TEST REPORT

Report No.:	BCTC2211300754-4E
Applicant:	Robobloq Co.,Ltd
Product Name:	Feelin Light Q1
Model/Type Ref.:	RB-00015
Tested Date:	2022-11-22 to 2023-03-23
Issued Date:	2023-03-23

Shenzhen BCTC Testing Co., Ltd.

FCC ID:2AOHL-RB00015

Product Name:	Feelin Light Q1
Trademark:	ROBOBLOQ
Model/Type Ref.:	RB-00015
Prepared For:	Robobloq Co.,Ltd
Address:	Room 2301-2302,Building 6, Shenzhen International Innovation Valley, Dashi 1st Road, Xili, Nanshan District,Shenzhen, Guangdong, China
Manufacturer:	Robobloq Co.,Ltd
Address:	Room 2301-2302,Building 6, Shenzhen International Innovation Valley, Dashi 1st Road, Xili, Nanshan District,Shenzhen, Guangdong, China
Prepared By:	Shenzhen BCTC Testing Co., Ltd.
Address:	1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Tangwei, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date:	2022-11-22
Sample tested Date:	2022-11-22 to 2023-03-23
Issue Date:	2023-03-23
Report No.:	BCTC2211300754-4E
Test Standards:	FCC Part15.249 ANSI C63.10-2013
Test Results:	PASS

Tested by:

Kelsey Tan/ Project Handler

Approved by:

Zero Zhou/Reviewer

The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client.

Table Of Content

(Note: N/A Means Not Applicable)

1. Version

Report No.	Issue Date	Description	Approved
BCTC2211300754-4E	2023-03-23	Original	Valid

2. Test Summary

The Product has been tested according to the following specifications:

FCC Part15 (15.249) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.215	20dB Bandwidth	PASS	
15.249	Fundamental &Radiated Spurious Emission Measurement	PASS	
15.205	Band Edge Emission	PASS	
15.203	Antenna Requirement	PASS	

3. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Uncertainty
1	3m camber Radiated spurious emission(30MHz-1GHz)	U=4.3dB
2	3m chamber Radiated spurious emission(1GHz-18GHz)	U=4.5dB
3	3m chamber Radiated spurious emission(18GHz-40GHz)	U=3.34dB
4	Conducted Adjacent channel power	U=1.38dB
5	Conducted output power uncertainty Above 1G	U=1.576dB
6	Conducted output power uncertainty below 1G	U=1.28dB
7	humidity uncertainty	U=5.3%
8	Temperature uncertainty	U=0.59℃

4. Product Information And Test Setup

4.1 Product Information

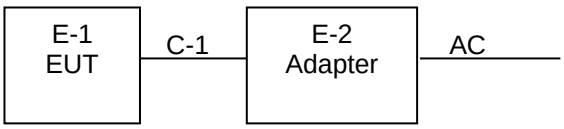
Model/Type Ref.:	RB-00015
Model differences:	N/A
Hardware Version:	N/A
Software Version:	N/A
Operation Frequency:	5750-5870MHz
Type of Modulation:	GFSK
Number Of Channel	3CH
Antenna installation:	Internal antenna
Antenna Gain:	0 dBi
Ratings:	DC 5V

4.2 Test Setup Configuration

See test photographs attached in *EUT TEST SETUP PHOTOGRAPHS* for the actual connections between Product and support equipment.

Conducted Emission and Radiated Spurious Emission

:



4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	Feelin Light Q1	ROBOBLOQ	RB-00015	N/A	EUT
E-2	Adapter	N/A	BCTC001	N/A	Auxiliary

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	1M	DC cable unshielded

Notes:
1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.4 Channel List

Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	5750	02	5800	03	5870

4.5 Test Mode

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.

For All Mode	Description	Modulation Type
Mode 1	CH01	GFSK
Mode 2	CH02	
Mode 3	CH03	
Mode 4	Link mode (Conducted emission and Radiated emission)	

Note:
(1) The measurements are performed at the highest, middle, lowest available channels.

4.6 Table Of Parameters Of Text Software Setting

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

Test software Version	**SecureCRT**		
Frequency	5750MHz	5800 MHz	5870 MHz
Parameters	DEF	DEF	DEF

5. Test Facility And Test Instrument Used

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Tangwei, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.
FCC Test Firm Registration Number: 712850
Designation Number: CN1212
ISED Registered No.: 23583
CAB identifier: CN0017

5.2 Test Instrument Used

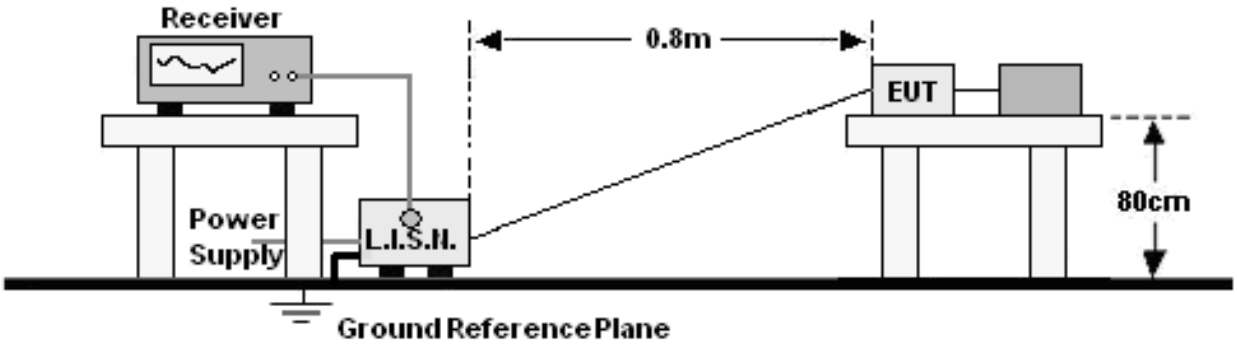
Conducted emissions Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Receiver	R&S	ESR3	102075	May 28, 2021	May 27, 2022
LISN	R&S	ENV216	101375	May 28, 2021	May 27, 2022
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Attenuator	\	10dB DC-6GHz	1650	May 28, 2021	May 27, 2022

RF Conducted Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Power Metter	Keysight	E4419	\	May 28, 2021	May 27, 2022
Power Sensor (AV)	Keysight	E9300A	\	May 28, 2021	May 27, 2022
Signal Analyzer20kHz-26.5GHz	Keysight	N9020A	MY49100060	May 28, 2021	May 27, 2022
Spectrum Analyzer9kHz-40GHz	R&S	FSP40	\	May 28, 2021	May 27, 2022

Radiated emissions Test (966 chamber)					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
966 chamber	ChengYu	966 Room	966	Jun. 06. 2020	Jun. 05, 2023
Receiver	R&S	ESR3	102075	May 28, 2021	May 27, 2022
Receiver	R&S	ESRP	101154	May 28, 2021	May 27, 2022
Amplifier	SKET	LAPA_01G18G-45dB	\	May 28, 2021	May 27, 2022
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 28, 2021	May 27, 2022
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	942	Jun. 01, 2021	May 31, 2022
Horn Antenna	Schwarzbeck	BBHA9120D	1541	Jun. 02, 2021	Jun. 01, 2022
Horn Antenn(18GHz-40GHz)	Schwarzbeck	BBHA9170	00822	Jun. 15, 2021	Jun. 14, 2022
Amplifier(18GHz-40GHz)	MITEQ	TTA1840-35-HG	2034381	May 28, 2021	May 27, 2022
Loop Antenna(9KHz-30MHz)	Schwarzbeck	FMZB1519B	00014	Jun. 02, 2021	Jun. 01, 2022
RF cables1(9kHz-30MHz)	Huber+Suhnar	9kHz-30MHz	B1702988-0008	May 28, 2021	May 27, 2022
RF cables2(30MHz-1GHz)	Huber+Suhnar	30MHz-1GHz	1486150	May 28, 2021	May 27, 2022
RF cables3(1GHz-40GHz)	Huber+Suhnar	1GHz-40GHz	1607106	May 28, 2021	May 27, 2022
Power Metter	Keysight	E4419	\	May 28, 2021	May 27, 2022
Power Sensor (AV)	Keysight	E9300A	\	May 28, 2021	May 27, 2022
Signal Analyzer20kHz-26.5GHz	Keysight	N9020A	MY49100060	May 28, 2021	May 27, 2022
Spectrum Analyzer9kHz-40GHz	R&S	FSP40	\	May 28, 2021	May 27, 2022
Software	Frad	EZ-EMC	FA-03A2 RE	\	\

6. Conducted Emissions

6.1 Block Diagram Of Test Setup



6.2 Limit

FREQUENCY (MHz)	Limit (dBuV)	
	Quas-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

Notes:
1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

6.3 Test Procedure

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

a. The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).

b. The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.

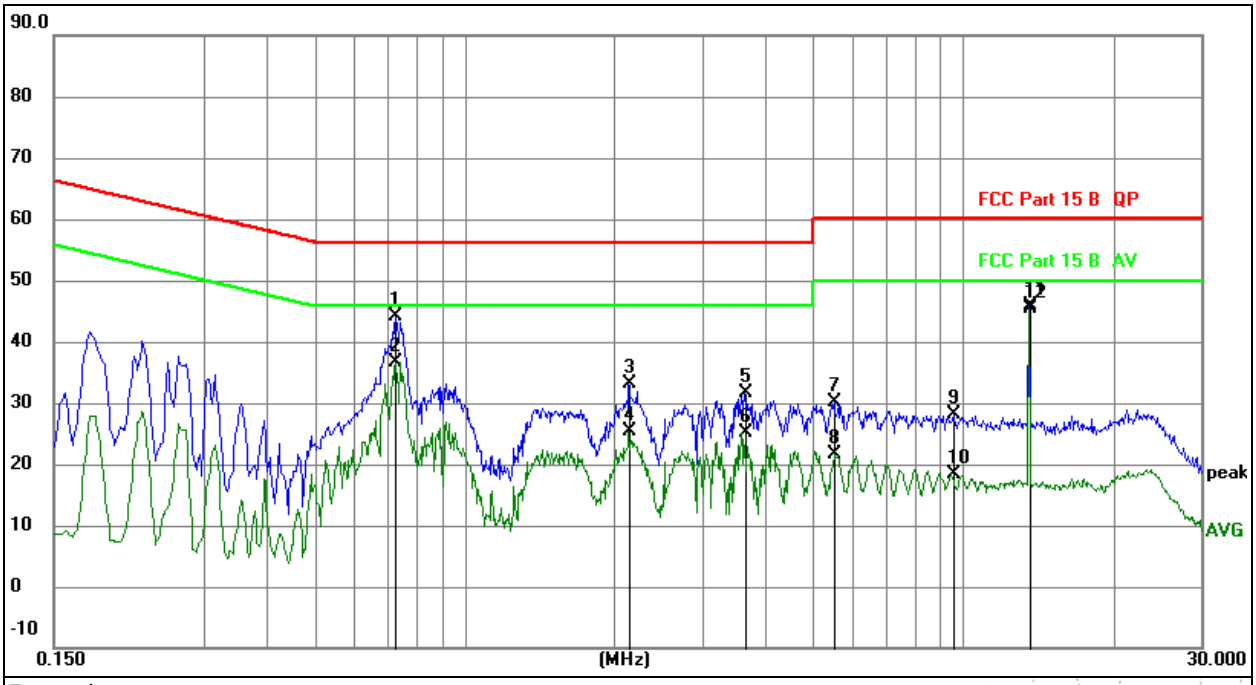
c. For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

6.4 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.

6.5 Test Result

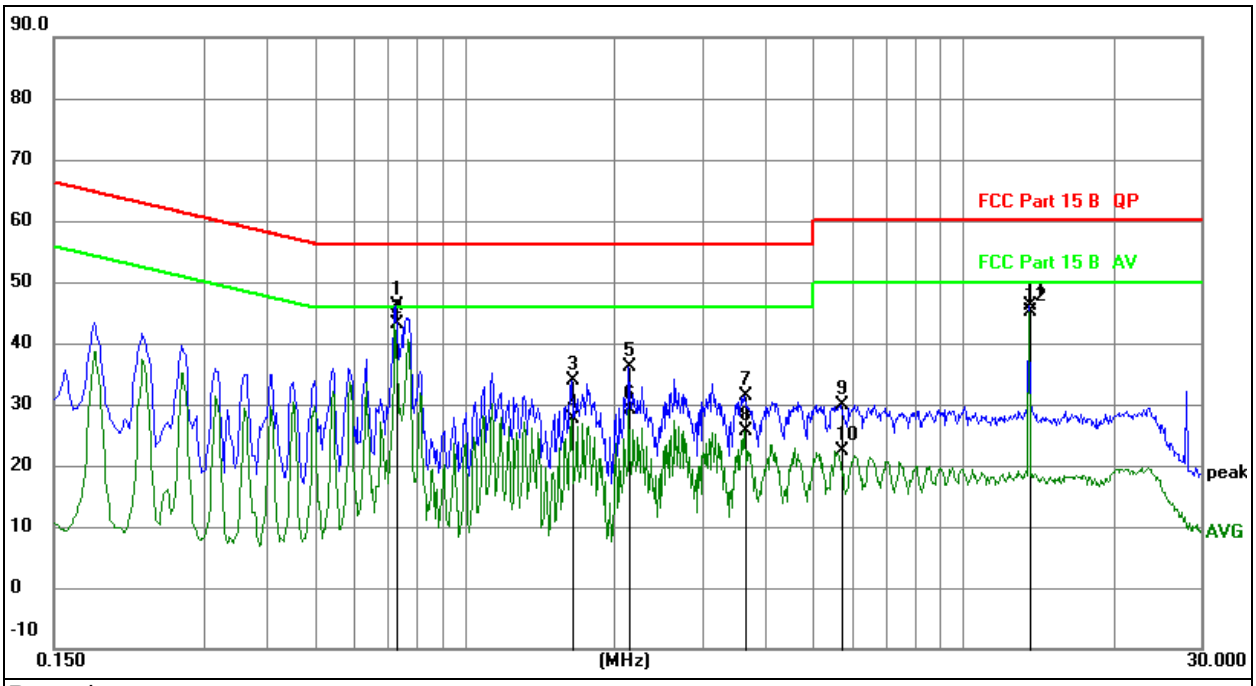
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101kPa	Phase :	Line
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 4



Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement=Reading Level+ Correct Factor
4. Over=Measurement-Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1		0.7273	24.38	19.74	44.12	56.00	-11.88	QP
2		0.7273	16.84	19.74	36.58	46.00	-9.42	AVG
3		2.1326	13.16	19.89	33.05	56.00	-22.95	QP
4		2.1326	5.44	19.89	25.33	46.00	-20.67	AVG
5		3.6418	11.49	20.06	31.55	56.00	-24.45	QP
6		3.6418	4.95	20.06	25.01	46.00	-20.99	AVG
7		5.5054	10.08	20.14	30.22	60.00	-29.78	QP
8		5.5054	1.49	20.14	21.63	50.00	-28.37	AVG
9		9.5520	7.87	20.27	28.14	60.00	-31.86	QP
10		9.5520	-2.00	20.27	18.27	50.00	-31.73	AVG
11		13.5509	25.58	20.28	45.86	60.00	-14.14	QP
12	*	13.5509	25.00	20.28	45.28	50.00	-4.72	AVG

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101kPa	Phase :	Neutral
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 4



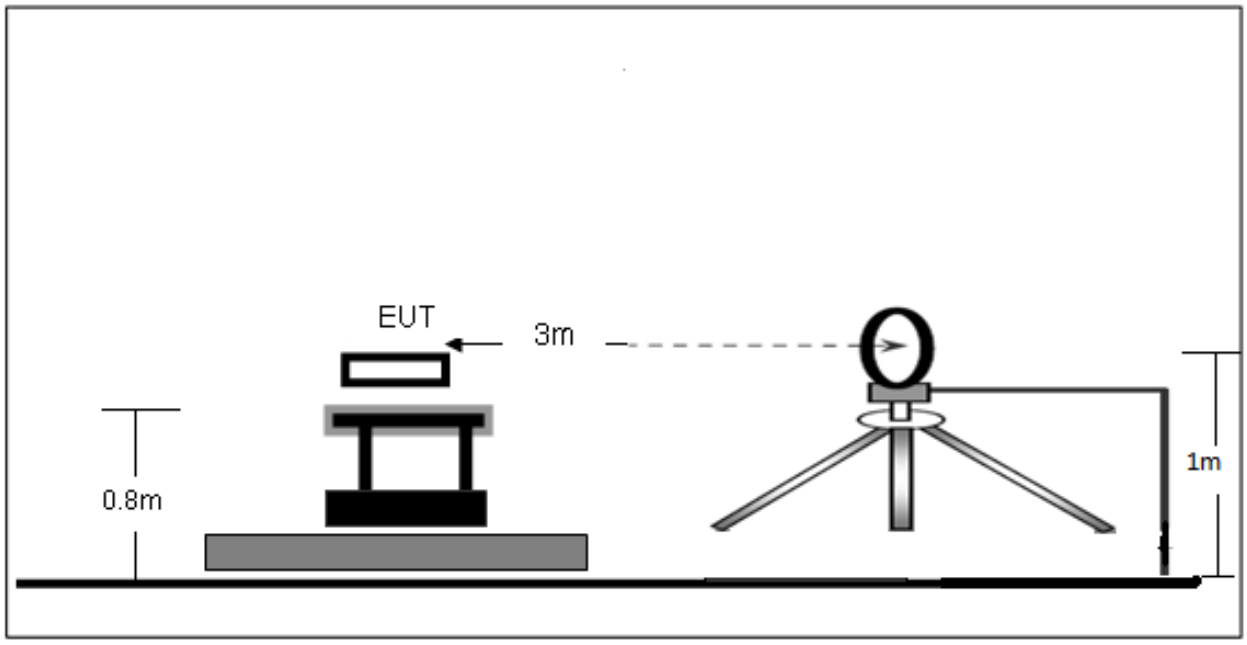
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement=Reading Level+ Correct Factor
4. Over=Measurement-Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1		0.7304	26.34	19.74	46.08	56.00	-9.92	QP
2	*	0.7304	23.46	19.74	43.20	46.00	-2.80	AVG
3		1.6395	14.07	19.84	33.91	56.00	-22.09	QP
4		1.6395	7.81	19.84	27.65	46.00	-18.35	AVG
5		2.1435	16.30	19.90	36.20	56.00	-19.80	QP
6		2.1435	9.24	19.90	29.14	46.00	-16.86	AVG
7		3.6510	11.24	20.06	31.30	56.00	-24.70	QP
8		3.6510	5.51	20.06	25.57	46.00	-20.43	AVG
9		5.6984	9.76	20.15	29.91	60.00	-30.09	QP
10		5.6984	2.15	20.15	22.30	50.00	-27.70	AVG
11		13.5600	25.85	20.28	46.13	60.00	-13.87	QP
12		13.5600	24.90	20.28	45.18	50.00	-4.82	AVG

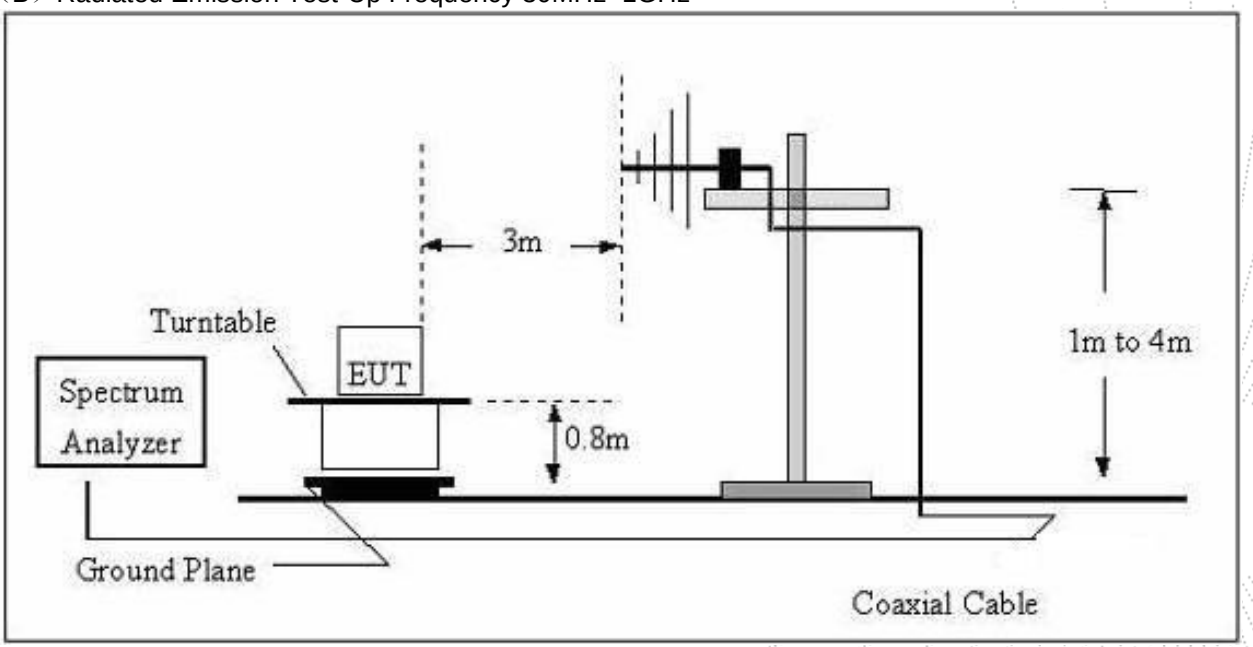
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

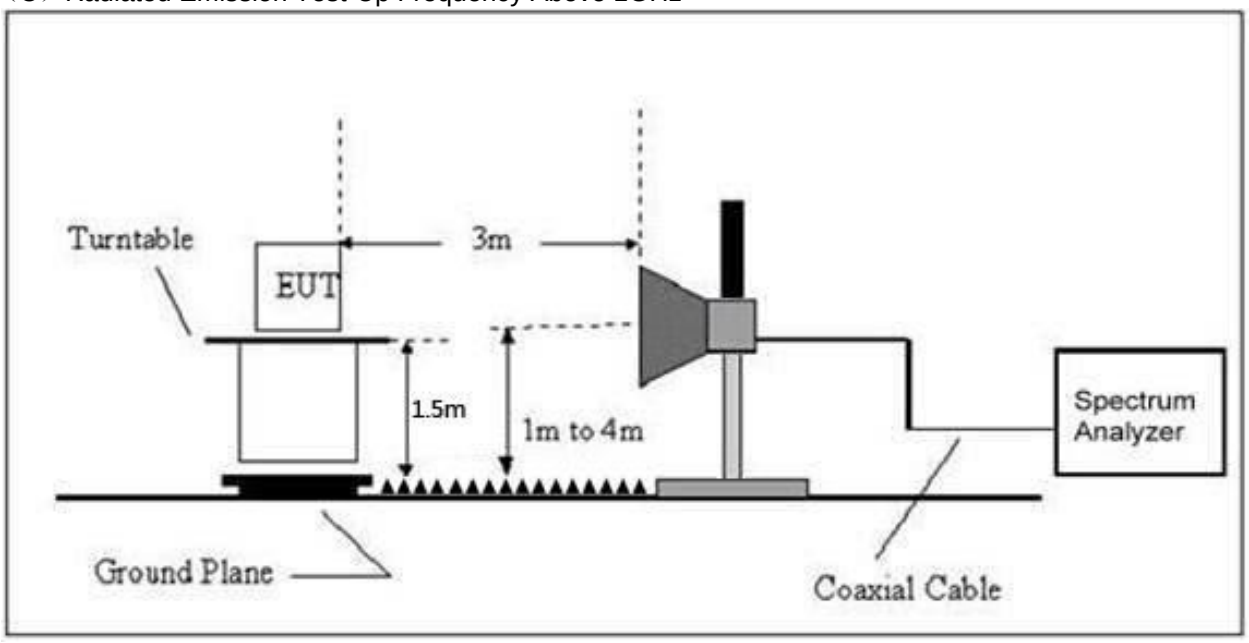
（A）Radiated Emission Test-Up Frequency Below 30MHz



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



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



7.2 Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency	Field Strength	Distance	Field Strength Limit at 3m Distance	
(MHz)	uV/m	(m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	$20\log^{(2400/F(kHz))}$ + 80
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	$20\log^{(24000/F(kHz))}$ + 40
1.705 ~ 30	30	30	100 * 30	$20\log^{(30)}$ + 40
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:
(1)The limit for radiated test was performed according to FCC PART 15C.
(2)The tighter limit applies at the band edges.
(3) Emission level (dBuV/m)=20log Emission level (uV/m).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

7.3 Test Procedure

a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
f. 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

7.4 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.

7.5 Test Result

Below 30MHz

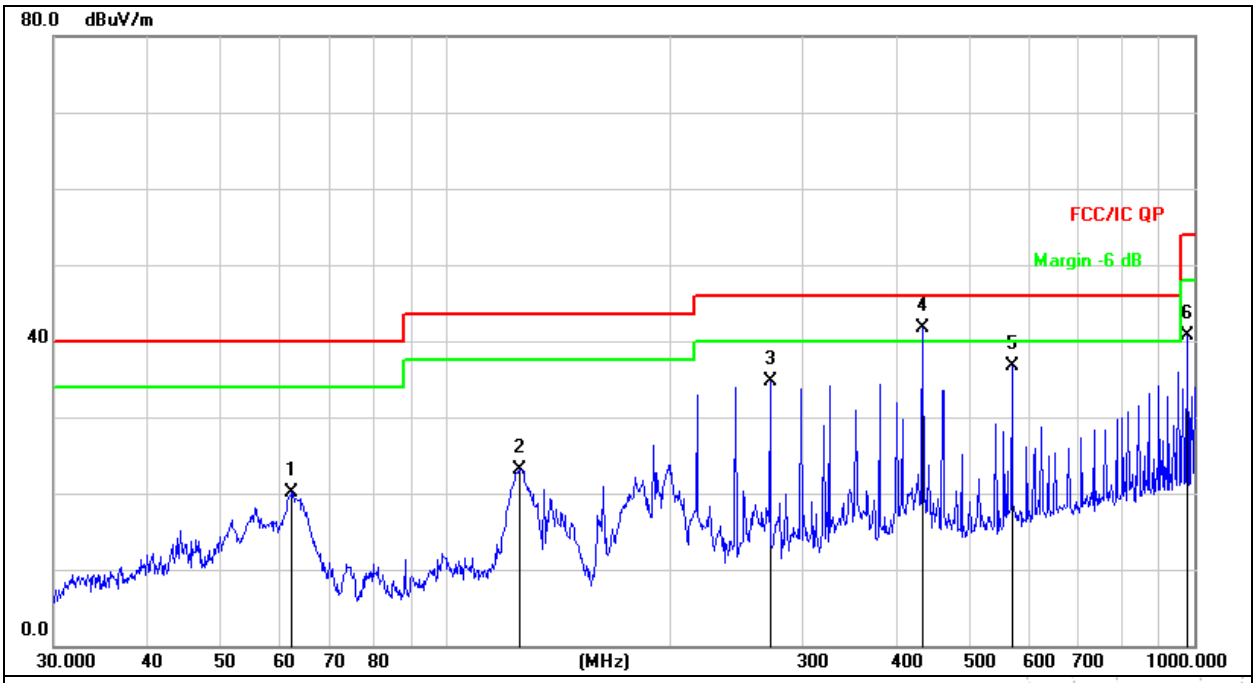
Temperature：	26℃	Relative Humidity：	24%
Pressure：	101 kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	Mode 4	Polarization :	--

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 – 1GHz

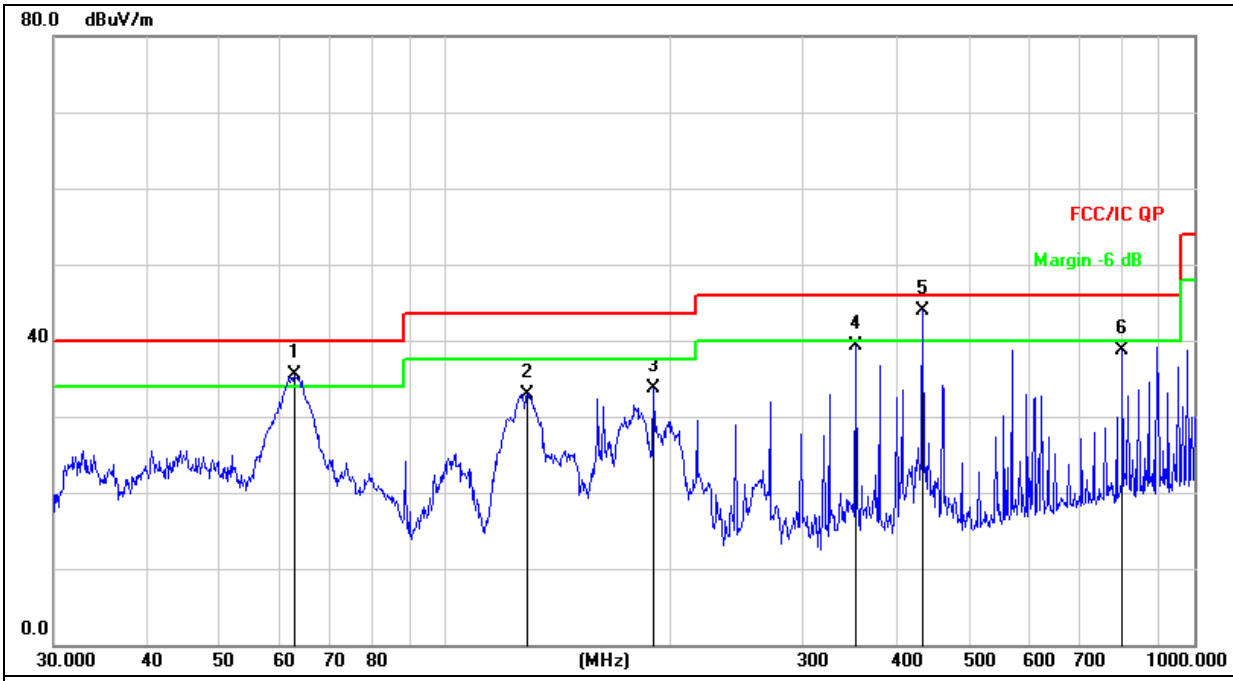
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Test Mode:	Mode 4	Remark:	N/A



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		62.4314	37.93	-17.79	20.14	40.00	-19.86	QP
2		125.4457	42.60	-19.43	23.17	43.50	-20.33	QP
3		271.3246	49.98	-15.30	34.68	46.00	-11.32	QP
4	*	434.0651	53.42	-11.72	41.70	46.00	-4.30	QP
5		570.6100	45.86	-9.06	36.80	46.00	-9.20	QP
6		979.1804	44.56	-3.88	40.68	54.00	-13.32	QP

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Test Mode:	Mode 4	Remark:	N/A



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1	!	62.8708	53.50	-17.91	35.59	40.00	-4.41	QP
2		128.5630	52.53	-19.64	32.89	43.50	-10.61	QP
3		189.7385	51.77	-18.13	33.64	43.50	-9.86	QP
4		352.9433	52.11	-12.76	39.35	46.00	-6.65	QP
5	*	434.0651	55.53	-11.72	43.81	46.00	-2.19	QP
6		801.7863	44.32	-5.55	38.77	46.00	-7.23	QP

Between 1GHz – 40GHz

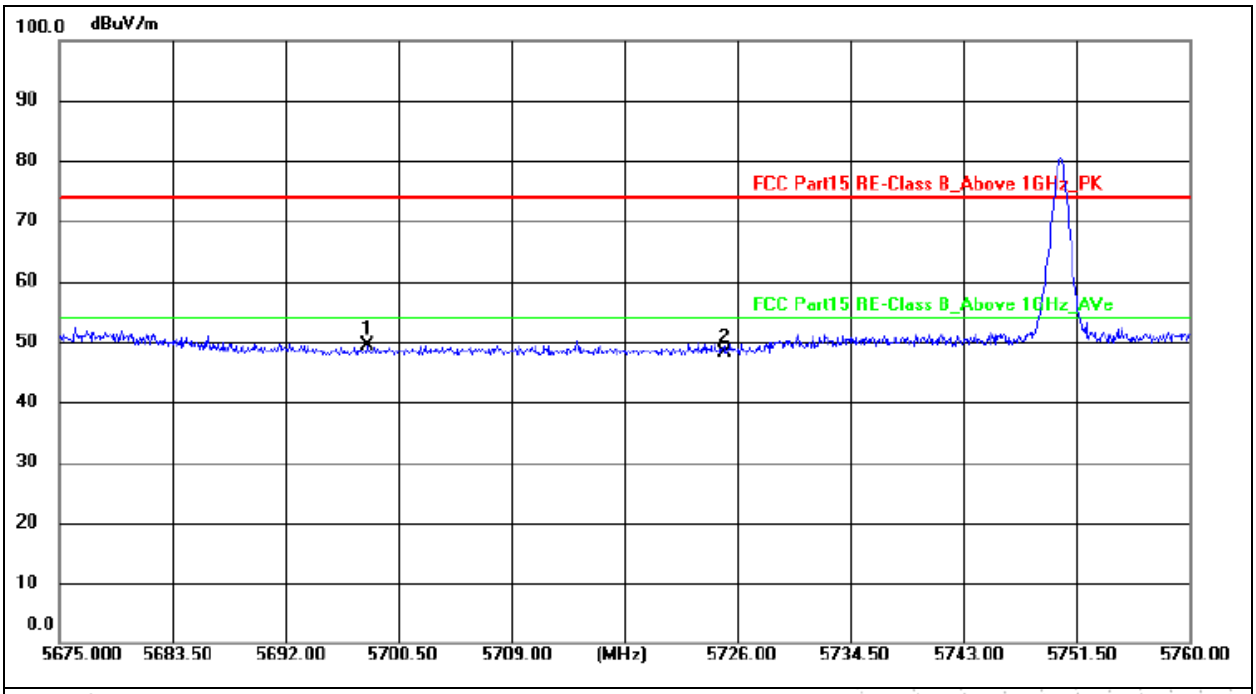
GFSK							
Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measure-ment (dBuV/m)	Limits (dBuV/m)	Over (dB)	Detector Type
Low channel							
V	11500.086	56.48	8.46	64.94	74.00	-9.06	PK
V	11500.086	43.04	8.46	51.50	54.00	-2.50	AV
V	17250.091	60.71	10.12	70.83	74.00	-3.17	PK
V	17250.091	40.36	10.12	50.48	54.00	-3.52	AV
H	11500.125	50.36	8.46	58.82	74.00	-15.18	PK
H	11500.125	43.15	8.46	51.61	54.00	-2.39	AV
H	17250.093	54.73	10.12	64.85	74.00	-9.15	PK
H	17250.093	41.23	10.12	51.35	54.00	-2.65	AV
Middle channel							
V	11600.041	56.86	8.47	65.33	74.00	-8.67	PK
V	11600.041	39.68	8.47	48.15	54.00	-5.85	AV
V	17400.155	54.33	10.12	64.45	74.00	-9.55	PK
V	17400.155	39.52	10.12	49.64	54.00	-4.36	AV
H	11600.103	53.01	8.47	61.48	74.00	-12.52	PK
H	11600.103	41.36	8.47	49.83	54.00	-4.17	AV
H	17400.015	54.85	10.12	64.97	74.00	-9.03	PK
H	17400.015	40.15	10.12	50.27	54.00	-3.73	AV
High channel							
V	11700.103	58.22	8.46	66.68	74.00	-7.32	PK
V	11700.103	40.25	8.46	48.71	54.00	-5.29	AV
V	17550.019	57.38	10.12	67.50	74.00	-6.50	PK
V	17550.019	38.65	10.12	48.77	54.00	-5.23	AV
H	11700.052	52.55	8.46	61.01	74.00	-12.99	PK
H	11700.052	38.42	8.46	46.88	54.00	-7.12	AV
H	17550.153	53.27	10.12	63.39	74.00	-10.61	PK
H	17550.153	40.36	10.12	50.48	54.00	-3.52	AV

Remark:
1.Emission Level = Meter Reading + Factor,
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
Over= Emission Level - Limit
2.If peak below the average limit, the average emission was no test.
3. In restricted bands of operation, The spurious emissions below the permissible value more than 20dB
4. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Bandedge Plot

The test plots are attached as below. From the below plots, the field strength of any emissions outside of the specified frequency band are attenuated to the general radiated emission limits in section 15.209. It fulfils the requirement of 15.249(d).
Peak Measurement
Restricted-band band-edge tests shall be performed as radiated measurements, i.e (Band-edge Plot).

Lower channel 5750.000 MHz:

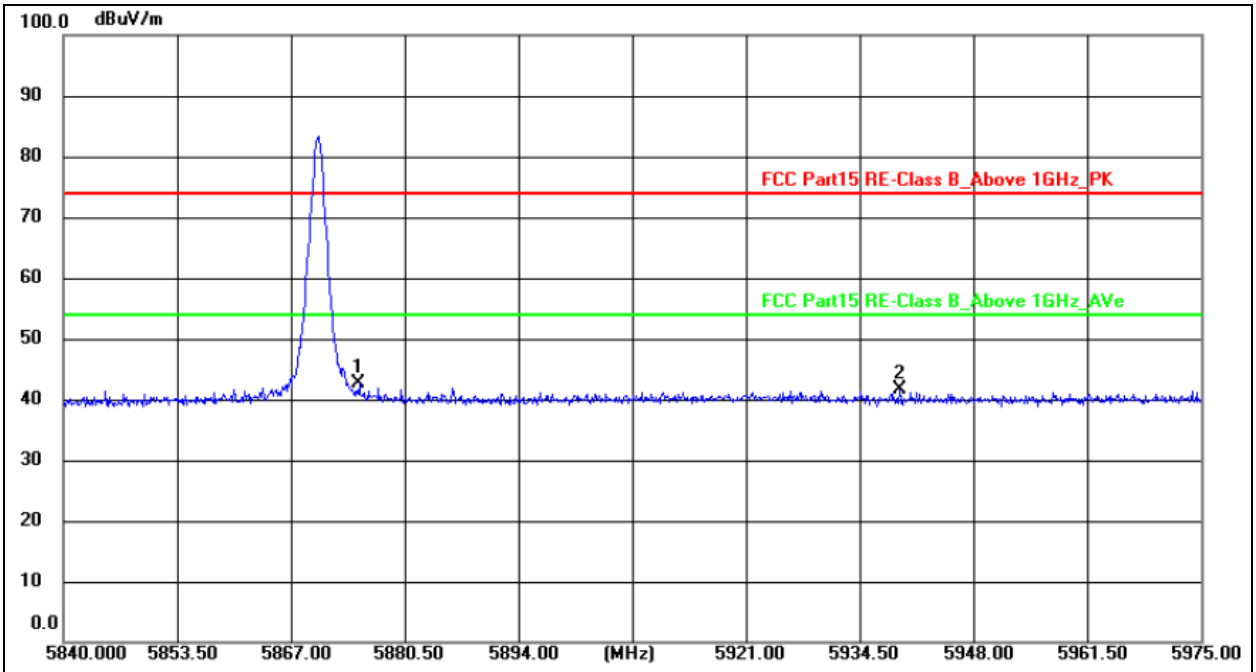


Remark:
1.Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement=Reading Level+ Correct Factor
3. Over=Measurement-Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5698.120	68.77	-19.39	49.38	74.00	-24.62	peak
2	5725.000	67.47	-19.38	48.09	74.00	-25.91	peak

This report only shows the worst case test data.

Upper channel 5870.000 MHz:



Remark:
1.Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement=Reading Level+ Correct Factor
3. Over=Measurement-Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5875.000	62.03	-19.33	42.70	74.00	-31.30	peak
2	5939.225	60.93	-19.31	41.62	74.00	-32.38	peak

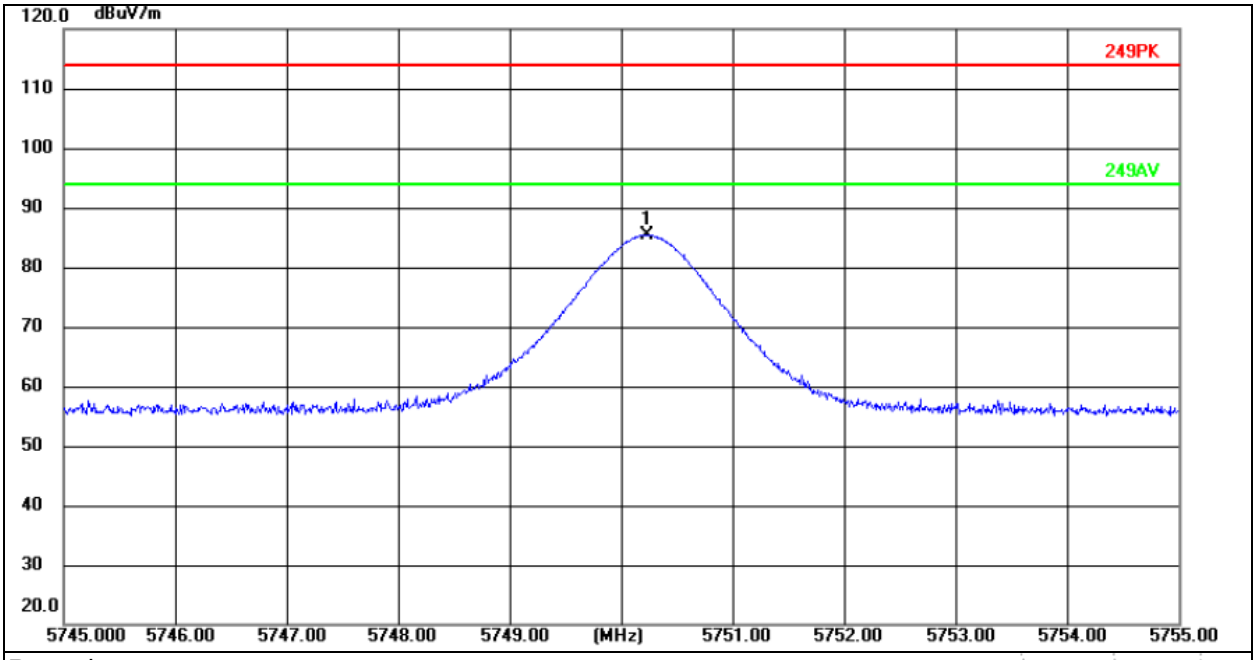
This report only shows the worst case test data.

7.6 Field Strength

Test Result

Lower channel:

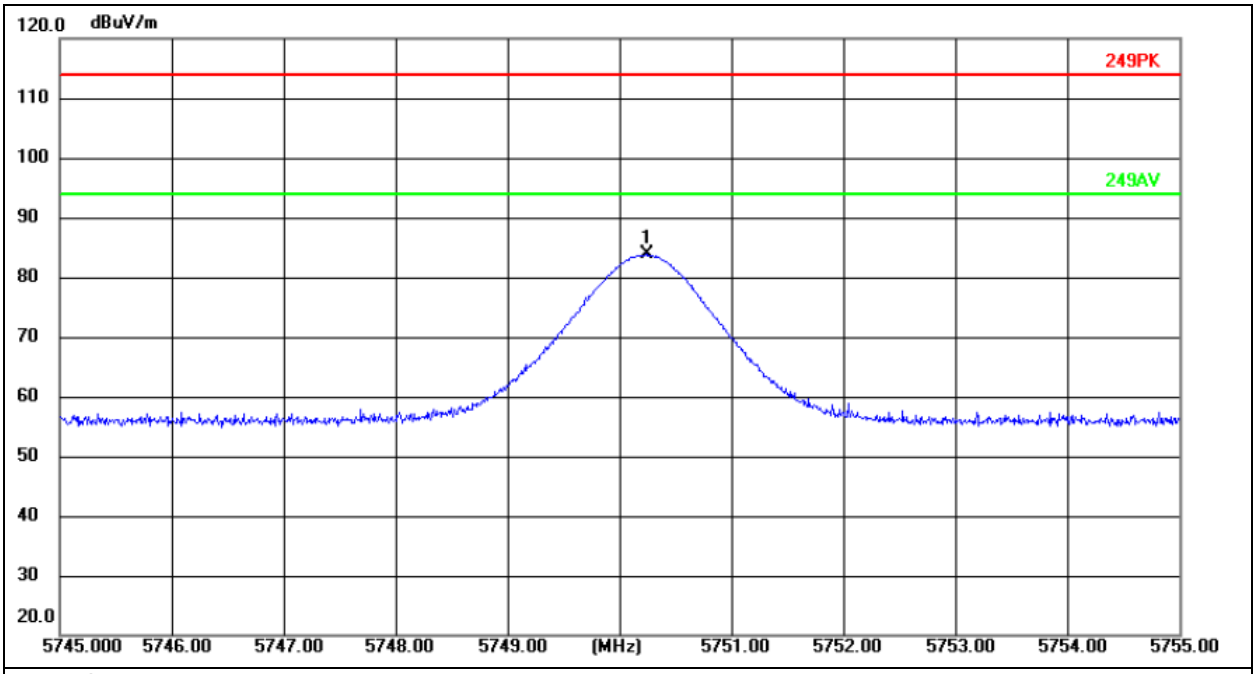
Vertical



Remark:
1.Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement=Reading Level+ Correct Factor
3. Over=Measurement-Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5750.230	104.82	-19.37	85.45	114.00	-28.55	peak

Horizontal

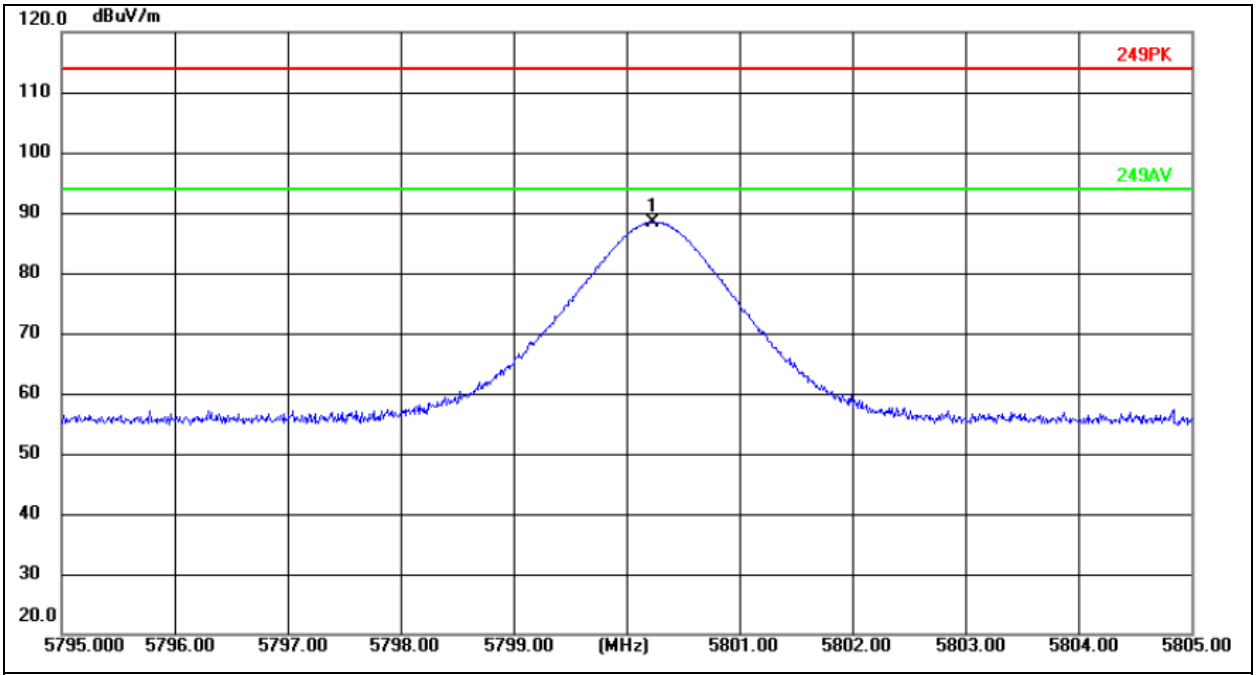


Remark:
1.Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement=Reading Level+ Correct Factor
3. Over=Measurement-Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5750.250	103.15	-19.37	83.78	114.00	-30.22	peak

Mid Channel:

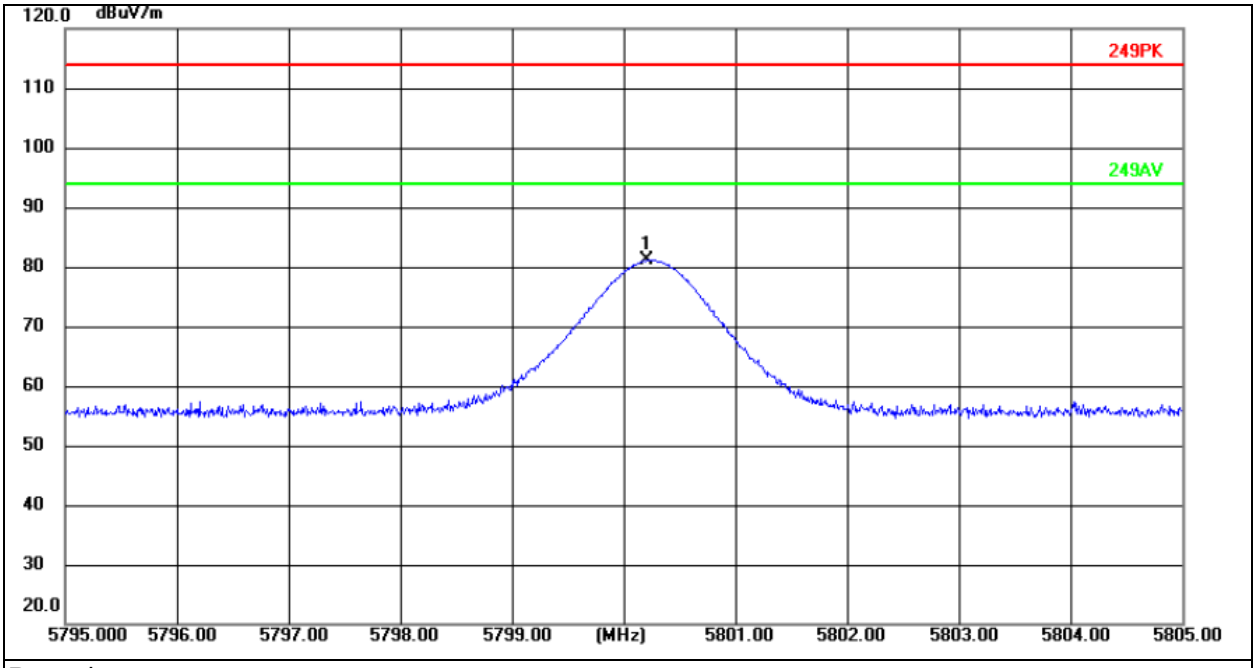
Vertical



Remark:
1.Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement=Reading Level+ Correct Factor
3. Over=Measurement-Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5800.230	107.84	-19.36	88.48	114.00	-25.52	peak

Horizontal

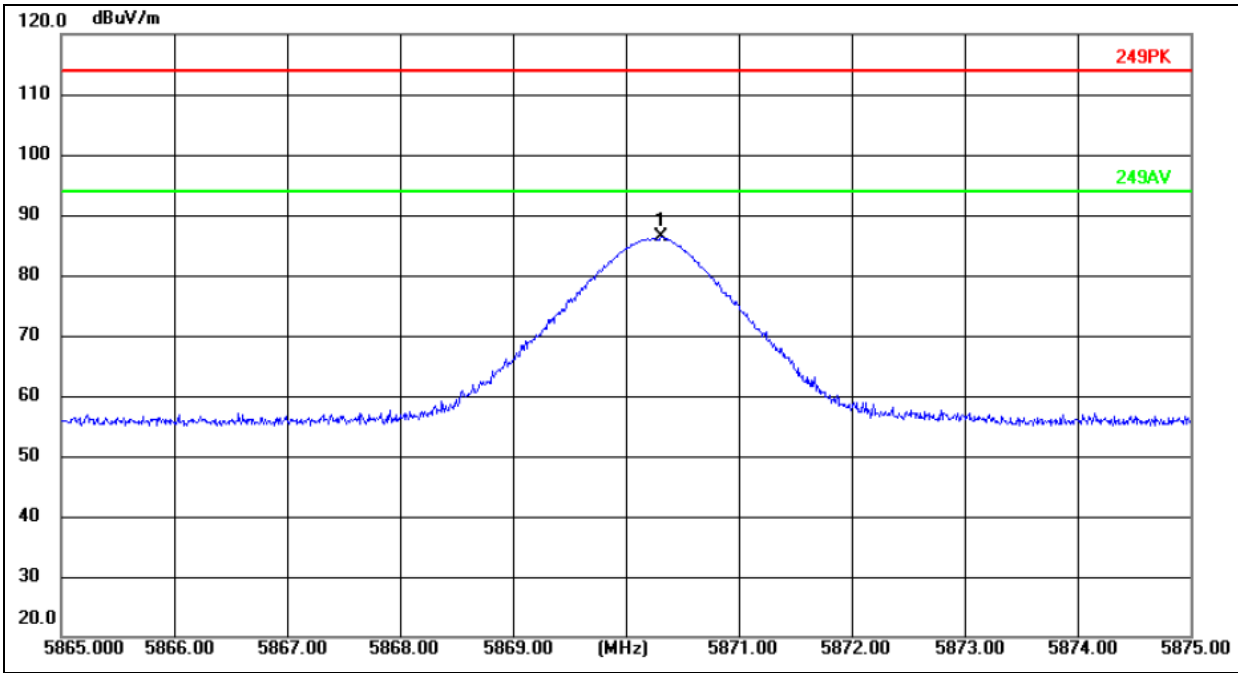


Remark:
1.Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement=Reading Level+ Correct Factor
3. Over=Measurement-Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	H
1 *	5800.200	100.48	-19.36	81.12	114.00	-32.88	peak	

High Channel:

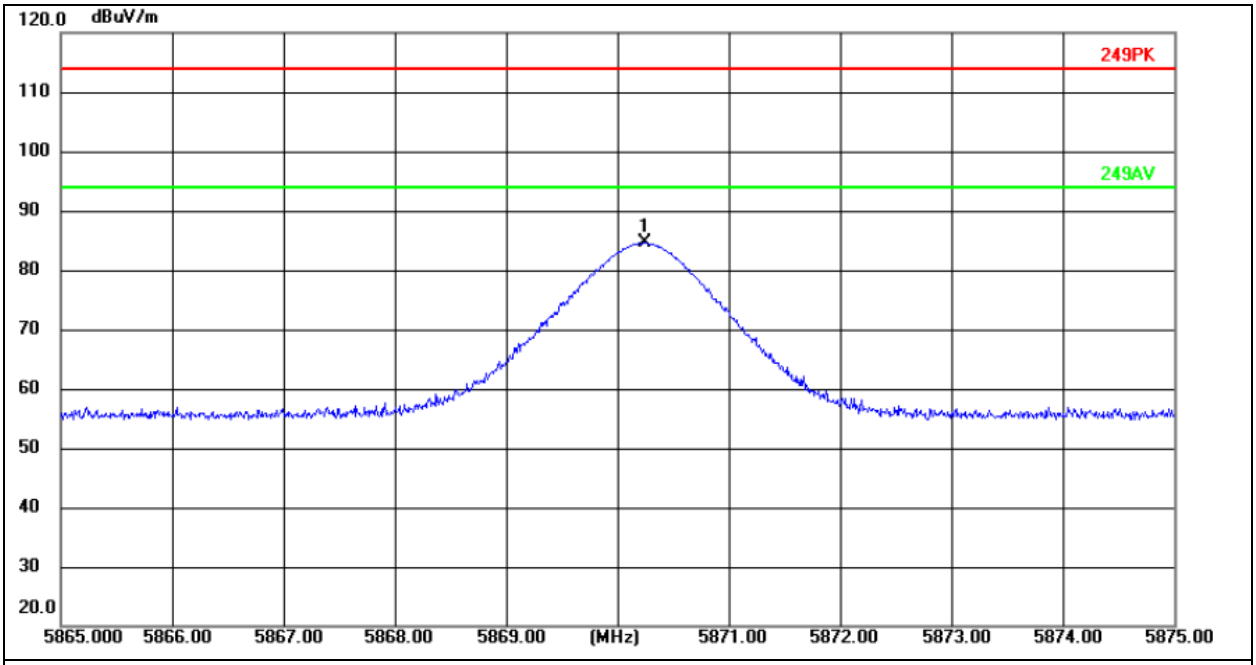
Vertical



Remark:
1.Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement=Reading Level+ Correct Factor
3. Over=Measurement-Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5870.310	105.71	-19.33	86.38	114.00	-27.62	peak

Horizontal

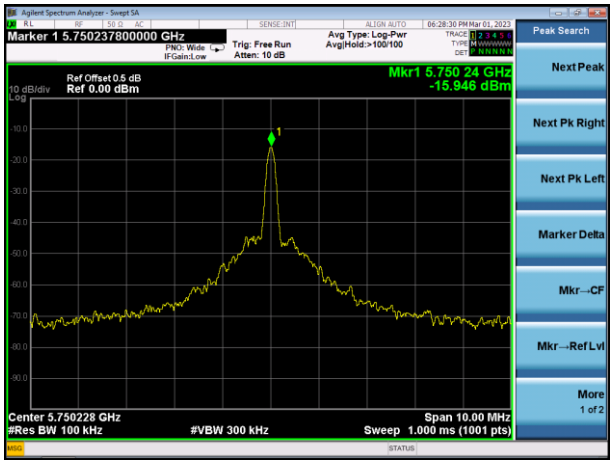


Remark:
1.Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement=Reading Level+ Correct Factor
3. Over=Measurement-Limit

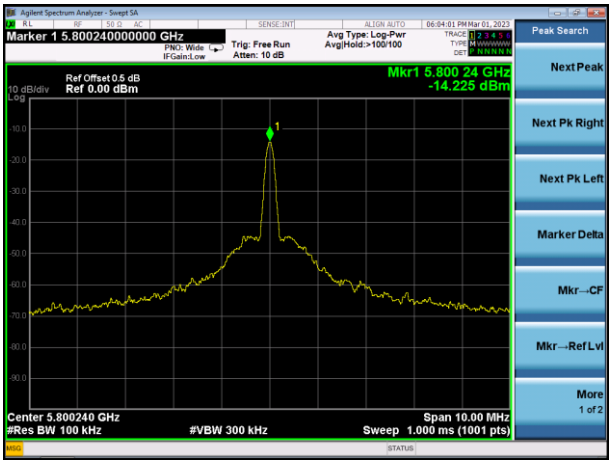
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5870.250	103.91	-19.33	84.58	114.00	-29.42	peak

7.7 Conducted Emission Measurement

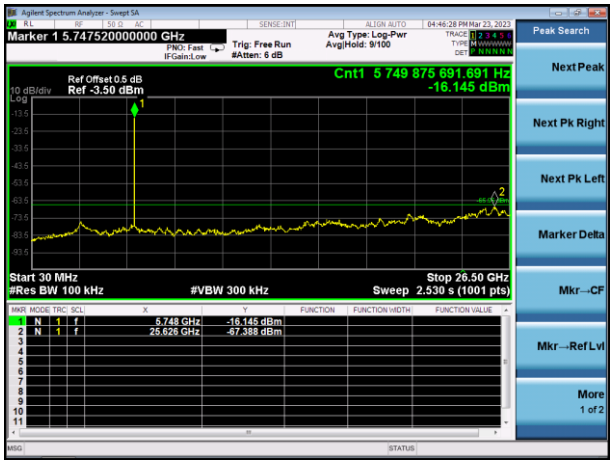
5750MHz



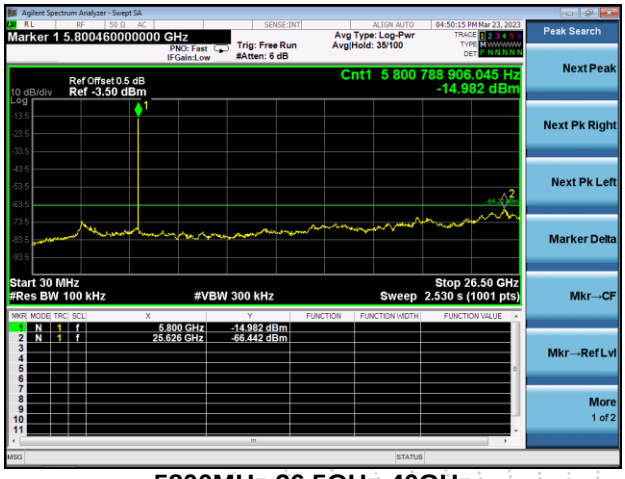
5800MHz



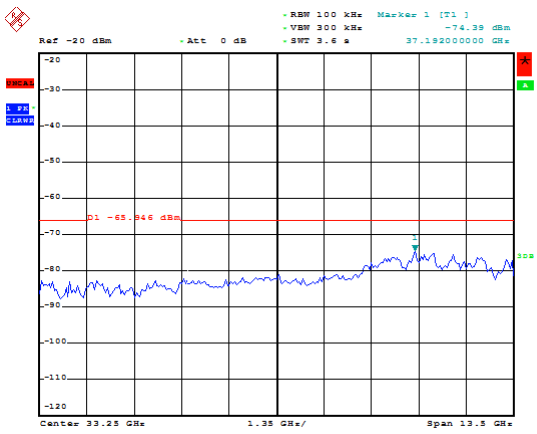
5750MHz 30MHz-26.5GHz



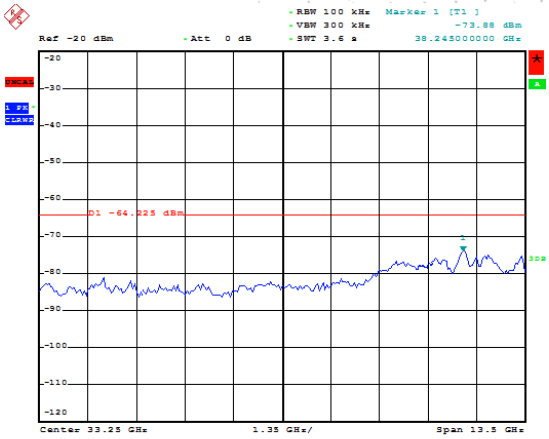
5800MHz 30MHz-26.5GHz



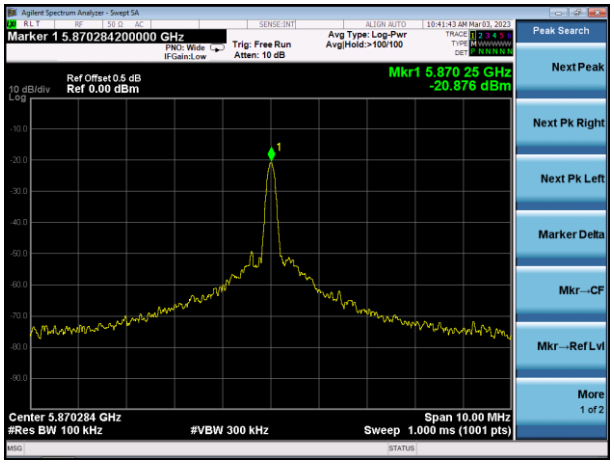
5750MHz 26.5GHz-40GHz



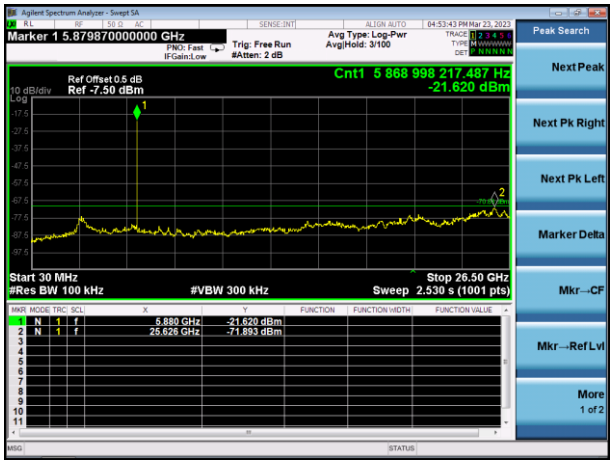
5800MHz 26.5GHz-40GHz



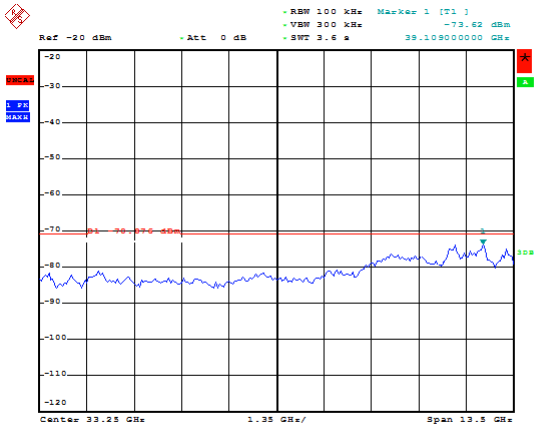
5870MHz



5870MHz 30MHz-26.5GHz

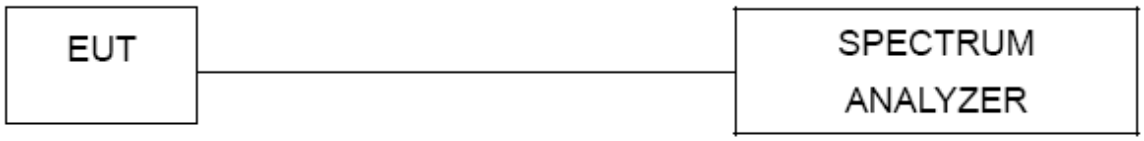


5870MHz 26.5GHz-40GHz



8. BANDWIDTH TEST

8.1 Block Diagram Of Test Setup



8.2 Limit

FCC Part15 (15.249) , Subpart C			
Section	Test Item	Frequency Range (MHz)	Result
15.249	Bandwidth	5750-5870	PASS

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

8.3 Test Procedure

1. Set resolution bandwidth (RBW) = 1-5% or DTS BW, not to exceed 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 x RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission..

.

8.4 EUT operating Conditions

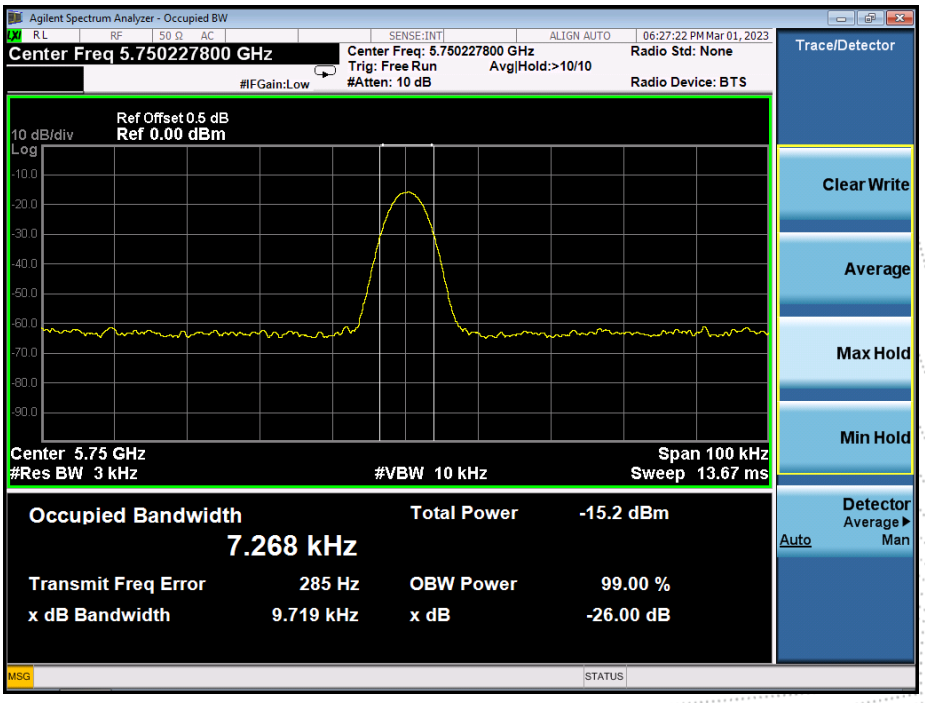
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

8.5 Test Result

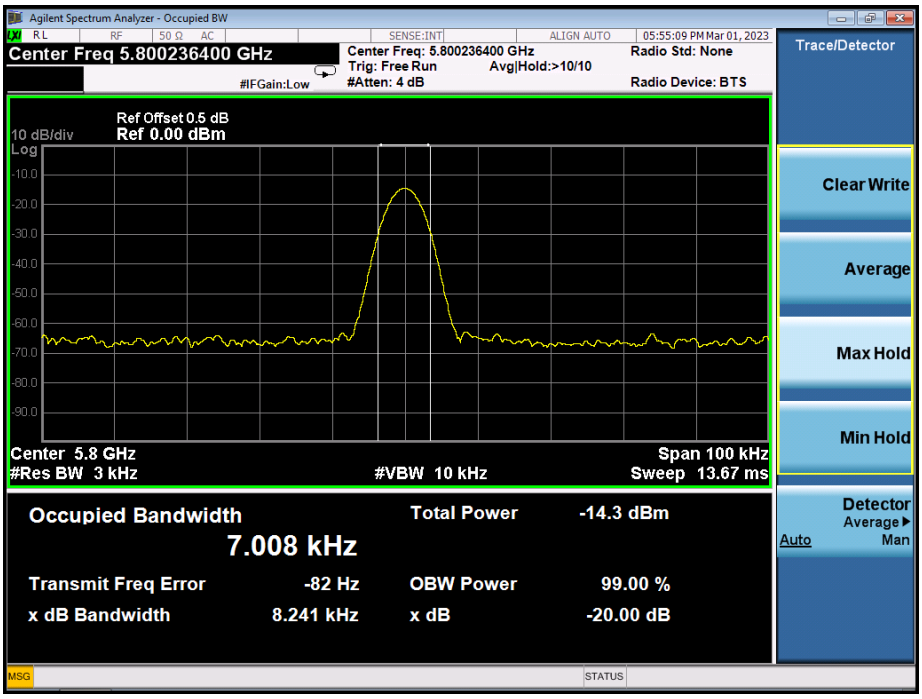
Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	DC 5V
Test Mode ：	TX Mode		

Frequency	Frequency (MHz)	20dB bandwidth (MHz)
01	5750	0.0097
02	5800	0.0082
03	5870	0.0094

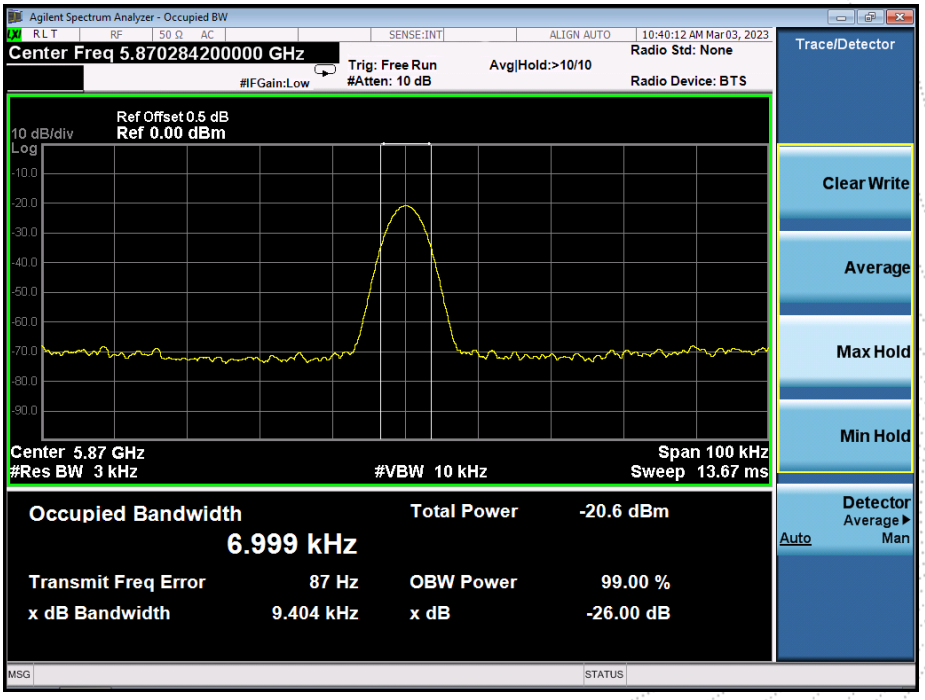
CH01



CH02


Agilent Spectrum Analyzer - Occupied BW
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
05:55:09 PM Mar 01, 2023
Center Freq 5.800236400 GHz
Center Freq: 5.800236400 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 4 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
Trace/Detector
Ref Offset 0.5 dB
10 dB/div
Ref 0.00 dBm
Log
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
Clear Write
Average
Max Hold
Min Hold
Center 5.8 GHz
#Res BW 3 kHz
#VBW 10 kHz
Span 100 kHz
Sweep 13.67 ms
Occupied Bandwidth
7.008 kHz
Total Power
-14.3 dBm
Transmit Freq Error
-82 Hz
OBW Power
99.00 %
x dB Bandwidth
8.241 kHz
x dB
-20.00 dB
Detector
Average
Auto
Man
MSG
STATUS

CH03


Agilent Spectrum Analyzer - Occupied BW
RLT
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
10:40:12 AM Mar 03, 2023
Center Freq 5.870284200000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 10 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
Trace/Detector
Ref Offset 0.5 dB
10 dB/div
Ref 0.00 dBm
Log
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
Clear Write
Average
Max Hold
Min Hold
Center 5.87 GHz
#Res BW 3 kHz
#VBW 10 kHz
Span 100 kHz
Sweep 13.67 ms
Occupied Bandwidth
6.999 kHz
Total Power
-20.6 dBm
Transmit Freq Error
87 Hz
OBW Power
99.00 %
x dB Bandwidth
9.404 kHz
x dB
-26.00 dB
Detector
Average
Auto
Man
MSG
STATUS

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 EUT antenna is Internal antenna. It comply with the standard requirement.

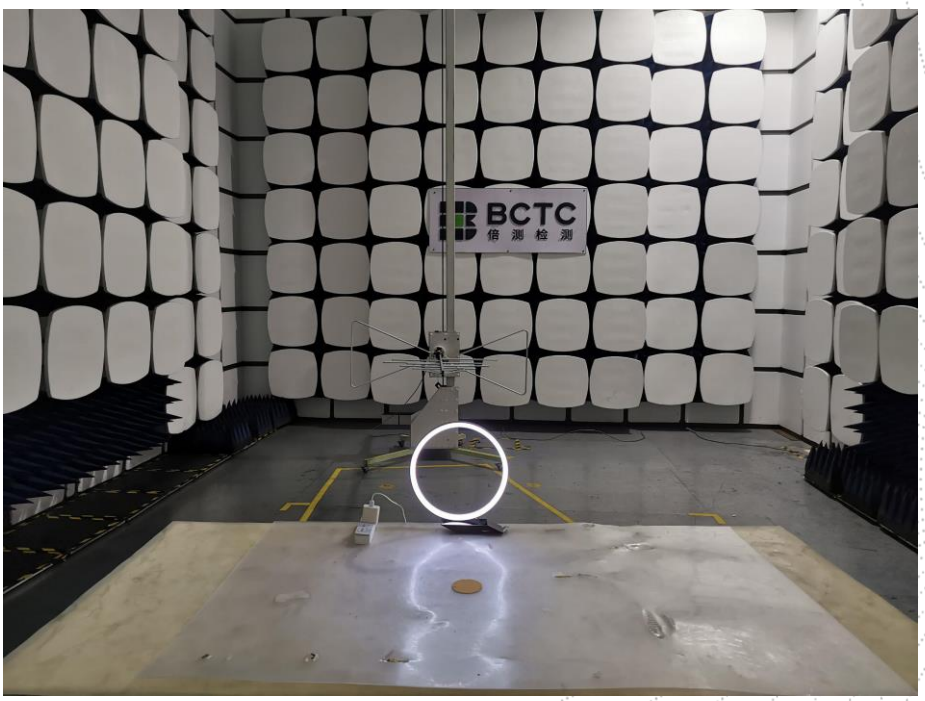
10. EUT Photographs

EUT Photo 1

11. EUT Test Setup Photographs

Conducted Measurement Photo

Radiated Measurement Photos




BCTC
倍 测 检 测

STATEMENT

1.The equipment lists are traceable to the national reference standards.

2.The test report can not be partially copied unless prior written approval is issued from our lab.

3.The test report is invalid without stamp of laboratory.

4.The test report is invalid without signature of person(s) testing and authorizing.

5.The test process and test result is only related to the Unit Under Test.

6.The quality system of our laboratory is in accordance with ISO/IEC17025.

7.If there is any objection to report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:
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TEL：400-788-9558

P.C.: 518103

FAX：0755-33229357

Website：http://www.chnbctc.com

E-Mail：bctc@bctc-lab.com.cn

※※※※※ **END** ※※※※※