FCC RADIO TEST REPORT

No. 180301298SHA-001

Applicant	:	Zhejiang Yankon Group Co.,Ltd. No.208 Tongjiang Middle Road Shangyu Economic Development Zone, SHAOXING Zhejiang 312300 CHINA
Manufacturing site	:	Zhejiang Yankon Group Co.,Ltd. No.208 Tongjiang Middle Road Shangyu Economic Development Zone, SHAOXING Zhejiang 312300 CHINA
Product Name	:	Luminaire
Type/Model	:	SLH2100-BR30-11.5W-YXX-Z Y=CRI, could be one number XX=CCT, could be two numbers, such as 27 or 35 Z is LED manufacture, could be one number or blank
TEST RESULT	**:**	**PASS**

SUMMARY

The equipment complies with the requirements according to the following standard(s) or specification:

47CFR Part 15 (2017): Radio Frequency Devices (Subpart C)

ANSI C63.10 (2013): American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

Date of issue: May 07, 2018

Prepared by:

Erick Liu (Project engineer)

Reviewed by:

Daniel Zhao (Reviewer)

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Revision History

Issue No.	Version	Description	Date Issued
180301298SHA-001	Rev. 01	Initial issue of report	May 07, 2018

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name	:	Luminaire
Type/Model	:	SLH2100-BR30-11.5W-YXX-Z Y=CRI, could be one number XX=CCT, could be two numbers, such as 27 or 35 Z is LED manufacture, could be one number or blank
Description of EUT	:	The product covered by this report is self-ballasted LED lamp, which be provided with an E26 lamp cap for connection to a 120V, 60Hz source of supply through suitable lampholders. Dry damp location use only. Not suitable for used with adjustable phase-cut type dimmer.
Rating	:	120V, 60Hz, 11.5W, 110mA
Sample received date	:	March 26, 2018
Date of test	:	March 26, 2018~ April 23, 2018

1.2 RF Technical Information

Assigned Frequency Band	:	2400MHz to 2483.5MHz
Protocol	:	Bluetooth Base Rate + EDR
Operating Frequency	:	2402MHz to 2480MHz
Type of Modulation	:	GFSK, π/4-DQPSK, 8DPSK
Number of Channels	:	79
Channel Separation	:	1MHz
Antenna Type	:	Internal antenna
Antenna Gain	:	1.79dBi
FCC ID	:	2AL76WXBR30

1.3 Description of Test Facility

Name	:	Intertek Testing Services Shanghai
Address	:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Telephone	:	86 21 61278200
Telefax	:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations	:	CNAS Accreditation Lab Registration No. CNAS L0139 FCC Accredited Lab Designation Number: CN1175 IC Registration Lab Registration code No.: 2042B-1 VCCI Registration Lab Registration No.: R-4243, G-845, C-4723, T-2252 NVLAP Accreditation Lab NVLAP LAB CODE: 200849-0 A2LA Accreditation Lab Certificate Number: 3309.02

2 TEST SPECIFICATIONS

2.1 Standards or specification

47CFR Part 15 (2017)
ANSI C63.10 (2013)
DA 00-705

2.2 Mode of operation during the test

Three axes (X, Y, Z) were observed while the test receiver worked as “max hold” continuously and the highest reading among the whole test procedure was recorded. Compare with the test results that X axis is the worst case.

While testing transmitting mode of EUT, the continuously transmission was applied by following software.

Software name	Manufacturer	Version	Supplied by
Combo Tool	MTK	-	Client

The lowest, middle and highest channel were tested as representatives.

Frequency Band (MHz)	Mode	Lowest (MHz)	Middle (MHz)	Highest (MHz)
2400-2483.5	GFSK	2402	2441	2480
	π/4-DQPSK	2402	2441	2480
	8DPSK	2402	2441	2480

The pre-test was conducted and the worst-case configuration was chosen to do the final test as listed below:

Frequency Band (MHz)	Mode	Data Rate	Packet Type	Worst case
2400-2483.5	GFSK	BR-1Mbps	DH1, DH3, DH5	BR-1Mbps DH5
	π/4-DQPSK	EDR-2Mbps	2DH1, 2DH3, 2DH5	EDR-2Mbps 2DH5
	8DPSK	EDR-3Mbps	3DH1, 3DH3, 3DH5	EDR-3Mbps 3DH5

2.3 Test environment condition:

Temperature:	20-26°C
Humidity:	52-60% RH
Atmospheric Pressure:	101-102kPa

2.4 Test peripherals used

Item No	Description	Manufacturer	Model No.	Serial Number
1	Laptop computer	HP	4230s	-

2.5 Test software list:

Test Items	Software	Manufacturer	Version
Conducted emission	ESxS-K1	R&S	V2.1.0
Radiated emission	ES-K1	R&S	V1.71

2.6 Instrument list

Conducted Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☒	Test Receiver	R&S	ESCS 30	EC 2107	2018-09-12
☒	A.M.N.	R&S	ESH2-Z5	EC 3119	2018-12-01
☐	A.M.N.	R&S	ENV 216	EC 3393	2018-07-30
Radiated Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☒	Test Receiver	R&S	ESIB 26	EC 3045	2018-09-12
☒	Bilog Antenna	TESEQ	CBL 6112D	EC 4206	2018-05-30
☐	Horn antenna	R&S	HF 906	EC 3049	2018-09-23
☒	Horn antenna	ETS	3117	EC 4792-1	2018-08-24
☒	Horn antenna	TOYO	HAP18-26W	EC 4792-3	2020-07-09
☒	Pre-amplifier	R&S	Pre-amp 18	EC5881	2018-06-19
☒	Active loop antenna	Schwarzbeck	FMZB1519	EC 5345	2019-01-25
RF test					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☒	PXA Signal Analyzer	Keysight	N9030A	EC 5338	2018-09-10
☐	Power sensor/ Power meter	Agilent	N1911A/ N1921A	EC4318	2018-05-12
☐	Test Receiver	R&S	ESCI 7	EC 4501	2018-09-12
Tet Site					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☐	Shielded room	Zhongyu	-	EC 2838	2019-01-08
☒	Semi-anechoic chamber	Albatross project	-	EC 3048	2019-03-09
Additional instrument					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☐	Therom-Hygrograph	ZJ1-2A	S.M.I.F.	EC 3323	2018-06-14
☐	Therom-Hygrograph	ZJ1-2A	S.M.I.F.	EC 3324	2019-04-09
☒	Therom-Hygrograph	ZJ1-2A	S.M.I.F.	EC 3325	2019-03-23
☒	Pressure meter	YM3	Shanghai Mengde	EC 3320	2018-06-28

2.7 Measurement Uncertainty

Test Items	Expanded Uncertainty (k=2) (±)
Maximum conducted output power	0.74dB
Radiated Emissions in restricted frequency bands below 1GHz	4.90dB
Radiated Emissions in restricted frequency bands above 1GHz	5.02dB
Emission outside the frequency band	2.89dB
Power line conducted emission	3.19dB

2.8 Test Summary

This report applies to tested sample only. The test results have been compared directly with the limits, and the measurement uncertainty is recorded. This report shall not be reproduced in part without written approval of Intertek Testing Services Shanghai.

TEST ITEM	FCC REFERANCE	RESULT
20 dB Bandwidth	15.247(a)(1)	Pass
Peak output power	15.247(b)(1)	Pass
Conducted Spurious Emissions & Band Edge	15.247(d)	Pass
Number of Hopping Frequencies	15.247(a)(1)(iii)	Pass
Carrier Frequency Separation	15.247(a)(1)	Pass
Dwell time	15.247(a)(1)(iii)	Pass
Radiated Spurious Emissions	15.205 & 15.209	Pass
Power line conducted emission	15.207	Pass
Antenna requirement	15.203	Pass
Occupied bandwidth	-	Tested

Notes: 1: NA =Not Applicable

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3 20dB Bandwidth

Test result: Pass

3.1 Limit

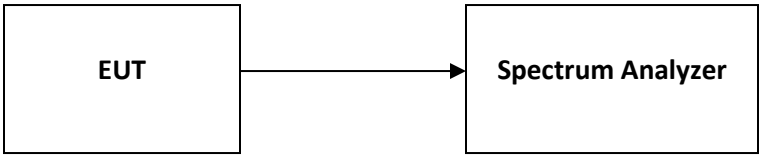
☐ Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20dB bandwidth of the hopping channel, whichever is greater.

☒ Frequency hopping systems operating in the 2400–2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125mW.

3.2 Measurement Procedure

The 20 bandwidth is measured using the Spectrum Analyzer with Span = 2 to 3 times the 20dB bandwidth, RBW ≥ 1% of the 20dB bandwidth, VBW ≥ RBW, Sweep = auto, Detector = peak, Trace = max hold.
The test was performed at 3 channels (lowest, middle and highest channel).
The EUT was tested according to DA 00-705 (Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems)

3.3 Test Configuration



3.4 Test Results of 20dB Bandwidth

Please refer to Appendix A

4 Peak Output Power

Test result: **Pass**

4.1 Limit

For frequency hopping systems operating in the 2400-2483.5MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850MHz band: 1 watt

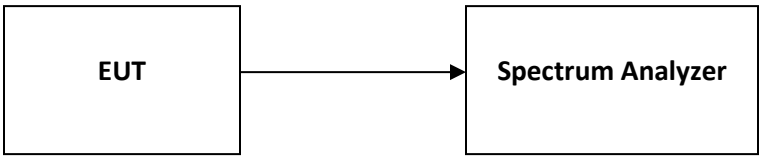
For all other frequency hopping systems in the 2400-2483.5MHz band: 0.125 watts

If the transmitting antenna of directional gain greater than 6dBi is used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.2 Measurement Procedure

The Peak Power output is measured using the Spectrum Analyzer with Span = 5 times the 20dB bandwidth, RBW ⩾ the 20dB bandwidth, VBW ⩾ RBW, Sweep = auto, Detector = peak, Trace = max hold.
The test was performed at 3 channels (lowest, middle and highest channel).
The EUT was tested according to DA 00-705 (Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems)

4.3 Test Configuration



4.4 Test Results of Peak Output Power

Please refer to Appendix A

5 Conducted Spurious Emissions & Band Edge

Test result: **Pass**

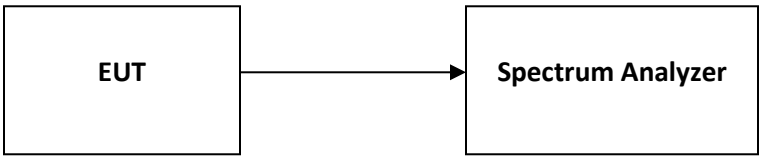
5.1 Limit

In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.

5.2 Measurement Procedure

The Conducted Spurious Emissions per FCC §15.247(d) is measured using the Spectrum Analyzer with Span wide enough capturing all spurious from the lowest emission frequency of the EUT up to 10th harmonics, RBW = 100kHz, VBW ≥ RBW, Sweep = auto, Detector = peak, Trace = max hold.
The test was performed at 3 channels (lowest, middle and highest channel).
The EUT was tested according to DA 00-705 (Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems)

5.3 Test Configuration



5.4 The results of Conducted Spurious Emissions & Band Edge

Please refer to Appendix A

6 Number of Hopping Frequencies

Test result: **Pass**

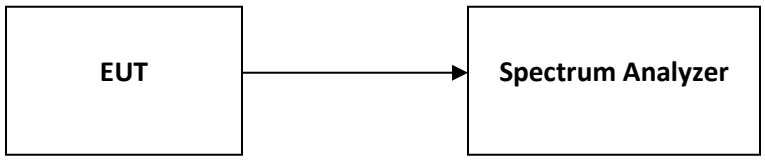
6.1 Limit

Number of Hopping Frequencies in the 2400-2483.5MHz band shall use at least 15 channels.

6.2 Measurement Procedure

The Number of Hopping Frequencies is measured using the Spectrum Analyzer with RBW = 100kHz, VBW ≥ RBW, Sweep = auto, Detector = peak, Trace = max hold.
The EUT was tested according to DA 00-705 (Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems).

6.3 Test Configuration



6.4 Test Results of Number of Hopping Frequencies

Please refer to Appendix A

7 Carrier Frequency Separation

Test result: Pass

7.1 Limit

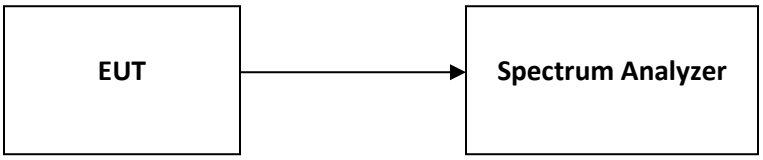
☐ Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater.

☒ Frequency hopping systems operating in the 2400–2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125mW.

7.2 Measurement Procedure

The Carrier Frequency Separation is measured using the Spectrum Analyzer with Span can capture two adjacent channels, RBW ≥ 1% of the span, VBW≥RBW, Sweep = auto, Detector = peak, Trace = max hold.
The test was performed at 3 channels (lowest, middle and highest channel).
The EUT was tested according to DA 00-705 (Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems)

7.3 Test Configuration



7.4 Test Results of Carrier Frequency Separation

Please refer to Appendix A

8 Dwell Time

Test result: **Pass**

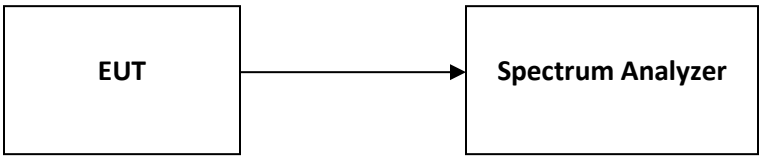
8.1 Limit

The dwell time on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

8.2 Measurement Procedure

Dwell time is measured using the Spectrum Analyzer with Span = 0, RBW = 1MHz, VBW ≥ RBW, Sweep can capture the entire dwell time, Detector = peak, Trace = max hold.
The EUT was tested according to DA 00-705 (Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems).

8.3 Test Configuration



8.4 Test Results of Dwell Time

Please refer to Appendix A

9 Radiated Spurious Emissions

Test result: **Pass**

9.1 Limit

The radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) showed as below:

Frequencies (MHz)	Field Strength (microvolts/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

9.2 Measurement Procedure

For Radiated emission below 30MHz:

a) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

b) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c) Both X and Y axes of the antenna are set to make the measurement.

d) For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e) The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz:

a) The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c) The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e) The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

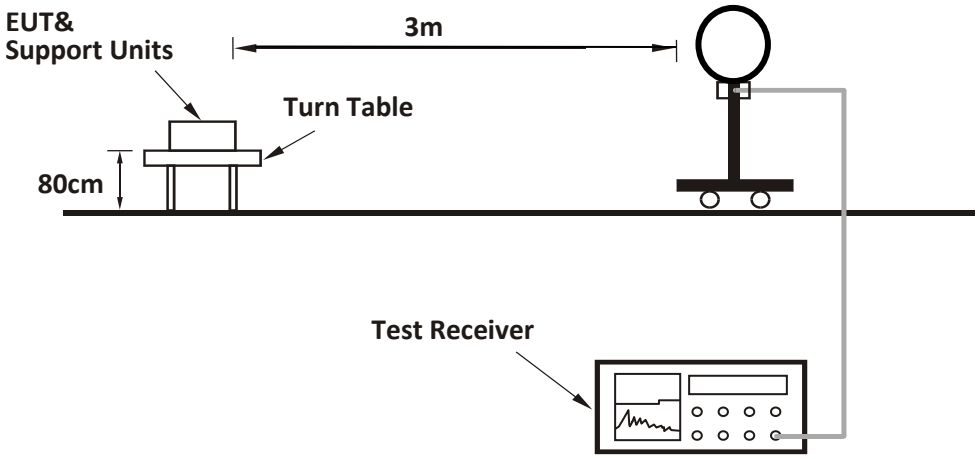
f) The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

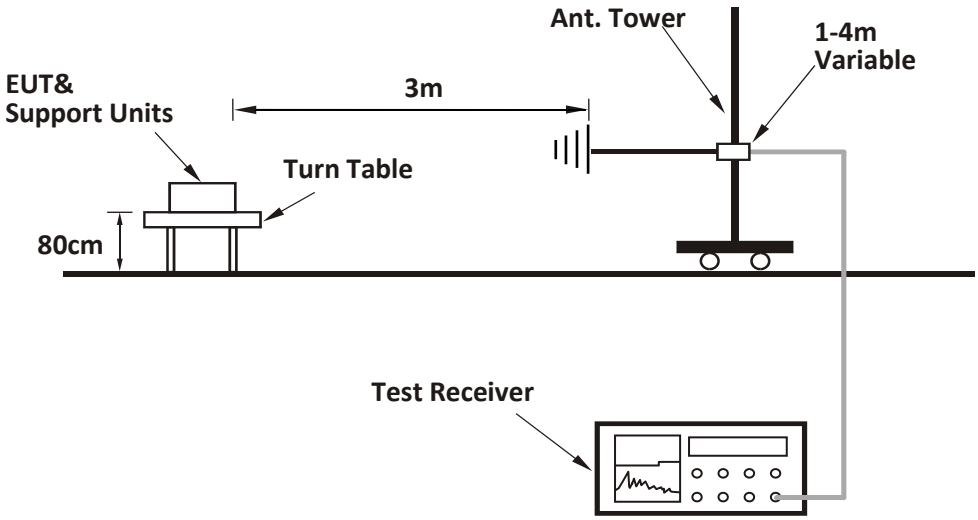
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 3 x RBW (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported

9.3 Test Configuration

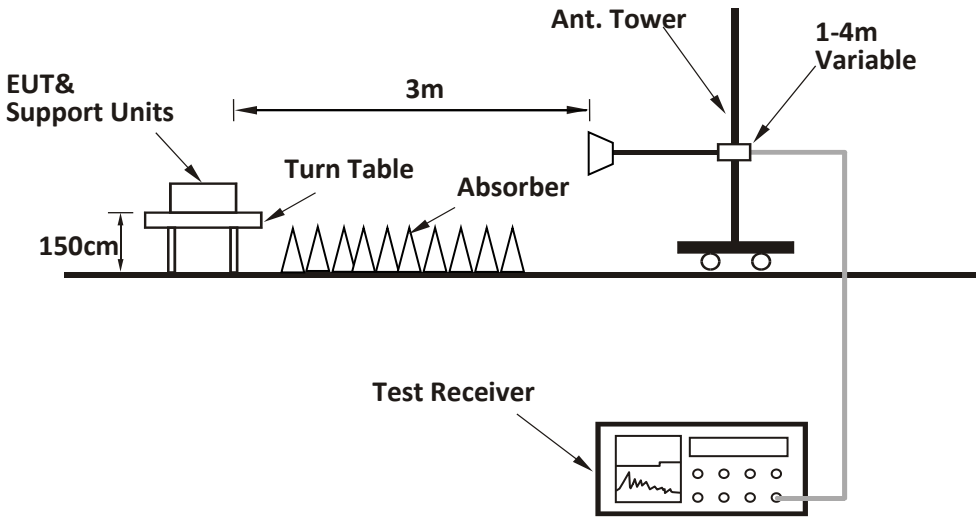
For Radiated emission below 30MHz:



For Radiated emission 30MHz to 1GHz:



For Radiated emission above 1GHz:

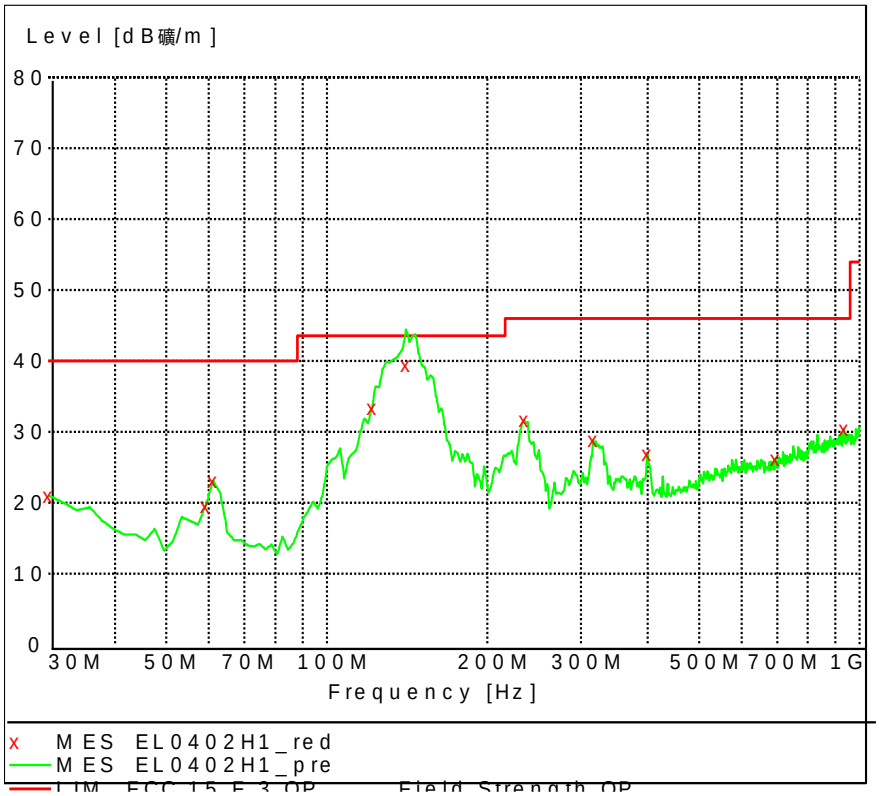


9.4 Test Results of Radiated Emissions

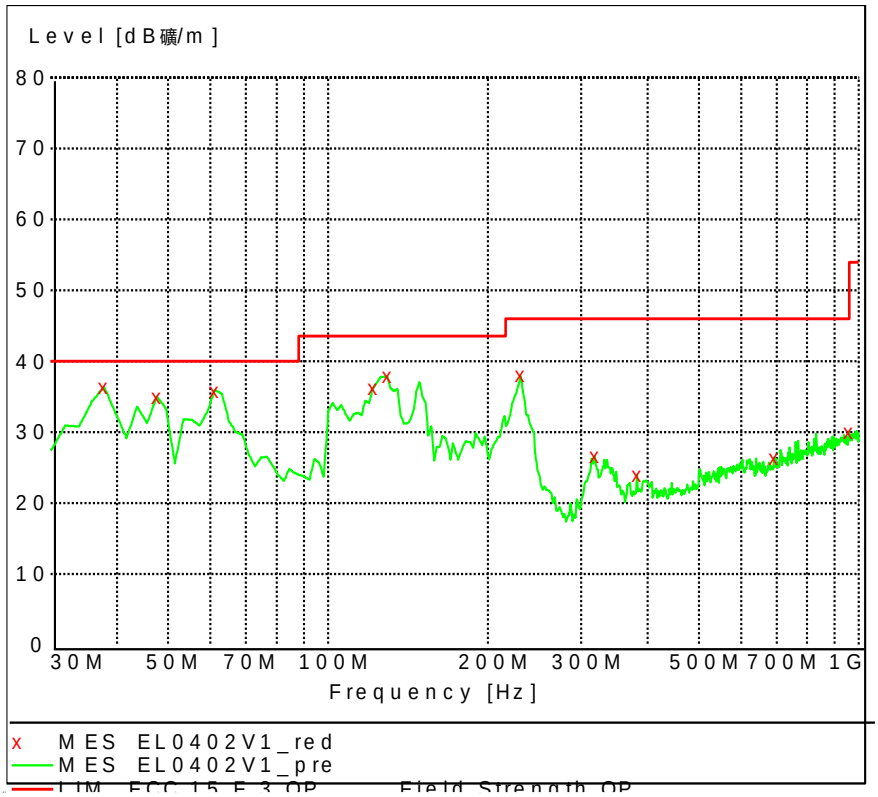
The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

The worst waveform from 30MHz to 1000MHz is listed as below:

Horizontal



Vertical



Test data below 1GHz

Antenna	Frequency (MHz)	Corrected Reading (dBuV/m)	Correct Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector
H	30.00	21.0	19.2	40.000	19.00	PK
H	61.10	23.1	7.0	40.000	16.90	PK
H	140.80	39.5	12.3	43.500	4.00	PK
H	234.11	31.7	12.2	46.000	14.30	PK
H	694.81	26.2	20.9	46.000	19.80	PK
H	933.91	30.4	23.3	46.000	15.60	PK
V	37.78	36.4	14.6	40.000	3.60	PK
V	61.10	35.9	7.0	40.000	4.10	PK
V	129.14	37.9	12.9	43.500	5.60	PK
V	230.22	38.0	11.8	46.000	8.00	PK
V	317.70	26.7	15.1	46.000	19.30	PK
V	957.23	30.0	23.5	46.000	16.00	PK

Test result above 1GHz:
The emission was conducted from 1GHz to 25GHz

GFSK

CH	Antenna	Frequency (MHz)	Corrected Reading (dBuV/m)	Correct Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector
L	H	2402	102	34.1	Fundamental	/	PK
	H	2390	46.4	34.2	74	27.6	PK
	V	2390	47.1	34.2	74	26.9	PK
	H	3330.66	52.7	-3.6	74	21.9	PK
M	H	2441	101.5	34.2	Fundamental	/	PK
	H	3330.66	52.3	-3.6	74	21.7	PK
H	H	2480	100.6	34.4	Fundamental	/	PK
	H	2483.5	48.3	34.8	74	25.7	PK
	V	2483.5	48.2	34.8	74	25.8	PK
	H	3330.66	52.3	-3.6	74	21.7	PK

π/4-DQPSK

CH	Antenna	Frequency (MHz)	Corrected Reading (dBuV/m)	Correct Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector
L	H	2402	104.2	34.1	Fundamental	/	PK
	H	2390	47.8	34.2	74	26.2	PK
	V	2390	46.9	34.2	74	27.1	PK
	H	3330.66	51.2	-3.6	74	22.8	PK
M	H	2441	103.7	34.2	Fundamental	/	PK
	H	3330.66	52.1	-3.6	74	21.9	PK
H	H	2480	102.8	34.4	Fundamental	/	PK
	H	2483.5	47.9	34.8	74	26.1	PK
	V	2483.5	48.1	34.8	74	25.9	PK
	H	3330.66	49.6	-3.6	74	24.4	PK

8DPSK

CH	Antenna	Frequency (MHz)	Corrected Reading (dBuV/m)	Correct Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector
L	H	2402	104	34.1	Fundamental	/	PK
	H	2390	47.7	34.2	74	26.3	PK
	V	2390	47.5	34.2	74	26.5	PK
	H	3330.66	53.3	-3.6	74	20.7	PK
M	H	2441	103.2	34.2	Fundamental	/	PK
	H	3330.66	52.1	-3.6	74	21.9	PK
H	H	2480	102.7	34.4	Fundamental	/	PK
	H	2483.5	48.4	34.8	74	25.6	PK
	V	2483.5	48.3	34.8	74	25.7	PK
	H	3330.66	51.2	-3.6	74	22.8	PK

Remark: 1. Correct Factor = Antenna Factor + Cable Loss (+ Amplifier, for higher than 1GHz), the value was added to Original Receiver Reading by the software automatically.
2. Corrected Reading = Original Receiver Reading + Correct Factor
3. Margin = Limit - Corrected Reading
4. If the PK Corrected Reading is lower than AV limit, the AV test can be elided.

Example: Assuming Antenna Factor = 30.20dB/m, Cable Loss = 2.00dB,
Gain of Preamplifier = 32.00dB, Original Receiver Reading = 10.00dBuV,
Limit = 40.00dBuV/m.
Then Correct Factor = 30.20 + 2.00 – 32.00 = 0.20dB/m;
Corrected Reading = 10dBuV + 0.20dB/m = 10.20dBuV/m;
Margin = 40.00dBuV/m - 10.20dBuV/m = 29.80dB.

10 Power line conducted emission

Test result: **PASS**

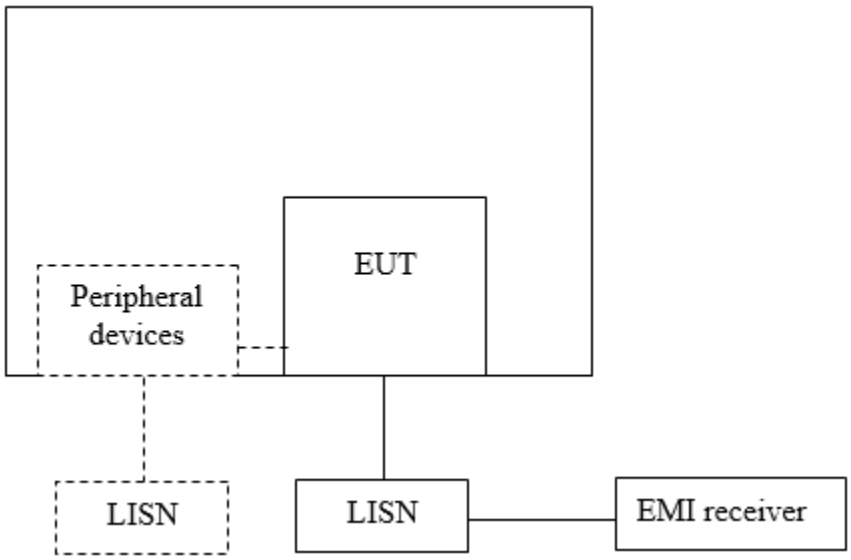
10.1 Measurement Procedure

Measured levels of ac power-line conducted emission shall be the emission voltages from the voltage probe, where permitted, or across the 50 Ω LISN port (to which the EUT is connected), where permitted, terminated into a 50 Ω measuring instrument. All emission voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord by the use of mating plugs and receptacles on the LISN, if used. Equipment shall be tested with power cords that are normally supplied or recommended by the manufacturer and that have electrical and shielding characteristics that are the same as those cords normally supplied or recommended by the manufacturer. For those measurements using a LISN, the 50 Ω measuring port is terminated by a measuring instrument having 50 Ω input impedance. All other ports are terminated in 50 Ω loads.

Tabletop devices shall be placed on a platform of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The vertical conducting plane or wall of an RF-shielded (screened) room shall be located 40 cm to the rear of the EUT. Floor-standing devices shall be placed either directly on the reference ground-plane or on insulating material as described in ANSI C63.4. All other surfaces of tabletop or floor-standing EUTs shall be at least 80 cm from any other grounded conducting surface, including the case or cases of one or more LISNs.

The bandwidth of the test receiver is set at 9 kHz.

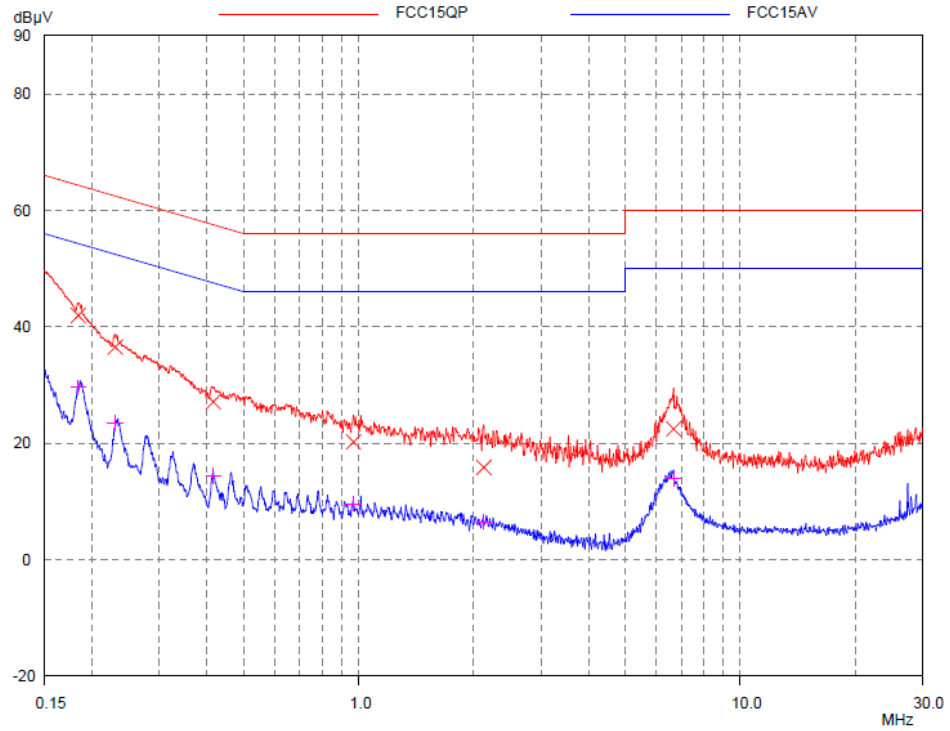
10.2 Test Configuration



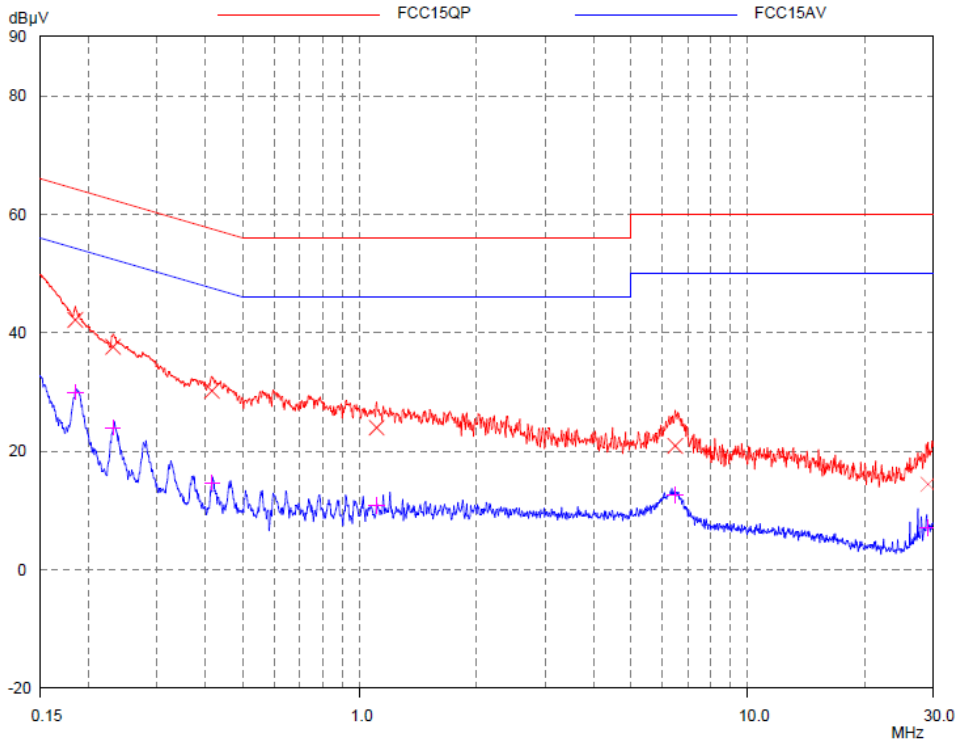
10.3 Test Results of Power line conducted emission

Test Curve:

L line



N line



Test Data:

Frequency (MHz)	Quasi-peak			Average			Line
	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)	
0.18	42.0	64.310	22.36	29.6	54.310	24.69	L
0.23	36.5	62.450	25.93	23.5	52.450	28.96	L
0.42	27.1	57.550	30.41	14.4	47.550	33.20	L
0.97	20.2	56.000	35.78	9.6	46.000	36.38	L
2.12	15.9	56.000	40.12	6.5	46.000	39.47	L
6.68	22.5	60.000	37.53	13.9	50.000	36.10	L
0.18	42.2	64.280	22.09	30.0	54.280	24.33	N
0.23	37.6	62.420	24.78	24.0	52.420	28.45	N
0.42	30.2	57.550	27.34	14.7	47.550	32.85	N
1.10	24.0	56.000	32.02	10.8	46.000	35.18	N
6.50	20.9	60.000	39.09	12.7	50.000	37.35	N
29.15	14.4	60.000	45.56	7.0	50.000	42.97	N

Remark: 1. Correct Factor = LISN Factor + Cable Loss, the value was added to Original Receiver Reading by the software automatically.
2. Corrected Reading = Original Receiver Reading + Correct Factor
3. Margin = Limit - Corrected Reading
4. If the PK Corrected Reading is lower than AV limit, the AV test can be elided.

Example: Assuming LISN Factor = 10.00dB, Cable Loss = 2.00dB,
Original Receiver Reading = 10.00dBuV, Limit = 66.00dBuV.
Then Correct Factor = 10.00 + 2.00 = 12.00dB;
Corrected Reading = 10dBuV + 12.00dB = 22.00dBuV;
Margin = 66.00dBuV – 22.00dBuV = 44.00dB.

11 Antenna requirement

Requirement:
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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

Result:
EUT uses permanently attached antenna to the intentional radiator, so it can comply with the provisions of this section.

12 Occupied Bandwidth

Test result: **Pass**

12.1 Limit

None

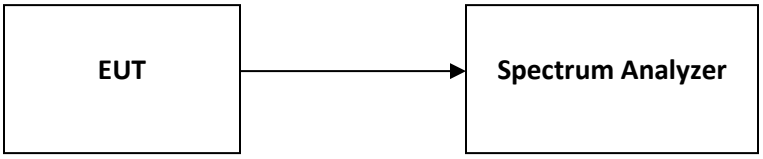
12.2 Measurement Procedure

The occupied bandwidth per RSS-Gen Issue 4 Clause 6.6 was measured using the Spectrum Analyzer.

The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.

The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the occupied bandwidth (OBW) and video bandwidth (VBW) shall be approximately 3x RBW.

12.3 Test Configuration



12.4 The results of Occupied Bandwidth

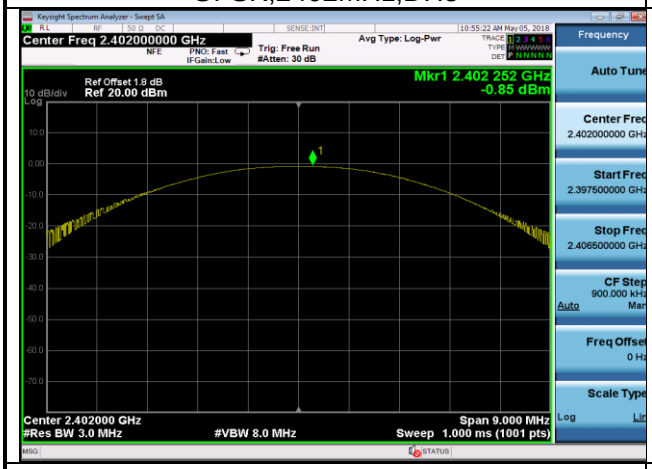
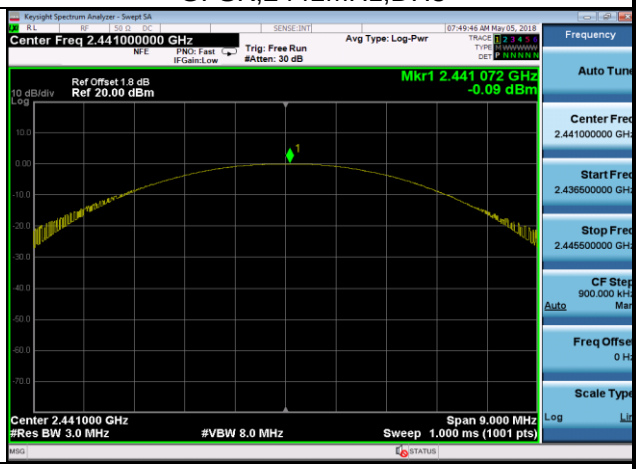
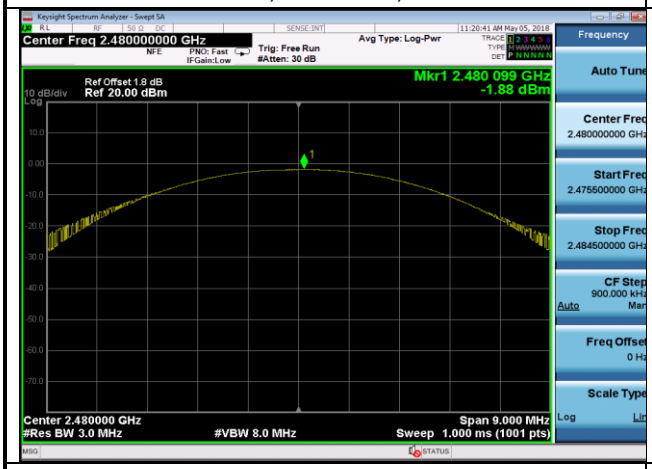
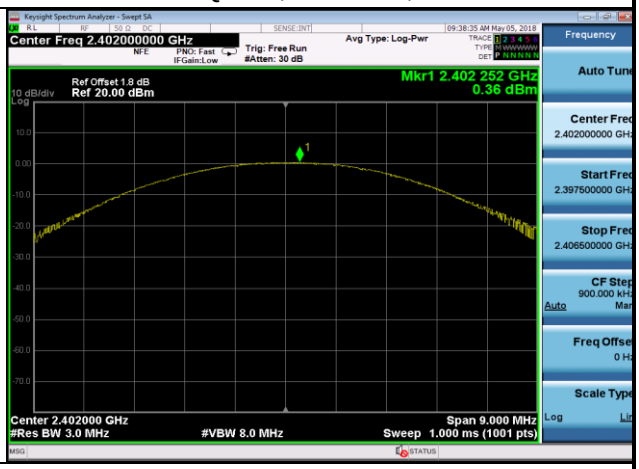
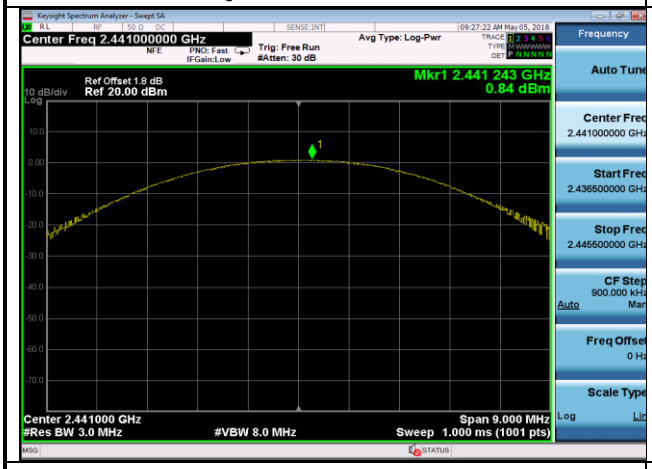
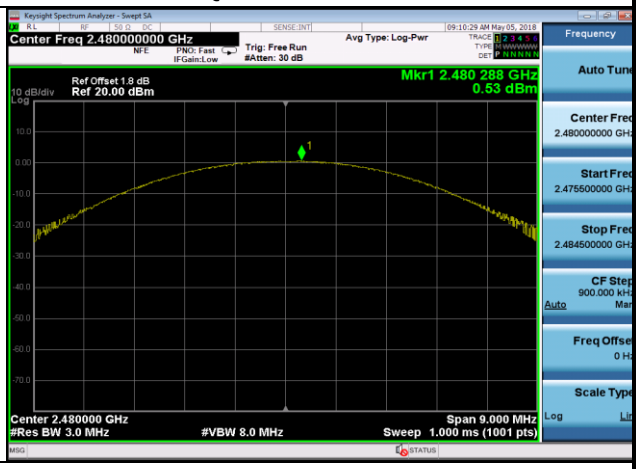
Please refer to Appendix A

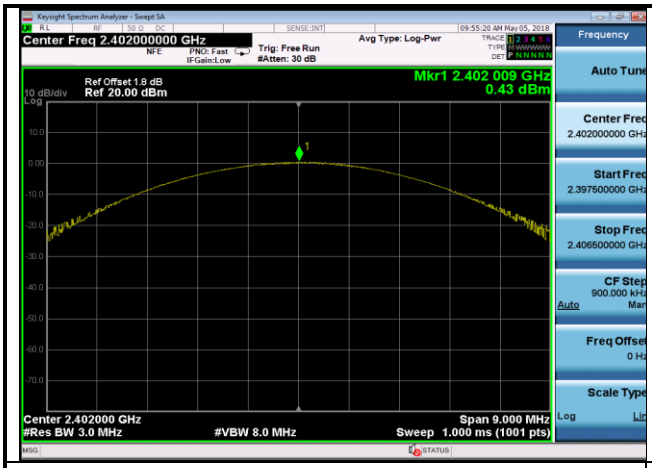
Appendix A: Test results

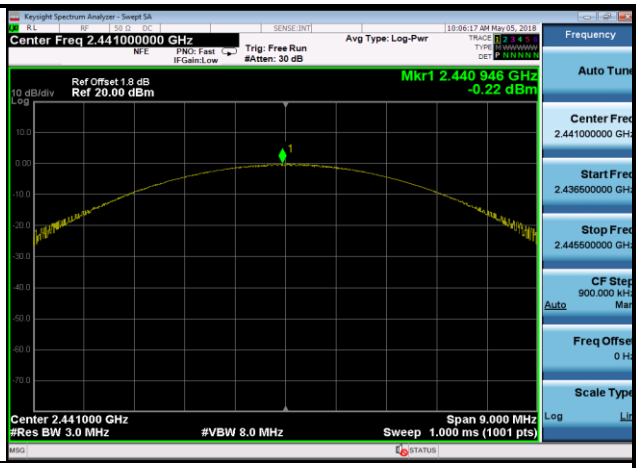
1.1 RF Output Power

1.1.1 Test Result and Data

BT Maximum Output Power				
Mode	Test Frequency (MHz)	Packet Type	Power (dBm)	Result
GFSK	2402	DH5	-0.85	Pass
GFSK	2441	DH5	-0.09	Pass
GFSK	2480	DH5	-1.88	Pass
π/4DQPSK	2402	2DH5	0.36	Pass
π/4DQPSK	2441	2DH5	0.84	Pass
π/4DQPSK	2480	2DH5	0.53	Pass
8DPSK	2402	3DH5	0.43	Pass
8DPSK	2441	3DH5	-0.22	Pass
8DPSK	2480	3DH5	-0.42	Pass

GFSK,2402MHz,DH5	GFSK,2441MHz,DH5
	
GFSK,2480MHz,DH5	π/4DQPSK,2402MHz,2DH5
	
π/4DQPSK,2441MHz,2DH5	π/4DQPSK,2480MHz,2DH5
	
8DPSK,2402MHz,3DH5	8DPSK,2441MHz,3DH5





8DPSK,2480MHz,3DH5