



Radio Test Report

Report No.:STS2508179W06

Issued for

WUXI YONGHUA INFORMATION TECHNOLOGY CO.LTD

101 ROOM, No.5 BUILDING, No.2 FENGWEI RD,
XISHANDISTRICT, WUXI CITY, JIANGSU PROVINCE, China

Product Name: Multi-person intercom smart Bluetooth device

Brand Name: ILM

Model Name: ILM10

Series Model(s): ILM20, ILM30, ILM40

FCC ID: 2BVD7-ILM10

Test Standards: FCC Part15.249

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Shenzhen STS Test Services Co., Ltd.

**TEST REPORT**

Applicant's Name: WUXI YONGHUA INFORMATION TECHNOLOGY CO.LTD
Address.....: 101 ROOM, No.5 BUILDING, No.2 FENGWEI RD,
XISHANDISTRICT, WUXI CITY, JIANGSU PROVINCE, China
Manufacturer's Name: WUXI YONGHUA INFORMATION TECHNOLOGY CO.LTD
Address.....: 101 ROOM, No.5 BUILDING, No.2 FENGWEI RD,
XISHANDISTRICT, WUXI CITY, JIANGSU PROVINCE, China

Product Description

Product Name: Multi-person intercom smart Bluetooth device
Brand Name: ILM
Model Name: ILM10
Series Model(s): ILM20, ILM30, ILM40
Standards.....: FCC Part 15.249
Test Procedure: ANSI C63.10-2020

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 requirements. And it is applicable only to the tested sample identified in the report.
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Shenzhen STS Test Services Co., Ltd.

Date of Test.....:
Date of receipt of test item.....: 27 Aug. 2025
Date of performance of tests ..: 27 Aug. 2025~12 Mar. 2026
Date of Issue.....: 12 Mar. 2026
Test Result: **Pass**

Testing Engineer :

(Aaron Bu)

Technical Manager :

(Skylar Li)

Authorized Signatory :

(Bovey Yang)





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**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	12 Mar. 2026	STS2508179W04	ALL	Initial Issue



1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part 15.249 , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	--
15.203	Antenna Requirement	Pass	--
15.249	Radiated Spurious Emission	Pass	--
15.249	Radiated Band Edge Emission	Pass	--
15.249	Field Strength of fundamental	Pass	--
15.215(c)	20dB Bandwidth	Pass	--

NOTE:

- (1) 'N/A' denotes test is not applicable in this Test Report.
- (2) All tests are according to ANSI C63.10-2020.



1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. :101, Building B, Zhuoke Science Park, No.190 Chongqing Road, ZhanChengShequ, Fuhai 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 $y \pm U$, 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	$\pm 0.751\text{dB}$
2	Unwanted Emissions, conducted	$\pm 2.888\text{dB}$
3	All emissions, radiated 9K-30MHz	$\pm 2.48\text{dB}$
4	All emissions, radiated 30M-1GHz	$\pm 2.52\text{dB}$
5	All emissions, radiated 1G-18GHz	$\pm 3.48\text{dB}$
6	All emissions, radiated >18GHz	$\pm 4.18\text{dB}$
7	Conducted Emission (9KHz-150KHz)	$\pm 2.48\text{dB}$
8	Conducted Emission (150KHz-30MHz)	$\pm 2.52\text{dB}$
9	Occupied Channel Bandwidth	$\pm 3.6\%$
10	Power Spectral Density, conducted	$\pm 1.214\text{dB}$
11	Duty Cycle	$\pm 3.2\%$



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Multi-person intercom smart Bluetooth device	
Brand Name	ILM	
Model Name	ILM10	
Series Model(s)	ILM20, ILM30, ILM40	
Model Difference	The model names are different, the colors are different, but everything else is the same.	
Product Description	The EUT is a Multi-person intercom smart Bluetooth device	
	Operation Frequency:	2437.6Mhz
	Modulation Type:	MSK
	Antenna Designation:	PCB
	Antenna Gain(Peak):	0dBi
Based on the application, features, or specification exhibited in User Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User Manual.		
Power Rating	Input: 5V 1A	
Adapter	N/A	
Battery	Model: 603045 Brand: N/A Rated Voltage: 3.7V Charge Limit Voltage: 4.2V Capacity: 950mAh	
Hardware version number	V2.0	
Software version number	V1.0	
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. The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report.



2.2 DESCRIPTION OF THE TEST MODES

For conducted test items and radiated spurious emissions

Each of these EUT operation mode(s) or test configuration mode(s) mentioned below was evaluated respectively.

Pretest Mode	Description	Data/Modulation
Mode 1	TX	MSK

Note:

(1) All above mode have been measurement, only worst data was reported.

For AC Conducted Emission

Test Case	
AC Conducted Emission	Mode 2 : Keeping TX

2.3 TEST SOFTWARE AND POWER LEVEL

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

RF Function	Type	Mode Or Modulation type	ANT Gain(dBi)	Power Class	Software For Testing
SRD	2.4G	MSK	0	Default	The EUT has signal transmission when it is powered on



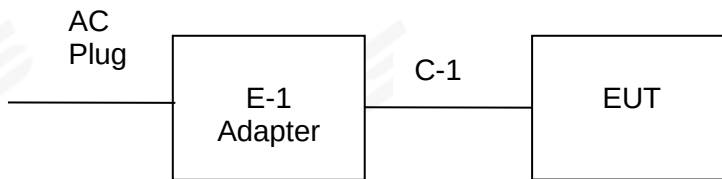
2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters.

Radiated Spurious Emission Test



Conducted Emission Test



RF Conducted Test





2.5 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.

Item	Equipment	Mfr/Brand	Model/Type No.	Note
E-1	Adapter	ZTC	NB-A515A	N/A
C-1	USB Cable	ZTC	NB-A515A	N/A

Item	Equipment	Mfr/Brand	Length	Note
C-1	Shielded	NO	100cm	N/A

Note:

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



2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

RF Radiation Test Equipment					
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
Temperature & Humidity	SW-108	SuWei	N/A	2025.02.24	2026.02.23
Temperature & Humidity	SW-108	SuWei	N/A	2026.02.04	2027.02.03
Pre-Amplifier(0.1M-3GHz)	EM	EM330	060665	2025.02.22	2026.02.21
Pre-Amplifier(0.1M-3GHz)	EM	EM330	060665	2026.02.04	2027.02.03
Pre-Amplifier(1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2025.09.25	2026.09.24
Pre-Amplifier(18G-40GHz)	SKET	LNPA_1840-50	SK2018101801	2025.02.22	2026.02.21
Pre-Amplifier(18G-40GHz)	SKET	LNPA_1840-50	SK2018101801	2026.02.04	2027.02.03
Active loop Antenna	ZHINAN	ZN30900C	16035	2025.02.25	2027.02.24
Bilog Antenna	TESEQ	CBL6111D	34678	2025.09.27	2027.09.26
Horn Antenna	SCHWARZBECK	BBHA 9120D	02014	2025.09.27	2027.09.26
Horn Antenna	A-INFOMW	LB-180400-KF	J211020657	2025.09.27	2027.09.26
Positioning Controller	MF	MF-7802	MF-780208587	N/A	N/A
Signal Analyzer	R&S	FSV 40-N	101823	2025.09.26	2026.09.25
Switch Control Box	N/A	N/A	N/A	N/A	N/A
Band 2.4G-2.5G Filter	HX MICROWAVE	HXLBQ-DZA61	N/A	2025.09.23	2026.09.22
Antenna Mast	MF	MFA-440H	N/A	N/A	N/A
Turn Table	MF	SC100_1	60531	N/A	N/A
AC Power Source	APC	KDF-11010G	F214050035	N/A	N/A
DC power supply	HONGSHENGFE NG	DPS-305AF	17064939	2025.09.22	2026.09.21
Test SW	EZ-EMC	Ver.STSLAB-03A1 RE			
Conduction Test Equipment					
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2025.09.25	2026.09.24
Limiter	CYBERTEK	EM5010	N/A	2025.09.25	2026.09.24
LISN	R&S	ENV216	101242	2025.09.25	2026.09.24
LISN	EMCO	3810/2NM	23625	2025.09.25	2026.09.24
Temperature & Humidity	SW-108	SuWei	N/A	2025.02.24	2026.02.23
Temperature & Humidity	SW-108	SuWei	N/A	2026.02.04	2027.02.03
Test SW	EZ-EMC	Ver.STSLAB-03A1 CE			
RF Connected Test					
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Signal Analyzer	Agilent	N9020A	MY51510623	2025.02.22	2026.02.21
Signal Analyzer	Agilent	N9020A	MY51510623	2026.02.04	2027.02.03
Temperature & Humidity	SW-108	SuWei	N/A	2025.02.24	2026.02.23
Temperature & Humidity	SW-108	SuWei	N/A	2026.02.04	2027.02.03



3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 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)	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.

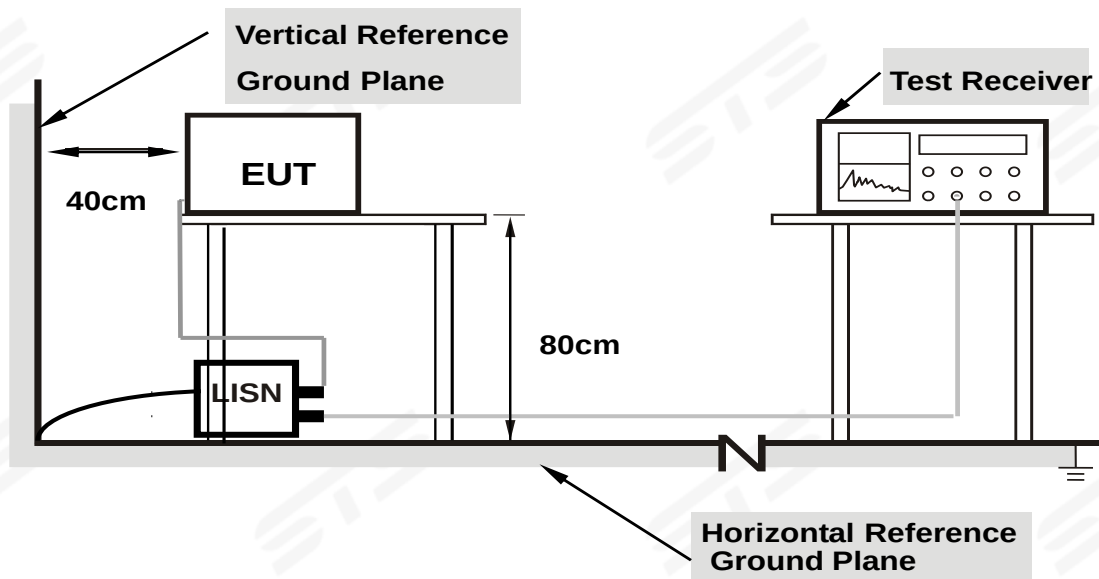
The following table is the setting of the receiver

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

3.1.2 TEST PROCEDURE

- 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.
- 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.
- 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.
- LISN is at least 80 cm from the nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 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.

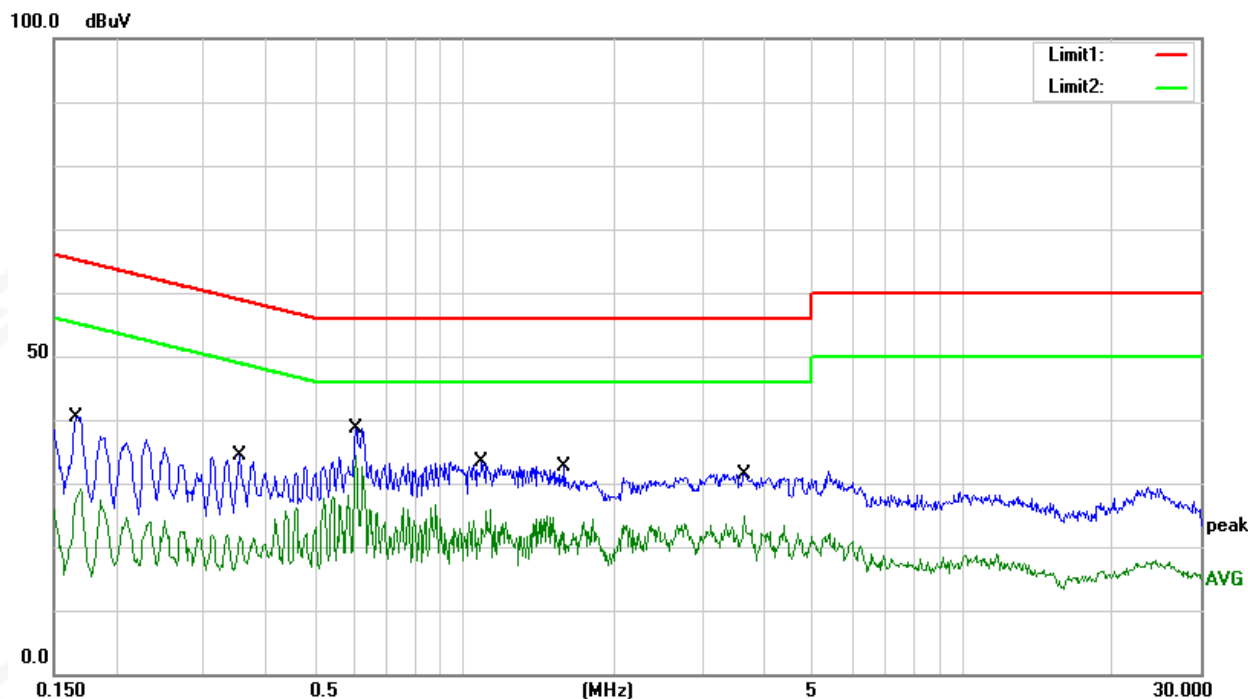
3.1.4 EUT OPERATING CONDITIONS

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.



3.1.5 TEST RESULT

Temperature:	25.1°C	Relative Humidity:	59%
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode:	Mode 2		



Remark:

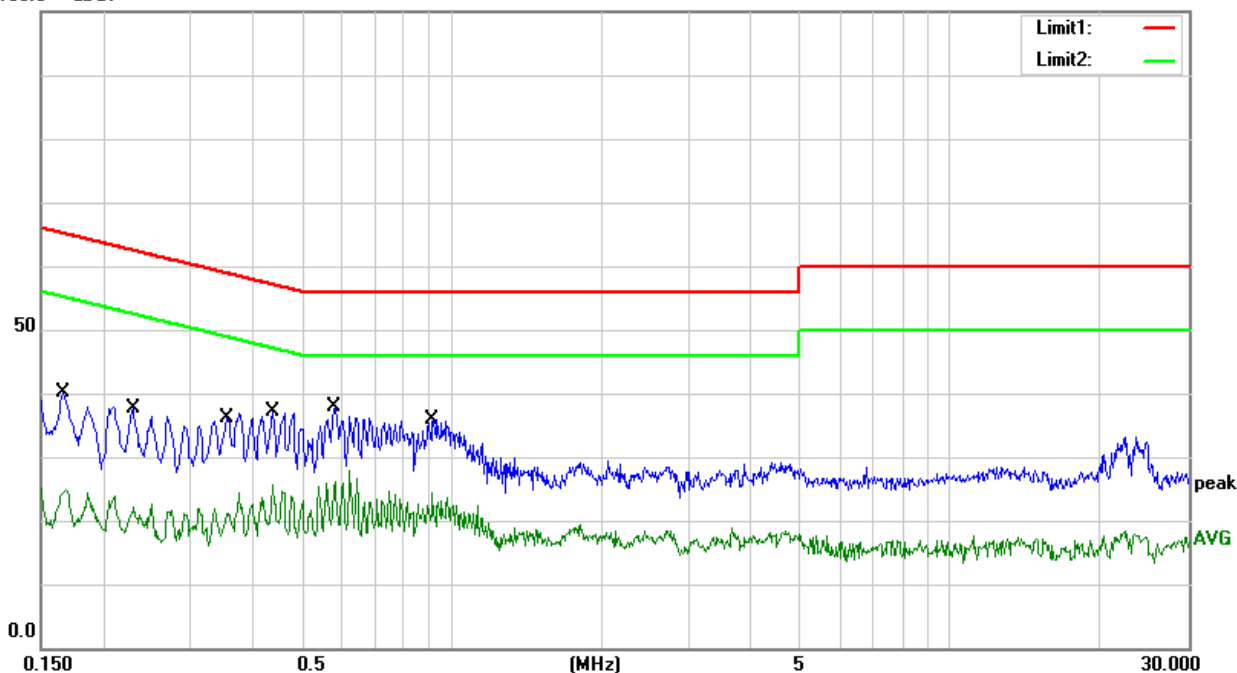
1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result = Reading + Factor) – Limit

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1660	20.63	19.87	40.50	65.16	-24.66	QP
2	0.1660	9.14	19.87	29.01	55.16	-26.15	AVG
3	0.3540	14.54	19.82	34.36	58.87	-24.51	QP
4	0.3540	6.32	19.82	26.14	48.87	-22.73	AVG
5	0.6060	18.90	19.80	38.70	56.00	-17.30	QP
6	0.6060	14.52	19.80	34.32	46.00	-11.68	AVG
7	1.0860	13.55	19.80	33.35	56.00	-22.65	QP
8	1.0860	6.09	19.80	25.89	46.00	-20.11	AVG
9	1.5900	12.70	19.81	32.51	56.00	-23.49	QP
10	1.5900	4.97	19.81	24.78	46.00	-21.22	AVG
11	3.6580	11.65	19.84	31.49	56.00	-24.51	QP
12	3.6580	4.92	19.84	24.76	46.00	-21.24	AVG



Temperature:	25.1°C	Relative Humidity:	59%
Test Voltage:	AC 120V/60Hz	Phase:	N
Test Mode:	Mode 2		

100.0 dBuV



Remark:

1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result = Reading + Factor) – Limit

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1660	20.20	19.82	40.02	65.16	-25.14	QP
2	0.1660	5.41	19.82	25.23	55.16	-29.93	AVG
3	0.2300	17.89	19.80	37.69	62.45	-24.76	QP
4	0.2300	2.33	19.80	22.13	52.45	-30.32	AVG
5	0.3540	16.30	19.75	36.05	58.87	-22.82	QP
6	0.3540	4.64	19.75	24.39	48.87	-24.48	AVG
7	0.4380	17.44	19.76	37.20	57.10	-19.90	QP
8	0.4380	5.76	19.76	25.52	47.10	-21.58	AVG
9	0.5860	17.14	19.80	36.94	56.00	-19.06	QP
10	0.5860	8.04	19.80	27.84	46.00	-18.16	AVG
11	0.9220	16.14	19.80	35.94	56.00	-20.06	QP
12	0.9220	4.68	19.80	24.48	46.00	-21.52	AVG



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS

In any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on Part 15.249 and the Part 15.209(a) limit in the table below has to be followed.

Standard FCC 15.209

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
960~1000	500	3
Above 1000	Other:74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	3

Standard FCC 15.249

Frequency of Emission (MHz)	Field Strength of fundamental (millivolts /meter)	Field Strength of Harmonics (microvolts/meter)
900~928	50	500
2400~2483.5	50	500
5725~5875	50	500
24000~242500	250	2500

Notes:

- (1) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.
- (2) Emission level (dBuV/m) =20log Emission level (uV/m).

LIMITS OF RESTRICTED FREQUENCY BANDS

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			

Spectrum Parameter	Setting
Detector	Peak/AV
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB (emission in restricted band)	>20BW
VB (emission in restricted band)	=3xRB

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for PK & AV
	90kHz~110kHz / RB 200Hz for QP
	110kHz~490kHz / RB 200Hz for PK & AV
	490kHz~30MHz / RB 9kHz for QP
	30MHz~1000MHz / RB 120kHz for QP



3.2.2 TEST PROCEDURE

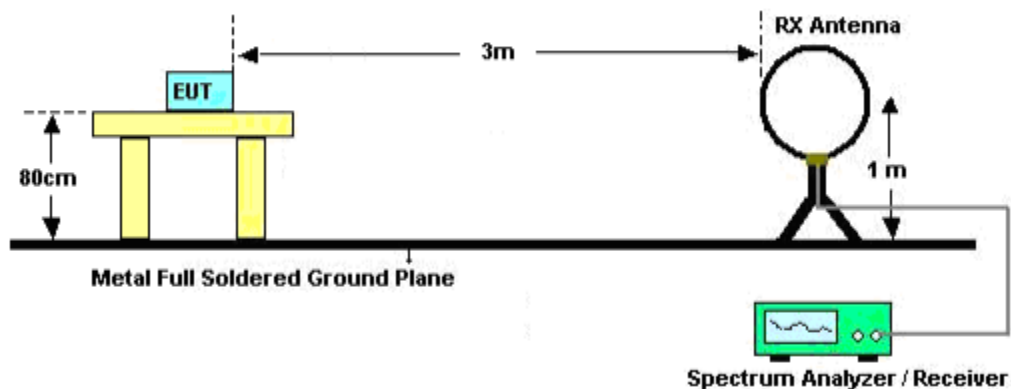
- a. The measuring distance of 3m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation (Below 1GHz)
- b. The measuring distance of 3m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation (Above 1GHz)
- c. The height of the test antenna shall vary between 1m to 4m. Both horizontal and vertical polarization of the antenna are set to make the measurement.
- d. The initial step in collecting radiated emission data is a receive peak detector mode. Pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. All readings are peak unless otherwise stated QP in column of Note. Peak denoted that the Peak reading compliance with the QP limits and then QP Mode measurement didn't perform (Below 1GHz)
- f. All readings are Peak mode value unless otherwise stated AVG in column of Note. If the Peak mode measured value compliance with the Peak limits and lower than AVG Limits, the EUT shall be deemed to meet Peak & AVG limits and then only Peak mode was measured, but AVG mode didn't perform. (Above 1GHz)
- g. For the actual test configuration, please refer to the related Item –EUT Test Photos.
Note: Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

3.2.3 DEVIATION FROM TEST STANDARD

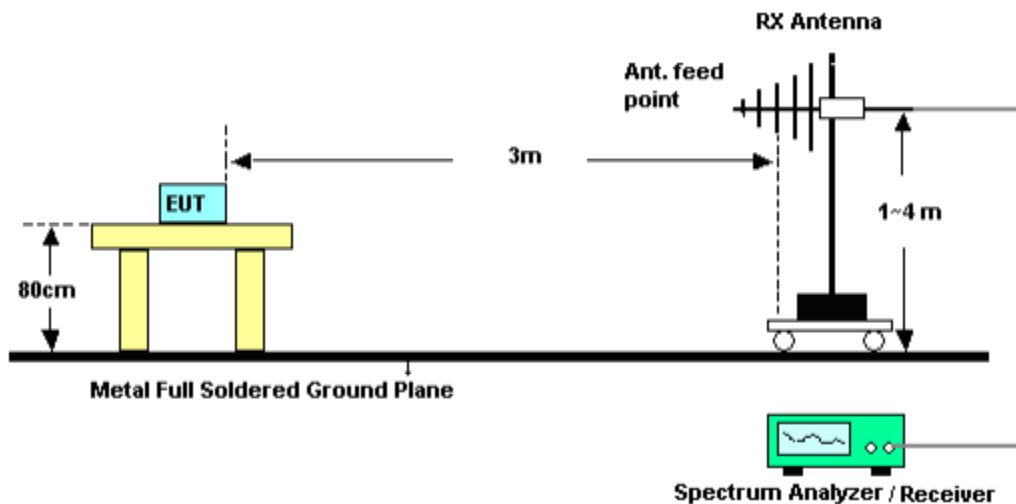
No deviation

3.2.4 TEST SETUP

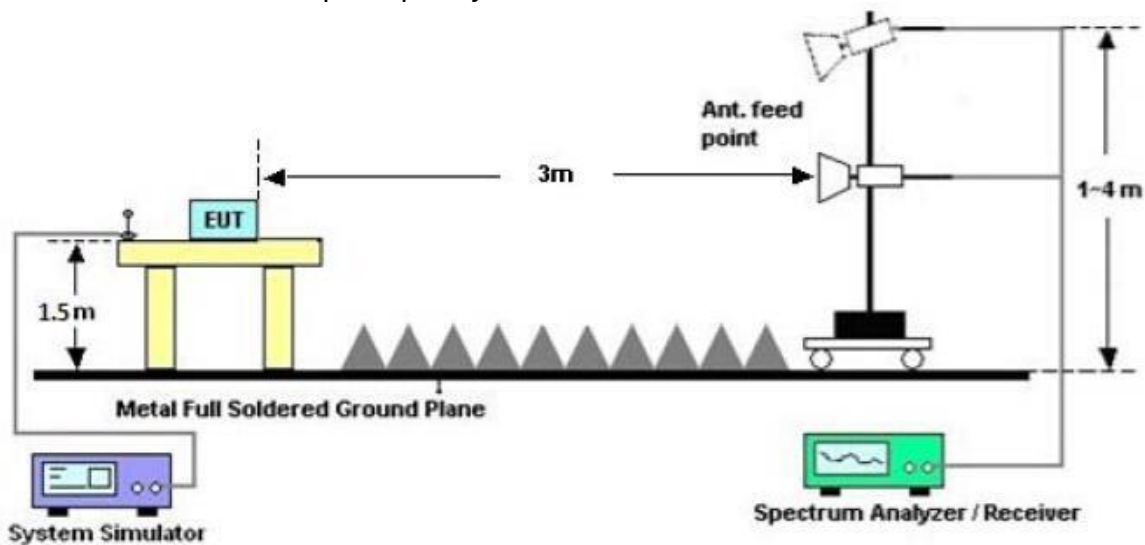
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz





3.2.5 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

Margin=PL-PK L or AL- AV L; Margin only shown the worst case.

Where

PR = Peak Reading

AR = Average Reading

PL = Peak Level

AL = Average Level

AF = Antenna Factor

PK L = Peak Limit

AV L = AV Limit

For example

Frequency	PR	AR	AF	PL	AL	PK L	AV L	Margin
(MHz)	(dBμV/m)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV/m)	(dBμV/m)	(dBμV/m)	(dB)
2178	40.23	30.31	9.83	50.06	40.14	74.00	54.00	-13.86



3.2.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

Below 30 MHz

Temperature:	23.4℃	Relative Humidity:	60%
Test Voltage:	DC 3.7V	Polarization:	---
Test Mode:	TX Mode		

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log (\text{specific distance/test distance})$ (dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.



Between 30MHz – 1000 MHz Radiation Spurious

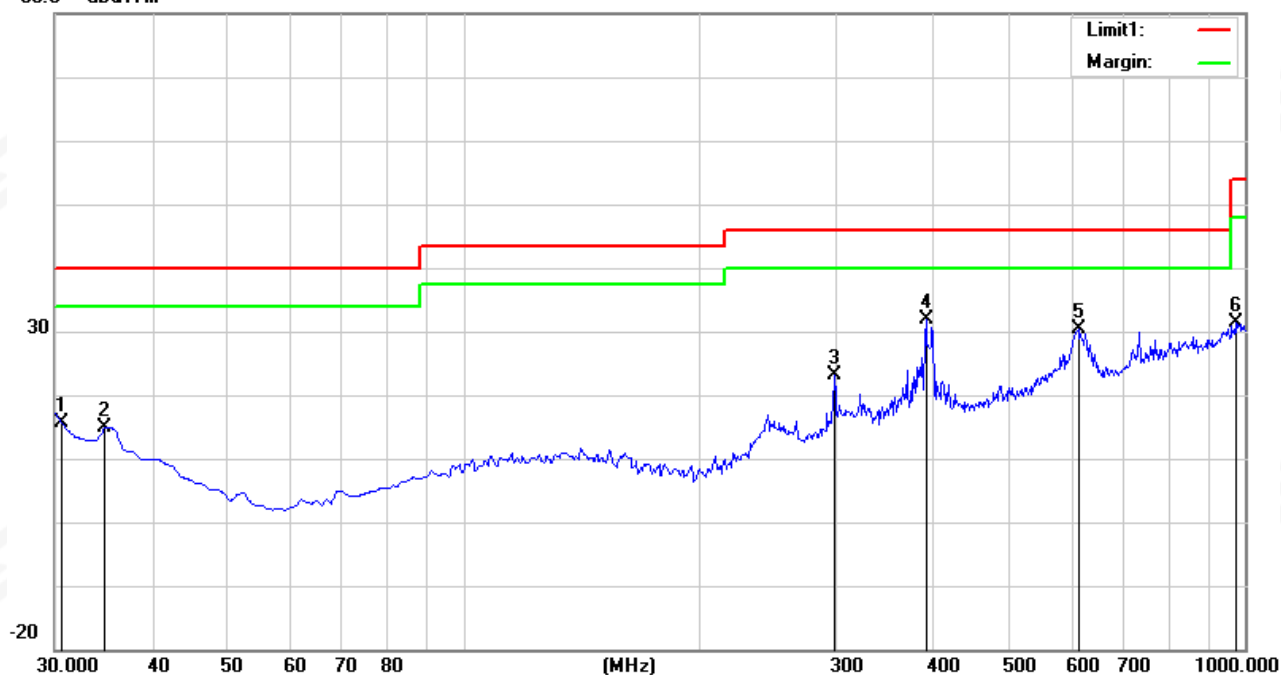
Temperature:	23.4℃	Relative Humidity:	60%
Test Voltage:	DC 3.7V	Phase:	Horizontal
Test Mode:	Mode 1 (worst mode)		

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	30.6379	28.82	-13.18	15.64	40.00	-24.36	peak
2	34.8500	30.31	-15.34	14.97	40.00	-25.03	peak
3	298.6900	38.03	-14.86	23.17	46.00	-22.83	peak
4	390.8400	43.32	-11.54	31.78	46.00	-14.22	peak
5	612.9700	35.94	-5.49	30.45	46.00	-15.55	peak
6	974.7800	29.09	2.32	31.41	54.00	-22.59	peak

Remark:

1. $\text{Margin} = \text{Result} (\text{Result} = \text{Reading} + \text{Factor}) - \text{Limit}$
2. $\text{Factor} = \text{Antenna factor} + \text{Cable attenuation factor (cable loss)} - \text{Amplifier gain}$

80.0 dBuV/m





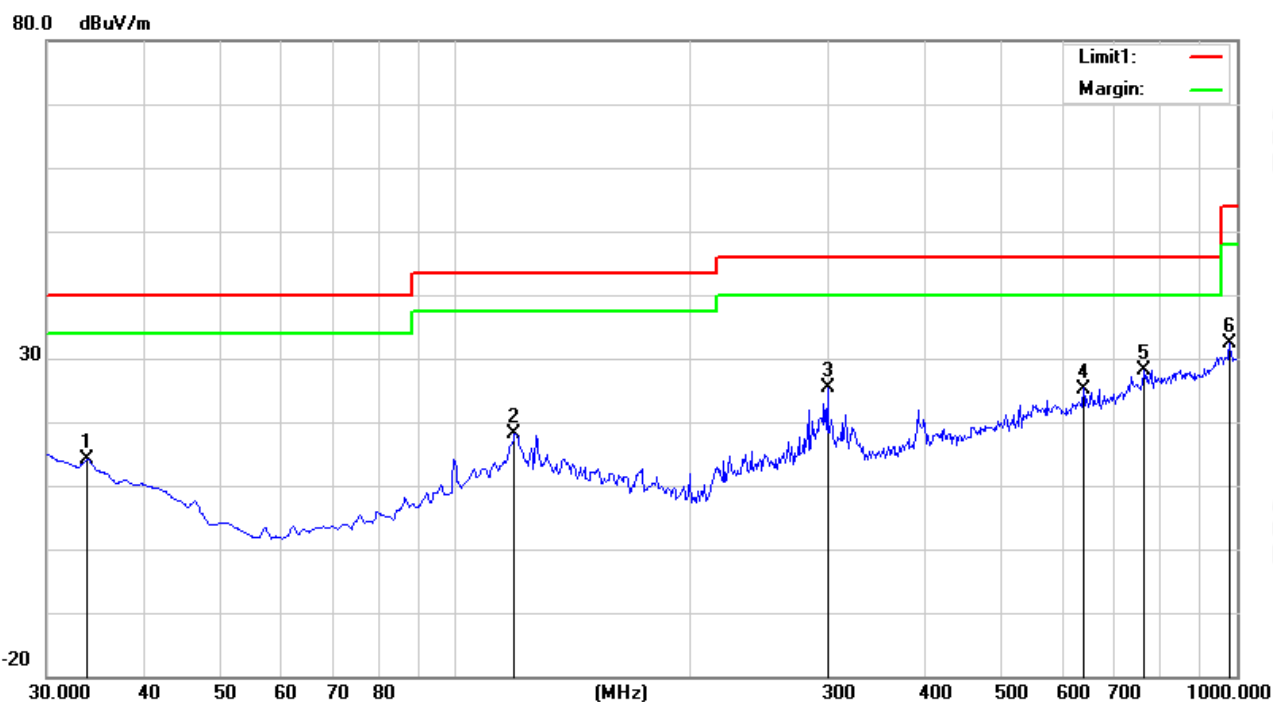
Temperature:	23.4℃	Relative Humidity:	60%
Test Voltage:	DC 3.7V	Phase:	Vertical
Test Mode:	Mode 1 (worst mode)		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	33.8800	29.01	-14.80	14.21	40.00	-25.79	peak
2	119.2400	36.55	-18.38	18.17	43.50	-25.33	peak
3	299.6600	40.27	-14.82	25.45	46.00	-20.55	peak
4	636.2500	30.17	-4.92	25.25	46.00	-20.75	peak
5	762.3500	30.46	-2.21	28.25	46.00	-17.75	peak
6	981.5700	29.81	2.57	32.38	54.00	-21.62	peak

Remark:

3. Margin = Result (Result =Reading + Factor)-Limit

4. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain

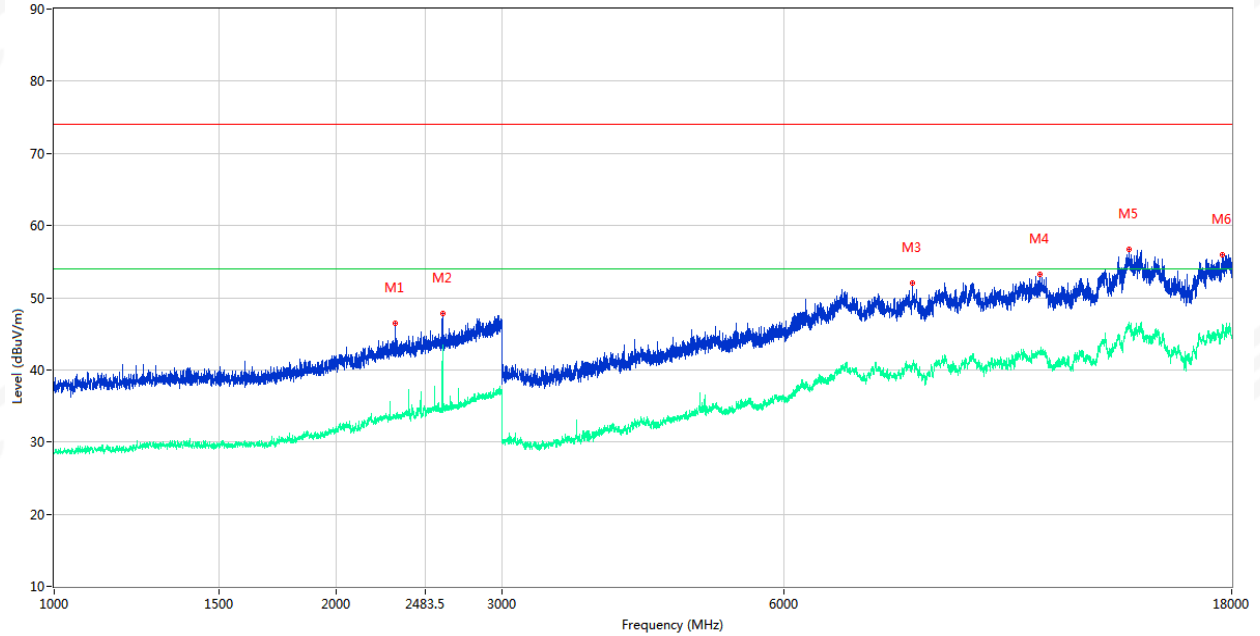




Above 1G Radiation Spurious

Mode 1
Horizontal

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 2.4G

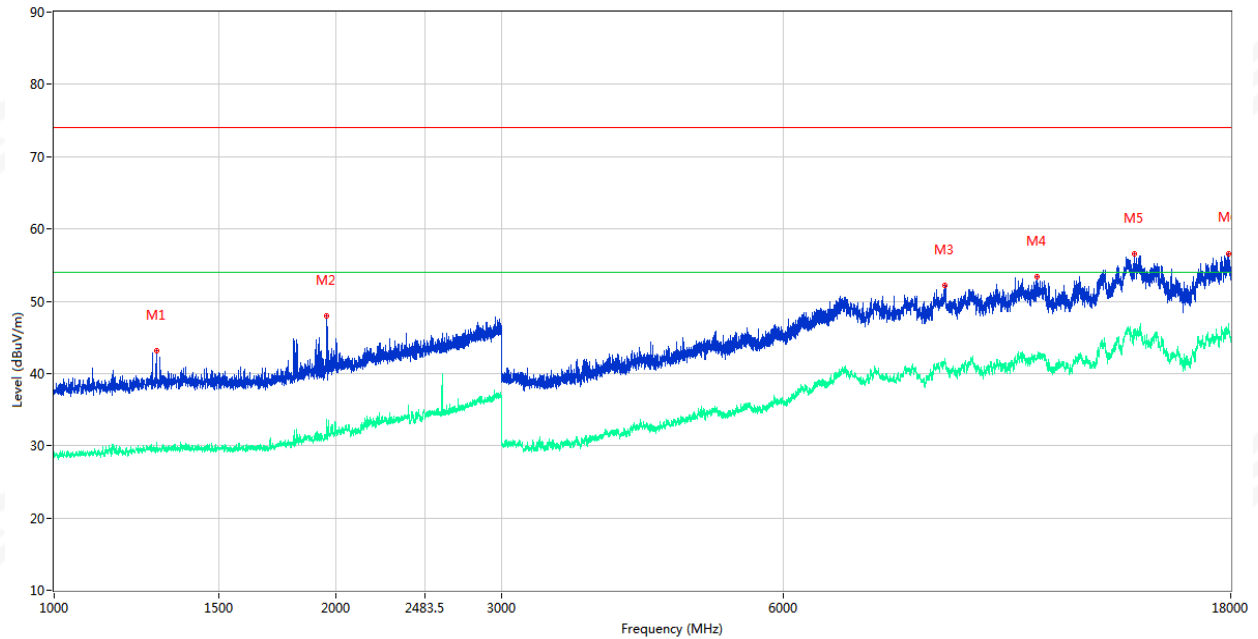


No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	2309.000	46.47	2.33	74.0	27.53	Peak	89.90	Horizontal	Pass
1**	2309.000	33.61	2.33	54.0	20.39	AV	89.90	Horizontal	Pass
2	2594.000	47.75	3.45	74.0	26.25	Peak	59.80	Horizontal	Pass
2**	2594.000	43.24	3.45	54.0	10.76	AV	59.80	Horizontal	Pass
3	8226.500	51.99	-0.54	74.0	22.01	Peak	150.60	Horizontal	Pass
3**	8226.500	40.78	-0.54	54.0	13.22	AV	150.60	Horizontal	Pass
4	11246.000	53.27	2.46	74.0	20.73	Peak	284.90	Horizontal	Pass
4**	11246.000	42.20	2.46	54.0	11.80	AV	284.90	Horizontal	Pass
5	13987.750	56.71	8.30	74.0	17.29	Peak	8.10	Horizontal	Pass
5**	13987.750	46.12	8.30	54.0	7.88	AV	8.10	Horizontal	Pass
6	17598.501	55.97	6.59	74.0	18.03	Peak	148.40	Horizontal	Pass
6**	17598.501	45.88	6.59	54.0	8.12	AV	148.40	Horizontal	Pass



Vertical

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 2.4G



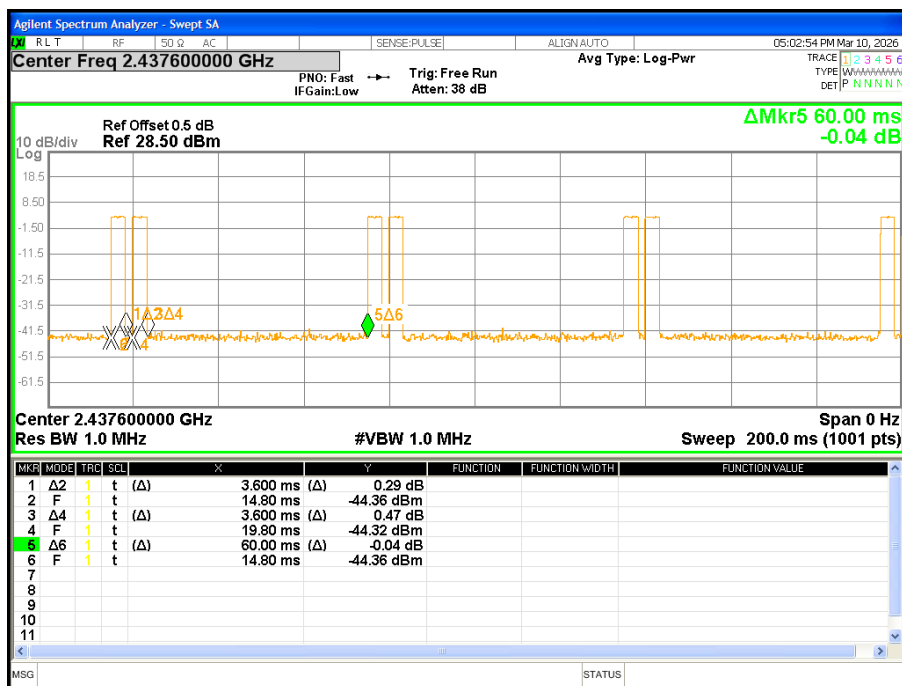
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1286.500	43.18	-1.32	74.0	30.82	Peak	358.90	Vertical	Pass
1**	1286.500	30.56	-1.32	54.0	23.44	AV	358.90	Vertical	Pass
2	1953.000	47.94	0.01	74.0	26.06	Peak	358.90	Vertical	Pass
2**	1953.000	33.73	0.01	54.0	20.27	AV	358.90	Vertical	Pass
3	8916.750	52.18	1.35	74.0	21.82	Peak	187.40	Vertical	Pass
3**	8916.750	41.77	1.35	54.0	12.23	AV	187.40	Vertical	Pass
4	11191.000	53.36	2.57	74.0	20.64	Peak	119.30	Vertical	Pass
4**	11191.000	42.42	2.57	54.0	11.58	AV	119.30	Vertical	Pass
5	14196.750	56.52	6.96	74.0	17.48	Peak	262.50	Vertical	Pass
5**	14196.750	45.66	6.96	54.0	8.34	AV	262.50	Vertical	Pass
6	17903.749	56.60	7.21	74.0	17.40	Peak	148.30	Vertical	Pass
6**	17903.749	46.84	7.21	54.0	7.16	AV	148.30	Vertical	Pass



Duty cycle

Ton (ms)	Tp (ms)	Duty cycle(%)	Duty Factor
7.2	60	12.00%	18.42

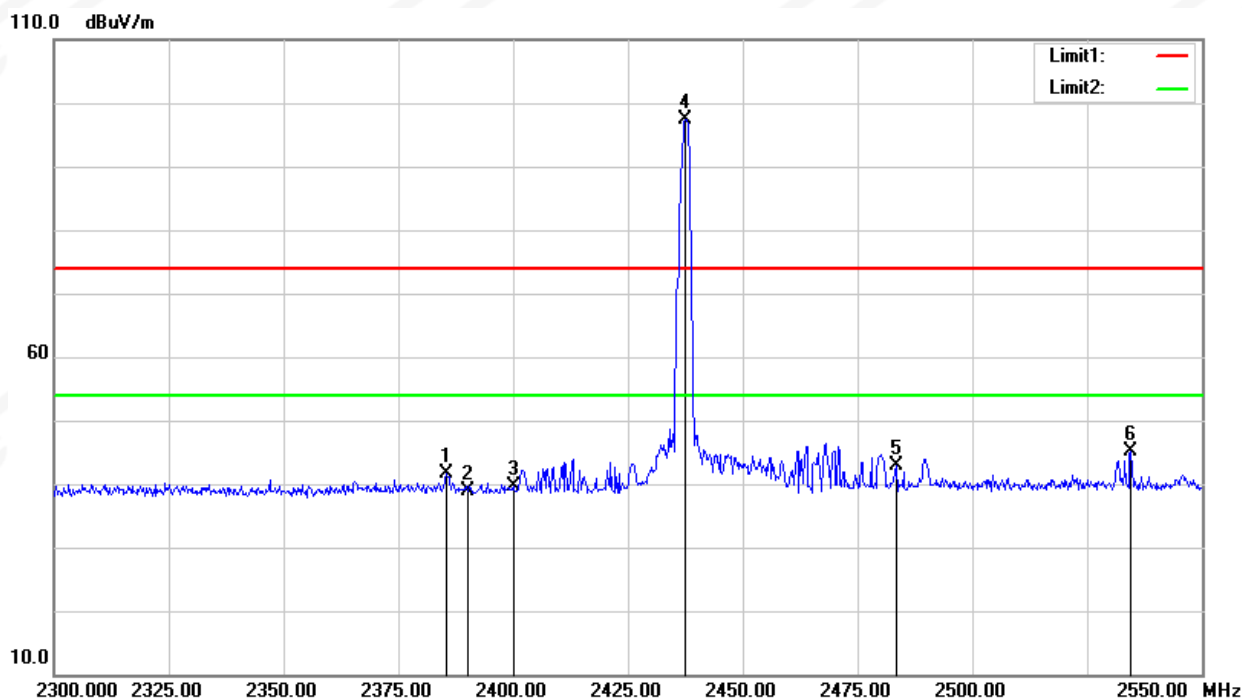
Note: Duty Factor= $20 \cdot \log_{10}(1/(T_{on}/T_p))$





(Radiation Band edge)

Horizontal



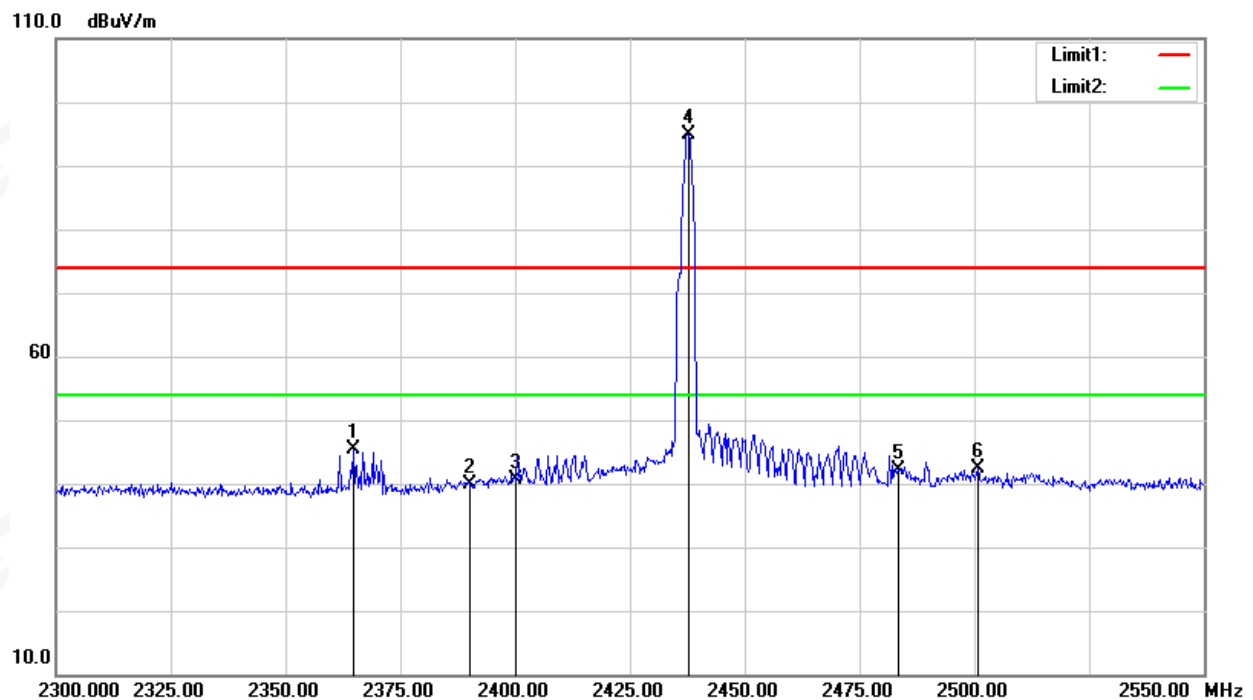
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.500	40.86	0.77	41.63	74.00	-32.37	peak
2	2390.000	38.11	0.81	38.92	74.00	-35.08	peak
3	2400.000	38.70	0.88	39.58	74.00	-34.42	peak
5	2483.500	41.74	1.02	42.76	74.00	-31.24	peak
6	2534.500	44.00	1.13	45.13	74.00	-28.87	peak

Fundamental Frequency

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Duty cycle Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4	2437.600	96.43	0.95	-	97.38	114	-16.62	Peak
4	2437.600	96.43	0.95	18.42	78.96	94	-15.04	QP



Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2364.750	44.83	0.62	45.45	74.00	-28.55	peak
2	2390.000	39.03	0.81	39.84	74.00	-34.16	peak
3	2400.000	39.69	0.88	40.57	74.00	-33.43	peak
5	2483.500	41.00	1.02	42.02	74.00	-31.98	peak
6	2500.750	41.25	1.05	42.30	74.00	-31.70	peak

Fundamental Frequency

No.	Frequenc y (MHz)	Reading (dBuV)	Correct Factor(dB/ m)	Duty cycle Factor(dB/ m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4	2437.600	93.88	0.95	-	94.83	114	-19.17	Peak
4	2437.600	93.88	0.95	18.42	76.41	94	-17.59	QP



4. BANDWIDTH TEST

4.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting : RBW= 1% to 5% OBW, VBW $\geq$ RBW, Sweep time = Auto.

4.2 TEST SETUP



4.3 EUT OPERATION CONDITIONS

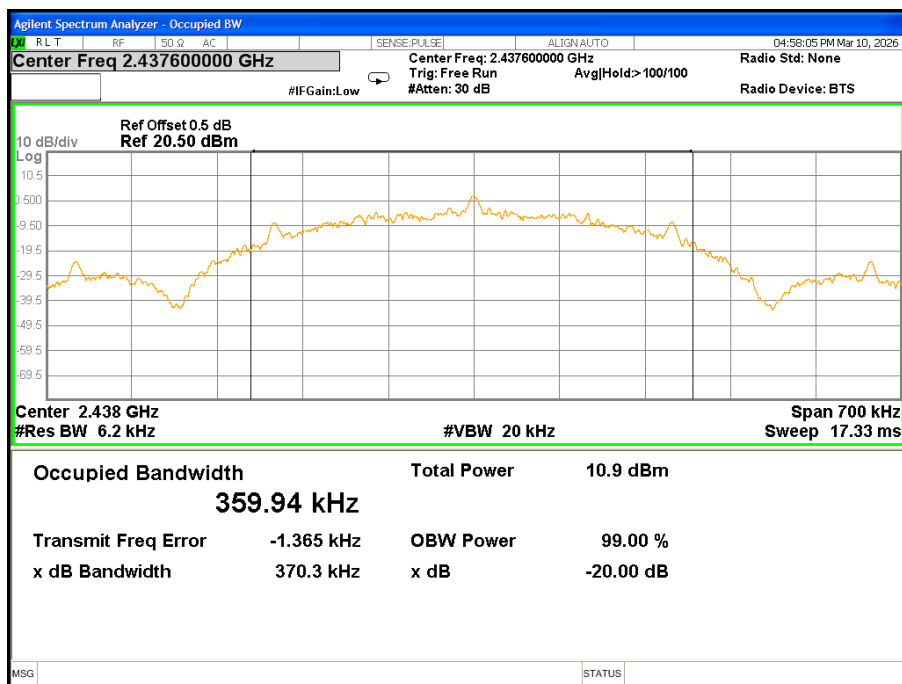
TX mode.



4.4 TEST RESULTS

Test Channel	Frequency(MHz)	20dB Bandwidth(KHz)	99% Bandwidth(KHz)
CH01	2437.6	370.3	369.94

CH01





5. ANTENNA REQUIREMENT

5.1 STANDARD REQUIREMENT

According to the FCC Part 15 Paragraph 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.

5.2 EUT ANTENNA

The EUT antenna is PCB Antenna. It conforms to the standard requirements.



APPENDIX- 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*****