

TEST REPORT

Product Name : Smart Dimmer Switch
Brand Mark : Globe
Model No. : 50587
Report Number : BLA-EMC-202206-A10502
FCC ID : 2AQUQGE50587
Date of Sample Receipt : 2022/6/24
Date of Test : 2022/6/24 to 2022/7/14
Date of Issue : 2022/7/14
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:

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Review by:

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Date:

2022/7/14



REPORT REVISE RECORD

Version No.	Date	Description
00	2022/7/14	Original

BlueAsia

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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 Dimmer Switch
Test Model No.	50587

3 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	V1.5
Software Version	35668226
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:	3.96dBi (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%)
Remark: During the radiated spurious emission test, 802.11b/11g/11nH20/11nH40 modulations all have been tested, only worse case 802.11b is reported.	

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

7 DESCRIPTION OF SUPPORT UNIT

Device Type	Manufacturer	Model Name	Serial No.	Remark
PC	HASEE	K610D	--	--

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, Shiyuan 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 Radiated Spurious Emissions					
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Chamber	SKET	966	N/A	10/11/2020	9/11/2023
Spectrum	R&S	FSP40	100817	24/9/2021	23/9/2022
Receiver	R&S	ESR7	101199	24/9/2021	23/9/2022
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	26/9/2020	25/9/2022
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	26/9/2020	25/9/2022
Amplifier	SKET	LNPA-0118-45	N/A	24/9/2021	23/9/2022
EMI software	EZ	EZ-EMC	N/A	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	26/9/2020	25/9/2022

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	10/11/2020	9/11/2023
Spectrum	R&S	FSP40	100817	24/9/2021	23/9/2022
Receiver	R&S	ESR7	101199	24/9/2021	23/9/2022
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	26/9/2020	25/9/2022
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	26/9/2020	25/9/2022
Amplifier	SKET	LNPA-0118-45	N/A	24/9/2021	23/9/2022
EMI software	EZ	EZ-EMC	N/A	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	26/9/2020	25/9/2022

Test Equipment Of Conducted Spurious Emissions

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	24/9/2021	23/9/2022
Spectrum	Agilent	N9020A	MY49100060	24/9/2021	23/9/2022
Signal Generator	Agilent	N5182A	MY49060650	24/9/2021	23/9/2022
Signal Generator	Agilent	E8257D	MY44320250	24/9/2021	23/9/2022

Test Equipment Of Conducted Band Edges Measurement

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	24/9/2021	23/9/2022
Spectrum	Agilent	N9020A	MY49100060	24/9/2021	23/9/2022
Signal Generator	Agilent	N5182A	MY49060650	24/9/2021	23/9/2022
Signal Generator	Agilent	E8257D	MY44320250	24/9/2021	23/9/2022

Test Equipment Of Minimum 6dB Bandwidth

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	24/9/2021	23/9/2022
Spectrum	Agilent	N9020A	MY49100060	24/9/2021	23/9/2022
Signal Generator	Agilent	N5182A	MY49060650	24/9/2021	23/9/2022
Signal Generator	Agilent	E8257D	MY44320250	24/9/2021	23/9/2022

Test Equipment Of Power Spectrum Density

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	24/9/2021	23/9/2022

Spectrum	Agilent	N9020A	MY49100060	24/9/2021	23/9/2022
Signal Generator	Agilent	N5182A	MY49060650	24/9/2021	23/9/2022
Signal Generator	Agilent	E8257D	MY44320250	24/9/2021	23/9/2022

Test Equipment Of Conducted Peak Output Power

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	24/9/2021	23/9/2022
Spectrum	Agilent	N9020A	MY49100060	24/9/2021	23/9/2022
Signal Generator	Agilent	N5182A	MY49060650	24/9/2021	23/9/2022
Signal Generator	Agilent	E8257D	MY44320250	24/9/2021	23/9/2022

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	25/11/2020	24/11/2023
Receiver	R&S	ESPI3	101082	24/9/2021	23/9/2022
LISN	R&S	ENV216	3560.6550.15	24/9/2021	23/9/2022
LISN	AT	AT166-2	AKK1806000003	26/9/2021	25/9/2022
EMI software	EZ	EZ-EMC	N/A	N/A	N/A

10 ANTENNA REQUIREMENT

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

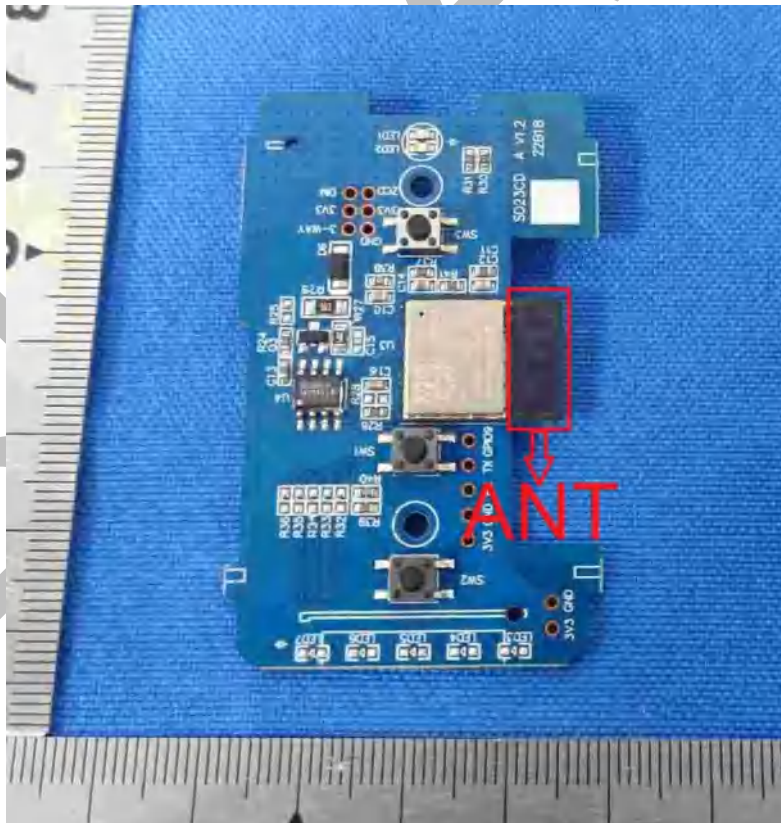
10.1 CONCLUSION

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 an 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 3.96dBi.



11 RADIATED SPURIOUS EMISSIONS

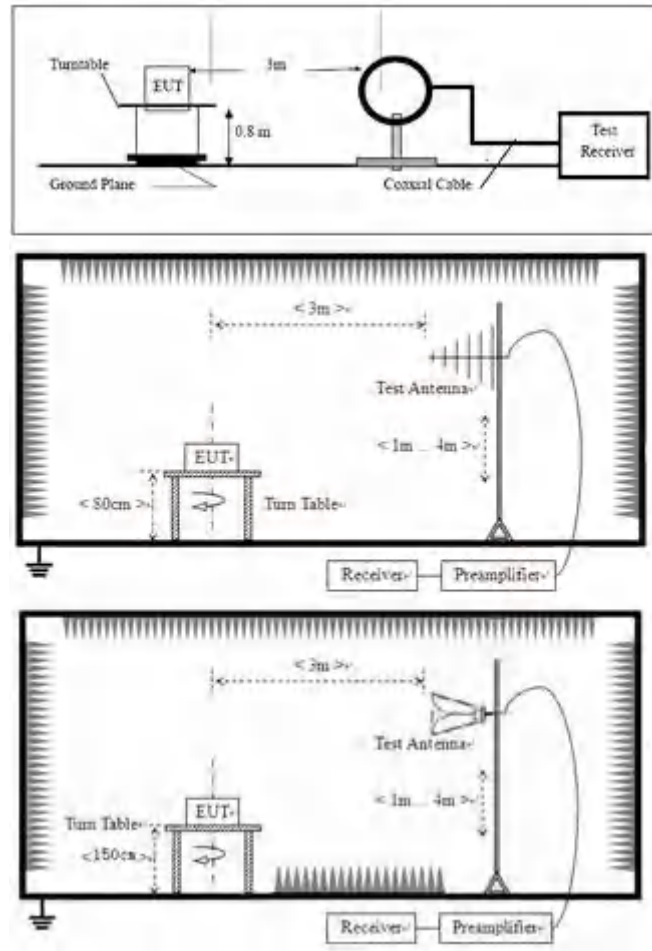
Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.4,6.5,6.6
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

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

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

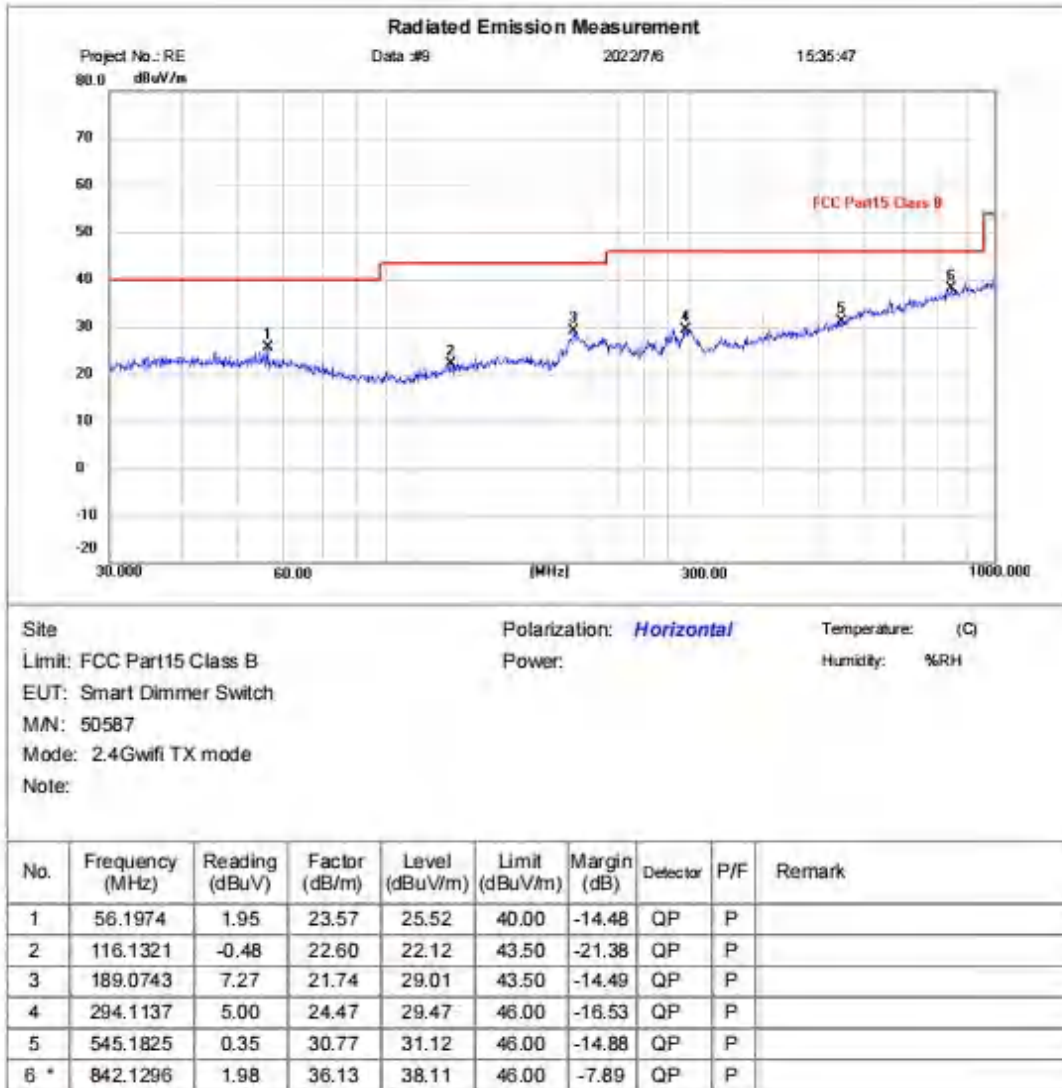
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was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

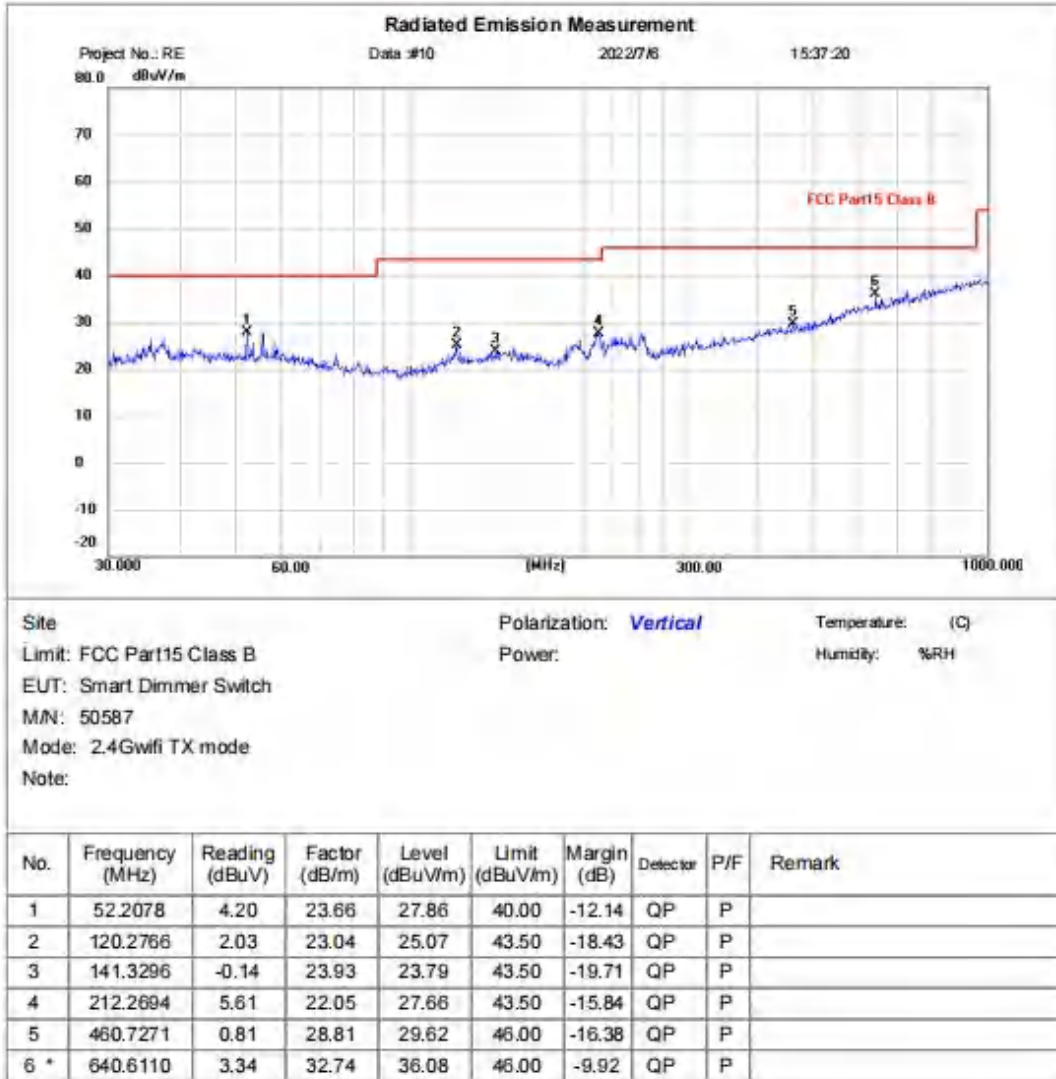
11.4 TEST DATA

[TestMode: TX Below 1G]; [Polarity: Horizontal]



Test Result: Pass

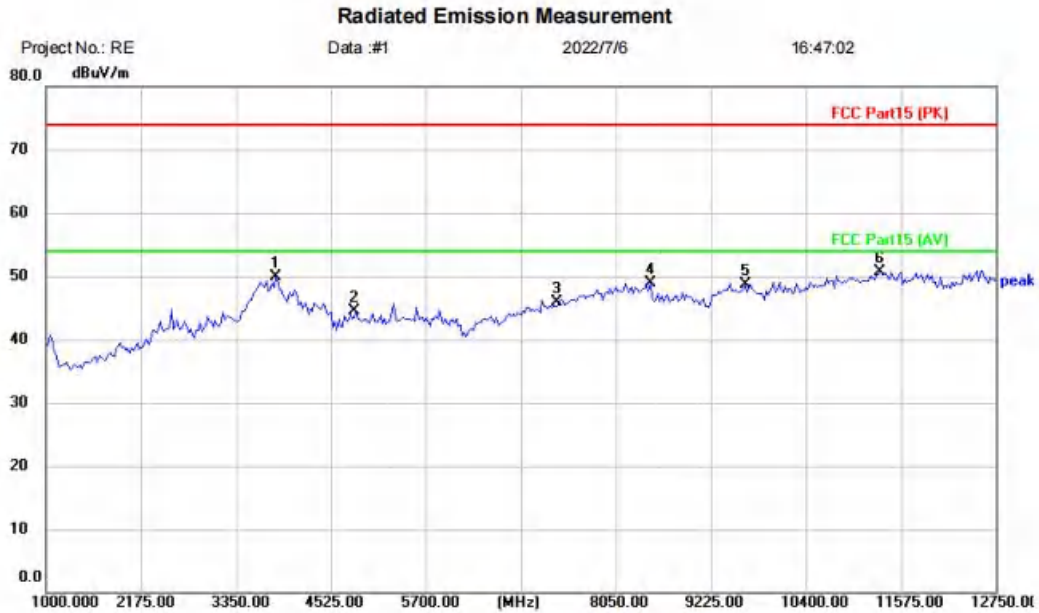
[TestMode: TX Below 1G]; [Polarity: Vertical]



Test Result: Pass

Remark: During the test, pre-scan the 802.11b/g/n mode, and found the 802.11b mode which it is worse case.

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



Project No.: RE Data :#1 2022/7/6 16:47:02

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

Limit: FCC Part15 (PK) Power: Humidity: %RH

EUT: Smart Dimmer Switch

M/N: 50587

Mode: 2.4GWifi 11B-TX-L

Note:

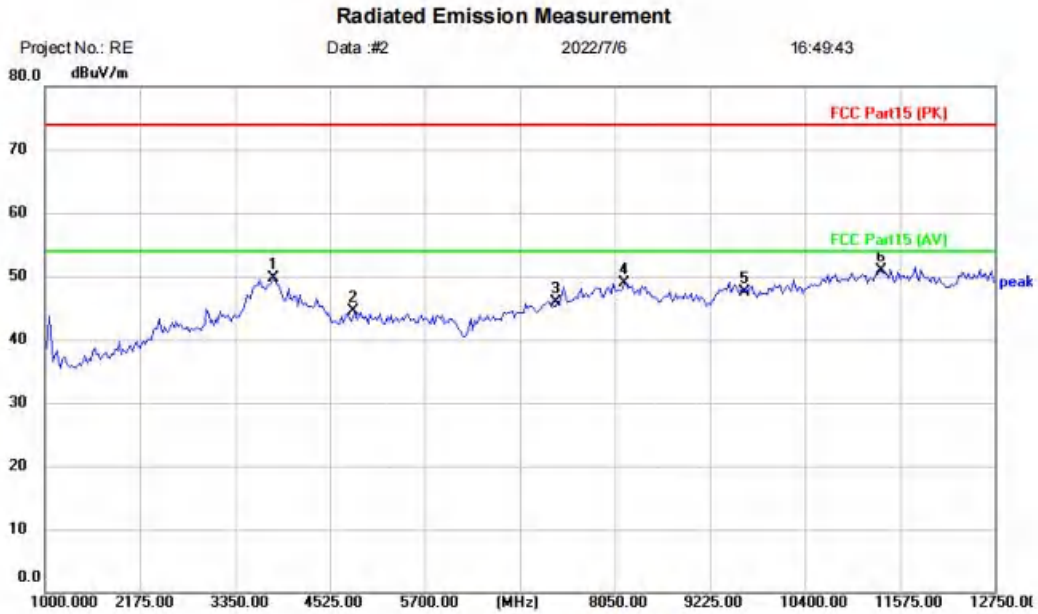
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		3843.500	42.76	7.12	49.88	74.00	-24.12	peak	
2		4824.000	40.79	3.62	44.41	74.00	-29.59	peak	
3		7326.000	39.44	6.44	45.88	74.00	-28.12	peak	
4		8473.000	40.71	8.17	48.88	74.00	-25.12	peak	
5		9648.000	39.36	9.37	48.73	74.00	-25.27	peak	
6	*	11316.500	38.90	11.88	50.78	74.00	-23.22	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

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



Site: Polarization: **Vertical** Temperature: (C)
 Limit: FCC Part15 (PK) Power: Humidity: %RH
 EUT: Smart Dimmer Switch
 M/N: 50587
 Mode: 2.4GWifi 11B-TX-L
 Note:

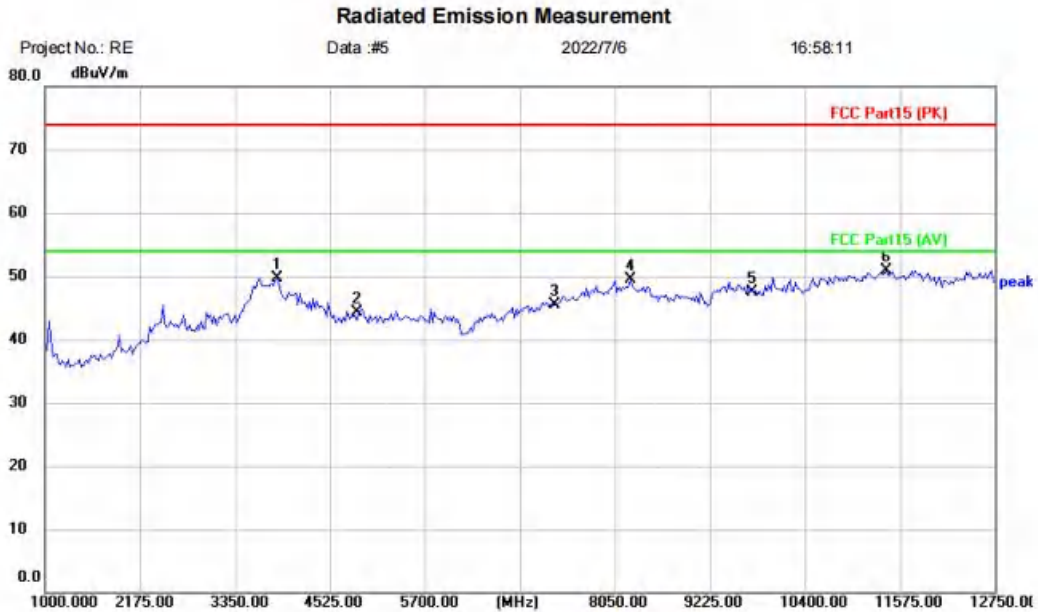
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		3820.000	42.33	7.41	49.74	74.00	-24.26	peak	
2		4824.000	40.98	3.62	44.60	74.00	-29.40	peak	
3		7326.000	39.56	6.44	46.00	74.00	-28.00	peak	
4		8167.500	40.75	8.17	48.92	74.00	-25.08	peak	
5		9648.000	38.12	9.37	47.49	74.00	-26.51	peak	
6	*	11340.000	38.99	11.85	50.84	74.00	-23.16	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

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



Site: Polarization: **Horizontal** Temperature: (C)
 Limit: FCC Part15 (PK) Power: Humidity: %RH
 EUT: Smart Dimmer Switch
 M/N: 50587
 Mode: 2.4GWifi 11B-TX-M
 Note:

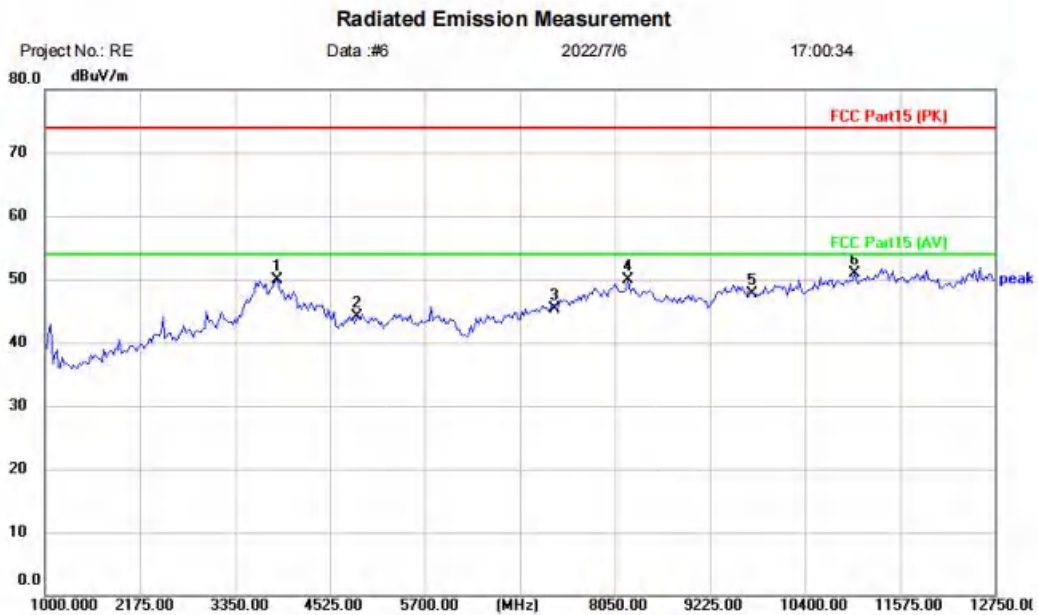
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		3867.000	42.79	6.82	49.61	74.00	-24.39	peak	
2		4874.000	40.93	3.39	44.32	74.00	-29.68	peak	
3		7311.000	39.21	6.37	45.58	74.00	-28.42	peak	
4		8238.000	41.35	8.22	49.57	74.00	-24.43	peak	
5		9748.000	37.82	9.59	47.41	74.00	-26.59	peak	
6	*	11410.500	39.03	11.78	50.81	74.00	-23.19	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

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



Site: Polarization: **Vertical** Temperature: (C)
 Limit: FCC Part15 (PK) Power: Humidity: %RH
 EUT: Smart Dimmer Switch
 M/N: 50587
 Mode: 2.4GWifi 11B-TX-M
 Note:

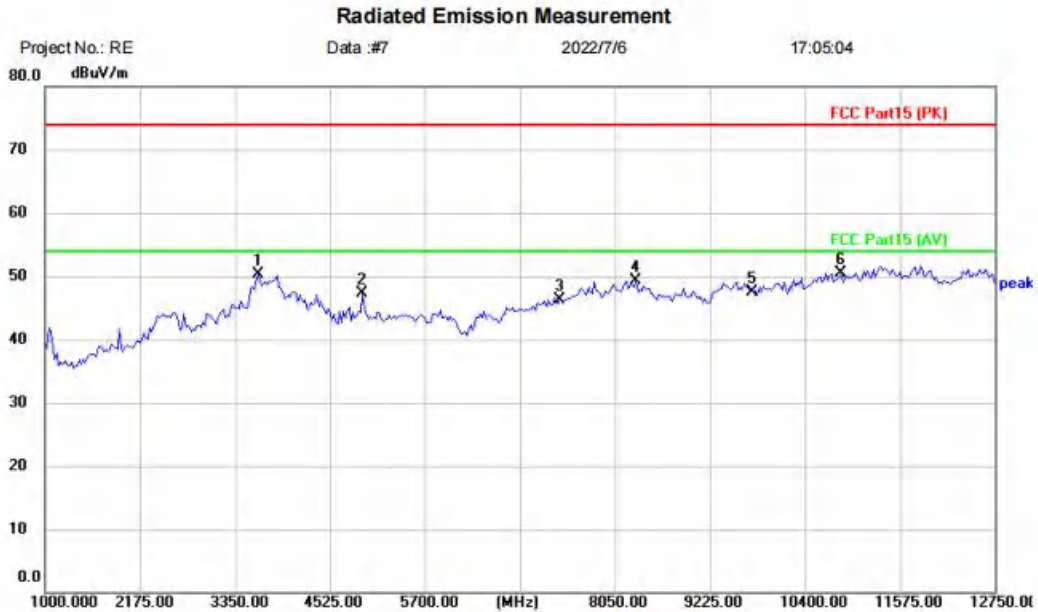
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		3867.000	43.03	6.82	49.85	74.00	-24.15	peak	
2		4874.000	40.81	3.39	44.20	74.00	-29.80	peak	
3		7311.000	38.90	6.37	45.27	74.00	-28.73	peak	
4		8214.500	41.70	8.21	49.91	74.00	-24.09	peak	
5		9748.000	38.19	9.59	47.78	74.00	-26.22	peak	
6	*	11011.000	38.99	11.99	50.98	74.00	-23.02	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

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



Site: Polarization: **Horizontal** Temperature: (C)
 Limit: FCC Part15 (PK) Power: Humidity: %RH
 EUT: Smart Dimmer Switch
 M/N: 50587
 Mode: 2.4GWifi 11B-TX-H
 Note:

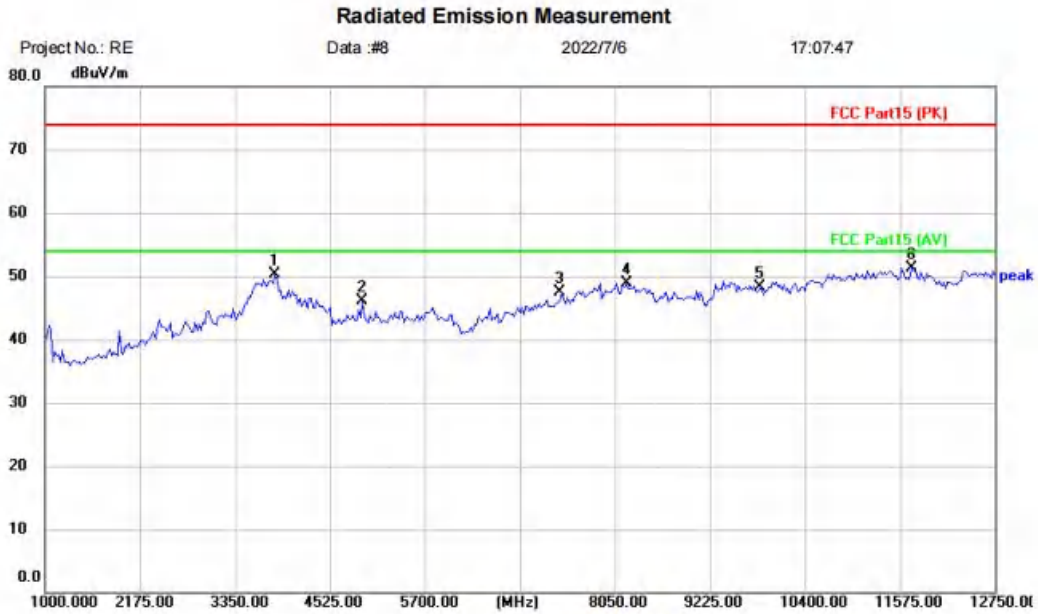
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		3632.000	42.45	7.77	50.22	74.00	-23.78	peak	
2		4924.500	43.74	3.47	47.21	74.00	-26.79	peak	
3		7386.000	39.61	6.68	46.29	74.00	-27.71	peak	
4		8308.500	41.01	8.25	49.26	74.00	-24.74	peak	
5		9748.000	37.96	9.59	47.55	74.00	-26.45	peak	
6	*	10846.500	38.74	11.84	50.58	74.00	-23.42	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

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



Site: Polarization: **Vertical** Temperature: (C)
 Limit: FCC Part15 (PK) Power: Humidity: %RH
 EUT: Smart Dimmer Switch
 M/N: 50587
 Mode: 2.4GWifi 11B-TX-H
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		3843.500	43.18	7.12	50.30	74.00	-23.70	peak	
2		4924.500	42.68	3.47	46.15	74.00	-27.85	peak	
3		7386.000	40.77	6.68	47.45	74.00	-26.55	peak	
4		8191.000	40.63	8.20	48.83	74.00	-25.17	peak	
5		9848.000	38.41	9.88	48.29	74.00	-25.71	peak	
6	*	11716.000	39.53	11.76	51.29	74.00	-22.71	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

12 RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS

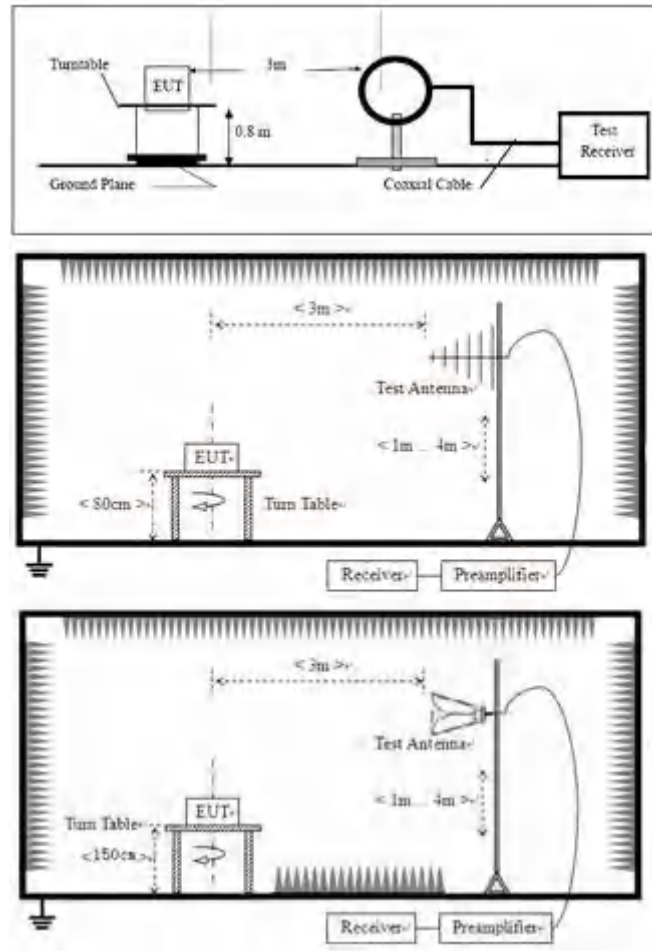
Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.10.5
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

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

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

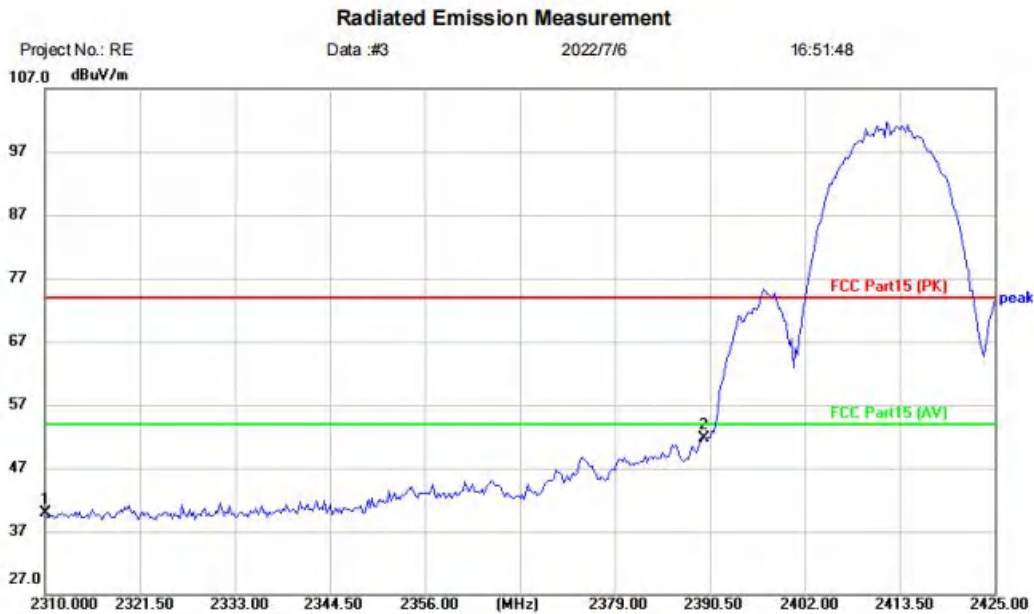
Remark 1: $Level = Read\ Level + Cable\ Loss + Antenna\ Factor - Preamp\ Factor$

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.

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12.4 TEST DATA

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



Site: Polarization: **Horizontal** Temperature: (C)
 Limit: FCC Part15 (PK) Power: Humidity: %RH
 EUT: Smart Dimmer Switch
 M/N: 50587
 Mode: 2.4GWiFi 11B-TX-L
 Note:

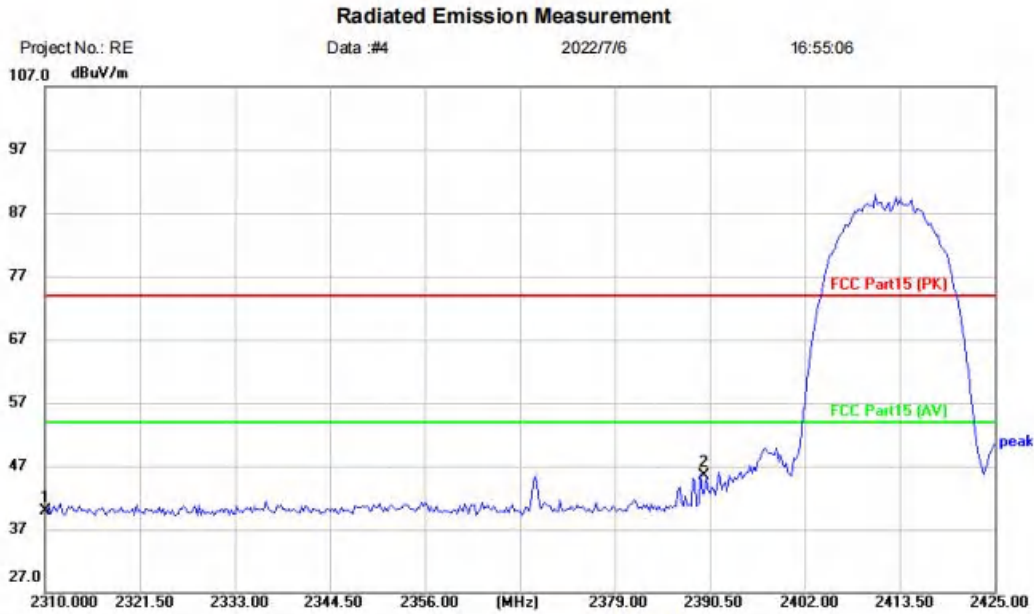
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2310.000	43.78	-3.93	39.85	74.00	-34.15	peak	
2	*	2390.000	55.23	-3.58	51.65	74.00	-22.35	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

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



Site	Polarization: Vertical	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Smart Dimmer Switch		
M/N: 50587		
Mode: 2.4GWifi 11B-TX-L		
Note:		

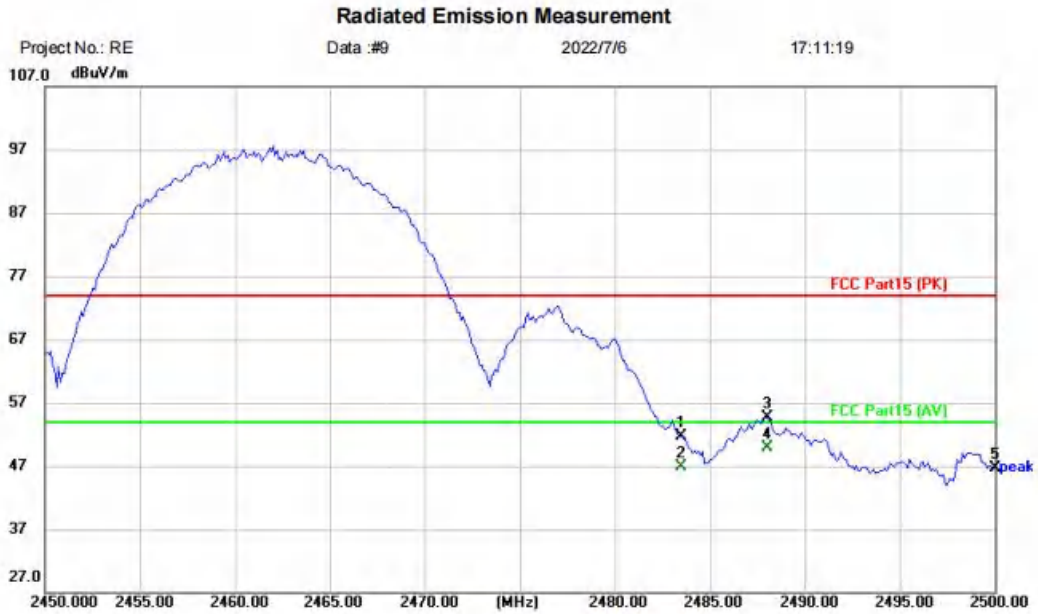
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		2310.000	43.92	-3.93	39.99	74.00	-34.01	peak	
2	*	2390.000	49.01	-3.58	45.43	74.00	-28.57	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

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



Site Polarization: **Horizontal** Temperature: (C)
 Limit: FCC Part15 (PK) Power: Humidity: %RH
 EUT: Smart Dimmer Switch
 M/N: 50587
 Mode: 2.4GWifi 11B-TX-H
 Note:

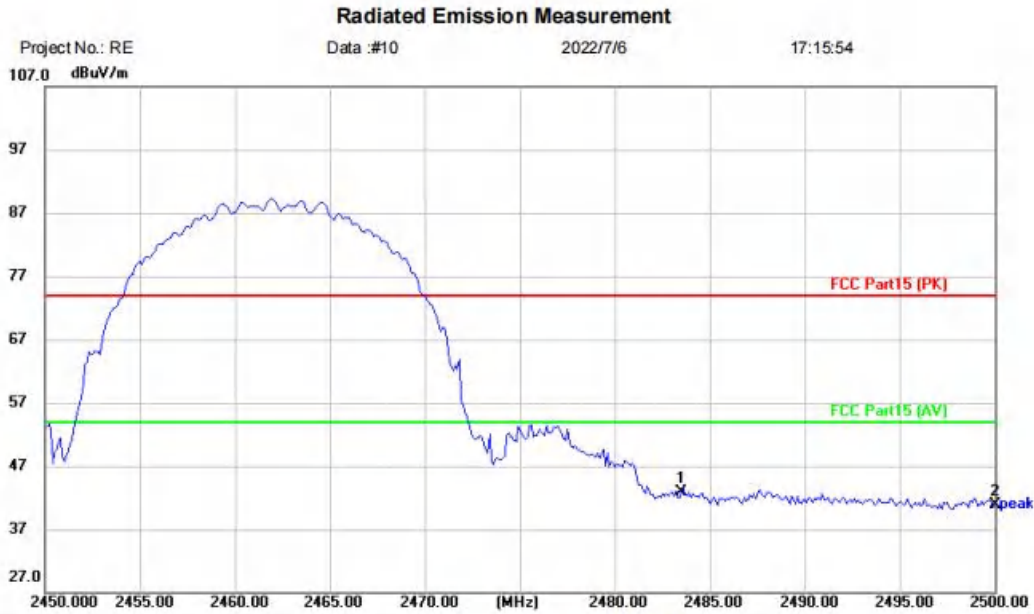
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		2483.500	54.78	-3.14	51.64	74.00	-22.36	peak	
2		2483.500	50.07	-3.14	46.93	54.00	-7.07	AVG	
3		2488.000	57.93	-3.13	54.80	74.00	-19.20	peak	
4	*	2488.000	52.98	-3.13	49.85	54.00	-4.15	AVG	
5		2500.000	49.82	-3.08	46.74	74.00	-27.26	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

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



Site	Polarization: Vertical	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Smart Dimmer Switch		
M/N: 50587		
Mode: 2.4GWifi 11B-TX-H		
Note:		

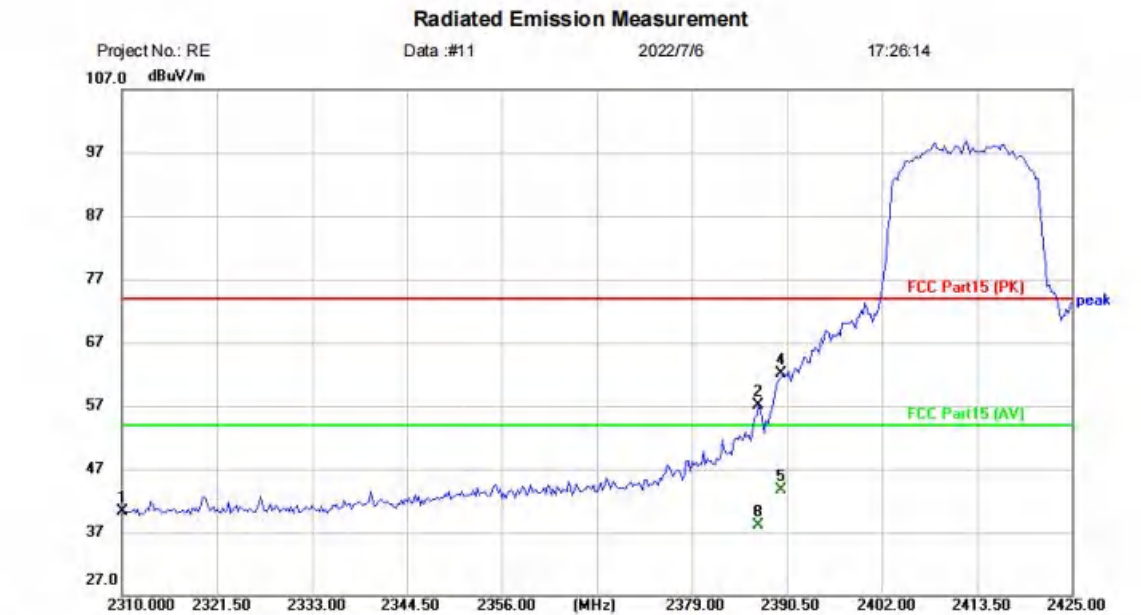
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	*	2483.500	46.03	-3.14	42.89	74.00	-31.11	peak	
2		2500.000	44.03	-3.08	40.95	74.00	-33.05	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

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



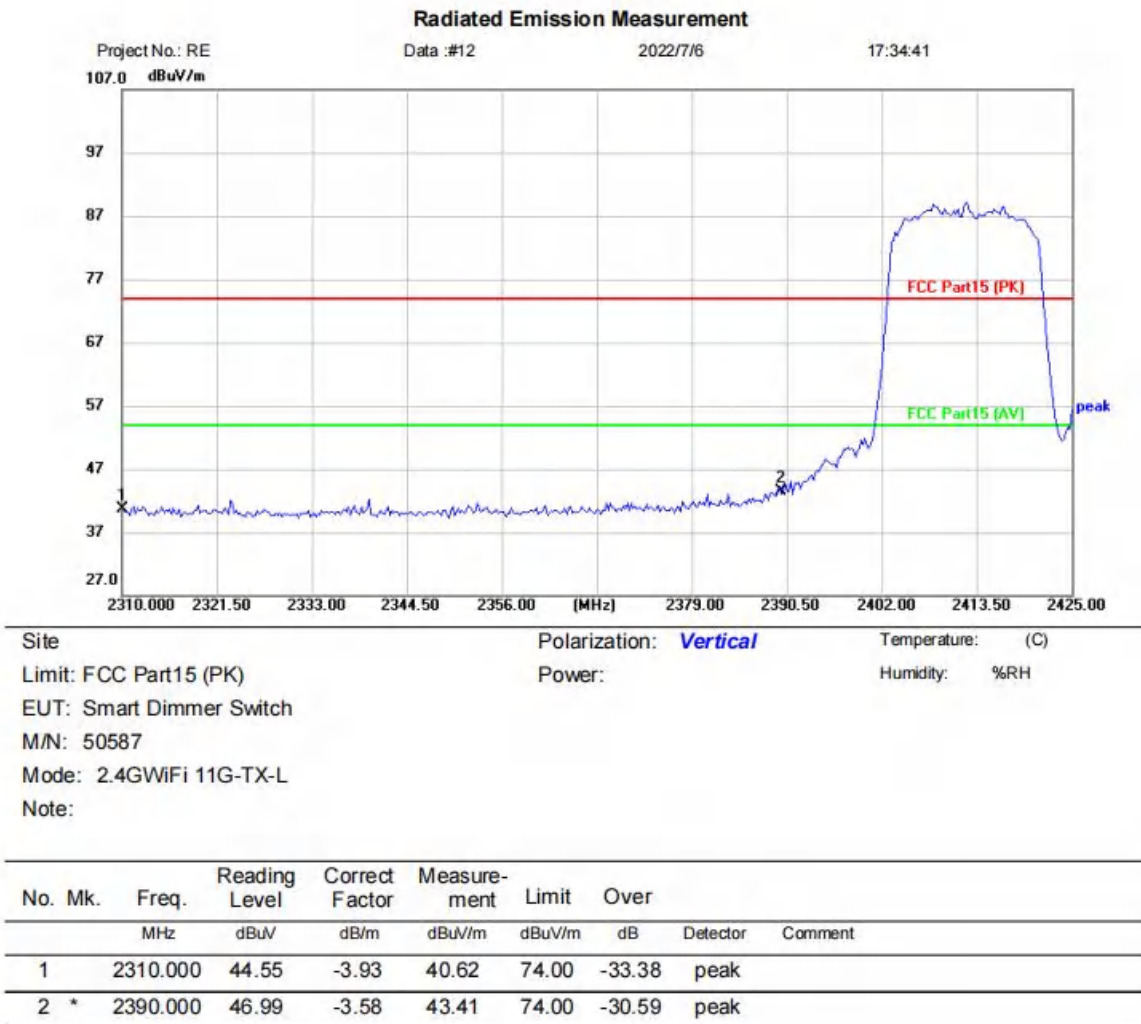
Site	Polarization: Horizontal	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Smart Dimmer Switch		
M/N: 50587		
Mode: 2.4GWifi 11G-TX-L		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		2310.000	44.28	-3.93	40.35	74.00	-33.65	peak	
2		2387.050	60.65	-3.60	57.05	74.00	-16.95	peak	
3		2387.050	41.64	-3.60	38.04	54.00	-15.96	AVG	
4		2390.000	65.63	-3.58	62.05	74.00	-11.95	peak	
5	*	2390.000	47.32	-3.58	43.74	54.00	-10.26	AVG	
6		2387.050	41.64	-3.60	38.04	54.00	-15.96	AVG	

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

Test Result: Pass

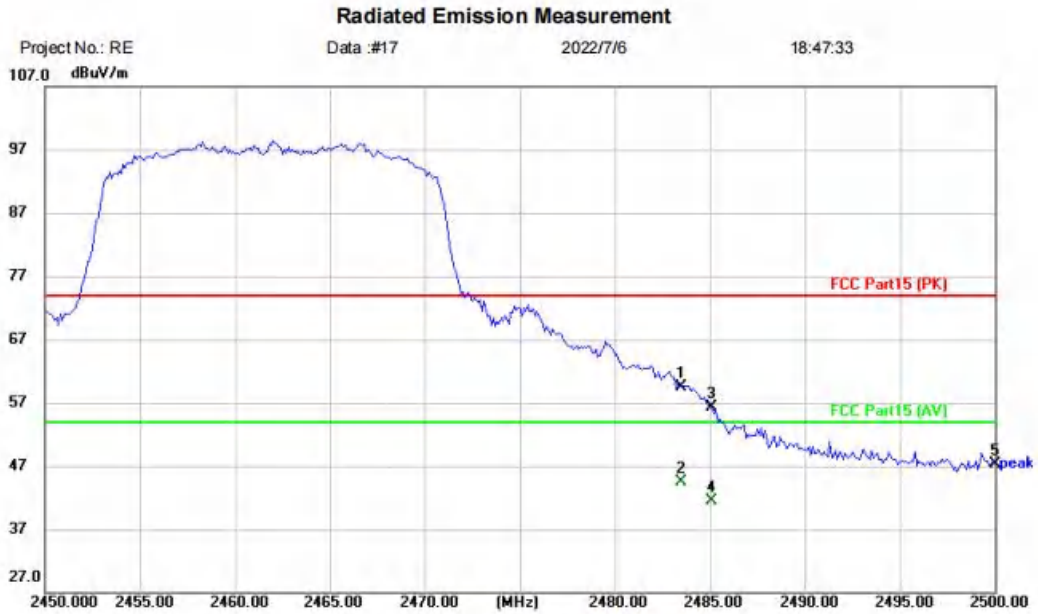
[TestMode: TX g low channel]; [Polarity: Vertical]



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

Test Result: Pass

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



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

Limit: FCC Part15 (PK) Power: Humidity: %RH

EUT: Smart Dimmer Switch

M/N: 50587

Mode: 2.4GWifi 11G-TX-H

Note:

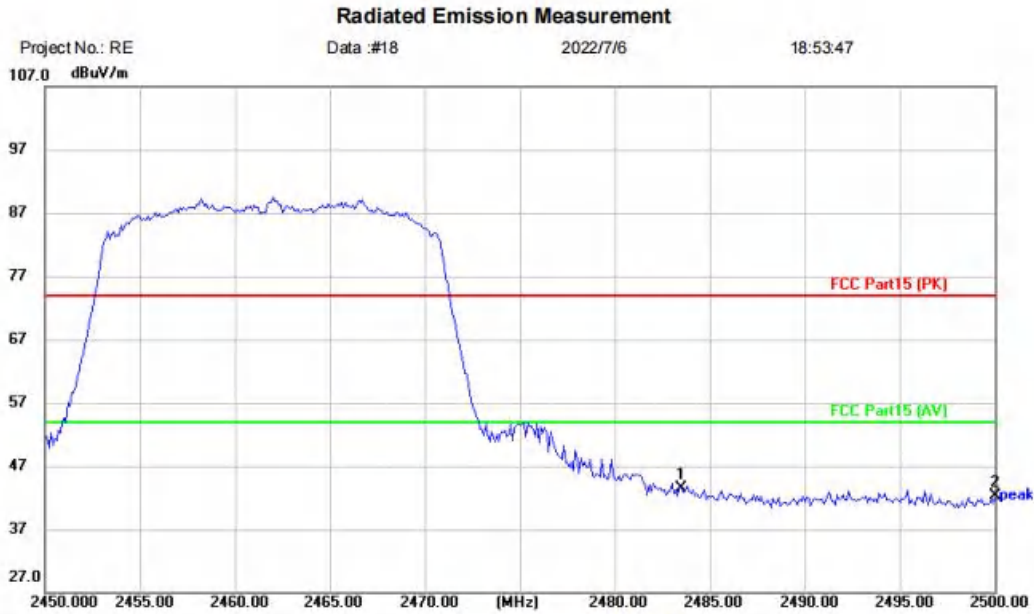
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2483.500	62.67	-3.14	59.53	74.00	-14.47	peak	
2	*	2483.500	47.73	-3.14	44.59	54.00	-9.41	AVG	
3		2485.100	59.51	-3.14	56.37	74.00	-17.63	peak	
4		2485.100	44.65	-3.14	41.51	54.00	-12.49	AVG	
5		2500.000	50.34	-3.08	47.26	74.00	-26.74	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

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



Site	Polarization: Vertical	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Smart Dimmer Switch		
M/N: 50587		
Mode: 2.4GWifi 11G-TX-H		
Note:		

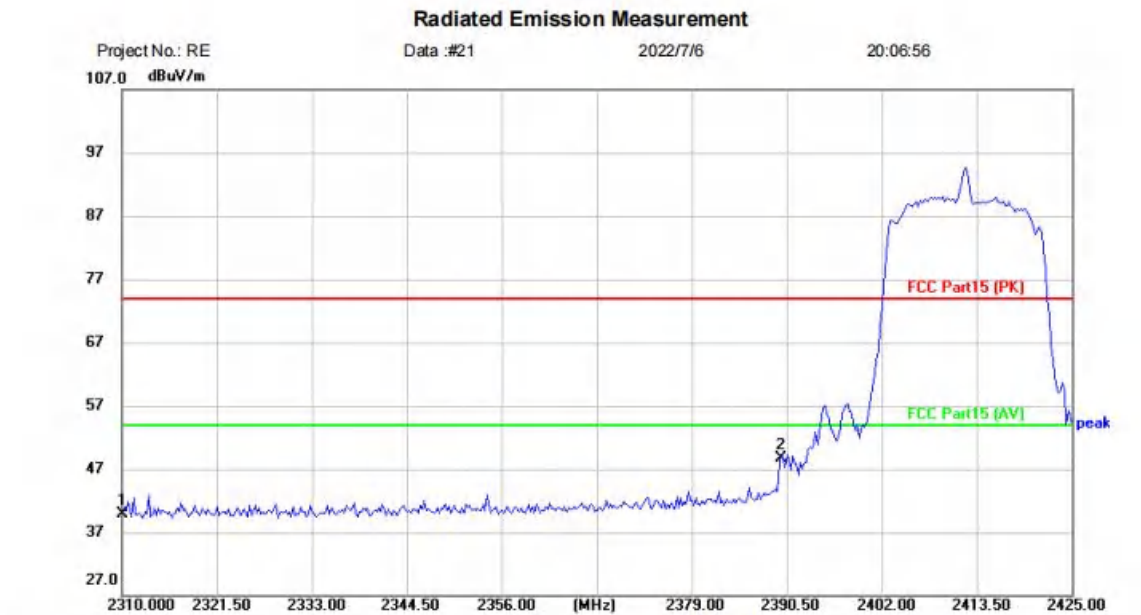
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	2483.500	46.67	-3.14	43.53	74.00	-30.47	peak	
2		2500.000	45.29	-3.08	42.21	74.00	-31.79	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

[TestMode: TX n20 low channel]; [Polarity: Vertical]



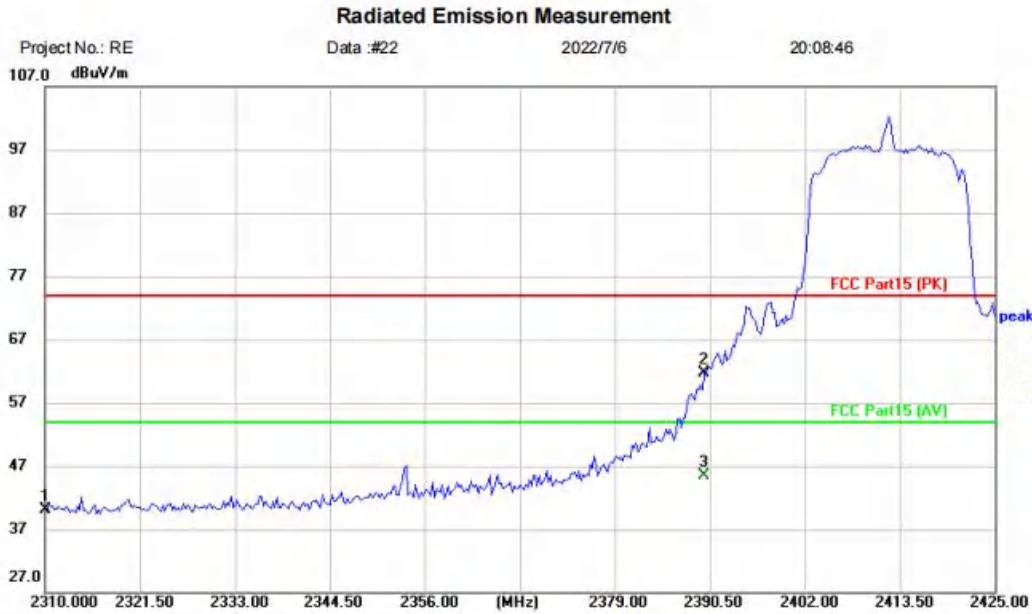
Site	Polarization: Vertical	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Smart Dimmer Switch		
M/N: 50587		
Mode: 2.4GWIFI 11N20-TX-L		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		2310.000	43.79	-3.93	39.86	74.00	-34.14	peak	
2	*	2390.000	52.33	-3.58	48.75	74.00	-25.25	peak	

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

Test Result: Pass

[TestMode: TX n20 low channel]; [Polarity: Horizontal]



Site	Polarization: Horizontal	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Smart Dimmer Switch		
M/N: 50587		
Mode: 2.4GWifi 11N20-TX-L		
Note:		

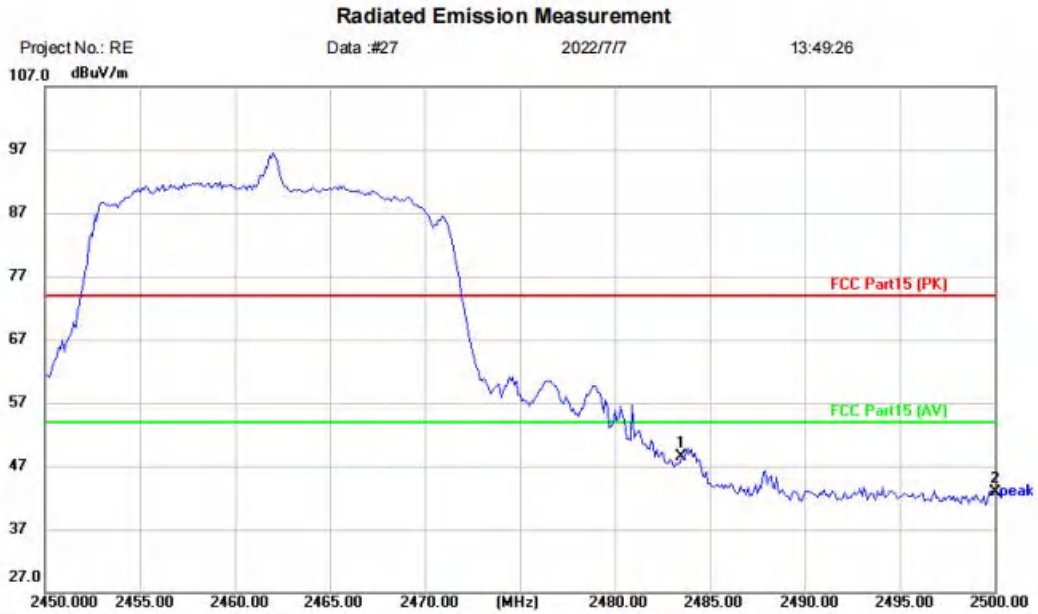
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2310.000	44.09	-3.93	40.16	74.00	-33.84	peak	
2		2390.000	65.19	-3.58	61.61	74.00	-12.39	peak	
3	*	2390.000	49.17	-3.58	45.59	54.00	-8.41	AVG	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

[TestMode: TX n20 high channel]; [Polarity: Vertical]



Site	Polarization: Vertical	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Smart Dimmer Switch		
M/N: 50587		
Mode: 2.4GWifi 11N20-TX-H		
Note:		

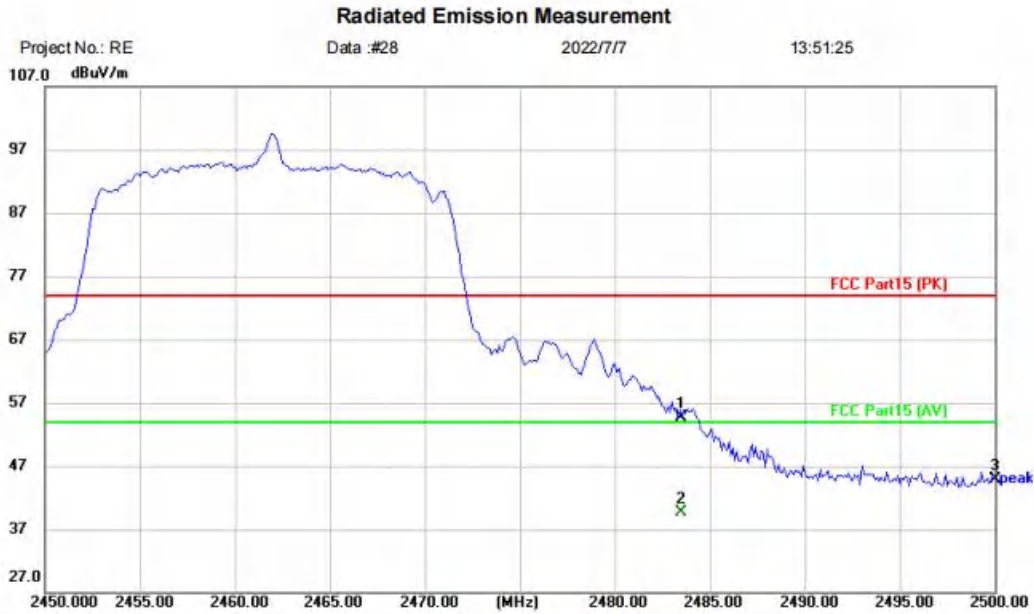
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	*	2483.500	51.69	-3.14	48.55	74.00	-25.45	peak	
2		2500.000	46.05	-3.08	42.97	74.00	-31.03	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

[TestMode: TX n20 high channel]; [Polarity: Horizontal]



Site	Polarization: Horizontal	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Smart Dimmer Switch		
M/N: 50587		
Mode: 2.4GWifi 11N20-TX-H		
Note:		

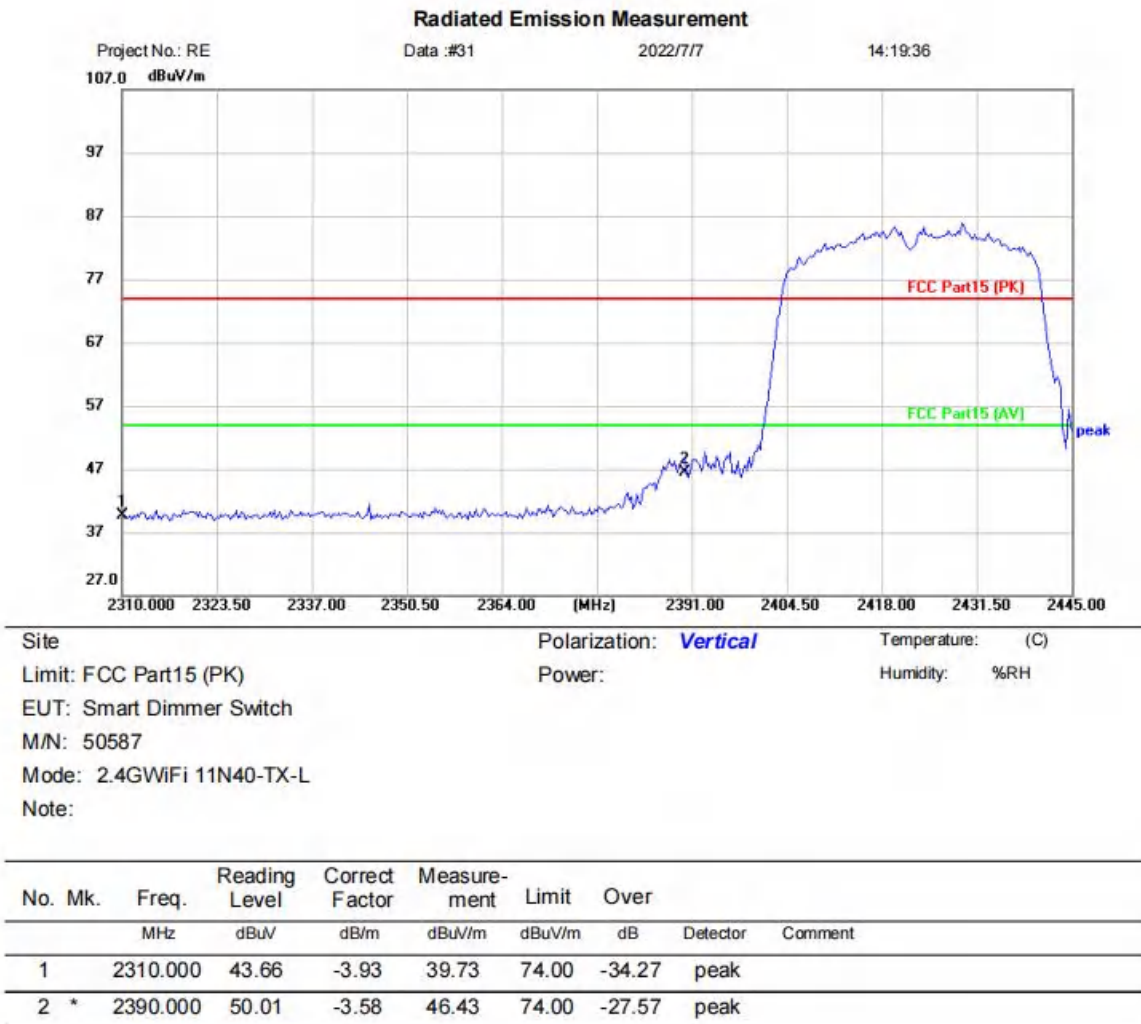
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2483.500	57.80	-3.14	54.66	74.00	-19.34	peak	
2	*	2483.500	42.89	-3.14	39.75	54.00	-14.25	AVG	
3		2500.000	47.91	-3.08	44.83	74.00	-29.17	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

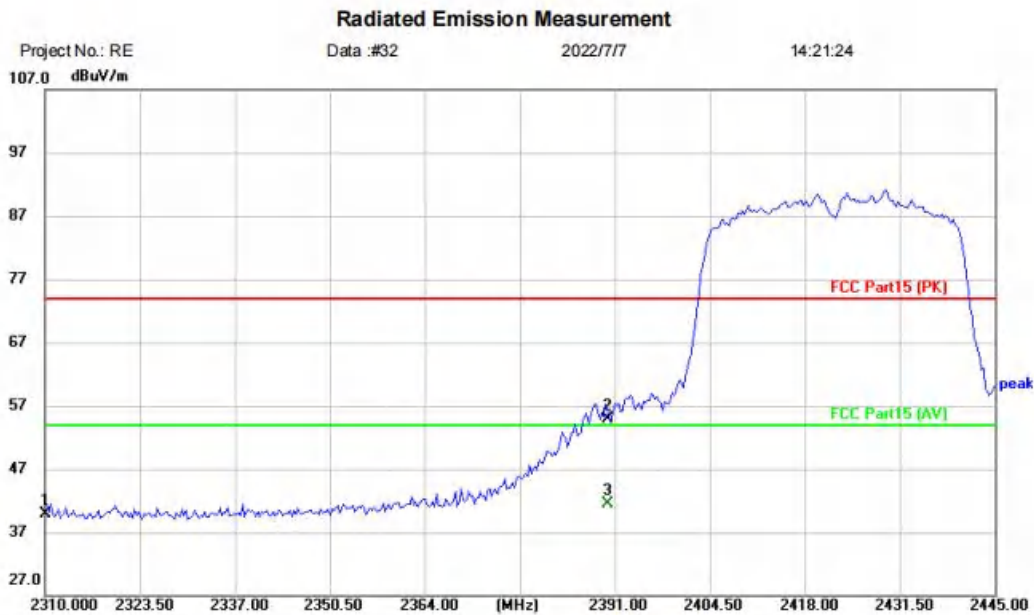
[TestMode: TX n40 low channel]; [Polarity: Vertical]



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

Test Result: Pass

[TestMode: TX n40 low channel]; [Polarity: Horizontal]



Site	Polarization: Horizontal	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Smart Dimmer Switch		
M/N: 50587		
Mode: 2.4GWifi 11N40-TX-L		
Note:		

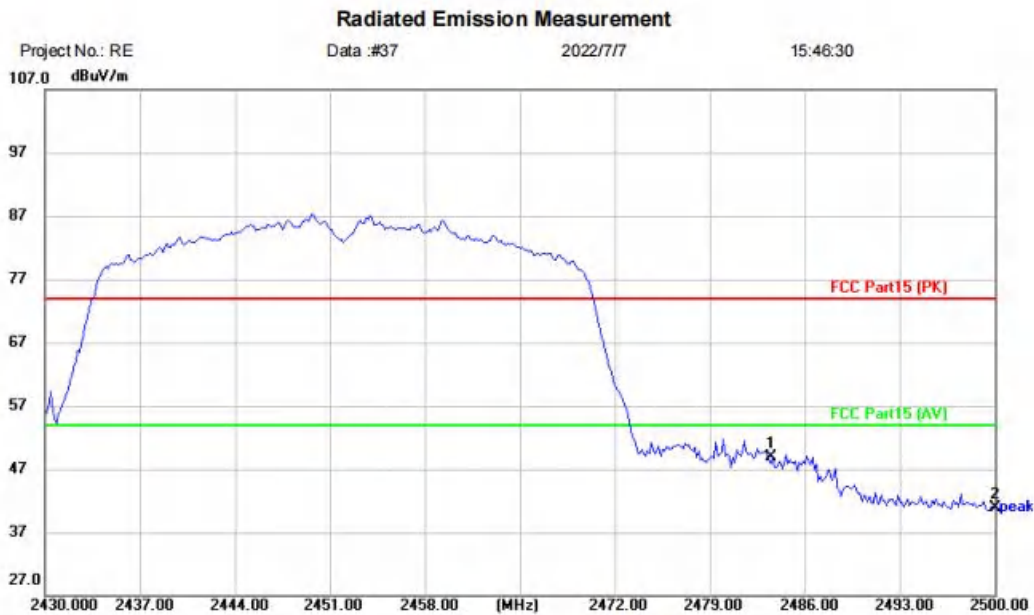
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2310.000	43.92	-3.93	39.99	74.00	-34.01	peak	
2		2390.000	58.55	-3.58	54.97	74.00	-19.03	peak	
3	*	2390.000	45.02	-3.58	41.44	54.00	-12.56	AVG	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

[TestMode: TX n40 high channel]; [Polarity: Vertical]



Site	Polarization: Vertical	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Smart Dimmer Switch		
M/N: 50587		
Mode: 2.4GWifi 11N40-TX-H		
Note:		

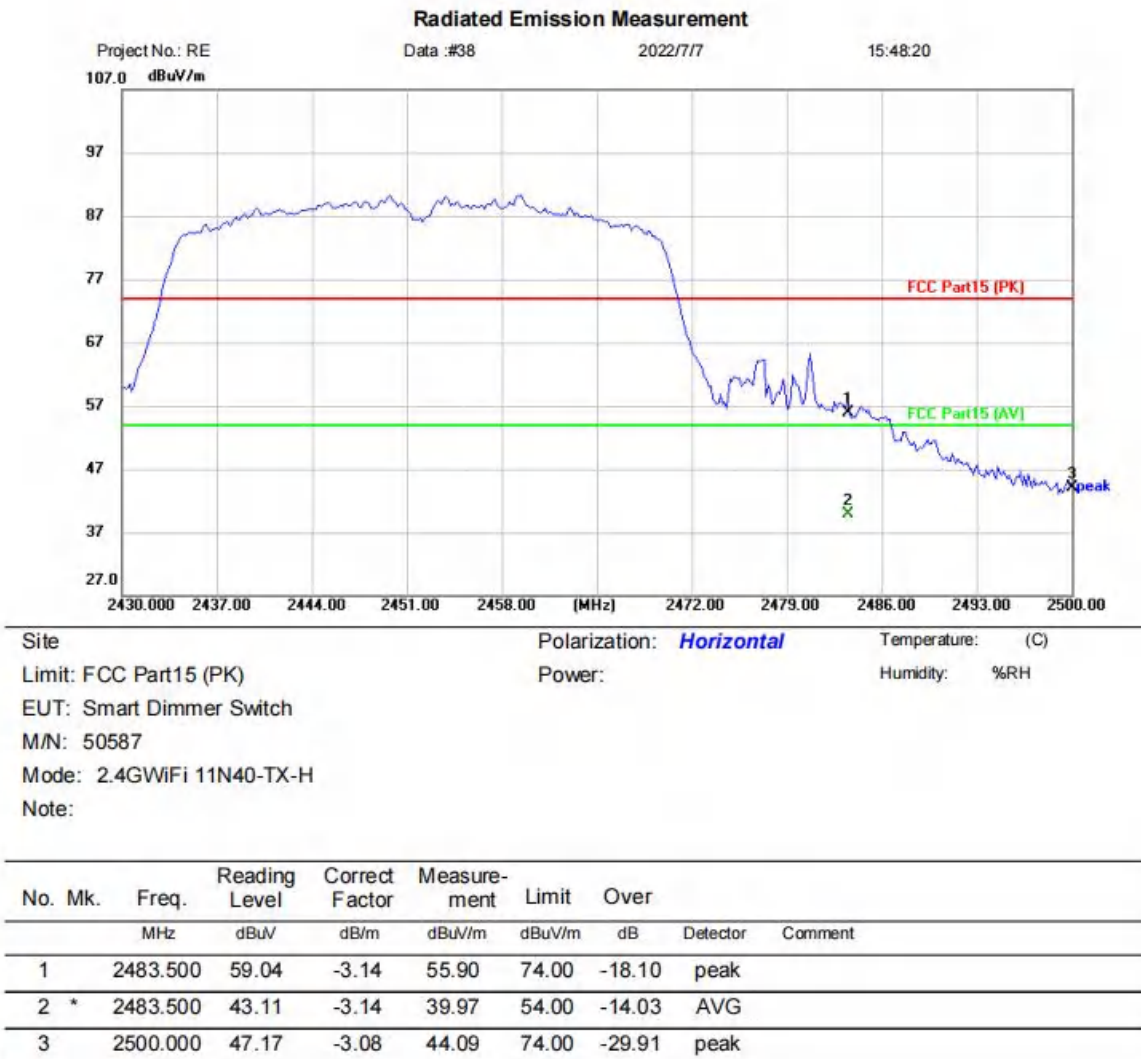
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	*	2483.500	52.13	-3.14	48.99	74.00	-25.01	peak	
2		2500.000	43.90	-3.08	40.82	74.00	-33.18	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

[TestMode: TX n40 high channel]; [Polarity: Horizontal]



*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

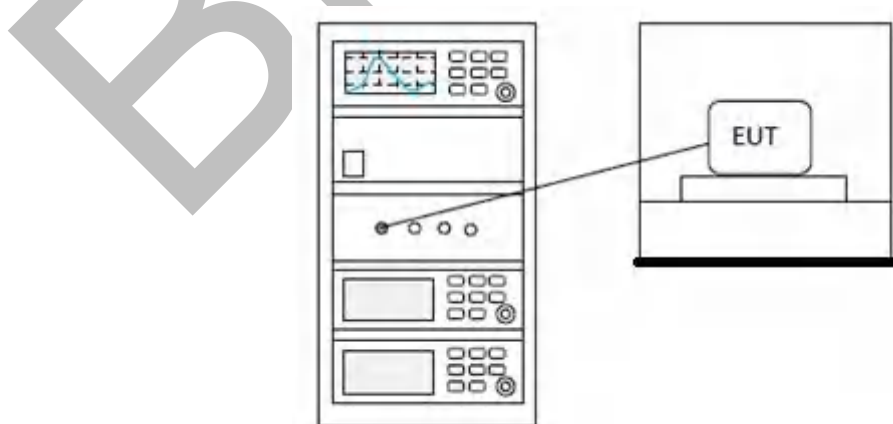
13 CONDUCTED SPURIOUS EMISSIONS

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°C
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)).
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13.2 BLOCK DIAGRAM OF TEST SETUP



13.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

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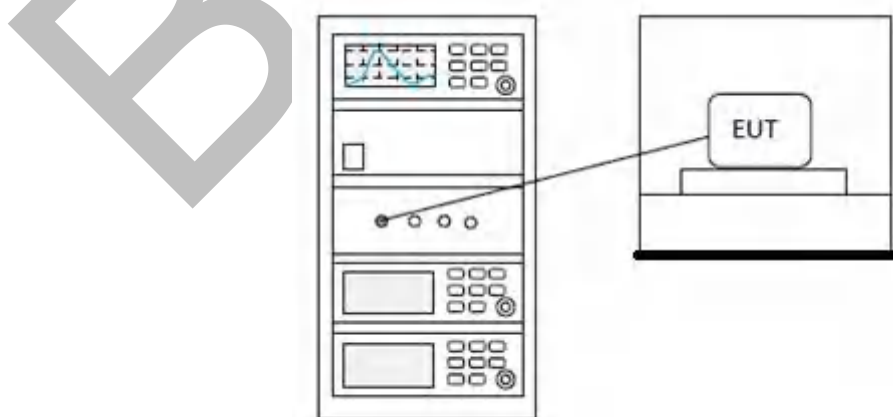
14 CONDUCTED BAND EDGES MEASUREMENT

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°C
Humidity	60%

14.1 LIMITS

Limit:	<p>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)).</p>
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14.2 BLOCK DIAGRAM OF TEST SETUP



14.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

BlueAsia

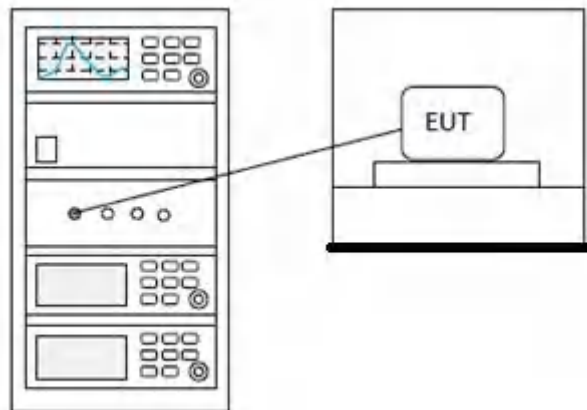
15 MINIMUM 6DB BANDWIDTH

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°C
Humidity	60%

15.1 LIMITS

Limit:	≥ 500 kHz
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15.2 BLOCK DIAGRAM OF TEST SETUP



15.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

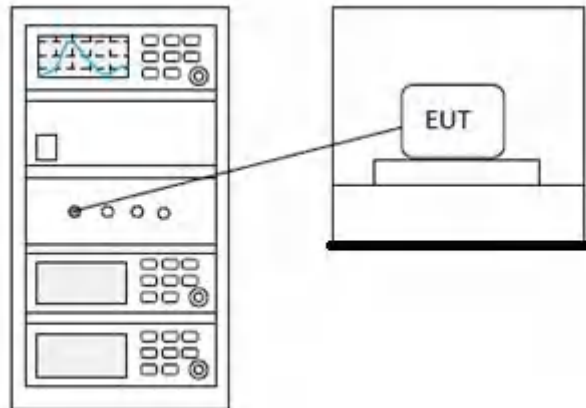
16 POWER SPECTRUM DENSITY

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°C
Humidity	60%

16.1 LIMITS

Limit: $\leq 8\text{dBm}$ 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

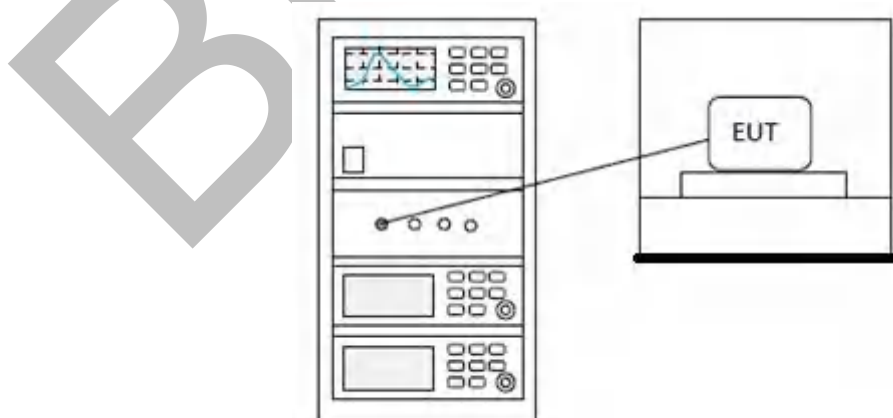
17 CONDUCTED PEAK OUTPUT POWER

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°C
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 $25 \leq$ 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

BlueAsia

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

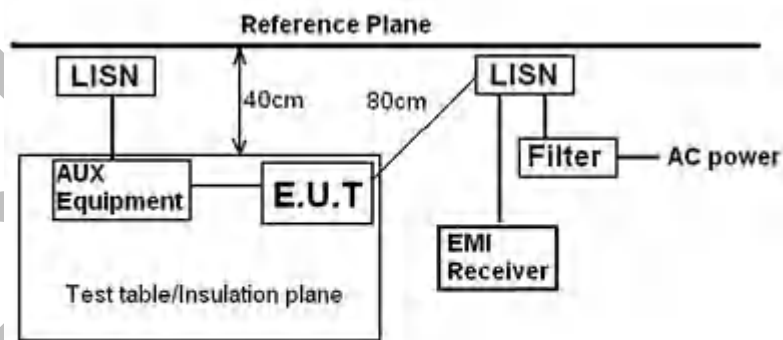
Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

18.1 LIMITS

Frequency of emission(MHz)	Conducted limit(dB μ V)	
	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



Remark:
 E.U.T: Equipment Under Test
 LISN: Line Impedance Stabilization Network
 Test table height=0.8m

18.3 PROCEDURE

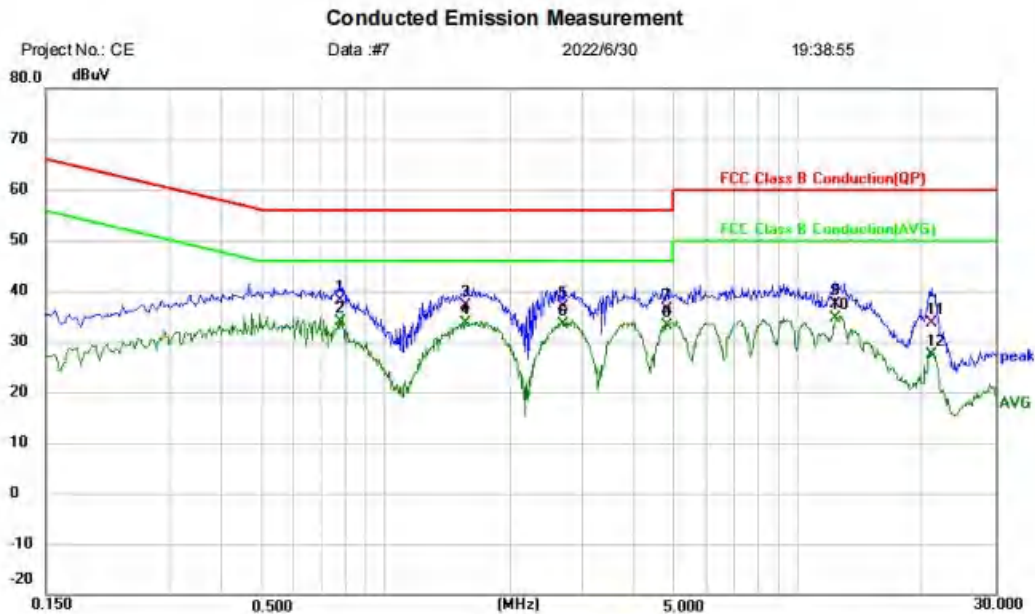
- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50H + 5ohm linear impedance. The power cables of all other units of the EUT were connected to 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

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18.4 TEST DATA

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



Project No.: CE Data :#7 2022/6/30 19:38:55

Site: Phase: **L1** Temperature: (C)
 Limit: FCC Class B Conduction(QP) Power: Humidity: %RH
 EUT: 50587
 M/N: Smart Dimmer Switch
 Mode: 2.4Gwifi TX mode
 Note:

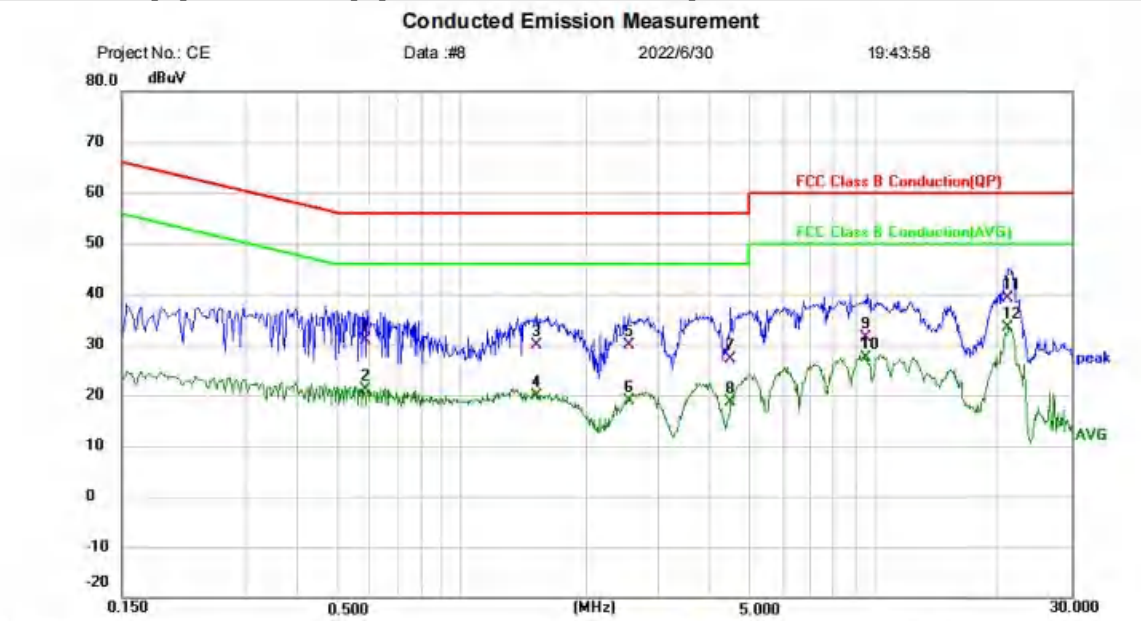
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.7780	28.32	9.89	38.21	56.00	-17.79	QP	
2	*	0.7780	24.05	9.89	33.94	46.00	-12.06	AVG	
3		1.5620	27.27	9.93	37.20	56.00	-18.80	QP	
4		1.5620	23.59	9.93	33.52	46.00	-12.48	AVG	
5		2.6980	27.02	9.96	36.98	56.00	-19.02	QP	
6		2.6980	23.42	9.96	33.38	46.00	-12.62	AVG	
7		4.8100	26.39	10.00	36.39	56.00	-19.61	QP	
8		4.8100	23.22	10.00	33.22	46.00	-12.78	AVG	
9		12.2660	27.00	10.27	37.27	60.00	-22.73	QP	
10		12.2660	24.28	10.27	34.55	50.00	-15.45	AVG	
11		20.9900	23.13	10.41	33.54	60.00	-26.46	QP	
12		20.9900	16.87	10.41	27.28	50.00	-22.72	AVG	

*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

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



Site	Phase: N	Temperature: (C)
Limit: FCC Class B Conduction(QP)	Power:	Humidity: %RH
EUT: 50587		
M/N: Smart Dimmer Switch		
Mode: 2.4Gwifi TX mode		
Note:		

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.5899	20.99	9.80	30.79	56.00	-25.21	QP	
2		0.5899	11.21	9.80	21.01	46.00	-24.99	AVG	
3		1.5220	20.15	9.85	30.00	56.00	-26.00	QP	
4		1.5220	10.00	9.85	19.85	46.00	-26.15	AVG	
5		2.5420	19.88	9.89	29.77	56.00	-26.23	QP	
6		2.5420	9.08	9.89	18.97	46.00	-27.03	AVG	
7		4.4980	17.21	9.92	27.13	56.00	-28.87	QP	
8		4.4980	8.67	9.92	18.59	46.00	-27.41	AVG	
9		9.5659	21.28	10.14	31.42	60.00	-28.58	QP	
10		9.5659	17.20	10.14	27.34	50.00	-22.66	AVG	
11		21.1140	28.69	10.41	39.10	60.00	-20.90	QP	
12	*	21.1140	23.05	10.41	33.46	50.00	-16.54	AVG	

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

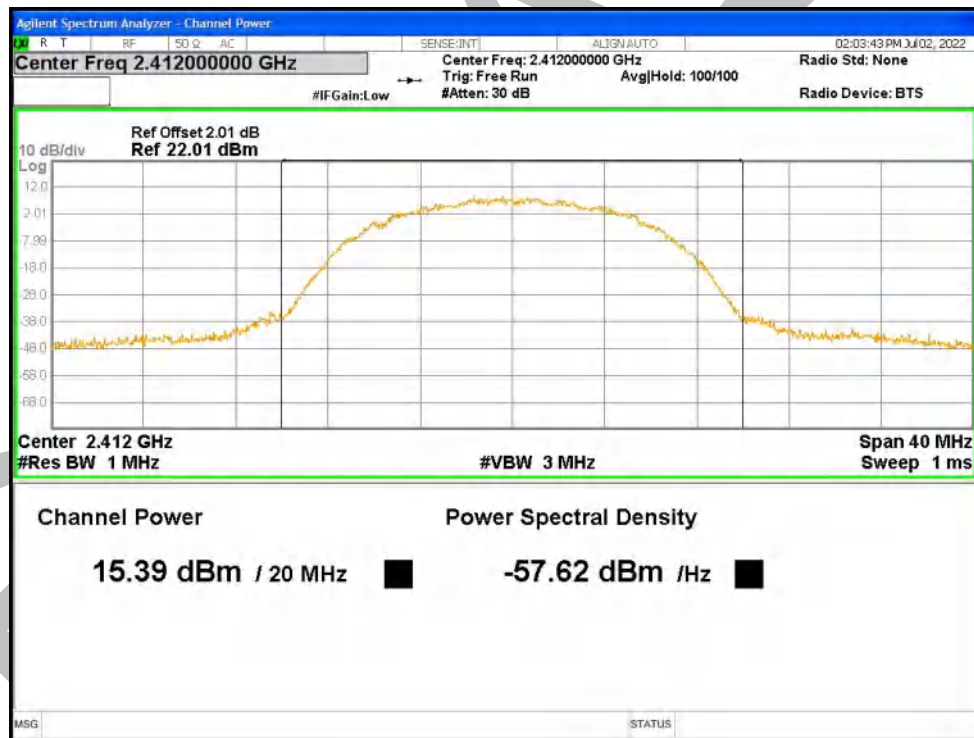
Test Result: Pass

19 APPENDIX

Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	15.394	30	Pass
NVNT	b	2437	Ant1	14.467	30	Pass
NVNT	b	2462	Ant1	15.266	30	Pass
NVNT	g	2412	Ant1	11.387	30	Pass
NVNT	g	2437	Ant1	10.697	30	Pass
NVNT	g	2462	Ant1	11.602	30	Pass
NVNT	n20	2412	Ant1	10.647	30	Pass
NVNT	n20	2437	Ant1	10.396	30	Pass
NVNT	n20	2462	Ant1	11.38	30	Pass
NVNT	n40	2422	Ant1	11.022	30	Pass
NVNT	n40	2437	Ant1	10.744	30	Pass
NVNT	n40	2452	Ant1	11.186	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



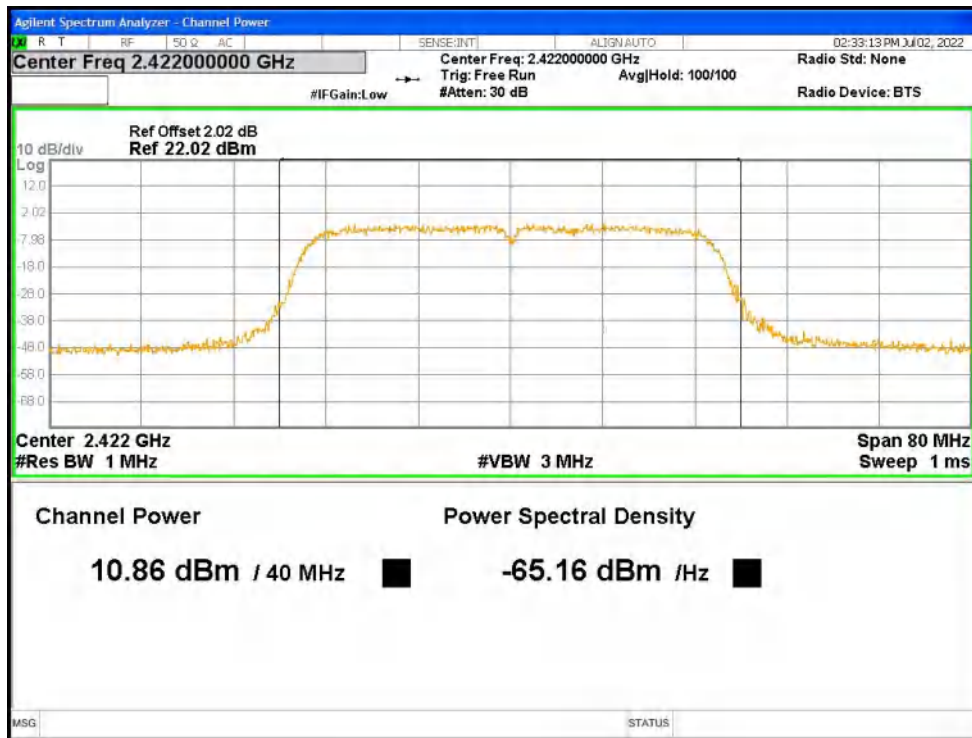
Power NVNT n20 2437MHz Ant1



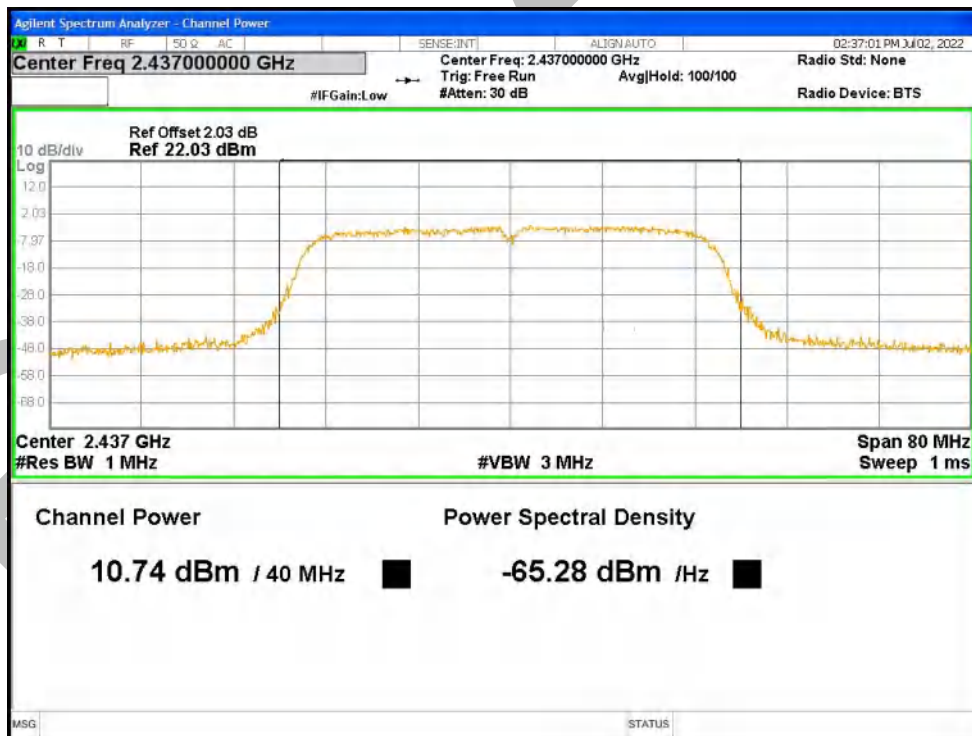
Power NVNT n20 2462MHz Ant1



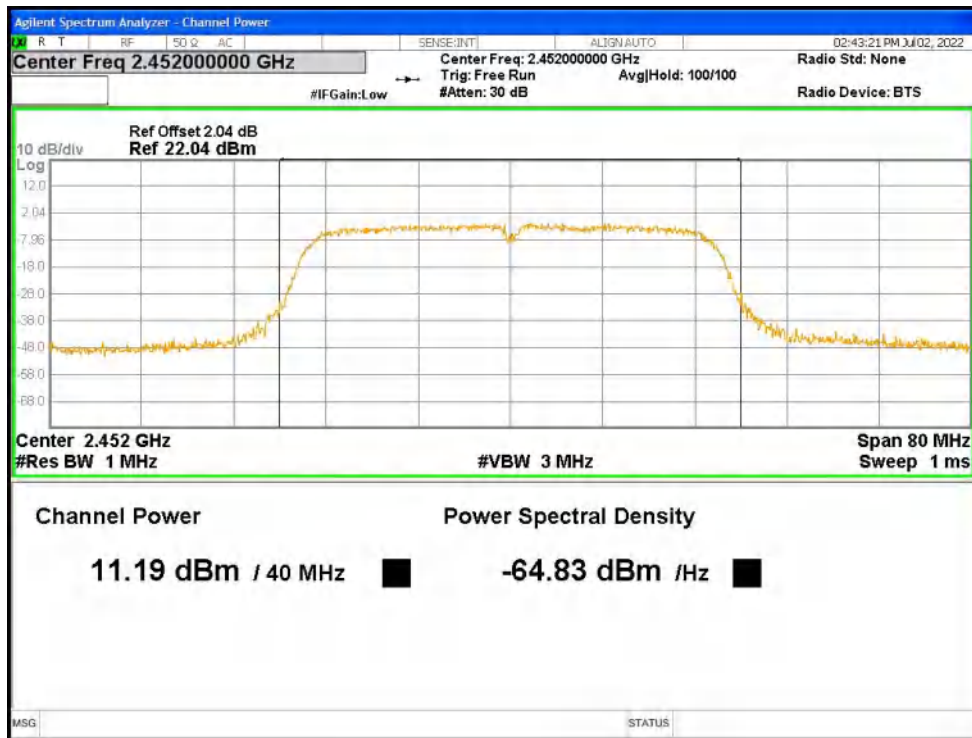
Power NVNT n40 2422MHz Ant1



Power NVNT n40 2437MHz Ant1



Power NVNT n40 2452MHz Ant1



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-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	10.027	0.5	Pass
NVNT	b	2437	Ant1	8.376	0.5	Pass
NVNT	b	2462	Ant1	9.839	0.5	Pass
NVNT	g	2412	Ant1	16.399	0.5	Pass
NVNT	g	2437	Ant1	16.363	0.5	Pass
NVNT	g	2462	Ant1	16.456	0.5	Pass
NVNT	n20	2412	Ant1	17.58	0.5	Pass
NVNT	n20	2437	Ant1	17.58	0.5	Pass
NVNT	n20	2462	Ant1	17.592	0.5	Pass
NVNT	n40	2422	Ant1	32.321	0.5	Pass
NVNT	n40	2437	Ant1	34.125	0.5	Pass
NVNT	n40	2452	Ant1	32.56	0.5	Pass

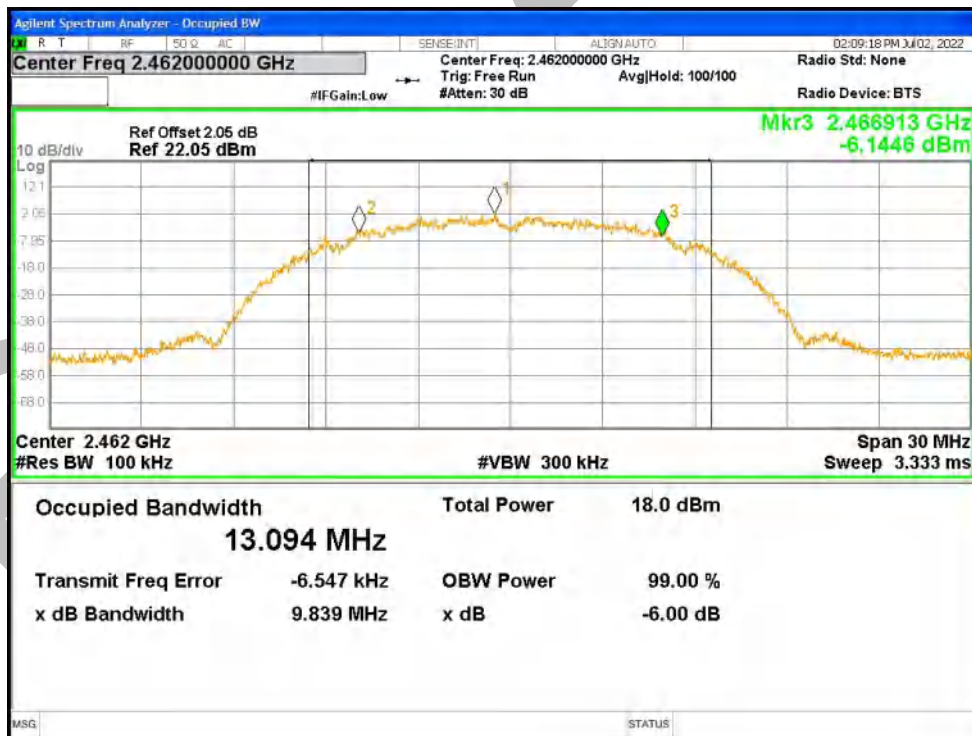
-6dB Bandwidth NVNT b 2412MHz Ant1



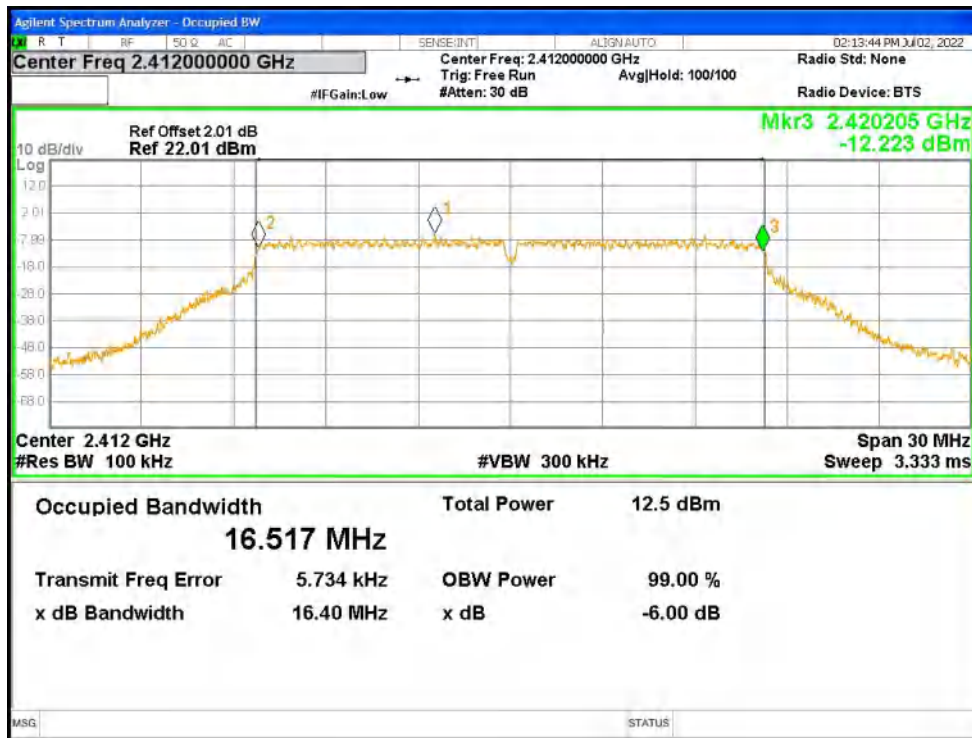
-6dB Bandwidth NVNT b 2437MHz Ant1



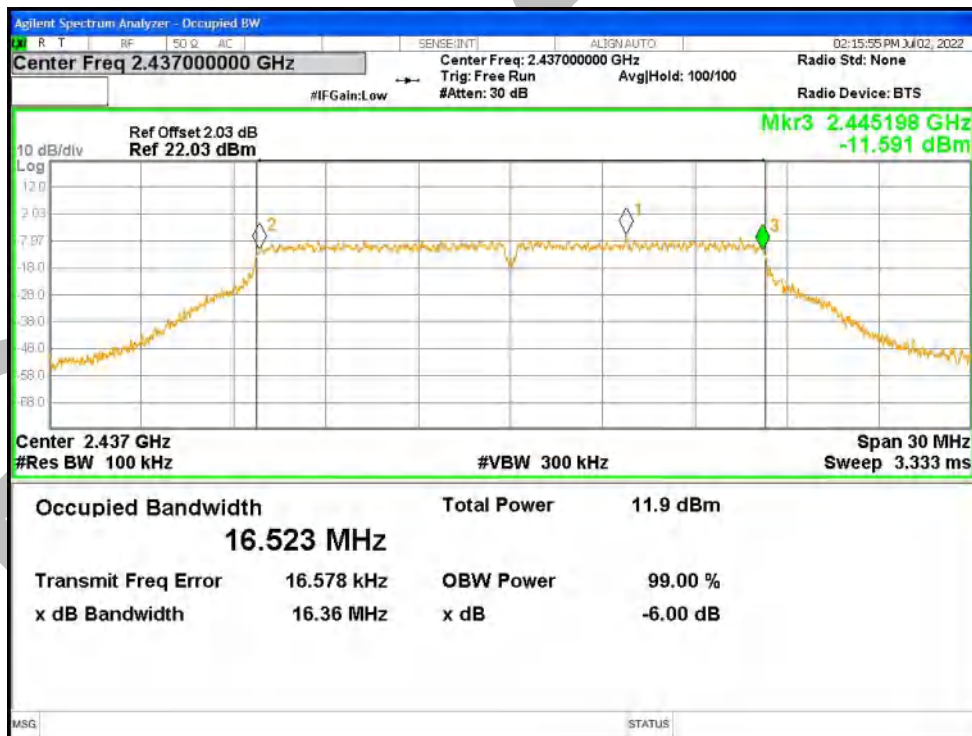
-6dB Bandwidth NVNT b 2462MHz Ant1



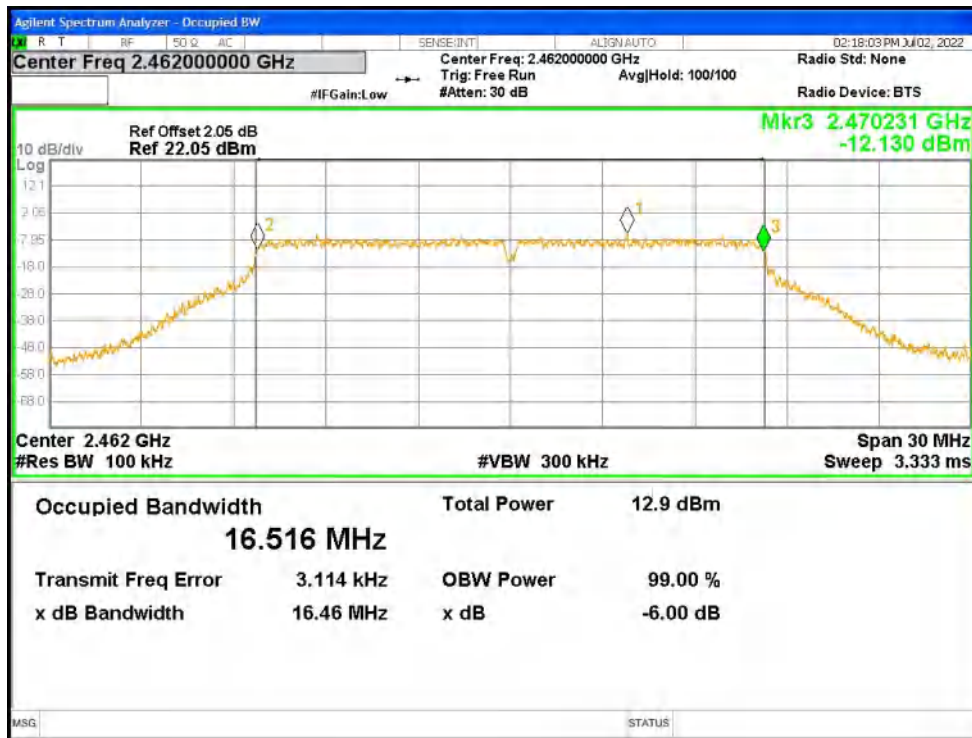
-6dB Bandwidth NVNT g 2412MHz Ant1



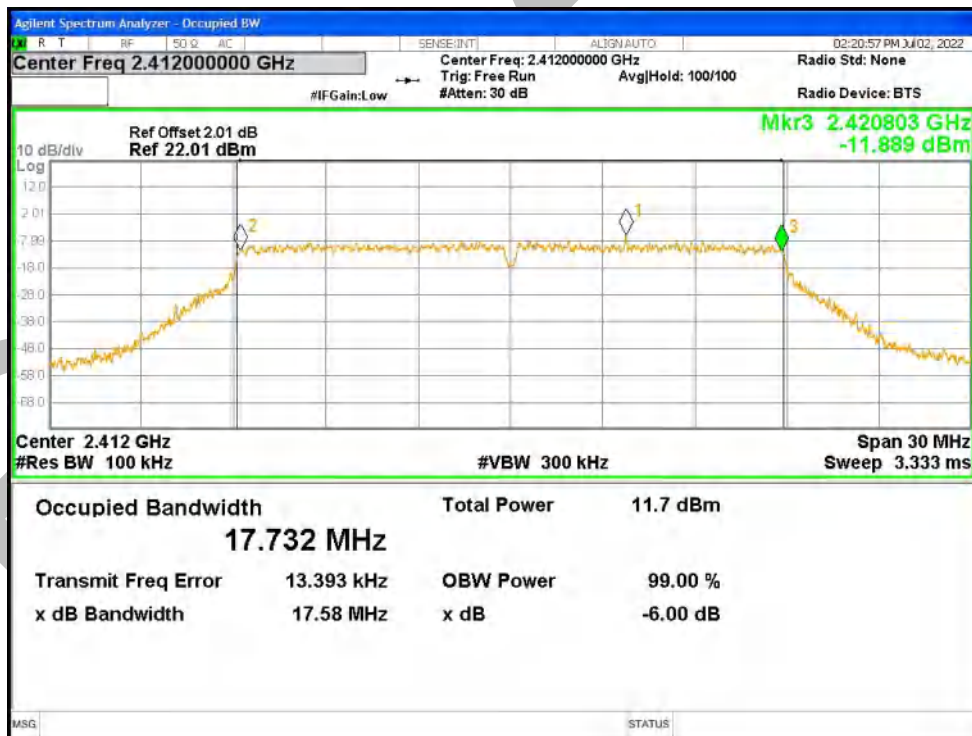
-6dB Bandwidth NVNT g 2437MHz Ant1



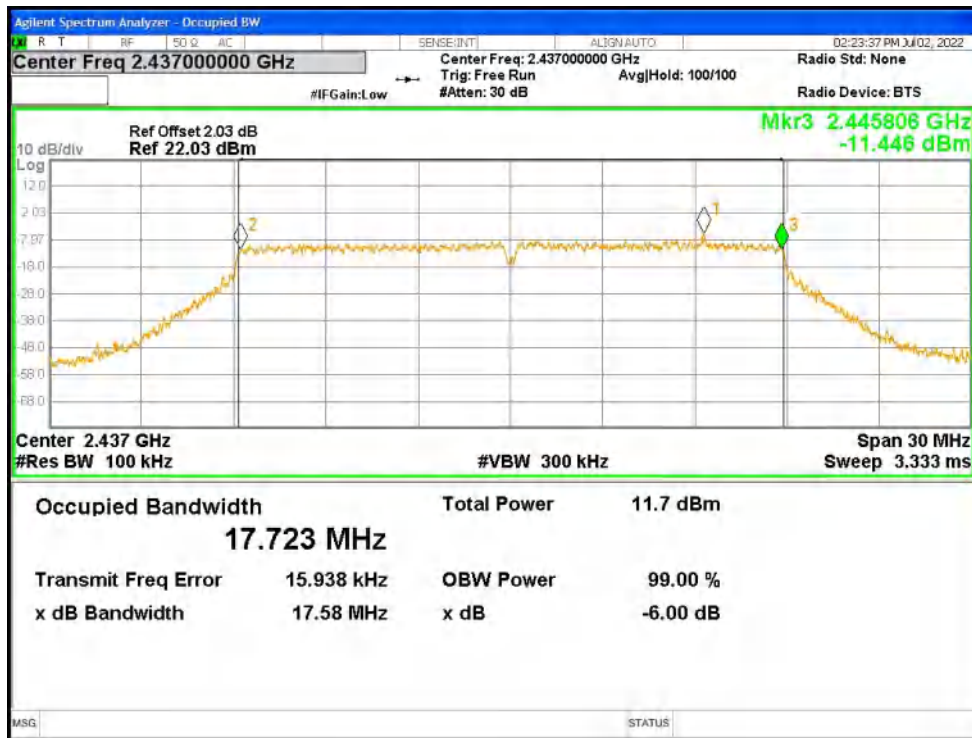
-6dB Bandwidth NVNT g 2462MHz Ant1



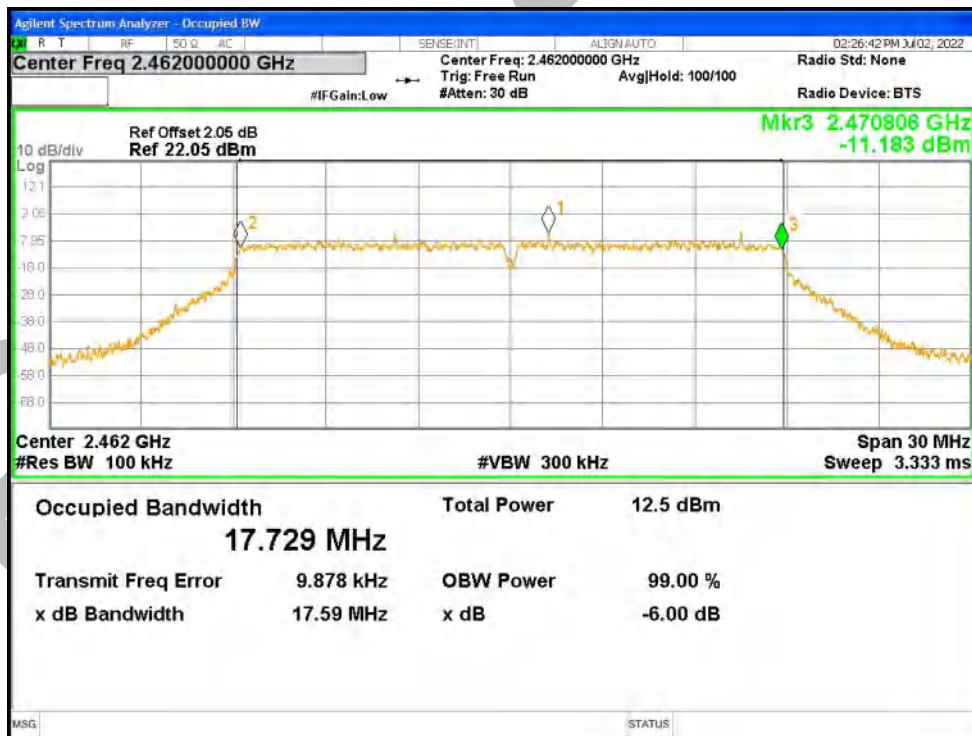
-6dB Bandwidth NVNT n20 2412MHz Ant1



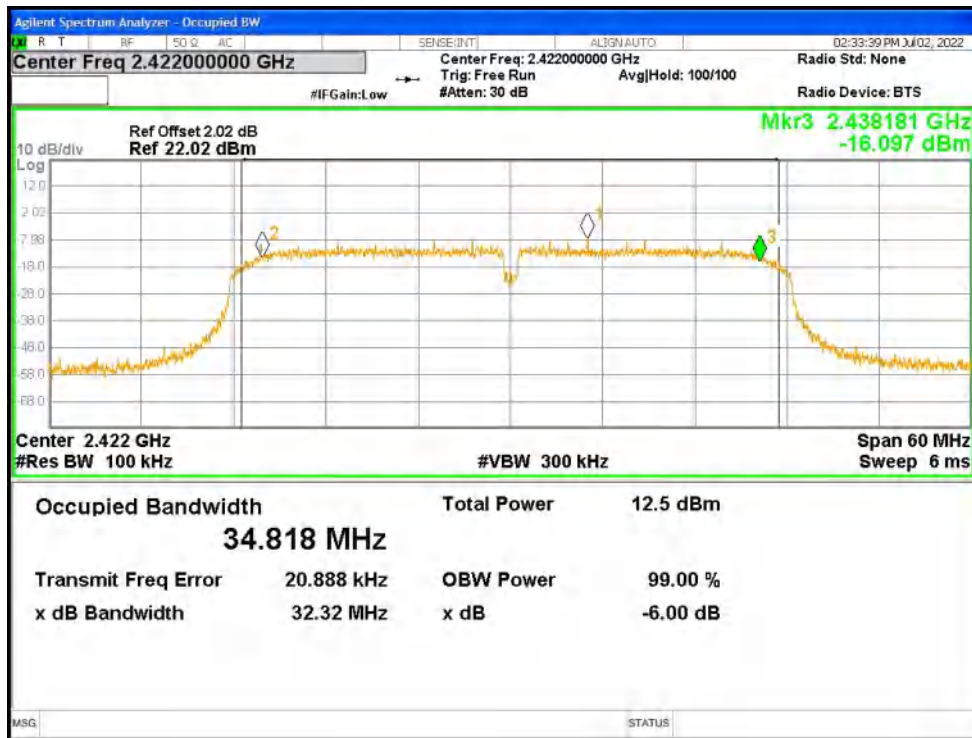
-6dB Bandwidth NVNT n20 2437MHz Ant1



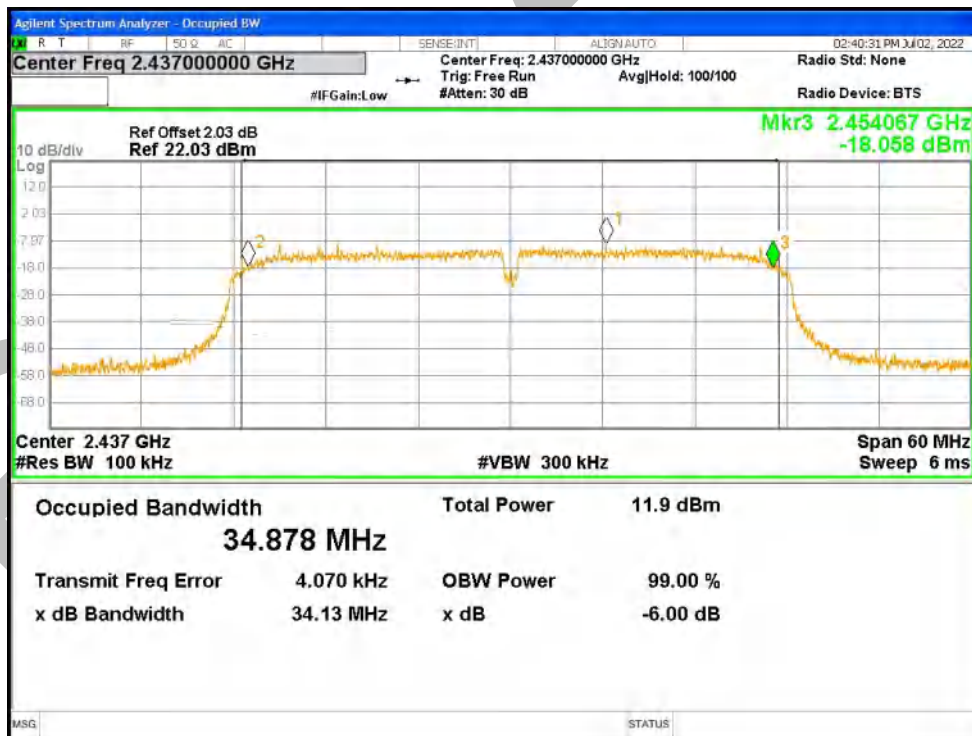
-6dB Bandwidth NVNT n20 2462MHz Ant1



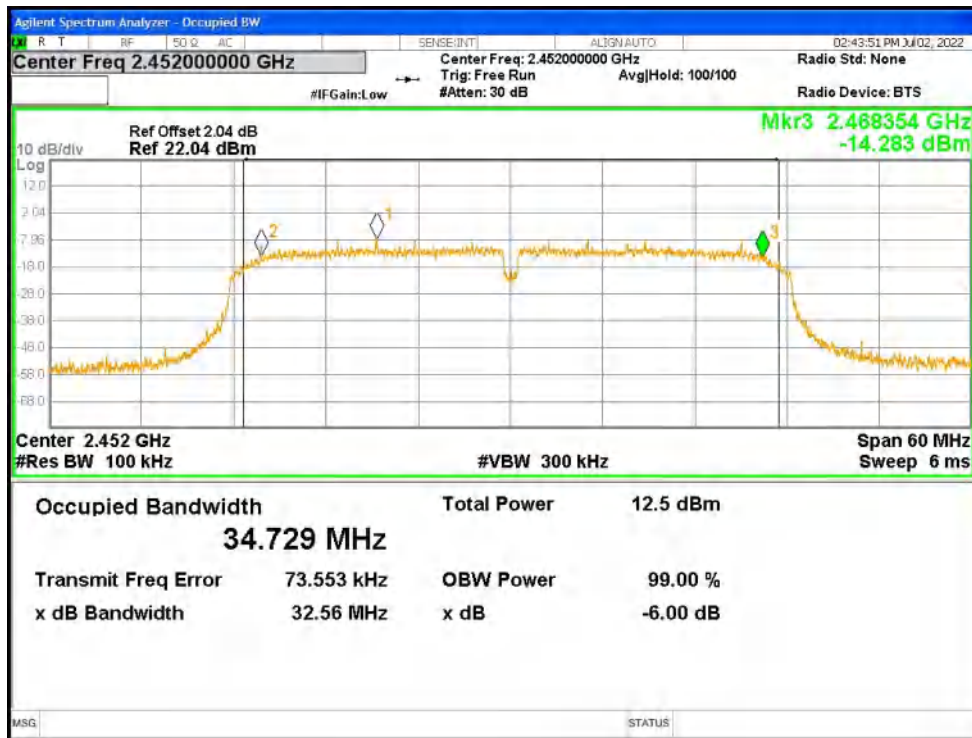
-6dB Bandwidth NVNT n40 2422MHz Ant1



-6dB Bandwidth NVNT n40 2437MHz Ant1



-6dB Bandwidth NVNT n40 2452MHz Ant1

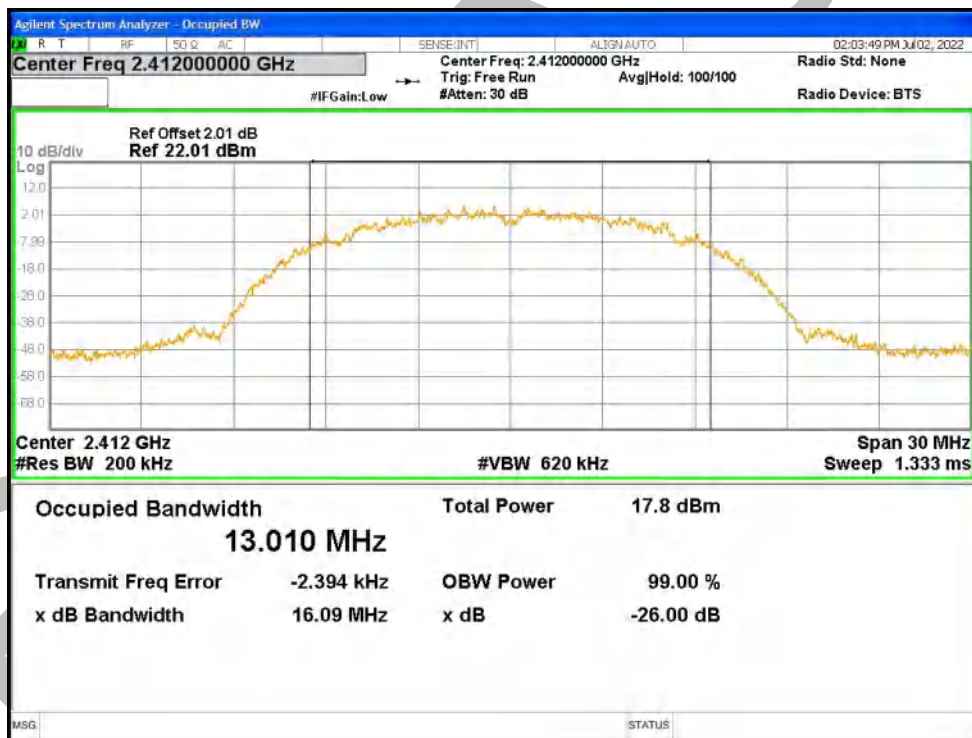


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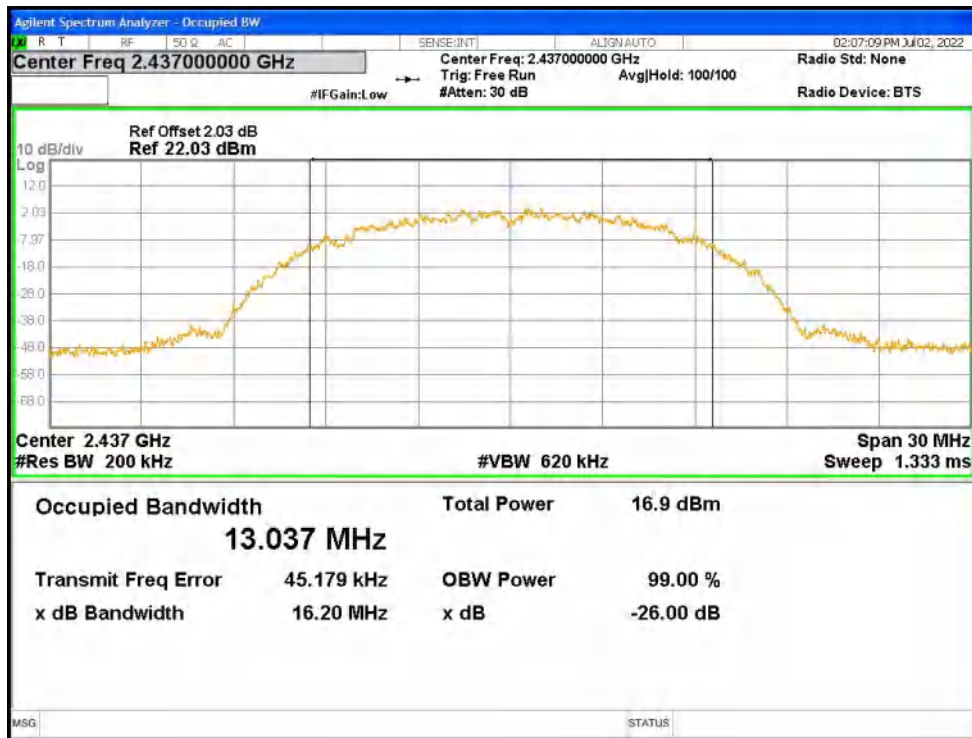
Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	13.010
NVNT	b	2437	Ant1	13.037
NVNT	b	2462	Ant1	13.054
NVNT	g	2412	Ant1	16.685
NVNT	g	2437	Ant1	16.675
NVNT	g	2462	Ant1	16.729
NVNT	n20	2412	Ant1	17.799
NVNT	n20	2437	Ant1	17.838
NVNT	n20	2462	Ant1	17.861
NVNT	n40	2422	Ant1	34.857
NVNT	n40	2437	Ant1	34.831
NVNT	n40	2452	Ant1	34.768

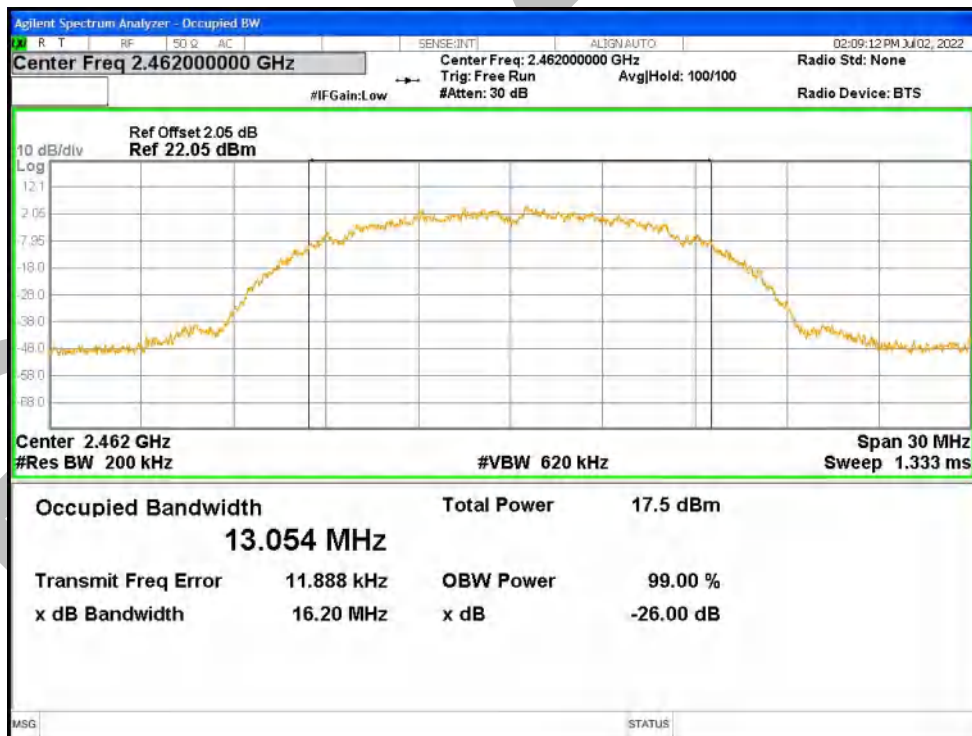
OBW NVNT b 2412MHz Ant1



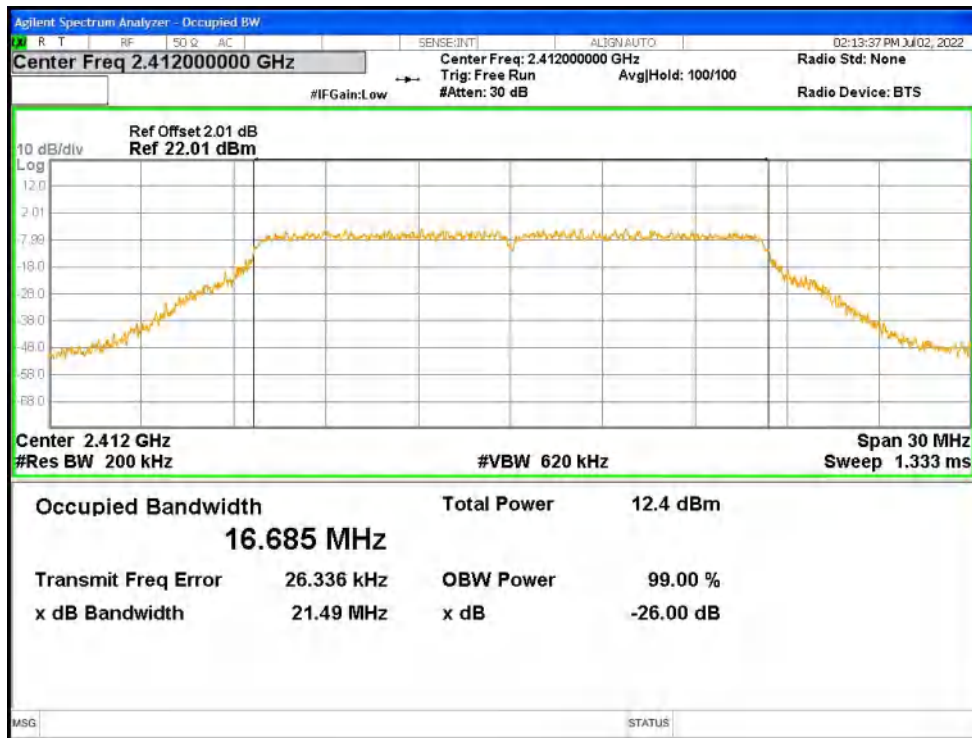
OBW NVNT b 2437MHz Ant1



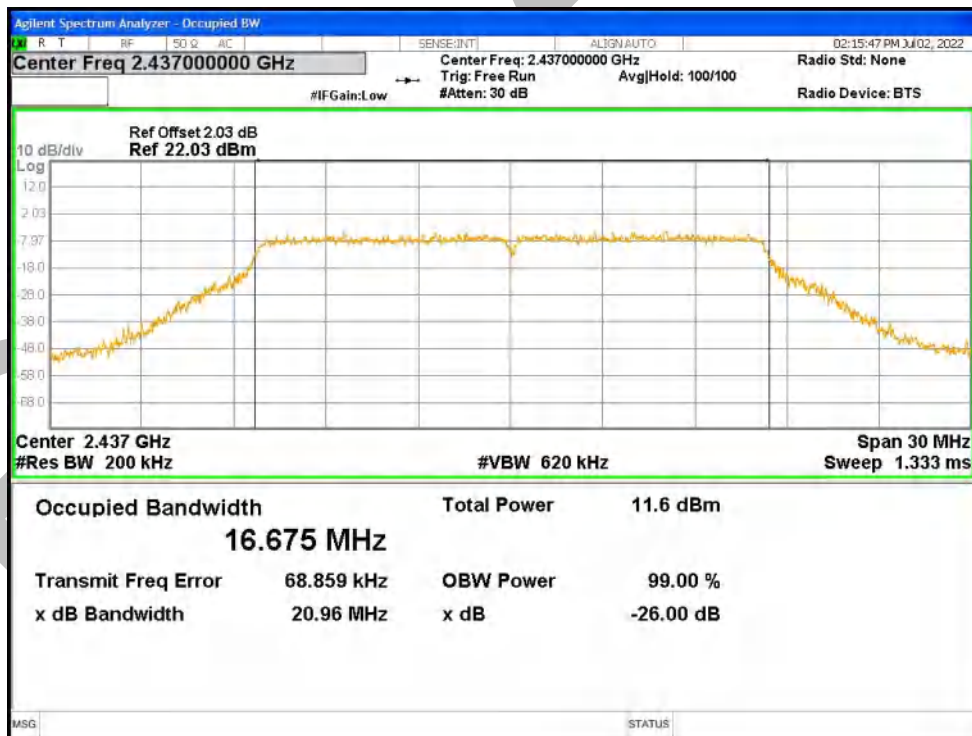
OBW NVNT b 2462MHz Ant1



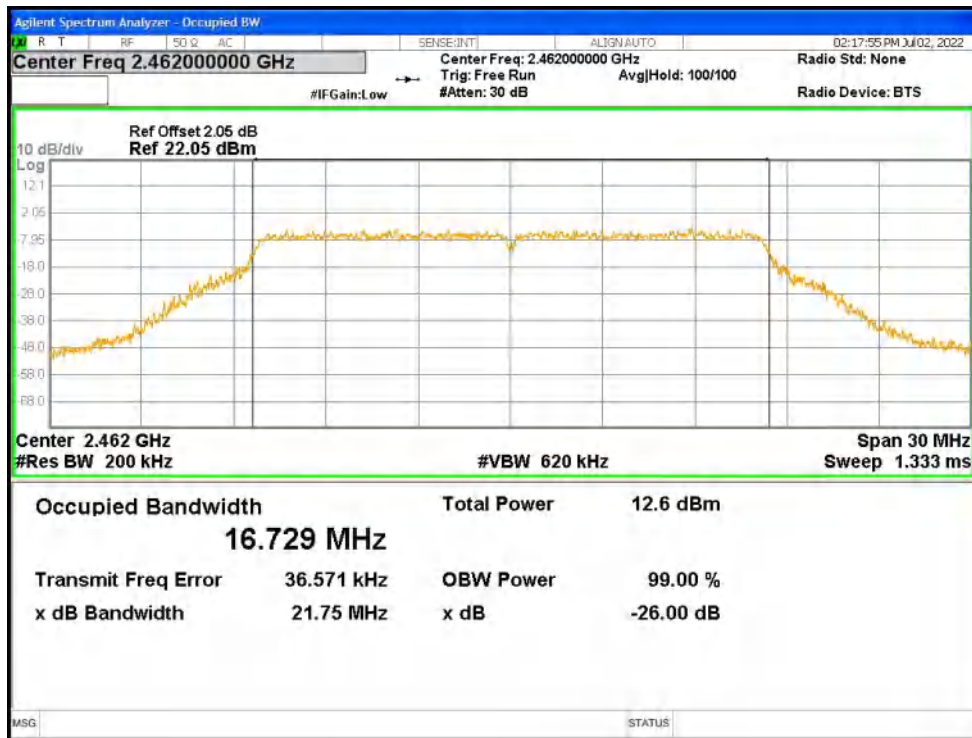
OBW NVNT g 2412MHz Ant1



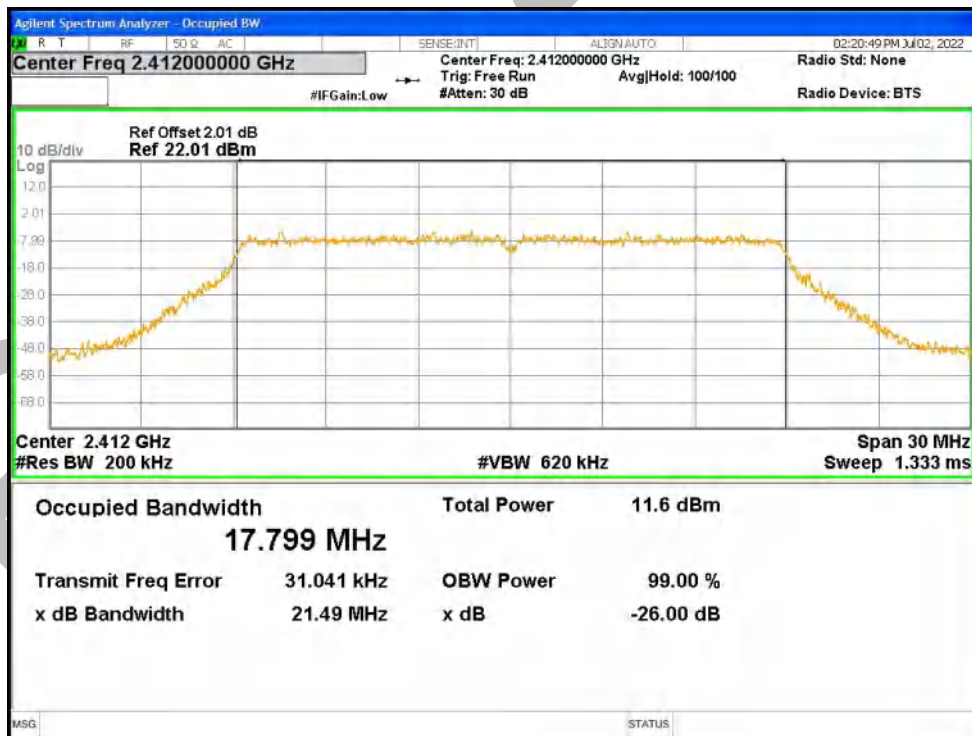
OBW NVNT g 2437MHz Ant1



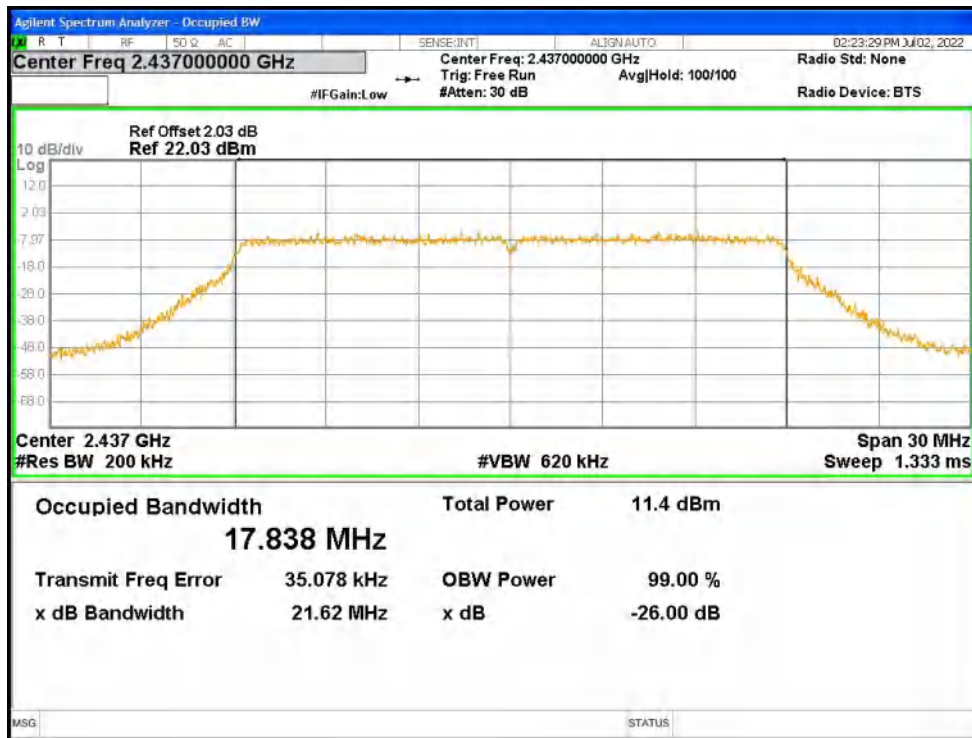
OBW NVNT g 2462MHz Ant1



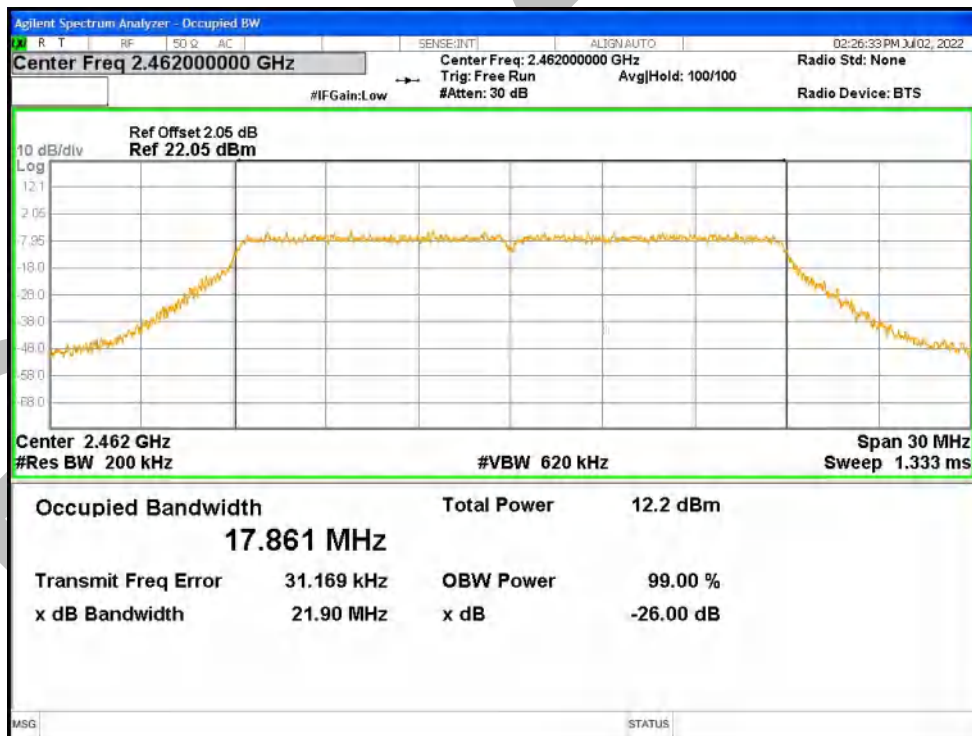
OBW NVNT n20 2412MHz Ant1



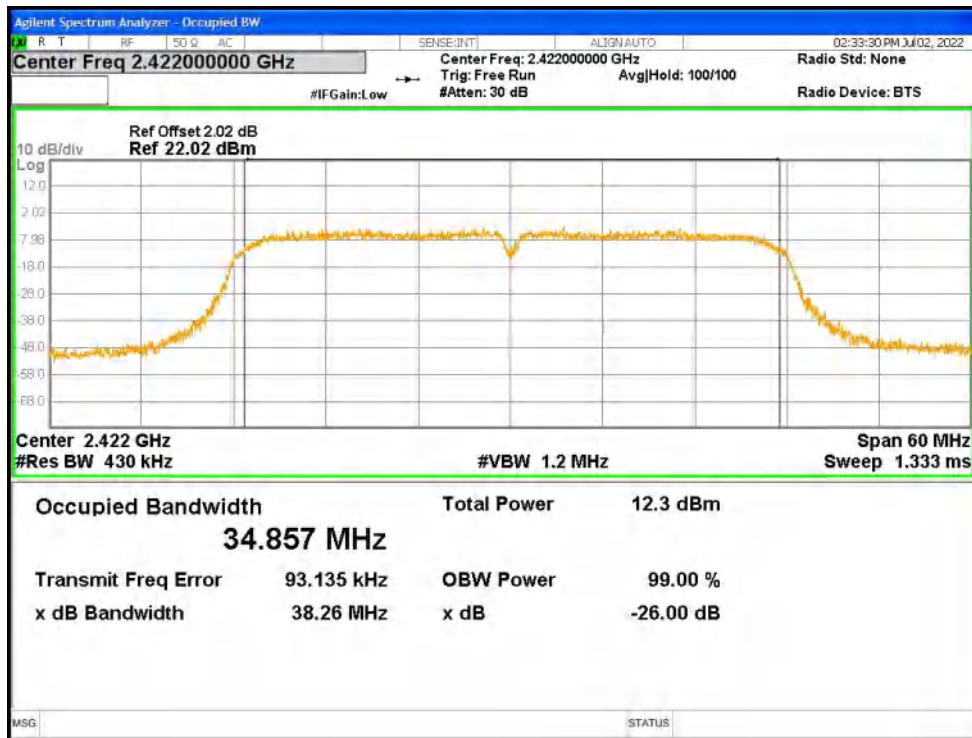
OBW NVNT n20 2437MHz Ant1



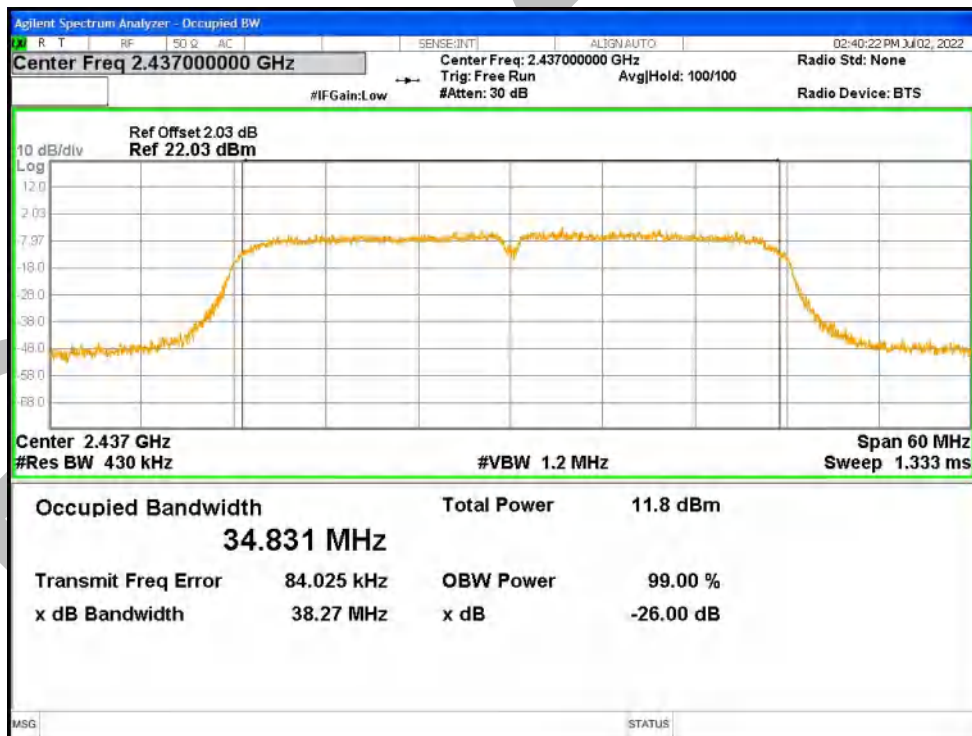
OBW NVNT n20 2462MHz Ant1



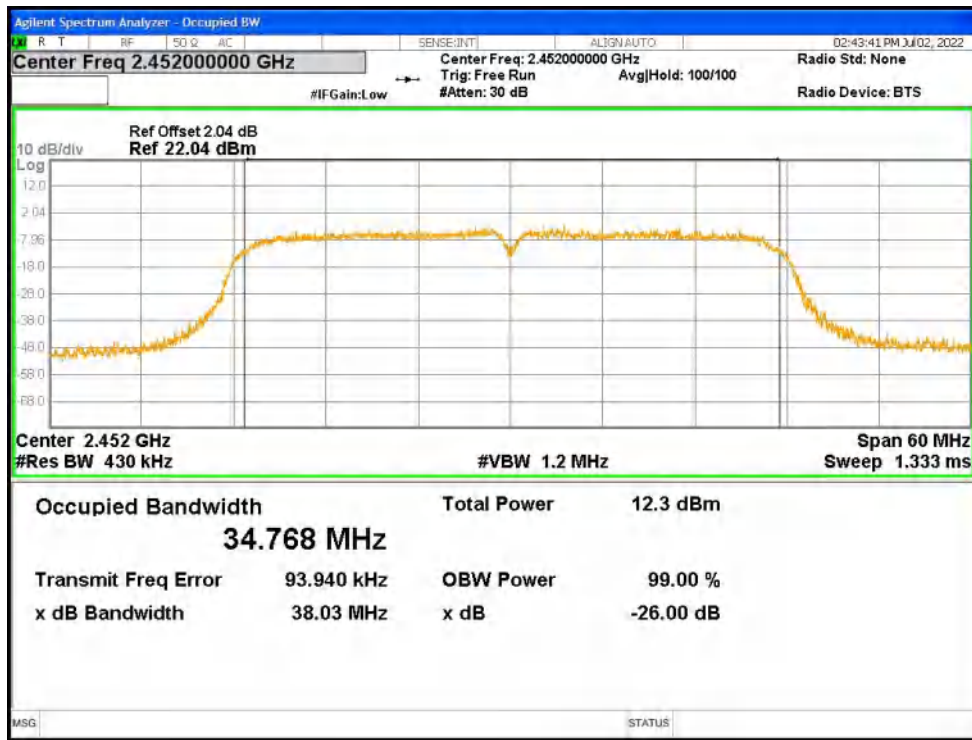
OBW NVNT n40 2422MHz Ant1



OBW NVNT n40 2437MHz Ant1



OBW NVNT n40 2452MHz Ant1



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Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	1.825	8	Pass
NVNT	b	2437	Ant1	1.063	8	Pass
NVNT	b	2462	Ant1	2.961	8	Pass
NVNT	g	2412	Ant1	-4.896	8	Pass
NVNT	g	2437	Ant1	-6.12	8	Pass
NVNT	g	2462	Ant1	-4.438	8	Pass
NVNT	n20	2412	Ant1	-6.186	8	Pass
NVNT	n20	2437	Ant1	-7.539	8	Pass
NVNT	n20	2462	Ant1	-4.467	8	Pass
NVNT	n40	2422	Ant1	-7.809	8	Pass
NVNT	n40	2437	Ant1	-7.373	8	Pass
NVNT	n40	2452	Ant1	-7.815	8	Pass

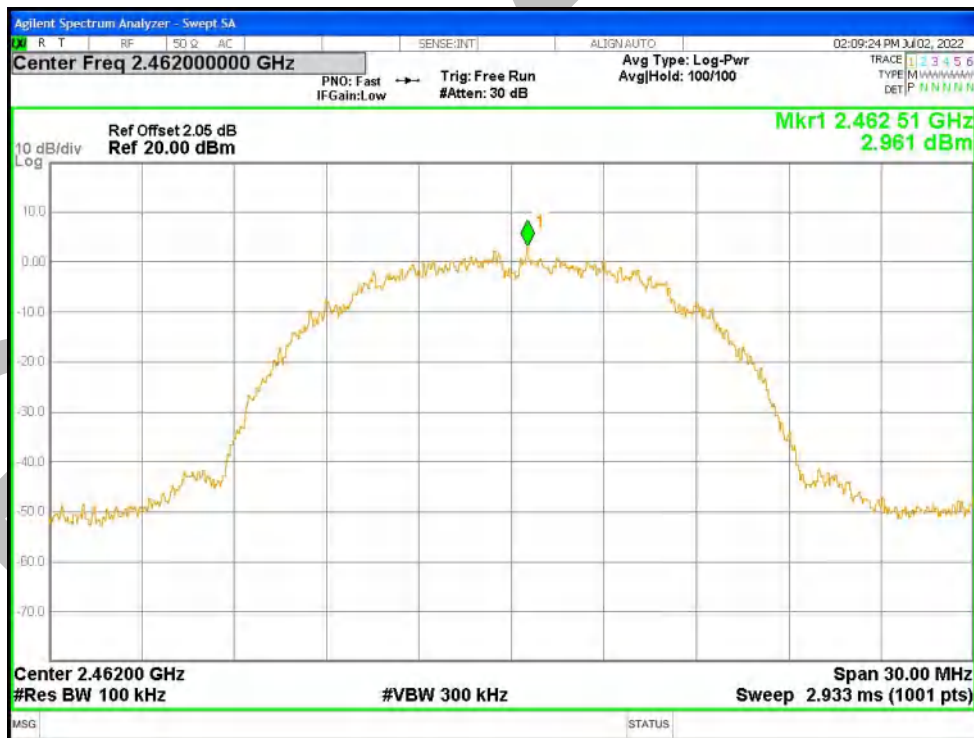
PSD NVNT b 2412MHz Ant1



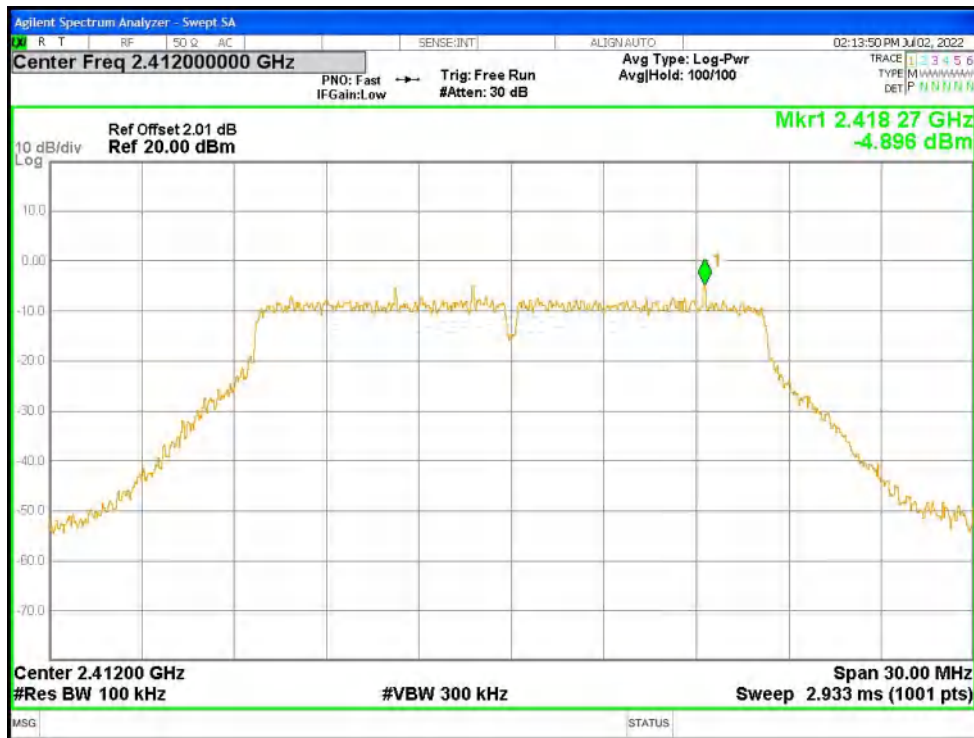
PSD NVNT b 2437MHz Ant1



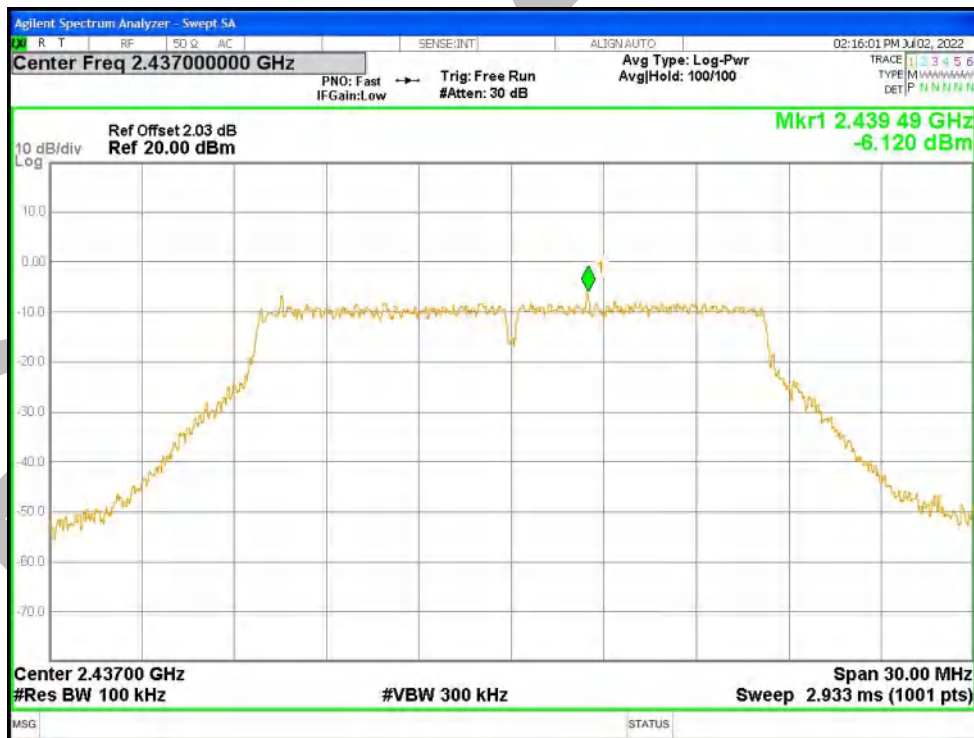
PSD NVNT b 2462MHz Ant1



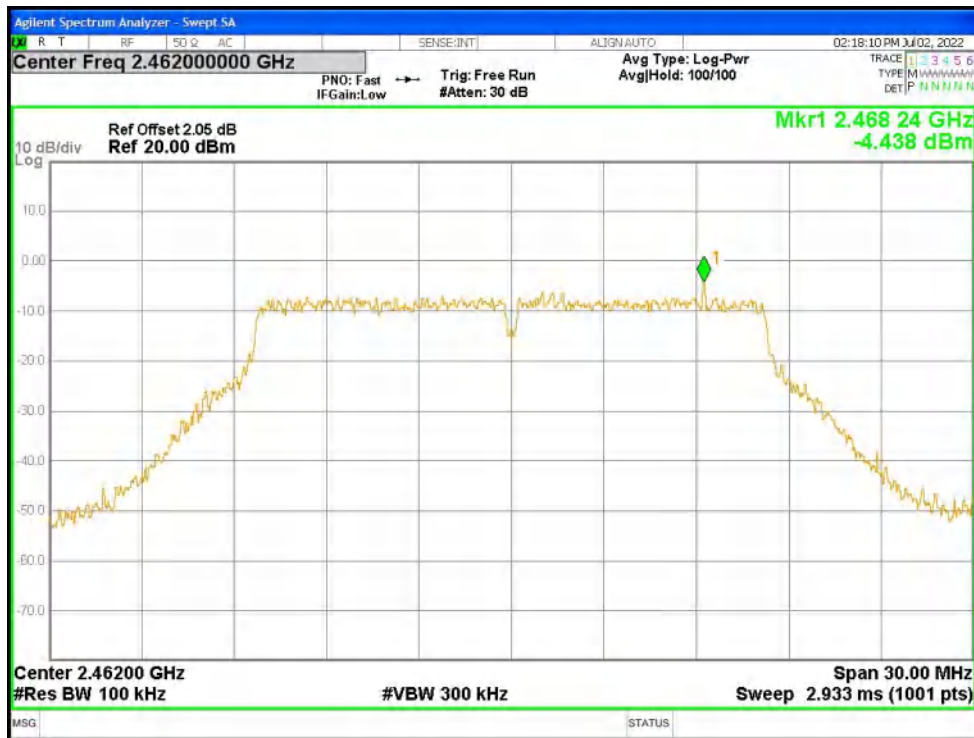
PSD NVNT g 2412MHz Ant1



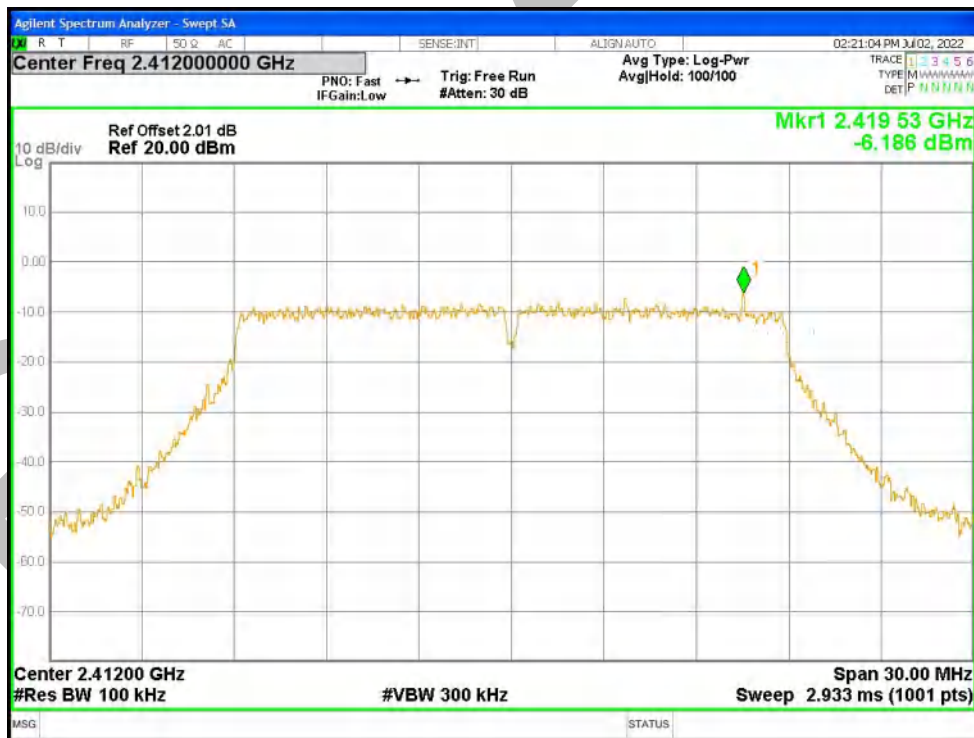
PSD NVNT g 2437MHz Ant1



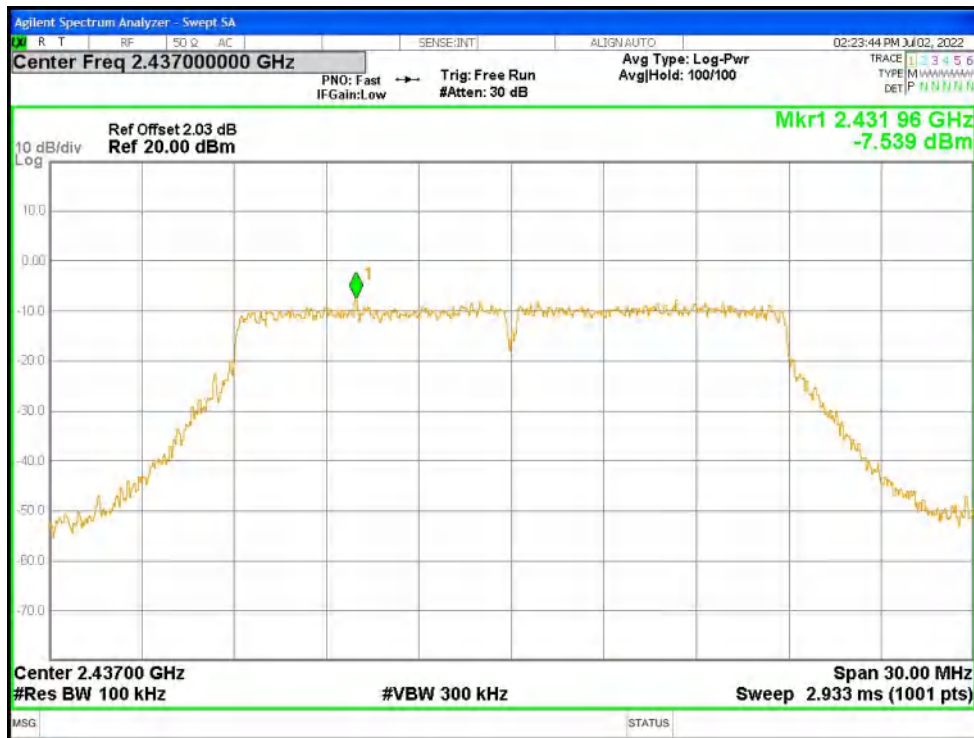
PSD NVNT g 2462MHz Ant1



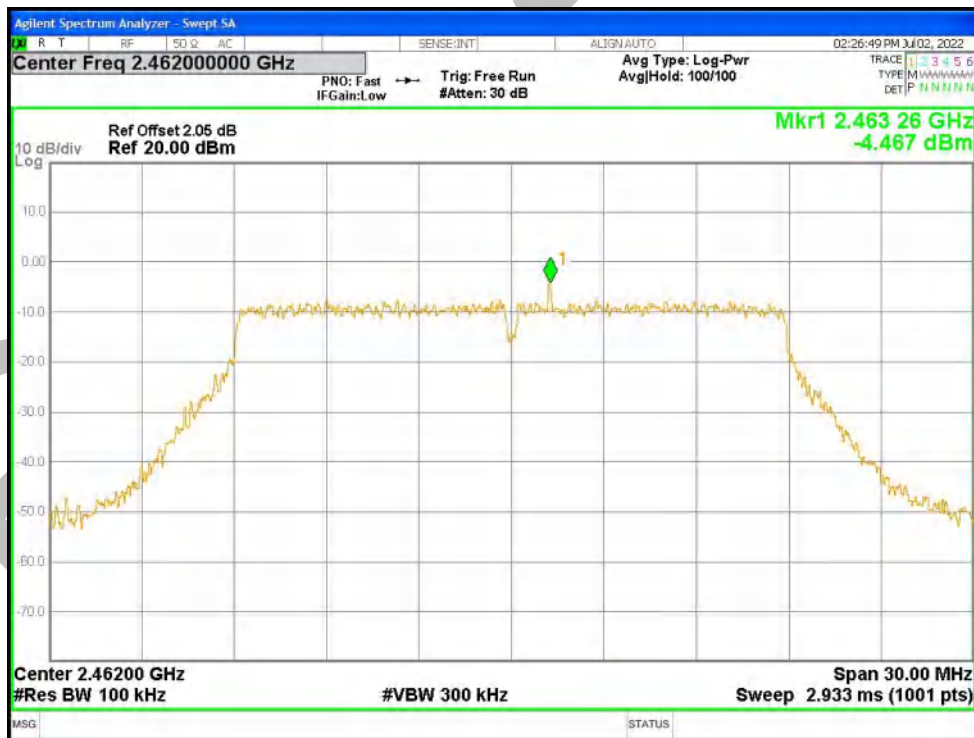
PSD NVNT n20 2412MHz Ant1



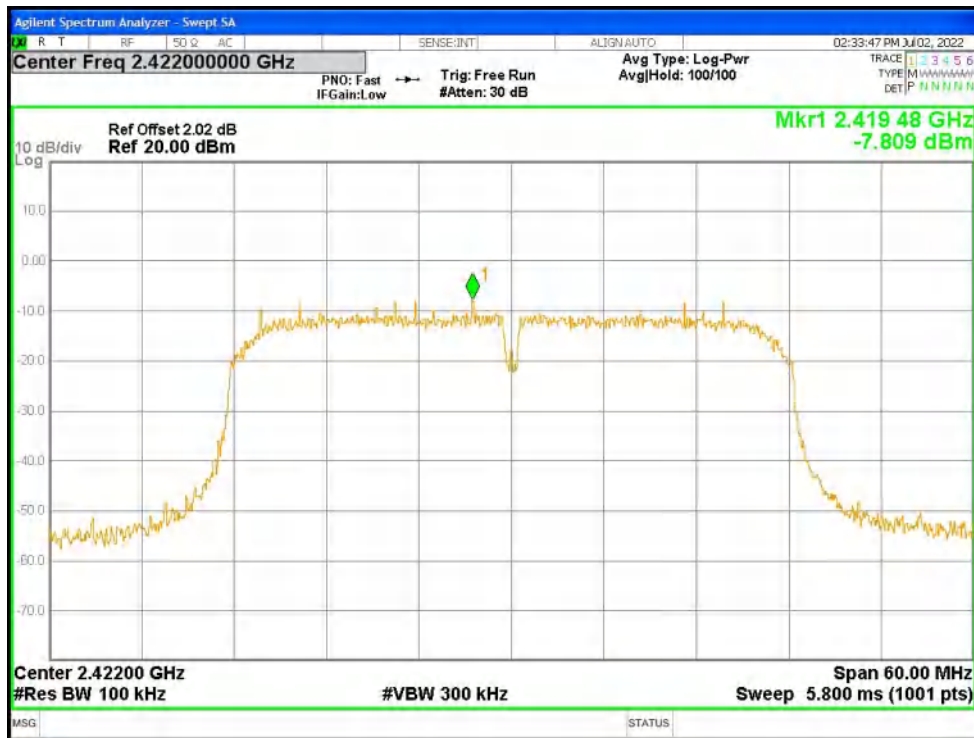
PSD NVNT n20 2437MHz Ant1



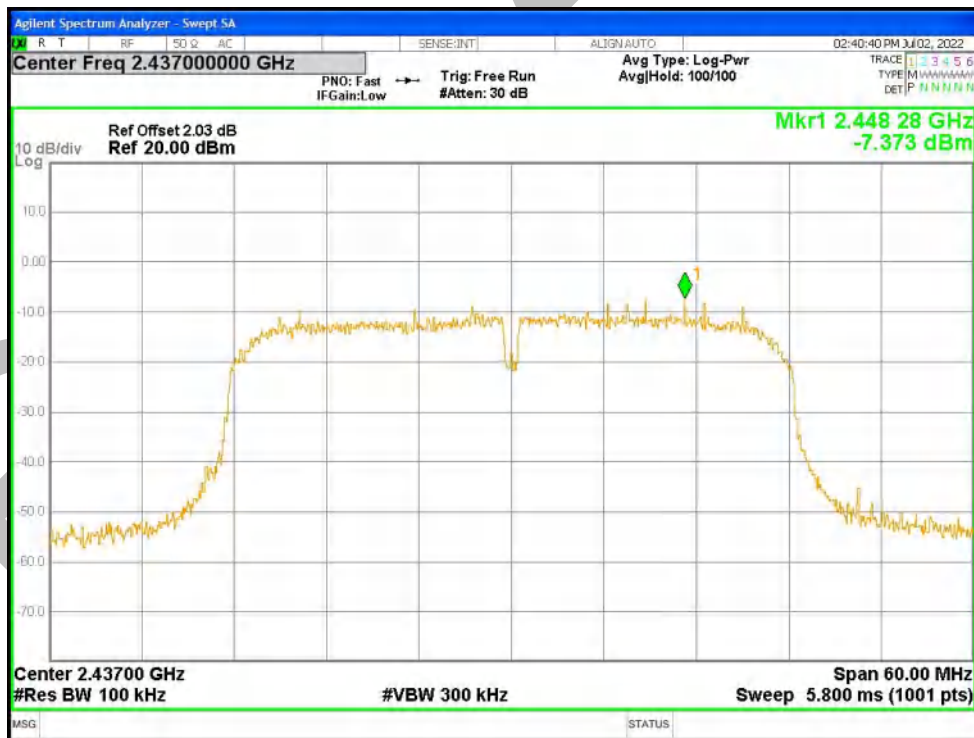
PSD NVNT n20 2462MHz Ant1



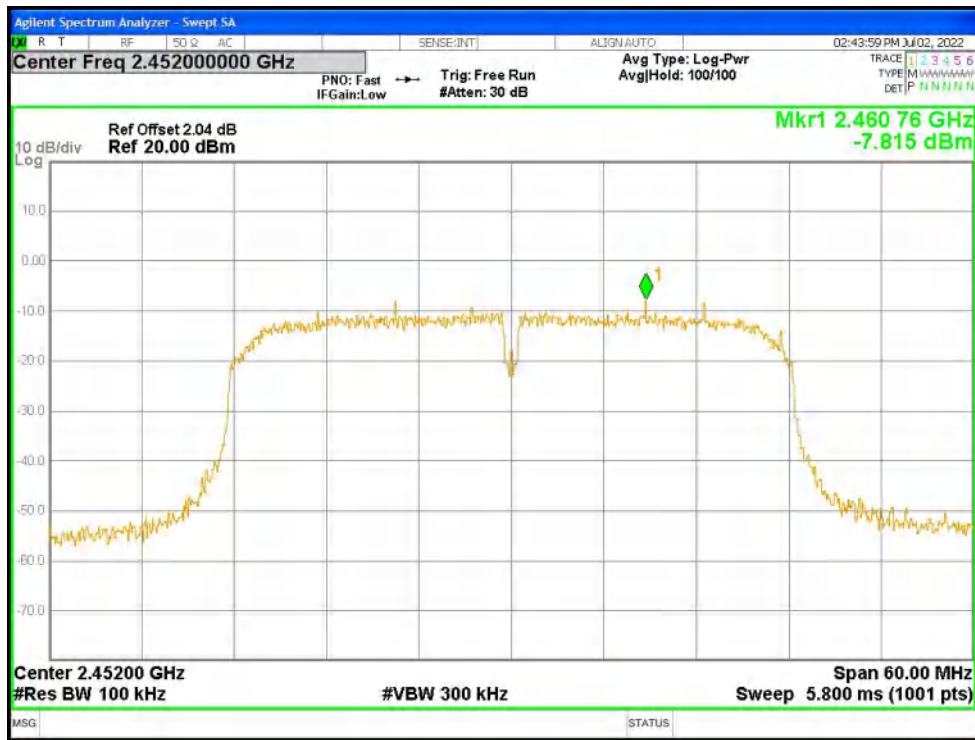
PSD NVNT n40 2422MHz Ant1



PSD NVNT n40 2437MHz Ant1



PSD NVNT n40 2452MHz Ant1



BlueE

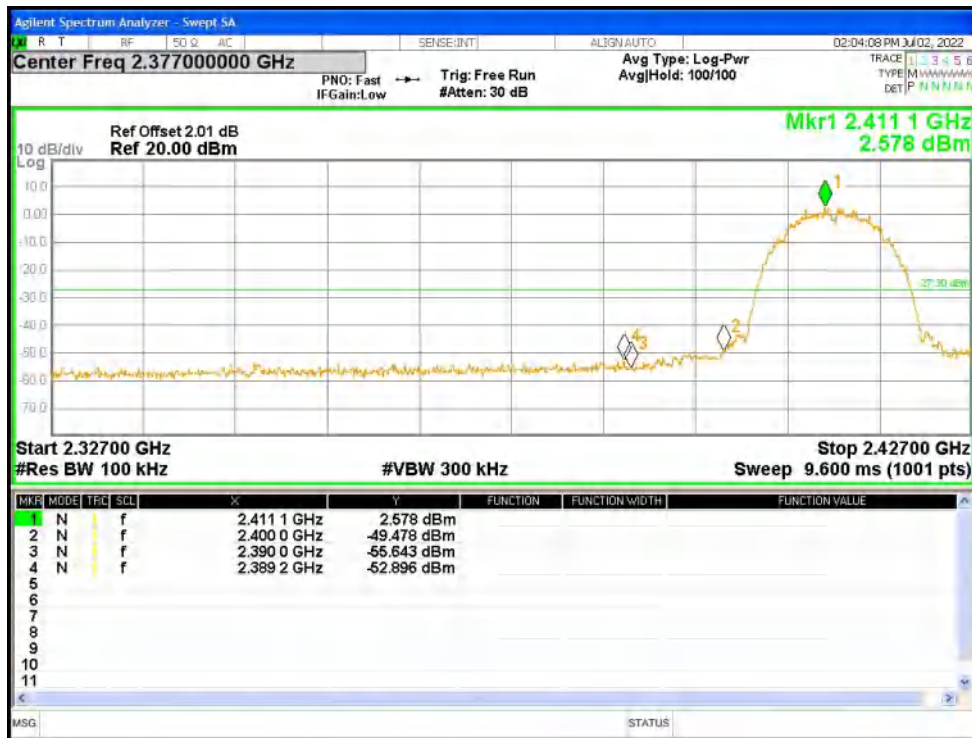
Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-55.59	-30	Pass
NVNT	b	2462	Ant1	-53.51	-30	Pass
NVNT	g	2412	Ant1	-49.44	-30	Pass
NVNT	g	2462	Ant1	-47.47	-30	Pass
NVNT	n20	2412	Ant1	-48.99	-30	Pass
NVNT	n20	2462	Ant1	-48.52	-30	Pass
NVNT	n40	2422	Ant1	-46.06	-30	Pass
NVNT	n40	2452	Ant1	-43.38	-30	Pass

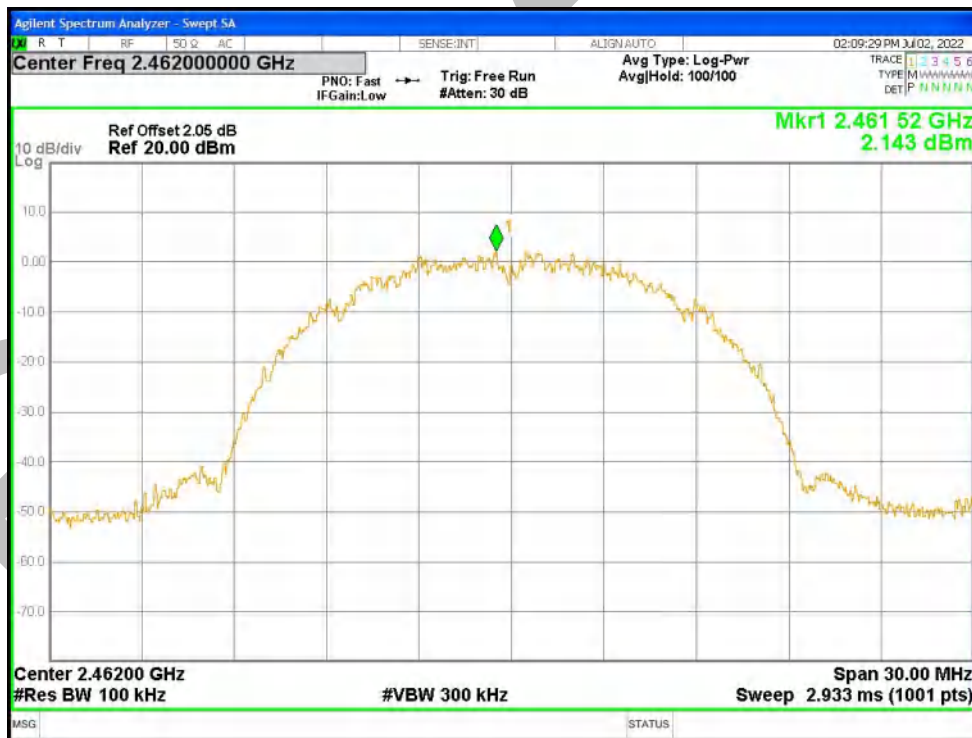
Band Edge NVNT b 2412MHz Ant1 Ref



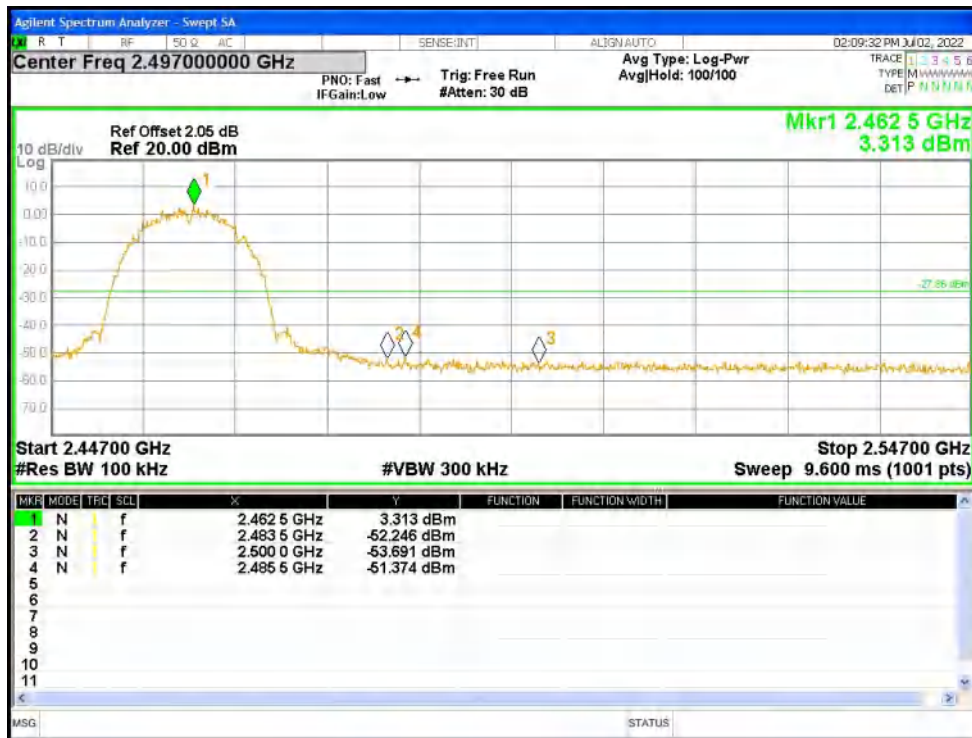
Band Edge NVNT b 2412MHz Ant1 Emission



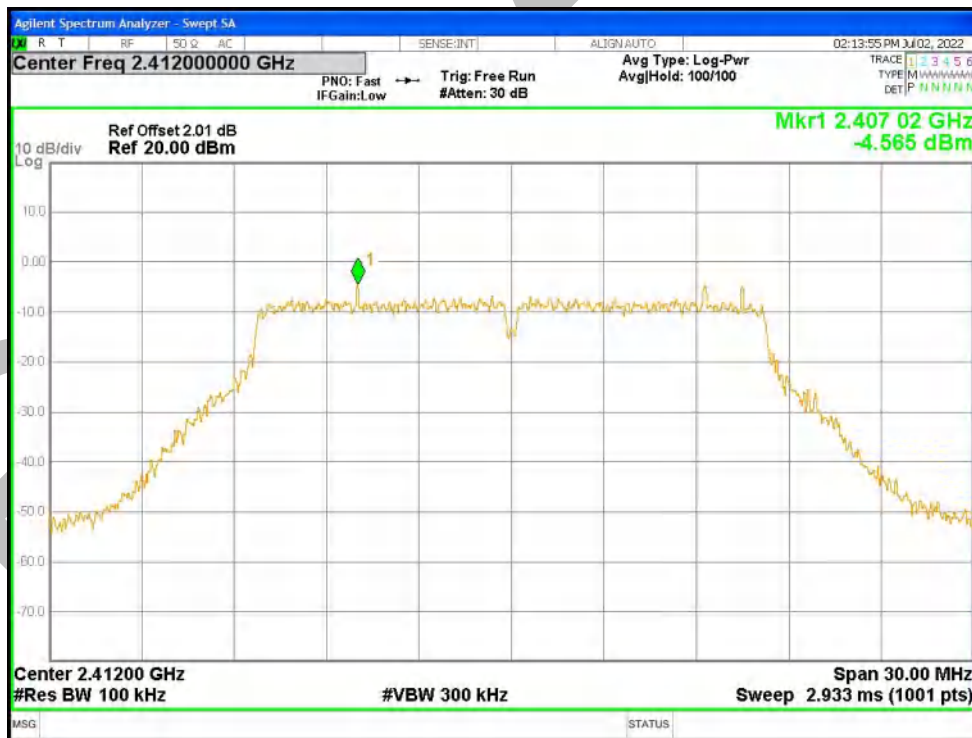
Band Edge NVNT b 2462MHz Ant1 Ref



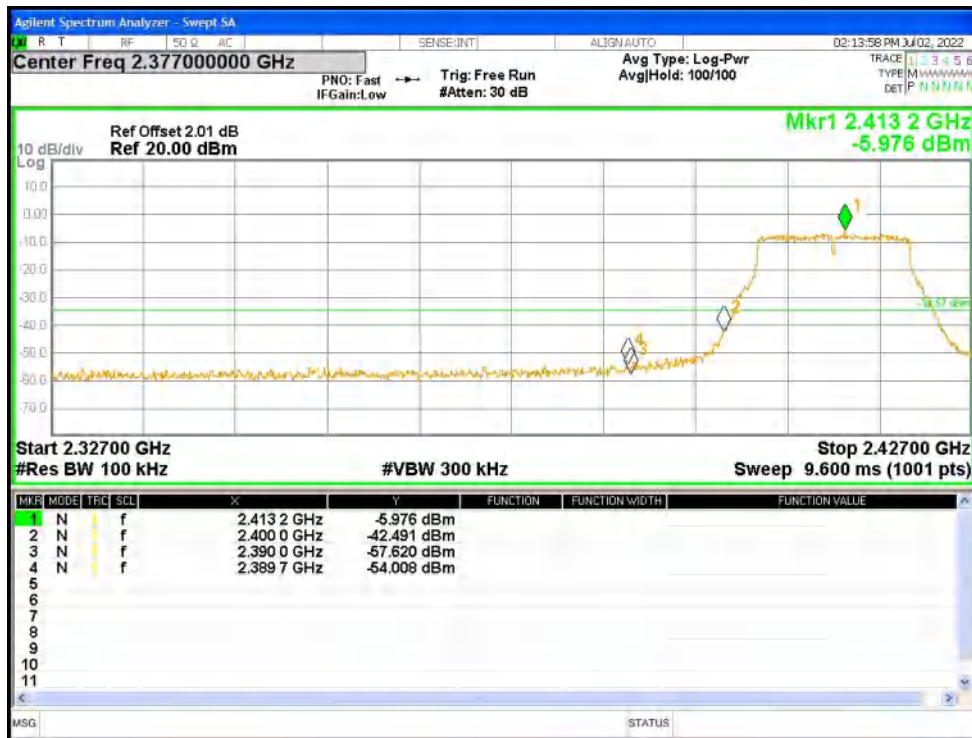
Band Edge NVNT b 2462MHz Ant1 Emission



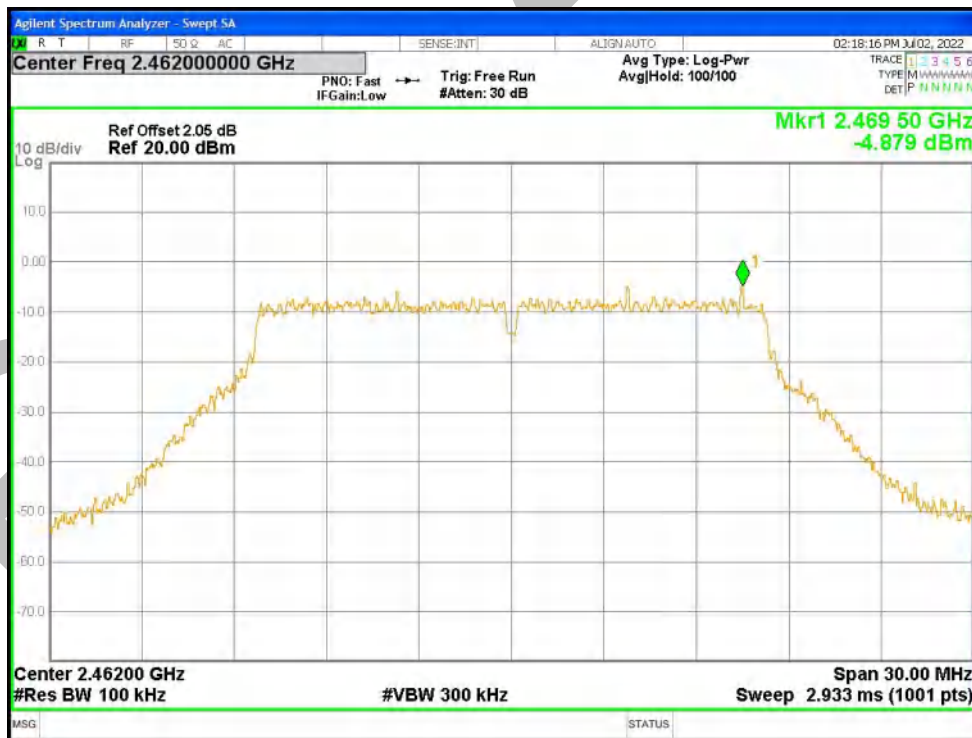
Band Edge NVNT g 2412MHz Ant1 Ref



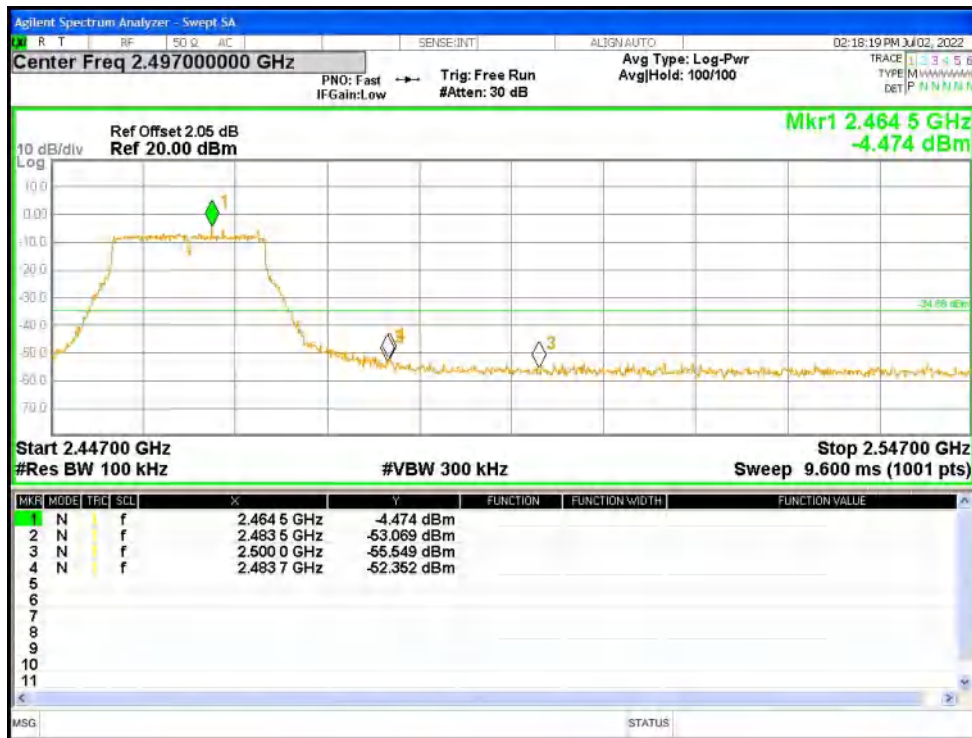
Band Edge NVNT g 2412MHz Ant1 Emission



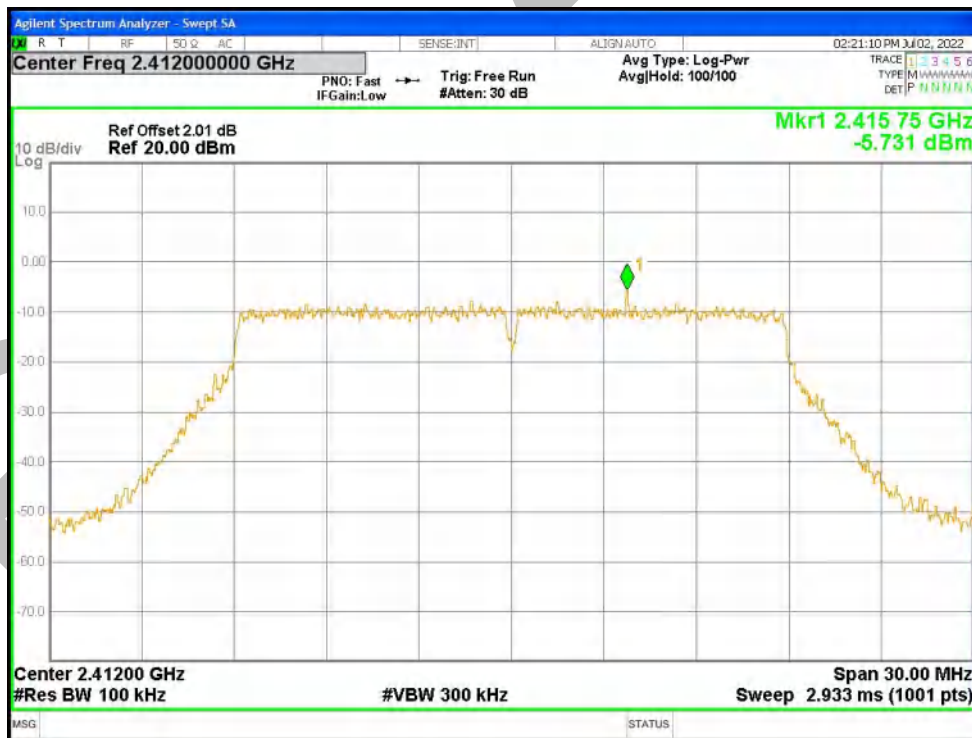
Band Edge NVNT g 2462MHz Ant1 Ref



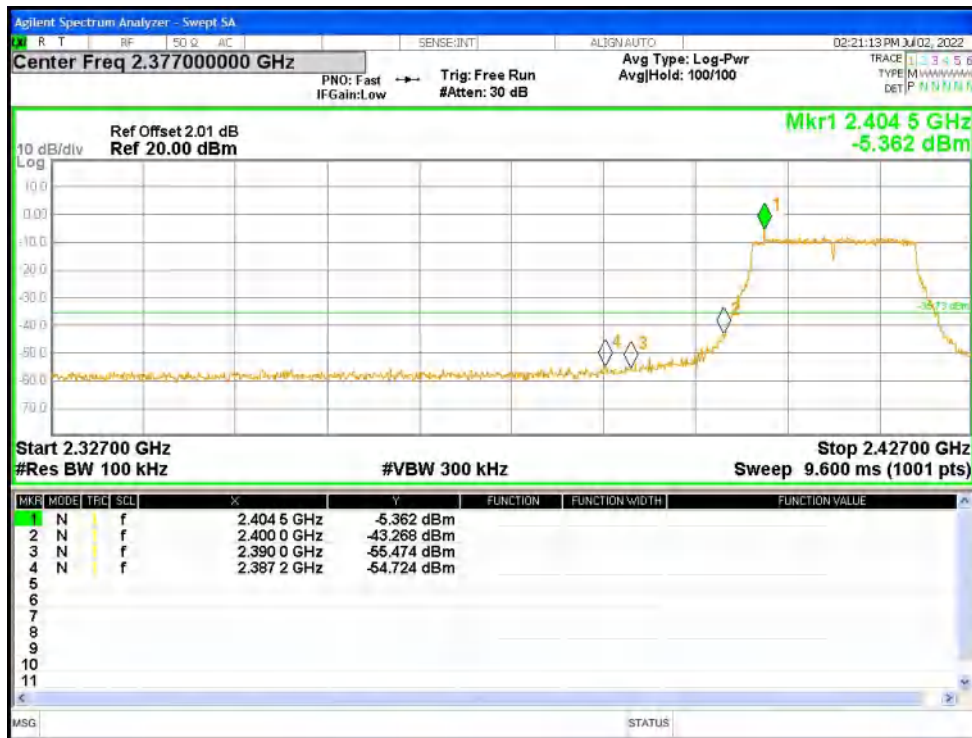
Band Edge NVNT g 2462MHz Ant1 Emission



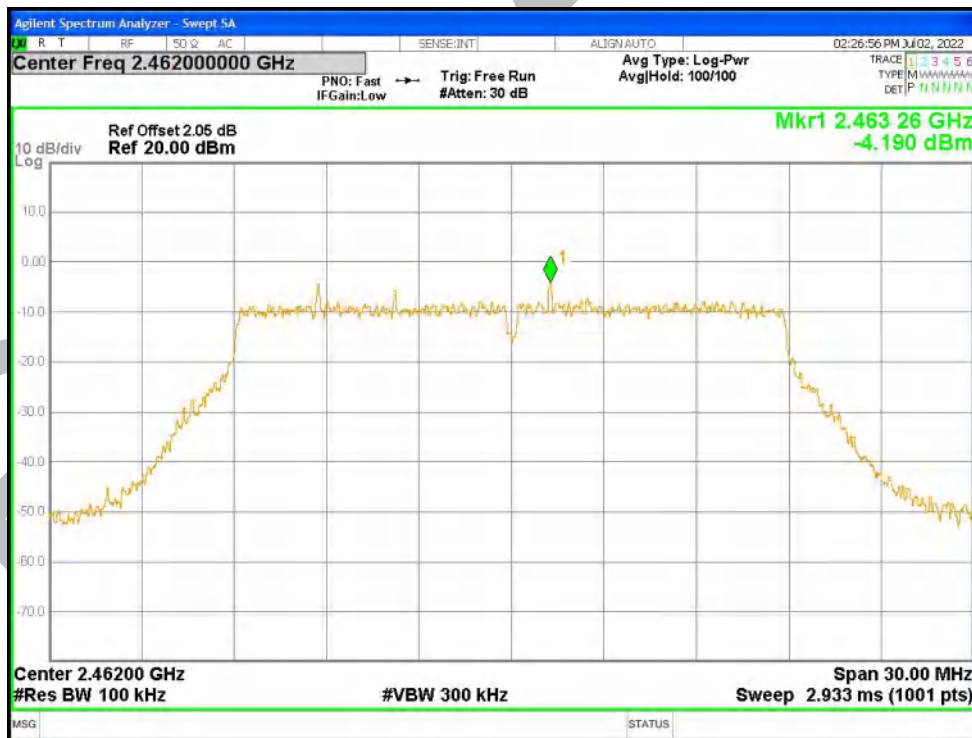
Band Edge NVNT n20 2412MHz Ant1 Ref



Band Edge NVNT n20 2412MHz Ant1 Emission



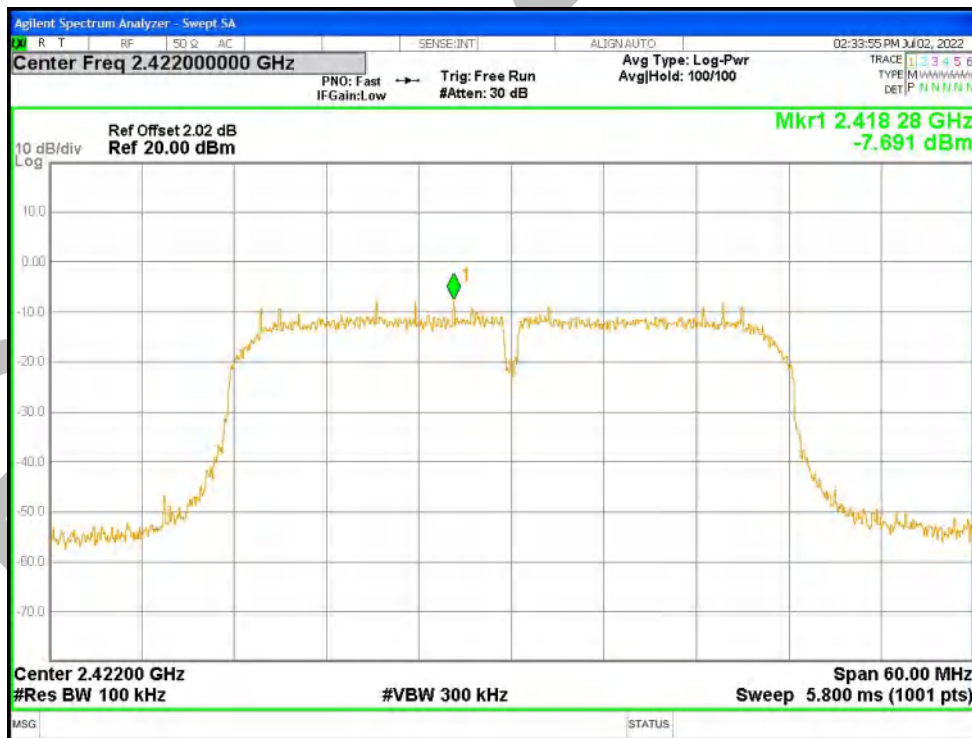
Band Edge NVNT n20 2462MHz Ant1 Ref



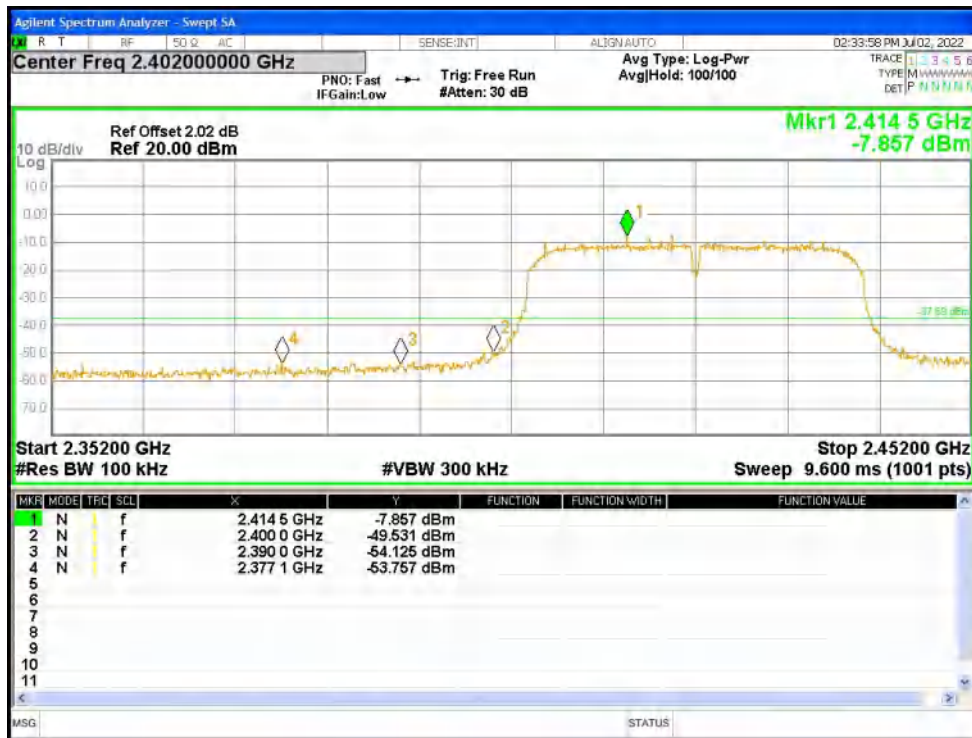
Band Edge NVNT n20 2462MHz Ant1 Emission



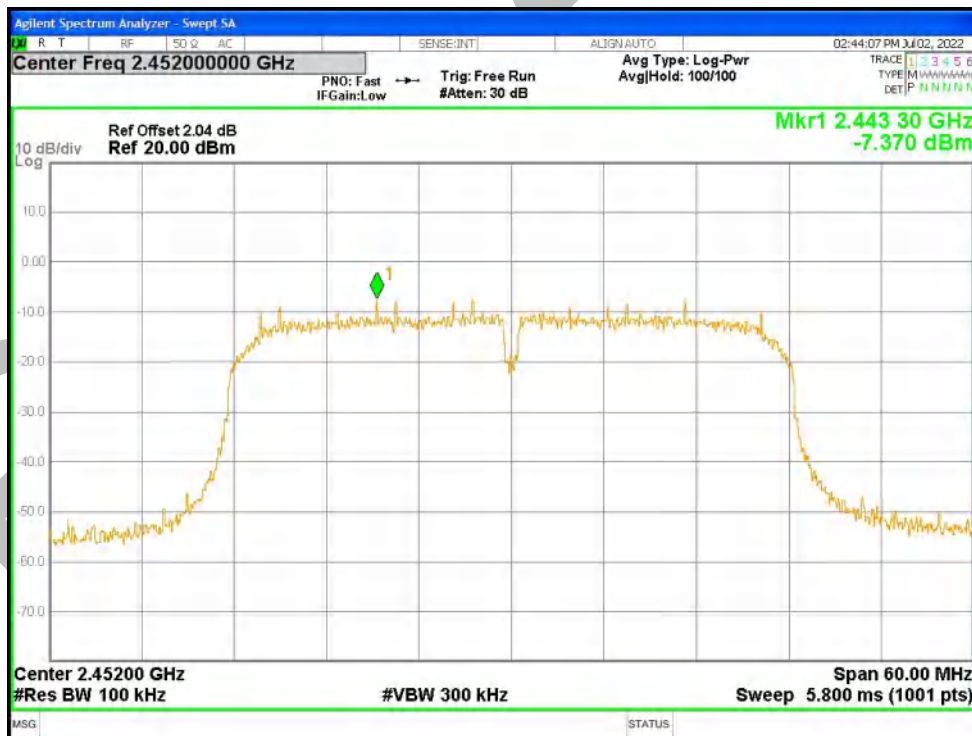
Band Edge NVNT n40 2422MHz Ant1 Ref



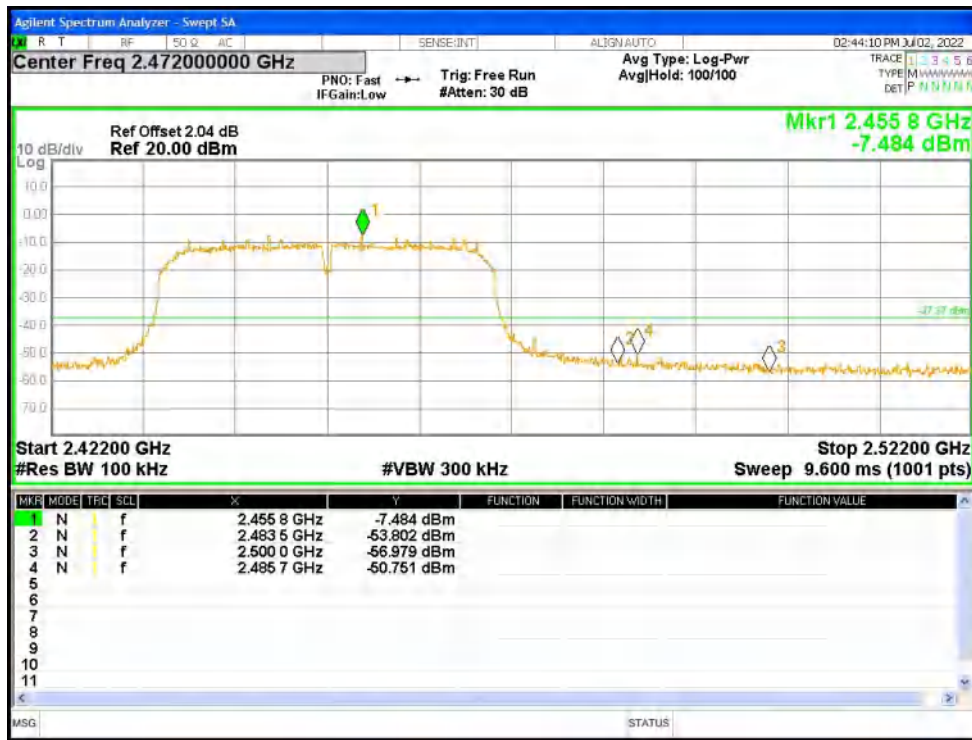
Band Edge NVNT n40 2422MHz Ant1 Emission



Band Edge NVNT n40 2452MHz Ant1 Ref



Band Edge NVNT n40 2452MHz Ant1 Emission

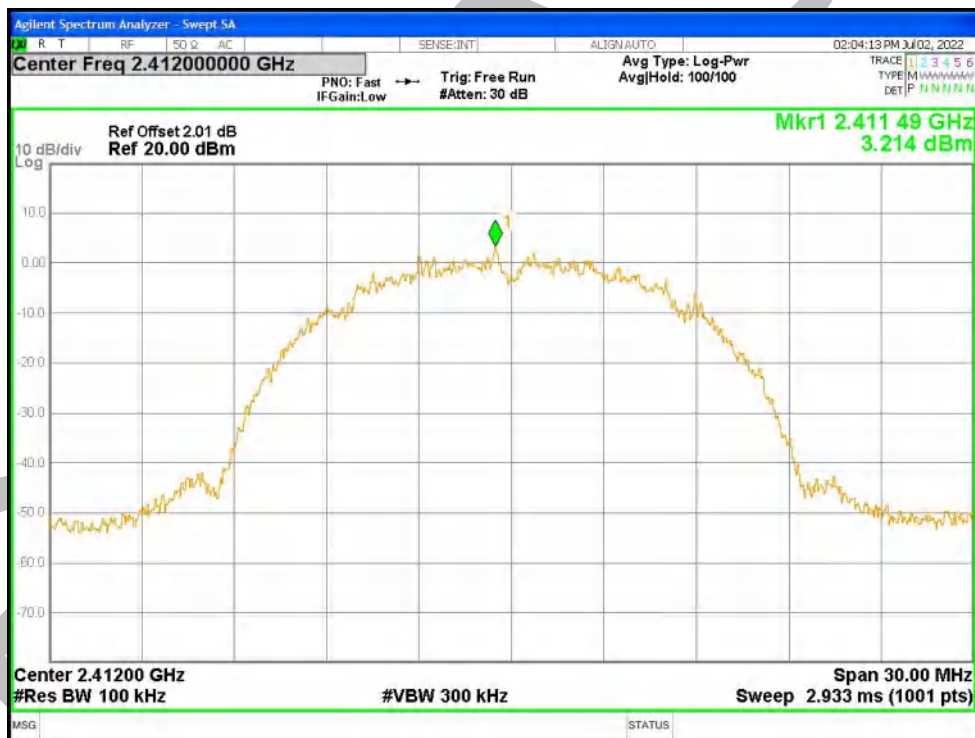


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Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-49.2	-30	Pass
NVNT	b	2437	Ant1	-47.05	-30	Pass
NVNT	b	2462	Ant1	-48.24	-30	Pass
NVNT	g	2412	Ant1	-40.31	-30	Pass
NVNT	g	2437	Ant1	-37.39	-30	Pass
NVNT	g	2462	Ant1	-40.41	-30	Pass
NVNT	n20	2412	Ant1	-39.29	-30	Pass
NVNT	n20	2437	Ant1	-40.74	-30	Pass
NVNT	n20	2462	Ant1	-41.34	-30	Pass
NVNT	n40	2422	Ant1	-37.94	-30	Pass
NVNT	n40	2437	Ant1	-37.81	-30	Pass
NVNT	n40	2452	Ant1	-37.21	-30	Pass

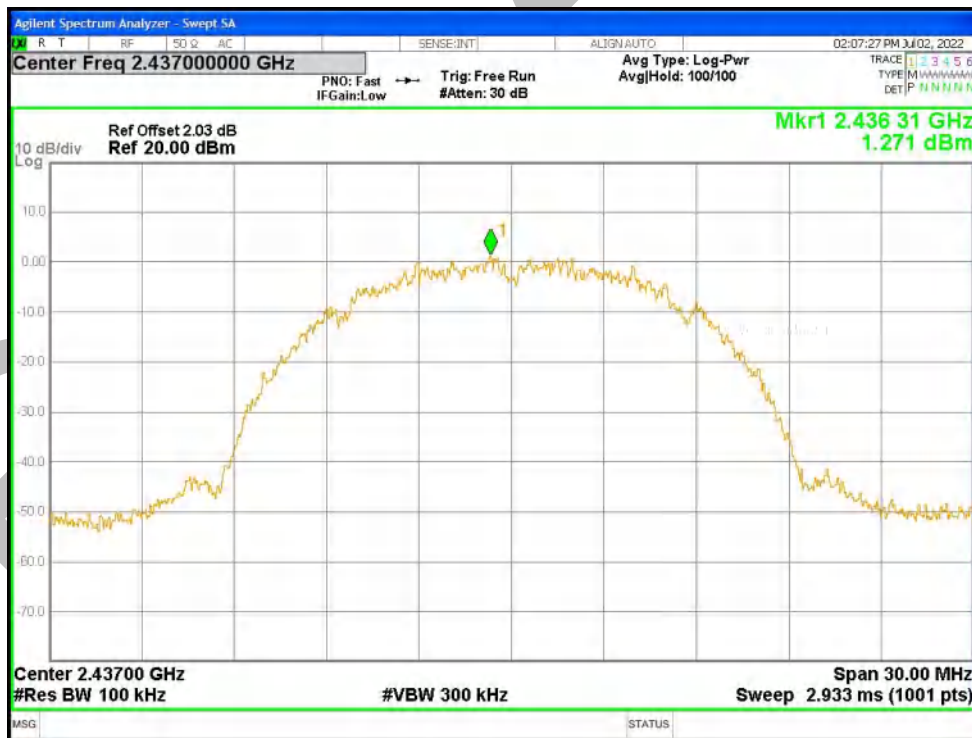
Tx. Spurious NVNT b 2412MHz Ant1 Ref



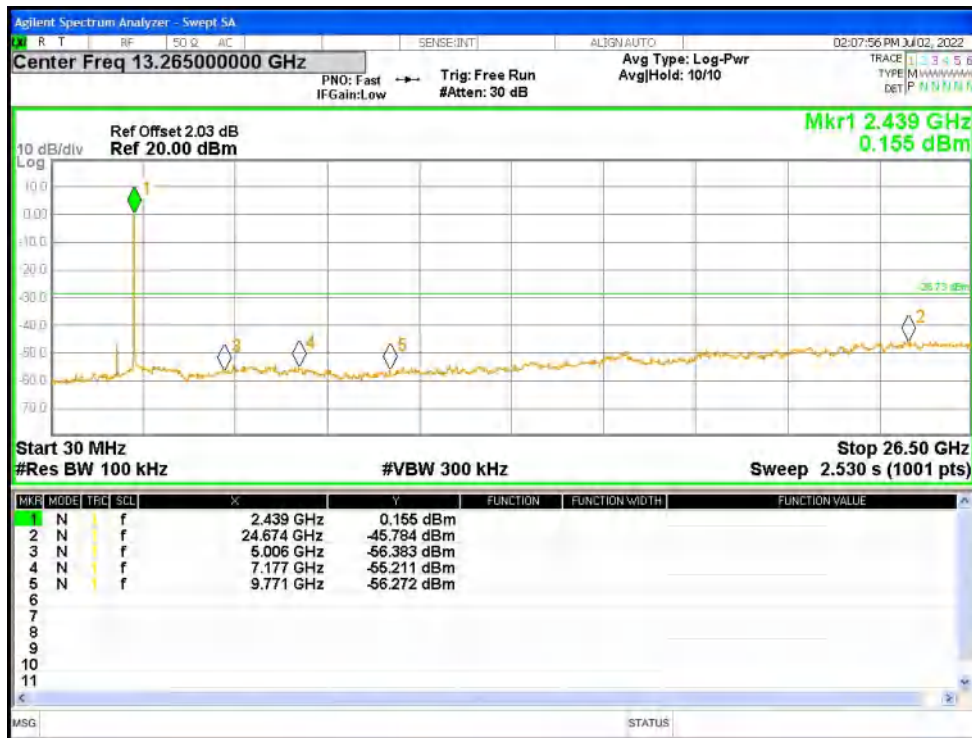
Tx. Spurious NVNT b 2412MHz Ant1 Emission



Tx. Spurious NVNT b 2437MHz Ant1 Ref



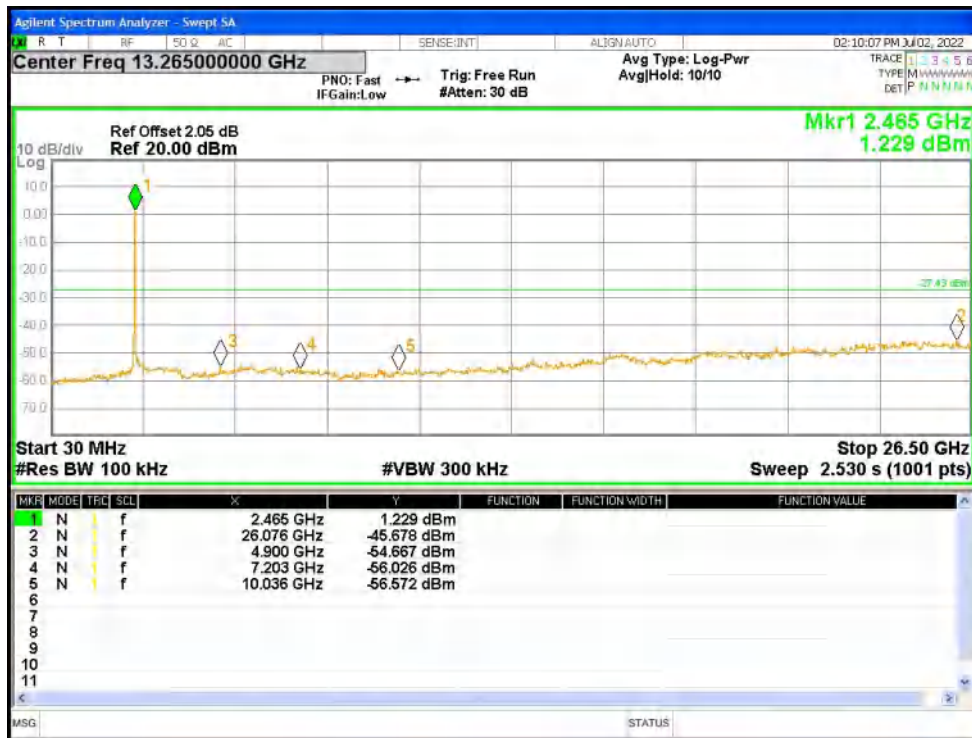
Tx. Spurious NVNT b 2437MHz Ant1 Emission



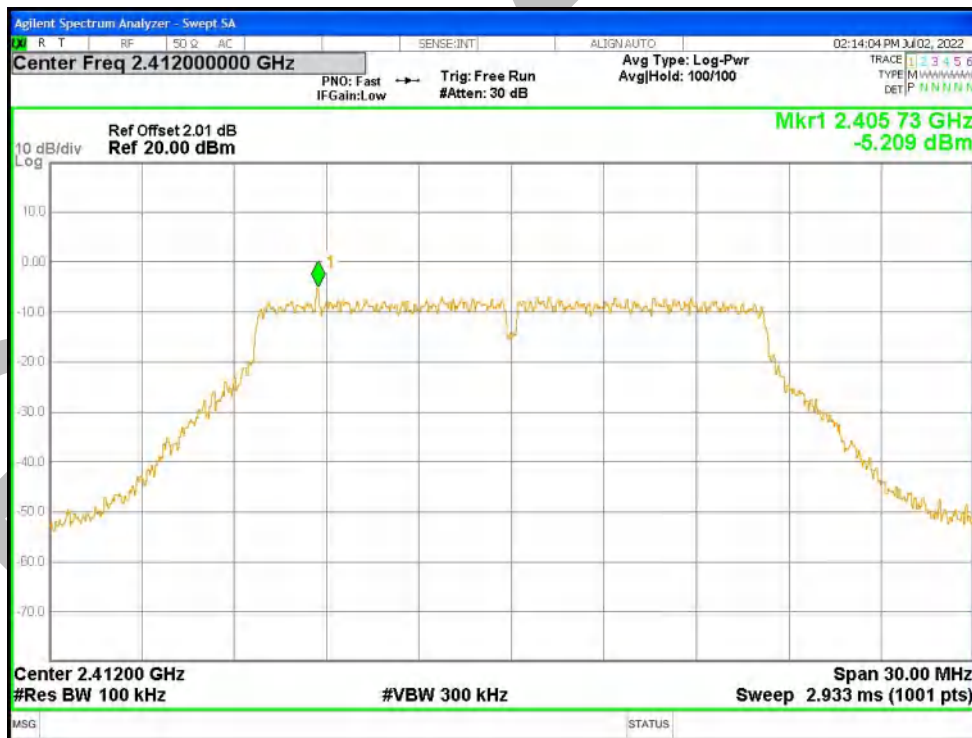
Tx. Spurious NVNT b 2462MHz Ant1 Ref



Tx. Spurious NVNT b 2462MHz Ant1 Emission



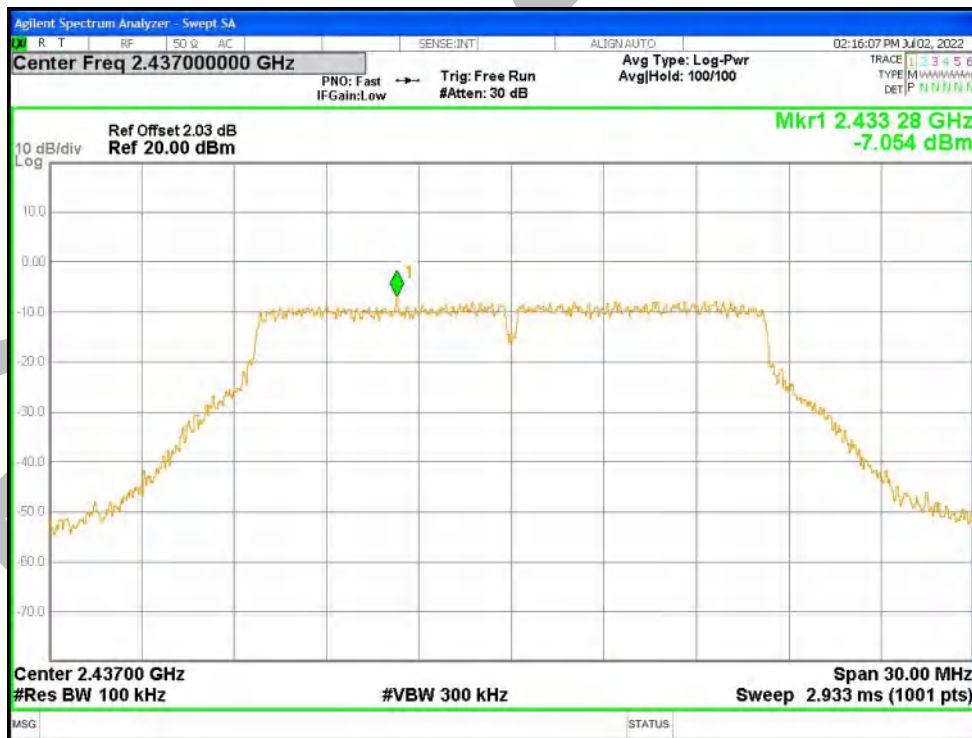
Tx. Spurious NVNT g 2412MHz Ant1 Ref



Tx. Spurious NVNT g 2412MHz Ant1 Emission



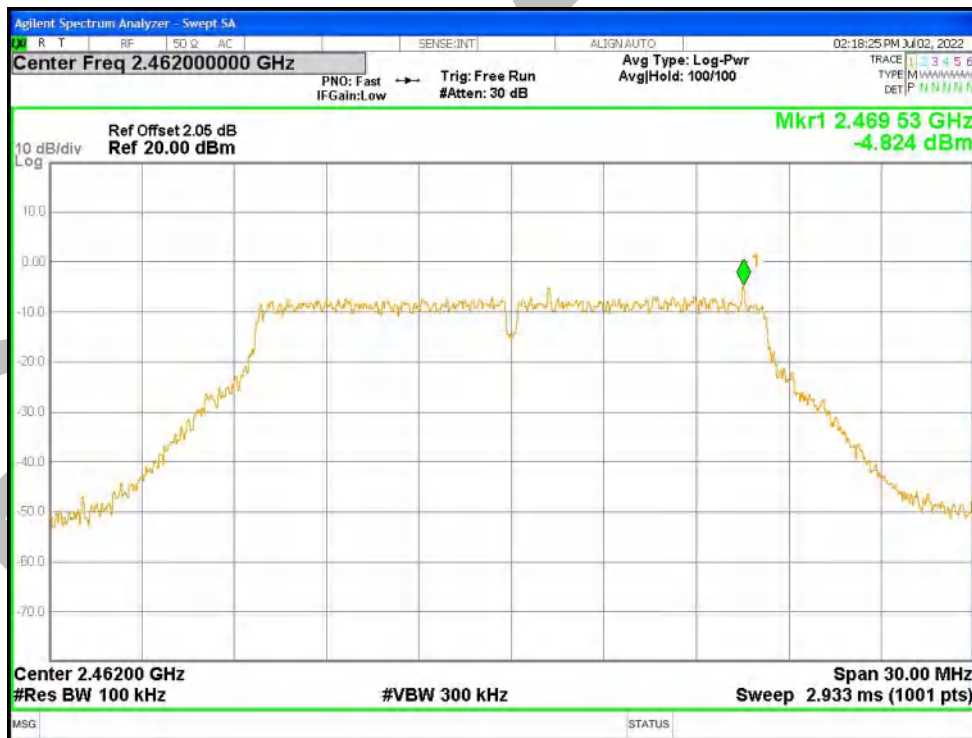
Tx. Spurious NVNT g 2437MHz Ant1 Ref



Tx. Spurious NVNT g 2437MHz Ant1 Emission



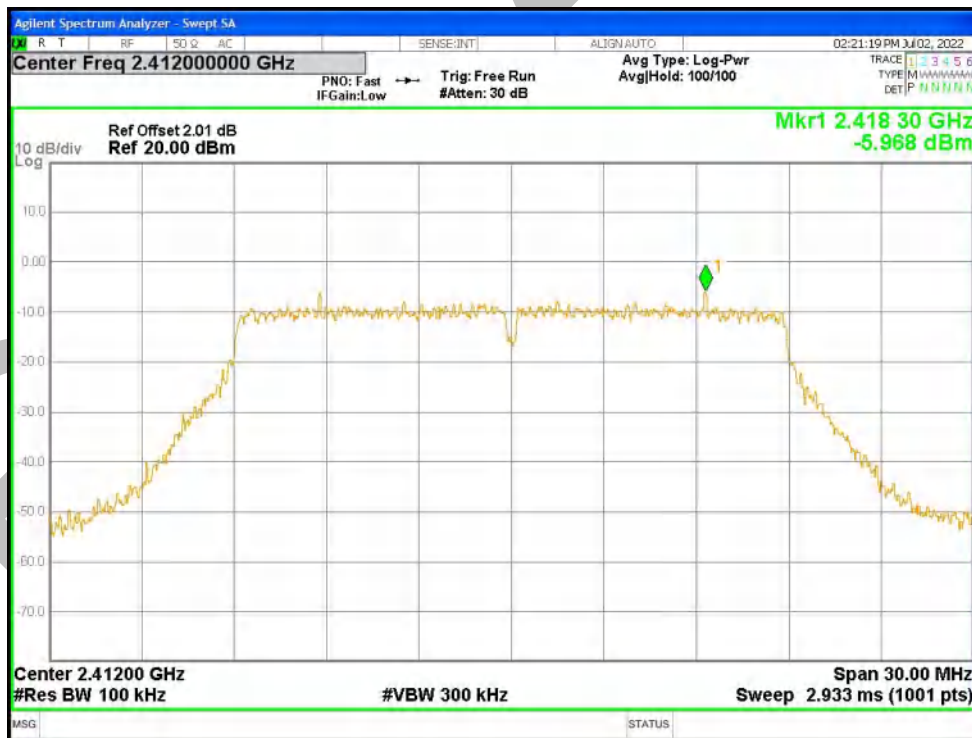
Tx. Spurious NVNT g 2462MHz Ant1 Ref



Tx. Spurious NVNT g 2462MHz Ant1 Emission



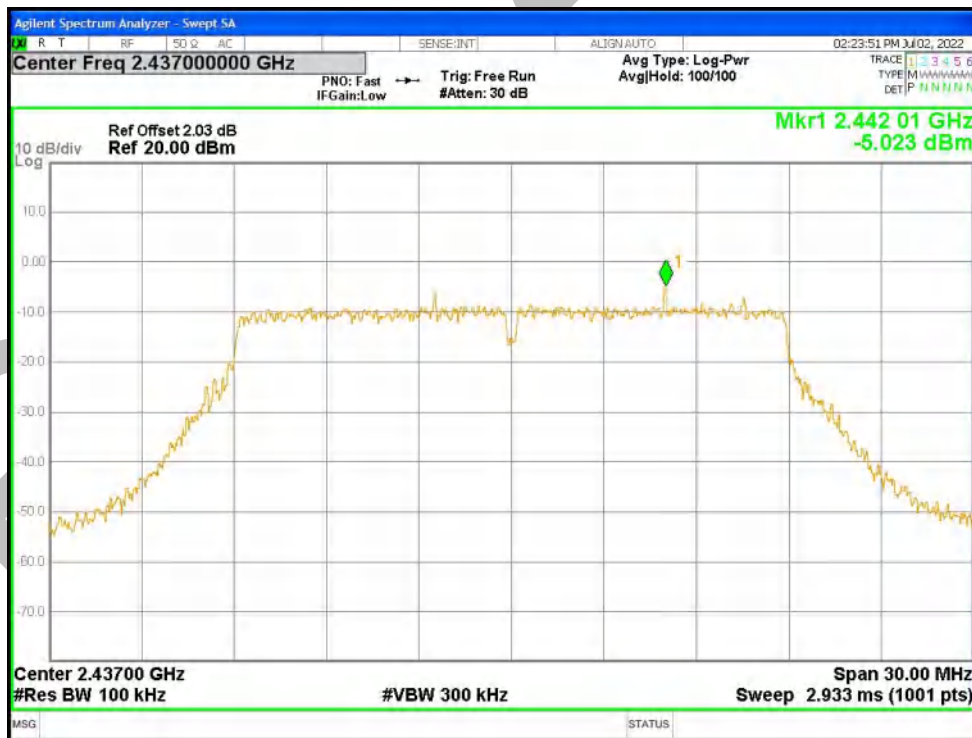
Tx. Spurious NVNT n20 2412MHz Ant1 Ref



Tx. Spurious NVNT n20 2412MHz Ant1 Emission



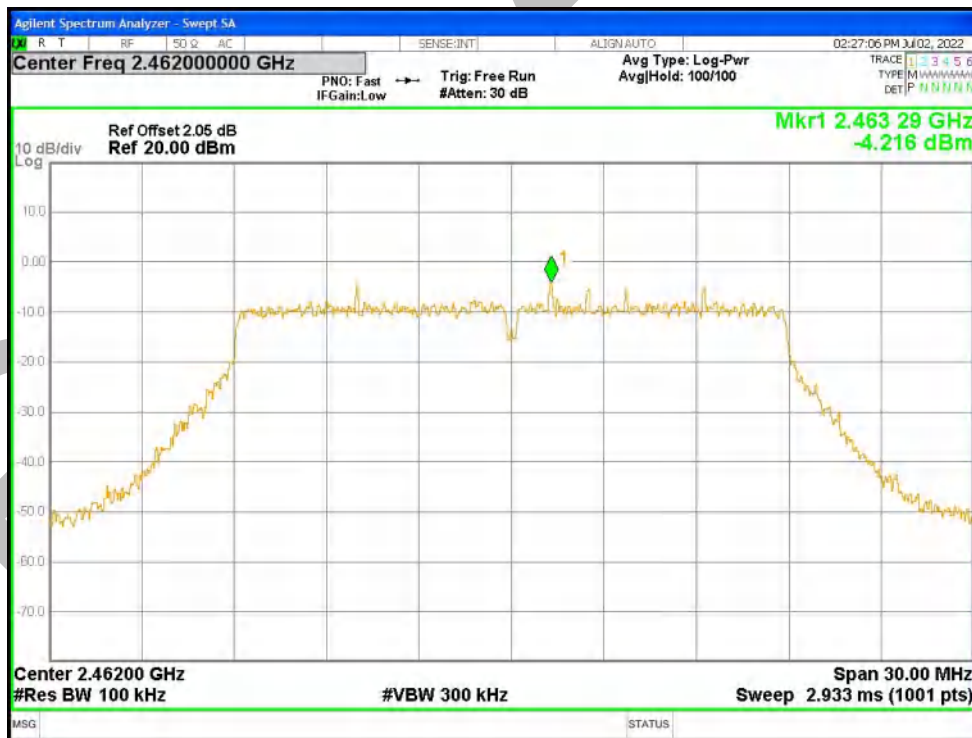
Tx. Spurious NVNT n20 2437MHz Ant1 Ref



Tx. Spurious NVNT n20 2437MHz Ant1 Emission



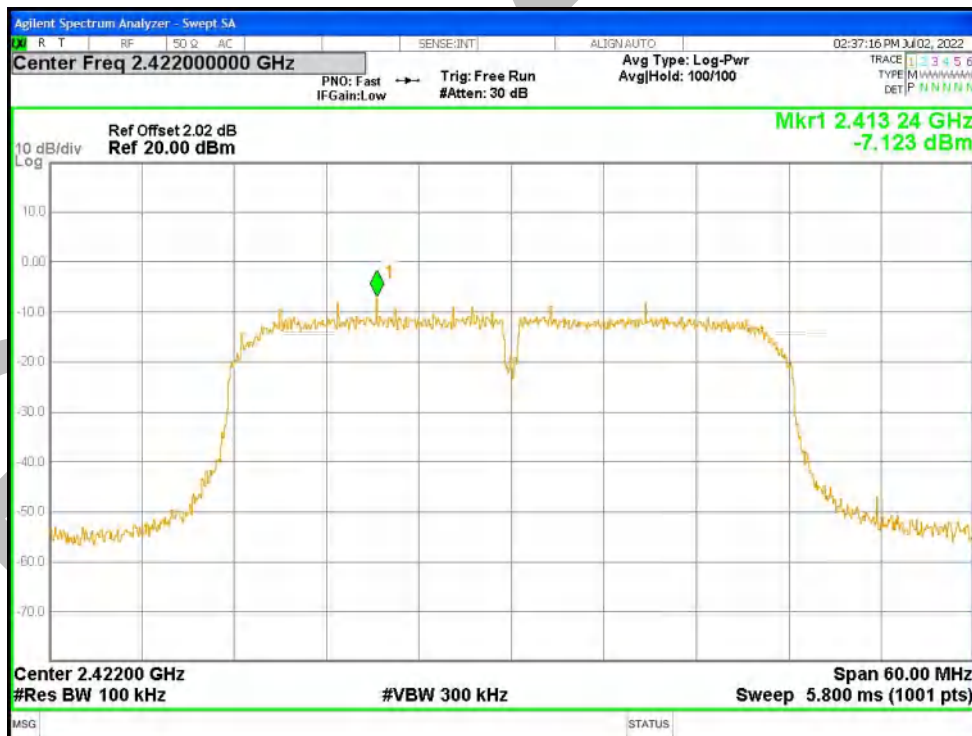
Tx. Spurious NVNT n20 2462MHz Ant1 Ref



Tx. Spurious NVNT n20 2462MHz Ant1 Emission



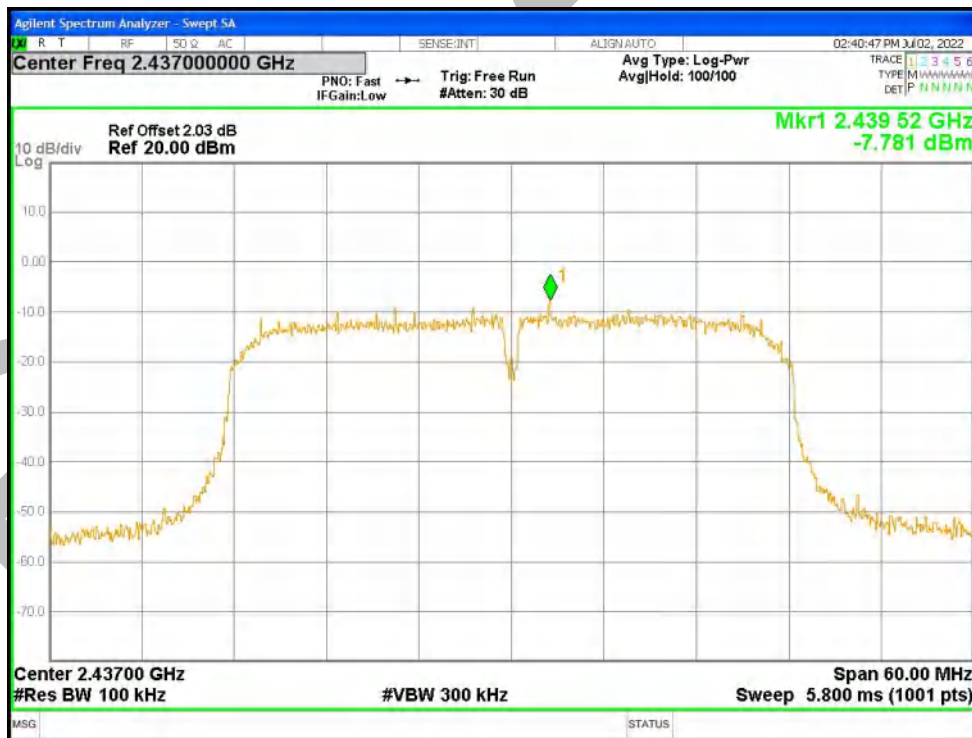
Tx. Spurious NVNT n40 2422MHz Ant1 Ref



Tx. Spurious NVNT n40 2422MHz Ant1 Emission



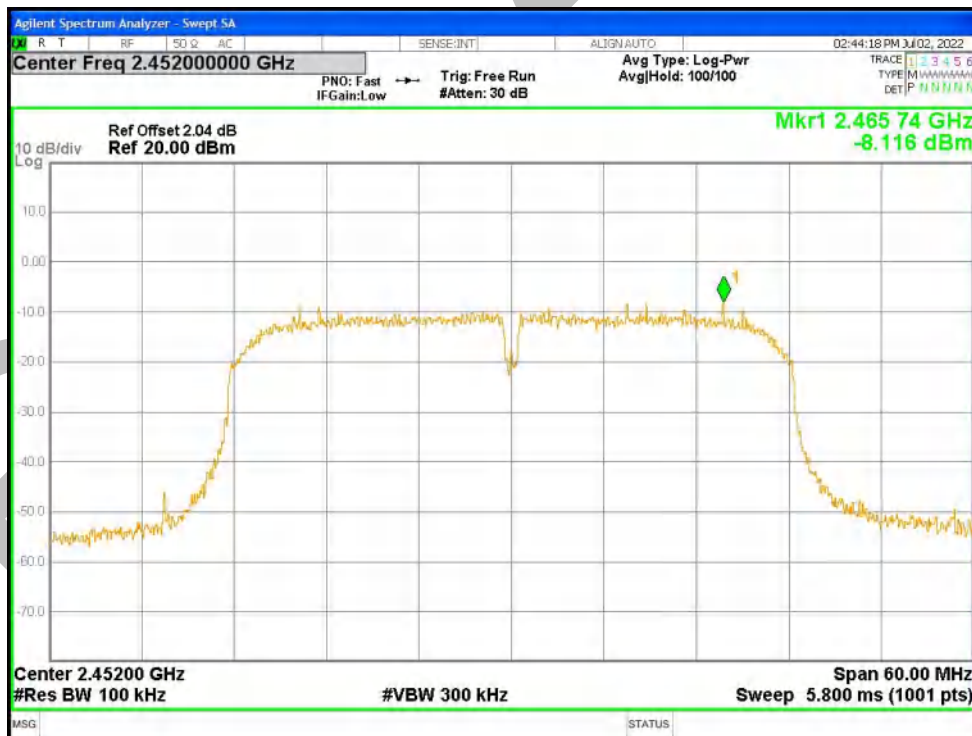
Tx. Spurious NVNT n40 2437MHz Ant1 Ref



Tx. Spurious NVNT n40 2437MHz Ant1 Emission



Tx. Spurious NVNT n40 2452MHz Ant1 Ref



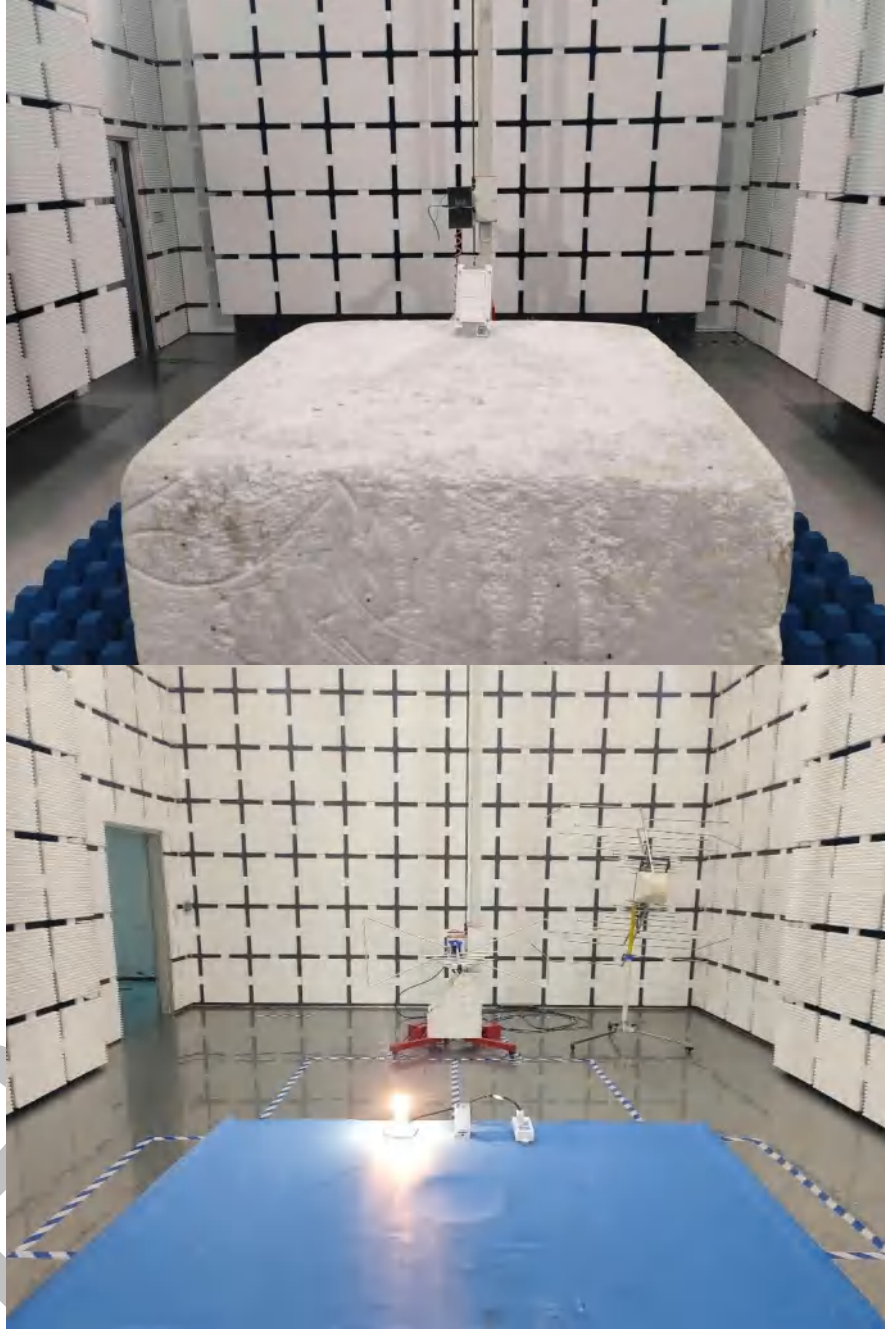
Tx. Spurious NVNT n40 2452MHz Ant1 Emission



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APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Radiated Spurious Emissions



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



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APPENDIX B: PHOTOGRAPHS OF EUT

Reference to the test report No. BLA-EMC-202206-A10501

----END OF REPORT----

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