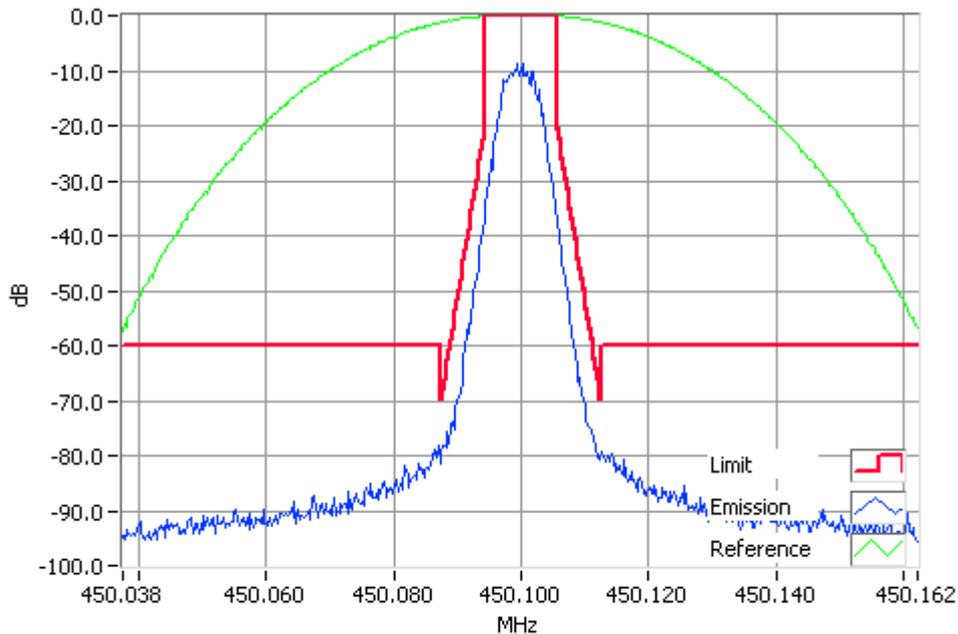
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 450.1 MHz 40 W 12.5 kHz Channel Spacing



P25II 450.1000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 450.1 MHz 10 W 12.5 kHz Channel Spacing



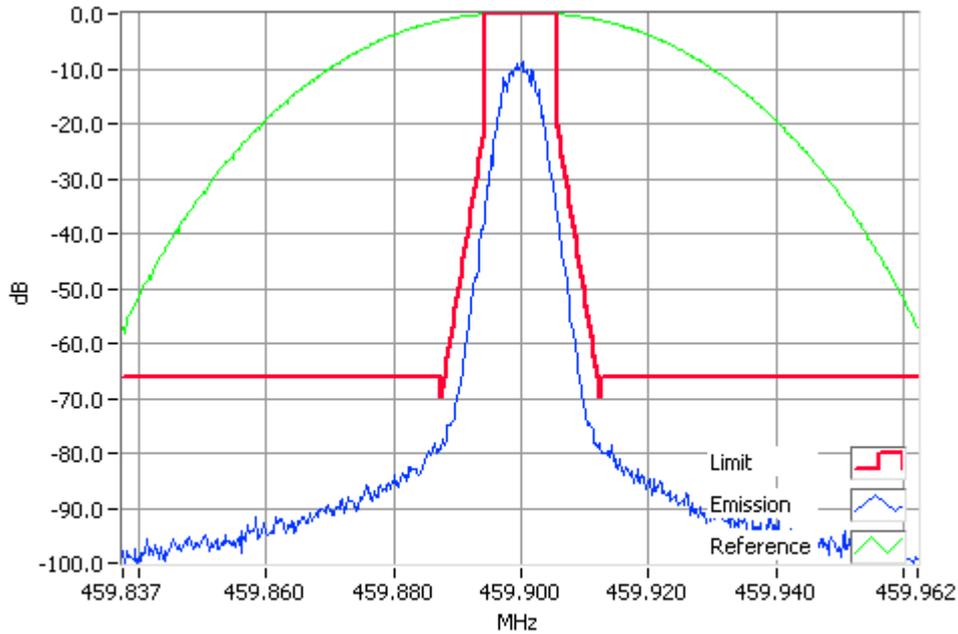
P25II 450.1000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

P25 Phase-2

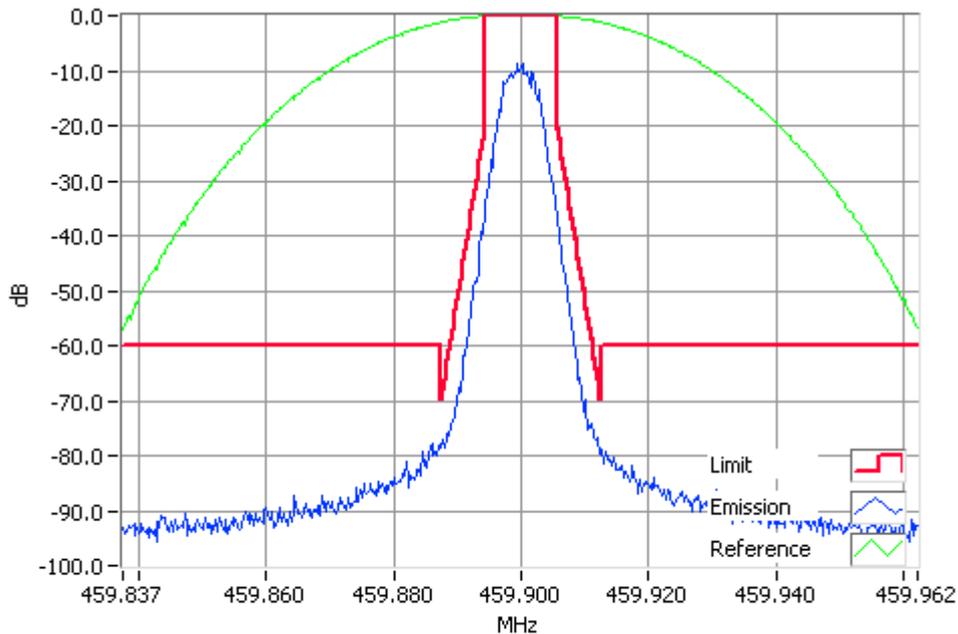
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 459.9 MHz 40 W 12.5 kHz Channel Spacing



P25II 459.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 459.9 MHz 10 W 12.5 kHz Channel Spacing



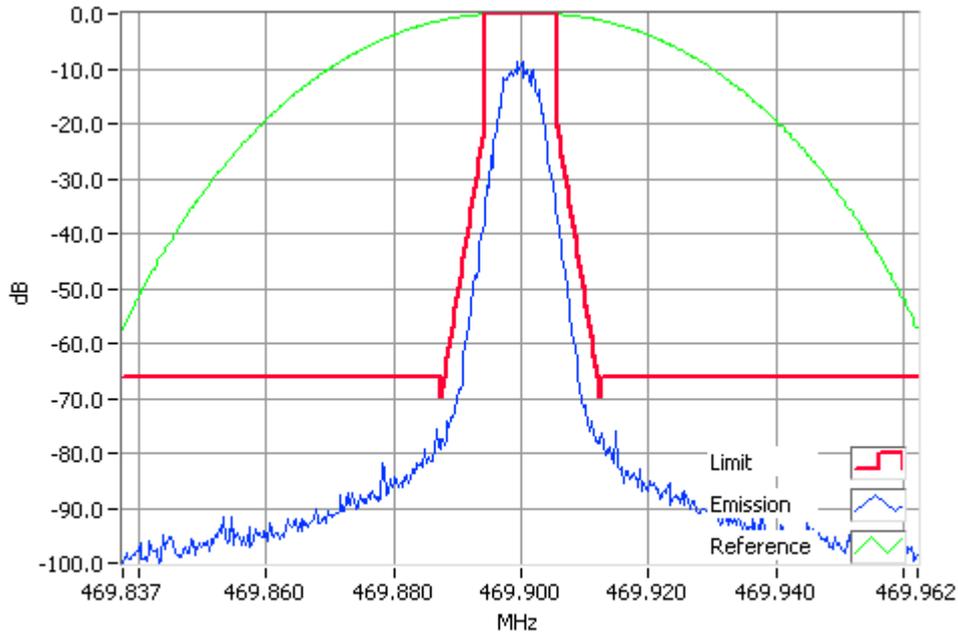
P25II 459.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Occupied Bandwidth and Spectrum Masks

P25 Phase-2

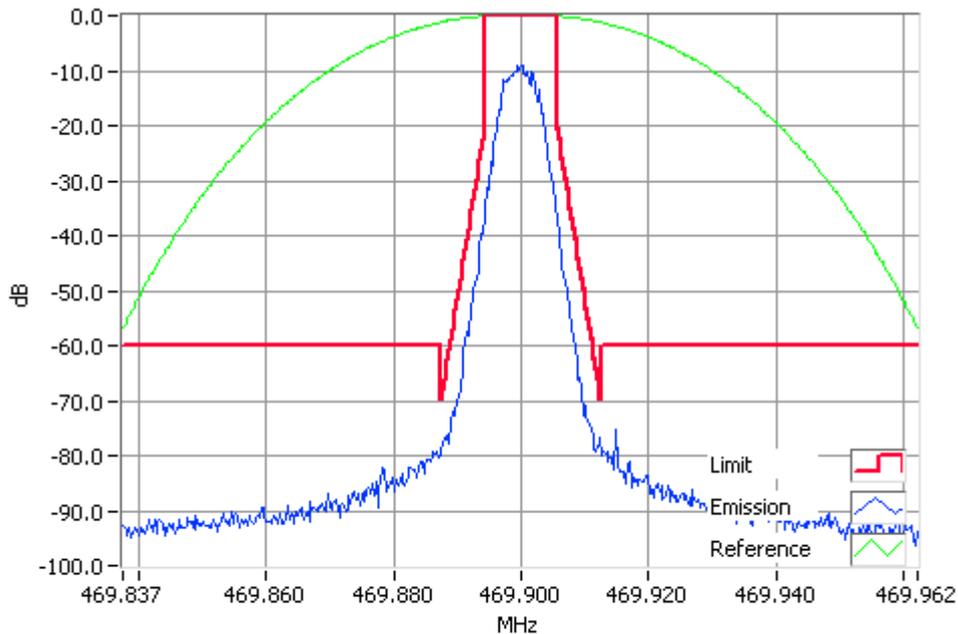
SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 469.9 MHz 40 W 12.5 kHz Channel Spacing



P25II 469.9000MHz Mask D 40W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

Tx FREQUENCY: 469.9 MHz 10 W 12.5 kHz Channel Spacing



P25II 469.9000MHz Mask D 10W
RBW=100Hz, VBW=1000Hz, Detector Mode=Peak
Result=Pass

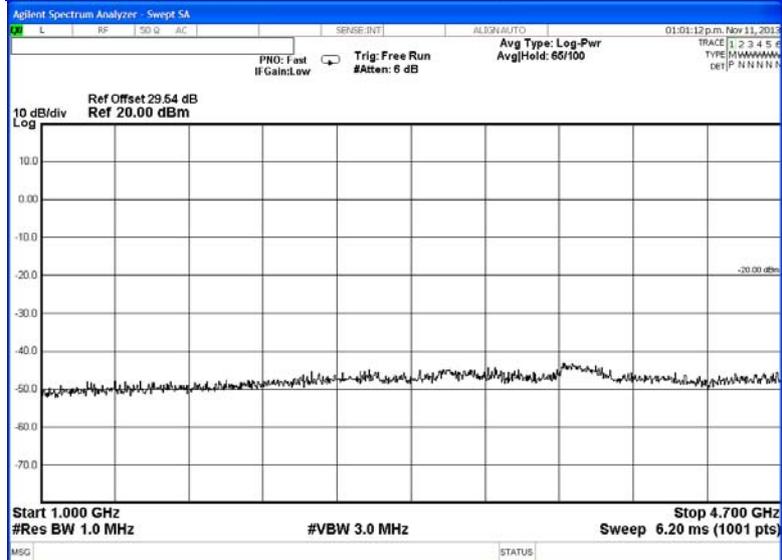
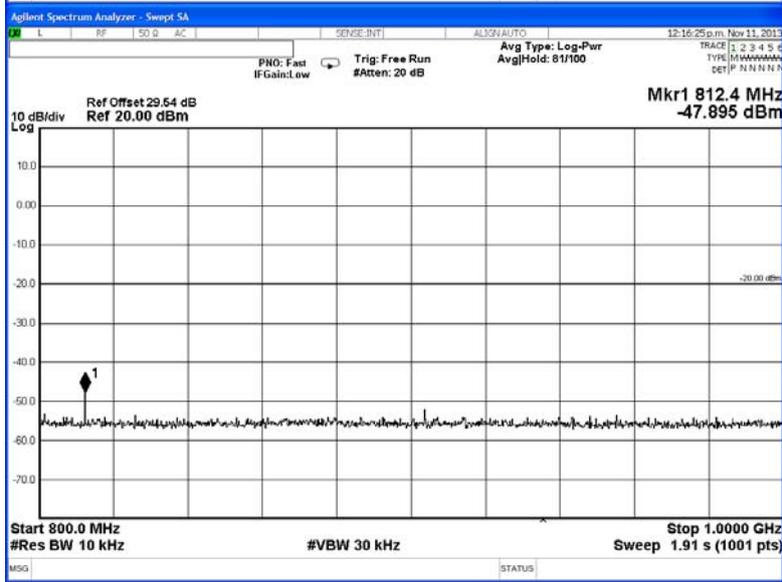
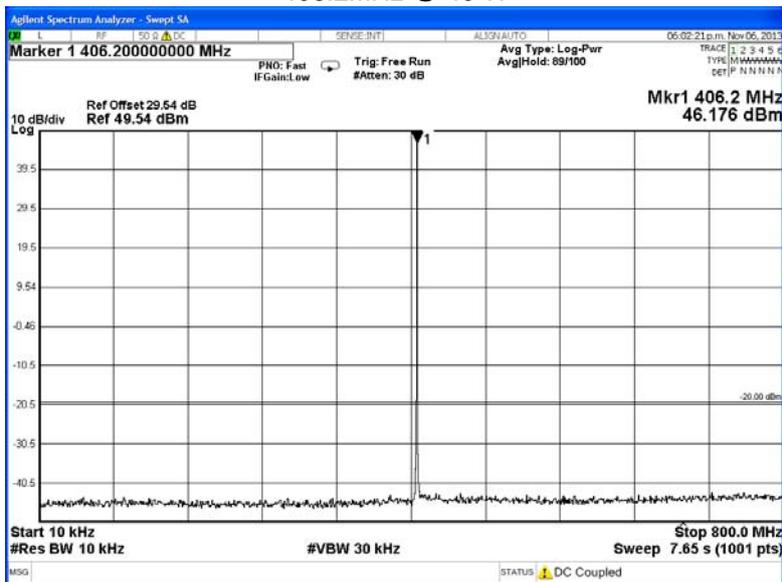
Spurious Emissions (Tx Conducted)

SPECIFICATION: FCC CFR 2.1051 RSS-119 5.8

12.5 kHz Channel Spacing		406.2MHz @ 40 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
~	~		~
12.5 kHz Channel Spacing		406.2MHz @ 10 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
~	~		~
No emissions were detected at a level greater than 20 dB below the limit.			

Spurious Emissions (Tx Conducted) - Continued

406.2MHz @ 40 W

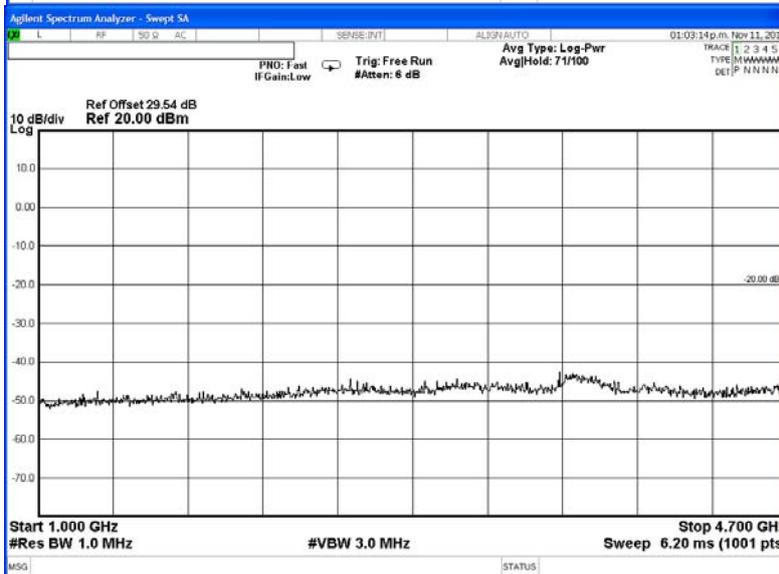
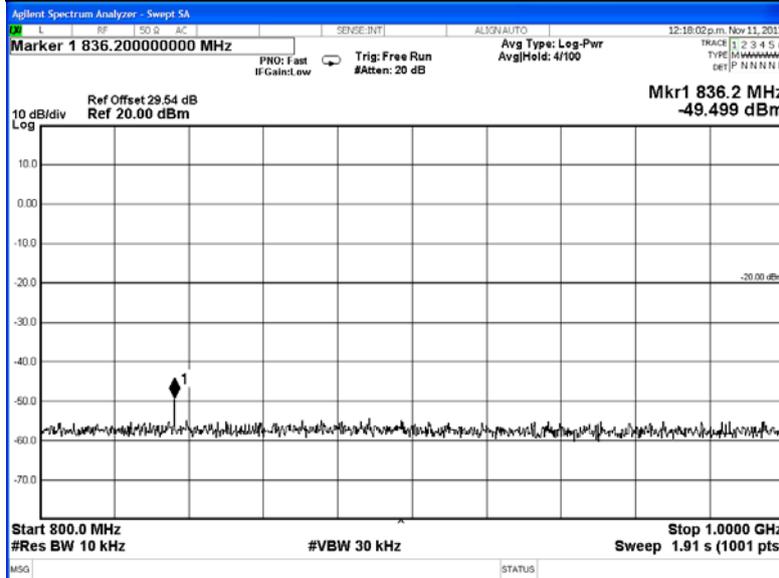
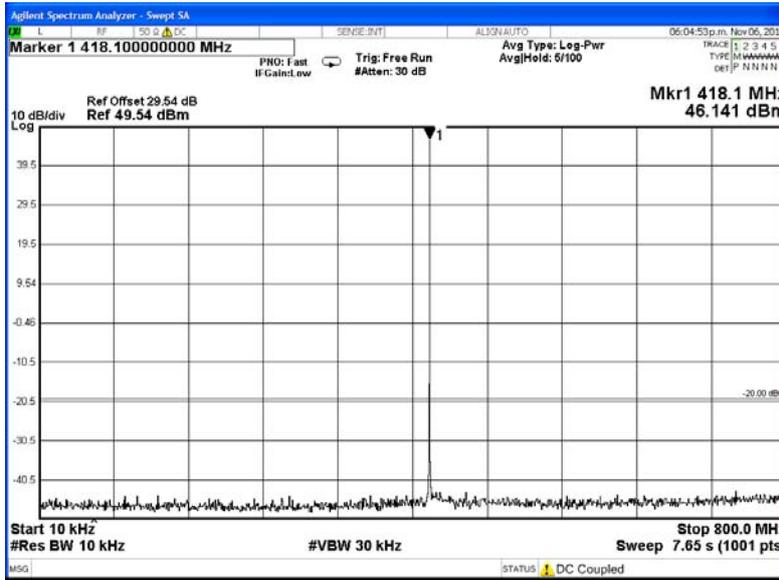


Spurious Emissions (Tx Conducted) - Continued

12.5 kHz Channel Spacing		418.1 MHz @ 40 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
~	~		~
12.5 kHz Channel Spacing		418.1 MHz @ 10 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
~	~		~
No emissions were detected at a level greater than 20 dB below the limit.			

Spurious Emissions (Tx Conducted) - Continued

418.1 MHz @ 40 W

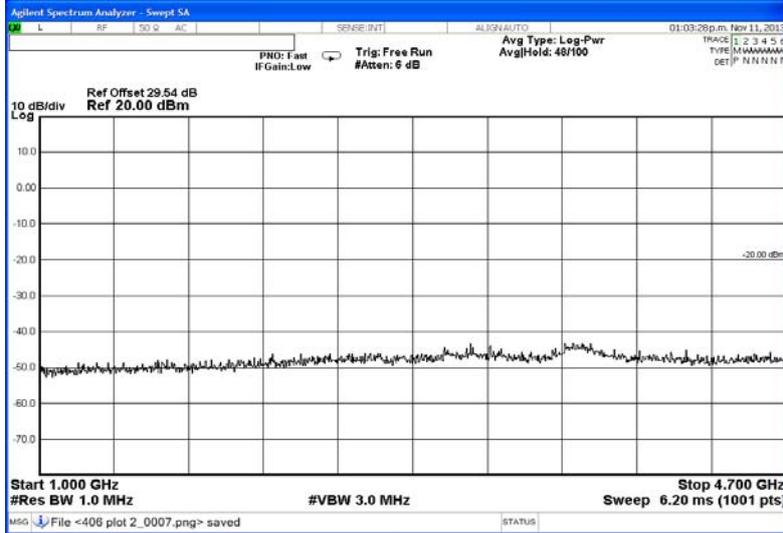
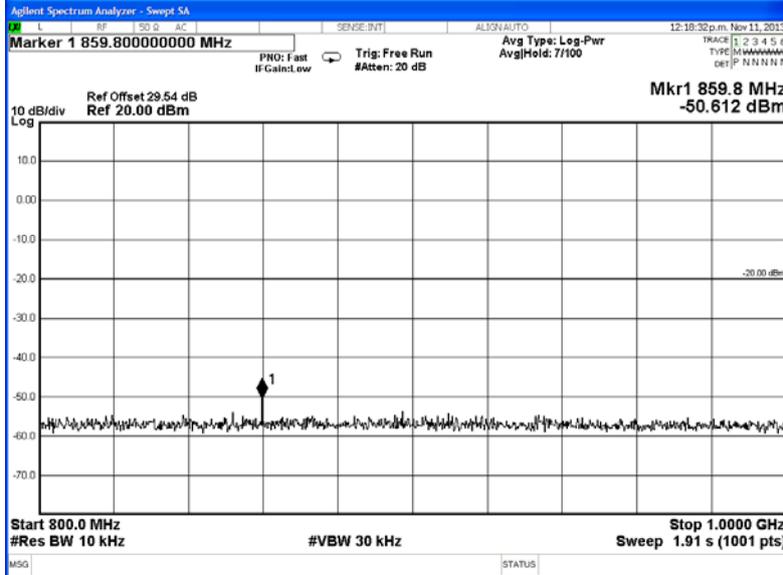
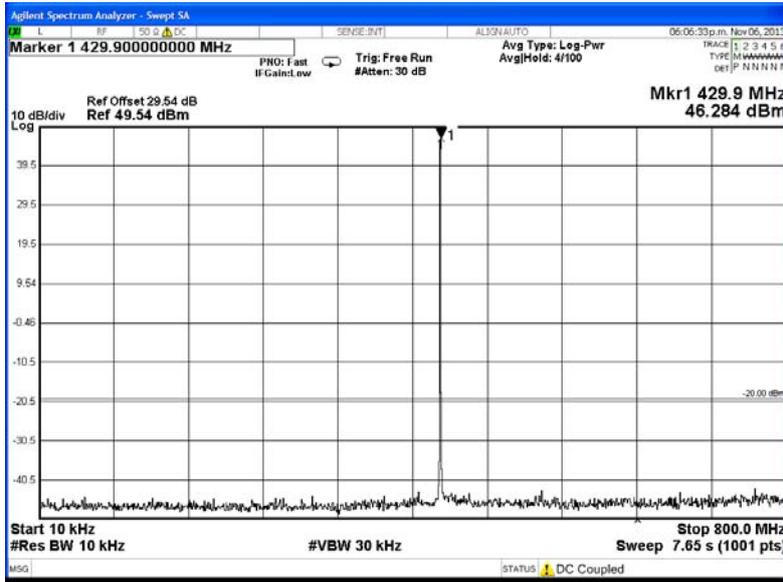


Spurious Emissions (Tx Conducted) - Continued

12.5 kHz Channel Spacing		429.9 MHz @ 40 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
~	~		~
12.5 kHz Channel Spacing		429.9 MHz @ 10 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
~	~		~
No emissions were detected at a level greater than 20 dB below the limit.			

Spurious Emissions (Tx Conducted) – Continued

429.9 MHz @ 40 W

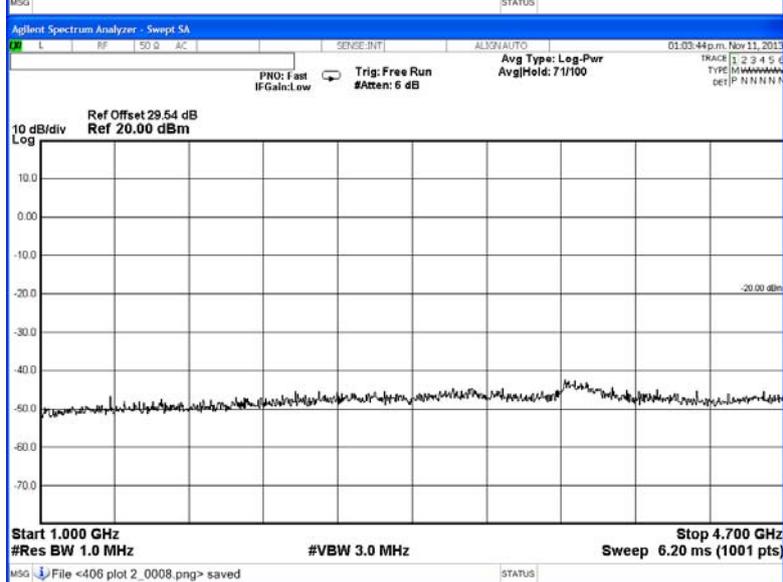
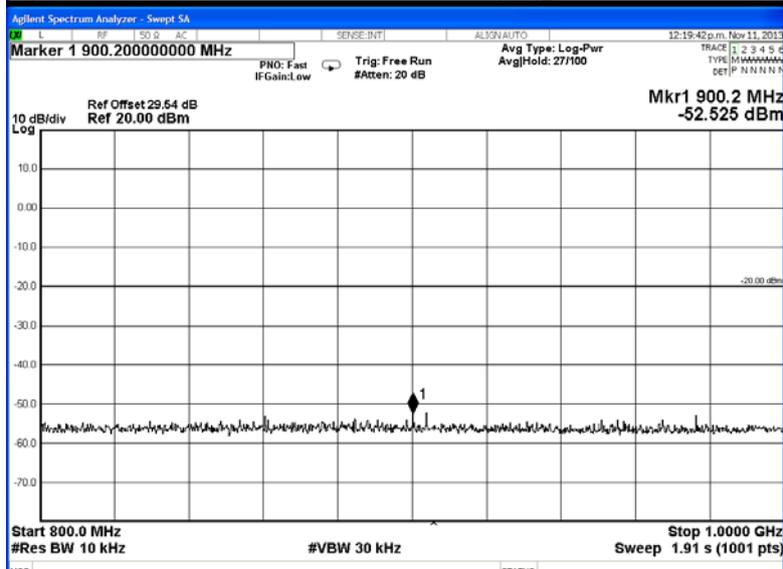
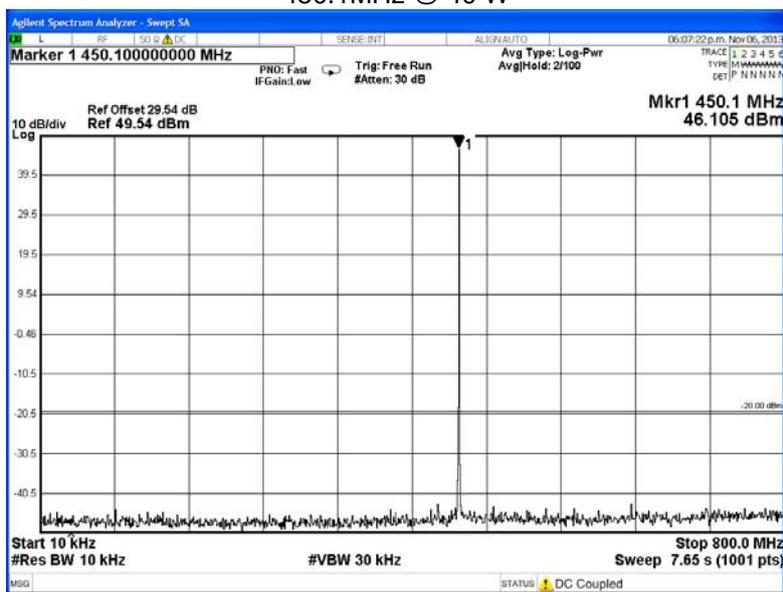


Spurious Emissions (Tx Conducted) - Continued

12.5 kHz Channel Spacing		450.1MHz @ 40 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
~	~		~
12.5 kHz Channel Spacing		450.1MHz @ 10 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
~	~		~
No emissions were detected at a level greater than 20 dB below the limit.			

Spurious Emissions (Tx Conducted) – Continued

450.1MHz @ 40 W

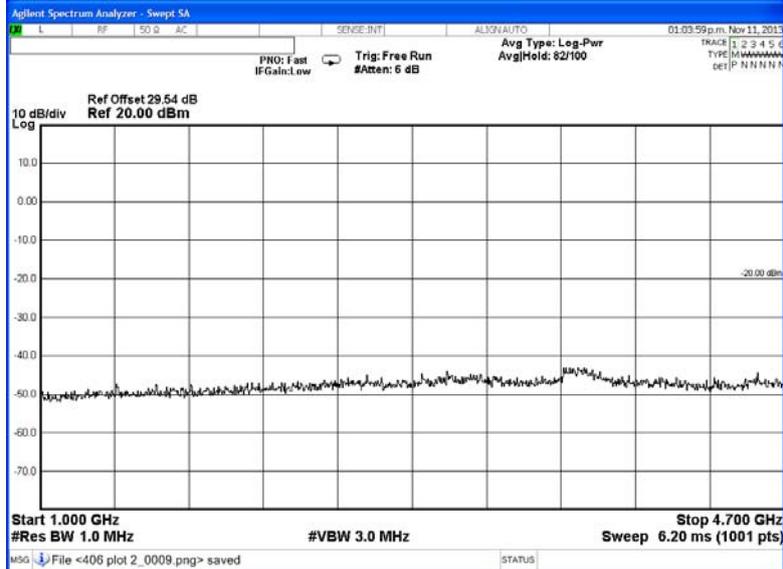
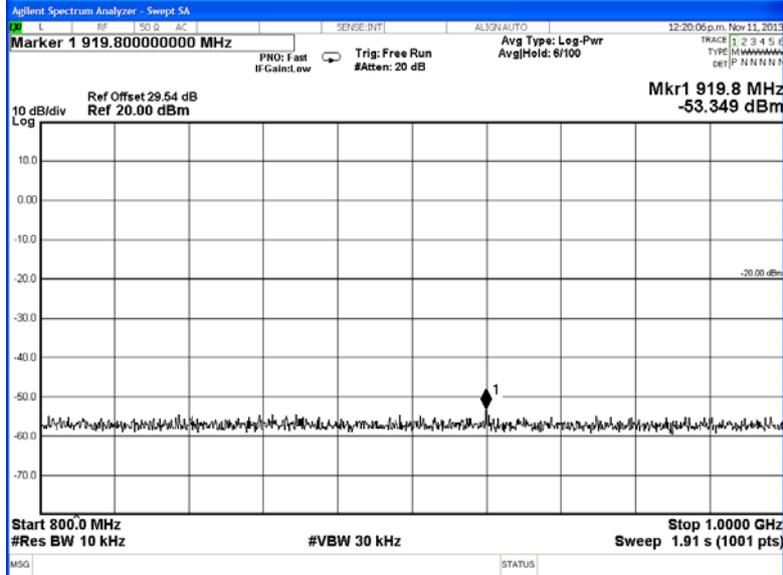
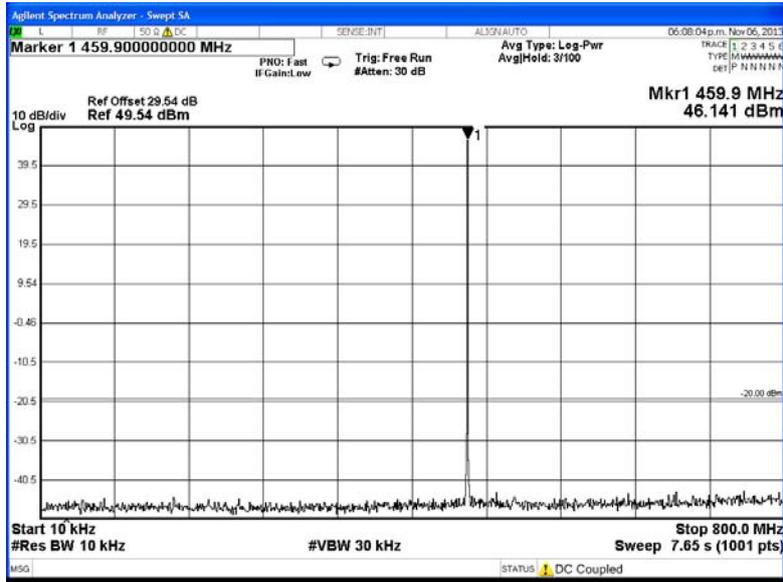


Spurious Emissions (Tx Conducted) - Continued

12.5 kHz Channel Spacing		459.9MHz @ 40 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
~	~		~
12.5 kHz Channel Spacing		459.9MHz @ 10 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
~	~		~
No emissions were detected at a level greater than 20 dB below the limit.			

Spurious Emissions (Tx Conducted) - Continued

459.9MHz @ 40 W

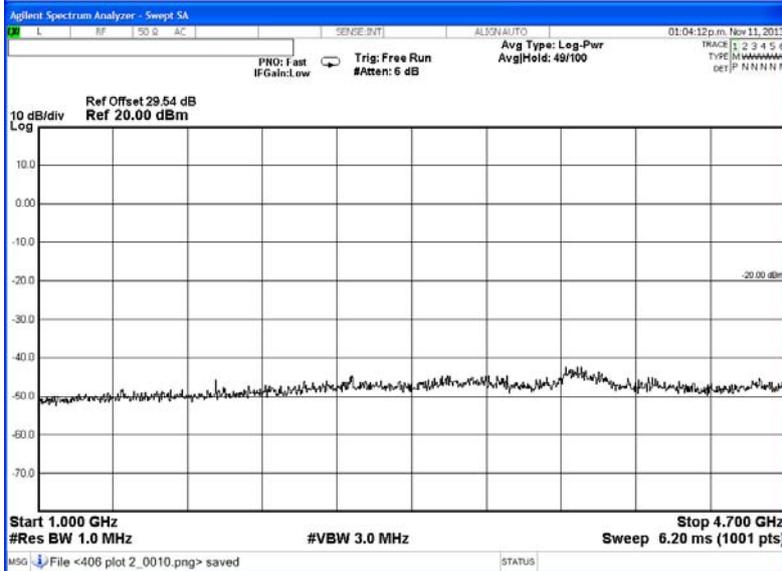
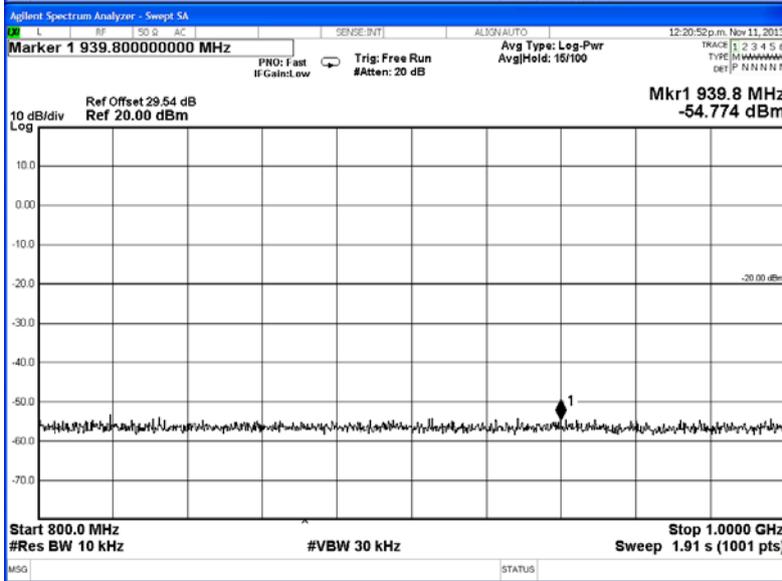
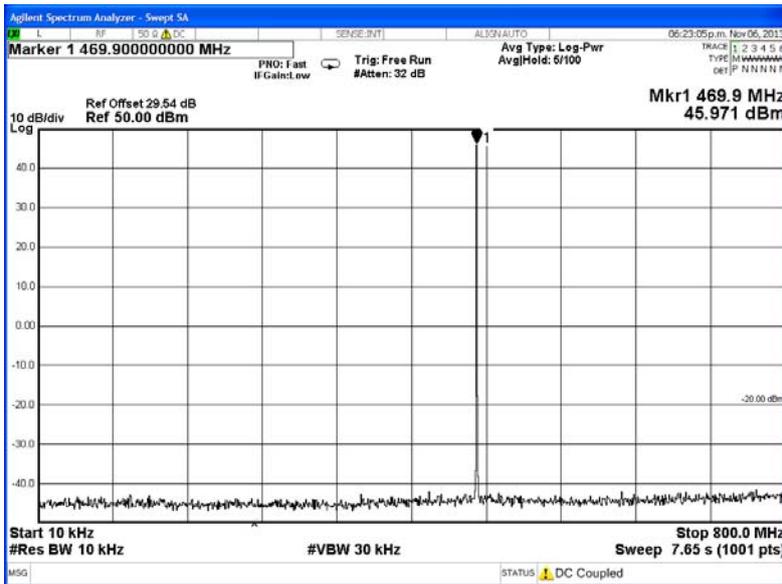


Spurious Emissions (Tx Conducted) - Continued

12.5 kHz Channel Spacing		469.9MHz @ 40 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
~	~		~
12.5 kHz Channel Spacing		469.9MHz @ 10 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
~	~		~
No emissions were detected at a level greater than 20 dB below the limit.			

Spurious Emissions (Tx Conducted) - Continued

469.9MHz @ 40 W



Spurious Emissions (Tx Conducted) - Continued

SPECIFICATION: FCC CFR 2.1051 RSS-119 5.8
LIMITS: FCC 47 CFR 90.210 RSS-119 5.8

Carrier Output Power	Emission Mask D 12.5 kHz Channel Spacing $50 + 10 \text{ Log}_{10} (P_{\text{Watts}})$	
	40 W	-20 dBm
10 W	-20 dBm	-60 dBc

SPURIOUS EMISSIONS (Tx RADIATED)

SPECIFICATION: FCC 47 CFR 2.1053

GUIDE: TIA/EIA-603D 2.2.12

MEASUREMENT PROCEDURE:

Initial Scan:

1. The EUT is placed in the S-Line TEM cell and emissions are measured from 30 MHz to 1000 MHz. Any emission within 20 dB of the limit is then re-tested on the OATS along with measurements from 1000 MHz to the 10th harmonic of the fundamental frequency.
2. The EUT is placed in the reverberation chamber and emissions are measured from 1000 MHz to the upper frequency required. Any emission within 20 dB of the limit is then re-tested on the OATS.
3. The harmonic emissions up to the 6th harmonic of the fundamental frequency are measured on the OATS

OATS Measurement:

1. The EUT is placed on a wooden turntable at a distance of three metres from the test antenna. The output terminal is connected to an RF dummy load.
2. The test antenna is raised from 1 m to 4 m to obtain a maximum reading; the turntable is then rotated through 360° to obtain the maximum response of each spurious emission. Valid emissions are determined by switching the EUT on and off.
3. The EUT is then replaced by a signal generator and substitution antenna to make measurements by the substitution method.

MEASUREMENT RESULTS:

See the tables on the following pages

LIMIT CLAUSE: FCC 47 CFR 90.210

Tx Radiated Emissions - Continued

12.5 kHz Channel Spacing		406.2MHz @ 40 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)	
~	~	~	
12.5 kHz Channel Spacing		406.2MHz @ 10 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)	
~	~	~	
No emissions were detected at a level greater than 20 dB below the limit.			

12.5 kHz Channel Spacing		429.9 MHz @ 40 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)	
~	~	~	
12.5 kHz Channel Spacing		429.9 MHz @ 10 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)	
~	~	~	
No emissions were detected at a level greater than 20 dB below the limit.			

12.5 kHz Channel Spacing		429.9 MHz @ 40 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)	
~	~	~	
12.5 kHz Channel Spacing		429.9 MHz @ 10 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)	
~	~	~	
No emissions were detected at a level greater than 20 dB below the limit.			

Tx Radiated Emissions - Continued

12.5 kHz Channel Spacing		450.1MHz @ 40 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
900.2	-34.7		-80.7
12.5 kHz Channel Spacing		450.1MHz @ 10 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
900.2	-36.26		-82.26
No other emissions were detected at a level greater than 20 dB below the limit.			

12.5 kHz Channel Spacing		459.9MHz @ 40 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
919.8	-35.34		-81.34
12.5 kHz Channel Spacing		459.9MHz @ 10 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
919.8	-35.85		-81.85
No other emissions were detected at a level greater than 20 dB below the limit.			

12.5 kHz Channel Spacing		469.9MHz @ 40 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
939.8	-38.93		-84.93
12.5 kHz Channel Spacing		469.9MHz @ 10 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)		Level (dBc)
939.8	-35.74		-81.74
No other emissions were detected at a level greater than 20 dB below the limit.			

Tx Radiated Emissions - Continued

LIMITS: FCC CFR 2.1053

Carrier Output Power	Emission Mask D 12.5 kHz Channel Spacing $50 + 10 \text{ Log}_{10} (P_{\text{Watts}})$	
40 W	-20 dBm	-66 dBc
10 W	-20 dBm	-60 dBc

Open Area Test Site Results:

12.5 kHz Channel Spacing 459.9 MHz @ 40 W Emission Mask D

Harmonics Emission Frequency (MHz)	Level (dBm)	Level (dBc)
919.8	-35.34	-81.34
1379.7	-50.04	-96.04
1839.6	-61.12	-107.12
2299.5	-60.28	-106.28
2759.4	-75.56	-121.56
3219.3	-60.04	-106.04

OATS Testing was performed at 13.4°C at 55% relative humidity.

Photo: OATS Setup



TRANSIENT FREQUENCY BEHAVIOR

SPECIFICATION: FCC 47 CFR 90.214 RSS-119 5.9

GUIDE: TIA/EIA-603D 2.2.19

MEASUREMENT PROCEDURE:

1. Refer Annex A for equipment set up.
2. Measurements and plots were made following the TIA/EIA procedure.

MEASUREMENT RESULTS:

See the tables and plots on the following pages for 12.5 kHz & 25.0 kHz channel spacings.

LIMIT CLAUSES: FCC 47 CFR 90.214 RSS-119 5.9

Transient Frequency Behaviour

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 406.2 MHz 40 W 12.5 kHz Channel Spacing

TRANSIENT RESPONSE PERIOD	CARRIER PEAK VARIATION FROM NORMAL	
	Key ON (kHz)	Key OFF (kHz)
t1	-0.8	N/A
t2	-0.7	N/A
t3	N/A	-0.8
t2 → t3 ppm	-1.7	
ERROR LIMIT (t2 → t3) ppm	2.5	

Confirm that during periods t1 and t3 the frequency difference does not exceed the value of one channel separation.	YES	NO
	Y	
Confirm that during the period t2 the frequency difference does not exceed half a channel separation.	YES	NO
	Y	
Confirm that during the period t2 to t3 the frequency difference does not exceed the frequency error limit.	YES	NO
	Y	

LIMIT: FCC 47 CFR 90.214

TRANSIENT PERIODS	FREQUENCY RANGE	
	150 MHz – 174 MHz	421 MHz – 512 MHz
t1 (ms)	5 ms	10 ms
t2 (ms)	20 ms	25 ms
t3 (ms)	5 ms	10 ms

LIMIT: RSS-119 5.9

Transient Frequency Behaviour for Equipment Designed to Operate on 12.5 kHz Channels			
TRANSIENT PERIODS	Maximum Frequency Difference	FREQUENCY RANGE	
		138 – 174 MHz	406.1 – 470 MHz
t1 (ms)	± 12.5 kHz	5 ms	10 ms
t2 (ms)	± 6.25 kHz	20 ms	25 ms
t3 (ms)	± 12.5 kHz	5 ms	10 ms

Note: RSS-119 5.9 - If the transmitter carrier output power rating is 6 Watts or less, the frequency difference during the time periods t1 and t3 may exceed the maximum frequency difference for these time periods.

Transient Frequency Behaviour

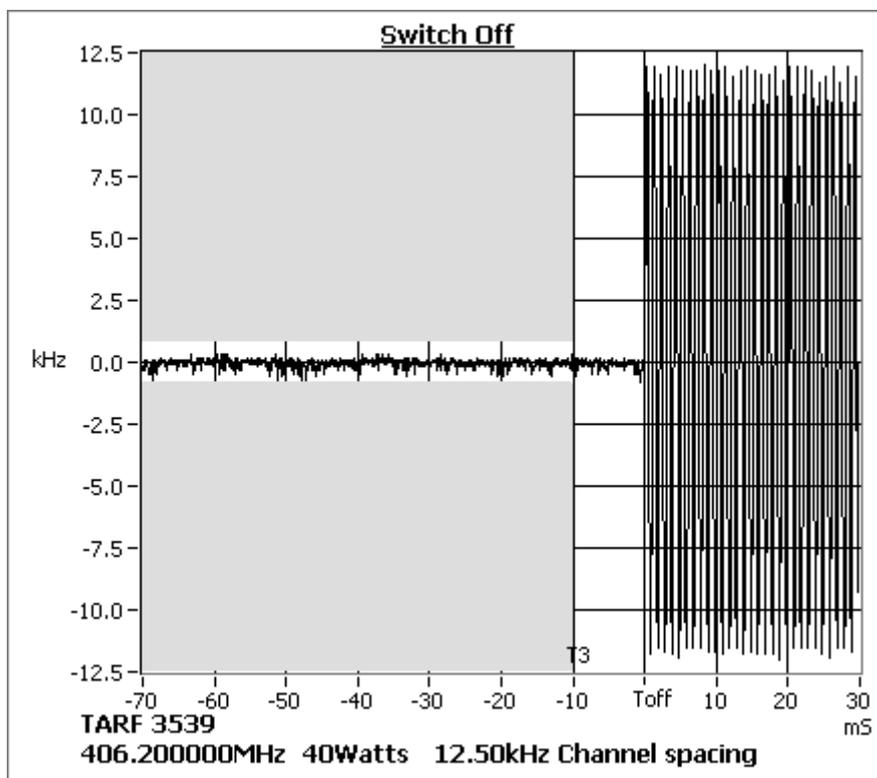
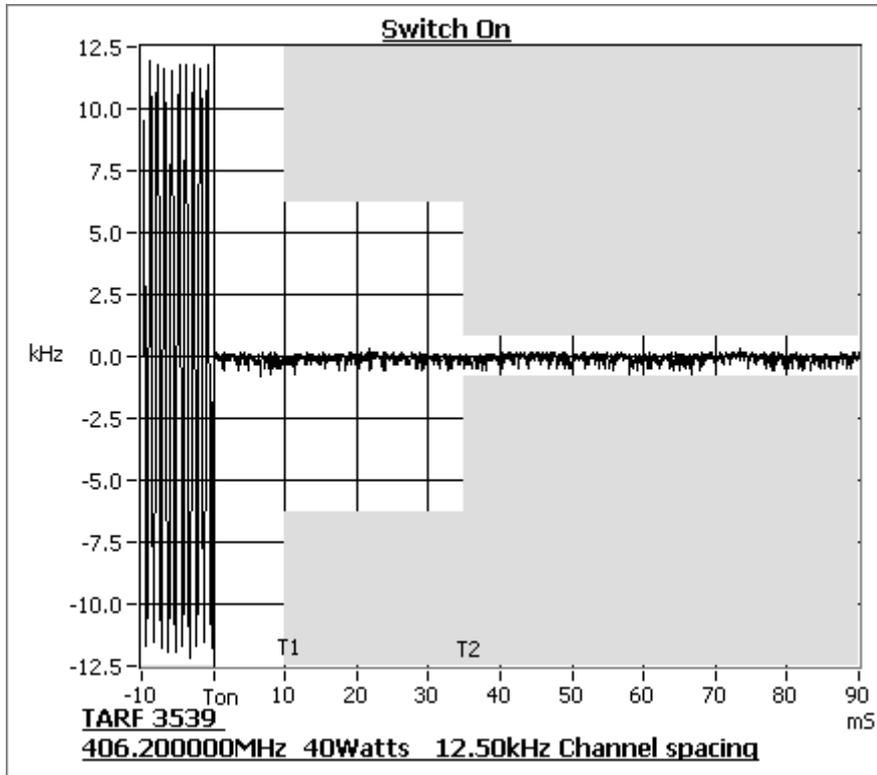
SPECIFICATION: FCC 47 CFR 90.214

RSS-119 5.9

Tx FREQUENCY: 406.2 MHz

40 W

12.5 kHz Channel Spacing



Transient Frequency Behaviour

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 418.1 MHz 40 W 12.5 kHz Channel Spacing

TRANSIENT RESPONSE PERIOD	CARRIER PEAK VARIATION FROM NORMAL	
	Key ON (kHz)	Key OFF (kHz)
t1	-0.8	N/A
t2	-0.6	N/A
t3	N/A	-0.8
t2 → t3 ppm	-1.8	
ERROR LIMIT t2 → t3 (ppm)	2.5	

Confirm that during periods t1 and t3 the frequency difference does not exceed the value of one channel separation.	YES	NO
	Y	
Confirm that during the period t2 the frequency difference does not exceed half a channel separation.	YES	NO
	Y	
Confirm that during the period t2 to t3 the frequency difference does not exceed the frequency error limit.	YES	NO
	Y	

LIMIT: FCC 47 CFR 90.214

TRANSIENT PERIODS	FREQUENCY RANGE	
	150 MHz – 174 MHz	421 MHz – 512 MHz
t1 (ms)	5 ms	10 ms
t2 (ms)	20 ms	25 ms
t3 (ms)	5 ms	10 ms

LIMIT: RSS-119 5.9

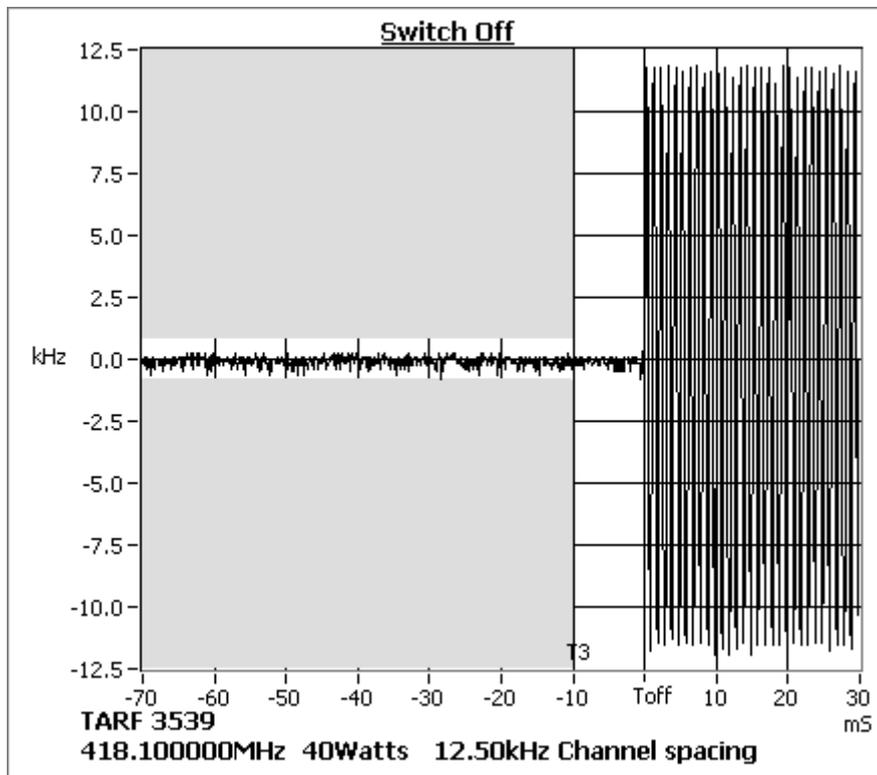
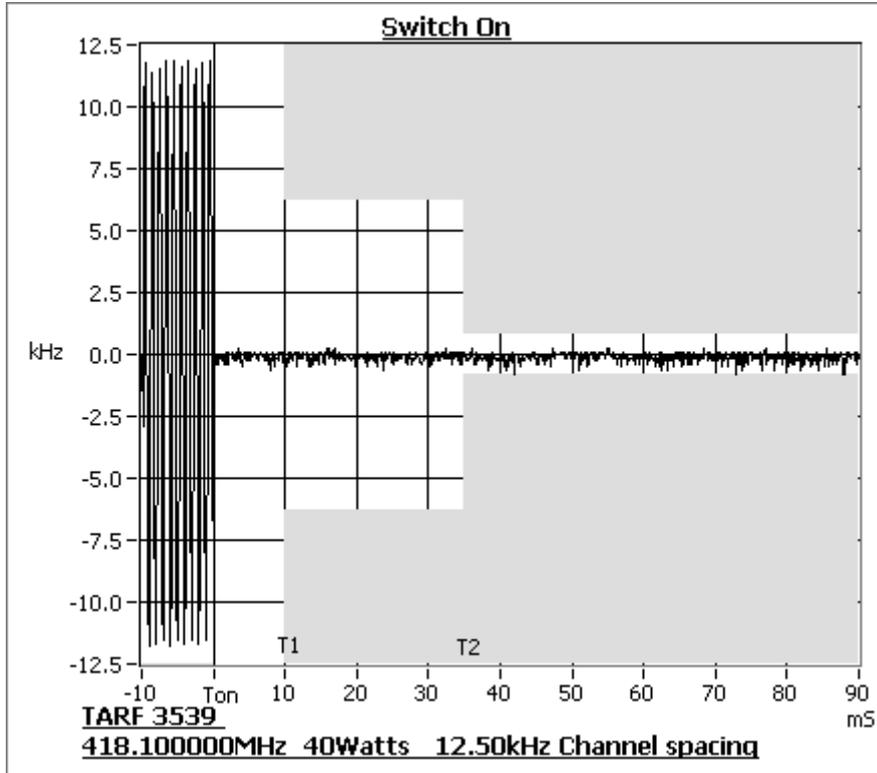
Transient Frequency Behaviour for Equipment Designed to Operate on 12.5 kHz Channels			
TRANSIENT PERIODS	Maximum Frequency Difference	FREQUENCY RANGE	
		138 – 174 MHz	406.1 – 470 MHz
t1 (ms)	± 12.5 kHz	5 ms	10 ms
t2 (ms)	± 6.25 kHz	20 ms	25 ms
t3 (ms)	± 12.5 kHz	5 ms	10 ms

Note: RSS-119 5.9 - If the transmitter carrier output power rating is 6 Watts or less, the frequency difference during the time periods t1 and t3 may exceed the maximum frequency difference for these time periods,

Transient Frequency Behavior

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 418.1 MHz 40 W 12.5 kHz Channel Spacing



Transient Frequency Behaviour

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 429.9 MHz 40 W 12.5 kHz Channel Spacing

TRANSIENT RESPONSE PERIOD	CARRIER PEAK VARIATION FROM NORMAL	
	Key ON (kHz)	Key OFF (kHz)
t1	-0.7	N/A
t2	-0.7	N/A
t3	N/A	-0.7
t2 → t3 ppm	-1.7	
ERROR LIMIT t2 → t3 (ppm)	2.5	

Confirm that during periods t1 and t3 the frequency difference does not exceed the value of one channel separation.	YES	NO
	Y	
Confirm that during the period t2 the frequency difference does not exceed half a channel separation.	YES	NO
	Y	
Confirm that during the period t2 to t3 the frequency difference does not exceed the frequency error limit.	YES	NO
	Y	

LIMIT: FCC 47 CFR 90.214

TRANSIENT PERIODS	FREQUENCY RANGE	
	150 MHz – 174 MHz	421 MHz – 512 MHz
t1 (ms)	5 ms	10 ms
t2 (ms)	20 ms	25 ms
t3 (ms)	5 ms	10 ms

LIMIT: RSS-119 5.9

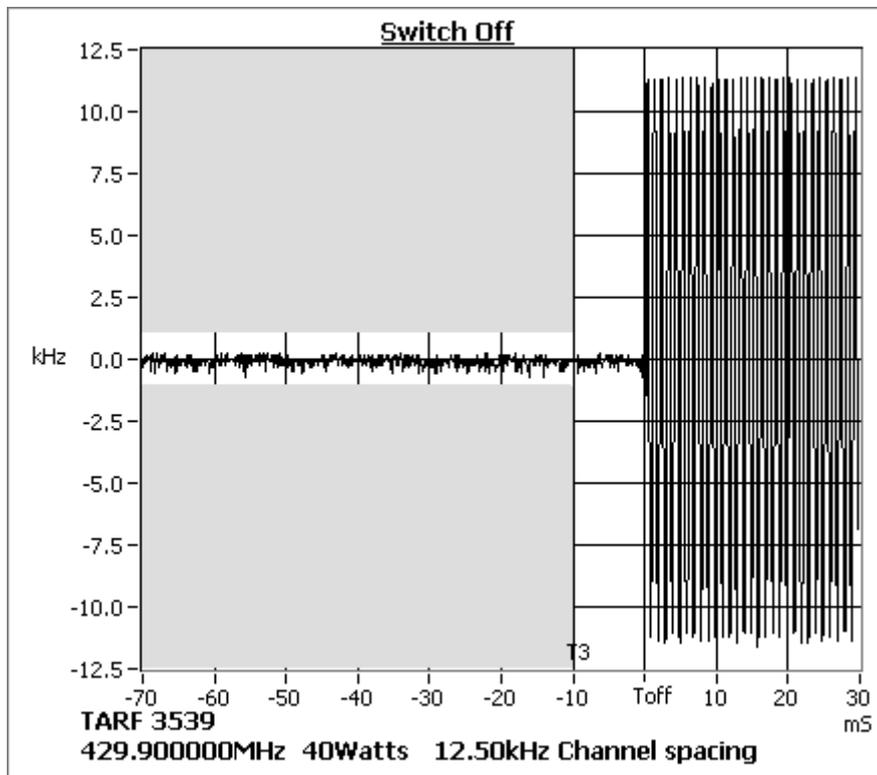
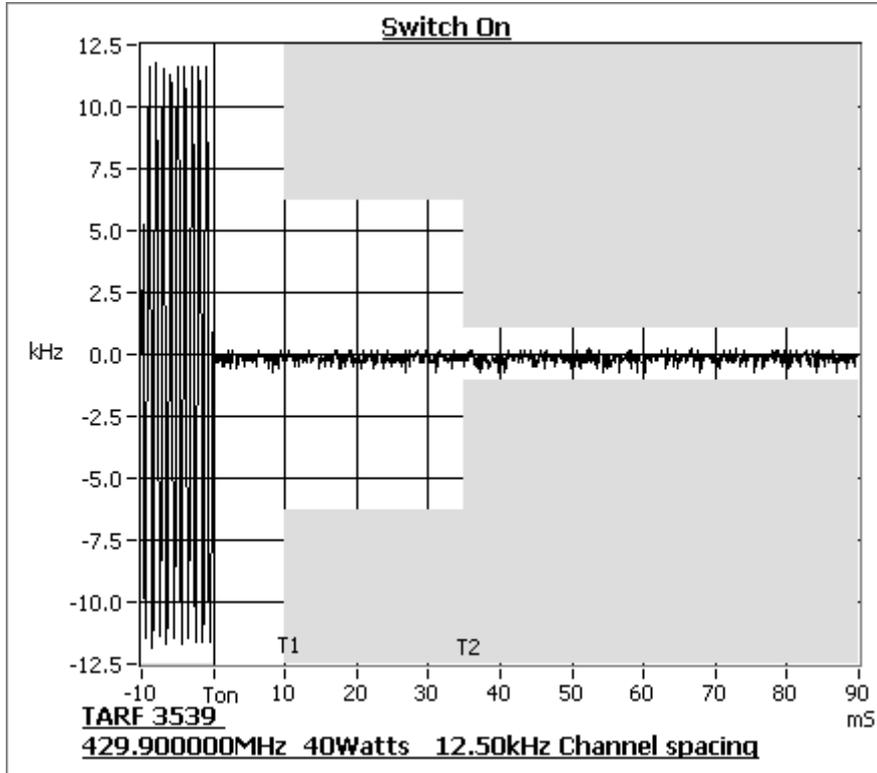
Transient Frequency Behaviour for Equipment Designed to Operate on 12.5 kHz Channels			
TRANSIENT PERIODS	Maximum Frequency Difference	FREQUENCY RANGE	
		138 – 174 MHz	406.1 – 470 MHz
t1 (ms)	± 12.5 kHz	5 ms	10 ms
t2 (ms)	± 6.25 kHz	20 ms	25 ms
t3 (ms)	± 12.5 kHz	5 ms	10 ms

Note: RSS-119 5.9 - If the transmitter carrier output power rating is 6 Watts or less, the frequency difference during the time periods t1 and t3 may exceed the maximum frequency difference for these time periods,

Transient Frequency Behavior

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 429.9 MHz 40 W 12.5 kHz Channel Spacing



Transient Frequency Behaviour

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 450.1 MHz 40 W 12.5 kHz Channel Spacing

TRANSIENT RESPONSE PERIOD	CARRIER PEAK VARIATION FROM NORMAL	
	Key ON (kHz)	Key OFF (kHz)
t1	1.0	N/A
t2	-0.7	N/A
t3	N/A	-0.5
t2 → t3 ppm	-1.6	
ERROR LIMIT t2 → t3 (ppm)	2.5	

Confirm that during periods t1 and t3 the frequency difference does not exceed the value of one channel separation.	YES	NO
	Y	
Confirm that during the period t2 the frequency difference does not exceed half a channel separation.	YES	NO
	Y	
Confirm that during the period t2 to t3 the frequency difference does not exceed the frequency error limit.	YES	NO
	Y	

LIMIT: FCC 47 CFR 90.214

TRANSIENT PERIODS	FREQUENCY RANGE	
	150 MHz – 174 MHz	421 MHz – 512 MHz
t1 (ms)	5 ms	10 ms
t2 (ms)	20 ms	25 ms
t3 (ms)	5 ms	10 ms

LIMIT: RSS-119 5.9

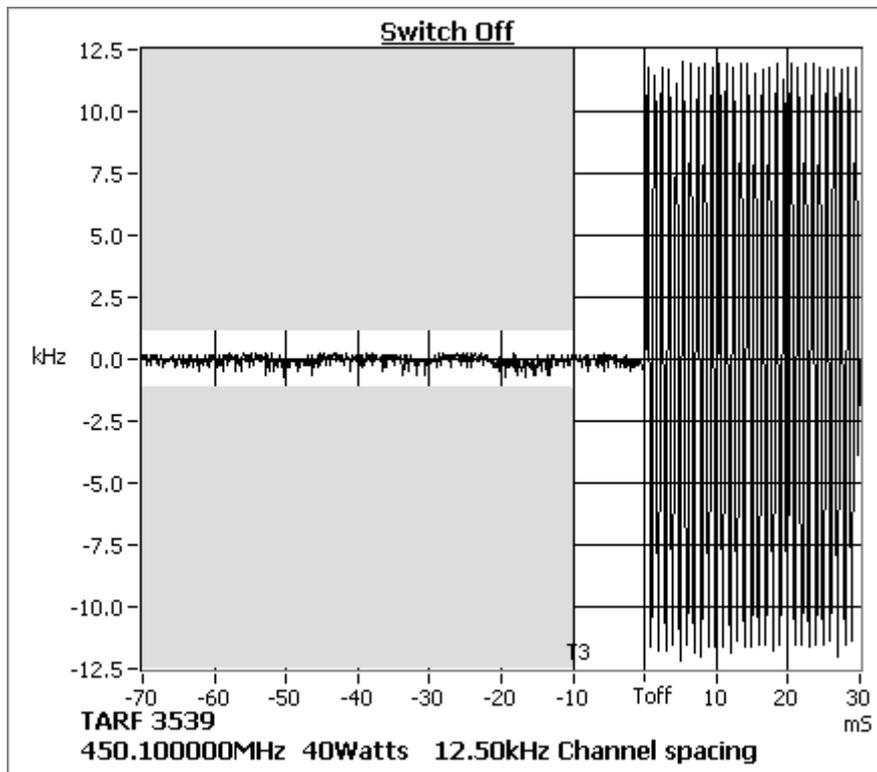
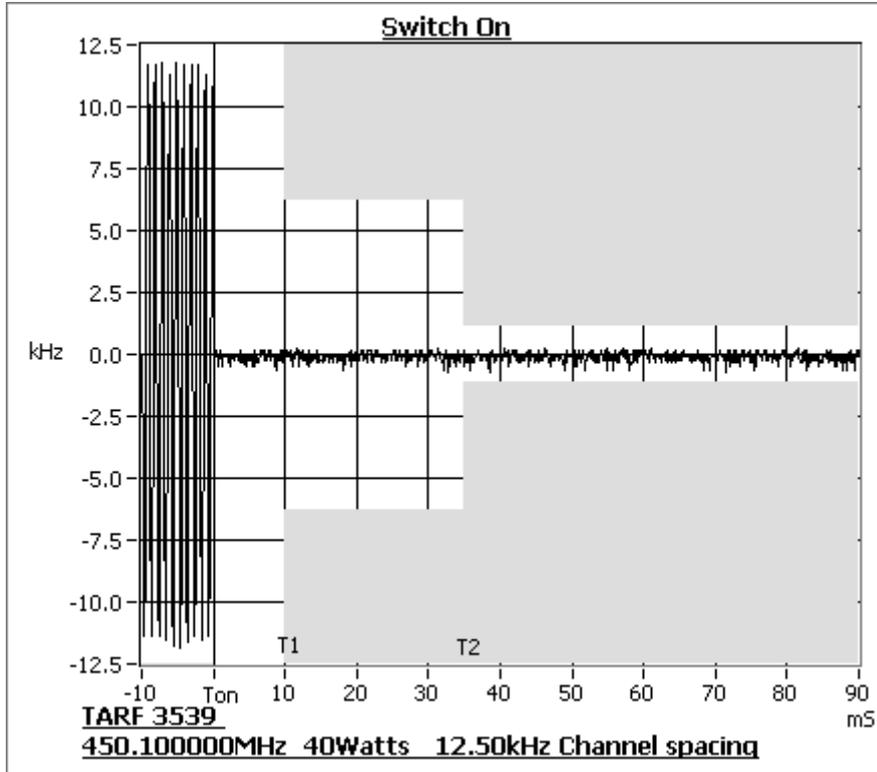
Transient Frequency Behaviour for Equipment Designed to Operate on 12.5 kHz Channels			
TRANSIENT PERIODS	Maximum Frequency Difference	FREQUENCY RANGE	
		138 – 174 MHz	406.1 – 470 MHz
t1 (ms)	± 12.5 kHz	5 ms	10 ms
t2 (ms)	± 6.25 kHz	20 ms	25 ms
t3 (ms)	± 12.5 kHz	5 ms	10 ms

Note: RSS-119 5.9 - If the transmitter carrier output power rating is 6 Watts or less, the frequency difference during the time periods t1 and t3 may exceed the maximum frequency difference for these time periods,

Transient Frequency Behavior

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 450.1 MHz 40 W 12.5 kHz Channel Spacing



Transient Frequency Behaviour

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 459.9 MHz 40 W 12.5 kHz Channel Spacing

TRANSIENT RESPONSE PERIOD	CARRIER PEAK VARIATION FROM NORMAL	
	Key ON (kHz)	Key OFF (kHz)
t1	-0.9	N/A
t2	-0.7	N/A
t3	N/A	-0.6
t2 → t3 ppm	-1.6	
ERROR LIMIT t2 → t3 (ppm)	2.5	

Confirm that during periods t1 and t3 the frequency difference does not exceed the value of one channel separation.	YES	NO
	Y	
Confirm that during the period t2 the frequency difference does not exceed half a channel separation.	YES	NO
	Y	
Confirm that during the period t2 to t3 the frequency difference does not exceed the frequency error limit.	YES	NO
	Y	

LIMIT: FCC 47 CFR 90.214

TRANSIENT PERIODS	FREQUENCY RANGE	
	150 MHz – 174 MHz	421 MHz – 512 MHz
t1 (ms)	5 ms	10 ms
t2 (ms)	20 ms	25 ms
t3 (ms)	5 ms	10 ms

LIMIT: RSS-119 5.9

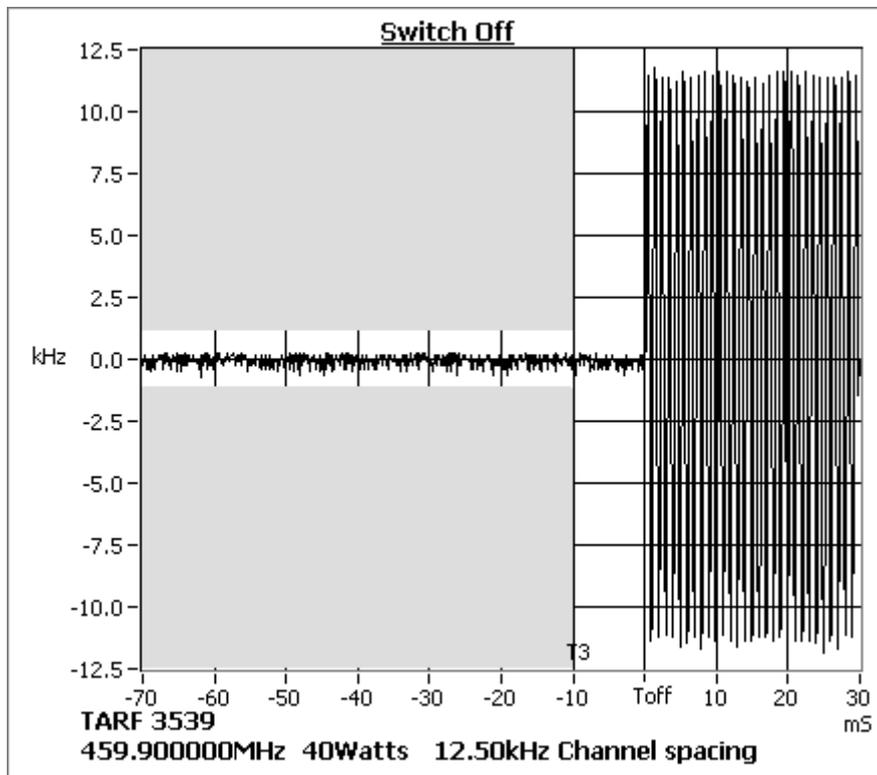
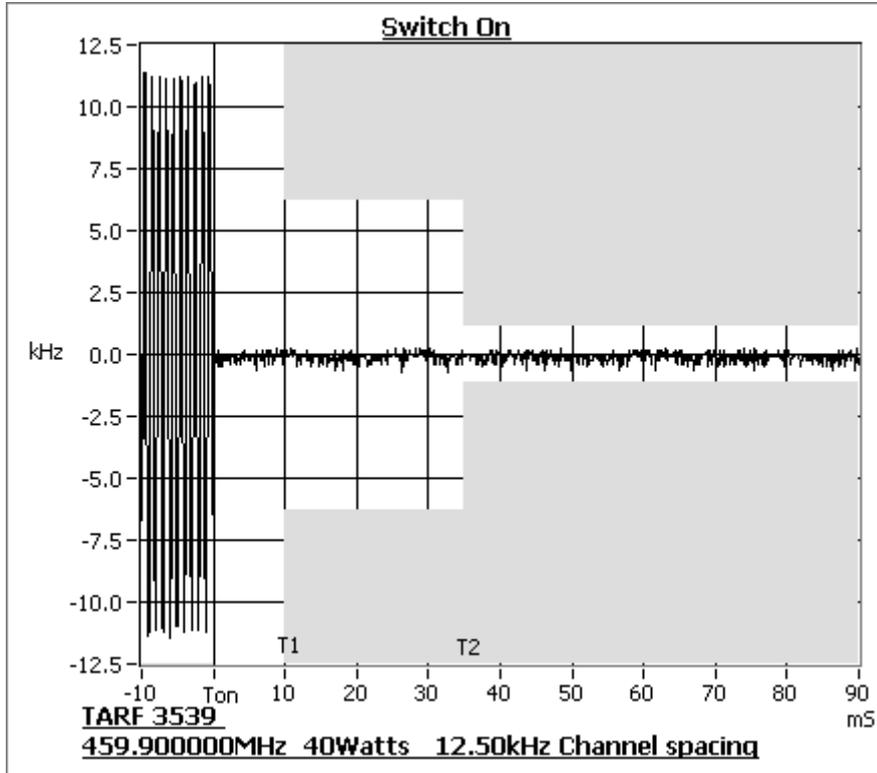
Transient Frequency Behaviour for Equipment Designed to Operate on 12.5 kHz Channels			
TRANSIENT PERIODS	Maximum Frequency Difference	FREQUENCY RANGE	
		138 – 174 MHz	406.1 – 470 MHz
t1 (ms)	± 12.5 kHz	5 ms	10 ms
t2 (ms)	± 6.25 kHz	20 ms	25 ms
t3 (ms)	± 12.5 kHz	5 ms	10 ms

Note: RSS-119 5.9 - If the transmitter carrier output power rating is 6 Watts or less, the frequency difference during the time periods t1 and t3 may exceed the maximum frequency difference for these time periods,

Transient Frequency Behavior

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 459.9 MHz 40 W 12.5 kHz Channel Spacing



Transient Frequency Behaviour

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 469.9 MHz 40 W 12.5 kHz Channel Spacing

TRANSIENT RESPONSE PERIOD	CARRIER PEAK VARIATION FROM NORMAL	
	Key ON (kHz)	Key OFF (kHz)
t1	-0.7	N/A
t2	-0.7	N/A
t3	N/A	-0.6
t2 → t3 ppm	-1.5	
ERROR LIMIT t2 → t3 (ppm)	2.5	

Confirm that during periods t1 and t3 the frequency difference does not exceed the value of one channel separation.	YES	NO
	Y	
Confirm that during the period t2 the frequency difference does not exceed half a channel separation.	YES	NO
	Y	
Confirm that during the period t2 to t3 the frequency difference does not exceed the frequency error limit.	YES	NO
	Y	

LIMIT: FCC 47 CFR 90.214

TRANSIENT PERIODS	FREQUENCY RANGE	
	150 MHz – 174 MHz	421 MHz – 512 MHz
t1 (ms)	5 ms	10 ms
t2 (ms)	20 ms	25 ms
t3 (ms)	5 ms	10 ms

LIMIT: RSS-119 5.9

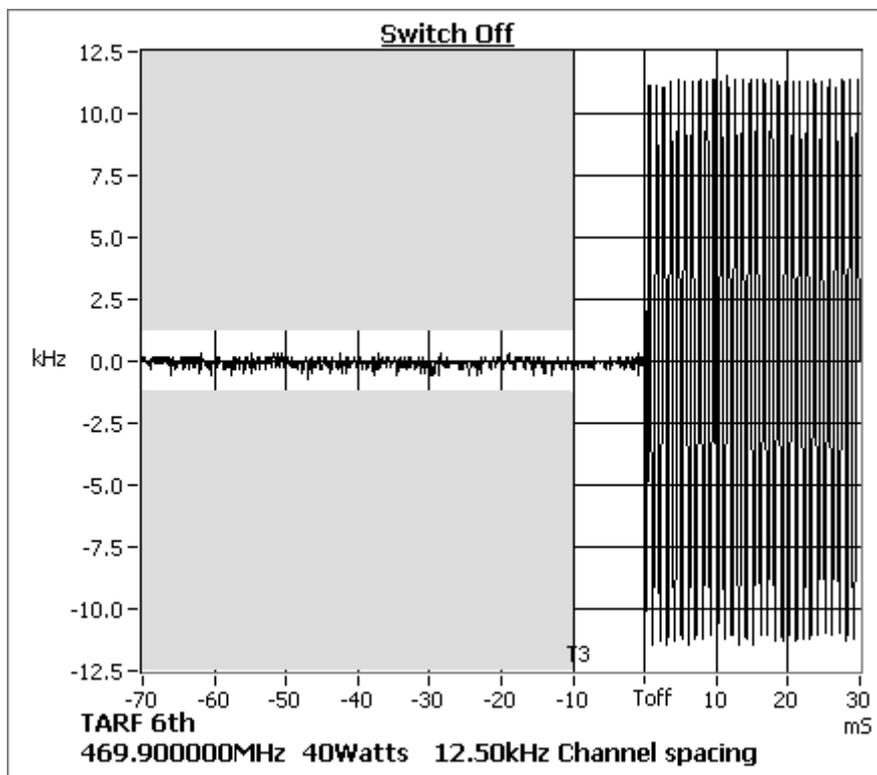
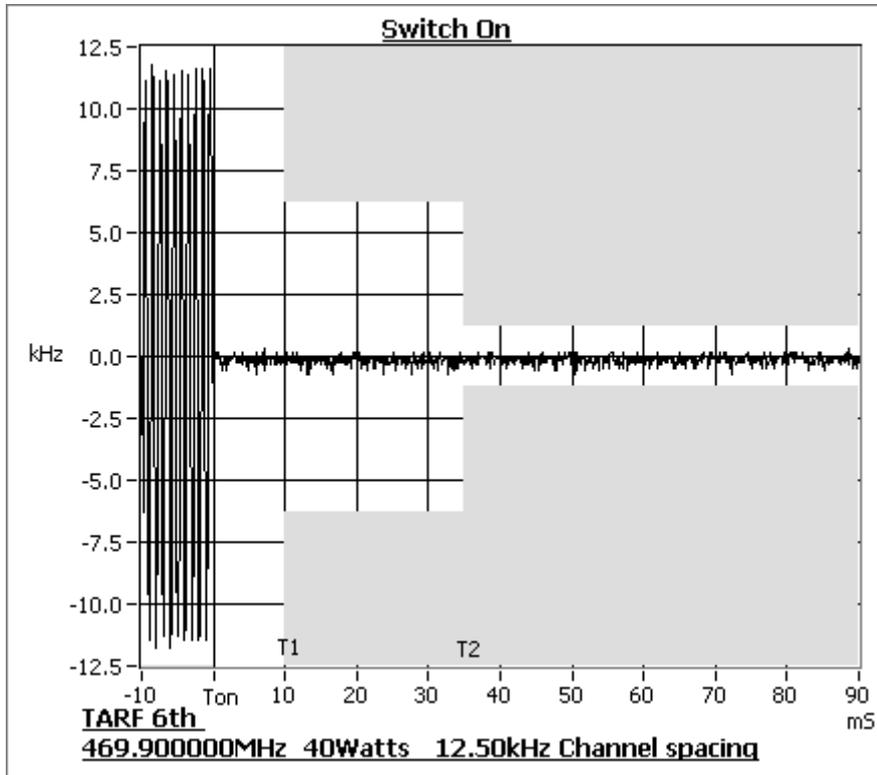
Transient Frequency Behaviour for Equipment Designed to Operate on 12.5 kHz Channels			
TRANSIENT PERIODS	Maximum Frequency Difference	FREQUENCY RANGE	
		138 – 174 MHz	406.1 – 470 MHz
t1 (ms)	± 12.5 kHz	5 ms	10 ms
t2 (ms)	± 6.25 kHz	20 ms	25 ms
t3 (ms)	± 12.5 kHz	5 ms	10 ms

Note: RSS-119 5.9 - If the transmitter carrier output power rating is 6 Watts or less, the frequency difference during the time periods t1 and t3 may exceed the maximum frequency difference for these time periods,

Transient Frequency Behavior

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 469.9 MHz 40 W 12.5 kHz Channel Spacing



Transient Frequency Behaviour

SPECIFICATION: FCC 47 CFR 90.214

RSS-119 5.9

Tx FREQUENCY: 406.2 MHz 40 W 25.0 kHz Channel Spacing

TRANSIENT RESPONSE PERIOD	CARRIER PEAK VARIATION FROM NORMAL	
	Key ON (kHz)	Key OFF (kHz)
t1	-1.5	N/A
t2	-0.7	N/A
t3	N/A	-0.7
t2 → t3 ppm	-1.8	
ERROR LIMIT (t2 → t3) ppm	5.0	

Confirm that during periods t1 and t3 the frequency difference does not exceed the value of one channel separation.	YES	NO
	Y	
Confirm that during the period t2 the frequency difference does not exceed half a channel separation.	YES	NO
	Y	
Confirm that during the period t2 to t3 the frequency difference does not exceed the frequency error limit.	YES	NO
	Y	

LIMIT: FCC 47 CFR 90.214

TRANSIENT PERIODS	FREQUENCY RANGE	
	150 MHz – 174 MHz	421 MHz – 512 MHz
t1 (ms)	5 ms	10 ms
t2 (ms)	20 ms	25 ms
t3 (ms)	5 ms	10 ms

LIMIT: RSS-119 5.9

Transient Frequency Behaviour for Equipment Designed to Operate on 12.5 kHz Channels			
TRANSIENT PERIODS	Maximum Frequency Difference	FREQUENCY RANGE	
		138 – 174 MHz	406.1 – 470 MHz
t1 (ms)	± 12.5 kHz	5 ms	10 ms
t2 (ms)	± 6.25 kHz	20 ms	25 ms
t3 (ms)	± 12.5 kHz	5 ms	10 ms

Note: RSS-119 5.9 - If the transmitter carrier output power rating is 6 Watts or less, the frequency difference during the time periods t1 and t3 may exceed the maximum frequency difference for these time periods.

Transient Frequency Behaviour

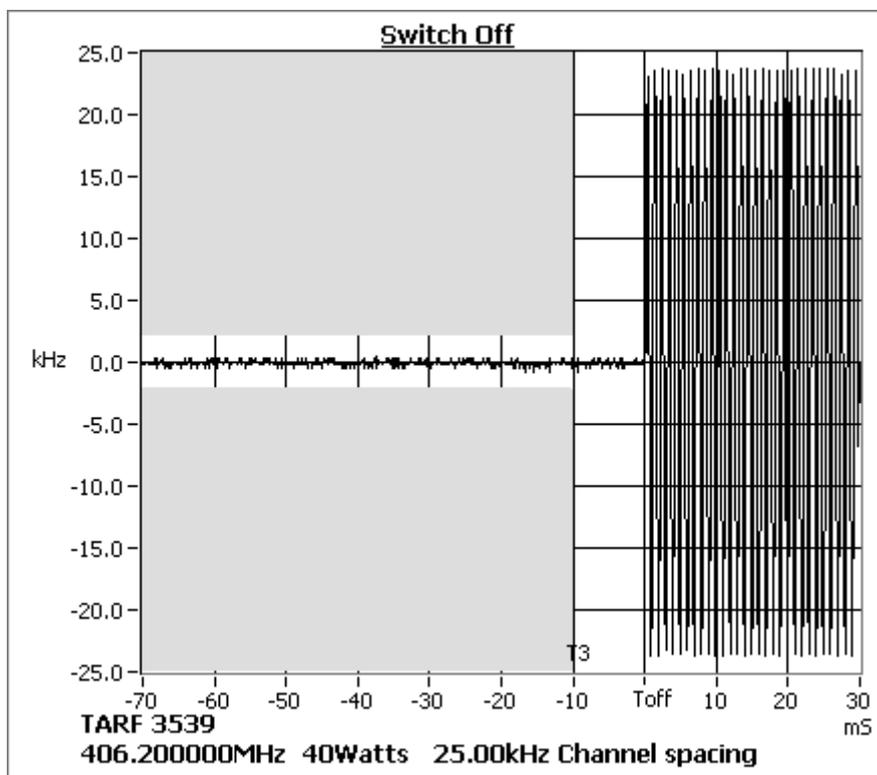
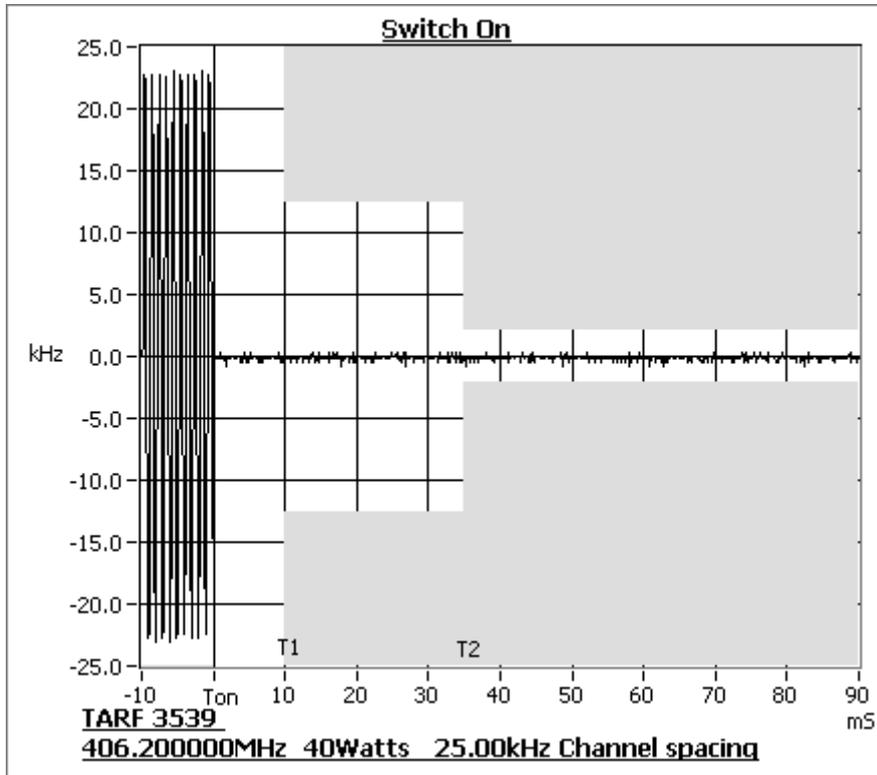
SPECIFICATION: FCC 47 CFR 90.214

RSS-119 5.9

Tx FREQUENCY: 406.2 MHz

40 W

25.0 kHz Channel Spacing



Transient Frequency Behaviour

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 418.1 MHz 40 W 25.0 kHz Channel Spacing

TRANSIENT RESPONSE PERIOD	CARRIER PEAK VARIATION FROM NORMAL	
	Key ON (kHz)	Key OFF (kHz)
t1	-1.1	N/A
t2	-0.8	N/A
t3	N/A	-0.6
t2 → t3 ppm	-2.0	
ERROR LIMIT t2 → t3 (ppm)	5.0	

Confirm that during periods t1 and t3 the frequency difference does not exceed the value of one channel separation.	YES	NO
	Y	
Confirm that during the period t2 the frequency difference does not exceed half a channel separation.	YES	NO
	Y	
Confirm that during the period t2 to t3 the frequency difference does not exceed the frequency error limit.	YES	NO
	Y	

LIMIT: FCC 47 CFR 90.214

TRANSIENT PERIODS	FREQUENCY RANGE	
	150 MHz – 174 MHz	421 MHz – 512 MHz
t1 (ms)	5 ms	10 ms
t2 (ms)	20 ms	25 ms
t3 (ms)	5 ms	10 ms

LIMIT: RSS-119 5.9

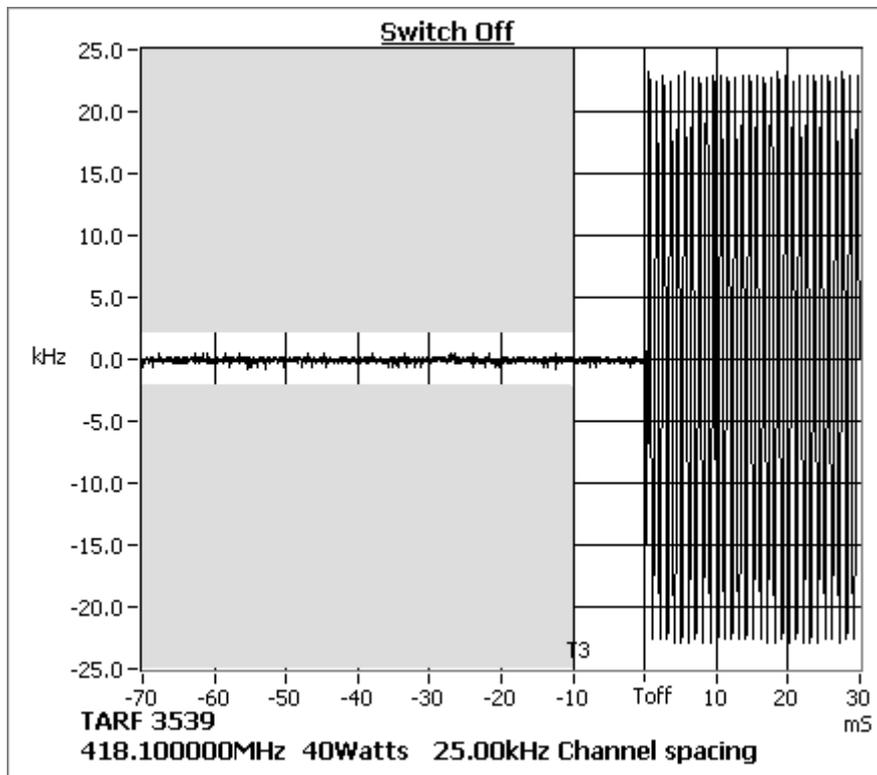
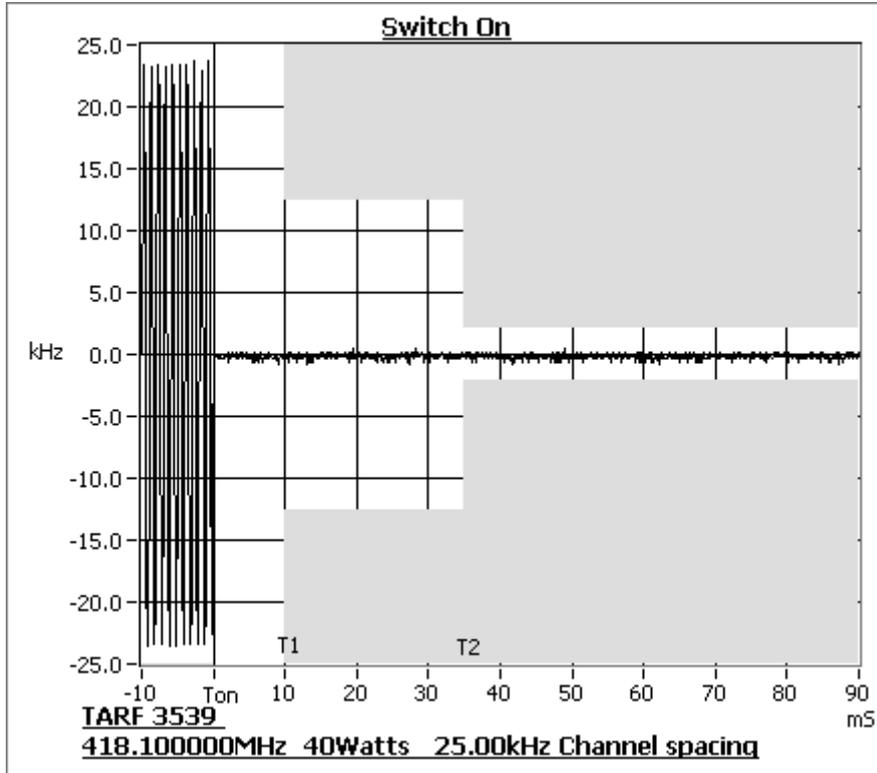
Transient Frequency Behaviour for Equipment Designed to Operate on 12.5 kHz Channels			
TRANSIENT PERIODS	Maximum Frequency Difference	FREQUENCY RANGE	
		138 – 174 MHz	406.1 – 470 MHz
t1 (ms)	± 12.5 kHz	5 ms	10 ms
t2 (ms)	± 6.25 kHz	20 ms	25 ms
t3 (ms)	± 12.5 kHz	5 ms	10 ms

Note: RSS-119 5.9 - If the transmitter carrier output power rating is 6 Watts or less, the frequency difference during the time periods t1 and t3 may exceed the maximum frequency difference for these time periods,

Transient Frequency Behavior

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 418.1 MHz 40 W 25.0 kHz Channel Spacing



Transient Frequency Behaviour

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 429.9 MHz 40 W 25.0 kHz Channel Spacing

TRANSIENT RESPONSE PERIOD	CARRIER PEAK VARIATION FROM NORMAL	
	Key ON (kHz)	Key OFF (kHz)
t1	-1.1	N/A
t2	-0.8	N/A
t3	N/A	0.7
t2 → t3 ppm	-1.9	
ERROR LIMIT t2 → t3 (ppm)	5.0	

Confirm that during periods t1 and t3 the frequency difference does not exceed the value of one channel separation.	YES	NO
	Y	
Confirm that during the period t2 the frequency difference does not exceed half a channel separation.	YES	NO
	Y	
Confirm that during the period t2 to t3 the frequency difference does not exceed the frequency error limit.	YES	NO
	Y	

LIMIT: FCC 47 CFR 90.214

TRANSIENT PERIODS	FREQUENCY RANGE	
	150 MHz – 174 MHz	421 MHz – 512 MHz
t1 (ms)	5 ms	10 ms
t2 (ms)	20 ms	25 ms
t3 (ms)	5 ms	10 ms

LIMIT: RSS-119 5.9

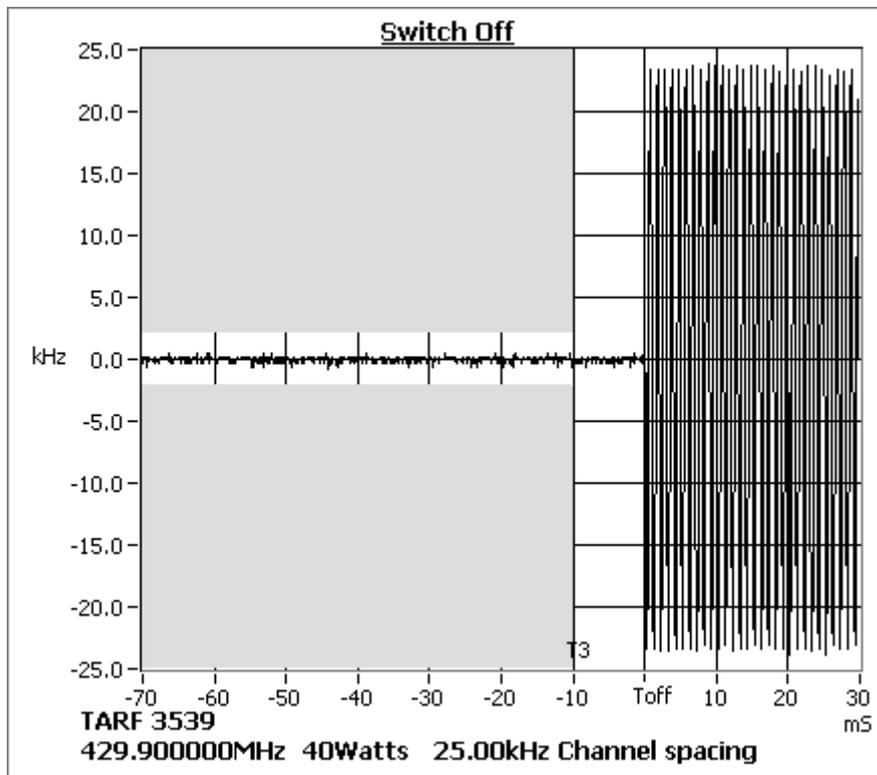
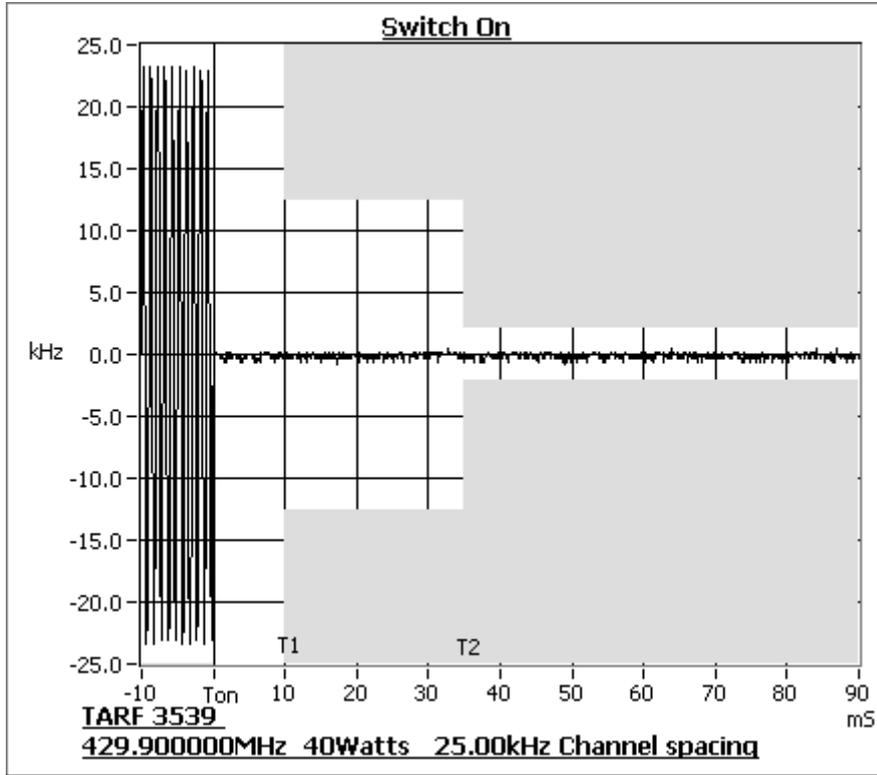
Transient Frequency Behaviour for Equipment Designed to Operate on 12.5 kHz Channels			
TRANSIENT PERIODS	Maximum Frequency Difference	FREQUENCY RANGE	
		138 – 174 MHz	406.1 – 470 MHz
t1 (ms)	± 12.5 kHz	5 ms	10 ms
t2 (ms)	± 6.25 kHz	20 ms	25 ms
t3 (ms)	± 12.5 kHz	5 ms	10 ms

Note: RSS-119 5.9 - If the transmitter carrier output power rating is 6 Watts or less, the frequency difference during the time periods t1 and t3 may exceed the maximum frequency difference for these time periods,

Transient Frequency Behavior

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 429.9 MHz 40 W 25.0 kHz Channel Spacing



Transient Frequency Behaviour

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 450.1 MHz 40 W 25.0 kHz Channel Spacing

TRANSIENT RESPONSE PERIOD	CARRIER PEAK VARIATION FROM NORMAL	
	Key ON (kHz)	Key OFF (kHz)
t1	1.9	N/A
t2	-0.9	N/A
t3	N/A	0.6
t2 → t3 ppm	-1.4	
ERROR LIMIT t2 → t3 (ppm)	5.0	

Confirm that during periods t1 and t3 the frequency difference does not exceed the value of one channel separation.	YES	NO
	Y	
Confirm that during the period t2 the frequency difference does not exceed half a channel separation.	YES	NO
	Y	
Confirm that during the period t2 to t3 the frequency difference does not exceed the frequency error limit.	YES	NO
	Y	

LIMIT: FCC 47 CFR 90.214

TRANSIENT PERIODS	FREQUENCY RANGE	
	150 MHz – 174 MHz	421 MHz – 512 MHz
t1 (ms)	5 ms	10 ms
t2 (ms)	20 ms	25 ms
t3 (ms)	5 ms	10 ms

LIMIT: RSS-119 5.9

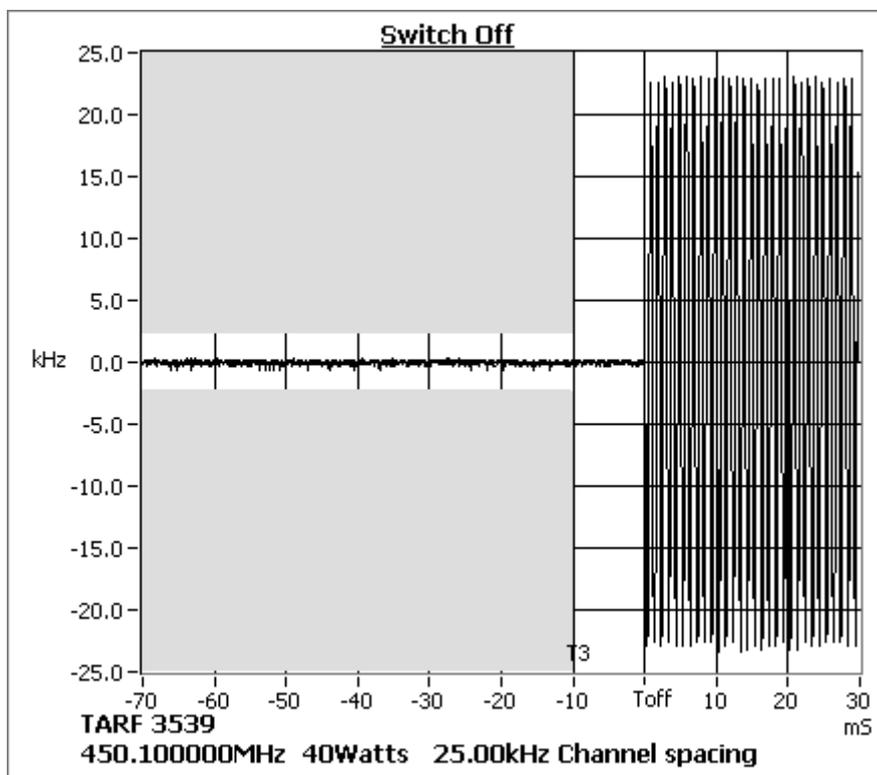
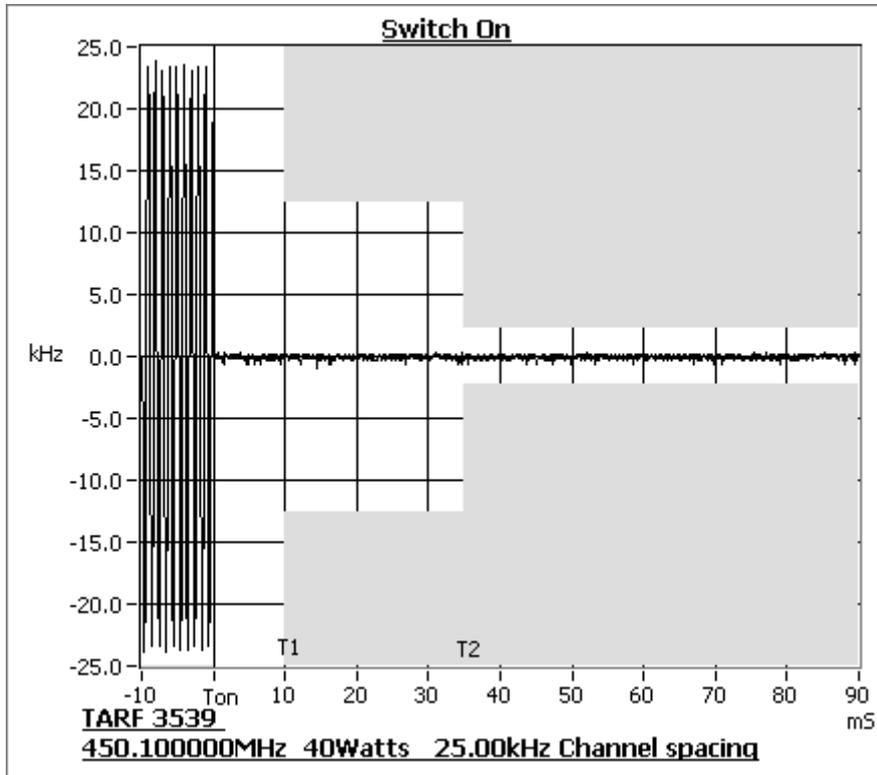
Transient Frequency Behaviour for Equipment Designed to Operate on 12.5 kHz Channels			
TRANSIENT PERIODS	Maximum Frequency Difference	FREQUENCY RANGE	
		138 – 174 MHz	406.1 – 470 MHz
t1 (ms)	± 12.5 kHz	5 ms	10 ms
t2 (ms)	± 6.25 kHz	20 ms	25 ms
t3 (ms)	± 12.5 kHz	5 ms	10 ms

Note: RSS-119 5.9 - If the transmitter carrier output power rating is 6 Watts or less, the frequency difference during the time periods t1 and t3 may exceed the maximum frequency difference for these time periods,

Transient Frequency Behavior

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 450.1 MHz 40 W 25.0 kHz Channel Spacing



Transient Frequency Behaviour

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 459.9 MHz 40 W 25.0 kHz Channel Spacing

TRANSIENT RESPONSE PERIOD	CARRIER PEAK VARIATION FROM NORMAL	
	Key ON (kHz)	Key OFF (kHz)
t1	-1.4	N/A
t2	-0.6	N/A
t3	N/A	-0.6
t2 → t3 ppm	-1.9	
ERROR LIMIT t2 → t3 (ppm)	5.0	

Confirm that during periods t1 and t3 the frequency difference does not exceed the value of one channel separation.	YES	NO
	Y	
Confirm that during the period t2 the frequency difference does not exceed half a channel separation.	YES	NO
	Y	
Confirm that during the period t2 to t3 the frequency difference does not exceed the frequency error limit.	YES	NO
	Y	

LIMIT: FCC 47 CFR 90.214

TRANSIENT PERIODS	FREQUENCY RANGE	
	150 MHz – 174 MHz	421 MHz – 512 MHz
t1 (ms)	5 ms	10 ms
t2 (ms)	20 ms	25 ms
t3 (ms)	5 ms	10 ms

LIMIT: RSS-119 5.9

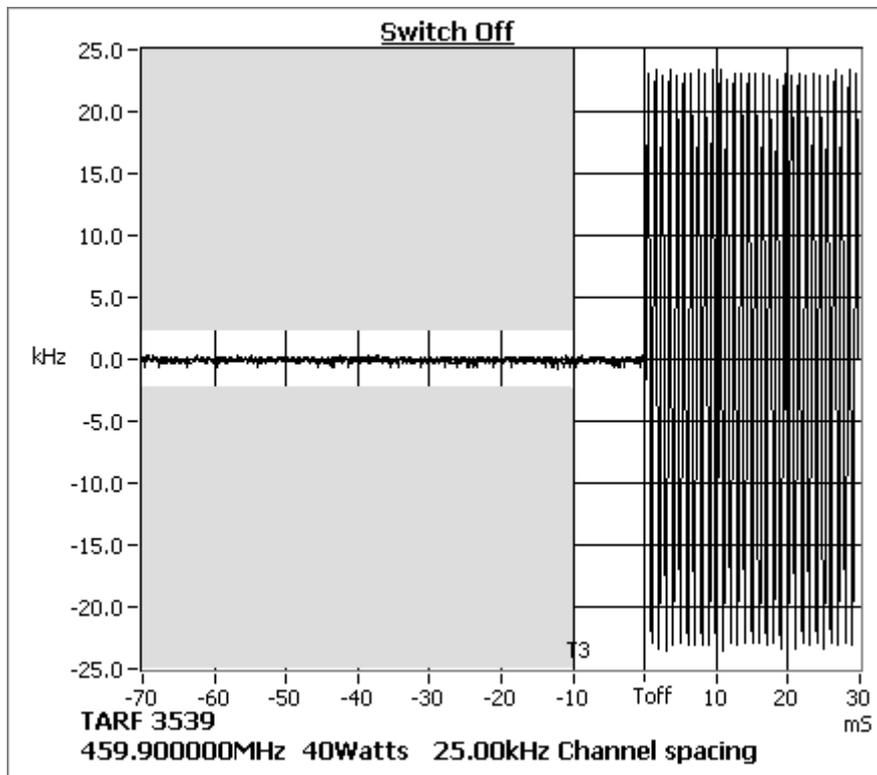
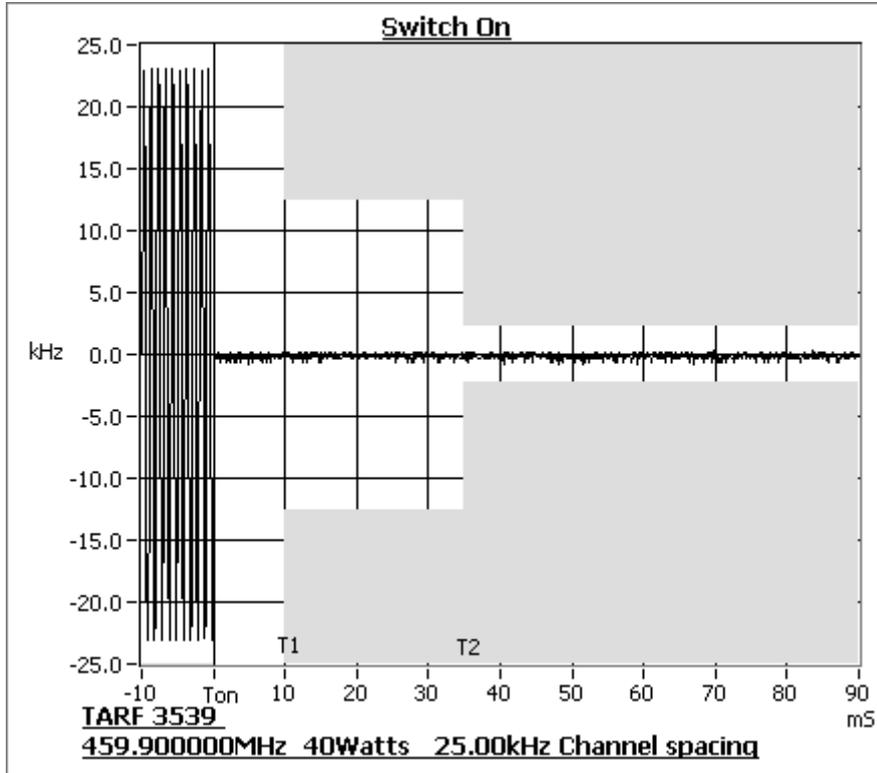
Transient Frequency Behaviour for Equipment Designed to Operate on 12.5 kHz Channels			
TRANSIENT PERIODS	Maximum Frequency Difference	FREQUENCY RANGE	
		138 – 174 MHz	406.1 – 470 MHz
t1 (ms)	± 12.5 kHz	5 ms	10 ms
t2 (ms)	± 6.25 kHz	20 ms	25 ms
t3 (ms)	± 12.5 kHz	5 ms	10 ms

Note: RSS-119 5.9 - If the transmitter carrier output power rating is 6 Watts or less, the frequency difference during the time periods t1 and t3 may exceed the maximum frequency difference for these time periods,

Transient Frequency Behavior

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 459.9 MHz 40 W 25.0 kHz Channel Spacing



Transient Frequency Behaviour

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 469.9 MHz 40 W 25.0 kHz Channel Spacing

TRANSIENT RESPONSE PERIOD	CARRIER PEAK VARIATION FROM NORMAL	
	Key ON (kHz)	Key OFF (kHz)
t1	-0.6	N/A
t2	-0.9	N/A
t3	N/A	-0.6
t2 → t3 ppm	-1.9	
ERROR LIMIT t2 → t3 (ppm)	5.0	

Confirm that during periods t1 and t3 the frequency difference does not exceed the value of one channel separation.	YES	NO
	Y	
Confirm that during the period t2 the frequency difference does not exceed half a channel separation.	YES	NO
	Y	
Confirm that during the period t2 to t3 the frequency difference does not exceed the frequency error limit.	YES	NO
	Y	

LIMIT: FCC 47 CFR 90.214

TRANSIENT PERIODS	FREQUENCY RANGE	
	150 MHz – 174 MHz	421 MHz – 512 MHz
t1 (ms)	5 ms	10 ms
t2 (ms)	20 ms	25 ms
t3 (ms)	5 ms	10 ms

LIMIT: RSS-119 5.9

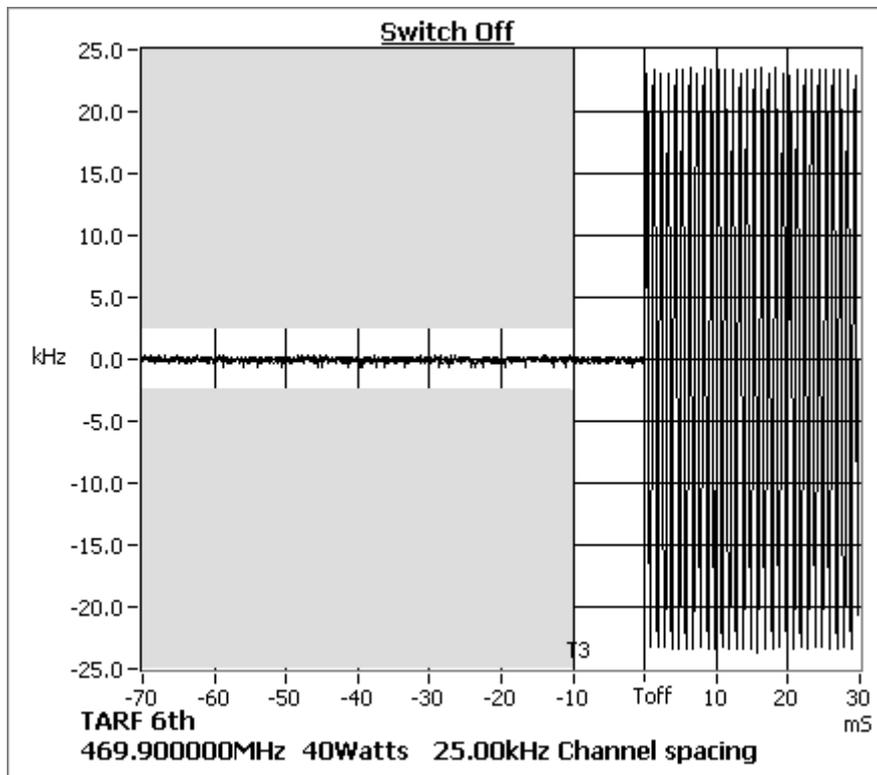
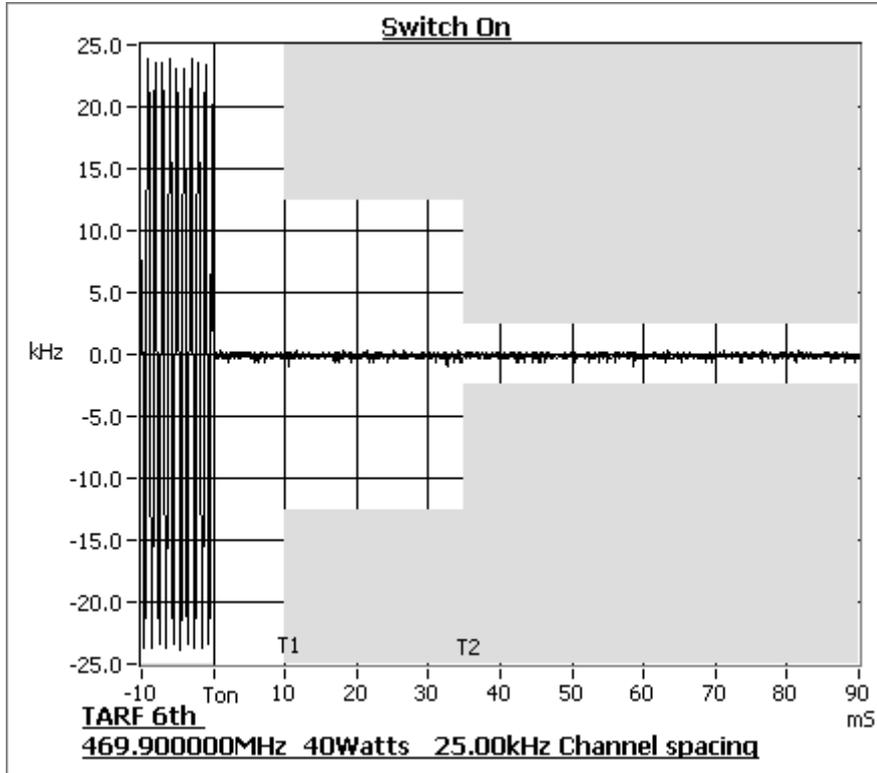
Transient Frequency Behaviour for Equipment Designed to Operate on 12.5 kHz Channels			
TRANSIENT PERIODS	Maximum Frequency Difference	FREQUENCY RANGE	
		138 – 174 MHz	406.1 – 470 MHz
t1 (ms)	± 12.5 kHz	5 ms	10 ms
t2 (ms)	± 6.25 kHz	20 ms	25 ms
t3 (ms)	± 12.5 kHz	5 ms	10 ms

Note: RSS-119 5.9 - If the transmitter carrier output power rating is 6 Watts or less, the frequency difference during the time periods t1 and t3 may exceed the maximum frequency difference for these time periods,

Transient Frequency Behavior

SPECIFICATION: FCC 47 CFR 90.214

Tx FREQUENCY: 469.9 MHz 40 W 25.0 kHz Channel Spacing



TRANSMITTER FREQUENCY STABILITY - TEMPERATURE

SPECIFICATION: FCC 47 CFR 2.1055 (a) (1)

RSS-119 5.3

GUIDE: TIA/EIA-603D 2.2.2

MEASUREMENT PROCEDURE:

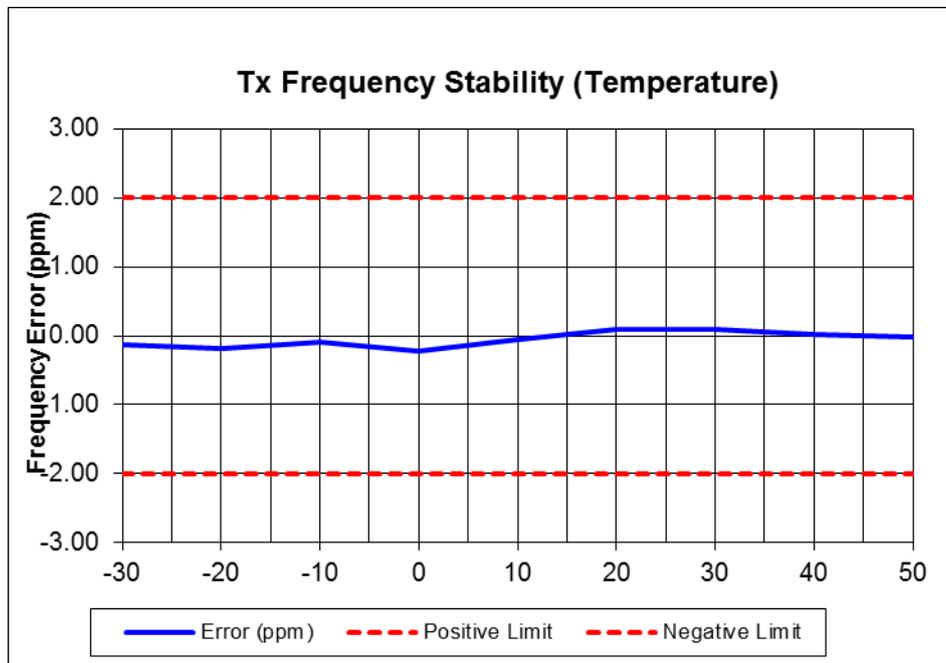
1. Refer Annex A for equipment set up.
2. The EUT was tested for frequency error from -30° C to +50° C in 10° C increments
3. The frequency error was recorded in parts per million (ppm).

MEASUREMENT RESULTS:

See the plots on the following pages for 12.5 kHz channel spacing.

406.2 MHz

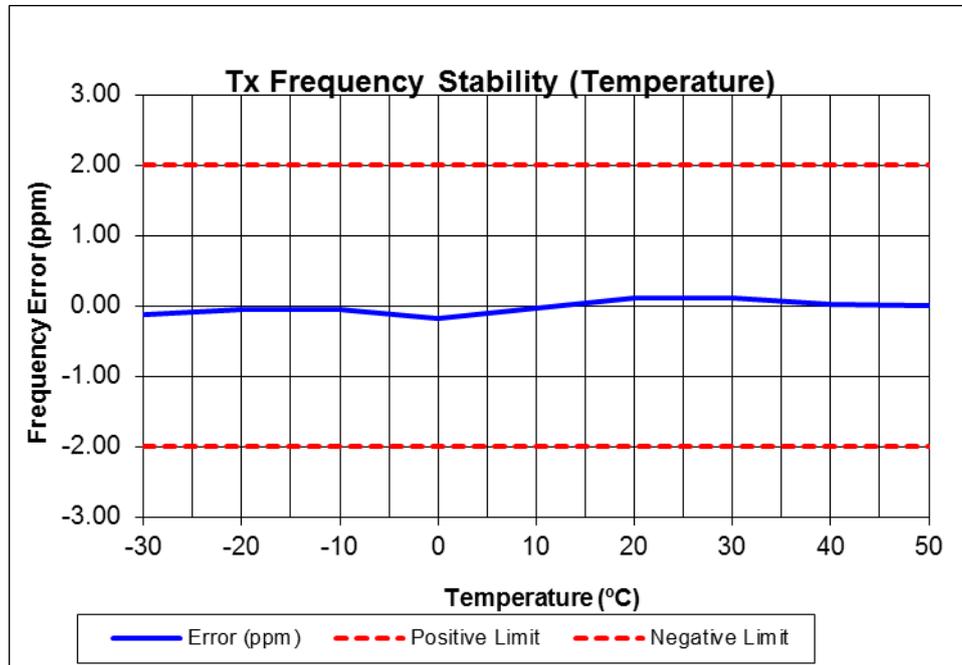
Temperature (°C)	Frequency (MHz)	Error (ppm)
50	406.199995	-0.01
40	406.200006	0.01
30	406.200040	0.10
20	406.200041	0.10
10	406.199974	-0.06
0	406.199913	-0.21
-10	406.199966	-0.08
-20	406.199922	-0.19
-30	406.199944	-0.14



Transmitter Frequency Stability - Temperature

418.1 MHz

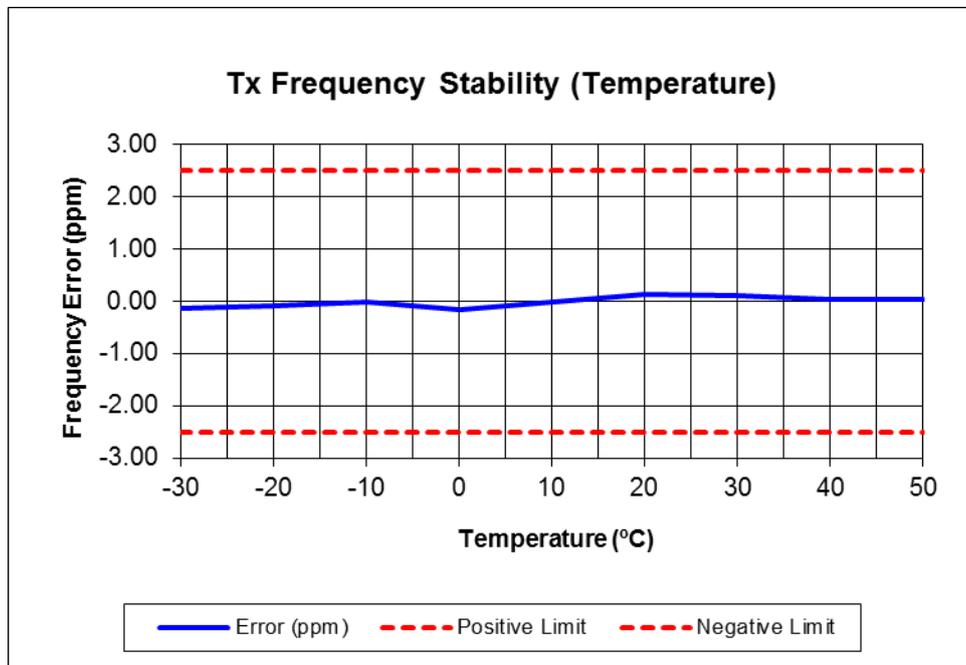
Temperature (°C)	Frequency (MHz)	Error (ppm)
50	418.100004	0.01
40	418.100011	0.03
30	418.100047	0.11
20	418.100049	0.12
10	418.099985	-0.04
0	418.099922	-0.19
-10	418.099982	-0.04
-20	418.099977	-0.06
-30	418.099947	-0.13



Transmitter Frequency Stability - Temperature

429.9 MHz

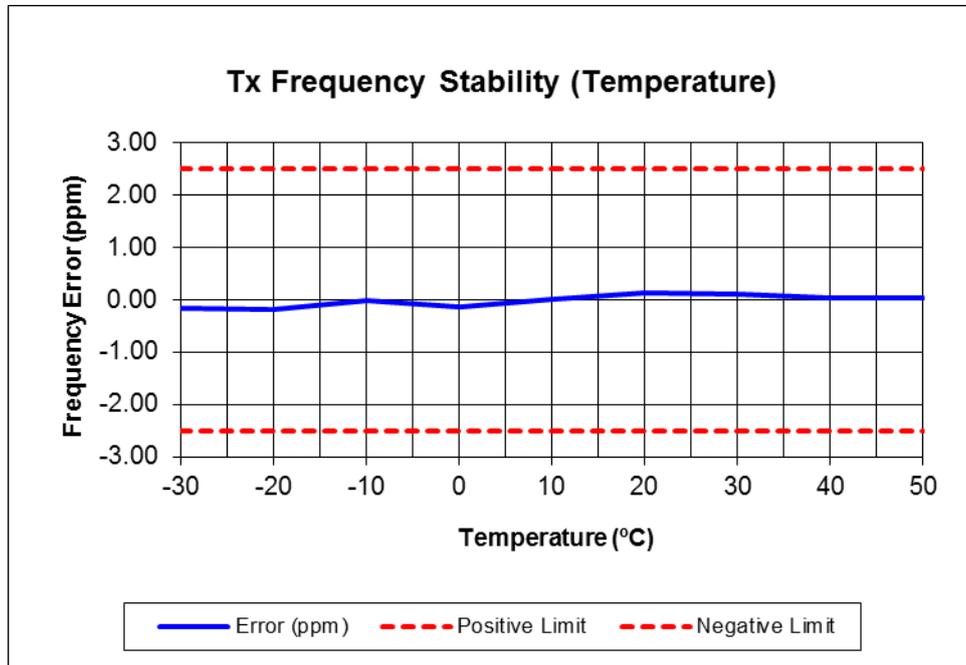
Temperature (°C)	Frequency (MHz)	Error (ppm)
50	429.900013	0.03
40	429.900016	0.04
30	429.900050	0.12
20	429.900059	0.14
10	429.899998	0.00
0	429.899929	-0.17
-10	429.899991	-0.02
-20	429.899962	-0.09
-30	429.899938	-0.14



Transmitter Frequency Stability - Temperature

450.1 MHz

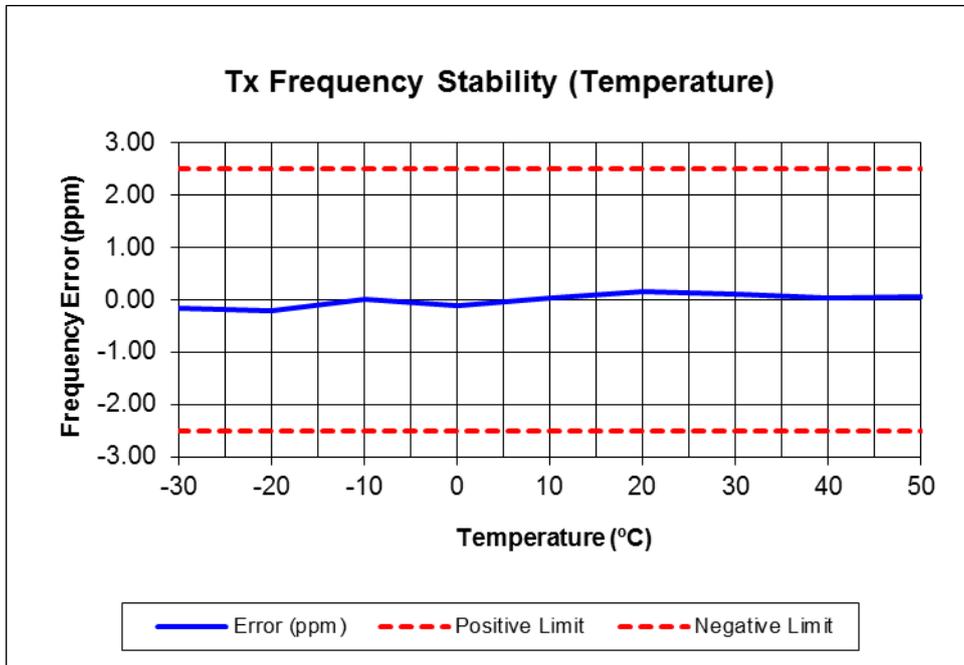
Temperature (°C)	Frequency (MHz)	Error (ppm)
50	450.100021	0.05
40	450.100016	0.04
30	450.100051	0.11
20	450.100064	0.14
10	450.100007	0.02
0	450.099934	-0.15
-10	450.099996	-0.01
-20	450.099922	-0.17
-30	450.099929	-0.16



Transmitter Frequency Stability - Temperature

459.9 MHz

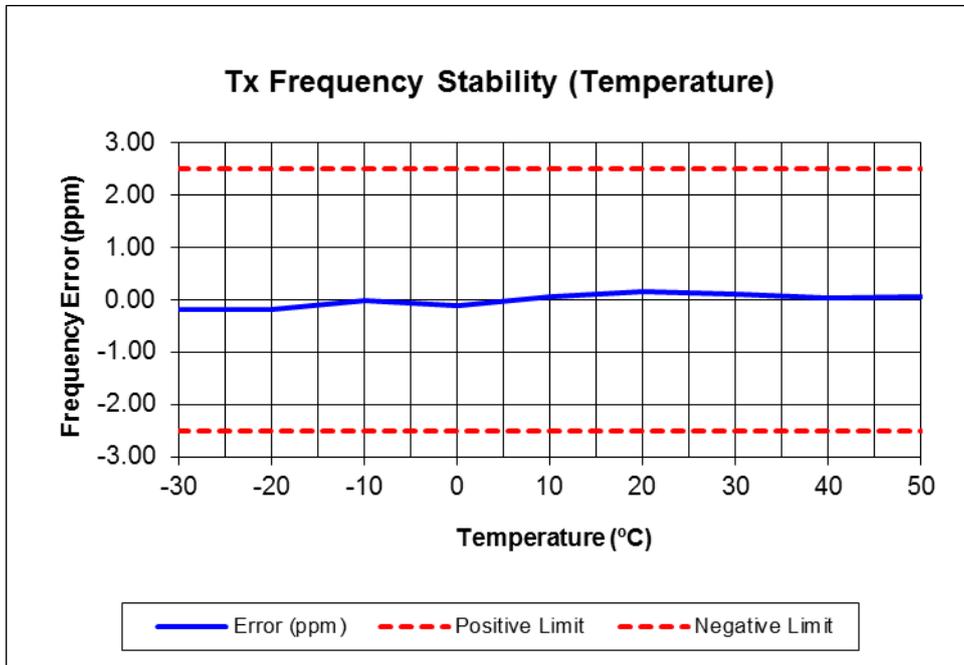
Temperature (°C)	Frequency (MHz)	Error (ppm)
50	459.900028	0.06
40	459.900021	0.05
30	459.900048	0.10
20	459.900071	0.15
10	459.900021	0.05
0	459.899945	-0.12
-10	459.900000	0.00
-20	459.899899	-0.22
-30	459.899923	-0.17



Transmitter Frequency Stability - Temperature

469.9 MHz

Temperature (°C)	Frequency (MHz)	Error (ppm)
50	469.900033	0.07
40	469.900022	0.05
30	469.900046	0.10
20	469.900078	0.17
10	469.900032	0.07
0	469.899952	-0.10
-10	469.899996	-0.01
-20	469.899909	-0.19
-30	469.899915	-0.18



LIMIT: FCC 47 CFR 90.213

RSS-119

5.3

Channel Spacing (kHz)	Frequency Error (ppm)					
	406.2 MHz	418.1 MHz	429.9 MHz	450.1 MHz	459.9 MHz	469.9 MHz
12.5	2.0	2.0	2.5	2.5	2.5	2.5

TRANSMITTER FREQUENCY STABILITY - VOLTAGE

SPECIFICATION: FCC 47 CFR 2.1055 (d) (1) RSS-119 5.3

GUIDE: TIA/EIA-603D 2.2.2

MEASUREMENT PROCEDURE:

1. Refer Annex A for equipment set up.
2. The EUT was tested for frequency error at an input voltage to the radio of 85% to 115%.
3. The frequency error was recorded in parts per million (ppm).

MEASUREMENT RESULTS:

Voltage	FREQUENCY ERROR (ppm) for 12.5 kHz					
	406.2 MHz	418.1 MHz	429.9 MHz	450.1 MHz	459.9 MHz	469.9 MHz
13.8 V _{DC}	-0.06	-0.04	-0.04	-0.04	-0.03	-0.07
11.7 V _{DC}	-0.05	-0.04	-0.04	-0.04	-0.03	-0.06
15.9 V _{DC}	-0.04	-0.04	-0.04	-0.04	-0.04	-0.06

LIMIT CLAUSES: FCC 47 CFR 90.213 RSS-119 5.3

Channel Spacing (kHz)	Frequency Error (ppm)					
	406.2 MHz	418.1 MHz	429.9 MHz	450.1 MHz	459.9 MHz	469.9 MHz
12.5						
	2.0	2.0	2.5	2.5	2.5	2.5

SPURIOUS EMISSIONS – Rx CONDUCTED

SPECIFICATION: RSS-119 5.11

GUIDE: TIA/EIA-603D 2.1.2

MEASUREMENT PROCEDURE:

1. Refer Annex A for Equipment set up diagram.
2. The frequency range examined was from 30 MHz to 3 times highest tunable frequency.
3. Spurious emissions which were attenuated more than 20 dB below the limit were not recorded.

406.2 MHz Receive		
Emission Frequency (MHz)	Level (nW)	Level (dBm)
~	~	~
418.1 MHz Receive		
Emission Frequency (MHz)	Level (nW)	Level (dBm)
~	~	~
429.9 MHz Receive		
Emission Frequency (MHz)	Level (nW)	Level (dBm)
~	~	~
450.1MHz Receive		
Emission Frequency (MHz)	Level (nW)	Level (dBm)
~	~	~
459.9MHz Receive		
Emission Frequency (MHz)	Level (nW)	Level (dBm)
~	~	~
469.9MHz Receive		
Emission Frequency (MHz)	Level (nW)	Level (dBm)
~	~	~
No emissions were detected within 20 dB of Limit.		

LIMIT CLAUSE: RSS-Gen 6(b)

LIMIT	30 → 1000 MHz	2 nW	- 57 dBm
	> 1000 MHz	5 nW	- 53 dBm

TEST EQUIPMENT LIST

Equipment Type	Information	Manufacturer	Model No	Serial No#	Tait ID	Cal Due
Antenna	Reference Dipoles	Emco	3121C DB1	9510-1164	E3559	30-Jan-16
Antenna	18GHz DRG	Emco	DRG3115	9512-4638	E3560	6-Mar-16
Antenna	18GHz DRG	Emco	DRG3115	2084	E3076	6-Mar-16
Antenna	Log Periodic	Schwarzbeck	VUSLP	9111-219	E4147	*
Antenna	Reverb - 1-18GHz DRG	Schwarzbeck	BBHA 9120 D	9120D-885	E4857	*
Antenna	Reverb - 1-18GHz DRG	Schwarzbeck	BBHA 9120 D	9120D-884	E4858	*
Audio Analyser	TREVA2	Hewlett Packard	HP8903B	2818A04275	E3710	17-Oct-14
Coax Cable	1m Blue	Suhner	Sucoflex 104A	44610/4A	E4619	16-Oct-14
Coax Cable	2m Black	Suhner	RG214HF/Nm/Nm/2000	TeltestBlack4	E4653	15-Oct-14
Coax Cable	OATS Tower Cable	Intelcom	RG214	OATS1	E4621	13-Oct-14
Coax Cable	OATS Turntable Cable	Intelcom	RG215	OATS2	E4622	13-Oct-14
Coax Cable	2m Black	Suhner	RG214HF/Nm/Nm/2000	TeltestBlack5	E4850	15-Oct-14
Coax Cable	2m Black	Suhner	RG214HF/Nm/Nm/2000	TeltestBlack6	E4849	16-Oct-14
Coax Cable	Reverb - 2m Multiflex 141	TeltestBlue5	MF 141	TeltestBlue5	E4844	16-Oct-14
Coax Cable	Reverb - 1m Multiflex 141	TeltestBlue3	MF 141	TeltestBlue3	E4846	17-Oct-14
Coax Cable	Reverb - 1m Multiflex 141	TeltestBlue2	MF 141	TeltestBlue2	E4847	17-Oct-14
Environ. Chamber	Chest	Contherm	Chest	E3397	E3397	2-Aug-15
Modulation Analyser	TREVA2	Hewlett Packard	HP8901B (Opt 002)	3704A05837	E3786	19-Oct-14
Multimeter		Fluke	77	35069359	E3237	16-Oct-14
OATS	NSA	Tait				15-Apr-14
OATS	Antenna Tower	Electrometrics	EM-4720-2	112	E4447	*
OATS	Controller	Electrometrics	EM-4700	119	E4445	*
OATS	Turntable	Electrometrics	EM-4704A	105	E4446	*
Oscilloscope	100MHz Digital	Tektronics	TDS340	B013611	E3585	16-Oct-14
Power Meter	TREVA2 Power Head for HP8901	Hewlett Packard	HP11722A	2716A02037	1575	21-Oct-14
Power Supply	TREVA2 60V/25A	Agilent	N5767A	US09F4901H	E4656	16-Oct-14
RF Amplifier	+21.7 dB 1GHz	Tait	ZFL-1000LN	E3660	E3360	18-Dec-13
RF Amplifier	Pre-amplifier	Agilent	87405C	MY47010688	E4941	18-Oct-14
RF Attenuator	30dB 250W	Weinschel	45-30-34	JW663	E3386	18-Oct-14
RF Attenuator	TREVA2 20dB 150W	Weinschel	40-20-33	CJ405	E3733	21-Oct-14
RF Attenuator	30dB 350W	Weinschel	67-30-33	BR0531	E4280	18-Oct-14
RF Attenuator	TREVA2 3dB	Weinschel	Model 1	BL9950	E4080	*
RF Chamber	S-LINE TEM CELL	Rohde & Schwarz	1089.9296.02	338232/003	E3636	31-Aug-15
RF Chamber	Reverb - Stirrer controller for reverb chamber	Teseq	Stirrer Controller	29765.1	E4854	*
RF Chamber	Reverb - 0.5 - 18GHz Reverberation Chamber	Teseq	RVC XS	29765	E4855	*
RF Combiner	TREVA2	Minicircuits	ZFSC-4-1	-	E4084	*
RF Load	50W	Weinschel	F1426	BF0487	E3675	22-Oct-14
RF Load	2W	MCL	NTRM-50	01		18-Dec-13
Signal Generator	Analog 4GHz	Agilent	E4422B	GB40050320	E3788	8-May-14
Spectrum Analyser	26.5GHz	Agilent	PXA N9030A	MY49432161	E4907	30-Mar-14

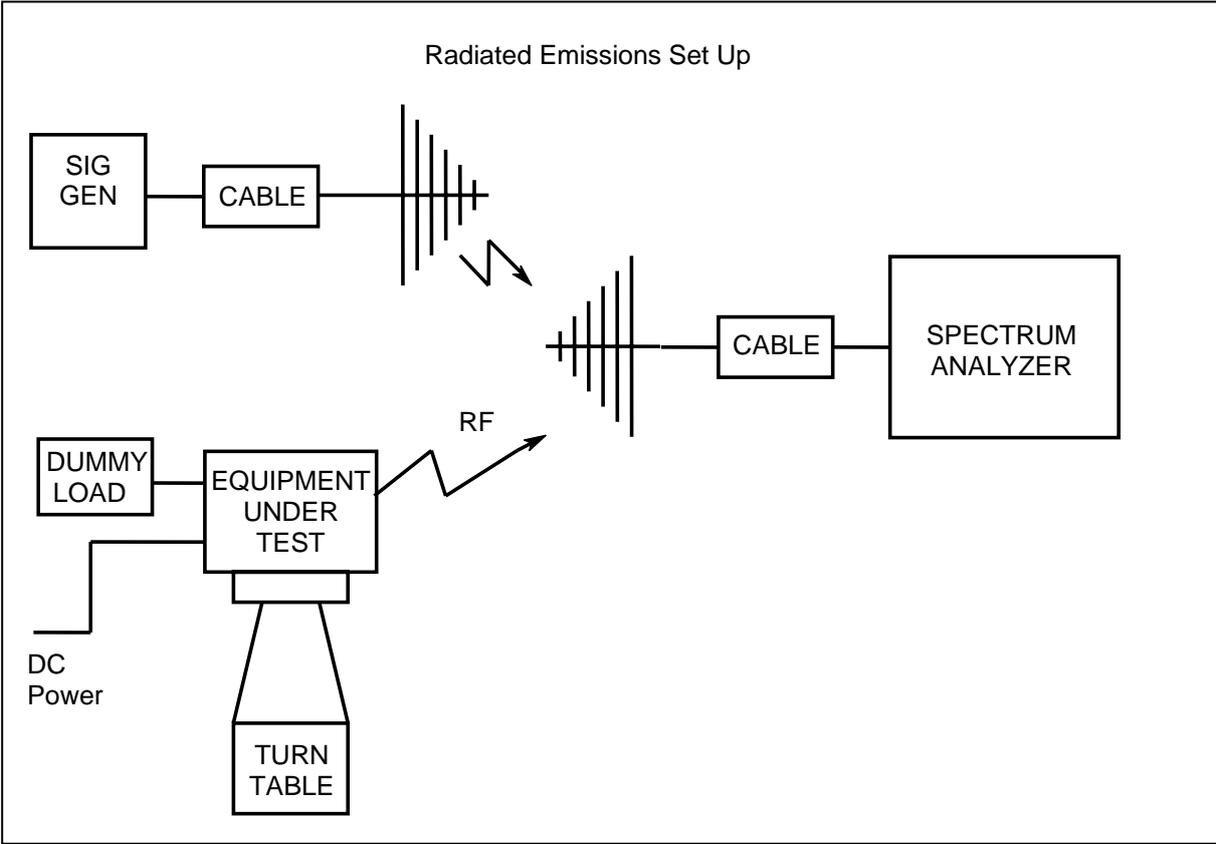
TELTEST Laboratories
Tait Ltd
Report Number 3539

Equipment Type	Information	Manufacturer	Model No	Serial No#	Tait ID	Cal Due
Spectrum Analyser	13.2GHz	Hewlett Packard	HP8562E	3821A00779	E3715	18-Oct-14
Spectrum Analyser	13.2GHz	Agilent	E4445A	MY42510072	E4139	21-Nov-14
Temp & Humidity datalogger		Hobo	U21-011	10134275	E4980	8-Apr-14
Transient Limiter	9kHz to 200MHz	Agilent	11947A	3107A03657	E4982	18-Apr-14
TREVA 2		Teltest	-	2	-	23-Apr-14
OATS	FCC Listing Registration			837095		12-May-16

* Note:

Items E4080 3 dB attenuator and E4084 RF Combiner are part of TREVA 2 Calibration.
 Items E4447 OATS Antenna Tower, E4445 OATS Controller, E4446 OATS Turntable, E4147 Log Periodic Antenna and Items E4854 Reverb Stirrer, E4855 Reverb Chamber, E4857 DRG Antenna and E4858 DRG Antenna are calibrated prior to use.

ANNEX A – TEST SETUP DETAILS



All other testing is performed using the Teltest Radio **EVAL**uation system (TREVA), which is configured as shown below. The Spectrum Analyser is connected to the EUT via the attenuator network for Conducted Emissions testing, and Occupied Bandwidth.

