

TEST REPORT

Product Name : WIFI/BT module
Brand Mark : FN-LINK
Model No. : 6223C-PUD
FCC ID : 2AATL-6223C-PUD
Report Number : BLA-EMC-202107-A8403
Date of Sample Receipt : 2021/7/22
Date of Test : 2021/8/9 to 2021/8/12
Date of Issue : 2021/8/12
Test Standard : 47 CFR Part 15, Subpart C 15.247
Test Result : Pass

Prepared for:

HUNAN FN-LINK TECHNOLOGY LIMITED
No. 8, Litong Road, Liuyang Economic Development Zone,
Liuyang China

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:

Jozu

Review by:

Sweel

Approved by:

BlueZhong

Date: 2021/8/12



REPORT REVISE RECORD

Version No.	Date	Description
00	2021/8/12	Original

BlueAsia

TABLE OF CONTENTS

1 TEST SUMMARY	6
2 GENERAL INFORMATION	7
3 GENERAL DESCRIPTION OF E.U.T.....	7
4 TEST ENVIRONMENT	8
5 TEST MODE	8
6 MEASUREMENT UNCERTAINTY	8
7 DESCRIPTION OF SUPPORT UNIT.....	9
8 LABORATORY LOCATION.....	9
9 TEST INSTRUMENTS LIST.....	10
10 CONDUCTED BAND EDGES MEASUREMENT.....	14
10.1 LIMITS	14
10.2 BLOCK DIAGRAM OF TEST SETUP	14
10.3 TEST DATA.....	15
11 ANTENNA REQUIREMENT	16
11.1 CONCLUSION	16
12 CONDUCTED SPURIOUS EMISSIONS	17
12.1 LIMITS	17
12.2 BLOCK DIAGRAM OF TEST SETUP	17
12.3 TEST DATA.....	18
13 DWELL TIME.....	19
13.1 LIMITS	19
13.2 BLOCK DIAGRAM OF TEST SETUP	19
13.3 TEST DATA.....	19
14 HOPPING CHANNEL NUMBER	20
14.1 LIMITS	20
14.2 BLOCK DIAGRAM OF TEST SETUP	20
14.3 TEST DATA.....	20
15 CARRIER FREQUENCIES SEPARATION	21
15.1 LIMITS	21

15.2	BLOCK DIAGRAM OF TEST SETUP	21
15.3	TEST DATA.....	21
16	20DB BANDWIDTH.....	22
16.1	BLOCK DIAGRAM OF TEST SETUP	22
16.2	TEST DATA.....	22
17	CONDUCTED PEAK OUTPUT POWER	23
17.1	LIMITS	23
17.2	BLOCK DIAGRAM OF TEST SETUP	23
17.3	EST DATA.....	24
18	CONDUCTED EMISSIONS AT AC POWER LINE (150KHZ-30MHZ).....	25
18.1	LIMITS	25
18.2	BLOCK DIAGRAM OF TEST SETUP	25
18.3	PROCEDURE	25
18.4	TEST DATA.....	27
19	RADIATED SPURIOUS EMISSIONS.....	29
19.1	LIMITS	29
19.2	BLOCK DIAGRAM OF TEST SETUP	30
19.3	PROCEDURE	30
19.4	TEST DATA.....	32
20	RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS.....	40
20.1	LIMITS	40
20.2	BLOCK DIAGRAM OF TEST SETUP	41
20.3	PROCEDURE	41
20.4	TEST DATA.....	43
21	APPENDIX.....	47
21.1	MAXIMUM CONDUCTED OUTPUT POWER	47
21.2	-20DB BANDWIDTH.....	52
21.3	OCCUPIED CHANNEL BANDWIDTH.....	57
21.4	BAND EDGE	62
21.5	BAND EDGE(HOPPING)	69
21.6	CONDUCTED RF SPURIOUS EMISSION	76
21.7	CARRIER FREQUENCIES SEPARATION	86
21.8	NUMBER OF HOPPING CHANNEL	88

21.9 Dwell Time	90
APPENDIX A: PHOTOGRAPHS OF TEST SETUP	94
APPENDIX B: PHOTOGRAPHS OF EUT	96

BlueAsia

1 TEST SUMMARY

Test item	Test Requirement	Test Method	Class/Severity	Result
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
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(c)	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
Dwell Time	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.4	47 CFR Part 15, Subpart C 15.247a(1)(iii)	Pass
Hopping Channel Number	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.3	47 CFR Part 15, Subpart C 15.247a(1)(iii)	Pass
Carrier Frequencies Separation	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.2	47 CFR Part 15, Subpart C 15.247a(1)	Pass
20dB Bandwidth	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.7	47 CFR Part 15, Subpart C 15.247(a)(1)	Pass
Conducted Peak Output Power	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.5	47 CFR Part 15, Subpart C 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
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

2 GENERAL INFORMATION

Applicant	HUNAN FN-LINK TECHNOLOGY LIMITED
Address	No. 8, Litong Road, Liuyang Economic Development Zone, Liuyang China
Manufacturer	HUNAN FN-LINK TECHNOLOGY LIMITED
Address	No. 8, Litong Road, Liuyang Economic Development Zone, Liuyang China
Factory	HUNAN FN-LINK TECHNOLOGY LIMITED
Address	No. 8, Litong Road, Liuyang Economic Development Zone, Liuyang China
Product Name	6223C-PUD
Test Model No.	6223C-PUD

3 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	V1.4
Software Version	V1.4
Operation Frequency:	2402MHz-2480MHz
Modulation Type:	GFSK, pi/4DQPSK, 8DPSK
Channel Spacing:	1MHz
Number of Channels:	79
Antenna Type:	FPC Antenna
Antenna Gain:	2dBi(Provided by the applicant)

4 BLOCK DIAGRAM OF EUT CONNECTION



5 TEST ENVIRONMENT

Environment	Temperature	Voltage
Normal	25°C	DC3.3V

6 TEST MODE

TEST MODE	TEST MODE DESCRIPTION
Transmitting mode	Keep the EUT in continuously transmitting mode with modulation. (hopping and non hopping mode all have been tested, non hopping mode is worse case for RE)
Remark: Full battery is used during all test except ac conducted emission, DH1,DH3, DH5 all have been tested, during the test, GFSK, Pi/4QPSK, 8-DPSK modulation were all pre-scanned only 8-DPSK worse case is reported.	

7 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

8 DESCRIPTION OF SUPPORT UNIT

Device Type	Manufacturer	Model Name	Serial No.	Remark
PC	HASEE	K610D	N/A	N/A

9 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.

10 TEST INSTRUMENTS LIST

Test Equipment Of Conducted Band Edges Measurement					
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Conducted Spurious Emissions					
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Dwell Time					
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Hopping Channel Number					
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due

Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Carrier Frequencies Separation

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of 20dB Bandwidth

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Conducted Peak Output Power

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11

Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11
------------------	---------	--------	------------	------------	------------

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	2020/10/12	2021/10/11
LISN	R&S	ENV216	3560.6550.15	2020/10/12	2021/10/11
LISN	AT	AT166-2	AKK1806000003	2020/10/12	2021/10/11
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	2020/10/12	2021/10/11
Receiver	R&S	ESR7	101199	2020/10/12	2021/10/11
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	2020/10/16	2021/10/15
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 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	2020/10/12	2021/10/11
Receiver	R&S	ESR7	101199	2020/10/12	2021/10/11
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	2020/10/16	2021/10/15
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

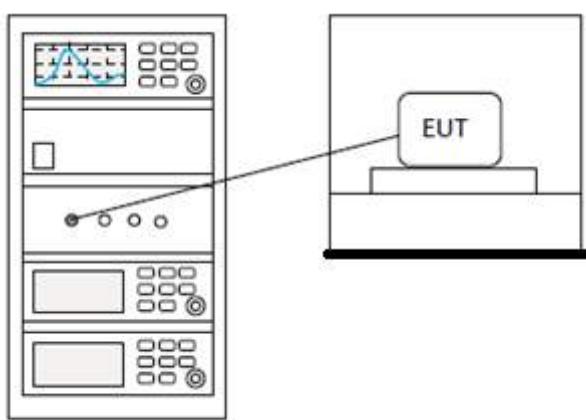
11 CONDUCTED BAND EDGES MEASUREMENT

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%

11.1 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)).
---------------	--

11.2 BLOCK DIAGRAM OF TEST SETUP



11.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

BlueAsia

12 ANTENNA REQUIREMENT

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

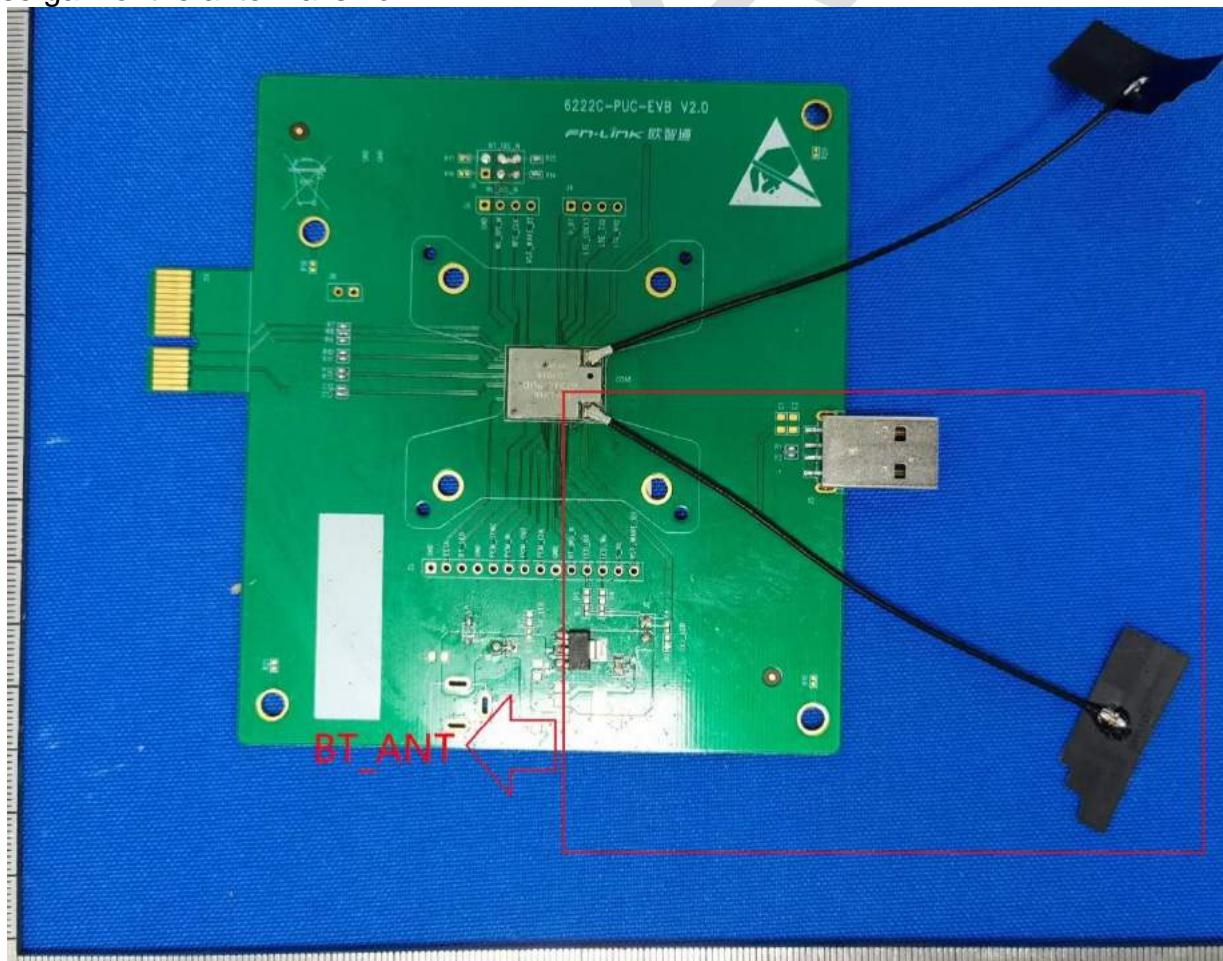
12.1 CONCLUSION

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 2dBi.



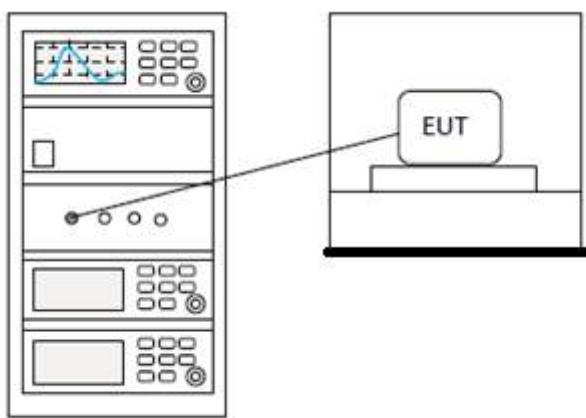
13 CONDUCTED SPURIOUS EMISSIONS

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)).
---------------	--

13.2 BLOCK DIAGRAM OF TEST SETUP



13.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

BlueAsia

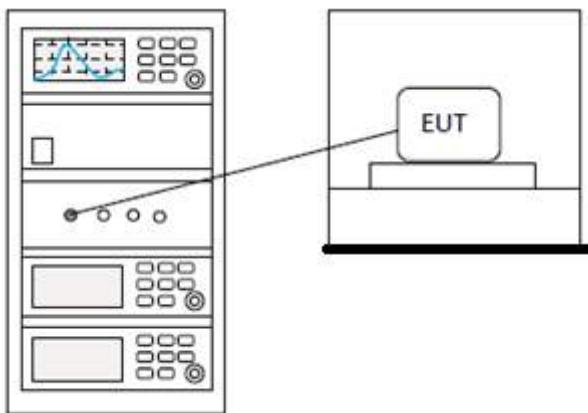
14 DWELL TIME

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.4
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25 °C
Humidity	60%

14.1 LIMITS

Frequency(MHz)	Limit
902-928	0.4S within a 20S period(20dB bandwidth<250kHz)
	0.4S within a 10S period(20dB bandwidth≥250kHz)
2400-2483.5	0.4S within a period of 0.4S multiplied by the number of hopping channels
5725-5850	0.4S within a 30S period

14.2 BLOCK DIAGRAM OF TEST SETUP



14.3 EST DATA

Pass: Please Refer To Appendix: Appendix1 For Details
--

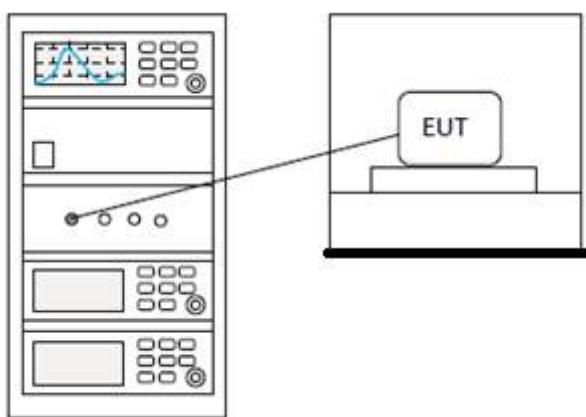
15 HOPPING CHANNEL NUMBER

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.3
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

15.1 LIMITS

Frequency range(MHz)	Number of hopping channels (minimum)
902-928	50 for 20dB bandwidth <250kHz
	25 for 20dB bandwidth ≥250kHz
2400-2483.5	15
5725-5850	75

15.2 BLOCK DIAGRAM OF TEST SETUP



15.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

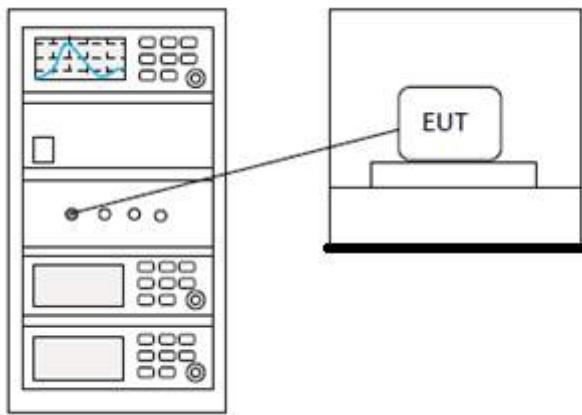
16 CARRIER FREQUENCIES SEPARATION

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25 °C
Humidity	60%

16.1 LIMITS

Limit: 2/3 of the 20dB bandwidth base on the transmission power is less than 0.125W

16.2 BLOCK DIAGRAM OF TEST SETUP



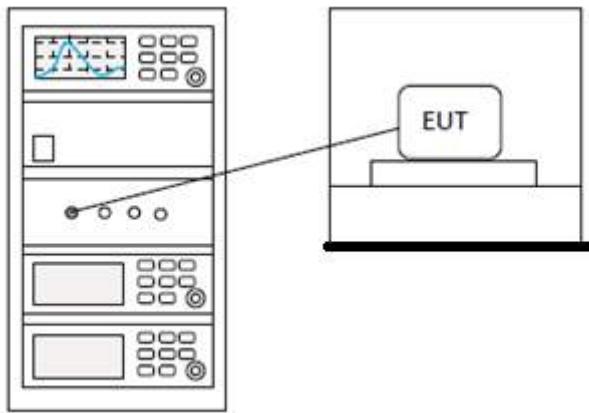
16.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

17 20DB BANDWIDTH

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.7
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25 °C
Humidity	60%

17.1 BLOCK DIAGRAM OF TEST SETUP



17.2 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

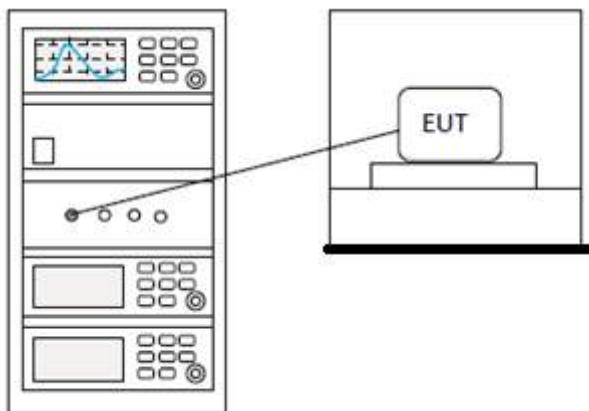
18 CONDUCTED PEAK OUTPUT POWER

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

18.1 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

18.2 BLOCK DIAGRAM OF TEST SETUP



18.3 EST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

BlueAsia

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

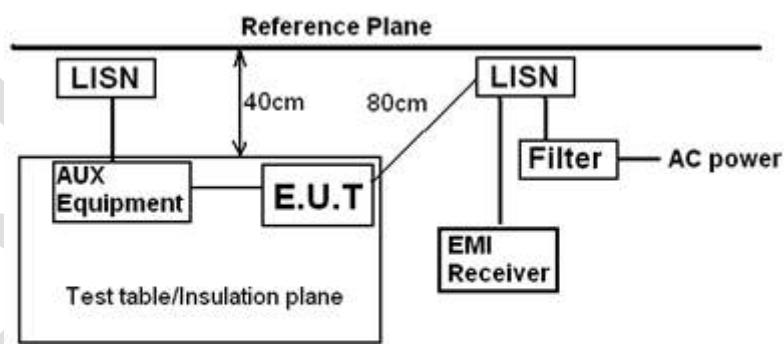
Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.2
Test Mode (Pre-Scan)	Transmitting mode
Test Mode (Final Test)	Transmitting mode
Tester	Jozu
Temperature	25 °C
Humidity	60%

19.1 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.

19.2 BLOCK DIAGRAM OF TEST SETUP



19.3 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 + 50hm 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.

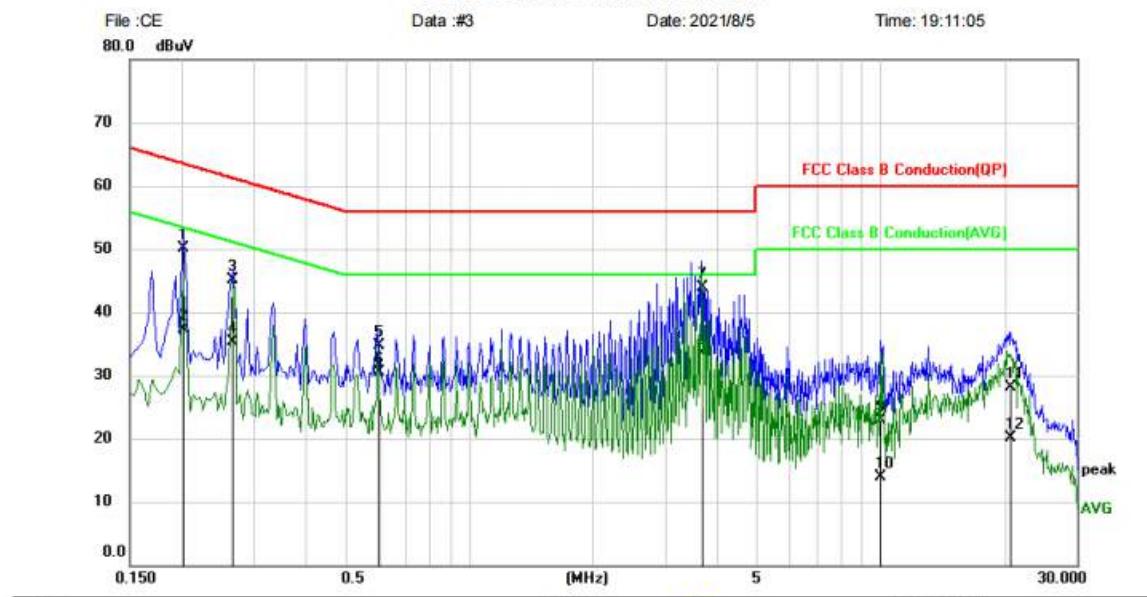
Remark: LISN=Read Level+ Cable Loss+ LISN Factor

BlueAsia

19.4 TEST DATA

[TestMode: BT]; [Line: Line];[PowerAC120V/60Hz]

Conducted Emission Measurement



No.	Mk.	Reading MHz	Freq. dBuV	Correct Level dB	Measure- ment dBuV	Limit dB	Over Detector	Comment
1		0.2020	40.24	9.87	50.11	63.53	-13.42	QP
2		0.2020	27.41	9.87	37.28	53.53	-16.25	AVG
3		0.2660	35.27	9.89	45.16	61.24	-16.08	QP
4		0.2660	25.50	9.89	35.39	51.24	-15.85	AVG
5		0.6020	25.02	9.74	34.76	56.00	-21.24	QP
6		0.6020	20.85	9.74	30.59	46.00	-15.41	AVG
7	*	3.6700	34.03	9.85	43.88	56.00	-12.12	QP
8		3.6700	23.71	9.85	33.56	46.00	-12.44	AVG
9		10.0100	13.01	9.95	22.96	60.00	-37.04	QP
10		10.0100	3.91	9.95	13.86	50.00	-36.14	AVG
11		20.6220	17.99	10.02	28.01	60.00	-31.99	QP
12		20.6220	10.14	10.02	20.16	50.00	-29.84	AVG

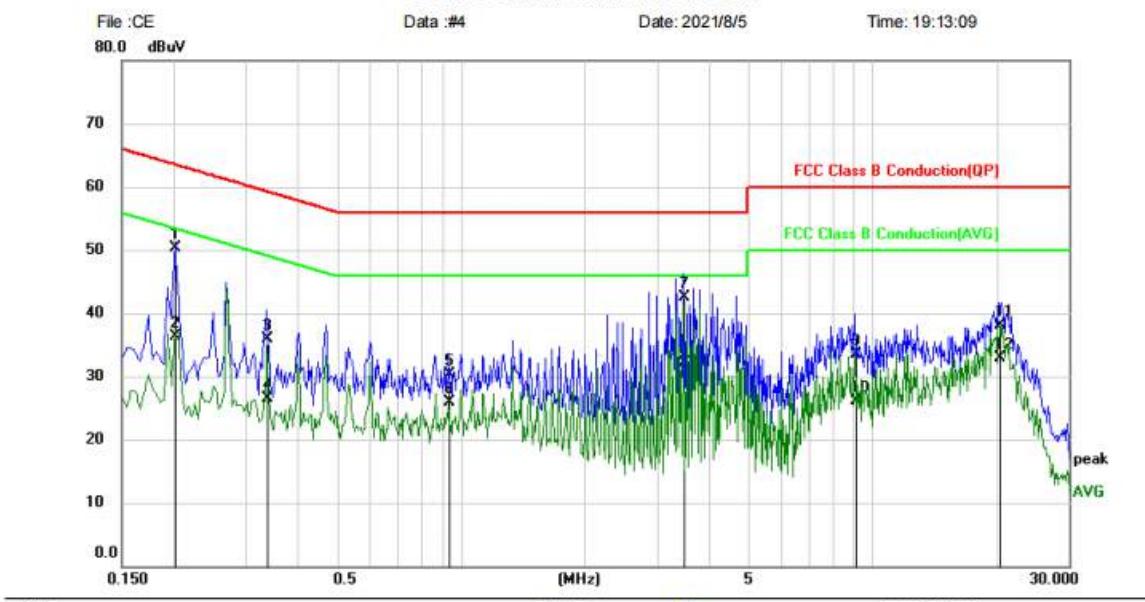
*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

[TestMode: BT]; [Line: Neutral] ;[PowerAC120V/60Hz]

Conducted Emission Measurement



Site

Phase: **N**

Temperature:

Limit: FCC Class B Conduction(QP)

Power:

Humidity: %

EUT: 6223C-PUD

M/N: 6223C-PUD

Mode: BT mode

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dB	Detector	Comment
1	*	0.2020	40.50	9.89	50.39	63.53	-13.14	QP
2		0.2020	26.38	9.89	36.27	53.53	-17.26	AVG
3		0.3379	26.20	9.77	35.97	59.25	-23.28	QP
4		0.3379	16.64	9.77	26.41	49.25	-22.84	AVG
5		0.9380	20.53	9.76	30.29	56.00	-25.71	QP
6		0.9380	16.20	9.76	25.96	46.00	-20.04	AVG
7		3.4740	32.57	9.86	42.43	56.00	-13.57	QP
8		3.4740	22.26	9.86	32.12	46.00	-13.88	AVG
9		9.0820	23.59	9.92	33.51	60.00	-26.49	QP
10		9.0820	16.17	9.92	26.09	50.00	-23.91	AVG
11		20.3060	28.12	10.08	38.20	60.00	-21.80	QP
12		20.3060	22.88	10.08	32.96	50.00	-17.04	AVG

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

(Reference Only)

Test Result: Pass

20 RADIATED SPURIOUS EMISSIONS

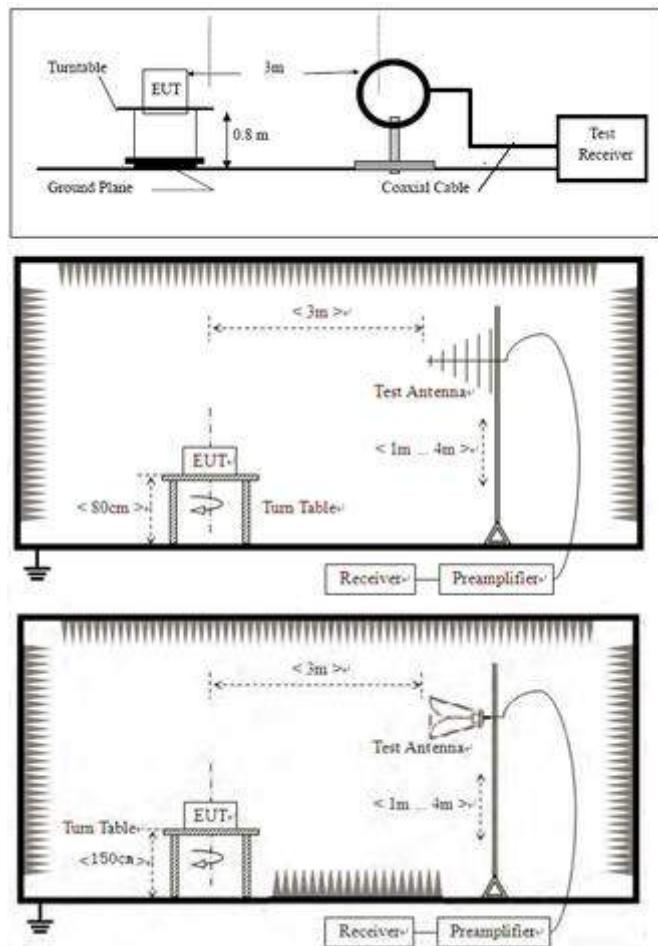
Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.4,6.5,6.6
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25 °C
Humidity	60%

20.1 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.

20.2 BLOCK DIAGRAM OF TEST SETUP



20.3 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.

20.4 TEST DATA

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



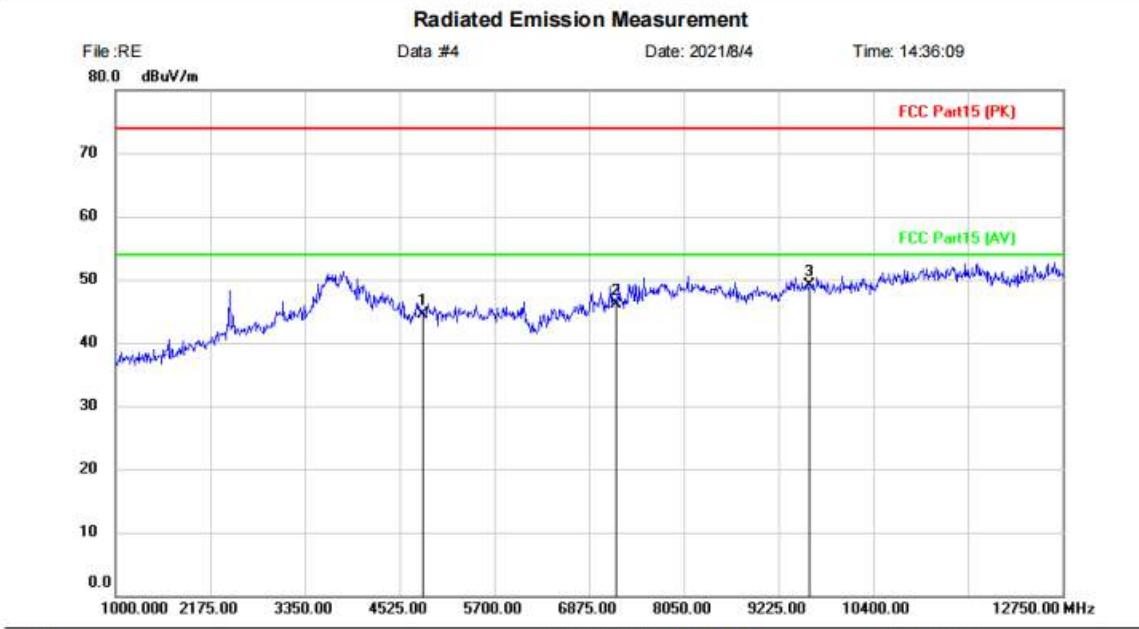
*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass



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



Site	Polarization: <i>Vertical</i>	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: 6223C-PUD	Distance:	
M/N: 6223C-PUD		
Mode: BT-TX-L		
Note:		

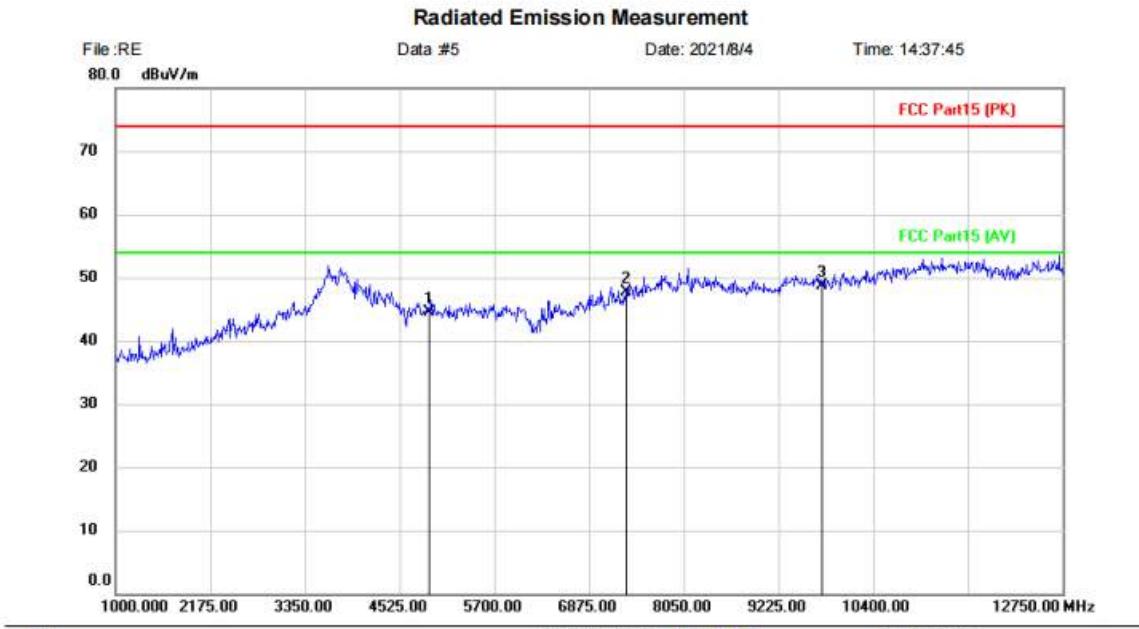
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table		
			Level	Factor	ment						
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4804.000	40.78	3.71	44.49	74.00	-29.51	peak			
2		7206.000	40.22	5.96	46.18	74.00	-27.82	peak			
3	*	9608.000	39.80	9.29	49.09	74.00	-24.91	peak			

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

(Reference Only)

Test Result: Pass

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



Site	Polarization: <i>Vertical</i>	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: 6223C-PUD	Distance:	
M/N: 6223C-PUD		
Mode: BT-TX-M		
Note:		

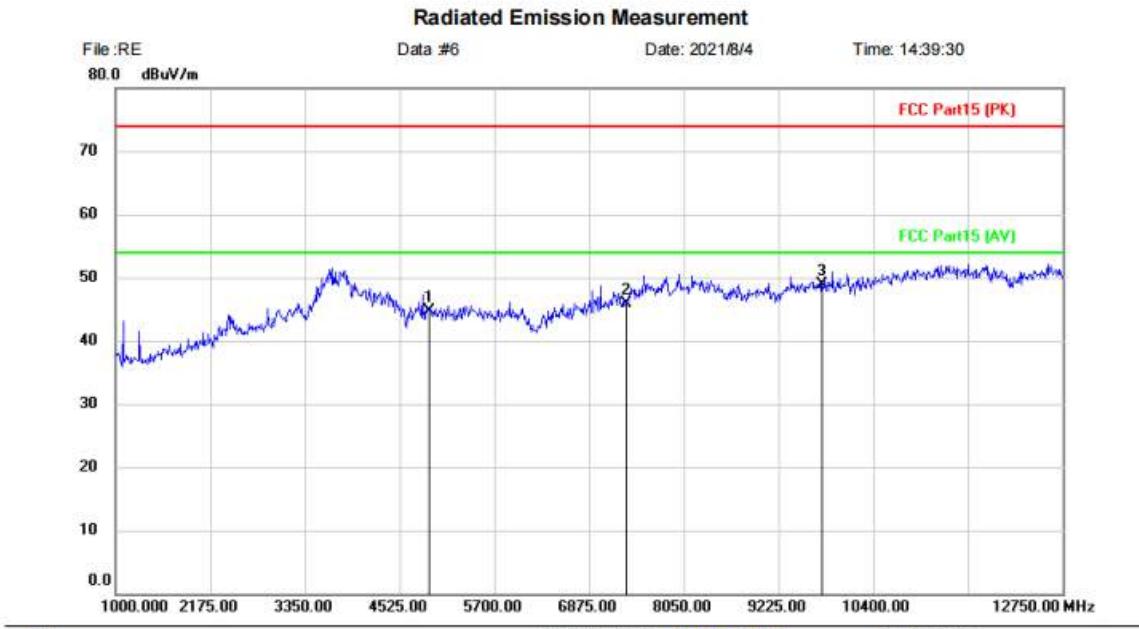
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	
			Level	Factor	ment					
		MHz	dBuV	dB	dBuV/m	dB	Detector	cm	degree	Comment
1		4882.000	41.14	3.36	44.50	74.00	-29.50	peak		
2		7323.000	41.36	6.43	47.79	74.00	-26.21	peak		
3	*	9764.000	39.16	9.63	48.79	74.00	-25.21	peak		

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

(Reference Only

Test Result: Pass

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



Site	Polarization: Horizontal	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: 6223C-PUD	Distance:	
M/N: 6223C-PUD		
Mode: BT-TX-M		
Note:		

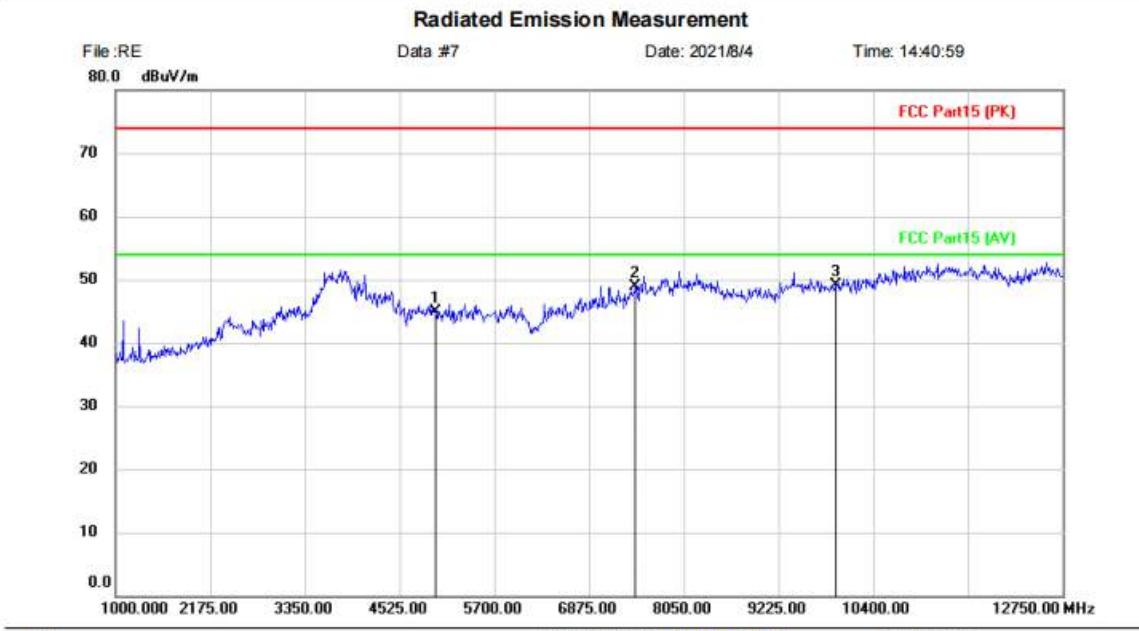
No.	Mk.	Reading		Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree					
		Freq.	Level			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		4882.000	41.37	3.36	44.73	74.00	-29.27	peak						
2		7323.000	39.41	6.43	45.84	74.00	-28.16	peak						
3	*	9764.000	39.33	9.63	48.96	74.00	-25.04	peak						

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

(Reference Only

Test Result: Pass

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



Site	Polarization: Horizontal	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: 6223C-PUD	Distance:	
M/N: 6223C-PUD		
Mode: BT-TX-H		
Note:		

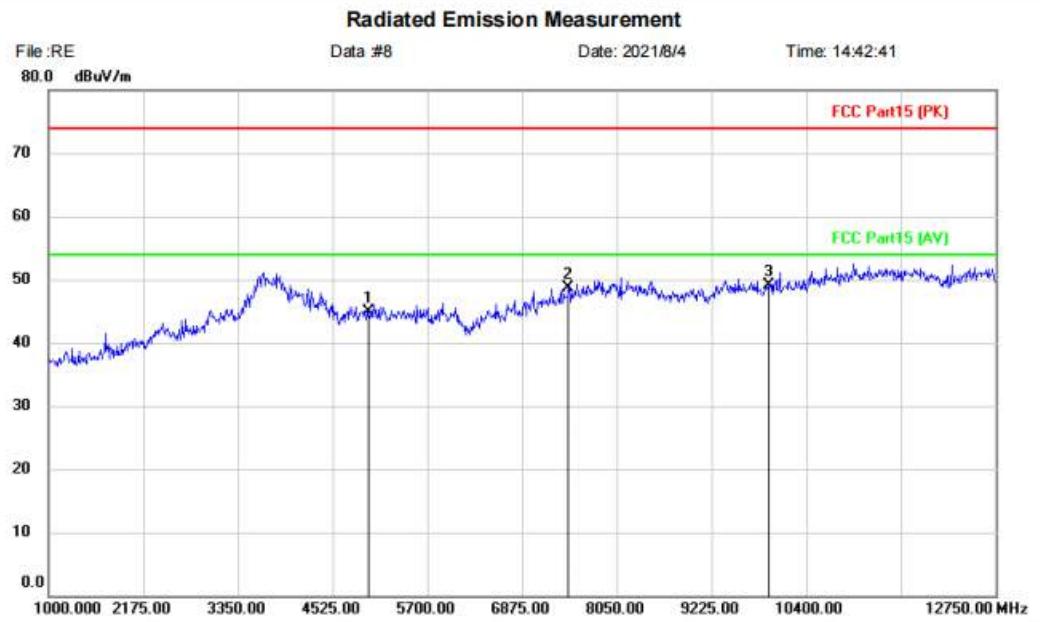
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	
			Level	Factor	ment					
		MHz	dBuV	dB	dBuV/m	dB	Detector	cm	degree	Comment
1		4960.000	41.10	3.75	44.85	74.00	-29.15	peak		
2		7440.000	42.08	6.86	48.94	74.00	-25.06	peak		
3	*	9920.000	38.98	10.16	49.14	74.00	-24.86	peak		

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

< Reference Only

Test Result: Pass

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



Site

Polarization: **Vertical**

Temperature:

Limit: FCC Part15 (PK)

Power:

Humidity: %

EUT: 6223C-PUD

Distance:

M/N: 6223C-PUD

Mode: BT-TX-H

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1		4960.000	41.08	3.75	44.83	74.00	-29.17	peak		
2		7440.000	41.81	6.86	48.67	74.00	-25.33	peak		
3	*	9920.000	38.99	10.16	49.15	74.00	-24.85	peak		

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

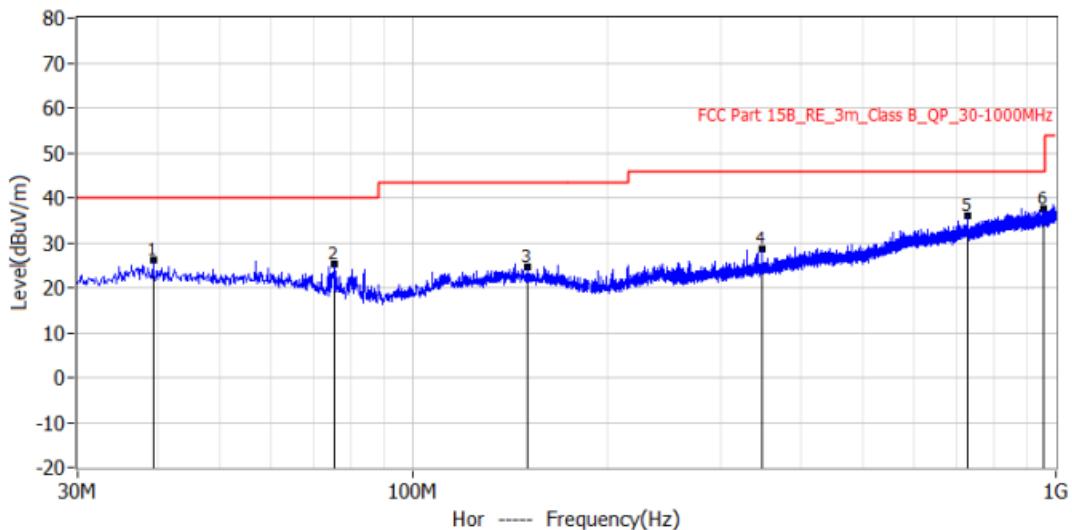
(Reference Only)

Test Result: Pass

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

TEL:+86-755-23059481

Test Lab: BlueAsia EMC Lab (RE #1)	Project: 202107-A84
EUT: 6223C-PUD	Test Engineer: Charlie
M/N: 6223C-PUD	Temperature: 25°C
S/N:	Humidity: 52%RH
Test Mode: BT mode	Test Voltage:
Note:	Test Data: 2021-08-05 14:05:29



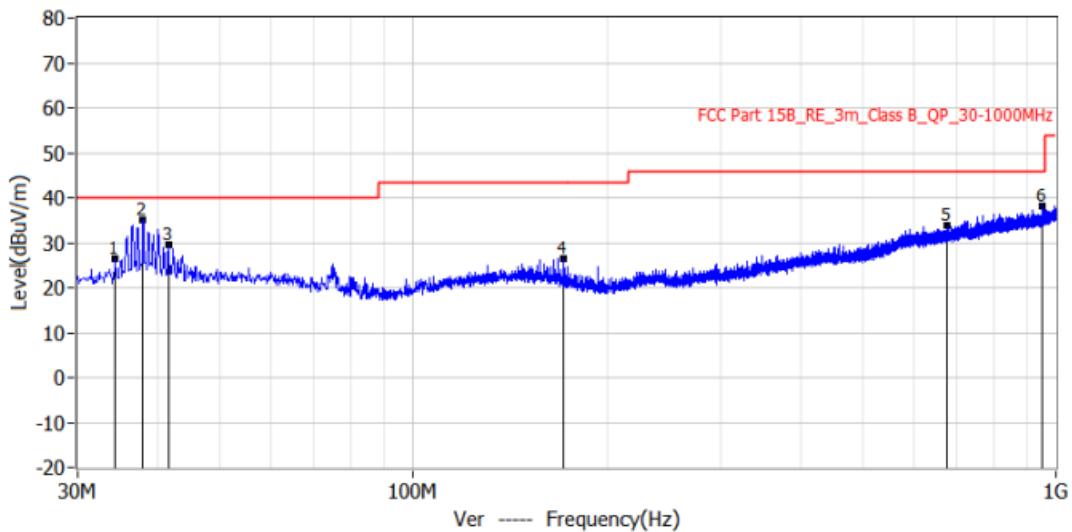
No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	39.336MHz	40.0	26.1	-13.9	2.1	24.0	QP	Hor	100.0	293.0
2*	75.348MHz	40.0	25.2	-14.8	4.7	20.5	QP	Hor	100.0	177.0
3*	150.644MHz	43.5	24.7	-18.8	1.2	23.5	QP	Hor	100.0	266.0
4*	348.039MHz	46.0	28.6	-17.4	3.0	25.6	QP	Hor	100.0	108.0
5*	728.521MHz	46.0	36.0	-10.0	3.4	32.6	QP	Hor	100.0	191.0
6*	955.259MHz	46.0	37.5	-8.5	1.9	35.6	QP	Hor	100.0	238.0

Test Result: Pass

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

TEL:+86-755-23059481

Test Lab: BlueAsia EMC Lab (RE #1)	Project: 202107-A84
EUT: 6223C-PUD	Test Engineer: Charlie
M/N: 6223C-PUD	Temperature: 25°C
S/N:	Humidity: 52%RH
Test Mode: BT mode	Test Voltage:
Note:	Test Data: 2021-08-05 14:07:21



No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	34.365MHz	40.0	26.4	-13.6	3.0	23.4	QP	Ver	100.0	92.0
2*	37.881MHz	40.0	35.0	-5.0	11.1	23.9	QP	Ver	100.0	273.0
3*	41.519MHz	40.0	29.6	-10.4	5.6	24.0	QP	Ver	100.0	63.0
4*	171.499MHz	43.5	26.6	-16.9	4.3	22.3	QP	Ver	100.0	155.0
5*	675.293MHz	46.0	33.7	-12.3	1.9	31.8	QP	Ver	100.0	258.0
6*	952.591MHz	46.0	38.3	-7.7	2.7	35.6	QP	Ver	100.0	193.0

Test Result: Pass

21 RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS

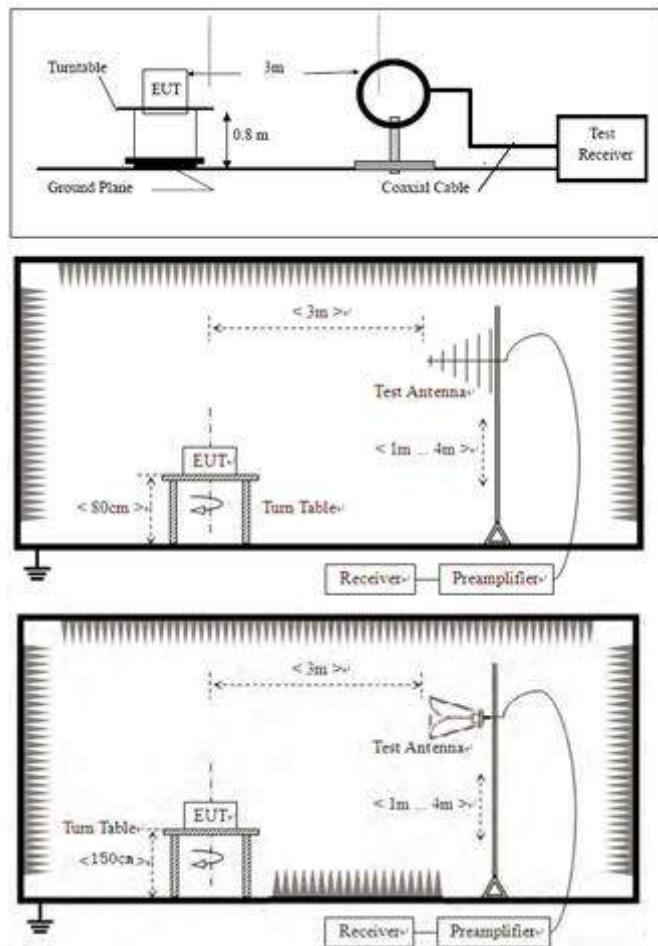
Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.10.5
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25 °C
Humidity	60%

21.1 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.

21.2 BLOCK DIAGRAM OF TEST SETUP



21.3 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.

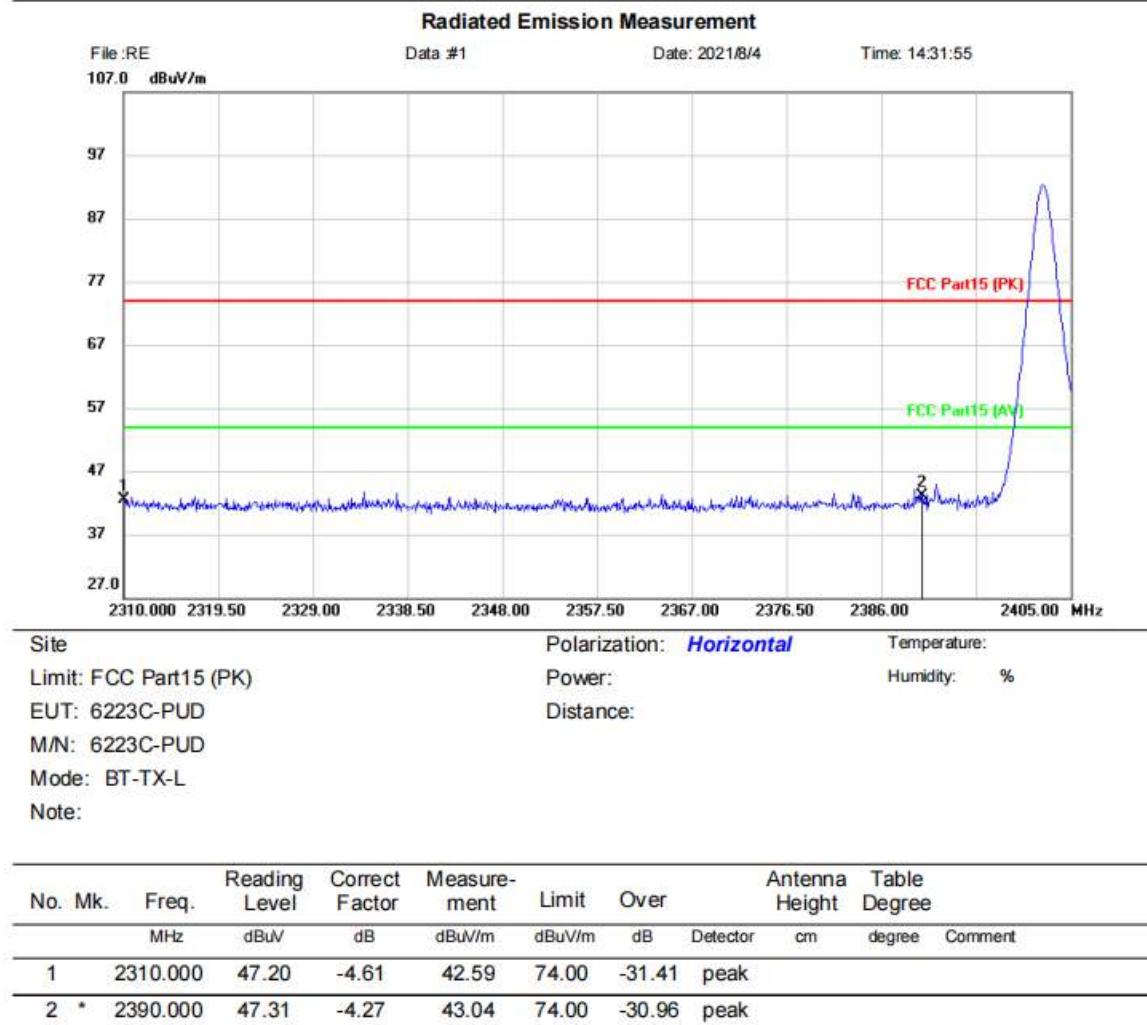
Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

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.

BlueAsia

21.4 TEST DATA

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

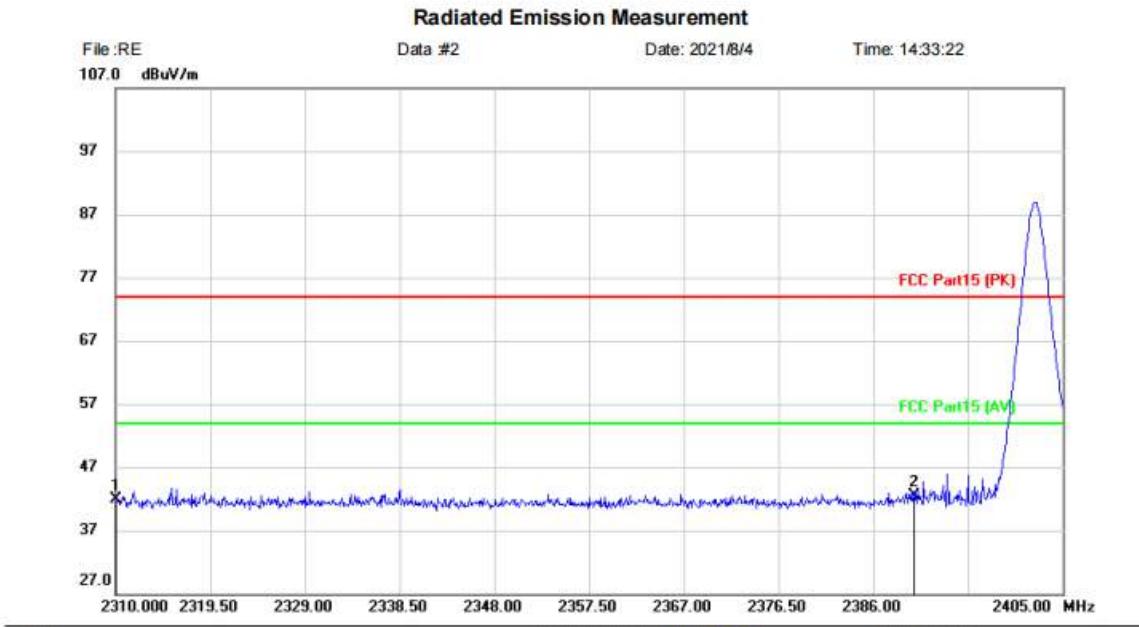


*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

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



Site	Polarization: <i>Vertical</i>	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: 6223C-PUD	Distance:	
M/N: 6223C-PUD		
Mode: BT-TX-L		
Note:		

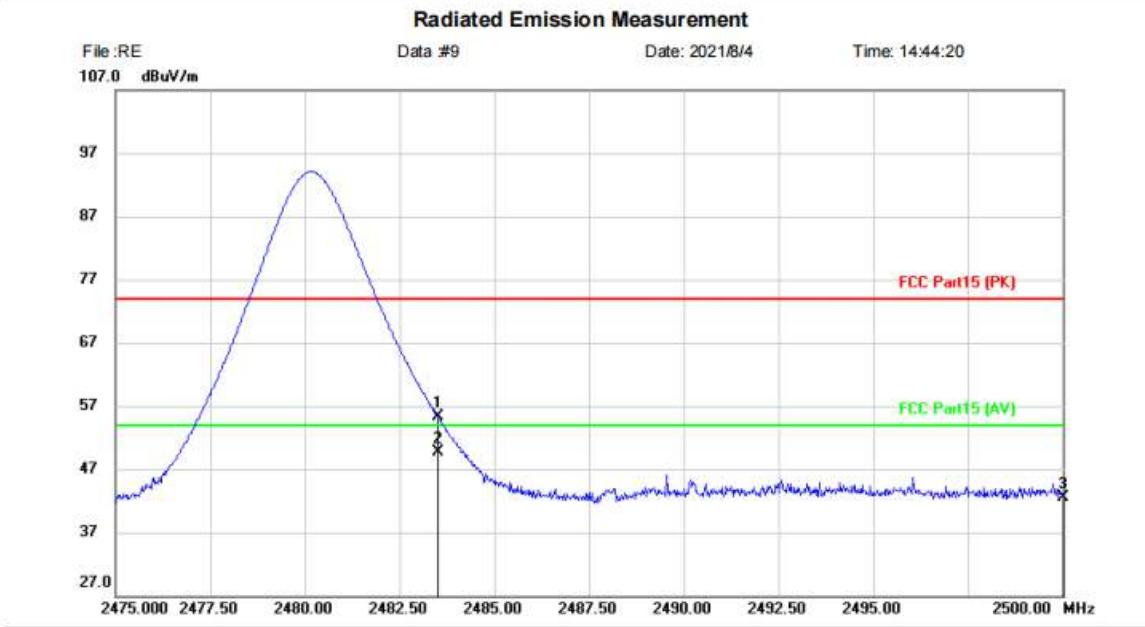
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table		
			Level	Factor	ment					Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	46.49	-4.61	41.88	74.00	-32.12	peak			
2	*	2390.000	46.83	-4.27	42.56	74.00	-31.44	peak			

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

(Reference Only

Test Result: Pass

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



Site: Polarization: **Horizontal** Temperature:
Limit: FCC Part15 (PK) Power: Humidity: %
EUT: 6223C-PUD Distance:
M/N: 6223C-PUD
Mode: BT-TX-H
Note:

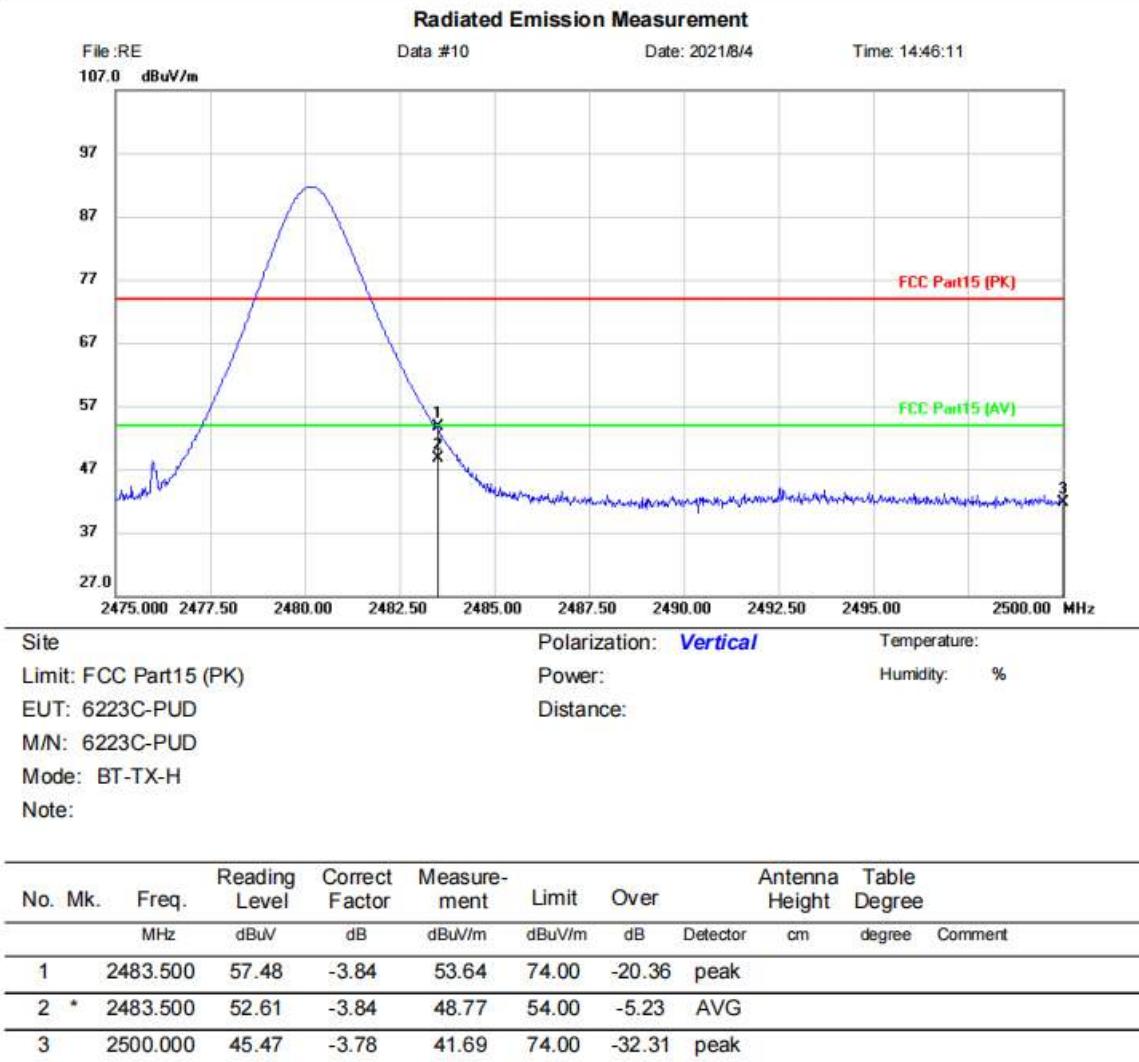
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table		
			Level	Factor	ment						
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2483.500	59.05	-3.84	55.21	74.00	-18.79	peak			
2	*	2483.500	53.48	-3.84	49.64	54.00	-4.36	AVG			
3		2500.000	46.37	-3.78	42.59	74.00	-31.41	peak			

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

(Reference Only

Test Result: Pass

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



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

(Reference Only)

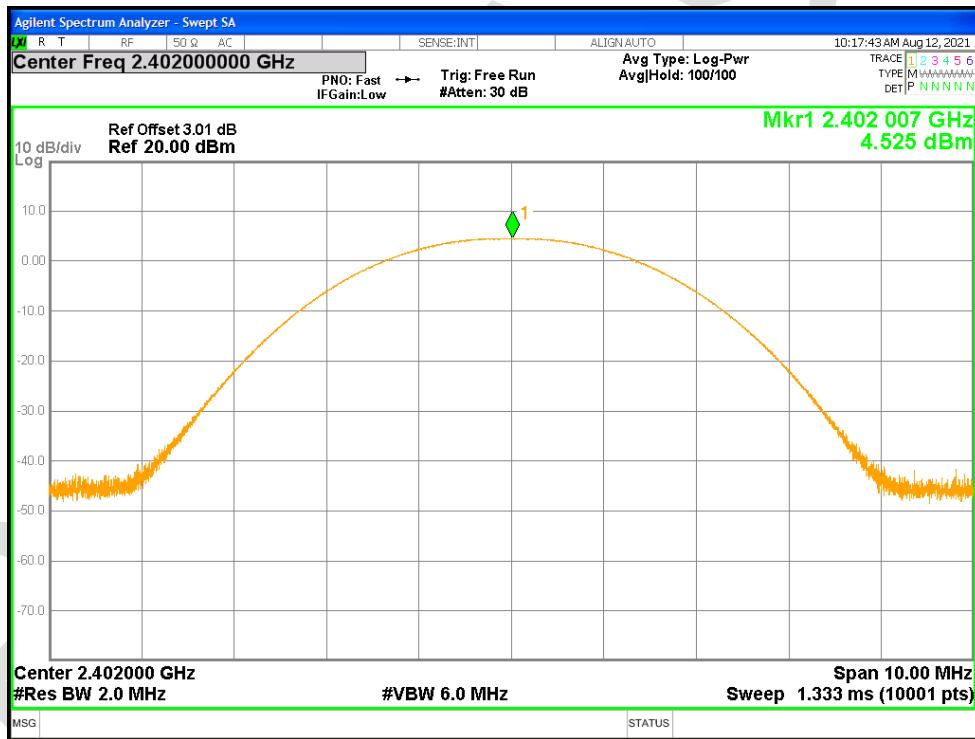
Test Result: Pass

22 APPENDIX

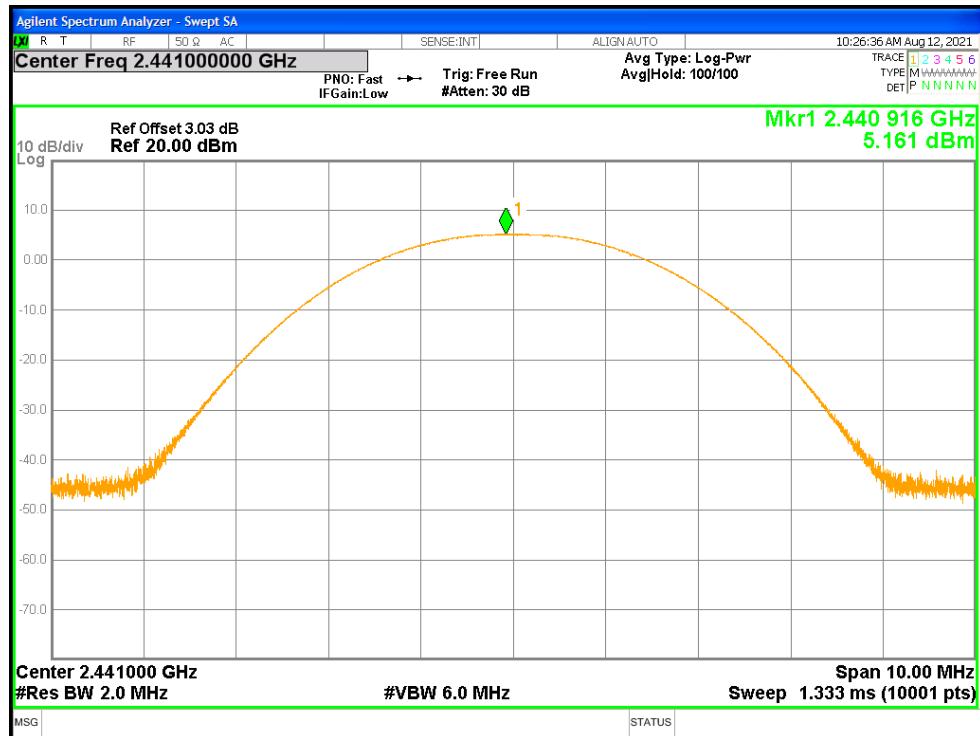
22.1 MAXIMUM CONDUCTED OUTPUT POWER

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	4.525	4.525	21	Pass
NVNT	1-DH1	2441	Ant1	5.161	5.161	21	Pass
NVNT	1-DH1	2480	Ant1	4.978	4.978	21	Pass
NVNT	2-DH1	2402	Ant1	5.669	5.669	21	Pass
NVNT	2-DH1	2441	Ant1	5.603	5.603	21	Pass
NVNT	2-DH1	2480	Ant1	6.195	6.195	21	Pass
NVNT	3-DH1	2402	Ant1	6.272	6.272	21	Pass
NVNT	3-DH1	2441	Ant1	6.112	6.112	21	Pass
NVNT	3-DH1	2480	Ant1	7.315	7.315	21	Pass

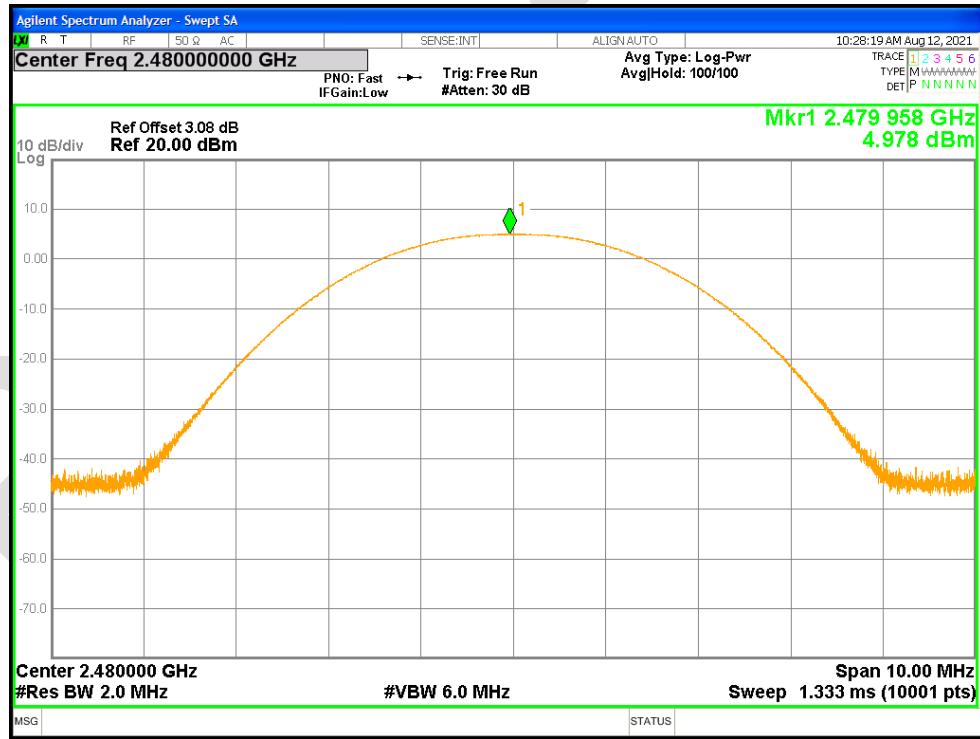
Power NVNT 1-DH1 2402MHz Ant1



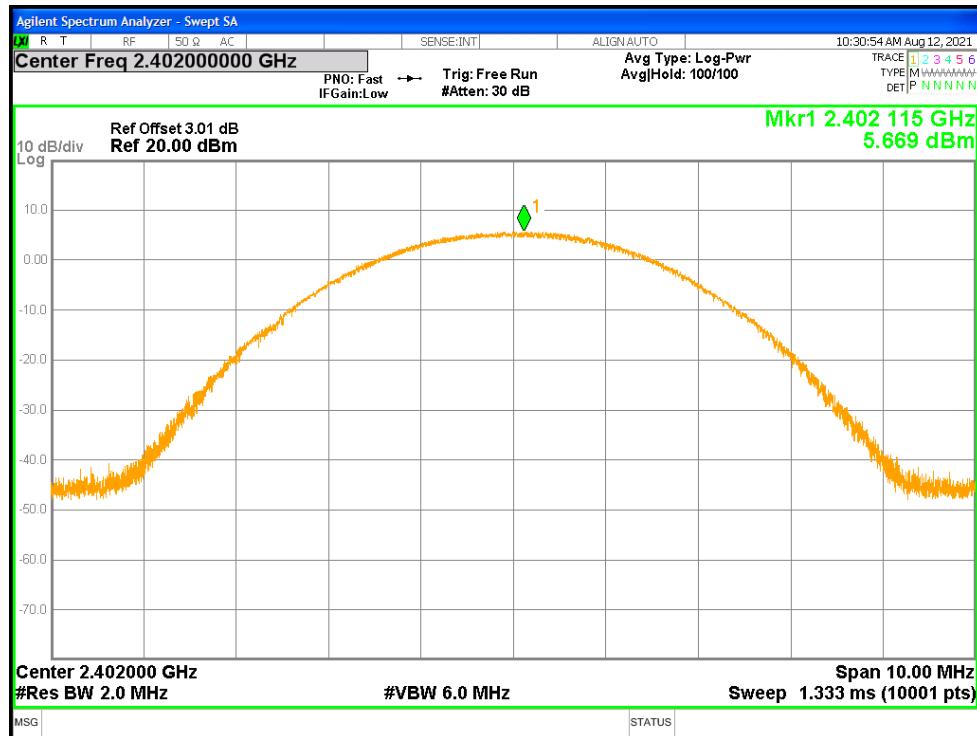
Power NVNT 1-DH1 2441MHz Ant1



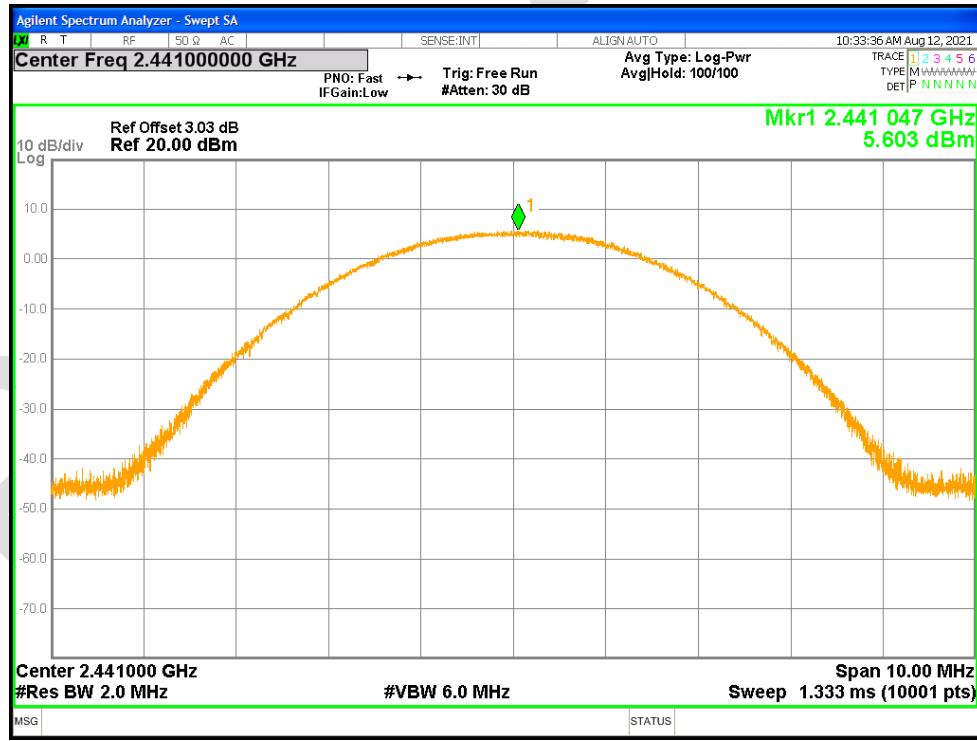
Power NVNT 1-DH1 2480MHz Ant1



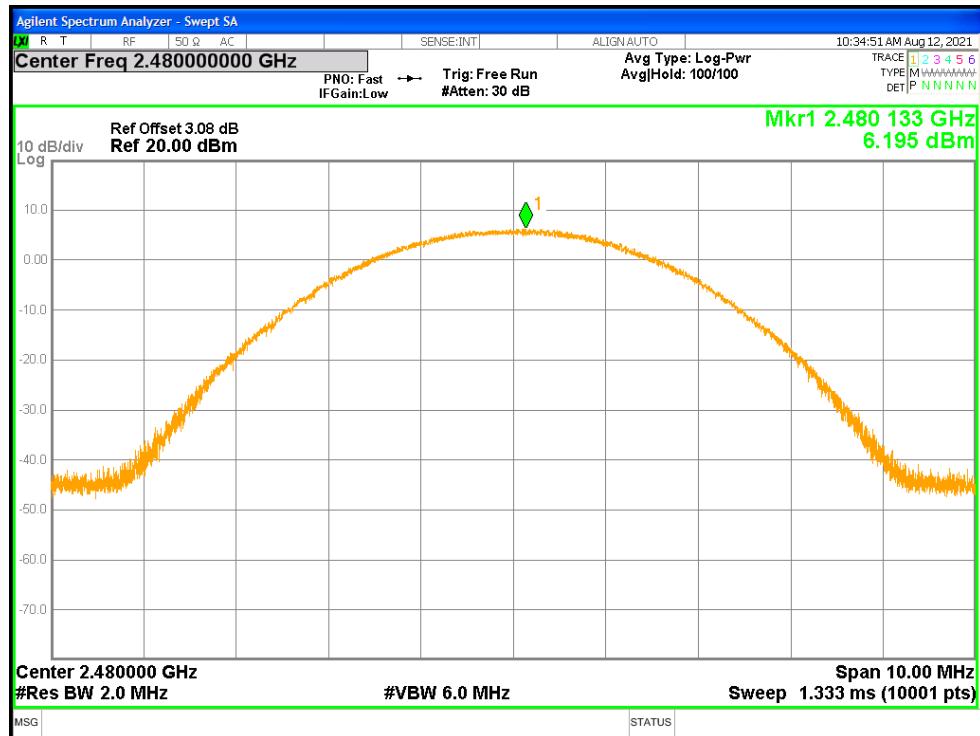
Power NVNT 2-DH1 2402MHz Ant1



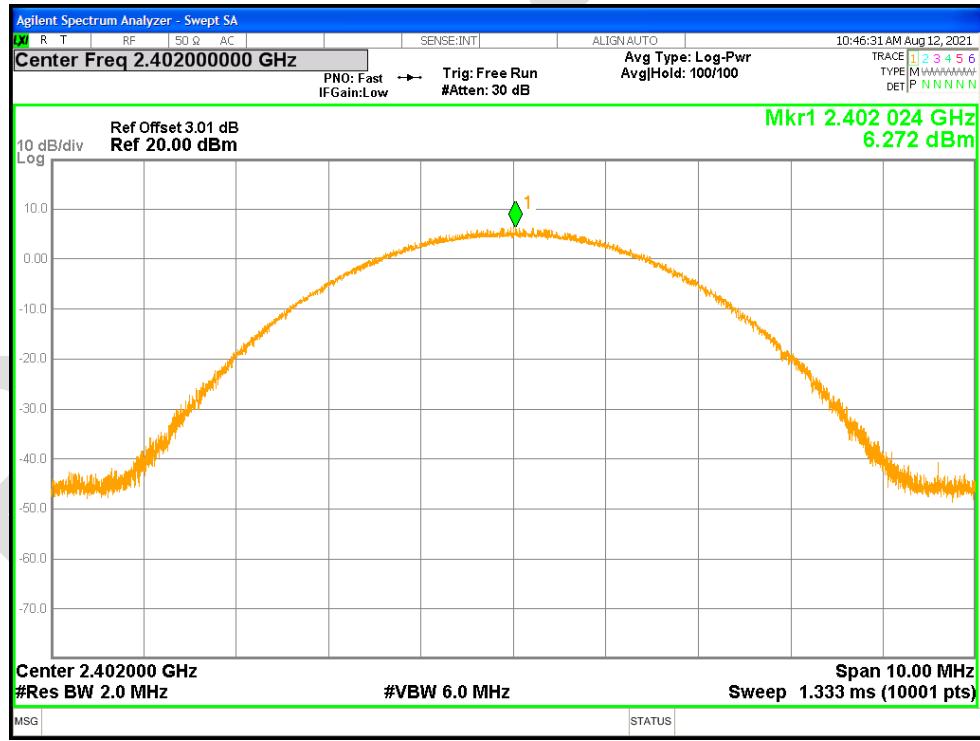
Power NVNT 2-DH1 2441MHz Ant1



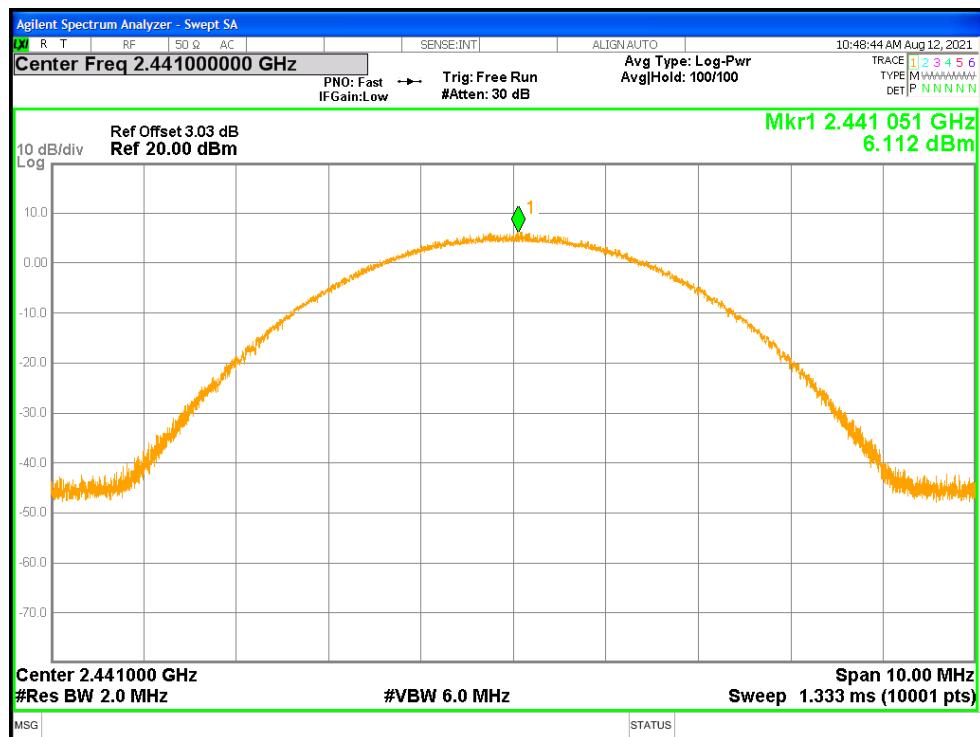
Power NVNT 2-DH1 2480MHz Ant1



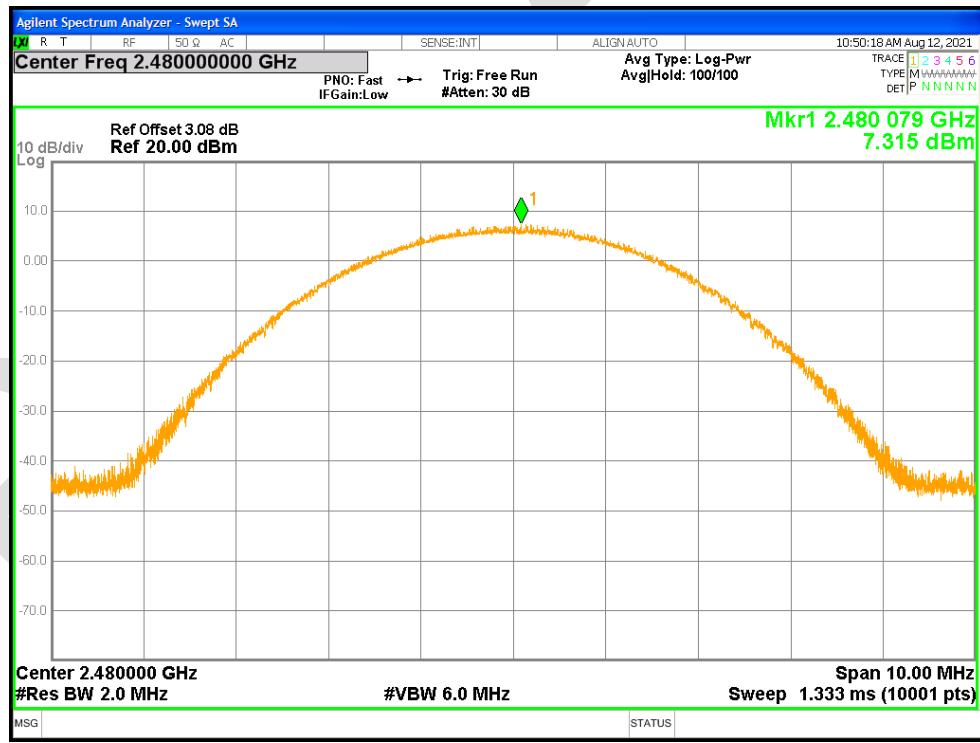
Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



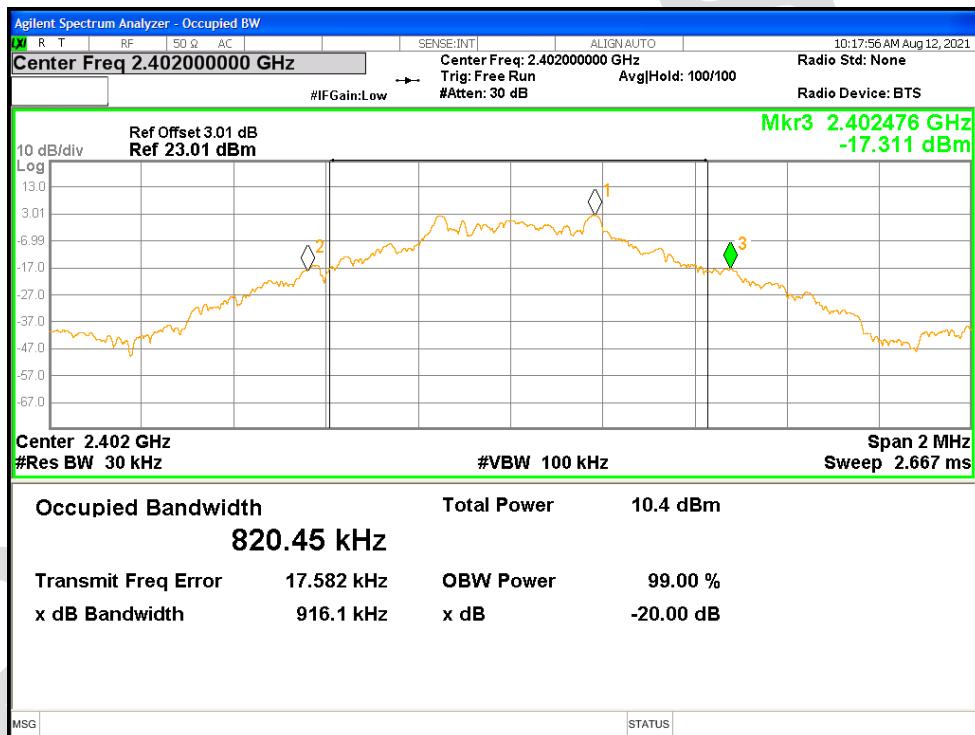
Power NVNT 3-DH1 2480MHz Ant1



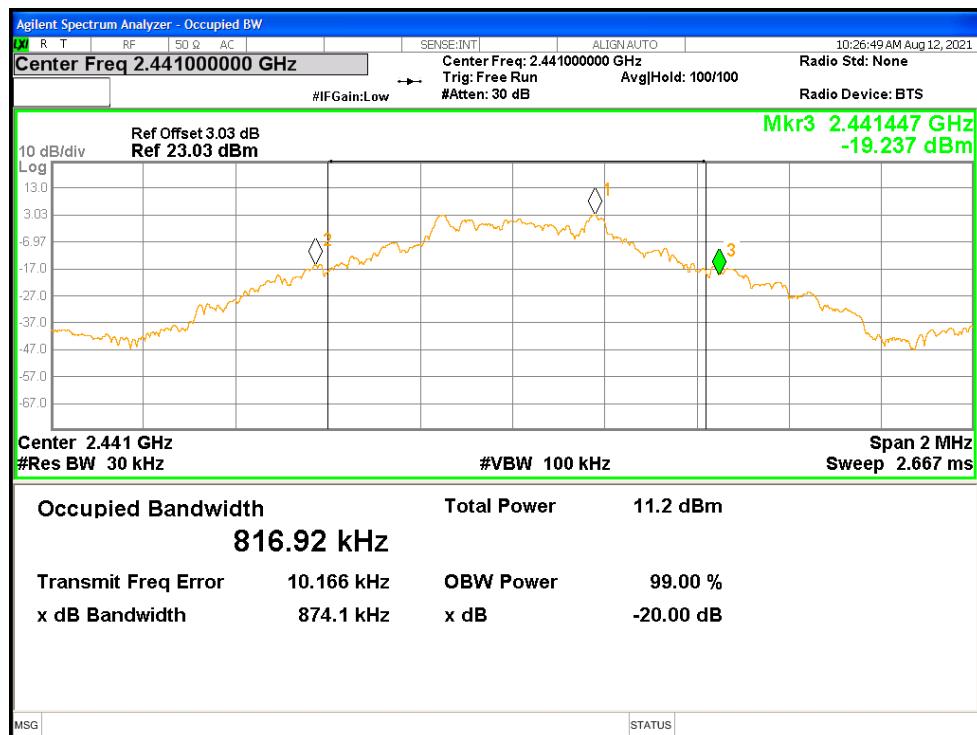
22.2 -20DB BANDWIDTH

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.916	0	Pass
NVNT	1-DH1	2441	Ant1	0.874	0	Pass
NVNT	1-DH1	2480	Ant1	0.922	0	Pass
NVNT	2-DH1	2402	Ant1	1.285	0	Pass
NVNT	2-DH1	2441	Ant1	1.265	0	Pass
NVNT	2-DH1	2480	Ant1	1.262	0	Pass
NVNT	3-DH1	2402	Ant1	1.211	0	Pass
NVNT	3-DH1	2441	Ant1	1.209	0	Pass
NVNT	3-DH1	2480	Ant1	1.221	0	Pass

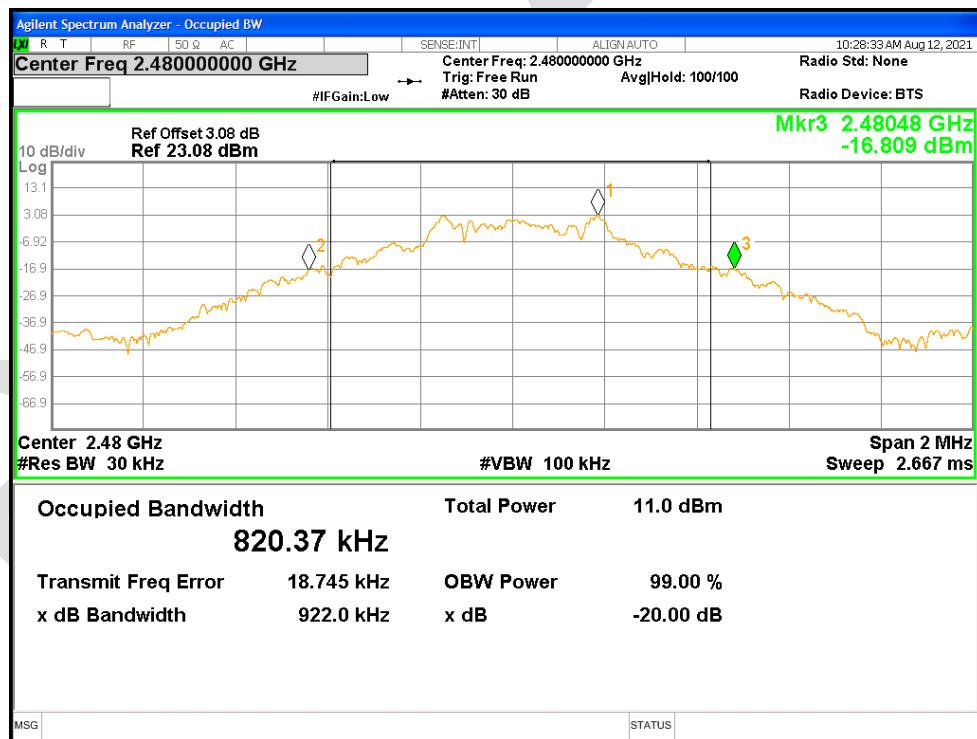
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



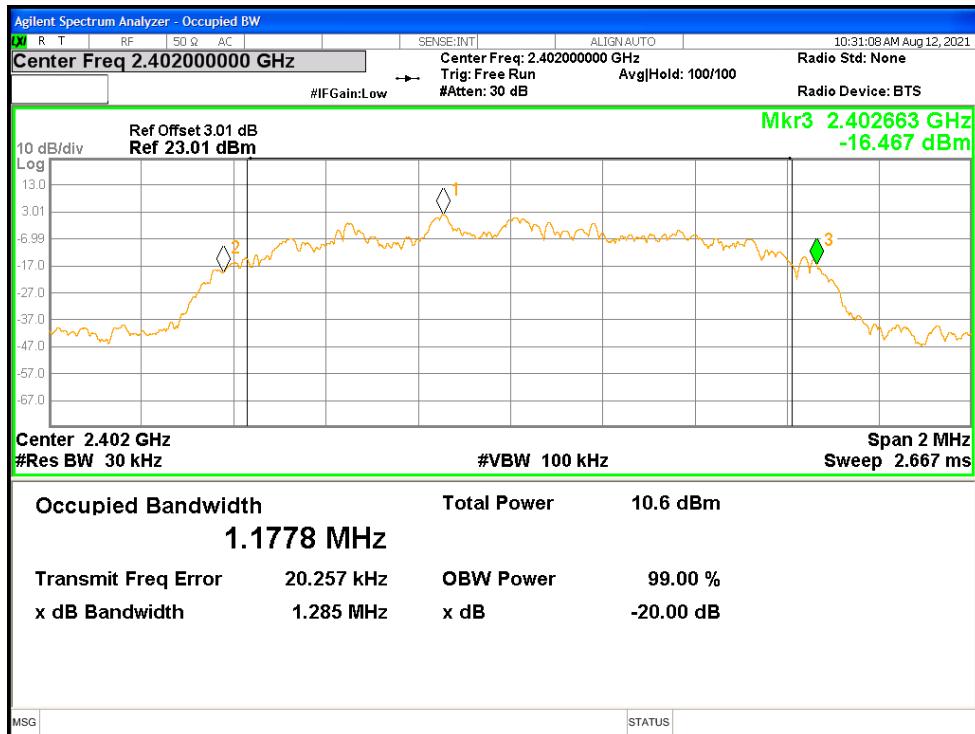
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



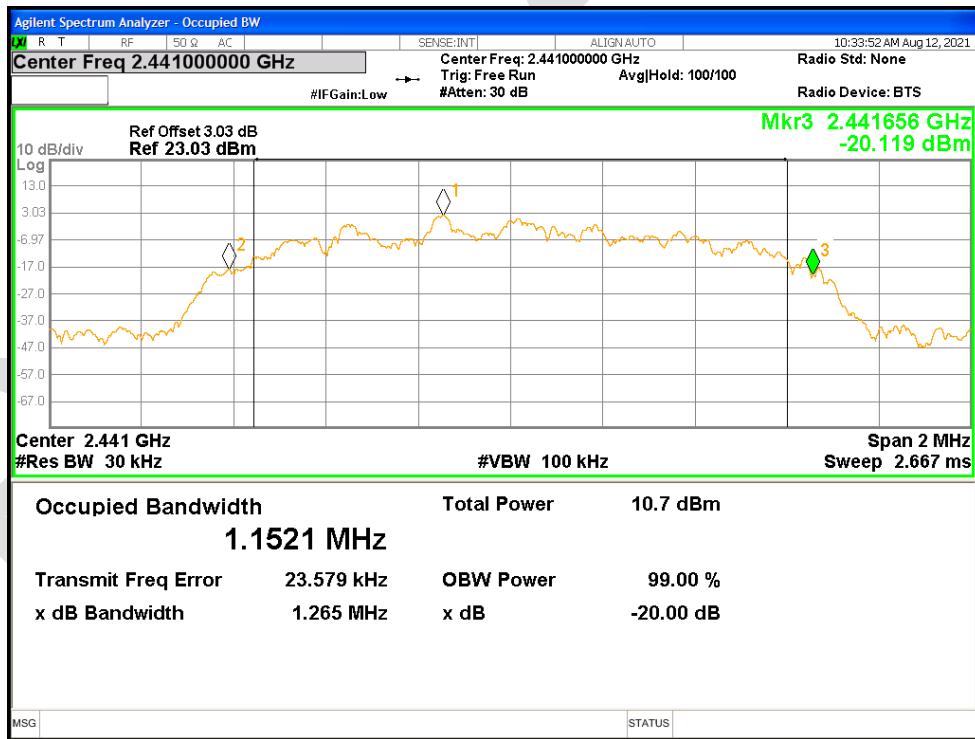
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



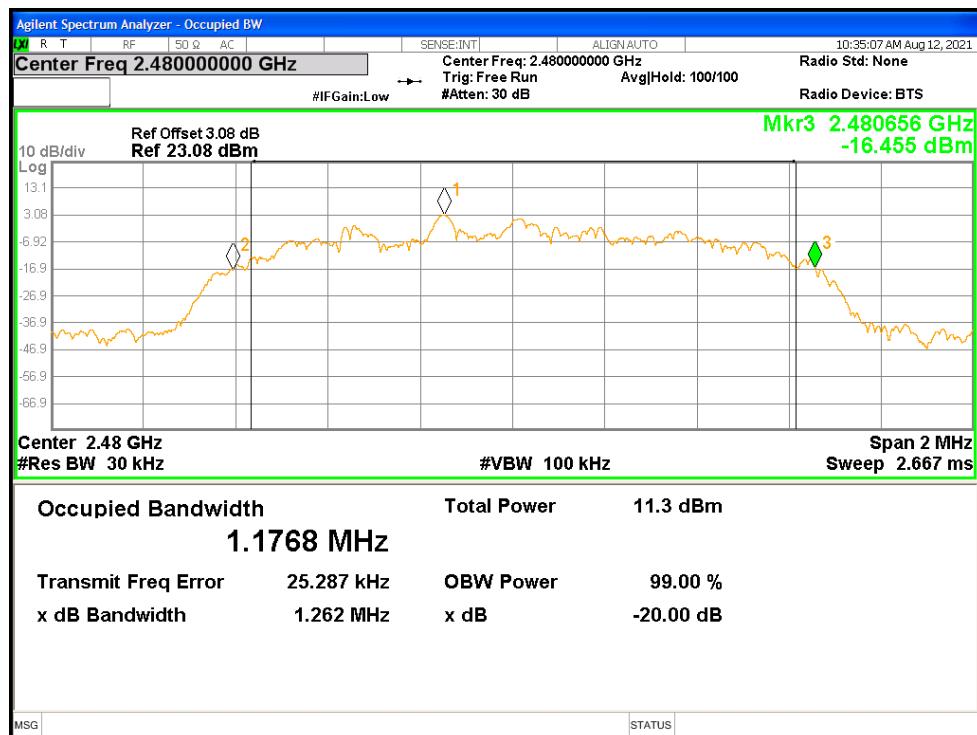
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



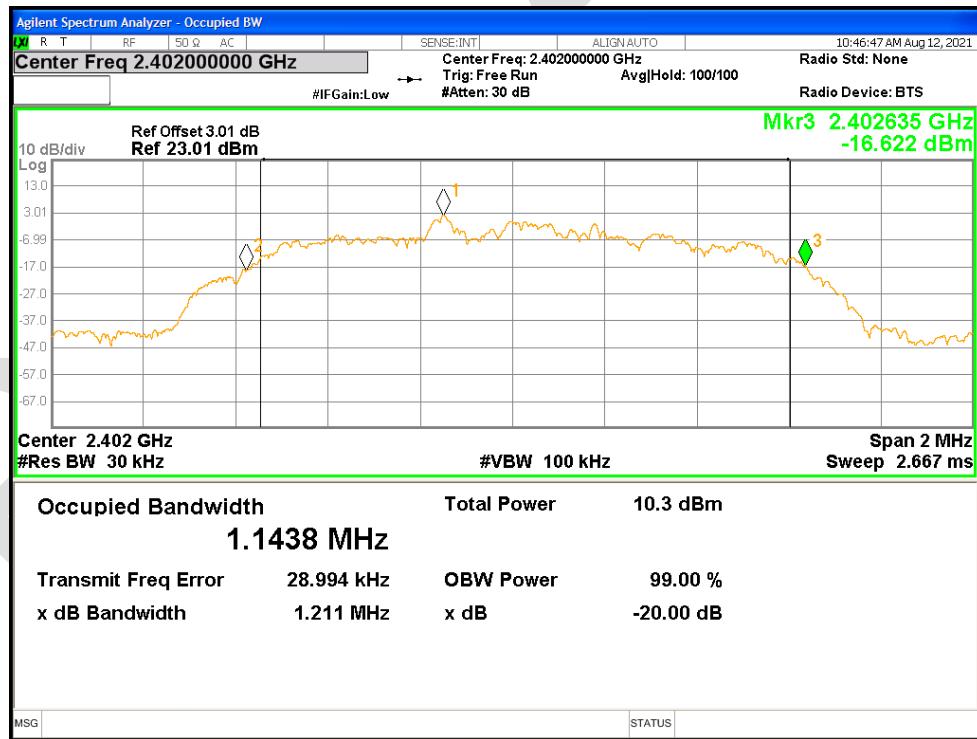
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



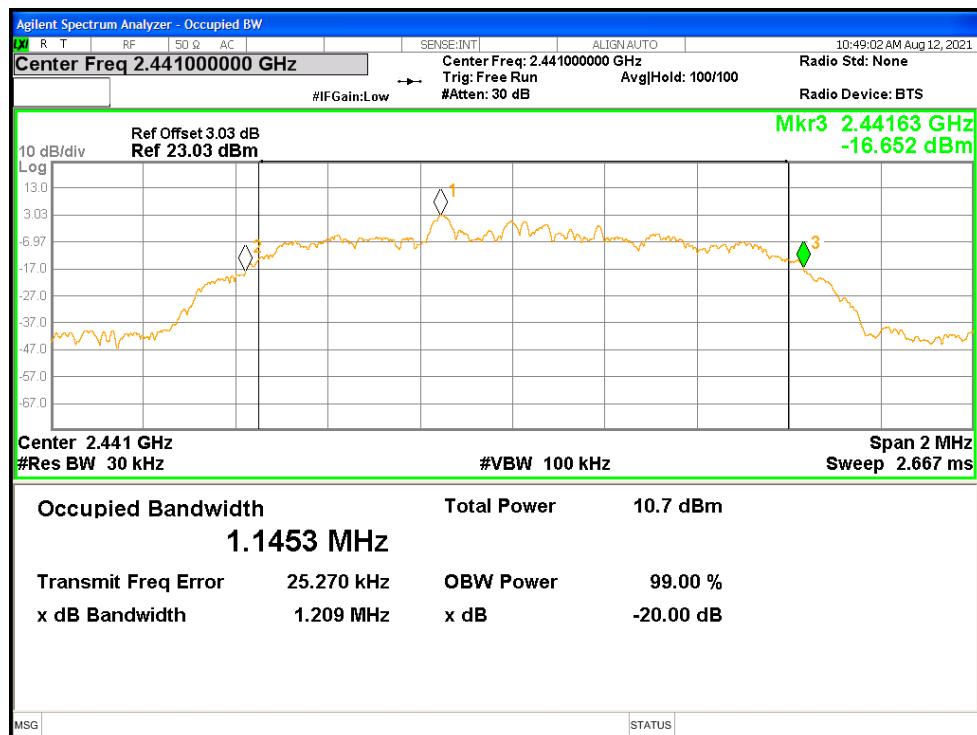
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1



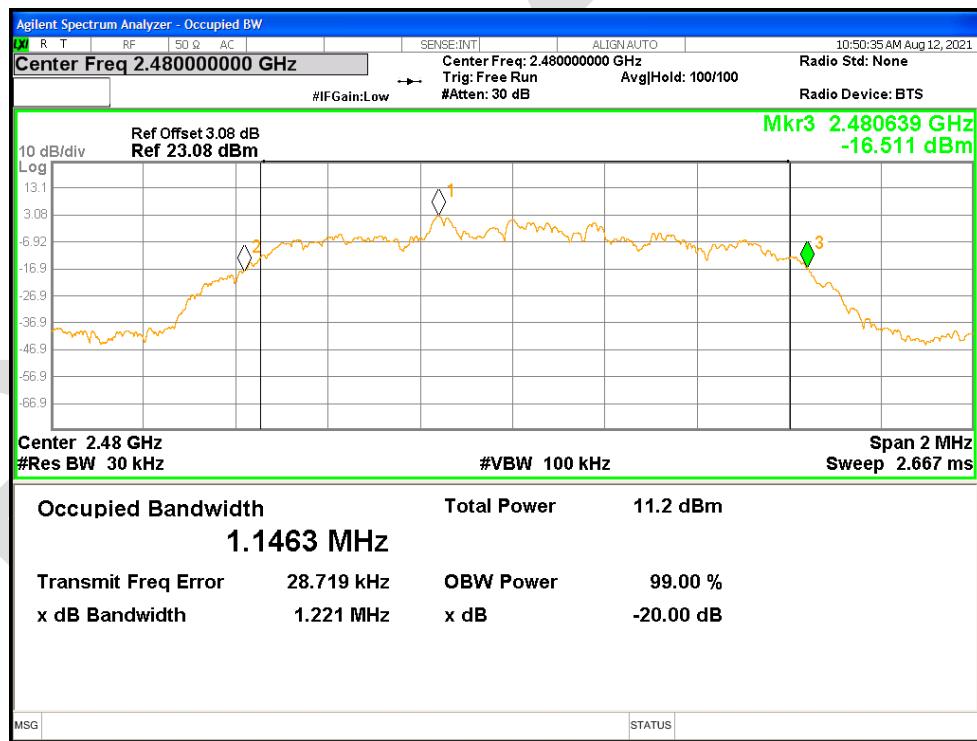
-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



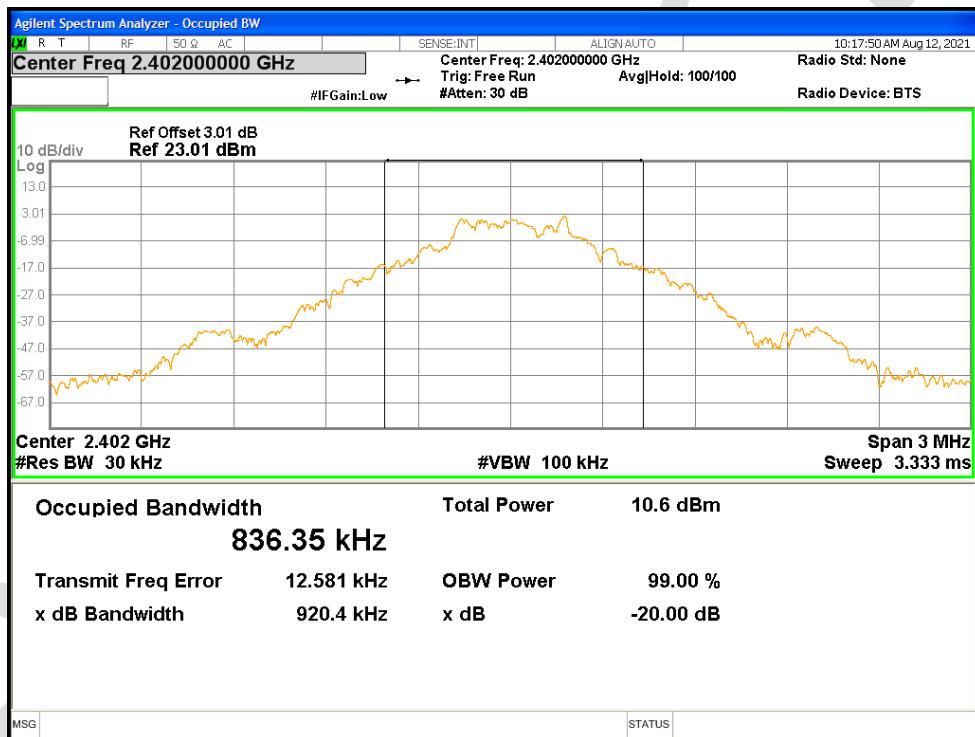
-20dB Bandwidth NVNT 3-DH1 2480MHz Ant1



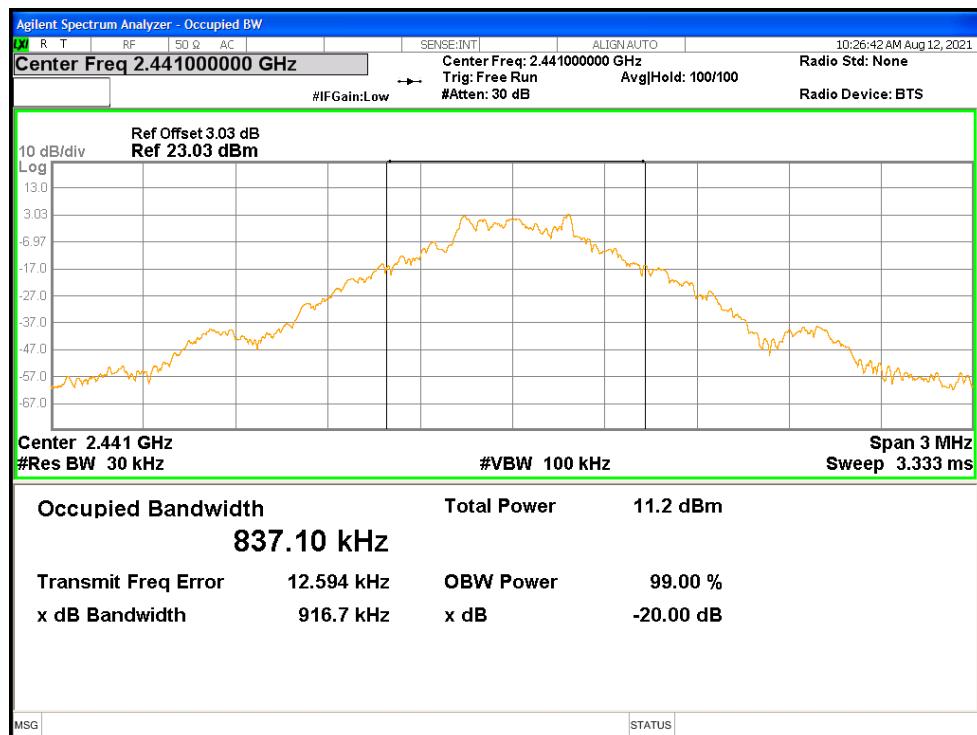
22.3 OCCUPIED CHANNEL BANDWIDTH

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.8363547726
NVNT	1-DH1	2441	Ant1	0.8370951425
NVNT	1-DH1	2480	Ant1	0.8262833228
NVNT	2-DH1	2402	Ant1	1.191614297
NVNT	2-DH1	2441	Ant1	1.178011896
NVNT	2-DH1	2480	Ant1	1.156703618
NVNT	3-DH1	2402	Ant1	1.14559934
NVNT	3-DH1	2441	Ant1	1.142922896
NVNT	3-DH1	2480	Ant1	1.133957839

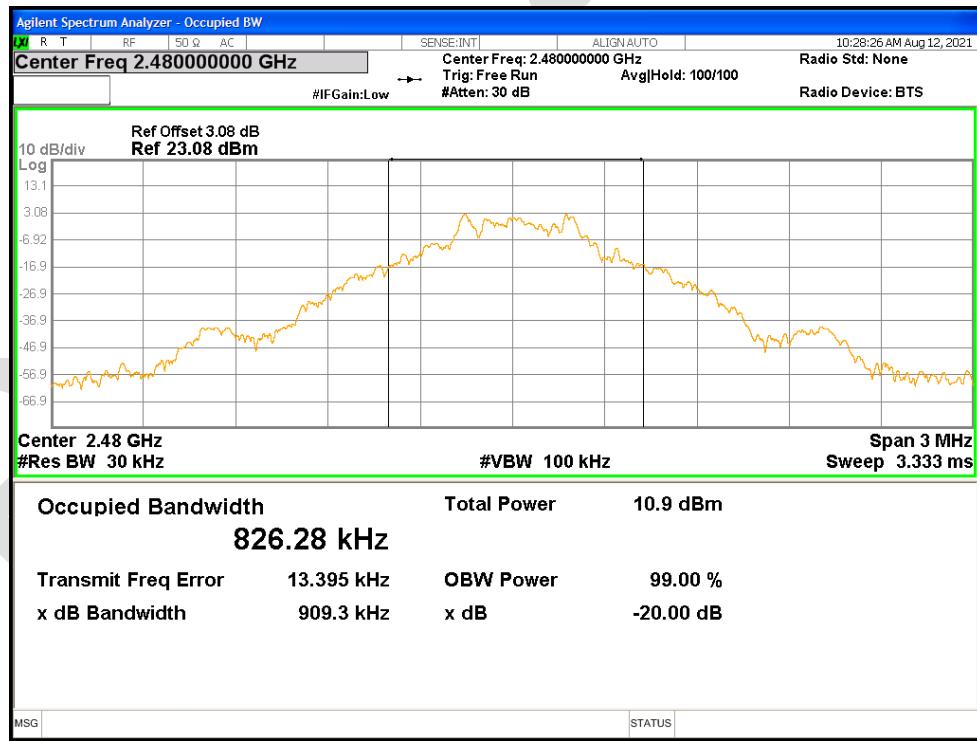
OBW NVNT 1-DH1 2402MHz Ant1



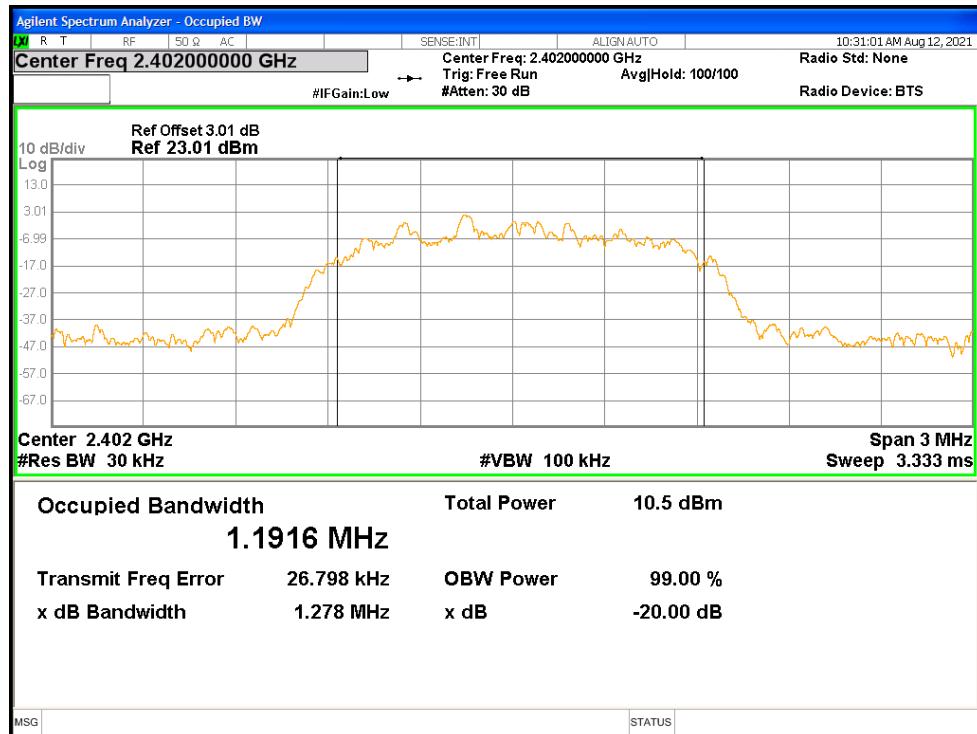
OBW NVNT 1-DH1 2441MHz Ant1



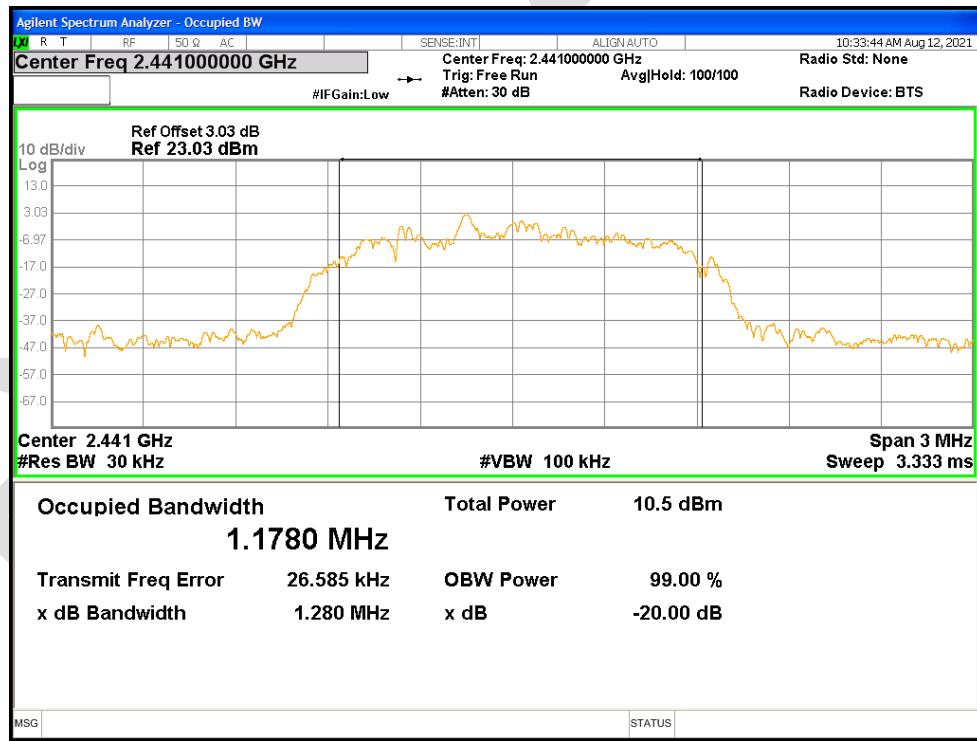
OBW NVNT 1-DH1 2480MHz Ant1



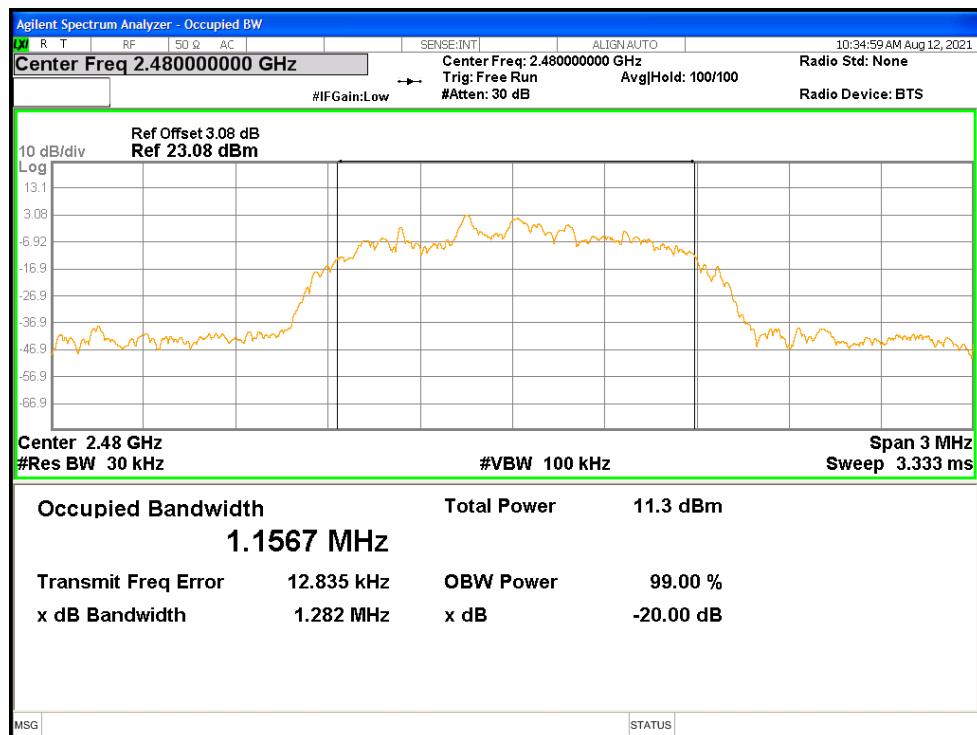
OBW NVNT 2-DH1 2402MHz Ant1



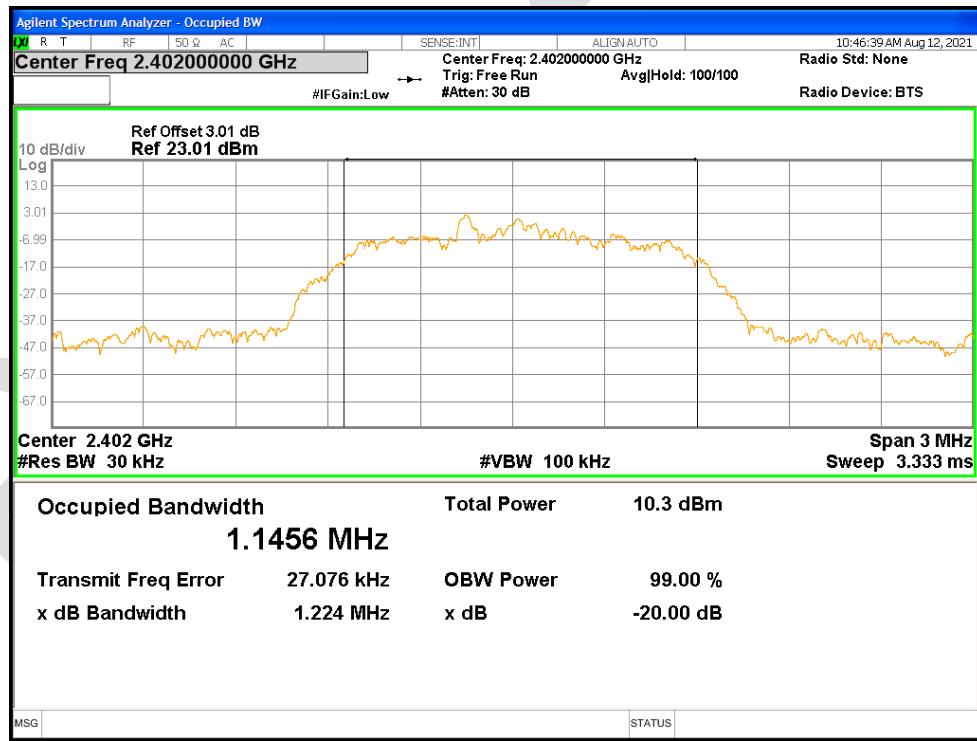
OBW NVNT 2-DH1 2441MHz Ant1



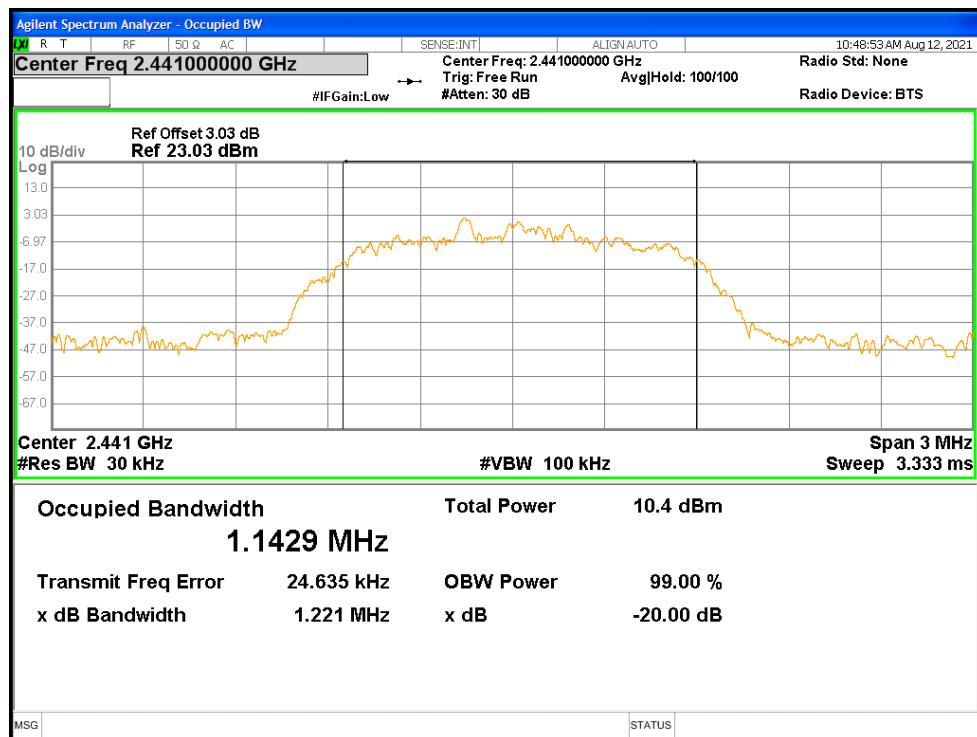
OBW NVNT 2-DH1 2480MHz Ant1



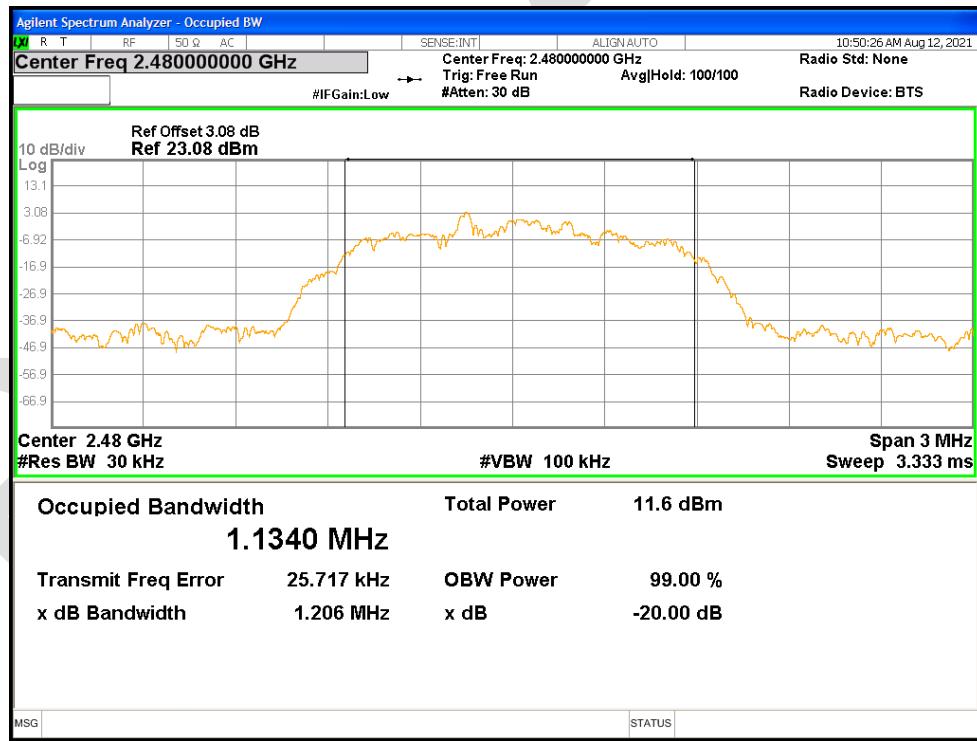
OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



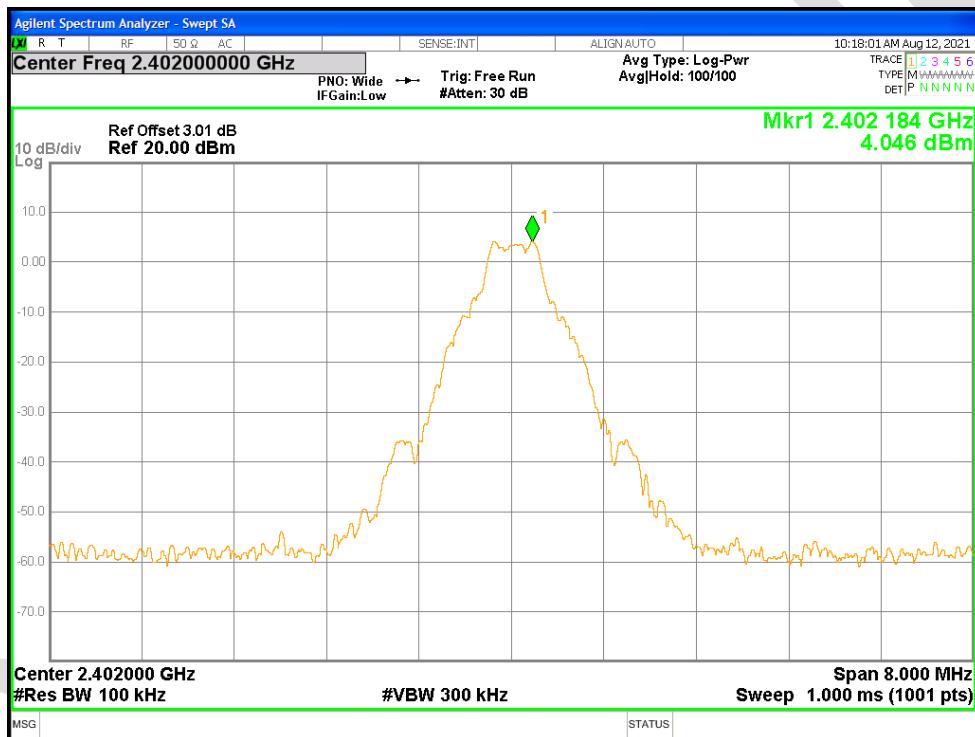
OBW NVNT 3-DH1 2480MHz Ant1



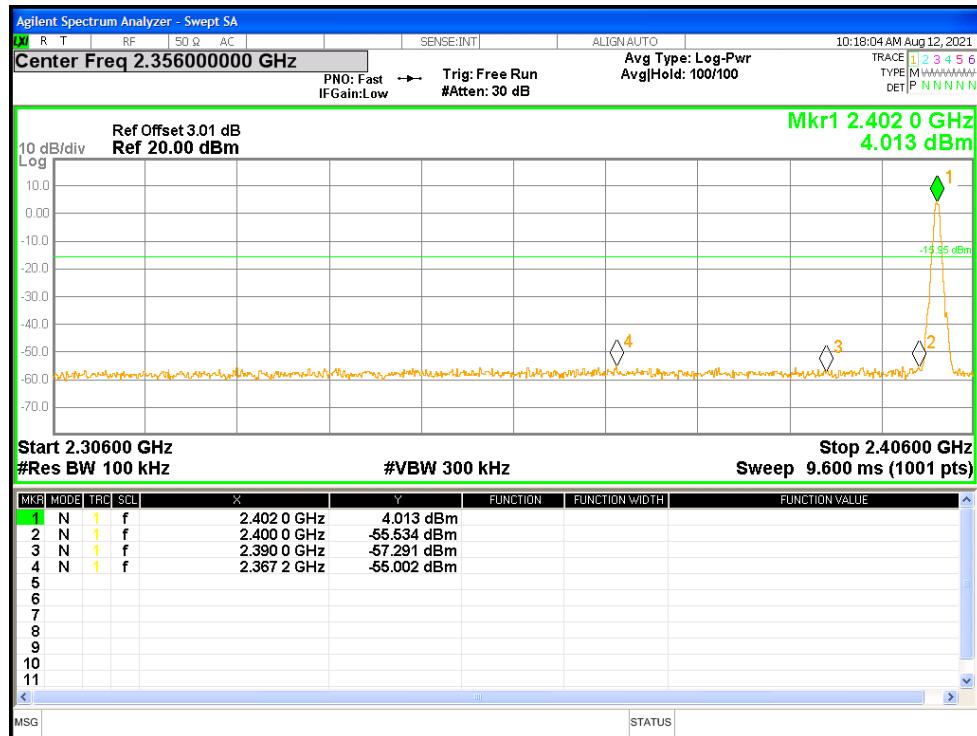
22.4 BAND EDGE

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-59.05	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-59.16	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-59.04	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-58.68	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-59.4	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-57.94	-20	Pass

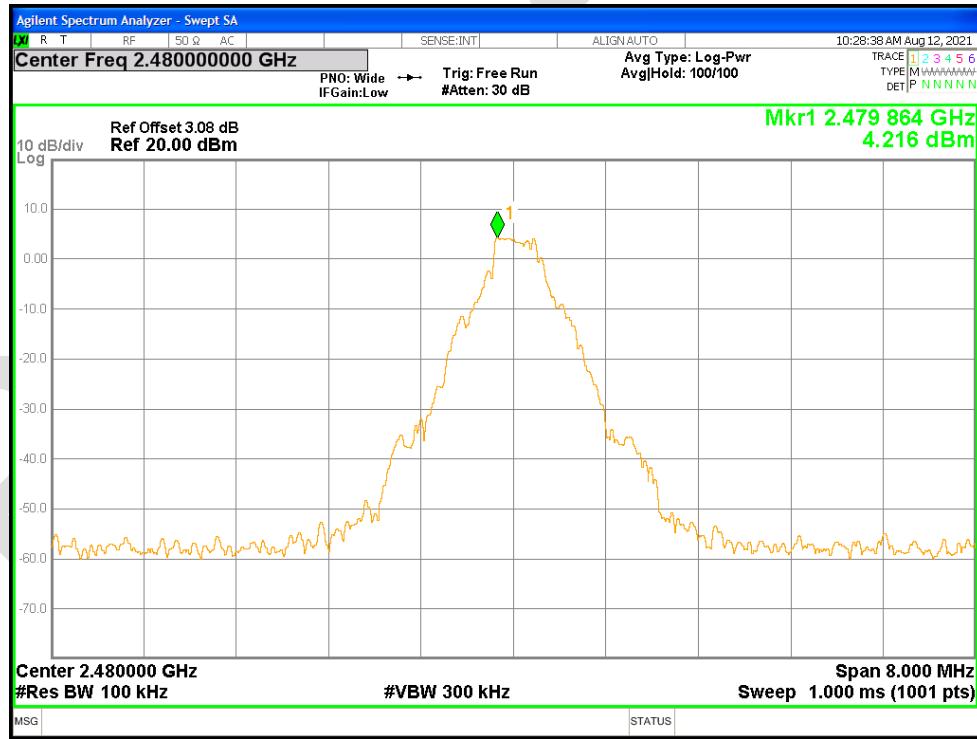
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



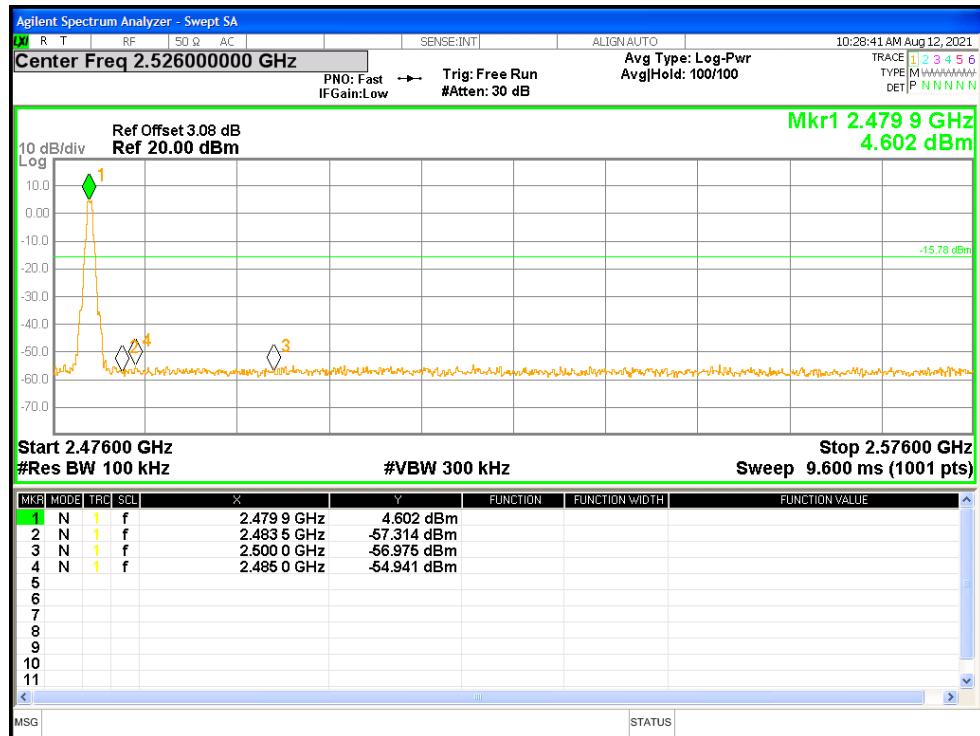
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



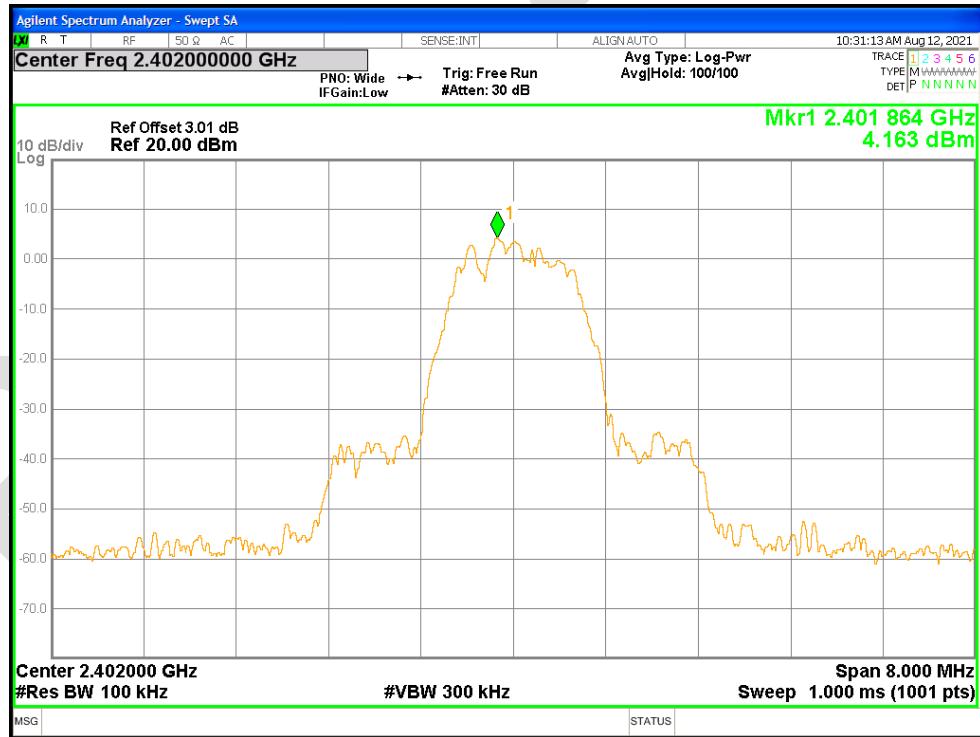
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



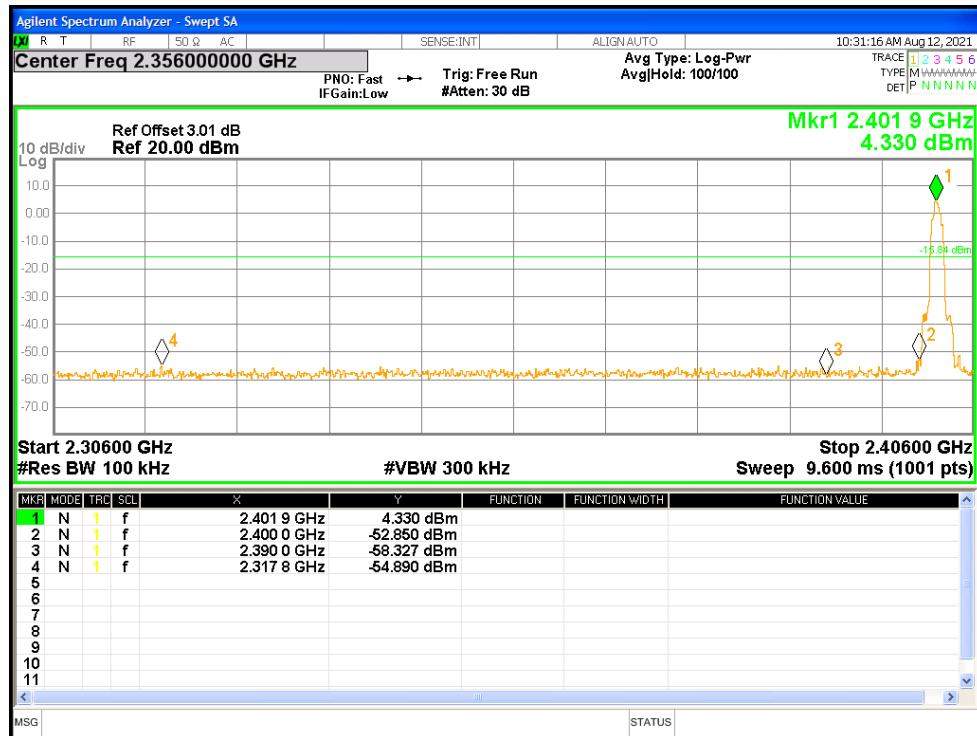
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



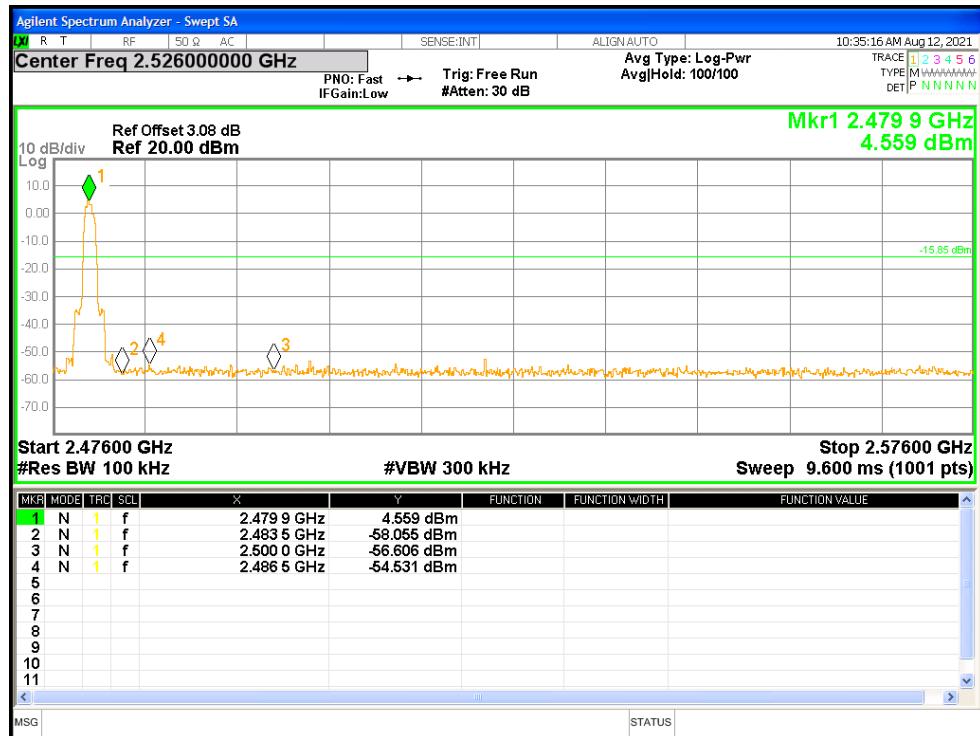
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



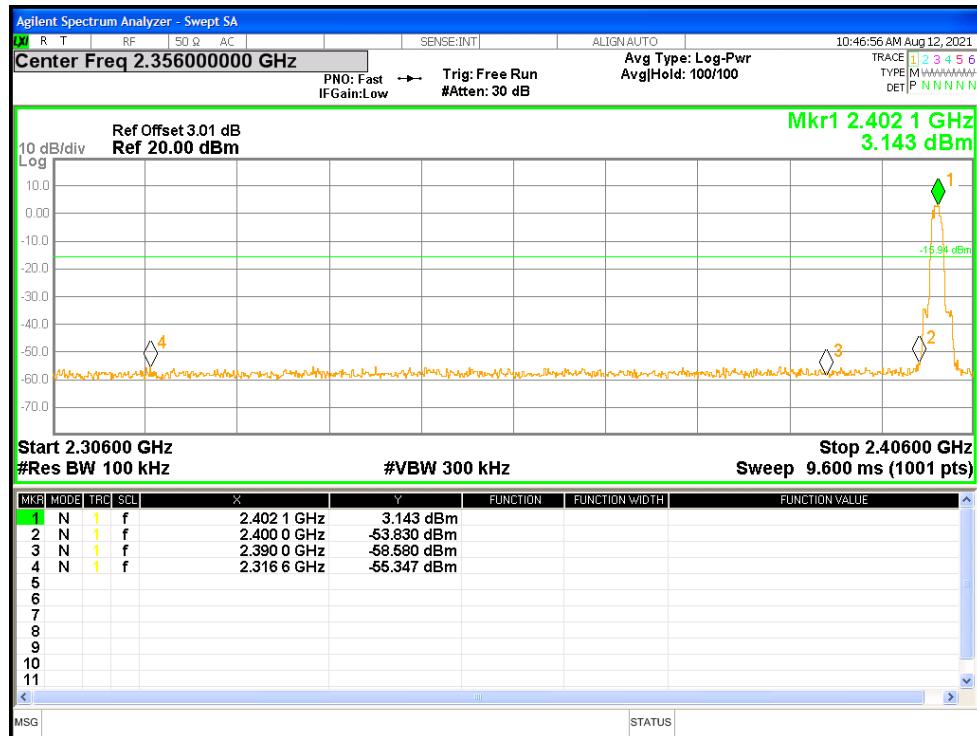
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



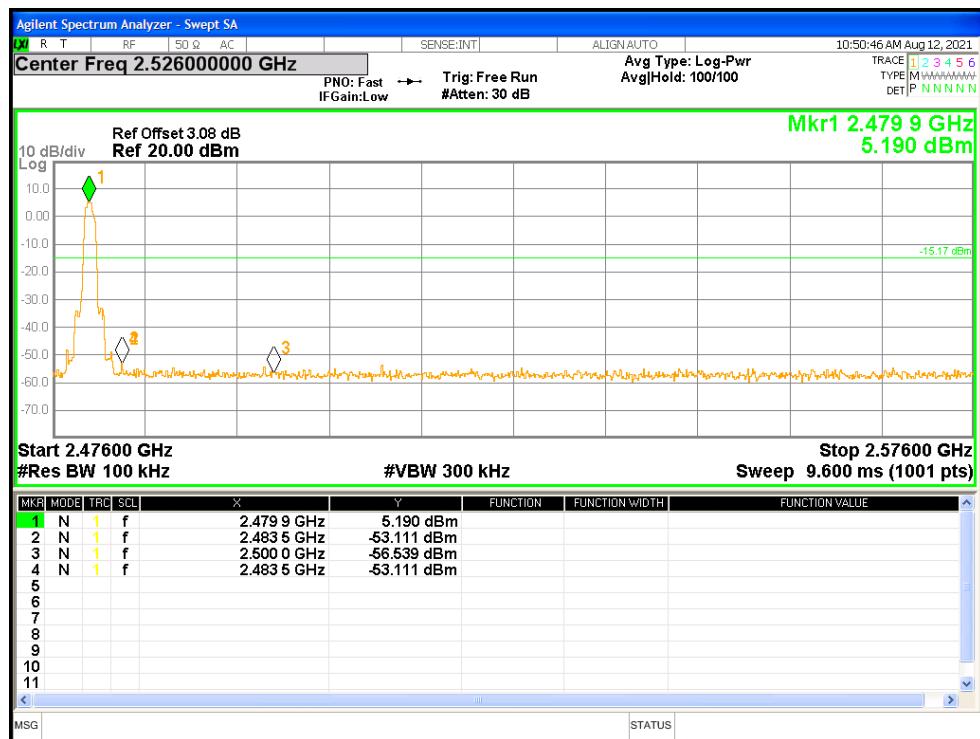
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Emission



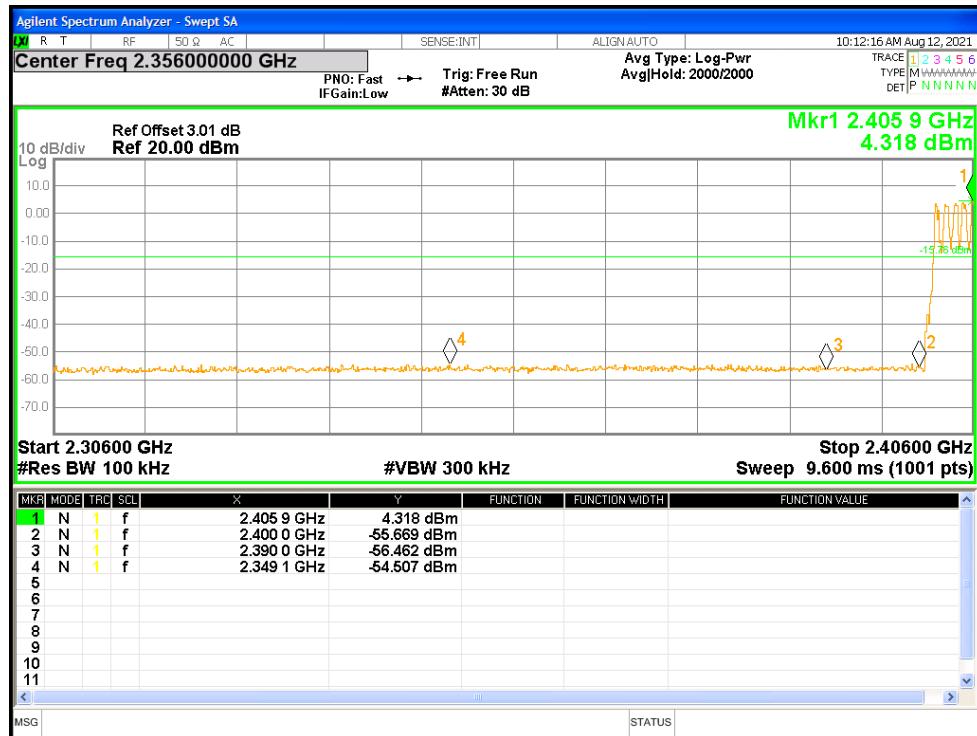
22.5 BAND EDGE(HOPPING)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-58.74	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-57.58	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-58.22	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-58.53	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-57.38	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-58.07	-20	Pass

Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



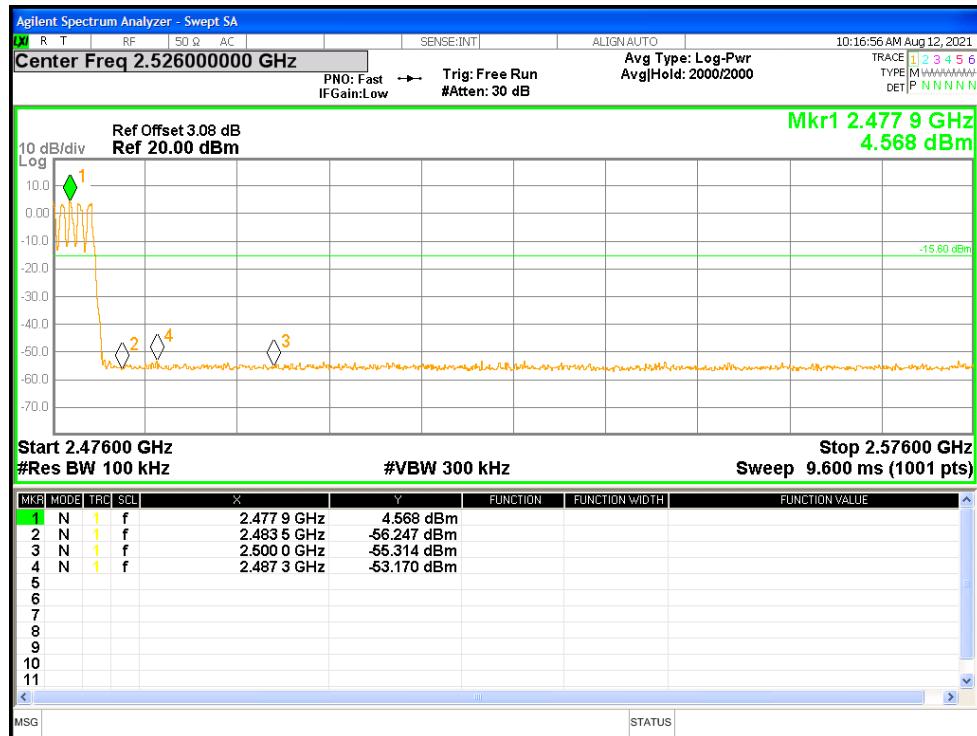
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



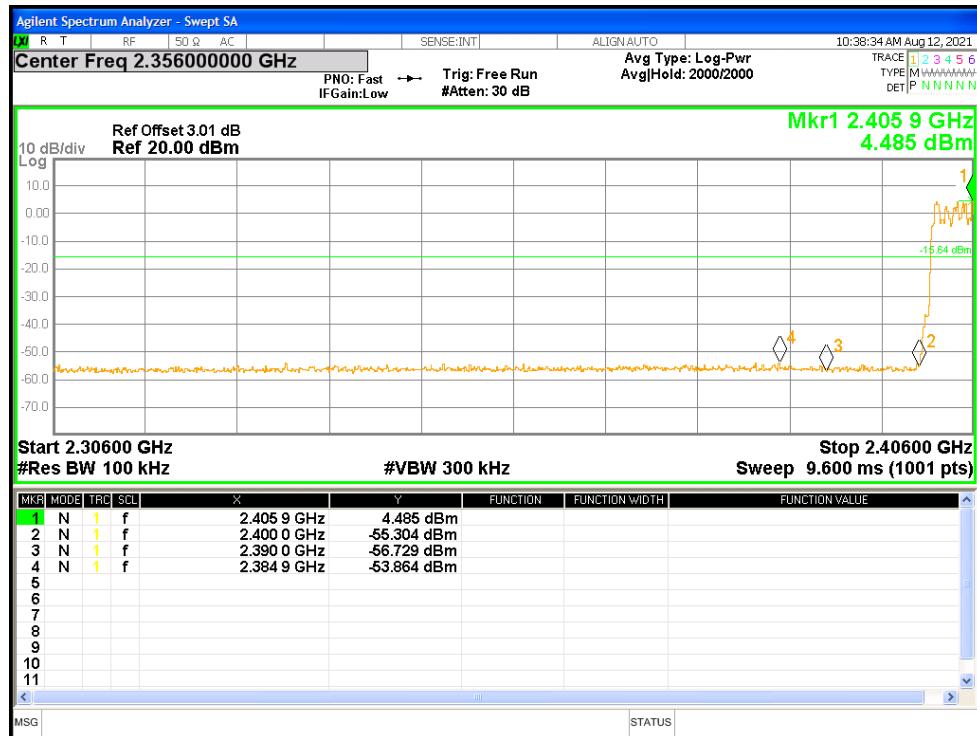
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



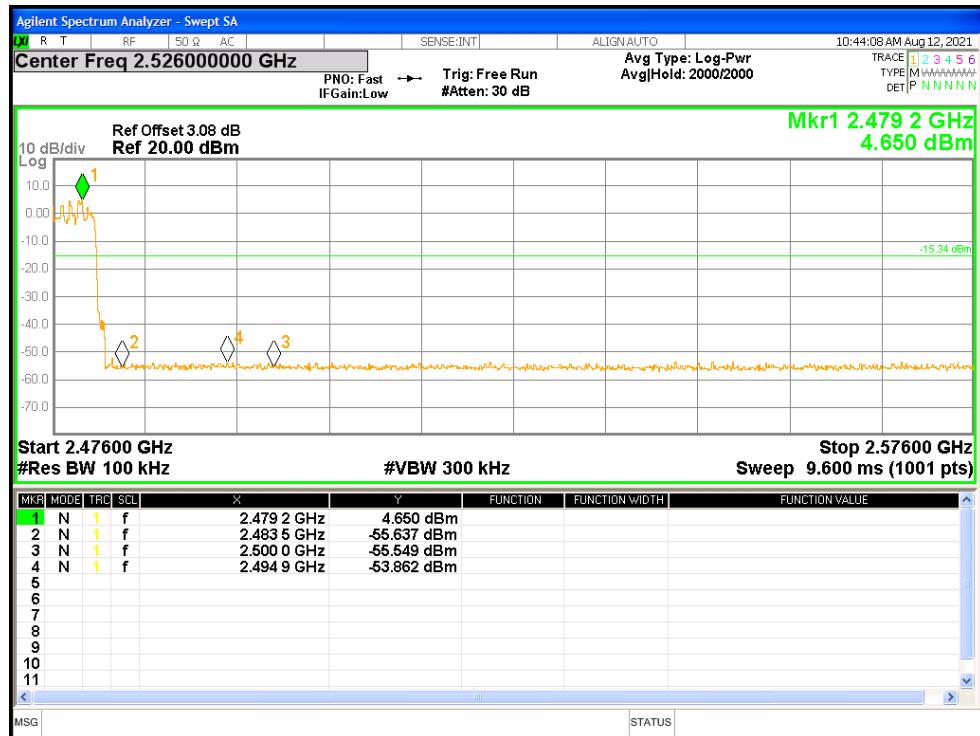
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



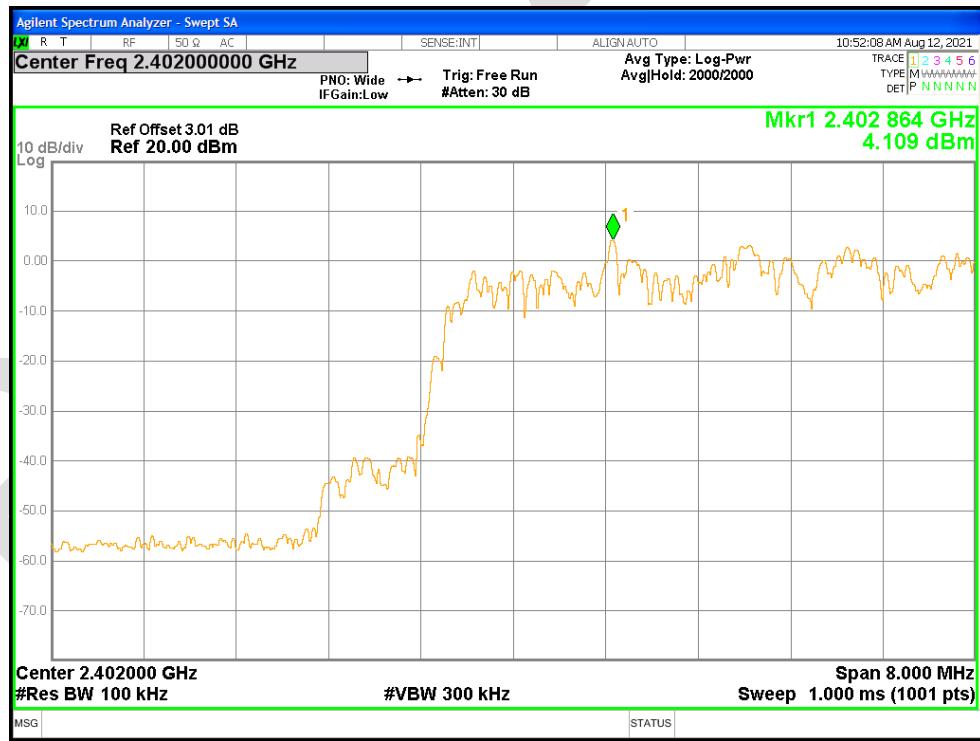
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



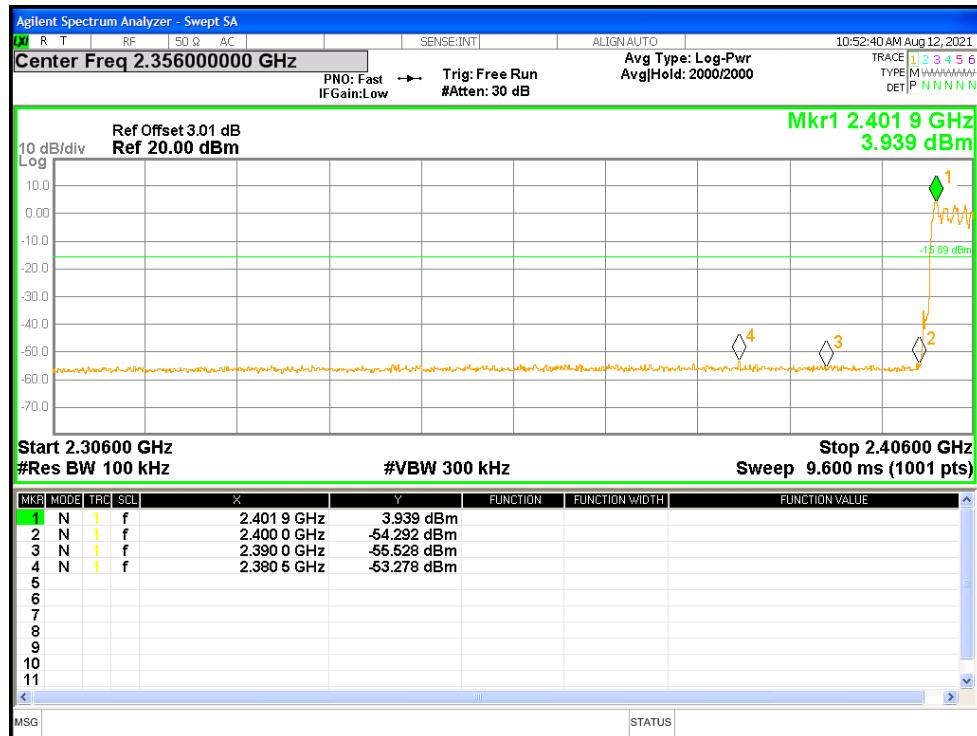
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



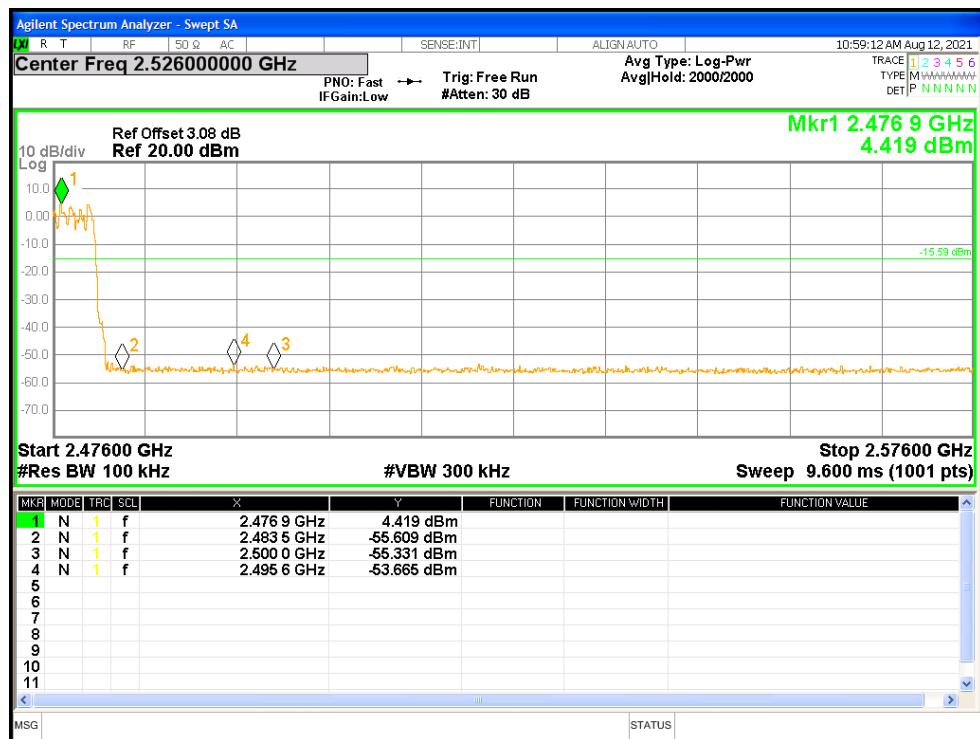
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Ref



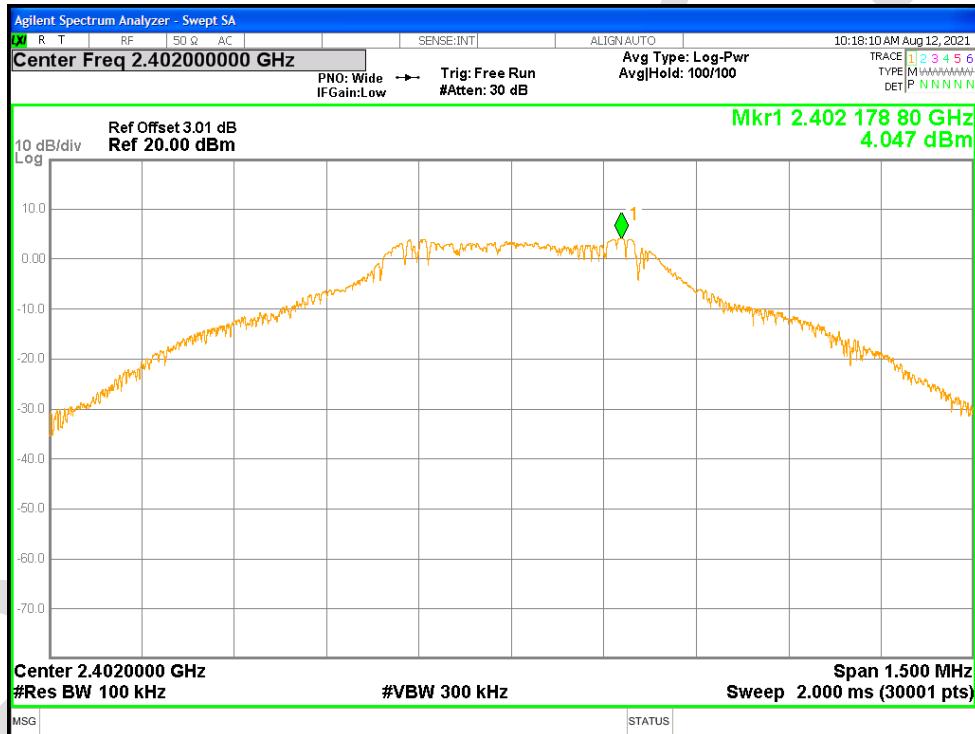
Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Emission



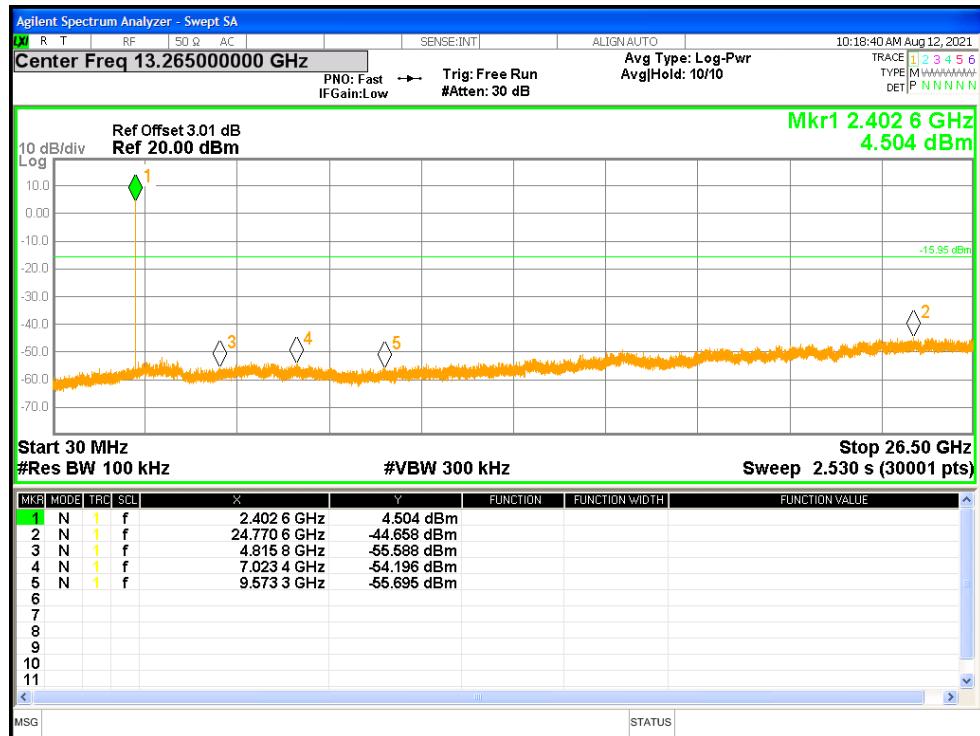
22.6 CONDUCTED RF SPURIOUS EMISSION

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-48.7	-20	Pass
NVNT	1-DH1	2441	Ant1	-49.08	-20	Pass
NVNT	1-DH1	2480	Ant1	-48.72	-20	Pass
NVNT	2-DH1	2402	Ant1	-48.89	-20	Pass
NVNT	2-DH1	2441	Ant1	-48.61	-20	Pass
NVNT	2-DH1	2480	Ant1	-48.81	-20	Pass
NVNT	3-DH1	2402	Ant1	-48.53	-20	Pass
NVNT	3-DH1	2441	Ant1	-48.89	-20	Pass
NVNT	3-DH1	2480	Ant1	-49.16	-20	Pass

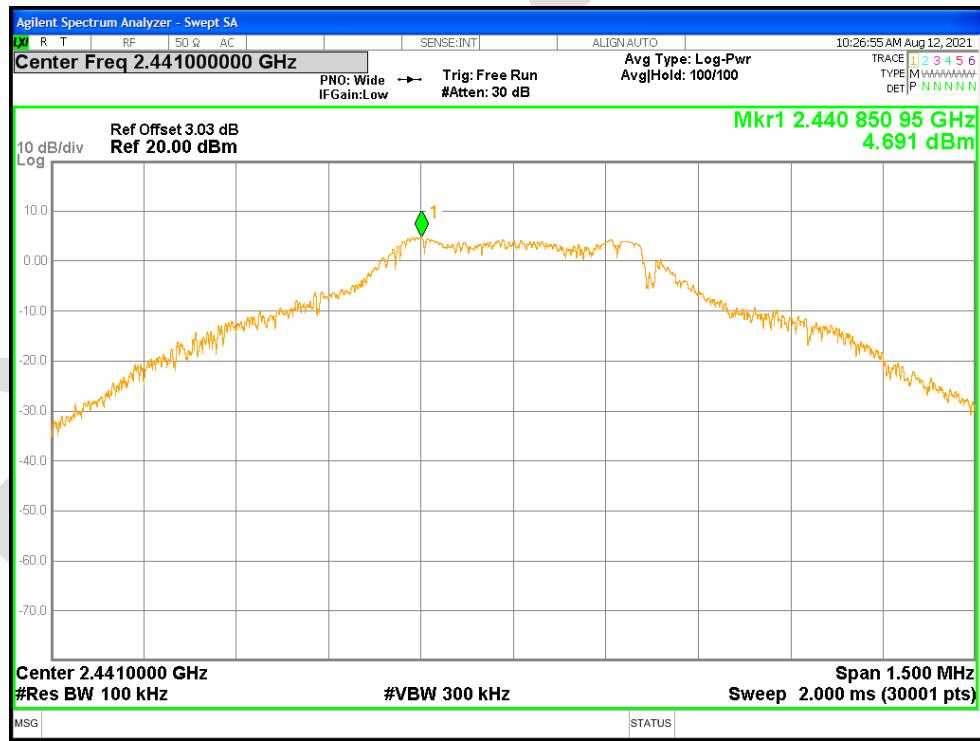
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



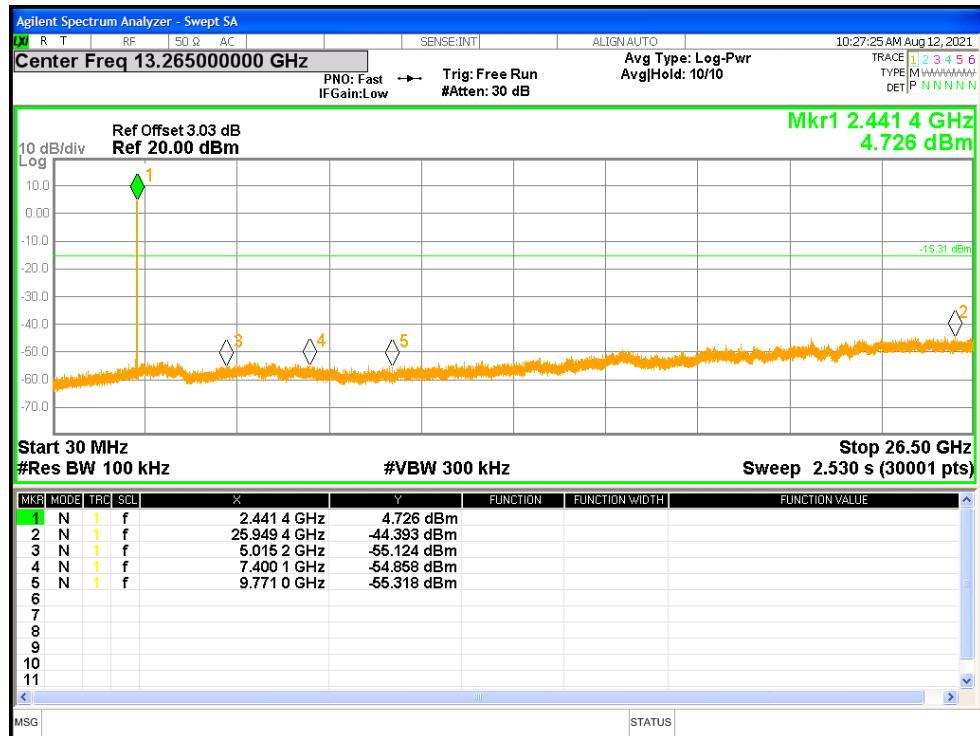
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



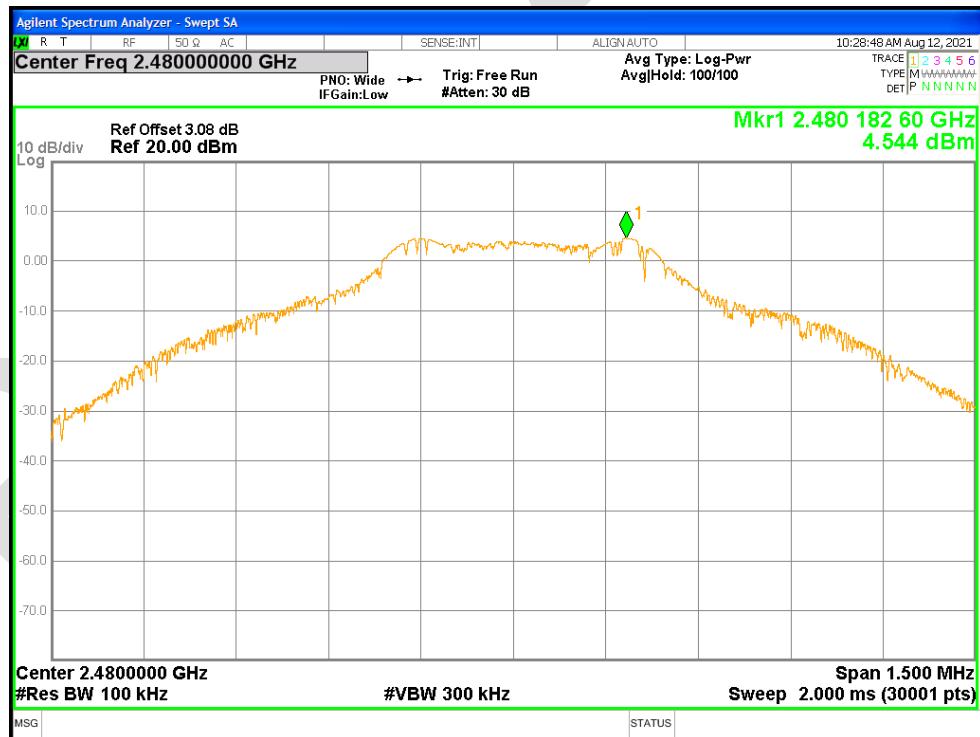
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



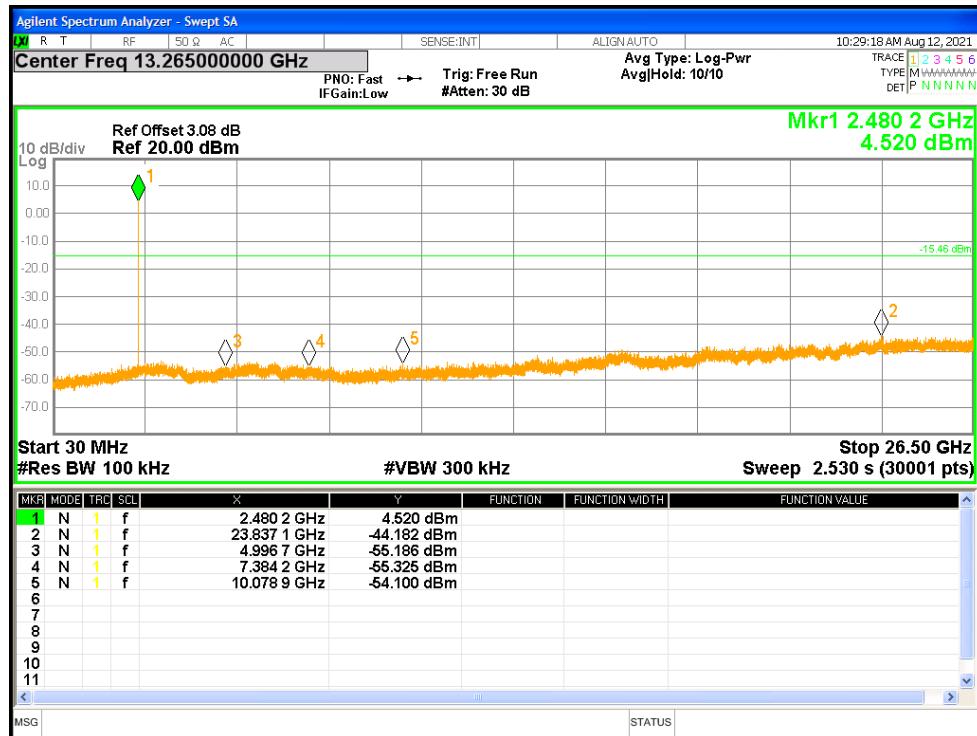
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



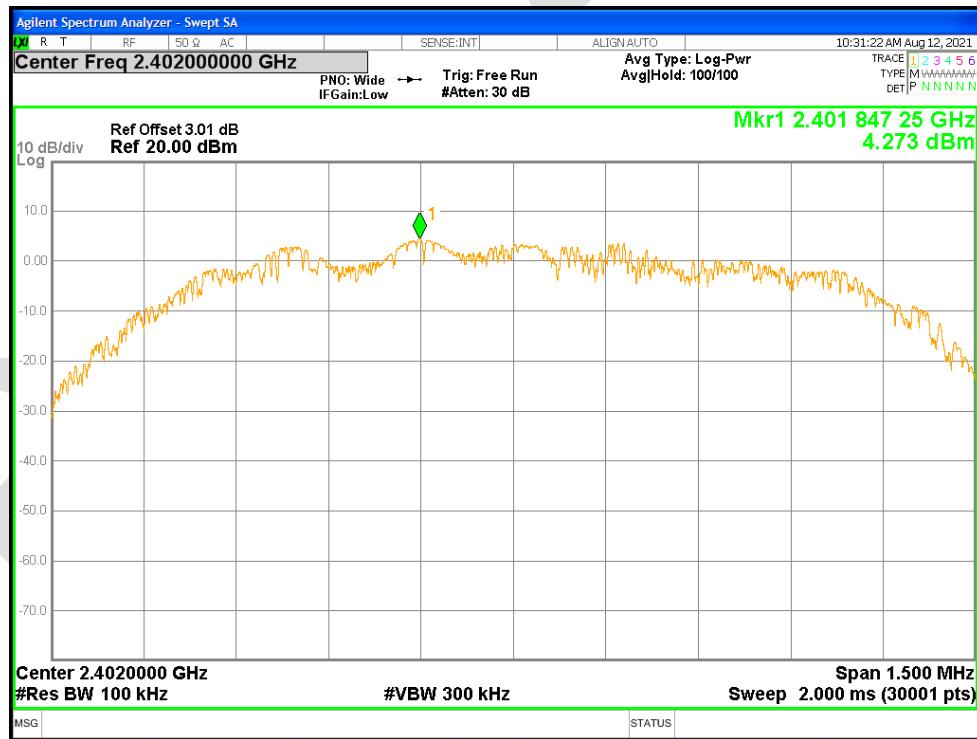
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



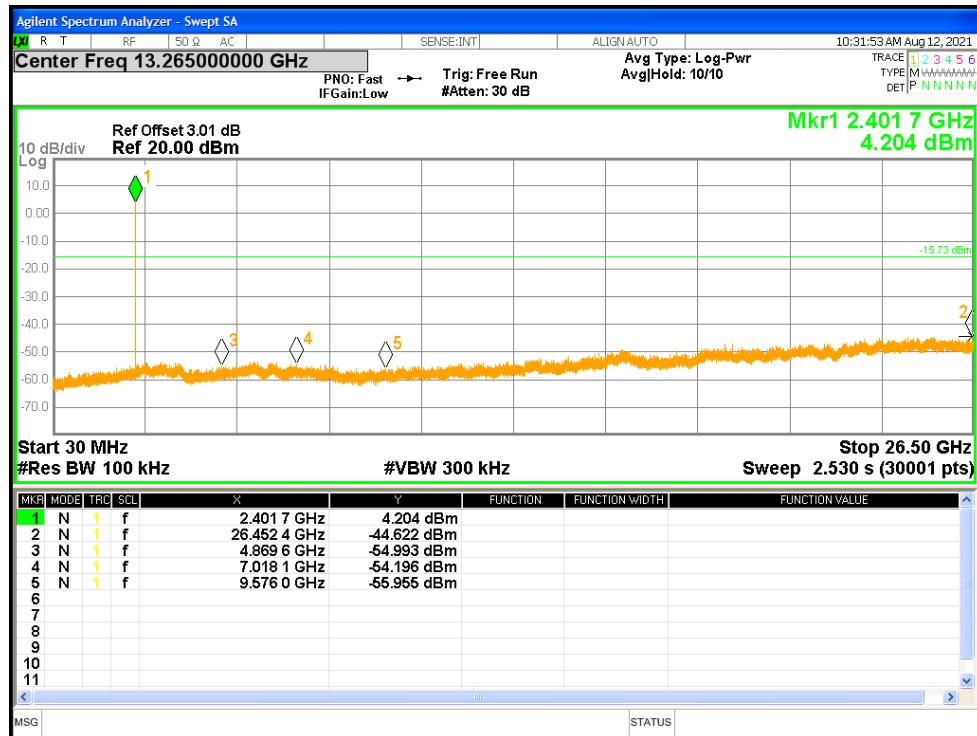
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



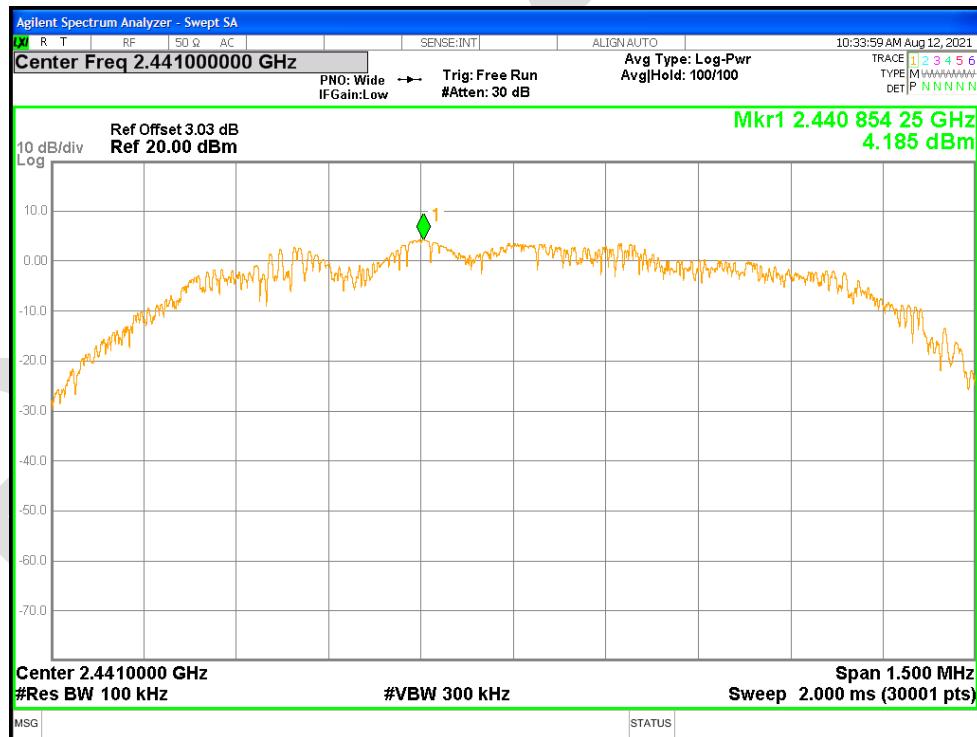
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



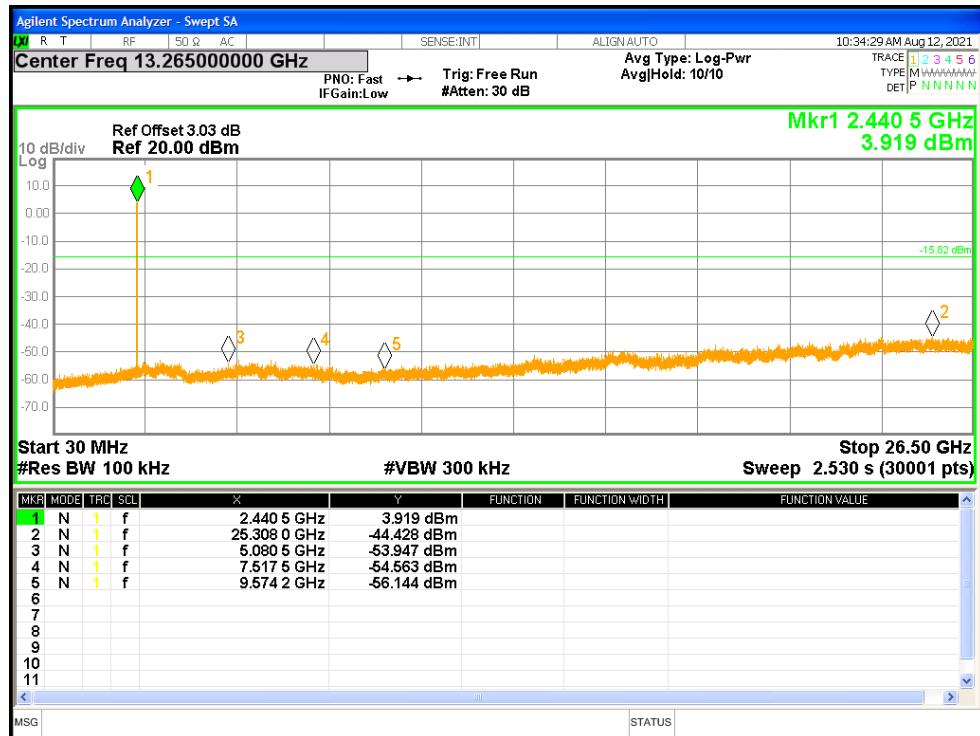
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



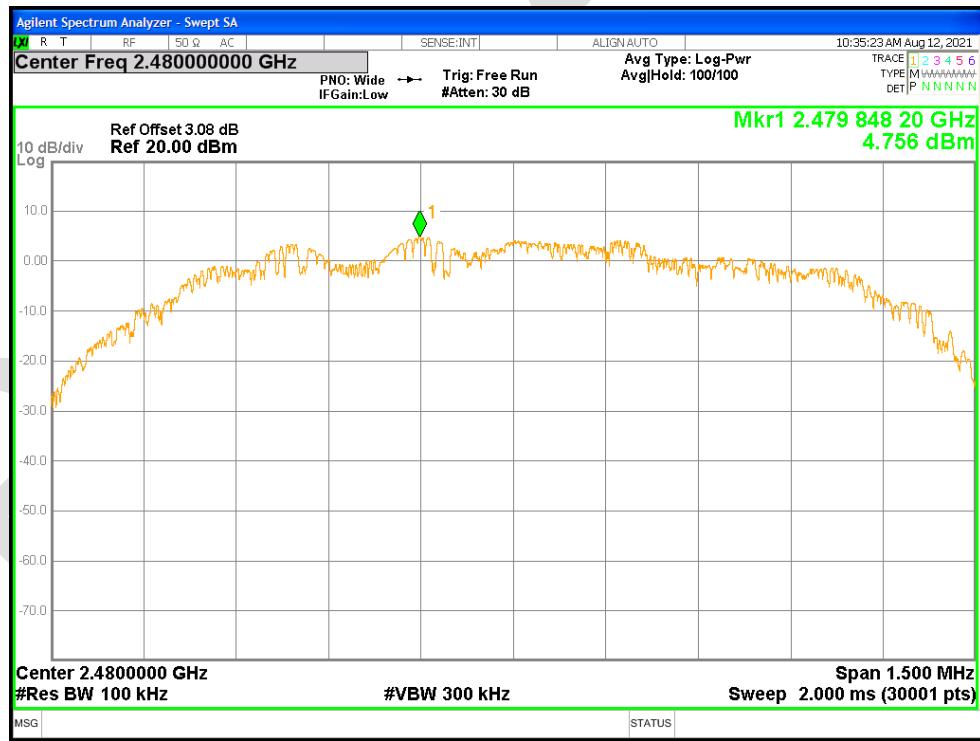
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



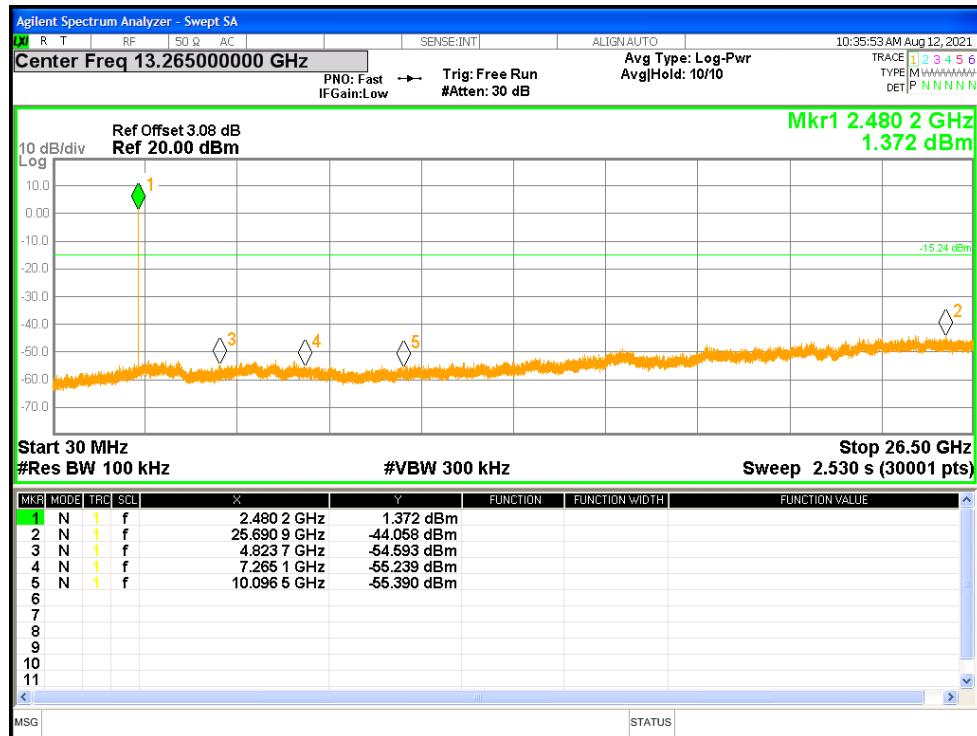
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



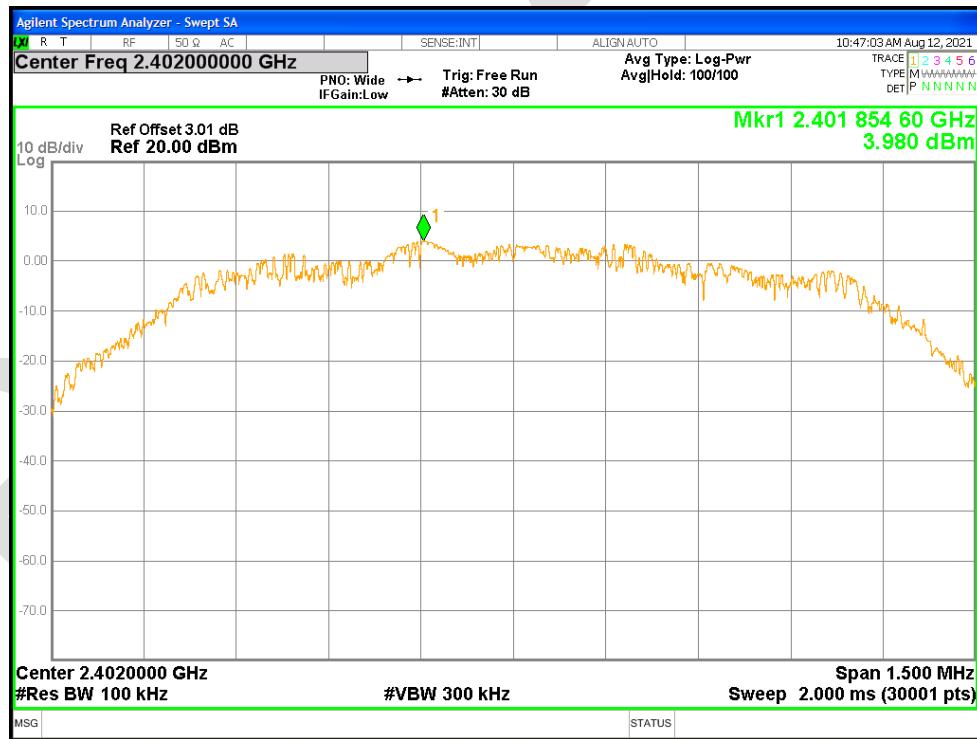
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



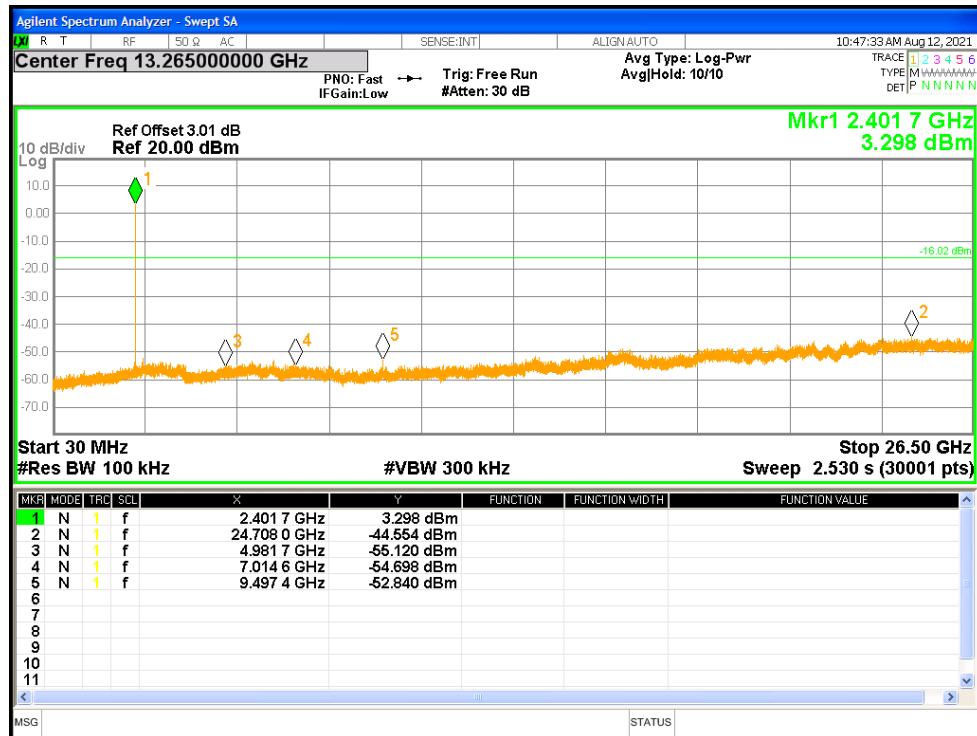
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



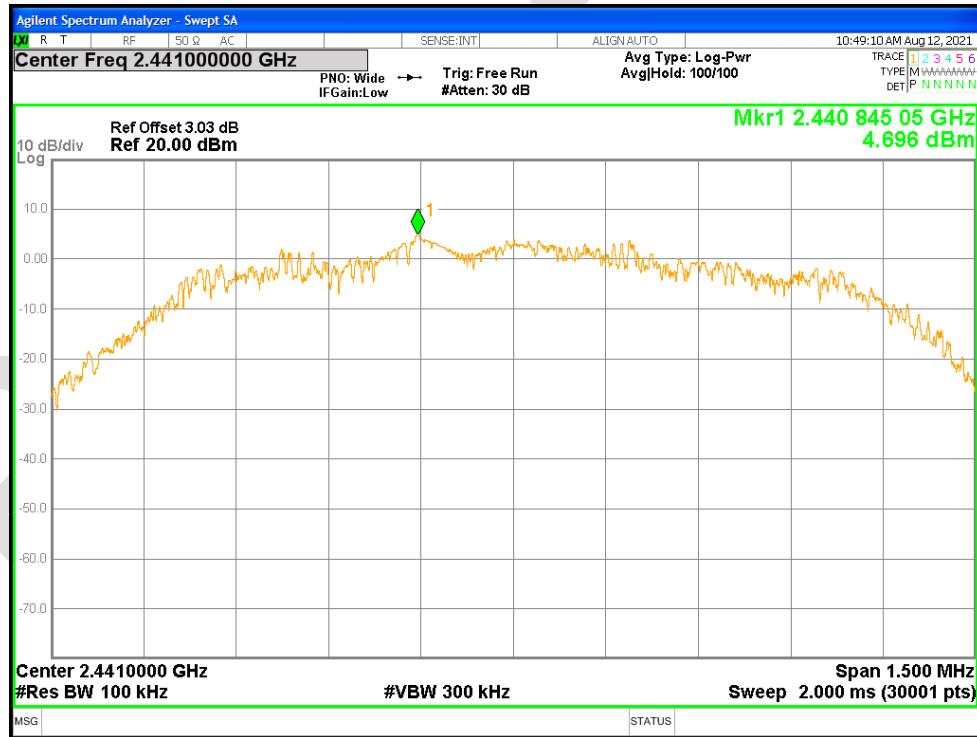
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



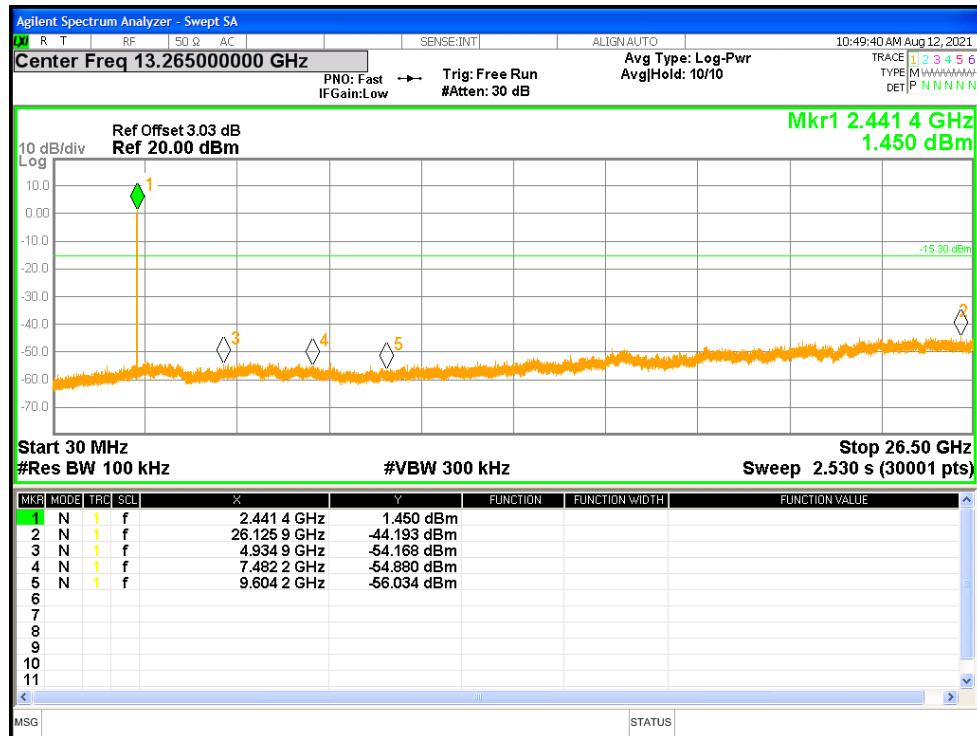
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



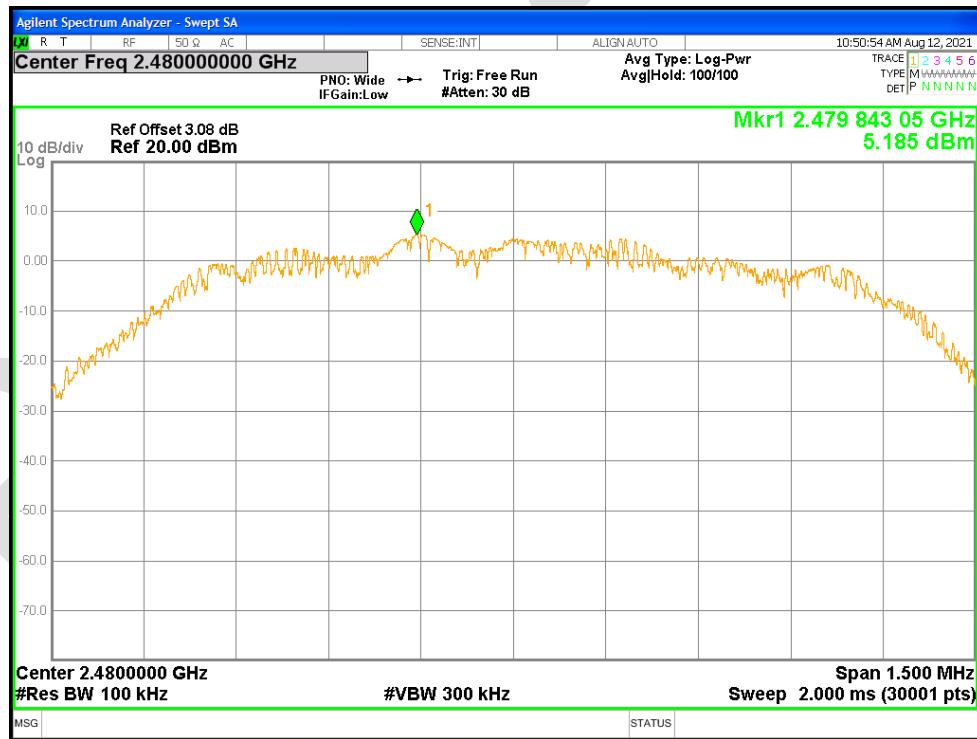
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



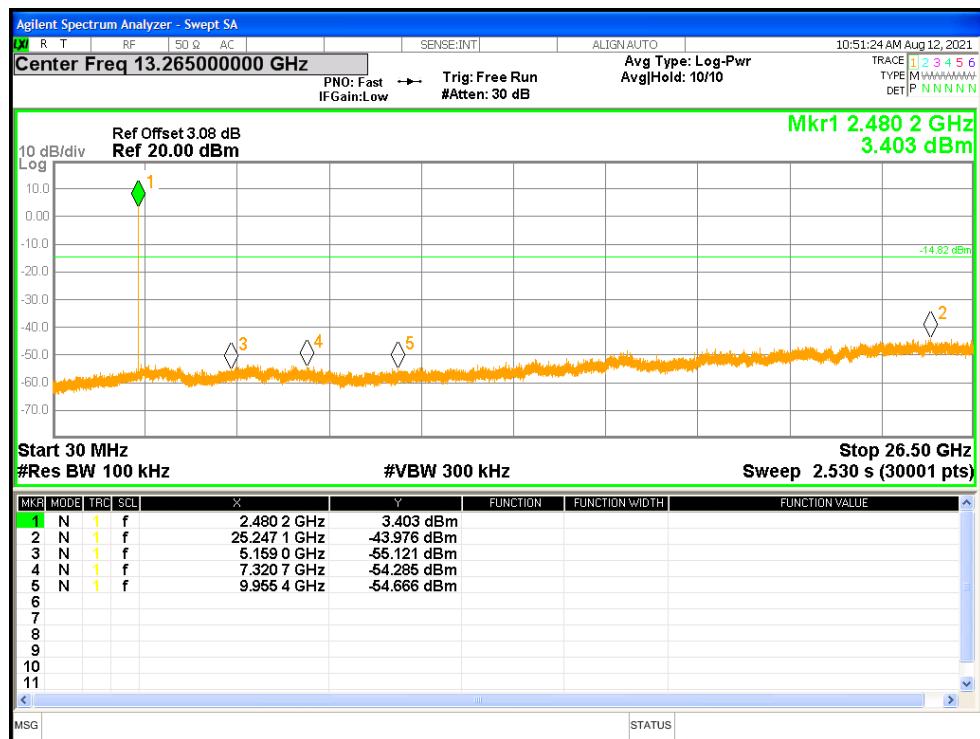
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



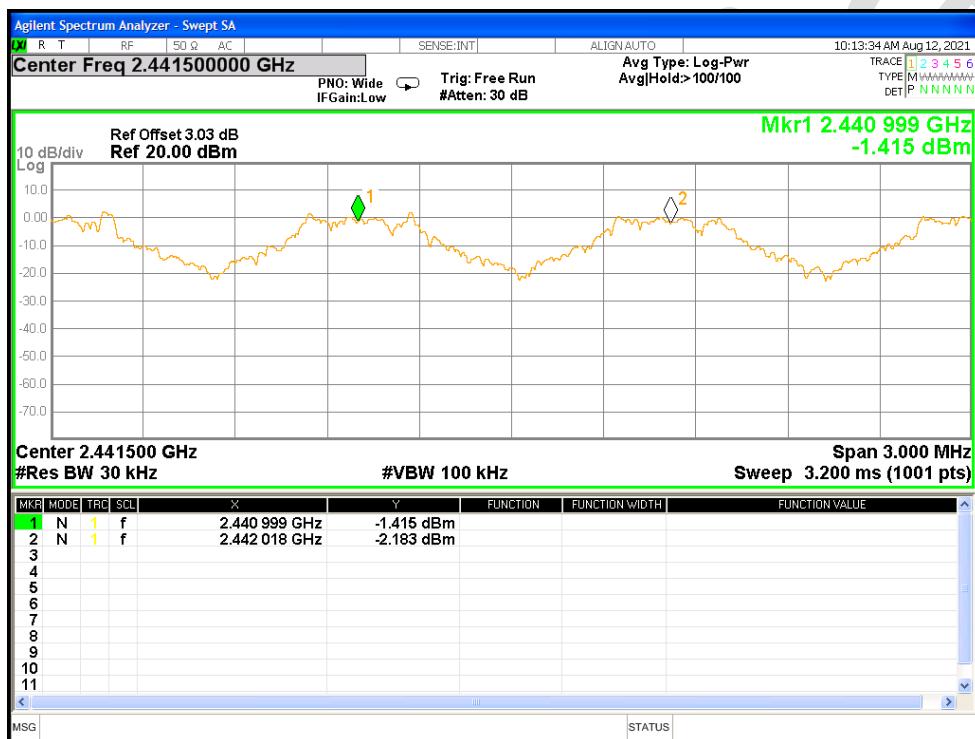
Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission



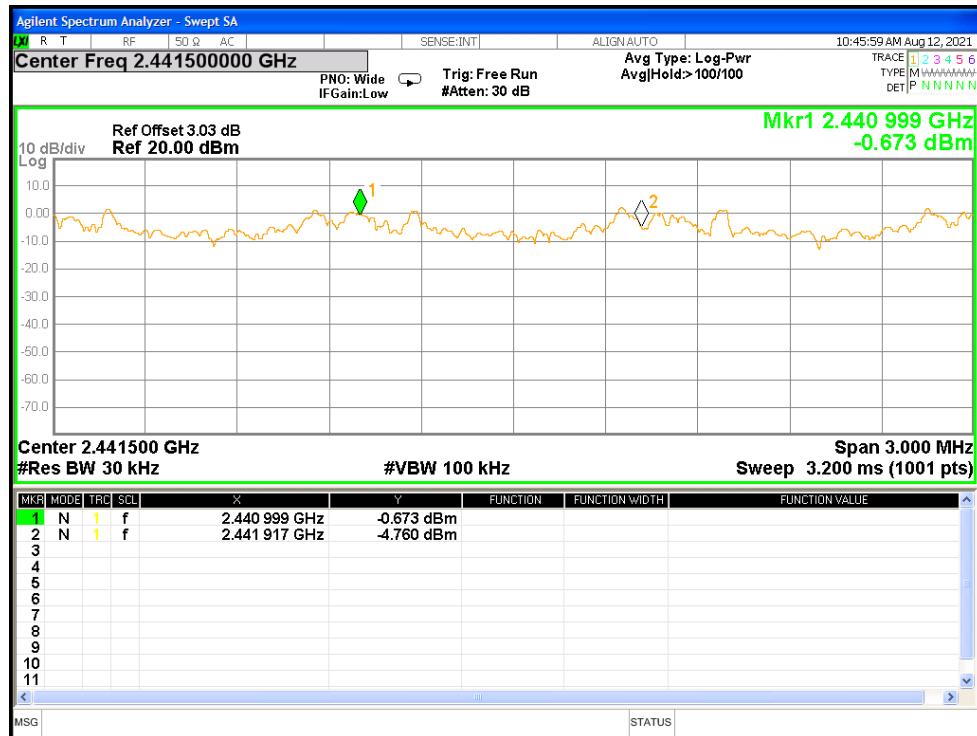
22.7 CARRIER FREQUENCIES SEPARATION

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.999	2442.0175	1.0185	0.025	Pass
NVNT	2-DH1	Ant1	2440.999	2441.917	0.918	0.843	Pass
NVNT	3-DH1	Ant1	2440.9585	2442.019	1.0605	0.806	Pass

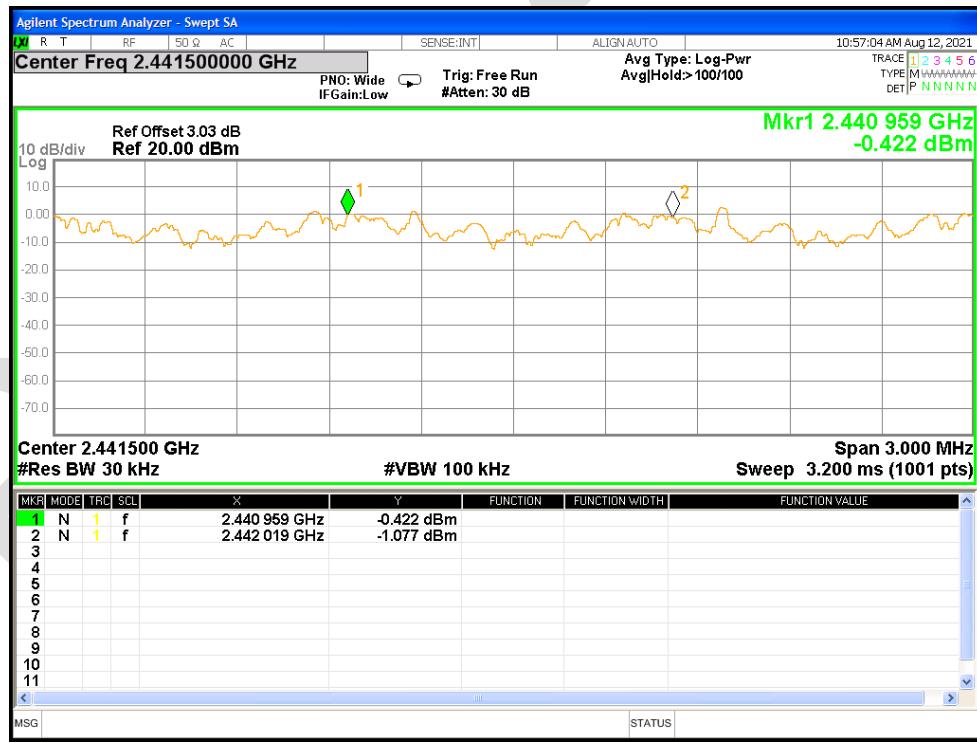
CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



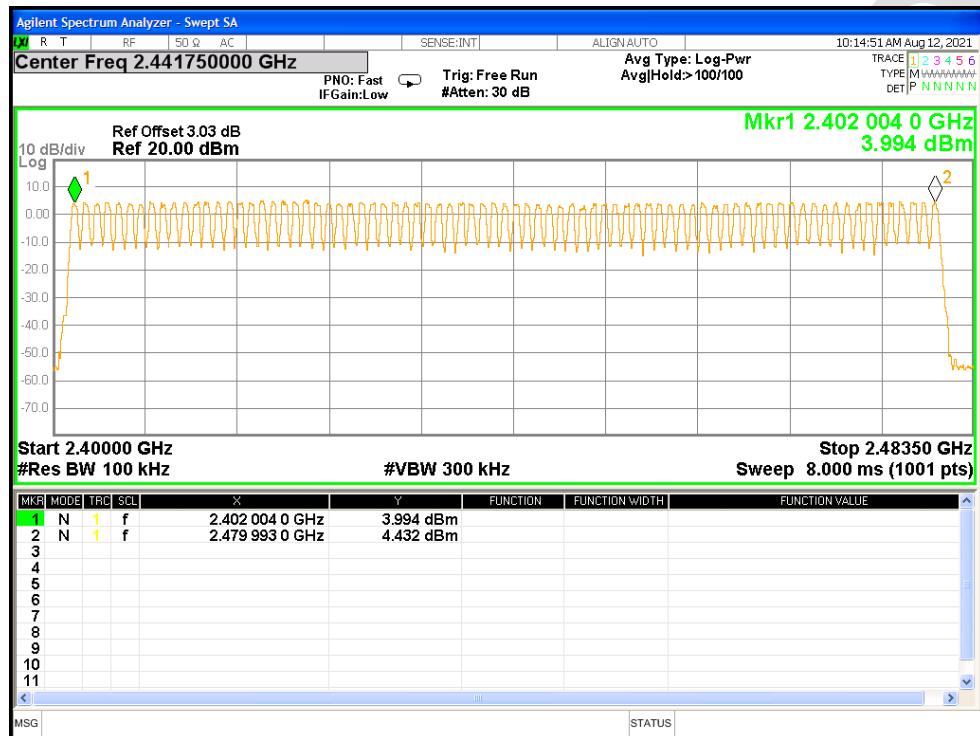
CFS NVNT 3-DH1 2441MHz Ant1



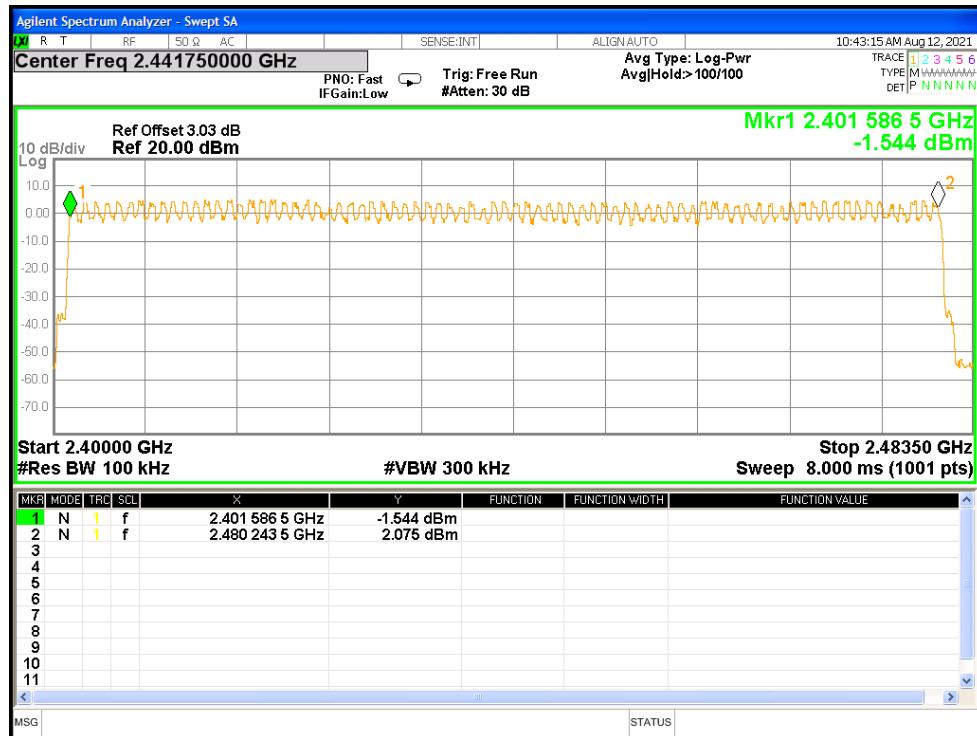
22.8 NUMBER OF HOPPING CHANNEL

Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

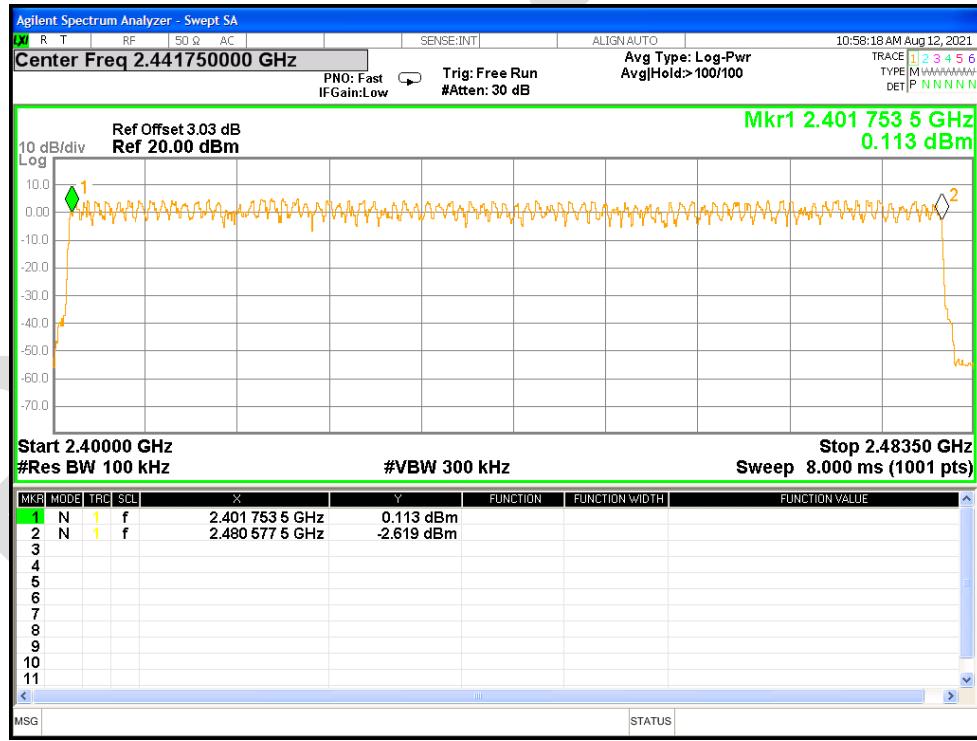
Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



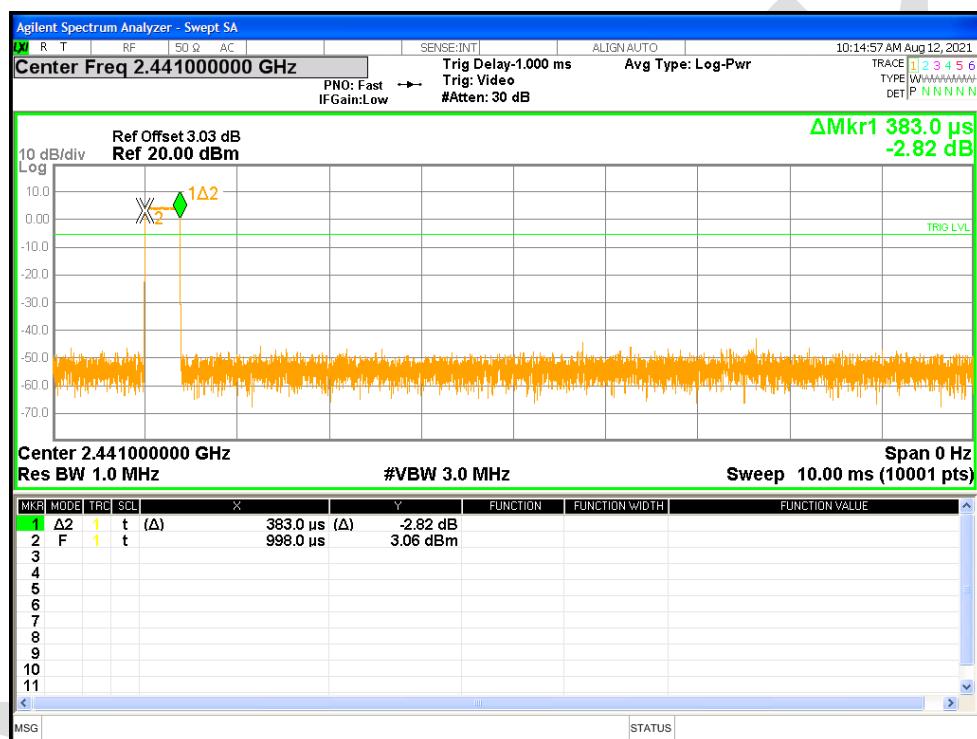
Hopping No. NVNT 3-DH1 2441MHz Ant1



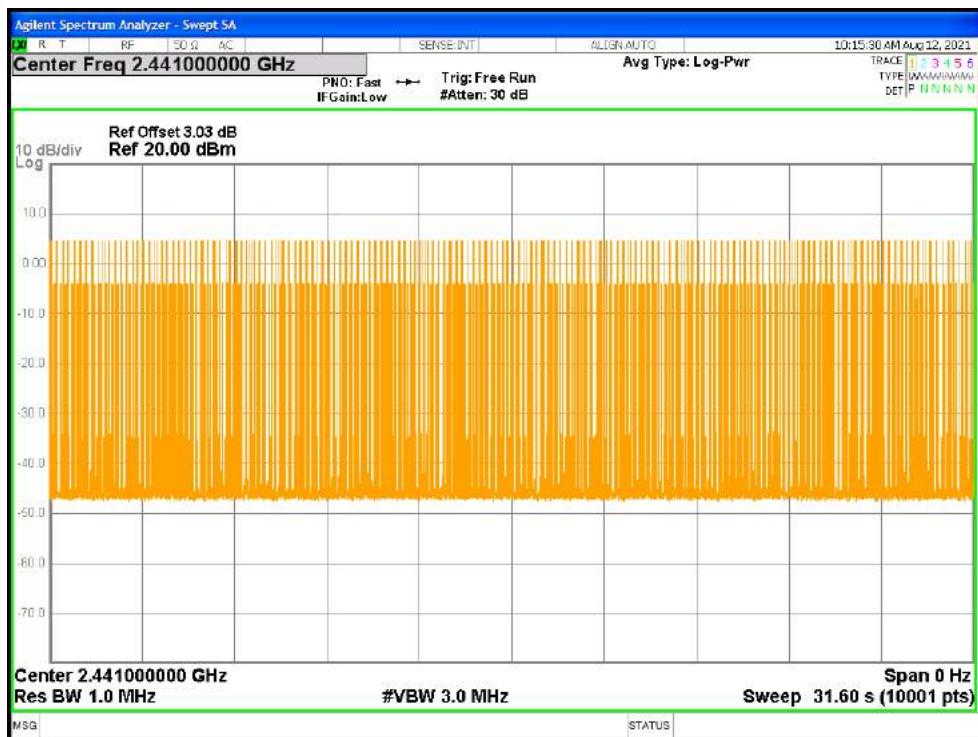
22.9 DWELL TIME

Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.383	120.262	314	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	239.294	146	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.887	314.683	109	31600	400	Pass

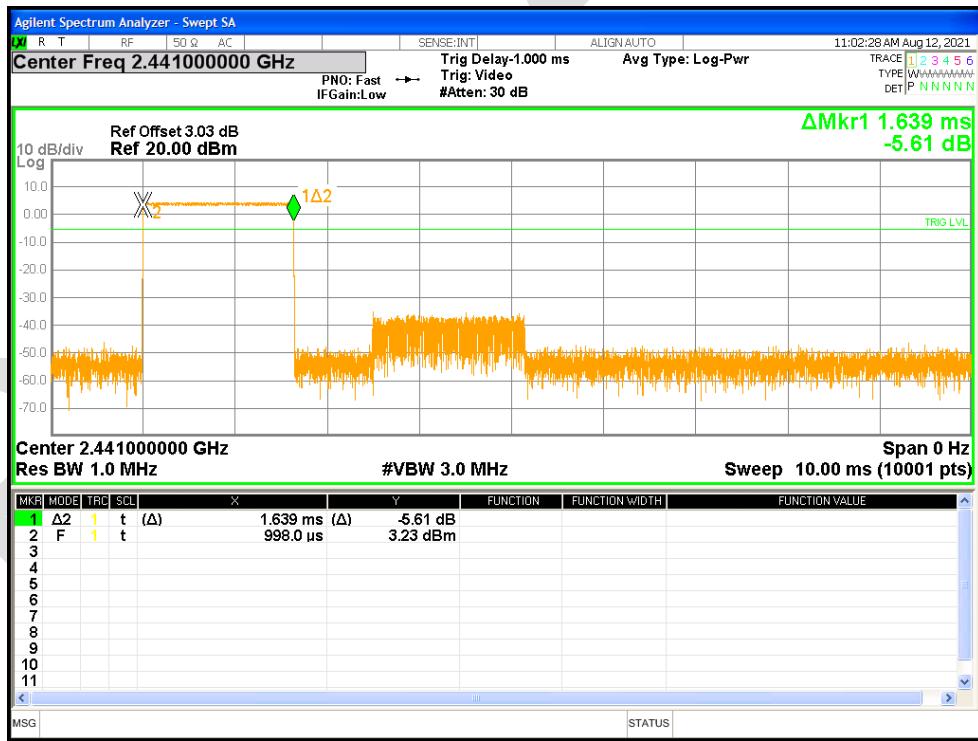
Dwell NVNT 1-DH1 2441MHz Ant1 One Burst



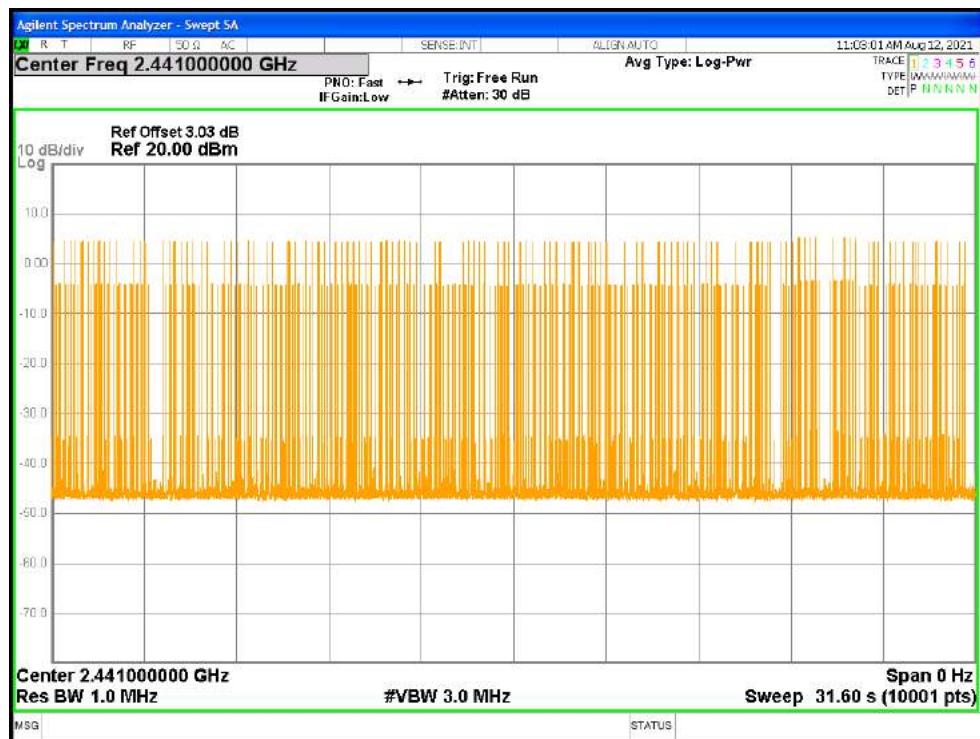
Dwell NVNT 1-DH1 2441MHz Ant1 Accumulated



Dwell NVNT 1-DH3 2441MHz Ant1 One Burst



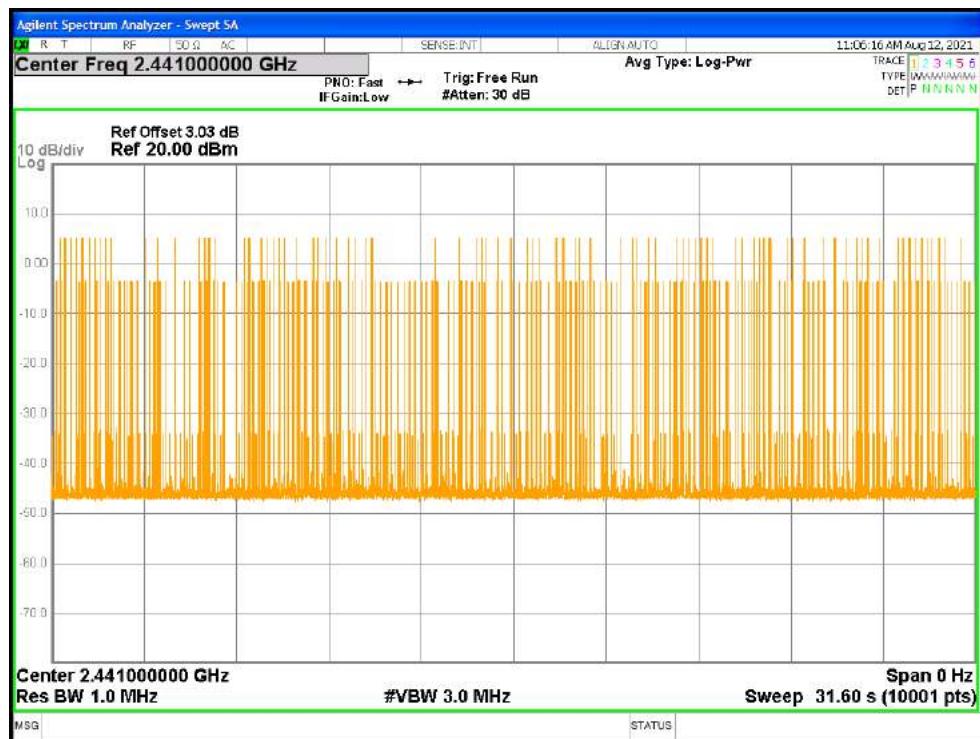
Dwell NVNT 1-DH3 2441MHz Ant1 Accumulated



Dwell NVNT 1-DH5 2441MHz Ant1 One Burst



Dwell NVNT 1-DH5 2441MHz Ant1 Accumulated



APPENDIX A: PHOTOGRAPHS OF TEST SETUP

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





APPENDIX B: PHOTOGRAPHS OF EUT

Reference to the test report No. BLA-EMC-202107-A8401

----END OF REPORT----

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of BlueAsia, this report can't be reproduced except in full.

BlueAsia