TEST REPORT

Product Name	:	Smart Garden Spotlight
Brand Mark	:	N/A
Model No.	:	50454
Report Number	:	BLA-EMC-202110-A8103
FCC ID	:	2AQUQGE50454
Date of Sample Receipt	:	2021/10/28
Date of Test	:	2021/10/28 to 2021/11/15
Date of Issue	:	2021/11/15
Test Standard	:	47 CFR Part 15, Subpart C 15.247
Test Result	:	Pass

Prepared for:

Globe Electric Company Inc.
150, Oneida, Montreal, Quebec, Canada, H9R 1A8

Prepared by:

BlueAsia of Technical Services(Shenzhen) Co.,Ltd.
Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China
TEL: +86-755-23059481

Compiled by: Review by:

Approved by: Date: 2021/11/15

REPORT REVISE RECORD

Version No.	Date	Description
00	2021/11/15	Original

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1 TEST SUMMARY

Test item	Test Requirement	Test Method	Class/Severity	Result
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(c)	Pass
Radiated Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Conducted Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.6 & Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass
Conducted Band Edges Measurement	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass
Minimum 6dB Bandwidth	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass
Power Spectrum Density	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass
Conducted Peak Output Power	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.5 & Section 11.9.1	47 CFR Part 15, Subpart C 15.247(b)(1) & 15.247(b)(3)	Pass
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass

2 GENERAL INFORMATION

Applicant	Globe Electric Company Inc.
Address	150, Oneida, Montreal, Quebec, Canada, H9R 1A8
Manufacturer	Globe Electric Company Inc.
Address	150, Oneida, Montreal, Quebec, Canada, H9R 1A8
Factory	Globe Electric Company Inc.
Address	150, Oneida, Montreal, Quebec, Canada, H9R 1A8
Product Name	Smart Garden Spotlight
Test Model No.	50454

3 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	101
Software Version	V1.0.3

Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Channel Spacing:	5MHz
Number of Channels:	802.11b/g/n(HT20):11 802.11n(HT40):7
Antenna Type:	PCB Antenna
Antenna Gain:	1.5dBi(Provided by the applicant)

4 TEST ENVIRONMENT

Environment	Temperature	Voltage
Normal	25 °C	DC3.3V

5 TEST MODE

TEST MODE	TEST MODE DESCRIPTION
Transmitting mode	Keep the EUT in continuously transmitting mode with modulation. (The duty cycle is greater than 98%)

6 MEASUREMENT UNCERTAINTY

Parameter	Expanded Uncertainty (Confidence of 95%)
Radiated Emission(9kHz-30MHz)	±4.34dB
Radiated Emission(30Mz-1000MHz)	±4.24dB
Radiated Emission(1GHz-18GHz)	±4.68dB
AC Power Line Conducted Emission(150kHz-30MHz)	±3.45dB

Parameter	Expanded Uncertainty (Confidence of 95%)
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±1.5 dB
Power Spectral Density, conducted	±3.0 dB
Unwanted Emissions, conducted	±3.0 dB
Temperature	±3 °C
Supply voltages	±3 %
Time	±5 %
Radiated Emission (30MHz ~ 1000MHz)	±4.35 dB
Radiated Emission (1GHz ~ 18GHz)	±4.44 dB

7 DESCRIPTION OF SUPPORT UNIT

Device Type	Manufacturer	Model Name	Serial No.	Remark
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Note:
"--" means no any support device during testing.

8 LABORATORY LOCATION

All tests were performed at:
BlueAsia of Technical Services(Shenzhen) Co., Ltd.
Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China
Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673
No tests were sub-contracted.

9 TEST INSTRUMENTS LIST

Test Equipment Of Conducted Spurious Emissions					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11
Spectrum	Agilent	N9020A	MY49100060	2021/10/12	2022/10/11
Signal Generator	Agilent	N5182A	MY49060650	2021/10/12	2022/10/11
Signal Generator	Agilent	E8257D	MY44320250	2021/10/12	2022/10/11

Test Equipment Of Radiated Emissions which fall in the restricted bands					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Chamber	SKET	966	N/A	2020/11/10	2023/11/9
Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11
Receiver	R&S	ESR7	101199	2021/10/12	2022/10/11
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	2020/9/26	2022/9/25
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	2020/9/26	2022/9/25
Amplifier	SKET	PA-000318G-45	N/A	2021/10/16	2022/10/15
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	2020/9/26	2022/9/25
Controller	SKET	N/A	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A

Test Equipment Of Conducted Band Edges Measurement					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**

Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11
Spectrum	Agilent	N9020A	MY49100060	2021/10/12	2022/10/11
Signal Generator	Agilent	N5182A	MY49060650	2021/10/12	2022/10/11
Signal Generator	Agilent	E8257D	MY44320250	2021/10/12	2022/10/11

Test Equipment Of Dwell Time					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11
Spectrum	Agilent	N9020A	MY49100060	2021/10/12	2022/10/11
Signal Generator	Agilent	N5182A	MY49060650	2021/10/12	2022/10/11
Signal Generator	Agilent	E8257D	MY44320250	2021/10/12	2022/10/11

Test Equipment Of Hopping Channel Number					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11
Spectrum	Agilent	N9020A	MY49100060	2021/10/12	2022/10/11
Signal Generator	Agilent	N5182A	MY49060650	2021/10/12	2022/10/11
Signal Generator	Agilent	E8257D	MY44320250	2021/10/12	2022/10/11

Test Equipment Of Carrier Frequencies Separation					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11
Spectrum	Agilent	N9020A	MY49100060	2021/10/12	2022/10/11
Signal Generator	Agilent	N5182A	MY49060650	2021/10/12	2022/10/11

Signal Generator	Agilent	E8257D	MY44320250	2021/10/12	2022/10/11

Test Equipment Of 20dB Bandwidth					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11
Spectrum	Agilent	N9020A	MY49100060	2021/10/12	2022/10/11
Signal Generator	Agilent	N5182A	MY49060650	2021/10/12	2022/10/11
Signal Generator	Agilent	E8257D	MY44320250	2021/10/12	2022/10/11

Test Equipment Of Conducted Peak Output Power					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11
Spectrum	Agilent	N9020A	MY49100060	2021/10/12	2022/10/11
Signal Generator	Agilent	N5182A	MY49060650	2021/10/12	2022/10/11
Signal Generator	Agilent	E8257D	MY44320250	2021/10/12	2022/10/11

Test Equipment Of Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Shield room	SKET	833	N/A	2020/11/25	2023/11/24
Receiver	R&S	ESPI3	101082	2021/10/12	2022/10/11
LISN	R&S	ENV216	3560.6550.15	2021/10/12	2022/10/11
LISN	AT	AT166-2	AKK1806000003	2021/10/12	2022/10/11
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A

Test Equipment Of Radiated Spurious Emissions

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Chamber	SKET	966	N/A	2020/11/10	2023/11/9
Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11
Receiver	R&S	ESR7	101199	2021/10/12	2022/10/11
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	2020/9/26	2022/9/25
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	2020/9/26	2022/9/25
Amplifier	SKET	PA-000318G-45	N/A	2021/10/16	2022/10/15
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	2020/9/26	2022/9/25
Controller	SKET	N/A	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A

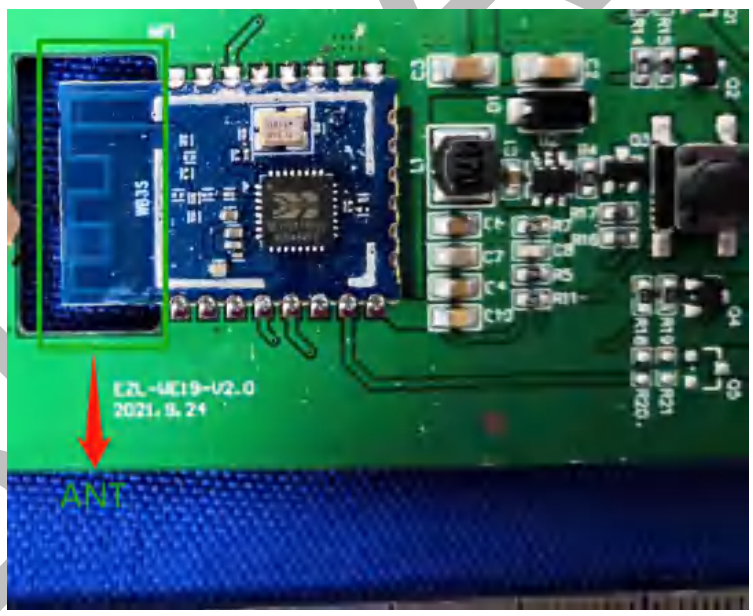
10 ANTENNA REQUIREMENT

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	N/A

10.1 CONCLUSION

Standard 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 antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:
The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 1.5dBi.



11 RADIATED SPURIOUS EMISSIONS

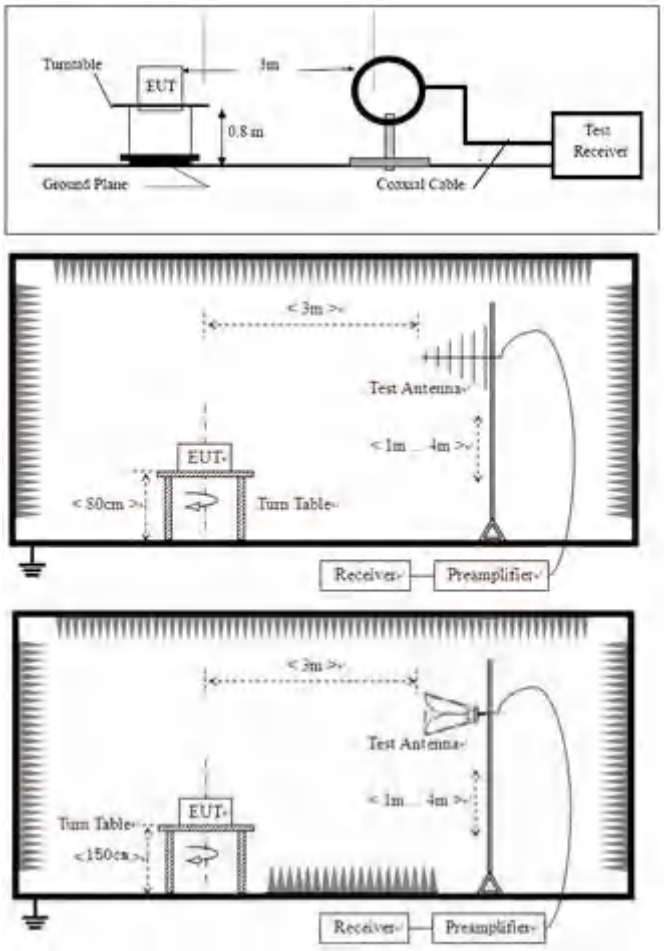
Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.4,6.5,6.6
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

11.1 LIMITS

Frequency(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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

11.2 BLOCK DIAGRAM OF TEST SETUP



11.3 PROCEDURE

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
d. The antenna height 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.
e. 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

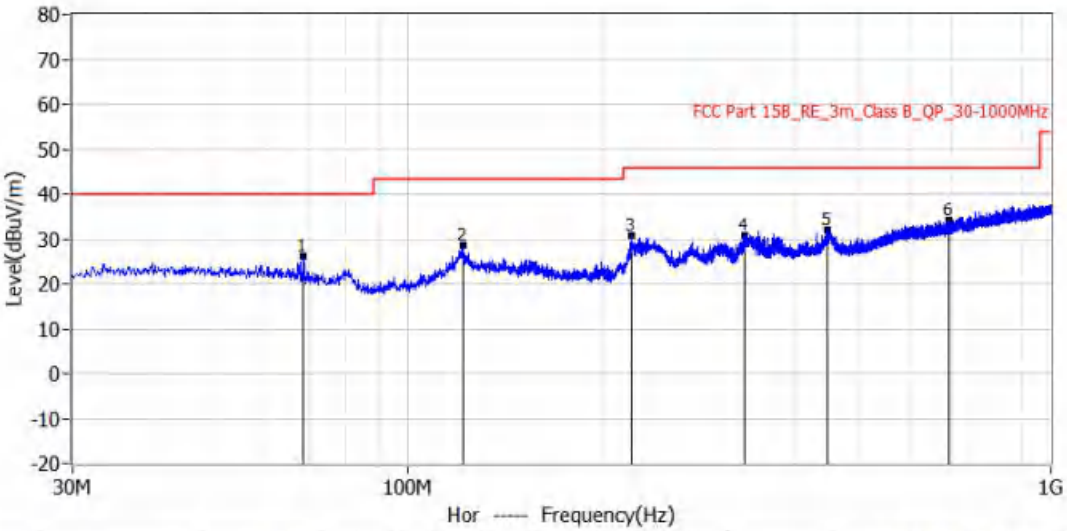
h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
j. Repeat above procedures until all frequencies measured was complete.

Remark:
1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.
2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level =Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor
3) Scan from 9kHz to 25GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. fundamental frequency is blocked by filter, and only spurious emission is shown.
4) For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

11.4 TEST DATA

[TestMode: TX mode (SE) below 1G]; [Polarity: Horizontal]

Test Lab: BlueAsia EMC Lab（RE #1）	Project: BLA-EMC-202110-A81
EUT: SmartGarden Spotlight	Test Engineer: Charlie
M/N: 50454	Temperature:
S/N:	Humidity:
Test Mode: 2.4G TX mode	Test Voltage:
Note:	Test Data: 2021-11-05 14:42:34

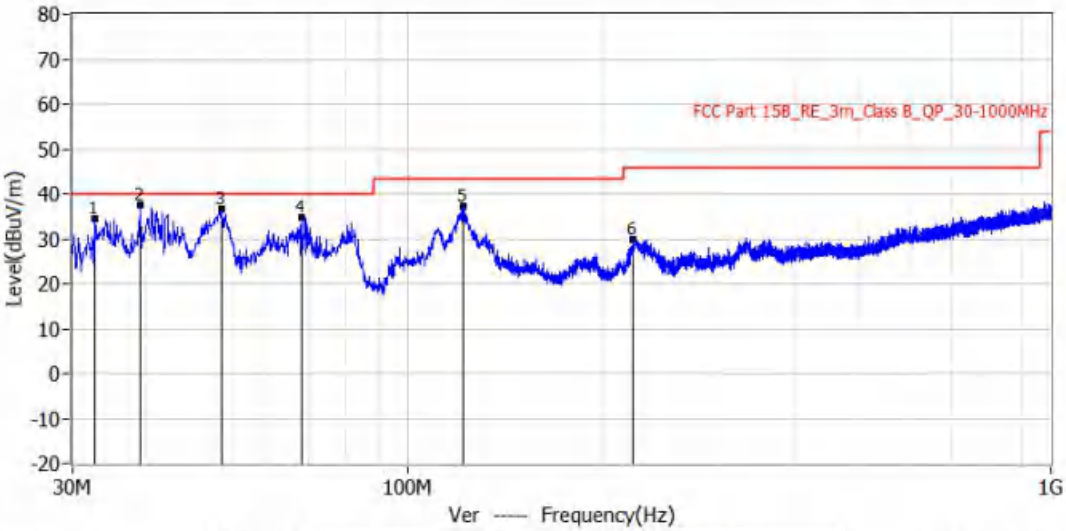


No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	68.679MHz	40.0	26.3	-13.7	4.6	21.7	QP	Hor	100.0	62.0
2*	121.423MHz	43.5	28.6	-14.9	5.8	22.8	QP	Hor	100.0	193.0
3*	222.545MHz	46.0	30.7	-15.3	8.8	21.9	QP	Hor	100.0	227.0
4*	334.216MHz	46.0	30.9	-15.1	5.7	25.2	QP	Hor	100.0	105.0
5*	447.949MHz	46.0	31.9	-14.1	4.1	27.8	QP	Hor	100.0	0.0
6*	693.359MHz	46.0	34.2	-11.8	2.3	31.9	QP	Hor	100.0	119.0

Test Result: Pass

[TestMode: TX mode (SE) below 1G]; [Polarity: Vertical]

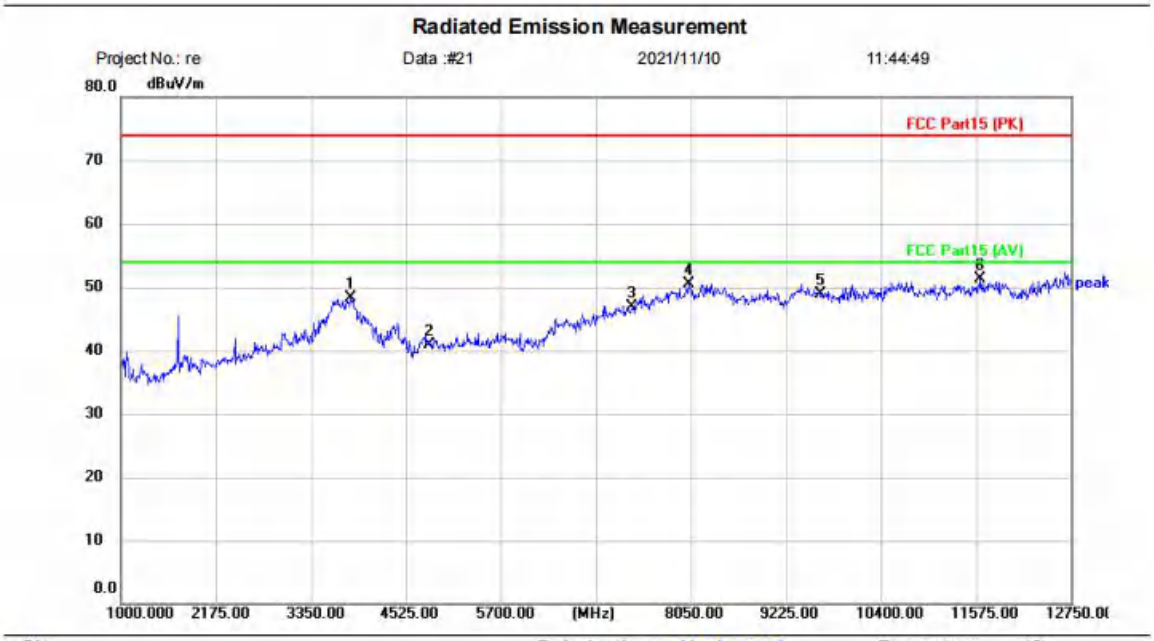
Test Lab: BlueAsia EMC Lab（RE #1）	Project: BLA-EMC-202110-A81
EUT: SmartGarden Spotlight	Test Engineer: Charlie
M/N: 50454	Temperature:
S/N:	Humidity:
Test Mode: 2.4G TX mode	Test Voltage:
Note:	Test Data: 2021-11-05 14:44:45



No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	32.425MHz	40.0	34.6	-5.4	11.7	22.9	QP	Ver	100.0	317.0
2*	38.245MHz	40.0	37.6	-2.4	13.7	23.9	QP	Ver	100.0	0.0
3*	51.098MHz	40.0	36.7	-3.3	12.9	23.8	QP	Ver	100.0	0.0
4*	68.073MHz	40.0	34.8	-5.2	13.0	21.8	QP	Ver	100.0	122.0
5*	121.544MHz	43.5	37.2	-6.3	14.4	22.8	QP	Ver	100.0	313.0
6*	223.636MHz	46.0	30.0	-16.0	8.0	22.0	QP	Ver	100.0	0.0

Test Result: Pass

[TestMode: TX 11B low channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-B-TX-L
Note:

Polarization: *Horizontal*
Power:

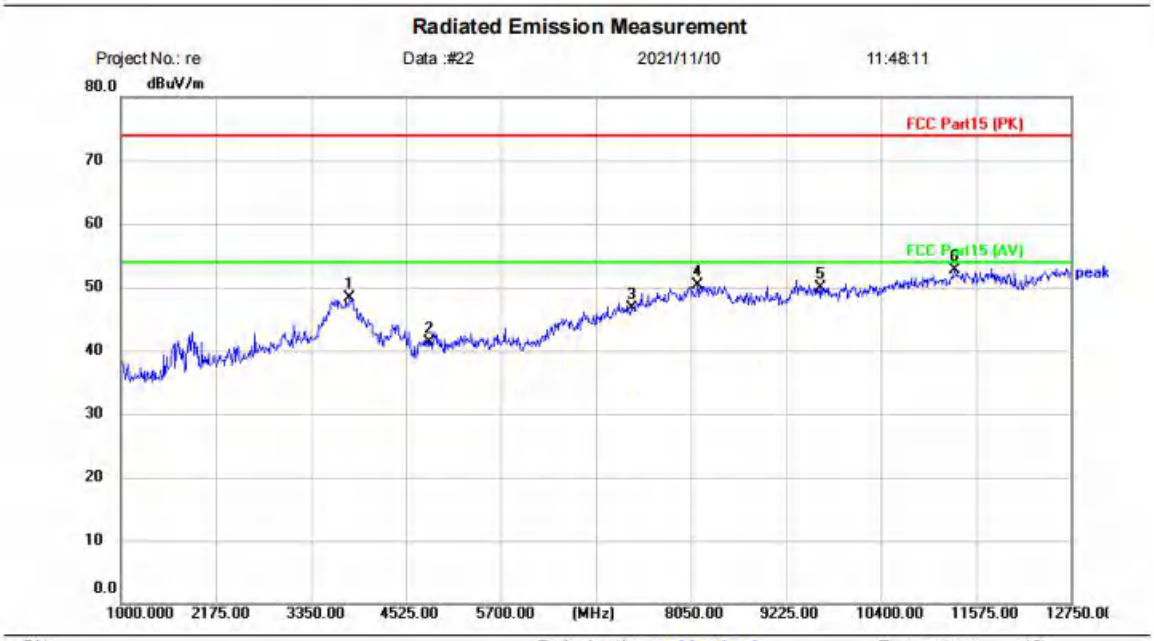
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3843.500	43.68	4.60	48.28	74.00	-25.72	peak	
2		4824.000	40.39	0.59	40.98	74.00	-33.02	peak	
3		7326.000	40.55	6.44	46.99	74.00	-27.01	peak	
4		8026.500	42.56	7.98	50.54	74.00	-23.46	peak	
5		9648.000	39.48	9.37	48.85	74.00	-25.15	peak	
6	*	11633.750	39.30	11.98	51.28	74.00	-22.72	peak	

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

Test Result: Pass

[TestMode: TX 11B low channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-B-TX-L
Note:

Polarization: *Vertical*
Power:

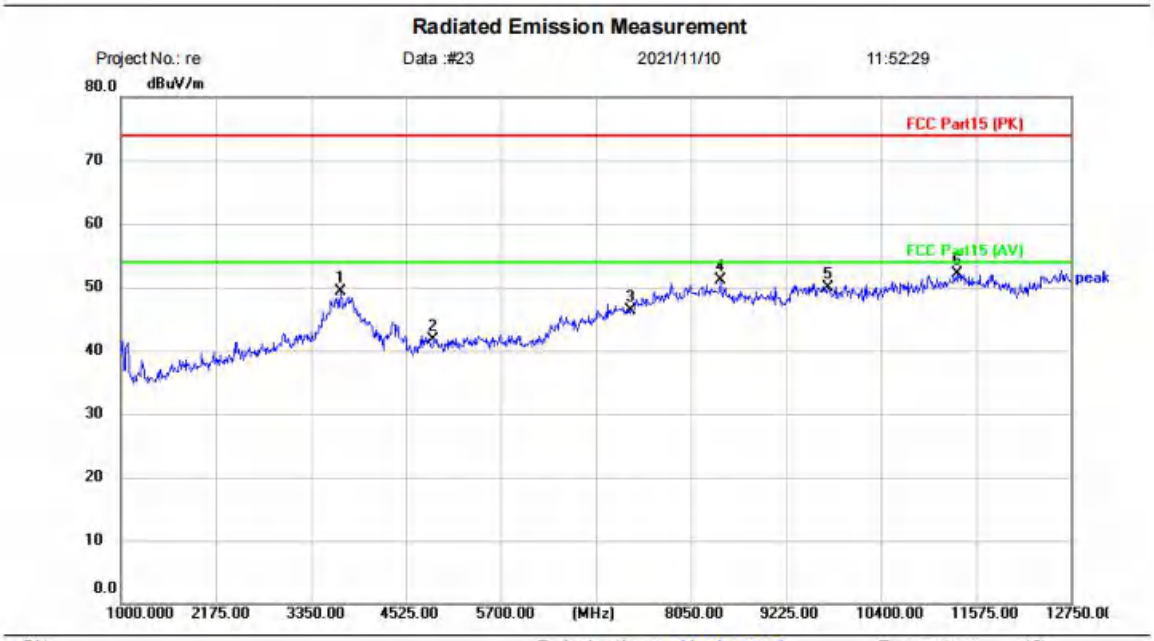
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3831.750	43.57	4.76	48.33	74.00	-25.67	peak	
2		4824.000	40.70	0.59	41.29	74.00	-32.71	peak	
3		7326.000	40.27	6.44	46.71	74.00	-27.29	peak	
4		8132.250	42.17	8.12	50.29	74.00	-23.71	peak	
5		9648.000	40.50	9.37	49.87	74.00	-24.13	peak	
6	*	11316.500	40.87	11.88	52.75	74.00	-21.25	peak	

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

Test Result: Pass

[TestMode: TX 11B mid channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-B-TX-M
Note:

Polarization: *Horizontal*
Power:

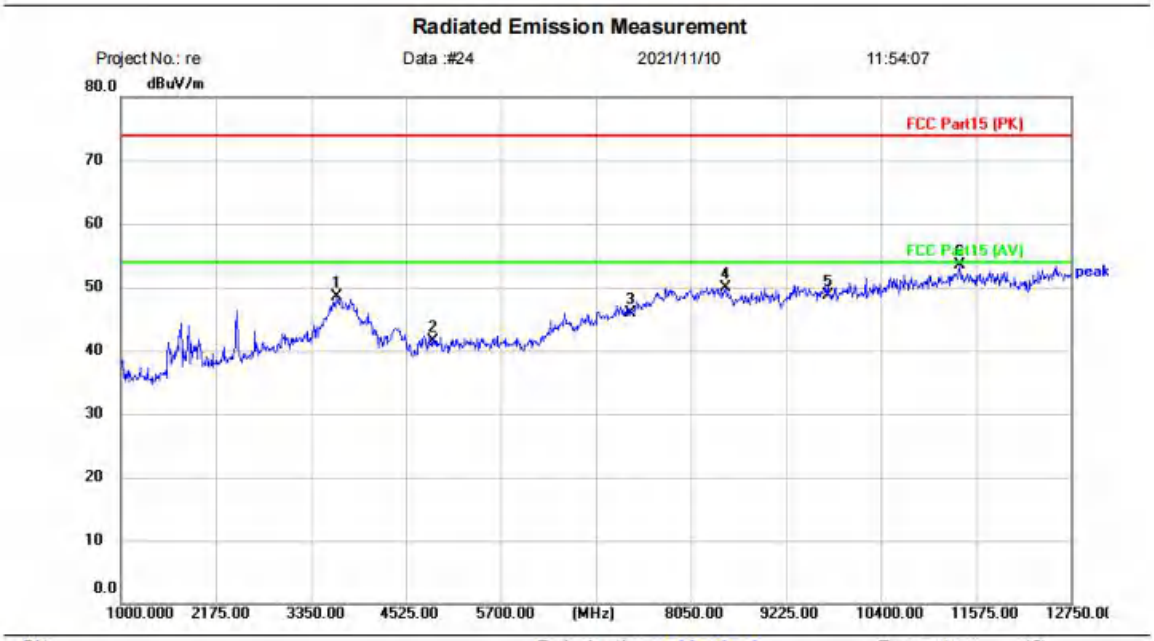
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3714.250	44.07	5.22	49.29	74.00	-24.71	peak	
2		4874.000	41.10	0.52	41.62	74.00	-32.38	peak	
3		7311.000	40.00	6.37	46.37	74.00	-27.63	peak	
4		8414.250	42.94	8.26	51.20	74.00	-22.80	peak	
5		9748.000	40.25	9.59	49.84	74.00	-24.16	peak	
6	*	11351.750	40.19	11.82	52.01	74.00	-21.99	peak	

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

Test Result: Pass

[TestMode: TX 11B mid channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-B-TX-M
Note:

Polarization: *Vertical*
Power:

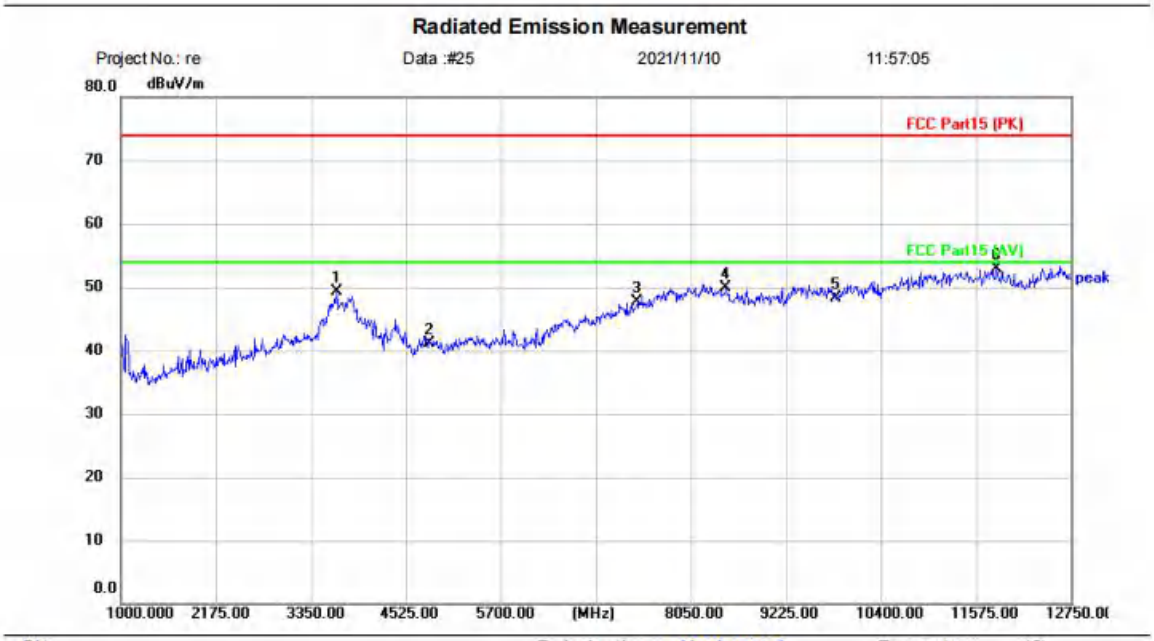
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3667.250	43.26	5.21	48.47	74.00	-25.53	peak	
2		4874.000	40.98	0.52	41.50	74.00	-32.50	peak	
3		7311.000	39.46	6.37	45.83	74.00	-28.17	peak	
4		8473.000	41.78	8.17	49.95	74.00	-24.05	peak	
5		9748.000	39.18	9.59	48.77	74.00	-25.23	peak	
6	*	11375.250	41.67	11.79	53.46	74.00	-20.54	peak	

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

Test Result: Pass

[TestMode: TX 11B high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-B-TX-H
Note:

Polarization: *Horizontal*
Power:

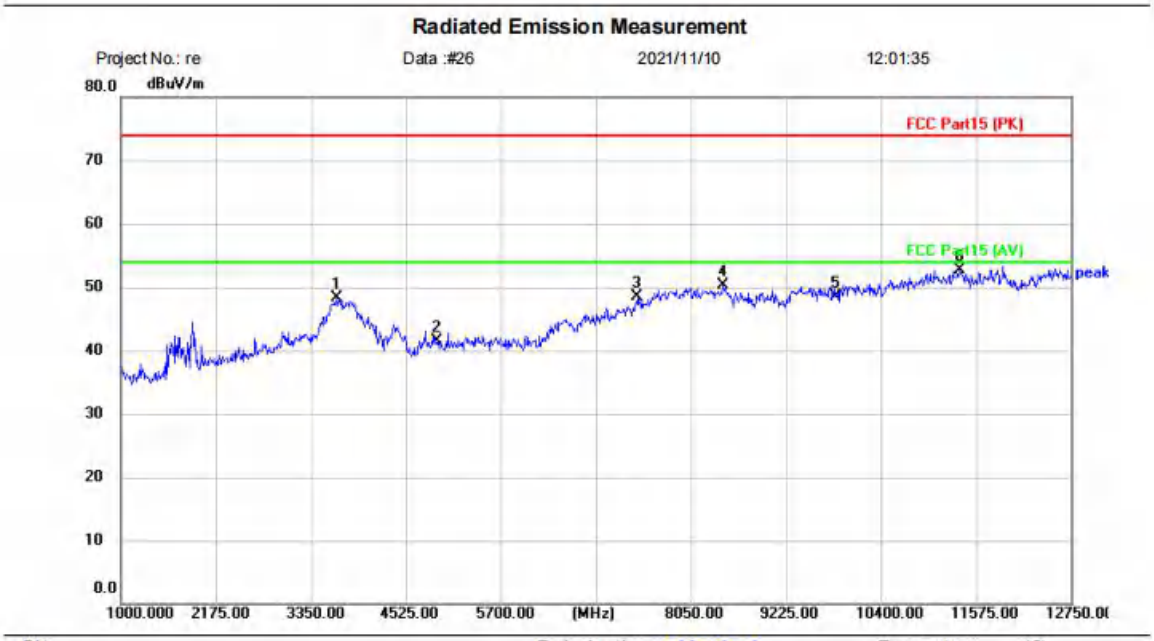
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3667.250	44.14	5.21	49.35	74.00	-24.65	peak	
2		4824.000	40.43	0.59	41.02	74.00	-32.98	peak	
3		7386.000	41.10	6.68	47.78	74.00	-26.22	peak	
4		8484.750	41.83	8.16	49.99	74.00	-24.01	peak	
5		9848.000	38.50	9.88	48.38	74.00	-25.62	peak	
6	*	11833.500	41.43	11.50	52.93	74.00	-21.07	peak	

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

Test Result: Pass

[TestMode: TX 11B high channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-B-TX-H
Note:

Polarization: *Vertical*
Power:

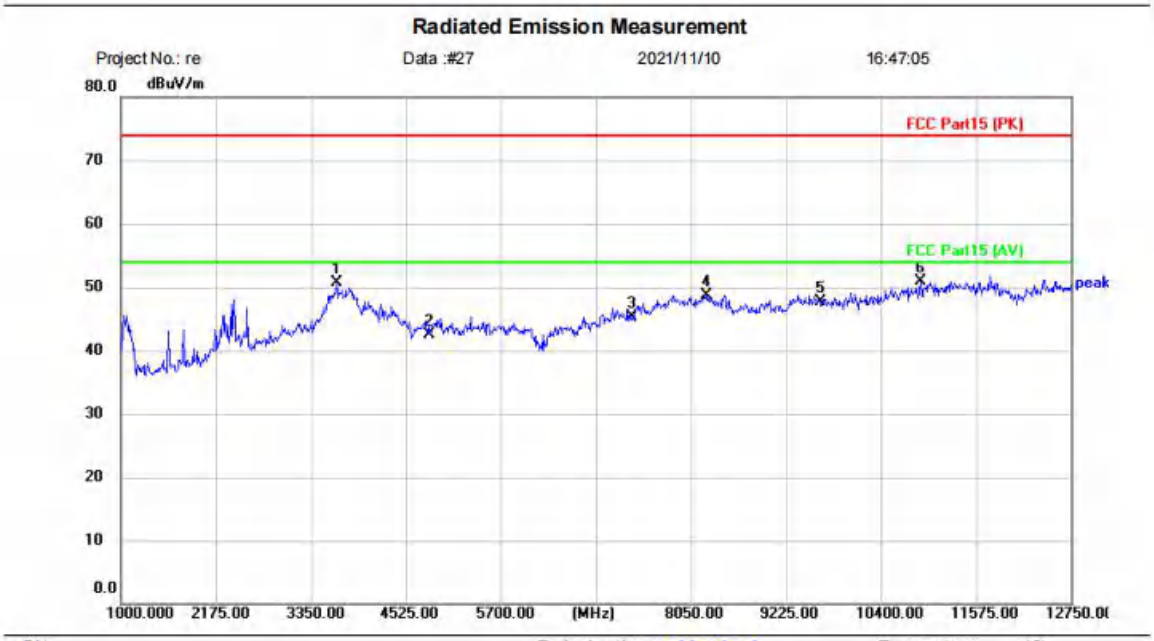
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3667.250	43.19	5.21	48.40	74.00	-25.60	peak	
2		4924.000	41.11	0.45	41.56	74.00	-32.44	peak	
3		7386.000	41.77	6.68	48.45	74.00	-25.55	peak	
4		8449.500	42.07	8.20	50.27	74.00	-23.73	peak	
5		9848.000	38.61	9.88	48.49	74.00	-25.51	peak	
6	*	11375.250	40.94	11.79	52.73	74.00	-21.27	peak	

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

Test Result: Pass

[TestMode: TX 11G low channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-G-TX-L
Note:

Polarization: *Vertical*
Power:

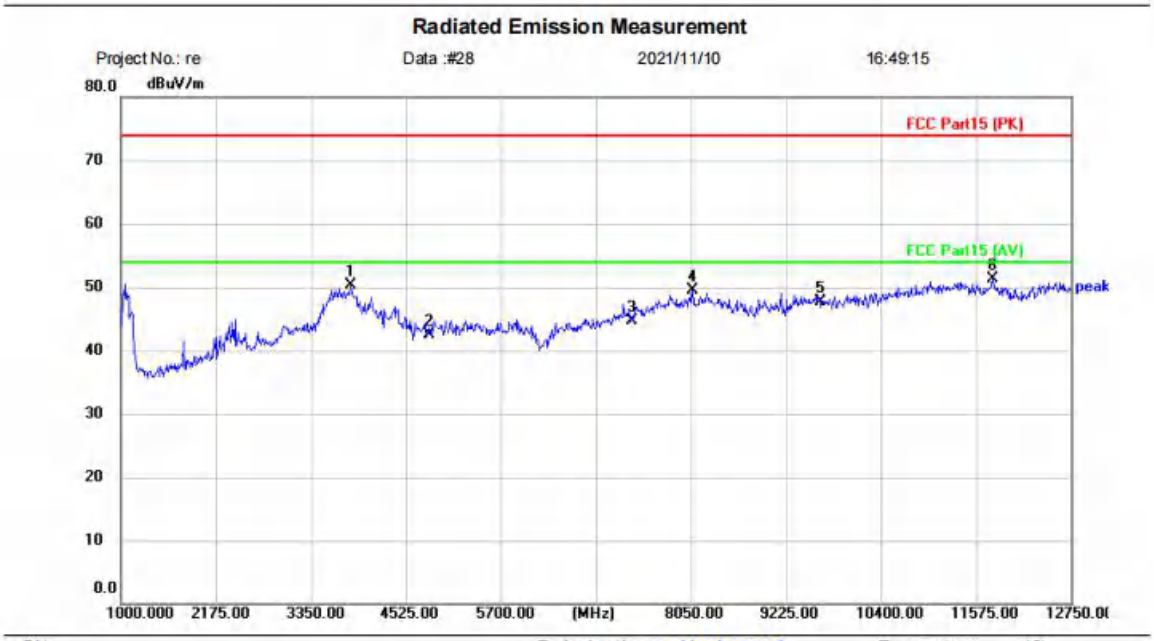
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3667.250	42.94	7.75	50.69	74.00	-23.31	peak	
2		4824.000	38.93	3.62	42.55	74.00	-31.45	peak	
3		7326.000	38.82	6.44	45.26	74.00	-28.74	peak	
4		8249.750	40.53	8.23	48.76	74.00	-25.24	peak	
5		9648.000	38.35	9.37	47.72	74.00	-26.28	peak	
6	*	10893.500	39.11	11.87	50.98	74.00	-23.02	peak	

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

Test Result: Pass

[TestMode: TX 11G low channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-G-TX-L
Note:

Polarization: *Horizontal*
Power:

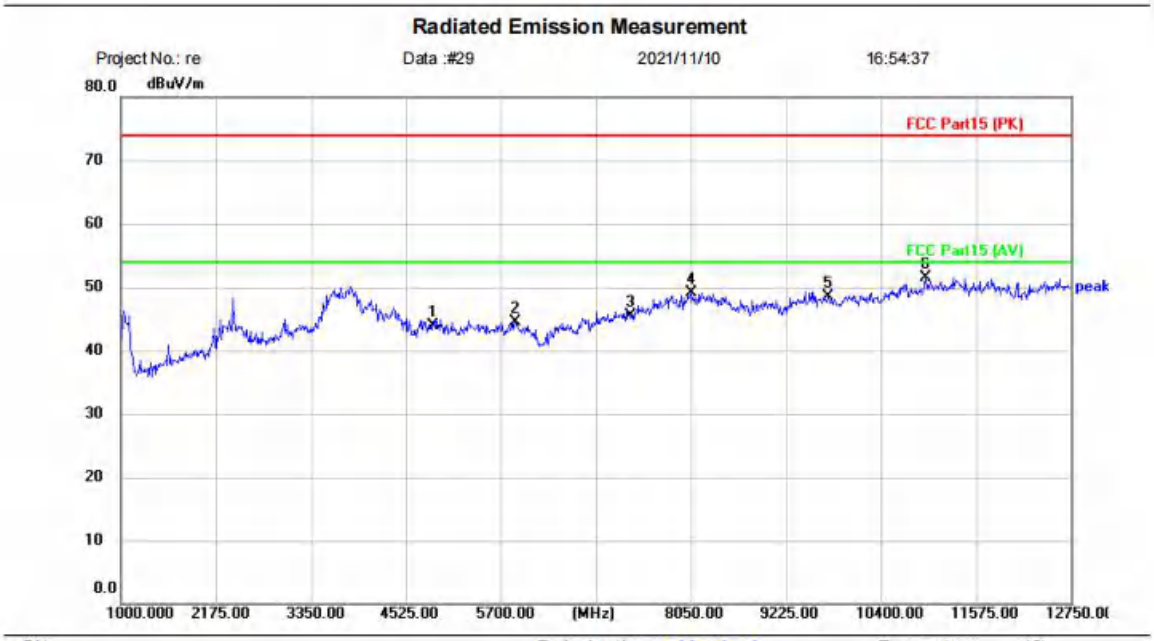
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3843.500	43.17	7.12	50.29	74.00	-23.71	peak	
2		4824.000	38.81	3.62	42.43	74.00	-31.57	peak	
3		7326.000	38.30	6.44	44.74	74.00	-29.26	peak	
4		8073.500	41.42	8.04	49.46	74.00	-24.54	peak	
5		9648.000	38.43	9.37	47.80	74.00	-26.20	peak	
6	*	11786.500	39.71	11.57	51.28	74.00	-22.72	peak	

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

Test Result: Pass

[TestMode: TX 11G mid channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-G-TX-M
Note:

Polarization: *Vertical*
Power:

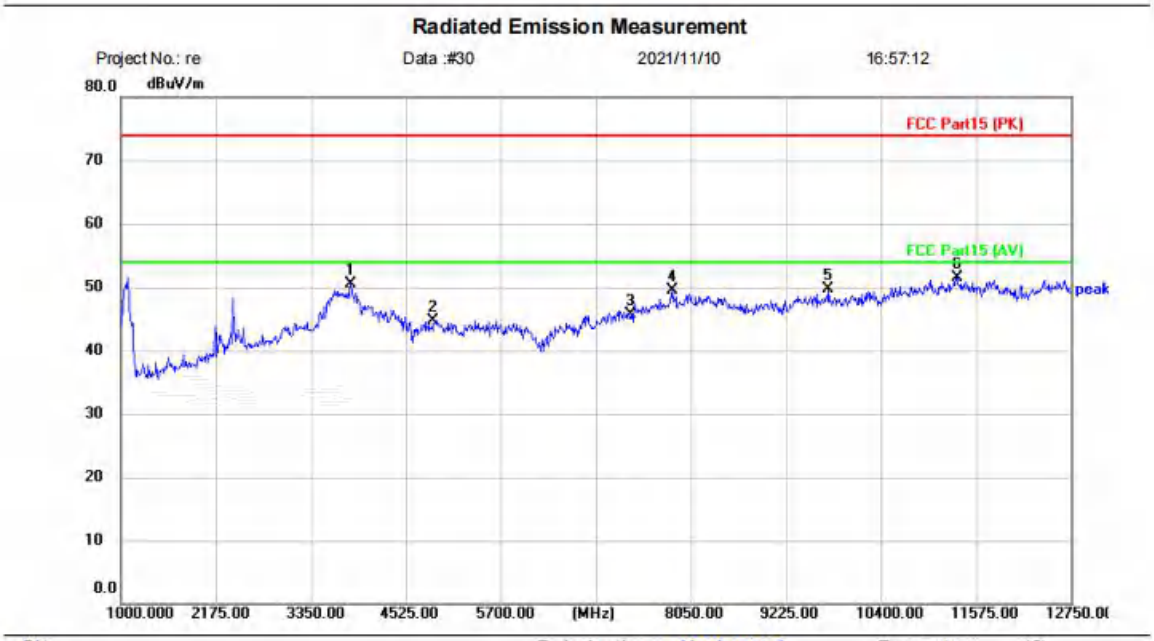
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	40.58	3.39	43.97	74.00	-30.03	peak	
2		5876.250	40.57	3.90	44.47	74.00	-29.53	peak	
3		7311.000	39.17	6.37	45.54	74.00	-28.46	peak	
4		8050.000	41.02	8.01	49.03	74.00	-24.97	peak	
5		9748.000	38.91	9.59	48.50	74.00	-25.50	peak	
6	*	10952.250	39.67	11.93	51.60	74.00	-22.40	peak	

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

Test Result: Pass

[TestMode: TX 11G mid channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-G-TX-M
Note:

Polarization: *Horizontal*
Power:

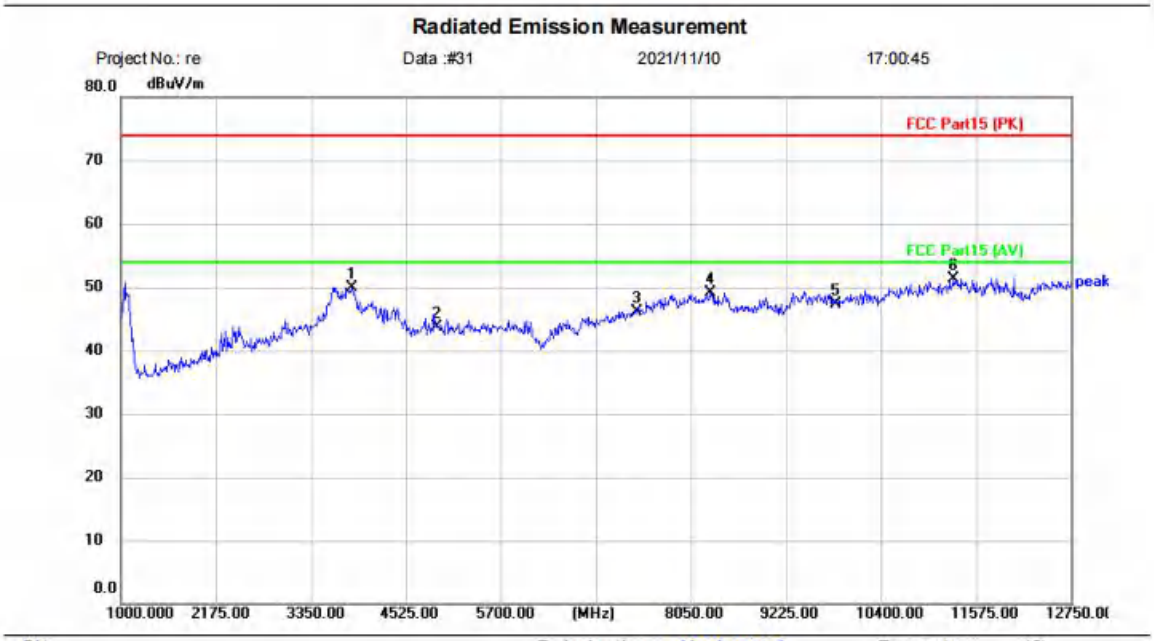
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3843.500	43.40	7.12	50.52	74.00	-23.48	peak	
2		4874.000	41.24	3.39	44.63	74.00	-29.37	peak	
3		7311.000	39.29	6.37	45.66	74.00	-28.34	peak	
4		7826.750	41.78	7.73	49.51	74.00	-24.49	peak	
5		9748.000	40.05	9.59	49.64	74.00	-24.36	peak	
6	*	11340.000	39.73	11.85	51.58	74.00	-22.42	peak	

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

Test Result: Pass

[TestMode: TX 11G high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-G-TX-H
Note:

Polarization: *Horizontal*
Power:

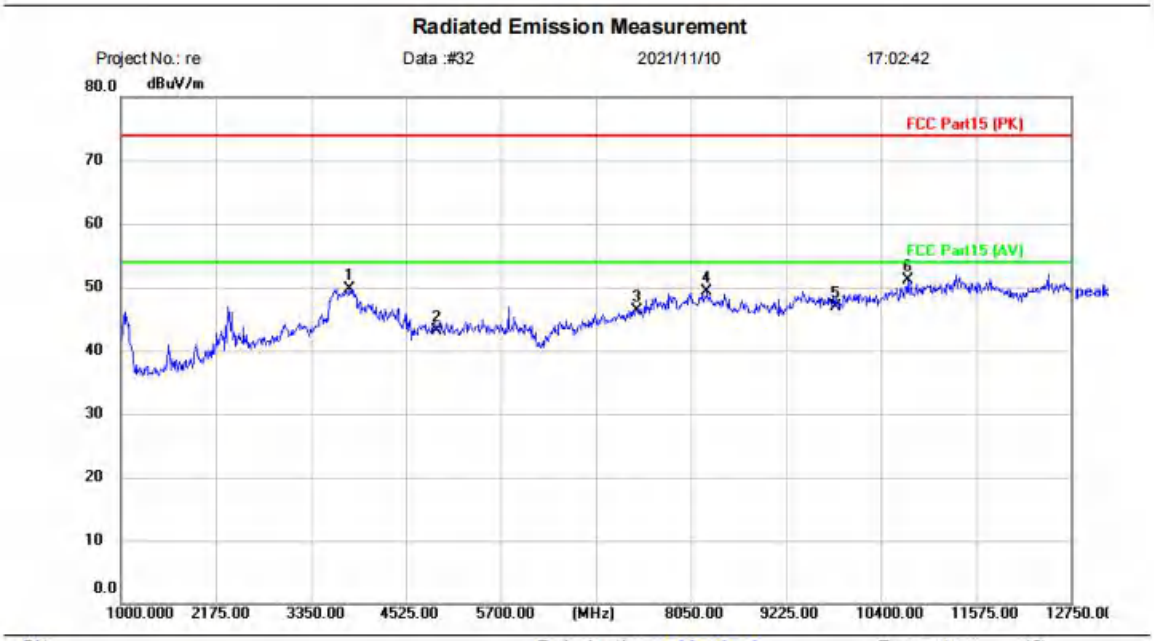
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3855.250	43.02	6.97	49.99	74.00	-24.01	peak	
2		4924.000	40.33	3.46	43.79	74.00	-30.21	peak	
3		7386.000	39.45	6.68	46.13	74.00	-27.87	peak	
4		8285.000	40.80	8.24	49.04	74.00	-24.96	peak	
5		9848.000	37.40	9.88	47.28	74.00	-26.72	peak	
6	*	11304.750	39.44	11.89	51.33	74.00	-22.67	peak	

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

Test Result: Pass

[TestMode: TX 11G high channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-G-TX-H
Note:

Polarization: *Vertical*
Power:

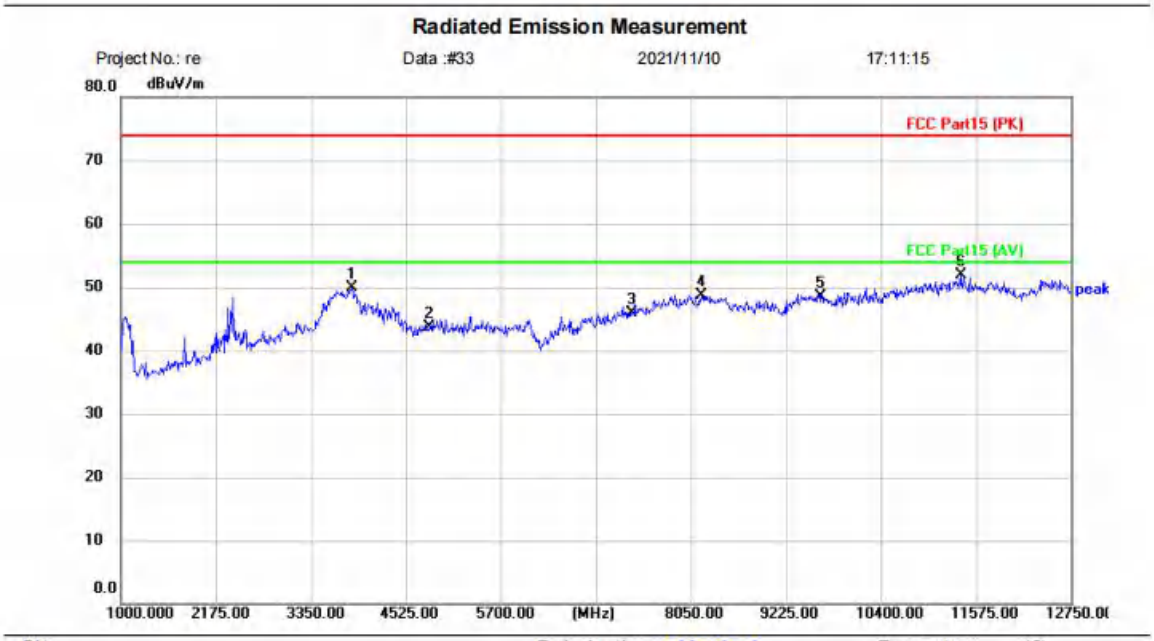
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3831.750	42.38	7.25	49.63	74.00	-24.37	peak	
2		4924.000	39.74	3.46	43.20	74.00	-30.80	peak	
3		7386.000	39.69	6.68	46.37	74.00	-27.63	peak	
4		8249.750	41.00	8.23	49.23	74.00	-24.77	peak	
5		9848.000	37.06	9.88	46.94	74.00	-27.06	peak	
6	*	10729.000	39.55	11.55	51.10	74.00	-22.90	peak	

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

Test Result: Pass

[TestMode: TX N20 low channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N20-TX-L
Note:

Polarization: *Vertical*
Power:

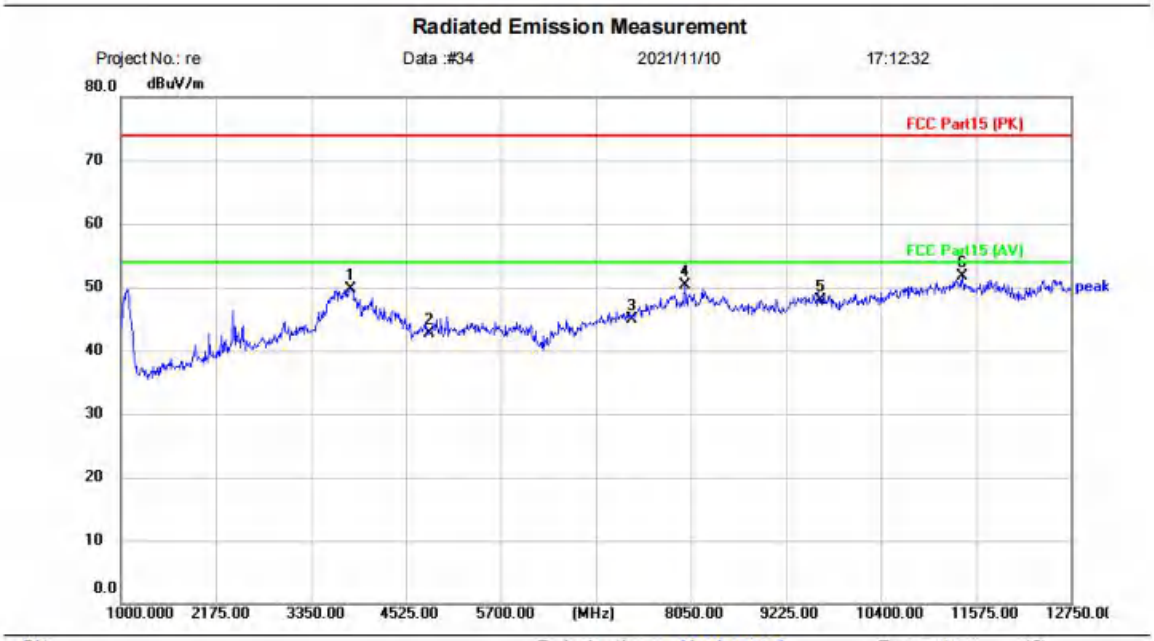
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3855.250	42.96	6.97	49.93	74.00	-24.07	peak	
2		4824.000	39.99	3.62	43.61	74.00	-30.39	peak	
3		7326.000	39.39	6.44	45.83	74.00	-28.17	peak	
4		8179.250	40.53	8.18	48.71	74.00	-25.29	peak	
5		9648.000	39.16	9.37	48.53	74.00	-25.47	peak	
6	*	11387.000	40.06	11.78	51.84	74.00	-22.16	peak	

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

Test Result: Pass

[TestMode: TX N20 low channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N20-TX-L
Note:

Polarization: *Horizontal*
Power:

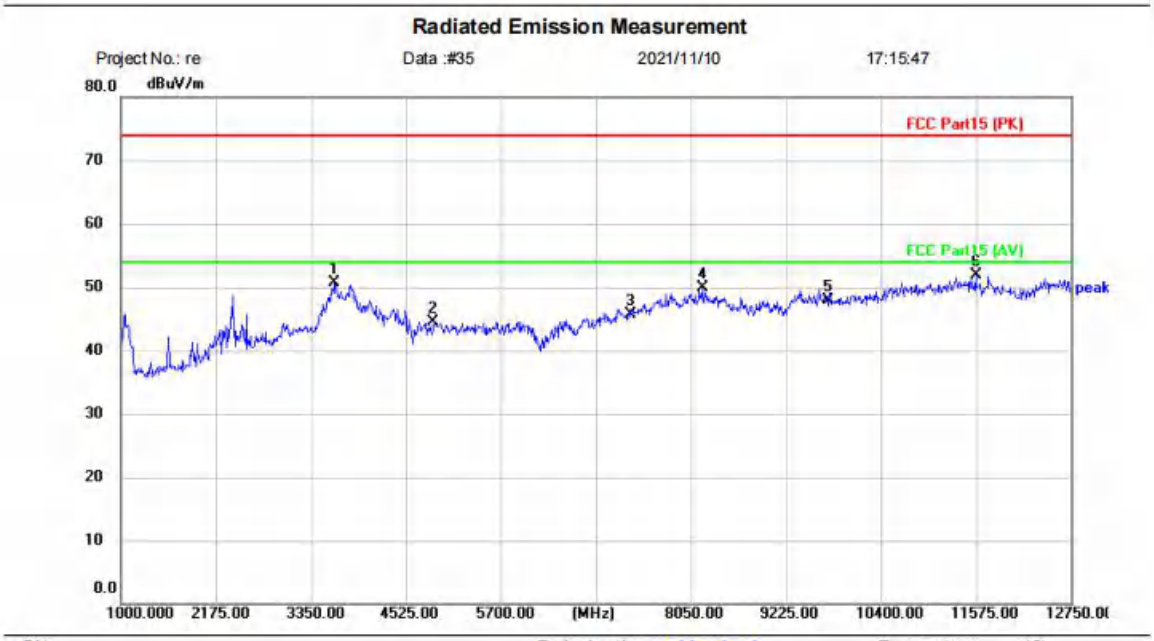
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3843.500	42.60	7.12	49.72	74.00	-24.28	peak	
2		4824.000	39.15	3.62	42.77	74.00	-31.23	peak	
3		7326.000	38.53	6.44	44.97	74.00	-29.03	peak	
4		7979.500	42.33	7.92	50.25	74.00	-23.75	peak	
5		9648.000	38.49	9.37	47.86	74.00	-26.14	peak	
6	*	11410.500	40.01	11.78	51.79	74.00	-22.21	peak	

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

Test Result: Pass

[TestMode: TX N20 mid channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N20-TX-M
Note:

Polarization: *Vertical*
Power:

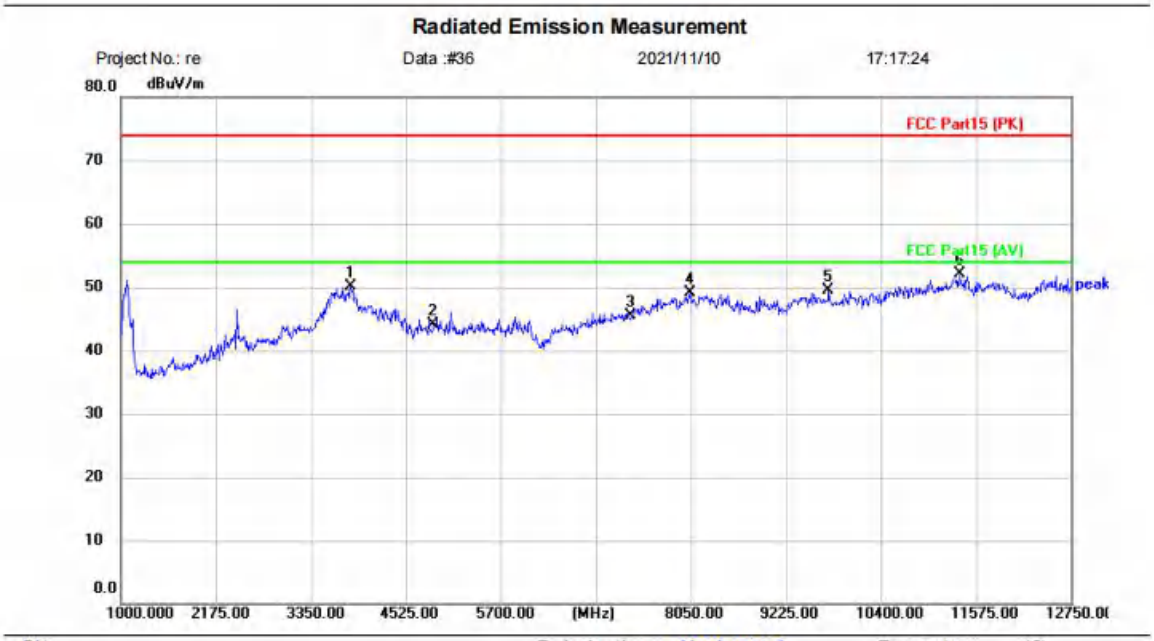
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3643.750	42.99	7.76	50.75	74.00	-23.25	peak	
2		4874.000	41.06	3.39	44.45	74.00	-29.55	peak	
3		7311.000	39.40	6.37	45.77	74.00	-28.23	peak	
4		8191.000	41.74	8.20	49.94	74.00	-24.06	peak	
5		9748.000	38.23	9.59	47.82	74.00	-26.18	peak	
6	*	11575.000	39.80	12.02	51.82	74.00	-22.18	peak	

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

Test Result: Pass

[TestMode: TX N20 mid channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N20-TX-M
Note:

Polarization: *Horizontal*
Power:

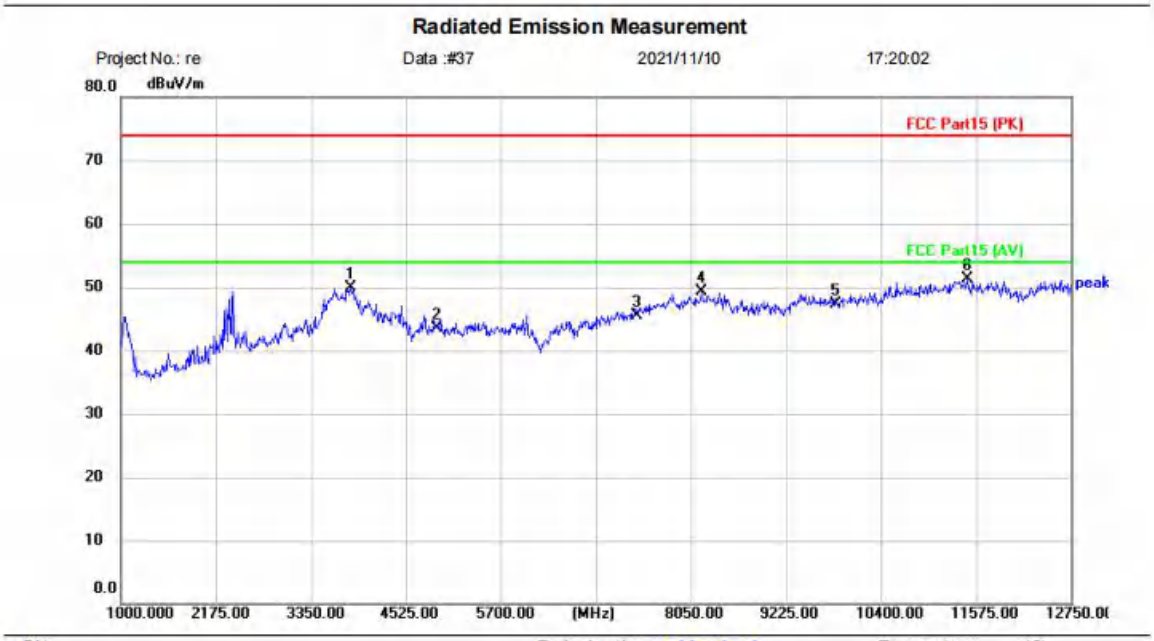
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3843.500	42.89	7.12	50.01	74.00	-23.99	peak	
2		4874.000	40.79	3.39	44.18	74.00	-29.82	peak	
3		7311.000	39.09	6.37	45.46	74.00	-28.54	peak	
4		8038.250	41.09	7.99	49.08	74.00	-24.92	peak	
5		9748.000	39.88	9.59	49.47	74.00	-24.53	peak	
6	*	11375.250	40.29	11.79	52.08	74.00	-21.92	peak	

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

Test Result: Pass

[TestMode: TX N20 high channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N20-TX-H
Note:

Polarization: *Vertical*
Power:

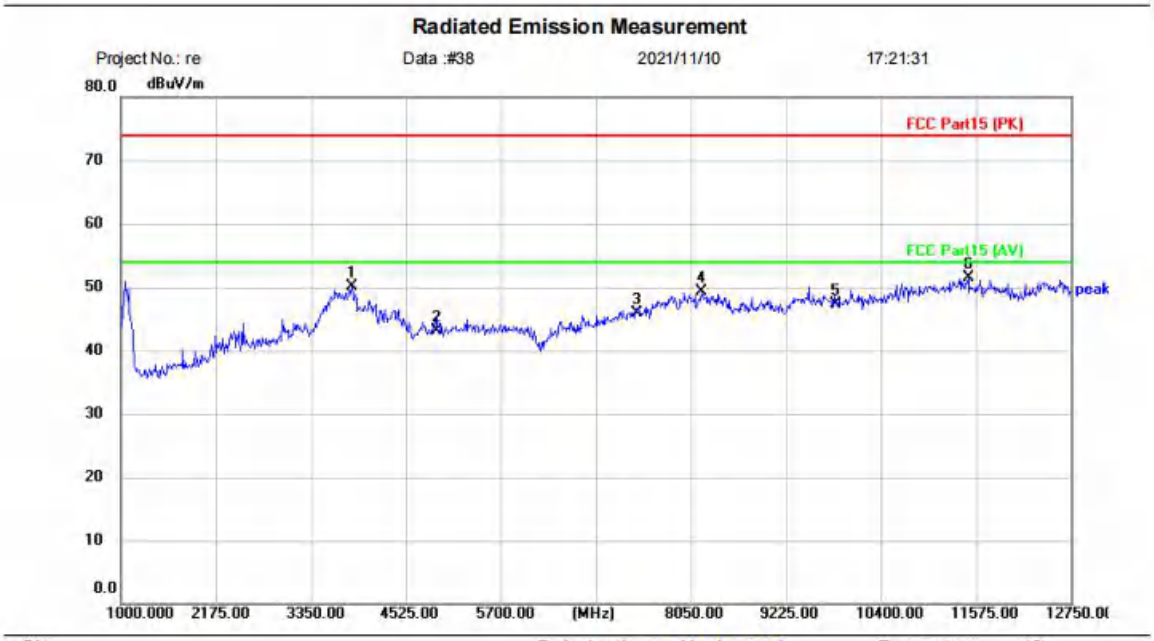
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3843.500	42.80	7.12	49.92	74.00	-24.08	peak	
2		4924.000	40.12	3.46	43.58	74.00	-30.42	peak	
3		7386.000	38.87	6.68	45.55	74.00	-28.45	peak	
4		8179.250	41.11	8.18	49.29	74.00	-24.71	peak	
5		9848.000	37.39	9.88	47.27	74.00	-26.73	peak	
6	*	11469.250	39.51	11.86	51.37	74.00	-22.63	peak	

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

Test Result: Pass

[TestMode: TX N20 high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N20-TX-H
Note:

Polarization: *Horizontal*
Power:

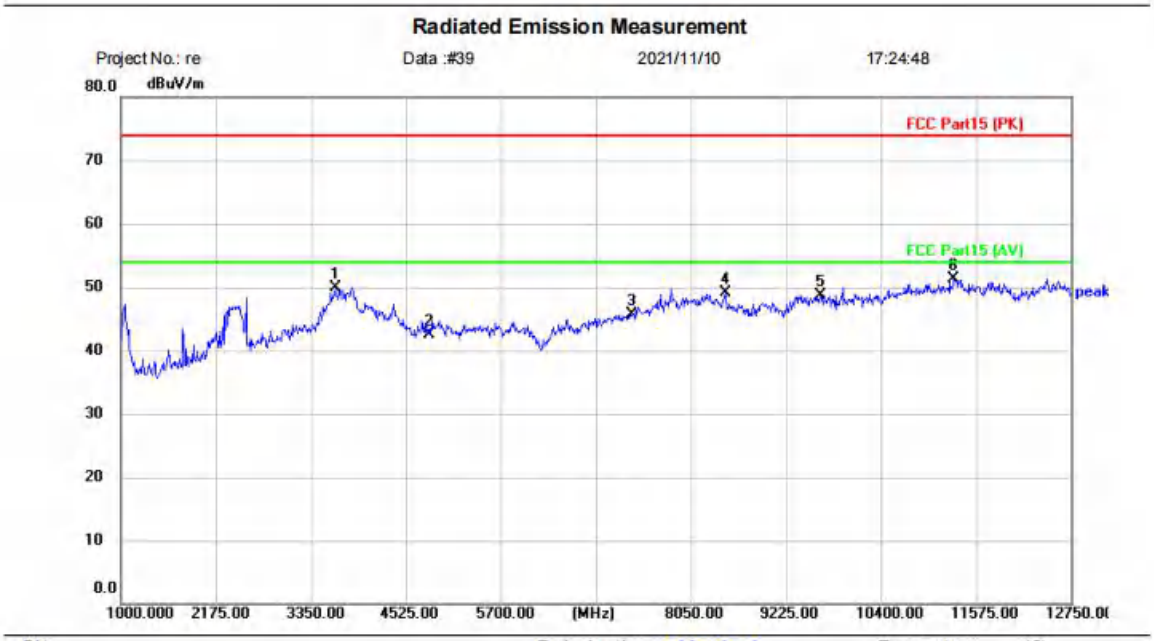
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3855.250	43.12	6.97	50.09	74.00	-23.91	peak	
2		4924.000	39.73	3.46	43.19	74.00	-30.81	peak	
3		7386.000	39.29	6.68	45.97	74.00	-28.03	peak	
4		8179.250	41.10	8.18	49.28	74.00	-24.72	peak	
5		9848.000	37.45	9.88	47.33	74.00	-26.67	peak	
6	*	11481.000	39.57	11.88	51.45	74.00	-22.55	peak	

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

Test Result: Pass

[TestMode: TX N40 low channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N40-TX-L
Note:

Polarization: *Vertical*
Power:

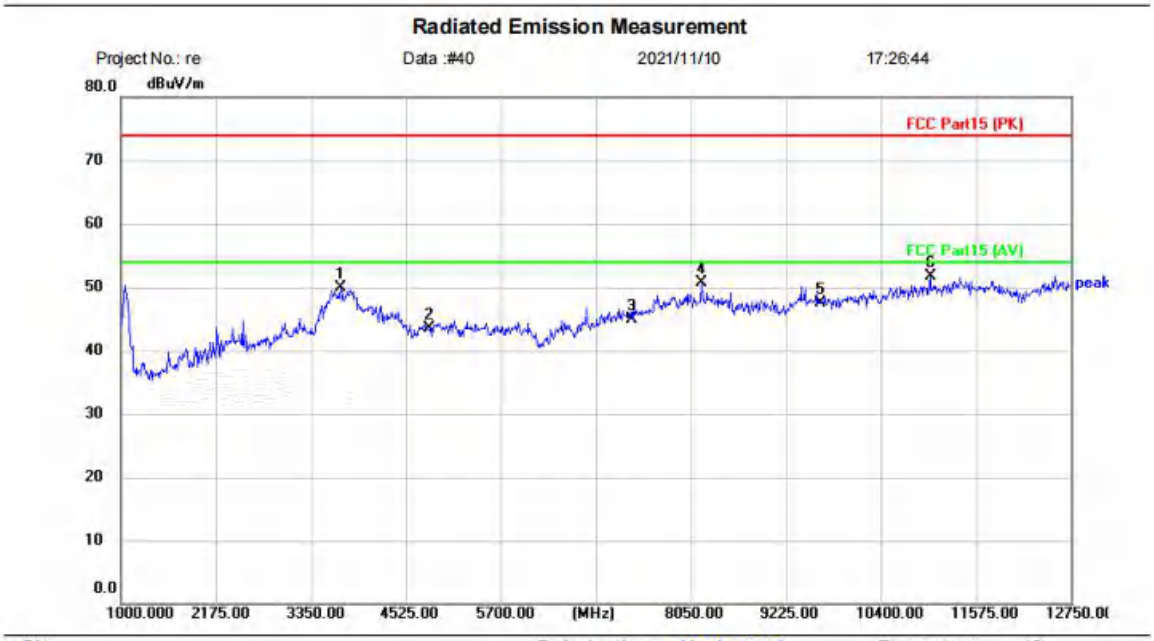
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3655.500	42.18	7.76	49.94	74.00	-24.06	peak	
2		4824.000	38.97	3.62	42.59	74.00	-31.41	peak	
3		7326.000	39.20	6.44	45.64	74.00	-28.36	peak	
4		8473.000	40.92	8.17	49.09	74.00	-24.91	peak	
5		9648.000	39.27	9.37	48.64	74.00	-25.36	peak	
6	*	11304.750	39.49	11.89	51.38	74.00	-22.62	peak	

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

Test Result: Pass

[TestMode: TX N40 low channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N40-TX-L
Note:

Polarization: *Horizontal*
Power:

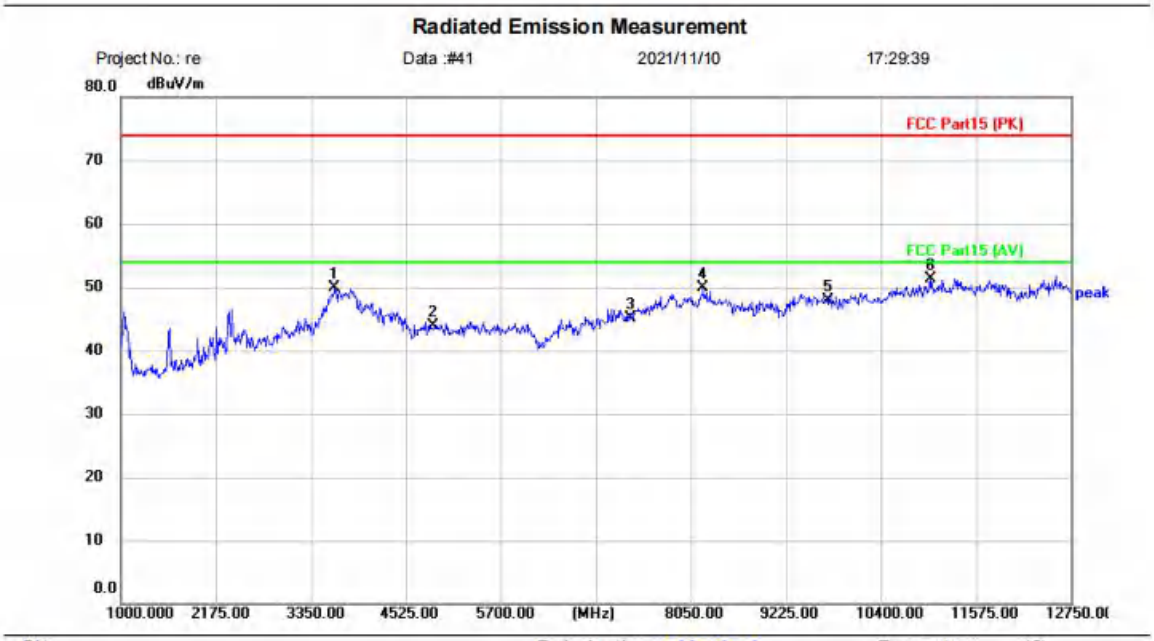
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3714.250	42.23	7.72	49.95	74.00	-24.05	peak	
2		4824.000	39.97	3.62	43.59	74.00	-30.41	peak	
3		7326.000	38.54	6.44	44.98	74.00	-29.02	peak	
4		8179.250	42.46	8.18	50.64	74.00	-23.36	peak	
5		9648.000	38.20	9.37	47.57	74.00	-26.43	peak	
6	*	11011.000	39.79	11.99	51.78	74.00	-22.22	peak	

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

Test Result: Pass

[TestMode: TX N40 mid channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N40-TX-M
Note:

Polarization: *Vertical*
Power:

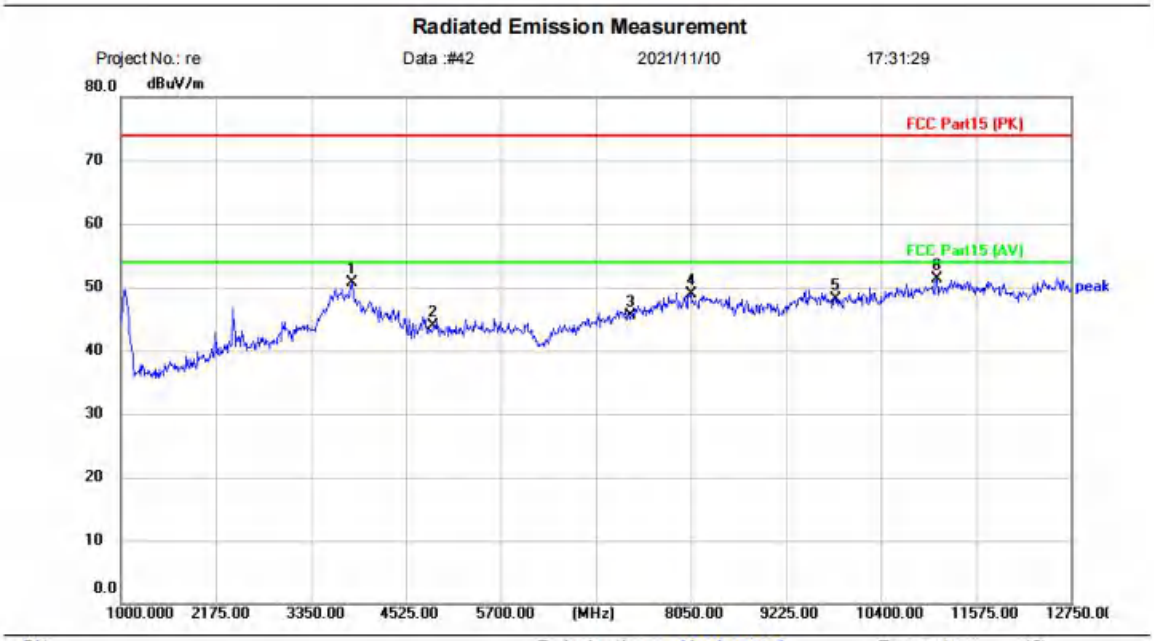
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3643.750	42.11	7.76	49.87	74.00	-24.13	peak	
2		4874.000	40.51	3.39	43.90	74.00	-30.10	peak	
3		7311.000	38.78	6.37	45.15	74.00	-28.85	peak	
4		8202.750	41.67	8.21	49.88	74.00	-24.12	peak	
5		9748.000	38.31	9.59	47.90	74.00	-26.10	peak	
6	*	11011.000	39.41	11.99	51.40	74.00	-22.60	peak	

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

Test Result: Pass

[TestMode: TX N40 mid channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N40-TX-M
Note:

Polarization: *Horizontal*
Power:

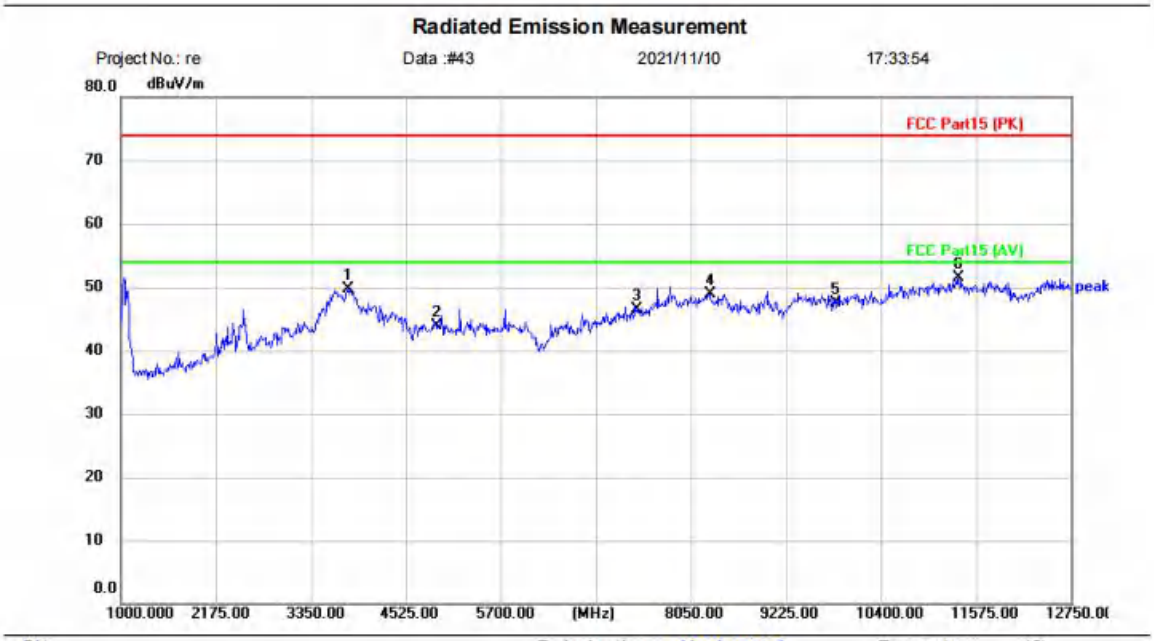
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3855.250	43.72	6.97	50.69	74.00	-23.31	peak	
2		4874.000	40.51	3.39	43.90	74.00	-30.10	peak	
3		7311.000	39.14	6.37	45.51	74.00	-28.49	peak	
4		8050.000	40.85	8.01	48.86	74.00	-25.14	peak	
5		9848.000	38.28	9.88	48.16	74.00	-25.84	peak	
6	*	11093.250	39.31	12.01	51.32	74.00	-22.68	peak	

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

Test Result: Pass

[TestMode: TX N40 high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N40-TX-H
Note:

Polarization: *Horizontal*
Power:

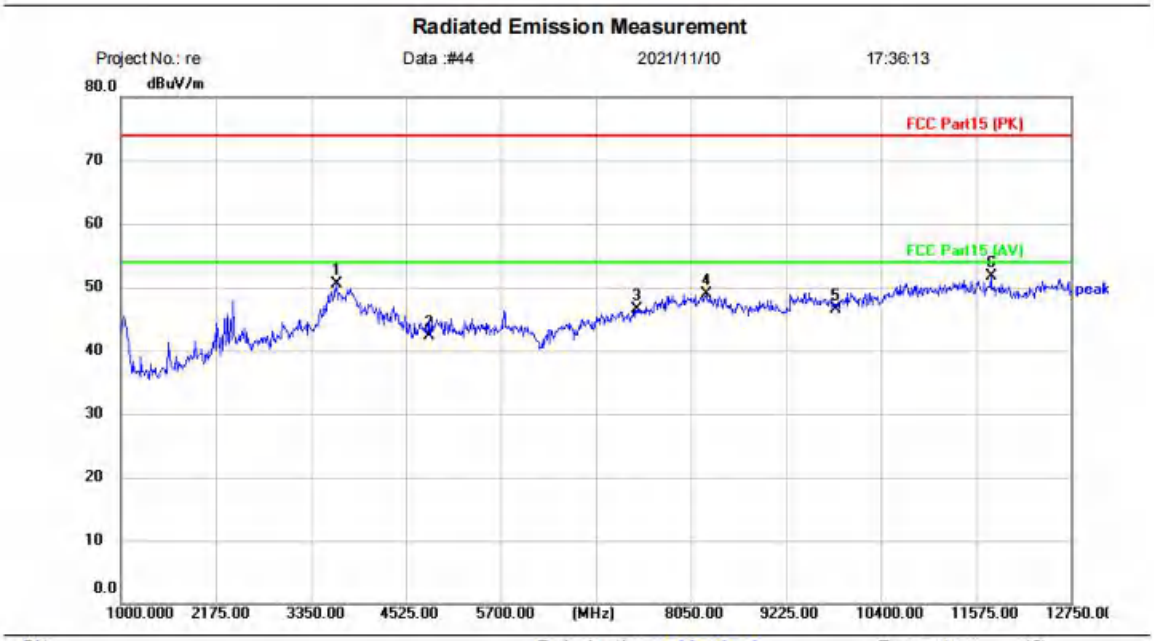
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3808.250	42.07	7.55	49.62	74.00	-24.38	peak	
2		4924.000	40.43	3.46	43.89	74.00	-30.11	peak	
3		7386.000	39.83	6.68	46.51	74.00	-27.49	peak	
4		8285.000	40.67	8.24	48.91	74.00	-25.09	peak	
5		9848.000	37.66	9.88	47.54	74.00	-26.46	peak	
6	*	11363.500	39.66	11.81	51.47	74.00	-22.53	peak	

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

Test Result: Pass

[TestMode: TX N40 high channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N40-TX-H
Note:

Polarization: *Vertical*
Power:

Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3667.250	42.72	7.75	50.47	74.00	-23.53	peak	
2		4824.000	38.64	3.62	42.26	74.00	-31.74	peak	
3		7386.000	39.86	6.68	46.54	74.00	-27.46	peak	
4		8238.000	40.68	8.22	48.90	74.00	-25.10	peak	
5		9848.000	36.69	9.88	46.57	74.00	-27.43	peak	
6	*	11763.000	40.02	11.63	51.65	74.00	-22.35	peak	

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

Test Result: Pass

12 RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS

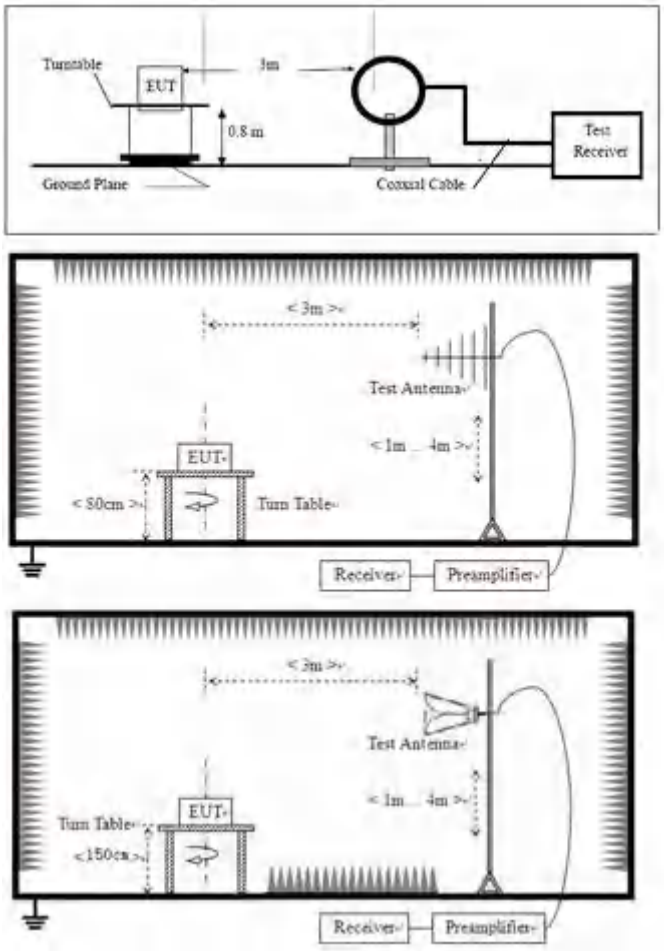
Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.10.5
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

12.1 LIMITS

Frequency(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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

12.2 BLOCK DIAGRAM OF TEST SETUP



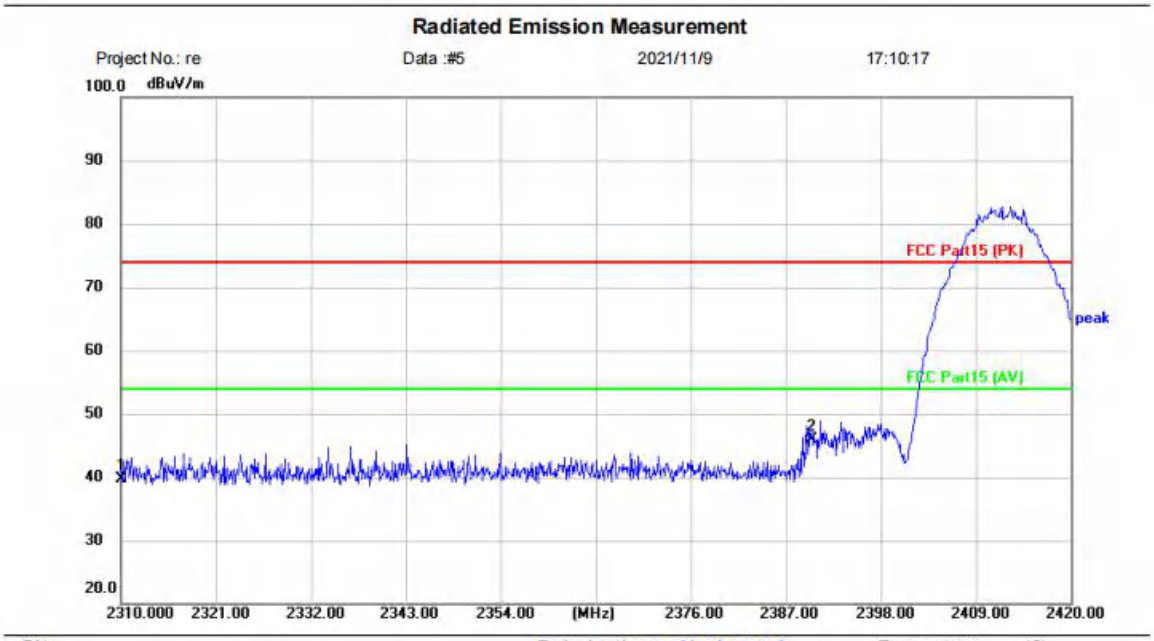
12.3 PROCEDURE

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
d. The antenna height 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.
e. 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
j. Repeat above procedures until all frequencies measured was complete.
Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

12.4 TEST DATA

[TestMode: TX 11B low channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-B-TX-L
Note:

Polarization: *Horizontal*
Power:

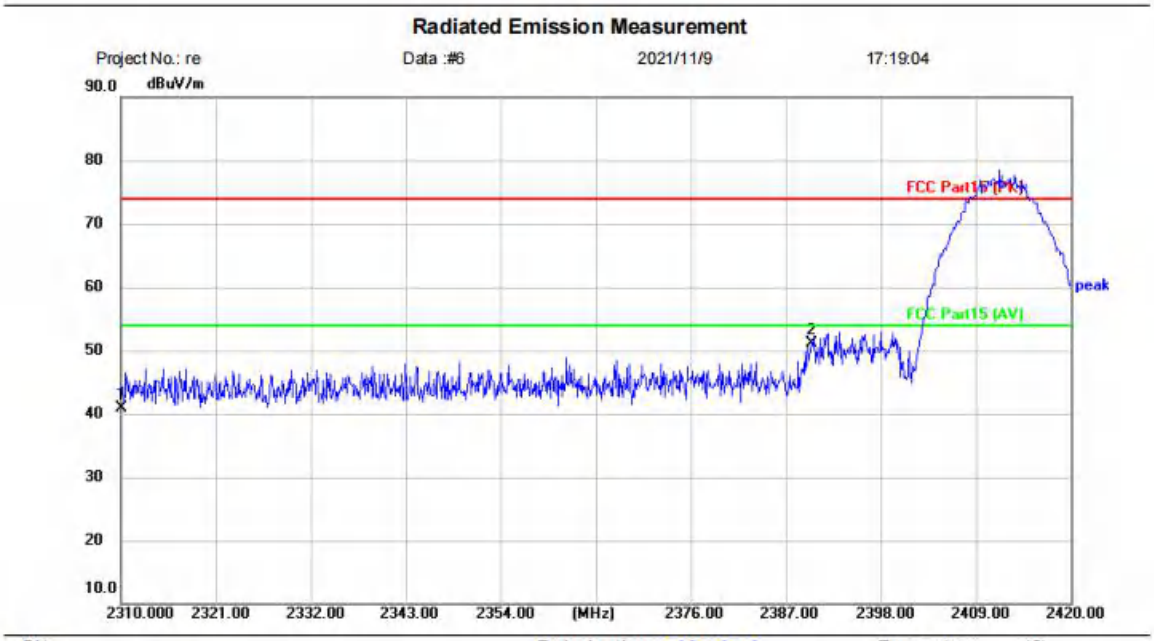
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	44.28	-4.61	39.67	74.00	-34.33	peak	
2	*	2390.000	50.25	-4.27	45.98	74.00	-28.02	peak	

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

Test Result: Pass

[TestMode: TX 11B low channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-B-TX-L
Note:

Polarization: *Vertical*
Power:

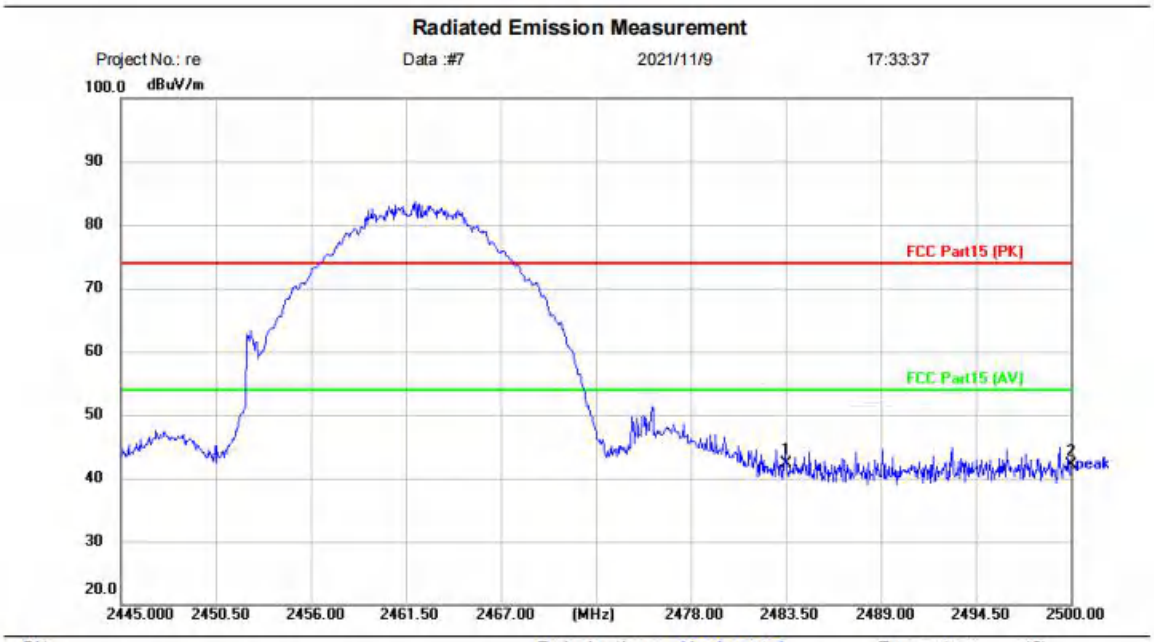
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	45.61	-4.61	41.00	74.00	-33.00	peak	
2	*	2390.000	55.35	-4.27	51.08	74.00	-22.92	peak	

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

Test Result: Pass

[TestMode: TX 11B hihg channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-B-TX-H
Note:

Polarization: *Horizontal*
Power:

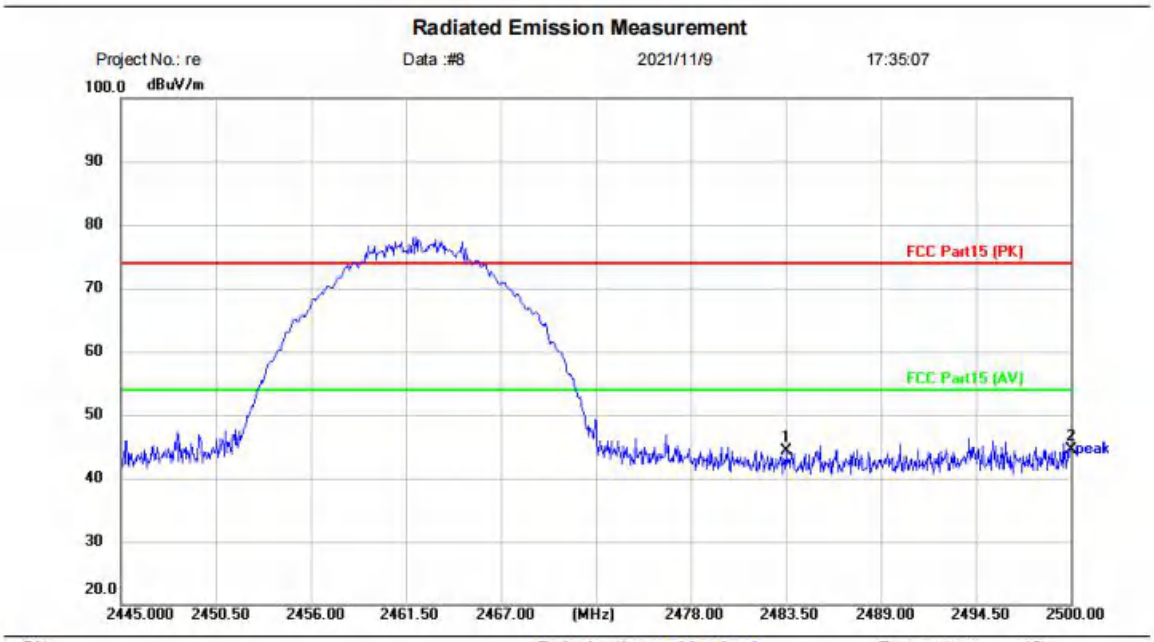
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	46.09	-3.84	42.25	74.00	-31.75	peak	
2		2500.000	45.79	-3.78	42.01	74.00	-31.99	peak	

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

Test Result: Pass

[TestMode: TX 11B hihg channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-B-TX-H
Note:

Polarization: *Vertical*
Power:

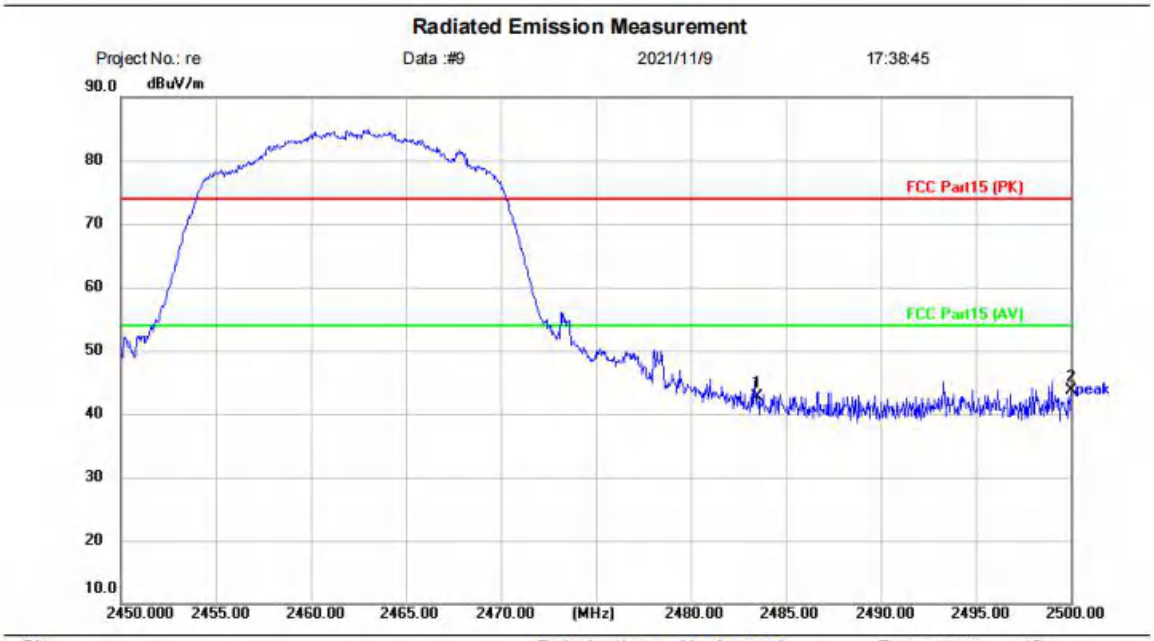
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	48.13	-3.84	44.29	74.00	-29.71	peak	
2	*	2500.000	48.21	-3.78	44.43	74.00	-29.57	peak	

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

Test Result: Pass

[TestMode: TX 11G high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-G-TX-H
Note:

Polarization: *Horizontal*
Power:

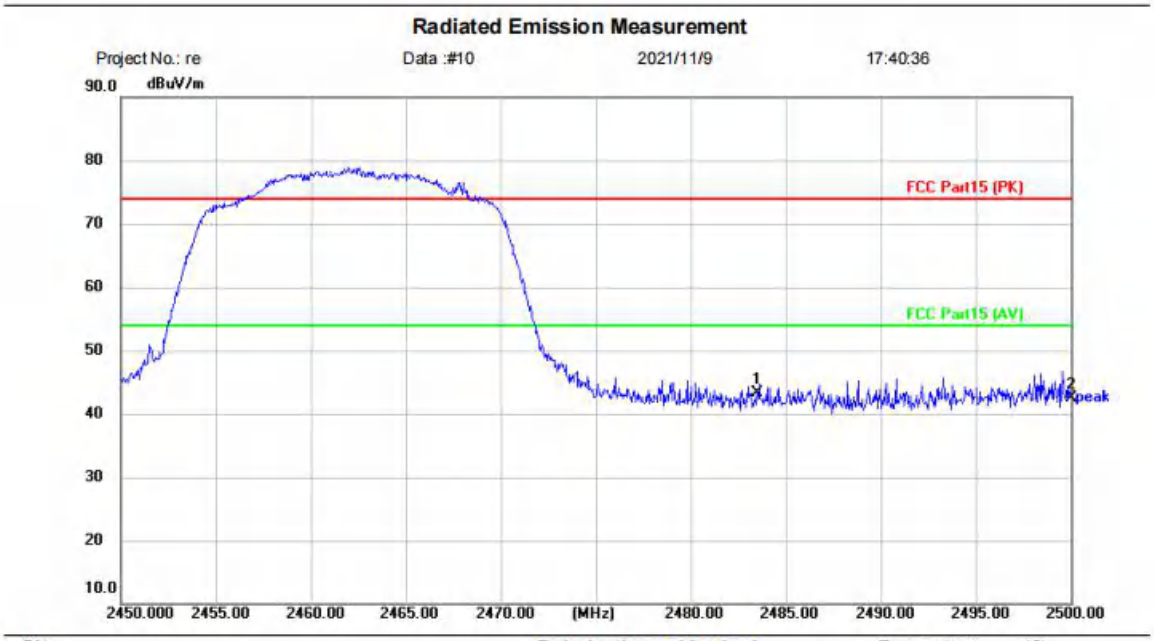
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	46.52	-3.84	42.68	74.00	-31.32	peak	
2	*	2500.000	47.54	-3.78	43.76	74.00	-30.24	peak	

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

Test Result: Pass

[TestMode: TX 11G high channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-G-TX-H
Note:

Polarization: *Vertical*
Power:

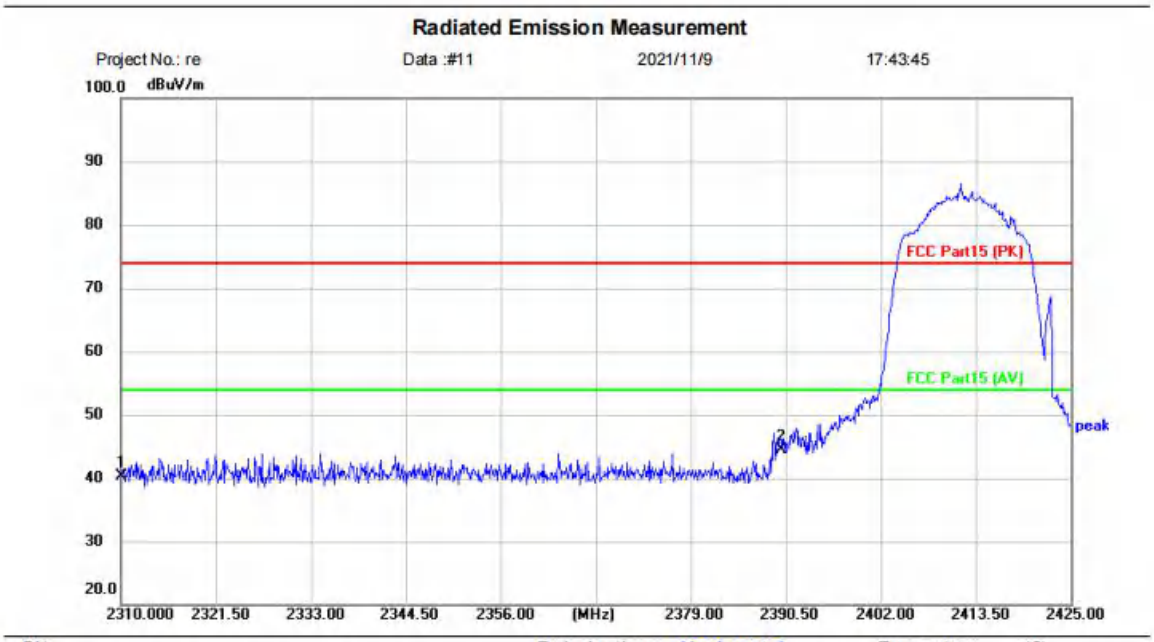
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	47.23	-3.84	43.39	74.00	-30.61	peak	
2		2500.000	46.23	-3.78	42.45	74.00	-31.55	peak	

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

Test Result: Pass

[TestMode: TX 11G low channel]; [Polarity: Horizontal]



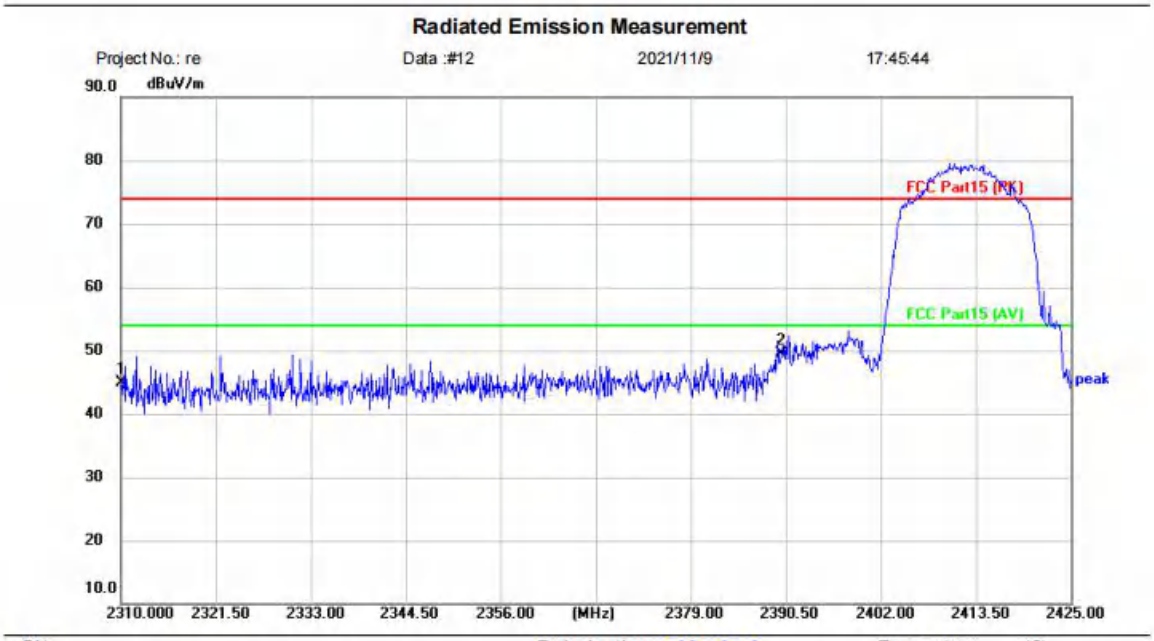
Site
Polarization: *Horizontal*
Temperature: (C)
Limit: FCC Part15 (PK)
Power:
Humidity: %RH
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-G-TX-L
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	44.86	-4.61	40.25	74.00	-33.75	peak	
2	*	2390.000	48.83	-4.27	44.56	74.00	-29.44	peak	

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

Test Result: Pass

[TestMode: TX 11G low channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-G-TX-L
Note:

Polarization: *Vertical*
Power:

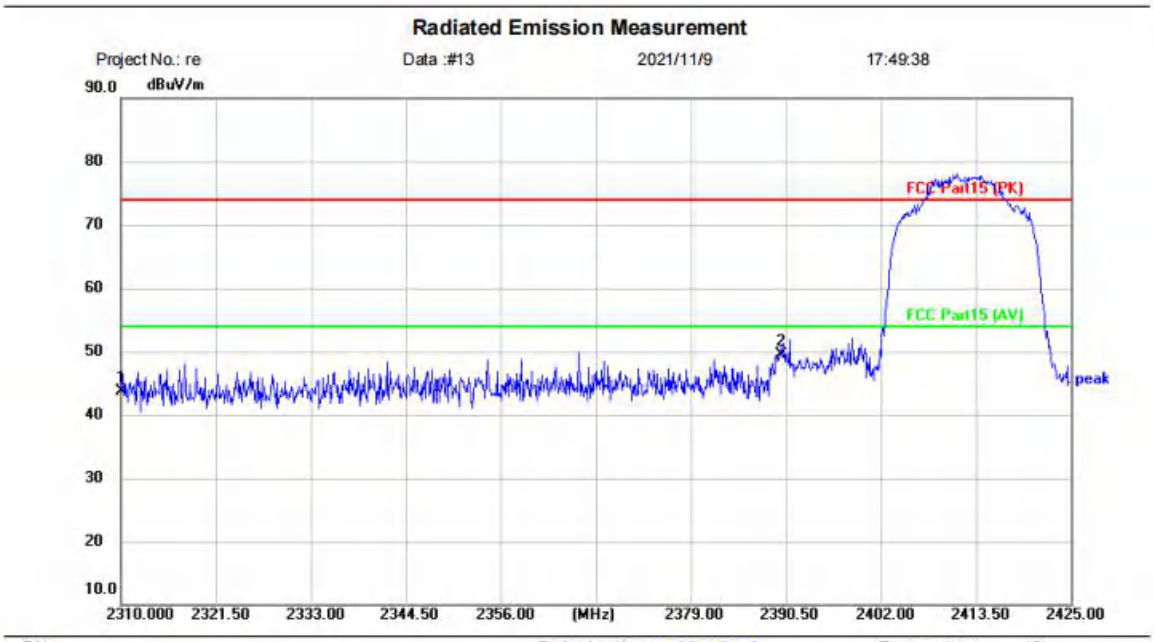
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	49.45	-4.61	44.84	74.00	-29.16	peak	
2	*	2390.000	53.86	-4.27	49.59	74.00	-24.41	peak	

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

Test Result: Pass

[TestMode: TX N20 low channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N20-TX-L
Note:

Polarization: *Vertical*
Power:

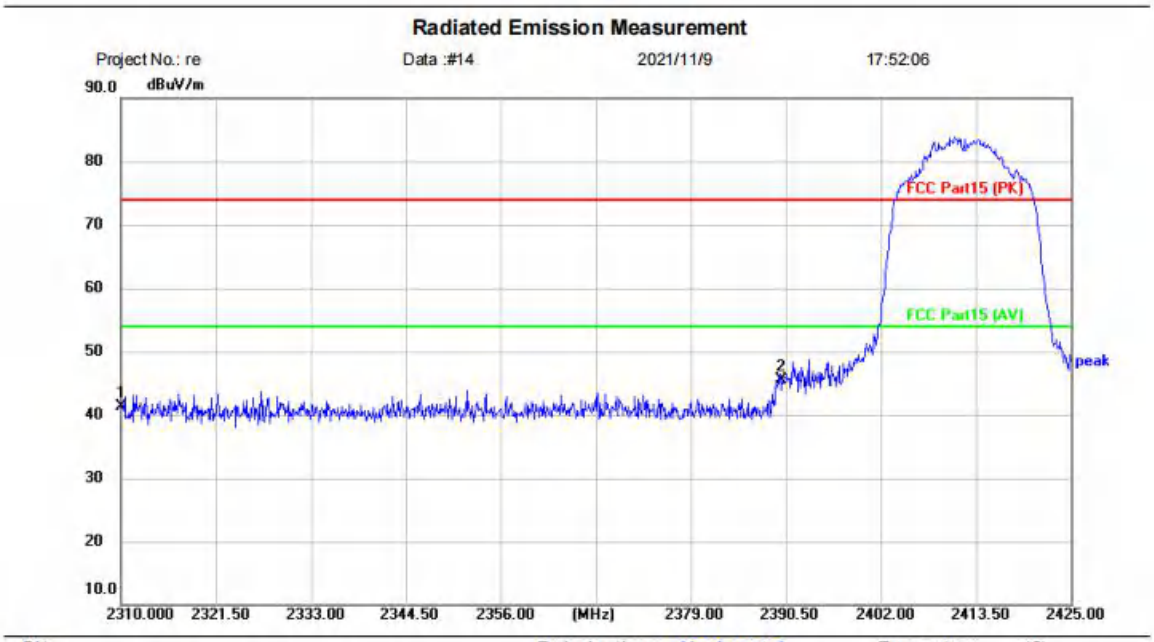
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	48.28	-4.61	43.67	74.00	-30.33	peak	
2	*	2390.000	53.76	-4.27	49.49	74.00	-24.51	peak	

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

Test Result: Pass

[TestMode: TX N20 low channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N20-TX-L
Note:

Polarization: *Horizontal*
Power:

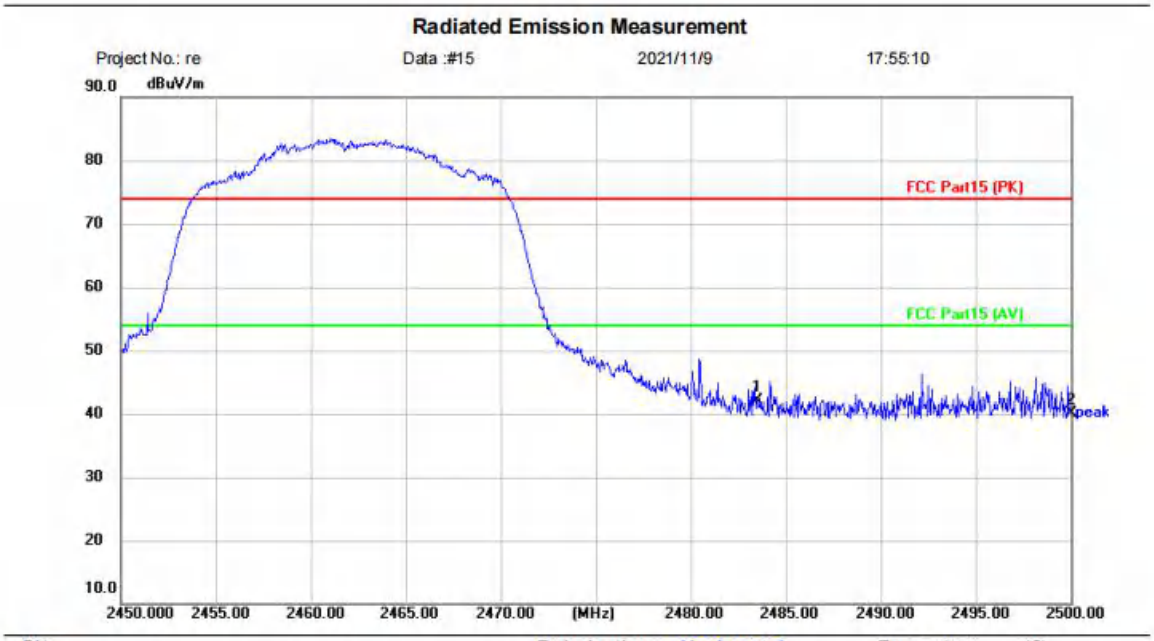
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	45.99	-4.61	41.38	74.00	-32.62	peak	
2	*	2390.000	49.78	-4.27	45.51	74.00	-28.49	peak	

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

Test Result: Pass

[TestMode: TX N20 high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N20-TX-H
Note:

Polarization: *Horizontal*
Power:

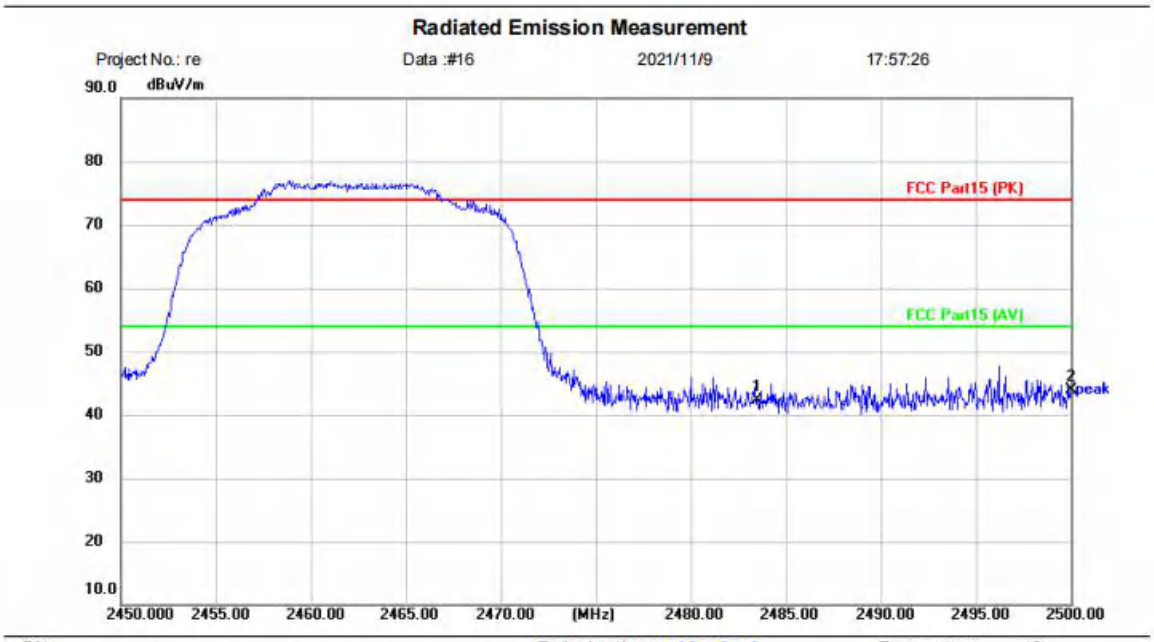
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	45.93	-3.84	42.09	74.00	-31.91	peak	
2		2500.000	43.97	-3.78	40.19	74.00	-33.81	peak	

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

Test Result: Pass

[TestMode: TX N20 high channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N20-TX-H
Note:

Polarization: *Vertical*
Power:

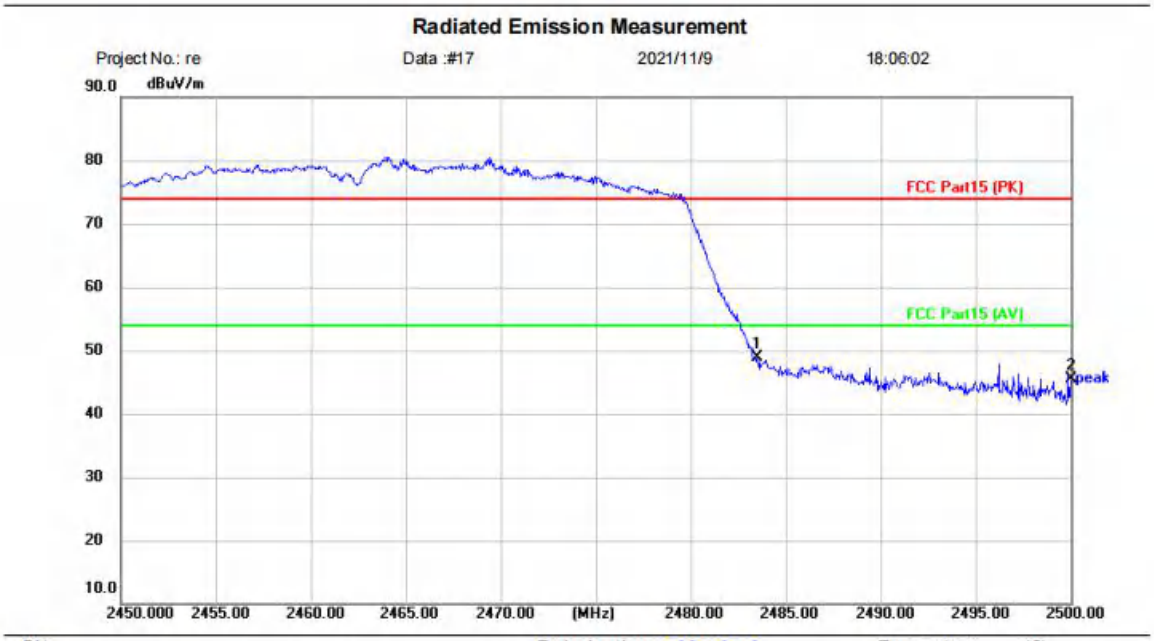
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	46.16	-3.84	42.32	74.00	-31.68	peak	
2	*	2500.000	47.68	-3.78	43.90	74.00	-30.10	peak	

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

Test Result: Pass

[TestMode: TX N40 high channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N40-TX-H
Note:

Polarization: *Vertical*
Power:

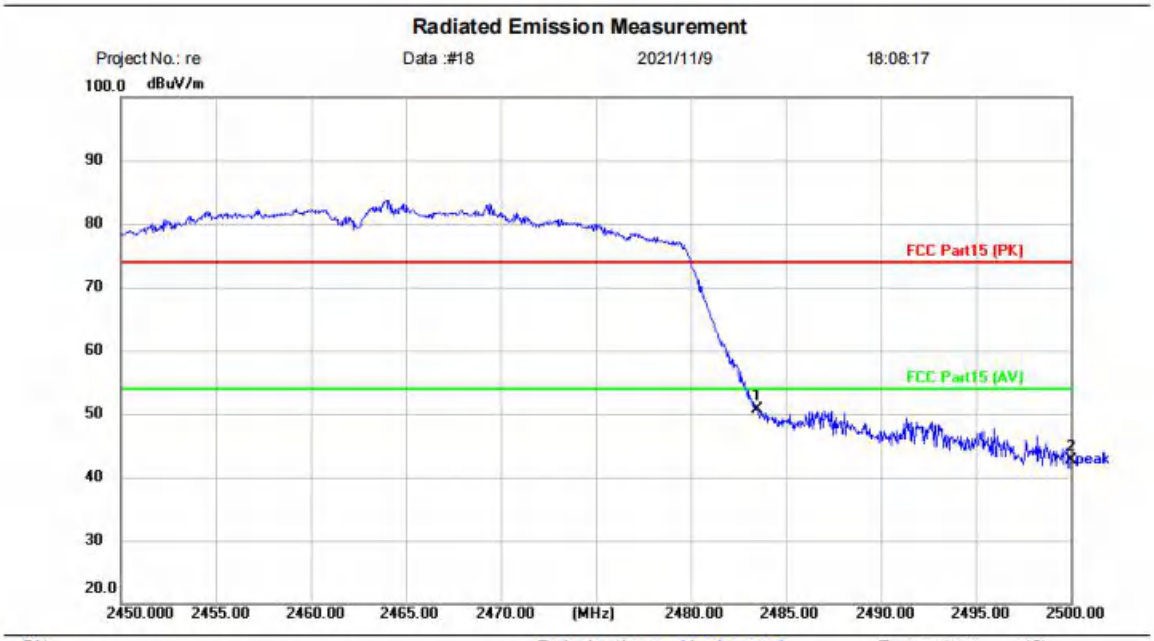
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	52.70	-3.84	48.86	74.00	-25.14	peak	
2		2500.000	49.28	-3.78	45.50	74.00	-28.50	peak	

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

Test Result: Pass

[TestMode: TX N40 high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N40-TX-H
Note:

Polarization: *Horizontal*
Power:

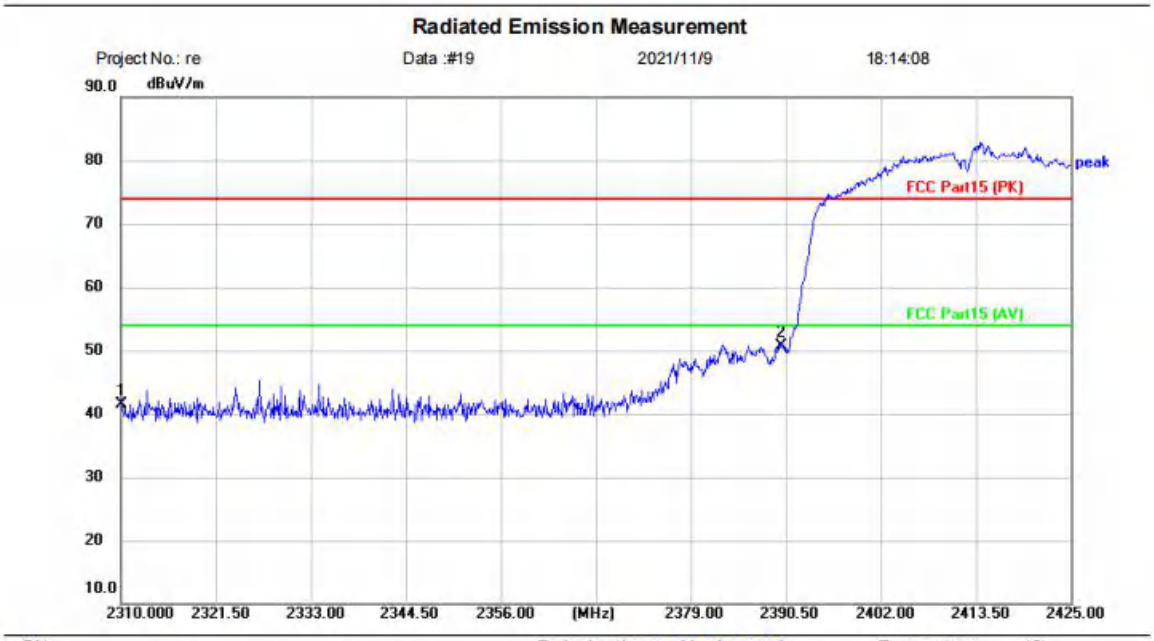
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	54.56	-3.84	50.72	74.00	-23.28	peak	
2		2500.000	46.45	-3.78	42.67	74.00	-31.33	peak	

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

Test Result: Pass

[TestMode: TX N40 low channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N40-TX-L
Note:

Polarization: *Horizontal*
Power:

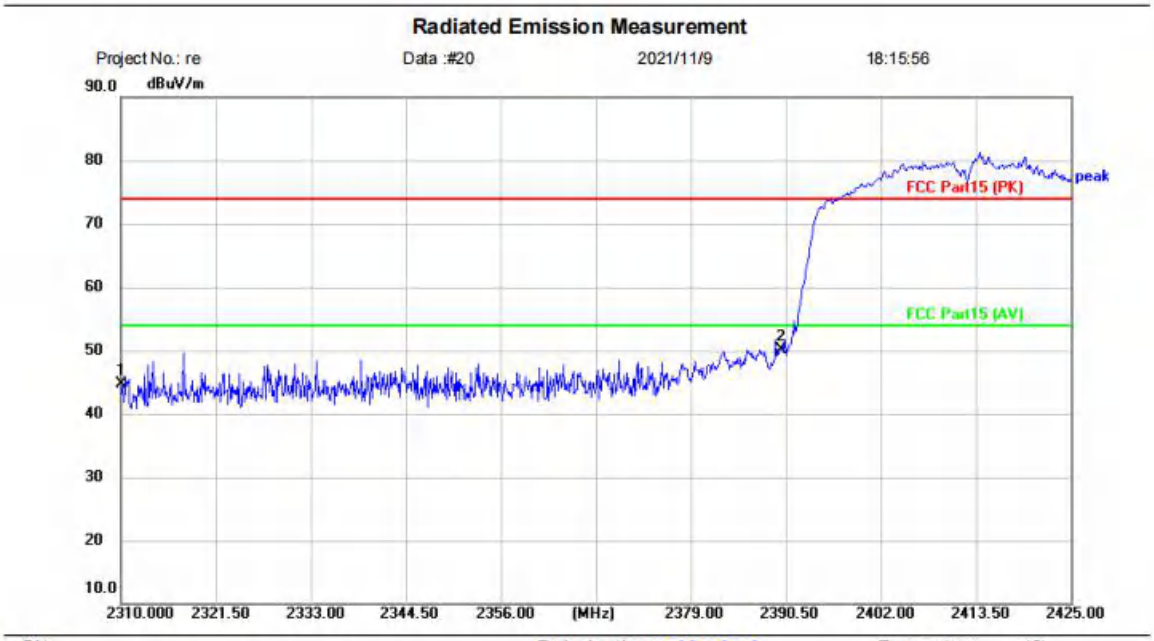
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	46.13	-4.61	41.52	74.00	-32.48	peak	
2	*	2390.000	55.05	-4.27	50.78	74.00	-23.22	peak	

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

Test Result: Pass

[TestMode: TX N40 low channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4G-N40-TX-L
Note:

Polarization: *Vertical*
Power:

Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	49.38	-4.61	44.77	74.00	-29.23	peak	
2	*	2390.000	54.40	-4.27	50.13	74.00	-23.87	peak	

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

Test Result: Pass

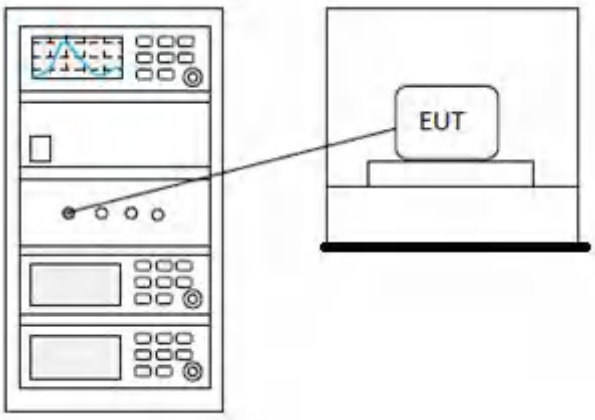
13 CONDUCTED SPURIOUS EMISSIONS

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.6 & Section 11.11
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

13.1 LIMITS

Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, 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) (see §15.205(c)).

13.2 BLOCK DIAGRAM OF TEST SETUP



13.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

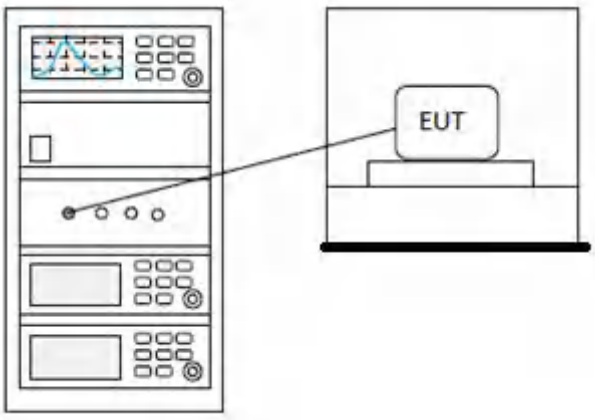
14 CONDUCTED BAND EDGES MEASUREMENT

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

14.1 LIMITS

Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, 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) (see §15.205(c)).

14.2 BLOCK DIAGRAM OF TEST SETUP



14.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

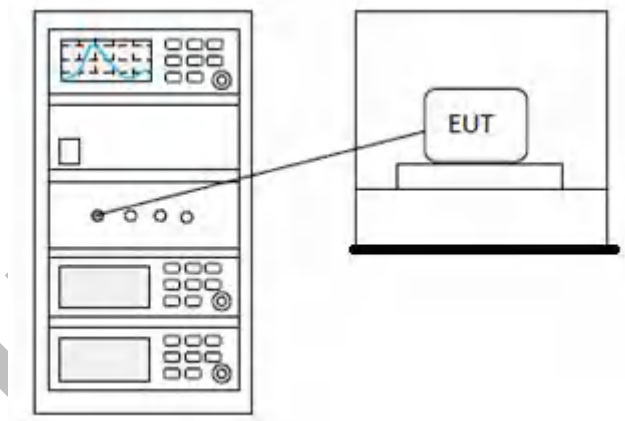
15 MINIMUM 6DB BANDWIDTH

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 11.8.1
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

15.1 LIMITS

Limit:	≥500 kHz

15.2 BLOCK DIAGRAM OF TEST SETUP



15.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

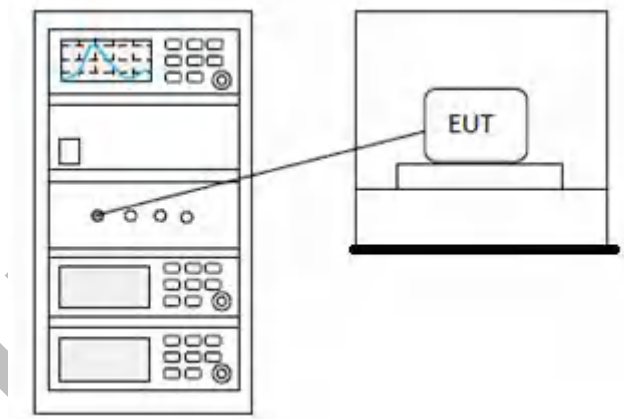
16 POWER SPECTRUM DENSITY

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 11.10.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

16.1 LIMITS

Limit:	≤8dBm in any 3 kHz band during any time interval of continuous transmission

16.2 BLOCK DIAGRAM OF TEST SETUP



16.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

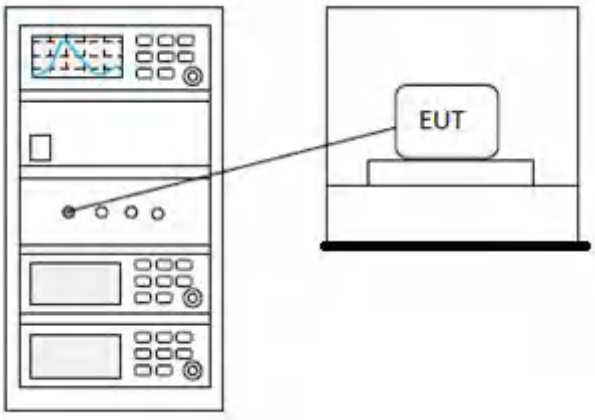
17 CONDUCTED PEAK OUTPUT POWER

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.5 & Section 11.9.1
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

17.1 LIMITS

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥50 hopping channels
	0.25 for 25≤ hopping channels <50
	1 for digital modulation
2400-2483.5	1 for ≥75 non-overlapping hopping channels
	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

17.2 BLOCK DIAGRAM OF TEST SETUP



17.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

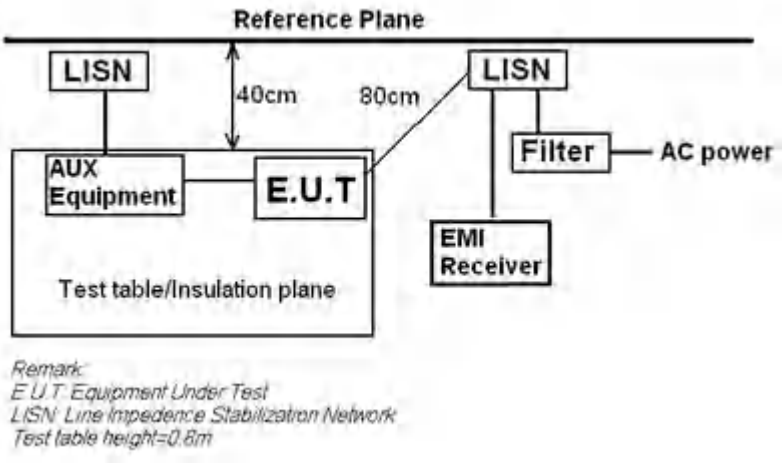
18 CONDUCTED EMISSIONS AT AC POWER LINE (150KHZ-30MHZ)

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

18.1 LIMITS

Frequency of emission(MHz)	Conducted limit(dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
*Decreases with the logarithm of the frequency.		

18.2 BLOCK DIAGRAM OF TEST SETUP



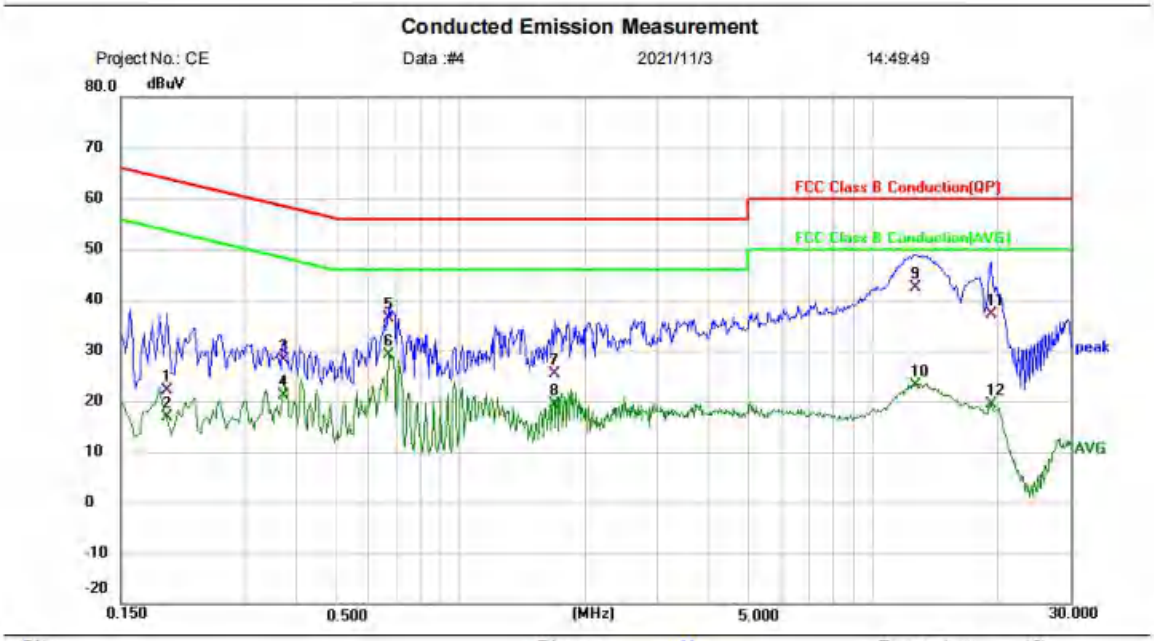
18.3 PROCEDURE

1) The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50H + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.
Remark: LISN=Read Level+ Cable Loss+ LISN Factor

18.1 TEST DATA

[TestMode: TX]; [Line: Nutral] ;[Power:AC120V/60Hz]



Site
Limit: FCC Class B Conduction(QP)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4GWIFI mode
Note:

Phase: N
Power:

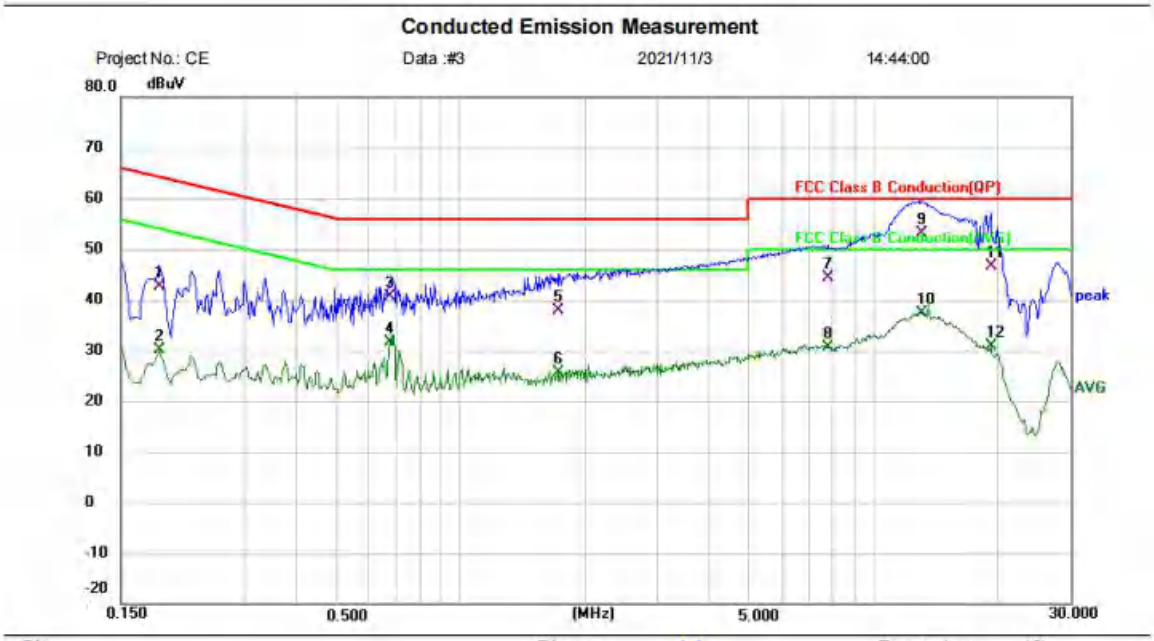
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1940	12.03	10.13	22.16	63.86	-41.70	QP	
2		0.1940	6.63	10.13	16.76	53.86	-37.10	AVG	
3		0.3700	18.47	9.78	28.25	58.50	-30.25	QP	
4		0.3700	11.34	9.78	21.12	48.50	-27.38	AVG	
5		0.6700	26.47	9.82	36.29	56.00	-19.71	QP	
6	*	0.6700	19.19	9.82	29.01	46.00	-16.99	AVG	
7		1.6820	15.55	9.85	25.40	56.00	-30.60	QP	
8		1.6820	9.46	9.85	19.31	46.00	-26.69	AVG	
9		12.7100	32.18	10.25	42.43	60.00	-17.57	QP	
10		12.7100	13.00	10.25	23.25	50.00	-26.75	AVG	
11		19.2420	26.79	10.41	37.20	60.00	-22.80	QP	
12		19.2420	9.09	10.41	19.50	50.00	-30.50	AVG	

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

Test Result: Pass

[TestMode: TX]; [Line: Line] ;[Power:AC120V/60Hz]



Site
Limit: FCC Class B Conduction(QP)
EUT: SmartGarden Spotlight
M/N: 50454
Mode: 2.4GWIFI mode
Note:

Phase: L1
Power:

Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1860	32.50	10.20	42.70	64.21	-21.51	QP	
2		0.1860	19.83	10.20	30.03	54.21	-24.18	AVG	
3		0.6740	30.82	9.89	40.71	56.00	-15.29	QP	
4		0.6740	21.63	9.89	31.52	46.00	-14.48	AVG	
5		1.7220	27.93	9.93	37.86	56.00	-18.14	QP	
6		1.7220	15.65	9.93	25.58	46.00	-20.42	AVG	
7		7.7620	34.34	10.10	44.44	60.00	-15.56	QP	
8		7.7620	20.62	10.10	30.72	50.00	-19.28	AVG	
9	*	13.0980	42.95	10.26	53.21	60.00	-6.79	QP	
10		13.0980	27.18	10.26	37.44	50.00	-12.56	AVG	
11		19.2660	36.15	10.42	46.57	60.00	-13.43	QP	
12		19.2660	20.43	10.42	30.85	50.00	-19.15	AVG	

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

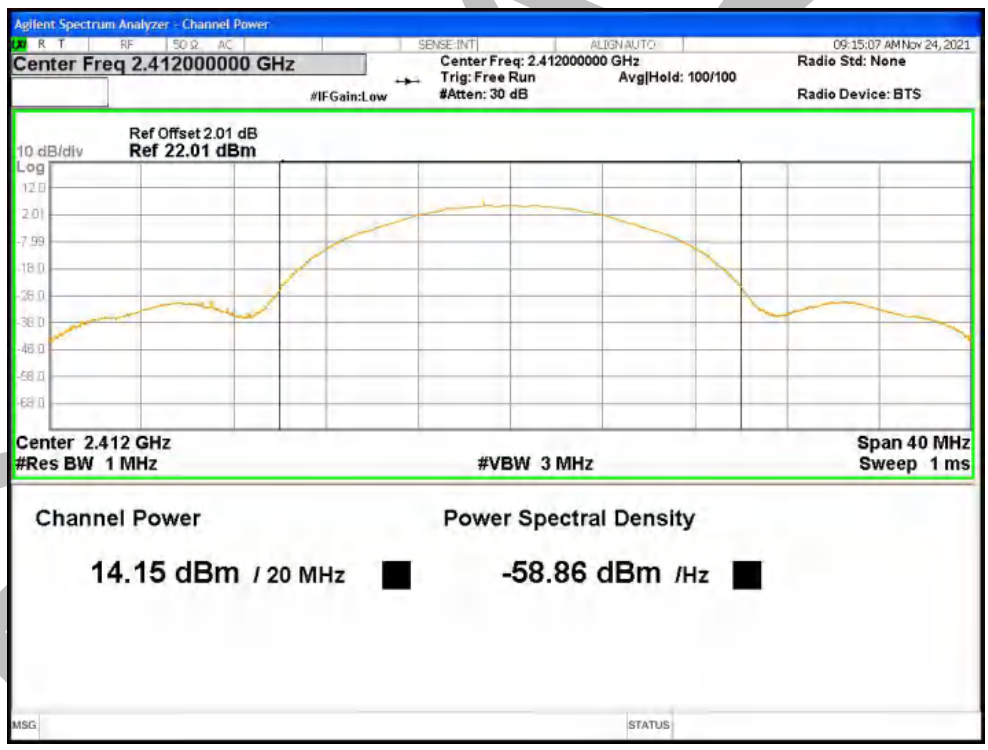
Test Result: Pass

19 APPENDIX1

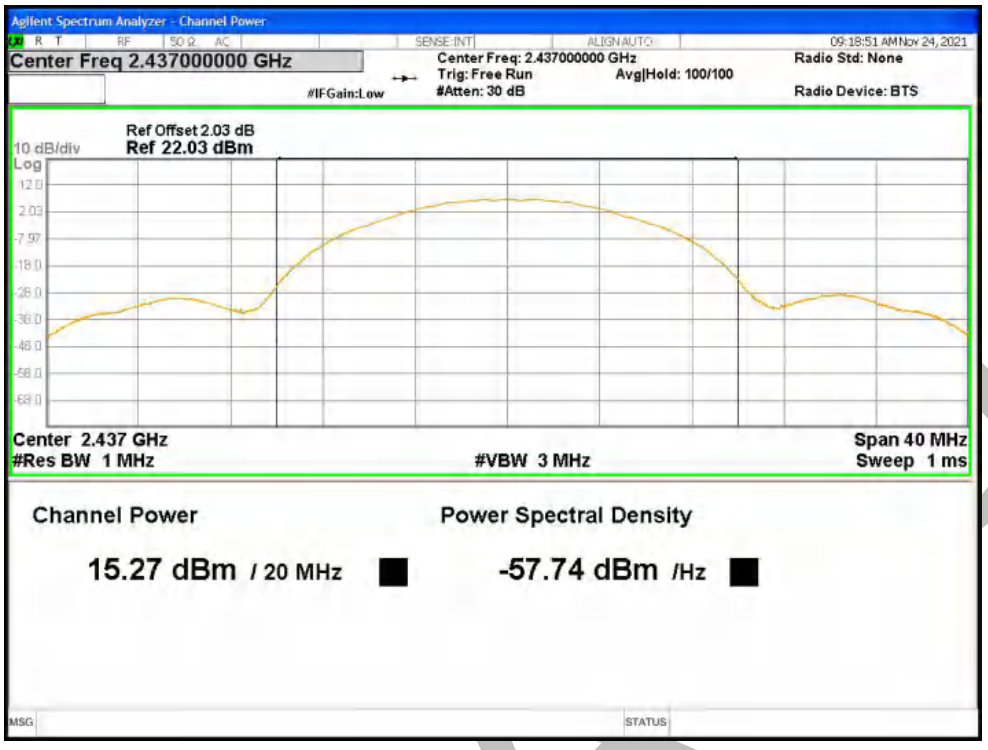
Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	14.145	30	Pass
NVNT	b	2437	Ant1	15.271	30	Pass
NVNT	b	2462	Ant1	15.211	30	Pass
NVNT	g	2412	Ant1	18.328	30	Pass
NVNT	g	2437	Ant1	19.328	30	Pass
NVNT	g	2462	Ant1	18.703	30	Pass
NVNT	n20	2412	Ant1	16.6	30	Pass
NVNT	n20	2437	Ant1	17.637	30	Pass
NVNT	n20	2462	Ant1	17.129	30	Pass
NVNT	n40	2422	Ant1	17.149	30	Pass
NVNT	n40	2437	Ant1	17.115	30	Pass
NVNT	n40	2452	Ant1	17.094	30	Pass

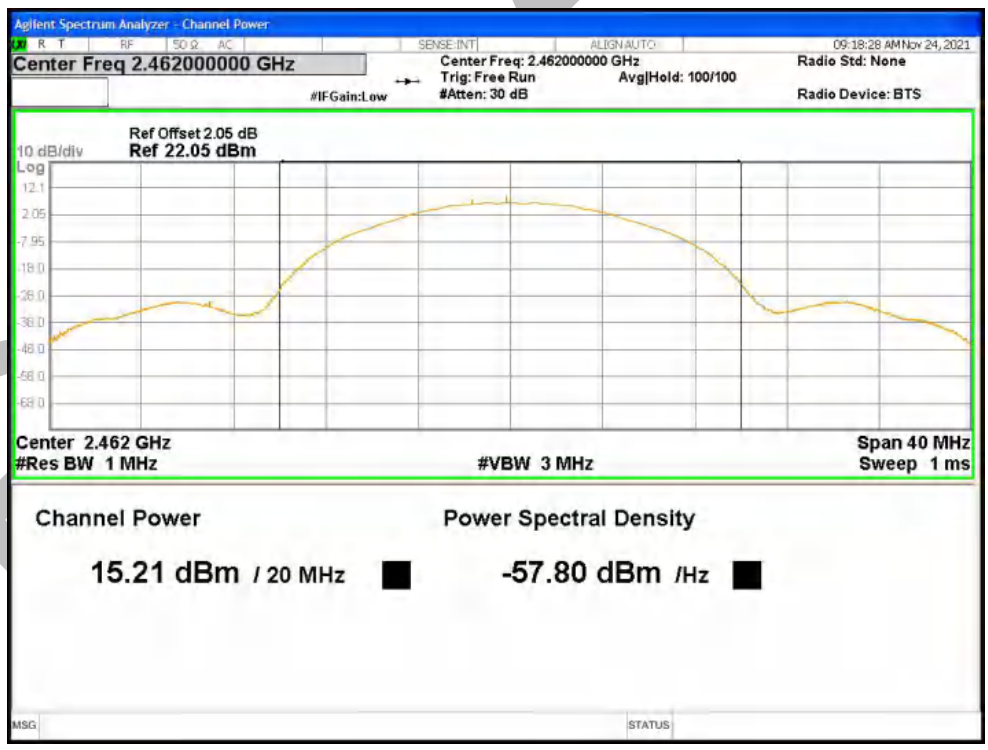
Power NVNT b 2412MHz Ant1



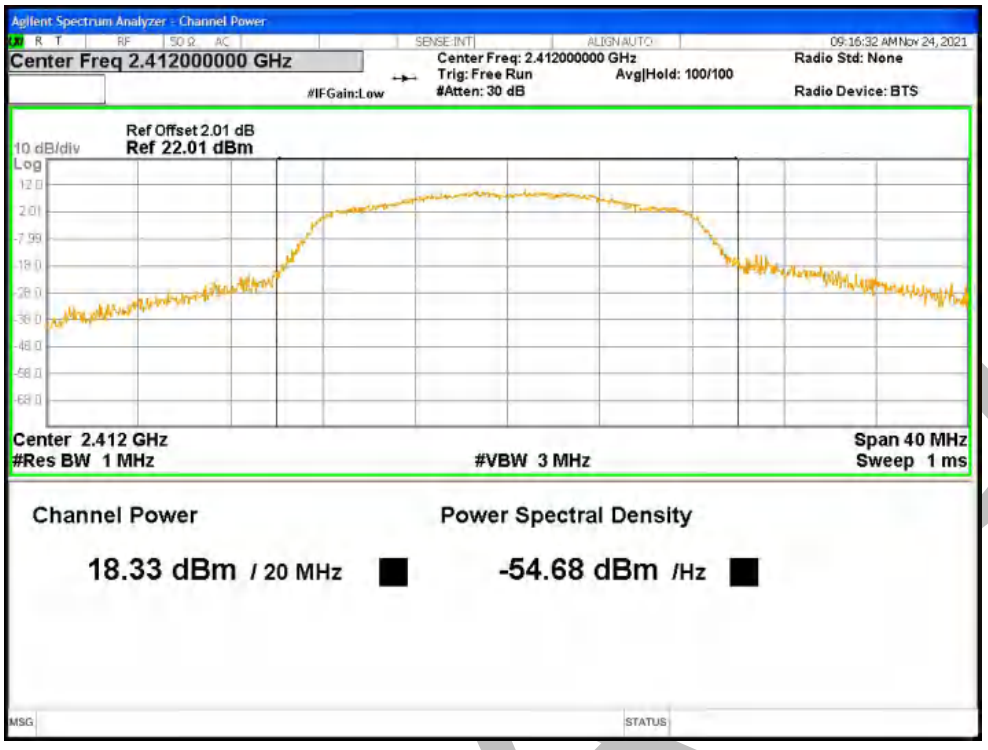
Power NVNT b 2437MHz Ant1



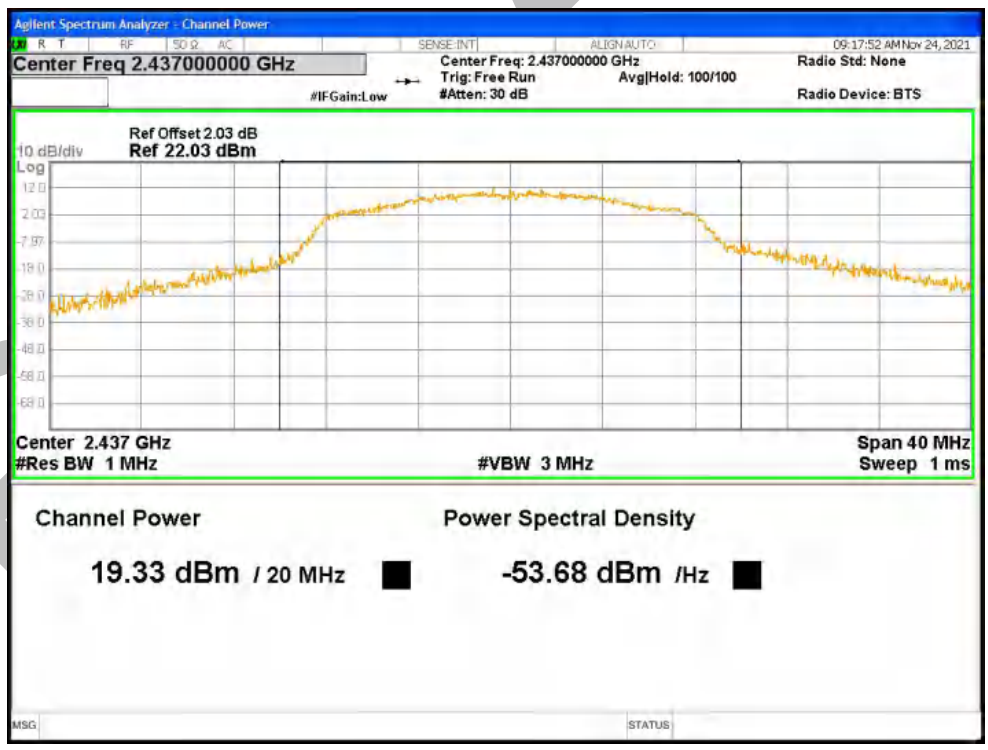
Power NVNT b 2462MHz Ant1



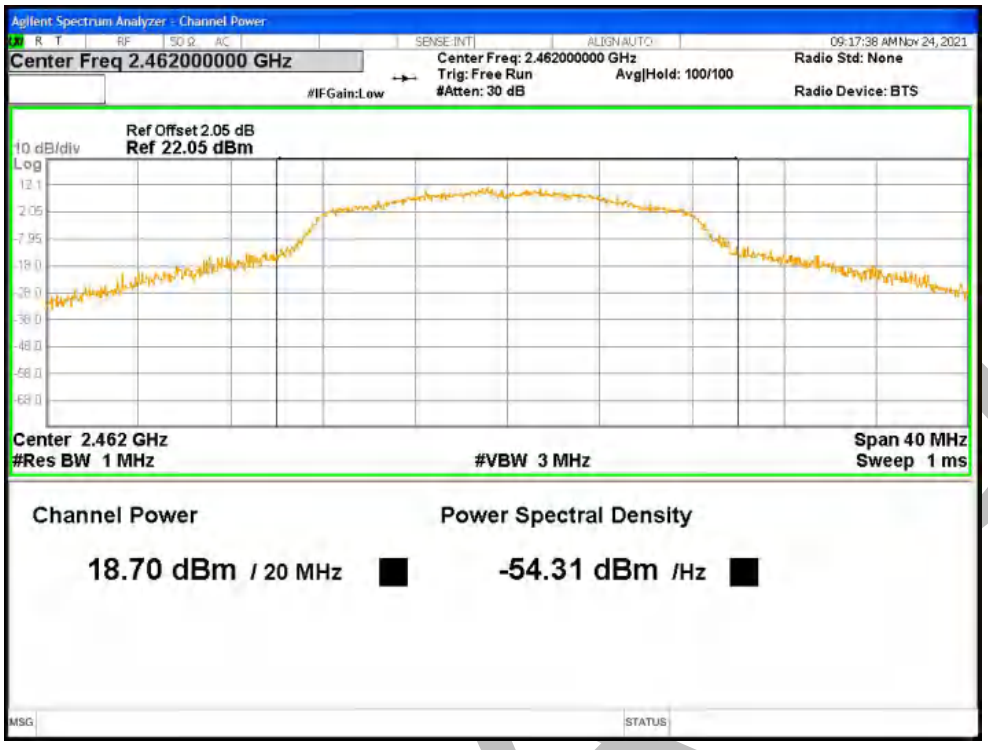
Power NVNT g 2412MHz Ant1



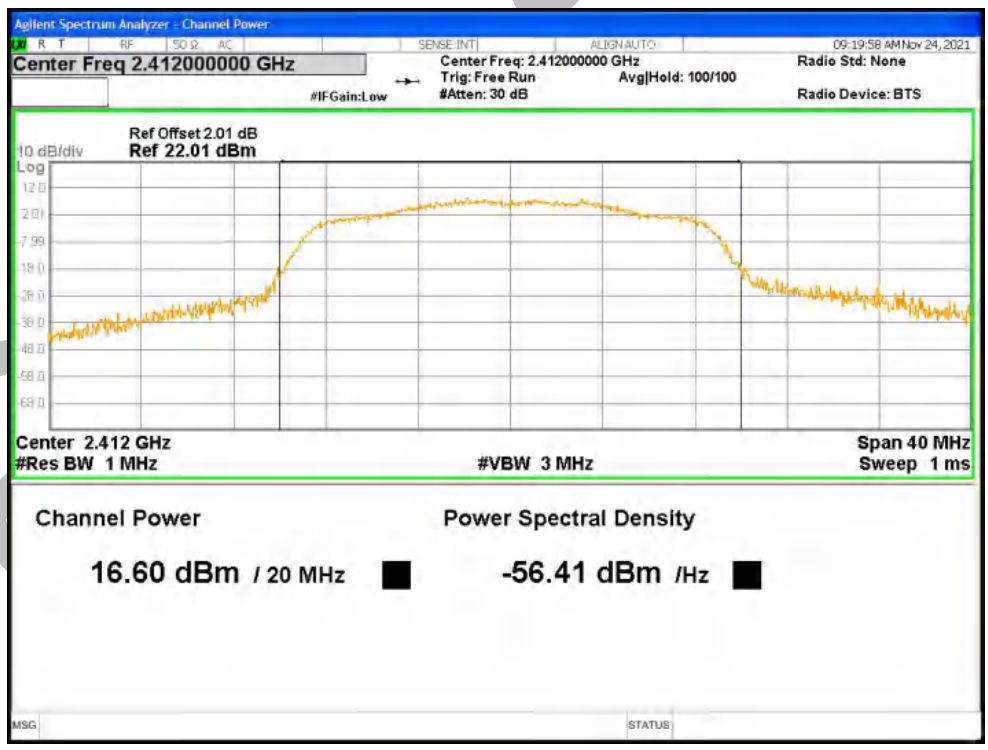
Power NVNT g 2437MHz Ant1



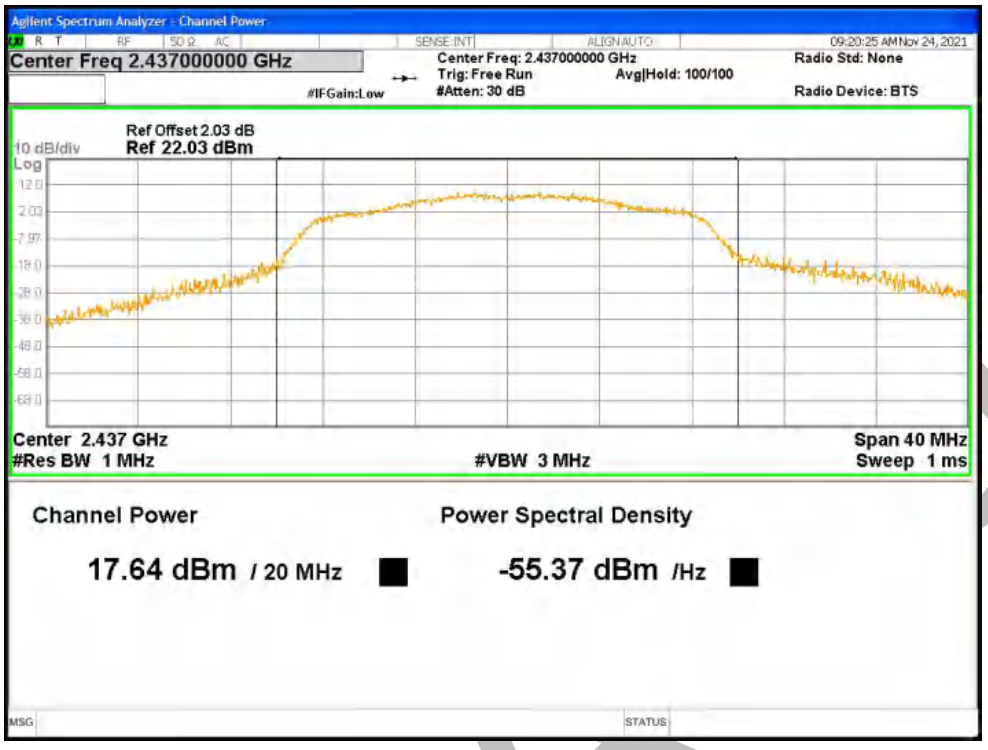
Power NVNT g 2462MHz Ant1



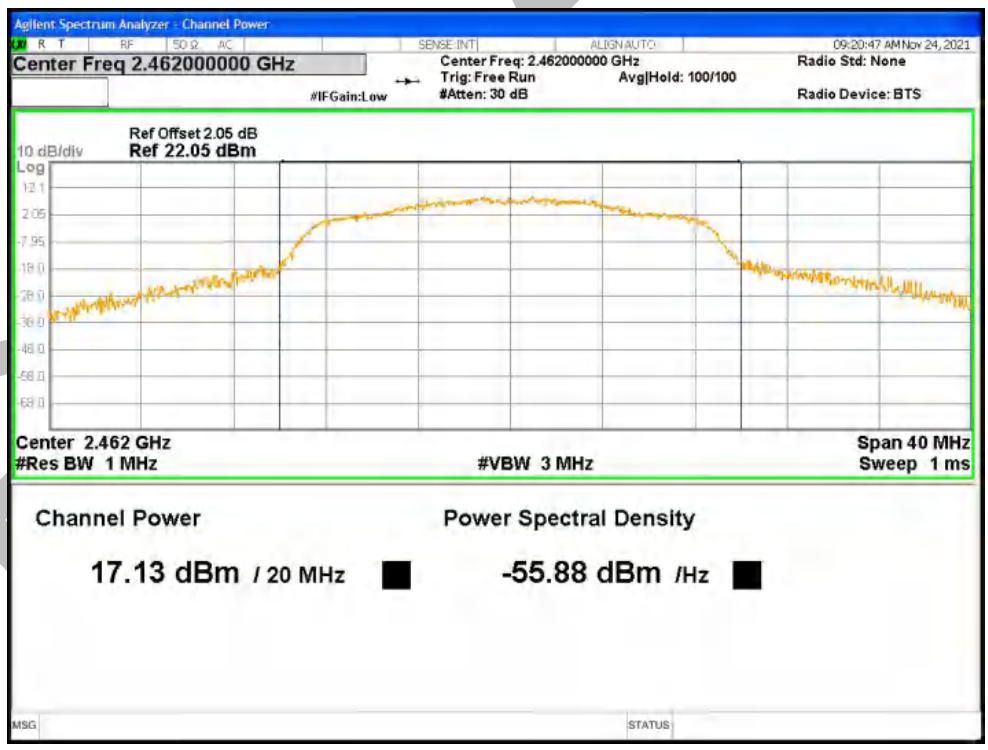
Power NVNT n20 2412MHz Ant1



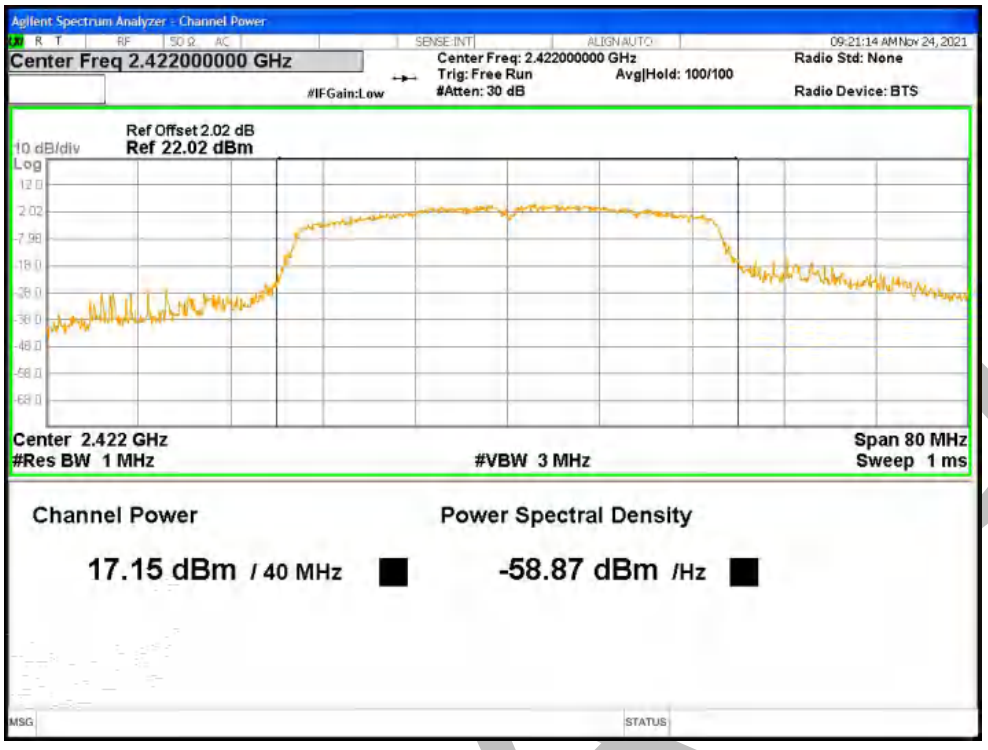
Power NVNT n20 2437MHz Ant1



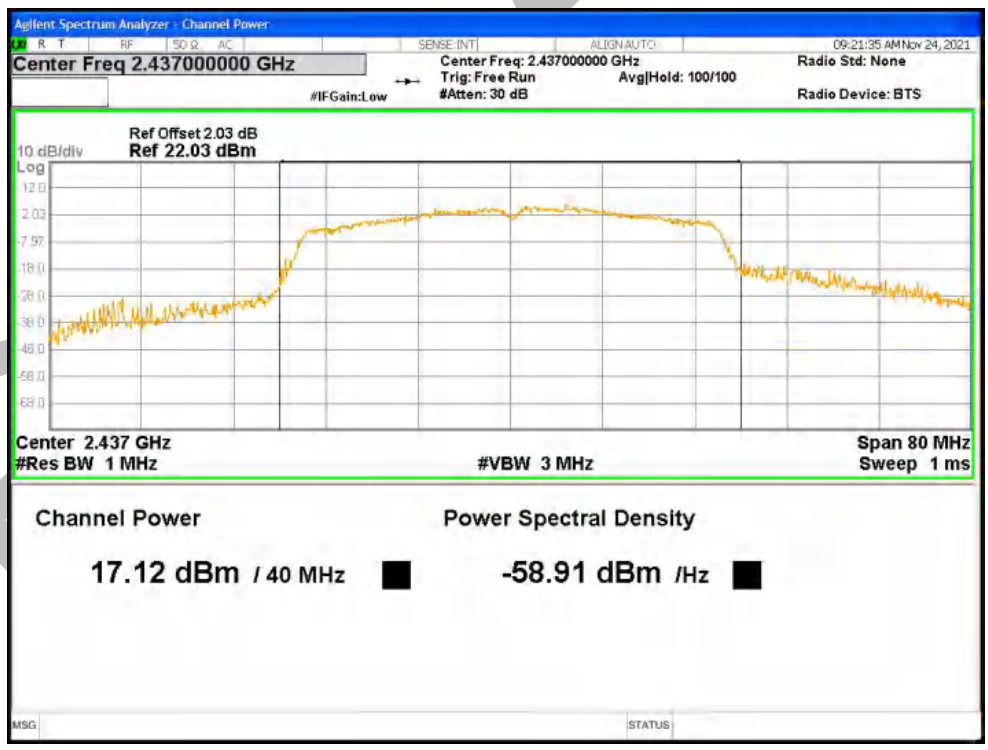
Power NVNT n20 2462MHz Ant1



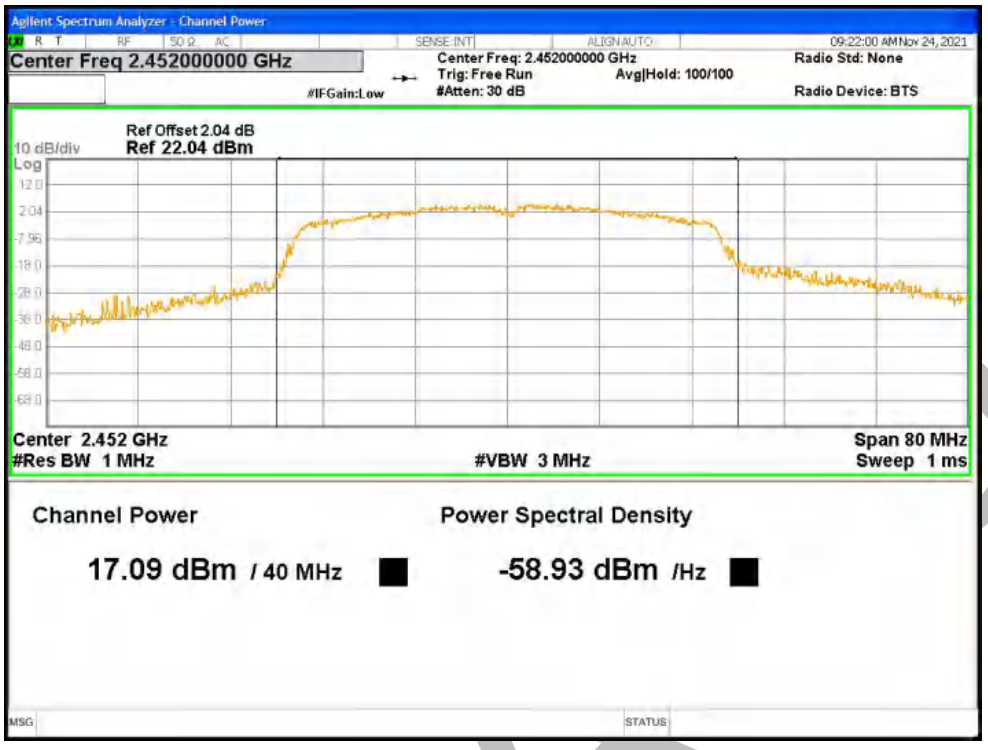
Power NVNT n40 2422MHz Ant1



Power NVNT n40 2437MHz Ant1



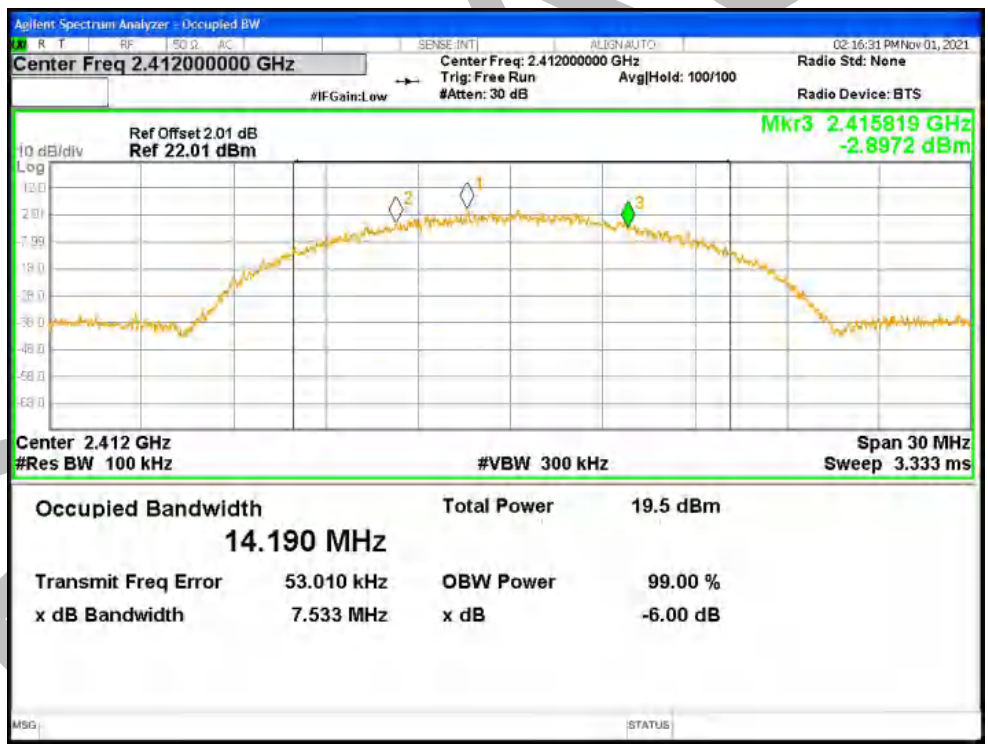
Power NVNT n40 2452MHz Ant1


Agilent Spectrum Analyzer - Channel Power
09:22:00 AM Nov 24, 2021
Center Freq 2.452000000 GHz
Center Freq: 2.452000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
Ref Offset 2.04 dB
10 dB/div
Ref 22.04 dBm
Log
Center 2.452 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 80 MHz
Sweep 1 ms
Channel Power
17.09 dBm / 40 MHz
Power Spectral Density
-58.93 dBm /Hz
MSG
STATUS

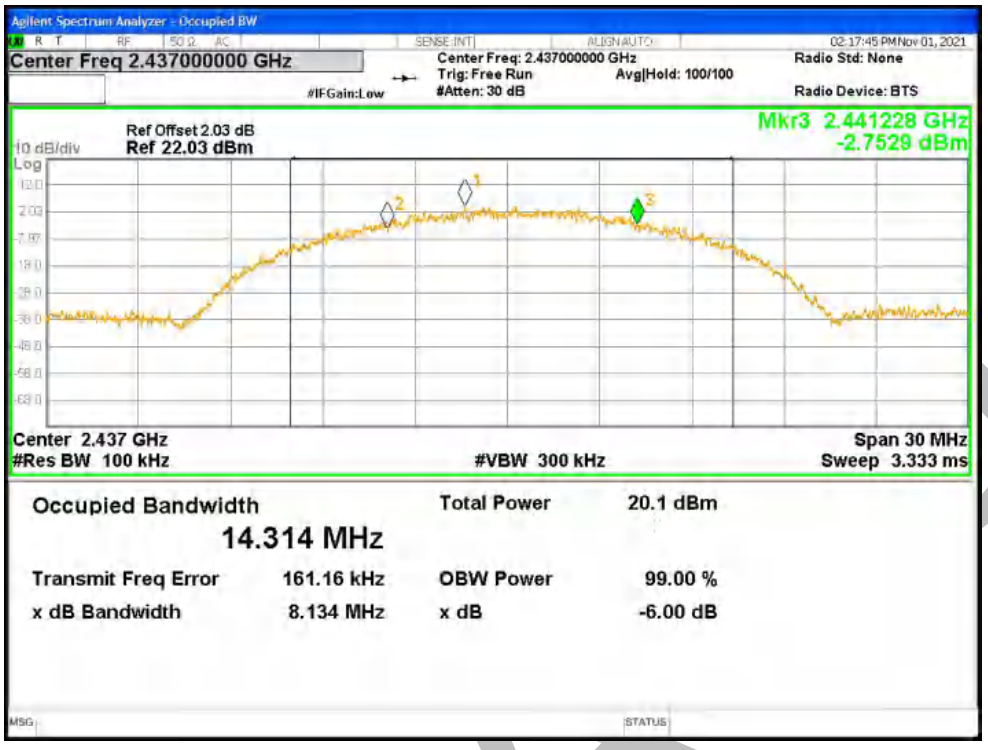
-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	7.533	0.5	Pass
NVNT	b	2437	Ant1	8.134	0.5	Pass
NVNT	b	2462	Ant1	9.446	0.5	Pass
NVNT	g	2412	Ant1	15.713	0.5	Pass
NVNT	g	2437	Ant1	15.728	0.5	Pass
NVNT	g	2462	Ant1	16.115	0.5	Pass
NVNT	n20	2412	Ant1	15.109	0.5	Pass
NVNT	n20	2437	Ant1	15.11	0.5	Pass
NVNT	n20	2462	Ant1	15.151	0.5	Pass
NVNT	n40	2422	Ant1	35.15	0.5	Pass
NVNT	n40	2437	Ant1	35.128	0.5	Pass
NVNT	n40	2452	Ant1	35.131	0.5	Pass

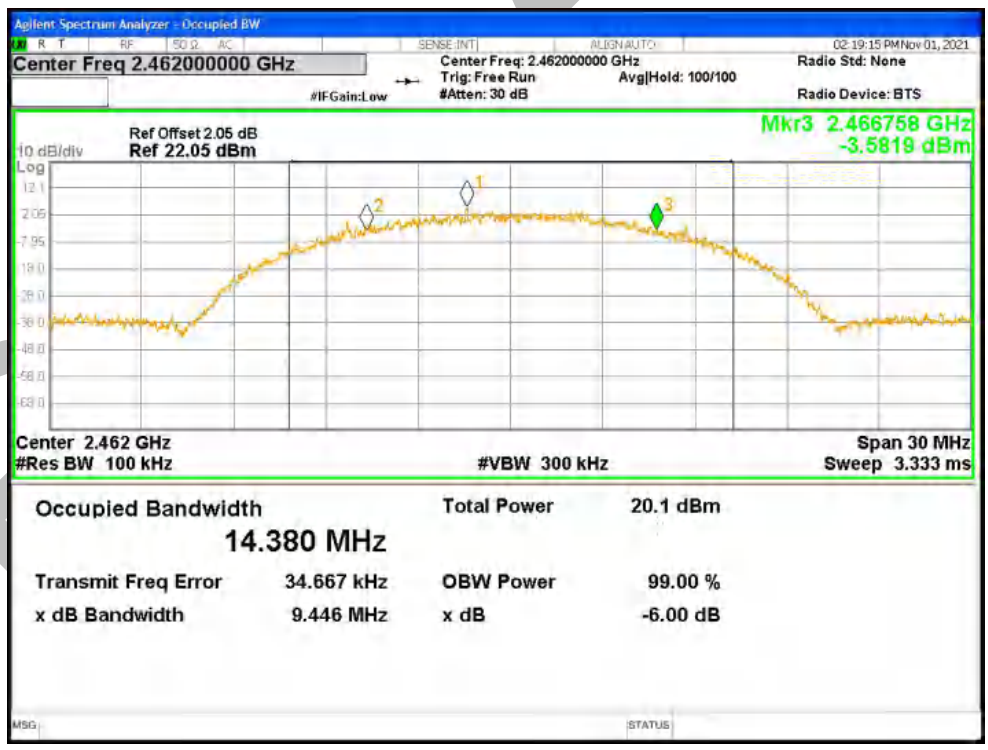
-6dB Bandwidth NVNT b 2412MHz Ant1



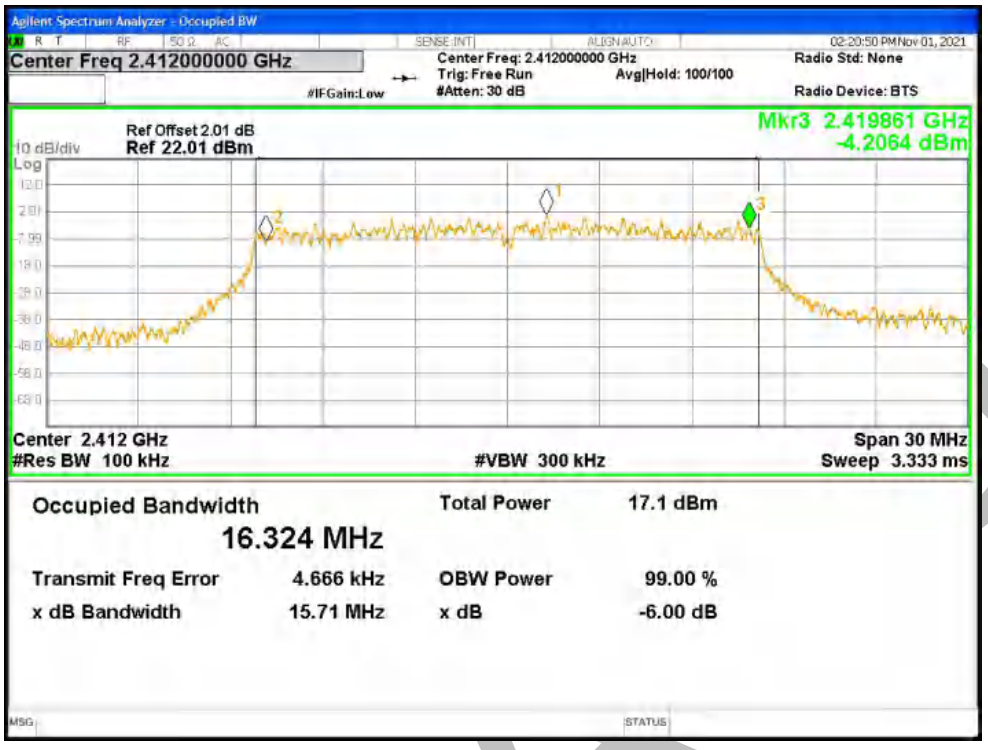
-6dB Bandwidth NVNT b 2437MHz Ant1



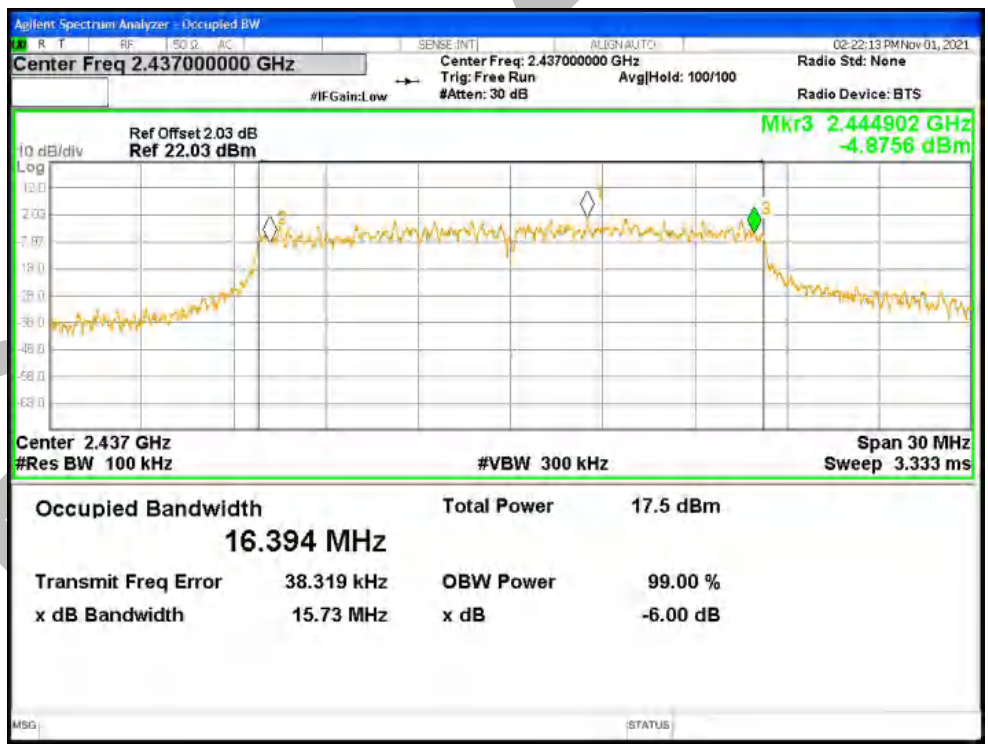
-6dB Bandwidth NVNT b 2462MHz Ant1



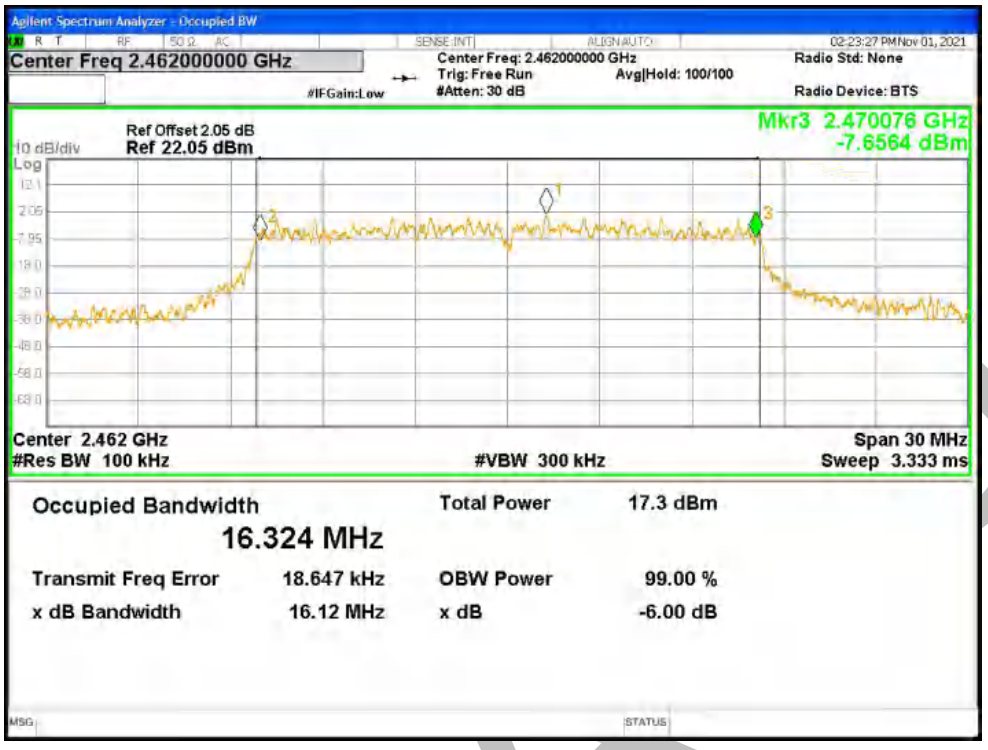
-6dB Bandwidth NVNT g 2412MHz Ant1



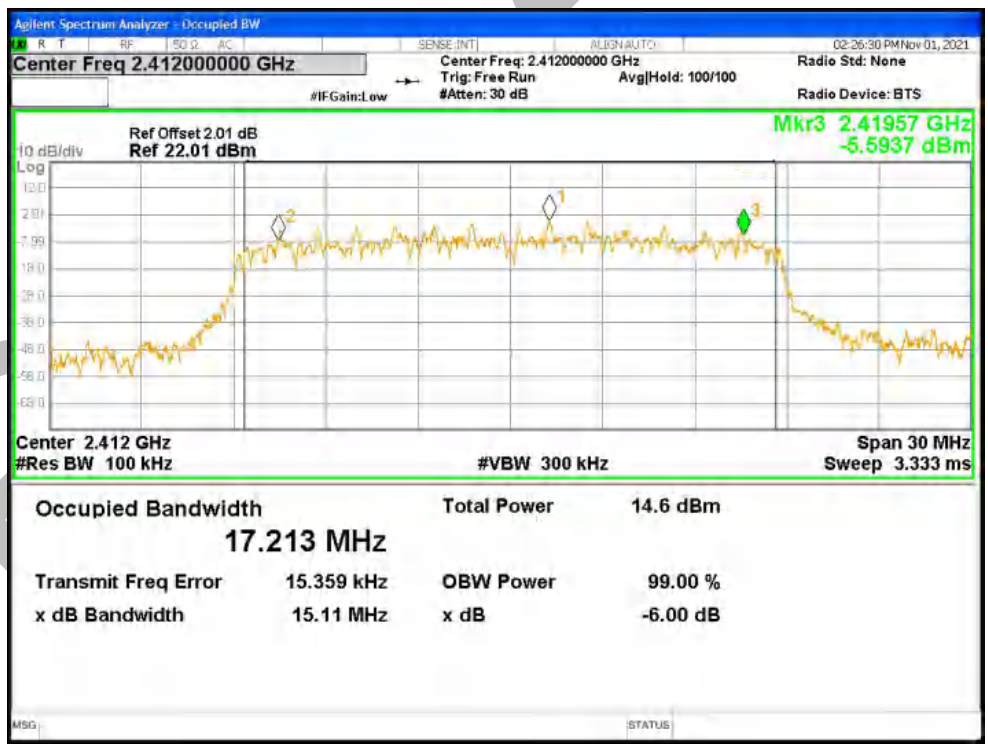
-6dB Bandwidth NVNT g 2437MHz Ant1



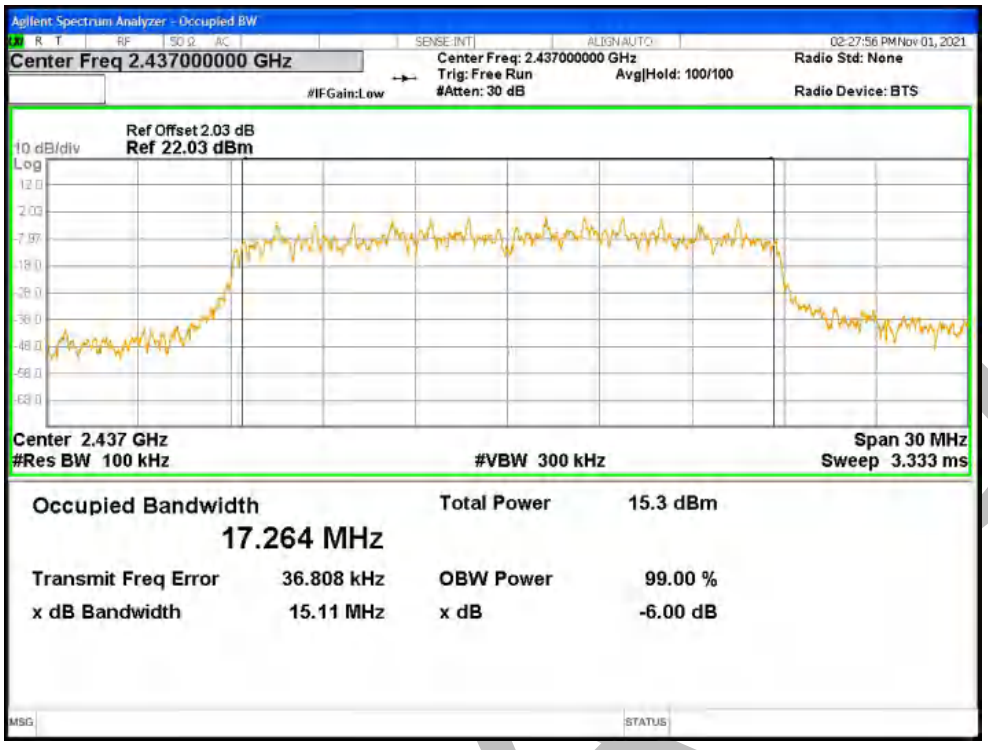
-6dB Bandwidth NVNT g 2462MHz Ant1



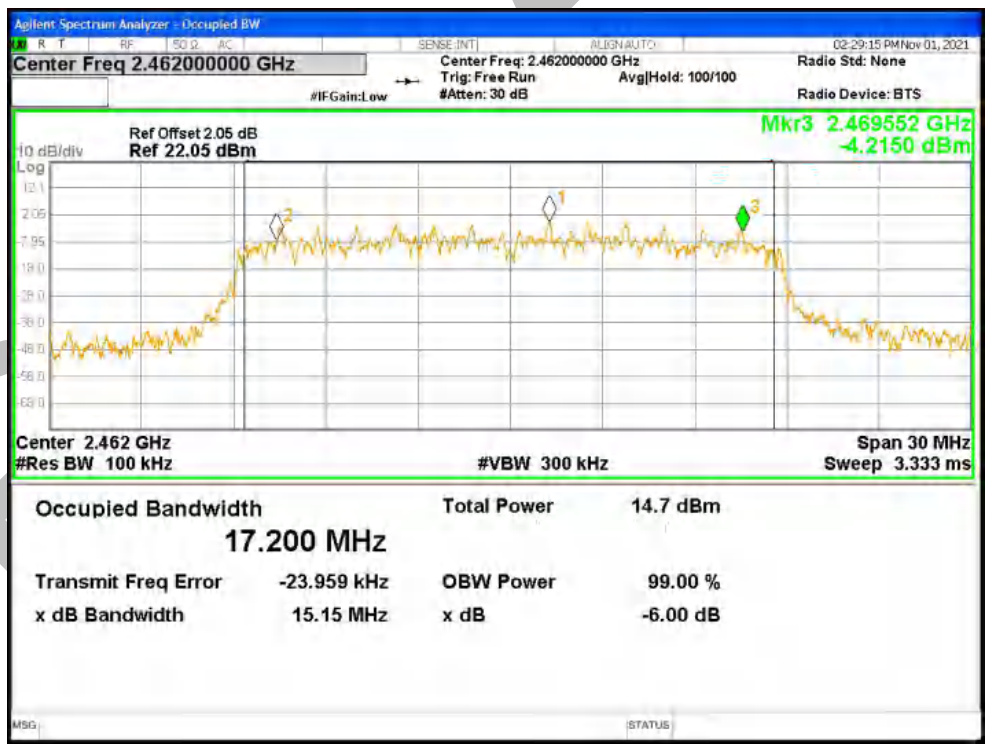
-6dB Bandwidth NVNT n20 2412MHz Ant1



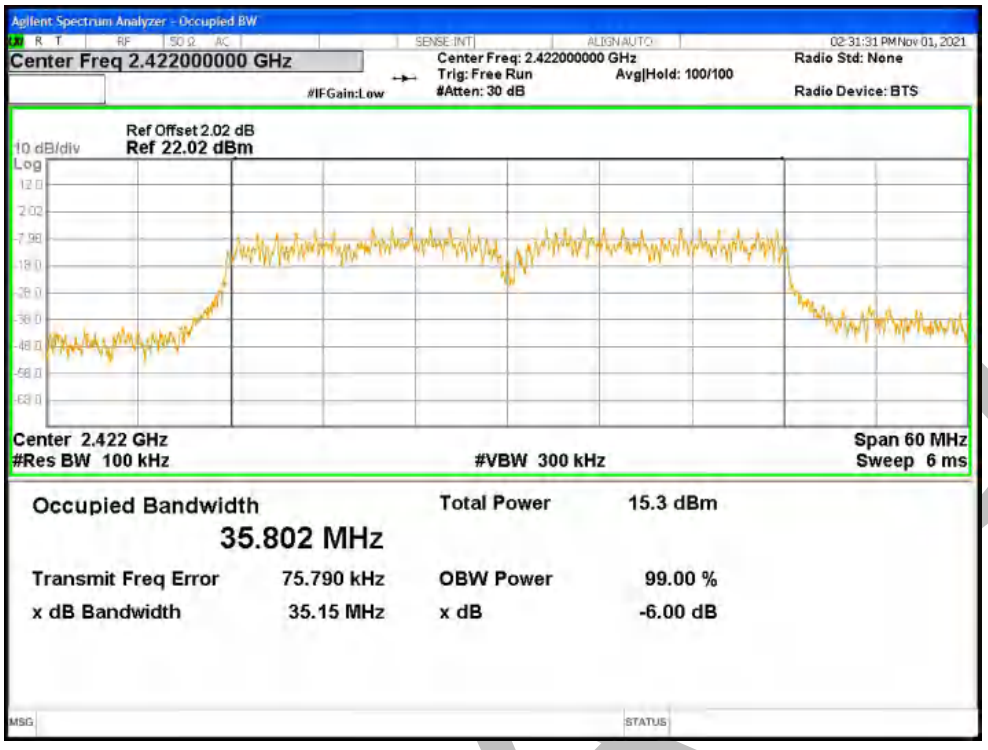
-6dB Bandwidth NVNT n20 2437MHz Ant1



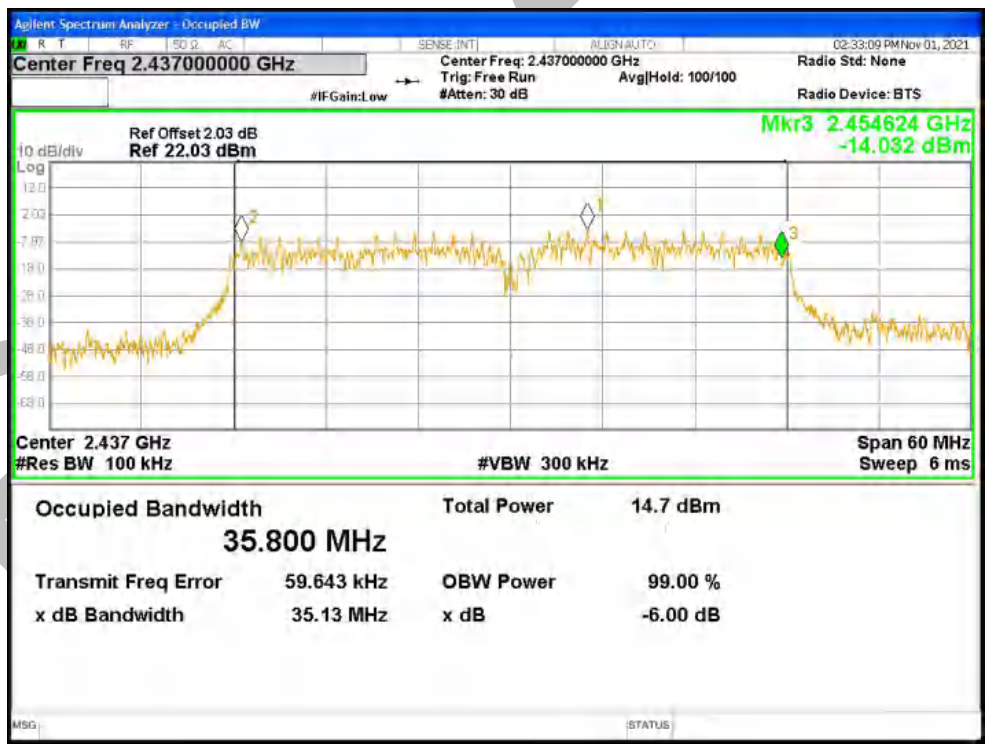
-6dB Bandwidth NVNT n20 2462MHz Ant1



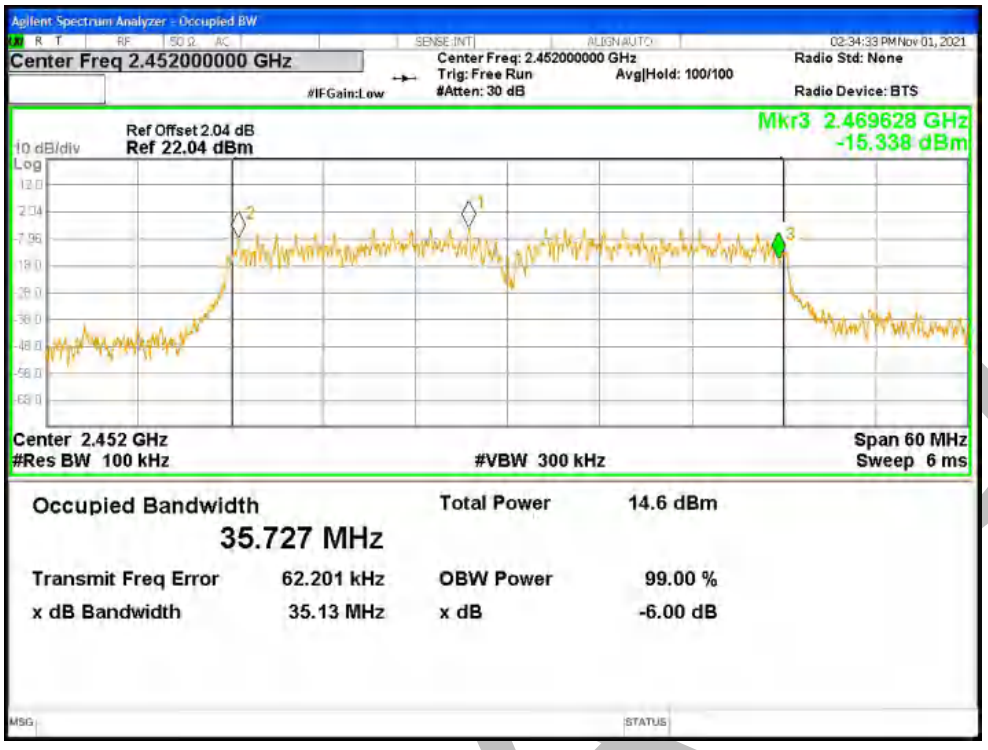
-6dB Bandwidth NVNT n40 2422MHz Ant1



-6dB Bandwidth NVNT n40 2437MHz Ant1



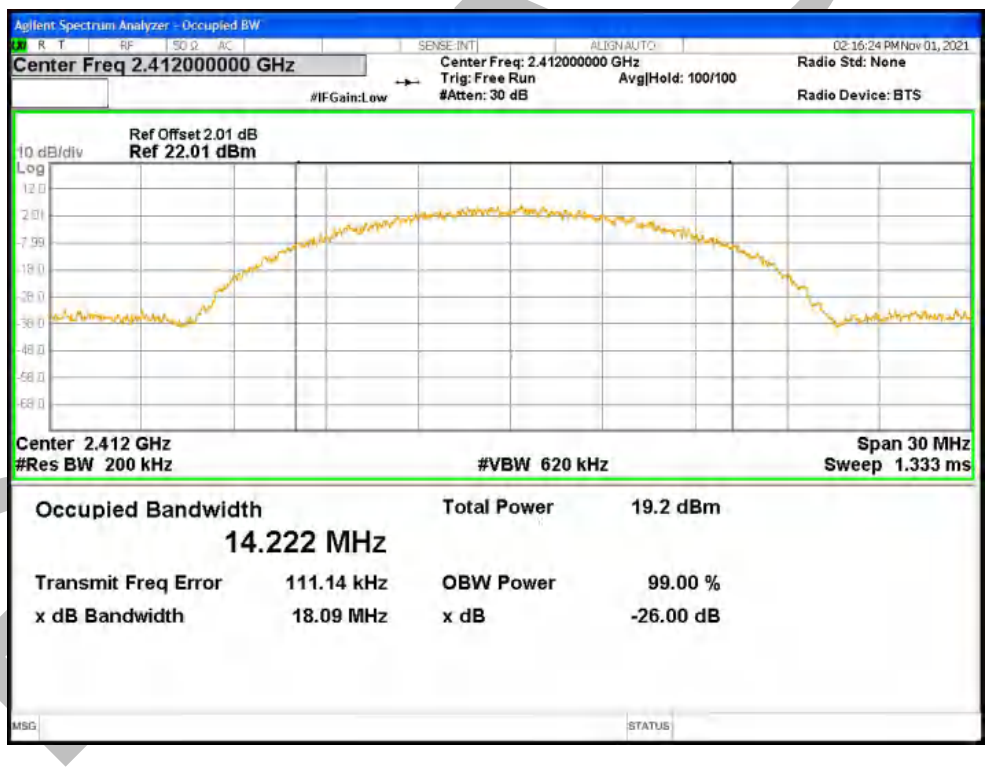
-6dB Bandwidth NVNT n40 2452MHz Ant1


Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.452000000 GHz
Center Freq: 2.452000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
#IFGain:Low
02:34:33 PM Nov 01, 2021
Radio Std: None
Radio Device: BTS
Ref Offset 2.04 dB
10 dB/div
Ref 22.04 dBm
Log
Mkr3 2.469628 GHz
-15.338 dBm
Center 2.452 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 60 MHz
Sweep 6 ms
Occupied Bandwidth
35.727 MHz
Total Power
14.6 dBm
Transmit Freq Error
62.201 kHz
OBW Power
99.00 %
x dB Bandwidth
35.13 MHz
x dB
-6.00 dB
MSG
STATUS

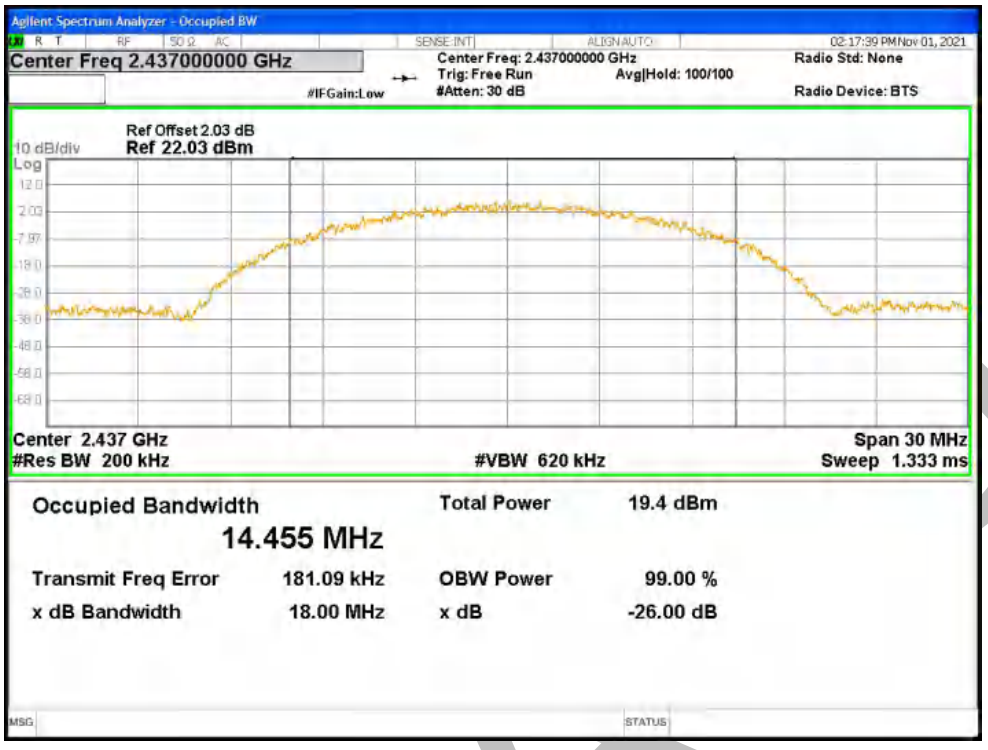
Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	14.22204538
NVNT	b	2437	Ant1	14.45497005
NVNT	b	2462	Ant1	14.34575226
NVNT	g	2412	Ant1	16.34314427
NVNT	g	2437	Ant1	16.37910836
NVNT	g	2462	Ant1	16.40347393
NVNT	n20	2412	Ant1	17.11797151
NVNT	n20	2437	Ant1	17.26353395
NVNT	n20	2462	Ant1	17.358258
NVNT	n40	2422	Ant1	35.96881904
NVNT	n40	2437	Ant1	35.98760963
NVNT	n40	2452	Ant1	35.96589864

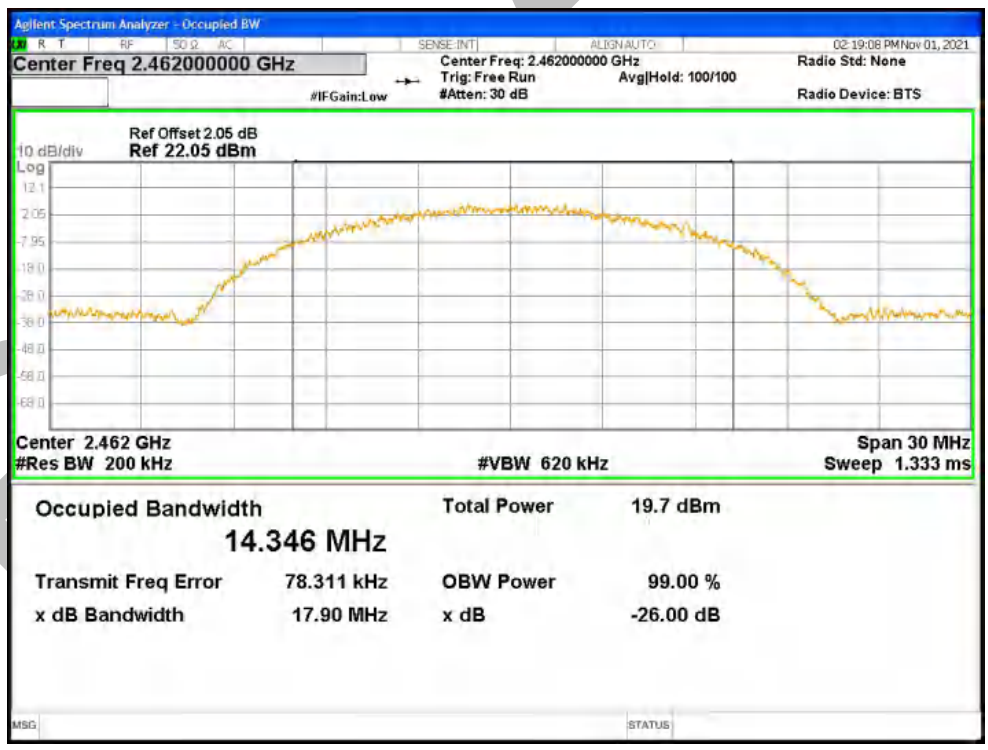
OBW NVNT b 2412MHz Ant1



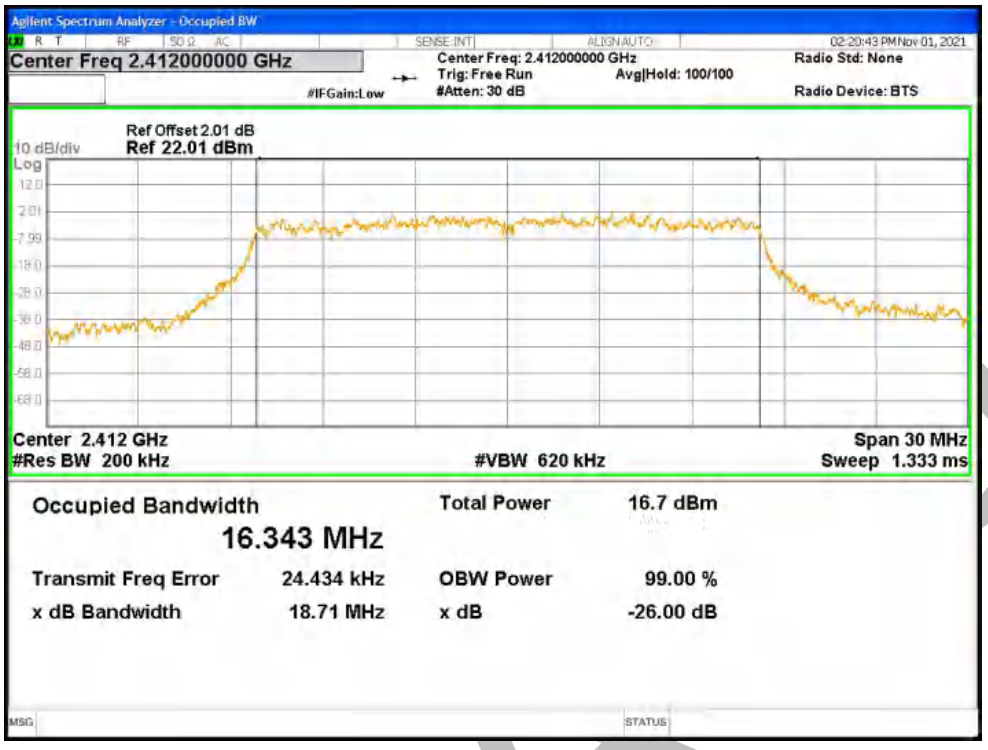
OBW NVNT b 2437MHz Ant1



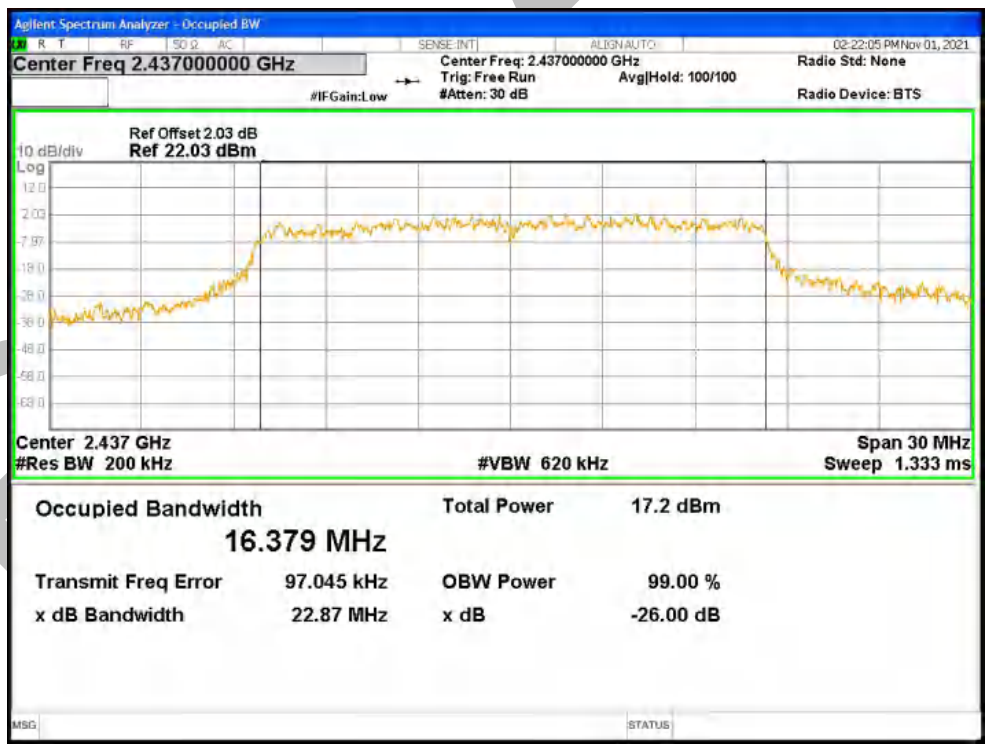
OBW NVNT b 2462MHz Ant1



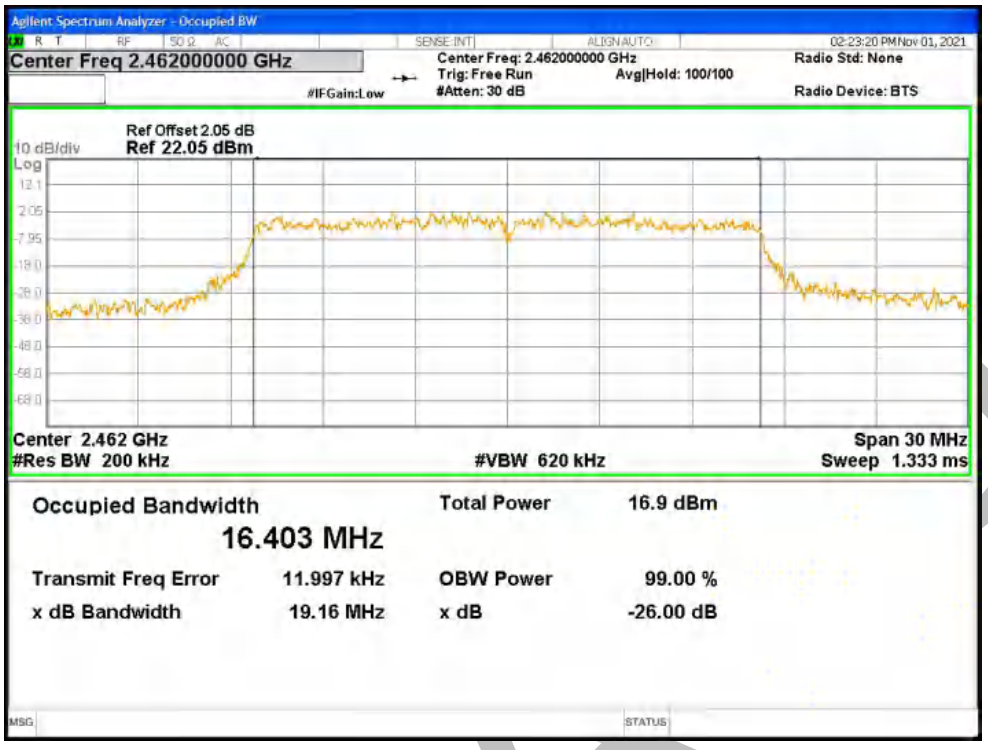
OBW NVNT g 2412MHz Ant1



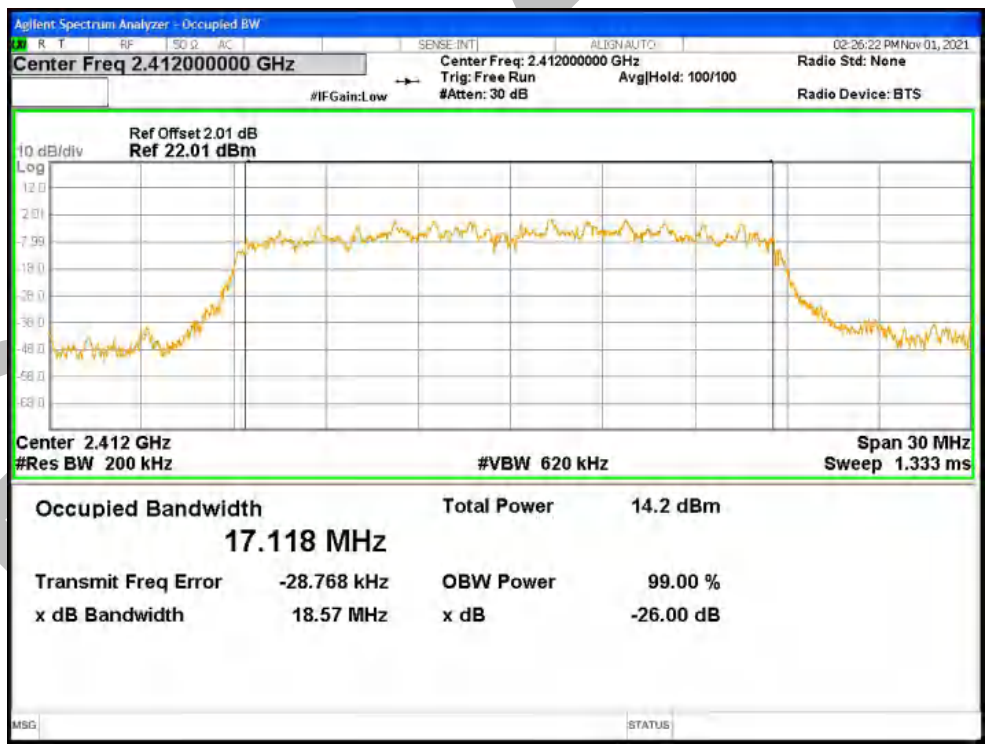
OBW NVNT g 2437MHz Ant1



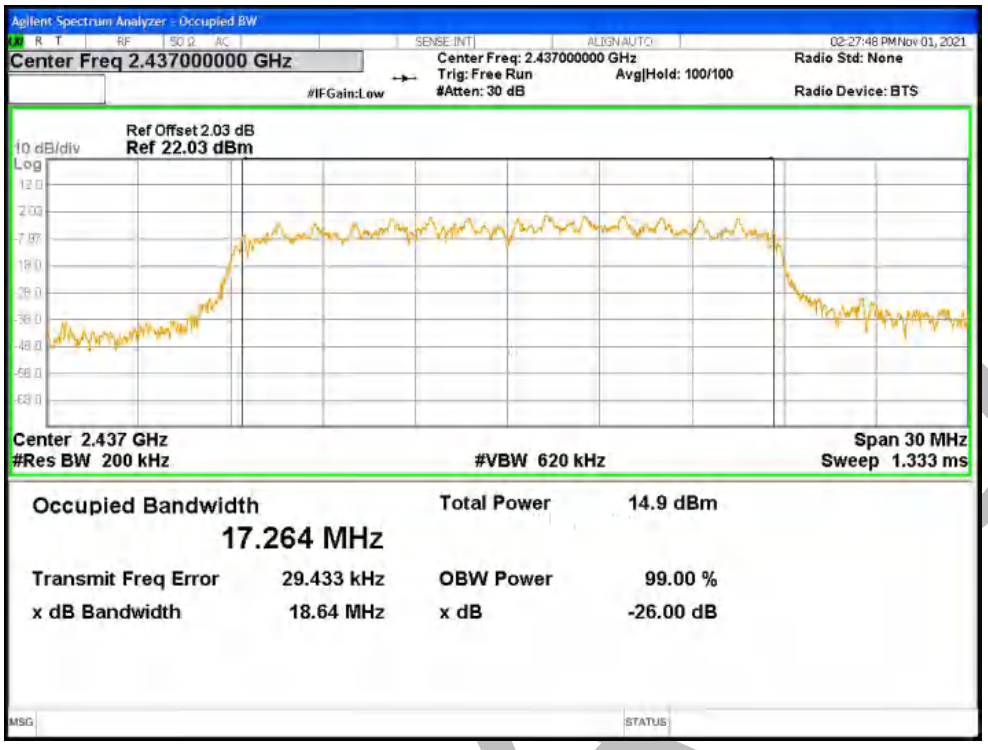
OBW NVNT g 2462MHz Ant1



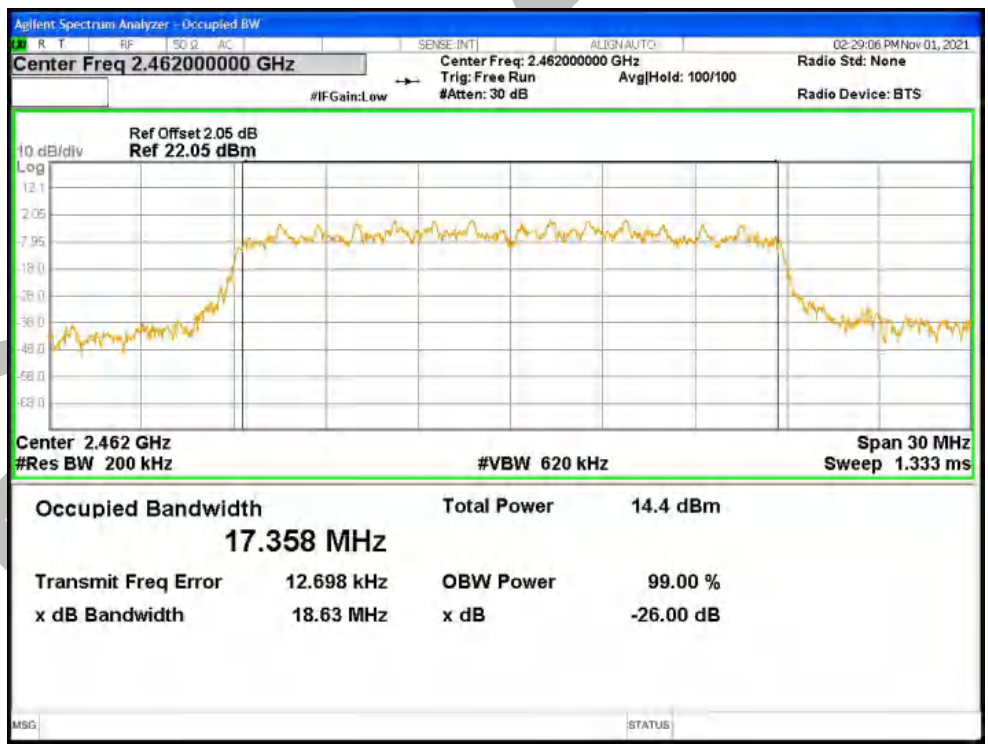
OBW NVNT n20 2412MHz Ant1



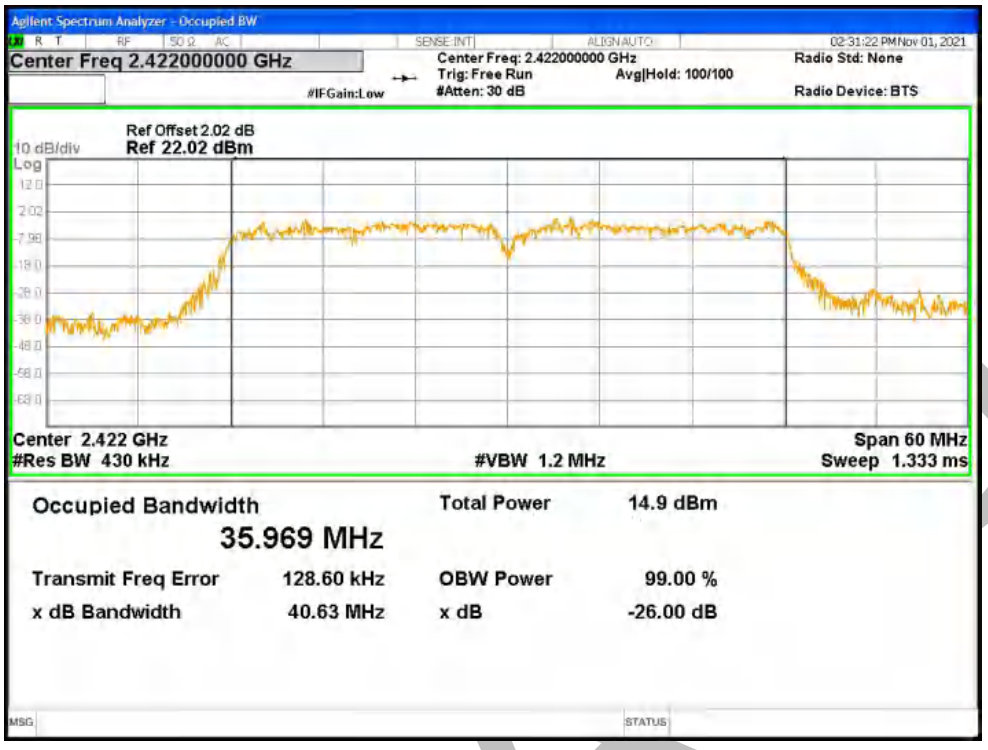
OBW NVNT n20 2437MHz Ant1



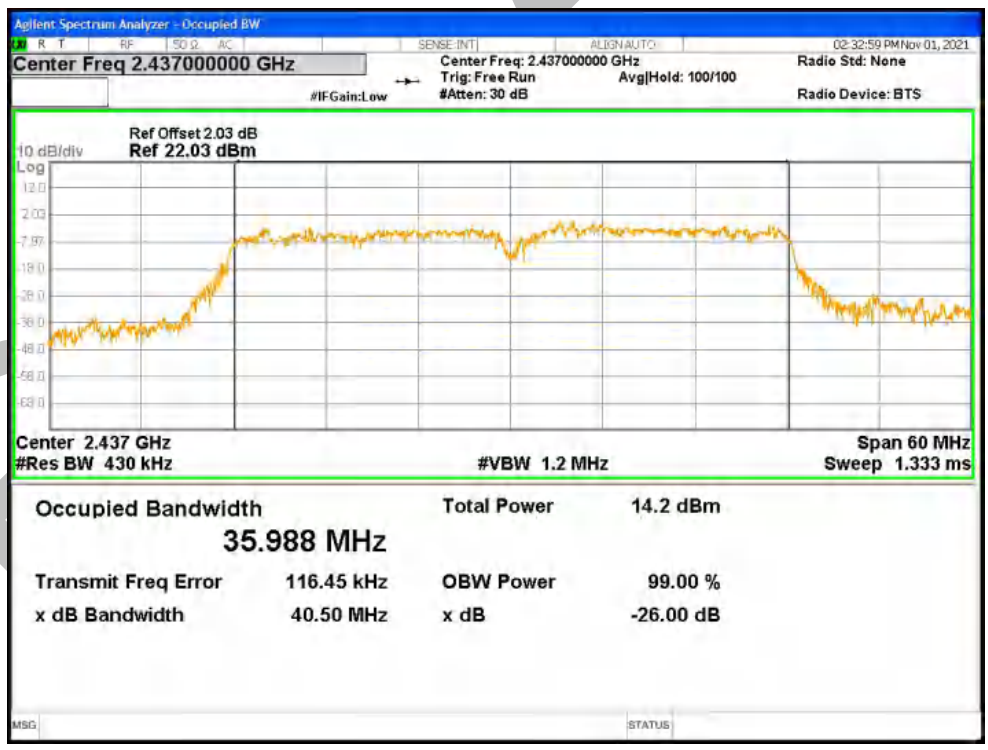
OBW NVNT n20 2462MHz Ant1



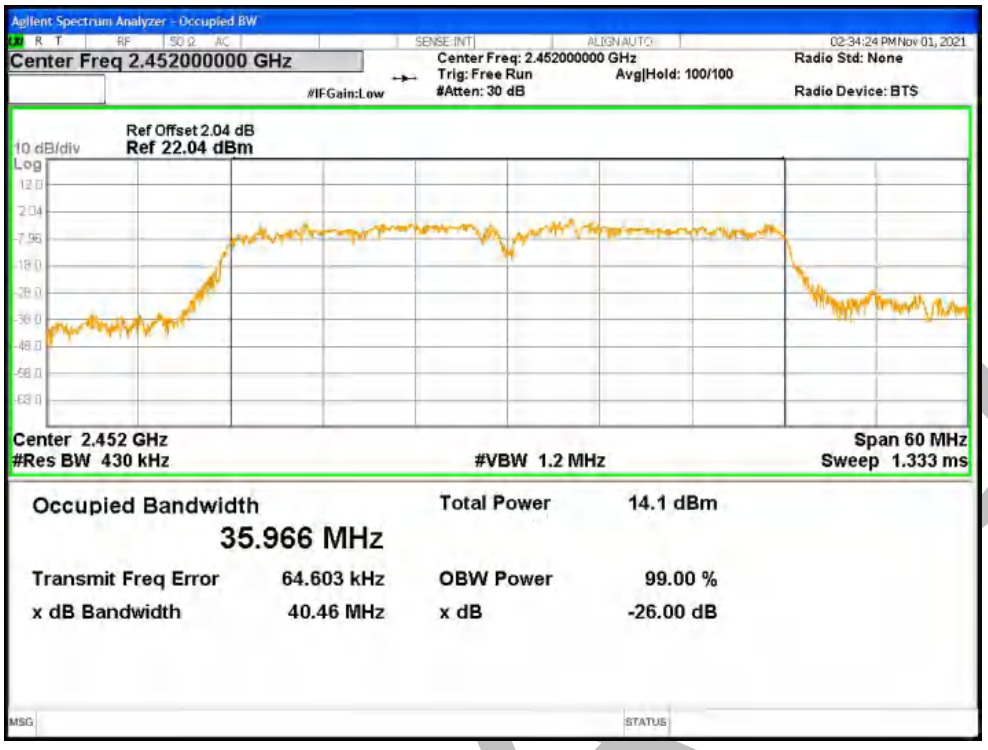
OBW NVNT n40 2422MHz Ant1



OBW NVNT n40 2437MHz Ant1



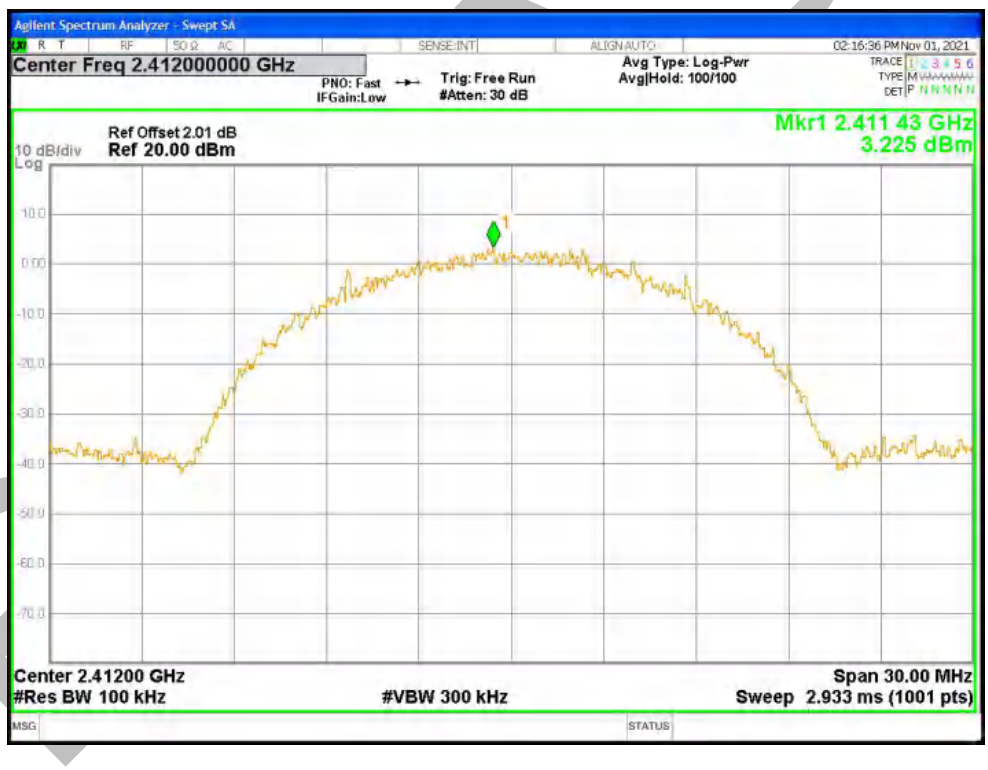
OBW NVNT n40 2452MHz Ant1


Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.452000000 GHz
Center Freq: 2.452000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
02:34:24 PM Nov 01, 2021
Ref Offset 2.04 dB
10 dB/div
Ref 22.04 dBm
Log
Center 2.452 GHz
#Res BW 430 kHz
#VBW 1.2 MHz
Span 60 MHz
Sweep 1.333 ms
Occupied Bandwidth
35.966 MHz
Total Power
14.1 dBm
Transmit Freq Error
64.603 kHz
OBW Power
99.00 %
x dB Bandwidth
40.46 MHz
x dB
-26.00 dB
MSG
STATUS

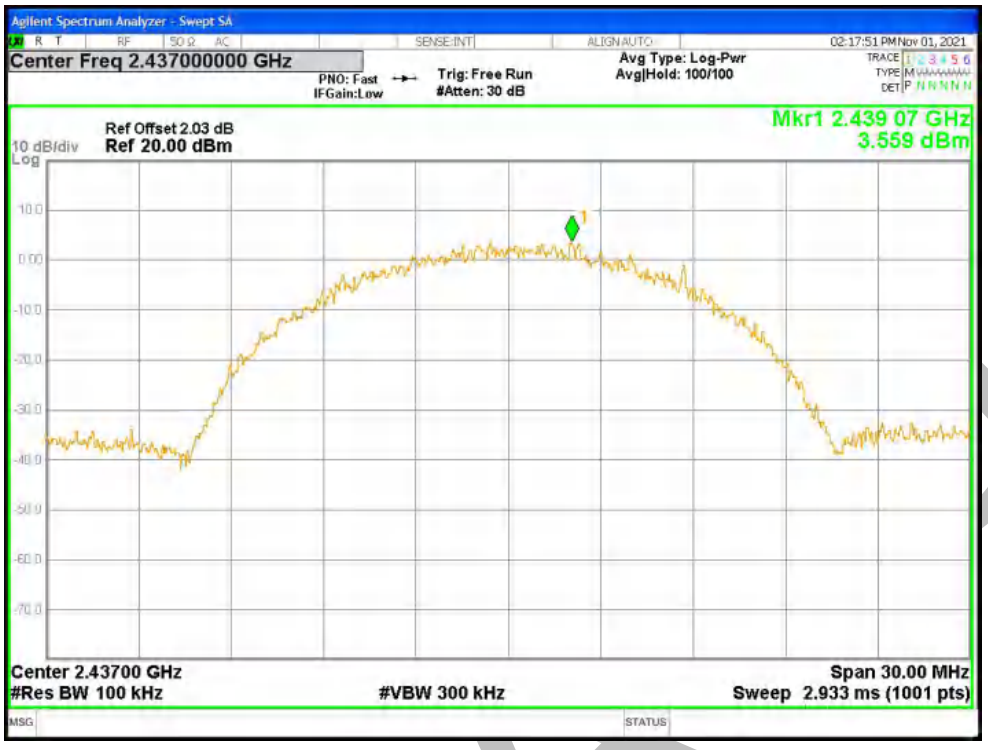
Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	3.225	8	Pass
NVNT	b	2437	Ant1	3.559	8	Pass
NVNT	b	2462	Ant1	3.645	8	Pass
NVNT	g	2412	Ant1	0.518	8	Pass
NVNT	g	2437	Ant1	1.201	8	Pass
NVNT	g	2462	Ant1	0.347	8	Pass
NVNT	n20	2412	Ant1	-0.57	8	Pass
NVNT	n20	2437	Ant1	0.261	8	Pass
NVNT	n20	2462	Ant1	-1.045	8	Pass
NVNT	n40	2422	Ant1	-3.479	8	Pass
NVNT	n40	2437	Ant1	-3.671	8	Pass
NVNT	n40	2452	Ant1	-3.944	8	Pass

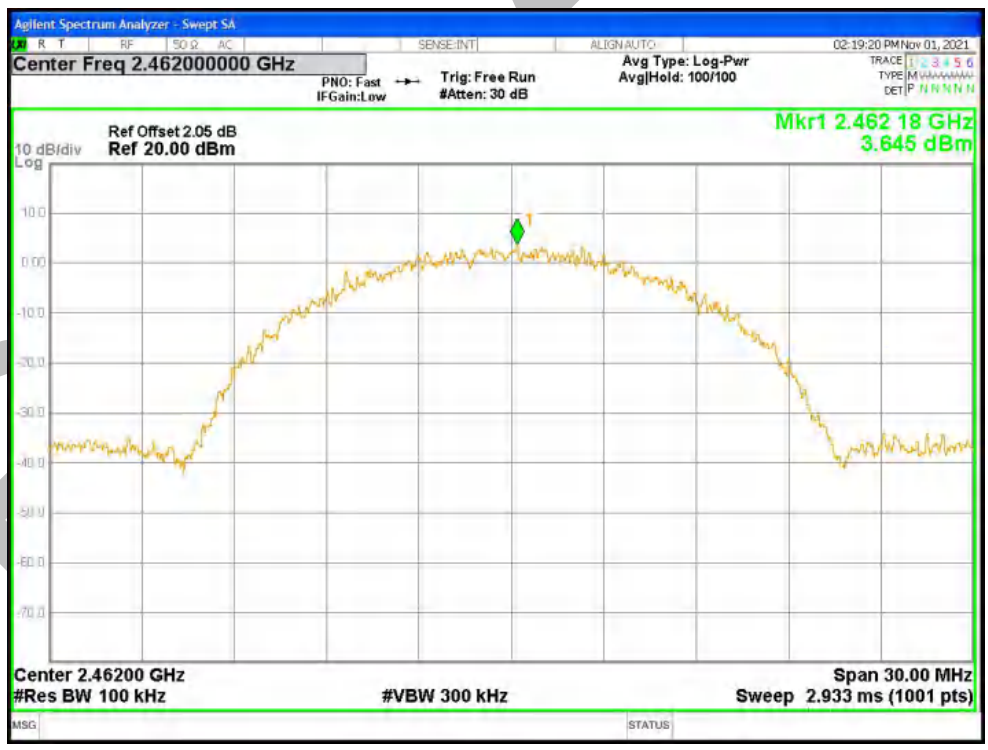
PSD NVNT b 2412MHz Ant1



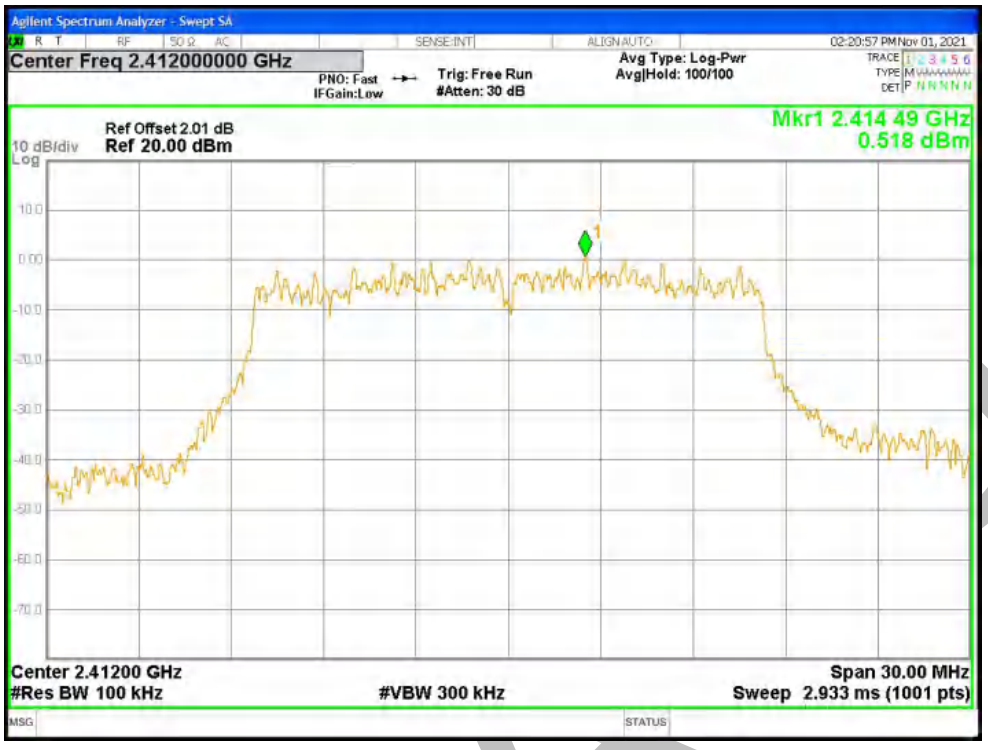
PSD NVNT b 2437MHz Ant1



PSD NVNT b 2462MHz Ant1

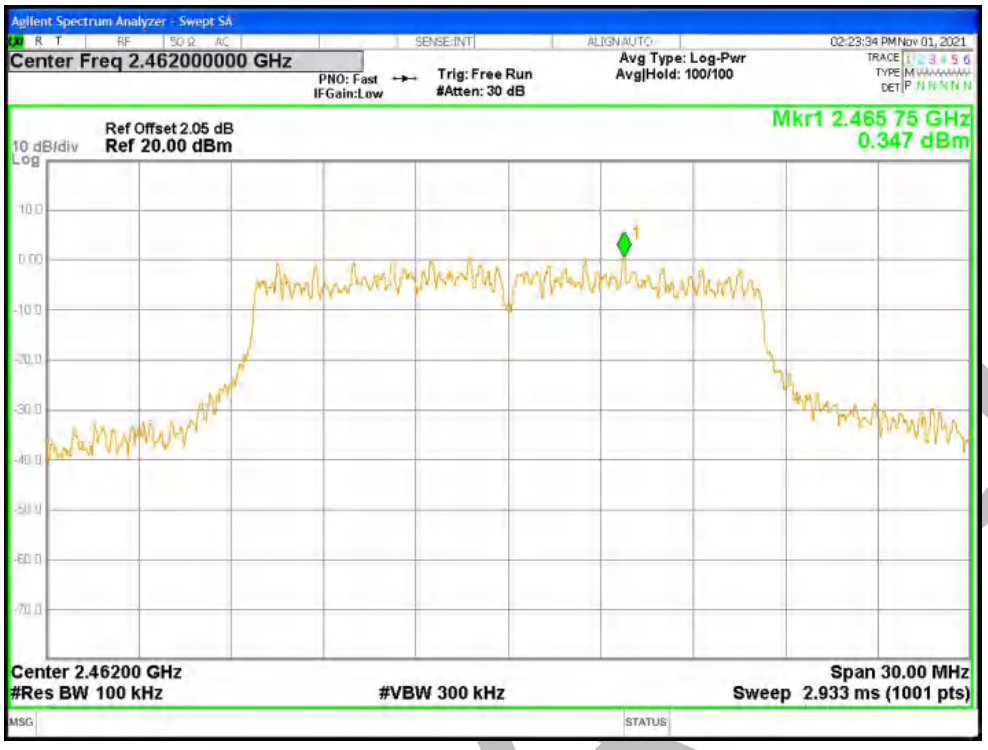


PSD NVNT g 2412MHz Ant1



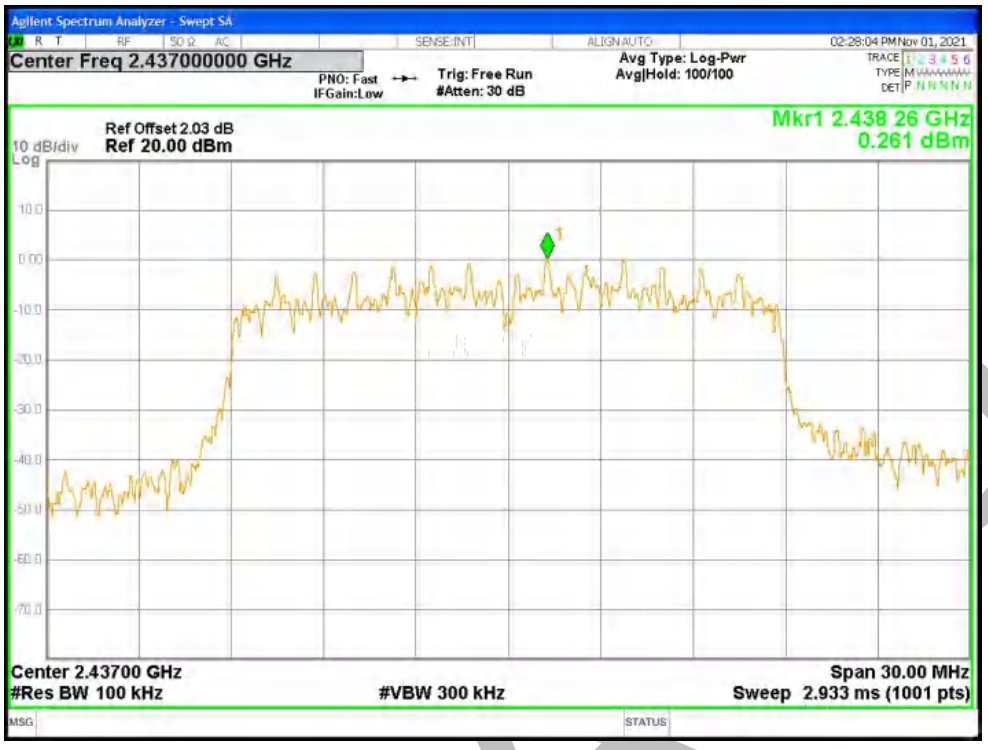
PSD NVNT g 2437MHz Ant1

PSD NVNT g 2462MHz Ant1

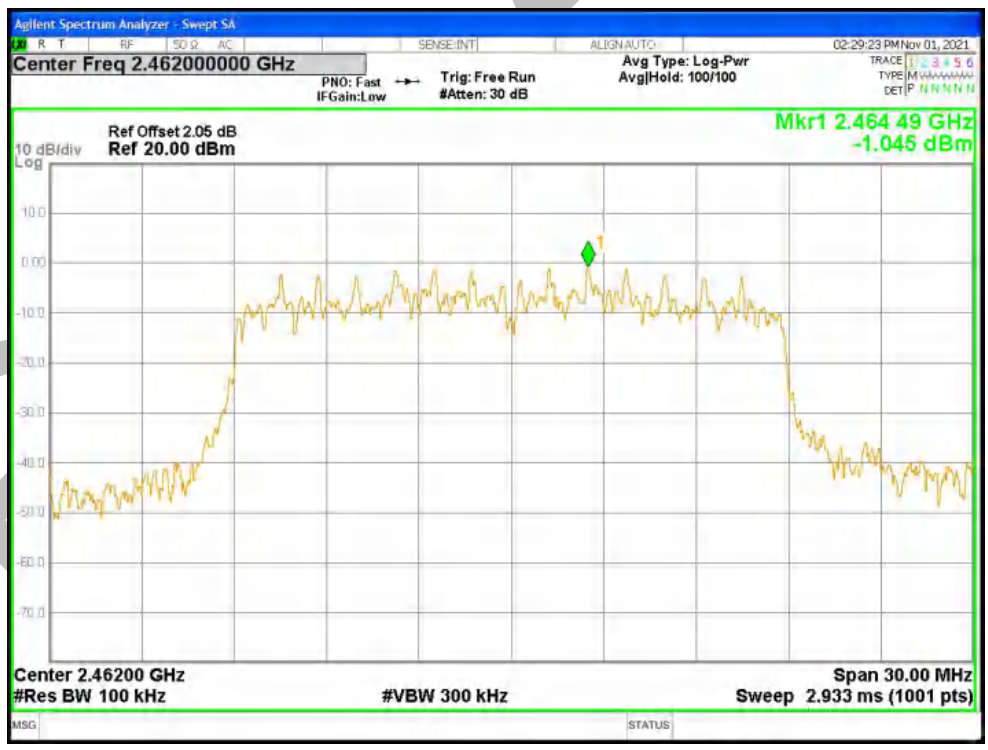


PSD NVNT n20 2412MHz Ant1

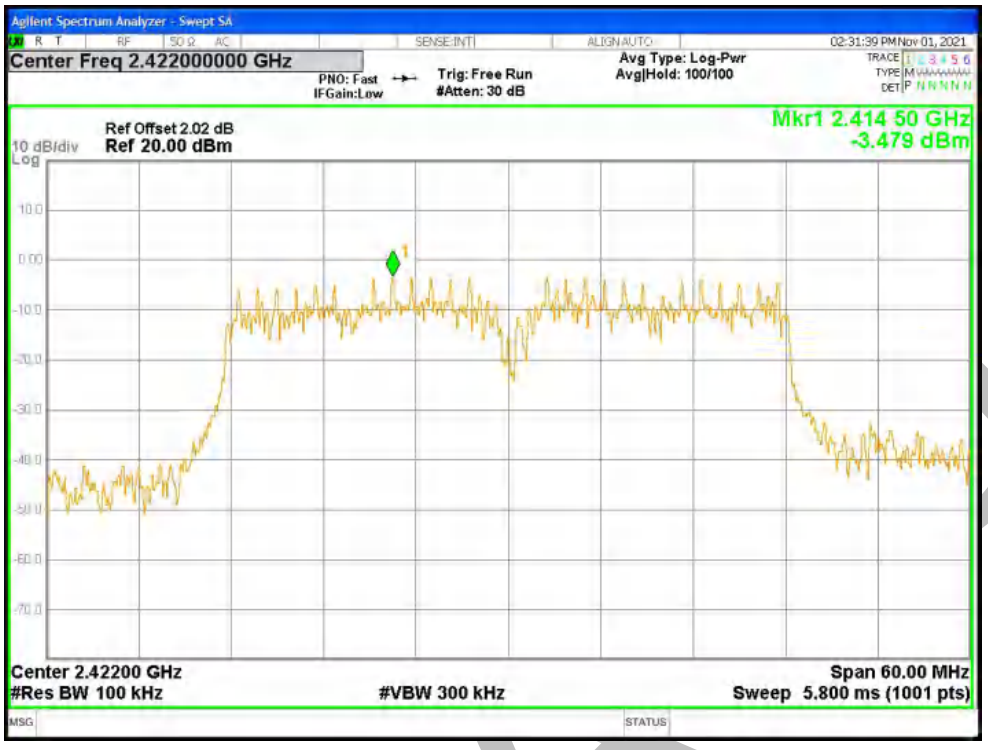
PSD NVNT n20 2437MHz Ant1



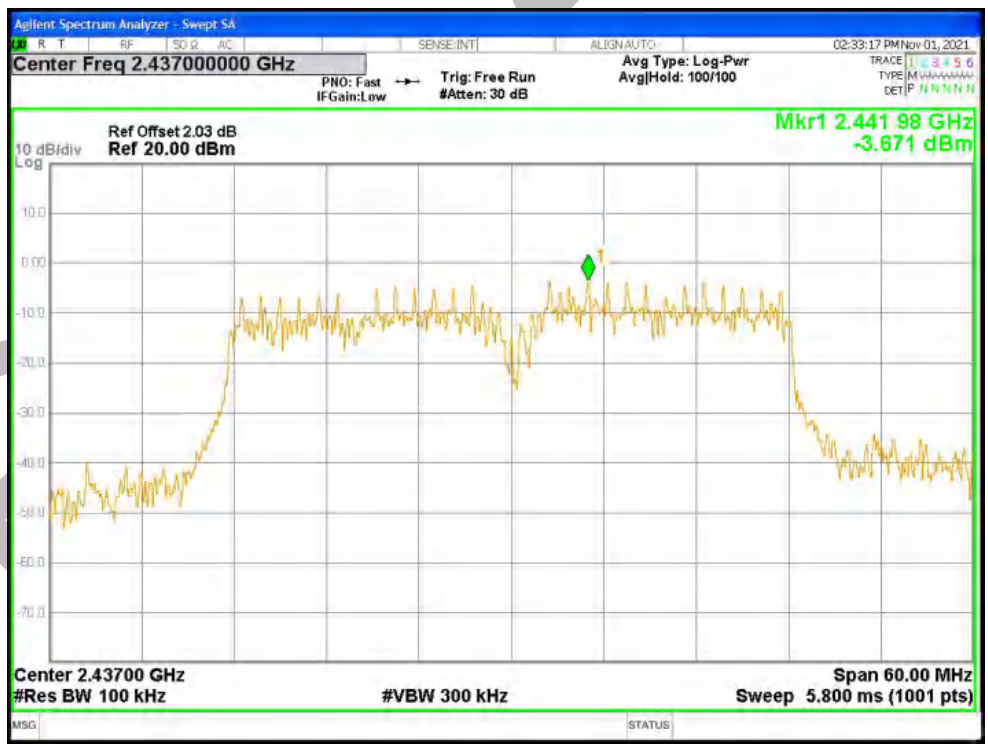
PSD NVNT n20 2462MHz Ant1



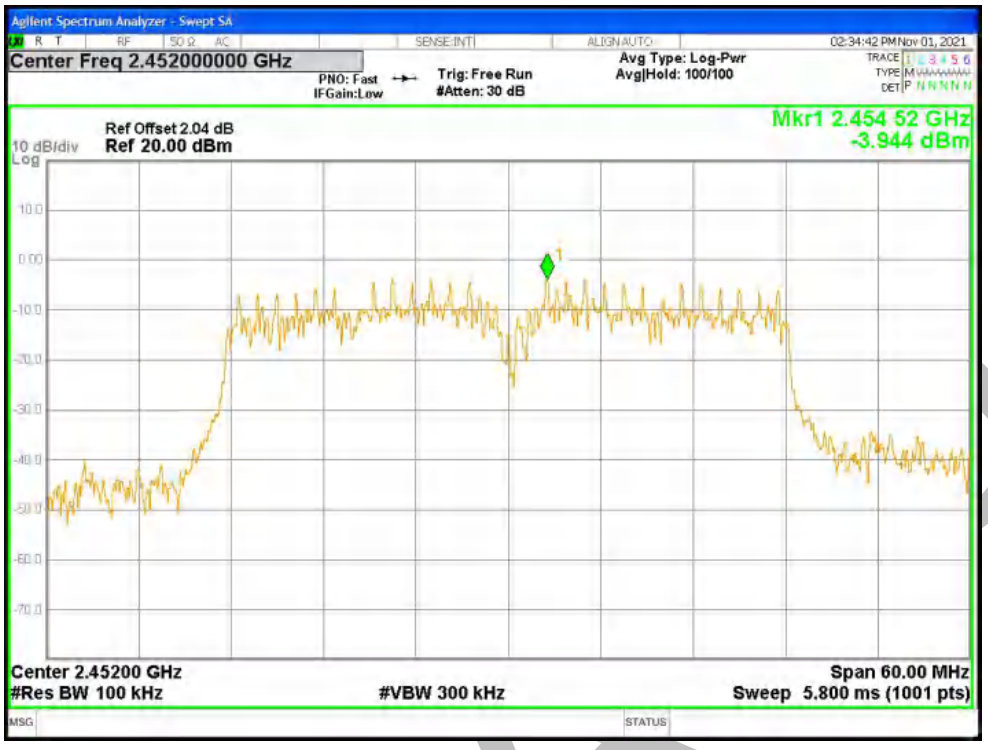
PSD NVNT n40 2422MHz Ant1



PSD NVNT n40 2437MHz Ant1



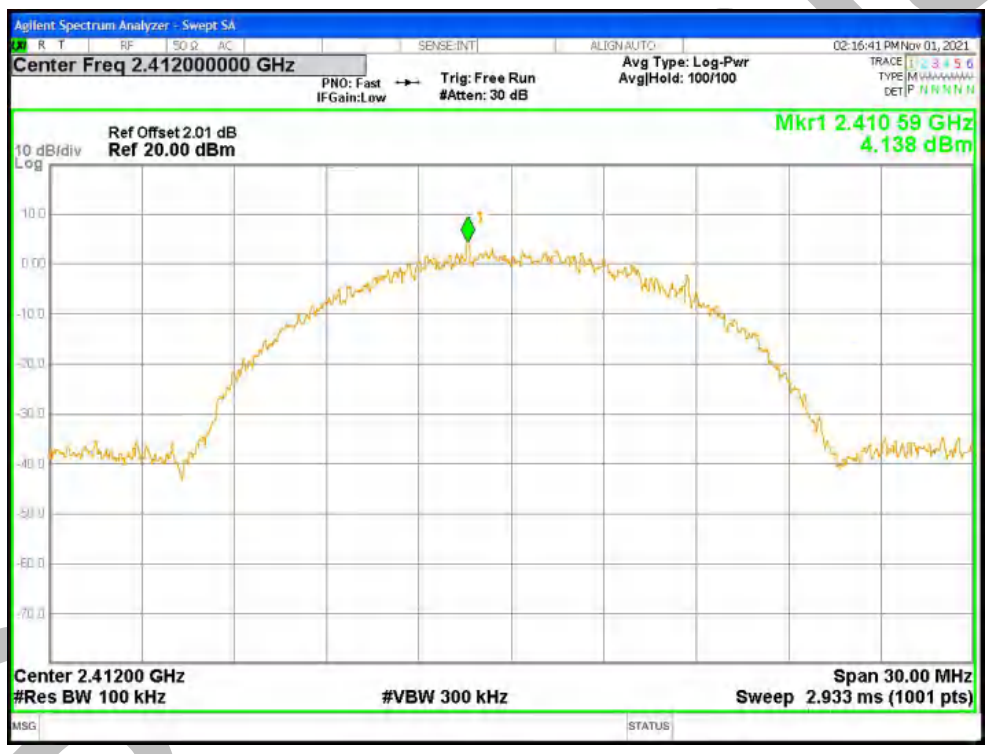
PSD NVNT n40 2452MHz Ant1


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.452000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 100/100
02:34:42 PM Nov 01, 2021
Ref Offset 2.04 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.454 52 GHz
-3.944 dBm
Center 2.45200 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 60.00 MHz
Sweep 5.800 ms (1001 pts)

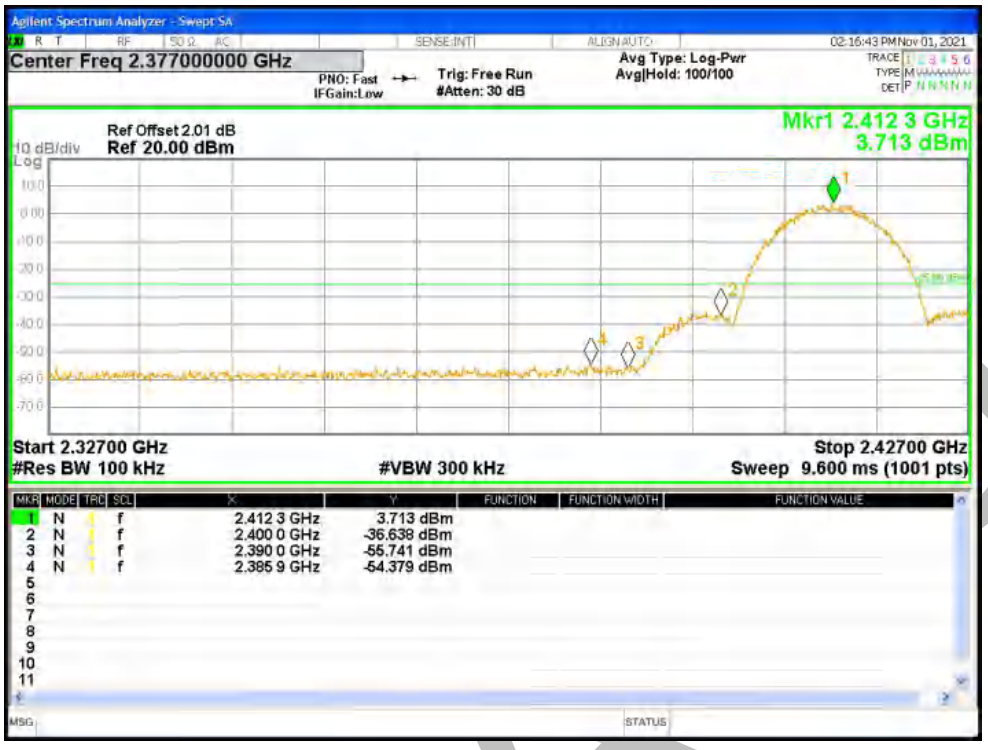
Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-58.51	-30	Pass
NVNT	b	2462	Ant1	-57.64	-30	Pass
NVNT	g	2412	Ant1	-51.3	-30	Pass
NVNT	g	2462	Ant1	-42.36	-30	Pass
NVNT	n20	2412	Ant1	-53.85	-30	Pass
NVNT	n20	2462	Ant1	-46.75	-30	Pass
NVNT	n40	2422	Ant1	-38.48	-30	Pass
NVNT	n40	2452	Ant1	-32.96	-30	Pass

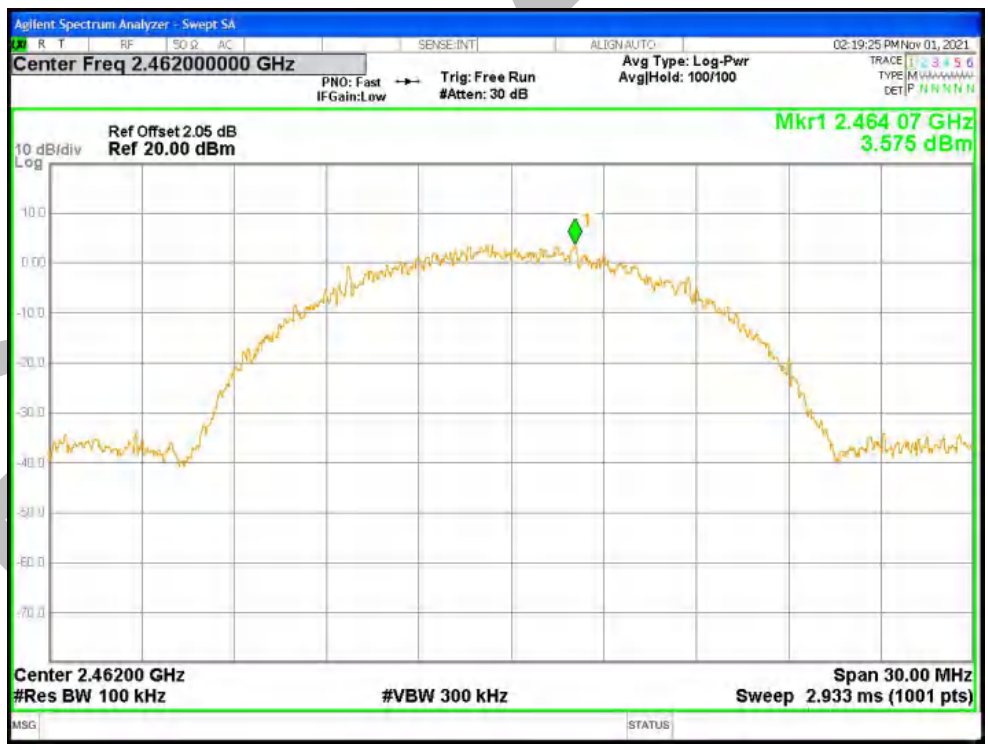
Band Edge NVNT b 2412MHz Ant1 Ref



Band Edge NVNT b 2412MHz Ant1 Emission



Band Edge NVNT b 2462MHz Ant1 Ref



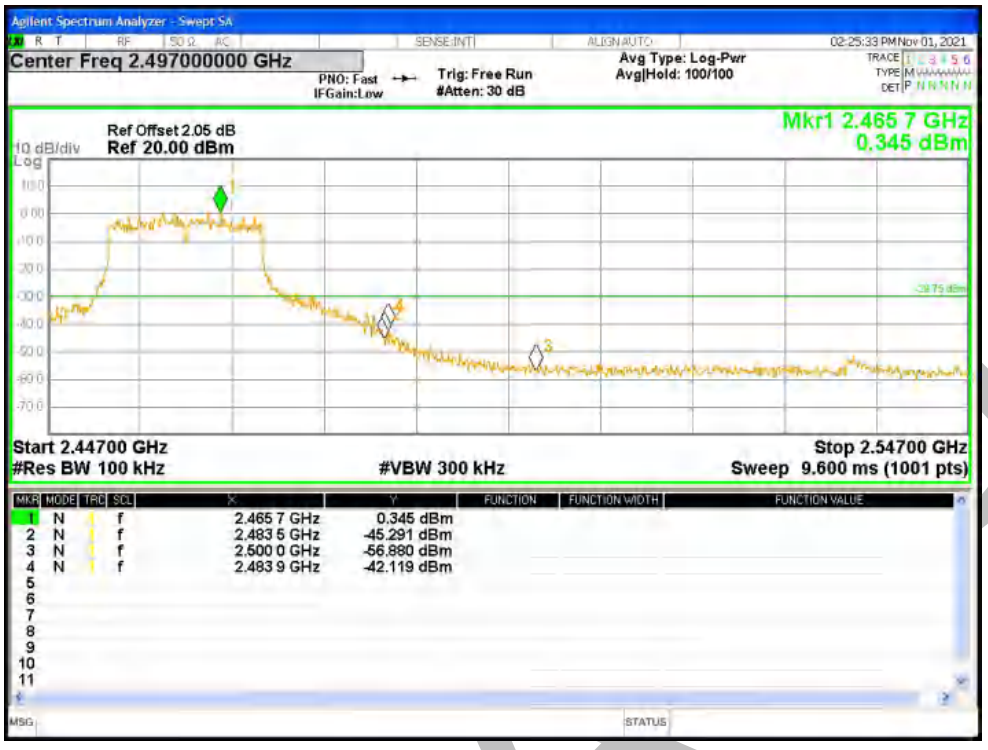
Band Edge NVNT b 2462MHz Ant1 Emission

Band Edge NVNT g 2412MHz Ant1 Ref

Band Edge NVNT g 2412MHz Ant1 Emission

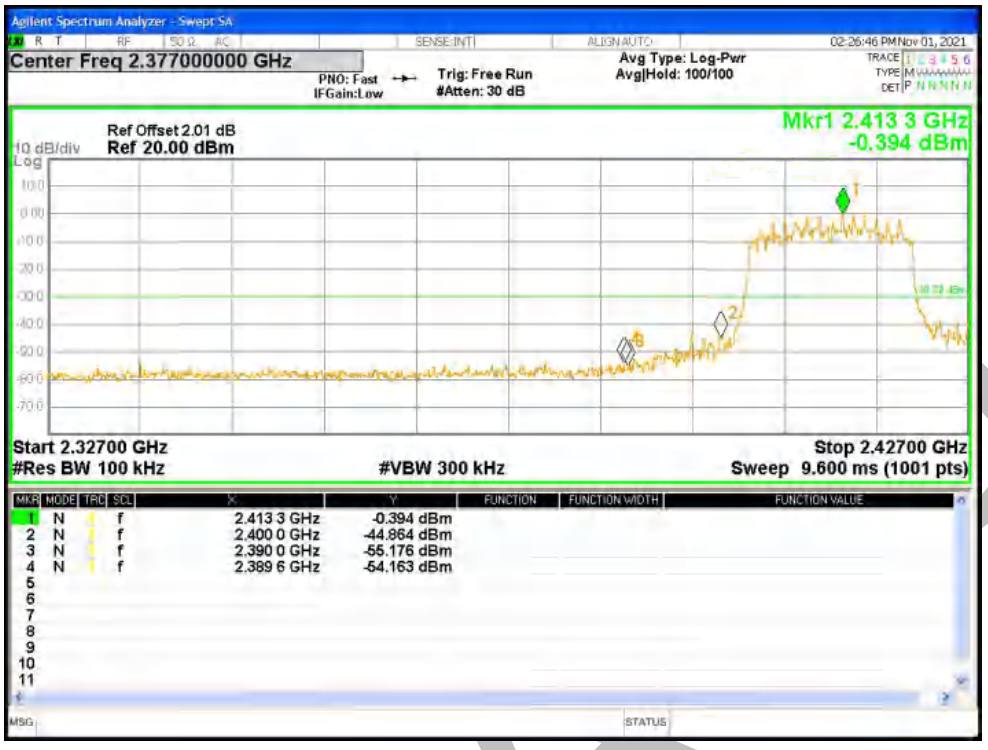
Band Edge NVNT g 2462MHz Ant1 Ref

Band Edge NVNT g 2462MHz Ant1 Emission



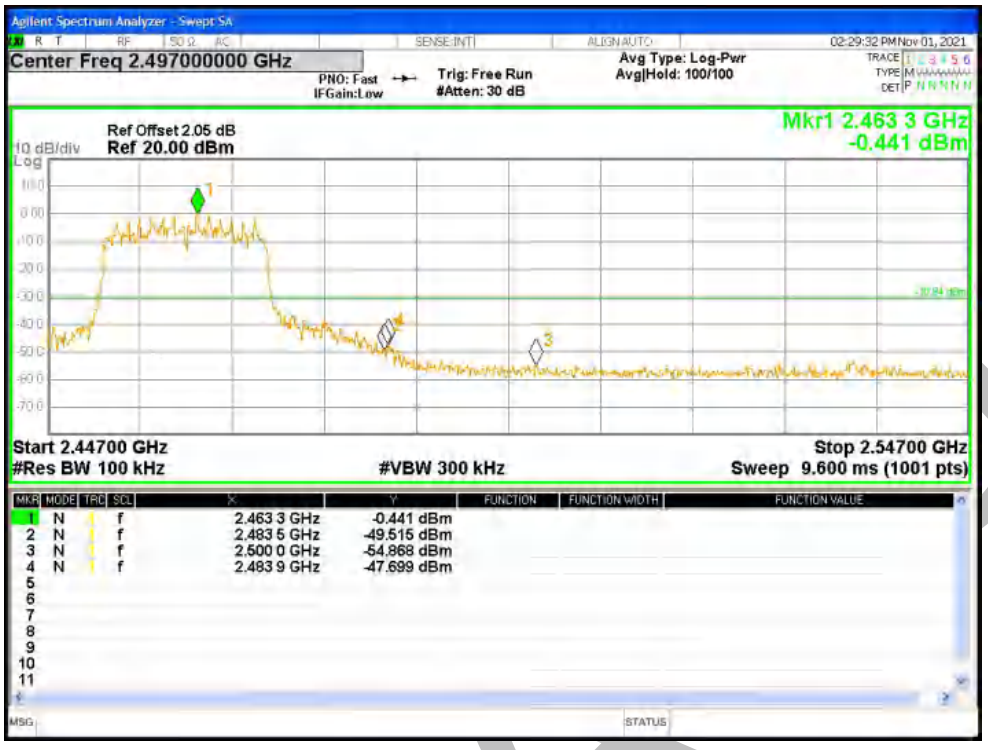
Band Edge NVNT n20 2412MHz Ant1 Ref

Band Edge NVNT n20 2412MHz Ant1 Emission

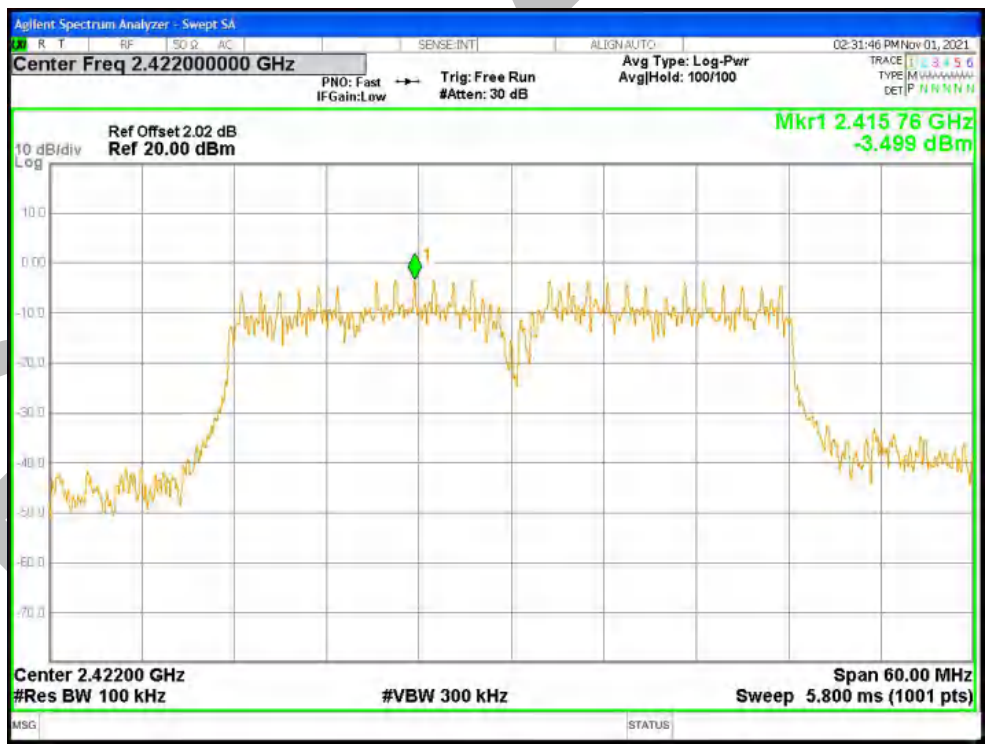


Band Edge NVNT n20 2462MHz Ant1 Ref

Band Edge NVNT n20 2462MHz Ant1 Emission

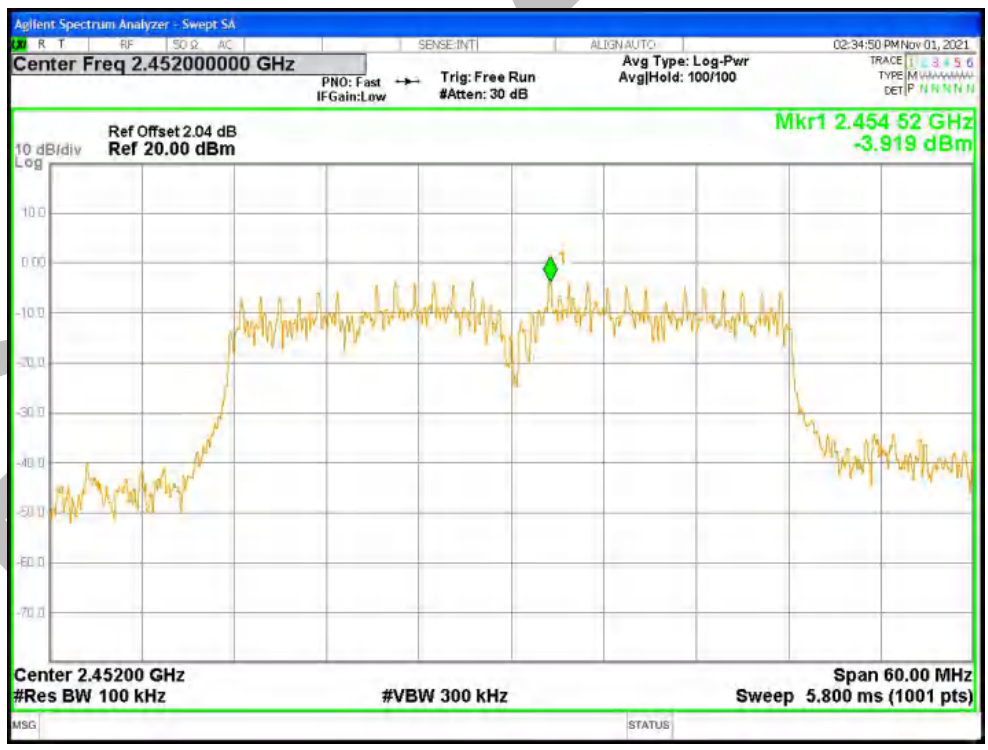


Band Edge NVNT n40 2422MHz Ant1 Ref



Band Edge NVNT n40 2422MHz Ant1 Emission

Band Edge NVNT n40 2452MHz Ant1 Ref



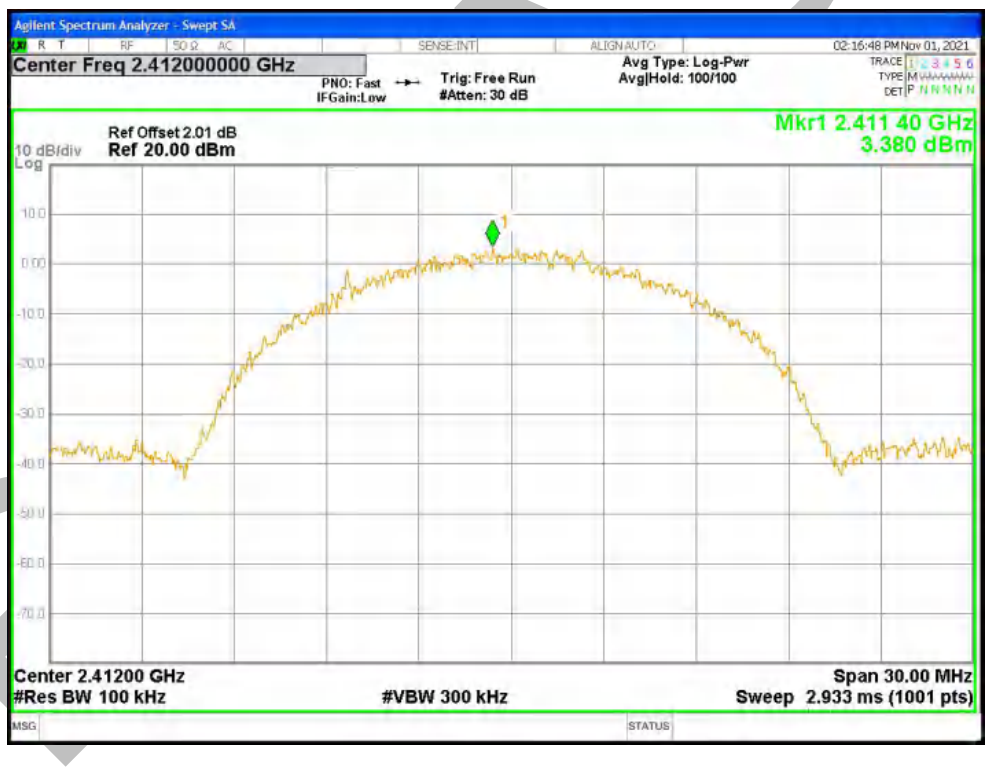
Band Edge NVNT n40 2452MHz Ant1 Emission


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.472000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 100/100
02:34:53 PM Nov 01, 2021
Ref Offset 2.04 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.454 5 GHz
-3.975 dBm
Start 2.42200 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.52200 GHz
Sweep 9.600 ms (1001 pts)
1 N 1 f 2.454 5 GHz -3.975 dBm
2 N 1 f 2.483 5 GHz -42.820 dBm
3 N 1 f 2.500 0 GHz -52.964 dBm
4 N 1 f 2.484 5 GHz -36.885 dBm

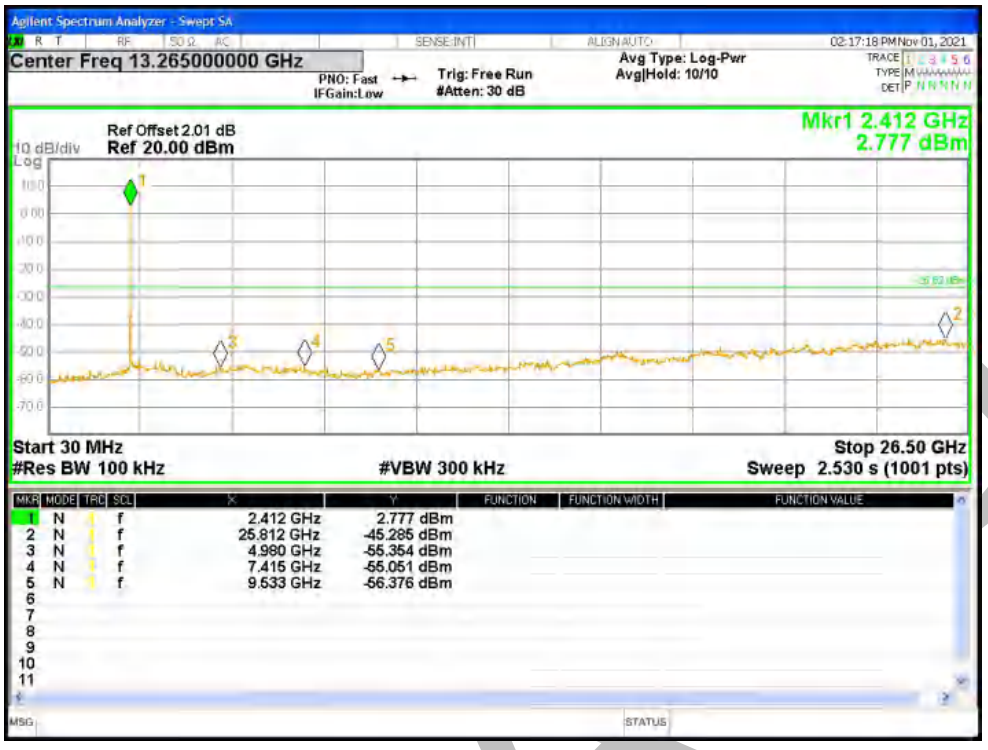
Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-48.66	-30	Pass
NVNT	b	2437	Ant1	-49.63	-30	Pass
NVNT	b	2462	Ant1	-49.4	-30	Pass
NVNT	g	2412	Ant1	-46.08	-30	Pass
NVNT	g	2437	Ant1	-46.4	-30	Pass
NVNT	g	2462	Ant1	-45.93	-30	Pass
NVNT	n20	2412	Ant1	-44.89	-30	Pass
NVNT	n20	2437	Ant1	-45.47	-30	Pass
NVNT	n20	2462	Ant1	-44.38	-30	Pass
NVNT	n40	2422	Ant1	-41.41	-30	Pass
NVNT	n40	2437	Ant1	-41.1	-30	Pass
NVNT	n40	2452	Ant1	-41.14	-30	Pass

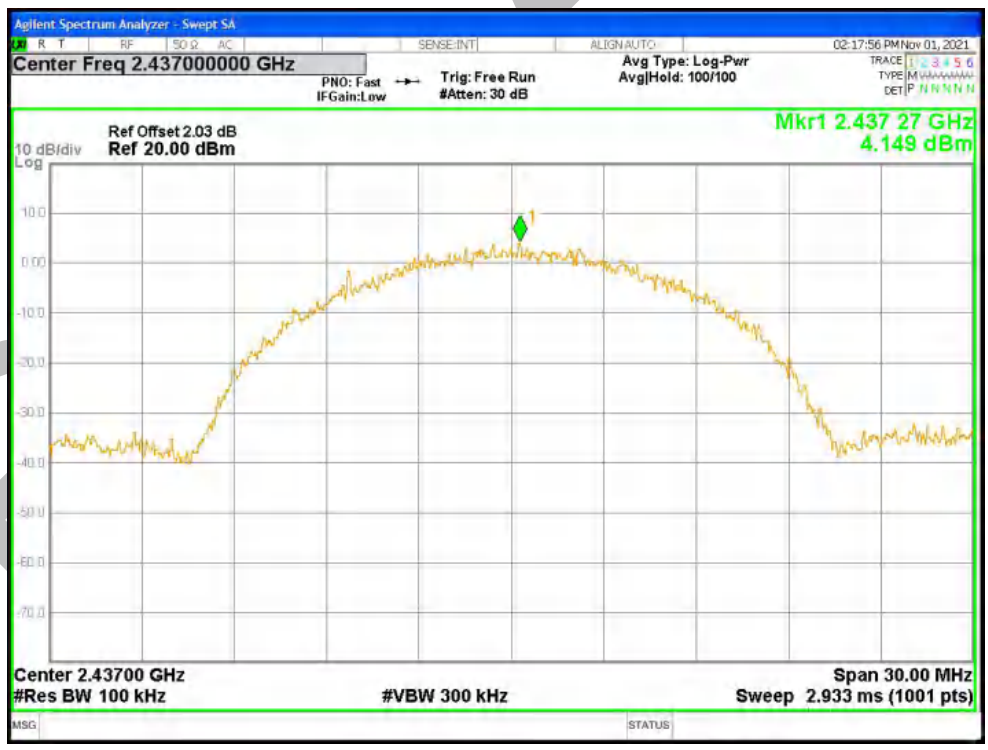
Tx. Spurious NVNT b 2412MHz Ant1 Ref



Tx. Spurious NVNT b 2412MHz Ant1 Emission

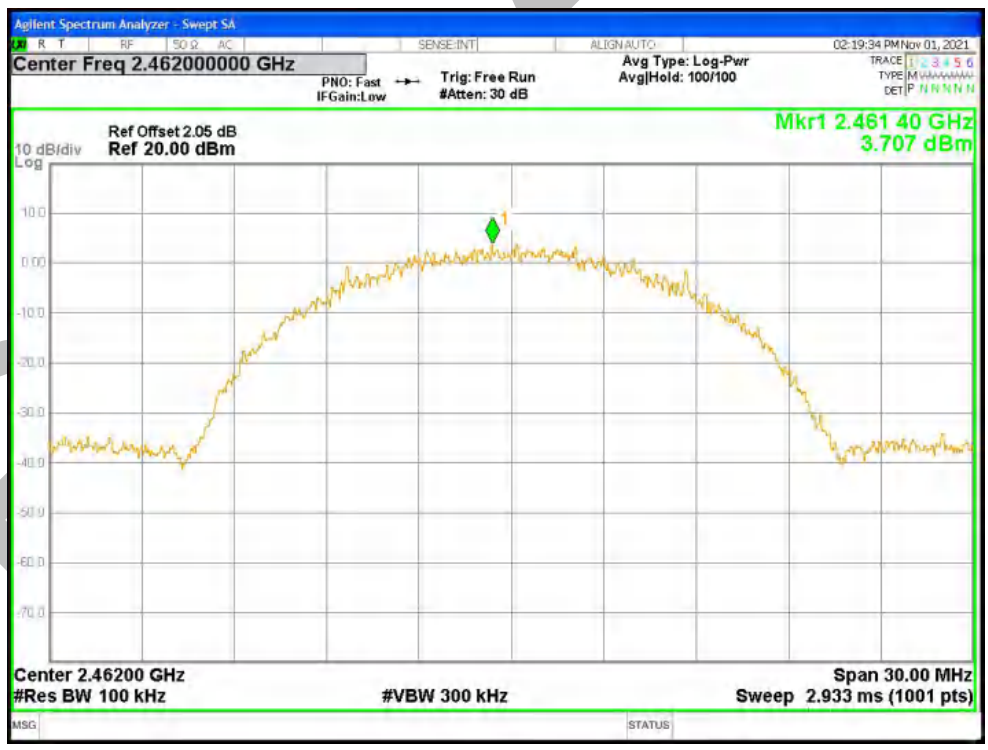


Tx. Spurious NVNT b 2437MHz Ant1 Ref



Tx. Spurious NVNT b 2437MHz Ant1 Emission

Tx. Spurious NVNT b 2462MHz Ant1 Ref



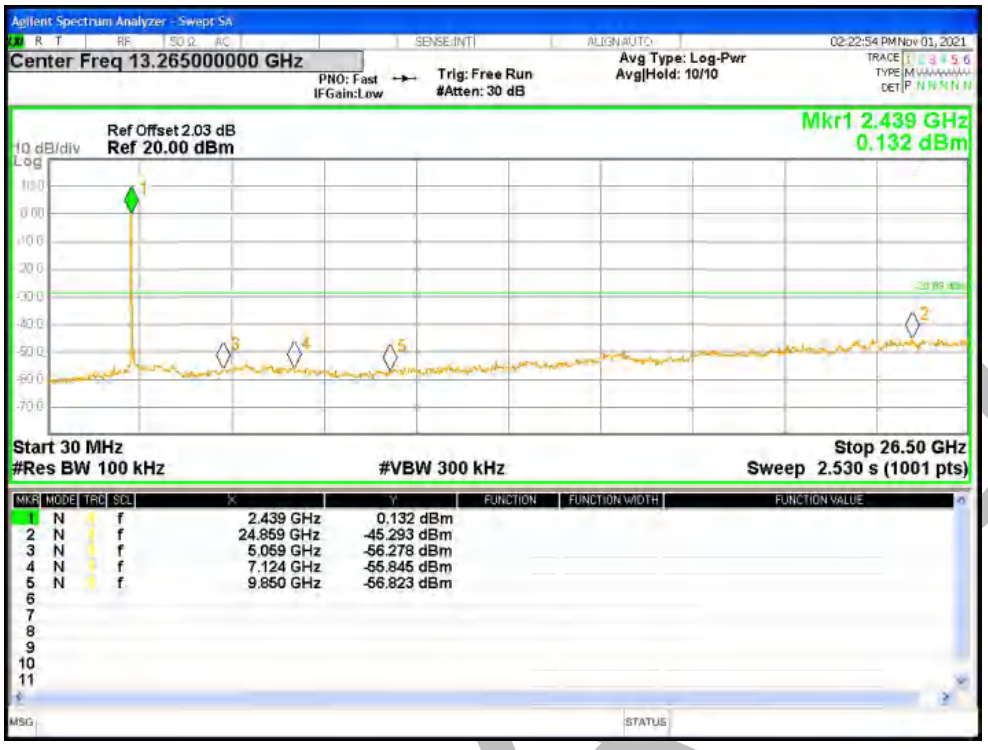
Tx. Spurious NVNT b 2462MHz Ant1 Emission

Tx. Spurious NVNT g 2412MHz Ant1 Ref

Tx. Spurious NVNT g 2412MHz Ant1 Emission

Tx. Spurious NVNT g 2437MHz Ant1 Ref

Tx. Spurious NVNT g 2437MHz Ant1 Emission



Tx. Spurious NVNT g 2462MHz Ant1 Ref

Tx. Spurious NVNT g 2462MHz Ant1 Emission

Tx. Spurious NVNT n20 2412MHz Ant1 Ref

Tx. Spurious NVNT n20 2412MHz Ant1 Emission

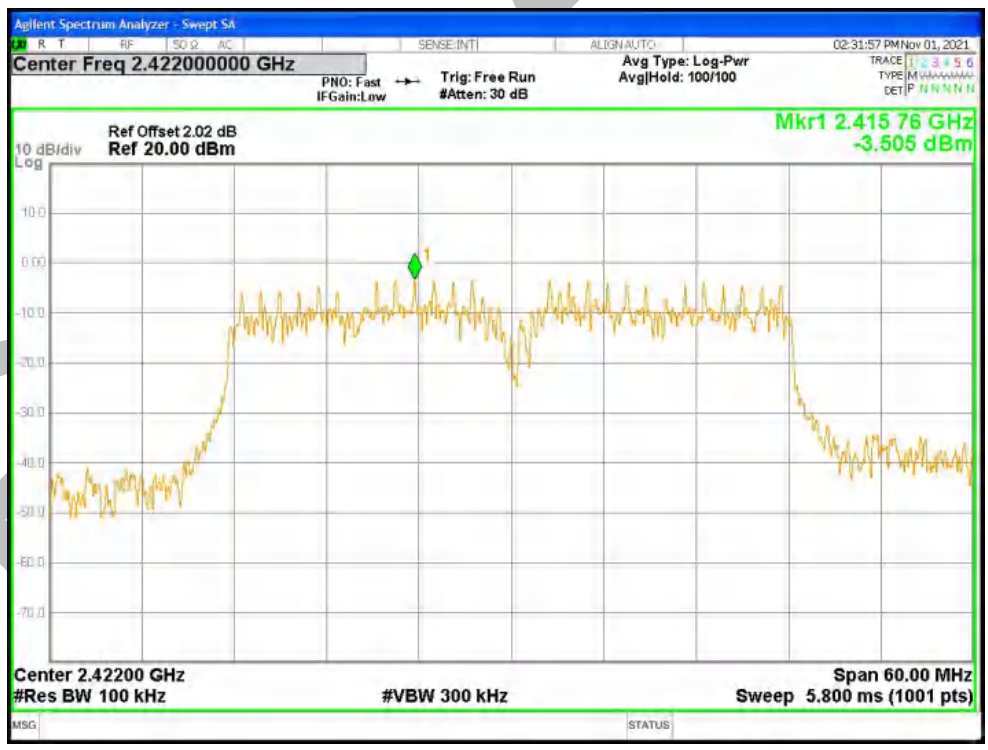
Tx. Spurious NVNT n20 2437MHz Ant1 Ref

Tx. Spurious NVNT n20 2437MHz Ant1 Emission

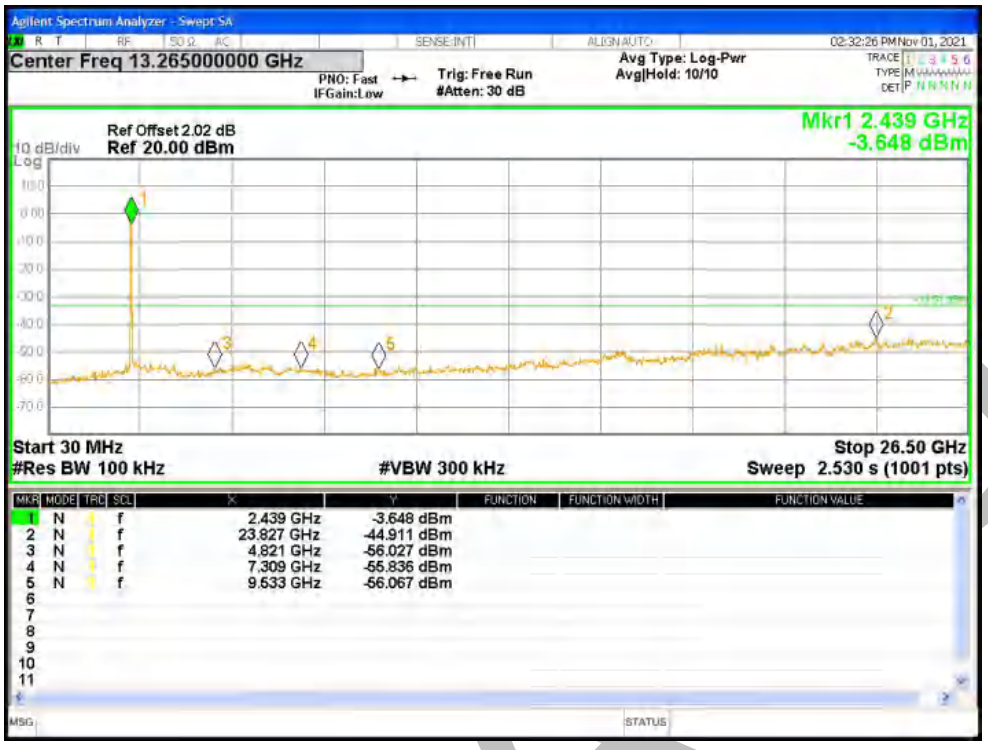
Tx. Spurious NVNT n20 2462MHz Ant1 Ref

Tx. Spurious NVNT n20 2462MHz Ant1 Emission

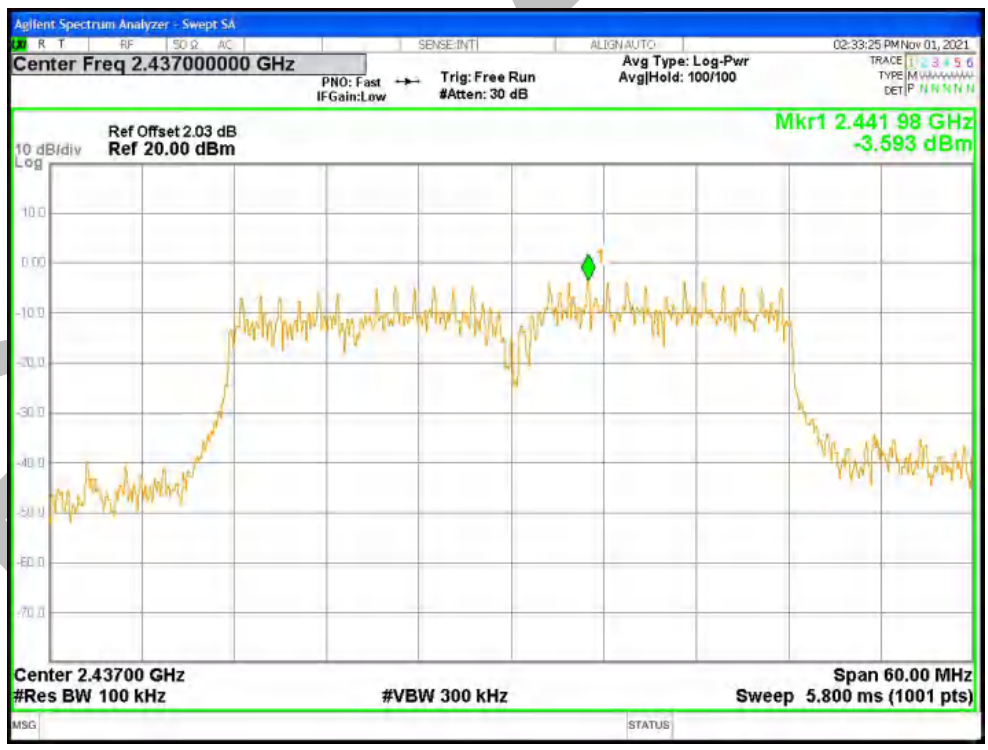
Tx. Spurious NVNT n40 2422MHz Ant1 Ref



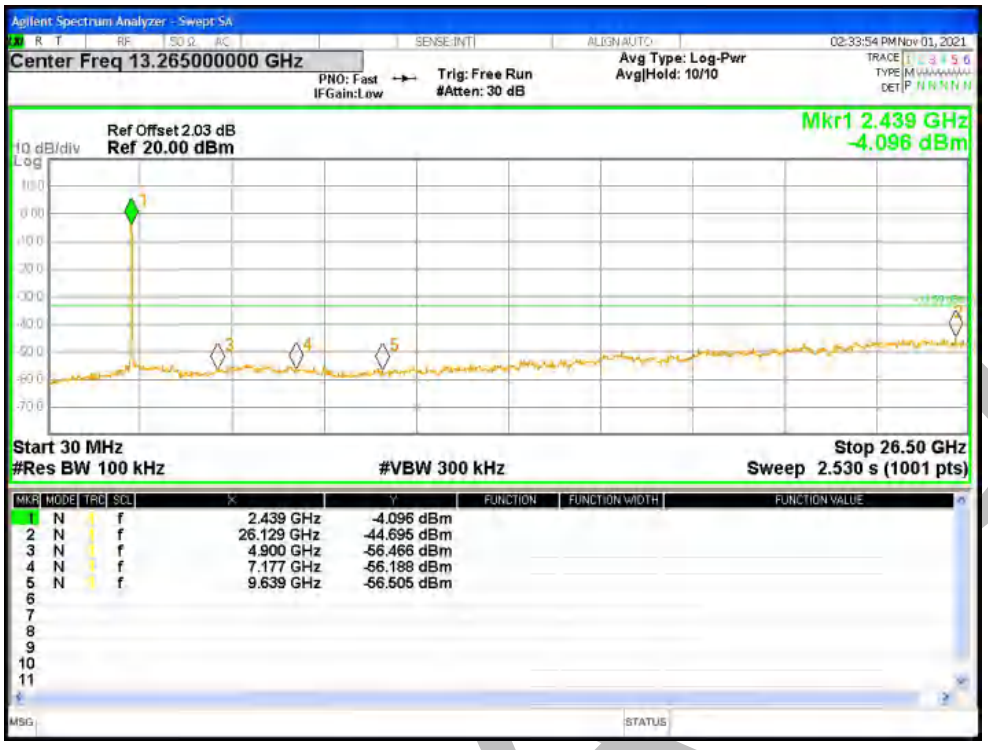
Tx. Spurious NVNT n40 2422MHz Ant1 Emission



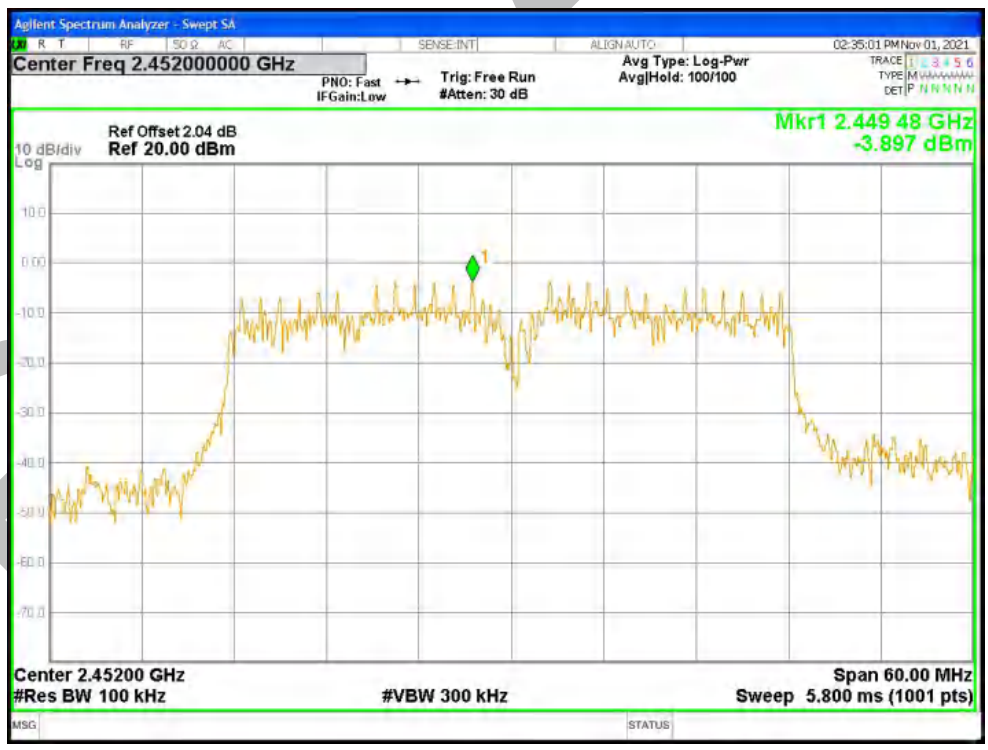
Tx. Spurious NVNT n40 2437MHz Ant1 Ref



Tx. Spurious NVNT n40 2437MHz Ant1 Emission



Tx. Spurious NVNT n40 2452MHz Ant1 Ref

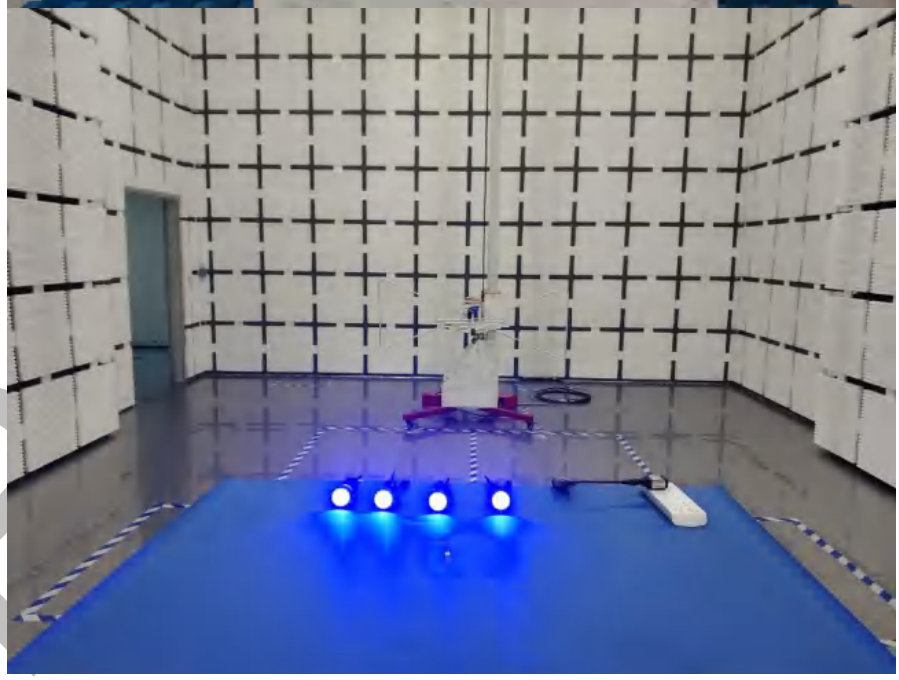


Tx. Spurious NVNT n40 2452MHz Ant1 Emission


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.265000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
02:35:30 PM Nov 01, 2021
Ref Offset 2.04 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.439 GHz
-4.478 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26.50 GHz
Sweep 2.530 s (1001 pts)
1 N 1 f 2.439 GHz -4.478 dBm
2 N 1 f 23.774 GHz -45.040 dBm
3 N 1 f 5.033 GHz -56.094 dBm
4 N 1 f 7.442 GHz -56.355 dBm
5 N 1 f 9.665 GHz -56.637 dBm
MSG
STATUS

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Radiated Spurious Emissions



Radiated Emissions which fall in the restricted bands

Conducted Emissions at AC Power Line (150kHz-30MHz)

APPENDIX B: PHOTOGRAPHS OF EUT

Reference to the test report No. BLA-EMC-202110-A8101

----END OF REPORT----