RADIO TEST REPORT

Report No.: STS2211134W01

Issued for

GUANGZHOU HOBART LIGHTS LIMITED

309, No. 2, Shafeng 3rd Road, Jinsha Street, Baiyun District, Guangzhou, China

Product Name:	Wireless Tail light
Brand:	Hobart Lights
Model Number:	T1
Series Model(s):	T1-1, T1-2, T1-3, T1-4, T1-5, T1-6, T1-7, T1-8
FCC ID:	2A9LCT1
Test Standard:	FCC Part 15.249

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 RESULT CERTIFICATION

Applicant's Name .....:	GUANGZHOU HOBART LIGHTS LIMITED
Address.....:	309, No. 2, Shafeng 3rd Road, Jinsha Street, Baiyun District, Guangzhou, China
Manufacture's Name .....:	GUANGZHOU HOBART LIGHTS LIMITED
Address.....:	309, No. 2, Shafeng 3rd Road, Jinsha Street, Baiyun District, Guangzhou, China

Product Description

Product Name .....:	Wireless Tail light
Brand .....:	Hobart Lights
Model Number.....:	T1
Series Model(s) .....:	T1-1, T1-2, T1-3, T1-4, T1-5, T1-6, T1-7, T1-8
Test Standards.....:	FCC Part15.249
Test Procedure .....:	ANSI C63.10-2013

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.
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Date of Test.....:	
Date of receipt of test item.....:	28 Nov. 2022
Date of performance of tests ..:	28 Nov. 2022 ~ 02 Dec. 2022
Date of Issue.....:	02 Dec. 2022
Test Result .....:	**Pass**

Testing Engineer : Chris Chen
(Chris Chen)

Technical Manager : Sean She
(Sean she)

Authorized Signatory : Bovey Yang
(Bovey Yang)

TESTING • CONSULTING • SOLUTION • CERTIFICATION
APPROVAL

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	02 Dec. 2022	STS2211134W01	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	N/A	
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 C63.10-2013.

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	±0.87dB
2	Unwanted Emissions, conducted	±2.895dB
3	All emissions, radiated 9K-30MHz	±3.80dB
4	All emissions, radiated 30M-1GHz	±4.09dB
5	All emissions, radiated 1G-6GHz	±4.92dB
6	All emissions, radiated>6G	±5.49dB
7	Conducted Emission (9KHz-30MHz)	±2.73dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Wireless Tail light
Brand	Hobart Lights
Model Number	T1
Series Model(s)	T1-1, T1-2, T1-3, T1-4, T1-5, T1-6, T1-7, T1-8
Model Difference	The above models have the same circuit design, wiring diagram and components except for different model names and connectors
Product Description	The EUT is a Wireless Tail light. Operation Frequency: 2402~2480 MHz Modulation Type: GFSK Antenna Type: PCB Antenna Gain(Peak): 3dBi 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.
Channel List	Please refer to the Note 3.
Rating	Input: DC12V 30mA
Hardware version number	CZM901
Software version number	1.0
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. Due to the incorrect antenna information, a series of problems such as the accuracy of the test results will be borne by the customer.

3.

Channel List							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2402	11	2422	21	2442	31	2462
2	2404	12	2424	22	2444	32	2464
3	2406	13	2426	23	2446	33	2466
4	2408	14	2428	24	2448	34	2468
5	2410	15	2430	25	2450	35	2470
6	2412	16	2432	26	2452	36	2472
7	2414	17	2434	27	2454	37	2474
8	2416	18	2436	28	2456	38	2476
9	2418	19	2438	29	2458	39	2478
10	2420	20	2440	30	2460	40	2480

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 Low channel	GFSK
Mode 2	TX Mid channel	GFSK
Mode 3	TX High channel	GFSK

Note:

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

(2) We have be tested for all avaiable U.S. voltage and frequencies(For 120V,50/60Hz and 240V, 50/60Hz) for which the device is capable of operation, and the worst case of 120V,50/60Hz is shown in the report.

2.3 TEST SOFTWARE AND POWER LEVEL

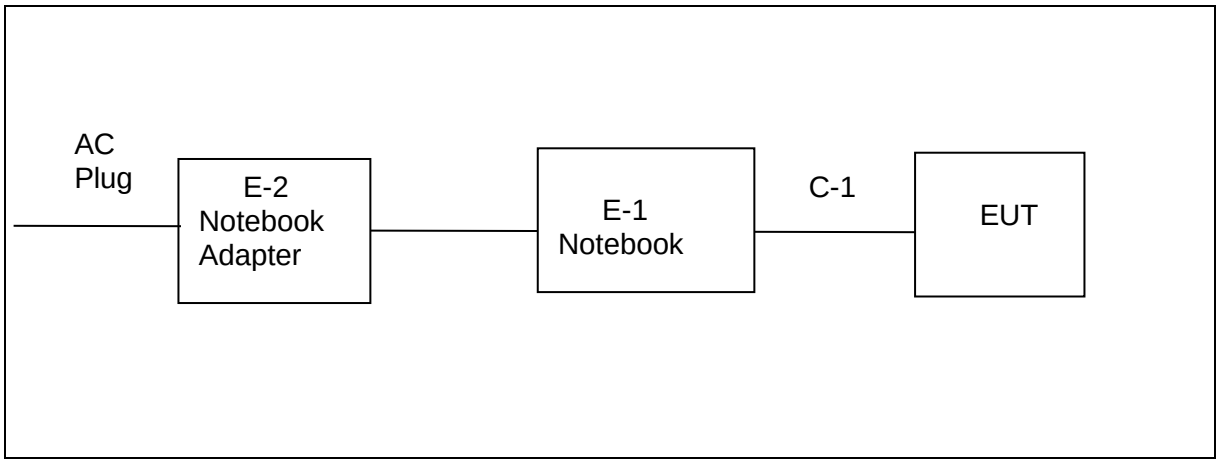
During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

RF Function	Type	Mode Or Modulation type	ANT Gain(dBi)	Power Class	Software For Testing
Other SRD	2.4G	GFSK	3	Default	UartAssist

2.4 BLOCK DIGRAM 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



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.

Necessary accessories

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

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
E-1	Notebook	LENOVO	Think Pad E470	N/A	N/A
E-2	Notebook Adapter	LENOVO	ADLX45DLC3A	N/A	N/A
C-1	USB Cable	N/A	N/A	150cm	NO

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.

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	2022.03.02	2023.03.01
Pre-Amplifier (0.1M-3GHz)	EM	EM330	060665	2022.07.04	2023.07.03
Pre-Amplifier (1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2022.09.29	2023.09.28
Pre-mplifier(18G-40G)	SKET	LNPA_1840-50	SK2018101801	2022.07.23	2023.07.22
Positioning Controller	MF	MF-7802	MF-780208587	N/A	N/A
Signal Analyzer	R&S	FSV 40-N	101823	2022.09.29	2023.09.28
Switch Control Box	N/A	N/A	N/A	N/A	N/A
Filter Box	BALUN Technology	SU319E	BL-SZ1530051	N/A	N/A
Active loop Antenna	ZHINAN	ZN30900C	16035	2022.03.02	2023.03.01
Bilog Antenna	TESEQ	CBL6111D	34678	2022.09.30	2024.09.29
Horn Antenna	SCHWARZBECK	BBHA 9120D	02014	2021.10.11	2023.10.10
Horn Antenna	A-INFOMW	LB-180400-KF	J211020657	2021.09.28	2023.09.27
Antenna Mast	MF	MFA-440H	N/A	N/A	N/A
Turn Table	EM	SC100_1	60531	N/A	N/A
AC Power Source	APC	KDF-11010G	F214050035	N/A	N/A
DC Power Supply	Zhaoxin	RXN 605D	20R605D11010081	N/A	N/A
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	2022.09.29	2023.09.28
LISN	R&S	ENV216	101242	2022.09.28	2023.09.27
LISN	EMCO	3810/2NM	23625	2022.09.28	2023.09.27
Temperature & Humidity	HH660	Mieo	N/A	2022.09.30	2023.09.29
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	2022.03.01	2023.02.28
Temperature & Humidity	HH660	Mieo	N/A	2022.09.30	2023.09.29

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

Operating frequency band. In case the emission fall within the restricted band specified on Part 15.249 limit in the table below has to be followed.

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.

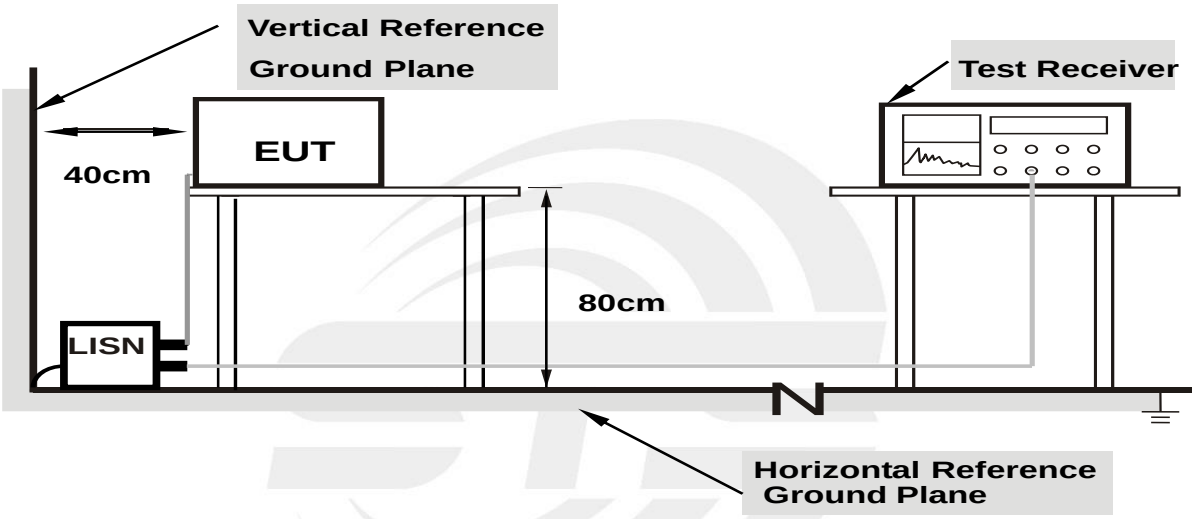
The following table is the setting of the receiver

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

3.1.2 TEST PROCEDURE

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.

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 from other units and other metal planes

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:	--(C)	Relative Humidity:	--%RH
Test Voltage**:**	N/A	Phase:	L/N
Test Mode:	N/A		

Note: EUT is only power by DC Power, So it is not applicable for this test.

3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS

20dBc 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.

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 arotating 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 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)

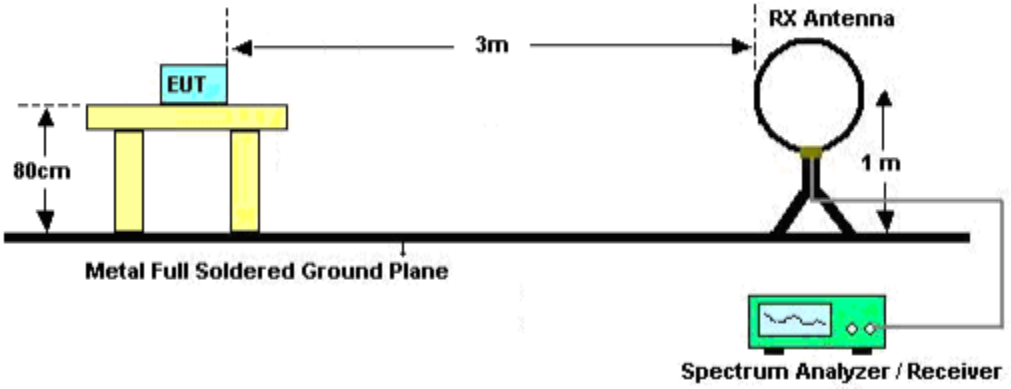
g. For the actual test configuration, please refer to the related Item –EUT Test Photos.
Note: Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

3.2.3 DEVIATION FROM TEST STANDARD

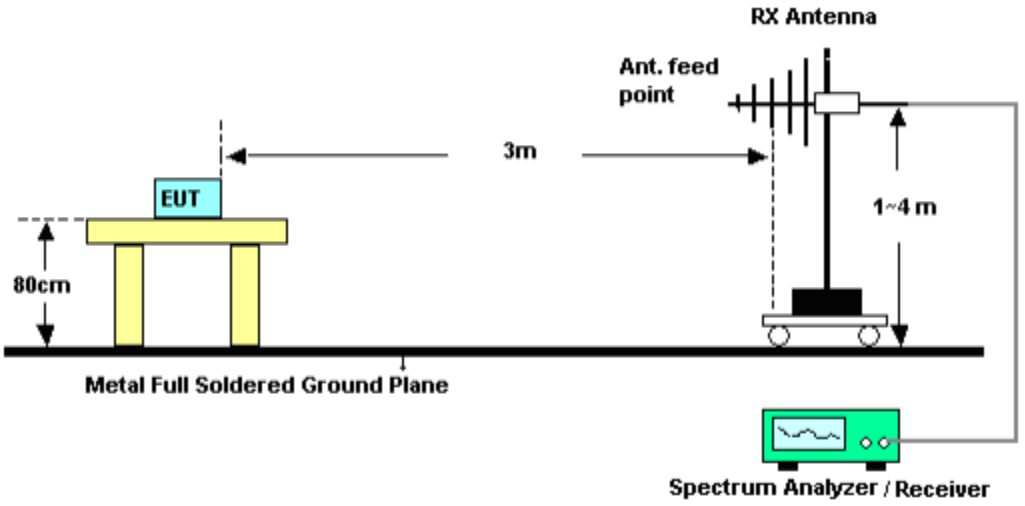
No deviation

3.2.4 TEST SETUP

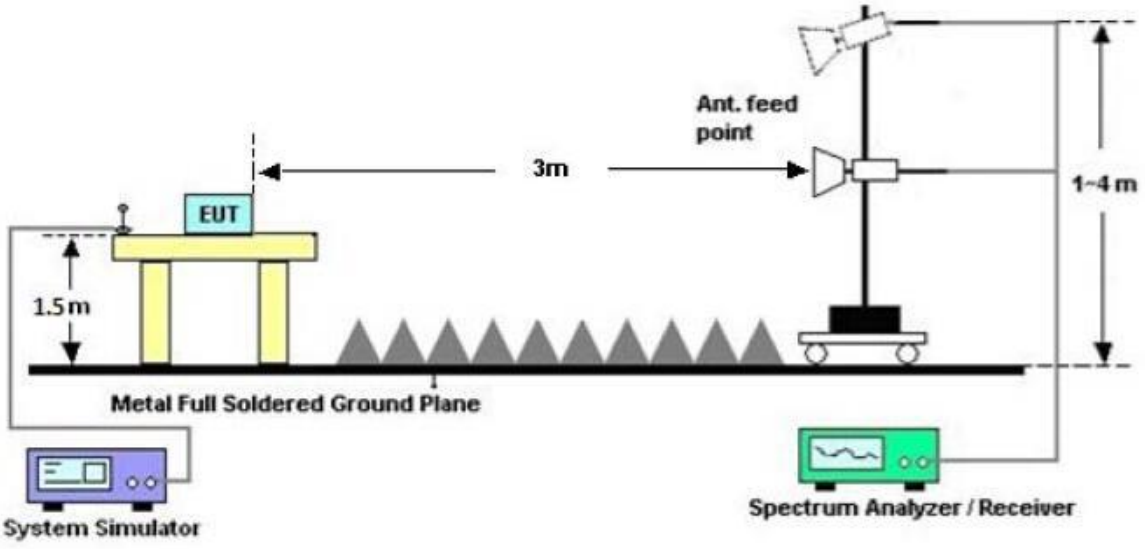
(A) Radiated Emission Test-Up Frequency Below 30MHz



(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:	23.1(C)	Relative Humidity:	60%RH
Test Voltage:	DC 12V	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 (specific distance/test distance)(dB);

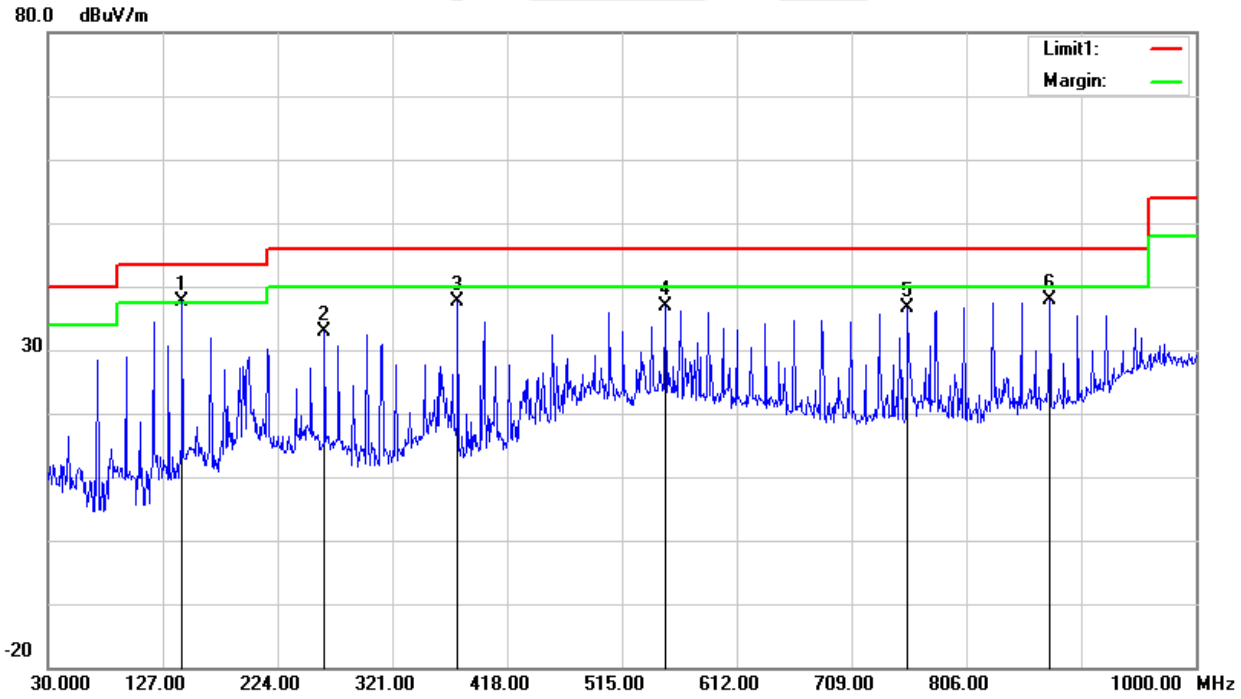
Limit line = specific limits(dBuv) + distance extrapolation factor.

Between 30MHz – 1000 MHz Radiation Spurious

Temperature:	23.1(C)	Relative Humidity:	60%RH
Test Voltage:	DC 12V	Phase:	Horizontal
Test Mode:	Mode 1/2/3 (Mode 3 worst mode)		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	143.4900	55.81	-18.23	37.58	43.50	-5.92	peak
2	263.7700	47.55	-14.75	32.80	46.00	-13.20	peak
3	376.2900	49.98	-12.35	37.63	46.00	-8.37	peak
4	551.8600	42.49	-5.72	36.77	46.00	-9.23	peak
5	756.5300	38.85	-2.17	36.68	46.00	-9.32	peak
6	876.8100	38.42	-0.62	37.80	46.00	-8.20	peak

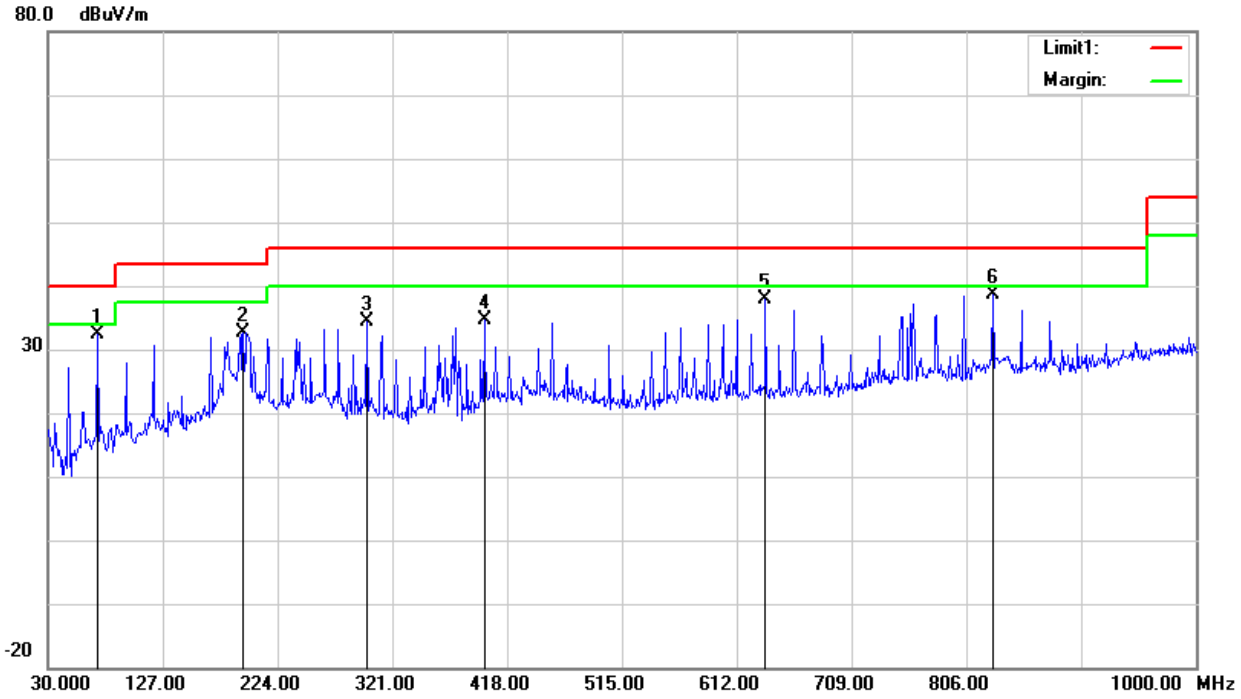
Remark:
1. Margin = Result (Result =Reading + Factor)–Limit



Temperature:	23.1(C)	Relative Humidity:	60%RH
Test Voltage:	DC 12V	Phase:	Vertical
Test Mode:	Mode 1/2/3 (Mode 3 worst mode)		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	71.7100	57.04	-24.56	32.48	40.00	-7.52	peak
2	194.9000	53.80	-21.14	32.66	43.50	-10.84	peak
3	299.6600	49.10	-14.82	34.28	46.00	-11.72	peak
4	398.6000	45.93	-11.20	34.73	46.00	-11.27	peak
5	636.2500	42.83	-4.92	37.91	46.00	-8.09	peak
6	828.3100	39.52	-0.95	38.57	46.00	-7.43	peak

Remark:
1. Margin = Result (Result =Reading + Factor)–Limit



Above 1G Radiation Spurious

PK

2402 MHz

Frequency	Meter Reading	Detector	Amplifier	Loss	Antenna Factor	Orrected Factor	Corrected Amplitude	FCC Part 15.249/15.209/205		RX Antenna
								Limit	Margin	Polar
(MHz)	(dBμV/m)	(PK/QP/AV)	（dB）	（dB）	（dB/m）	（dB）	(dBμV/m)	(dBμV/m)	(dB)	(H/V)
4804.06	66.72	PK	45.10	4.91	25.00	-15.19	51.53	74	-22.47	H
4804.06	65.67	PK	45.10	4.91	25.00	-15.19	50.48	74	-23.52	V
7206.10	64.03	PK	44.10	5.03	25.80	-13.27	50.76	74	-23.24	H
7206.10	63.33	PK	44.10	5.03	25.80	-13.27	50.06	74	-23.94	V
9608.15	49.50	PK	43.80	6.72	33.40	-3.68	45.82	74	-28.18	H
9608.15	49.49	PK	43.80	6.72	33.40	-3.68	45.81	74	-28.19	V

2440 MHz

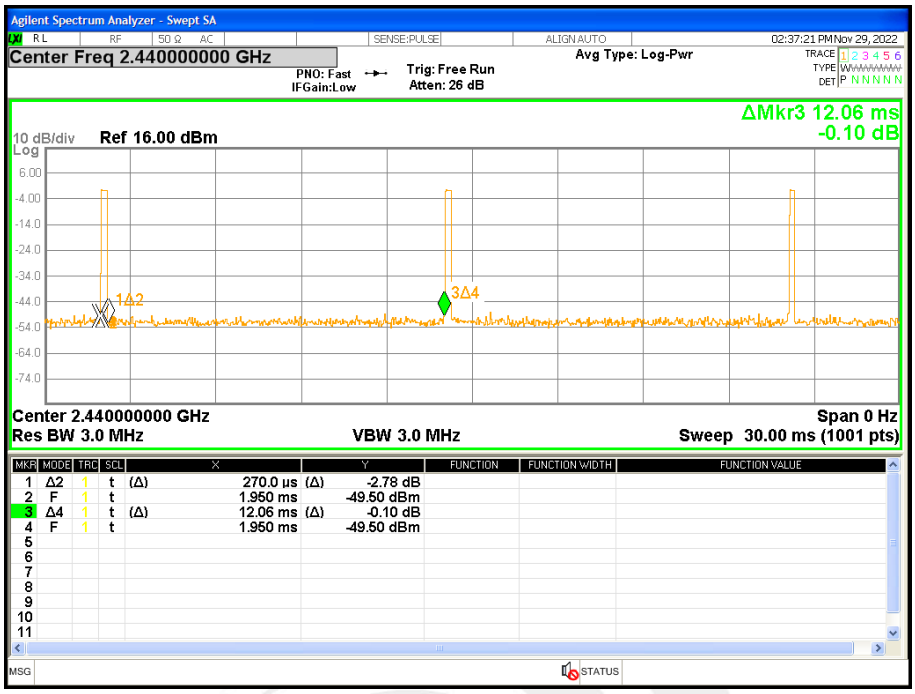
Frequency	Meter Reading	Detector	Amplifier	Loss	Antenna Factor	Orrected Factor	Corrected Amplitude	FCC Part 15.249/15.209/205		RX Antenna
								Limit	Margin	Polar
(MHz)	(dBμV/m)	(PK/QP/AV)	（dB）	（dB）	（dB/m）	（dB）	(dBμV/m)	(dBμV/m)	(dB)	(H/V)
4880.07	66.66	PK	45.10	4.91	25.00	-15.19	51.47	74	-22.53	H
4880.07	65.45	PK	45.10	4.91	25.00	-15.19	50.26	74	-23.74	V
7320.06	64.77	PK	44.10	5.03	25.80	-13.27	51.50	74	-22.50	H
7320.06	63.39	PK	44.10	5.03	25.80	-13.27	50.12	74	-23.88	V
9760.01	49.46	PK	43.80	6.72	33.40	-3.68	45.78	74	-28.22	H
9760.01	49.42	PK	43.80	6.72	33.40	-3.68	45.74	74	-28.26	V

2480 MHz

Frequency	Meter Reading	Detector	Amplifier	Loss	Antenna Factor	Orrected Factor	Corrected Amplitude	FCC Part 15.249/15.209/205		RX Antenna
								Limit	Margin	Polar
(MHz)	(dBμV/m)	(PK/QP/AV)	（dB）	（dB）	（dB/m）	（dB）	(dBμV/m)	(dBμV/m)	(dB)	(H/V)
4960.03	66.42	PK	45.10	4.91	25.00	-15.19	51.23	74	-22.77	H
4960.03	65.58	PK	45.10	4.91	25.00	-15.19	50.39	74	-23.61	V
7439.98	64.99	PK	44.10	5.03	25.80	-13.27	51.72	74	-22.28	H
7439.98	63.29	PK	44.10	5.03	25.80	-13.27	50.02	74	-23.98	V
9920.20	49.17	PK	43.80	6.72	33.40	-3.68	45.49	74	-28.51	H
9920.20	49.50	PK	43.80	6.72	33.40	-3.68	45.82	74	-28.18	V

The peak value is less than the AV limit, so AV data does not need to be tested.

Duty cycle



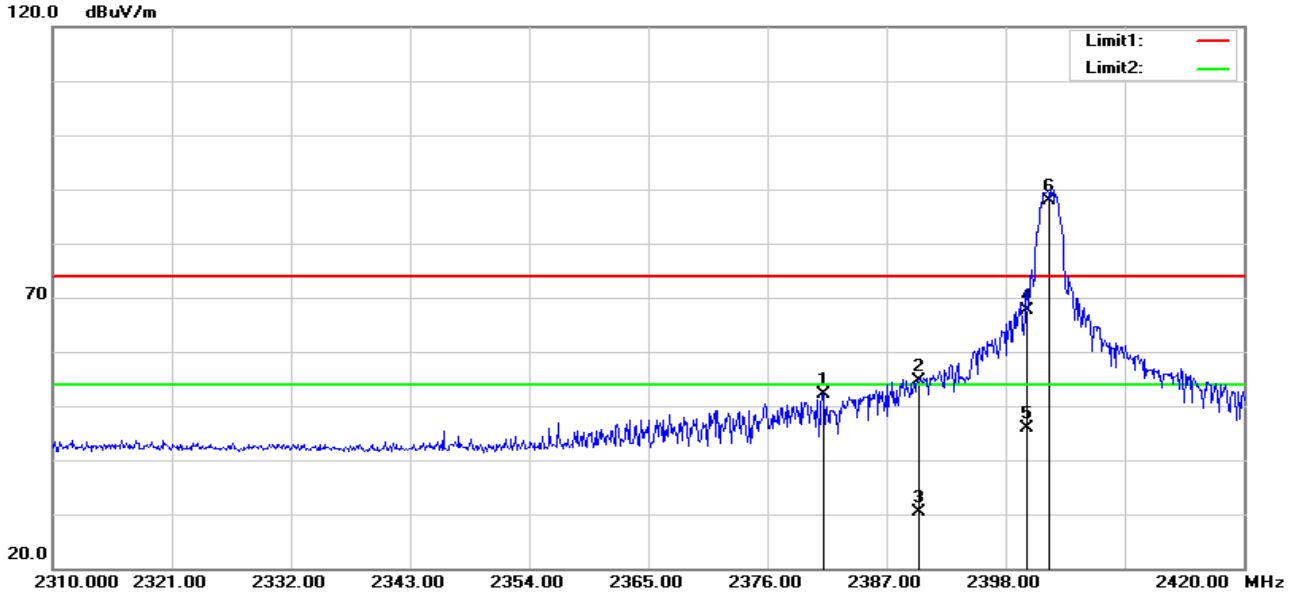
Ton（μs）	Tp（μs）	Duty Factor
270	12060	33.00

Note: Duty Factor=20*LOG10(1/(Ton/Tp))

(Radiation Band edge)

Low channel

Horizontal

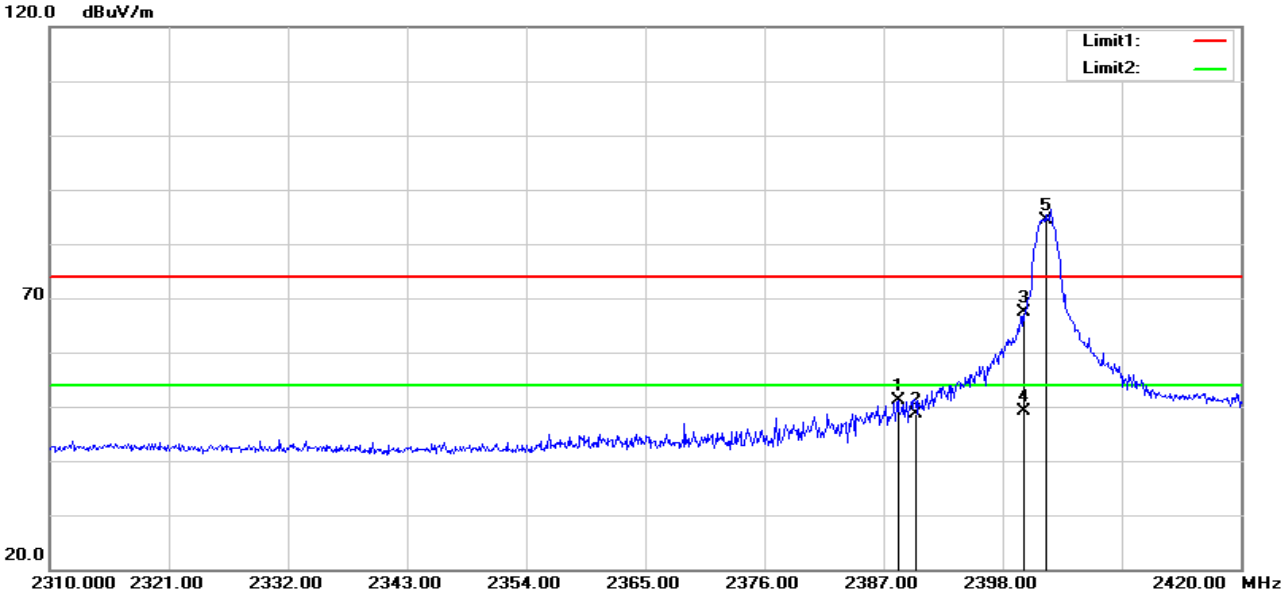


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2381.170	47.98	4.21	52.19	74.00	-21.81	peak
2	2390.000	50.20	4.34	54.54	74.00	-19.46	peak
3	2390.000	26.10	4.34	30.44	54.00	-23.56	AVG
4	2400.000	63.19	4.49	67.68	74.00	-6.32	peak
5	2400.000	41.34	4.49	45.83	54.00	-8.17	AVG

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
6	2402.000	83.39	4.49	-	87.88	114	-26.12	peak
7	2402.000	83.39	4.49	33.00	54.88	94	-39.12	AVG

Vertical



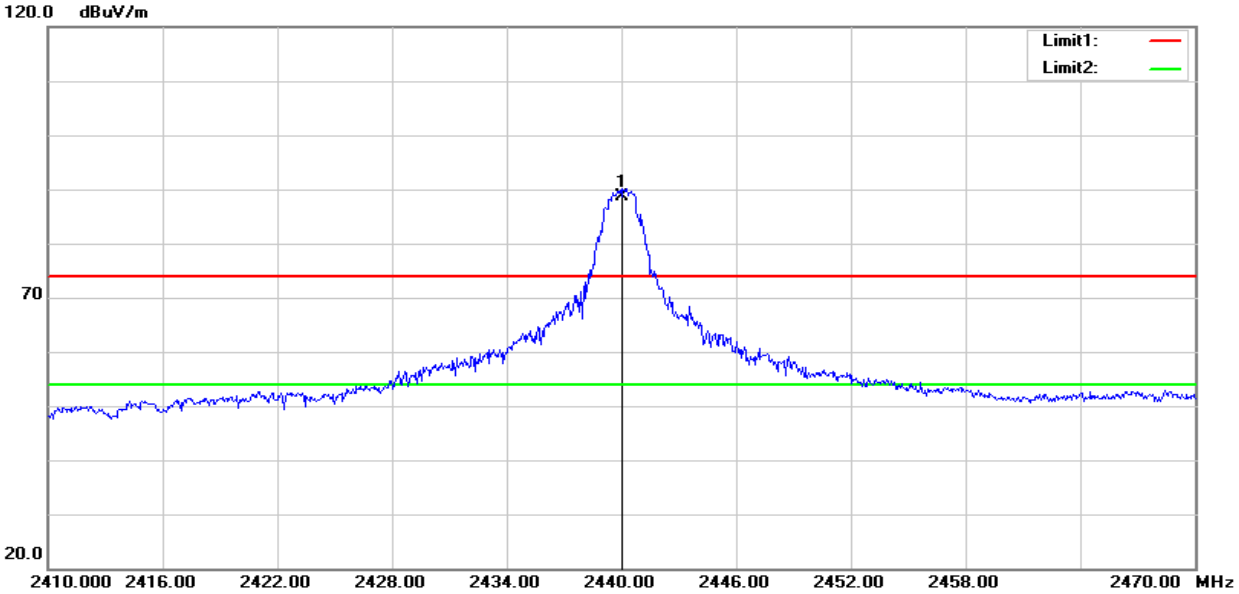
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2388.320	46.79	4.31	51.10	74.00	-22.90	peak
2	2390.000	44.20	4.34	48.54	74.00	-25.46	peak
3	2400.000	62.78	4.49	67.27	74.00	-6.73	peak
4	2400.000	44.66	4.49	49.15	54.00	-4.85	AVG

Fundamental Frequency

No.	Frequency	Reading	Correct	Duty cycle	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
5	2402.000	79.92	4.49	-	84.41	114	-29.59	peak
6	2402.000	79.92	4.49	33.00	51.41	94	-42.59	AVG

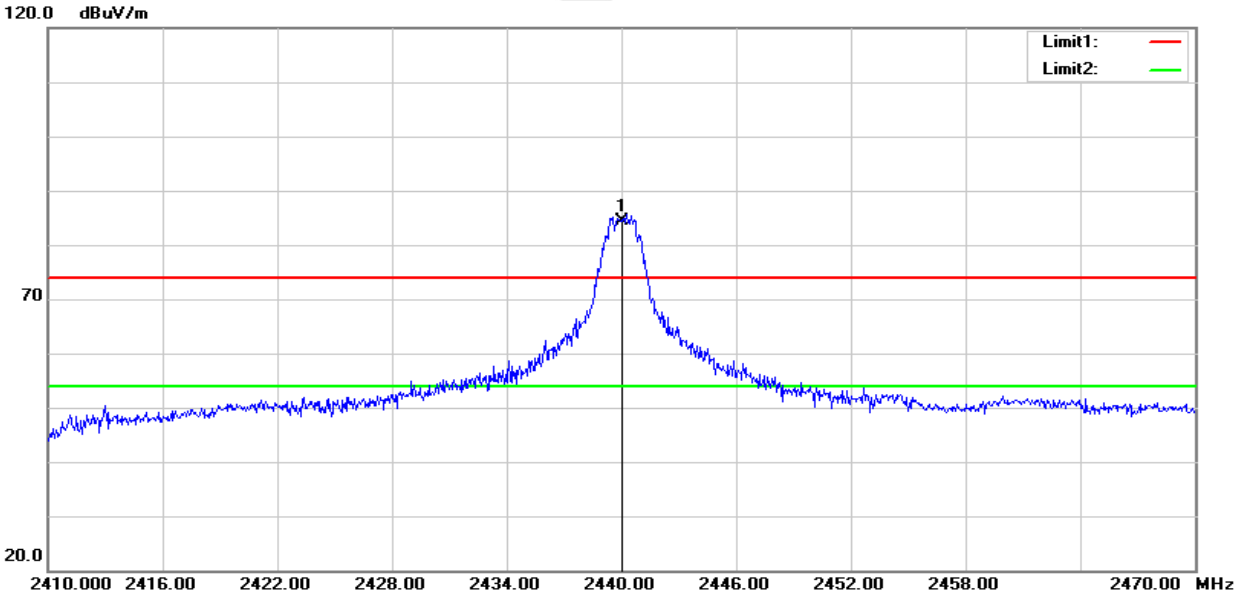
Mid channel

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Duty cycle Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2440.000	84.12	4.52	-	88.64	114	-25.36	peak
2	2440.000	84.12	4.52	33.00	55.64	94	-38.36	AVG

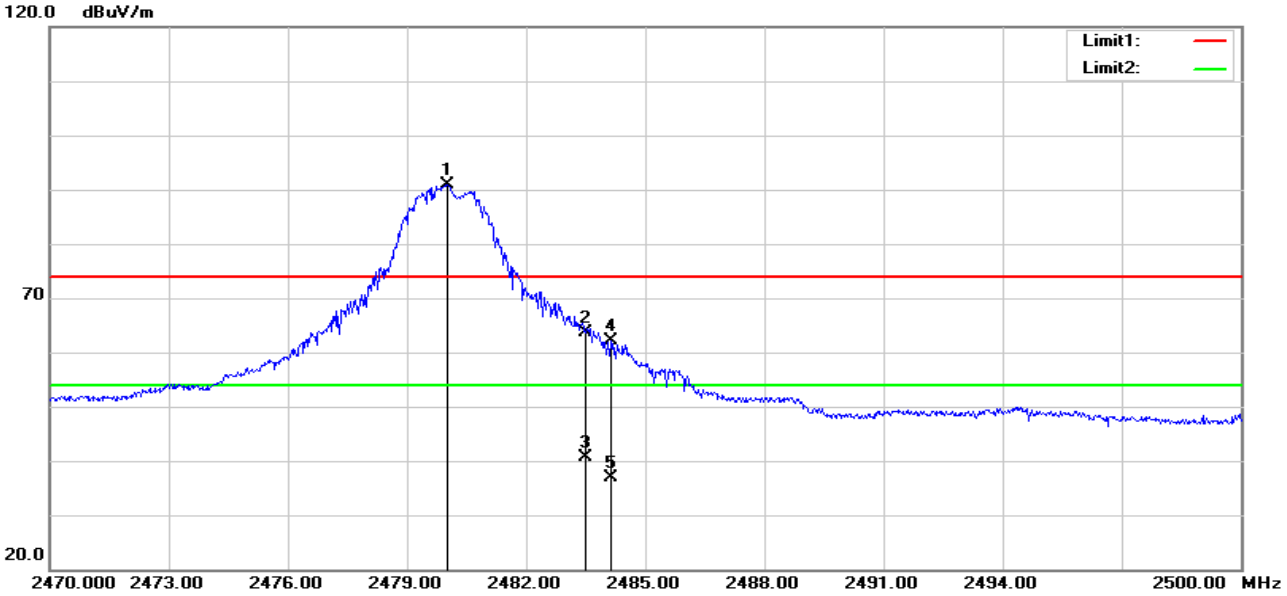
Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Duty cycle Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2440.000	79.88	4.52	-	84.40	114	-29.60	peak
2	2440.000	79.88	4.52	33.00	51.40	94	-42.60	AVG

High channel

Horizontal

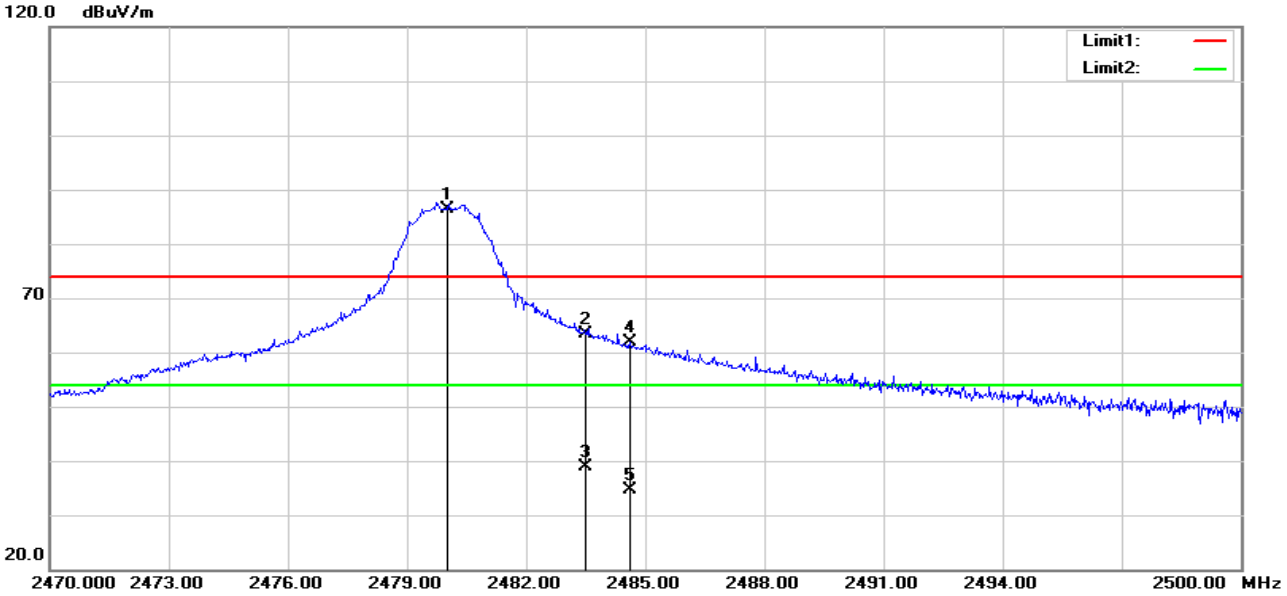


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
2	2483.500	59.04	4.60	63.64	74.00	-10.36	peak
3	2483.500	35.97	4.60	40.57	54.00	-13.43	AVG
4	2484.130	57.43	4.61	62.04	74.00	-11.96	peak
5	2484.130	32.18	4.61	36.79	54.00	-17.21	AVG

Fundamental Frequency

No.	Frequency	Reading	Correct	Duty cycle	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2480.000	86.16	4.60	-	90.76	114	-23.24	peak
6	2480.000	86.16	4.60	33.00	57.76	94	-36.24	AVG

Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
2	2483.500	58.81	4.60	63.41	74.00	-10.59	peak
3	2483.500	34.35	4.60	38.95	54.00	-15.05	AVG
4	2484.610	57.21	4.61	61.82	74.00	-12.18	peak
5	2484.610	29.99	4.61	34.60	54.00	-19.40	AVG

Fundamental Frequency

No.	Frequency	Reading	Correct	Duty cycle	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2480.000	81.78	4.60	-	86.38	114	-27.62	peak
6	2480.000	81.78	4.60	33.00	53.38	94	-40.62	AVG

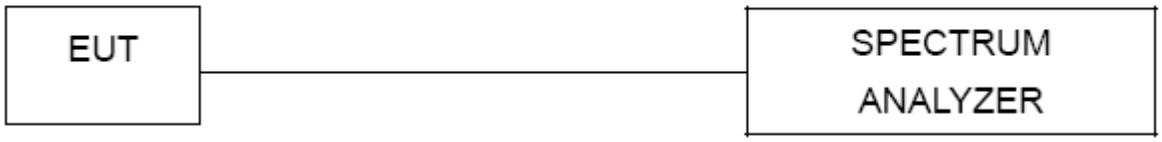
4. BANDWIDTH TEST

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≧RBW, Sweep time = Auto.

4.2 TEST SETUP



4.3 EUT OPERATION CONDITIONS

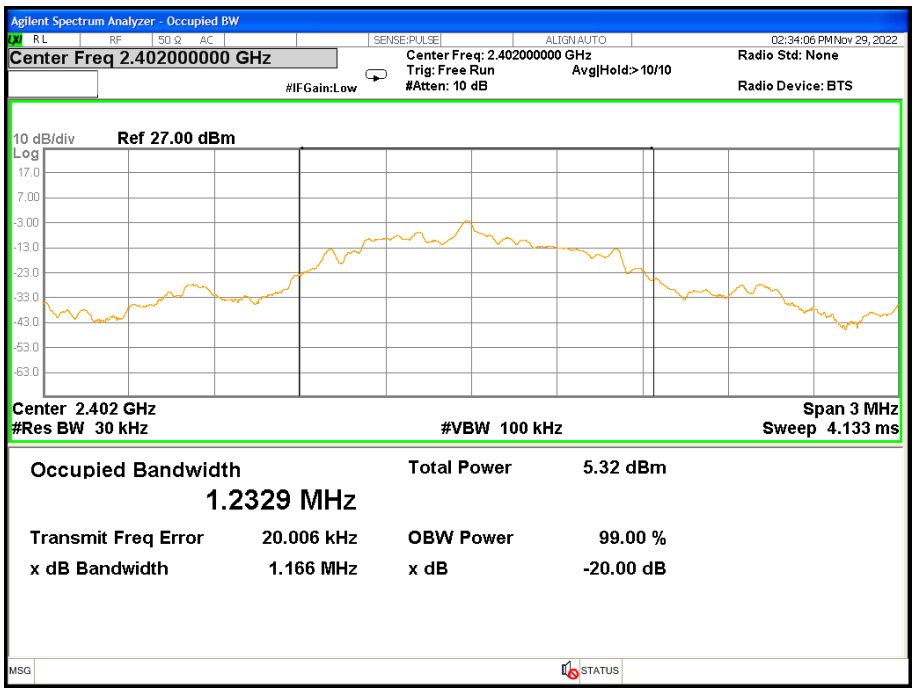
TX mode.

4.4 TEST RESULTS

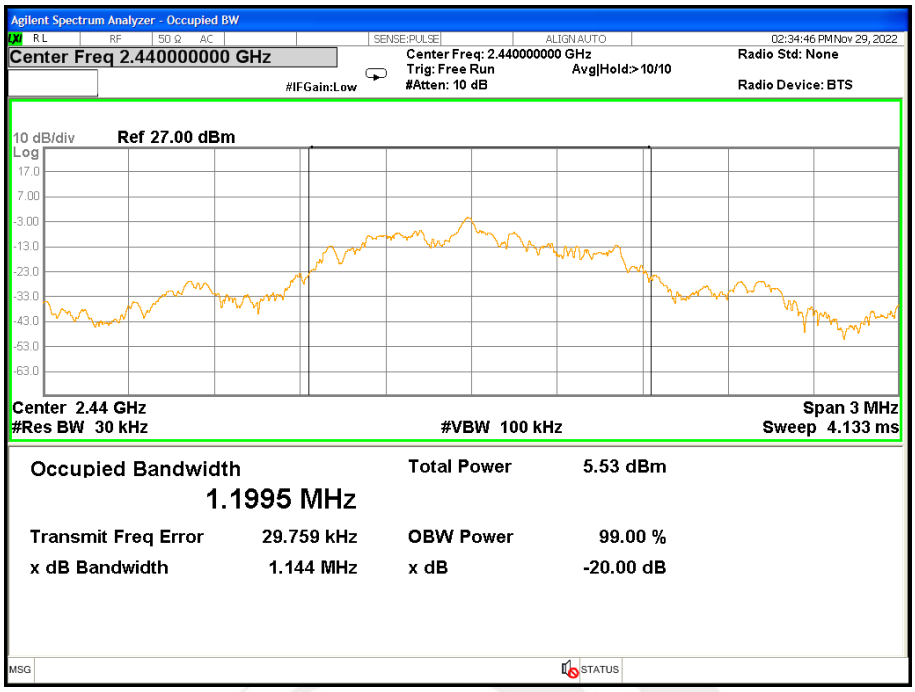
Temperature:	25 ℃	Relative Humidity:	50%
Test Voltage:	DC 1.5V		

Test Channel	Frequency(MHz)	20 dB Bandwidth(MHz)	99% Bandwidth(MHz)
CH01	2402	1.166	1.2329
CH20	2440	1.144	1.1995
CH40	2480	1.175	1.2405

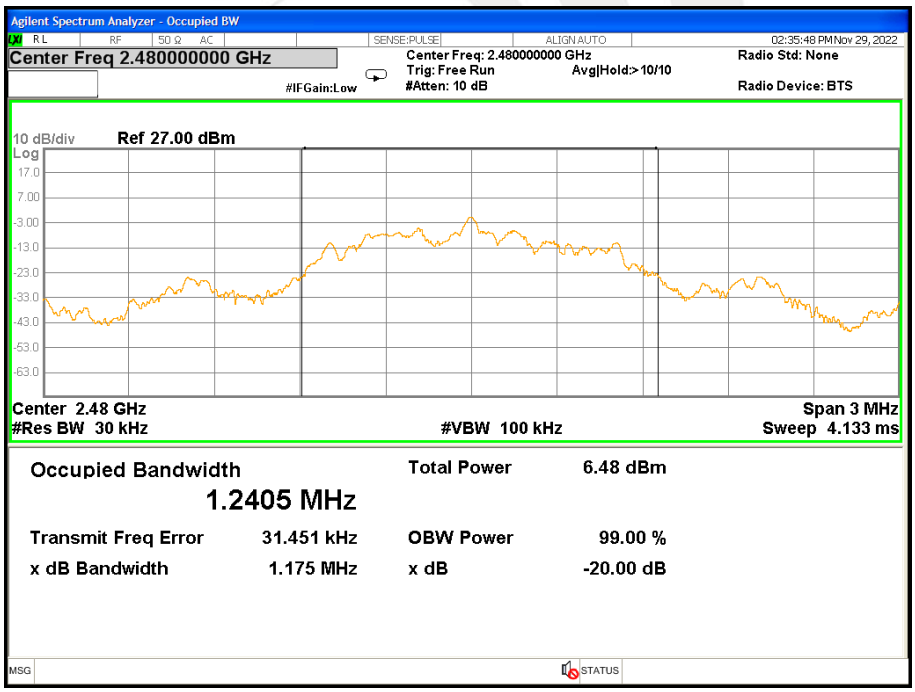
Low Channel



Mid Channel



High Channel



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※※※※※