ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
FCC PART 15 SUBPART C REQUIREMENT

OF

Recessed Luminaire

Model No.: SG-SML14W-C01, SG-SML10W-C01, SG-SML14W-C02, SG-SML10W-C02

FCC ID: 2A65B-SML14W

Trademark: PETEME, SAUDIO, SGOE, LKV, vaiseke, Lurious, Wudwink

Report No.: E01A22040561F00801

Issue Date: June 22, 2022

Prepared for

Shenzhen Suojia Technology Development Co., Ltd

A102, Comprehensive Building, Suojia Science and Technology Park, Sanwei Community, Hangcheng Street, Baoan District, Shenzhen

Prepared by

Dong Guan Anci Electronic Technology Co., Ltd.

No.12, Yincheng seventh Road, Xiabian village, Chang’an Town, Dongguan

This report shall not be reproduced, except in full, without the written approval of Dong Guan Anci Electronic Technology Co., Ltd.

VERIFICATION OF COMPLIANCE

Applicant:	Shenzhen Suojia Technology Development Co., Ltd A102, Comprehensive Building, Suojia Science and Technology Park, Sanwei Community, Hangcheng Street, Baoan District, Shenzhen
Manufacturer:	Shenzhen Suojia Technology Development Co., Ltd A102, Comprehensive Building, Suojia Science and Technology Park, Sanwei Community, Hangcheng Street, Baoan District, Shenzhen
Product Description:	Recessed Luminaire
Trade Mark:	PETEME, SAUDIO, SGOE, LKV, vaiseke, Lurious, Wudwink
Model Number:	SG-SML14W-C01, SG-SML10W-C01, SG-SML14W-C02, SG-SML10W-C02(Note: All models are the same, except the appearance size, number of leds and the model name,see Model difference table for details. we chose the test with model SG-SML14W-C01 and SG-SML10W-C01.)

We hereby certify that:

The above equipment was tested by Dong Guan Anci Electronic Technology Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10-2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.247(2020).

Date of Test : May 24, 2022 to June 08, 2022

Prepared by : Tiger Xu/Editor

Approved & Authorized Signer : Tomas Yang/Manager

Modified Information

Version	Summary	Revision Date	Report No.
Ver.1.0	Original Report	/	E01A22040561F00801

Table of Contents

THIS REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF 1

1. GENERAL INFORMATION 6

1.1 PRODUCT DESCRIPTION 6
1.2 TEST METHODOLOGY 7

2. TEST FACILITY 8

3. DESCRIPTION OF TEST MODES 9

4. SUMMARY OF TEST RESULTS 11

5. TEST SYSTEM UNCERTAINTY 12

6. CONDUCTED EMISSIONS TEST 13

6.1 MEASUREMENT PROCEDURE: 13
6.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) 13
6.3 MEASUREMENT EQUIPMENT USED: 13
6.4 CONDUCTED EMISSION LIMIT 13
6.5 MEASUREMENT RESULT: 14

7. RADIATED EMISSION TEST 20

7.1 MEASUREMENT PROCEDURE 20
7.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) 22
7.3 MEASUREMENT EQUIPMENT USED: 23
7.4 RADIATED EMISSION LIMIT 24
7.5 MEASUREMENT RESULT 25
7.6 RADIATED MEASUREMENT PHOTOS: 33

8. 6DB BANDWIDTH MEASUREMENT 34

8.1 MEASUREMENT PROCEDURE 34
8.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) 34
8.3 MEASUREMENT EQUIPMENT USED: 34
8.4 LIMIT 34
8.5 MEASUREMENT RESULTS: 34

9. MAXIMUM PEAK OUTPUT POWER TEST 37

9.1 MEASUREMENT PROCEDURE 37
9.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) 37
9.3 MEASUREMENT EQUIPMENT USED: 37
9.4 PEAK POWER OUTPUT LIMIT 37
9.5 MEASUREMENT RESULTS: 37
10.1MEASUREMENT PROCEDURE 40
10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) 40

10.3 MEASUREMENT EQUIPMENT USED: 40
10.4 MEASUREMENT PROCEDURE 40
10.5 MEASUREMENT RESULTS: 41
11. BAND EDGE TEST 44
11.1 MEASUREMENT PROCEDURE 44
11.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) 45
11.3 MEASUREMENT EQUIPMENT USED: 45
11.4 MEASUREMENT RESULTS: 46
12 ANTENNA APPLICATION 56
12.1 ANTENNA REQUIREMENT 56
12.2 RESULT 56
13 PHOTOS OF EUT 57

1. GENERAL INFORMATION

1.1 Product Description

Characteristics	Description
Product Name	Recessed Luminaire
Model number	SG-SML14W-C01, SG-SML10W-C01, SG-SML14W-C02, SG-SML10W-C02(Note: All models are the same, except the appearance size, number of leds and the model name,see Model difference table for details. we chose the test with model SG-SML14W-C01 and SG-SML10W-C01.)
Input Rating	100-120V~, 60Hz
Power Supply	120Vac/60Hz
Kind of Device	Bluetooth Ver. 5.0
Modulation	GFSK
Operating Frequency Range	2402-2480MHz
Number of Channels	40
Transmit Power Max(PK)	0.67dBm(0.0012W)
Antenna Type	PCB antenna
Antenna Gain	2.5 dBi

Model difference table:

Size	Model	Number of lamp beads	Input	Power	PCB Model	CCT
6 inch	SG-SML14W-C01, SG-SML14W-C02	100	100-120V~, 60Hz	14W	DSY-8079B	3000K
4 inch	SG-SML10W-C01, SG-SML10W-C02	60		10W	DSY-8079B	3000K

SG-SML14W-C01 and SG-SML14W-C02 are the same, except the model name.
SG-SML10W-C01 and SG-SML10W-C02 are the same, except the model name.

1.2 Test Methodology

All the test program has follow FCC new test procedure KDB 558074 D01 DTS Meas Guidance v05 and in accordance with the procedures given in ANSI C63.10-2013.

2. Test Facility

Site Description

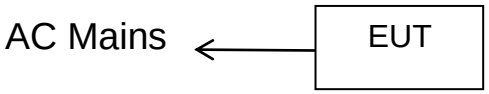
EMC Lab.	:	Accredited by CNAS, 2017.06.26 The certificate is valid until 2022.10.28 The Laboratory has been assessed and proved to be in compliance with CNAS-CL01:2006 (identical to ISO/IEC 17025:2005) The Certificate Registration Number is L6214. Accredited by A2LA, 2018.03.15 The Certificate Number is 4422.01.
Name of Firm	:	Dong Guan Anci Electronic Technology Co., Ltd.
Site Location	:	No.12, Yincheng seventh Road, Xiabian village, Chang’an Town, Dongguan

3. Description of test modes

The EUT has been tested under its typical operating condition and fully-charged battery for EUT tested alone. Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting. Only the worst case data were reported.

The EUT has been associated with peripherals pursuant to ANSI C63.10-2013 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiation (9 KHz to the 10th harmonics of the highest fundamental frequency or to 40 GHz, whichever is lower).

Configuration of Tested System



Equipment Used in Tested System

Item	Equipment	Trademark	Model No.	FCC ID	Note
1.	Recessed Luminaire	PETEME, SAUDIO, SGOE, LKV, vaiseke, Lurious, Wudwink	SG-SML14W-C01, SG-SML10W-C01	2A65B-SML14W	EUT

The EUT has been tested under TX operating condition.
Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	**2402**	14	2430	28	2458
01	2404	15	2432	29	2460
02	2406	16	2434	30	2462
03	2408	17	2436	31	2464
04	2410	18	2438	32	2466
05	2412	**19**	**2440**	33	2468
06	2414	20	2442	34	2470
07	2416	21	2444	35	2472
08	2418	22	2446	36	2474
09	2420	23	2448	37	2476
10	2422	24	2450	38	2478
11	2424	25	2452	**39**	**2480**
12	2426	26	2454		
13	2428	27	2456		

Note:
1. Test of channel was included the lowest 2402MHz, middle 2440MHz and highest frequency 2480MHz in highest data rate and to perform the test, then record on this report.

4. Summary of Test Results

FCC Rules	Description Of Test	Result
§15.207	AC Power Conducted Emission	Compliant
§15.247(d),§15.209	Radiated Emission	Compliant
§15.247(a)(2)	6dB Bandwidth Measurement	Compliant
§15.247(b)	MAXIMUM PEAK OUTPUT POWER TEST	Compliant
§15.247(e)	Power Spectral Density Measurement	Compliant
§15.247(d)	Band EDGE test	Compliant
§15.203	Antenna Requirement	Compliant
Remark: According to FCC OET KDB 558074, the report use radiated measurements in the restricted frequency bands. In addition, the radiated test is also performed to ensure the emissions emanating from the device cabinet also comply with the applicable limits.		

5. TEST SYSTEM UNCERTAINTY

The following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Parameter	Uncertainty
Radio Frequency	±1x10^-5
Maximum Peak Output Power Test	±1.0dB
Conducted Emissions Test	±2.0dB
Radiated Emission Test	±2.0dB
Power Density	±2.0dB
Occupied Bandwidth Test	±1.0dB
Band Edge Test	±3dB
All emission, radiated	±3dB
Antenna Port Emission	±3dB
Temperature	±0.5℃
Humidity	±3%

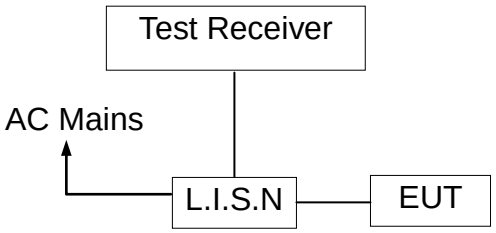
Remark: The coverage Factor (k=2), and measurement Uncertainty for a level of Confidence of 95%

6. Conducted Emissions Test

6.1 Measurement Procedure:

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured was complete.

6.2 Test SET-UP (Block Diagram of Configuration)



6.3 Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	Calibrated until
L.I.S.N	SCHWARZBECK	NSLK 8127	8127-669	2023-05-12
10 db attenuator	JFW	50FP-010-H4	4360846-427-1	2023-05-12
RF Cable	N/A	N/A	2#	2023-05-12
1# Shielded Room	chengyu	8m*4m*3.3m	N/A	2024-11-12
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	101358	2023-05-12

6.4 Conducted Emission Limit

(7) Conducted Emission

Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note:

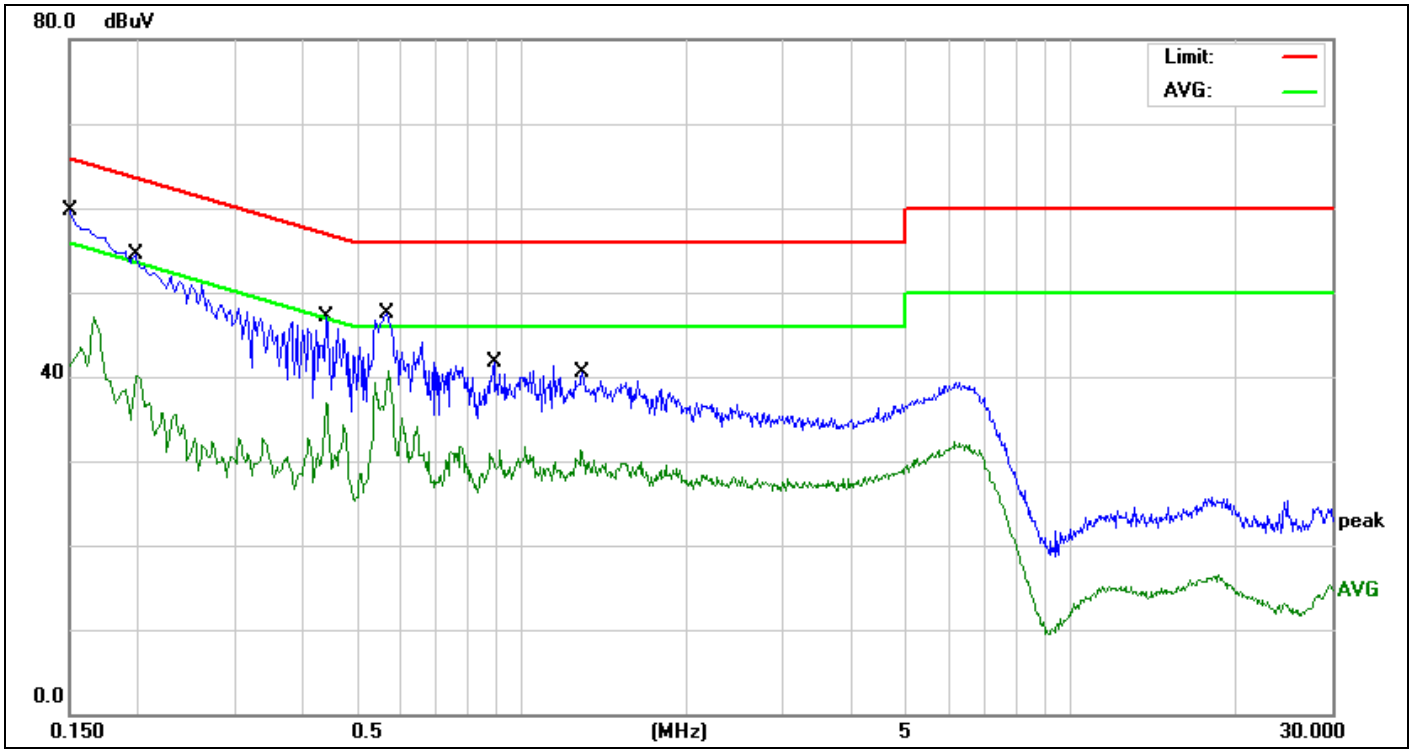
1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

6.5 Measurement Result:

Operation Mode:	TX	Test Date :	June 01, 2022
Frequency Range:	0.15MHz~30MHz	Temperature :	24℃
Test Result:	PASS	Humidity :	58 %
Test By:	Best		

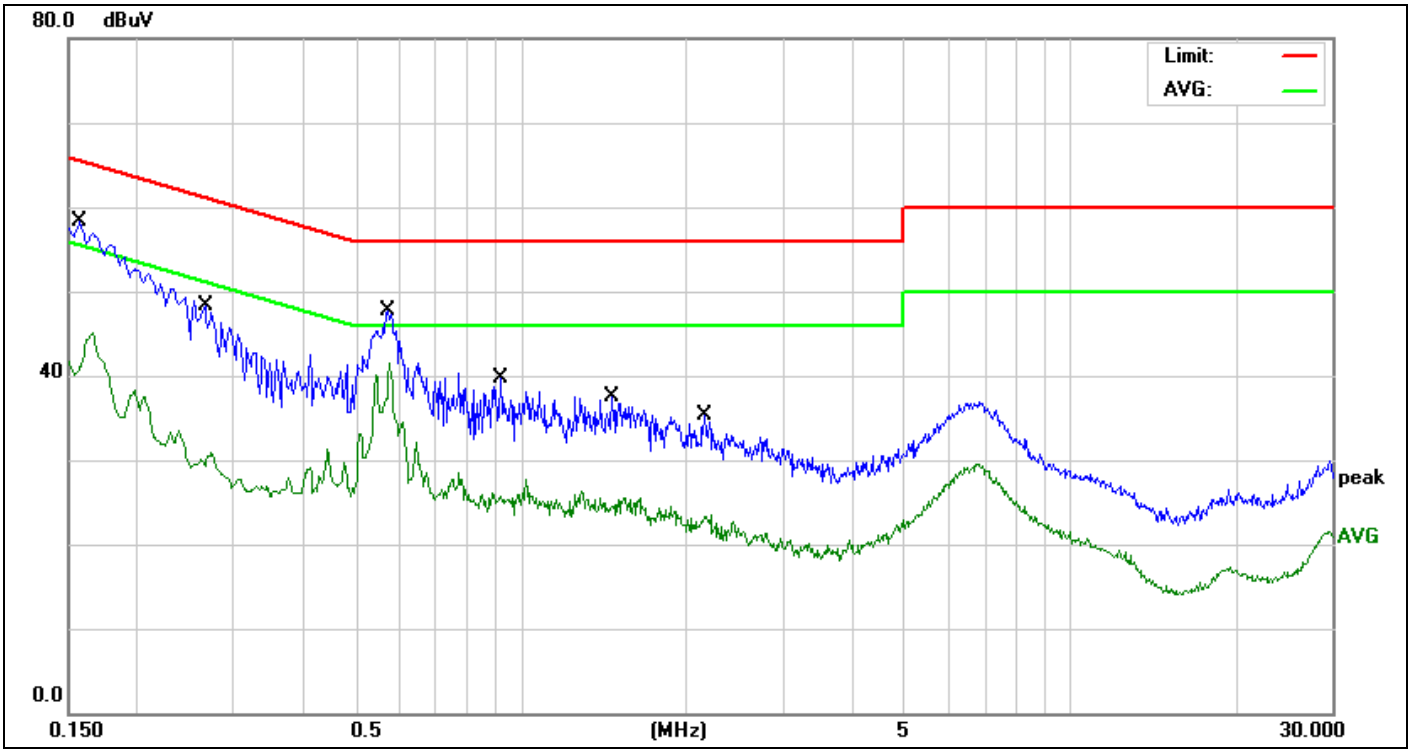
All the modulation modes were tested the data of the worst mode (GFSK TX 2480MHz) are recorded in the following pages and the others modulation methods do not exceed the limits.

Please refer to the following data.



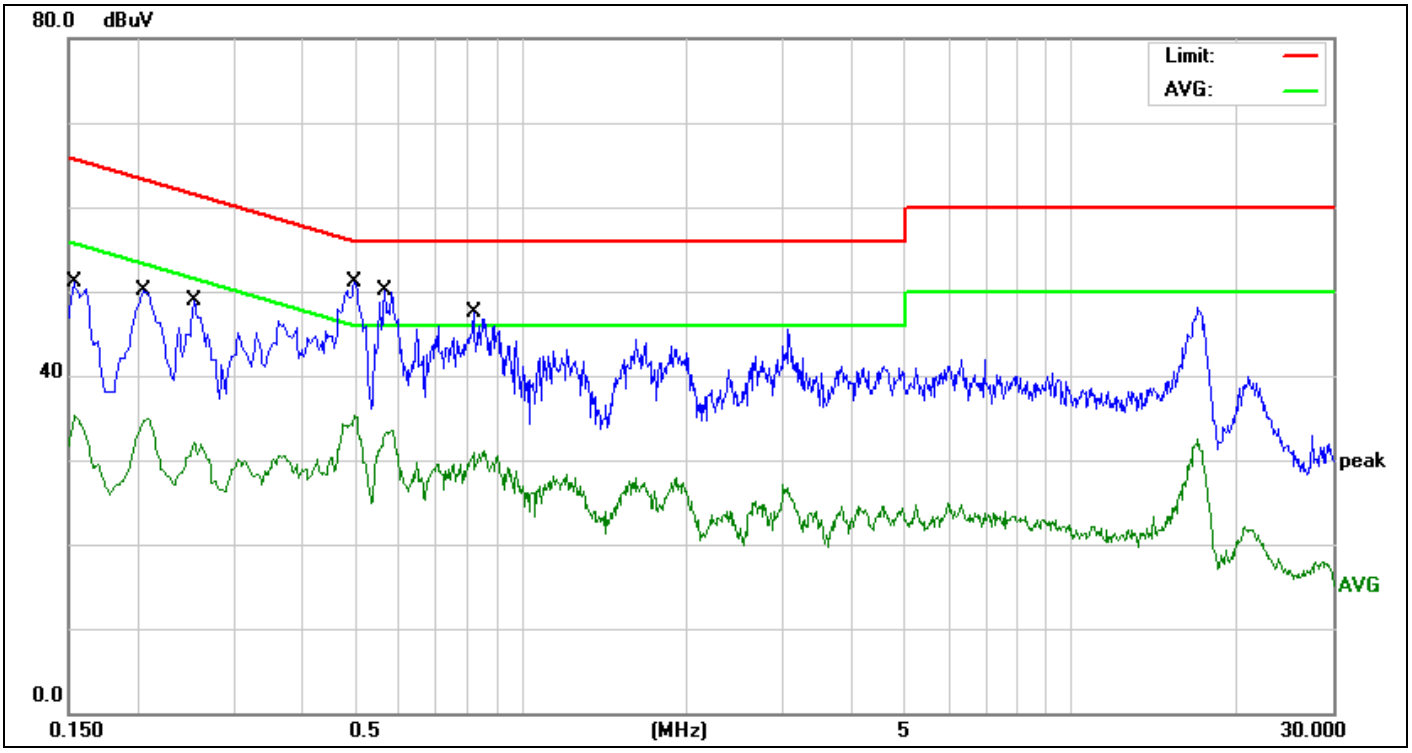
Site:	**843**	**Phase:L1**	**Temperature(C):24(C)**
Limit:	**FCC Part 15 C Conduction(QP)**		**Humidity(%):58%**
EUT:	**Recessed Luminaire**	**Test Time:**	**2022-06-01**
M/N.:	**SG-SML14W-C01**	**Power Rating:**	**AC 120V/60Hz**
Mode:	**TX2480**	**Test Engineer:**	**Sunshine**
Note:			

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Over (dB)	Detector	Comment
1	0.1500	43.58	9.51	53.09	65.99	-12.90	QP	
2	0.1500	32.35	9.51	41.86	55.99	-14.13	AVG	
3	0.1980	38.63	9.47	48.10	63.69	-15.59	QP	
4	0.1980	29.64	9.47	39.11	53.69	-14.58	AVG	
5	0.4420	31.16	9.77	40.93	57.02	-16.09	QP	
6	0.4420	26.48	9.77	36.25	47.02	-10.77	AVG	
7	0.5700	35.14	9.61	44.75	56.00	-11.25	QP	
8	0.5700	29.22	9.61	38.83	46.00	-7.17	AVG	
9	0.8940	25.39	9.81	35.20	56.00	-20.80	QP	
10	0.8940	19.44	9.81	29.25	46.00	-16.75	AVG	
11	1.2900	25.96	9.90	35.86	56.00	-20.14	QP	
12	1.2900	20.54	9.90	30.44	46.00	-15.56	AVG	



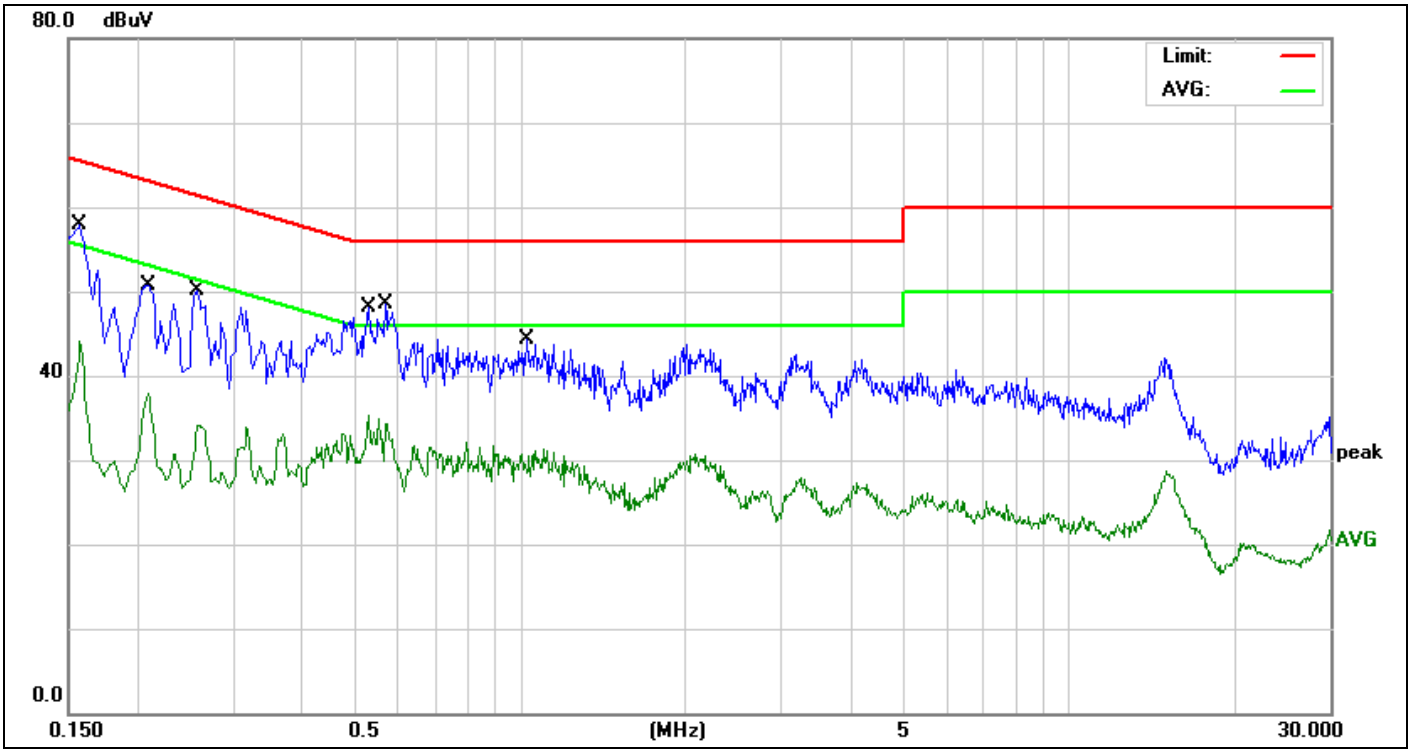
Site:	**843**	**Phase:N**	**Temperature(C):24(C)**
Limit:	**FCC Part 15 C Conduction(QP)**		**Humidity(%):58%**
EUT:	**Recessed Luminaire**	**Test Time:**	**2022-06-01**
M/N.:	**SG-SML14W-C01**	**Power Rating:**	**AC 120V/60Hz**
Mode:	**TX2480**	**Test Engineer:**	**Sunshine**
Note:			

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Over (dB)	Detector	Comment
1	0.1580	42.15	9.49	51.64	65.56	-13.92	QP	
2	0.1580	32.31	9.49	41.80	55.56	-13.76	AVG	
3	0.2660	30.33	9.75	40.08	61.24	-21.16	QP	
4	0.2660	20.04	9.75	29.79	51.24	-21.45	AVG	
5	0.5740	35.74	9.60	45.34	56.00	-10.66	QP	
6	0.5740	30.69	9.60	40.29	46.00	-5.71	AVG	
7	0.9220	23.29	9.84	33.13	56.00	-22.87	QP	
8	0.9220	16.91	9.84	26.75	46.00	-19.25	AVG	
9	1.4700	21.04	9.96	31.00	56.00	-25.00	QP	
10	1.4700	14.49	9.96	24.45	46.00	-21.55	AVG	
11	2.1580	20.84	9.81	30.65	56.00	-25.35	QP	
12	2.1580	13.84	9.81	23.65	46.00	-22.35	AVG	



Site:	**843**	**Phase:L1**	**Temperature(C):24(C)**
Limit:	**FCC Part 15 C Conduction(QP)**		**Humidity(%):58%**
EUT:	**Recessed Luminaire**	**Test Time:**	**2022-06-01**
M/N.:	**SG-SML10W-C01**	**Power Rating:**	**AC 120V/60Hz**
Mode:	**TX2480**	**Test Engineer:**	**Sunshine**
Note:			

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Over (dB)	Detector	Comment
1	0.1539	37.99	10.07	48.06	65.78	-17.72	QP	
2	0.1539	25.93	10.07	36.00	55.78	-19.78	AVG	
3	0.2060	37.86	10.08	47.94	63.36	-15.42	QP	
4	0.2060	25.60	10.08	35.68	53.36	-17.68	AVG	
5	0.2540	33.12	10.07	43.19	61.62	-18.43	QP	
6	0.2540	21.47	10.07	31.54	51.62	-20.08	AVG	
7	0.4980	37.02	10.09	47.11	56.03	-8.92	QP	
8	0.4980	24.48	10.09	34.57	46.03	-11.46	AVG	
9	0.5660	35.66	10.09	45.75	56.00	-10.25	QP	
10	0.5660	23.58	10.09	33.67	46.00	-12.33	AVG	
11	0.8180	31.73	10.10	41.83	56.00	-14.17	QP	
12	0.8180	19.93	10.10	30.03	46.00	-15.97	AVG	



Site:	**843**	**Phase:N**	**Temperature(C):24(C)**
Limit:	**FCC Part 15 C Conduction(QP)**		**Humidity(%):58%**
EUT:	**Recessed Luminaire**	**Test Time:**	**2022-06-01**
M/N.:	**SG-SML10W-C01**	**Power Rating:**	**AC 120V/60Hz**
Mode:	**TX2480**	**Test Engineer:**	**Sunshine**
Note:			

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Over (dB)	Detector	Comment
1	0.1580	39.88	10.07	49.95	65.56	-15.61	QP	
2	0.1580	26.39	10.07	36.46	55.56	-19.10	AVG	
3	0.2100	34.31	10.08	44.39	63.20	-18.81	QP	
4	0.2100	24.44	10.08	34.52	53.20	-18.68	AVG	
5	0.2580	34.36	10.07	44.43	61.49	-17.06	QP	
6	0.2580	22.23	10.07	32.30	51.49	-19.19	AVG	
7	0.5299	34.29	10.09	44.38	56.00	-11.62	QP	
8	0.5299	23.29	10.09	33.38	46.00	-12.62	AVG	
9	0.5700	33.07	10.09	43.16	56.00	-12.84	QP	
10	0.5700	22.68	10.09	32.77	46.00	-13.23	AVG	
11	1.0300	28.65	10.10	38.75	56.00	-17.25	QP	
12	1.0300	18.66	10.10	28.76	46.00	-17.24	AVG	

6.6 Conducted Measurement Photos:

7. Radiated Emission Test

7.1 Measurement Procedure

1. The testing follows the guidelines in ANSI C63.10-2013.
2. Below 1000MHz, The EUT was placed on a turn table which is 0.8m above ground plane. And above 1000MHz, The EUT was placed on a styrofoam table which is 1.5m above ground plane.
3. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
4. The EUT was arranged to its worst case and then tune the Antenna tower (From 1m to 4m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
5. For measurement below 1GHz, if the emission level of the EUT measured by the peak detector is 3dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
6. Final measurement (Above 1GHz): The frequency range will be divided into different sub ranges depending of the frequency range of the used horn antenna. The EMI Receiver set to peak and average mode and a resolution bandwidth of 1MHz. The measurement will be performed in horizontal and vertical polarization of the measuring antenna and while rotating the EUT in its vertical axis in the range of 0 degree to 360 degree in order to have the antenna inside the cone of radiation.
7. Test Procedure of measurement (For Above 1GHz):
   1) Monitor the frequency range at horizontal polarization and move the antenna over all sides of the EUT(if necessary move the EUT to another orthogonal axis).
   2) Change the antenna polarization and repeat 1) with vertical polarization.
   3) Make a hardcopy of the spectrum.
   4) Measure the frequency of the detected emissions with a lower span and resolution bandwidth to increase the accuracy and note the frequency value.
   5) Change the analyser mode to Clear/ Write and found the cone of emission.
   6) Rotate and move the EUT, so that the measuring distance can be enlarged to 3m and the antenna will be still inside the cone of emission.
   7) Measure the level of the detected frequency with the correct resolution bandwidth, with the antenna polarization and azimuth and the peak and average detector, which causes the maximum emission.
   8) Repeat steps 1) to 7) for the next antenna spot if the EUT is larger than the antenna beamwidth.

Use the following spectrum analyzer settings:

When spectrum scanned from 30MHz to 1GHz setting resolution bandwidth 120KHz and video bandwidth 300KHz:

EMI Test Receiver	Setting
Attenuation	Auto
RB	120KHz
VB	300KHz
Detector	QP
Trace	Max hold

When spectrum scanned above 1GHz setting resolution bandwidth 1MHz, video bandwidth 3MHz:

EMI Test Receiver	Setting
Attenuation	Auto
RB	1MHz
VB	3MHz
Detector	Peak
Trace	Max hold

When spectrum scanned above 1GHz setting resolution bandwidth 1MHz, video bandwidth 10Hz:

EMI Test Receiver	Setting
Attenuation	Auto
RB	1MHz
VB	10Hz
Detector	Average
Trace	Max hold

For Average Measurement:

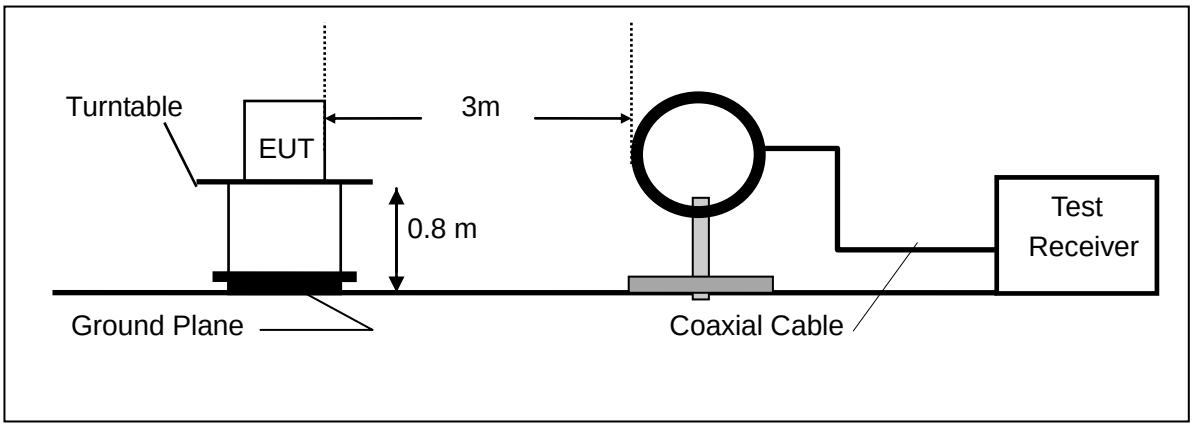
VBW=10Hz, when duty cycle is no less than 98 percent.

VBW⩾1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

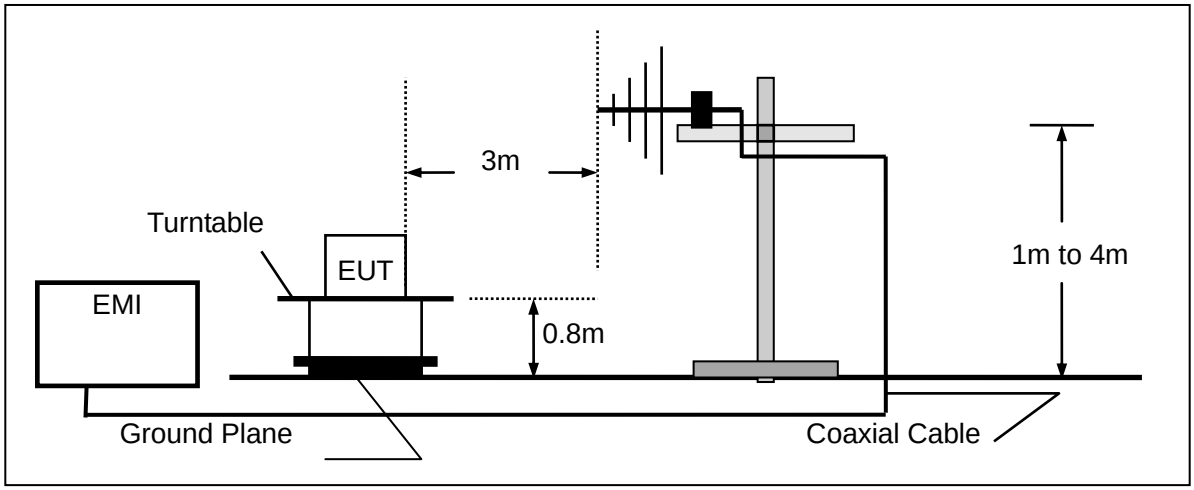
Band	Duty Cycle(%)	T(μs)	1/T(KHz)	Average Correction Factor	VBW Setting
2402-2480	100	-	-	0	10Hz

7.2 Test SET-UP (Block Diagram of Configuration)

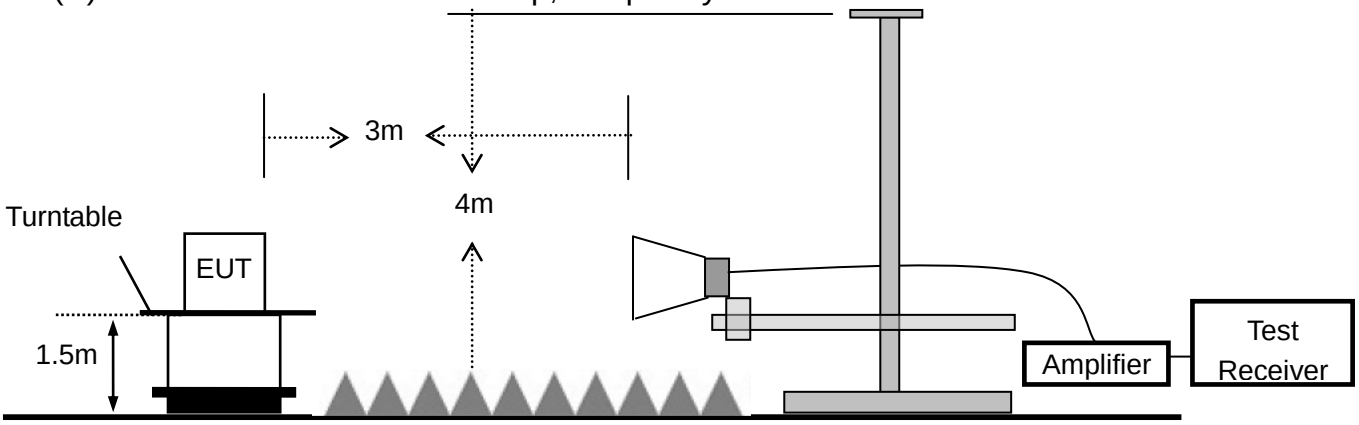
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



7.3 Measurement Equipment Used:

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1.	EMI Test Receiver	Rohde & Schwarz	ESPI	100502	2022-11-13
2.	Pre-Amplifier	HP	8447D	2727A06172	2023-05-12
3.	Bilog Antenna	Schwarzbeck	VULB9163	VULB9163-588	2023-05-12
4.	Loop Antenna	Schwarzbeck	FMZB 1516	1516-141	2022-11-13
5.	Spectrum Analyzer	Rohde & Schwarz	FSV40	US40240623	2022-11-13
6.	Low noise Amplifiers	A-INFO	LA1018N4009	J1013130524001	2023-05-12
7.	Horn antenna	A-INFO	LB-10180-SF	J2031090612123	2023-05-12
8.	Broadband RF Power Amplifier	AEROFLEX	AEROFLEX100KHz-40GHz	J1013130524001	2022-11-13
9.	DRG Horm Antenna	A.H.SYSTEMS	SAS-574	J2031090612123	2022-11-13
10.	RF Cable	Gigalink Microwave	ZT40-2.92J-2.92J-2m	N/A	2022-11-13
11.	RF Cable	Gigalink Microwave	ZT40-2.92J-2.92J-0.3m	N/A	2022-11-13
12.	RF Cable	N/A	N/A	6#	2023-05-12
13.	RF Cable	N/A	N/A	1-1#	2023-05-12
14.	RF Cable	N/A	N/A	1-2#	2023-05-12
15.	RF Cable	N/A	N/A	7#	2023-05-12
16.	3m Semi-anechoic Chamber	chengyu	9m*6m*6m	N/A	2023-05-12
17.	Test Software	Farad	EZ-EMC Ver:ANCI-3A1	N/A	N/A

7.4 Radiated emission limit

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table 15.209(a):

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

15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]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	([2])

Remark : 1. Emission level in dBuV/m=20 log (uV/m)
2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
3. Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of ξ 15.205, and the emissions located in restricted bands also comply with 15.209 limit.

7.5 Measurement Result

Below 30MHz:

Operation Mode:	TX	Test Date :	2022-06-01
Frequency Range:	9KHz~30MHz	Temperature :	25℃
Test Result:	PASS	Humidity :	58 %
Measured Distance:	3m	Test By:	Best

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)
--	--	--	--	--

Note: The low frequency, which started from 9KHz-30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

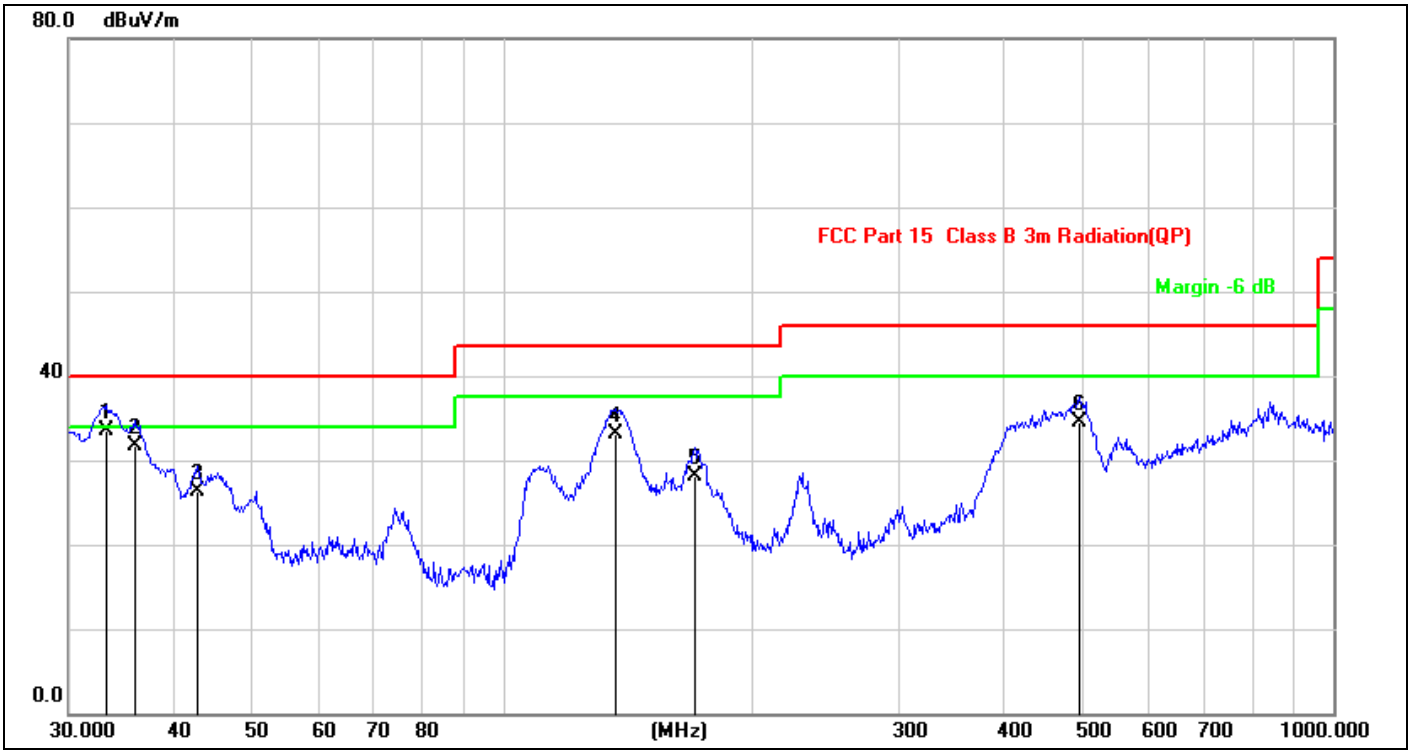
Below 1000MHz:

Pass.

The data of the mode (GFSK 2480MHz) are recorded in the following pages.

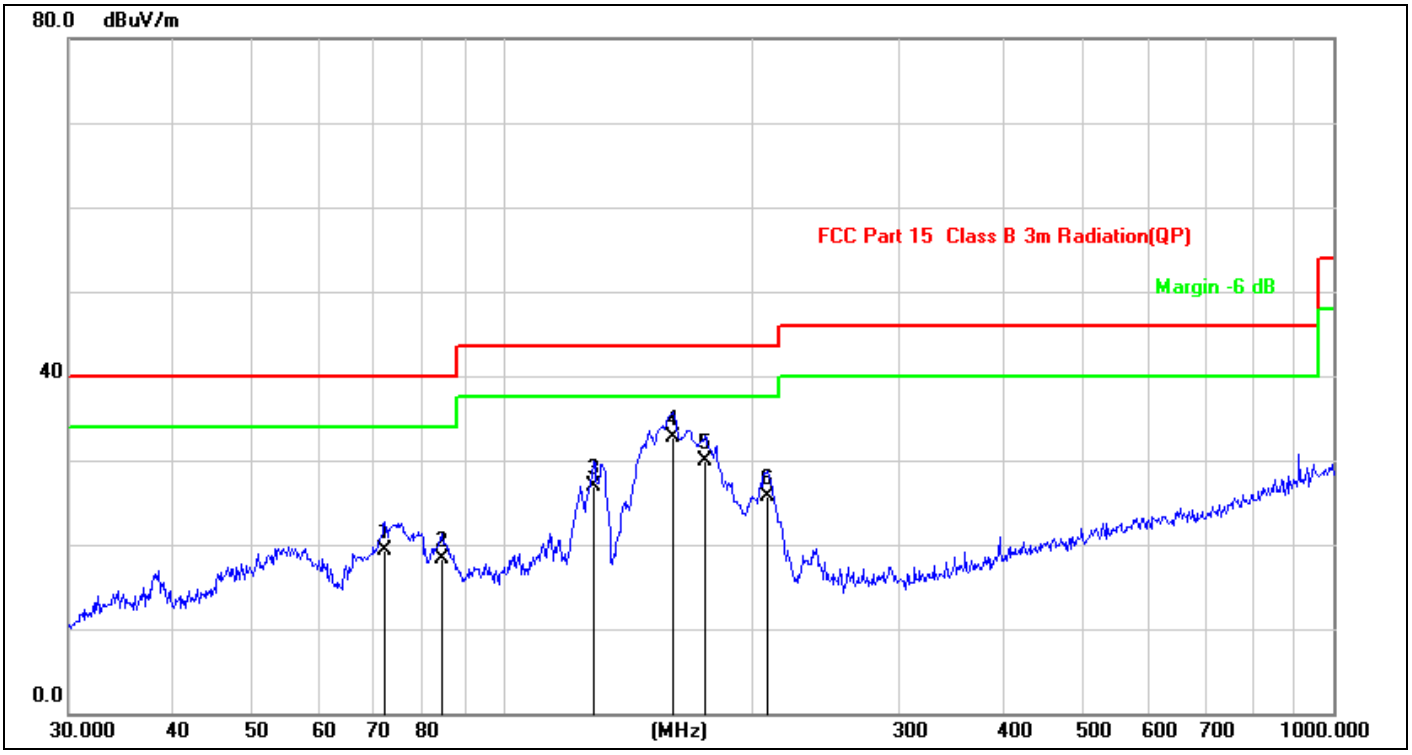
Site:	**843.3**	**Antenna::Horizontal**	**Temperature(C):25**
Limit:	**FCC Part 15 C Conduction(QP)**		**Humidity(%):58**
EUT:	**Recessed Luminaire**	**Test Time:**	**2022-06-01**
M/N.:	**SG-SML14W-C01**	**Power Rating:**	**AC 120V/60Hz**
Mode:	**TX2480**	**Test Engineer:**	**Bast**
Note:			

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Over (dB)	Detector	Comment
1	109.4116	34.13	-11.71	22.42	43.50	-21.08	QP	
2	137.4202	46.23	-11.90	34.33	43.50	-9.17	QP	
3	157.5588	40.93	-11.48	29.45	43.50	-14.05	QP	
4	171.9946	39.80	-11.35	28.45	43.50	-15.05	QP	
5	244.2321	35.14	-9.94	25.20	46.00	-20.80	QP	
6	492.4685	35.83	-1.27	34.56	46.00	-11.44	QP	



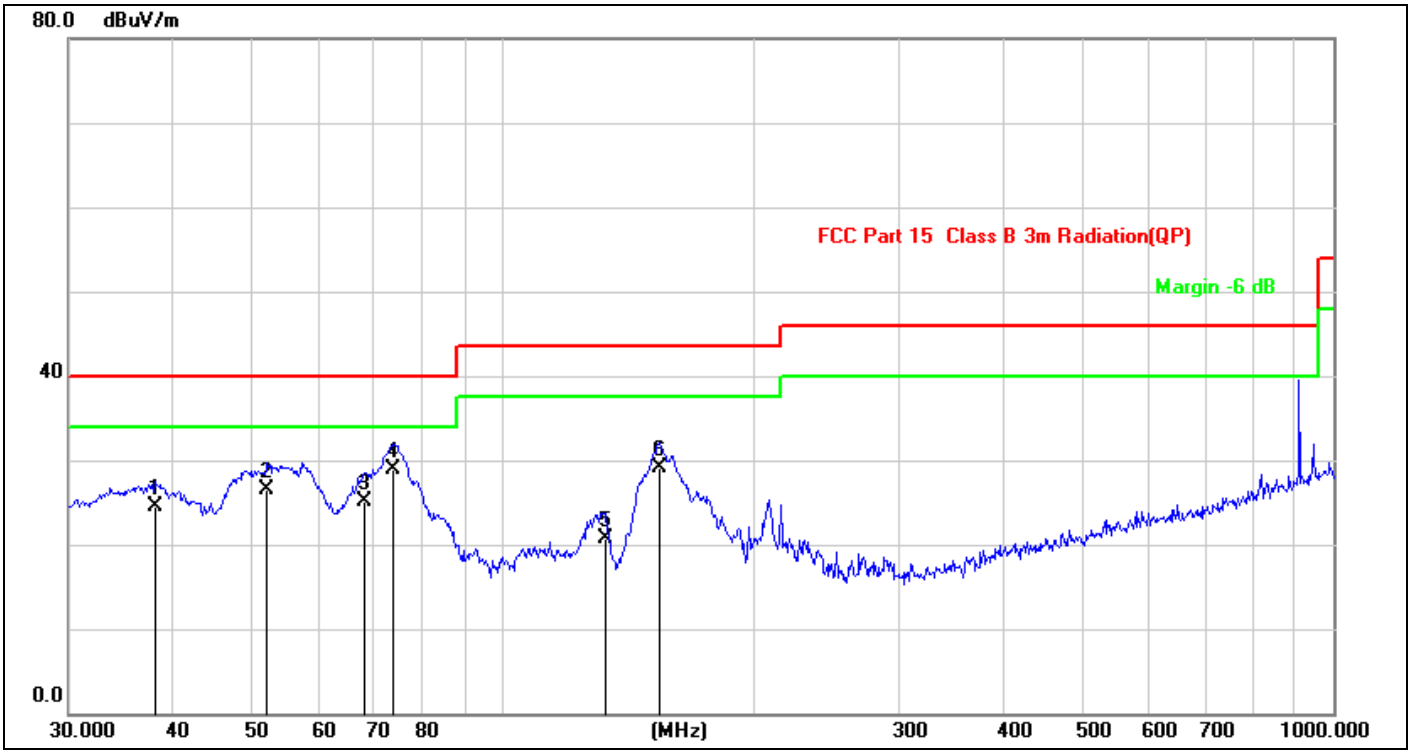
Site:	**843.3**	**Antenna::Vertical**	**Temperature(C):25**
Limit:	**FCC Part 15 C Conduction(QP)**		**Humidity(%):58**
EUT:	**Recessed Luminaire**	**Test Time:**	**2022-06-01**
M/N.:	**SG-SML14W-C01**	**Power Rating:**	**AC 120V/60Hz**
Mode:	**TX2480**	**Test Engineer:**	**Bast**
Note:			

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Over (dB)	Detector	Comment
1	33.3279	45.11	-11.70	33.41	40.00	-6.59	QP	
2	36.0007	42.69	-11.06	31.63	40.00	-8.37	QP	
3	42.8998	36.48	-10.25	26.23	40.00	-13.77	QP	
4	136.9391	45.01	-11.89	33.12	43.50	-10.38	QP	
5	170.1948	39.77	-11.62	28.15	43.50	-15.35	QP	
6	494.1984	35.61	-1.14	34.47	46.00	-11.53	QP	



Site:	**843.3**	**Antenna::Horizontal**	**Temperature(C):25**
Limit:	**FCC Part 15 C Conduction(QP)**		**Humidity(%):58**
EUT:	**Recessed Luminaire**	**Test Time:**	**2022-06-01**
M/N.:	**SG-SML10W-C01**	**Power Rating:**	**AC 120V/60Hz**
Mode:	**TX2480**	**Test Engineer:**	**Bast**
Note:			

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Over (dB)	Detector	Comment
1	72.0843	34.41	-15.05	19.36	40.00	-20.64	QP	
2	84.4054	32.81	-14.49	18.32	40.00	-21.68	QP	
3	128.5630	41.13	-14.17	26.96	43.50	-16.54	QP	
4	160.3456	47.03	-14.37	32.66	43.50	-10.84	QP	
5	175.0368	42.76	-12.81	29.95	43.50	-13.55	QP	
6	208.5803	36.64	-10.84	25.80	43.50	-17.70	QP	



Site:	**843.3**	**Antenna::Vertical**	**Temperature(C):25**
Limit:	**FCC Part 15 C Conduction(QP)**		**Humidity(%):58**
EUT:	**Recessed Luminaire**	**Test Time:**	**2022-06-01**
M/N.:	**SG-SML10W-C01**	**Power Rating:**	**AC 120V/60Hz**
Mode:	**TX2480**	**Test Engineer:**	**Bast**
Note:			

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Over (dB)	Detector	Comment
1	38.2120	37.84	-13.41	24.43	40.00	-15.57	QP	
2	52.0251	38.54	-11.94	26.60	40.00	-13.40	QP	
3	67.9129	39.61	-14.58	25.03	40.00	-14.97	QP	
4	73.8756	44.07	-15.12	28.95	40.00	-11.05	QP	
5	132.6850	35.16	-14.38	20.78	43.50	-22.72	QP	
6	154.2786	43.74	-14.58	29.16	43.50	-14.34	QP	

Note: 1. Result Level = Read Level+ Antenna Factor+ Cable Loss- Amp. Factor

Above 1000MHz~10th Harmonics:

Operation Mode:	TX Mode (CH00: 2402MHz)	Test Date :	2022-06-01
Frequency Range:	1-25GHz	Temperature :	25℃
Test Result:	PASS	Humidity :	58 %
Measured Distance:	3m	Test By:	Best

Freq.	Ant. Pol.	Reading Level(dBuV/m)		Correct Factor	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
(MHz)	H/V	PK	AV	dB	PK	AV	PK	AV	PK	AV
4804	V	94.02	75.55	-32.3	62.3	43.25	74	54	-11.7	-10.75
7206	V	97.4	76.72	-37.2	60.2	39.52	74	54	-13.8	-14.48
9608	V	97.45	78.05	-39.8	57.65	38.25	74	54	-16.35	-15.75
12010	V	96.13	77.08	-40.5	55.63	36.58	74	54	-18.37	-17.42
14412	V	97.72	77.89	-41.7	56.02	36.19	74	54	-17.98	-17.81
16814	V	95.69	76.11	-40	55.69	36.11	74	54	-18.31	-17.89
4804	H	94.01	74.72	-31.6	62.41	43.12	74	54	-11.59	-10.88
7206	H	95.52	75.63	-35.5	60.02	40.13	74	54	-13.98	-13.87
9608	H	95.95	76.55	-38.3	57.65	38.25	74	54	-16.35	-15.75
12010	H	95.13	76.02	-39	56.13	37.02	74	54	-17.87	-16.98
14412	H	98.02	79.14	-42	56.02	37.14	74	54	-17.98	-16.86
16814	H	94.62	75.71	-39.3	55.32	36.41	74	54	-18.68	-17.59

Other harmonics emissions are lower than 20dB below the allowable limit.

Note: (1) All Readings are Peak Value and AV.
(2) Emission Level= Reading Level+ Probe Factor +Cable Loss.
(3) The average measurement was not performed when the peak measured data under the limit of average detection.
(4) Measuring frequencies from 1GHz to 25GHz.

Operation Mode:	TX Mode (CH19: 2440MHz)	Test Date :	2022-06-01
Frequency Range:	1-25GHz	Temperature :	25℃
Test Result:	PASS	Humidity :	58 %
Measured Distance:	3m	Test By:	Best

Freq.	Ant. Pol.	Reading Level(dBuV/m)		Correct Factor	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Margin(dB)	
(MHz)	H/V	PK	AV	dB	PK	AV	PK	AV	PK	AV
4880	V	96.31	76.53	-32.3	64.01	44.23	74	54	-9.99	-9.77
7320	V	97.56	79.45	-37.2	60.36	42.25	74	54	-13.64	-11.75
9760	V	97.97	79.21	-39.8	58.17	39.41	74	54	-15.83	-14.59
12200	V	96.82	78.09	-40.5	56.32	37.59	74	54	-17.68	-16.41
14640	V	97.22	78.26	-41	56.22	37.26	74	54	-17.78	-16.74
17080	V	96.81	77.15	-41.1	55.71	36.05	74	54	-18.29	-17.95
4880	H	95.29	75.75	-31.6	63.69	44.15	74	54	-10.31	-9.85
7320	H	95.81	76.61	-35.5	60.31	41.11	74	54	-13.69	-12.89
9760	H	96.36	77.35	-38.3	58.06	39.05	74	54	-15.94	-14.95
12200	H	95.25	76.58	-39	56.25	37.58	74	54	-17.75	-16.42
14640	H	97.36	78.47	-42	55.36	36.47	74	54	-18.64	-17.53
17080	H	97.28	78.08	-41.5	55.78	36.58	74	54	-18.22	-17.42

Other harmonics emissions are lower than 20dB below the allowable limit.

Note: (1) All Readings are Peak Value and AV.
(2) Emission Level= Reading Level+ Probe Factor +Cable Loss.
(3) The average measurement was not performed when the peak measured data under the limit of average detection.
(4) Measuring frequencies from 1GHz to 25GHz.

Operation Mode:	TX Mode (CH39: 2480MHz)	Test Date :	2022-06-01
Frequency Range:	1-25GHz	Temperature :	25℃
Test Result:	PASS	Humidity :	58 %
Measured Distance:	3m	Test By:	Best

Freq.	Ant. Pol.	Reading Level(dBuV/m)		Correct Factor	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Margin(dB)	
(MHz)	H/V	PK	AV	dB	PK	AV	PK	AV	PK	AV
4960	V	95.82	76.46	-32.3	63.52	44.16	74	54	-10.48	-9.84
7440	V	97.34	78.22	-37.2	60.14	41.02	74	54	-13.86	-12.98
9920	V	98.12	79.38	-39.8	58.32	39.58	74	54	-15.68	-14.42
12400	V	96.75	78.02	-40.5	56.25	37.52	74	54	-17.75	-16.48
14880	V	96.14	77.47	-41	55.14	36.47	74	54	-18.86	-17.53
17360	V	96.33	77.57	-41.1	55.23	36.47	74	54	-18.77	-17.53
4960	H	94.77	75.56	-31.6	63.17	43.96	74	54	-10.83	-10.04
7440	H	95.82	76.78	-35.5	60.32	41.28	74	54	-13.68	-12.72
9920	H	96.71	77.55	-38.3	58.41	39.25	74	54	-15.59	-14.75
12400	H	95.36	76.62	-39	56.36	37.62	74	54	-17.64	-16.38
14880	H	97.32	78.41	-42	55.32	36.41	74	54	-18.68	-17.59
17360	H	96.79	77.75	-41.5	55.29	36.25	74	54	-18.71	-17.75

Other harmonics emissions are lower than 20dB below the allowable limit.

Note: (1) All Readings are Peak Value and AV.
(2) Emission Level= Reading Level+ Probe Factor +Cable Loss.
(3) The average measurement was not performed when the peak measured data under the limit of average detection.
(4) Measuring frequencies from 1GHz to 25GHz.

7.6 Radiated Measurement Photos:

8. 6dB Bandwidth Measurement

8.1 Measurement Procedure

The EUT was operating in Bluetooth mode or could be controlled its channel. Printed out the test result from the spectrum by hard copy function.

8.2 Test SET-UP (Block Diagram of Configuration)

EUT —— Spectrum

8.3 Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	CALIBRATED UNTIL
Spectrum Analyzer	Rohde & Schwarz	FSV40	US40240623	2022-11-13
Coaxial Cable	Gigalink Microwave	ZT40	19022092	2022-11-13
Antenna Connector	ARTHUR-YANG	2244-N1TG1	N/A	2022-11-13

Remark: The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

8.4 Limit

The minimum 6dB bandwidth shall be at least 500kHz.

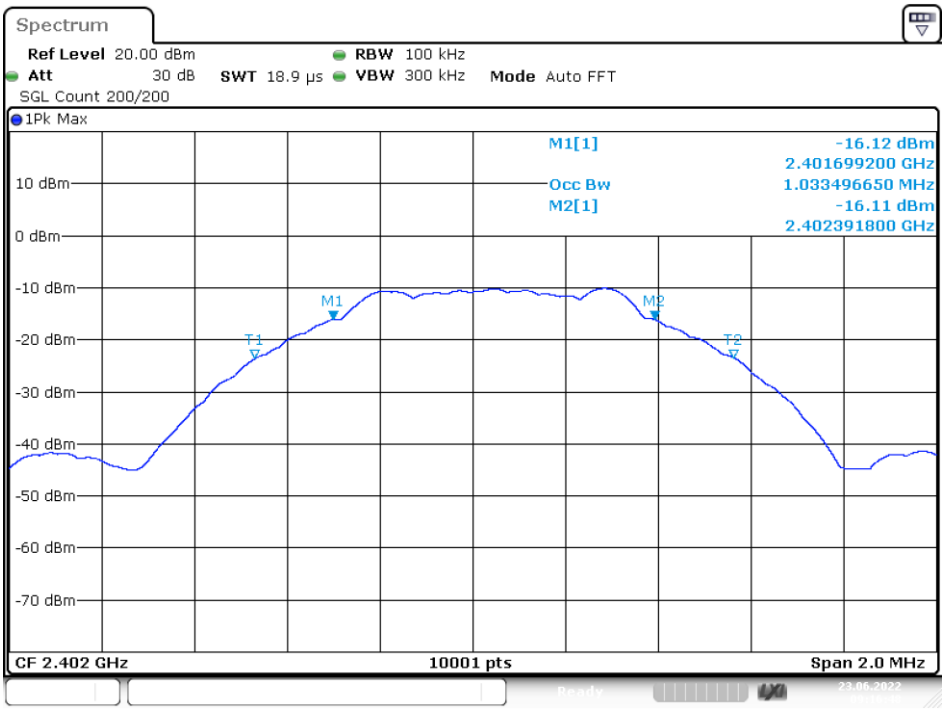
8.5 Measurement Results:

Refer to attached data chart.

Spectrum Detector:	PK	Test Date :	2022-06-23
Test By:	Best	Temperature :	24 ℃
Test Result:	PASS	Humidity :	53 %

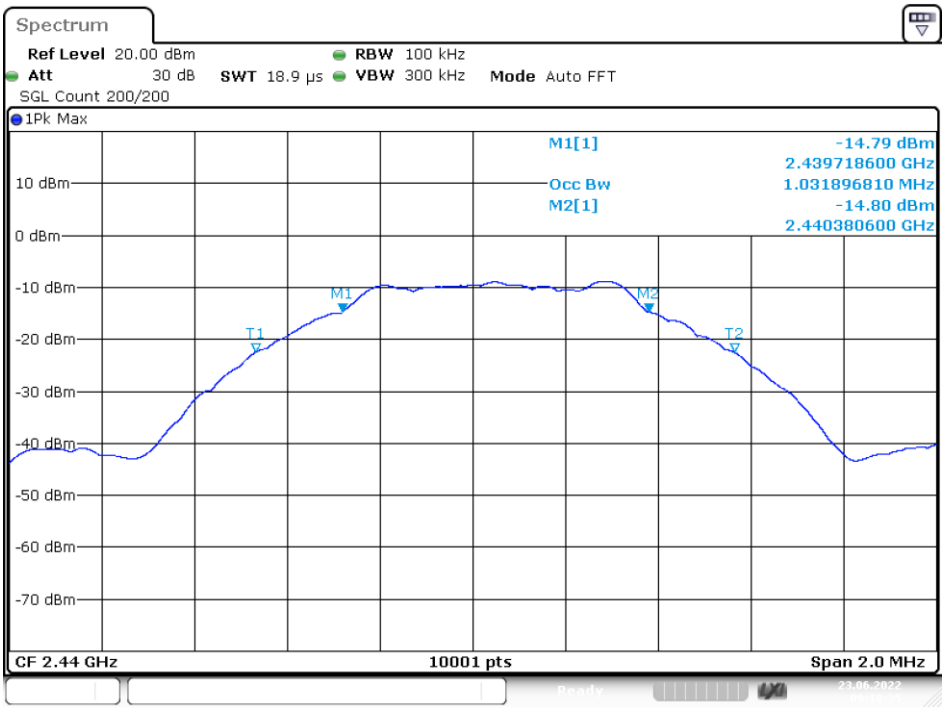
Channel number	Channel frequency (MHz)	Measurement level (KHz)	Required Limit (KHz)
00	2402	693	>500
19	2440	662	>500
39	2480	692	>500

6dBNVNT BLE 2402MHz Ant1



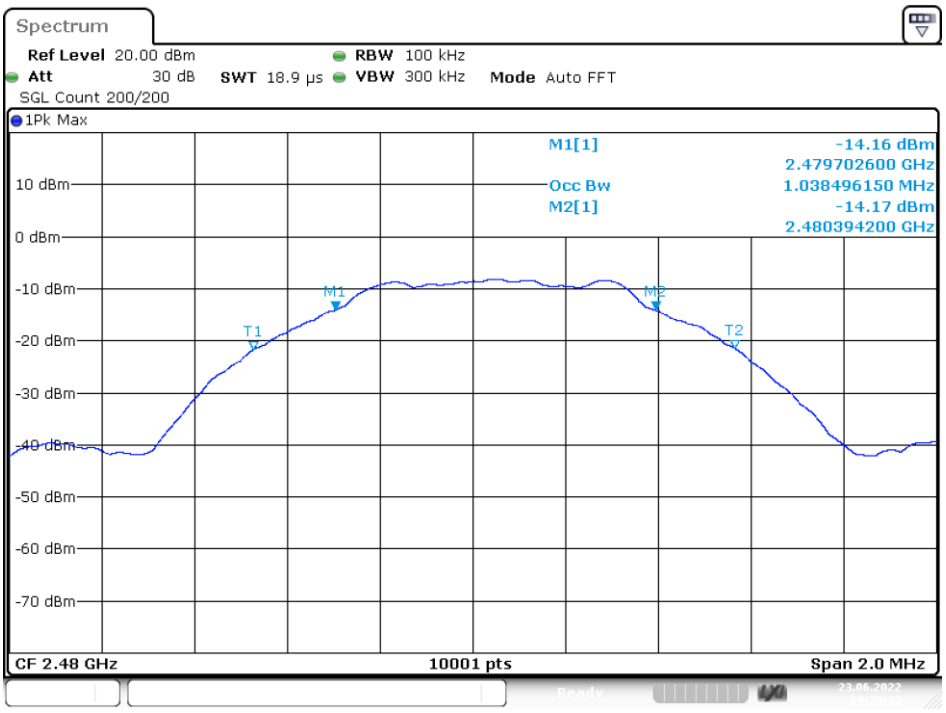
Date: 23.JUN.2022 09:16:48

6dBNVNT BLE 2440MHz Ant1



Date: 23.JUN.2022 09:18:35

6dBNVNT BLE 2480MHz Ant1



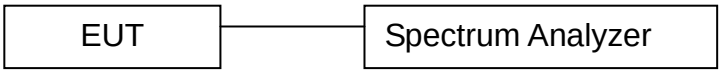
Date: 23.JUN.2022 09:20:12

9. MAXIMUM PEAK OUTPUT POWER TEST

9.1 Measurement Procedure

a. The Transmitter output (antenna port) was connected to the spectrum Analyzer.
b. Turn on the EUT and then record the peak power value.
c. Repeat above procedures on all channels needed to be tested.

9.2 Test SET-UP (Block Diagram of Configuration)



9.3 Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	CALIBRATED UNTIL
Spectrum Analyzer	Rohde & Schwarz	FSV40	US40240623	2022-11-13
Coaxial Cable	Gigalink Microwave	ZT40	19022092	2022-11-13
Antenna Connector	ARTHUR-YANG	2244-N1TG1	N/A	2022-11-13

Remark: The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

9.4 Peak Power output limit

The maximum peak power shall be less 1Watt.

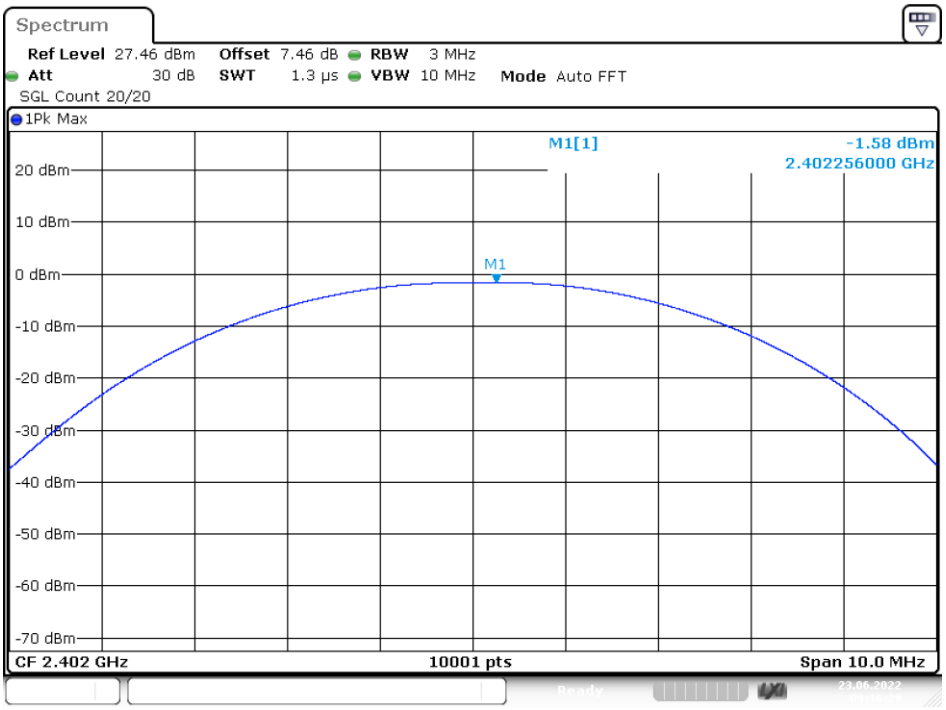
9.5 Measurement Results:

Refer to attached data chart.

Spectrum Detector:	PK	Test Date :	2022-06-23
Test By:	Best	Temperature :	24 ℃
Test Result:	PASS	Humidity :	53 %

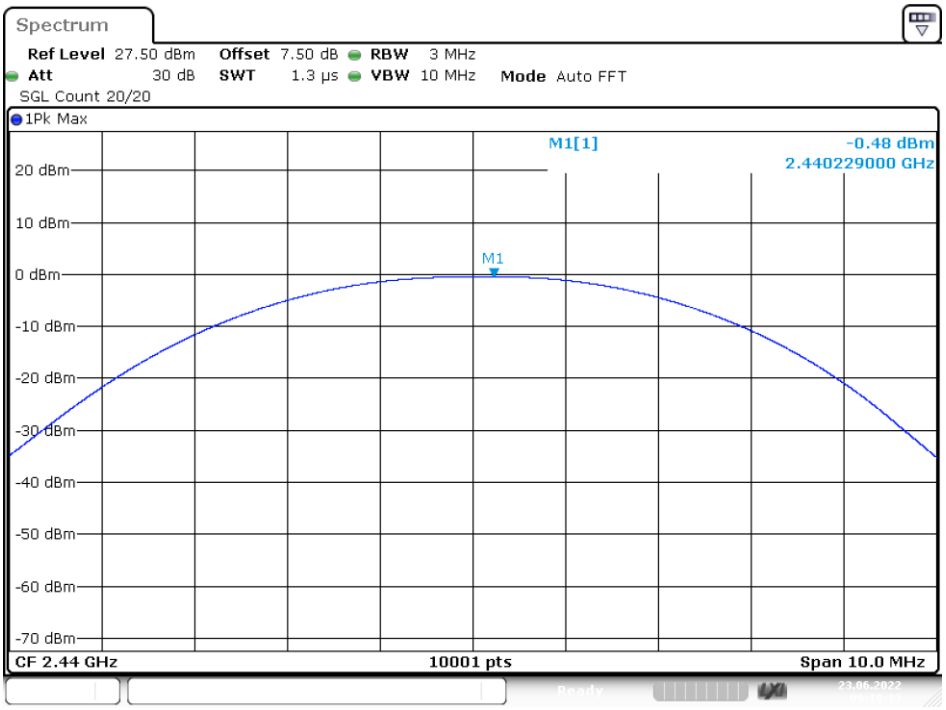
Channel number	Channel Frequency (MHz)	Peak Power output(dBm)	Peak Power output(mW)	Peak Power Limit(mW)	Pass/Fail
0	2402	-1.58	0.695	1000	PASS
19	2440	-0.48	0.895	1000	PASS
39	2480	**0.67**	**1.167**	1000	PASS

Power NVNT BLE 2402MHz Ant1



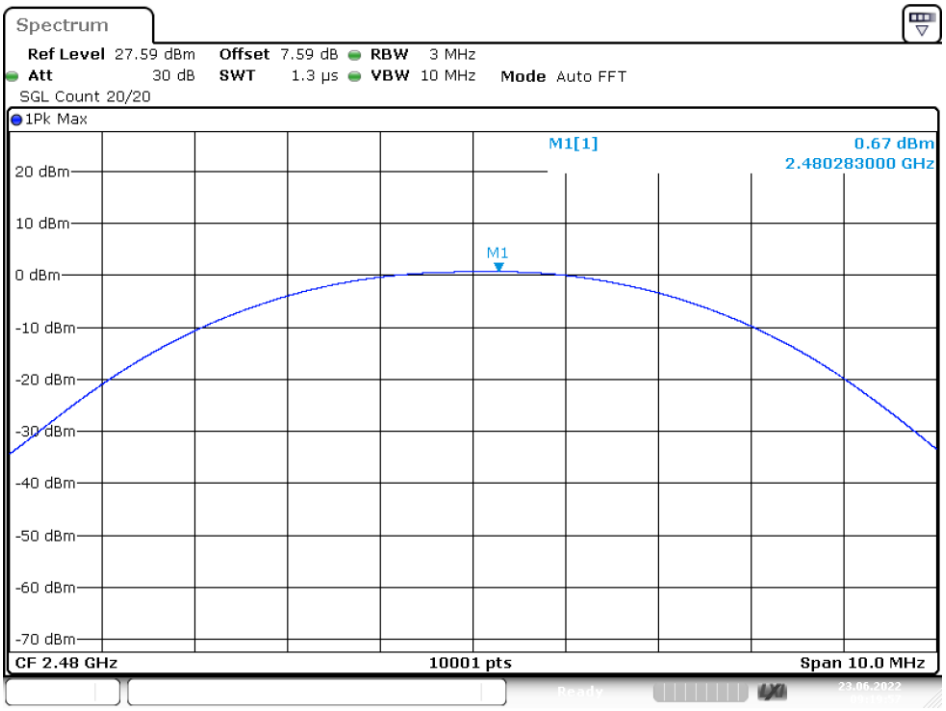
Date: 23.JUN.2022 09:16:29

Power NVNT BLE 2440MHz Ant1



Date: 23.JUN.2022 09:18:13

Power NVNT BLE 2480MHz Ant1



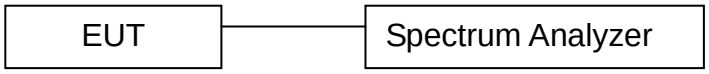
Date: 23.JUN.2022 09:19:57

10. Power Spectral Density Measurement

10.1Measurement Procedure

The EUT was operating in Bluetooth mode or could be controlled its channel. Printed out the test result from the spectrum by hard copy function.

10.2 Test SET-UP (Block Diagram of Configuration)



10.3 Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	CALIBRATED UNTIL
Spectrum Analyzer	Rohde & Schwarz	FSV40	US40240623	2022-11-13
Coaxial Cable	Gigalink Microwave	ZT40	19022092	2022-11-13
Antenna Connector	ARTHUR-YANG	2244-N1TG1	N/A	2022-11-13

Remark: The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

10.4 Measurement Procedure

10.4.1 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

10.4.2. Set to the maximum power setting and enable the EUT transmit continuously.

10.4.3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)

10.4.4. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.

10.4.5. Measure and record the results in the test report.

10.4.6. The Measured power density (dBm)/ 100KHz is a reference level and used as 20dBc down limit line for Conducted Band Edges and Conducted Spurious Emission.

10.5 Measurement Results:

The following table is the setting of spectrum analyzer.

Spectrum analyzer	Setting
Attenuation	Auto
Span Frequency	Set the span to 1.5 times the DTS bandwidth.
RB	3KHz
VB	10KHz
Detector	Peak
Trace	Max hold
Sweep Time	Automatic

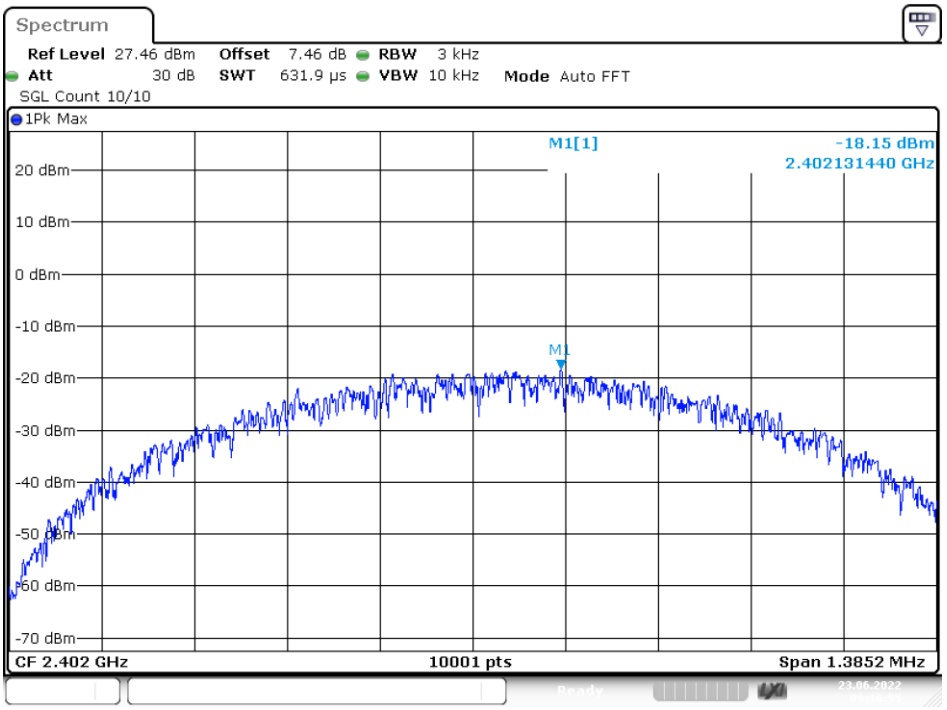
Refer to attached data chart.

Spectrum Detector:	PK	Test Date :	2022-06-23
Test By:	Best	Temperature :	24 ℃
Test Result:	PASS	Humidity :	53 %

Channel number	Channel frequency (MHz)	Measurement level (dBm)	Required Limit (dBm/3kHz)	Pass/Fail
		PSD/3kHz		
00	2402	-18.15	8	PASS
19	2440	-17.00	8	PASS
39	2480	-15.88	8	PASS

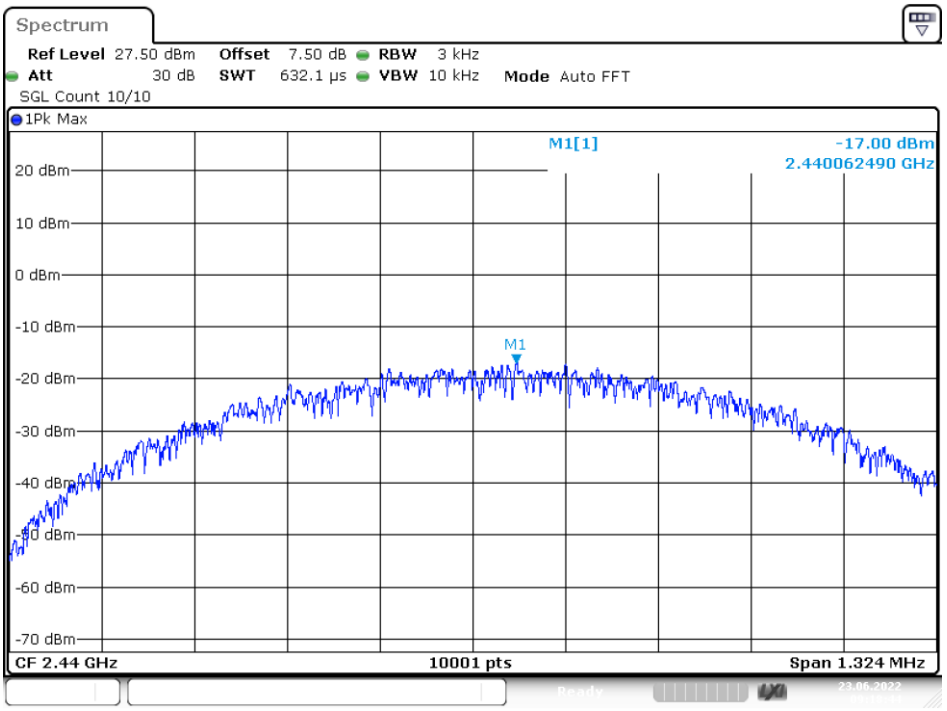
Note:
1. Measured power density(dBm) has offset with cable loss.
2. The measured power density(dBm)/100KHz is reference level and used as 20dBc down for Conducted Band Edges and Conducted Spurious Emission limit line.

PSD NVNT BLE 2402MHz Ant1



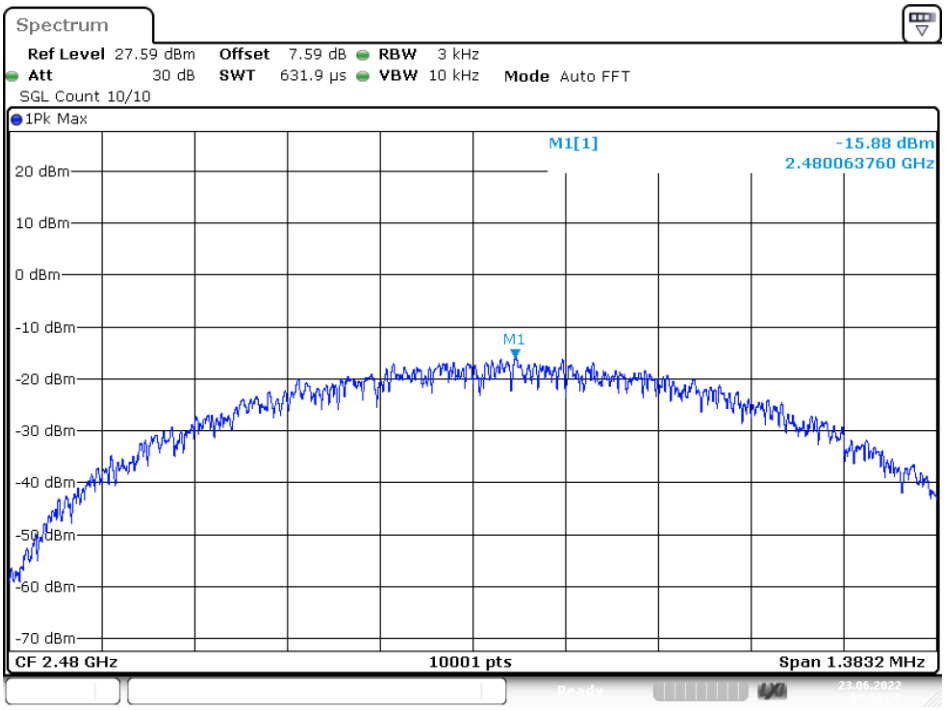
Date: 23.JUN.2022 09:16:55

PSD NVNT BLE 2440MHz Ant1



Date: 23.JUN.2022 09:18:43

PSD NVNT BLE 2480MHz Ant1



Date: 23.JUN.2022 09:20:19

11. Band EDGE test

11.1 Measurement Procedure

For Conducted Test

1. The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100KHz. The video bandwidth is set to 300KHz.
2. The spectrum from 30MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

EMI Test Receiver	Setting
Attenuation	Auto
RBW	100KHz
VBW	300KHz
Detector	Peak
Trace	Max hold

For Radiated emission Test

The EUT was placed on a styrofoam table which is 1.5m above ground plane.

The measurement procedure at the ban edges was simplified by performing the measurement in just one plot. Both, the in-band-emission and the unwanted emission were be encompassed by the span. After trace stabilization, the maximum peak was be determined by a peak detector and the value was marked by an appropriate limit line. The second limit line, which is 20dB below the first, marks the limit for the emissions in the unrestricted band. A maximum-peak-detector marks the highest emission in the unrestricted band next to the band edge.

The measurements were performed at the lower end of the 2.4GHz band.

Use the following spectrum analyzer settings:

For Restricted Band, When spectrum scanned above 1GHz setting resolution bandwidth 1MHz, video bandwidth 3MHz:

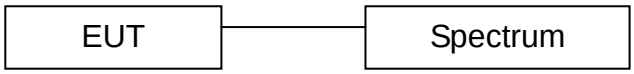
EMI Test Receiver	Setting
Attenuation	Auto
RBW	1MHz
VBW	3MHz
Detector	Peak
Trace	Max hold

For Non-Restricted Band, When spectrum scanned above 1GHz setting resolution bandwidth 100KHz, video bandwidth 300KHz:

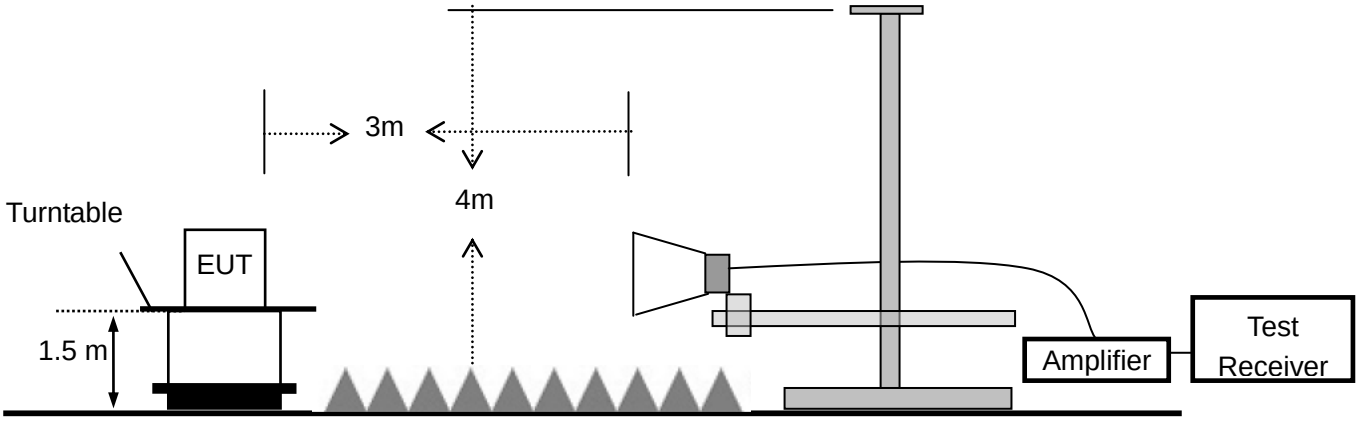
EMI Test Receiver	Setting
Attenuation	Auto
RBW	100KHz
VBW	300KHz
Detector	Peak
Trace	Max hold

11.2 Test SET-UP (Block Diagram of Configuration)

For Conducted Test



For Radiated emission Test



11.3 Measurement Equipment Used:

For Conducted Test

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	CALIBRATED UNTIL
Spectrum Analyzer	Rohde & Schwarz	FSV40	US40240623	2022-11-13
Coaxial Cable	Gigalink Microwave	ZT40	19022092	2022-11-13
Antenna Connector	ARTHUR-YANG	2244-N1TG1	N/A	2022-11-13

Remark: The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

For Radiated emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until
1	Signal Analyzer	Rohde & Schwarz	FSV40	US40240623	2022-11-13
2	Broadband RF Power Amplifier	AEROFLEX	AEROFLEX100KHz-40GHz	J1013130524001	2022-11-13
3	DRG Horm Antenna	A.H.SYSTEMS	SAS-574	J2031090612123	2022-11-13
4	RF Cable	Gigalink Microwave	ZT40-2.92J-2.92J-2m	N/A	2023-05-12
5	RF Cable	Gigalink Microwave	ZT40-2.92J-2.92J-0.3m	N/A	2023-05-12

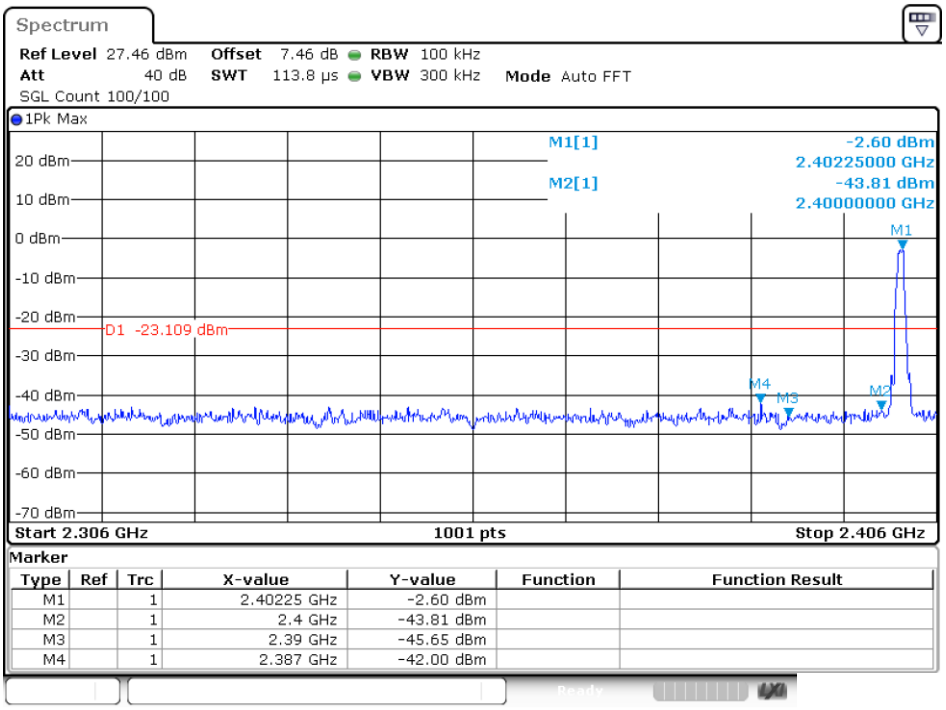
11.4 Measurement Results:

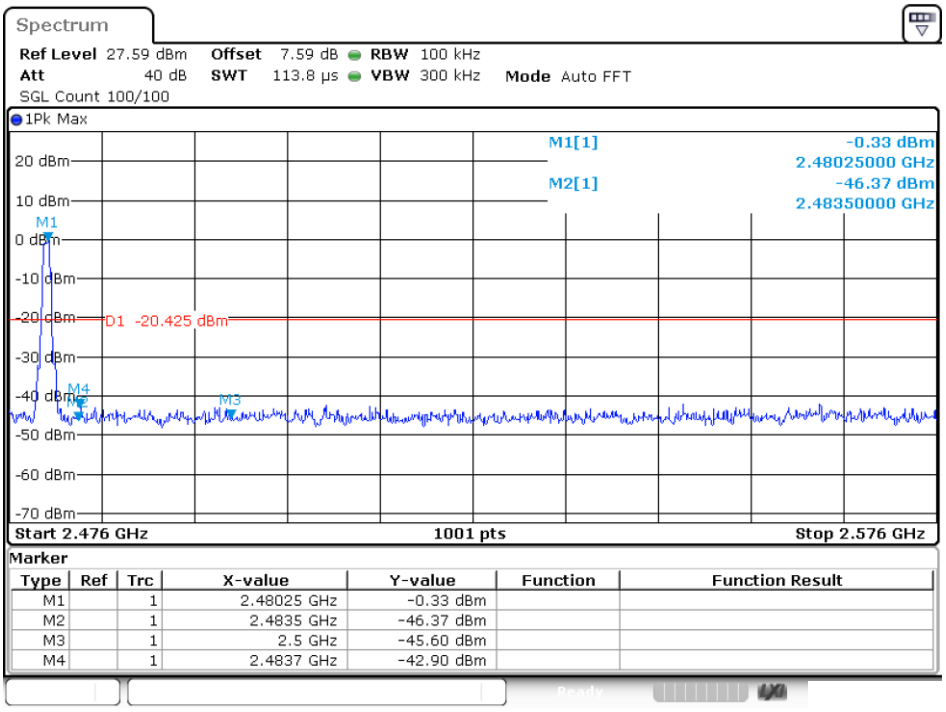
Refer to attached data chart.

Spectrum Detector:	PK	Test Date :	2022-06-23
Test By:	Best	Temperature :	24 ℃
Test Result:	PASS	Humidity :	53 %

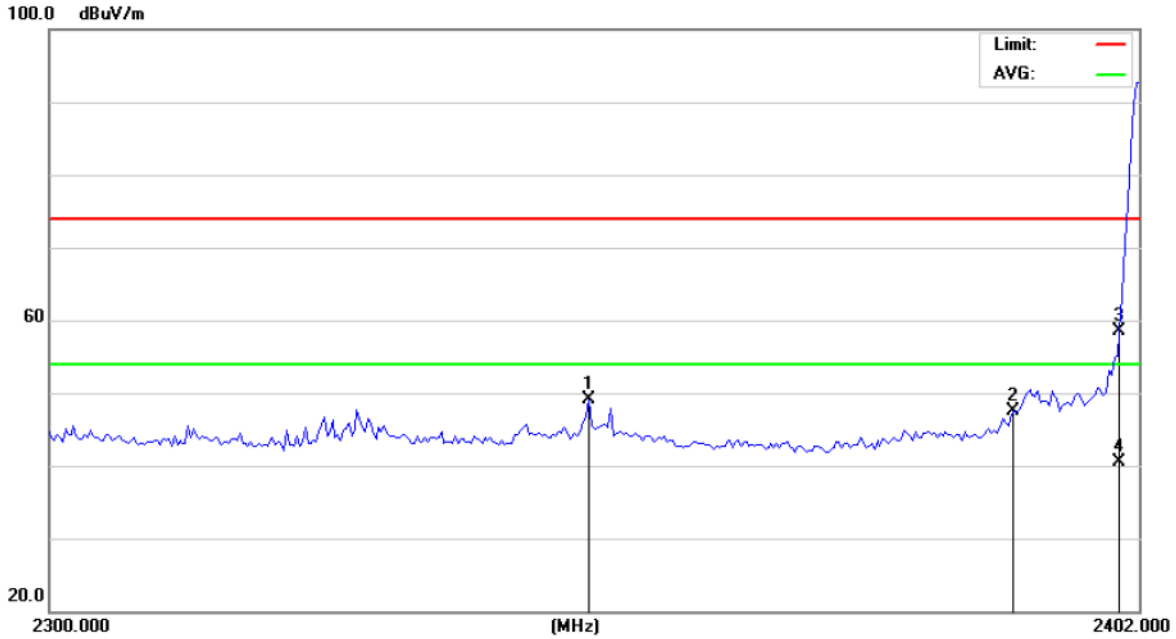
1. Conducted Test

Frequency (MHz)	Peak Power Output(dBm)	Emission(dBm)	Result of Band edge(dBc)	Band edge Limit(dBc)
2387	-2.60	-42.00	39.4	>20dBc
2483.7	-0.33	-42.90	42.57	>20dBc


Spectrum
Ref Level 27.46 dBm Offset 7.46 dB RBW 100 kHz
Att 40 dB SWT 113.8 µs VBW 300 kHz Mode Auto FFT
SGL Count 100/100
1Pk Max
M1[1] -2.60 dBm 2.40225000 GHz
M2[1] -43.81 dBm 2.40000000 GHz
D1 -23.109 dBm
Start 2.306 GHz 1001 pts Stop 2.406 GHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.40225 GHz -2.60 dBm
M2 1 2.4 GHz -43.81 dBm
M3 1 2.39 GHz -45.65 dBm
M4 1 2.387 GHz -42.00 dBm


Spectrum
Ref Level 27.59 dBm Offset 7.59 dB RBW 100 kHz
Att 40 dB SWT 113.8 µs VBW 300 kHz Mode Auto FFT
SGL Count 100/100
1Pk Max
M1[1] -0.33 dBm 2.48025000 GHz
M2[1] -46.37 dBm 2.48350000 GHz
D1 -20.425 dBm
Start 2.476 GHz 1001 pts Stop 2.576 GHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.48025 GHz -0.33 dBm
M2 1 2.4835 GHz -46.37 dBm
M3 1 2.5 GHz -45.60 dBm
M4 1 2.4837 GHz -42.90 dBm

2. Radiated emission Test



Site 843 Polarization: ***Horizontal*** Temperature: 26.5(C)

Limit: FCC Part 15 C 3m Above1G(Peak) Power: AC 120V/60Hz Humidity: 60.6 %

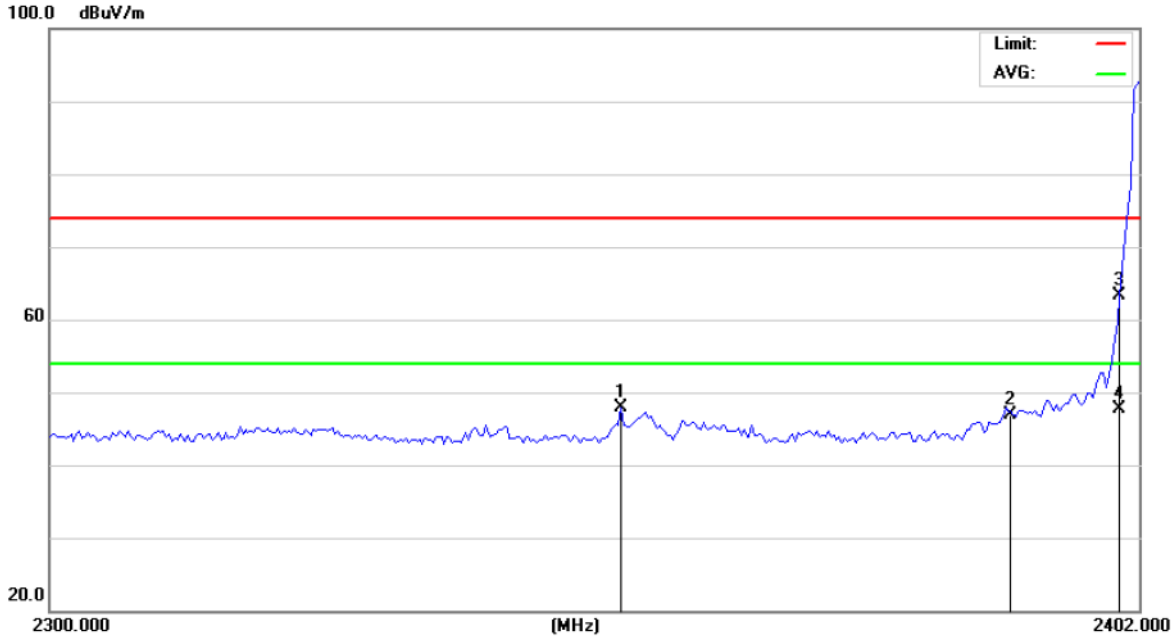
Model: SG-SML14W-C01

Mode: TX2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	cm	degree	Comment
1		2349.937	54.15	-5.09	49.06	74.00	-24.94	peak			
2		2390.000	52.24	-4.82	47.42	74.00	-26.58	peak			
3		2400.000	63.20	-4.75	58.45	74.00	-15.55	peak			
4	*	2400.000	45.25	-4.75	40.50	54.00	-13.50	AVG			

*:Maximum data x:Over limit !:over margin 〈Reference Only



Site 843 Polarization: *Vertical* Temperature: 26.5(C)

Limit: FCC Part 15 C 3m Above1G(Peak) Power: AC 120V/60Hz Humidity: 60.6 %

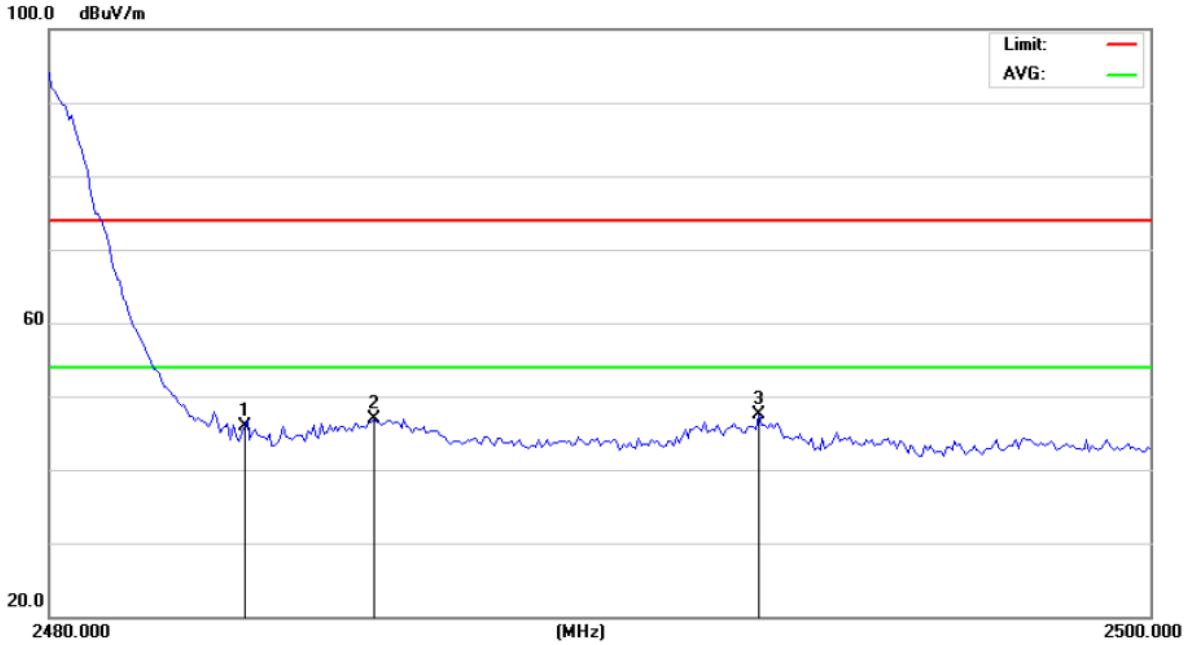
Model: SG-SML14W-C01

Mode: TX2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	A Battery 3.7V ole Height	Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector cm	degree	Comment
1		2352.998	52.99	-5.07	47.92	74.00	-26.08	peak		
2		2390.000	51.68	-4.82	46.86	74.00	-27.14	peak		
3		2400.000	68.00	-4.75	63.25	74.00	-10.75	peak		
4	*	2400.000	52.36	-4.75	47.61	54.00	-6.39	AVG		

*:Maximum data x:Over limit !:over margin 〈Reference Only



Site 843 Polarization: ***Horizontal*** Temperature: 26.5(C)

Limit: FCC Part 15 C 3m Above1G(Peak) Power: AC 120V/60Hz Humidity: 60.6 %

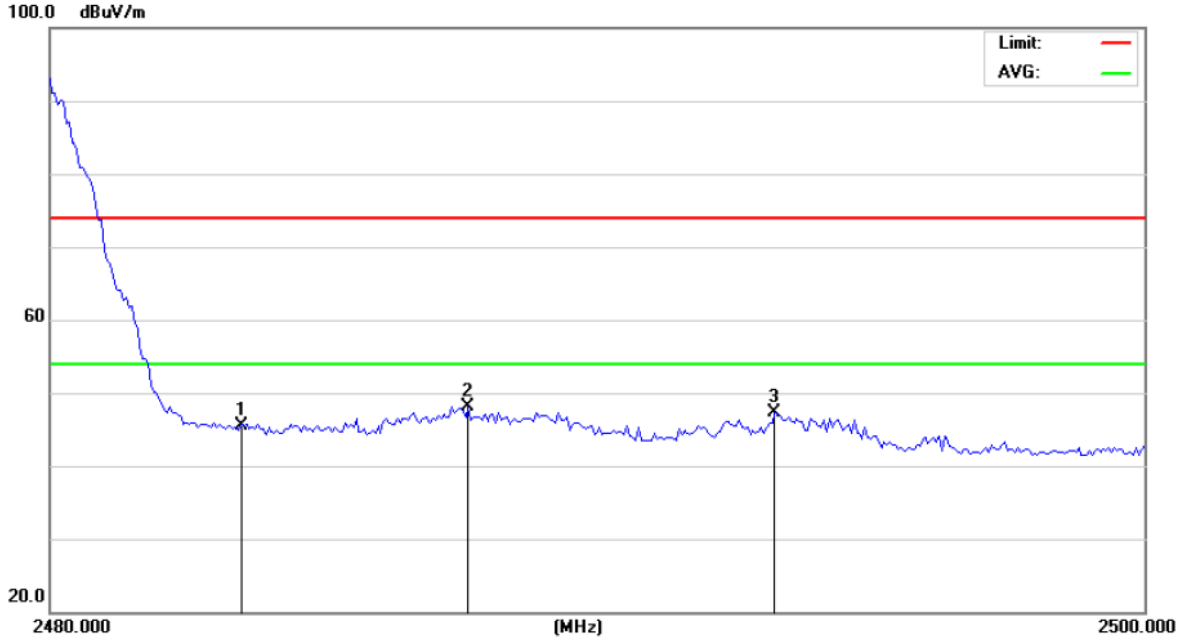
Model: SG-SML14W-C01

Mode: TX2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	cm	degree	Comment
1		2483.500	50.05	-4.19	45.86	74.00	-28.14	peak			
2		2485.883	51.16	-4.18	46.98	74.00	-27.02	peak			
3	*	2492.882	51.58	-4.14	47.44	74.00	-26.56	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only



Site 843 Polarization: *Vertical* Temperature: 26.5(C)

Limit: FCC Part 15 C 3m Above1G(Peak) Power: AC 120V/60Hz Humidity: 60.6 %

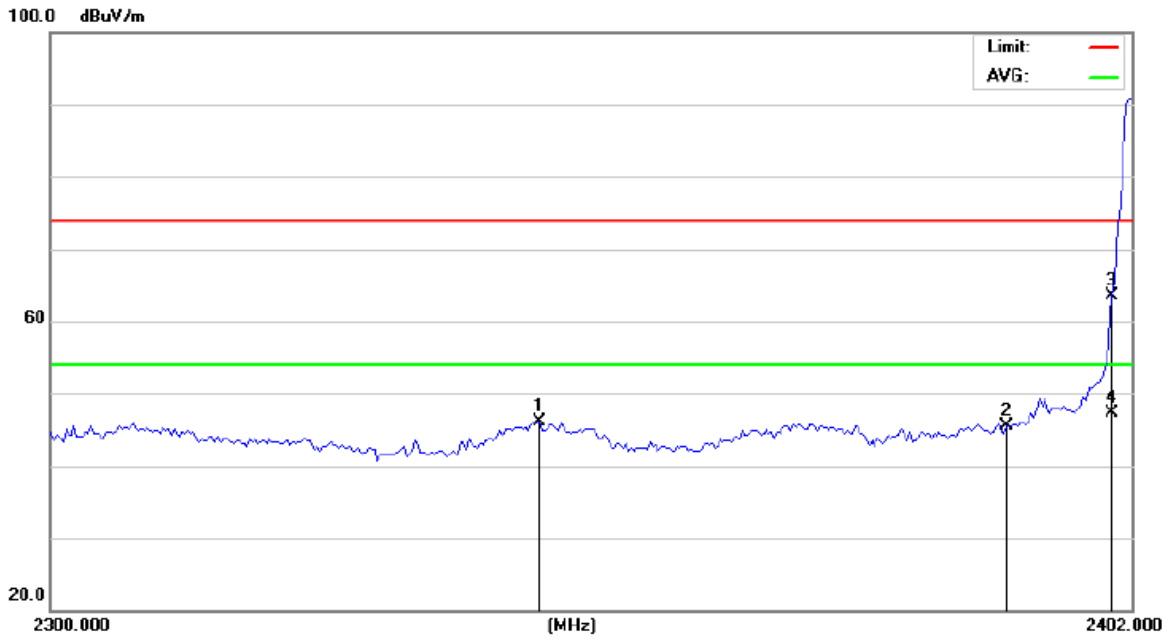
Model: SG-SML14W-C01

Mode: TX2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	cm	degree	Comment
1		2483.500	49.64	-4.19	45.45	74.00	-28.55	peak			
2	*	2487.631	52.35	-4.16	48.19	74.00	-25.81	peak			
3		2493.232	51.40	-4.14	47.26	74.00	-26.74	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only



Site 843 Polarization: *Horizontal* Temperature: 26.5(C)

Limit: FCC Part 15 C 3m Above1G(Peak) Power: AC 120V/60Hz Humidity: 60.6 %

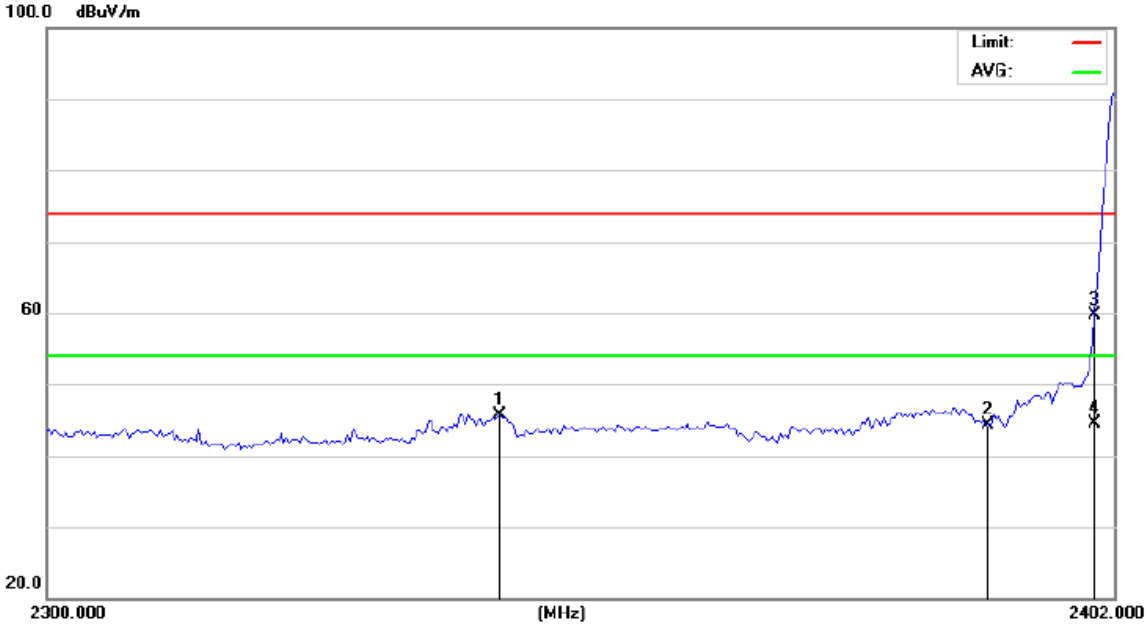
Model: SG-SML10W-C01

Mode: TX2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	cm	degree	Comment
1		2345.607	51.16	-5.12	46.04	74.00	-27.96	peak			
2		2390.000	50.24	-4.82	45.42	74.00	-28.58	peak			
3		2400.000	68.19	-4.75	63.44	74.00	-10.56	peak			
4	*	2400.000	52.14	-4.75	47.39	54.00	-6.61	AVG			

*:Maximum data x:Over limit !:over margin (Reference Only



Site 843 Polarization: *Vertical* Temperature: 26.5(C)

Limit: FCC Part 15 C 3m Above1G(Peak) Power: AC 120V/60Hz Humidity: 60.6 %

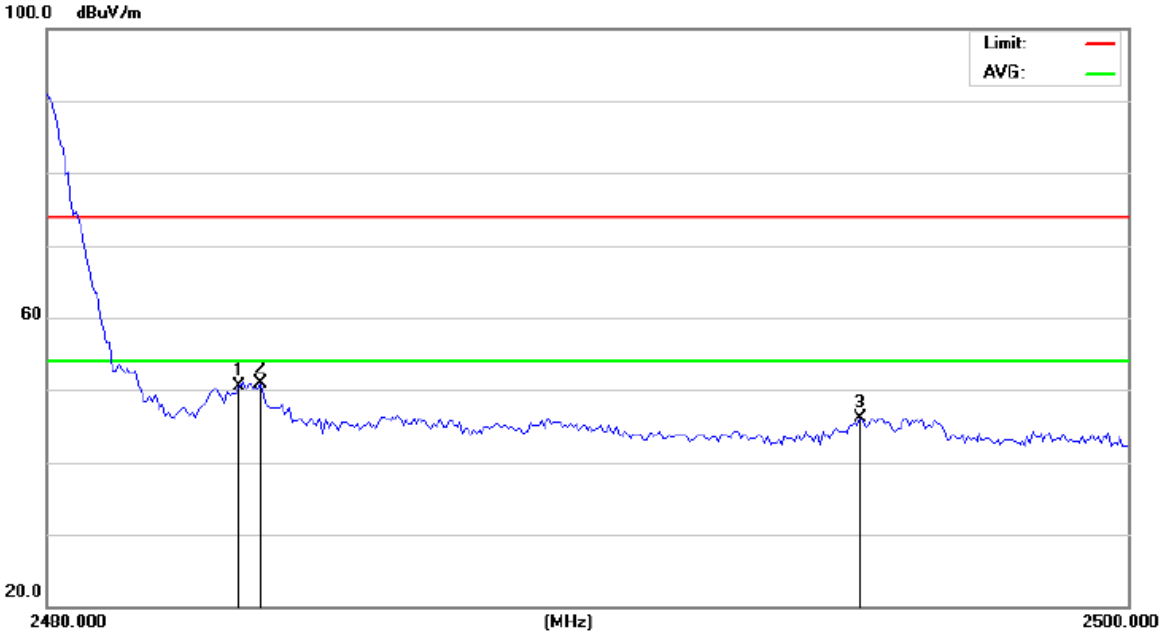
Model: SG-SML10W-C01

Mode: TX2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	cm	degree	Comment
1		2342.810	50.87	-5.14	45.73	74.00	-28.27	peak			
2		2390.000	49.18	-4.82	44.36	74.00	-29.64	peak			
3		2400.000	64.50	-4.75	59.75	74.00	-14.25	peak			
4	*	2400.000	49.25	-4.75	44.50	54.00	-9.50	AVG			

*:Maximum data x:Over limit !:over margin 〈Reference Only



Site 843 Polarization: ***Horizontal*** Temperature: 26.5(C)

Limit: FCC Part 15 C 3m Above1G(Peak) Power: AC 120V/60Hz Humidity: 60.6 %

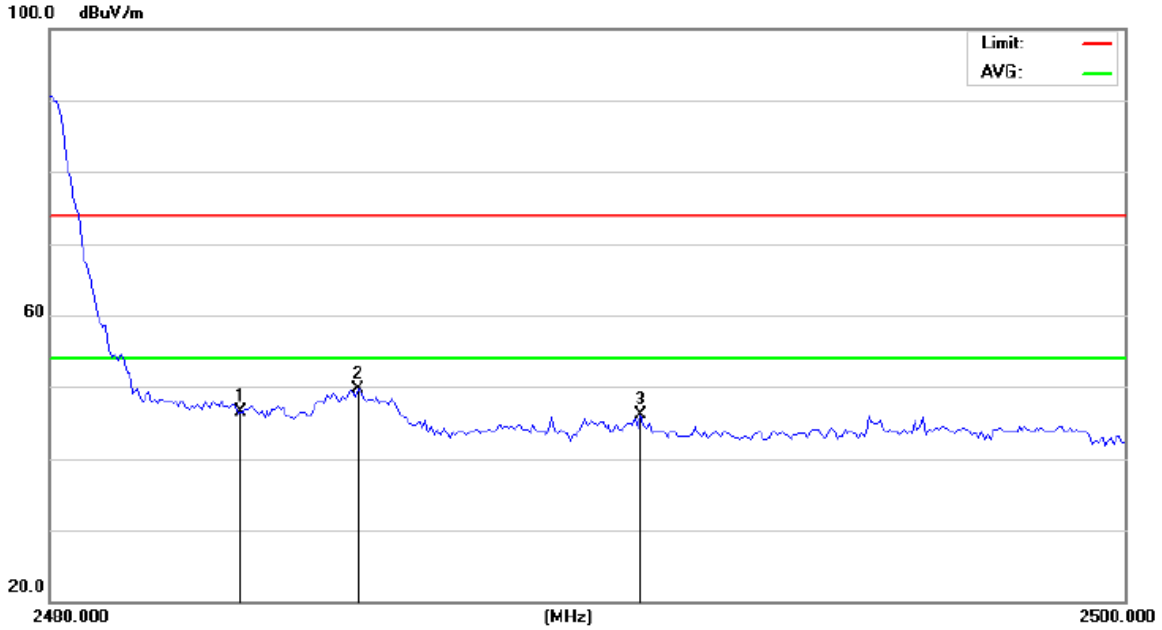
Model: SG-SML10W-C01

Mode: TX2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	cm	degree	Comment
1		2483.500	54.62	-4.19	50.43	74.00	-23.57	peak			
2	*	2483.937	55.04	-4.19	50.85	74.00	-23.15	peak			
3		2495.035	50.24	-4.11	46.13	74.00	-27.87	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only



Site 843 Polarization: *Vertical* Temperature: 26.5(C)

Limit: FCC Part 15 C 3m Above1G(Peak) Power: AC 120V/60Hz Humidity: 60.6 %

Model: SG-SML10W-C01

Mode: TX2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	cm	degree	Comment
1		2483.500	50.72	-4.19	46.53	74.00	-27.47	peak			
2	*	2485.734	53.94	-4.18	49.76	74.00	-24.24	peak			
3		2490.980	50.28	-4.15	46.13	74.00	-27.87	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

12 Antenna Application

12.1 Antenna requirement

The EUT'S antenna is met the requirement of FCC part 15C section 15.203 and 15.247.

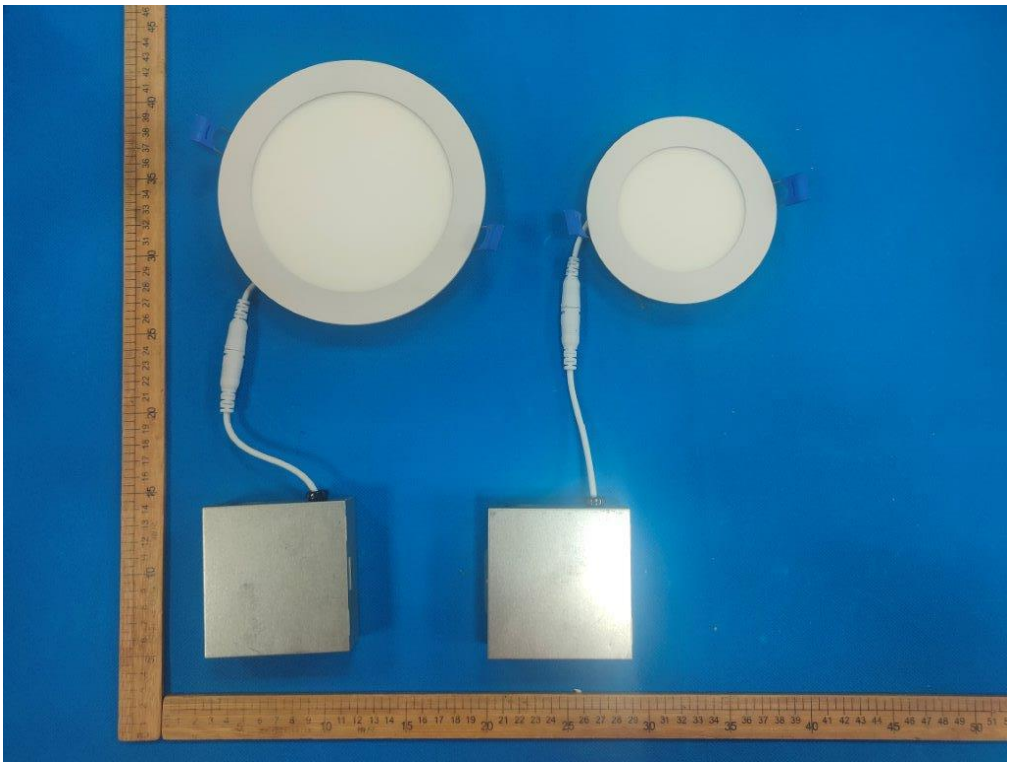
FCC part 15C section 15.247 requirements:
Systems operating in the 2402-2480MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum peak output power of the intentional radiator is reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

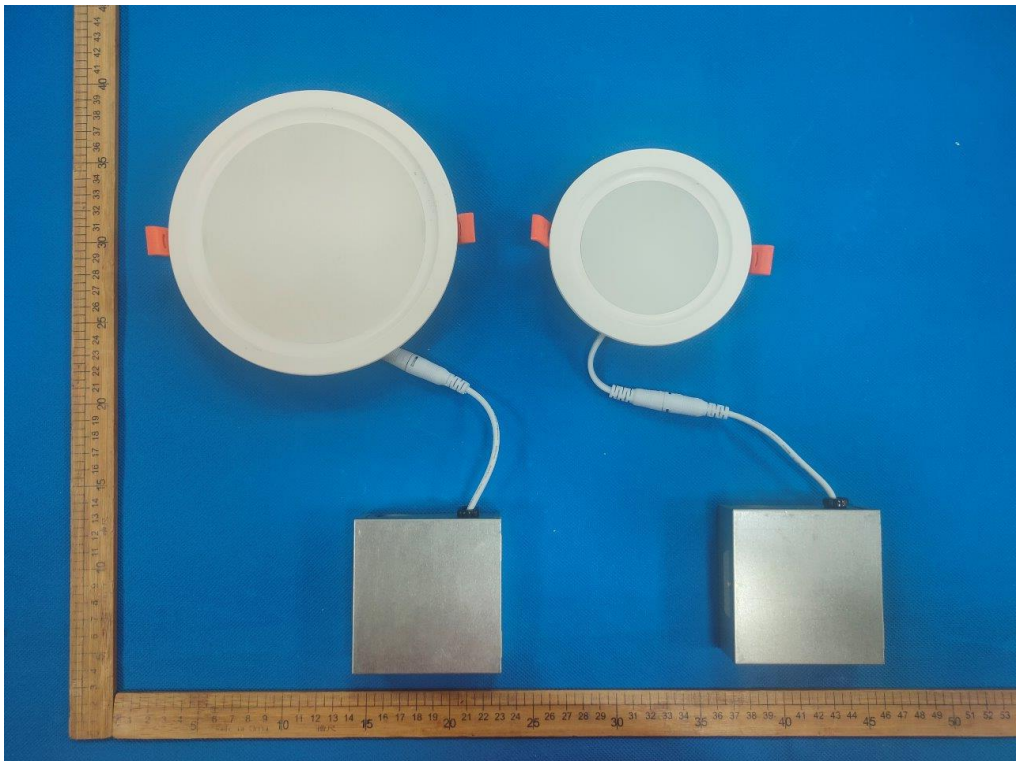
12.2 Result

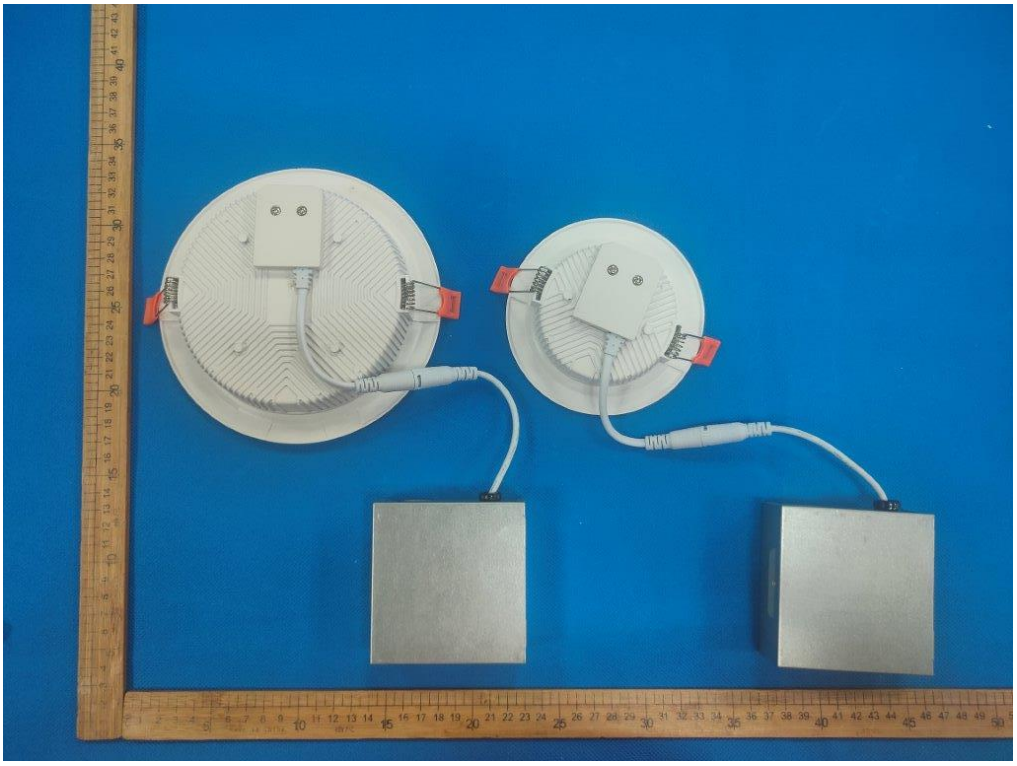
The EUT'S antenna is a PCB Antenna. The antenna's gain is 2.5dBi and meets the requirement.

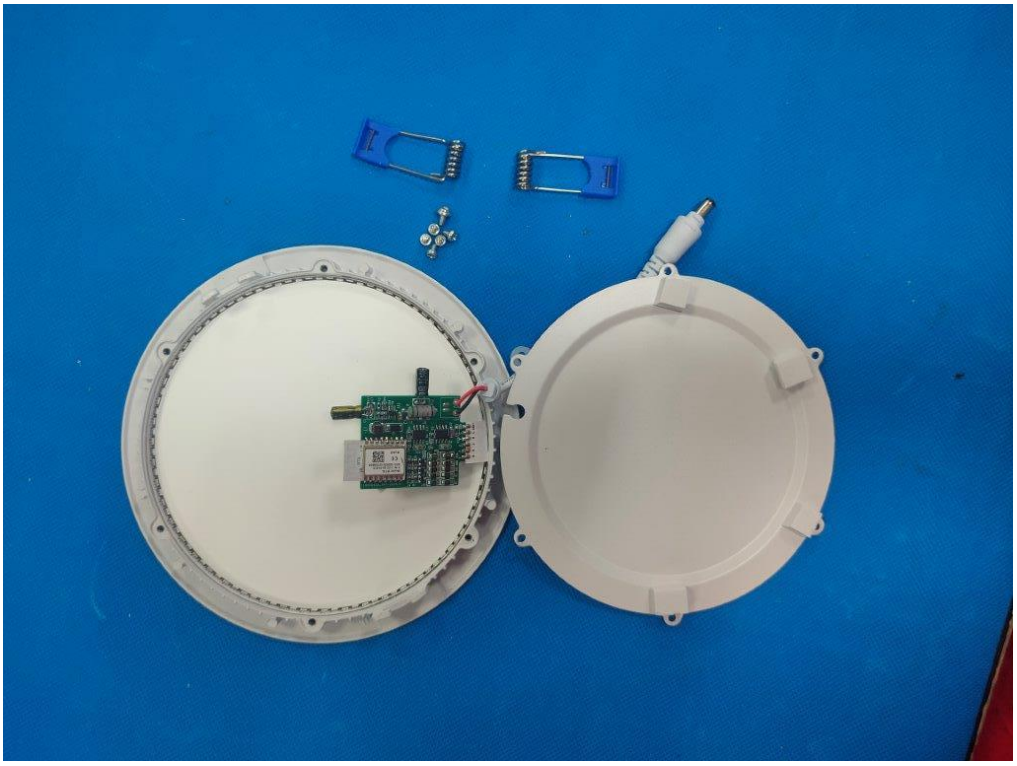
13 Photos of EUT

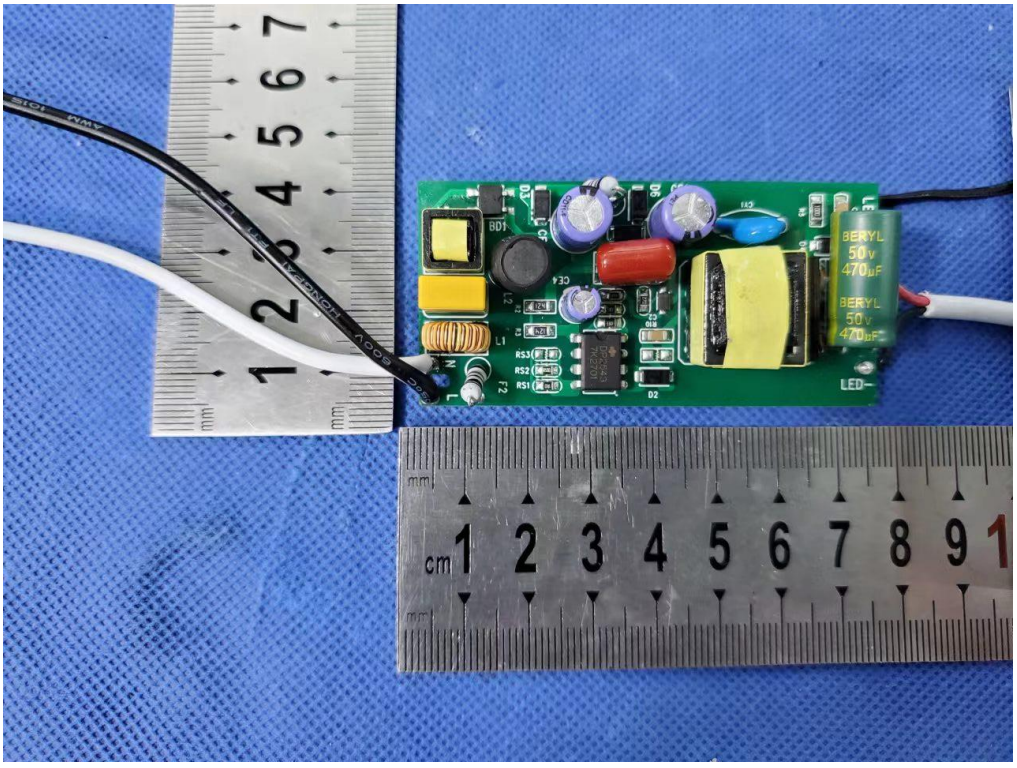
Please refer to external photos.pdf and internal photos.pdf.

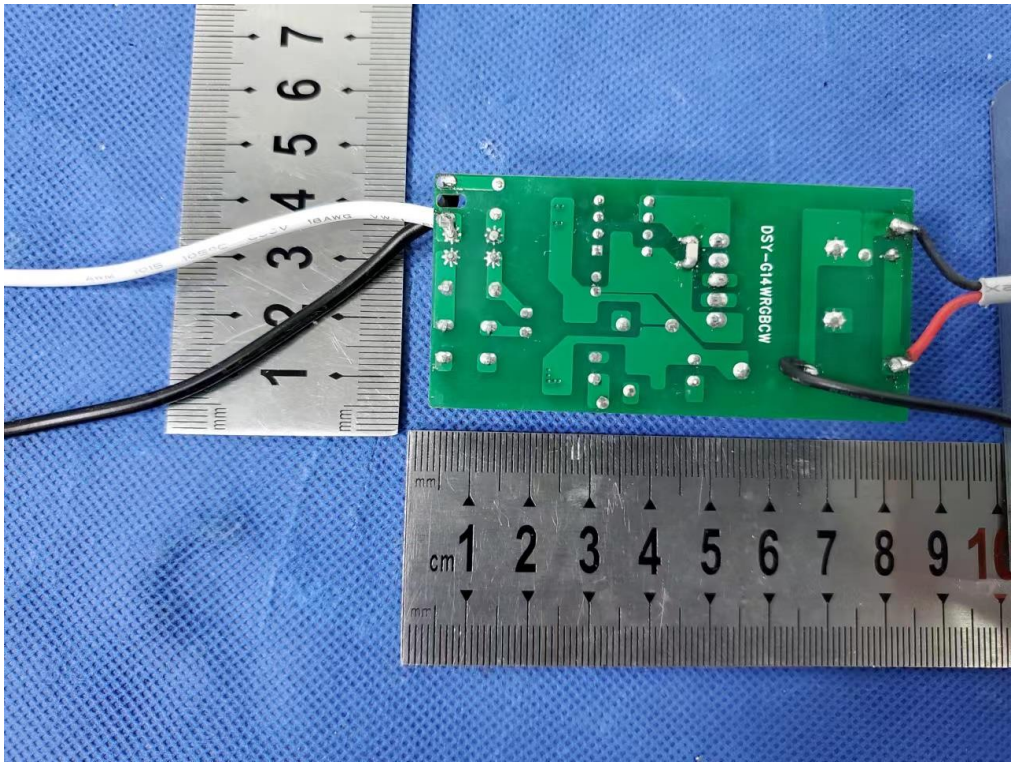


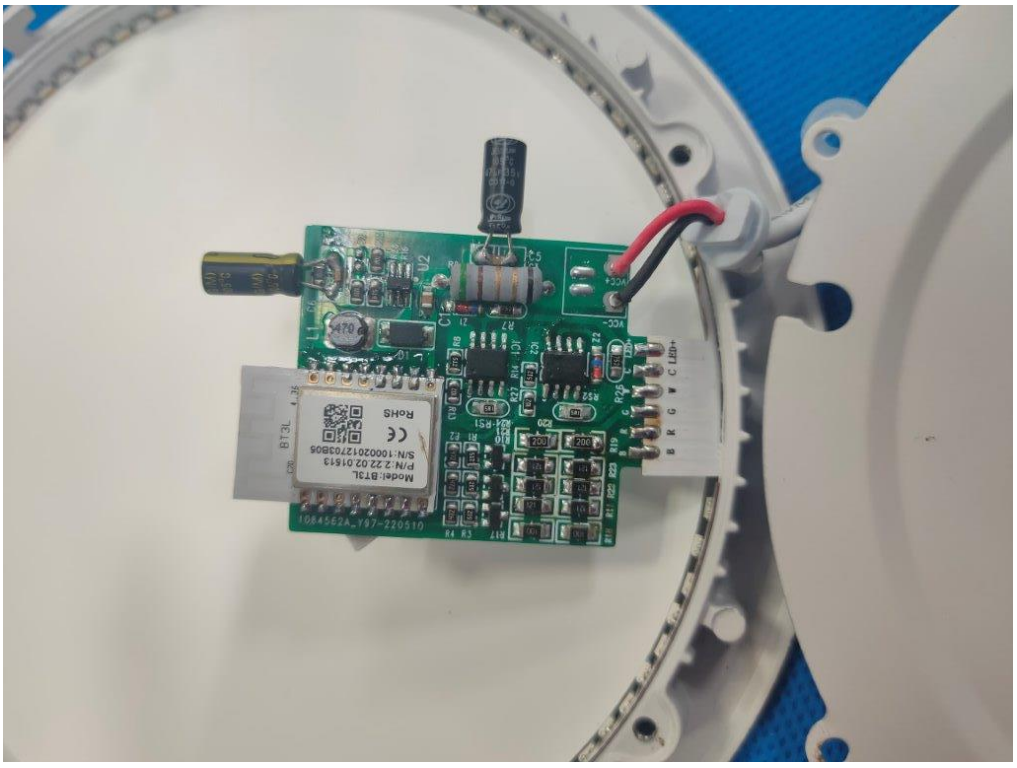


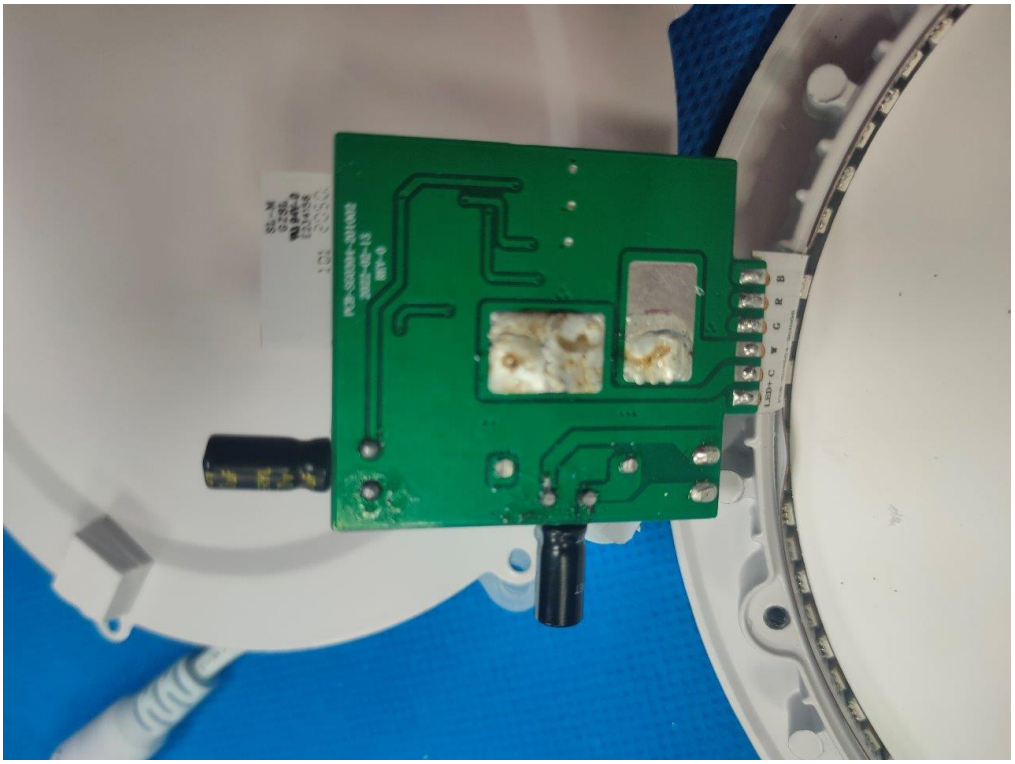


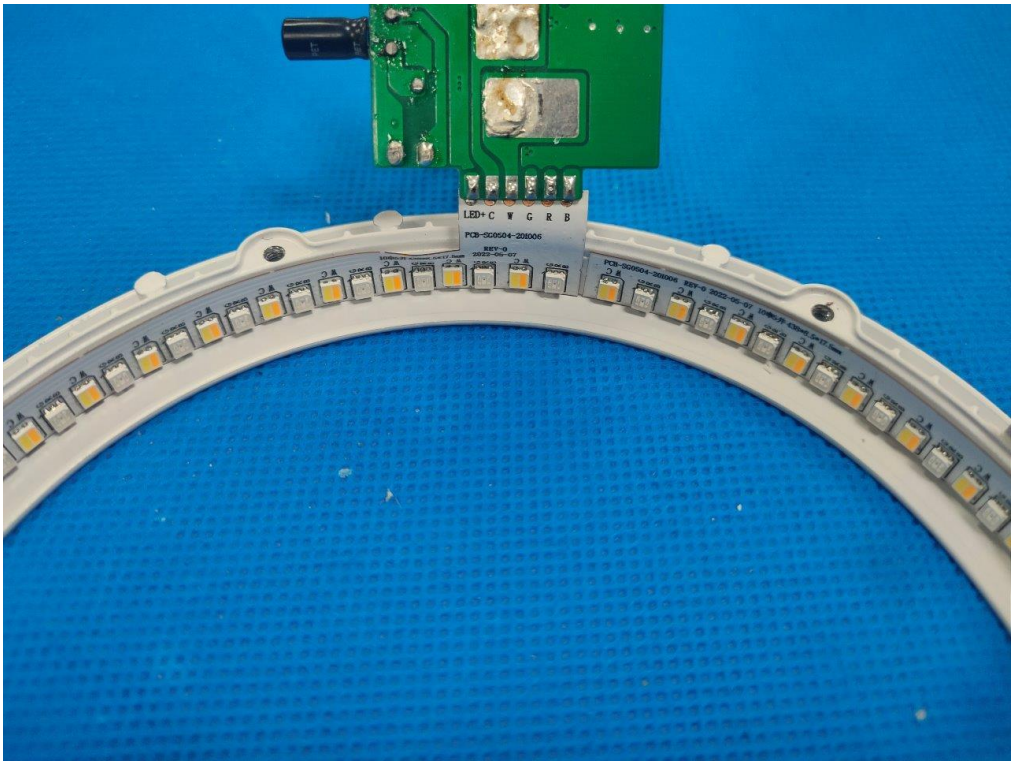


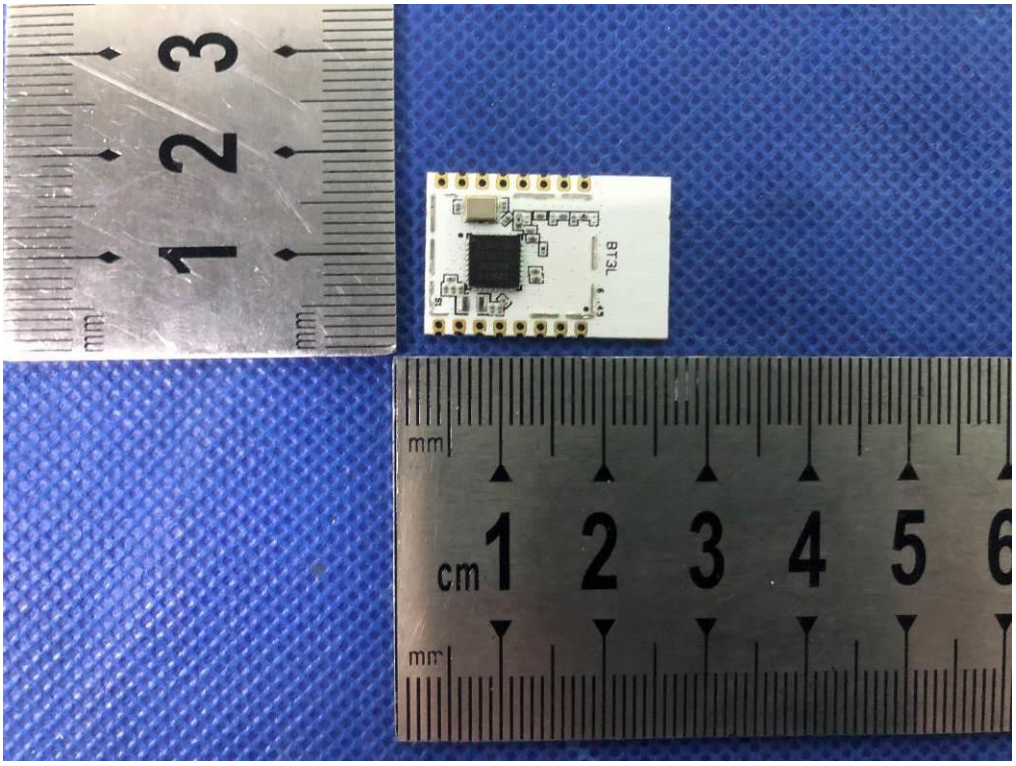

BERYL
50v
470μF
BERYL
50v
470μF
LED-

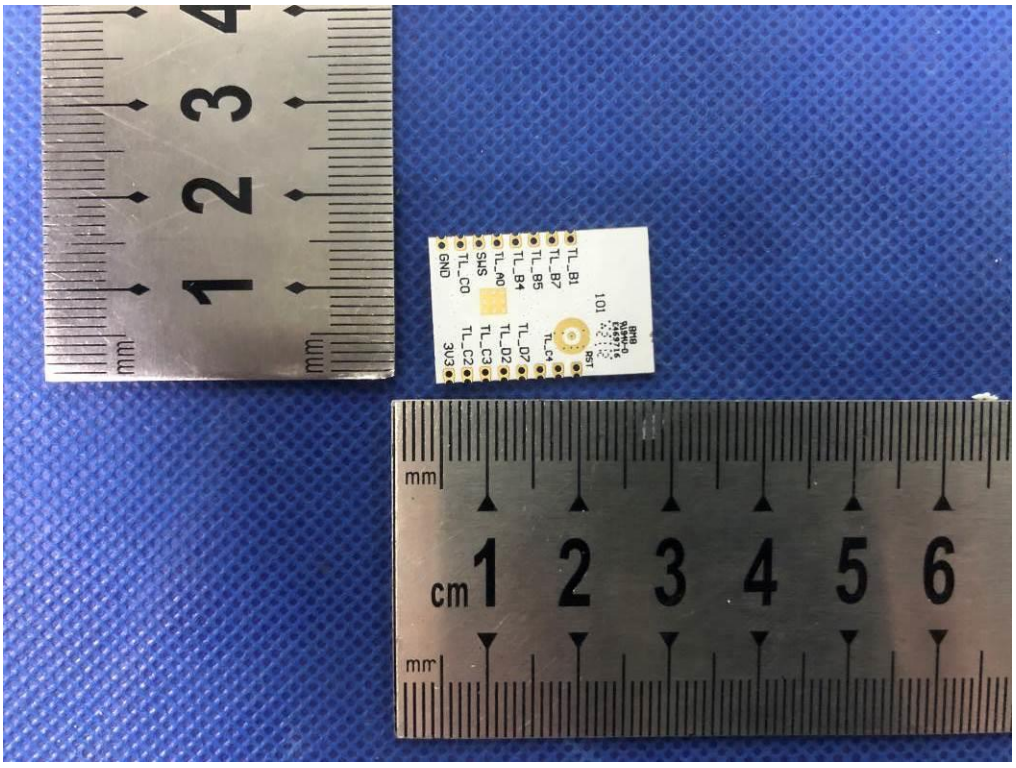

DSY-G14WRGBCW






LED+ C W G R B
PCB-SC0504-200006





----------The end of report----------