
REPORT ON
Radio testing of the VERTEX STANDARD VX-1700-A0-125
In accordance with ANSI/TIA/EIA-603, RSS-119

Report number TA000215

September 2005

GENERAL INFORMATION

MODEL NAME:	VX-1700-A0-125	
FCC ID:	K6610511070	
IC ID:	511B-10511070	
MANUFACTURER:	Vertex Standard Co., Ltd.	
TRADE NAME:	VERTEX STANDARD	
EUT DESCRIPTION:	HF Transceiver	
SERIAL NUMBER:	5J002201	
VOLTAGE REQUIREMENTS:	13.8	[V]
	DC	
NUMBER OF CHANNELS:	200	
SPECIFICATION ARE REFERENCE	ANSI/TIA/EIA-603	
	RSS-119	

TRANSMITTERS

TYPE OF EMISSION:	3K00J3E	
FREQUENCY RANGE:	1.6 to 30	[MHz]
POWER OUTPUT RATING:	125/100	[W]
	___ Switchable	
	___ Variable	
	<u>x</u> N/A	
MAXIMUM POWER RATING:	300	[W]
INPUT IMPEDANCE (MIC):	600	[Ω]
OUTPUT IMPEDANCE (RF):	50	[Ω]
Collector Voltage:	13.8	[V]
Collector Current:	18	[A]

RECEIVERS

FREQUENCY RANGE:	0.03 to 30	[MHz]
INTERMEDIATE FREQUENCIES:	1st 45.274	[MHz]
	2nd 24	[kHz]
INPUT IMPEDANCE (RF):	50	[Ω]
OUTPUT IMPEDANCE (SP):	16	[Ω]
AUDIO OUTPUT POWER:	0.5	[W]

This report was prepared by Vertex Standard Co., Ltd.

Test performed by M.Kurihara

Date 07 / September /2005

VX-1700-A0-125 Channel Settings

CH No.	Shown on LCD	Transmit Frequency [MHz]	Receive Frequency [MHz]		Power	
					[W]	
1	2.0000	2.000	2.000		125	
2	4.0000	4.000	4.000		125	
3	6.0000	6.000	6.000		100	
4	8.0000	8.000	8.000		100	
5	10.0000	10.000	10.000		100	
6	12.0000	12.000	12.000		100	
7	14.0000	14.000	14.000		100	
8	16.0000	16.000	16.000		100	
9	18.0000	18.000	18.000		100	
10	20.0000	20.000	20.000		100	
11	22.0000	22.000	22.000		100	
12	24.0000	24.000	24.000		100	
13	26.0000	26.000	26.000		100	
14	28.0000	28.000	28.000		100	
15	30.0000	30.000	30.000		100	
16						

NAME OF TEST: R.F. Power Output (Conducted)
SPECIFICATION: 47 CFR 2.1046 (a)
GUIDE: ANSI/TIA/EIA-603, Paragraph 2.2.1
TEST EQUIPMENT: As per attached page

MEASUREMENT PROCEDURE

1. The EUT was connected to a resistive coaxial attenuator of normal load impedance, and the modulated output power was measured by means of an R.F. power meter.
2. Measurement accuracy is $\pm 4\%$

MEASUREMENT RESULTS

NOMINAL, MHz	CHANNEL	R.F. POWER, WATTS
2.000	1	126.565
4.000	2	100.841
6.000	3	101.047
8.000	4	99.812
10.000	5	101.252
12.000	6	101.252
14.000	7	99.606
16.000	8	99.812
18.000	9	102.899
20.000	10	103.928
22.000	11	102.693
24.000	12	101.870
26.000	13	99.606
28.000	14	103.928
30.000	15	98.371

NAME OF TEST: Unwanted Emissions (Conducted)

LIMIT'S), dBc: $-(43+10 \times \text{LOG}(P)) = -64$ (### Watts)

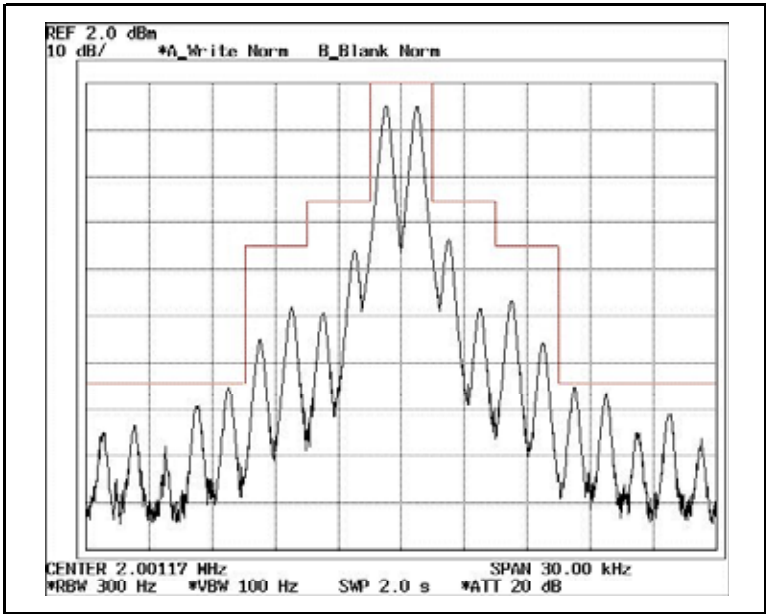
FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	LEVEL, dBm	LEVEL, dBc	MARGIN, dB
2.0000	4.0000	-32.0	-83.0	19.0
14.0000	28.0000	-23.0	-74.0	10.0
30.0000	60.0000	-27.0	-78.0	14.0
30.0000	90.0000	-21.0	-72.0	8.0
30.0000	120.0000	-18.0	-69.0	5.0

NAME OF TEST: Field Strength of Spurious Radiation

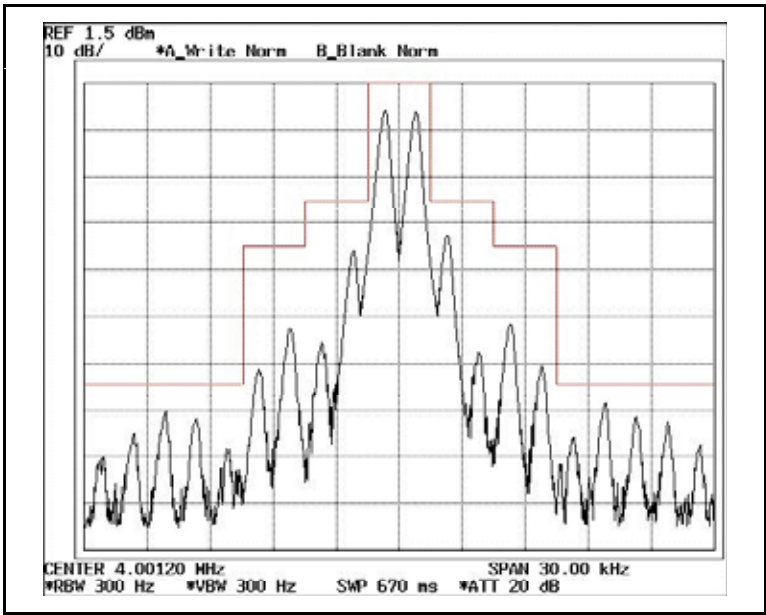
LIMIT'S), dBc: $-(43+10 \times \text{LOG}(P)) = -64$ (### Watts)

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER, dBuV	C.F., dB	ERP, dBm	ERP, dBc
450.0000	900.0000	45.8	34.3	-26.9	-63.9
480.0000	960.0000	38.1	32.7	-36.2	-73.2
512.0000	1024.0000	77.6	-0.2	-29.6	-66.6
450.0000	1350.0000	75.3	4.2	-27.5	-64.5
480.0000	1440.0000	68.4	4.7	-33.9	-70.9
512.0000	1536.0000	66.3	5.2	-35.5	-72.5
450.0000	1800.0000	62.2	7.5	-37.3	-74.3
480.0000	2400.0000	61.1	14.1	-31.8	-68.8
512.0000	2560.0000	60.3	10.9	-35.8	-72.8
480.0000	2880.0000	58.5	12.9	-35.6	-72.6
480.0000	3840.0000	50.2	20.7	-36.1	-73.1

NAME OF TEST: Emission Masks (Occupied Bandwidth)



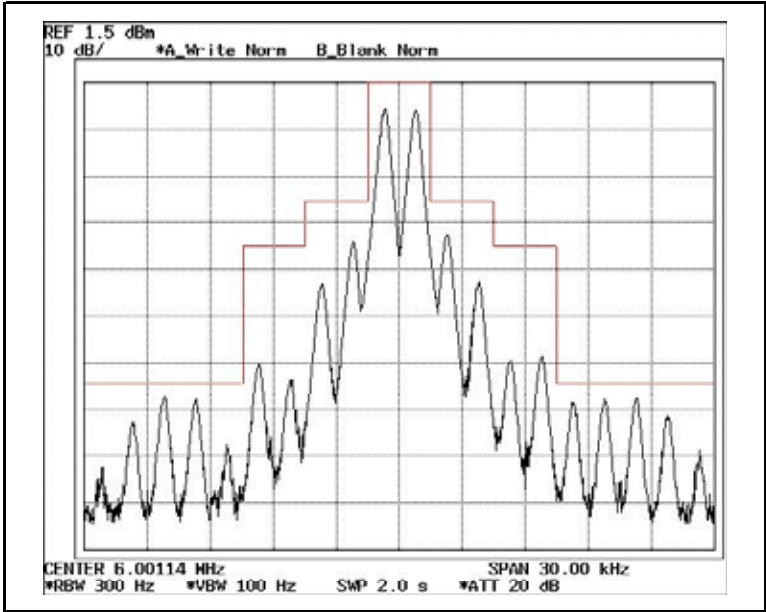
Frequency 2.0 MHz
MASK A



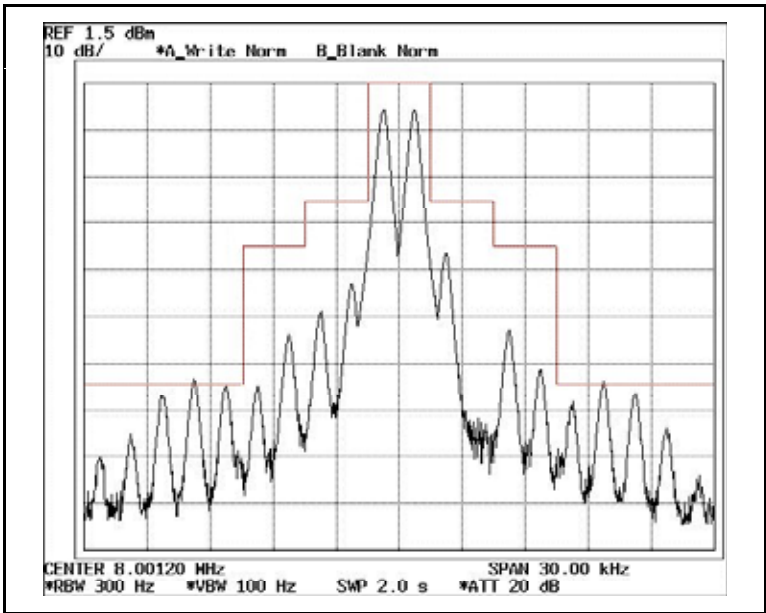
Frequency 4.0 MHz
MASK A

NAME OF TEST: Emission Masks (Occupied Bandwidth)

STATE: 1 : High Power



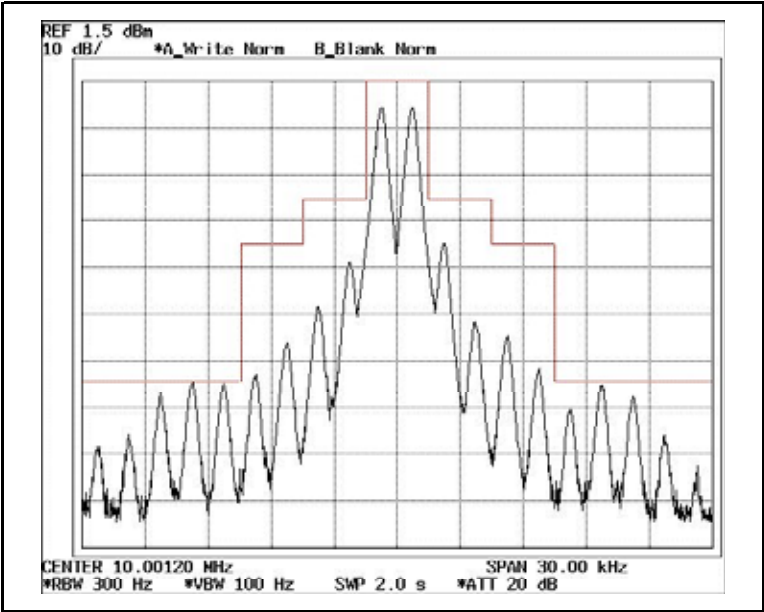
Frequency 6.0 MHz
MASK A



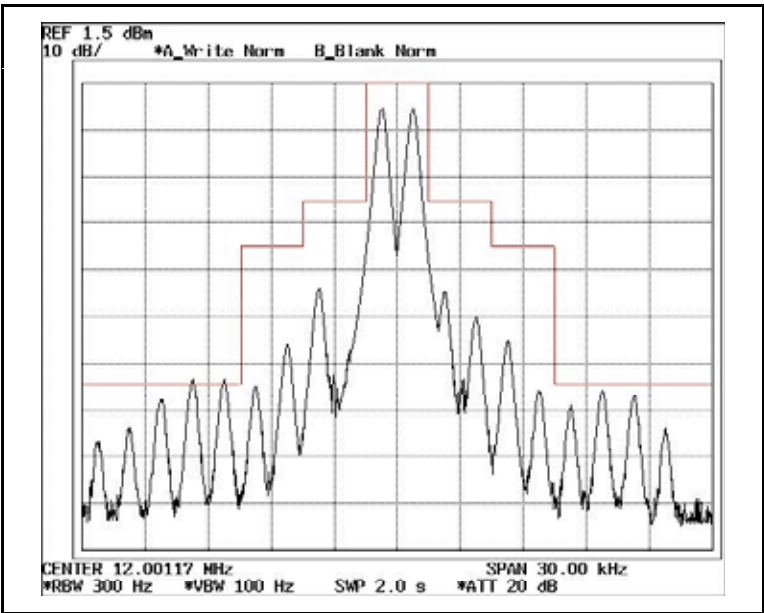
Frequency 8.0 MHz
MASK A

NAME OF TEST: Emission Masks (Occupied Bandwidth)

STATE: 1 : High Power



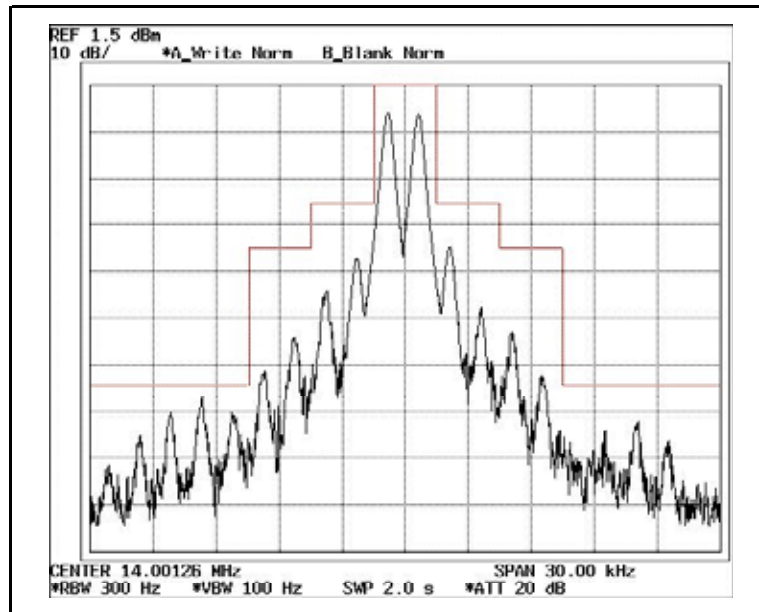
Frequency 10.0 MHz
MASK A



Frequency 12.0 MHz
MASK A

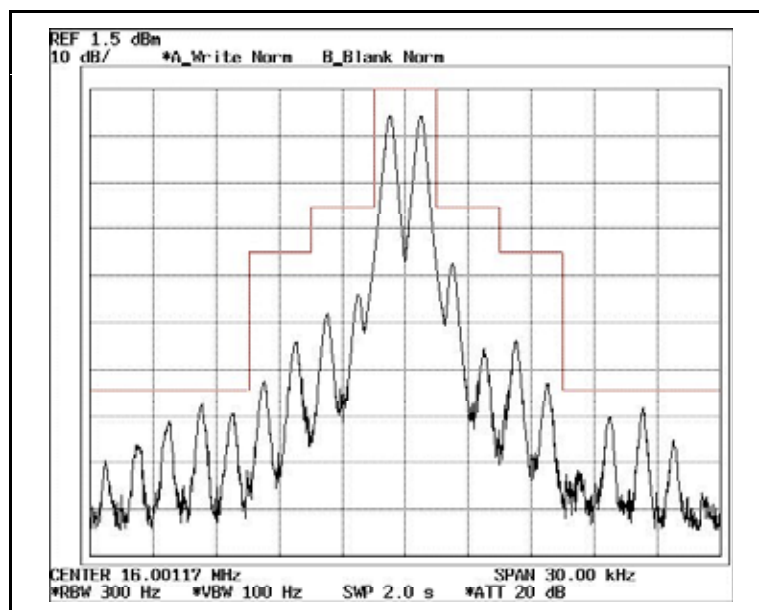
NAME OF TEST: Emission Masks (Occupied Bandwidth)

STATE: 2 : Low Power



Frequency

14.0 MHz
MASK A

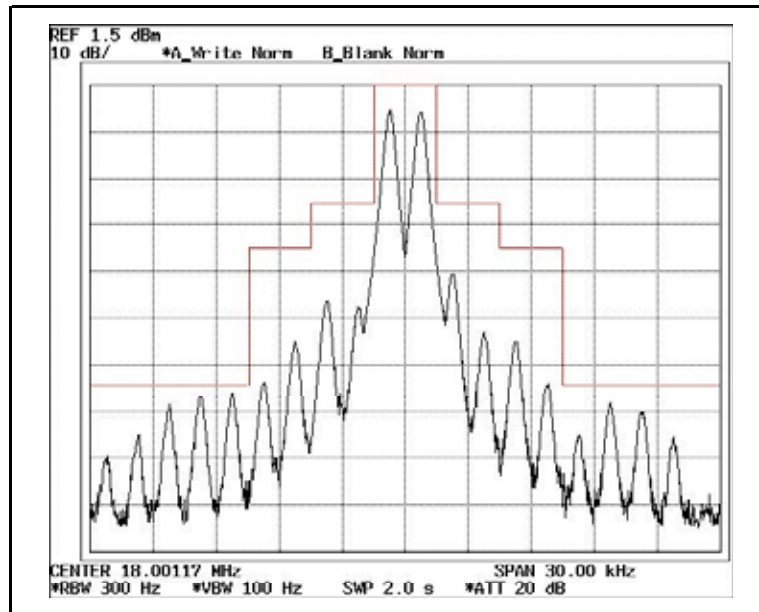


Frequency

16.0 MHz
MASK A

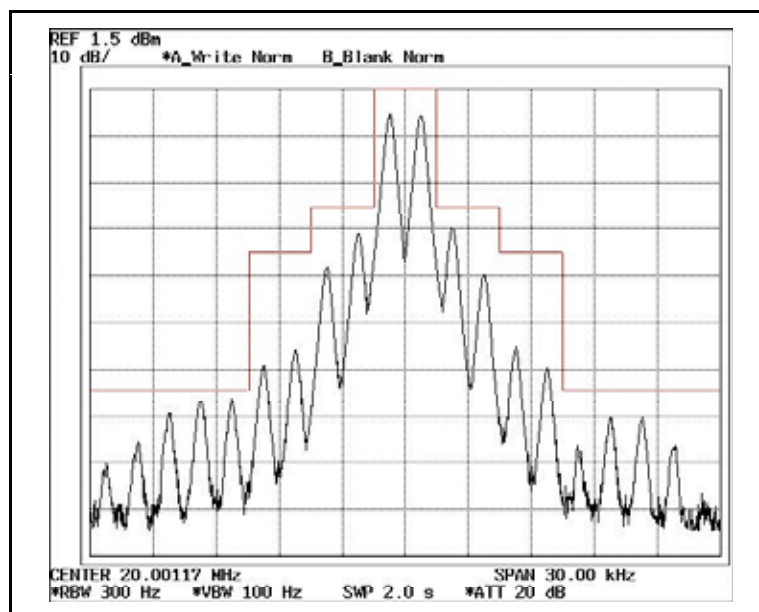
NAME OF TEST: Emission Masks (Occupied Bandwidth)

STATE: 2 : Low Power



Frequency

18.0 MHz
MASK A

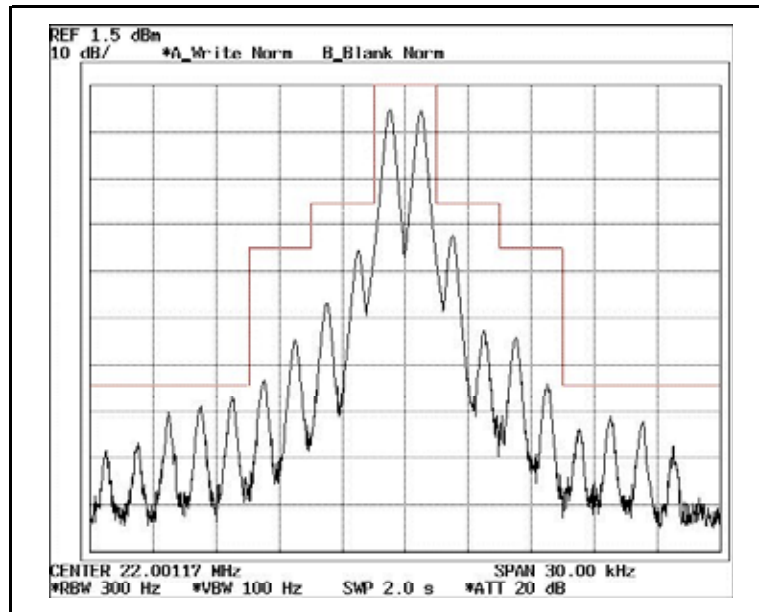


Frequency

20.0 MHz
MASK A

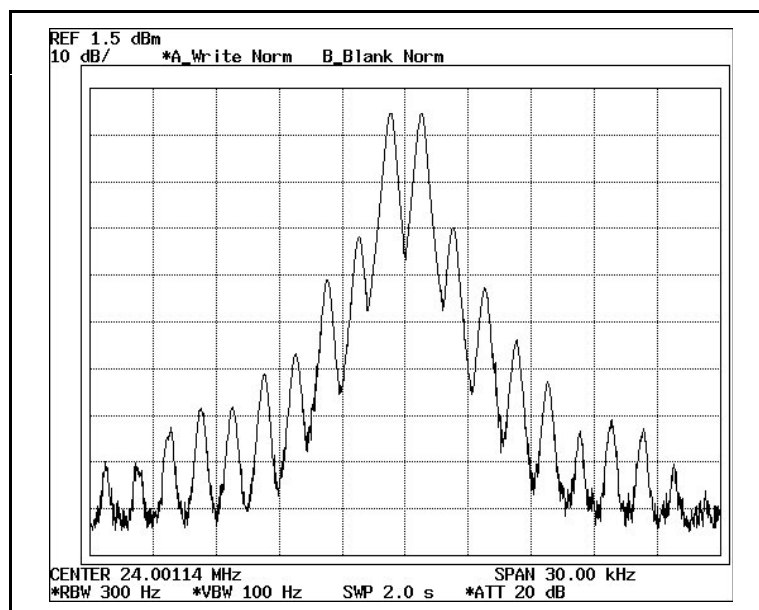
NAME OF TEST: Emission Masks (Occupied Bandwidth)

STATE: 2 : Low Power



Frequency

22.0 MHz
MASK A

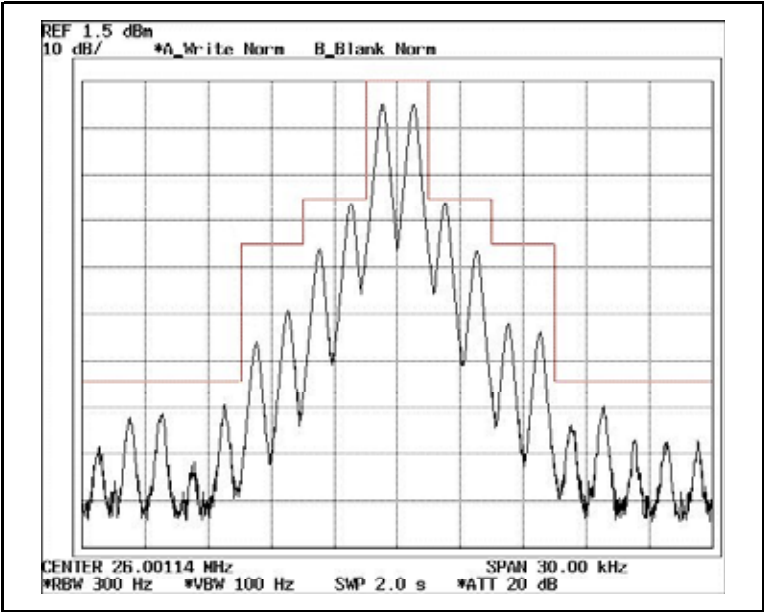


Frequency

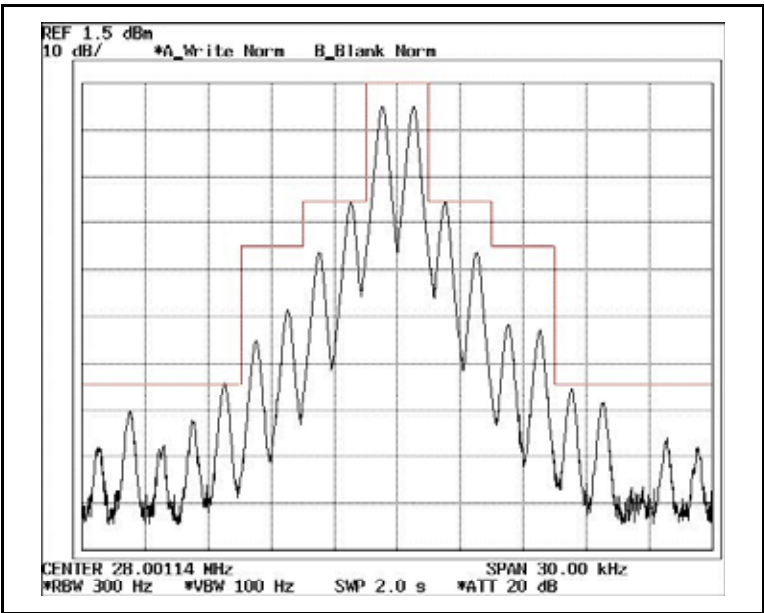
24.0 MHz
MASK A

NAME OF TEST: Emission Masks (Occupied Bandwidth)

STATE: 1 : High Power



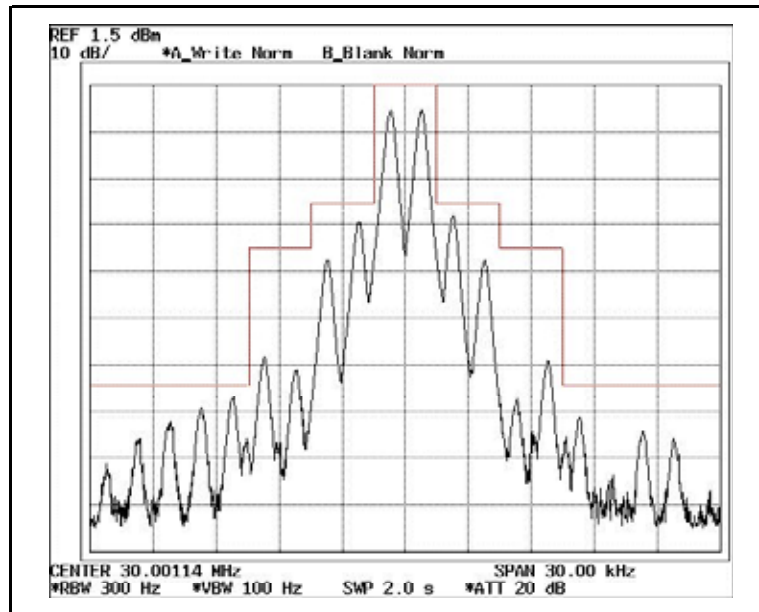
Frequency 26.0 MHz
MASK A



Frequency 28.0 MHz
MASK A

NAME OF TEST: Emission Masks (Occupied Bandwidth)

STATE: 1 : High Power

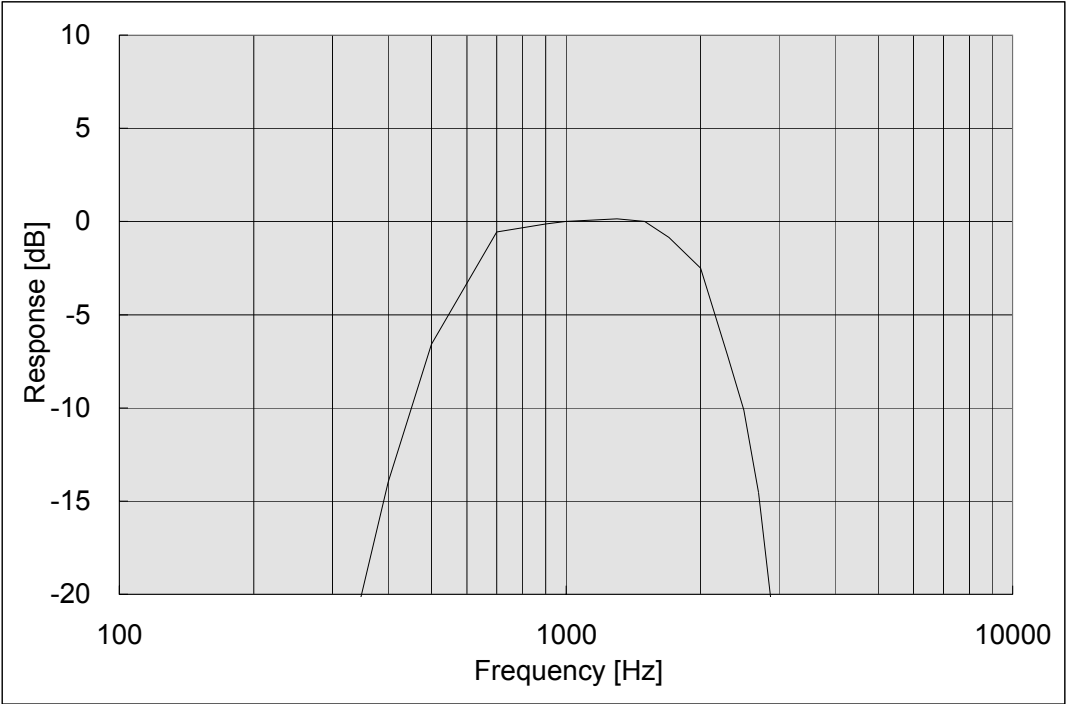


Frequency

30.0 MHz
MASK A

NAME OF TEST: Audio Frequency Response

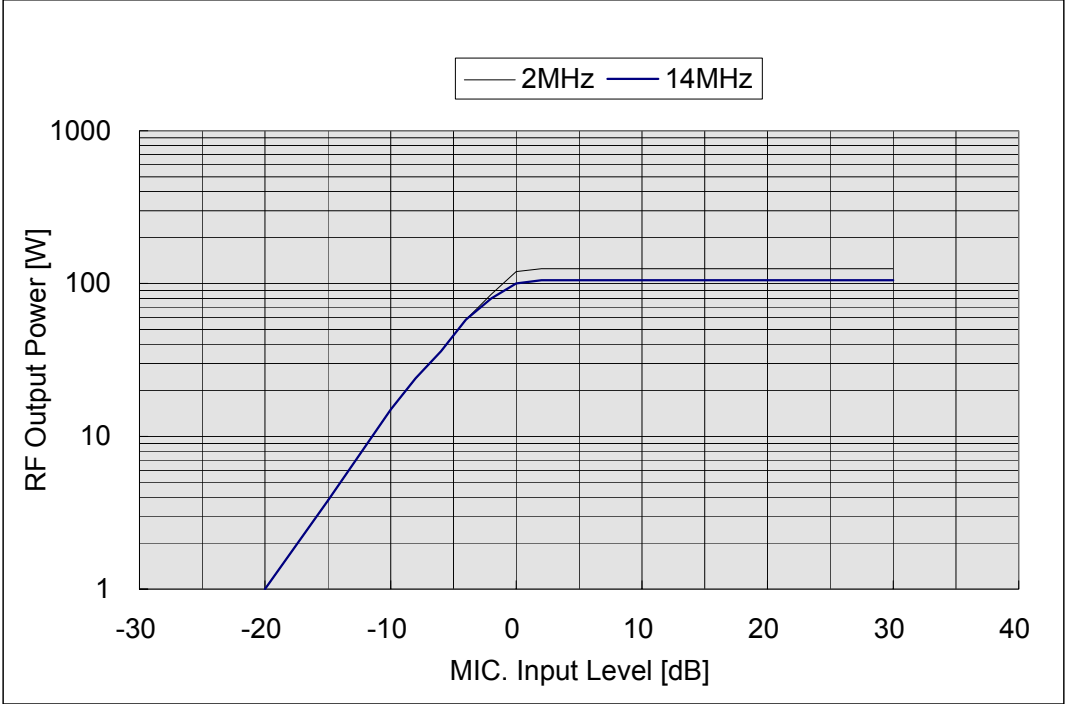
STATE: 0 : General



NAME OF TEST: Modulation Limiting

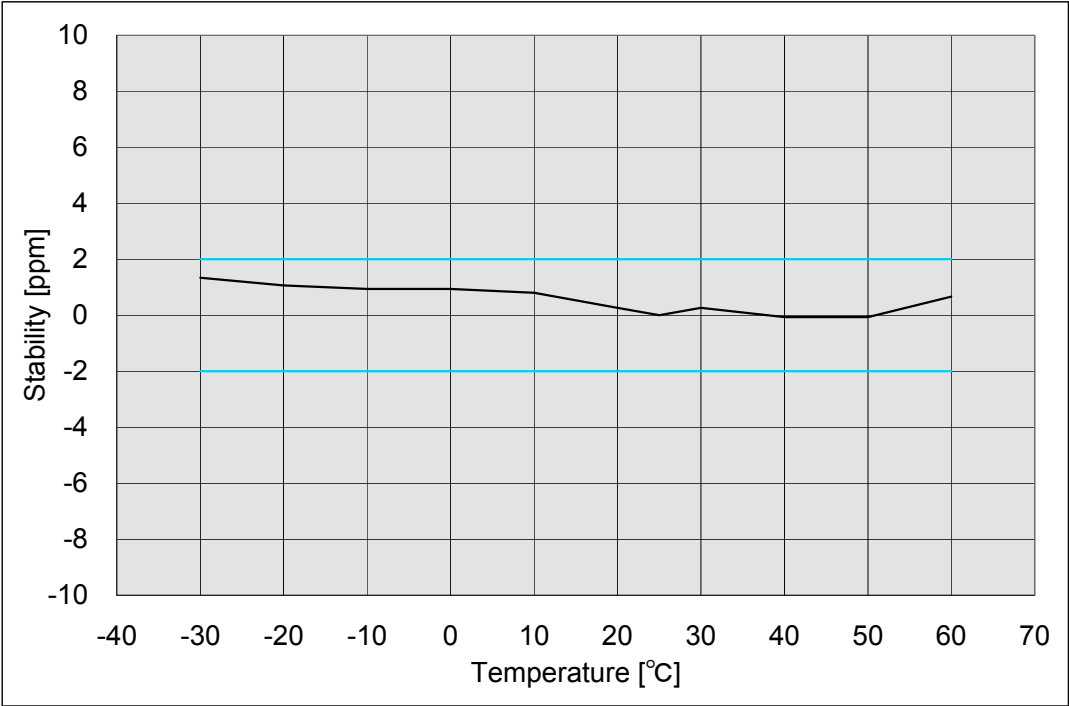
STATE: 0 : General
Positive Peak Wide

0 dB = 0.6 [mV]



NAME OF TEST: Frequency Stability (Temperature Variation)

STATE: 0 : General



NAME OF TEST: Frequency Stability (Voltage Variation)
SPECIFICATION: 47 CFR 2.1055 (b)
GUIDE: ANSI/TIA/EIA-603, Paragraph 2.2.2
TEST EQUIPMENT: As per previous page

MEASUREMENT PROCEDURE

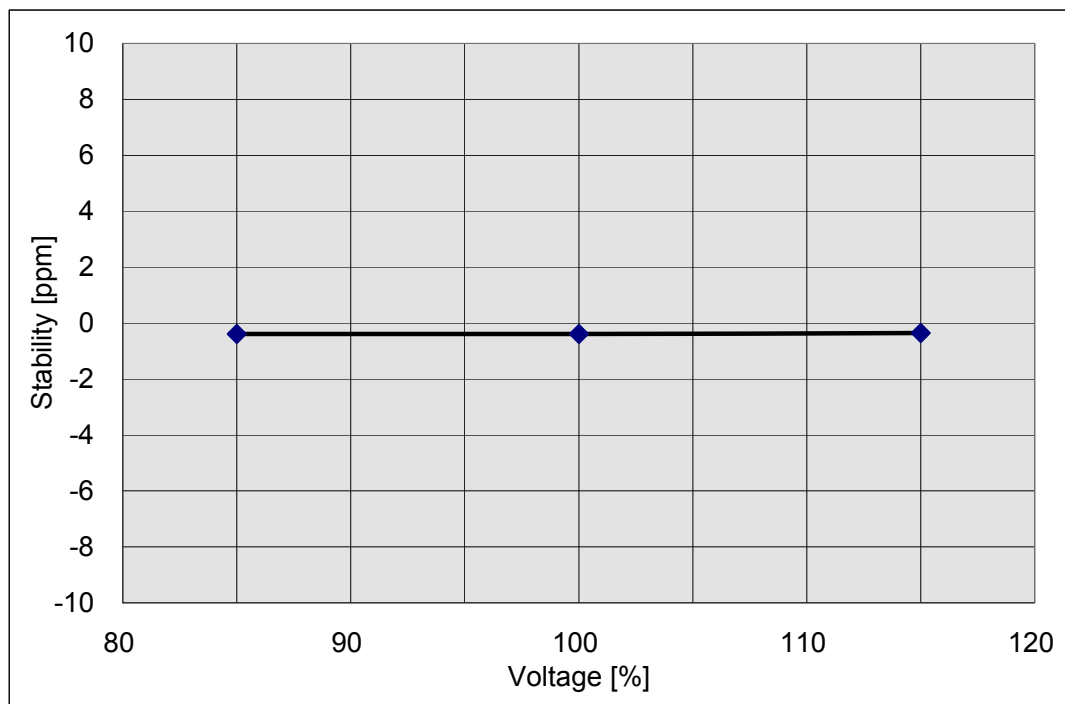
1. The EUT was placed in a temperature chamber at $25\pm 5^{\circ}\text{C}$ and connected as for "Frequency Stability - Temperature Variation" test.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

RESULTS: Frequency Stability (Voltage Variation)

STATE: 0 : General

LIMIT', ppm = 0.0
 LIMIT', Hz = 0

% of STV	Voltage	Frequency, MHz	Change, Hz	Change, ppm
85	11.73	19.999992	-8	-0.39
100	13.80	19.999992	-8	-0.39
115	15.87	19.999993	-7	-0.36



NAME OF TEST: Receiver Spurious Emissions (Conducted)

STATE: 0 : General

All other emissions in the required measurement range were more than 20dB below the required limits.

MEASUREMENT RESULTS

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	LEVEL, dBm	LEVEL, nW
450.000	399.150	-74.5	0.0355

NAME OF TEST: Receiver Spurious Emissions (Radiated)

STATE: 0 : General

All other emissions in the required measurement range were more than 20dB below the required limits.

MEASUREMENT RESULTS

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	LEVEL, dBuV	@m	CF, dB	uV/m
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