FCC Test Report

Report No: FCS202010007W01

Issued for

Applicant:	Guangzhou Zhiying Technology Co., Ltd
Address:	Room 201, Block 15th, No.200 Fangcun Avenue East, Liwan District, Guangzhou, China
Product Name:	UHF Wireless Microphone
Brand Name:	SYNCO
Model Name:	WMic-T3
Series Model:	WMic-T1P, ,WMic-T1Pro, WMic-T2, WMic-T2P, WMic-T20, WMic-T3P, WMic-T3Pro, WMic-T30, WMic-T4, WMic-T5, WMic-T6, WMic-TS Mini, WMic-TS, WMic-Ts(X1), WMic-Ts(X2), WMic-TS(X3), WMic-TS(X4)
FCC ID:	2AUZR-WMIC-T3

Issued By: Flux Compliance Service Laboratory
Add: Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan
Tel: 769-27280901 Fax:769-27280901 http://www.fcs-lab.com

TEST RESULT CERTIFICATION

Applicant's Name .....:	Guangzhou Zhiying Technology Co., Ltd
Address.....:	Room 201, Block 15th, No.200 Fangcun Avenue East, Liwan District, Guangzhou, China
Manufacture's Name .....:	Guangzhou SYNCO Technology Co., Ltd
Address.....:	2nd Floor, No.68 Xieshi Road, Panyu District, Guangzhou, China

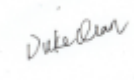
Product Description

Product Name .....:	UHF Wireless Microphone
Brand Name .....:	SYNCO
Model Name.....:	WMic-T3
Series Model .....:	WMic-T1P, ,WMic-T1Pro, WMic-T2, WMic-T2P, WMic-T20, WMic-T3P, WMic-T3Pro, WMic-T30, WMic-T4, WMic-T5, WMic-T6, WMic-TS Mini, WMic-TS, WMic-Ts(X1), WMic-Ts(X2), WMic-TS(X3), WMic-TS(X4)
Test Standards .....:	FCC Rules and Regulations Part 15 Subpart C section 15.236
Test Procedure .....:	ANSI C63.10:2013

This device described above has been tested FCS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
This report shall not be reproduced except in full, without the written approval of FCS, this document may be altered or revised by FCS, personal only, and shall be noted in the revision of the document..

Date of Test ..... :

Date (s) of performance of tests :	Oct. 15, 2020~ Oct. 31, 2020
Date of Issue ..... :	Oct. 31, 2020
Test Result..... :	Pass

Testing Engineer : 

(Duke Qian)

Technical Manager : 

(Jack Wang)

Authorized Signatory : 

(Andy Yue)

Table of Contents Page

Table of Contents **Page**

Revision History

Rev.	Issue Date	Effect Page	Contents
00	Oct. 31, 2020	All	Initial Issue

1. SUMMARY OF TEST RESULTS

FCC Part 15 Subpart C section 15.236			
Standard Section	Test Item	Judgment	Remark
FCC Part 15.236(d)	Maximum Radiated Power	PASS	--
FCC Part 15.236(f)(2)	Occupied Bandwidth	PASS	--
FCC Part 15.236(g)	Necessary bandwidth	PASS	--
FCC Part 15.236(f)(3)	Frequency stability	PASS	--
FCC Part 15.236(g); FCC Part 15.209	Emission within the band and outside this band	PASS	--
FCC Part 207(a)	Conducted Emission	PASS	--
FCC Part 15.203	Antenna Requirment	PASS	

NOTE:

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

(2) All tests are according to ANSI C63.10:2013

1.1 TEST FACTORY

Company Name:	Flux Compliance Service Laboratory
Address:	Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan
Telephone:	+86-769-27280901
Fax:	+86-769-27280901
FCC Test Firm Registration Number: 514908 Designation number: CN0127 A2LA accreditation number：5545.01	

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	±0.71dB
2	Unwanted Emissions, conducted	±2.98 dB
3	Conducted Emission (9KHz-150KHz)	±4.13 dB
4	Conducted Emission (150KHz-30MHz)	±4.74 dB
5	All emissions,radiated(<1G) 30MHz-1000MHz	±3.2 dB
6	All emissions,radiated (1GHz -18GHz)	±3.66 dB
7	All emissions,radiated (18GHz -40GHz)	±4.31 dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	UHF Wireless Microphone
Model Name	WMic-T3
Series Model	WMic-T1P, ,WMic-T1Pro, WMic-T2, WMic-T2P, WMic-T20, WMic-T3P, WMic-T3Pro, WMic-T30, WMic-T4, WMic-T5,WMic-T6, WMic-TS Mini, WMic-TS, WMic-Ts(X1),WMic-Ts(X2), WMic-TS(X3), WMic-TS(X4)
Channel List	Please refer to the Note 2.
Operation frequency	512MHz- 526.7MHz
Modulation Type	FM
Antenna Type	Integra antenna
Antenna Gain (dBi)	1.0
Power Supply	DC 4.2V(Battery)
Hardware version number	V1.0
Software version number	V1.0
Connecting I/O Port(s)	Please refer to the User's Manual

Note:

1. For a more detailed features description, please refer to the manufacturer’s specifications or the User's Manual.

2. **Channel List**

Channel					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	512.0	19	517.4	37	522.8
02	512.3	20	517.7	38	523.1
03	512.6	21	518.0	39	523.4
04	512.9	22	518.3	40	523.7
05	513.2	23	518.6	41	524.0
06	513.5	24	518.9	42	524.3
07	513.8	25	519.2	43	524.6
08	514.1	26	519.5	44	524.9
09	514.4	27	519.8	45	525.2
10	514.7	28	520.1	46	525.5
11	515.0	29	520.4	47	525.8
12	515.3	30	520.7	48	526.1
13	515.6	31	521.0	49	526.4
14	515.9	32	521.3	50	526.7
15	516.2	33	521.6		
16	516.5	34	521.9		
17	516.8	35	522.2		
18	517.1	36	522.5		

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.

Test software:FCC tools

The test softeware was used to control EUT work in continuous TX mode, and select test channel, Wireless mode as below table, the following operating modes were applied for the related test items. All test modes were tested, only the result of the worst case was recorded in the report.

Tested mode, channel , information		
Mode	Channel	Frequency (MHz)
Channel (FM)	CH 01	512.0
	CH 26	519.5
	CH 50	526.7

2.3 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.	Serial No.	Note

Support units

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

Note:

(1) The support equipment was authorized by Declaration of Confirmation.

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

(3) “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.

2.4 EQUIPMENTS LIST

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESRP 3	FCS-E001	2020. 06.26	2021. 06.25
Signal Analyzer	R&S	FSV40-N	FCS-E012	2020.06.05	2021.06.04
Active loop Antenna	ZHINAN	ZN30900C	FCS-E013	2020.08.09	2021.08.10
Bilog Antenna	SCHWARZBECK	VULB 9168	FCS-E002	2020.08.26	2021.08.25
Horn Antenna	SCHWARZBECK	BBHA 9120D	FCS-E003	2020.08.26	2021.08.25
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	FCS-E018	2020.06.26	2021.06.25
Pre-Amplifier(0.1M-3GHz)	EMCI	EM330N	FCS-E004	2020.06.26	2021.06.25
Pre-Amplifier (1G-18GHz)	N/A	TSAMP-0518SE	FCS-E014	2020.06.03	2021.06.02
Pre-Amplifier (18G-40GHz)	TERA-MW	TRLA-0400	FCS-E019	2020.08.08	2021.08.07
Temperature & Humidity	HTC-1	victor	FCS-E005	2020.08.26	2021.08.25

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESPI	FCS-E020	2020.06.03	2021.06.02
LISN	R&S	ENV216	FCS-E007	2020.08.08	2021.08.07
LISN	ETS	3810/2NM	FCS-E009	2020.06.03	2021.06.02
Temperature & Humidity	HTC-1	victor	FCS-E008	2020.08.08	2021.08.07

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
MXA SIGNAL Analyzer	Keysight	N9020B	FCS-E015	2020.06.03	2021.06.02
Spectrum Analyzer	Agilent	E4447A	MY50180039	2020.08.08	2021.08.07
Spectrum Analyzer	R&S	FSV-40	101499	2020.08.26	2021.08.25

3 MAXIMUM RADIATED POWER

3.1 LIMIT

Refer to FCC 15.236(d)
In the bands allocated and assigned for broadcast television and in the 600 MHz service band: 50 mW EIRP; In the 600 MHz guard bands including the duplex gap: 20 mW EIRP

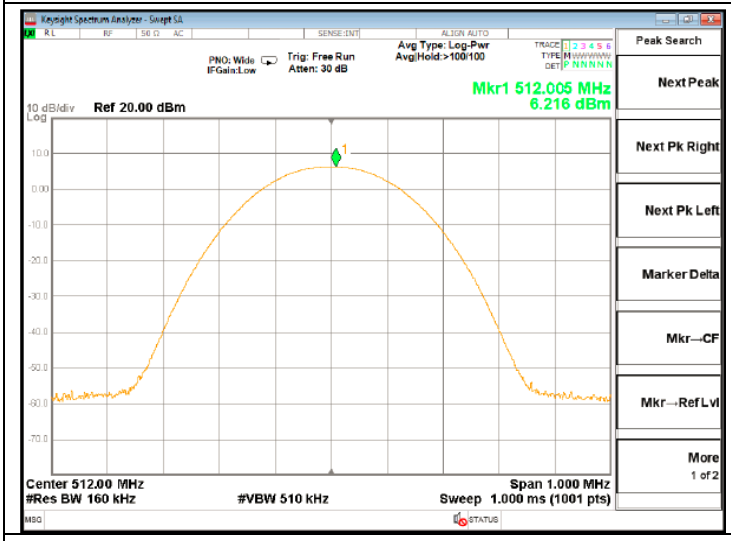
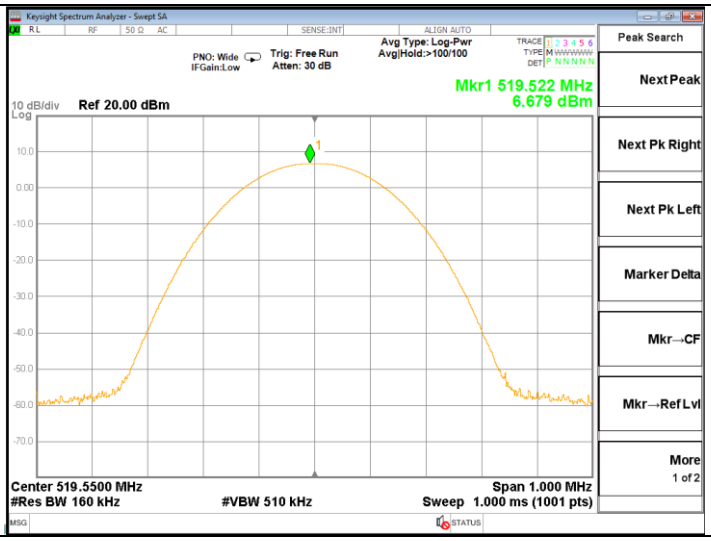
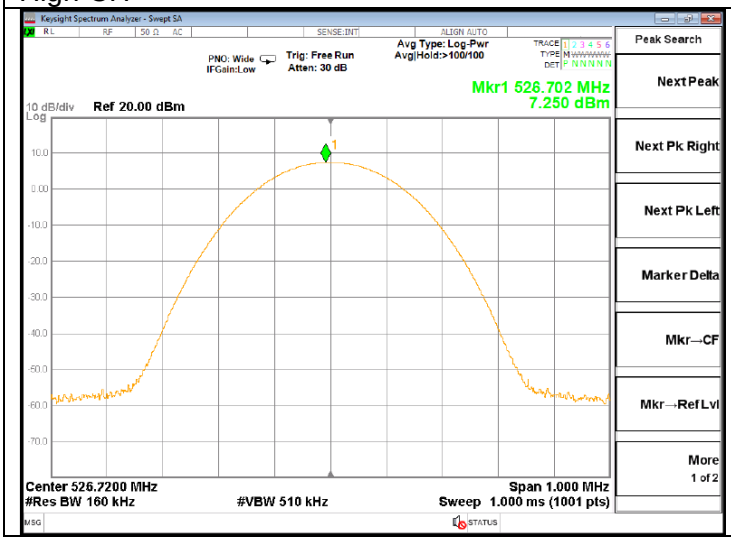
3.2 TEST PROCEDURE

A · Connect each EUT's antenna output to power sensor by RF cable and attenuator

3.3 TEST SETUP

3.4 TEST RESULTS

Test mode	Channel	Frequency （MHz）	Peak Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Verdict
Channel (FM)	01	512.0	6.216	1.0	7.216	16.99 dBm	PASS
	26	519.5	6.679	1.0	7.679		
	50	526.7	7.250	1.0	8.250		

Channel	
Low CH	Middle CH
	
High CH	
	

4. OCCUPIED BANDWIDTH

4.1 LIMIT

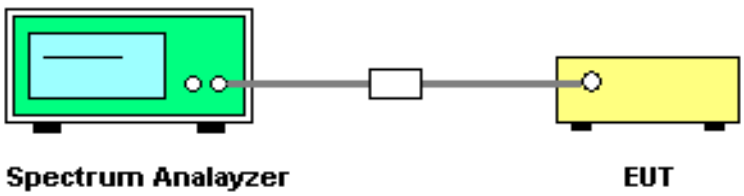
One or more adjacent 25 kHz segments within the assignable frequencies may be combined to form a channel whose maximum bandwidth shall not exceed 200 kHz. The operating bandwidth shall not exceed 200 kHz

4.2 TEST PROCEDURE

.

Parameter	Setting
Detector	Peak/AV
Sweep time	Auto
Resolution bandwidth	1 % to 5 % of the occupied bandwidth
Video bandwidth:	3 x resolution bandwidth
Span:	2 x emission bandwidth
Trace mode:	Max. hold
Analyzer function:	99% power occupied bandwidth function
EUT:	Modulated signal with max. frequency deviation

4.3 TEST SETUP



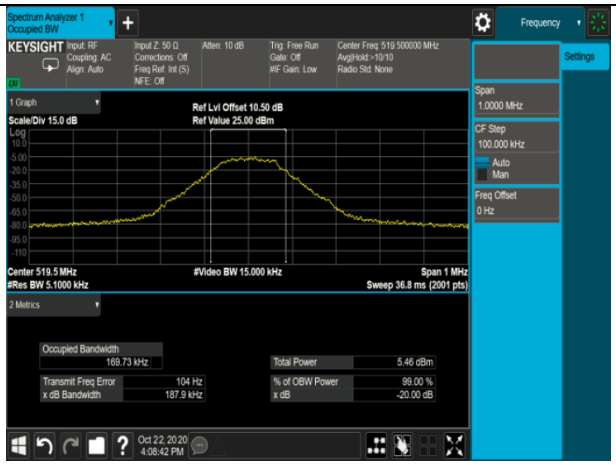
4.4 TEST RESULTS

Test mode	Channel	Frequency （MHz）	99% Bandwidth (KHz)	Limit(KHz)	Verdict
Channel A (FM)	01	512.0	168.75	200	PASS
	26	519.5	169.73		
	50	526.7	166.47		

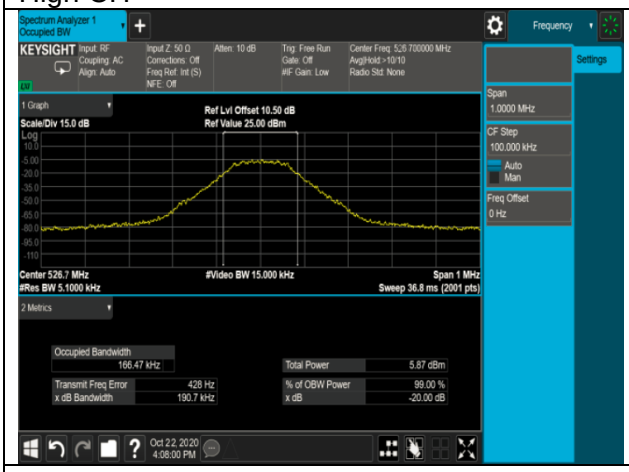
Channel

Low CH

Middle CH



High CH



5 NECESSARY BANDWITH

5.1 LIMIT

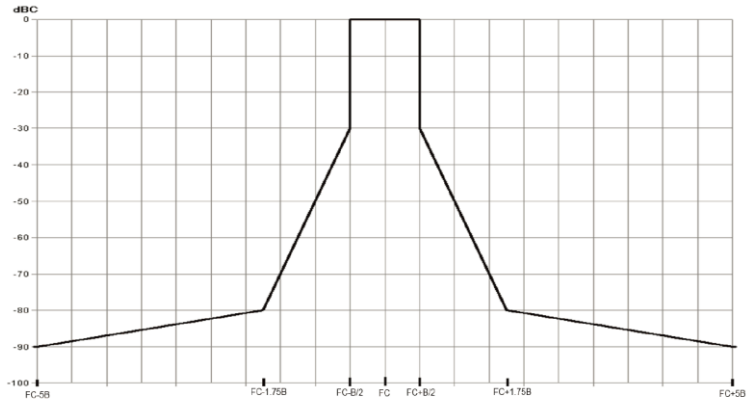


Figure 4: Spectrum mask for digital systems below 2 GHz

5.2 TEST PROCEDURE

The transmitter shall be modulated with the test signals defined in clause 7.1.2. In any case the mask shall not be exceeded.

- Step 1: Measure the "Carrier Power" with the spectrum analyzer setup:

• Center Frequency = fc
• Span = Zero span
• Detector = RMS
• Trace Mode = Average
• RBW&VBW = 5 x B
• Sweep time ≥ 2 s

- Step 2: Measure the "Maximum Relative Level (dBc) at Specified Carrier Offsets" with the following spectrum analyzer setup:

• Center Frequency = fc
• Span ≥ 5 x B
• Detector = RMS
• Trace Mode = Peak Hold
• RBW&VBW = 1 kHz
• Sweep time ≥ 2 s

Limits: Mask shall not be exceeded

- Step 3: Measure the "transmitter wide band noise floor": The measurement of transmitter broad band noise floor shall be carried out according to clause 8.3.1.1.

• Start Frequency = fc + B and fc - 1 MHz below 1 GHz,

Start Frequency = fc + B and fc - 1 MHz above 1 GHz.

• Stop Frequency = fc + 1 MHz and fc - 1,75 B below 1 GHz,

Stop Frequency = fc + 1 MHz and fc -B above 1 GHz.

• Detector = RMS
• Trace Mode = Average
• RBW&VBW = 1 kHz
• Sweep time ≥ 2 s

NOTE 2: Two spectrum ranges are to be measured!

Limits: Mask shall not be exceeded.

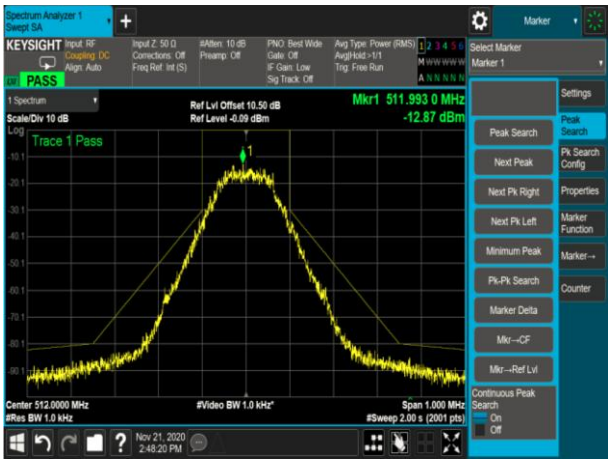
5.3 TEST SETUP

5.4 TEST RESULT

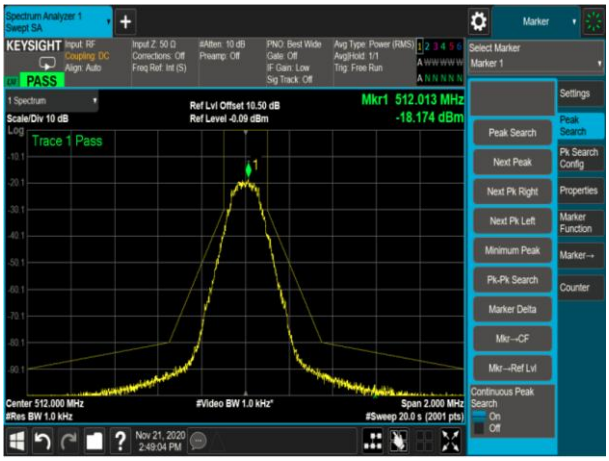
Low CH

Step 1

Step 2



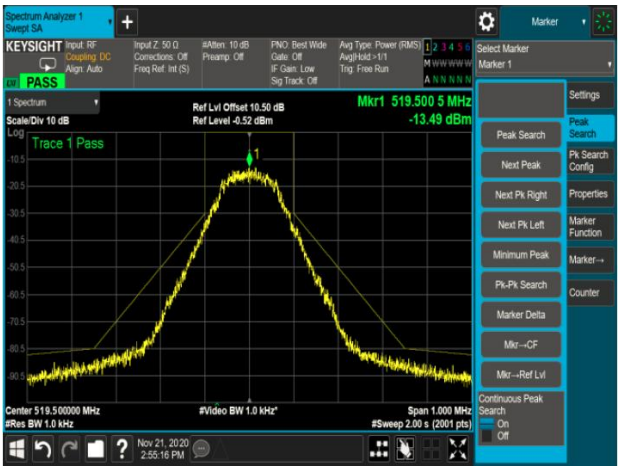
Step 3



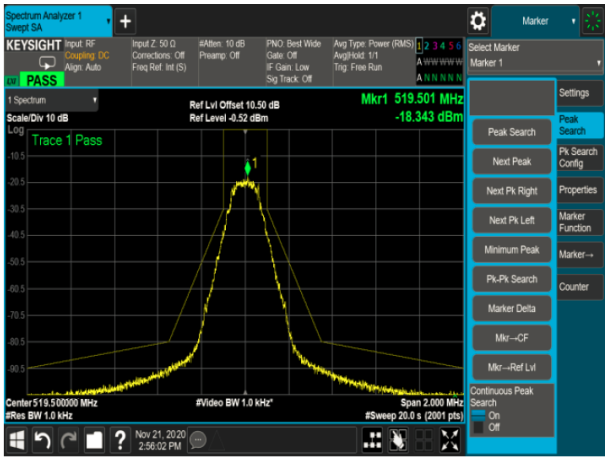
Middle CH

Step 1

Step 2



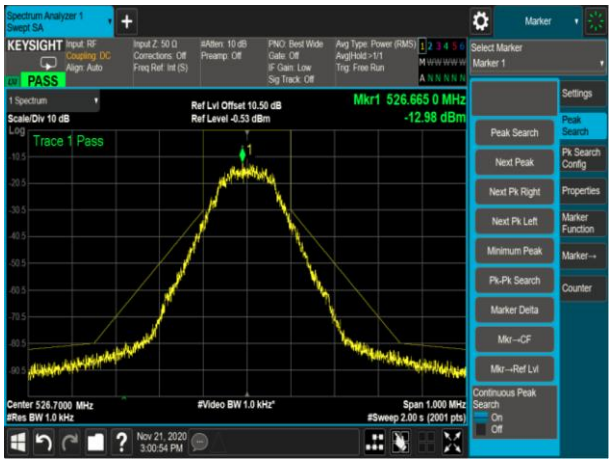
Step 3



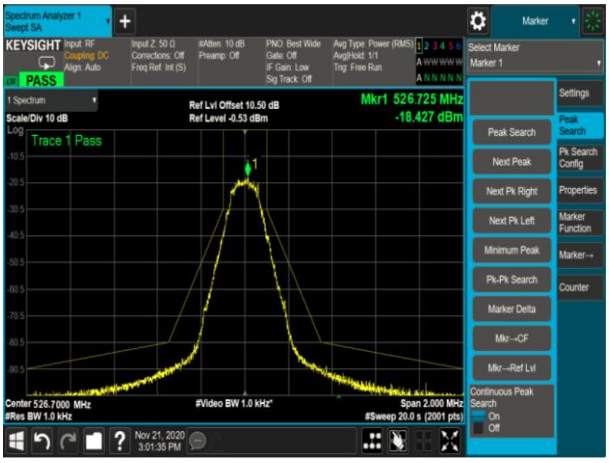
High CH

Step 1

Step 2



Step 3



6. TRANSMITTER UNWANTED EMISSIONS

6.1 LIMIT

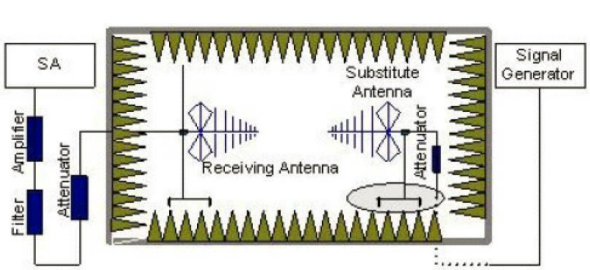
Spurious emissions are emissions outside the frequency range(s) of the equipment. The power of the spurious emissions shall not exceed the limits of table as below:

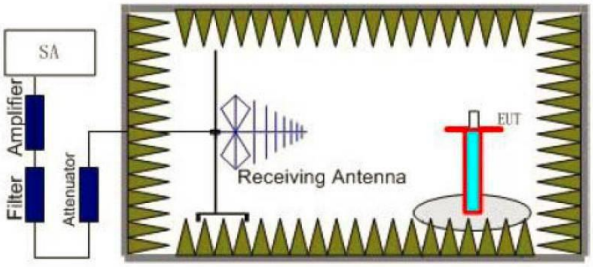
State	Frequency		
	47MHz to 74MHz, 87.5MHz to 137MHz 174MHz to 230MHz, 470MHz to 862MHz	Other Frequencies below 1000MHz	Frequencies above 1000MHz
Operation	4nW	250nW	1uW
Standby	2nW	2nW	20nW

5.2 TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer through an attenuator. Set spectrum analyzer start 2400MHz to 2483.5MHz with 100 KHz RBW and 300 KHz VBW
2. Please refer to ETSI EN 300 422-1 V1.4.2 (2011-08) clause 6.1 for the test conditions.
3. Please refer to ETSI EN 300 422-1 V1.4.2 (2011-08) clause 8.4.2 for the measurement method.

5.3 TEST SETUP





6.4 TEST RESULTS

.

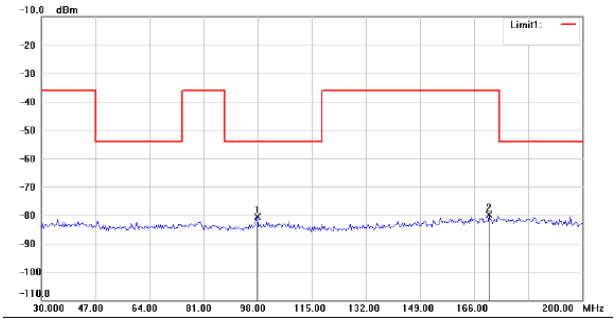
CHNNEL –LOW CH–30MHZ-1000MHZ

Vertical

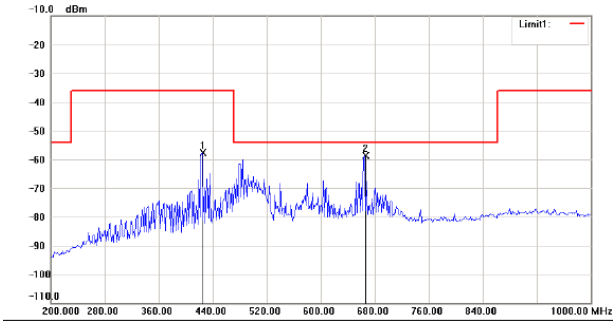
Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	97.7956	-103.35	peak	22.16	-81.19	-54.00	150	250	-27.19	
*	180.2405	-102.23	peak	23.23	-79.00	-54.00	150	170	-25.00	

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	424.4490	-65.94	peak	-10.92	-76.86	-36.00	150	300	-40.86	
*	483.7675	-69.68	peak	-8.21	-77.89	-54.00	150	120	-23.89	

Horizontal



Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.4550	-101.72	peak	21.11	-80.61	-54.00	150	220	-26.61	
	170.7014	-102.65	peak	22.68	-79.97	-36.00	150	170	-43.97	



Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	424.4490	-48.70	peak	-8.83	-57.53	-36.00	150	30	-21.53	
*	664.9300	-56.04	peak	-2.56	-58.60	-54.00	150	210	-4.60	

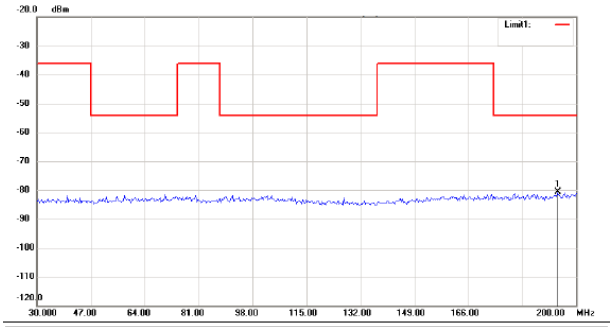
Note :

1. Result = Reading + Corrected Factor Note :

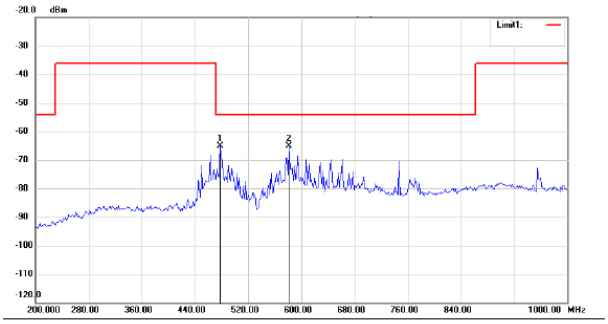
2. The fundamental wave filtered out during the test.

CHNNEL–MIDDLE CH–30MHZ-1000MHZ

Vertical

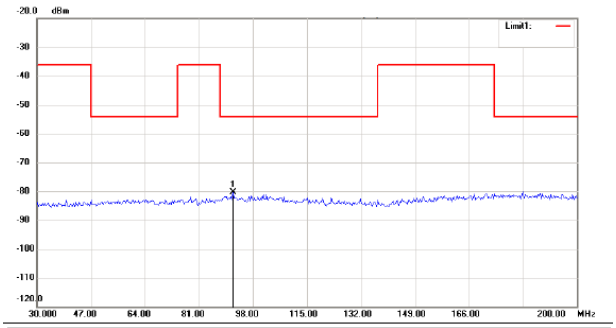


Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	194.2084	-102.25	peak	21.65	-80.60	-54.00	150	70	-26.60	

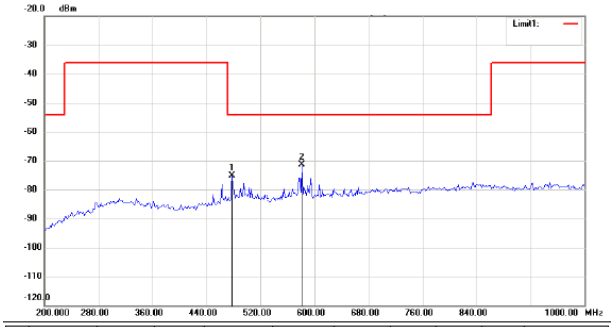


Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	477.3546	-55.66	peak	-9.48	-65.14	-54.00	150	300	-11.14	
*	581.5630	-58.44	peak	-6.58	-65.02	-54.00	150	120	-11.02	

Horizontal



Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	91.6633	-102.17	peak	21.72	-80.45	-54.00	150	40	-26.45	



Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	477.3546	-67.52	peak	-7.56	-75.08	-54.00	150	120	-21.08	
*	581.5630	-65.61	peak	-5.79	-71.40	-54.00	150	220	-17.40	

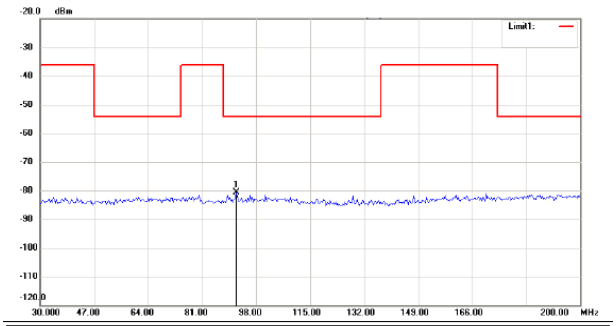
Note :

1. Result = Reading + Corrected Factor Note :

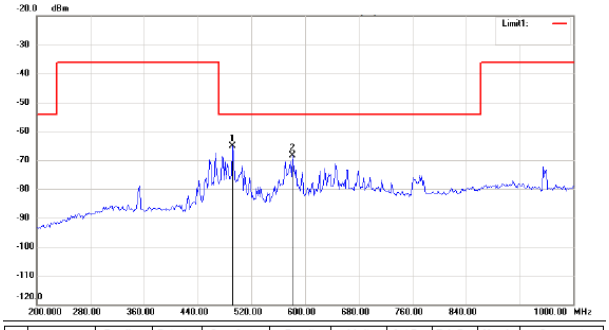
2. The fundamental wave filtered out during the test.

CHNNEL–HIGH CH–30MHZ-1000MHZ

Vertical

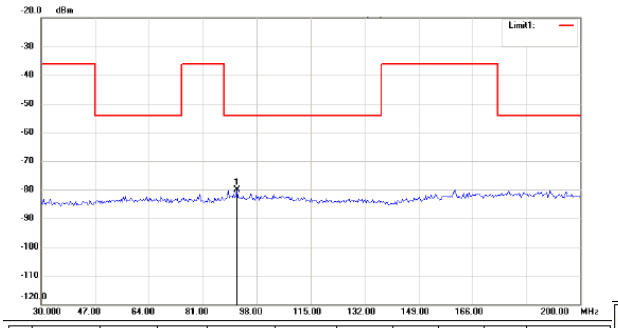


Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	91.6633	-101.62	peak	20.98	-80.64	-54.00	150	300	-26.64	

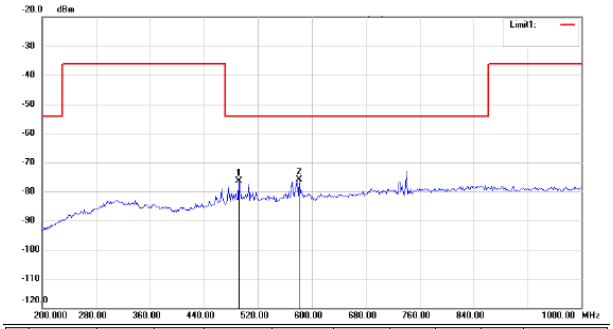


Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	491.7835	-55.91	peak	-9.30	-65.21	-54.00	150	300	-11.21	
	581.5630	-61.69	peak	-6.58	-68.27	-54.00	150	120	-14.27	

Horizontal



Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	91.6633	-101.73	peak	21.72	-80.01	-54.00	150	300	-26.01	



Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	491.7835	-69.29	peak	-7.02	-76.31	-54.00	150	300	-22.31	
*	581.5630	-70.19	peak	-5.79	-75.98	-54.00	150	120	-21.98	

Note :

1. Result = Reading + Corrected Factor Note :

2. The fundamental wave filtered out during the test.

CHANNEL 1GHZ-6GHZ

Test Channel (MHz)	Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Substitute Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
512.000	2048.00	H	-59.54	3.71	9.37	-53.88	-30.00	-23.88
	3072.00	H	-55.62	4.85	12.67	-47.80	-30.00	-17.80
	3584.00	H	-52.46	5.54	12.67	-45.33	-30.00	-15.33
	2048.00	V	-59.50	3.71	9.37	-53.84	-30.00	-23.84
	3072.00	V	-59.44	4.12	11.23	-52.33	-30.00	-22.33
	3584.00	V	-54.83	5.54	12.67	-47.70	-30.00	-17.70
519.500	2078.00	H	-60.43	3.77	9.76	-54.44	-30.00	-24.44
	4156.00	H	-59.88	4.19	11.45	-52.62	-30.00	-22.62
	4675.50	H	-50.45	5.55	12.76	-43.24	-30.00	-13.24
	2078.00	V	-64.83	3.29	10.22	-57.90	-30.00	-27.90
	4156.00	V	-59.63	4.19	11.45	-52.37	-30.00	-22.37
	4675.50	V	-55.72	6.02	13.09	-48.65	-30.00	-18.65
526.700	2106.80	H	-60.78	3.84	10.23	-54.39	-30.00	-24.39
	2633.50	H	-58.83	4.27	11.53	-51.57	-30.00	-21.57
	3160.20	H	-56.71	5.09	12.70	-49.10	-30.00	-19.10
	2106.80	V	-64.87	3.31	10.36	-57.82	-30.00	-27.82
	2633.50	V	-61.87	3.84	10.23	-55.48	-30.00	-25.48
	3160.20	V	-54.10	6.06	12.98	-47.18	-30.00	-17.18

Note 1: EIRP (dBm) = SG Reading (dBm) - Cable Loss (dB) + Substitute Antenna Gain (dBi)

Note 2: Margin (dB) = EIRP (dBm) - Limit (dBm)

Note 3: All data in this table is based on peak detection. Due to peak detection will yield amplitudes equal to or greater than amplitudes measured with the quasi-peak and RMS detector. Thus, the data measured using the peak detector of a spectrum analyzer or EMI receiver will represent the worst-case results.

7. FREQUENCY STABILITY

7.1 LIMIT

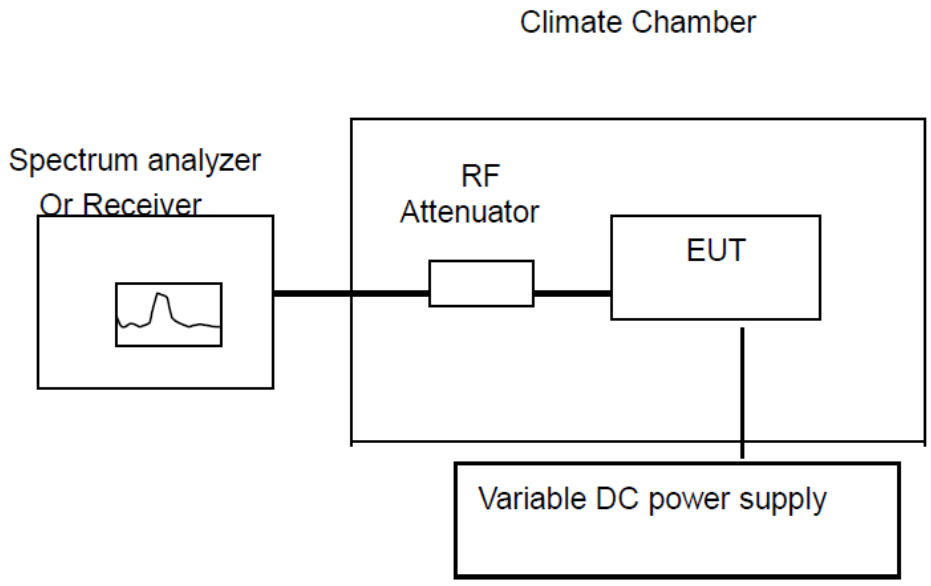
The frequency tolerance of the carrier signal shall be maintained within ±0.005% of the operating frequency over a temperature variation of −20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C

7.2 TEST PROCEDURE

a. The EUT was connected to an external DC power supply and the RF output was connected to a frequency counter via feed through attenuators. The EUT was placed inside the temperature chamber. The DC leads and the RF output cable, exited the chamber through an opening made for that purpose.
After the temperature stabilized the frequency output was recorded form the counter. An external variable DC power supply was connected to the battery terminals of the equipment under test.

b. For hand carried, battery powered equipment primary supply voltage was reduced to the battery operating end point as specified by the manufacturer. The output frequency was recorded for each battery voltage.

7.3 TEST SETUP



7.4 TEST RESULTS

(1) Frequency stability versus input voltage (Supply Nominal voltage is DC 3V)

(2) Frequency stability versus input voltage (Supply battery operating end point which shall be specified by the manufacturer DC 2.7V)

Refernce Frequency: 512MHz			
Power supply	Environment Temperature(℃)	Frequency Error （Hz）	Frequency Error (%)
DC 3.57V	25	1010	0.000197
DC 4.2V	25	1008	0.000196
DC 4.83V	25	1015	0.000198

Refernce Frequency: 512MHz				
Frequency Deviation measured with time Elapse(30 minutes)				
Environment Temperature(℃)	Frequency Error （Hz）	Frequency Error (%)	Limit (%)	Results
50	1021	0.000199	0.005	Pass
40	1008	0.000197		
30	1005	0.000196		
20	1008	0.000197		
10	1007	0.000197		
0	1009	0.000197		
-10	1008	0.000197		
-20	1009	0.000197		
-30	1010	0.000197		

Refernce Frequency: 519.5MHz			
Power supply	Environment Temperature(℃)	Frequency Error （Hz）	Frequency Error (%)
DC 3.57V	25	1009	0.000194
DC 4.2V	25	1006	0.000194
DC 4.83V	25	1010	0.000194

Refernce Frequency: 519.5MHz				
Frequency Deviation measured with time Elapse(30 minutes)				
Environment Temperature(℃)	Frequency Error （Hz）	Frequency Error (%)	Limit (%)	Results
50	1011	0.000195	0.005	Pass
40	1006	0.000195		
30	1006	0.000195		
20	1008	0.000194		
10	1007	0.000194		
0	1008	0.000194		
-10	1008	0.000194		
-20	1006	0.000195		
-30	1011	0.000195		

Refernce Frequency: 526.7MHz			
Power supply	Environment Temperature(℃)	Frequency Error （Hz）	Frequency Error (%)
DC 3.57V	25	1013	0.000192
DC 4.2V	25	1011	0.000192
DC 4.83V	25	1010	0.000191

Refernce Frequency: 526.7MHz				
Frequency Deviation measured with time Elapse(30 minutes)				
Environment Temperature(℃)	Frequency Error （Hz）	Frequency Error (%)	Limit (%)	Results
50	1010	0.000191	0.00500	Pass
40	1005	0.000191		
30	1005	0.000191		
20	1006	0.000191		
10	1007	0.000192		
0	1006	0.000191		
-10	1007	0.000192		
-20	1006	0.000191		
-30	1010	0.000191		

8 CONDUCTED EMISSION MEASUREMENT

8.1 LIMIT

Operating frequency band. In case the emission fall within the restricted band specified on Part 207(a) limit in the table below has to be followed.

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.

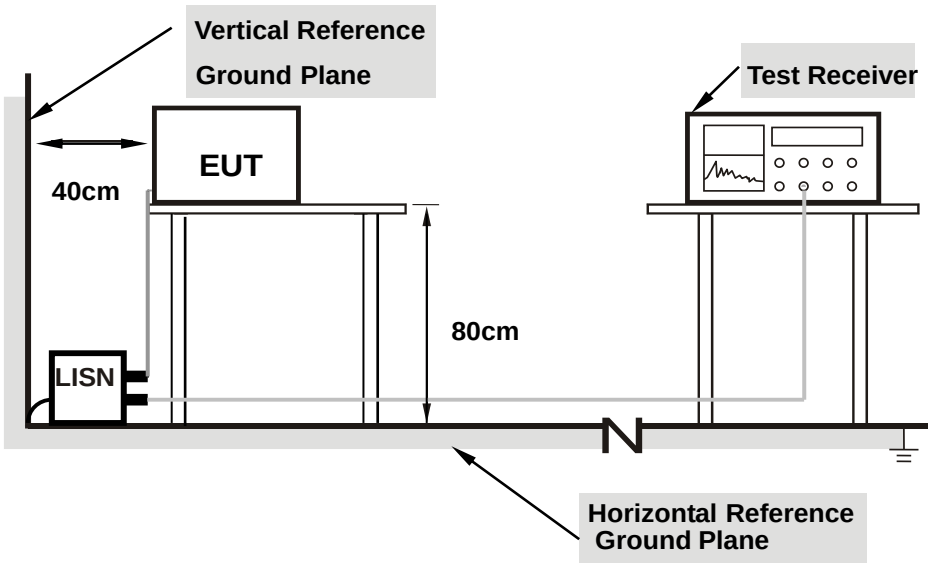
8.2 TEST PROCEDURE

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

a. The EUT was 0.8 meters from the horizontal ground plane and 0.4 meters from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 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 at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

8.3 TEST SETUP



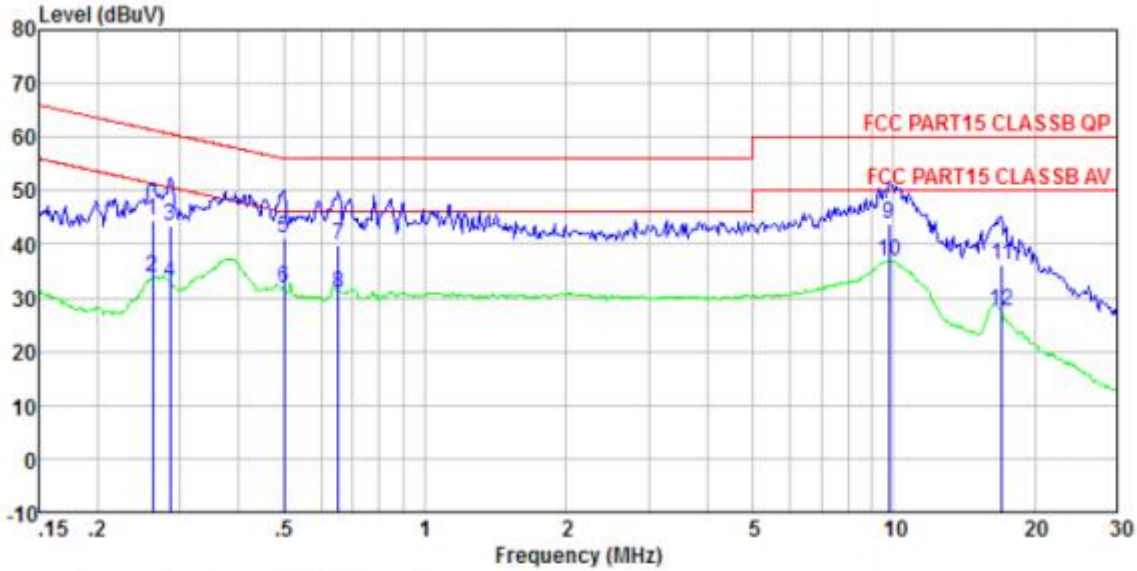
Note: 1.Support units were connected to second LISN.

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

8.4 TEST RESULTS

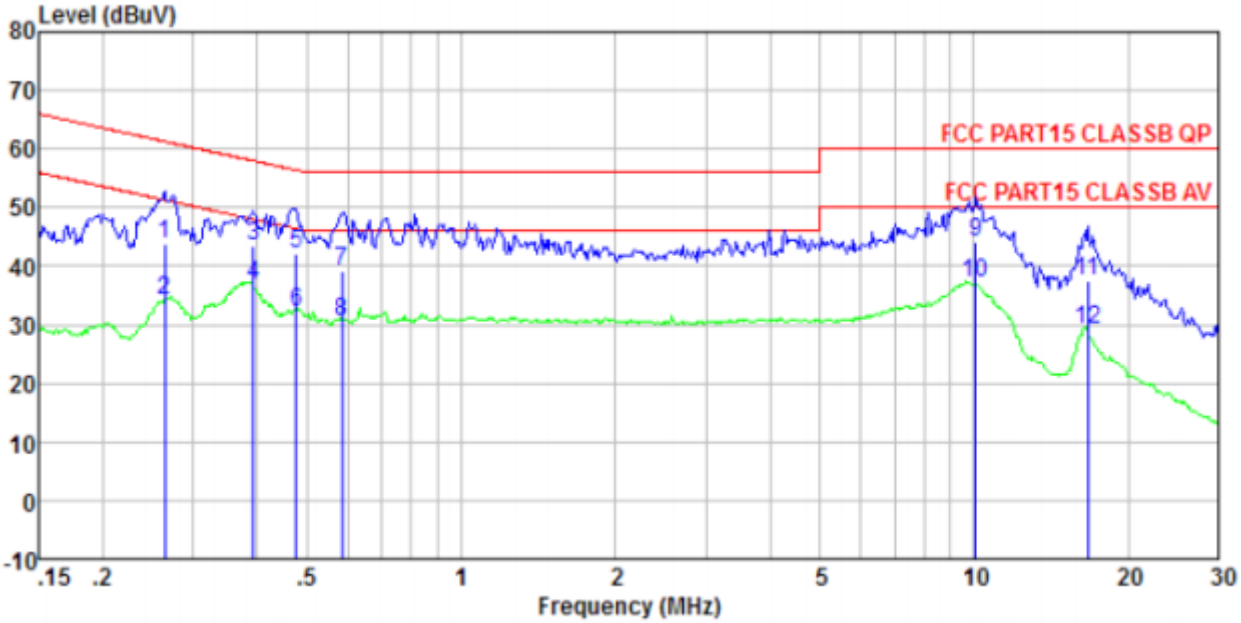
Temperature:	25℃	Relative Humidity:	50%
Test Mode:	FM	Test Voltage:	AC 120V 60Hz
Result:	PASS		

L line



Freq MHz	Reading level dBuV	lISN/ISN factor dB	Cable loss dB	level dBuV	Limit level dBuV	Over limit dB	Remark
0.262	43.80	0.40	0.10	44.30	61.38	-17.08	QP
0.262	33.45	0.40	0.10	33.95	51.38	-17.43	Average
0.286	42.89	0.40	0.10	43.39	60.63	-17.24	QP
0.286	32.28	0.40	0.10	32.78	50.63	-17.85	Average
0.499	40.70	0.32	0.11	41.13	56.01	-14.88	QP
0.499	31.25	0.32	0.11	31.68	46.01	-14.33	Average
0.654	39.39	0.27	0.13	39.79	56.00	-16.21	QP
0.654	30.52	0.27	0.13	30.92	46.00	-15.08	Average
9.757	43.35	0.20	0.20	43.75	60.00	-16.25	QP
9.757	36.54	0.20	0.20	36.94	50.00	-13.06	Average
17.018	35.73	0.24	0.22	36.19	60.00	-23.81	QP
17.018	26.97	0.24	0.22	27.43	50.00	-22.57	Average

N line



Freq MHz	Reading level dBuV	lISN/ISN factor dB	Cable loss dB	level dBuV	Limit level dBuV	Over limit dB	Remark
0.264	43.43	0.40	0.10	43.93	61.29	-17.36	QP
0.264	33.73	0.40	0.10	34.23	51.29	-17.06	Average
0.393	42.97	0.35	0.11	43.43	57.99	-14.56	QP
0.393	36.21	0.35	0.11	36.67	47.99	-11.32	Average
0.476	41.74	0.32	0.11	42.17	56.41	-14.24	QP
0.476	31.84	0.32	0.11	32.27	46.41	-14.14	Average
0.585	38.83	0.29	0.12	39.24	56.00	-16.76	QP
0.585	30.21	0.29	0.12	30.62	46.00	-15.38	Average
10.072	43.76	0.20	0.20	44.16	60.00	-15.84	QP
10.072	36.64	0.20	0.20	37.04	50.00	-12.96	Average
16.661	36.95	0.23	0.22	37.40	60.00	-22.60	QP
16.661	28.72	0.23	0.22	29.17	50.00	-20.83	Average

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level =Receiver Read level + LISN Factor + Cable Loss
4. *If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.*

9 ANTENNA REQUIREMENT

9.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

9.2 EUT ANTENNA

The antennas used for this product are Integra antenna and other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 1.0dBi.

※※※※※END OF THE REPORT※※※※※