RADIO TEST REPORT

Report No: STS2009138W01

Issued for

Shenzhen Todakj Co., Ltd.

No. 40 Huan Dong Road, Tie Gang Industrial District, Baoan, Shenzhen, China

Product Name:	Wireless Intercom Systerm
Brand Name:	Wuloo NIGLO
Model Name:	CH-668
Series Model:	N/A
FCC ID:	2AQQS-668
IC:	26512-668
Test Standard:	FCC Part 95 RSS-210 Issue 10, December 2019

Shenzhen STS Test Services Co., Ltd.
A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ,
Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China
TEL: +86-755 3688 6288 FAX: +86-755 3688 6277 E-mail:sts@stsapp.com

TEST REPORT CERTIFICATION

Applicant's Name.....:	Shenzhen Todakj Co., Ltd.
Address .....:	No. 40 Huan Dong Road, Tie Gang Industrial District, Baoan, Shenzhen, China
Manufacturer's Name..... :	Shenzhen Todakj Co., Ltd.
Address ..... :	No. 40 Huan Dong Road, Tie Gang Industrial District, Baoan, Shenzhen, China
Product Description	
Product Name..... :	Wireless Intercom Systerm
Brand Name .....:	Wuloo QNIGLO
Model Name .....:	CH-668
Series Model.....:	N/A
Test Standards.....:	FCC Part 95
	RSS-210 Issue 10, December 2019
Test Procedure .....:	TIA 603-E

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC/IC requirements. And it is applicable only to the tested sample identified in the report.
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Date of Test .....:	
Date of receipt of test item .....:	09 Oct. 2020
Date of performance of tests.....:	09 Oct. 2020 ~ 19 Nov. 2020
Date of Issue .....:	21 Nov. 2020
Test Result.....:	**Pass**

Testing Engineer : Chris chen
(Chris chen)

Technical Manager : Sean She
(Sean she)

Authorized Signatory : Vita Li
(Vita Li)

TESTING • CONSULTING • SOLUTION • CERTIFICATION
STS APPROVAL

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	21 Nov. 2020	STS2009138W01	ALL	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part 95 RSS-210 Issue 10			
Standard Section	Test Item	Judgment	Remark
FCC Part 95.567 RSS 210 (E.1.5)	Transmitter Output Power and Effective Radiated Power (e.r.p)	PASS	--
FCC Part 95.573 RSS 210 (E.1.4)	Authorized Bandwidth	PASS	--
FCC Part 95.579 RSS 210 (E.1.8)	Emission Mask	PASS	--
FCC Part 95.579 RSS 210 (E.1.8)	Transmitter Radiated Spurious Emission	PASS	--
FCC Part 95.579 RSS 210 (E.1.8)	Spurious Emission On Antenna Port	PASS	--
FCC Part 95.565 RSS 210 (E.1.9)	Frequency Stability	PASS	--
FCC Part 95.575 RSS 210 (E.1.7)	Audio Frequency Filter	PASS	--
FCC Part 95.575 RSS 210 (E.1.3)	Modulation Requirements	PASS	--
FCC Part 15.207 RSS-Gen(8.8)	AC power-line Conducted Emission	PASS	--

NOTE: (1) "N/A" denotes test is not applicable in this Test Report.

(2) All tests are according to TIA 603-E.

1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD
Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China
FCC test Firm Registration Number: 625569
IC test Firm Registration Number: 12108A
A2LA Certificate No.: 4338.01

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y** ± **U**, where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95** %.

No.	Item	Uncertainty
1	RF output power, conducted	±0.68dB
2	Unwanted Emissions, conducted	±2.988dB
3	All emissions, radiated 30-1GHz	±5.6dB
4	All emissions, radiated 1G-6GHz	±5.5dB
5	All emissions, radiated>6G	±5.8dB
6	Conducted Emission (9KHz-150KHz)	±3.37dB
7	Conducted Emission (150KHz-30MHz)	±3.83dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Wireless Intercom Systerm	
Brand Name	Wuloo QNIGLO	
Model Name	CH-668	
Series Model	N/A	
Model Difference	N/A	
Operation Frequency Range:	462.5500MHz-462.6750MHz 467.6375MHz-467.7125MHz Please refer to the note 3	
Channel Separation	12.5KHz	
Modulation Type	FRS	F3E
Emission types	FRS	6K09F3E
Adapter	Input: 100-240V~50/60Hz 0.2A Output: 5.0V⎓ 1000mA	
Battery	Capacity: 18000mAh Rated Voltage: DC 3.7V Charge Limit: DC 4.2V	
Hardware version number	V02	
Software version number	01V05	
Connecting I/O Port(s)	Please refer to the note 1	

Note:
1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.
2. Table for filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	Wuloo QNIGLO	CH-668	Spring Antenna	N/A	1	Antenna

3. Channel List

Channel	Frequency(MHz)	Channel	Frequency(MHz)	Channel	Frequency(MHz)
11	467.6375	15	462.5500	19	462.6500
12	467.6625	16	462.5750	20	462.6750
13	467.6875	17	462.6000	/	/
14	467.7125	18	462.6250	/	/

Test channel:

Channel	Frequency(MHz)
11	467.6375
15	462.55
20	462.675

2.2 DESCRIPTION OF THE TEST MODES

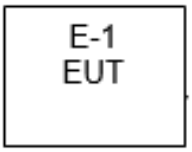
To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	FRS CH11 TX Mode
Mode 2	FRS CH15 TX Mode
Mode 3	FRS CH20 TX Mode

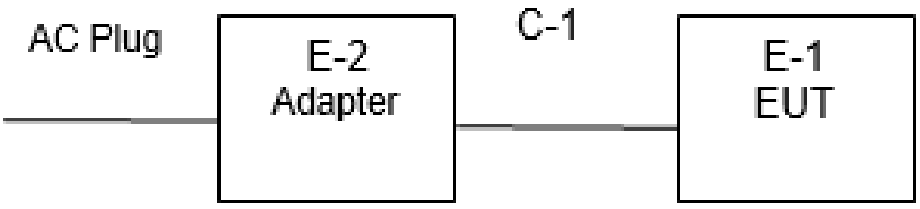
For Radiated Emission/Conducted Emission	
Final Test Mode	Description
Mode 1	FRS CH11 TX Mode
Mode 2	FRS CH15 TX Mode
Mode 3	FRS CH20 TX Mode

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



Conducted Emission Test



2.4 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
E-2	Adapter	N/A	JHD-AP006U-050100BB-2	N/A	N/A
C-1	USB Cable	N/A	N/A	150cm	N/A

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note

Note:

(1) For detachable type I/O cable should be specified the length in cm in『Length』column.

2.5 EQUIPMENTS LIST

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Bilog Antenna	TESEQ	CBL6111D	34678	2020.10.12	2021.10.11
Horn Antenna	SCHWARZBECK	BBHA 9120D	02014	2019.10.15	2021.10.14
Pre-Amplifier (0.1M-3GHz)	EM	EM330	060665	2020.10.12	2021.10.11
Pre-Amplifier (1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2020.10.12	2021.10.11
Signal Analyzer	R&S	FSV 40-N	101823	2020.10.10	2021.10.09
Temperature & Humidity	HH660	Mieo	N/A	2020.10.13	2021.10.12
Turn table	EM	SC100_1	60531	N/A	N/A
Antenna mast	EM	SC100	N/A	N/A	N/A
AC Power Source	APC	KDF-11010G	F214050035	N.C.R	N.C.R
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 RE)			

RF Connected Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Signal Generator	Agilent	N5182A	MY46240556	2020.10.10	2021.10.09
Signal Analyzer	Agilent	N9020A	MY51110105	2020.03.05	2021.03.04
Universal Radio communication tester	R&S	CMU200	119907	2020.10.12	2021.10.11
Audio analyzer	R&S	UPL	N/A	2020.03.05	2021.03.04
Intercom comprehensive tester	HP	8920A	348A05658	2020.03.05	2021.03.04
Temperature & Humidity	HH660	Mieo	N/A	2020.10.13	2021.10.12
Temperature& Humidity test chamber	Safety test	AG80L	171200018	2020.03.05	2021.03.04
Programmable power supply	Agilent	E3642A	MY40002025	2020.10.12	2021.10.11
Attenuator	HP	8494B	DC-18G	2020.04.30	2021.04.29
AC Power Source	APC	KDF-11010G	F214050035	N.C.R	N.C.R
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 RE)			

3. FIELD STRENGTHS AND RADIATED SPURIOUS EMISSION

3.1 RADIATED EMISSION LIMITS

In case the emission fall within the restricted band specified on RSS-Gen Issue 4 limit in the followed

In measuring unwanted emissions, the spectrum shall be investigated from 30 MHz or the lowest radio frequency signal generated in the equipment, whichever is lower, without going below 9 kHz, up to at least the frequency given below:

(a) If the equipment operates below 10 GHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

(b) If the equipment operates at or above 10 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.

Particular attention should be paid to harmonics and sub-harmonics of the carrier frequency, as well as to those frequencies removed from the carrier by multiples of the oscillator frequency.

Radiation at the frequencies of multiplier stages should also be checked.

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value need not be reported.

43 + 10 log (Pwatts)

Calculation: Limit (dBm) =EL-43-10log10 (TP)

Notes: EL is the emission level of the Output Power expressed in dBm,

In this application, the EL is P(dBm).

Limit (dBm) = P(dBm)-43-10 log (Pwatts) = -13 dBm

LIMITS OF RESTRICTED FREQUENCY BANDS

FCC:

FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (GHz)
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

IC:

FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (GHz)
0.090 - 0.110	149.9 - 150.05	9.0 - 9.2
0.495 - 0.505	156.52475 - 156.52525	9.3 - 9.5
2.1735 - 2.1905	156.7 - 156.9	10.6 - 12.7
3.020 - 3.026	162.0125 - 167.17	13.25 - 13.4
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5
4.17725 - 4.17775	240 – 285	15.35 - 16.2
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4
5.677 - 5.683	399.9 - 410	22.01 - 23.12
6.215 - 6.218	608 - 614	23.6 - 24.0
6.26775 - 6.26825	960 - 1427	31.2 - 31.8
6.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
8.291 - 8.294	1645.5 - 1646.5	Above 38.6
8.362 - 8.366	1660 - 1710	
8.37625 - 8.38675	1718.8 - 1722.2	
8.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 - 2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 - 13.41	3260 – 3267	
16.42 - 16.423	3332 - 3339	
16.69475 - 16.69525	3345.8 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 – 8500	
108 – 138		

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

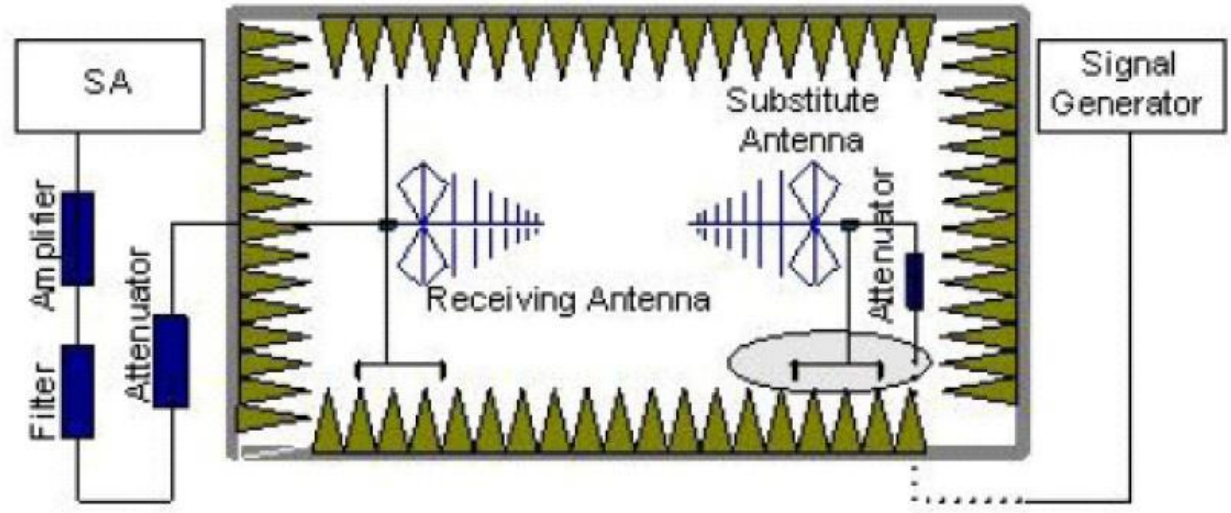
Spectrum Parameter	Setting
Detector	Peak
Attenuation	Auto
Start Frequency	30 MHz
Stop Frequency	10th carrier harmonic

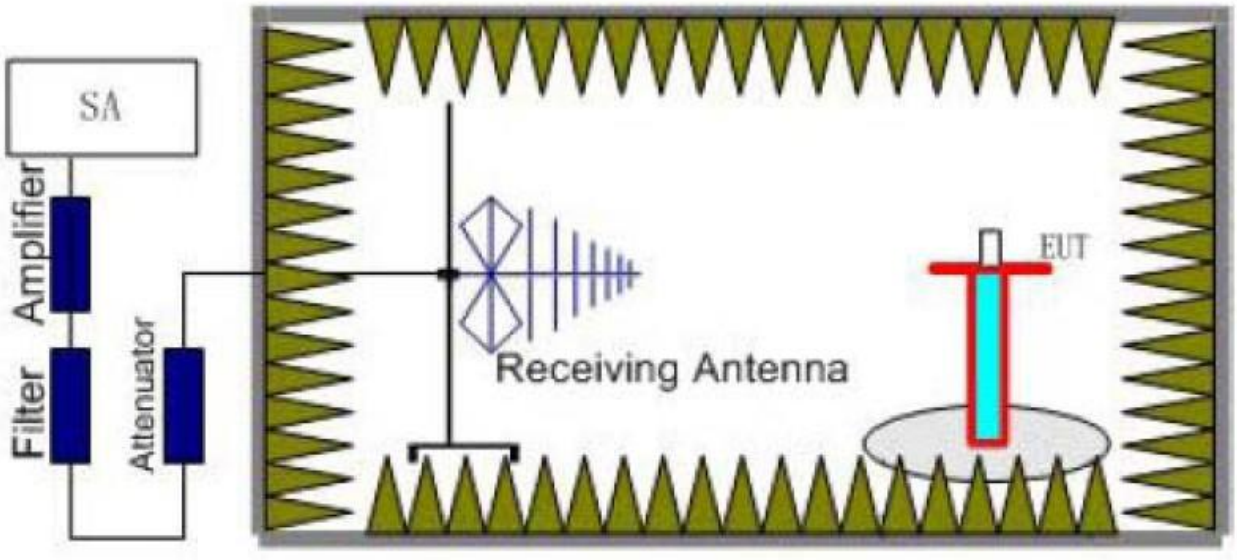
3.2 TEST PROCEDURE

1. EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1. 0 m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels were measured with peak detector.
2. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
3. The EUT is then put into continuously transmitting mode at its maximum power level during the test.Set Test Receiver or Spectrum RBW=1MHz,VBW=3MHz for above 1GHz and BW=100kHz,VBW=300kHz for 30MHz to 1GHz, And the maximum value of the receiver should be recorded as (Pr).
4. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of thesubstitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

5. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test. The measurement results are obtained as described below:
   Power(EIRP)=P_{Mea}- P_{Ag} - P_{cl} + G_a
   We used signal generator which signal level can up to 33dBm,so we not used power Amplifier for substituation test; The measurement results are amend as described below:
   Power(EIRP)=P_{Mea}- P_{cl} +G_a
6. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power
7. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP-2.15dBi

3.3 TEST SETUP





3.4 EUT OPERATING CONDITIONS

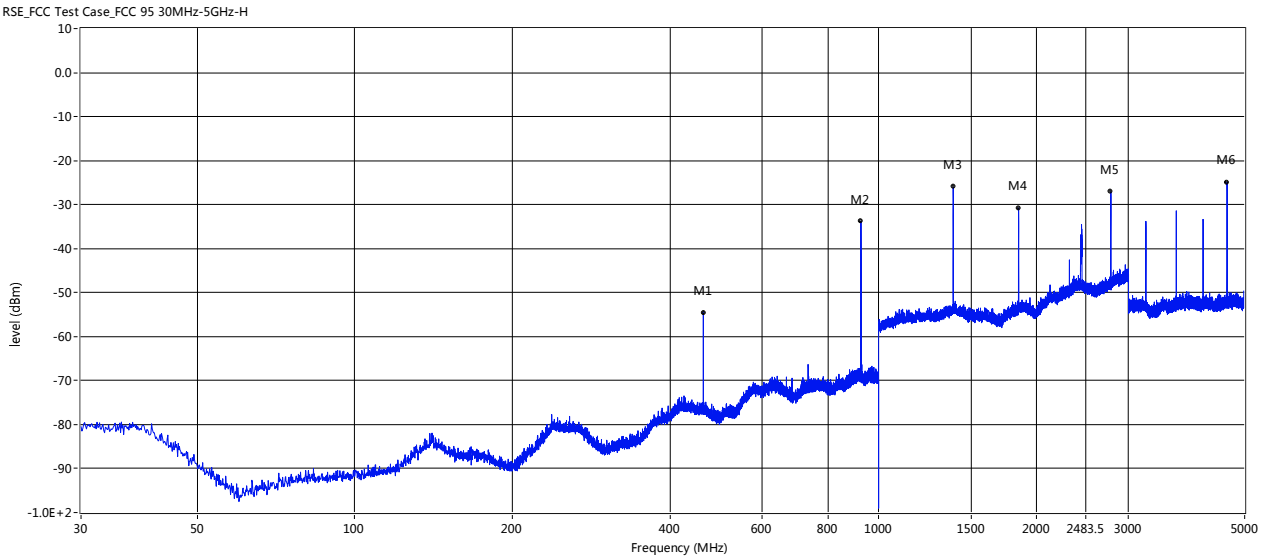
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.5 TEST RESULT

Note: 1. The unwanted emissions falling into the restricted frequency band limit is 82.2dBuV/m, whichever is less stringent. The spurious emission and restricted frequency band data are shown on the same graph.

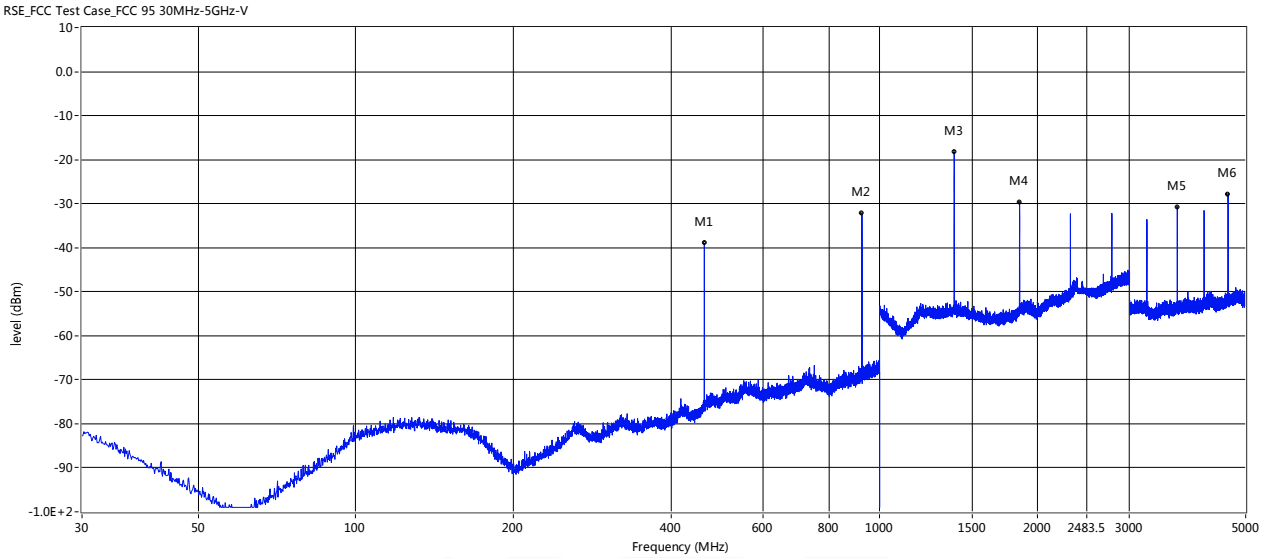
2. E(dBuV/m)=E(dBm)+95.2, -13dBm+95.2=82.2dBuV/m.

Temperature:	26.4 ℃	Relative Humidity:	69%
Test Mode:	Mode 1	Phase :	Horizontal



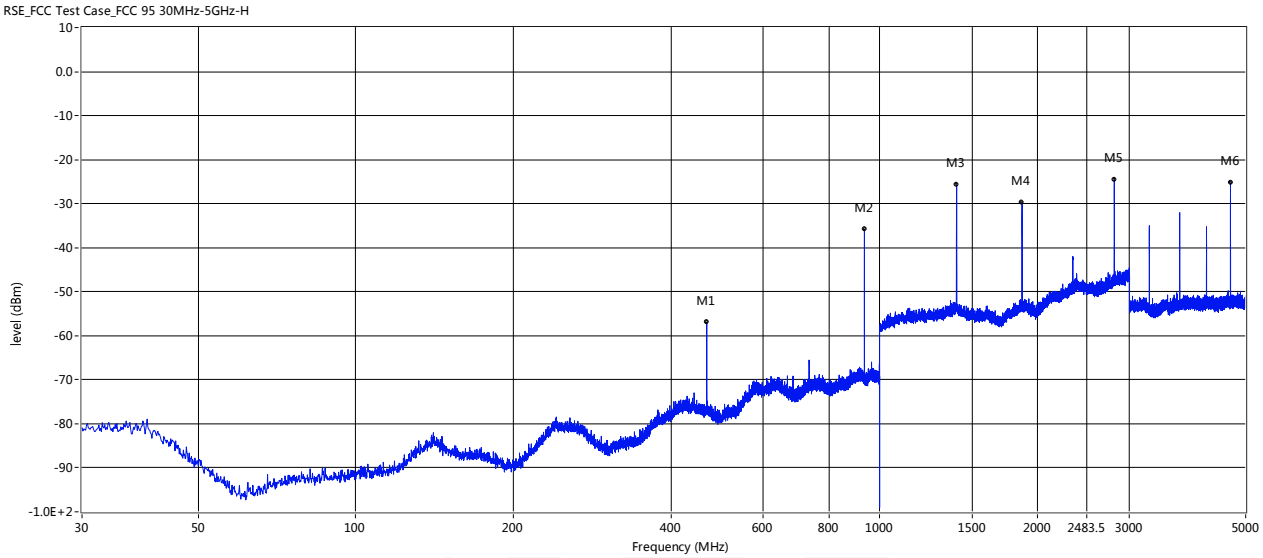
Frequency (MHz)	Result (dBm)	PK Limit (dBm)	Over Limit (dB)	ANT	Verdict
462.741	-54.54	-13.0	-41.54	Horizontal	Pass
925.431	-33.76	-13.0	-20.76	Horizontal	Pass
1388.250	-26.01	-13.0	-13.01	Horizontal	Pass
1850.750	-30.75	-13.0	-17.75	Horizontal	Pass
2776.250	-27.13	-13.0	-14.13	Horizontal	Pass
4627.000	-24.92	-13.0	-11.92	Horizontal	Pass

Temperature:	26.4 ℃	Relative Humidity:	69%
Test Mode:	Mode 1	Phase:	Vertical



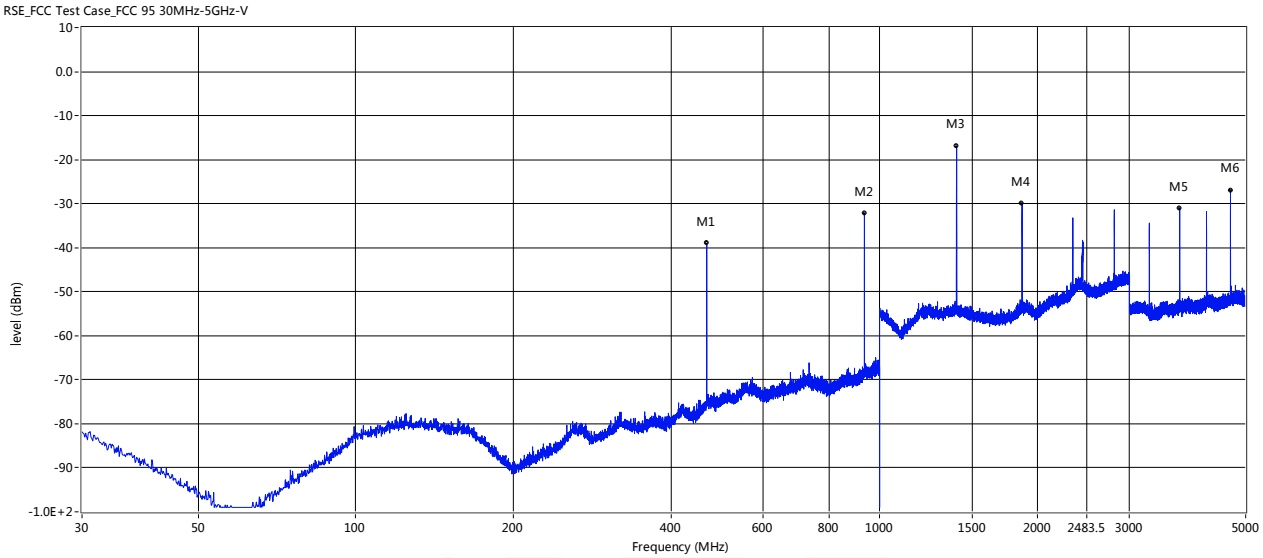
Frequency (MHz)	Result (dBm)	PK Limit (dBm)	Over Limit (dB)	ANT	Verdict
462.741	-39.03	-13.0	-26.03	Vertical	Pass
925.431	-32.30	-13.0	-19.30	Vertical	Pass
1388.000	-18.27	-13.0	-5.27	Vertical	Pass
1850.750	-29.76	-13.0	-16.76	Vertical	Pass
3701.500	-30.95	-13.0	-17.95	Vertical	Pass
4627.000	-27.94	-13.0	-14.94	Vertical	Pass

Temperature:	26.4 ℃	Relative Humidity:	69%
Test Mode:	Mode 2	Phase :	Horizontal



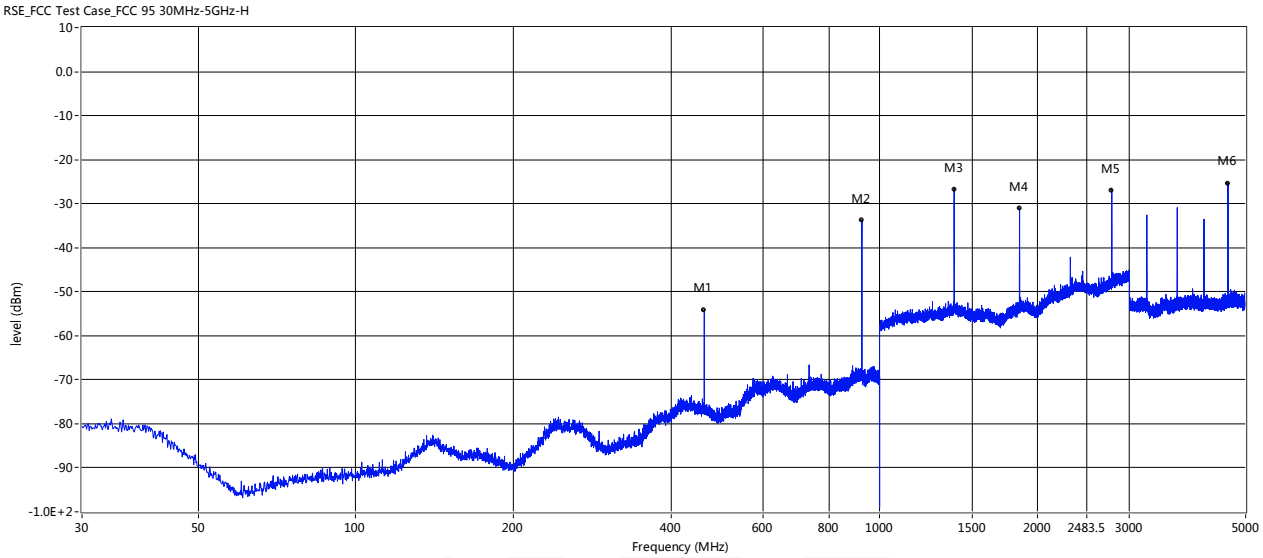
Frequency (MHz)	Result (dBm)	PK Limit (dBm)	Over Limit (dB)	ANT	Verdict
467.712	-56.94	-13.0	-43.94	Horizontal	Pass
935.374	-35.84	-13.0	-22.84	Horizontal	Pass
1403.000	-25.79	-13.0	-12.79	Horizontal	Pass
1870.750	-29.73	-13.0	-16.73	Horizontal	Pass
2806.000	-24.65	-13.0	-11.65	Horizontal	Pass
4676.500	-25.30	-13.0	-12.30	Horizontal	Pass

Temperature:	26.4 ℃	Relative Humidity:	69%
Test Mode:	Mode 2	Phase:	Vertical



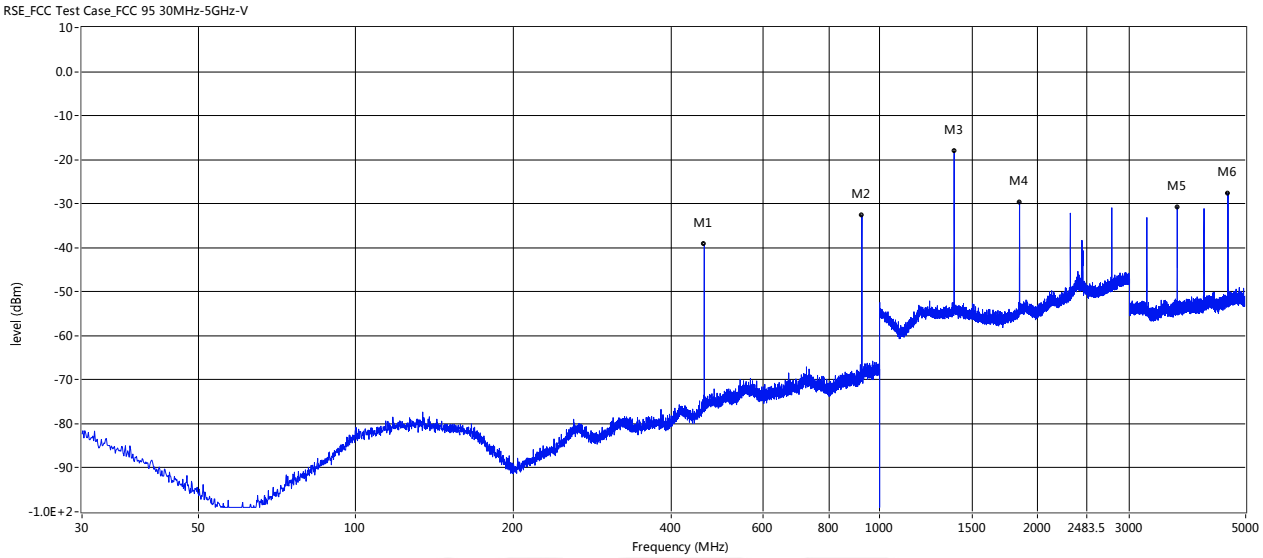
Frequency (MHz)	Result (dBm)	PK Limit (dBm)	Over Limit (dB)	ANT	Verdict
467.712	-39.01	-13.0	-26.01	Vertical	Pass
935.374	-32.21	-13.0	-19.21	Vertical	Pass
1403.000	-17.01	-13.0	-4.01	Vertical	Pass
1870.750	-30.00	-13.0	-17.00	Vertical	Pass
3741.250	-31.00	-13.0	-18.00	Vertical	Pass
4676.500	-27.00	-13.0	-14.00	Vertical	Pass

Temperature:	26.4 ℃	Relative Humidity:	69%
Test Mode:	Mode 3	Phase :	Horizontal



Frequency (MHz)	Result (dBm)	PK Limit (dBm)	Over Limit (dB)	ANT	Verdict
462.620	-54.12	-13.0	-41.12	Horizontal	Pass
925.189	-33.74	-13.0	-20.74	Horizontal	Pass
1387.500	-26.85	-13.0	-13.85	Horizontal	Pass
1850.250	-31.12	-13.0	-18.12	Horizontal	Pass
2775.500	-27.00	-13.0	-14.00	Horizontal	Pass
4625.750	-25.40	-13.0	-12.40	Horizontal	Pass

Temperature:	26.4 ℃	Relative Humidity:	69%
Test Mode:	Mode 3	Phase:	Vertical



Frequency (MHz)	Result (dBm)	PK Limit (dBm)	Over Limit (dB)	ANT	Verdict
462.620	-39.21	-13.0	-26.21	Vertical	Pass
925.189	-32.68	-13.0	-19.68	Vertical	Pass
1387.750	-18.11	-13.0	-5.11	Vertical	Pass
1850.250	-29.72	-13.0	-16.72	Vertical	Pass
3700.500	-30.80	-13.0	-17.80	Vertical	Pass
4625.750	-27.62	-13.0	-14.62	Vertical	Pass

4. SPURIOUS EMISSION ON ANTENNA PORT

4.1 LIMIT

43 + 10 log (Pwatts)
Calculation: Limit (dBm) =EL-43-10log10 (TP)
Notes: EL is the emission level of the Output Power expressed in dBm,
In this application, the EL is P(dBm).
Limit (dBm) = P(dBm)-43-10 log (Pwatts) = -13 dBm

4.2 TEST PROCEDURE

1. The EUT was connected to the spectrum analyzer through sufficent attenuation.
2. Sufficient scans were taken to show any out of band emission up to 10th. Harmonic for the lower and the highest frequency range.
3. Set EUT as digital data mode.
4. Set RBW 30kHz, VBW 100 kHz in the frequency band 30MHz to 1GHz,while set RBW=1MHz. VBW=3MHz from the 1GHz to 10th Harmonic.

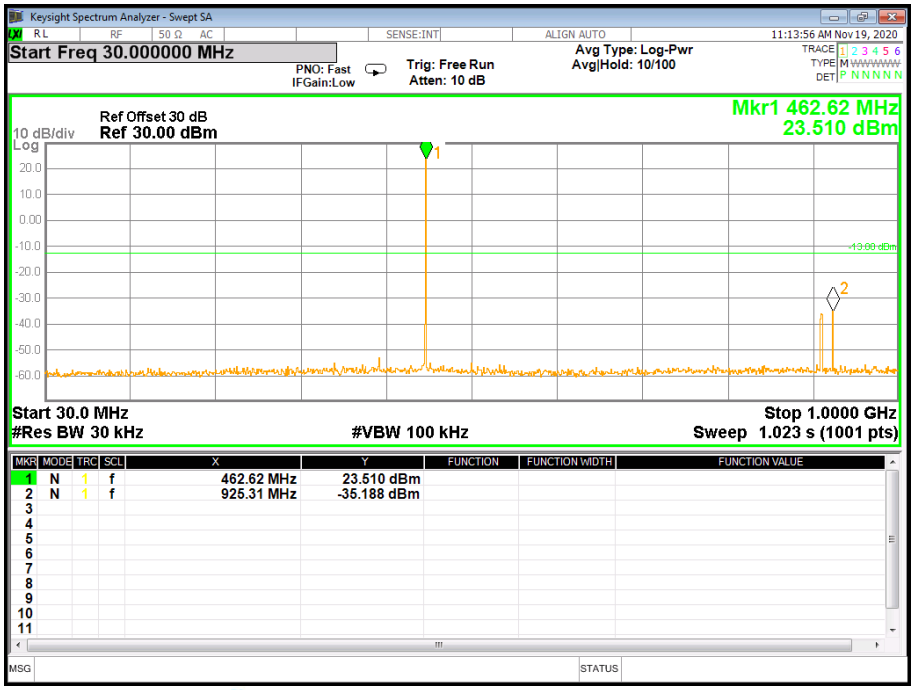
4.3 TEST SETUP

4.4 EUT OPERATION CONDITIONS

TX mode.

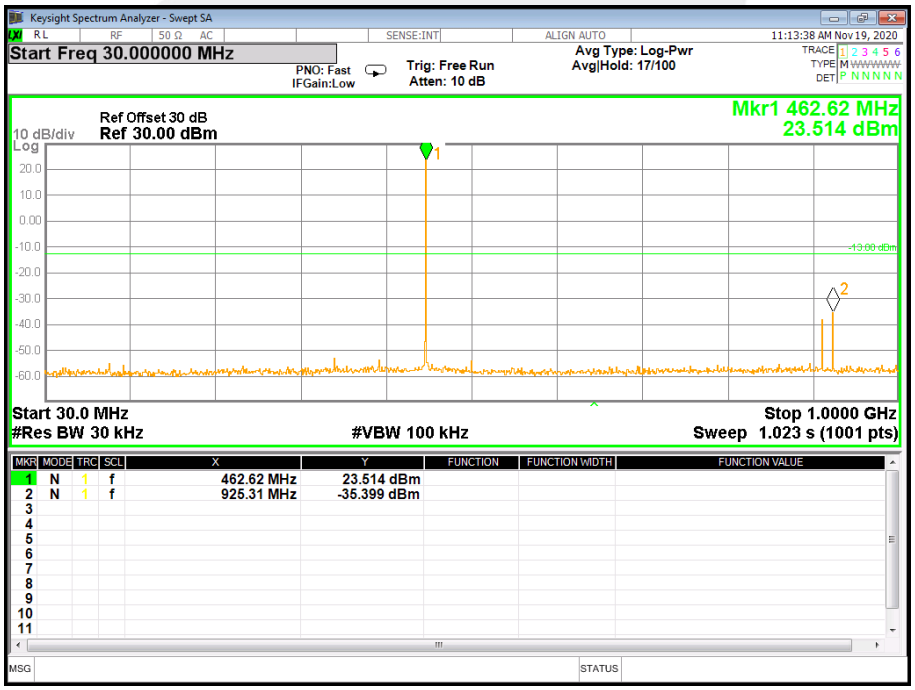
4.5 TEST RESULT

Low channel(30MHz-1GHz)

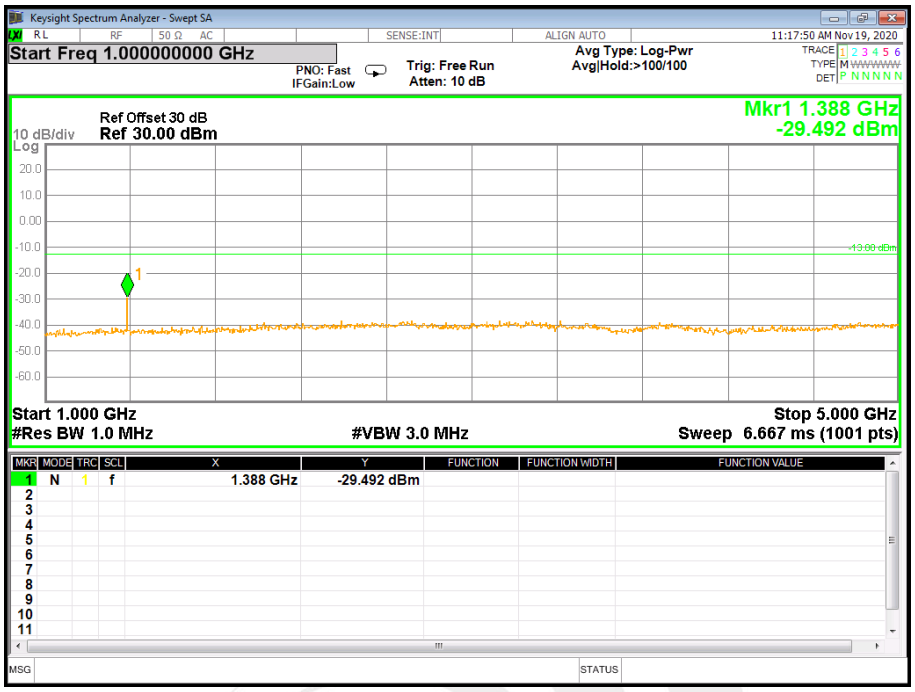


Low channel(1GHz-5GHz)

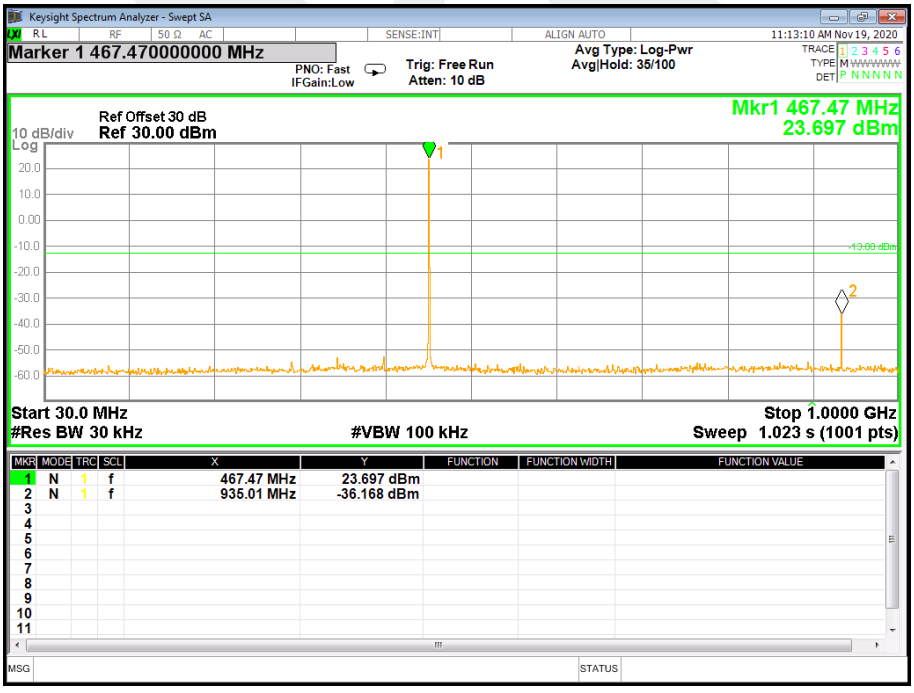
Mid channel(30MHz-1GHz)



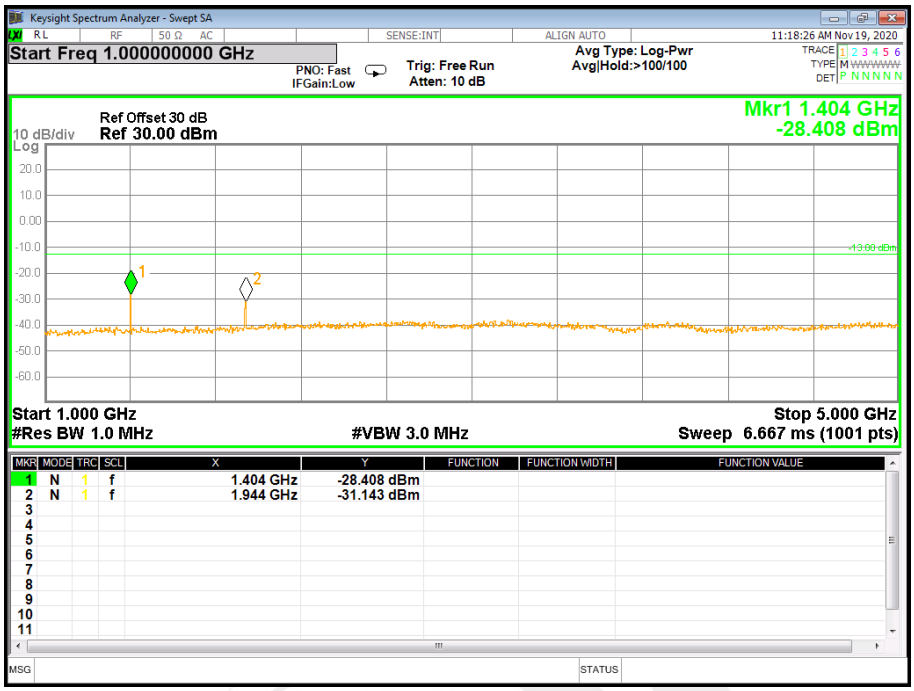
Mid channel(1GHz-5GHz)



High channel(30MHz-1GHz)



High channel(1GHz-5GHz)



5. BANDWIDTH TEST

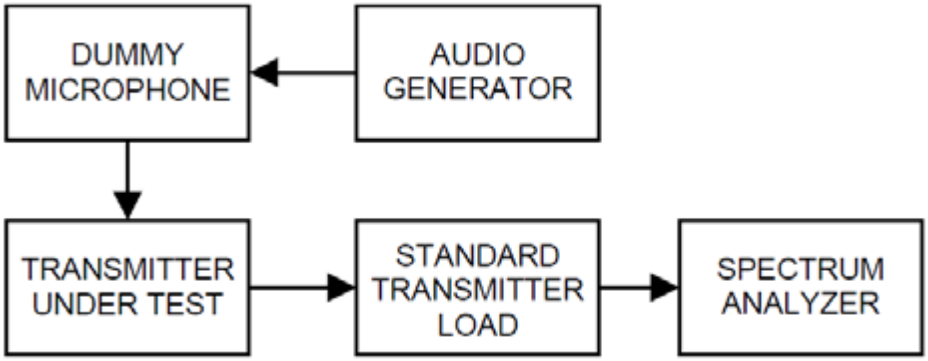
5.1 LIMIT

FRS:
FCC:
The authorized bandwidth for an FRS unit is 12.5 kHz.
IC:
The authorized bandwidth is 12.5 kHz for channels 8-14 and 20 kHz for other channels.

5.2 TEST PROCEDURE

1. The EUT was connected to the spectrum analyzer through sufficent attenuation.
2. Set EUT as digital data mode.
3. Set SPA Center Frequency=fundamental frequency, RBW=100Hz, VBW=1KHz, span =15KHz.
4. Set SPA Max hold. Mark peak, Set 99% Occupied Bandwidth.

5.3 TEST SETUP



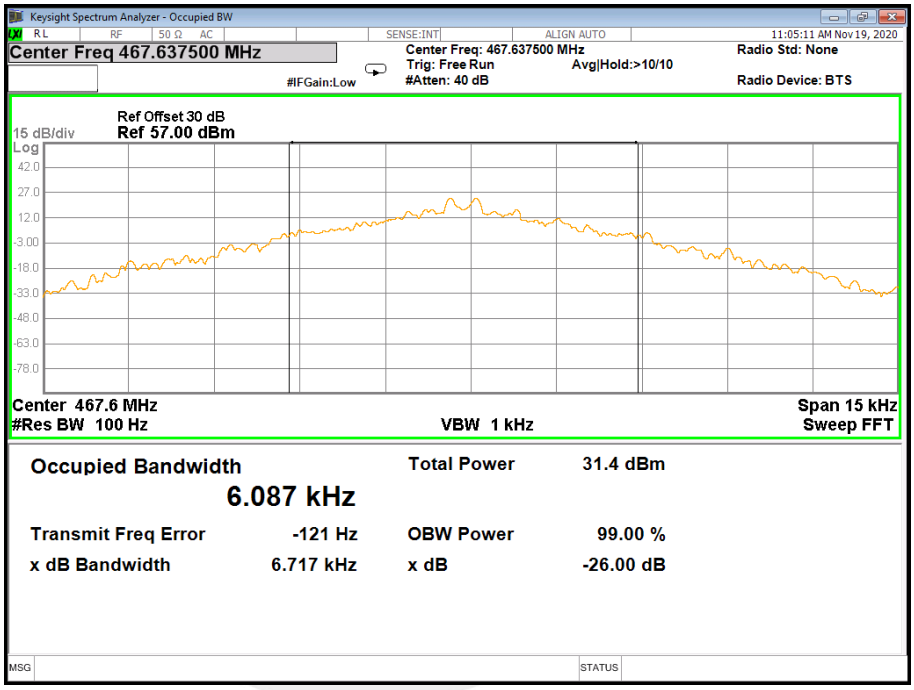
5.4 EUT OPERATION CONDITIONS

TX mode.

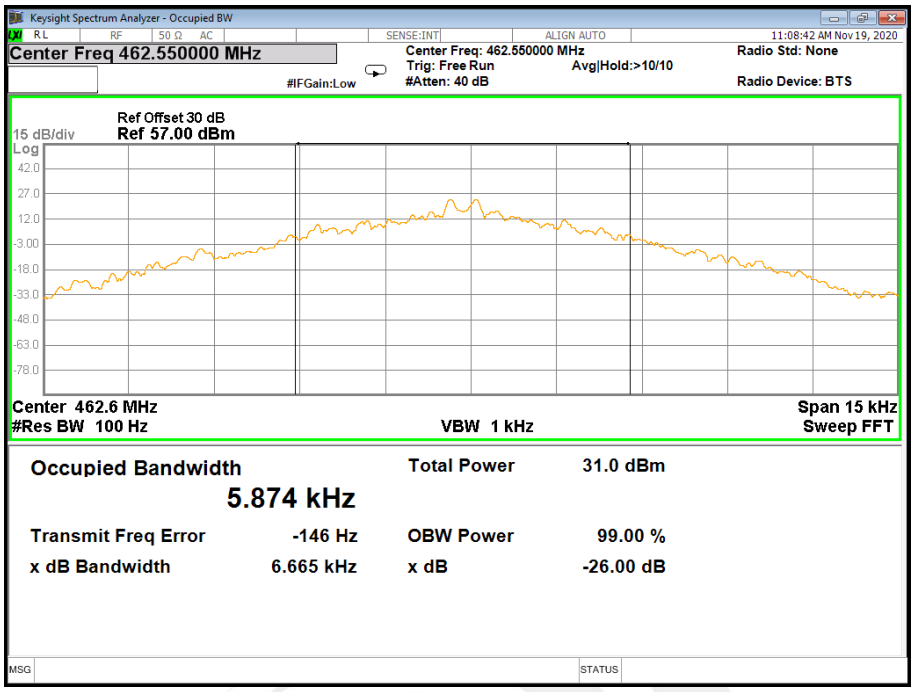
5.5 TEST RESULTS

Operation Mode	Test Channel	Occupied Bandwidth(KHz)		FCC Limit(kHz)	IC Limit(kHz)	Result
		99%	26dB			
FRS	11	6.087	6.717	≤12.5	≤12.5	Pass
	15	5.874	6.665	≤12.5	≤20	Pass
	20	5.695	5.566	≤12.5	≤20	Pass

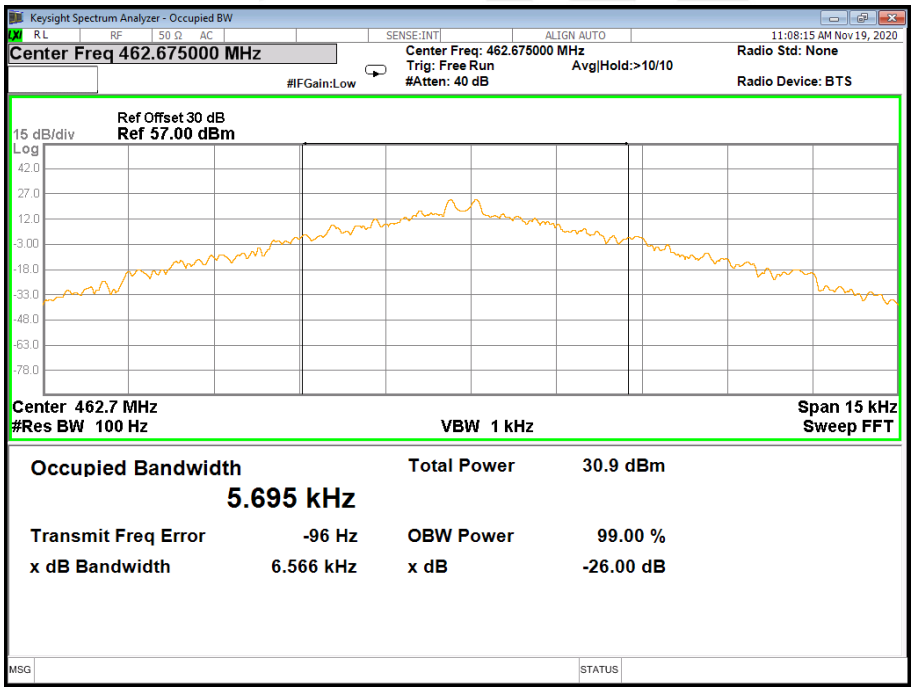
CH11



CH15


Keysight Spectrum Analyzer - Occupied BW
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
11:08:42 AM Nov 19, 2020
Center Freq 462.550000 MHz
#IFGain:Low
Center Freq: 462.550000 MHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
Ref Offset 30 dB
15 dB/div
Ref 57.00 dBm
Log
42.0
27.0
12.0
-3.00
-18.0
-33.0
-48.0
-63.0
-78.0
Center 462.6 MHz
#Res BW 100 Hz
VBW 1 kHz
Span 15 kHz
Sweep FFT
Occupied Bandwidth
5.874 kHz
Total Power 31.0 dBm
Transmit Freq Error -146 Hz
OBW Power 99.00 %
x dB Bandwidth 6.665 kHz
x dB -26.00 dB
MSG
STATUS

CH20


Keysight Spectrum Analyzer - Occupied BW
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
11:08:15 AM Nov 19, 2020
Center Freq 462.675000 MHz
#IFGain:Low
Center Freq: 462.675000 MHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
Ref Offset 30 dB
15 dB/div
Ref 57.00 dBm
Log
42.0
27.0
12.0
-3.00
-18.0
-33.0
-48.0
-63.0
-78.0
Center 462.7 MHz
#Res BW 100 Hz
VBW 1 kHz
Span 15 kHz
Sweep FFT
Occupied Bandwidth
5.695 kHz
Total Power 30.9 dBm
Transmit Freq Error -96 Hz
OBW Power 99.00 %
x dB Bandwidth 6.566 kHz
x dB -26.00 dB
MSG
STATUS

6. TRANSMITTER OUTPUT POWER AND EFFECTIVE RADIATED POWER (E.R.P)

6.1 LIMIT

FRS:
FCC:
Each FRS transmitter type must be designed such that the effective radiated power (ERP) on channels 8 through 14 does not exceed 0.5 Watts and the ERP on channels 1 through 7 and 15 through 22 does not exceed 2.0 Watts.
IC:
Transmitter output power shall be measured as average carrier power during one unmodulated cycle when transmitting emission type A1D, A3E, F1D, F2D, F3E, G1D, G2D or G3E and as peak envelope power when transmitting emission type H1D, H3E, J1D, J3E, R1D or R3E.

The maximum permissible transmitted e.r.p. of the equipment under any operating conditions shall not exceed 0.5 W for channels 8-14 and 2 W for other channels.

6.2 TEST PROCEDURE

The procedure of conducted power is as follows:
Measurements shall be made to establish the radio frequency power delivered by the transmitter the standard output termination. The power output shall be monitored and recorded and no adjustment shall be made to the transmitter after the test has begun, except as noted bellow:
If the power output is adjustable, measurements shall be made for the highest and lowest power levels. The EUT connect to the Spectrum Analyzer through 30 dB attenuator.

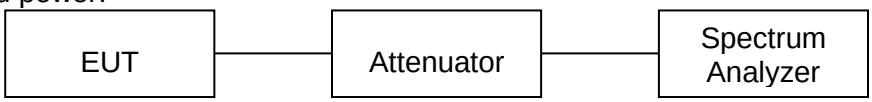
The procedure of effective radiated power is as follows:

1. EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1. 0 m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels were measured with peak detector.
2. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
3. The EUT is then put into continuously transmitting mode at its maximum power level during the test.Set Test Receiver or Spectrum RBW=1MHz,VBW=3MHz for above 1GHz and BW=100kHz,VBW=300kHz for 30MHz to 1GHz, And the maximum value of the receiver should be recorded as (Pr).
4. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of thesubstitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
5. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
   The measurement results are obtained as described below:
   Power(EIRP)=P_{Mea}- P_{Ag} - P_{cl} + G_a
   We used signal generator which signal level can up to 33dBm,so we not used power Amplifier for substituation test; The measurement results are amend as described below:
   Power(EIRP)=P_{Mea}- P_{cl} +G_a

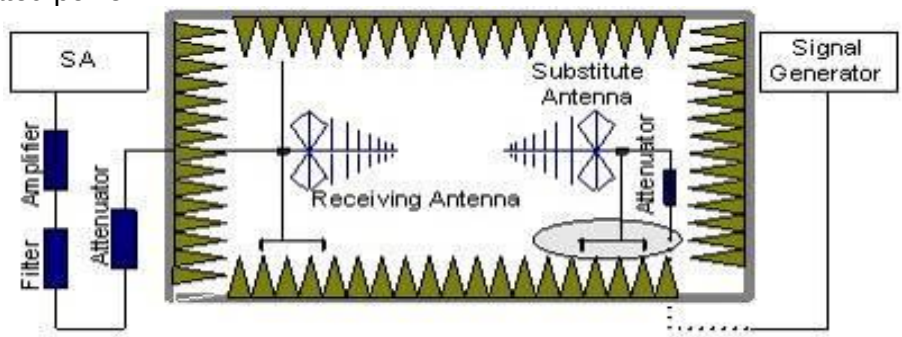
6. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power
7. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP=Reading - Cable loss + Antenna Gain - 2.15

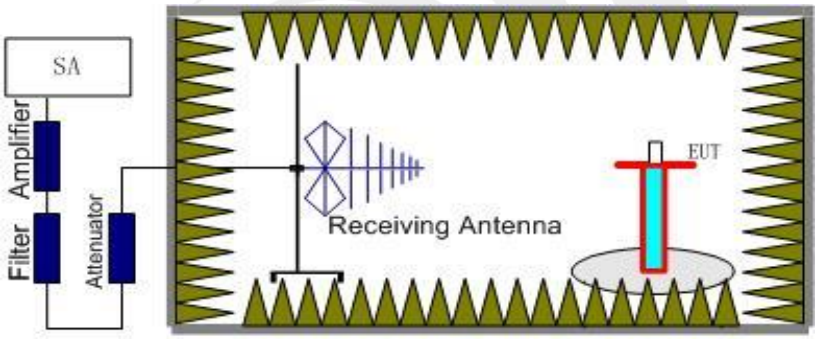
6.3 TEST SETUP

Conducted power:



Effective radiated power:





6.4 TEST RESULTS

Conducted Power:

Operation Mode	Test Channel	Test Frequency(MHz)	Test Results (dBm)	Test Results (W)	Limit (W)	Result
FRS	11	467.6375	23.54	0.23	0.5	Pass
	15	462.5500	23.55	0.23	2	Pass
	20	462.6750	23.71	0.23	2	Pass

Effective radiated power:

Operation Mode	Test Channel	Test Frequency (MHz)	Reading (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP (W)	Limit (W)	Polarity	Result
FRS	11	467.6375	21.16	1.49	6.00	23.52	0.22	0.5	V	Pass
			21.22	1.49	6.00	23.58	0.23	0.5	H	Pass
	15	462.5500	21.19	1.49	6.00	23.55	0.23	2	V	Pass
			21.15	1.49	6.00	23.51	0.22	2	H	Pass
	20	462.6750	21.35	1.49	6.00	23.71	0.23	2	V	Pass
			21.4	1.49	6.00	23.76	0.24	2	H	Pass
Note:ERP=Reading - Cable loss + Antenna Gain - 2.15										

7. EMISSION MASK

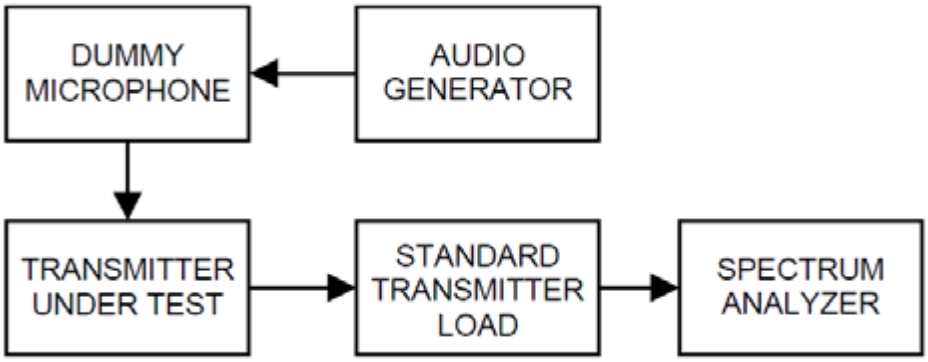
7.1 LIMIT

FRS:
FCC:
a. 25 dB, measured with a bandwidth of 300 Hz, in the band 6.25 kHz to 12.5 kHz removed from the channel centre frequency;
b. 35 dB, measured with a bandwidth of 300 Hz, in the band 12.5 kHz to 31.25 kHz removed from the channel centre frequency; and
c. 43 dB + 10 $\log_{10}$ (transmitter power in watts) dB, measured with a bandwidth of 30 kHz for frequencies beyond 31.25 kHz removed from the channel centre frequency.
IC:
a. 25 dB, measured with a bandwidth of 300 Hz, on any frequency removed from the centre frequency of the authorized bandwidth by more than 50%, up to and including 100% of the authorized bandwidth.
b. 35 dB, measured with a bandwidth of 300 Hz, on any frequency removed from the centre frequency of the authorized bandwidth by more than 100%, up to and including 250% of the authorized bandwidth
c. 43 dB + 10 log10 p dB, measured with a bandwidth of at least 30 kHz, on any frequency removed from the centre frequency of the authorized bandwidth by more than 250% of the authorized bandwidth.

7.2 TEST PROCEDURE

1. The EUT was connected to the spectrum analyzer through sufficent attenuation.
2. Set EUT as digital data mode.
3. Set SPA Center Frequency=fundamental frequency, RBW=300Hz, VBW=3KHz, span =120KHz.

7.3 TEST SETUP



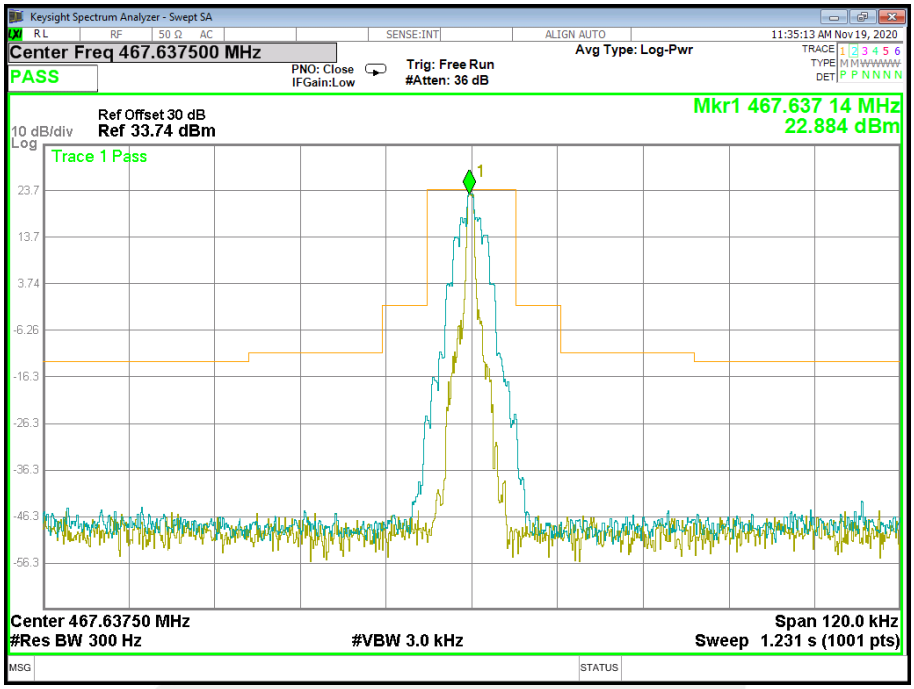
7.4 EUT OPERATION CONDITIONS

TX mode.

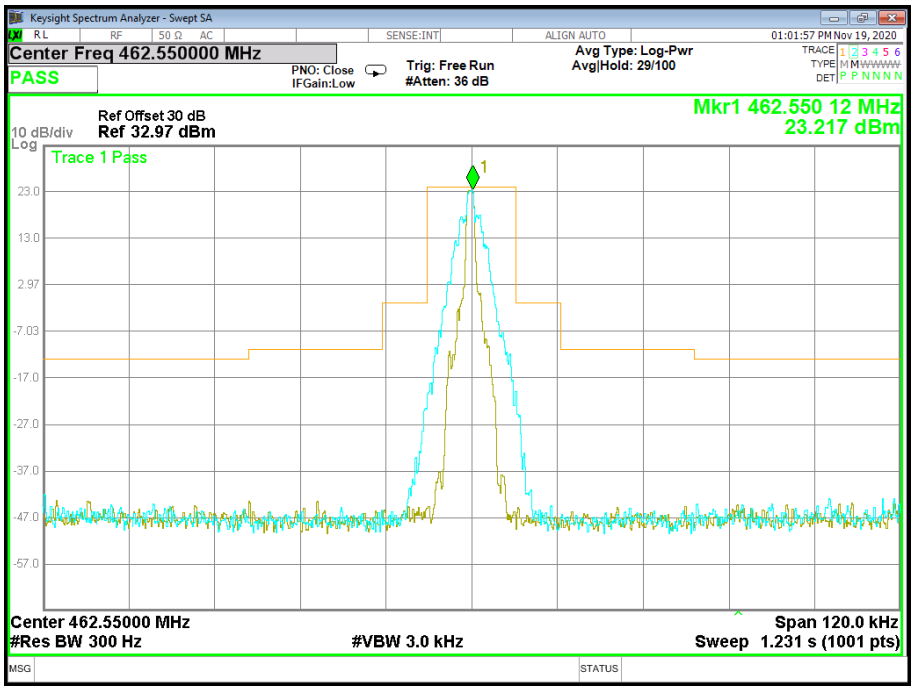
7.5 TEST RESULT

FCC

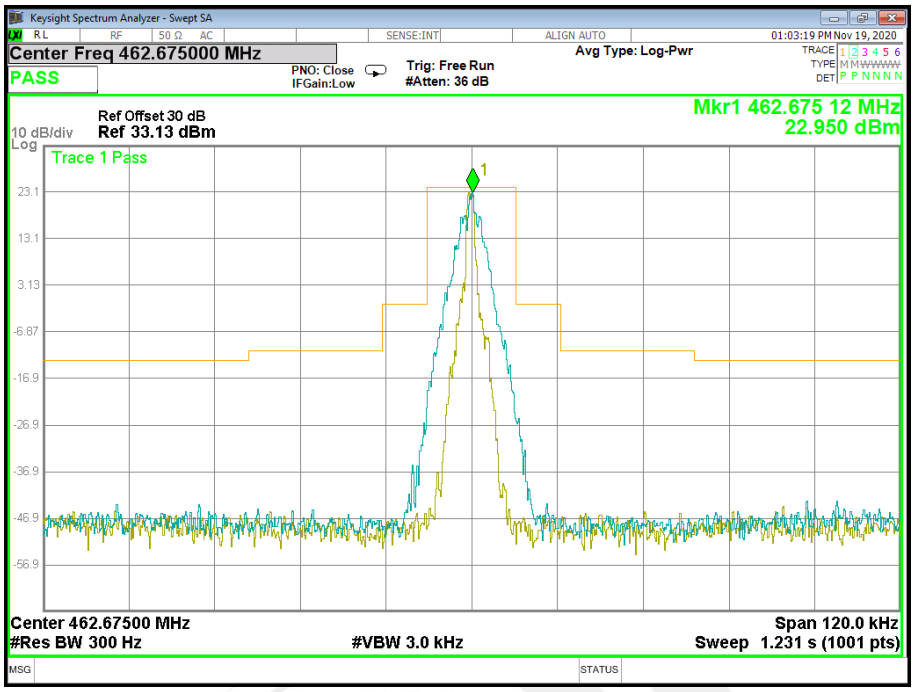
CH11



CH15

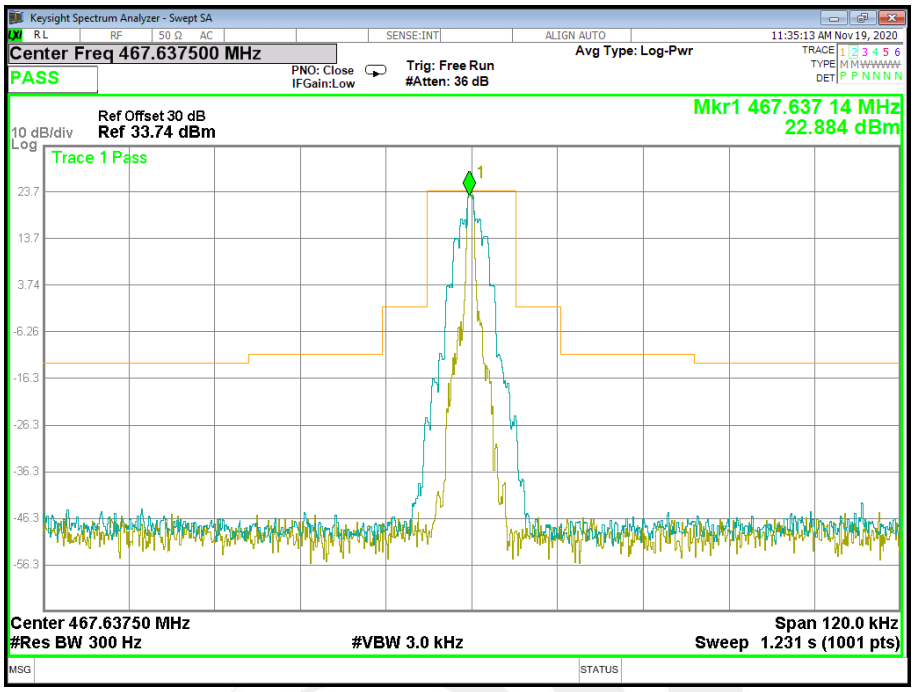


CH20

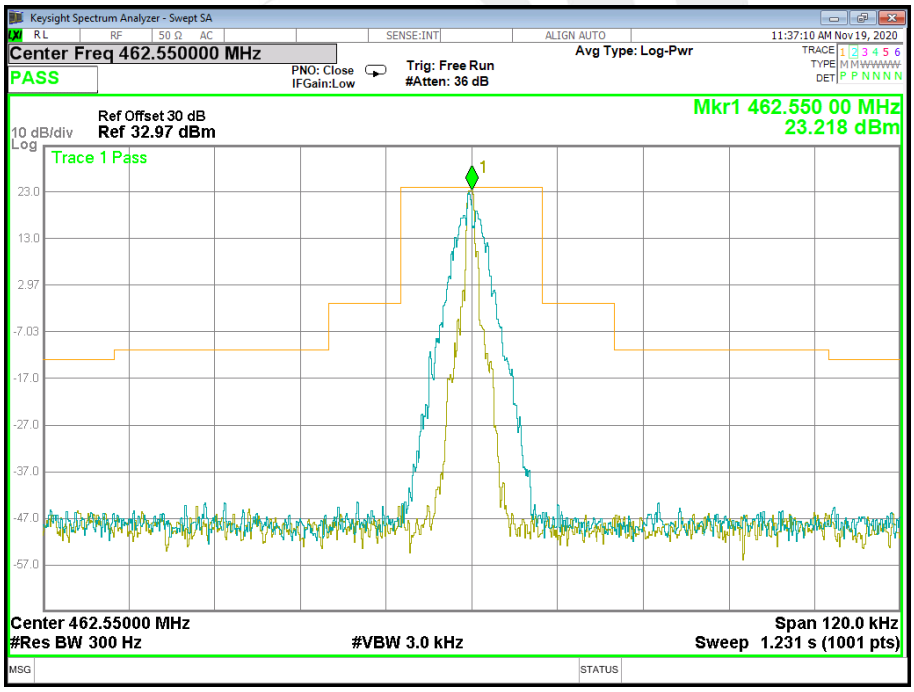

Keysight Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
01:03:19 PM Nov 19, 2020
Center Freq 462.675000 MHz
PNO: Close
IFGain:Low
Trig: Free Run
#Atten: 36 dB
Avg Type: Log-Pwr
TRACE 1 2 3 4 5 6
TYPE M M W W W W
DET P P N N N N
PASS
Ref Offset 30 dB
10 dB/div
Log
Ref 33.13 dBm
Mkr1 462.675 12 MHz
22.950 dBm
Trace 1 Pass
23.1
13.1
3.13
-6.87
-16.9
-26.9
-36.9
-46.9
-56.9
Center 462.67500 MHz
#Res BW 300 Hz
#VBW 3.0 kHz
Span 120.0 kHz
Sweep 1.231 s (1001 pts)
MSG
STATUS

IC

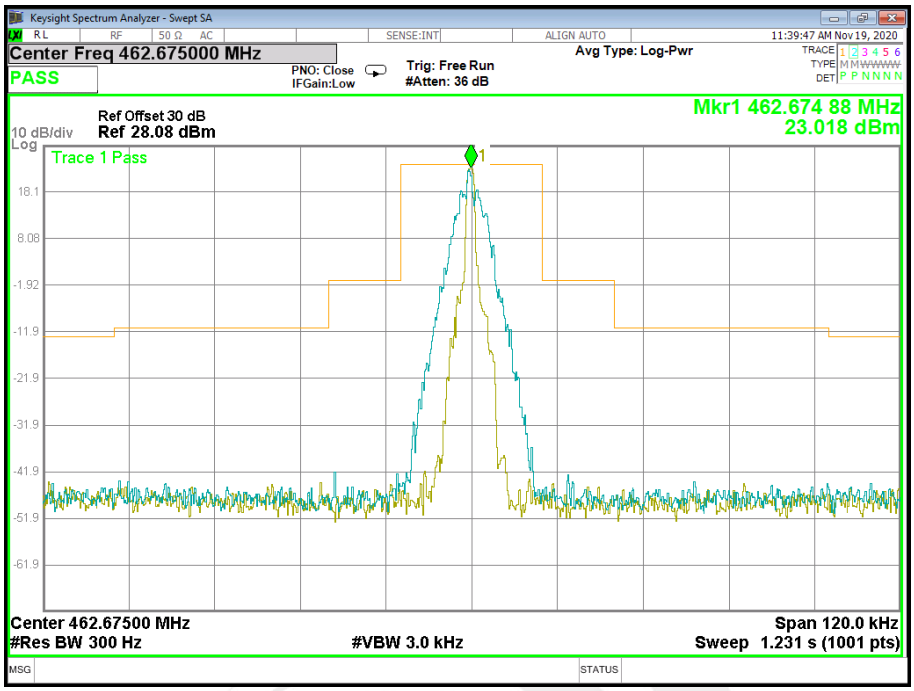
CH11


Keysight Spectrum Analyzer - Swept SA
Center Freq 467.637500 MHz
PASS
PNO: Close
IFGain:Low
Trig: Free Run
#Atten: 36 dB
Avg Type: Log-Pwr
11:35:13 AM Nov 19, 2020
Ref Offset 30 dB
10 dB/div
Ref 33.74 dBm
Log
Mkr1 467.637 14 MHz
22.884 dBm
Trace 1 Pass
23.7
13.7
3.74
-6.26
-16.3
-26.3
-36.3
-46.3
-56.3
Center 467.63750 MHz
#Res BW 300 Hz
#VBW 3.0 kHz
Span 120.0 kHz
Sweep 1.231 s (1001 pts)

CH15


Keysight Spectrum Analyzer - Swept SA
Center Freq 462.550000 MHz
PASS
PNO: Close
IFGain:Low
Trig: Free Run
#Atten: 36 dB
Avg Type: Log-Pwr
11:37:10 AM Nov 19, 2020
Ref Offset 30 dB
10 dB/div
Ref 32.97 dBm
Log
Mkr1 462.550 00 MHz
23.218 dBm
Trace 1 Pass
23.0
13.0
2.97
-7.03
-17.0
-27.0
-37.0
-47.0
-57.0
Center 462.55000 MHz
#Res BW 300 Hz
#VBW 3.0 kHz
Span 120.0 kHz
Sweep 1.231 s (1001 pts)

CH20


Keysight Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
11:39:47 AM Nov 19, 2020
Center Freq 462.675000 MHz
PASS
PNO: Close
IFGain:Low
Trig: Free Run
#Atten: 36 dB
Avg Type: Log-Pwr
TRACE 1 2 3 4 5 6
TYPE M M W W W W
DET P P N N N N
Ref Offset 30 dB
10 dB/div
Log
Ref 28.08 dBm
Mkr1 462.674 88 MHz
23.018 dBm
Trace 1 Pass
18.1
8.08
-1.92
-11.9
-21.9
-31.9
-41.9
-51.9
-61.9
Center 462.67500 MHz
#Res BW 300 Hz
#VBW 3.0 kHz
Span 120.0 kHz
Sweep 1.231 s (1001 pts)
MSG
STATUS

8. FREQUENCY STABILITY

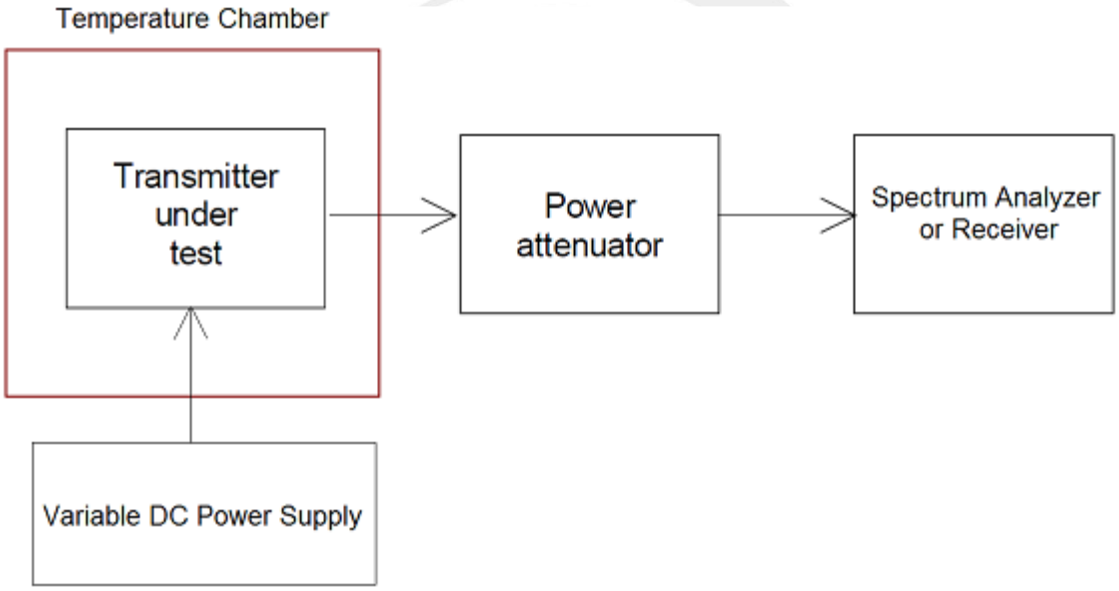
8.1 LIMIT

The carrier frequency stability shall not exceed ±2.5 ppm.

8.2 TEST PROCEDURE

1. The frequency stability shall be measured with variation of ambient temperature from -30℃ to +50℃
2. For battery powered equipment, the frequency stability shall be measured with reducing primary supply voltage to the battery operating end point, which is specified by the manufacture.
3. Vary primary supply voltage from 3.15V to 4.26V.
4. The EUT was set in the climate chamber and connected to an external DC power supply. The RF output was directly connected to Spectrum Analyzer The coupling loss of the additional cables was recorded and taken in account for all the measurements. After temperature stabilization (approx. 20 min for each stage), the frequency for the lower, the middle and the highest frequency range was recorded. For Frequency stability Vs. Voltage the EUT was connected to a DC power supply and the voltage was adjusted in the required ranges. The result was recorded

8.3 TEST SETUP



8.4 EUT OPERATION CONDITIONS

TX mode.

8.5 TEST RESULT

FRS_Channl 11(467.6375MHz)						
Voltage	Temperature (°C)	Nominal Frequency (MHz)	Measured Frequency (MHz)	Frequency error (ppm)	Limit	Result
Normal Voltage	-30	467.6375	467.6378	0.6415	±2.5ppm	Pass
	-20	467.6375	467.6377	0.4277		
	-10	467.6375	467.6377	0.4277		
	0	467.6375	467.6376	0.2138		
	10	467.6375	467.6381	1.2830		
	20	467.6375	467.6380	1.0692		
	30	467.6375	467.6376	0.2138		
	40	467.6375	467.6379	0.8554		
	50	467.6375	467.6376	0.2138		
Maximum Voltage	20	467.6375	467.6376	0.2138		
BEP	20	467.6375	467.6378	0.6415		

FRS_Channl 15(462.5500MHz)						
Voltage	Temperature (°C)	Nominal Frequency (MHz)	Measured Frequency (MHz)	Frequency error (ppm)	Limit	Result
Normal Voltage	-30	462.5500	462.5506	1.2972	±2.5ppm	Pass
	-20	462.5500	462.5503	0.6486		
	-10	462.5500	462.5500	0.0000		
	0	462.5500	462.5505	1.0810		
	10	462.5500	462.5503	0.6486		
	20	462.5500	462.5503	0.6486		
	30	462.5500	462.5501	0.2162		
	40	462.5500	462.5504	0.8648		
	50	462.5500	462.5506	1.2972		
Maximum Voltage	20	462.5500	462.5502	0.4324		
BEP	20	462.5500	462.5504	0.8648		

FRS_Channl 20(462.6750MHz)						
Voltage	Temperature (°C)	Nominal Frequency (MHz)	Measured Frequency (MHz)	Frequency error (ppm)	Limit	Result
Normal Voltage	-30	462.6750	462.6752	0.4323	±2.5ppm	Pass
	-20	462.6750	462.6755	1.0807		
	-10	462.6750	462.6756	1.2968		
	0	462.6750	462.6753	0.6484		
	10	462.6750	462.6751	0.2161		
	20	462.6750	462.6754	0.8645		
	30	462.6750	462.6752	0.4323		
	40	462.6750	462.6756	1.2968		
	50	462.6750	462.6754	0.8645		
Maximum Voltage	20	462.6750	462.6752	0.4323		
BEP	20	462.6750	462.6752	0.4323		

9. MODULATION LIMIT

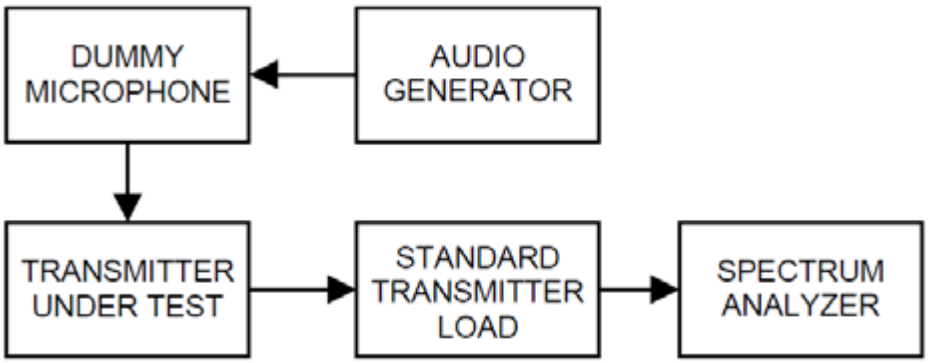
9.1 LIMIT

FRS:
FCC:
Each FRS transmitter type must be designed such that the peak frequency deviation does not exceed 2.5 kHz, and the highest audio frequency contributing substantially to modulation must not exceed 3.125 kHz.
IC:
For frequency modulation and phase modulation, the peak frequency deviation shall not exceed ±2.5 kHz for channels 8-14 and ±5 kHz for other channels.

9.2 TEST PROCEDURE

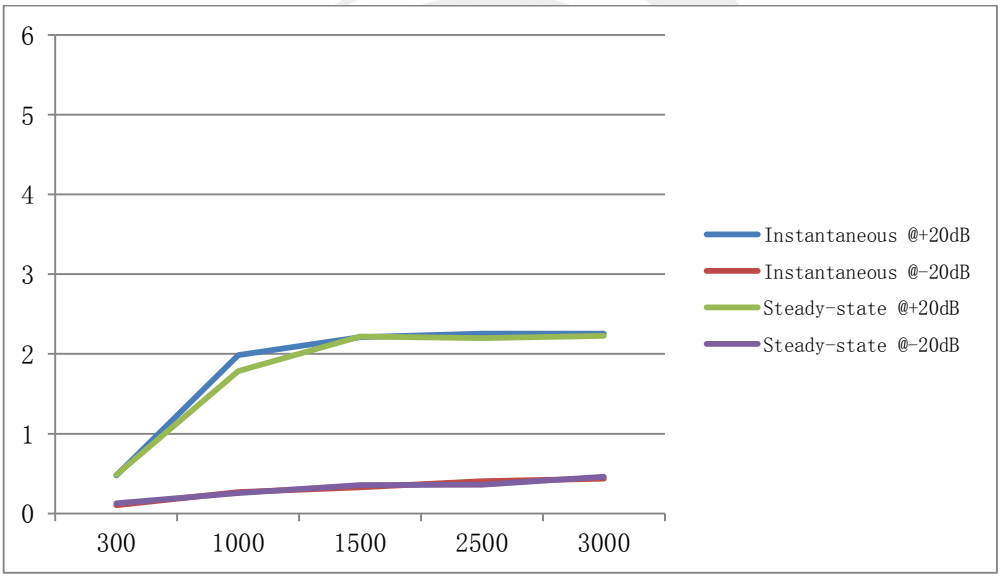
1. Connect the equipment as illustrated.
2. Adjust the transmitter per the manufacturer's procedure for full rated system deviation
3. Set the test receiver to measure peak positive deviation. Set the audio bandwidth for ≤0.25 Hz to ≥15,000 Hz. Turn the de-emphasis function off
4. Apply a 1000 Hz modulating signal to the transmitter from the audio frequency generator, and adjust the level to obtain 60% of full rated system deviation, this level is as a reference (0dB) and vary the input lev el from –20 to +20dB.
5. Measure both the instantaneous and steady-state deviation at and after the time of increasing the audio input level
6. Repeat step 4-5 with input frequency changing to 300Hz, 1004Hz, 1500Hz and 2500Hz in sequence.

9.3 TEST SETUP

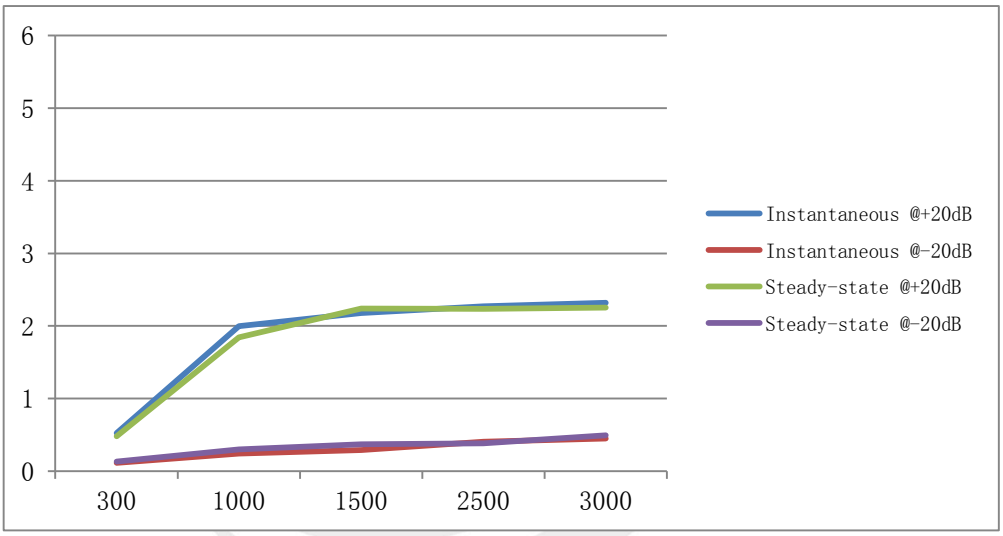


9.4 TEST RESULT

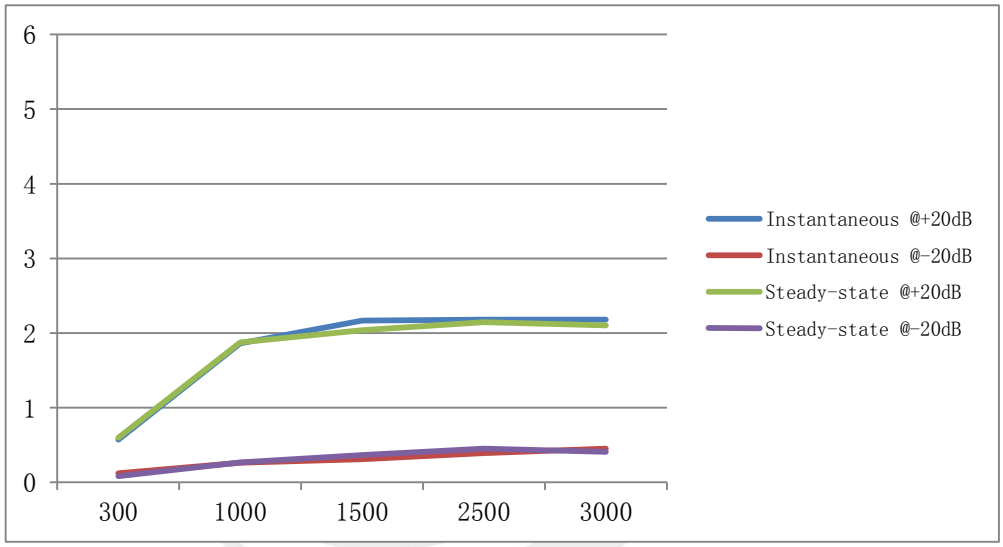
FRS_Channl 11(467.6375MHz)							
Audio Frequency (Hz)	Instantaneous		Steady-state		FCC Limit (kHz)	IC Limit (kHz)	Result
	Deviation (@+20dB) (kHz)	Deviation (@-20dB) (kHz)	Deviation (@+20dB) (kHz)	Deviation (@-20dB) (kHz)			
300	0.476	0.104	0.486	0.129	±2.5	±2.5	Pass
1000	1.986	0.267	1.786	0.257			
1500	2.211	0.328	2.22	0.355			
2500	2.255	0.406	2.2	0.359			
3000	2.255	0.436	2.225	0.461			



FRS_Channl 15(462.5500MHz)							
Audio Frequency (Hz)	Instantaneous		Steady-state		FCC Limit (kHz)	IC Limit (kHz)	Result
	Deviation (@+20dB) (kHz)	Deviation (@-20dB) (kHz)	Deviation (@+20dB) (kHz)	Deviation (@-20dB) (kHz)			
300	0.526	0.114	0.482	0.134	±2.5	±5	Pass
1000	1.999	0.243	1.842	0.298			
1500	2.18	0.292	2.239	0.369			
2500	2.271	0.407	2.234	0.383			
3000	2.319	0.451	2.252	0.496			



FRS_Channl 20(462.6750MHz)							
Audio Frequency (Hz)	Instantaneous		Steady-state		FCC Limit (kHz)	IC Limit (kHz)	Result
	Deviation (@+20dB) (kHz)	Deviation (@-20dB) (kHz)	Deviation (@+20dB) (kHz)	Deviation (@-20dB) (kHz)			
300	0.57	0.122	0.598	0.081	±2.5	±5	Pass
1000	1.864	0.263	1.874	0.265			
1500	2.166	0.31	2.037	0.364			
2500	2.18	0.393	2.147	0.451			
3000	2.179	0.45	2.101	0.41			



10. AUDIO FREQUENCY FILTER

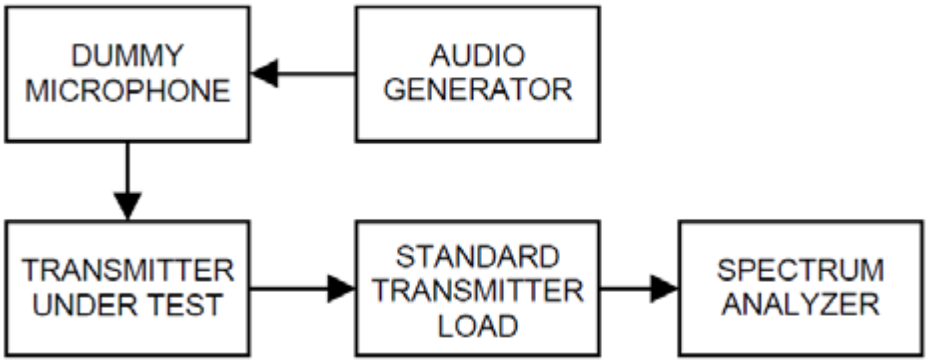
10.1 LIMIT

Frequency, f (kHz)	Attenuation Greater Than the Attenuation at 1 kHz (dB)
3 ≤ f ≤ 20	60 $\log_{10}(f/3)$
f > 20	50

10.2 TEST PROCEDURE

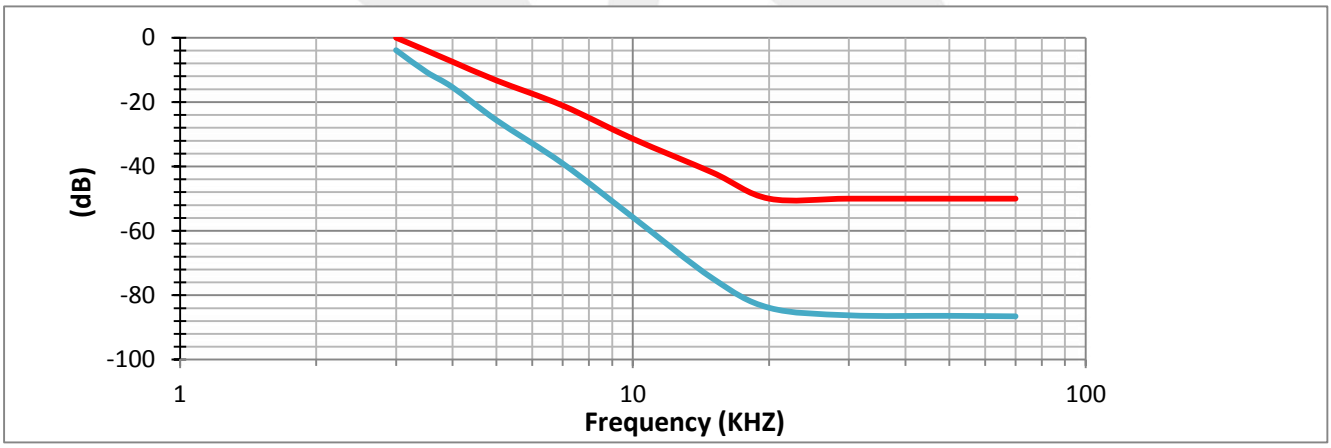
1. Configure the EUT as shown in figure
2. Apply a 1000 Hz tone from the audio signal generator and adjust the level per manufacturer's specifications. Record the dB level of the 1000 Hz tone as LEV_{REF}.
3. Set the audio signal generator to the desired test frequency between 3000 Hz and the upper low pass filter limit. Record the dB level at the test frequency as LEV_{FREQ}
4. Calculate the audio frequency response at the test frequency as:
low pass filter response = LEV_{FREQ} - LEV_{REF}

10.3 TEST SETUP

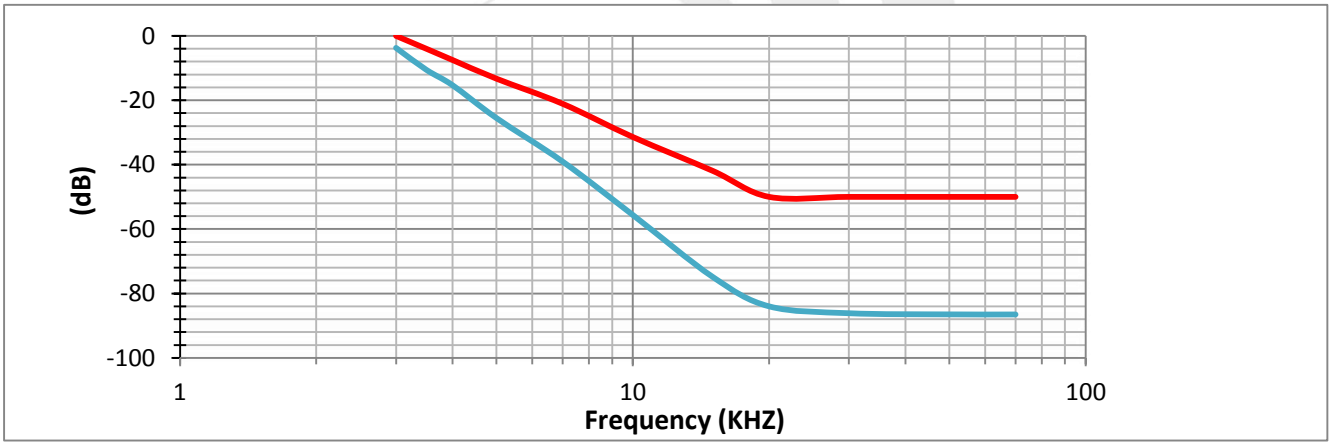


10.4 TEST RESULT

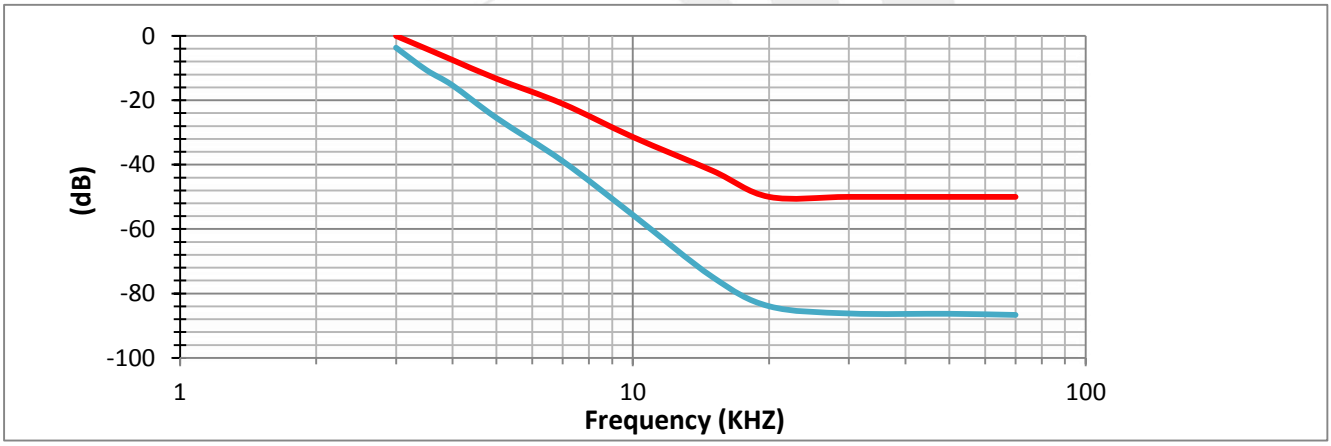
FRS_Channl 11(467.6375MHz)			
Audio Frequency(KHz)	Limit	Response Attenuation(dB)	Result
3	0	-3.89	PASS
3.5	-4	-10.65	
4	-7.5	-15.43	
5	-13.3	-25.65	
7	-21.1	-39.08	
10	-31.4	-55.77	
15	-41.9	-74.77	
20	-50	-83.90	
30	-50	-86.23	
50	-50	-86.39	
70	-50	-86.55	



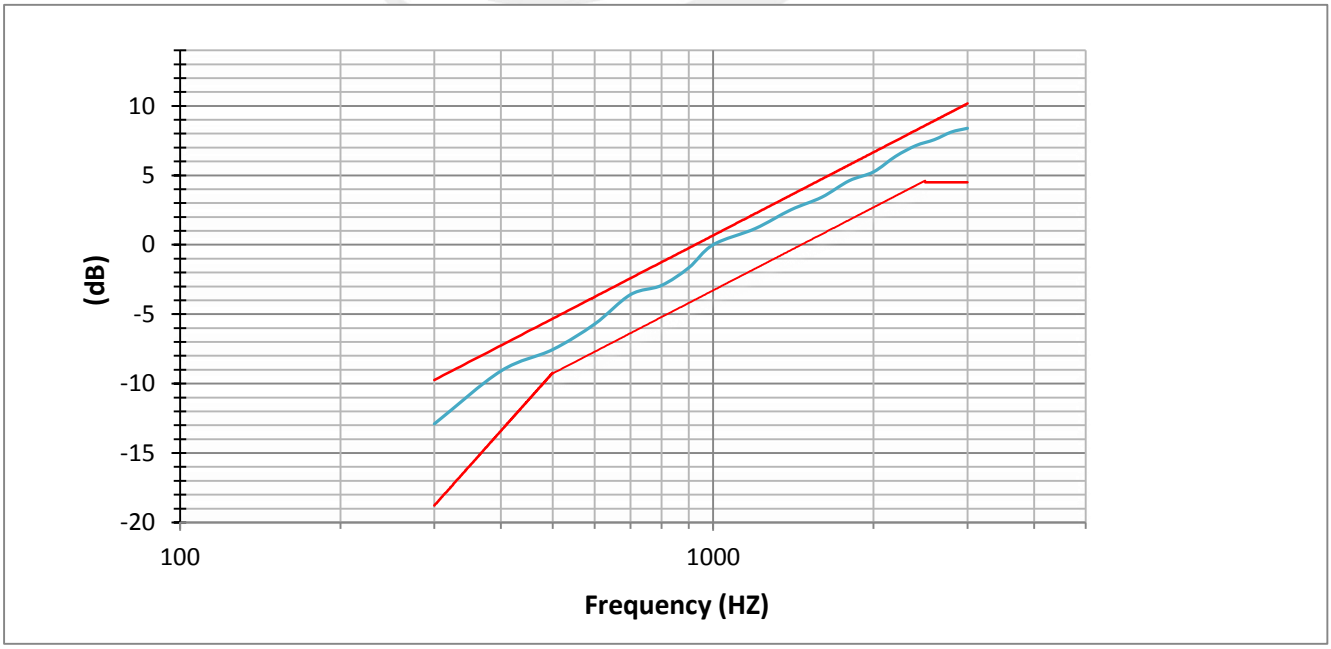
FRS_Channl 15(462.550MHz)			
Audio Frequency(KHz)	Limit	Response Attenuation(dB)	Result
3	0	-3.73	PASS
3.5	-4	-10.54	
4	-7.5	-15.34	
5	-13.3	-25.54	
7	-21.1	-39.06	
10	-31.4	-55.62	
15	-41.9	-74.83	
20	-50	-84.00	
30	-50	-86.13	
50	-50	-86.49	
70	-50	-86.51	



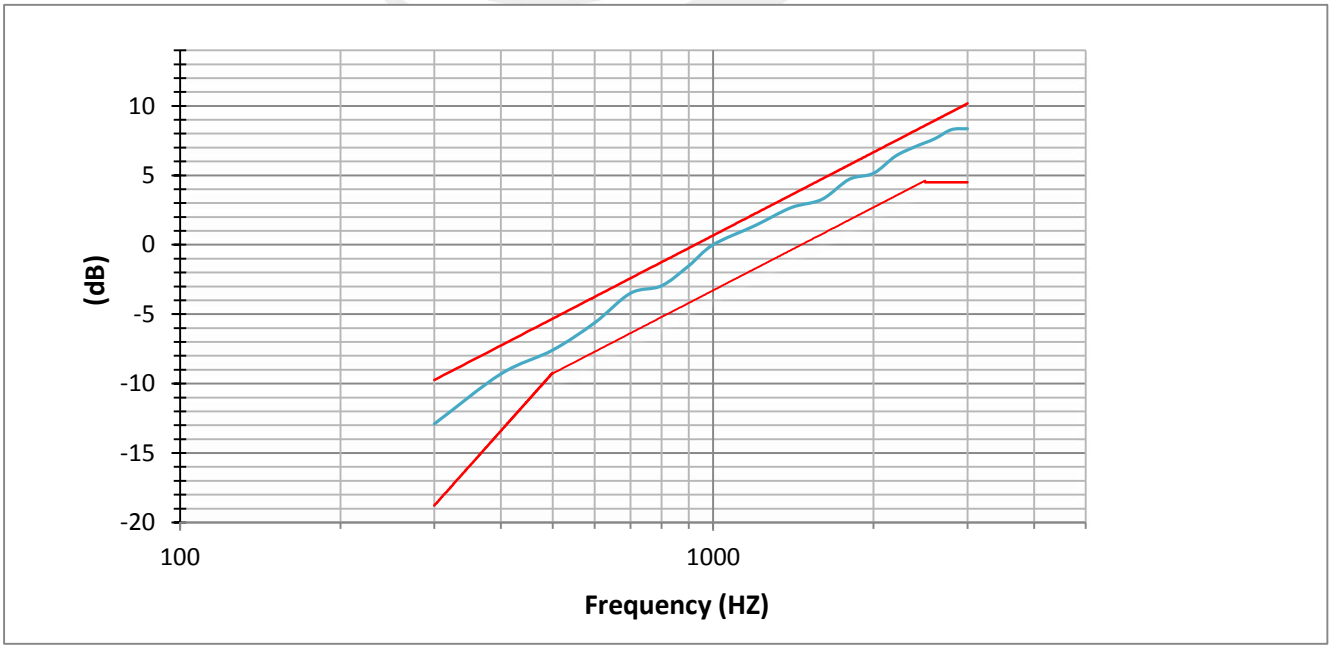
FRS_Channl 20(462.6750MHz)			
Audio Frequency(KHz)	Limit	Response Attenuation(dB)	Result
3	0	-3.67	PASS
3.5	-4	-10.61	
4	-7.5	-15.39	
5	-13.3	-25.49	
7	-21.1	-38.92	
10	-31.4	-55.59	
15	-41.9	-74.91	
20	-50	-83.97	
30	-50	-86.21	
50	-50	-86.31	
70	-50	-86.66	



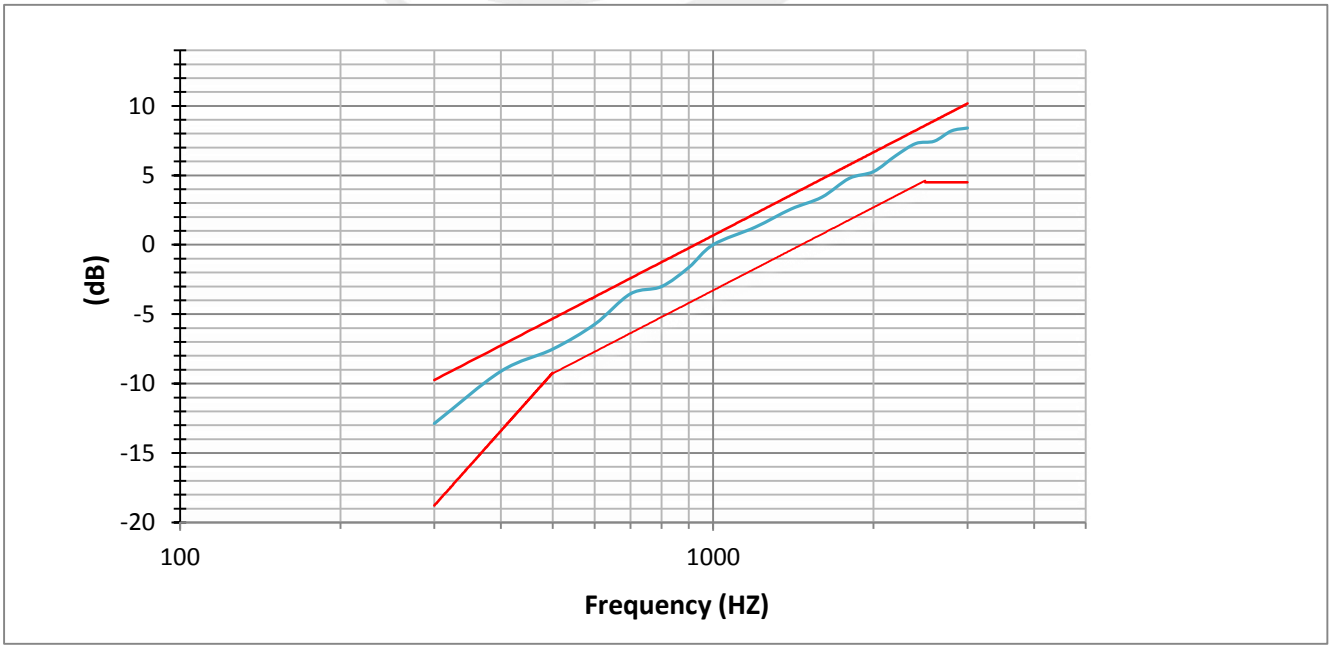
FRS_Channl 11(467.6375MHz)		
Audio Frequency(Hz)	Audio Frequency Response(dB)	Result
300	-12.90	PASS
400	-9.09	
500	-7.55	
600	-5.70	
700	-3.59	
800	-2.93	
900	-1.66	
1000	0.00	
1200	1.17	
1400	2.52	
1600	3.43	
1800	4.61	
2000	5.25	
2200	6.37	
2400	7.14	
2600	7.57	
2800	8.12	
3000	8.39	



FRS_Channl 15(462.5500MHz)		
Audio Frequency(Hz)	Audio Frequency Response(dB)	Result
300	-12.90	PASS
400	-9.30	
500	-7.59	
600	-5.61	
700	-3.49	
800	-2.96	
900	-1.52	
1000	0.00	
1200	1.39	
1400	2.67	
1600	3.27	
1800	4.71	
2000	5.15	
2200	6.39	
2400	7.08	
2600	7.62	
2800	8.29	
3000	8.36	



FRS_Channl 20(462.6750MHz)		
Audio Frequency(Hz)	Audio Frequency Response(dB)	Result
300	-12.87	PASS
400	-9.11	
500	-7.52	
600	-5.72	
700	-3.53	
800	-3.01	
900	-1.64	
1000	0.00	
1200	1.27	
1400	2.57	
1600	3.43	
1800	4.78	
2000	5.27	
2200	6.41	
2400	7.29	
2600	7.46	
2800	8.2	
3000	8.41	



11. CONDUCTED EMISSION MEASUREMENT

11.1 POWER LINE CONDUCTED EMISSION LIMITS

The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table.

FREQUENCY (MHz)	Conducted Emissionlimit (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

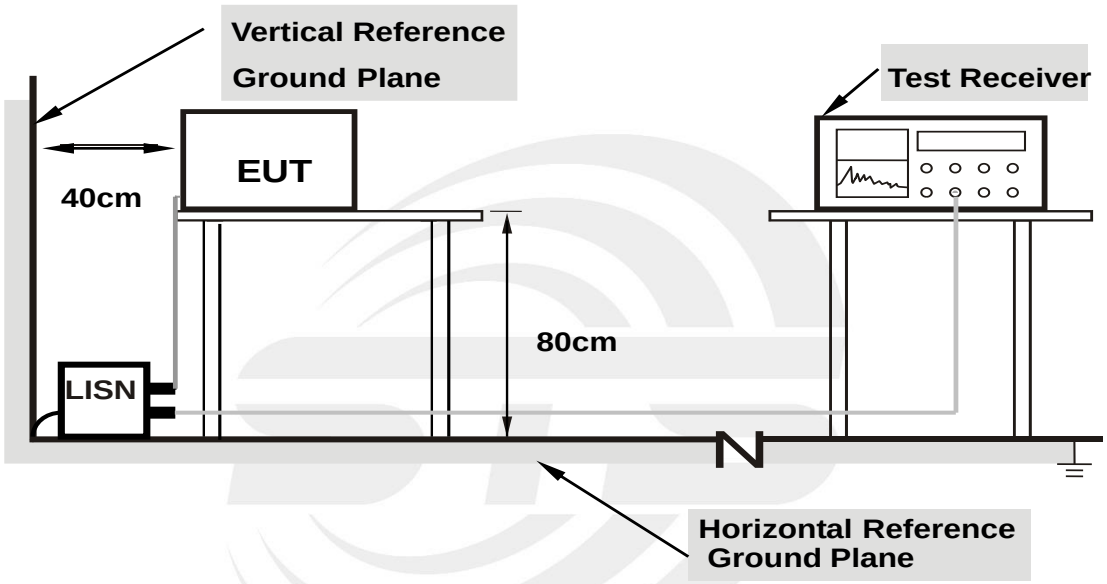
The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

11.2 TEST PROCEDURE

a. The EUT is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments are powered from additional LISN(s). The LISN provides 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN is at least 80 cm from the nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

11.3 TEST SETUP



Note: 1. Support units were connected to second LISN.

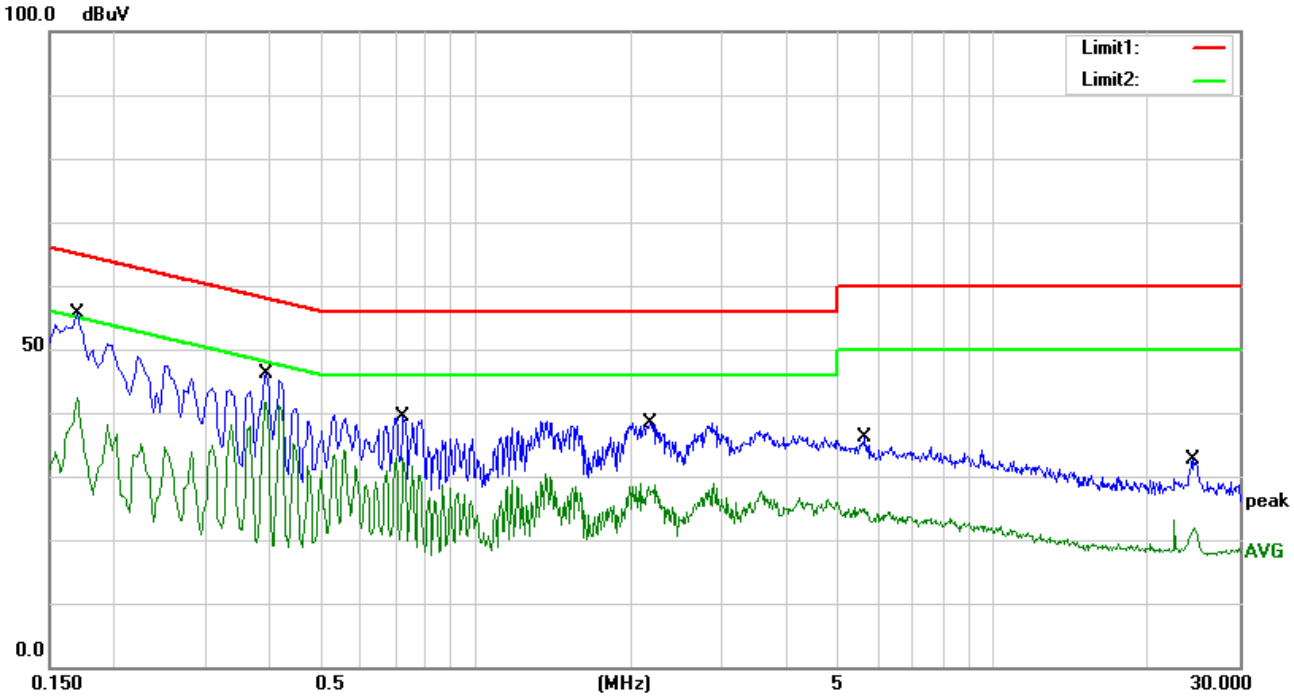
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.

11.4 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

11.5 TEST RESULT

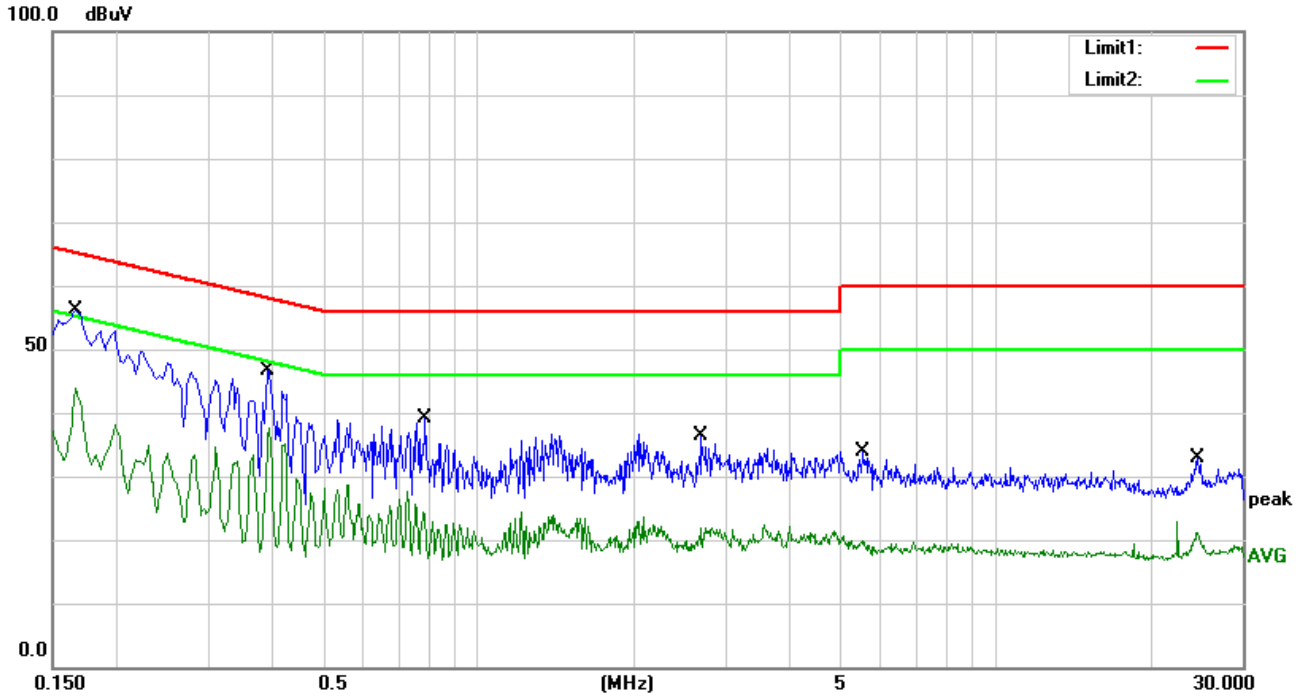
Temperature:	26.5℃	Relative Humidity:	66%
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode:	Mode 1/2/3(Mode 3 worst mode)		



Remark:
1. All readings are Quasi-Peak and Average values
2. Margin = Result (Result =Reading + Factor)–Limit
3. Factor=LISN factor+Cable loss+Limiter (10dB)

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1700	35.28	20.24	55.52	64.96	-9.44	QP
2	0.1700	22.20	20.24	42.44	54.96	-12.52	AVG
3	0.3940	25.57	20.54	46.11	57.98	-11.87	QP
4	0.3940	21.12	20.54	41.66	47.98	-6.32	AVG
5	0.7260	19.16	20.26	39.42	56.00	-16.58	QP
6	0.7260	12.69	20.26	32.95	46.00	-13.05	AVG
7	2.1780	18.27	20.14	38.41	56.00	-17.59	QP
8	2.1780	8.45	20.14	28.59	46.00	-17.41	AVG
9	5.6620	16.07	19.96	36.03	60.00	-23.97	QP
10	5.6620	4.90	19.96	24.86	50.00	-25.14	AVG
11	24.3460	11.87	20.68	32.55	60.00	-27.45	QP
12	24.3460	1.16	20.68	21.84	50.00	-28.16	AVG

Temperature:	26.5℃	Relative Humidity:	66%
Test Voltage:	AC 120V/60Hz	Phase:	N
Test Mode:	Mode 1/2/3(Mode 3 worst mode)		



Remark:
1. All readings are Quasi-Peak and Average values
2. Margin = Result (Result =Reading + Factor)–Limit
3. Factor=LISN factor+Cable loss+Limiter (10dB)

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1660	35.81	20.23	56.04	65.16	-9.12	QP
2	0.1660	23.62	20.23	43.85	55.16	-11.31	AVG
3	0.3900	26.20	20.55	46.75	58.06	-11.31	QP
4	0.3900	17.11	20.55	37.66	48.06	-10.40	AVG
5	0.7900	18.96	20.24	39.20	56.00	-16.80	QP
6	0.7900	4.11	20.24	24.35	46.00	-21.65	AVG
7	2.7060	16.30	20.10	36.40	56.00	-19.60	QP
8	2.7060	1.76	20.10	21.86	46.00	-24.14	AVG
9	5.5460	13.84	19.97	33.81	60.00	-26.19	QP
10	5.5460	-0.04	19.97	19.93	50.00	-30.07	AVG
11	24.5780	12.10	20.68	32.78	60.00	-27.22	QP
12	24.5780	0.49	20.68	21.17	50.00	-28.83	AVG

APPENDIX 1- PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

※※※※※END OF THE REPORT※※※※※