REPORT ON
Radio testing of the VERTEX STANDARD EVX-261-G6-5
In accordance with ANSI/TIA/EIA-603-D, RSS-119 Issue 12

Report No. TA100242 April 2016

MANUFACTURER'S DETAILS

Company Name:	Vertex Standard LMR, Inc.
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GENERAL INFORMATION

MODEL NAME:	EVX-261-G6-5	
FCC ID:	AXI11374620	
IC ID:	10239A-11374620	
MANUFACTURER:	Vertex Standard LMR, Inc.	
TRADE NAME:	VERTEX STANDARD	
EUT DESCRIPTION:	UHF Transceiver	
SERIAL NUMBER:	2B6C800038	
VOLTAGE RQUIREMENTS:	7.4 DC	[V]
NUMBER OF CHANNELS:	16	
SPECIFICATION ARE REFERENCED:	ANSI/TIA/EIA-603-D RSS-119 Issue 12	

TRANSMITTERS

TYPE OF EMISSION:	*16K0F3E , 11K0F3E 7K60F1D , 7K60F1E ,7K60FXD 7K60FXE , 7K60F1W *: IC only	
FREQUENCY RANGE:	403 to 470	[MHz]
POWER OUTPUT RATING:	1 to 5.5 (max) __ Switchable x Variable __ N/A	[W]
INPUT IMPEDANCE (MIC):	2000	[Ω]
OUTPUT IMPEDANCE (RF):	50	[Ω]
Collector Voltage:	7.4	[V]
Collector Current:	2	[A] (max)

RECEIVERS

FREQUENCY RANGE:	403 to 470	[MHz]
INTERMEDIATE FREQUENCIES:	1st none 2nd none	[MHz] [kHz]
INPUT IMPEDANCE (RF):	50	[Ω]
OUTPUT IMPEDANCE (SP):	4	[Ω]
AUDIO OUTPUT POWER:	0.5	[W]

This report was prepared by Vertex Standard LMR, Inc.

Test performed by Toshiyuki Owaki

T. Owaki

Date 28 / April /2016

EVX-261-G6-5 Channel Settings

CH No.	Shown on Dial	Transmit Frequency [MHz]	Receive Frequency [MHz]	CH Spacing	Power	
					High	Low
1	1	403.0125	403.0125	25k	5 W	1 W
2	2	406.2000	406.5000	25k	5 W	1 W
3	3	429.9875	429.9875	25k	5 W	1 W
4	4	450.6500	450.6500	25k	5 W	1 W
5	5	469.9875	469.9375	25k	5 W	1 W
6	6	403.0125	403.0125	*D 12.5k	5 W	1 W
7	7	406.2000	406.2000	*D 12.5k	5 W	1 W
8	8	429.9875	429.9875	*D 12.5k	5 W	1 W
9	9	450.6500	450.6500	*D 12.5k	5 W	1 W
10	10	469.9875	469.9875	*D 12.5k	5 W	1 W
11	11	403.0125	403.0125	12.5k	5 W	1 W
12	12	406.2000	406.5000	12.5k	5 W	1 W
13	13	429.9875	429.9875	12.5k	5 W	1 W
14	14	450.6500	450.6500	12.5k	5 W	1 W
15	15	469.9875	469.9375	12.5k	5 W	1 W

*D 12.5k : Digital Mode

Note: This Transmitter was design to operate in the frequency range 403-470MHz.
The following channels are for reference.
Not included in the application frequency of Part 90.
CH1 thru CH6, CH11: 403.0125MHz.

NAME OF TEST: R.F. Power Output (Conducted)
SPECIFICATION: 47 CFR 2.1046 (a)
GUIDE: ANSI/TIA/EIA-603-D, 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 powerwas measured by means of an R.F. power meter.

2. Measurement accuracy is ± 4%

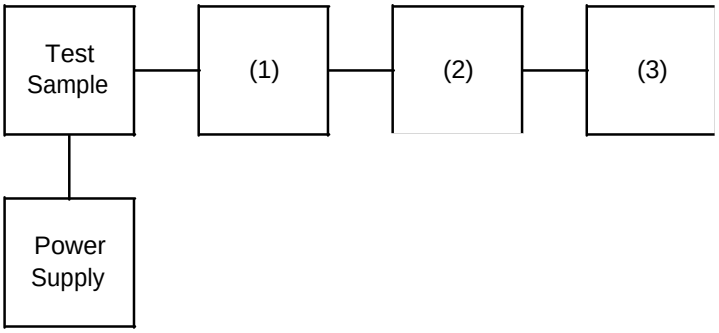
MEASUREMENT RESULTS

NOMINAL, MHz	CHANNEL	CURRENT A (max)	R.F. POWER, WATTS LOW	R.F. POWER, WATTS HIGH (Max)
403.01250	1	1.85	1.0	5.5
406.20000	2	1.79	1.0	5.5
429.98750	3	1.65	1.0	5.5
450.65000	4	1.63	1.0	5.5
469.98750	5	1.75	1.0	5.5

Operatig Voltage: 7.4V

TRANSMITTER POWER CONDUCTED MEASUREMENTS

TEST 1: R.F. POWER OUTPUT



Instruments	Description	Serial Number
(1) COAXUAL ATTENUATOR	WEINSCHELL 49-10-43	KL458
(2) POWER SENSOR MODULE	Agilent 11722A	2716A02970
(3) POWER METER	Agilent 8901B POWER MODE	3026A02806/2716A02970

NAME OF TEST:	Unwanted Emissions (Conducted)
SPECIFICATION:	47 CFR 2.1051
GUIDE:	ANSI/TIA/EIA-603-D, Paragraph 2.2.13
TEST EQUIPMENT:	As per attached page

MEASUREMENT PROCEDURE

1. The emissions were measured for the worst case as follows:
   (a): within a band of frequencies defined by the carrier frequency plus and minus one channel.
   (b): from the lowest frequency generated in the EUT and to at least the 10th harmonic of the carrier frequency, or 40GHz, whichever is lower.

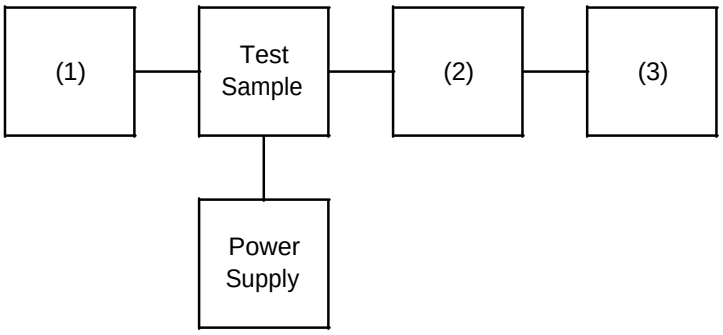
2. The magnitude of spurious emissions that are attenuated more than 20dB below the permissible value need not be specified.

3. MEASUREMENT RESULTS:

FREQUENCY OF CARRIER, MHz	=	403.0125 , 406.2 , 429.9875 450.65 , 469.9875
SPECTRUM SEARCHED, GHz	=	0 to 10 x Fc
MAXIMUM RESPONSE, Hz	=	2900
ALL OTHER EMISSIONS	=	>= 20dB BELOW LIMIT
RBW 100kHz	=	Freq<1GHz
RBW 1MHz	=	Freq>1GHz

TRANSMITTER CONDUCTED SPURIOUS EMISSION MEASUREMENTS

TEST 1: UNWANTED EMISSION



Instruments	Description	Serial Number
(1) AUDIO GENERATOR	Agilent 8903B	2742A03633
(2) COAXUAL ATTENUATOR	WEINSCHELL 49-10-43	KL458
(2) COAXUAL ATTENUATOR	Agilent 8498A	1801A02723
(3) SPECTRUM ANALYZER	Agilent E4445A	MY443000710

NAME OF TEST: Unwanted Emissions (Conducted)

LIMIT'S), dBc: Mask B:

-(43+10xLOG(P)) = -50 (5.50 Watts)

-(43+10xLOG(P)) = -43 (1.00 Watts)

Mask D:

-(50+10xLOG(P)) = -57 (5.50 Watts)

-(50+10xLOG(P)) = -50 (1.00 Watts)

5.5W Operatig Voltage: 7.4V

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	LEVEL, dBm	LEVEL, dBc	MARGIN, dB
403.0125				
406.2000				
429.9875				
450.6500				
469.9875				
Mask B:				
403.0125	806.0250	-43.0	-80.4	30.4
406.2000	812.4000	-43.5	-80.8	30.8
429.9875	859.9750	-45.5	-82.8	32.8
450.6500	901.3000	-44.9	-82.2	32.2
469.9875	939.9750	-44.3	-81.5	31.5
Mask D:				
403.0125	806.0250	-43.0	-80.4	23.4
406.2000	812.4000	-43.5	-80.8	23.8
429.9875	859.9750	-45.5	-82.8	25.8
450.6500	901.3000	-44.9	-82.2	25.2
469.9875	939.9750	-44.3	-81.5	24.5

NAME OF TEST: Unwanted Emissions (Conducted)

LIMIT'S), dBc: Mask B:

-(43+10xLOG(P)) = -50 (5.50 Watts)

-(43+10xLOG(P)) = -43 (1.00 Watts)

Mask D:

-(50+10xLOG(P)) = -57 (5.50 Watts)

-(50+10xLOG(P)) = -50 (1.00 Watts)

1W Operatig Voltage: 7.4V

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	LEVEL, dBm	LEVEL, dBc	MARGIN, dB
403.0125				
406.2000				
429.9875				
450.6500				
469.9875				
Mask B:				
403.0125	806.0250	-39.5	-69.5	26.5
406.2000	812.4000	-39.6	-69.7	26.7
429.9875	859.9750	-39.3	-69.3	26.3
450.6500	901.3000	-39.0	-68.8	25.8
469.9875	939.9750	-39.5	-69.3	26.3
Mask D:				
403.0125	806.0250	-39.5	-69.5	19.5
406.2000	812.4000	-39.6	-69.7	19.7
429.9875	859.9750	-39.3	-69.3	19.3
450.6500	901.3000	-39.0	-68.8	18.8
469.9875	939.9750	-39.5	-69.3	19.3

NAME OF TEST: Field Strength of Spurious Radiation
SPECIFICATION: 47 CFR 2.1053 (a)
GUIDE: ANSI/TIA/EIA-603-D, Paragraph 2.2.12

MEASUREMENT PROCEDURE

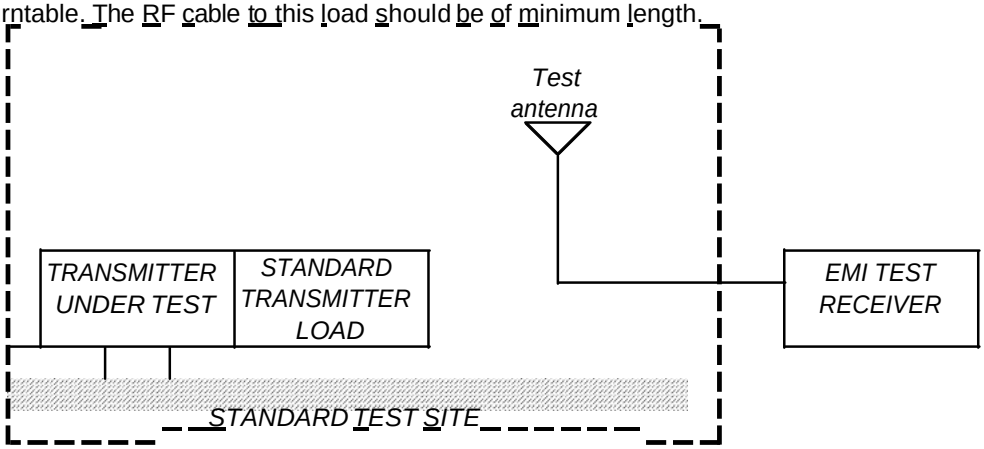
2.2.12.1 Definition: Radiated spurious emissions are emissions from the equipment when transmitting load on a frequency or frequencies which are outside an occupied band sufficient to ensure transmission of information of required quality for the class of communications desired.

2.2.12.2 Method of measurement

A) Connect the equipment as illustrated.

B) Adjust the EMI test receiver for the following settings:
1) RBW = 100kHz for freq < 1GHz; 1MHz for freq >1GHz
2) VBW = 3 times of RBW
3) Sweep Speed = slow enough to maintain measurement calibration.
4) Detector Mode = Positive Peak

C) Place the transmitter to be tested on the turntable in the standard test site. The transmitter is transmitting into a non-radiating load which is placed on the turntable. The RF cable to this load should be of minimum length.

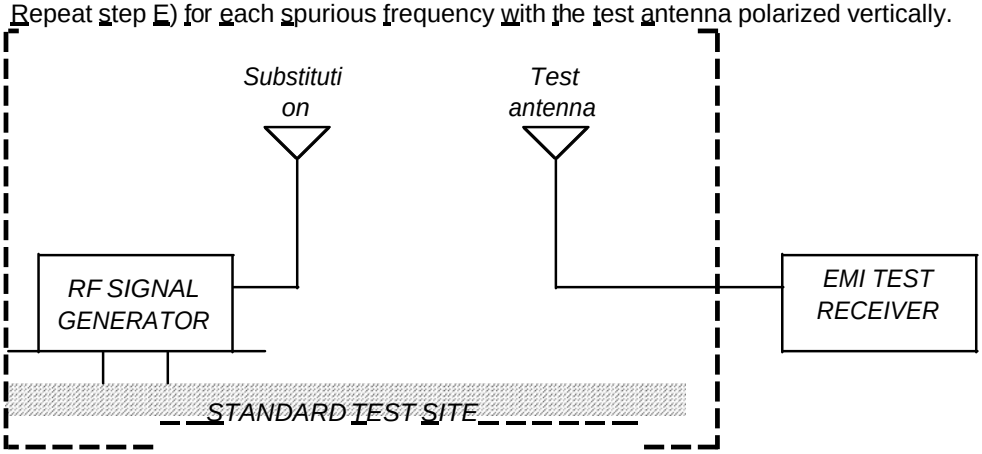


D) For each spurious measurment the test antenna should be adjusted to the correct length for the frequency involved. This length maybe determined from a calibration ruler supplied with the equipment. Measurements shall be made from the lowest radio frequency generated in the equipment to the tenth harmonic of the carrier, except for the region close to the carrier qeual to ± the test bandwidth (see section 1.3.4.4).

E) For each spurious frequency, raise and lower the test antenna from 1 m to 4 m to obtain a maximum reading on the EMI test receiver with the test antenna at horizontal polarity.

NAME OF TEST: Field Strength of Spurious Radiation

F) Repeat step E) for each spurious frequency with the test antenna polarized vertically.



G) Reconnect the equipment as illustrated.

H) Keep the EMI test receiver adjusted as in step B).

I) Remove the transmitter and replace it with a substitution antenna (the antenna should be half-wavelength for each frequency involved).
The center of the substitutuion antenna should be approximately at the same location as the center of the transmitter. At lower frequencies, where the substitution antenna is very long, this will be impossible to achieve when the antenna is plarized vertically. In such case the lower end of the antenna should be 0.3m above the ground.

J) Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a non-radiating cable. With the antennas at both ends horizontally polarized and with the signal generator tuned to a particular spurious frequency, raise and lower the test antenna to obtain a maximum reading at the EMI test receiver. Adjust the level of the signal generator output untill the previusl recorded maximum reading for the set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.

K) Repeat step J) with both antennas vertically polarized for each spurious frequency.

L) Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in step J) and K) by the power loss in the cable between the generator and the antenna and futher corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna.

M) The levels recorded in step L) are absolute levels of radiated spurious emissions in dBm. The radiated spurious emissions in dB can be calculated by the following:

Radiated spurious emissions dB = 10log(TX power in watts/0.001) - the levels in step L)

NAME OF TEST: Field Strength of Spurious Radiation

MEASUREMENT RESULTS

This section refers to Appendix 1.
Appendix 1: Transmitter Analog Mode
No.: SR:05081-EMC-00001

This section refers to Appendix 2.
Appendix 2: Transmitter Digital Mode
No.: SR:05081-EMC-00001

Test Voltage:	7.4V	
Transmitter Power:	5.5W	(max)

NAME OF TEST:	Sideband Spectram
SPECIFICATION:	47 CFR 2.1049 (c) (1)
GUIDE:	ANSI/TIA/EIA-603-D, Paragraph 2.2.11
TEST EQUIPMENT:	As per previous page

MEASUREMENT PROCEDURE

1. The EUT and test equipment ware set up as shown on the following page, with the spectrum analyzer connected.

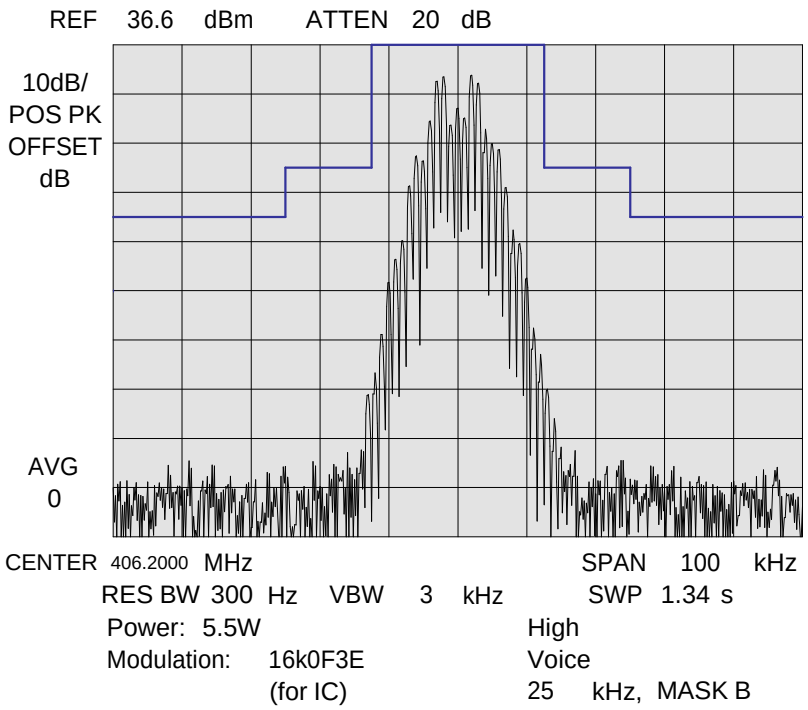
2. For EUT's supporting audio modulation, the audio signal generator was adjusted to the frequency of maxmum response and with output level set for ±2.5/±1.5kHz deviation (or 50% modulation). With level constant, the signal level was increased 16dB.

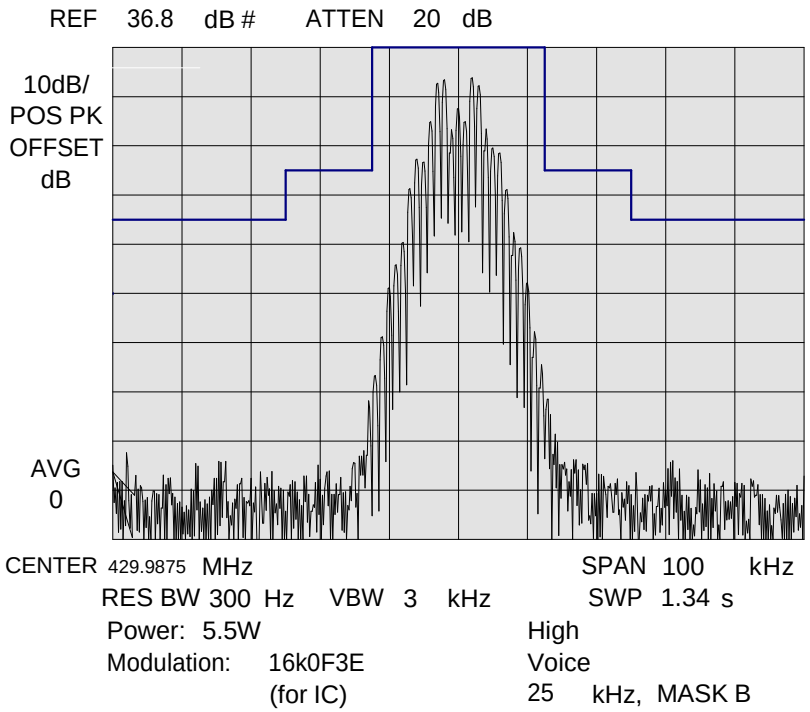
3. For EUT's supporting digital modulation, the digital modulation mode was operated to its maximum extent.

4. The occupied bandwidth was measured with the spectrum analyzer controls set as shown on the test results.

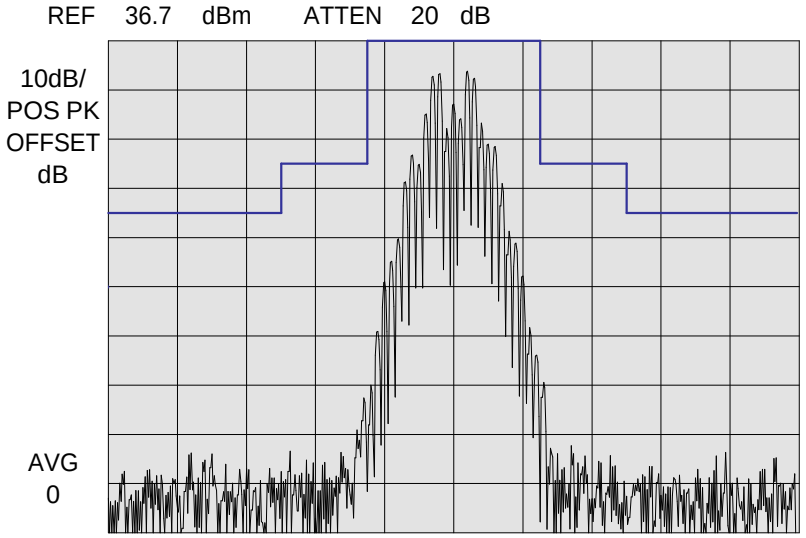
5. MEASUREMENT RESULTS: ATTACHED

NAME OF TEST: Emission Masks (Occupied Bandwidth) : Analog Mode

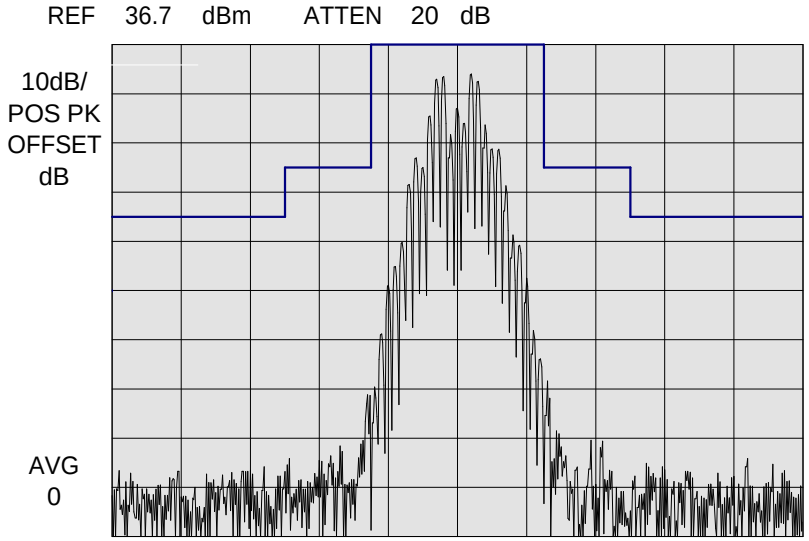




NAME OF TEST: Emission Masks (Occupied Bandwidth) : Analog Mode

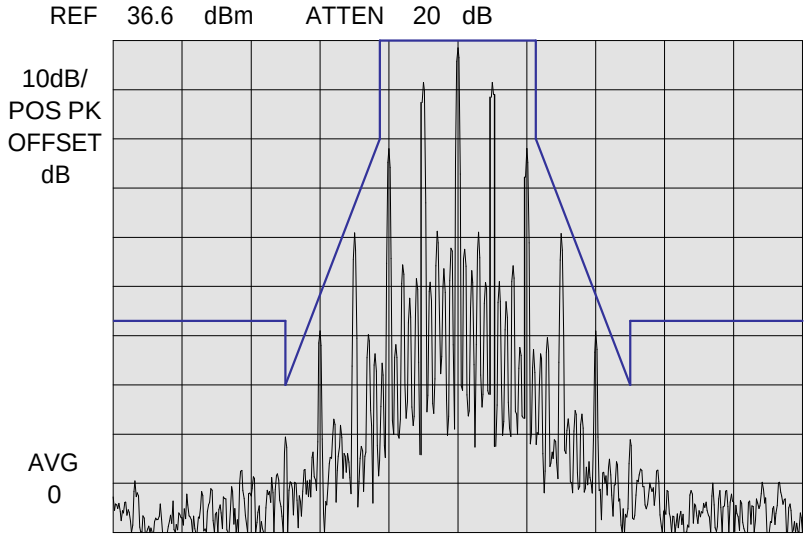


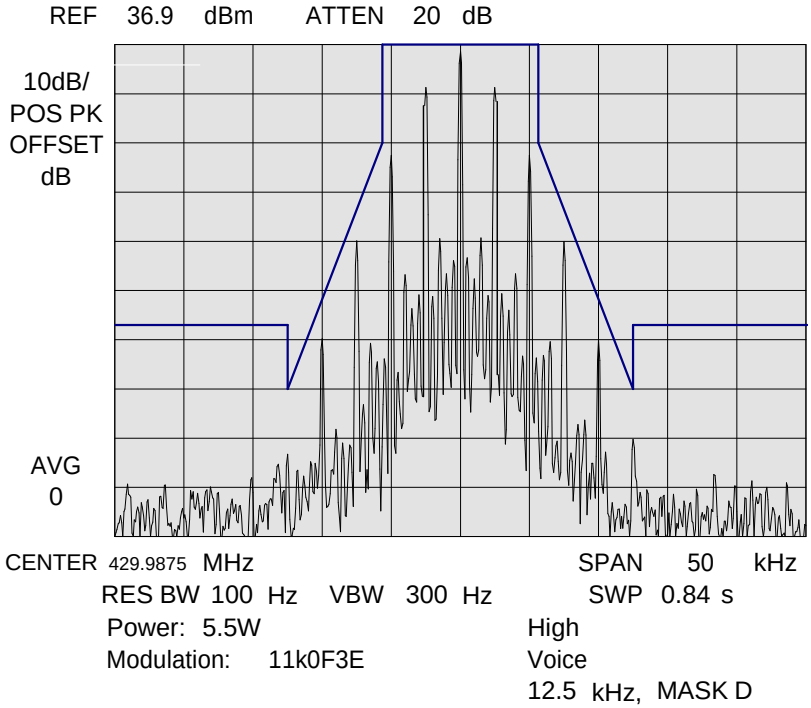
Power: 5.5W High
Modulation: 16k0F3E Voice
(for IC) 25 kHz, MASK B



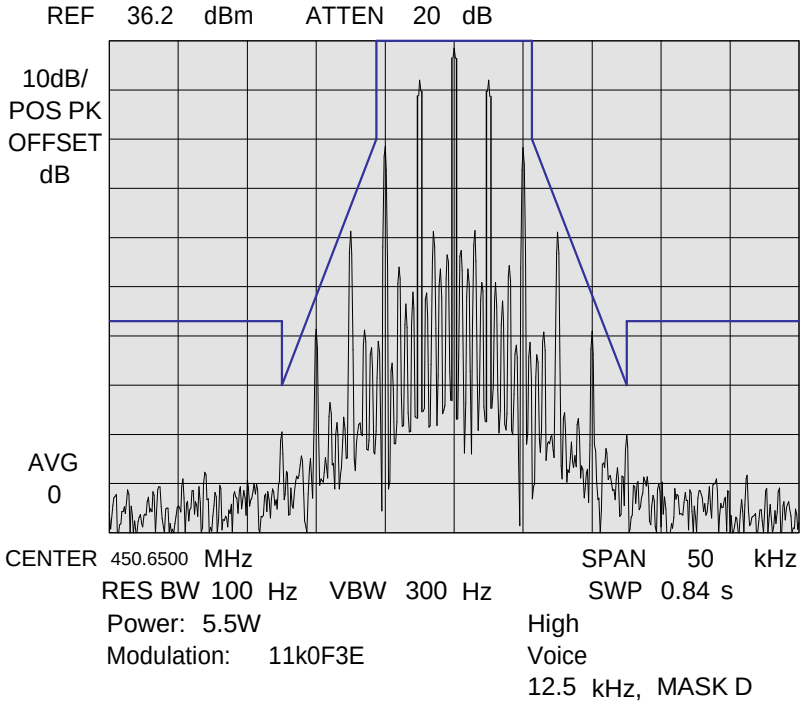
Power: 5.5W High
Modulation: 16k0F3E Voice
(for IC) 25 kHz, MASK B

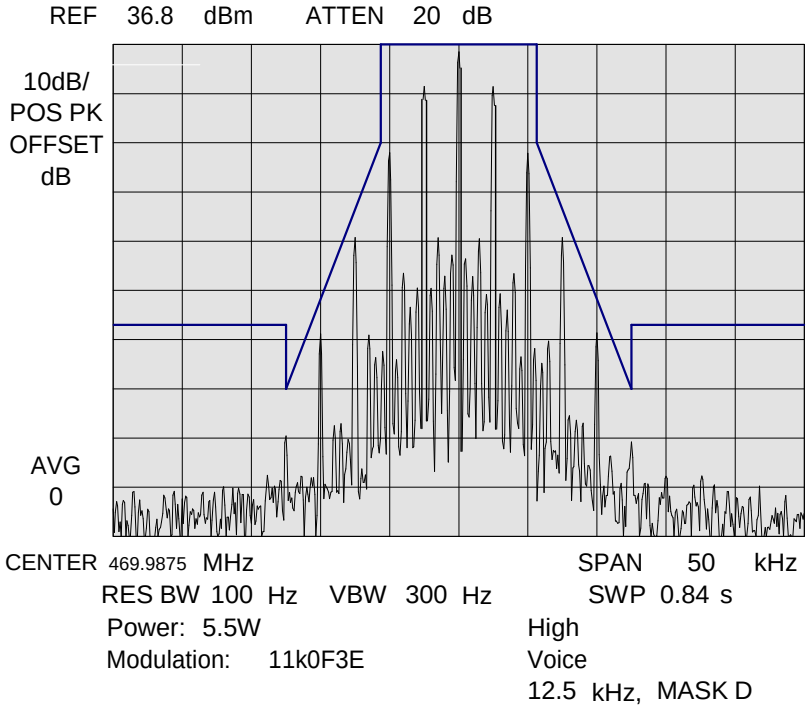
NAME OF TEST: Emission Masks (Occupied Bandwidth) : Analog Mode



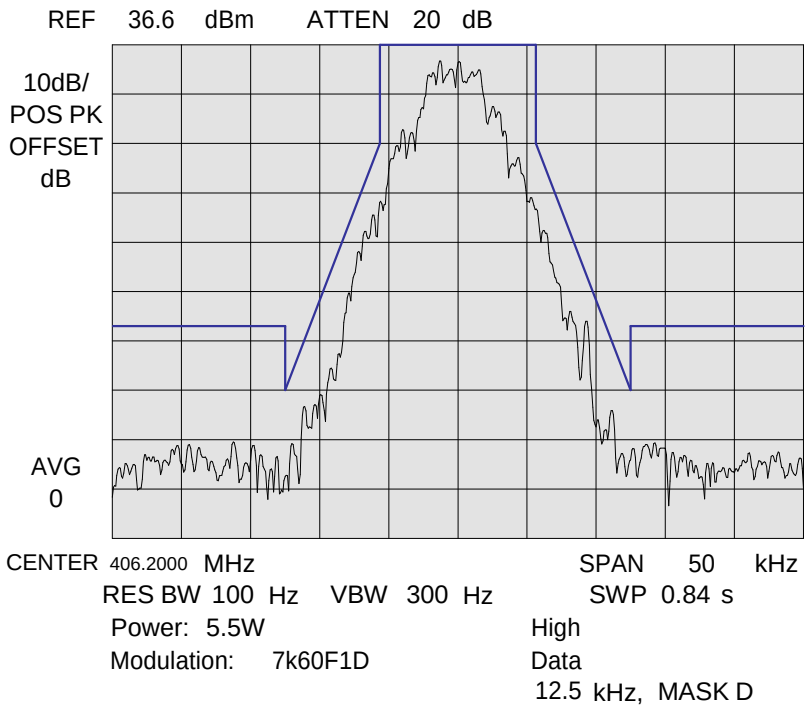


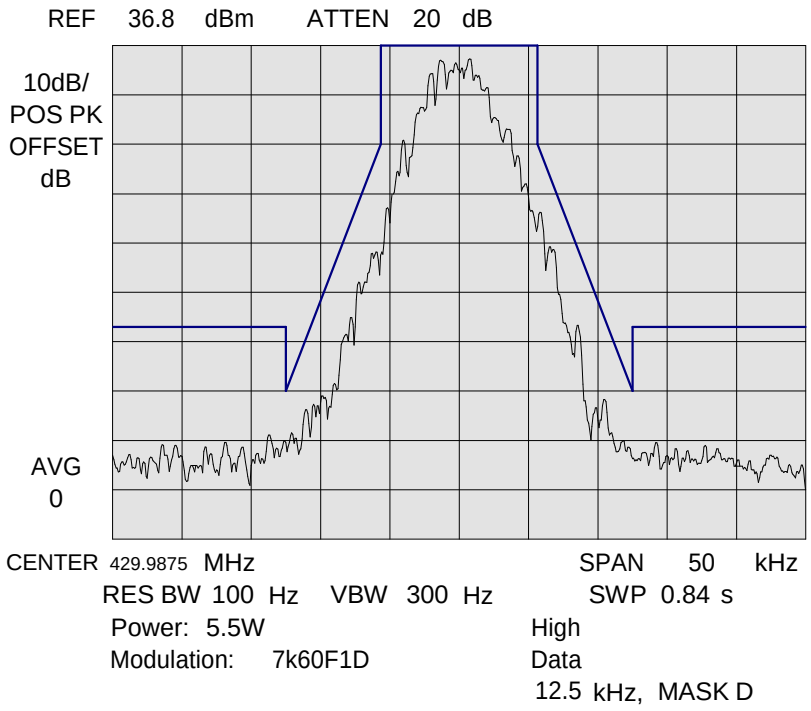
NAME OF TEST: Emission Masks (Occupied Bandwidth) : Analog Mode



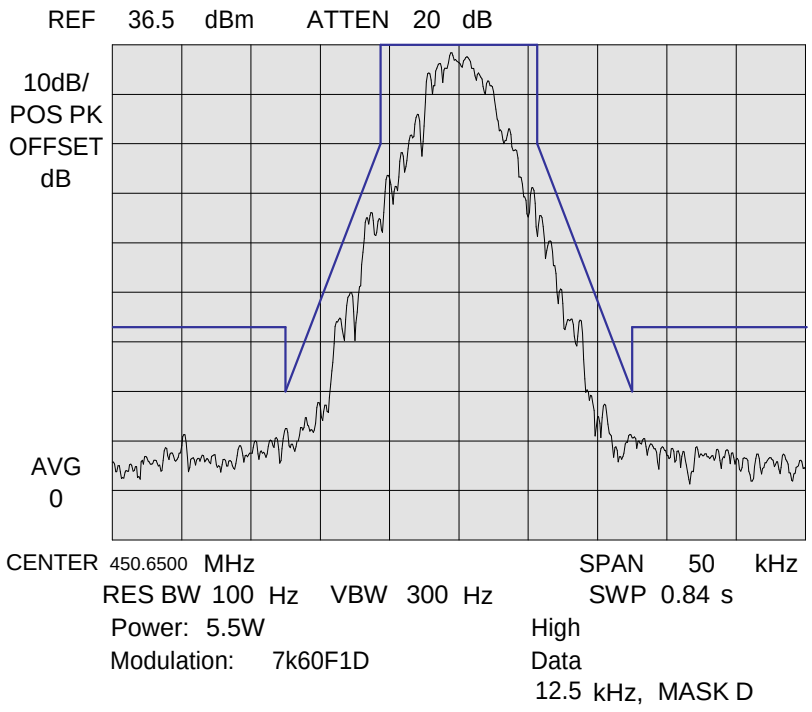


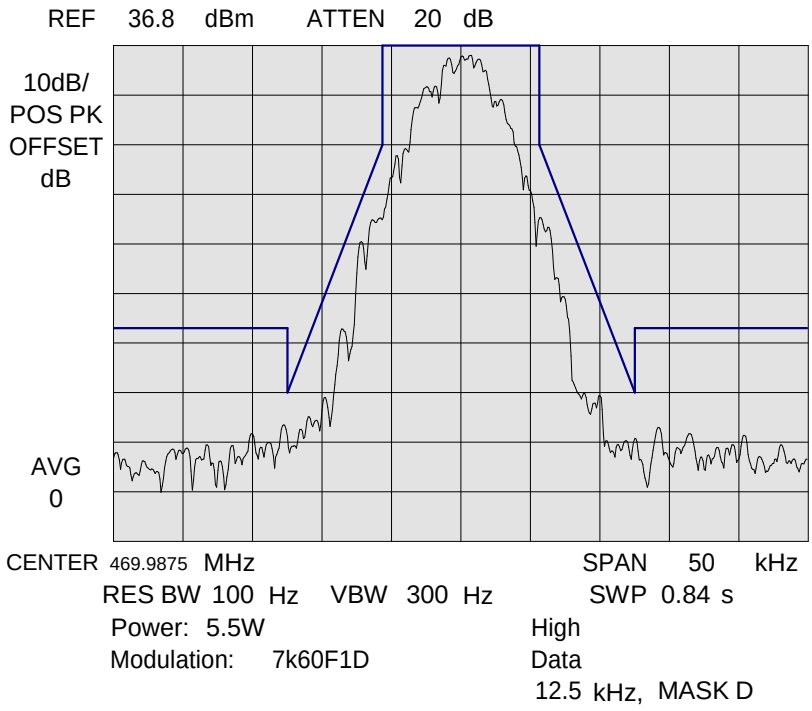
NAME OF TEST: Emission Masks (Occupied Bandwidth) : Digital Mode



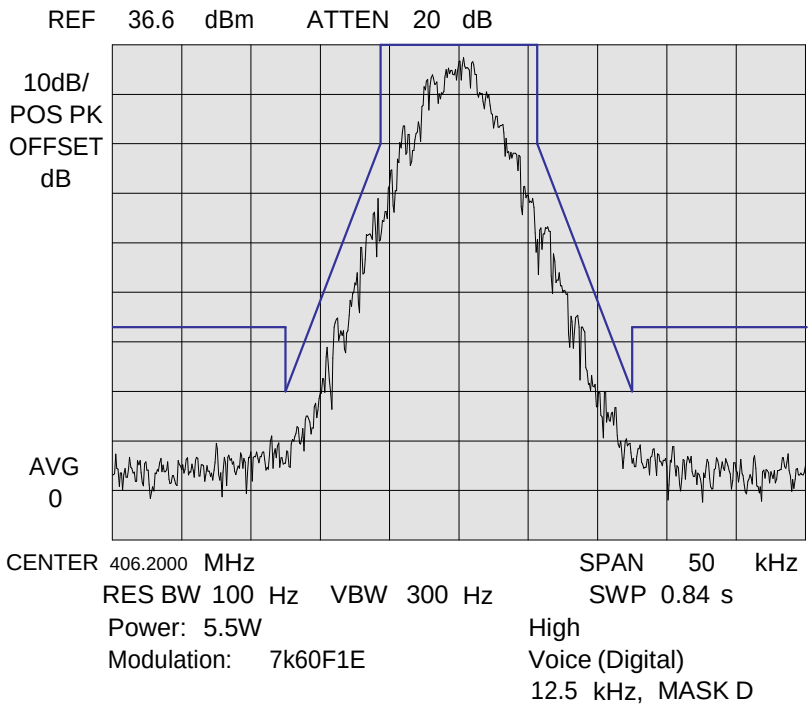


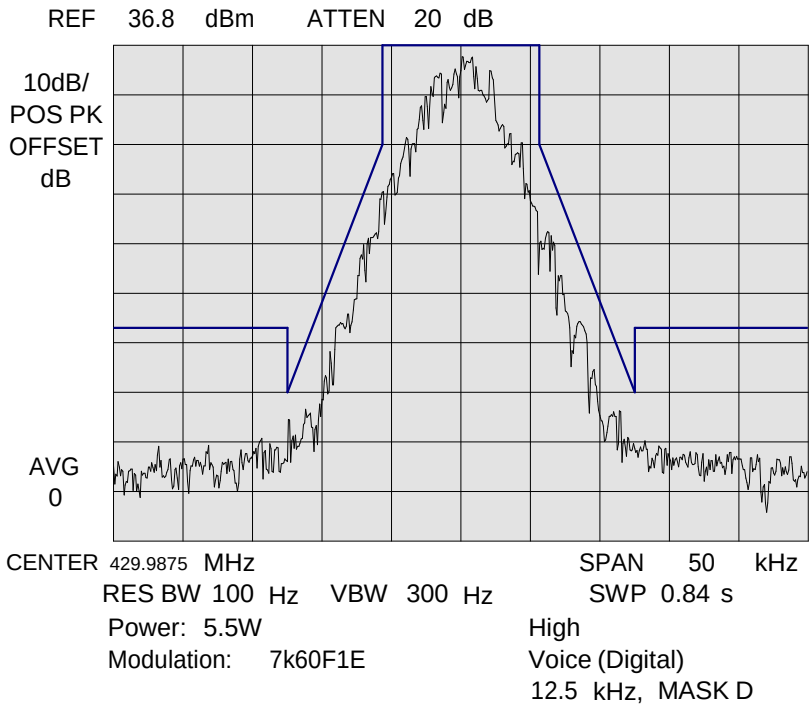
NAME OF TEST: Emission Masks (Occupied Bandwidth) : Digital Mode



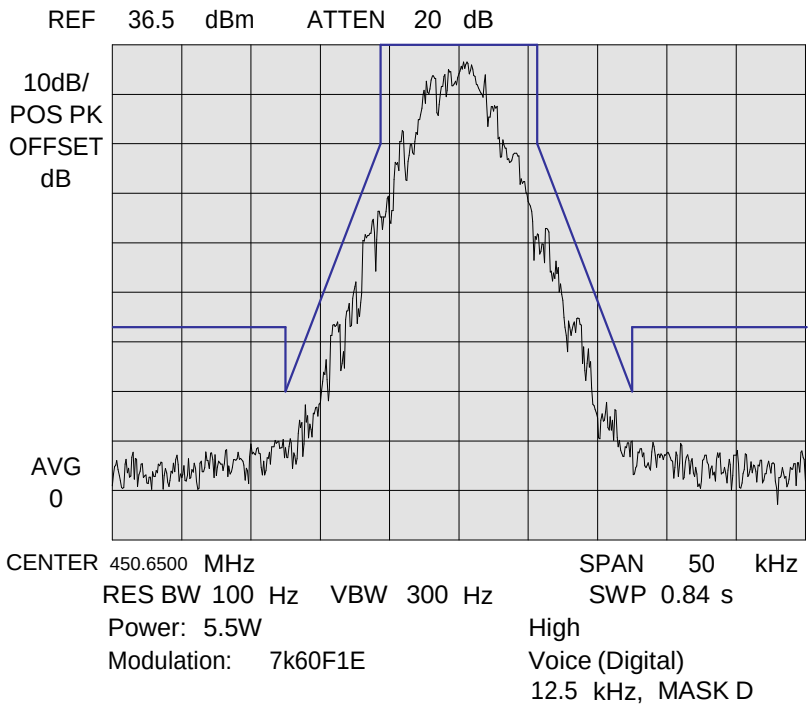


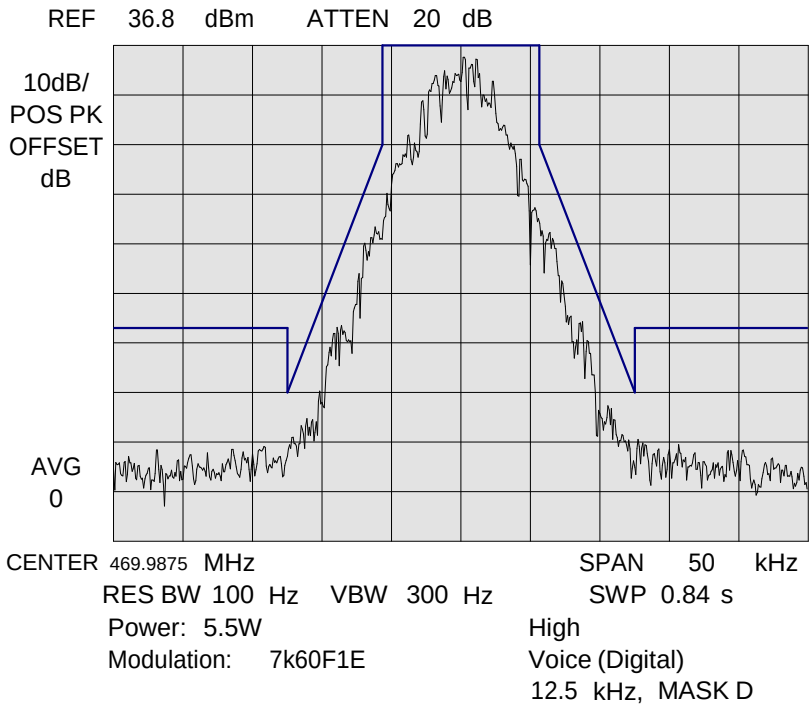
NAME OF TEST: Emission Masks (Occupied Bandwidth) : Digital Mode



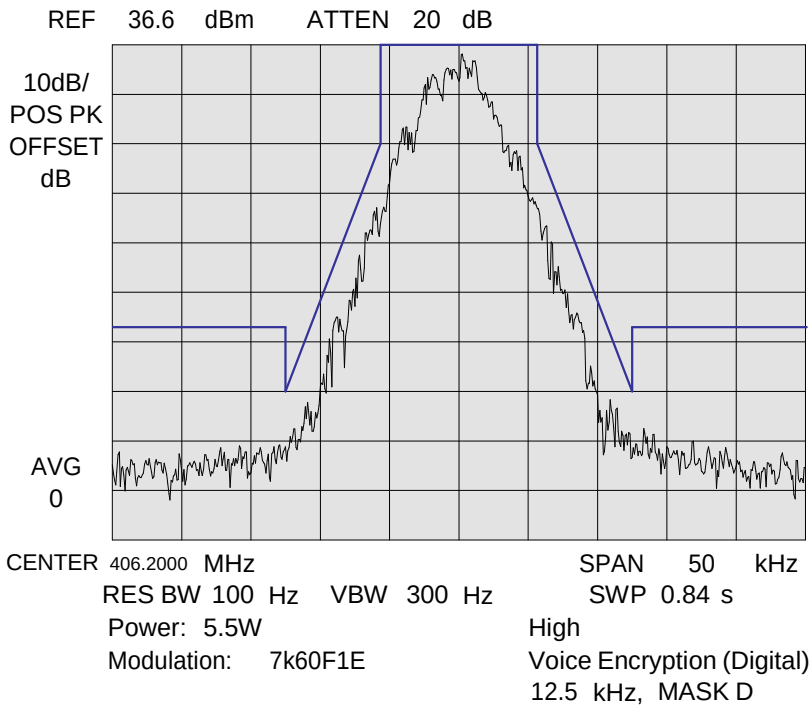


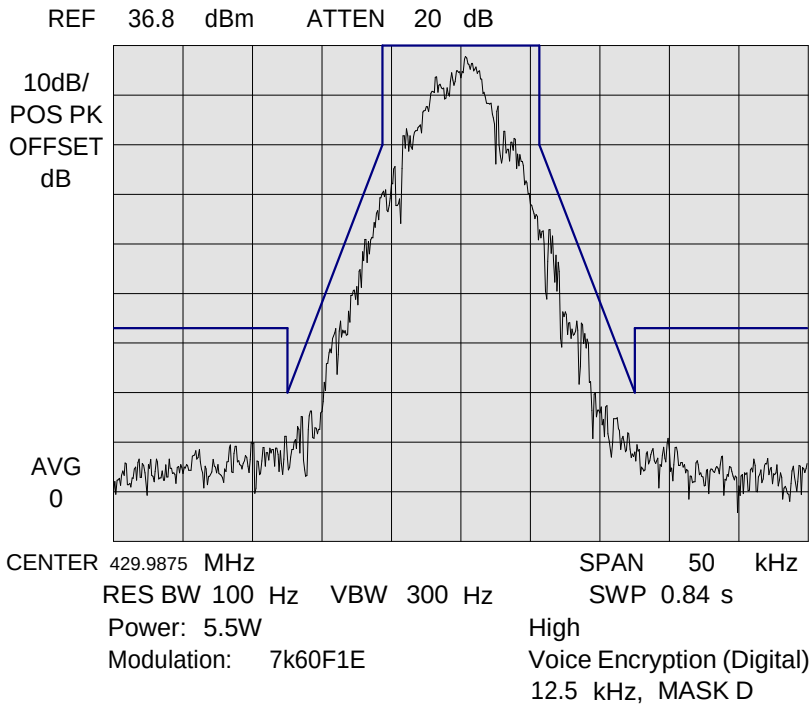
NAME OF TEST: Emission Masks (Occupied Bandwidth) : Digital Mode



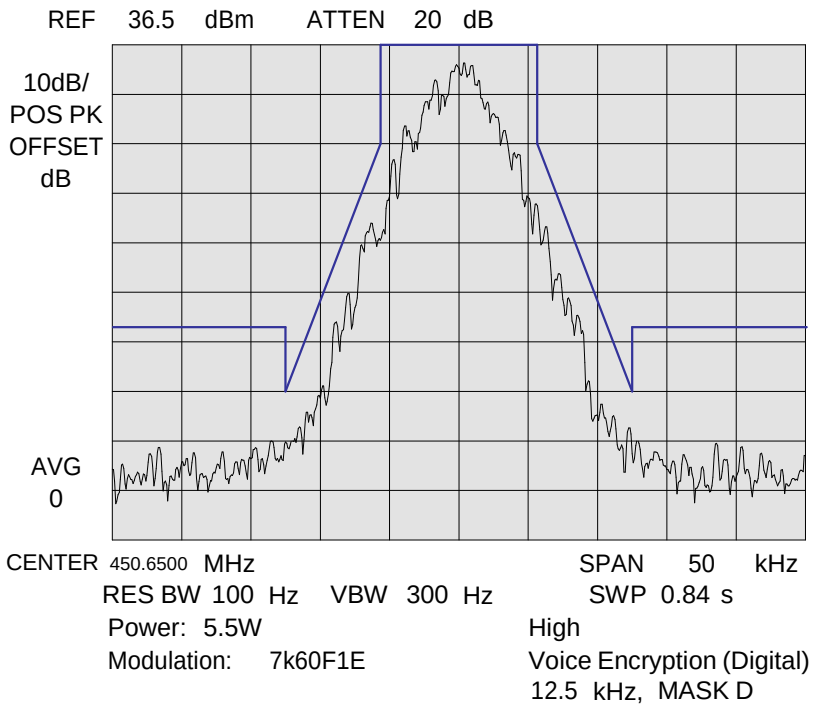


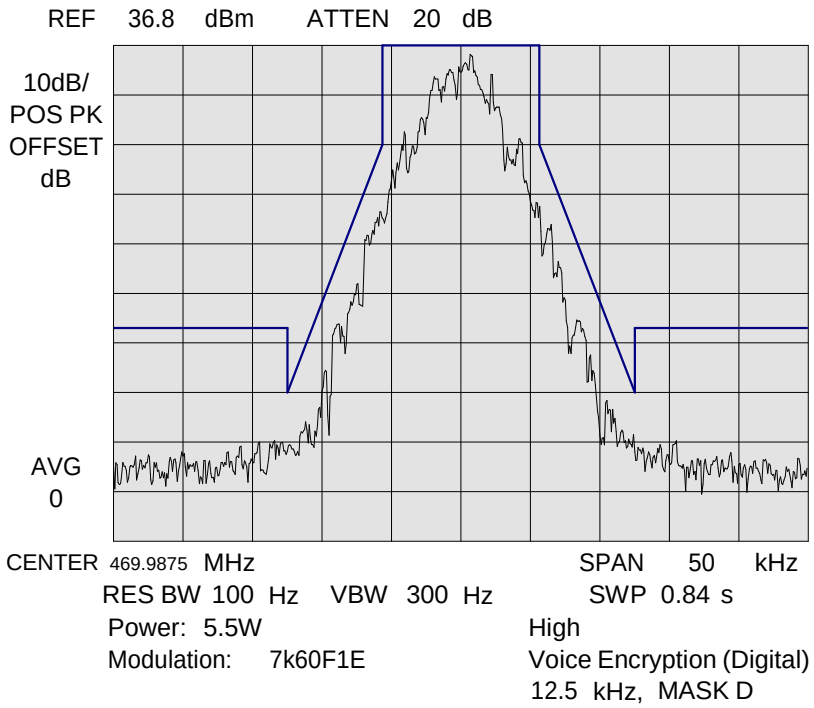
NAME OF TEST: Emission Masks (Occupied Bandwidth) : Digital Mode



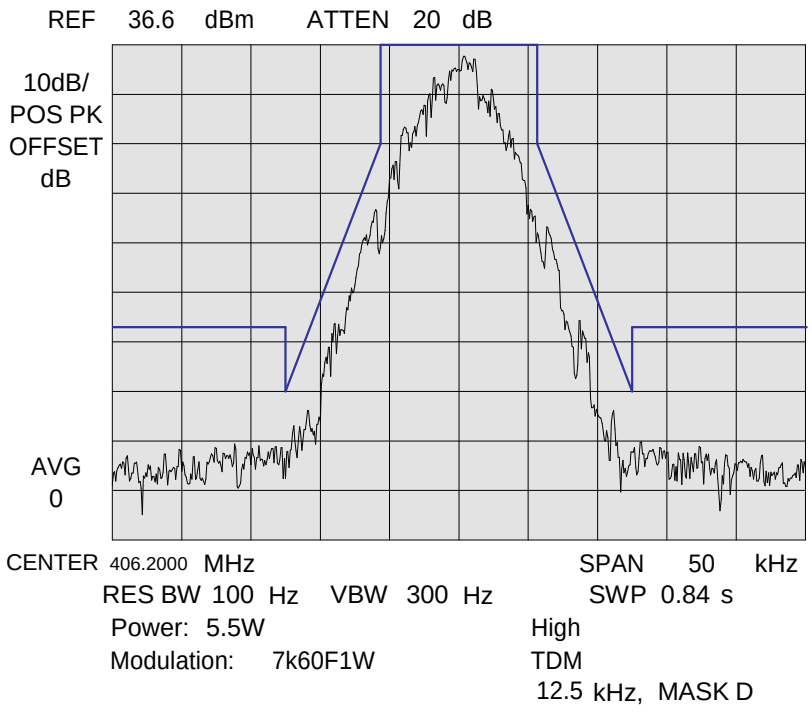


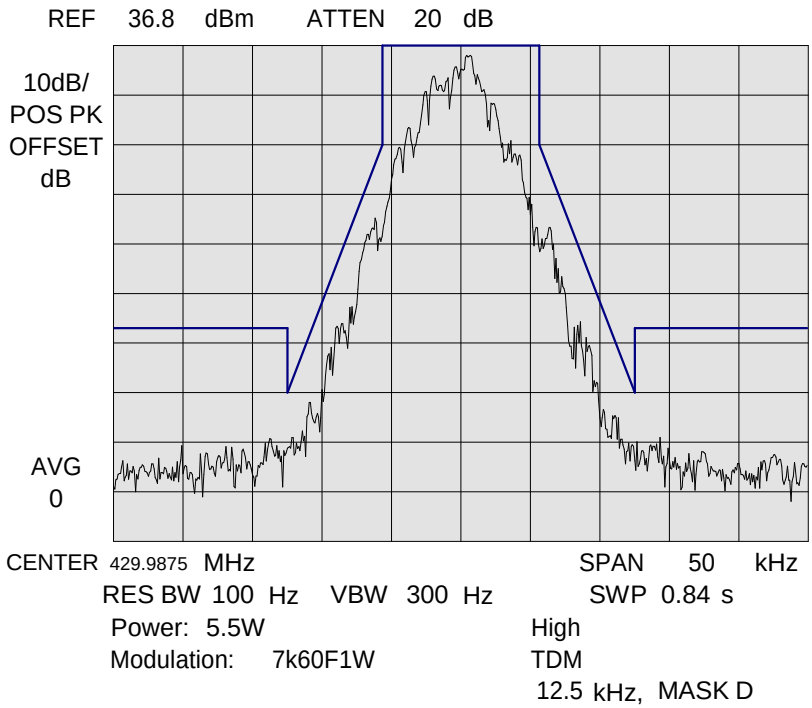
NAME OF TEST: Emission Masks (Occupied Bandwidth) : Digital Mode



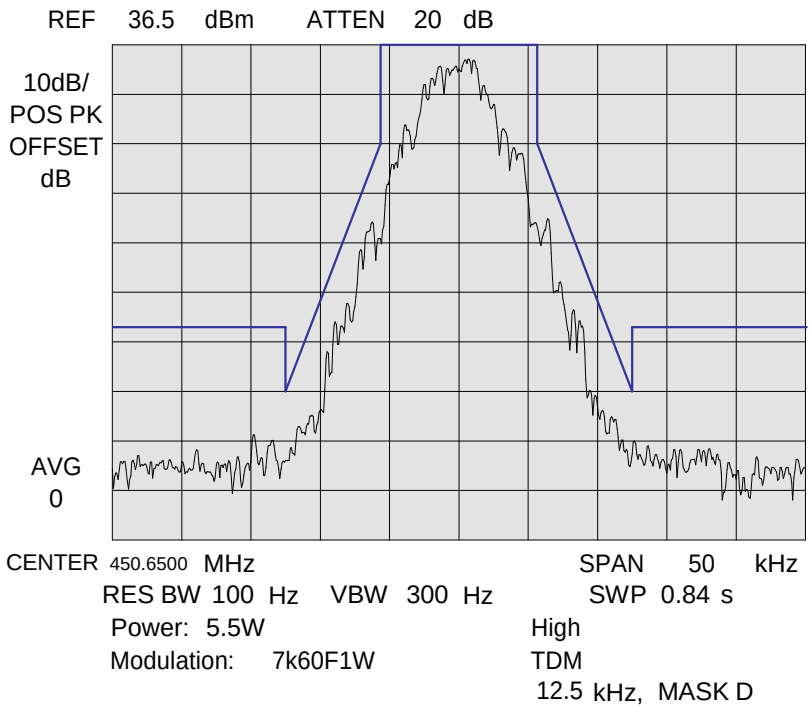


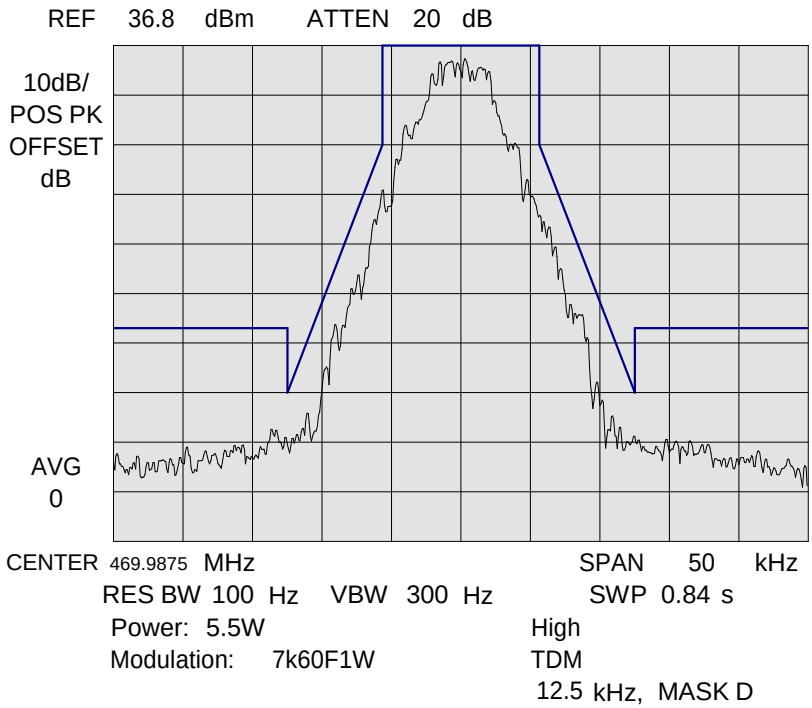
NAME OF TEST: Emission Masks (Occupied Bandwidth) : Digital Mode



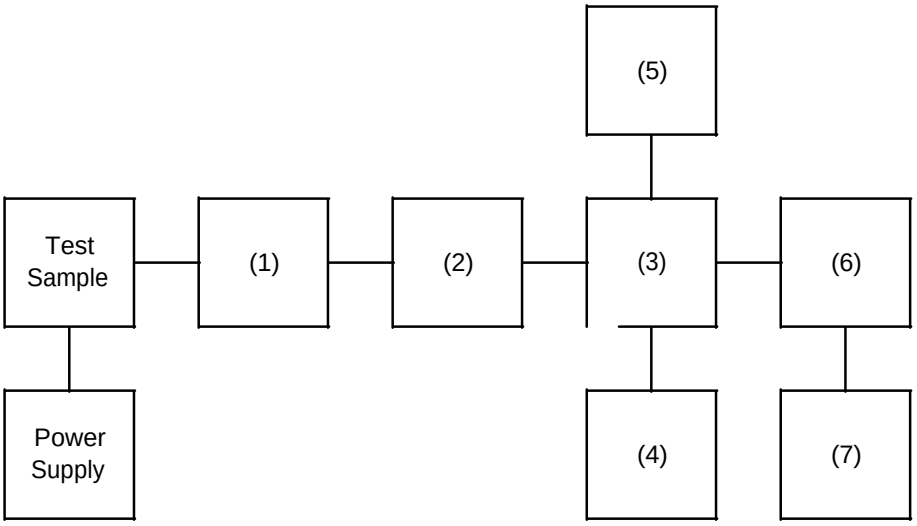


NAME OF TEST: Emission Masks (Occupied Bandwidth) : Digital Mode





TRANSIENT FREQUENCY BEHAVIOR



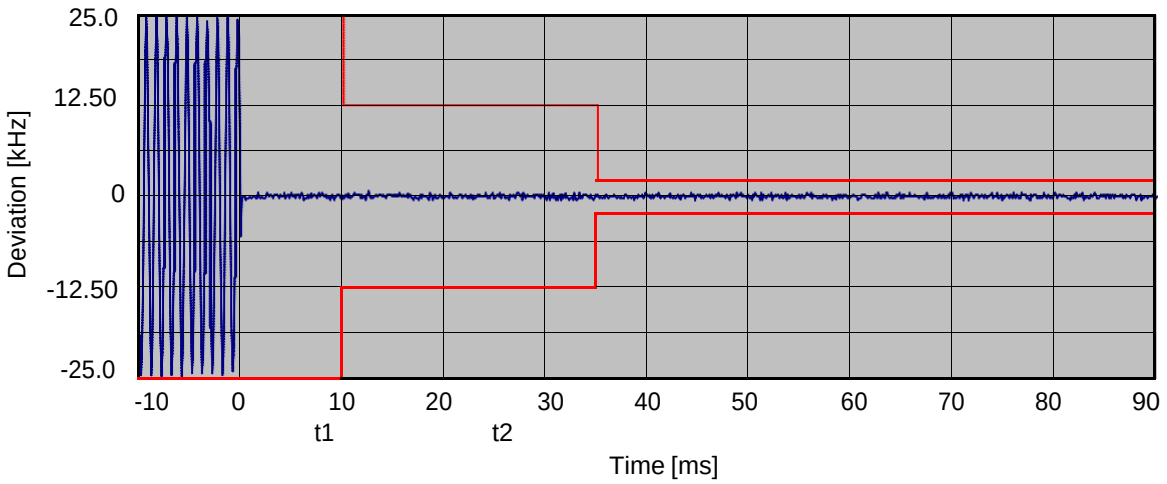
Instruments	Description	Serial Number
(1) COAXUAL ATTENUATOR	WEINSCHELL 49-10-43	KL458
(2) COAXUAL ATTENUATOR	Agilent 8498A	1801A02723
(3) COMBINER	IWATSU B-50D4	520
(4) CRYSTAL DETECTOR	Agilent 8470B	MY42241063
(5) RF SIGNAL GENERATOR	Agilent 8642B	2709A01050
(6) MODULATION ANALYZER	Agilent 8901B	3026A02806
(7) SCOPE	Agilent DSO3062A	CN45001514

Transient Frequency Behavior (Per 47 CFR 90.214).
Transient Duration Limits
t1: 10ms
t2: 25ms
t3: 10ms

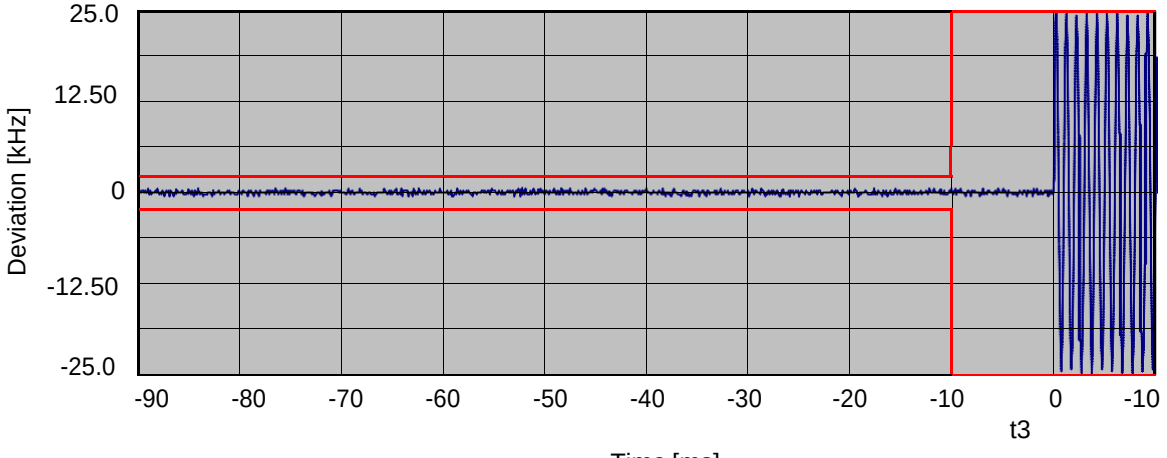
25kHz/CH;
During the period t1 and t3, the frequency difference shall not exceed ±25 kHz.
During the period t2, the frequency difference shall not exceed ±12.5 kHz.
12.5kHz/CH;
During the period t1 and t3, the frequency difference shall not exceed ±12.5 kHz.
During the period t2, the frequency difference shall not exceed ±6.25 kHz.

NAME OF TEST: Transient Frequency Behaviour : Analog Mode

STATE: 1 : Power: 5.5W



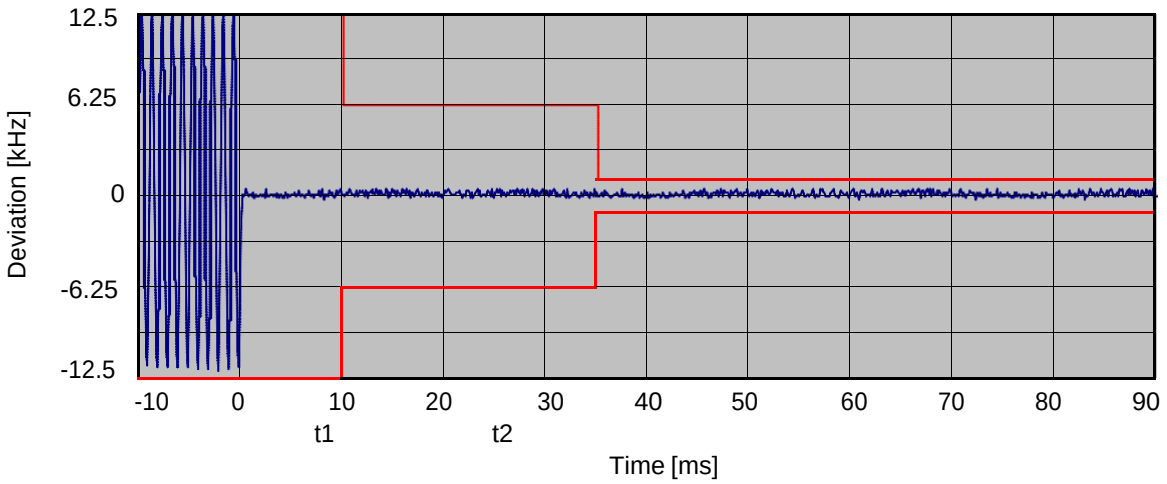
Model Name:	EVX-261-G6-5	Type:	Portable
Serial Number:	2B6C800038	Trigger Direction:	Rise
Test Frequency:	450.65		
Channel Spacing:	25 kHz (for IC)	Ref. Standard	EIA-603-D



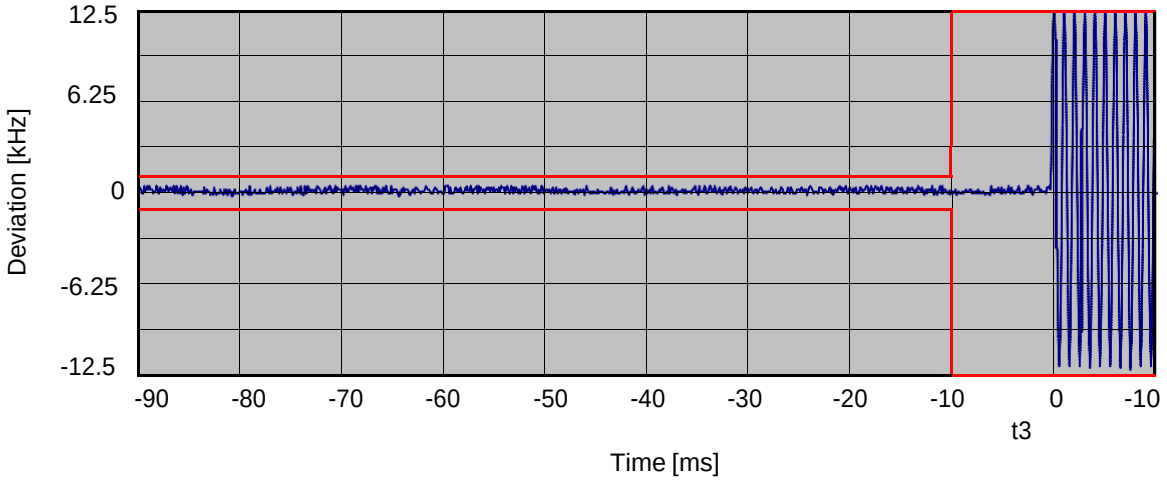
Model Name:	EVX-261-G6-5	Type:	Portable
Serial Number:	2B6C800038	Trigger Direction:	Fall
Test Frequency:	450.65		
Channel Spacing:	25 kHz (for IC)	Ref. Standard	EIA-603-D

NAME OF TEST: Transient Frequency Behaviour : Analog Mode STATE:

1 Power: 5.5W



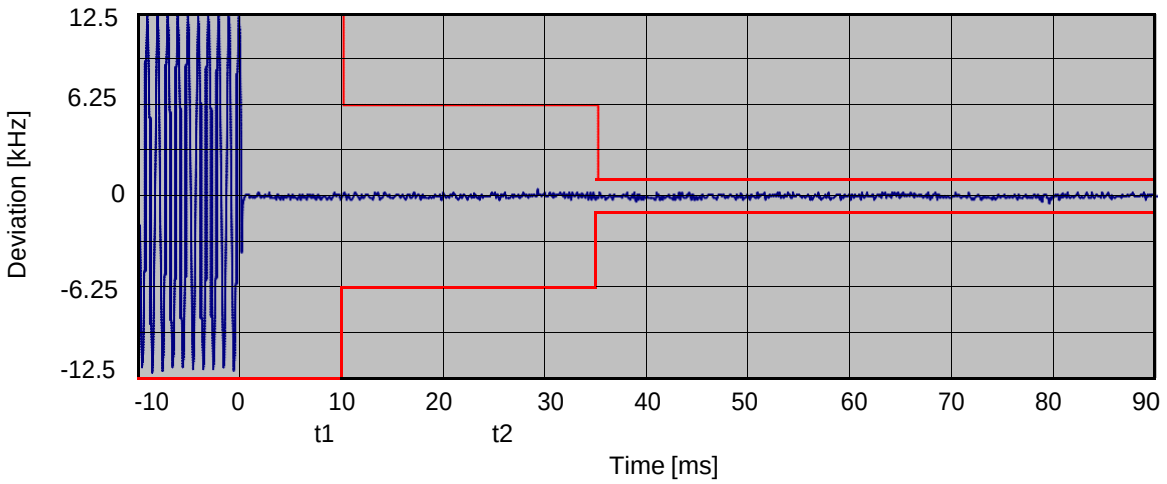
Model Name:	EVX-261-G6-5	Type:	Portable
Serial Number:	2B6C800038	Trigger Direction:	Rise
Test Frequency:	450.65		
Channel Spacing:	12.5 kHz	Ref. Standard	EIA-603-D



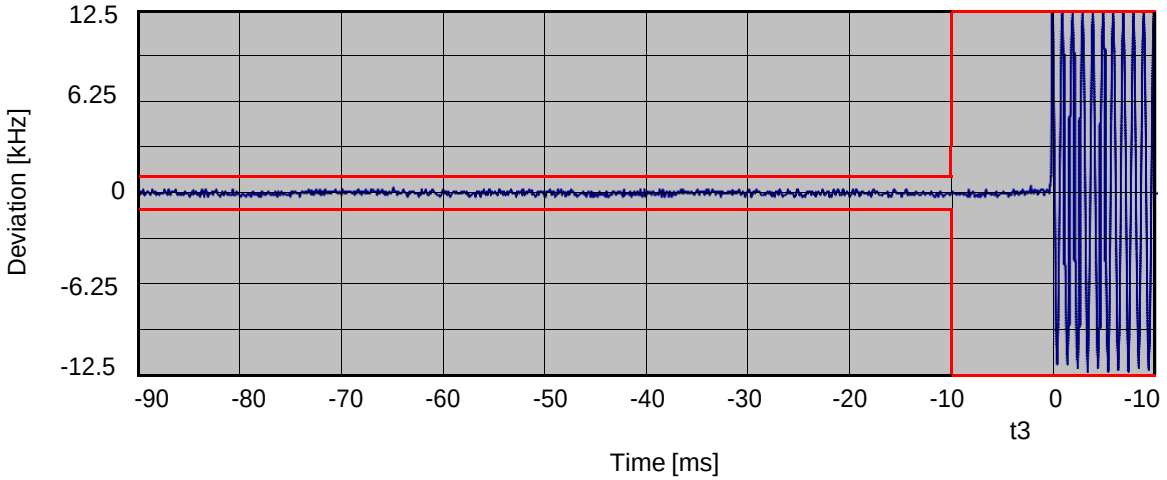
Model Name:	EVX-261-G6-5	Type:	Portable
Serial Number:	2B6C800038	Trigger Direction:	Fall
Test Frequency:	450.65		
Channel Spacing:	12.5 kHz	Ref. Standard	EIA-603-D

NAME OF TEST: Transient Frequency Behaviour : Digital Mode STATE:

1 Power: 5.5W



Model Name:	EVX-261-G6-5	Type:	Portable
Serial Number:	2B6C800038	Trigger Direction:	Rise
Test Frequency:	450.65		
Channel Spacing:	12.5 kHz	Ref. Standard	EIA-603-D



Model Name:	EVX-261-G6-5	Type:	Portable
Serial Number:	2B6C800038	Trigger Direction:	Fall
Test Frequency:	450.65		
Channel Spacing:	12.5 kHz	Ref. Standard	EIA-603-D

NAME OF TEST: Audio Low Pass Filter (Voice Input)
SPECIFICATION: 47 CFR 2.1047 (a)
GUIDE: ANSI/TIA/EIA-603-D, Paragraph 2.2.15
TEST EQUIPMENT: As per attached page

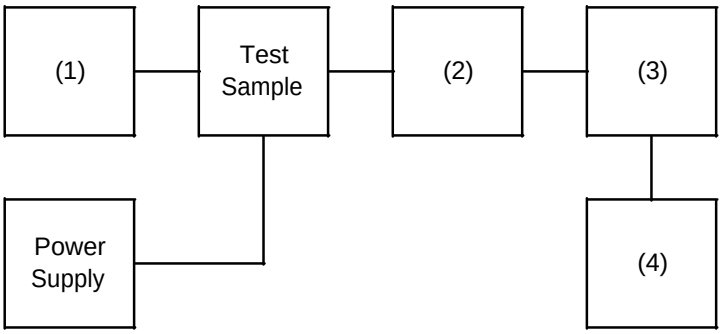
MEASUREMENT PROCEDURE

1. The EUT and test equipment ware set up such that the audio input was connected at the input of the modulation limiter, and the modulated stage.

2. The audio output was connected at the output to the modulated stage.

3. MEASUREMENT RESULTS: ATTACHED

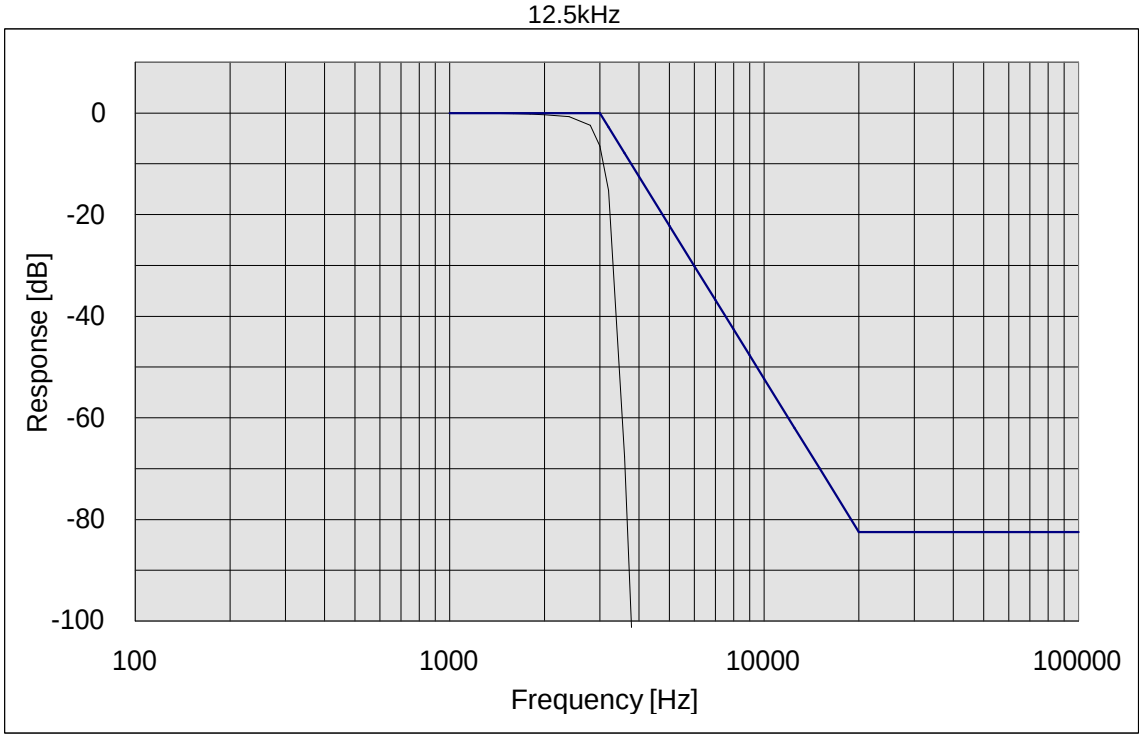
TRANSMITTER TEST SET-UP



Instruments	Description	Serial Number
(1) AUDIO GENERATOR	Agilent 8903B	2742A03633
(2) COAXIAL ATTENUATOR	Agilent 8498A	1801A02723
(3) MODULATION ANALYZER	Agilent 8901B	3026A02806
(4) AUDIO ANALYZER	Agilent 8903B	2742A03633

NAME OF TEST: Audio Low Pass Filter (Voice Input)

STATE: 0 : General



Measuring frequency: 450.65MHz

NAME OF TEST: Audio Frequency Response
SPECIFICATION: 47 CFR 2.1047 (a)
GUIDE: ANSI/TIA/EIA-603-D, Paragraph 2.2.6

MEASUREMENT PROCEDURE

1. The EUT and test equipment ware set up as shown on the following page.

2. The audio signal generator was connected to the audio input circuit/microphone of the EUT.

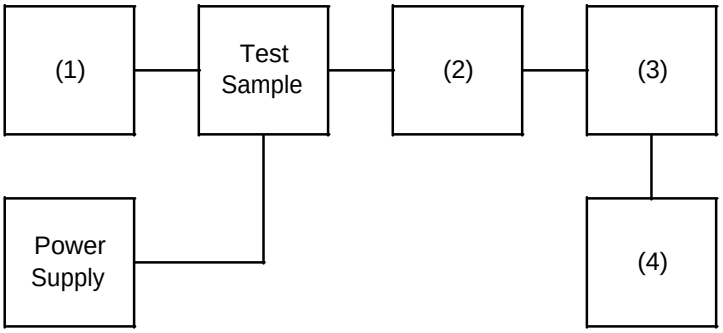
3. The audio signal input was adjusted to obtain 20% modulation at 1kHz, and this point was taken as the 0dB reference level.

4. Which input levels hold constant and below limiting at all frequencies, the audio signal generator was varied from 100Hz to 5kHz.

5. The response in dB relative to 1kHz was then measured, using the Agilent 8901B modulation analyzer.

6. MEASUREMENT RESULTS: ATTACHED

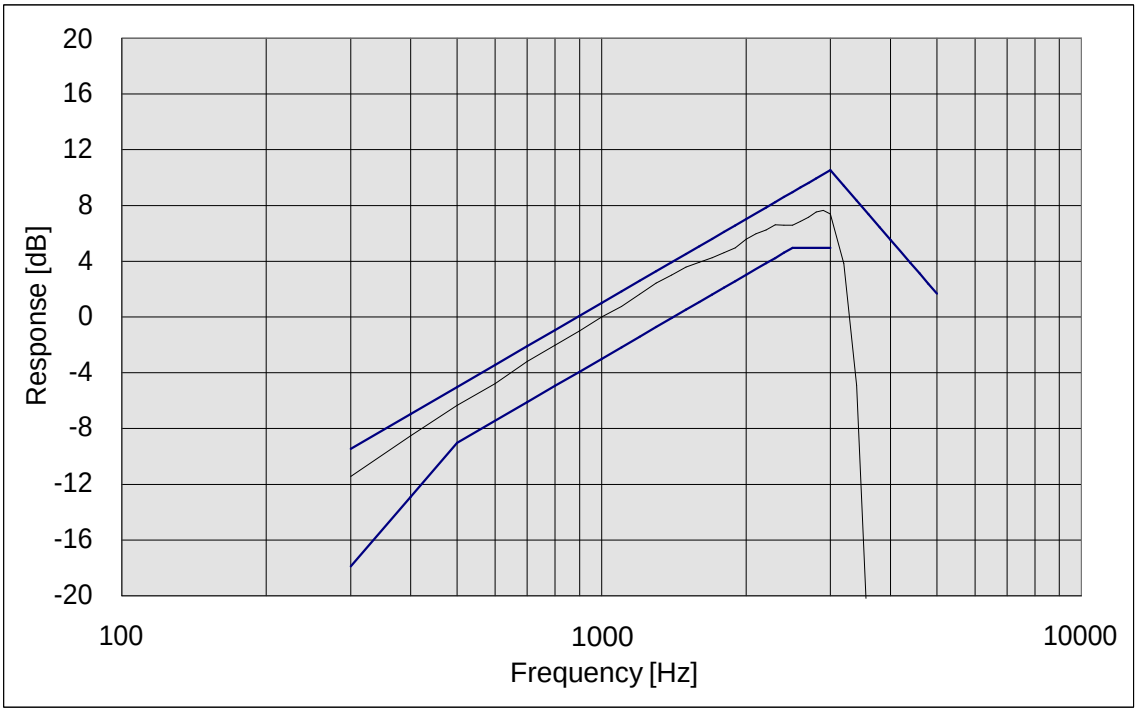
TRANSMITTER TEST SET-UP



Instruments	Description	Serial Number
(1) AUDIO GENERATOR	Agilent 8903B	2742A03633
(2) COAXIAL ATTENUATOR	Agilent 8498A	1801A02723
(3) MODULATION ANALYZER	Agilent 8901B	3026A02806
(4) AUDIO ANALYZER	Agilent 8903B	2742A03633

NAME OF TEST: Audio Frequency Response

STATE: 0 : General



PEAK AUDIO FREQUENCY : 2900 [Hz]

Measuring frequency: 450.65MHz

NAME OF TEST: Modulation Limiting
SPECIFICATION: 47 CFR 2.1047 (b)
GUIDE: ANSI/TIA/EIA-603-D, Paragraph 2.2.3

MEASUREMENT PROCEDURE

1. The signal generator was connected to the input of the EUT as for "Frequency Response of the Modulating Circuit".

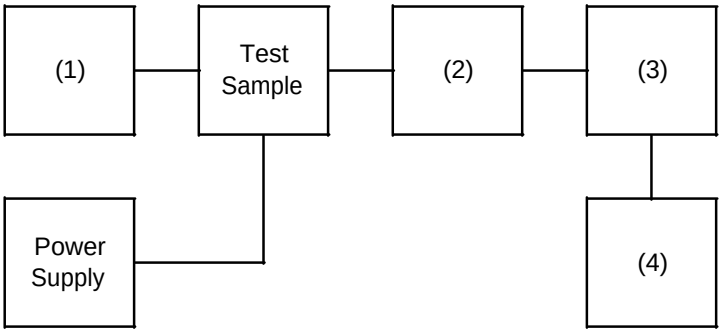
2. The modulation response was measured for each of three frequencies (one of which was the frequency of maximum response), and the input voltage was varied and was observed on an Agilent 8901B modulation analyzer.

3. The input level was varied from 30% modulation (± 1.5kHz deviation) to at least 20dB higher than the saturation point.

4. Measurements ware performed for both negative and positive modulation and the respective results ware recorded.

5. MEASUREMENT RESULTS: ATTACHED

TRANSMITTER TEST SET-UP

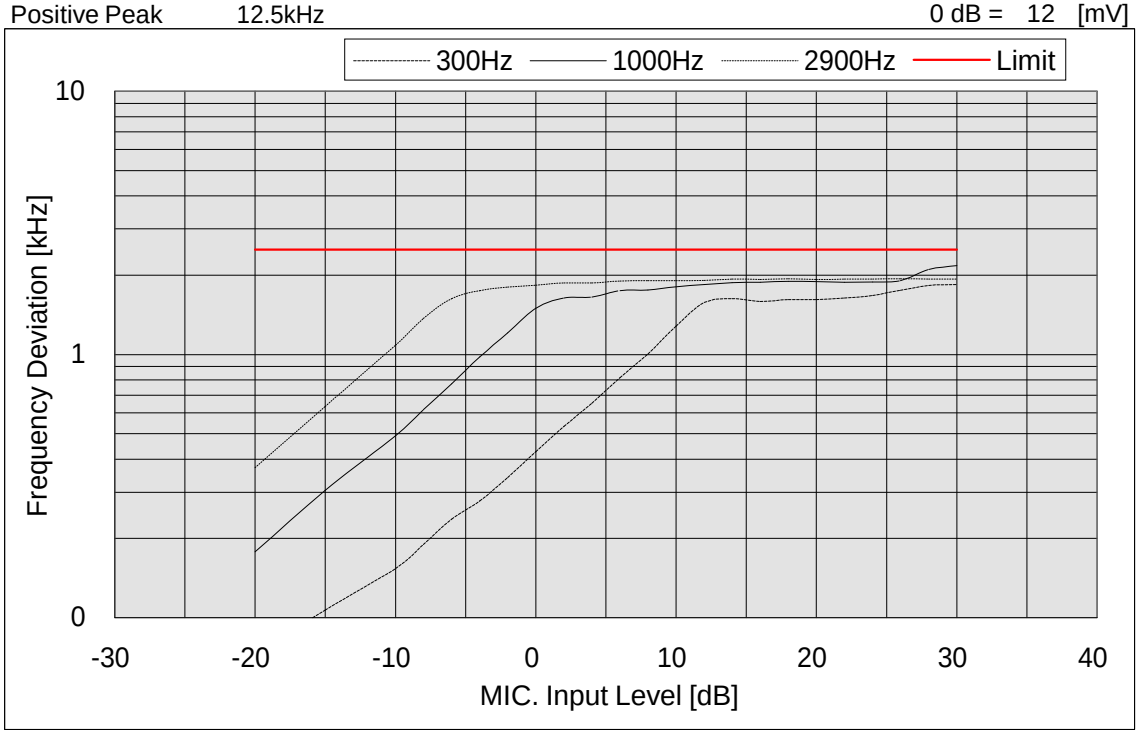


Instruments	Description	Serial Number
(1) AUDIO GENERATOR	Agilent 8903B	2742A03633
(2) COAXIAL ATTENUATOR	Agilent 8498A	1801A02723
(3) MODULATION ANALYZER	Agilent 8901B	3026A02806
(4) AUDIO ANALYZER	Agilent 8903B	2742A03633

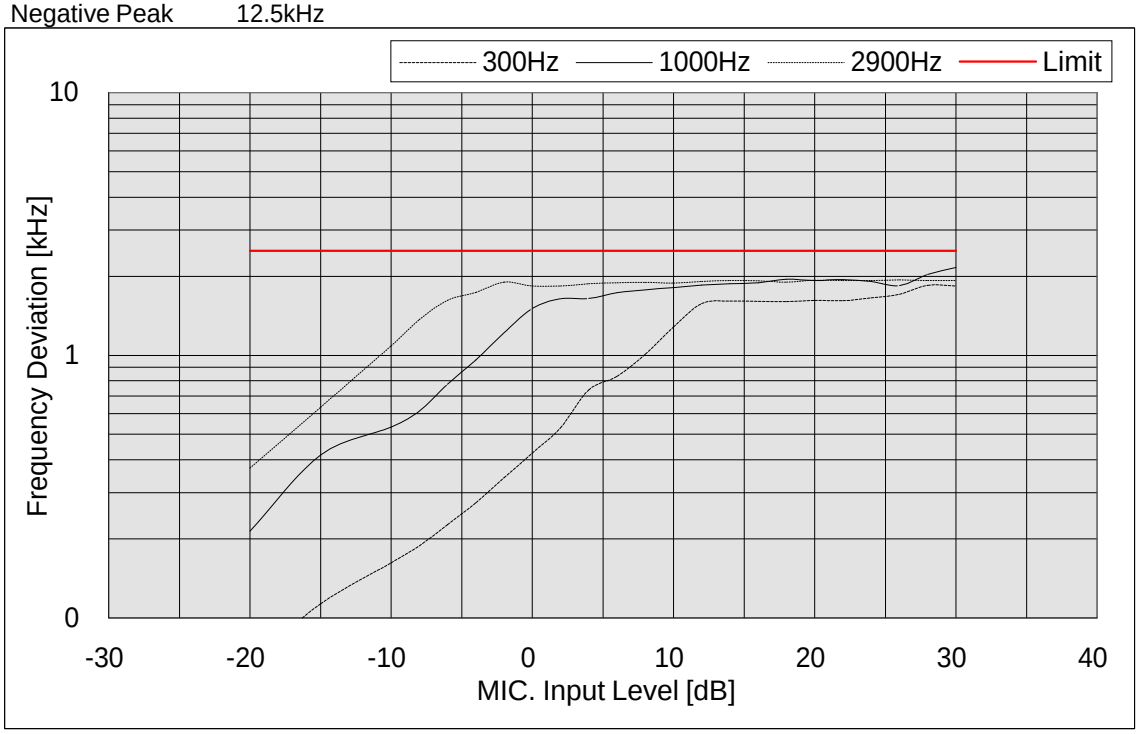
NAME OF TEST: Modulation Limiting
Measuring frequency: 450.65MHz

STATE: 0 : General

Positive Peak 12.5kHz 0 dB = 12 [mV]



Negative Peak 12.5kHz



NAME OF TEST:	Frequency Stability (Temperature Variation)
SPECIFICATION:	47 CFR 2.1055 (a) (1)
GUIDE:	ANSI/TIA/EIA-603-D, Paragraph 2.2.2
TEST CONDITIONS:	As indicated
TEST EQUIPMENT:	As per attached page

MEASUREMENT PROCEDURE

1. The EUT and test equipment ware set up as shown on the following page.

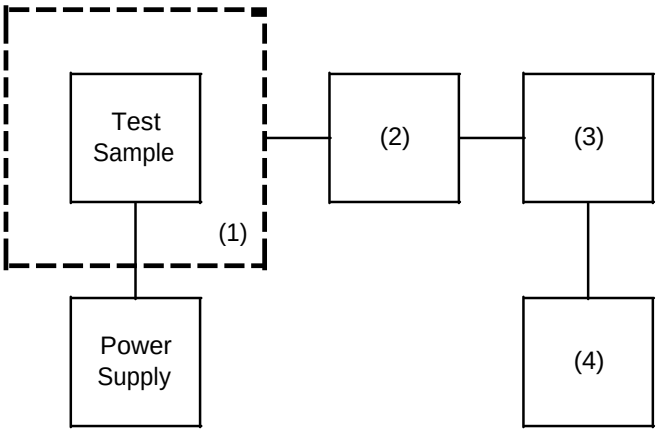
2. With all power removed, the temperature was decreased to -30℃ and permitted to stabilize for three hours. Power was applied and themaximum change in frequency was noted within one minute.

3. With power OFF, the temperature was raised in 10℃ steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.

4. The temperature tests ware performed for the worst case.

5. MEASUREMENT RESULTS: ATTACHED

TRANSMITTER TEST SET-UP

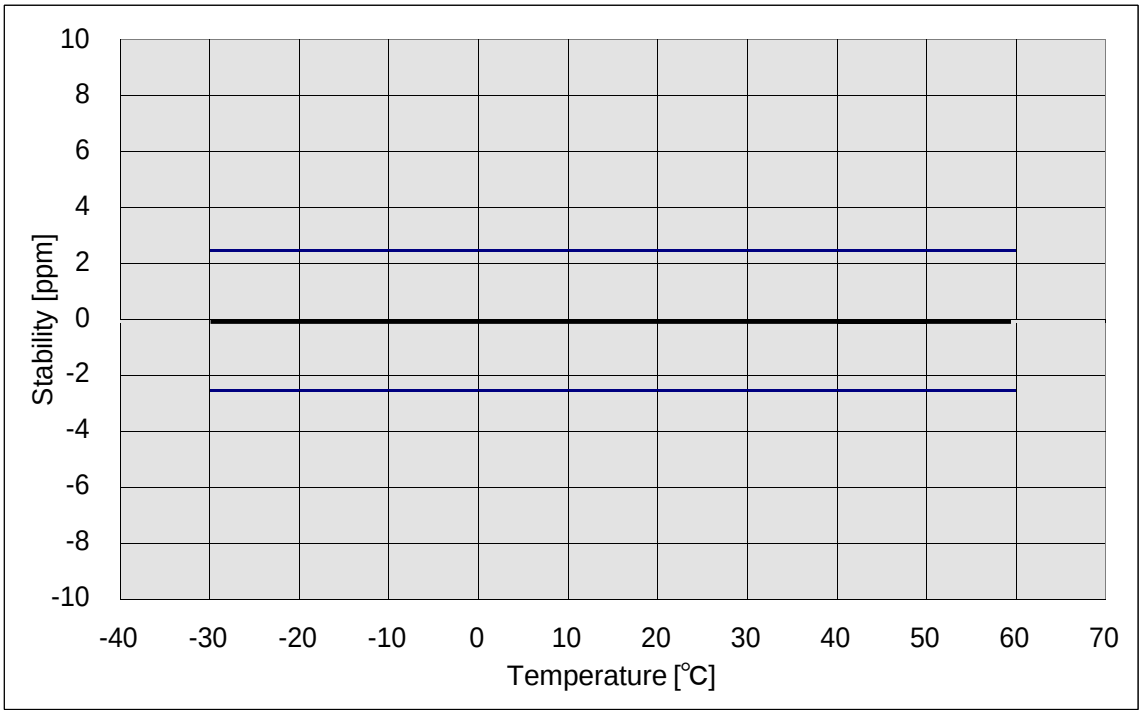


Instruments	Description	Serial Number
(1) TEMPERATURE CHAMBER	ETAC FX4100	C8031K01
(2) COAXIAL ATTENUATOR	Weinschel 53-30-33	SR803
(3) POWER METER	Agilent 436A	2604A25299
(4) FREQUENCY COUNTER	Agilent 8901B FREQUENCY MODE	3026A02806

NAME OF TEST: Frequency Stability (Temperature Variation)
Measuring frequency: 450.65MHz

STATE: 0 : General

LIMIT', ppm = 2.5
LIMIT', Hz = 1127



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

MEASUREMENT PROCEDURE

1. The EUT was placed in a temperature chamber at 25±5℃ and connected as for "Frequency Stability - Temperature Variation" test.

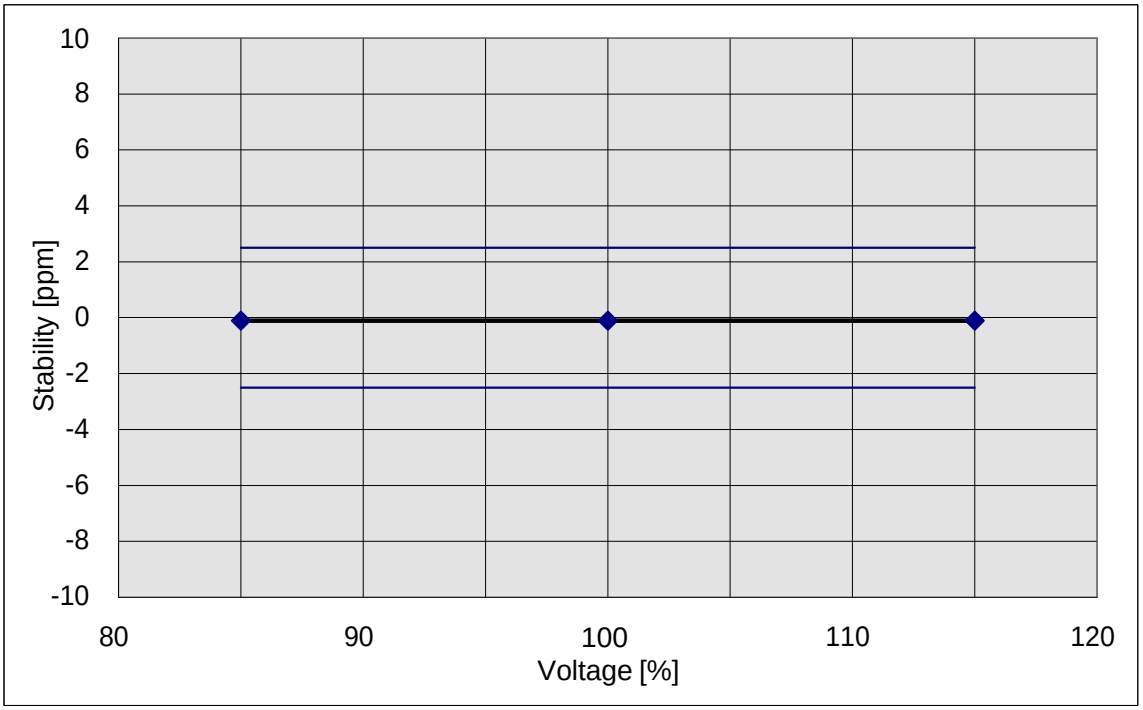
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.

3. The variation in frequency was measured for the worst case.

RESULTS: Frequency Stability (Voltage Variation)
Measuring frequency: 450.65MHz

STATE: 0 : General

LIMIT', ppm = 2.5
LIMIT', Hz = 1127



NAME OF TEST: Necessary Bandwidth and Emission Bandwidth
SPECIFICATION: 47 CFR 2.202 (g)

NECESSARY BANDWIDTH CALUCULATION:

Analog Mode

MODULATION = 16K0F3E

MAXIMUM MODULATION (M), kHz = 3
MAXIMUM DEVIATION (D), kHz = 5
CONSTANT FACTOR (K) = 1
NECESSARY BANDWIDTH (BN), kHz = (2xM) + (2xDxK)
= 16

MODULATION = 11K0F3E

MAXIMUM MODULATION (M), kHz = 3
MAXIMUM DEVIATION (D), kHz = 2.5
CONSTANT FACTOR (K) = 1
NECESSARY BANDWIDTH (BN), kHz = (2xM) + (2xDxK)
= 11

Digital Mode The EVX-261-G6-5 Digital functions comply with DMR (Digital Mobile Radio).

Format: 2-Slot TDMA
Moduration: 4FSK
Bandwidth: 12.5kHz
Data rate: 9600bps (bit per second)
Voice: AMBE+2 Vocoder (digitized) 3600bps
Using the 99% bandwidth method yields a emission designator of:
7K60F1D, 7K60F1E, 7K60F1W, 7K60FXE, 7K60FXD

Occupied Bandwidth Power (99%)
Spectrum Analyzer setting as below;
RBW: 300Hz, VBW: 3kHz, Span: 40kHz

Description	Occupied Bandwidth Power (99%)
Carrier, Analog Voice, 25kHz channel, 16K0F3E	10.19 kHz
Carrier, Analog Voice, 12.5kHz channel, 11K0F3E	6.11 kHz
Carrier, Digital Data, 12.5kHz channel, 7k60F1D	5.55 kHz
Carrier, Digital Voice, 12.5kHz channel, 7k60F1E	5.59 kHz
Carrier, Digital Voice+Emcryption, 12.5kHz channel, 7k60F1E	5.55 kHz
Carrier, Digital TDMA, 12.5kHz channel, 7k60F1W	5.55 kHz

Test Equipment Used During Testing

No.	Description	Manufacturer	Model	Serial Number	Cal. Date	Cal. Due
1	Coaxicial Attenuator	Weinschell	49-10-43	KL458	2016/1/8	2017/1/7
2	Coaxicial Attenuator	Advantest	8498A	1801A02723	2016/1/8	2017/1/7
3	Coaxicial Attenuator	Agilent	53-30-33	SR803	2016/1/8	2017/1/7
4	RF Coupler	Agilent	TR4153	39730008	2016/1/8	2017/1/7
5	Power Meter	Agilent	436A	2604A25299	2015/12/3	2016/12/2
6	Power Sensor	Agilent	8482B	2349A02533	2015/12/4	2016/12/3
7	Power Senser/ Meter	Agilent	11722A/ 8901B	2716A02970/ 3026A02806	2015/12/8	2016/12/7
8	Power Senser/ Frequency Counter	Agilent	11722A/ 8901B	2716A02970/ 3026A02806	2015/12/8	2016/12/7
9	Audio Generator/Analyzer	Agilent	8903B	2742A03633	2015/12/4	2016/12/3
10	Spectrum Analyzer	Agilent	E4445A	MY44300710	2015/10/30	2016/10/29
11	Spectrum Analyzer	Agilent	8561B	3040A00541	2015/12/28	2016/12/27
12	Transducer	Schaffner	CBL6143	5001	2016/1/12	2019/1/11
13	Transducer	Advantest	TR17206	43370002	2015/12/19	2018/12/18
14	Amplifier	Agilent	8447D	2944A09741	2016/1/5	2017/1/4
15	Amplifier	Agilent	8449B	3008A00120	2016/1/5	2017/1/4
16	Combiner	Iwatsu	B-50D4	520	2016/1/8	2017/1/7
17	Cristal Detector	Agilent	8470B	MY42241063	2016/1/8	2017/1/7
18	Temperature Chamber	Etac	FX4100	C8031K01	NA	NA
19	Modulation Analyzer	Agilent	8901B	3026A02806	2015/12/8	2016/12/7
20	Signal Generator	Agilent	8624B	2709A01050	2015/12/8	2016/12/7
21	Oscilloscope	Agilent	DSO3062A	CN45001514	2016/1/8	2017/1/7
22	Horn Freq	DRG	SAS-571	566	2015/8/2	2016/8/2
23	Bilog Antenna	Schaffner	CBL6112B	2964	2014/5/23	2016/5/23
24	Power Supply	HP	6031A	3121A02341	2014/6/12	2016/6/12
25	EMI Test Receiver	R&S	ESIB26	100336	2015/6/17	2016/6/17
26	Microwave Sig Gen	R&S	SMP04	100131	2015/6/25	2016/6/25
27	System Controller	Sunol Sciences	SC104V	050806-1	NA	NA
28	Turntable Flush Mount 2M	Sunol Sciences	FM2011	NA	NA	NA
29	Antenna Positioning Tower	Sunol Sciences	TLT2	NA	NA	NA
30	Test Receiver	R&S	ESIB26	827769/009	2015/6/16	2016/6/16
31	Signal Analyzer	R&S	FSV40	101103	2015/6/25	2016/6/25
32	5m Semi-anechoic Chamber	RFI Industries	S800-HX	J2308	2015/7/29	2016/7/29
33	Data logger	Dickson	TM320	12249289	2016/4/27	2017/4/27
34	Bilog Antenna	TESEQ	CBL6112D	25516	2015/5/23	2016/5/23