Laboratory Test Report

For the

TMAL3B Mobile Transceiver

Tested In accordance with

FCC 47 CFR Part 90

Report Revision: 1
Issue Date: 6-October-2008
FCC ID: CASTMAL3B

PREPARED BY: Marcus Ludwig _____
Test Technician

CHECKED & APPROVED BY: Steve Crompton _____
Laboratory Manager

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

TABLE OF CONTENTS

REVISION HISTORY

Date	Revision	Comments
6-October-2008	1	Initial test report

INTRODUCTION

Type Approval Testing of the
TMAB14-L300
Serial No 19464171
896 MHz → 941 MHz
in accordance with:
FCC CFR 47 Part 90

REPORT PREPARED FOR

Tait Electronics Ltd
PO Box 1645
558 Wairakei Rd
Christchurch
New Zealand

DESCRIPTION OF SAMPLE

Manufacturer	Tait Electronics Limited
Equipment:	Mobile Transceiver
Type:	TMAL3B
Product code:	TMAB14-L300
Serial Numbers:	19464171
Quantity:	1
Hardware & Software	
Hardware ID	TMAB14-L300_0201
Radio Application	QMA1F_std_02.16.00.11
Boot Code	QMA1B_std_2.00.00.0002
FPGA Image	QMA1G_std_2.04.00.0001

STATEMENT OF COMPLIANCE

The TMAB14-L300 mobile transceiver as tested in this report was found to conform to the following standards:
FCC CFR 47 Part 90

TEST CONDITIONS

All testing was performed at the following conditions.

Ambient Temperature	15°C → 30°C
Relative Humidity	20% → 75%
Standard Test Voltage	13.8 Vdc

MODULATION TYPES AND EMISSION DESIGNATORS

Modulation Types:

F3E	ANALOG FM	
F2D	FFSK Data	(1200 bps, 2400 bps)
F1D	THSD	(12000 bps, 19200 bps)

Channel Spacings:
12.5 kHz

Emission Designators:

ANALOG FM	11K0F3E
FFSK Data 1200bps	6K60F2D
FFSK Data 2400bps	7K80F2D
THSD	7K70F1D

TEST RESULTS

TRANSMITTER OUTPUT POWER (CONDUCTED)

SPECIFICATION: FCC 47 CFR 2.1046

GUIDE: TIA/EIA-603C 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: 30 W and 2 W

900.9875 MHz	30 W nominal	2 W nominal
POWER (W)	31.0	2.2
Variation from Nominal (%)	+3.3	+10.0
Measurement Uncertainty	± 0.6 dB	

939.9875 MHz	30 W nominal	2 W nominal
POWER (W)	31.7	2.3
Variation from Nominal (%)	+5.7	+15.0
Measurement Uncertainty	± 0.6 dB	

LIMIT CLAUSE: FCC 47 CFR 90.205 (s)

Radio Type: Mobile Transceiver
Frequency Band: 896 MHz ~ 940 MHz

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.

TRANSMITTER AUDIO FREQUENCY RESPONSE - PRE-EMPHASIS

SPECIFICATION: FCC 47 CFR 2.1047 (a)

GUIDE: TIA/EIA-603C 2.2.6

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

MEASUREMENT RESULTS:
See the plots on the following pages for 12.5 kHz channel spacings.
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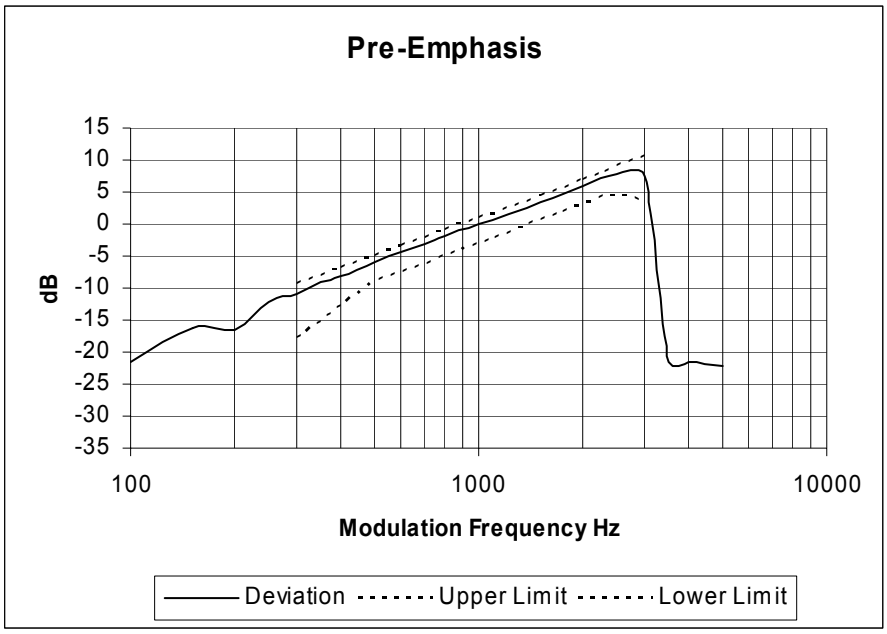
LIMIT CLAUSE: TIA/EIA-603C 3.2.6

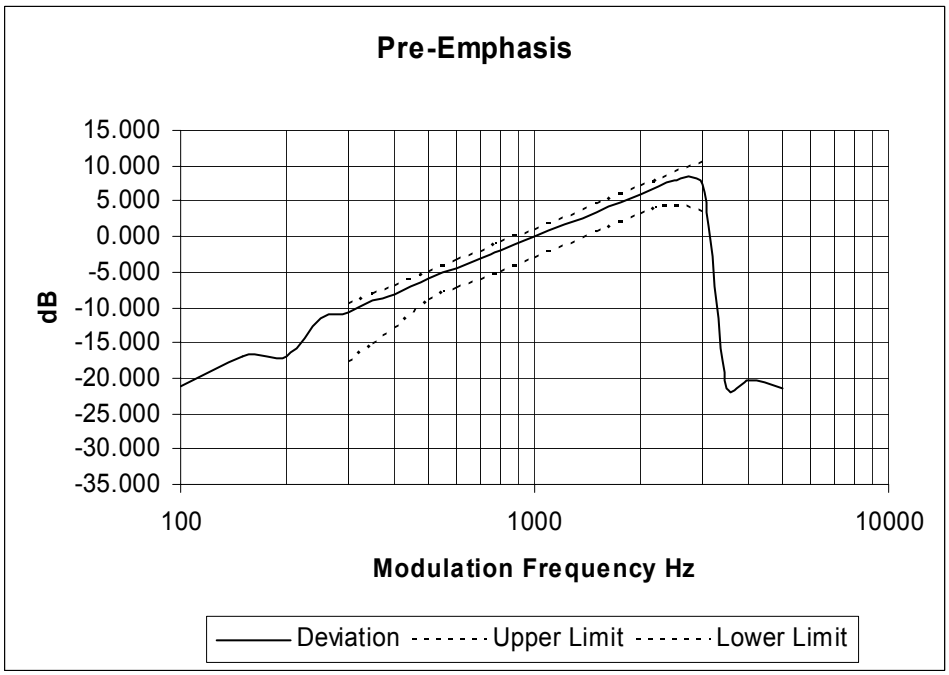
TRANSMITTER AUDIO FREQUENCY RESPONSE - PRE-EMPHASIS

SPECIFICATION: FCC CFR 2.1047 (a)

Tx FREQUENCY: 900.9875 MHz 12.5 kHz Channel Spacing



Tx FREQUENCY: 939.9875 MHz 12.5 kHz Channel Spacing



TRANSMITTER MODULATION LIMITING

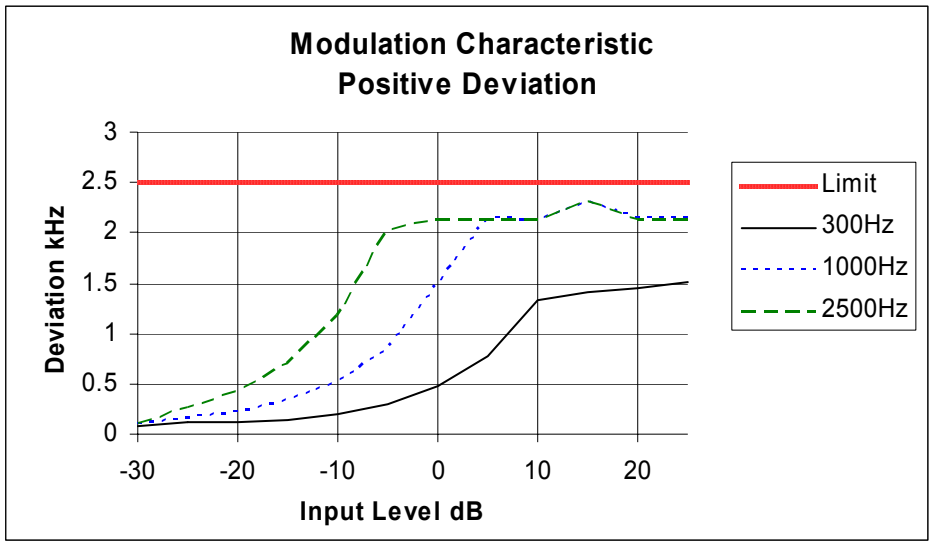
SPECIFICATION: FCC 47 CFR 2.1047 (b)

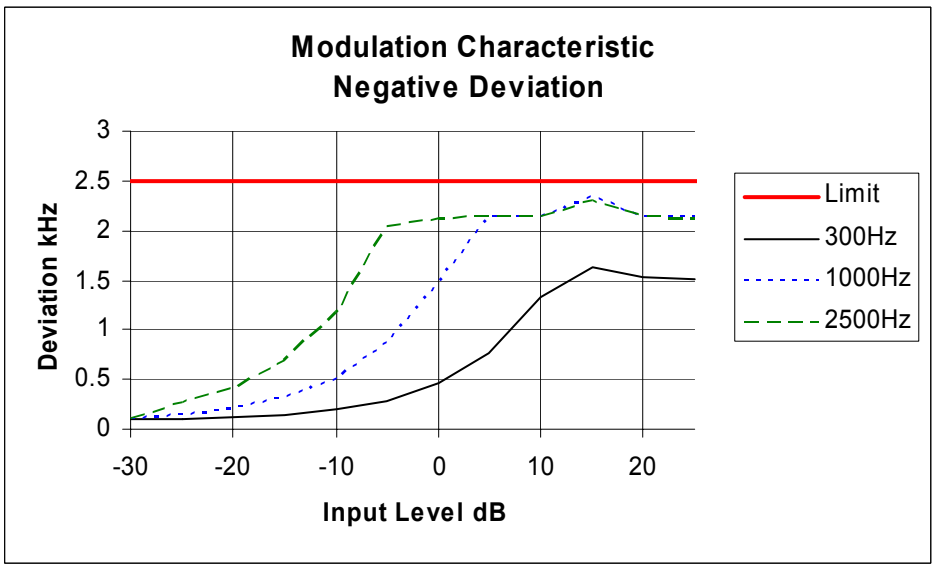
MEASUREMENT PROCEDURE:
1. Refer Annex A for Equipment set up.
2. The modulation response was measured at three audio frequencies while varying the input level.
3. Measurements were made for both Positive and Negative Deviation.

MEASUREMENT RESULTS:
See the plots on the following pages for 12.5 kHz channel spacings.

LIMIT CLAUSE: TIA/EIA-603C 1.3.4.4

Tx FREQUENCY: 900.9875 MHz 12.5 kHz Channel Spacing

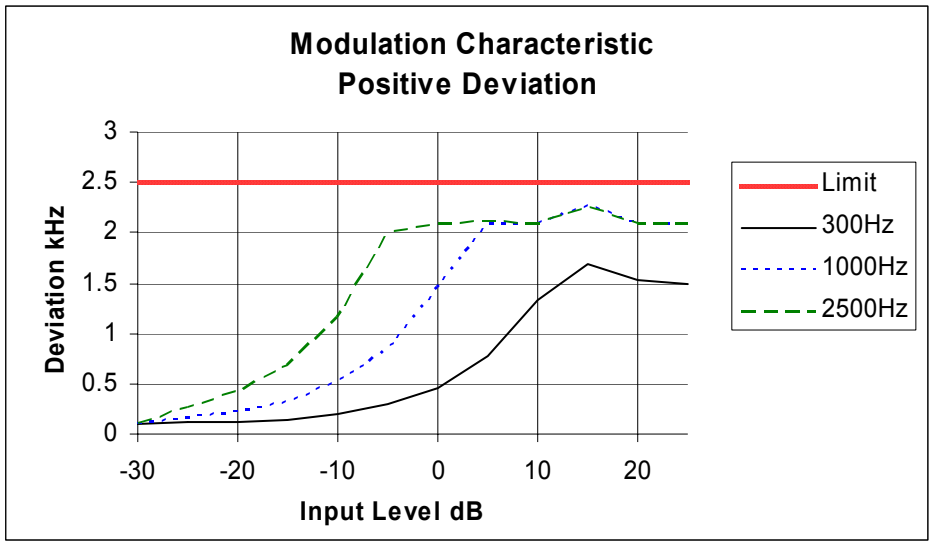


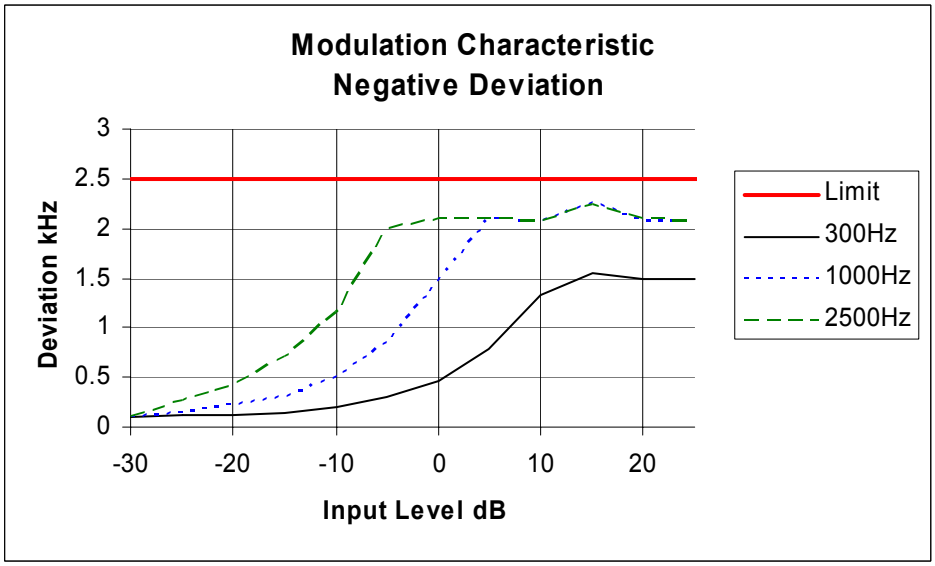


TRANSMITTER MODULATION LIMITING

SPECIFICATION: FCC CFR 2.1047 (b)

Tx FREQUENCY: 939.9875 MHz 12.5 kHz Channel Spacing





OCCUPIED BANDWIDTH

SPECIFICATION: FCC 47 CFR 2.1049 (c)

GUIDE: TIA/EIA-603C 2.2.11

MEASUREMENT PROCEDURE:
1. Refer Annex A for Equipment Set up.
2. For analog measurements: The EUT was modulated by a 2500Hz tone at an input level 16dB 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 I, and J – Resolution bandwidth = 300Hz, Video Bandwidth = 3 kHz

MEASUREMENT RESULTS:
See the plots on the following pages for 12.5 kHz channel spacings.

LIMIT CLAUSE: FCC 47 CFR 90.210

EMISSION MASKS

Emission Mask I	12.5 kHz Channel Spacing	Analog;
Emission Mask J	12.5 kHz Channel Spacing	FFSK; THSD

DATA SPEED

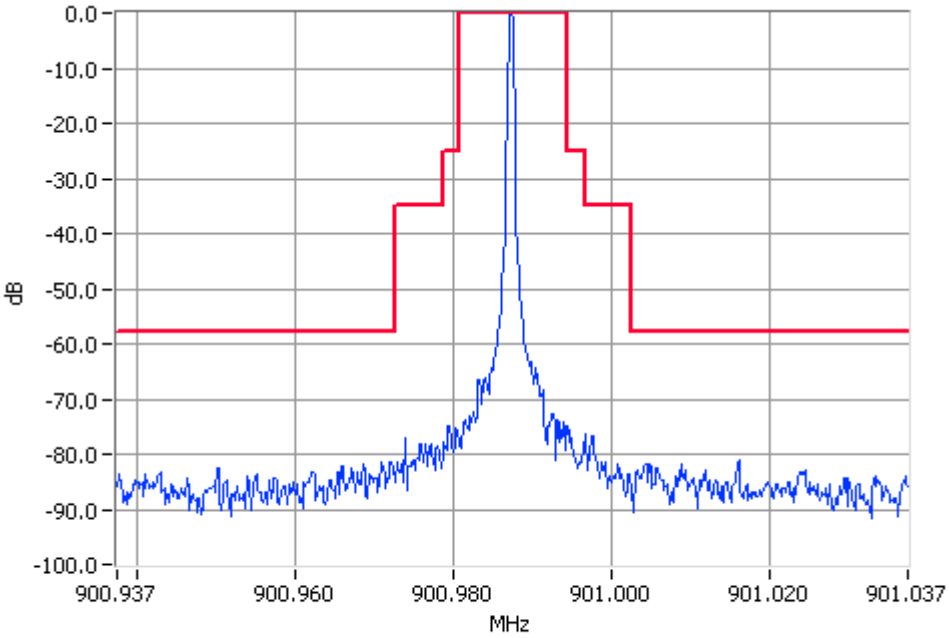
FFSK	12.5 kHz Channel Spacing	1200 bps
FFSK	12.5 kHz Channel Spacing	2400 bps
THSD	12.5 kHz Channel Spacing	12000 bps

OCCUPIED BANDWIDTH

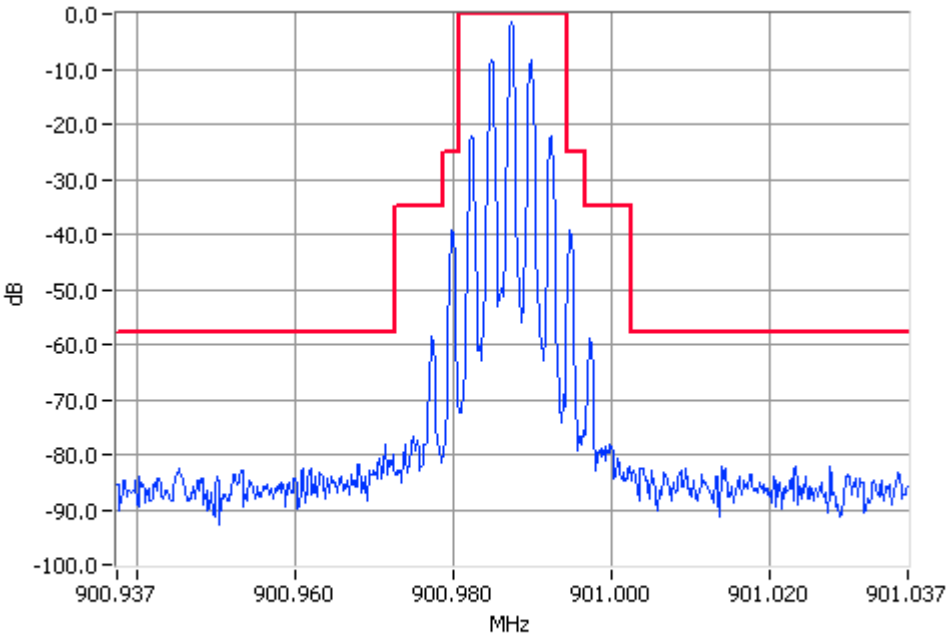
ANALOG VOICE

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 900.9875 MHz 30 W 12.5 kHz Channel Spacing



Unmodulated 900.9875MHz Mask I 30W Pass
RBW=300Hz VBW=3000Hz



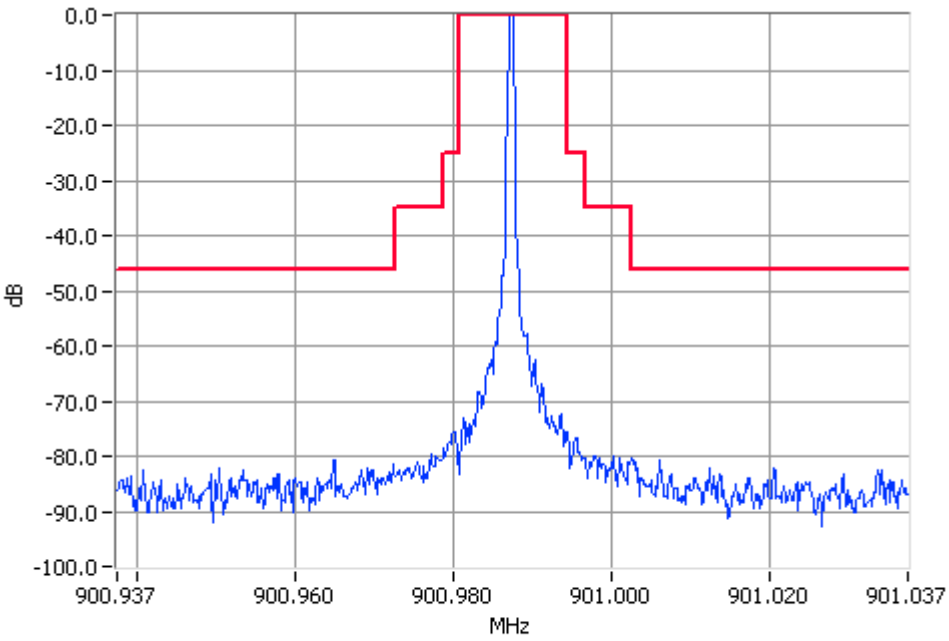
Analogue Modulation 900.9875MHz Mask I 30W Pass
RBW=300Hz VBW=3000Hz

OCCUPIED BANDWIDTH

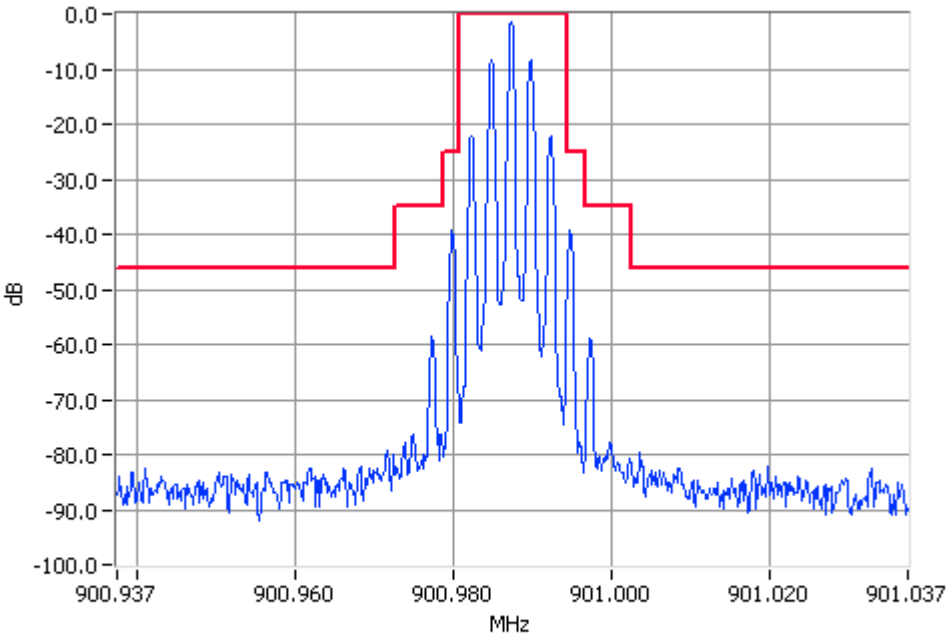
ANALOG VOICE

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 900.9875 MHz 2 W 12.5 kHz Channel Spacing



Unmodulated 900.9875MHz Mask I 2W Pass
RBW=300Hz VBW=3000Hz



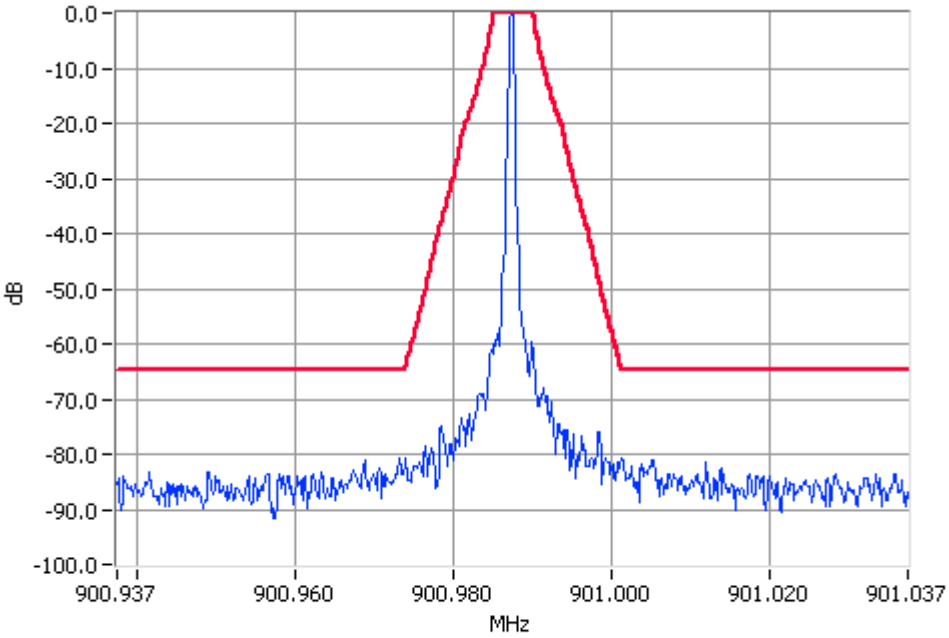
Analogue Modulation 900.9875MHz Mask I 2W Pass
RBW=300Hz VBW=3000Hz

OCCUPIED BANDWIDTH

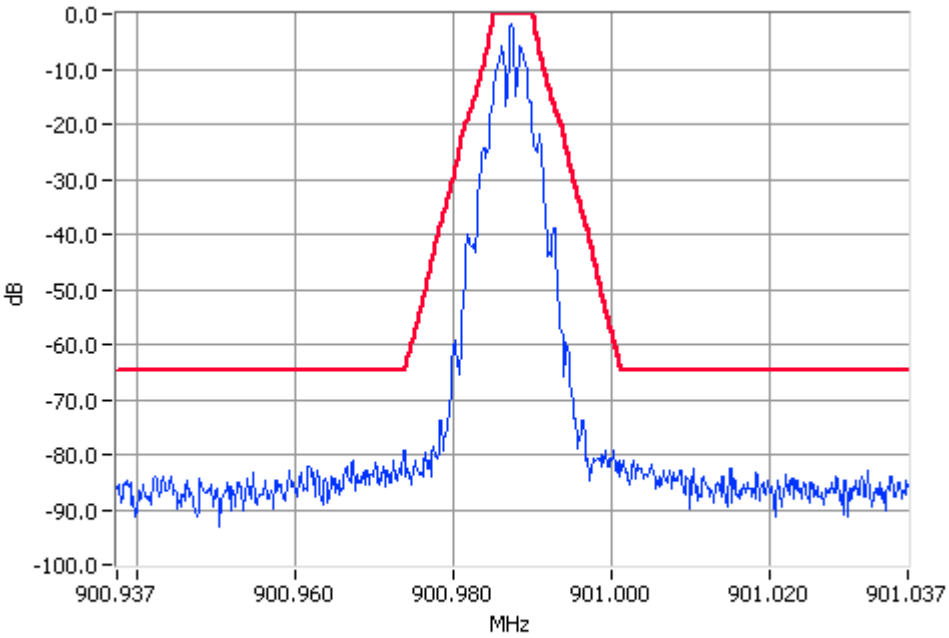
FFSK 1200 bps

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 900.9875 MHz 30 W 12.5 kHz Channel Spacing



Unmodulated 900.9875MHz Mask J 30W Pass
RBW=300Hz VBW=3000Hz



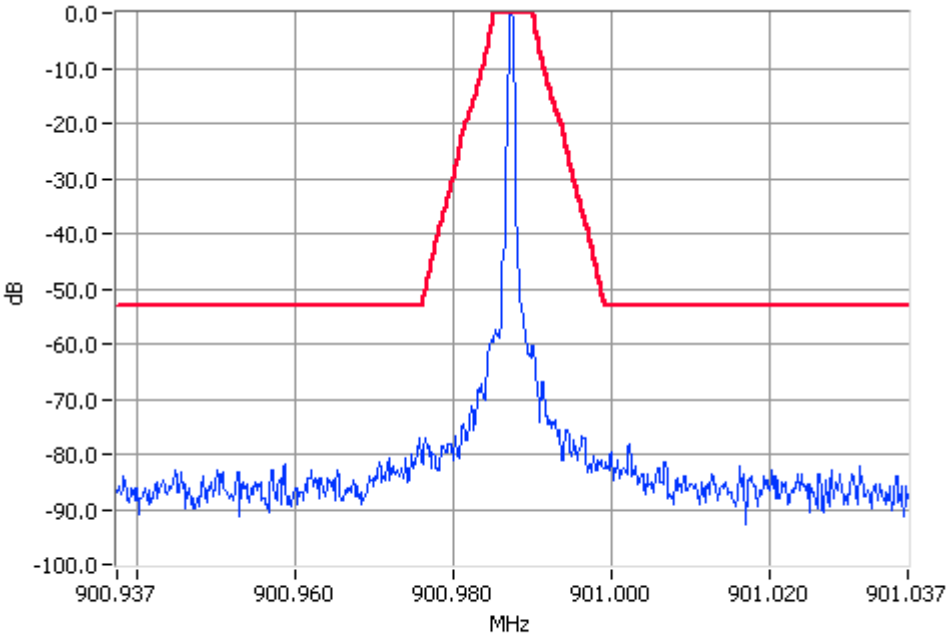
FFSK 1200 bps 900.9875MHz Mask J 30W Pass
RBW=300Hz VBW=3000Hz

OCCUPIED BANDWIDTH

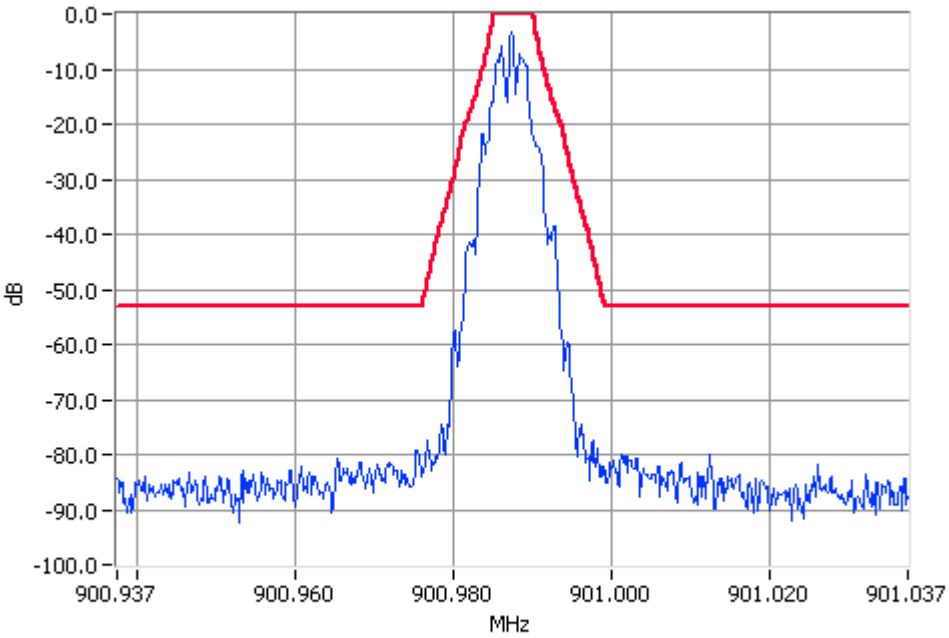
FFSK 1200 bps

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 900.9875 MHz 2 W 12.5 kHz Channel Spacing



Unmodulated 900.9875MHz Mask J 2W Pass
RBW=300Hz VBW=3000Hz



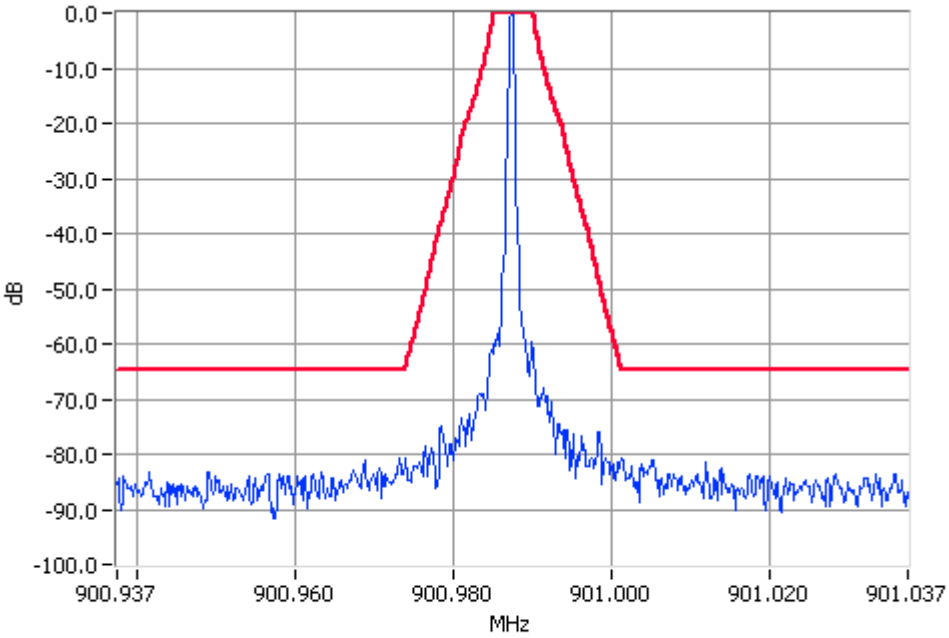
FFSK1200 900.9875MHz Mask J 2W Pass
RBW=300Hz VBW=3000Hz

OCCUPIED BANDWIDTH

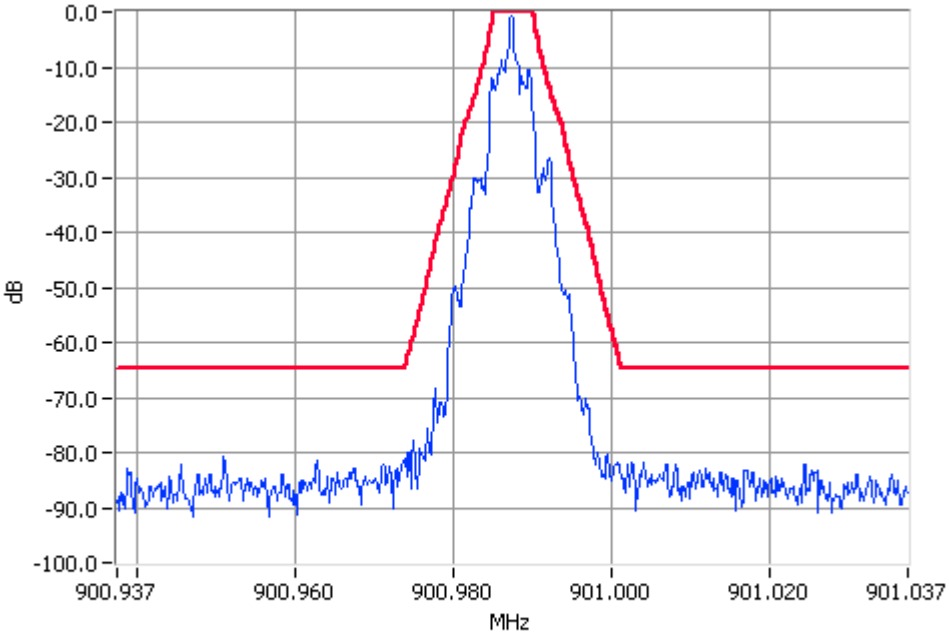
FFSK 2400 bps

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 900.9875 MHz 30 W 12.5 kHz Channel Spacing



Unmodulated 900.9875MHz Mask J 30W Pass
RBW=300Hz VBW=3000Hz



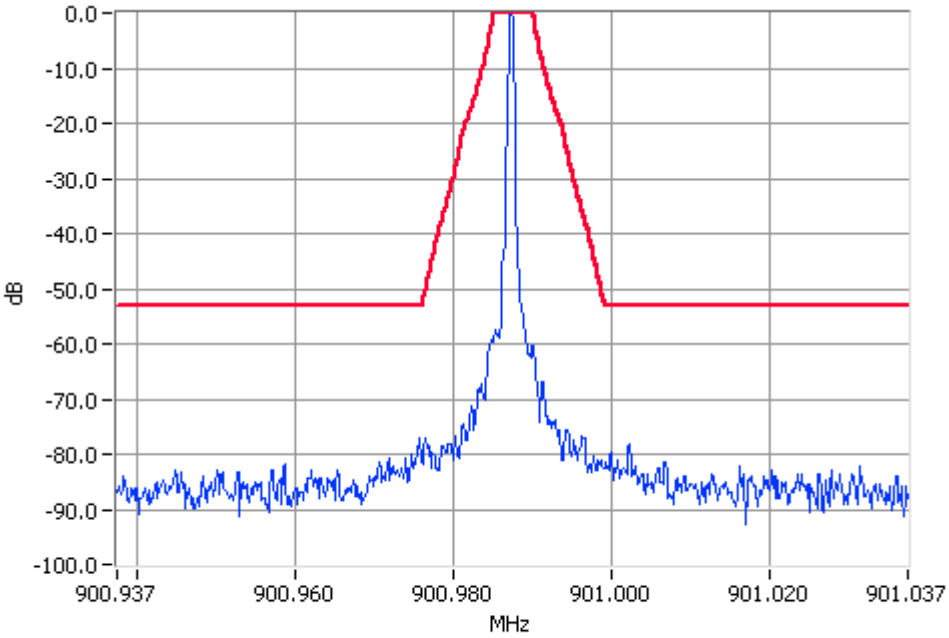
FFSK 2400 bps 900.9875MHz Mask J 30W Pass
RBW=300Hz VBW=3000Hz

OCCUPIED BANDWIDTH

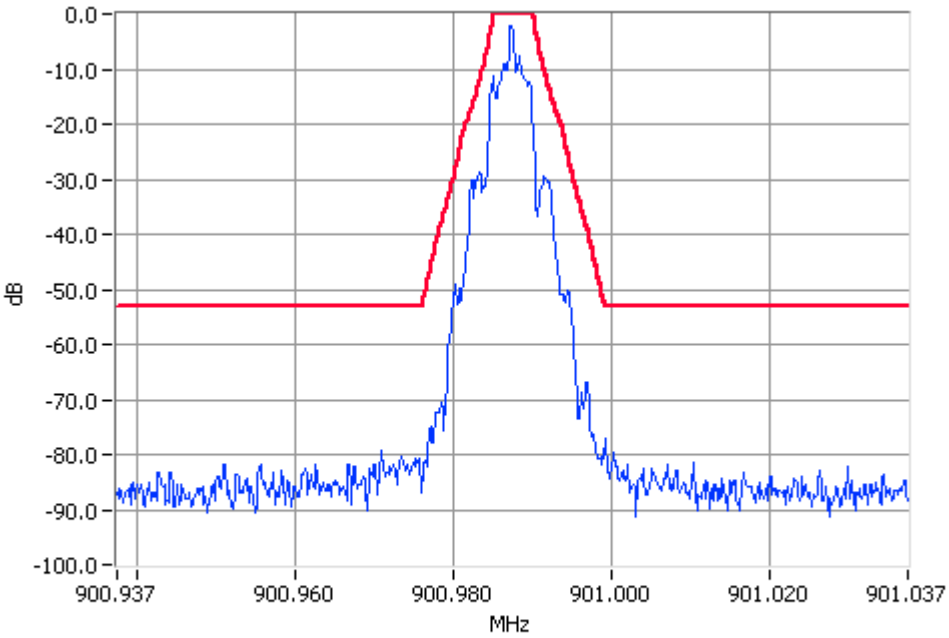
FFSK 2400 bps

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 900.9875 MHz 2 W 12.5 kHz Channel Spacing



Unmodulated 900.9875MHz Mask J 2W Pass
RBW=300Hz VBW=3000Hz



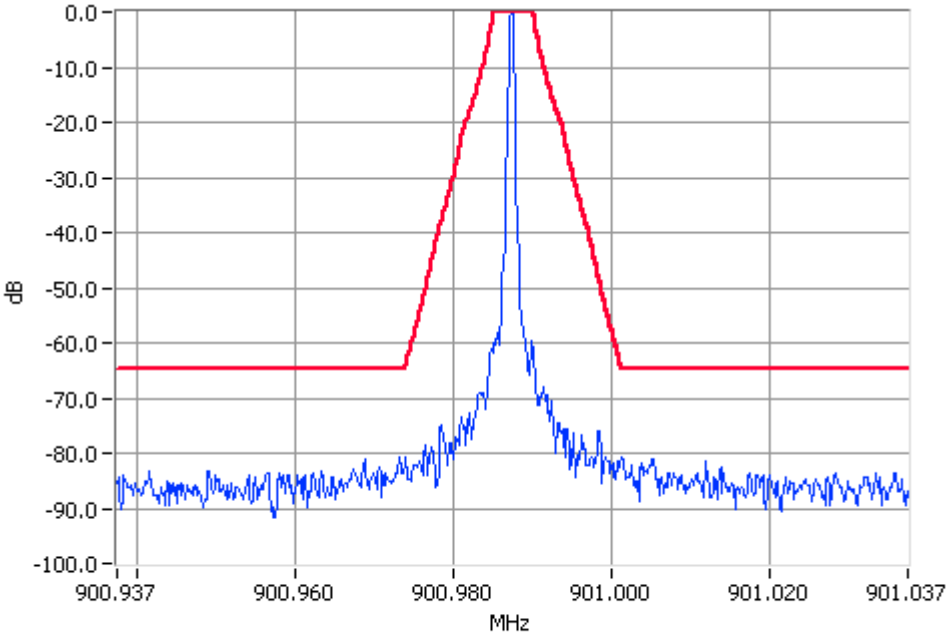
FFSK2400 900.9875MHz Mask J 2W Pass
RBW=300Hz VBW=3000Hz

OCCUPIED BANDWIDTH

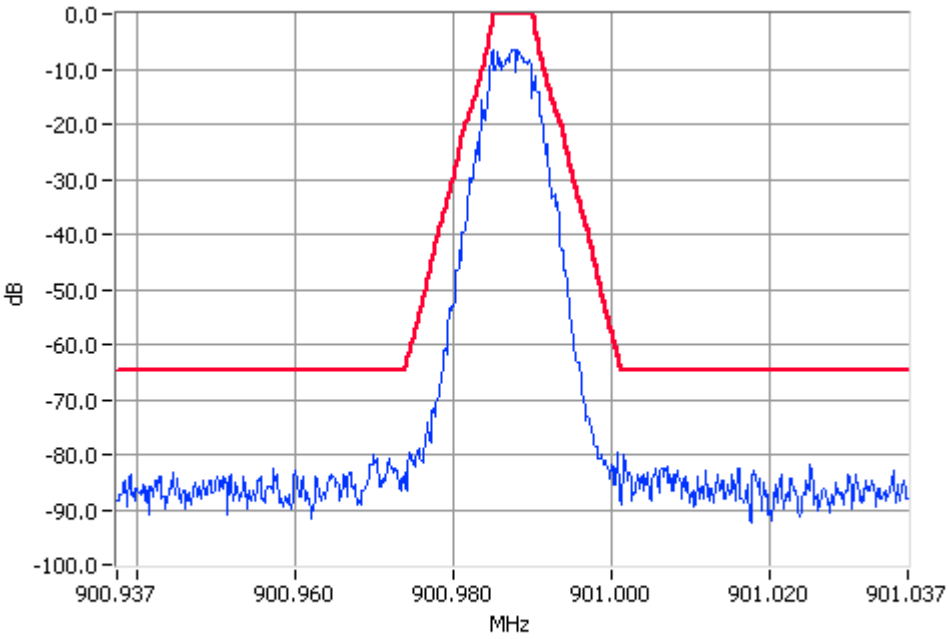
THSD

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 900.9875 MHz 30 W 12.5 kHz Channel Spacing



Unmodulated 900.9875MHz Mask J 30W Pass
RBW=300Hz VBW=3000Hz



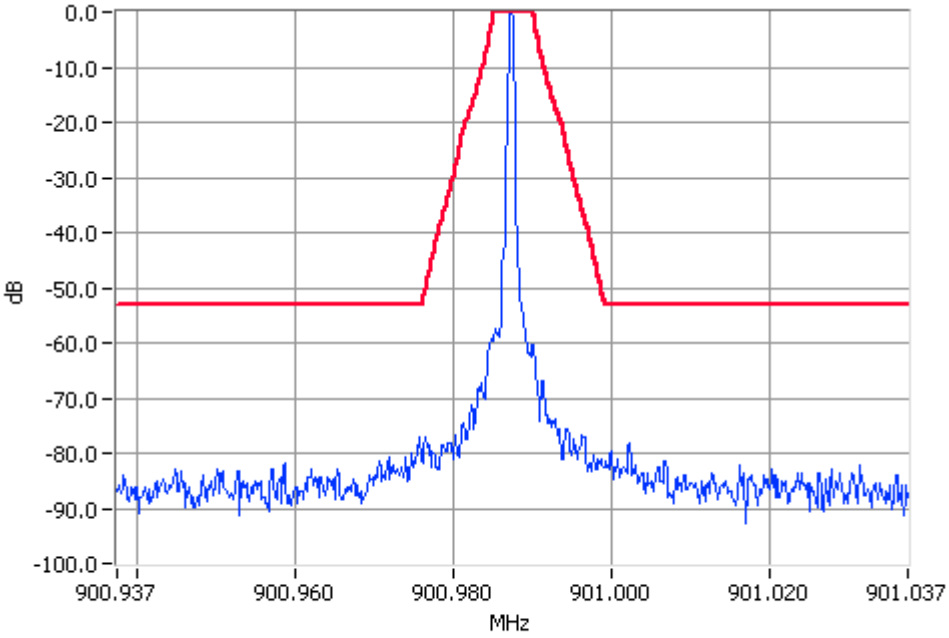
THSD 900.9875MHz Mask J 30W Pass
RBW=300Hz VBW=3000Hz

OCCUPIED BANDWIDTH

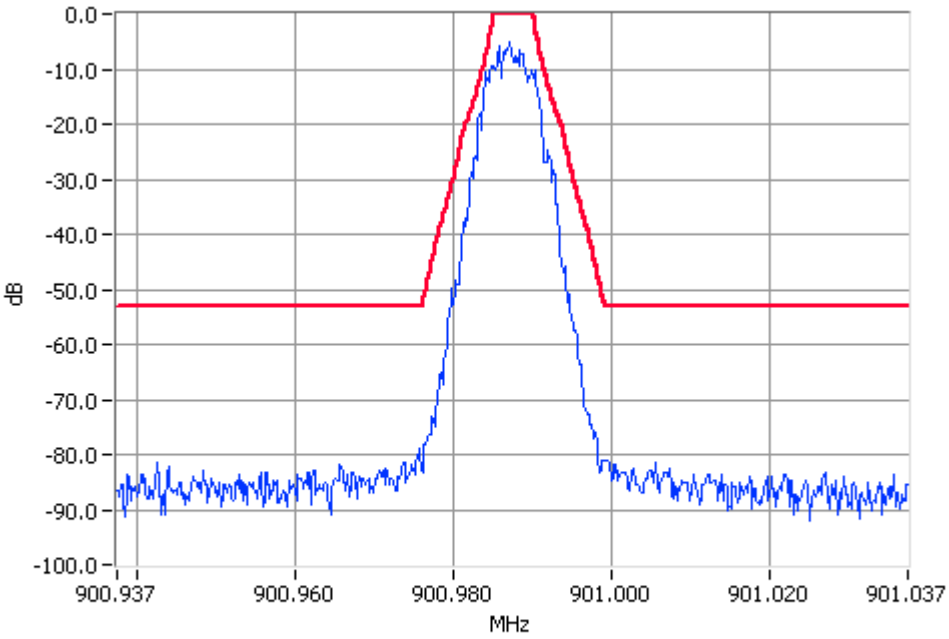
THSD

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 900.9875 MHz 2 W 12.5 kHz Channel Spacing



Unmodulated 900.9875MHz Mask J 2W Pass
RBW=300Hz VBW=3000Hz



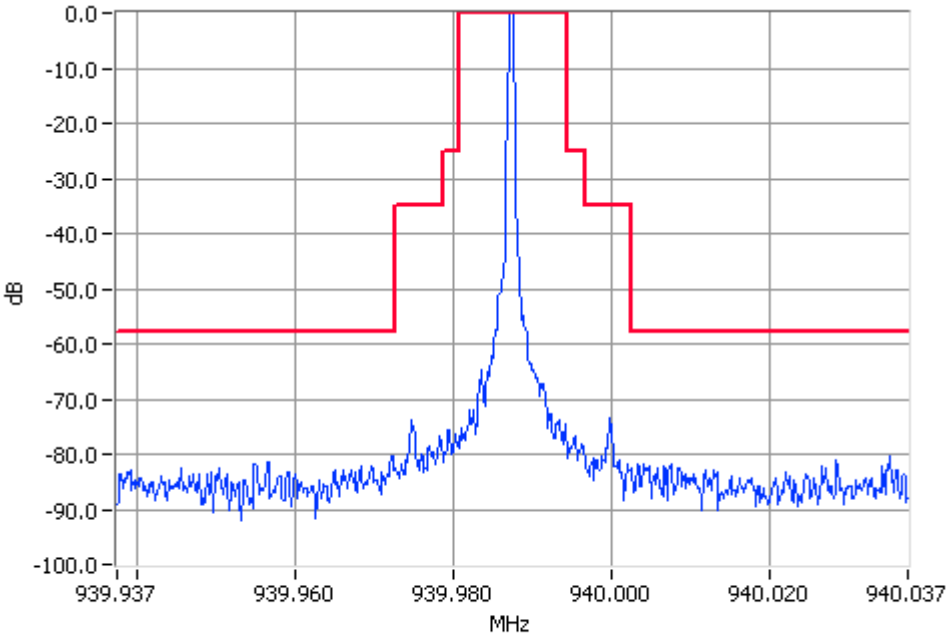
THSD 900.9875MHz Mask J 2W Pass
RBW=300Hz VBW=3000Hz

OCCUPIED BANDWIDTH

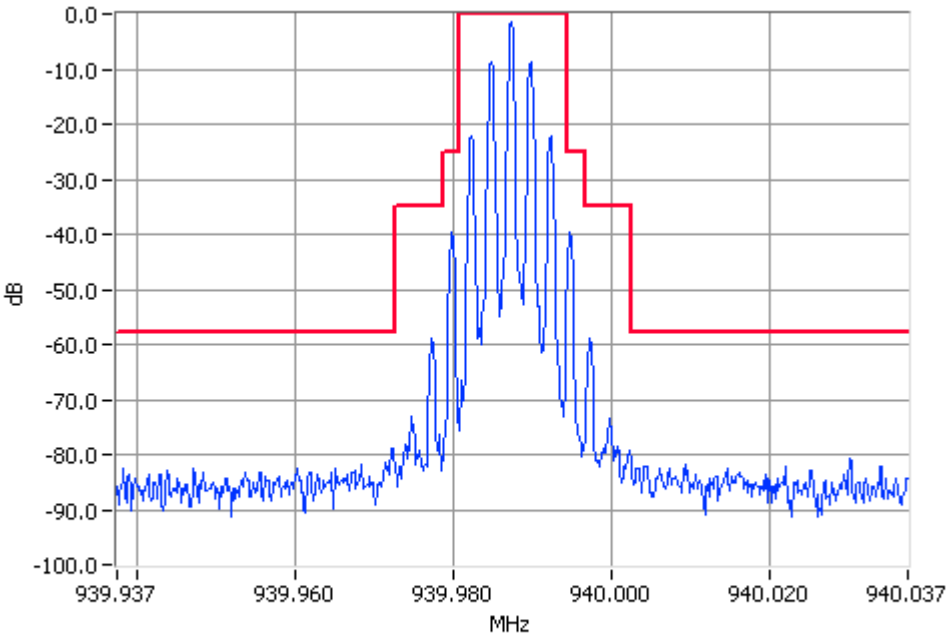
ANALOG VOICE

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 939.9875 MHz 30 W 12.5 kHz Channel Spacing



Unmodulated 939.9875MHz Mask I 30W Pass
RBW=300Hz VBW=3000Hz



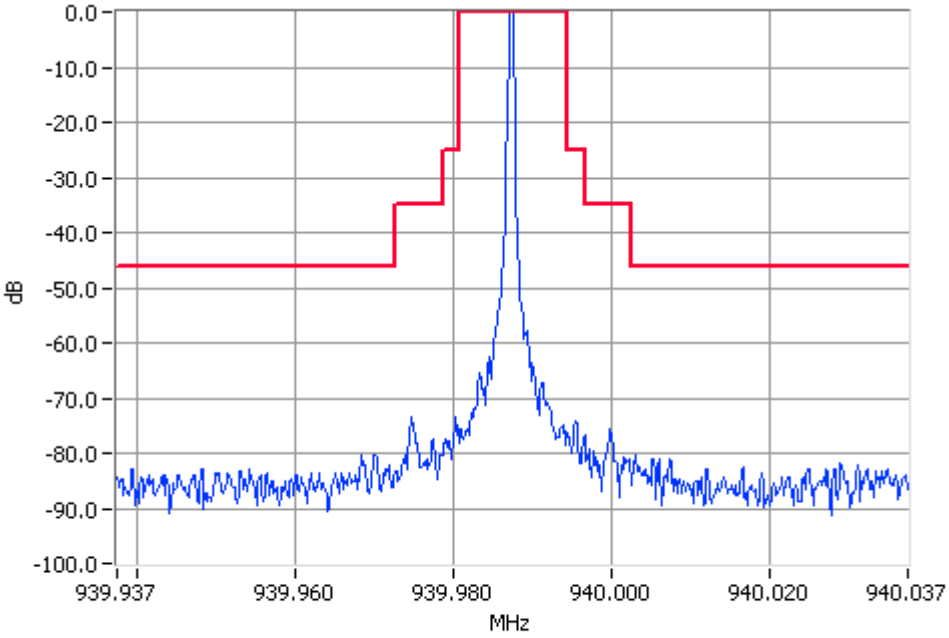
Analogue Modulation 939.9875MHz Mask I 30W Pass
RBW=300Hz VBW=3000Hz

OCCUPIED BANDWIDTH

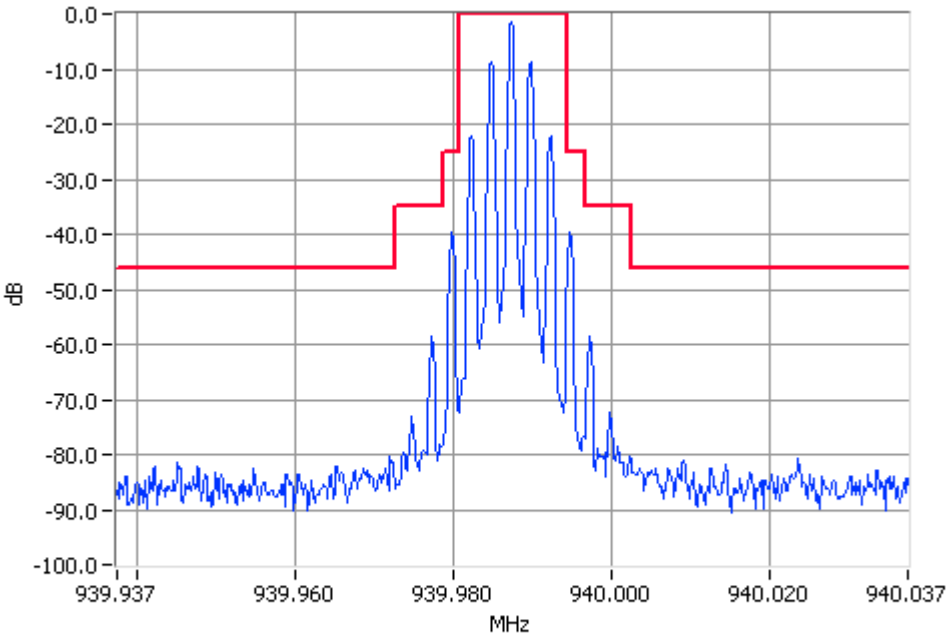
ANALOG VOICE

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 939.9875 MHz 2 W 12.5 kHz Channel Spacing



Unmodulated 939.9875MHz Mask I 2W Pass
RBW=300Hz VBW=3000Hz



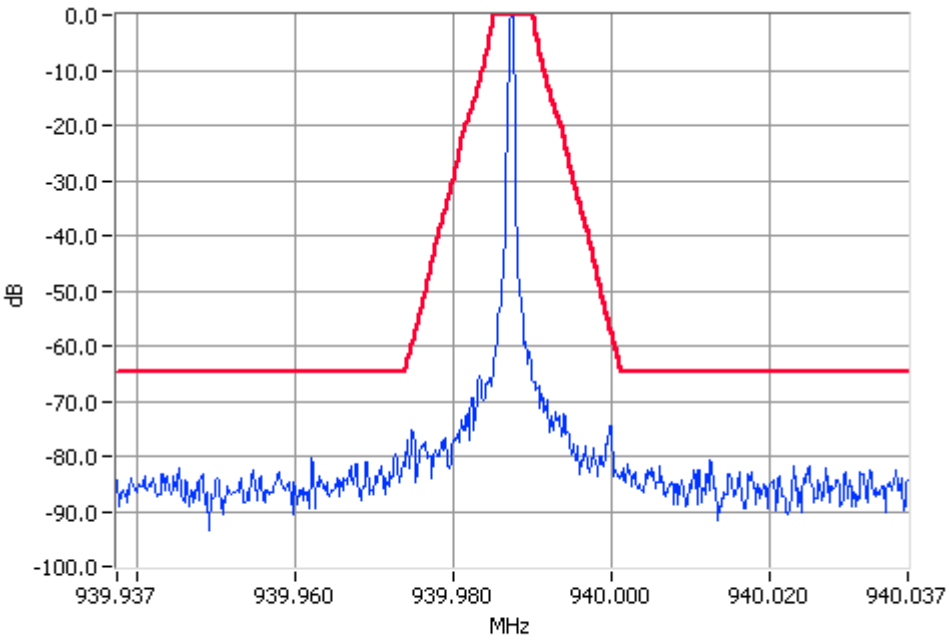
Analogue Modulation 939.9875MHz Mask I 2W Pass
RBW=300Hz VBW=3000Hz

OCCUPIED BANDWIDTH

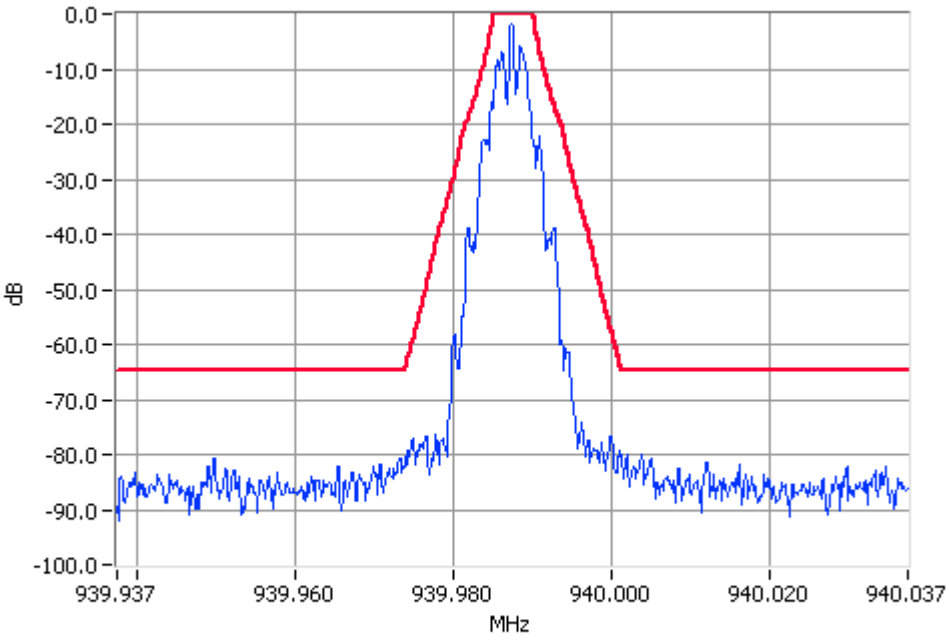
FFSK 1200 bps

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 939.9875 MHz 30 W 12.5 kHz Channel Spacing



Unmodulated 939.9875MHz Mask J 30W Pass
RBW=300Hz VBW=3000Hz



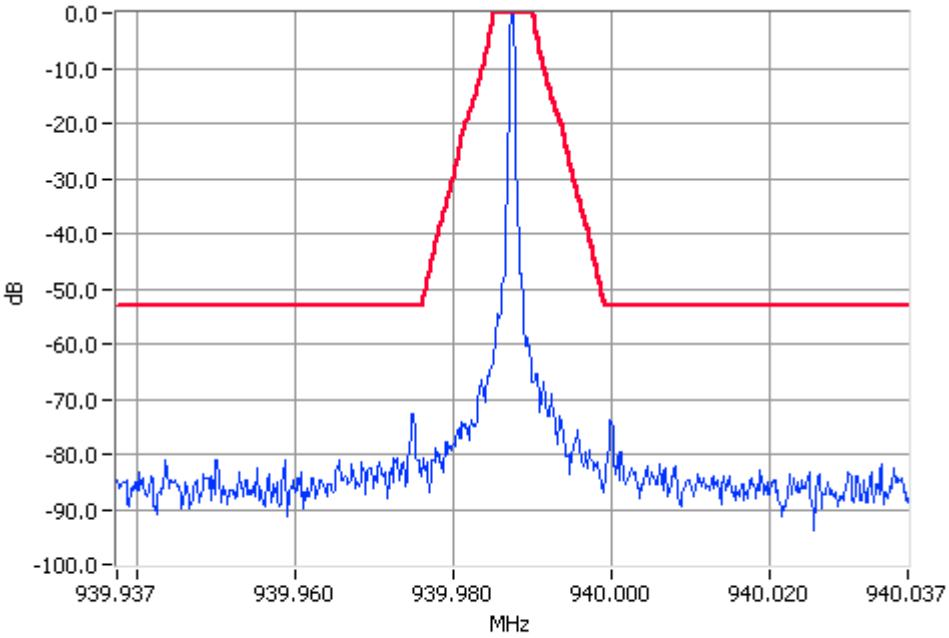
FFSK 1200 bps 939.9875MHz Mask J 30W Pass
RBW=300Hz VBW=3000Hz

OCCUPIED BANDWIDTH

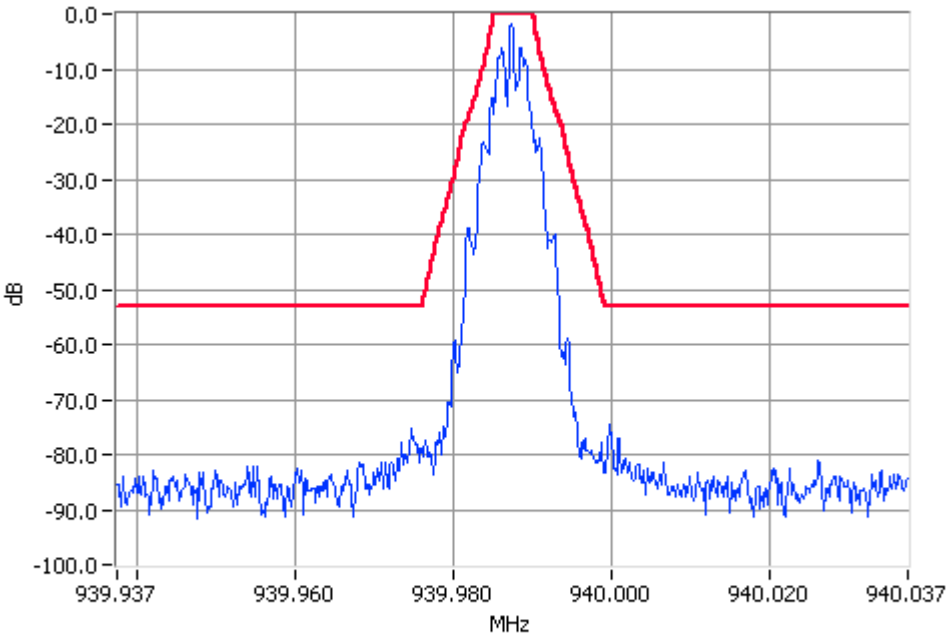
FFSK 1200 bps

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 939.9875 MHz 2 W 12.5 kHz Channel Spacing



Unmodulated 939.9875MHz Mask J 2W Pass
RBW=300Hz VBW=3000Hz



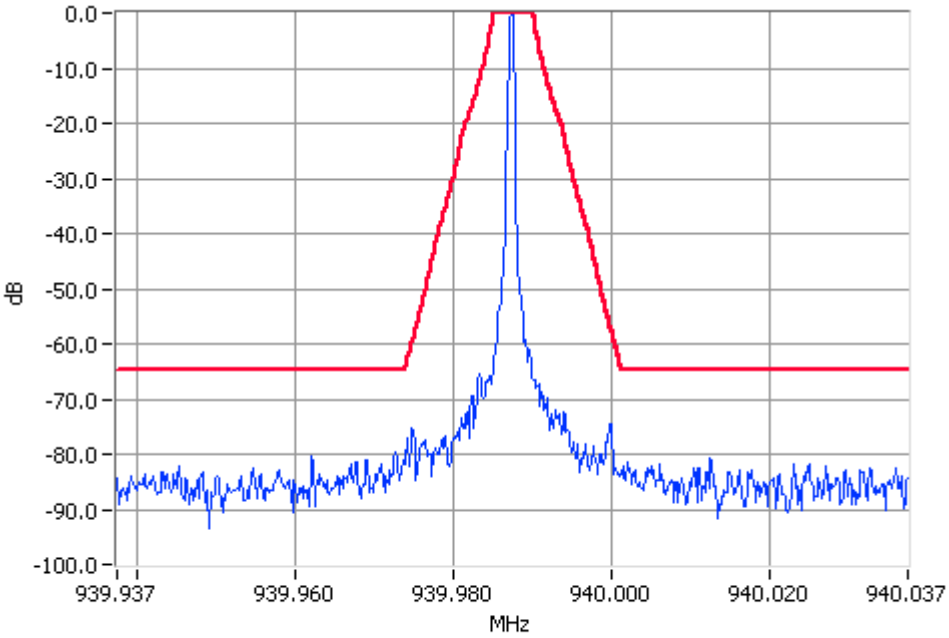
FFSK1200 939.9875MHz Mask J 2W Pass
RBW=300Hz VBW=3000Hz

OCCUPIED BANDWIDTH

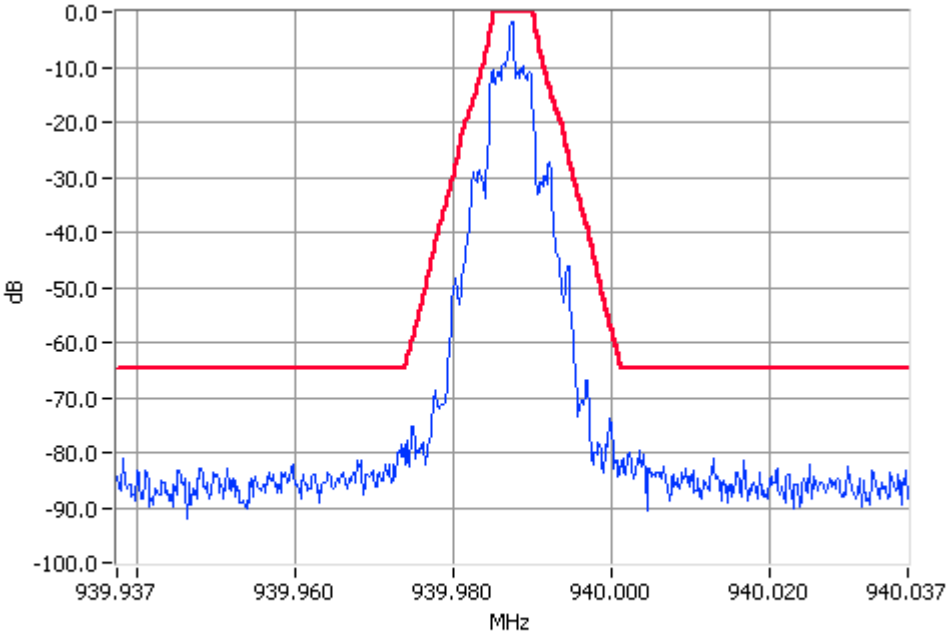
FFSK 2400 bps

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 939.9875 MHz 30 W 12.5 kHz Channel Spacing



Unmodulated 939.9875MHz Mask J 30W Pass
RBW=300Hz VBW=3000Hz



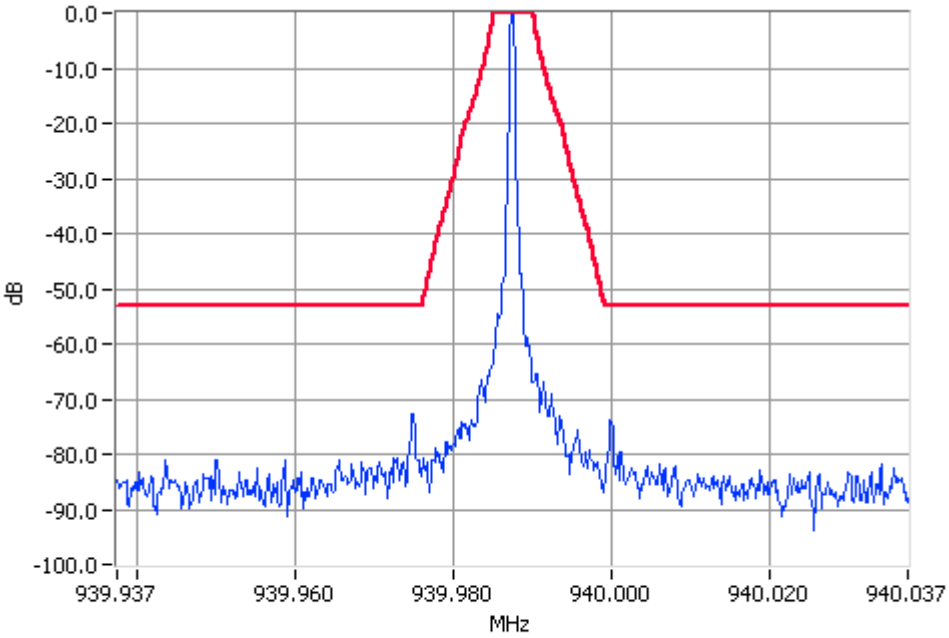
FFSK 2400 bps 939.9875MHz Mask J 30W Pass
RBW=300Hz VBW=3000Hz

OCCUPIED BANDWIDTH

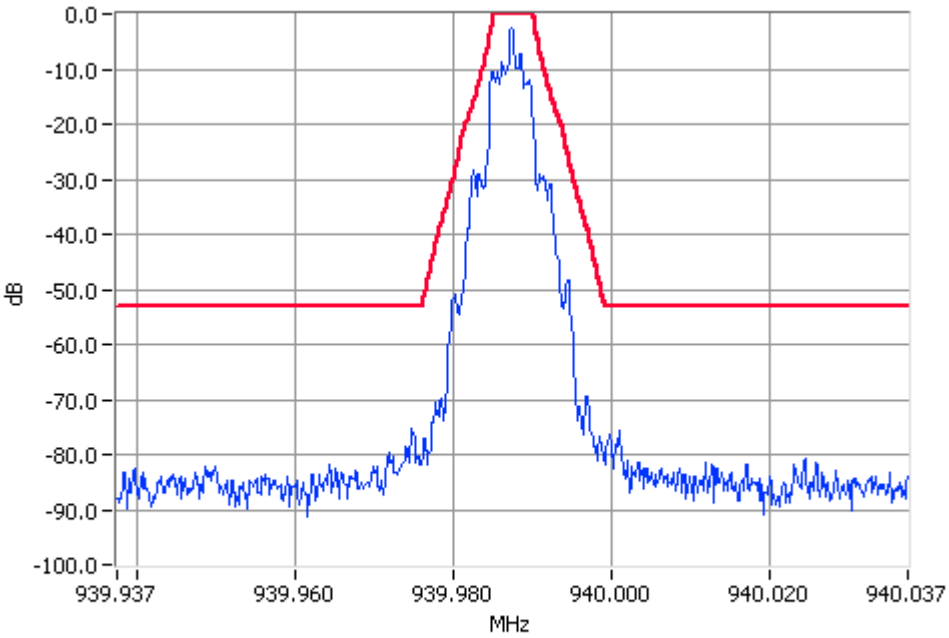
FFSK 2400 bps

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 939.9875 MHz 2 W 12.5 kHz Channel Spacing



Unmodulated 939.9875MHz Mask J 2W Pass
RBW=300Hz VBW=3000Hz



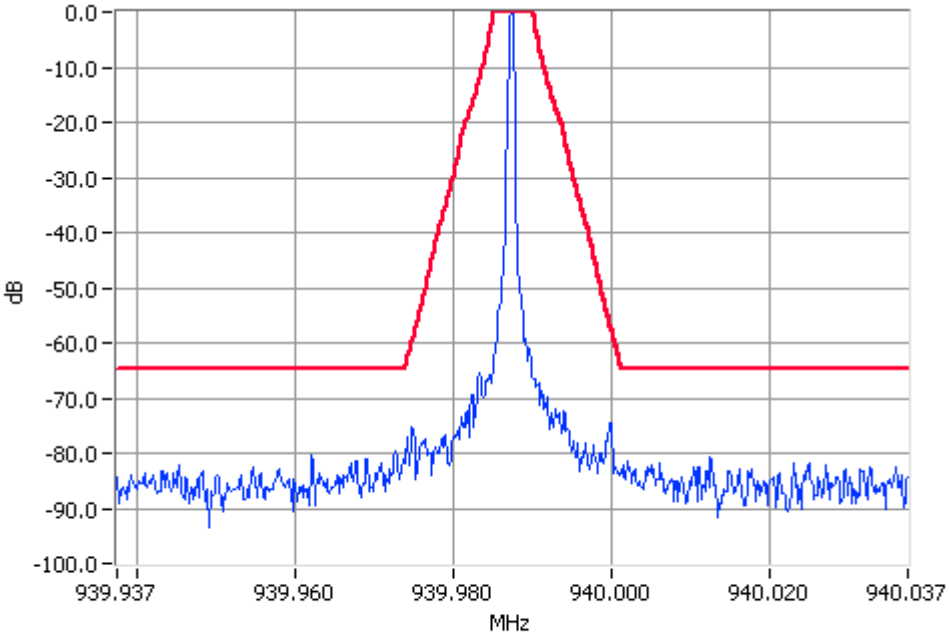
FFSK2400 939.9875MHz Mask J 2W Pass
RBW=300Hz VBW=3000Hz

OCCUPIED BANDWIDTH

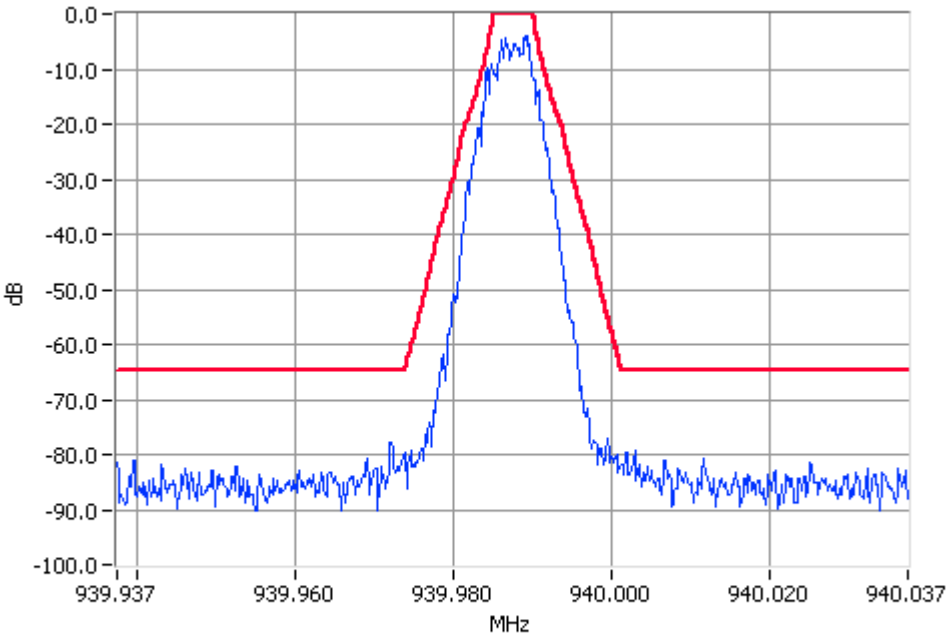
THSD

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 939.9875 MHz 30 W 12.5 kHz Channel Spacing



Unmodulated 939.9875MHz Mask J 30W Pass
RBW=300Hz VBW=3000Hz



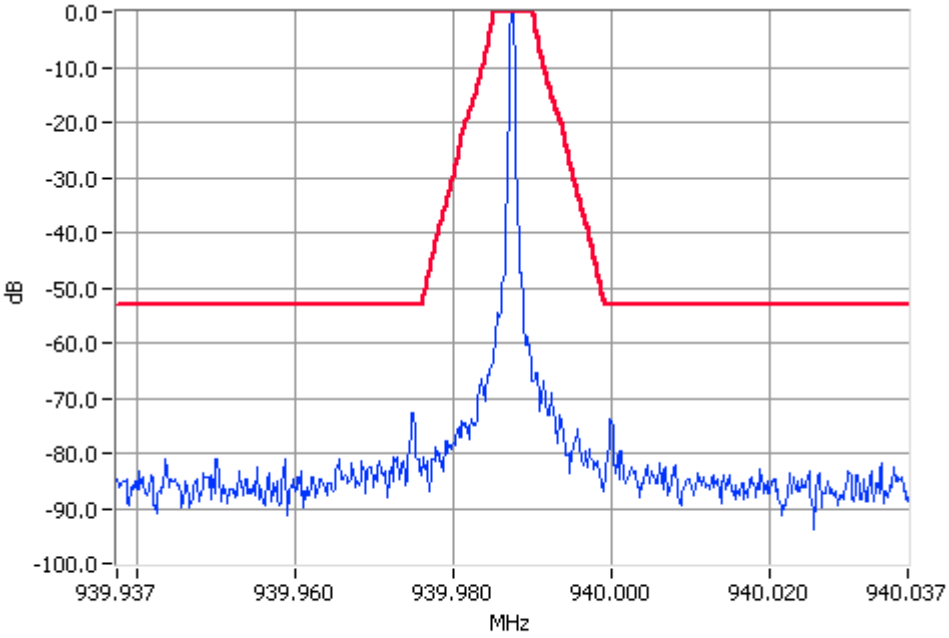
THSD 939.9875MHz Mask J 30W Pass
RBW=300Hz VBW=3000Hz

OCCUPIED BANDWIDTH

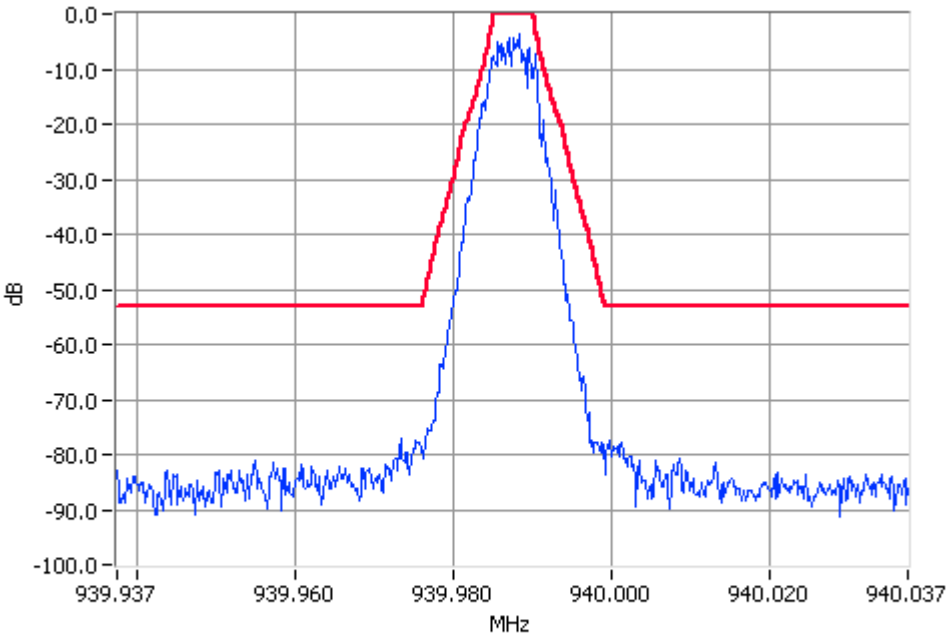
THSD

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 939.9875 MHz 2 W 12.5 kHz Channel Spacing



Unmodulated 939.9875MHz Mask J 2W Pass
RBW=300Hz VBW=3000Hz



THSD 939.9875MHz Mask J 2W Pass
RBW=300Hz VBW=3000Hz

SPURIOUS EMISSIONS (CONDUCTED)

SPECIFICATION: FCC 47 CFR 2.1051

GUIDE: TIA/EIA-603C 2.2.13

MEASUREMENT PROCEDURE:

1. Refer Annex A for equipment set up.
2. The frequency range examined was from the lowest frequency generated within the EUT, to a frequency higher than the 10th Harmonic: 100kHz to Fc-BW
   Fc+BW to 10Fc GHz
3. A Pre-scan is performed with a resolution bandwidth of 1 kHz, and a video bandwidth of 3 kHz. If any emissions are found to be within 20dB of the limit a second measurement is made with the carrier modulated, and a resolution bandwidth of 10 kHz, and a video bandwidth of 30 kHz.

Spurious emissions which were attenuated by more than 20 dB below the limit were not recorded.

MEASUREMENT RESULTS:
See the tables on the following pages for 12.5 kHz channel spacings.

LIMIT CLAUSE: FCC 47 CFR 90.210

SPURIOUS EMISSIONS (CONDUCTED)

SPECIFICATION: FCC CFR 2.1051

Tx FREQUENCY: 900.9875 MHz

12.5 kHz Channel Spacing	900.9875 MHz @ 30 W	Emission Mask J
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
450.4937	-39.4	-84.2
8108.8860	-39.8	-84.6
No other emissions were detected at a level greater than 20 dB below the limit.		

12.5 kHz Channel Spacing	900.9875 MHz @ 2 W	Emission Mask J
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~
No emissions were detected at a level greater than 20 dB below the limit.		

LIMITS:

Carrier Output Power Watts	Emission Mask I 12.5 kHz Channel Spacing $43 + 10 \text{ Log}_{10} (P_{Watts})$	
30 W	-13.0 dBm	-57.8dBc
2 W	-13.0 dBm	-46.0 dBc

Carrier Output Power Watts	Emission Mask J 12.5 kHz Channel Spacing $50 + 10 \text{ Log}_{10} (P_{Watts})$	
30 W	-20.0 dBm	-64.8dBc
2 W	-20.0 dBm	-53.0 dBc

SPURIOUS EMISSIONS (CONDUCTED)

SPECIFICATION: FCC CFR 2.1051

Tx FREQUENCY: 939.9875 MHz

12.5 kHz Channel Spacing	939.9875 MHz @ 30 W	Emission Mask J
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	939.9875 MHz @ 2 W	Emission Mask J
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~
No emissions were detected at a level greater than 20 dB below the limit.		

LIMITS:

Carrier Output Power Watts	Emission Mask I 12.5 kHz Channel Spacing $43 + 10 \text{ Log}_{10} (P_{Watts})$	
30 W	-13.0 dBm	-57.8dBc
2 W	-13.0 dBm	-46.0 dBc

Carrier Output Power Watts	Emission Mask J 12.5 kHz Channel Spacing $50 + 10 \text{ Log}_{10} (P_{Watts})$	
30 W	-20.0 dBm	-64.8dBc
2 W	-20.0 dBm	-53.0 dBc

SPURIOUS EMISSIONS (RADIATED)

SPECIFICATION: FCC 47 CFR 2.1053

GUIDE: TIA/EIA-603C 2.2.12

MEASUREMENT PROCEDURE:
Initial Scan:

1. The EUT is placed in the S-Line TEM cell and emissions are measured from 30MHz to 1000MHz. Any emission within 10dB of the limit is then re-tested on the OATS along with measurements from 1000MHz to the 10th harmonic of the fundamental frequency.
2. The EUT is then placed on a wooden turntable at a distance of 0.5 metres from the test antenna and emissions are measured from 1000MHz to the upper frequency required. Any emission within 10 dB of the limit is then re-tested 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 1m to 4m to obtain a maximum reading, the turntable is then rotated through 360^{o} 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

SPURIOUS EMISSIONS (RADIATED)

SPECIFICATION: FCC CFR 2.1053

Tx FREQUENCY: 900.9875 MHz

12.5 kHz Channel Spacing	900.9875 MHz @ 30 W	Emission Mask J
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
1801.975	-28.0	-72.7
8108.888	-28.6	-73.3
No other emissions were detected at a level greater than 10 dB below the limit.		

12.5 kHz Channel Spacing	900.9875 MHz @ 2 W	Emission Mask J
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
1801.975	-35.0	-68.0
8108.888	-26.5	-59.5
No other emissions were detected at a level greater than 10 dB below the limit.		

LIMITS:

Carrier Output Power Watts	Emission Mask I 12.5 kHz Channel Spacing $43 + 10 \text{ Log}_{10} (P_{Watts})$	
30 W	-13.0 dBm	-57.8dBc
2 W	-13.0 dBm	-46.0 dBc

Carrier Output Power Watts	Emission Mask J 12.5 kHz Channel Spacing $50 + 10 \text{ Log}_{10} (P_{Watts})$	
30 W	-20.0 dBm	-64.8dBc
2 W	-20.0 dBm	-53.0 dBc

SPURIOUS EMISSIONS (RADIATED)

SPECIFICATION: FCC CFR 2.1053

Tx FREQUENCY: 939.9875 MHz

12.5 kHz Channel Spacing	939.9875 MHz @ 30 W	Emission Mask J
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~
No emissions were detected at a level greater than 10 dB below the limit.		

12.5 kHz Channel Spacing	939.9875 MHz @ 2 W	Emission Mask J
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~
No emissions were detected at a level greater than 10 dB below the limit.		

LIMITS:

Carrier Output Power Watts	Emission Mask I 12.5 kHz Channel Spacing $43 + 10 \text{ Log}_{10} (P_{Watts})$	
30 W	-13.0 dBm	-57.8 dBc
2 W	-13.0 dBm	-46.0 dBc

Carrier Output Power Watts	Emission Mask J 12.5 kHz Channel Spacing $50 + 10 \text{ Log}_{10} (P_{Watts})$	
30 W	-20.0 dBm	-64.8 dBc
2 W	-20.0 dBm	-53.0 dBc

TRANSMITTER FREQUENCY STABILITY (TEMPERATURE)

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

GUIDE: TIA/EIA-603C 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 spacings.

LIMIT CLAUSE: FCC 47 CFR 90.213

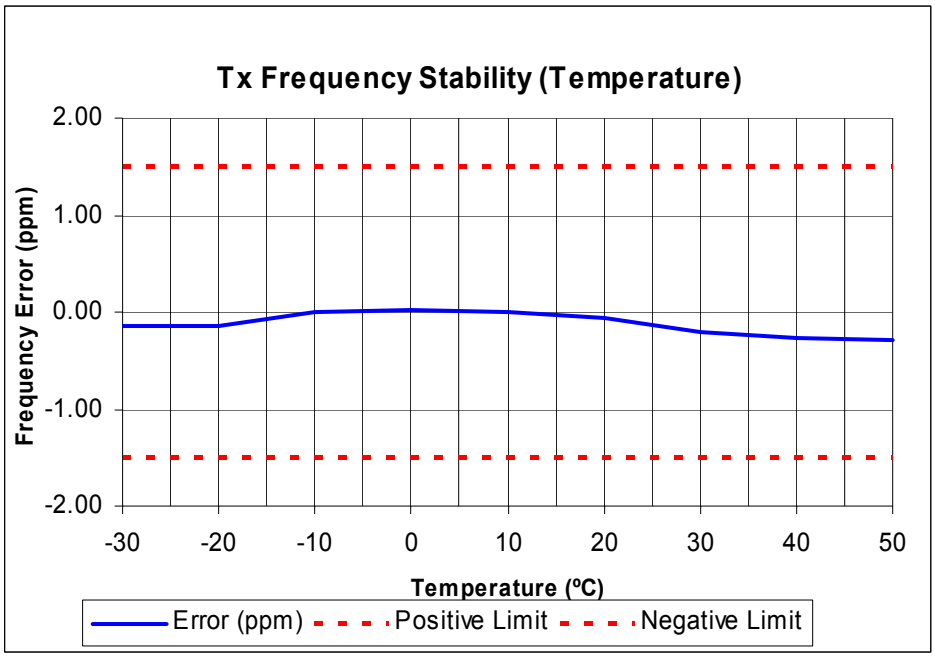
Frequency Range: 896 MHz ~ 940 MHz

Channel Spacing (kHz)	Frequency Error (ppm)
12.5	1.5

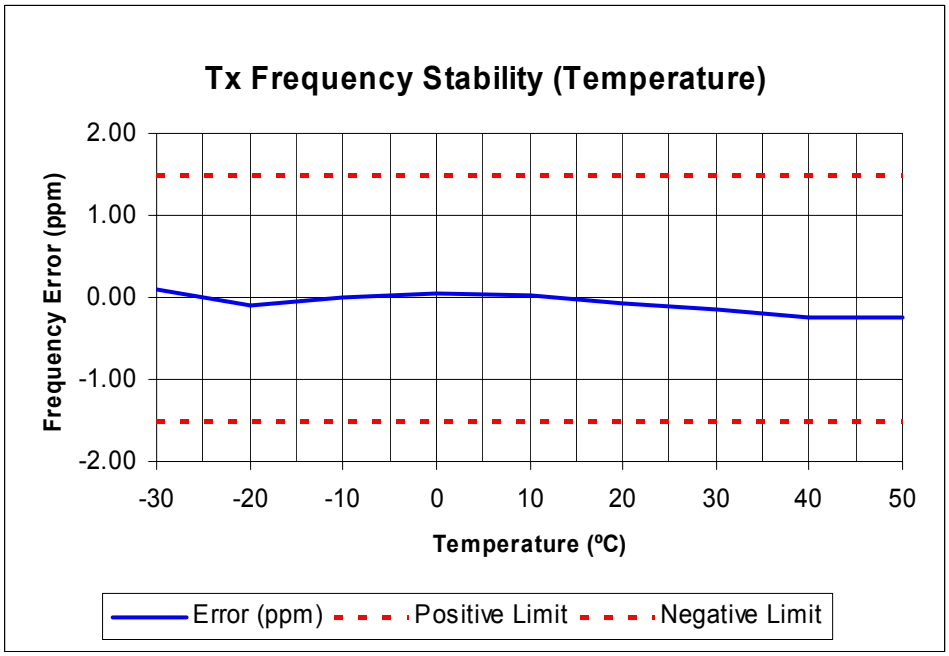
TRANSMITTER FREQUENCY STABILITY (TEMPERATURE)

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

Tx FREQUENCY: 900.9875 MHz 30 W 12.5 kHz channel Spacing



Tx FREQUENCY: 939.9875 MHz 30 W 12.5 kHz channel Spacing



TRANSMITTER FREQUENCY STABILITY (VOLTAGE)

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

GUIDE: TIA/EIA-603C 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: Frequency Range: 896 MHz ~ 940 MHz

Voltage	FREQUENCY ERROR (ppm) for 12.5 kHz Channel Spacing	
	900.9875 MHz	939.9875 MHz
13.8 V_{DC}	-0.09	-0.10
11.73 V_{DC}	-0.11	-0.11
15.87 V_{DC}	-0.10	-0.11

LIMIT CLAUSE: FCC 47 CFR 90.213

Channel Spacing (kHz)	Frequency Error (ppm)
12.5	1.5

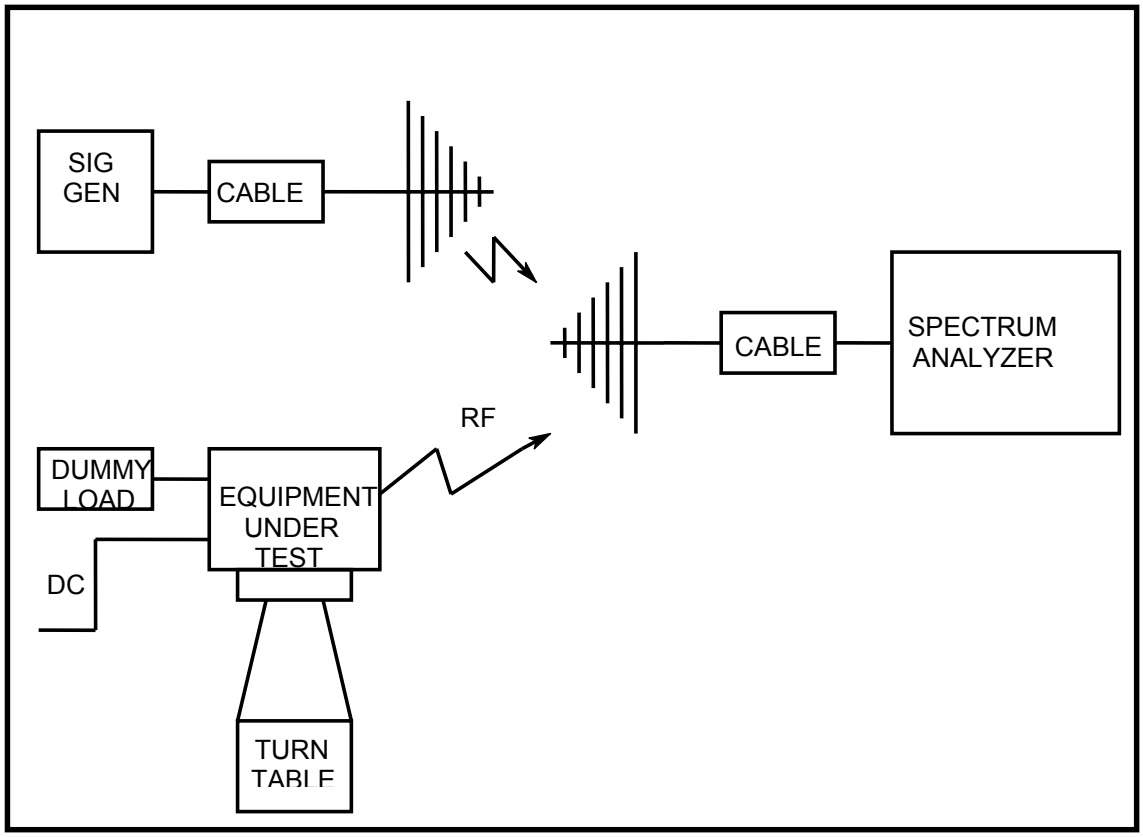
TEST EQUIPMENT USED

Equipment	Manufacturer	Model No	Serial No#	Tait ID	Cal Due
Signal Generator	Hewlett Packard	HP8648A	3430U00344	E3579	16-Nov-08
Signal Generator	Agilent	E4422B	GB40050320	E3788	13-Nov-08
Signal Generator	Hewlett Packard	HP8648C	3443U00543	E3558	16-Nov-08
Signal Generator	Rohde & Schwarz	SMY01 1062.5502.11	841736/019	E3553	16-Nov-08
Signal Generator	Agilent	E4438C	MY45093154	E4600	23-May-10
Power Supply	Rohde & Schwarz	NGS M32/10 192.0810.31	Fnr 434	E3556	17-Oct-08
Environ. Chamber	Contherm	Spatial Cal	E3397	E3397	30-Mar-09
Environ. Chamber	Contherm	Temp Control	E3397	E3397	30-Mar-09
Reference Horn Antenna	Emco	DRG3115	9512-4638	E3560	16-Nov-09
Horn Antenna	Emco	DRG3115	2084	E3076	25-Nov-09
S-LINE TEM CELL	Rohde & Schwarz	1089.9296.02	338232/003	E3636	20-Mar-09
RF Attenuator 25W	Weinschel	33-20-33	BD5871	E3673	11-Dec-08
RF Load 50W	Weinschel	F1426	BF0487	E3675	13-Nov-08
RF Load 50W	Weinschel	F1426	AE2490	E3624	11-Dec-08
1m Coax Cable BLUE)	Suhner	Sucoflex 104A	44610/4A	E4619	12-Nov-08
3m Coax Cable (BLUE)	Suhner	Sucoflex 104A	44611/4A	E4620	12-Nov-08
Audio Analyser	Hewlett Packard	HP8903B	2818A04275	E3710	25-Feb-09
Spectrum Analyser	Hewlett Packard	HP8562E	3821A00779	E3715	13-Nov-08
Power Supply	Hewlett Packard	HP6012B	2524A00616	E3712	16-Nov-08
Oscilloscope	Tektronics	TDS380	B017095	E3782	17-Nov-08
Modulation Analyser	Hewlett Packard	HP8901B (Opt 002)	3704A05837	E3786	16-Nov-08
Signal Generator	Agilent	E4433B	US38440446	E4147	13-Sep-10
Signal Generator	Rohde & Schwarz	SML03 1090.3000.13	100597	E4050	16-Nov-08
Spectrum Analyser	Agilent	E4445A	MY42510072	E4139	7-Aug-09
Antenna Tower	Electrometrics	EM-4720-2	112	E4447	Cal on Use
Controller	Electrometrics	EM-4700	119	E4445	Cal on Use
Turntable	Electrometrics	EM-4704A	105	E4446	Cal on Use
2m Coax Cable S-Line (Black1)	Intelcom	RG213/U-50	Black1	E3658	16-Nov-08
2m Coax (Black2)	Suhner	RG214HF/Nm/Nm/2000	Black2	E4623	16-Nov-08
2m Coax (Black3)	Suhner	RG214HF/Nm/Nm/2000	Black2	E4624	16-Nov-08
OATS Tower Cable	Intelcom	RG214	OATS1	E4621	13-Nov-08
OATS Turntable Cable	Intelcom	RG215	OATS2	E4622	13-Nov-08
Attenuator	Weinschel	67-30-33	BR0531	E4280	13-Nov-08
TREVA2	Teltest	-		-	30-Mar-09

ANNEX A

TEST SETUP DETAILS

Radiated Emissions Set up.



All other testing is performed using the **T**eltest **R**adio **EVA**luation 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.