TEST REPORT

APPLICANT	:	BLU Products, Inc.
PRODUCT NAME	:	Smart Phone
MODEL NAME	:	X5+
BRAND NAME	:	BLU
FCC ID	:	YHLBLUX5PUL
STANDARD(S)	:	47 CFR Part 15 Subpart C
RECEIPT DATE	:	2025-05-14
TEST DATE	:	2025-05-16 to 2025-06-04
ISSUE DATE	:	2025-06-13

Edited by: Zeng Xiaoying (Rapporteur)

Approved by: Shen Junsheng (Supervisor)

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DIRECTORY

1. Summary of Test Result ····· 4
1.1. Testing Applied Standards ····· 5
1.2. Test Equipment List ····· 6
1.3. Measurement Uncertainty ····· 8
1.4. Testing Laboratory ····· 8
2. General Description ····· 9
2.1. Information of Applicant and Manufacturer ····· 9
2.2. Information of EUT ····· 9
2.3. Channel List of EUT ····· 11
2.4. Test Configuration of EUT ····· 12
2.5. Test Conditions ····· 12
2.6. Test Setup Layout Diagram ····· 12
3. Test Results ····· 15
3.1. Antenna Requirement ····· 15
3.2. Hopping Mechanism ····· 16
3.3. Number of Hopping Frequency ····· 17
3.4. Duty Cycle of Test Signal ····· 18
3.5. Maximum Peak Conducted Output Power ····· 19
3.6. Maximum Average Conducted Output Power ····· 20
3.7. 20 dB Bandwidth ····· 21
3.8. Carried Frequency Separation ····· 22
3.9. Time of Occupancy (Dwell time) ····· 23
3.10. Conducted Spurious Emissions and Band Edge ····· 24
3.11. Conducted Emission ····· 25
3.12. Restricted Frequency Bands ····· 26
3.13. Radiated Emission ····· 27

Annex A Test Data and Result ····· 29

Change History		
Version	**Date**	**Reason for change**
1.0	2025-06-13	First edition

1. Summary of Test Result

No.	Section	Description	Test Date	Test Engineer	Result	Remark
1	15.203	Antenna Requirement	N/A	N/A	PASS	/
2	15.247(a) 15.247(h)	Hopping Mechanism	N/A	N/A	PASS	/
3	15.247(a)	Number of Hopping Frequency	May 21, 2025	Zhu Peihong	PASS	/
4	ANSI C63.10	Duty Cycle	May 19, 2025	Zhu Peihong	PASS	/
5	15.247(b)	Maximum Peak Conducted Output Power	May 19, 2025	Zhu Peihong	PASS	/
6	15.247(b)	Maximum Average Conducted Output Power	May 19, 2025	Zhu Peihong	PASS	/
7	15.247(a)	20dB Bandwidth	May 19, 2025	Zhu Peihong	PASS	/
8	15.247(a)	Carrier Frequency Separation	May 21, 2025	Zhu Peihong	PASS	/
9	15.247(a)	Time of Occupancy (Dwell time)	May 19, 2025	Zhu Peihong	PASS	/
10	15.247(d)	Conducted Spurious Emission and Band Edge	May 19, 2025	Zhu Peihong	PASS	/
11	15.207	Conducted Emission	May 16, 2025	Fan Shengquan	PASS	/
12	15.247(d)	Restricted Frequency Bands	May 29, 2025	Li Hanbin	PASS	/
13	15.209, 15.247(d)	Radiated Emission	May 29, 2025	Li Hanbin	PASS	/

Note 1: The tests were performed according to the method of measurements prescribed in ANSI C63.10-2013, KDB 558074 D01 v05r02 and DA 00-075.

Note 2: Any additions, deviation, or exclusions from the method shall be noted in the “Remark”.

1.1. Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

• 47 CFR Part 15 Subpart C Radio Frequency Devices

1.2. Test Equipment List

1.2.1 Conducted Test Equipment

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
EXA Signal Analzyer	MY53470836	N9010A	Agilent	2025.01.15	2026.01.14
RF Cable (30MHz-26GHz)	CB01	RF01	Morlab	N/A	N/A
SMA Connector	CN01	RF03	HUBER-SUHNER	N/A	N/A

1.2.2 Conducted Emission Test Equipment

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Receiver	MY56400093	N9038A	KEYSIGHT	2025.01.06	2026.01.05
LISN	8127449	NSLK 8127	Schwarzbeck	2025.01.09	2026.01.08
Pulse Limiter (10dB)	VTSD 9561 F-B #206	VTSD 9561-F	Schwarzbeck	2025.05.13	2026.05.12
RF Coaxial Cable (DC-100MHz)	BNC	MRE04	Qualwave	2024.07.02	2025.07.01

1.2.3 List of Software Used

Description	Manufacturer	Software Version
Test System	MaiWei	2.0.0.0
JS32-RE	Tonscend	5.0.0
TS+ -[JS32-CE]	Tonscend	2.5.0.0

1.2.4 Radiated Test Equipment

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Signal Analyzer	MY56060145	N9020A	Agilent	2025.05.13	2026.05.12
Test Antenna - Bi-Log	9163-519	VULB 9163	Schwarzbeck	2024.06.22	2025.06.21
Test Antenna - Loop	1519-022	FMZB1519	Schwarzbeck	2024.06.03	2025.06.02
Test Antenna – Horn	01774	BBHA 9120D	Schwarzbeck	2024.06.22	2025.06.21
Test Antenna – Horn	BBHA9170 #773	BBHA9170	Schwarzbeck	2024.06.22	2025.06.21
Preamplifier (10MHz-6GHz)	46732	S10M100L3802	LUCIX CORP.	2025.05.13	2026.05.12
Preamplifier (2GHz-18GHz)	61171/61172	S020180L3203	LUCIX CORP.	2025.05.13	2026.05.12
Preamplifier (18GHz-40GHz)	DS77209	DCLNA0118-40C-S	Decentest	2025.05.13	2026.05.12
RF Coaxial Cable (DC-18GHz)	MRE001	PE330	Pasternack	2025.05.13	2026.05.12
RF Coaxial Cable (DC-18GHz)	MRE002	CLU18	Pasternack	2025.05.13	2026.05.12
RF Coaxial Cable (DC-18GHz)	MRE003	CLU18	Pasternack	2025.05.13	2026.05.12
RF Coaxial Cable (DC-40GHz)	22290045	QA360-40-KK-0.5	Qualwave	2024.07.03	2025.07.02
RF Coaxial Cable (DC-40GHz)	22290046	QA360-40-KKF-2	Qualwave	2024.07.03	2025.07.02
RF Coaxial Cable (DC-18GHz)	22120181	QA500-18-NN-5	Qualwave	2024.07.03	2025.07.02
Notch Filter	N/A	WRCG-2400-2483.5-60SS	Wainwright	N/A	N/A
Anechoic Chamber	N/A	9m*6m*6m	CRT	2025.04.19	2028.04.18
Anechoic Chamber	N/A	9m*6m*6m	CRT	2022.11.30	2025.11.29

1.3. Measurement Uncertainty

Test Items	Uncertainty	Remark
Number of Hopping Frequency	±5%	Confidence levels of 95%
Peak Output Power	±2.22dB	Confidence levels of 95%
Bandwidth	±5%	Confidence levels of 95%
Carrier Frequency Separation	±5%	Confidence levels of 95%
Time of Occupancy (Dwell time)	±5%	Confidence levels of 95%
Conducted Spurious Emission	±2.77dB	Confidence levels of 95%
Restricted Frequency Bands	±5%	Confidence levels of 95%
Radiated Emission	±2.95dB	Confidence levels of 95%
Conducted Emission	±2.44dB	Confidence levels of 95%

1.4. Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
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FCC Designation Number:	CN1192
FCC Test Firm Registration Number:	226174

2. General Description

2.1. Information of Applicant and Manufacturer

Applicant:	BLU Products, Inc.
Applicant Address:	8600 NW 36th Street, Suite #300 Miami, FL 33166, USA
Manufacturer:	BLU Products, Inc.
Manufacturer Address:	8600 NW 36th Street, Suite #300 Miami, FL 33166, USA

2.2. Information of EUT

Product Name:	Smart Phone	
Sample No.:	1#, 3#, 4#	
Hardware Version:	A507-MB-V3.6F	
Software Version:	sp9832e_1h10_go2g_k515-user-gms_0513_1058.pac	
Equipment Type:	Bluetooth classic	
Bluetooth Version:	4.2	
Modulation Type:	FHSS (GFSK(1Mbps), π/4-DQPSK(EDR 2Mbps), 8-DPSK(EDR 3Mbps))	
Operating Frequency Range:	2402MHz-2480MHz	
Antenna Type:	PIFA Antenna	
Antenna Gain:	1.05dBi	
Accessory Information:	Battery	
	Brand Name:	N/A
	Model No.:	C775448200L
	Serial No.:	N/A
	Capacity:	2000mAh
	Rated Voltage:	3.8V
	Charge Limit:	4.35V
	Manufacturer:	PHENIX NEW ENERGY(HUIZHOU)CO., LTD
	AC Adapter	
	Brand Name:	N/A
	Model No.:	US-DC-0750
	Serial No.:	N/A
	Rated Output:	5.0V⎓0.75A

	Rated Input:	100-240V~50/60Hz, 0.2A
	Manufacturer:	SHENZHEN EAST SUN ELECTRONIC CO., LTD

Note 1: The EUT description presented in the report are provided by applicant and/or manufacturer, and the test laboratory is not responsible for the accuracy of the information. For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

2.3. Channel List of EUT

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	**2402**	20	2422	40	2442	60	2462
1	2403	21	2423	41	2443	61	2463
2	2404	22	2424	42	2444	62	2464
3	2405	23	2425	43	2445	63	2465
4	2406	24	2426	44	2446	64	2466
5	2407	25	2427	45	2447	65	2467
6	2408	26	2428	46	2448	66	2468
7	2409	27	2429	47	2449	67	2469
8	2410	28	2430	48	2450	68	2470
9	2411	29	2431	49	2451	69	2471
10	2412	30	2432	50	2452	70	2472
11	2413	31	2433	51	2453	71	2473
12	2414	32	2434	52	2454	72	2474
13	2415	33	2435	53	2455	73	2475
14	2416	34	2436	54	2456	74	2476
15	2417	35	2437	55	2457	75	2477
16	2418	36	2438	56	2458	76	2478
17	2419	37	2439	57	2459	77	2479
18	2420	38	2440	58	2460	**78**	**2480**
19	2421	**39**	**2441**	59	2461		

Note 1: The black bold channels were selected for test.

2.4. Test Configuration of EUT

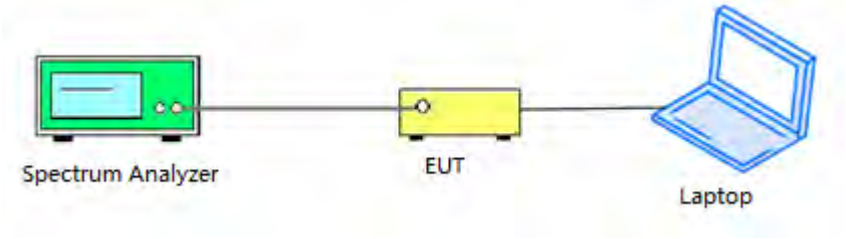
Test mode is used to control the EUT under the maximum power level during test.

2.5. Test Conditions

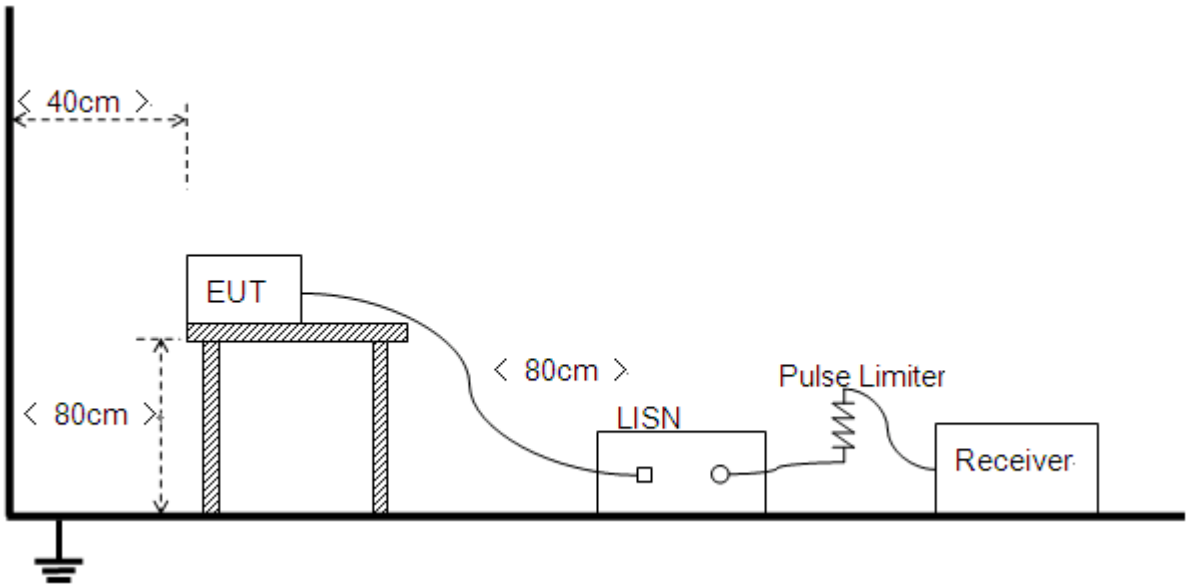
Temperature (°C):	15-35
Relative Humidity (%):	30-60
Atmospheric Pressure (kPa):	86-106

2.6. Test Setup Layout Diagram

2.6.1.Conducted Measurement

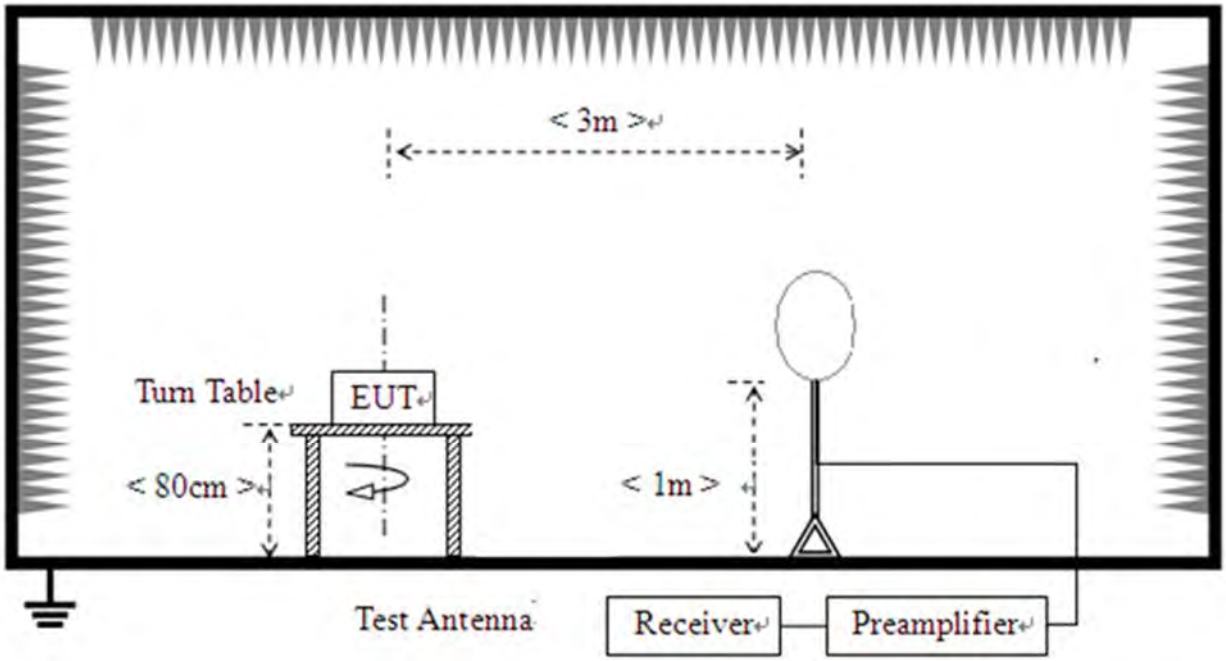


2.6.2.Conducted Emission Measurement

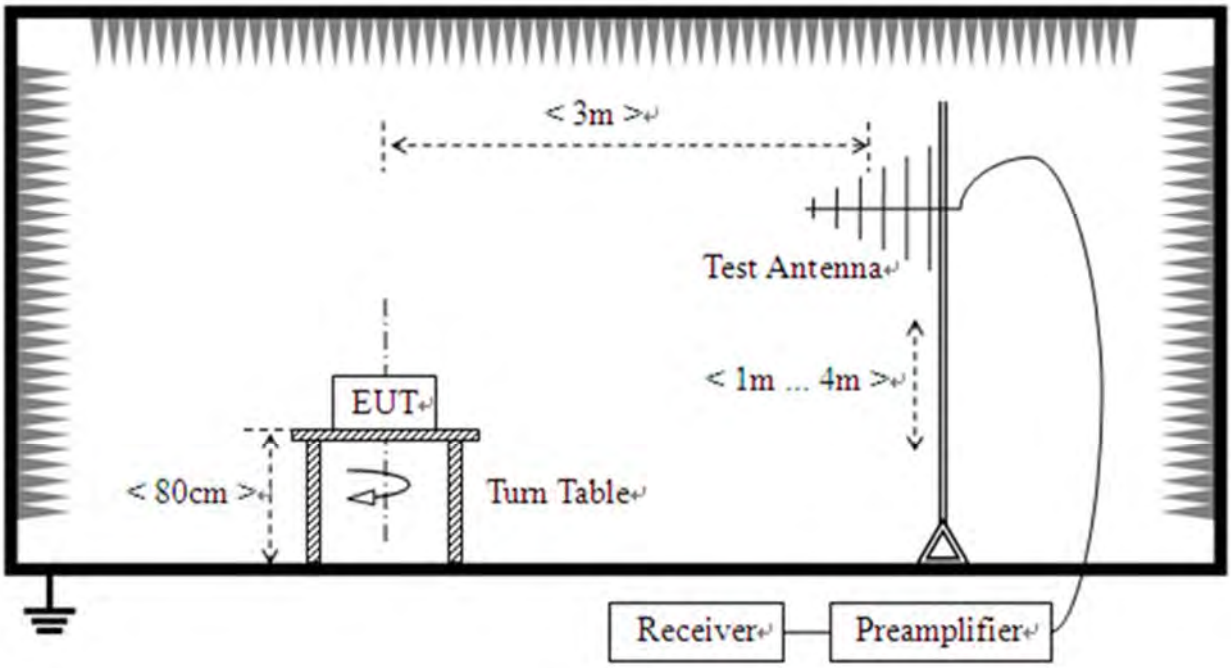


2.6.3.Radiation Measurement

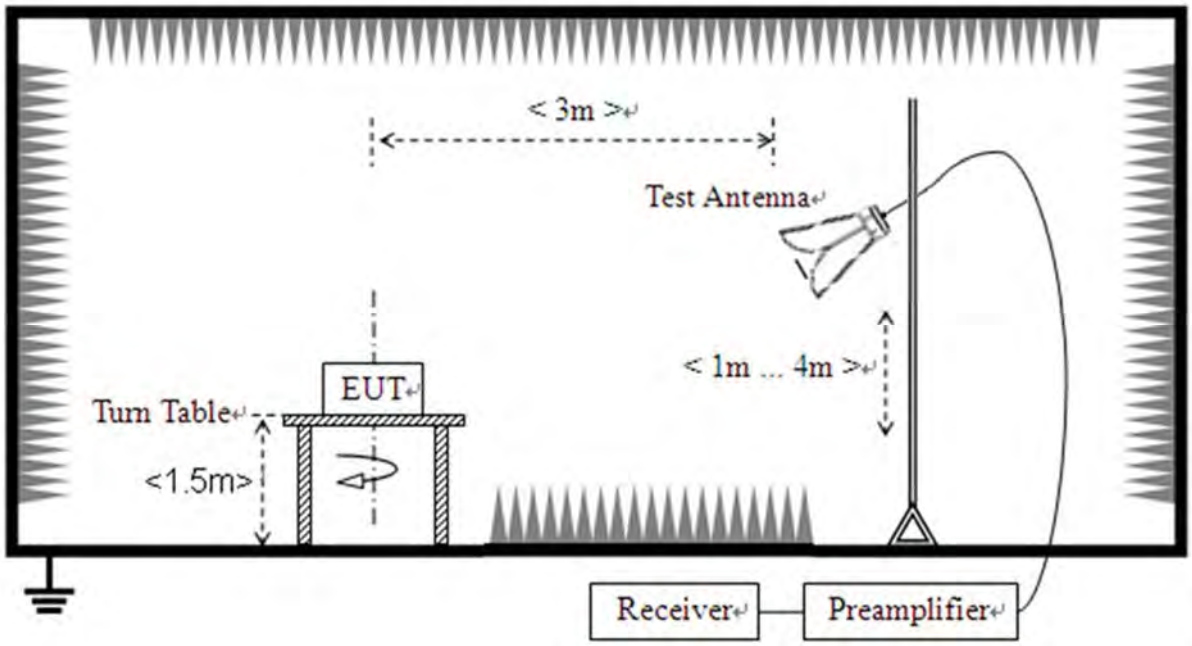
1) For radiated emissions from 9kHz to 30MHz



2) For radiated emissions from 30MHz to1GHz



3) For radiated emissions above 1GHz



3. Test Results

3.1. Antenna Requirement

3.1.1. Requirement

According to FCC 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

3.1.2. Test Result

Antenna location	Antenna Type	Coupling Method
☒Internal ☐External	☐FPC Antenna ☐Spring Antenna ☐Ceramic Antenna ☐Integrated Antenna ☐Dipole Antenna ☐PCB Antenna ☒PIFA Antenna ☐On-board Antenna	☐I-PEX Connector ☐SMA Connector ☐RP-SMA Connector ☒Metal Shrapnel ☐Layout

3.2. Hopping Mechanism

3.2.1.Requirement

According to FCC section 15.247(a)(1), a frequency hopping spread spectrum system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

According to FCC section 15.247(h), the incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hop sets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

3.2.2.Test Result

The hopping mechanism of the EUT is in compliance with the document "***Bluetooth core specification v5.1***".

3.3. Number of Hopping Frequency

3.3.1.Requirement

According to FCC section 15.247(a)(1)(iii), frequency hopping systems operating in the 2400MHz to 2483.5MHz bands shall use at least 15 hopping frequencies.

3.3.2.Test Procedures

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:
Span = the frequency band of operation
RBW: To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
Allow the trace to stabilize

3.3.3.Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.3.4.Test Result

Refer to Annex A.1 in this report.

3.4. Duty Cycle of Test Signal

3.4.1.Requirement

Preferably, all measurements of maximum conducted (average) output power will be performed with the EUT transmitting continuously (i.e., with a duty cycle of greater than or equal to 98%).When continuous operation cannot be realized, then the use of sweep triggering/signal gating techniques can be used to ensure that measurements are made only during transmissions at the maximum power control level. Such sweep triggering/signal gating techniques will require knowledge of the minimum transmission duration(T) over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation. Sweep triggering/signal gating techniques can then be used if the measurement/sweep time of the analyzer can be set such that it does not exceed T at any time that data are being acquired (i.e.,no transmitter OFF-time is to be considered).
When continuous transmission cannot be achieved and sweep triggering/signal gating cannot be implemented, alternative procedures are provided that can be used to measure the average power; however, they will require an additional measurement of the transmitter duty cycle (D). Within this sub clause, the duty cycle refers to the fraction of time over which the transmitter is ON and is transmitting at its maximum power control level. The duty cycle is considered to be constant if variations are less than ±2%; otherwise, the duty cycle is considered to be non constant.

3.4.2.Test Result

Refer to Annex A.2 in this report.

3.5. Maximum Peak Conducted Output Power

3.5.1. Requirement

According to FCC section 15.247(b)(1), for frequency hopping systems that operates in the 2400MHz to 2483.5MHz band employing at least 75 hopping channels, the maximum peak output power of the intentional radiator shall not exceed 1Watt. For all other frequency hopping systems in the 2400MHz to 2483.5MHz band, it is 0.125Watts.

3.5.2. Test Procedures

KDB 558074 Section 8.3.1 was used in order to prove compliance.

3.5.3. Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.5.4. Test Result

Refer to Annex A.3 in this report.

3.6. Maximum Average Conducted Output Power

3.6.1.Requirement

According to FCC section 15.247(b)(1), for frequency hopping systems that operates in the 2400MHz to 2483.5MHz band employing at least 75 hopping channels, the maximum peak output power of the intentional radiator shall not exceed 1Watt. For all other frequency hopping systems in the 2400MHz to 2483.5MHz band, it is 0.125Watts.

3.6.2.Test Procedures

KDB 558074 Section 8.3.2 was used in order to prove compliance.

3.6.3.Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.6.4.Test Result

Refer to Annex A.4 in this report.

3.7. 20 dB Bandwidth

3.7.1.Requirement

According to FCC section 15.247(a)(1), the 20 dB bandwidth is known as the 99% emission bandwidth, or 20 dB bandwidth (10*log1% = 20 dB) taking the total RF output power.

3.7.1.Test Procedures

Use the following spectrum analyzer settings:
Span = between 2 to 5 times the OBW, centered on the test channel
RBW= 1% to 5% of the OBW
VBW ≥ 3 x RBW
Sweep = auto
Detector function = peak
Trace = max hold

3.7.2.Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.7.3.Test Result

Refer to Annex A.5 in this report.

3.8. Carried Frequency Separation

3.8.1.Requirement

According to FCC section 15.247(a)(1), frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater.

3.8.2.Test Procedures

The EUT must have its hopping function enabled. According to DA 00-705, use the following spectrum analyzer settings:
Span = wide enough to capture the peaks of two adjacent channels
Resolution (or IF) Bandwidth (RBW) ≥ 1% of the span
Video (or Average) Bandwidth (VBW) ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

3.8.3.Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.8.4.Test Result

Refer to Annex A.6 in this report.

3.9. Time of Occupancy (Dwell time)

3.9.1.Requirement

According to FCC section 15.247(a) (1) (iii), frequency hopping systems in the 2400 - 2483.5MHz band shall use at least 15 non-overlapping channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

3.9.2.Test Procedures

Normal Mode:
DH1: Dwell time equal to Pulse time (ms) *(1600 / 2 /79)*31.6 Millisecond DH3: Dwell time equal to Pulse time (ms) * (1600 /4 /79) *31.6 Millisecond DH5: Dwell time equal to Pulse Time (ms)* (1600 / 6 /79) *31.6 Millisecond
AFH Mode:
DH1: Dwell time equal to Pulse time (ms) *(800 / 2 /20)*(0.4*20) Millisecond DH3: Dwell time equal to Pulse time (ms) * (800 / 4 /20)*(0.4*20) Millisecond DH5: Dwell time equal to Pulse Time (ms)* (800 / 6 /20)*(0.4*20) Millisecond.

3.9.3.Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.9.4.Test Result

Refer to Annex A.7 in this report.

3.10. Conducted Spurious Emissions and Band Edge

3.10.1.Requirement

According to FCC section 15.247(d), in any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

3.10.2.Test Procedures

Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
RBW = 100 kHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
Allow the trace to stabilize.

3.10.3.Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.10.4.Test Result

Refer to Annex A.8 and A.9 in this report.

3.11. Conducted Emission

3.11.1.Requirement

According to FCC section 15.207, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50μH/50Ω line impedance stabilization network (LISN).

Frequency Range (MHz)	Conducted Limit (dBμV)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

Note:

(a) The lower limit shall apply at the band edges.

(b) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

3.11.2.Test Procedures

The Table-top EUT was placed upon a non-metallic table 0.8m above the horizontal metal reference ground plane. EUT was connected to LISN and LISN was connected to reference Ground Plane. EUT was 80cm from LISN. The set-up and test methods were according to ANSI C63.10: 2013.

3.11.3.Test Setup Layout

Refer to chapter 2.6.2 in this report.

3.11.4.Test Result

Refer to Annex A.10 in this report.

3.12. Restricted Frequency Bands

3.12.1.Requirement

According to FCC section 15.247(d), in any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, 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).

3.12.2.Test Procedures

The EUT is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading.
For the Test Antenna:
Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength.
Span = wide enough to fully capture the emission being measured
RBW = 1 MHz for f ≥ 1GHz, 100 kHz for f < 1GHz
VBW = 3 MHz
Sweep = auto
Detector function = peak/average
Trace = max hold
Allow the trace to stabilize

3.12.3.Test Setup Layout

Refer to chapter 2.6.3 in this report.

3.12.4.Test Result

Refer to Annex A.11 in this report.

3.13. Radiated Emission

3.13.1.Requirement

According to FCC section 15.247(d), radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
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

Note1: For above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.
Note2: For above 1000MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (PK).In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), also should comply with the radiated emission limits specified in Section 15.209(a)(above table).

3.13.2.Test Procedures

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz.The antenna to EUT distance is 3meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 30MHz, the emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9kHz-90 kHz, 110kHz-490 kHz. Radiated emission limits in these two bands are based on measurements employing an average detector.

For measurements below 1GHz the resolution bandwidth is set to 100kHz for peak detection measurements or 120kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1GHz the resolution bandwidth is set to 1MHz, the video band width is set to 3MHz for peak measurements and as applicable for average measurements.

The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions. For measurements above 1 GHz, keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response.

3.13.3.Test Setup Layout

Refer to chapter 2.6.3 in this report.

3.13.4.Test Result

Refer to Annex A.12 in this report.

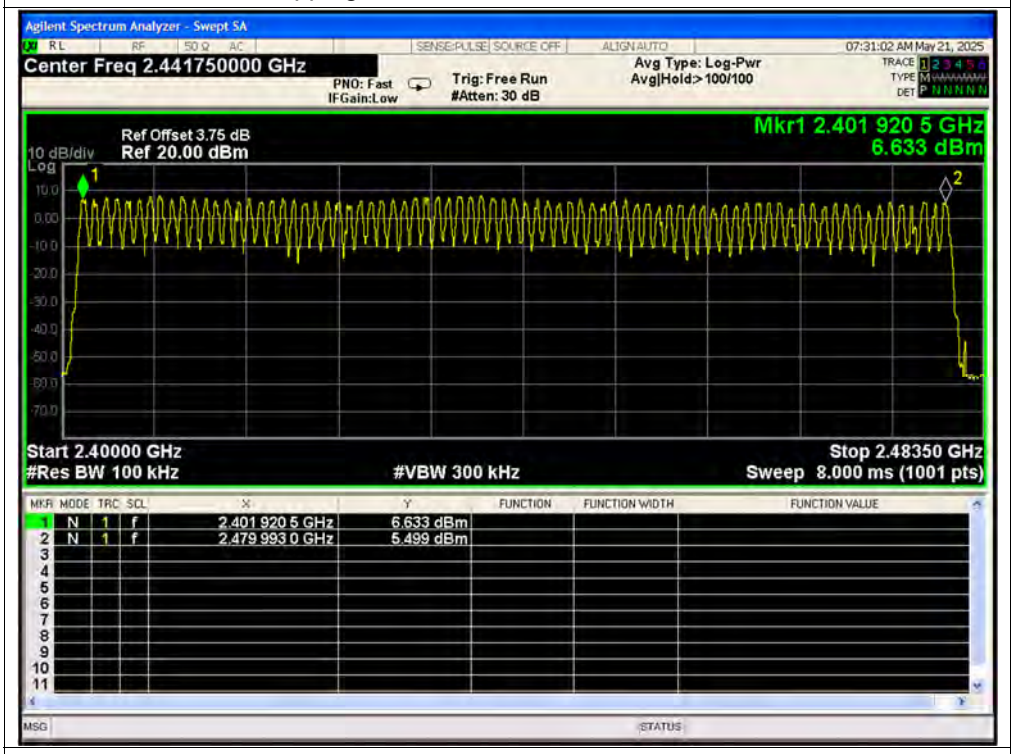
Annex A Test Data and Result

A.1. Number of Hopping Frequency

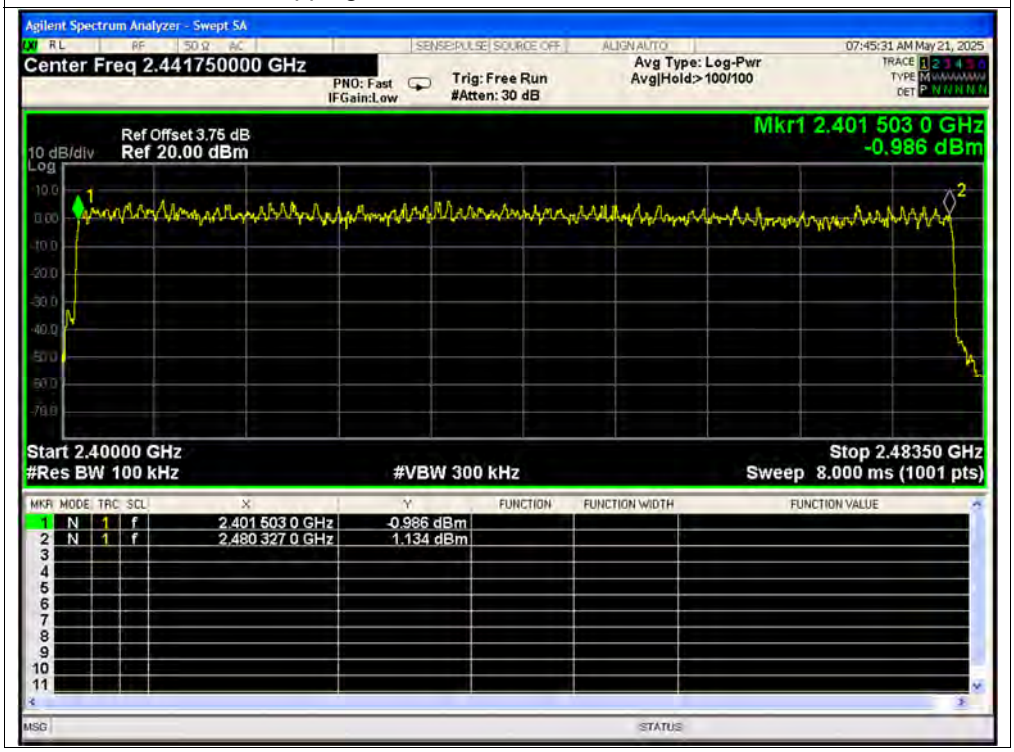
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

Test Graphs

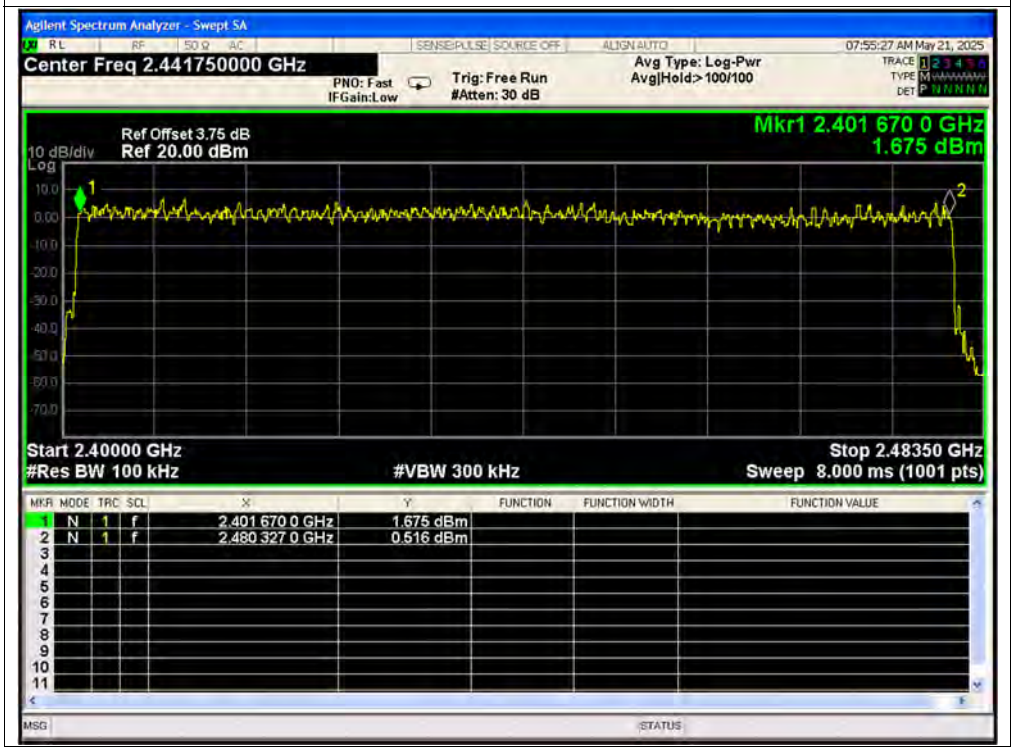
Hopping No. NVNT 1-DH5 2441MHz Ant1



Hopping No. NVNT 2-DH5 2441MHz Ant1



Hopping No. NVNT 3-DH5 2441MHz Ant1

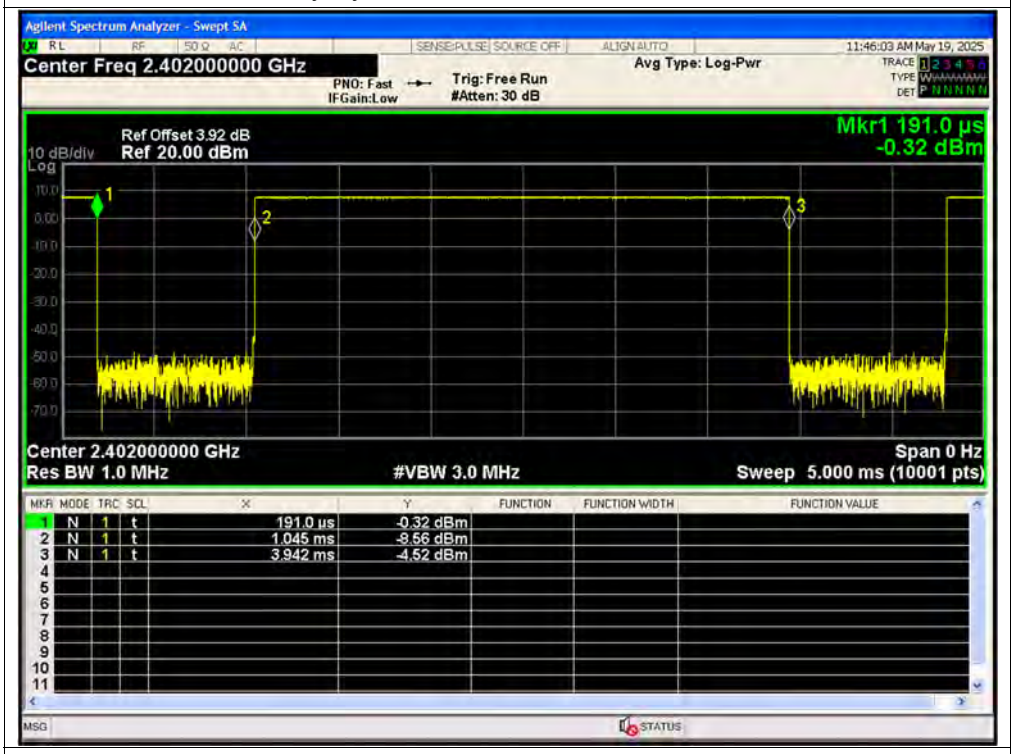


A.2. Duty Cycle of Test Signal

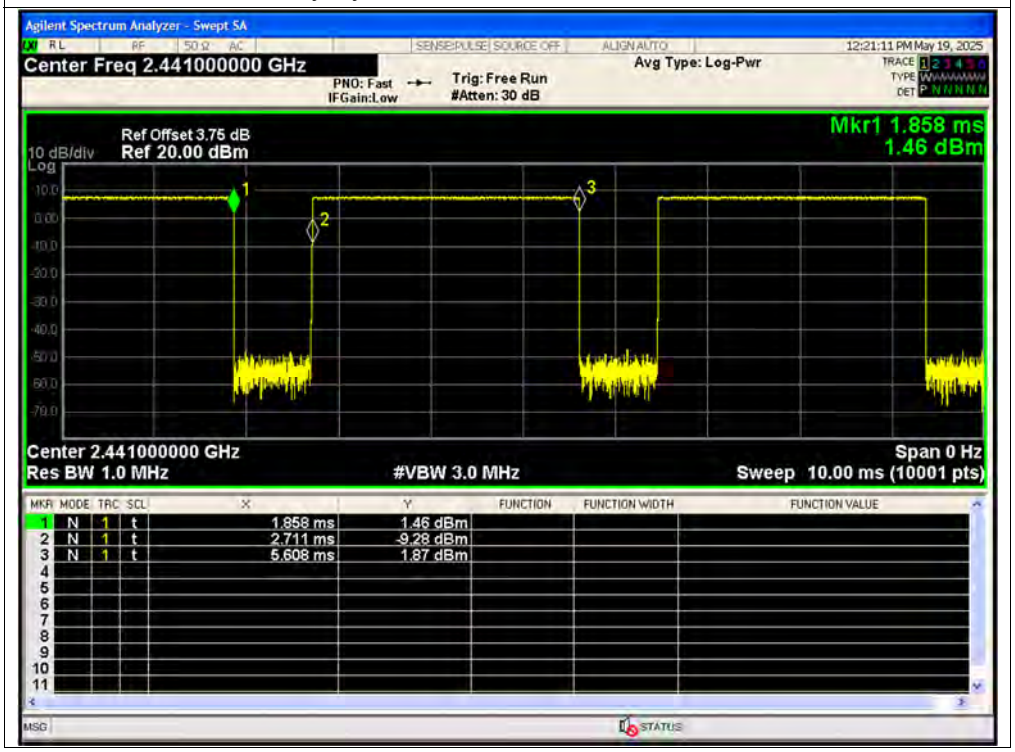
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.24	1.12	0.35
NVNT	1-DH5	2441	Ant1	77.25	1.12	0.35
NVNT	1-DH5	2480	Ant1	76.91	1.14	0.35
NVNT	2-DH5	2402	Ant1	76.96	1.14	0.35
NVNT	2-DH5	2441	Ant1	76.93	1.14	0.35
NVNT	2-DH5	2480	Ant1	76.93	1.14	0.35
NVNT	3-DH5	2402	Ant1	76.93	1.14	0.35
NVNT	3-DH5	2441	Ant1	76.91	1.14	0.35
NVNT	3-DH5	2480	Ant1	76.91	1.14	0.35

Test Graphs

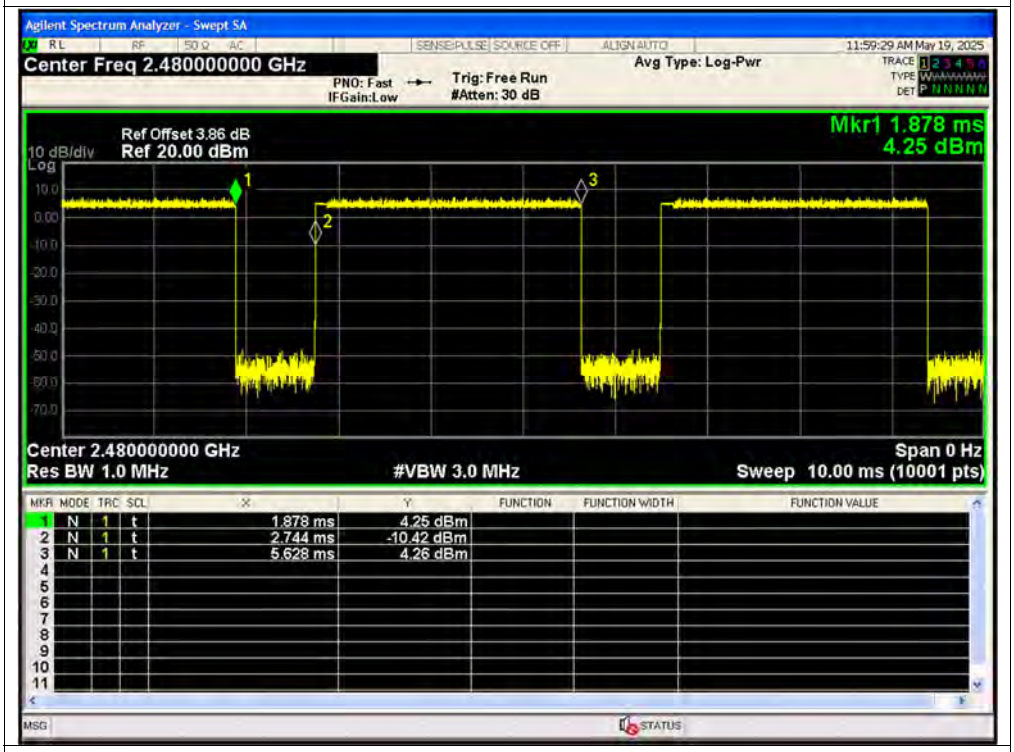
Duty Cycle NVNT 1-DH5 2402MHz Ant1



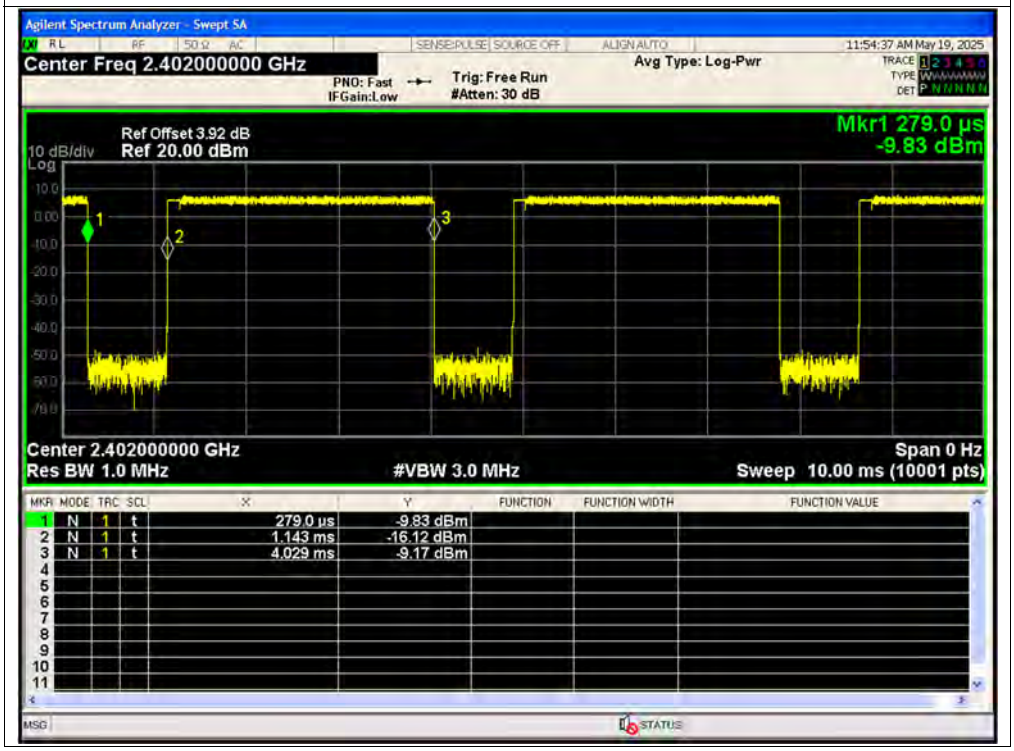
Duty Cycle NVNT 1-DH5 2441MHz Ant1



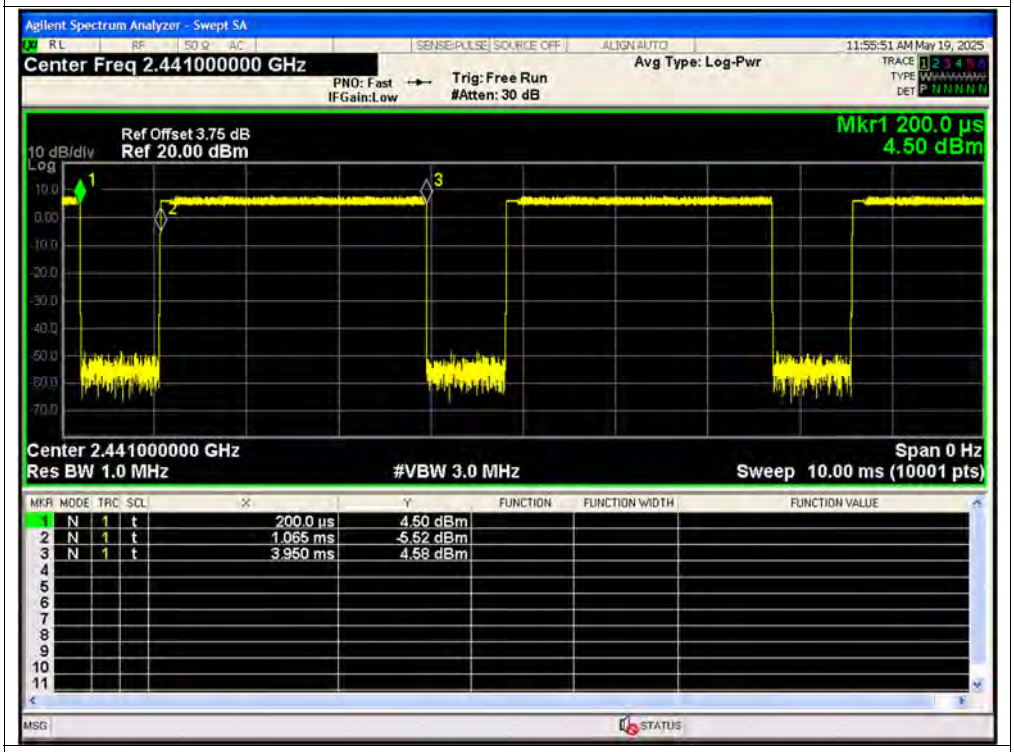
Duty Cycle NVNT 1-DH5 2480MHz Ant1



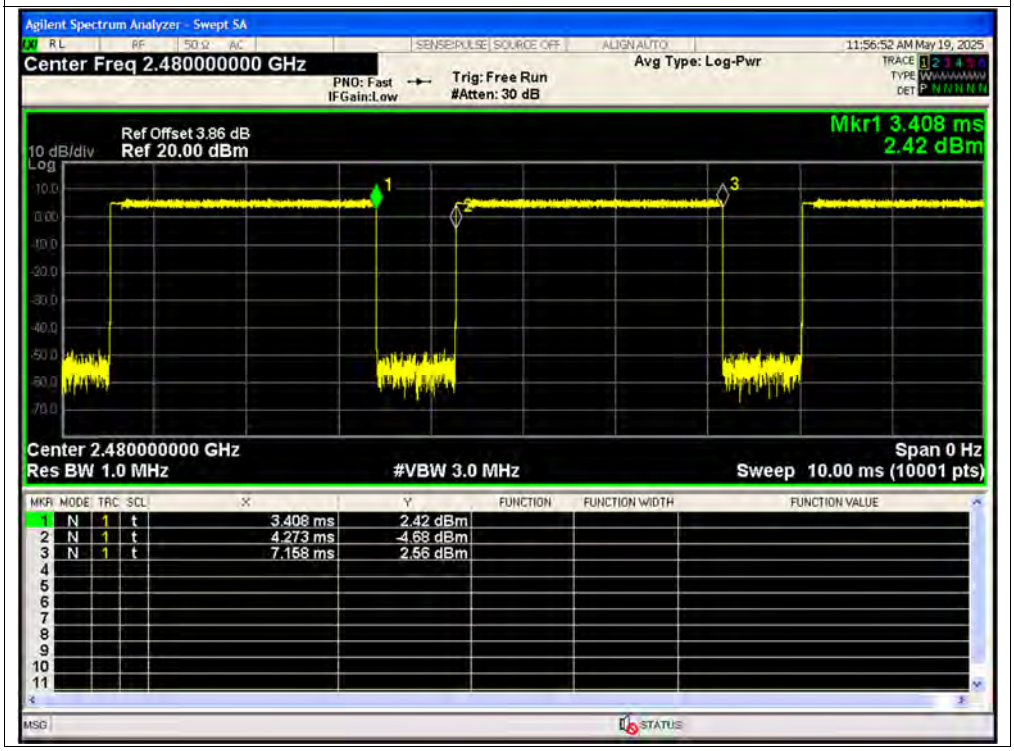
Duty Cycle NVNT 2-DH5 2402MHz Ant1



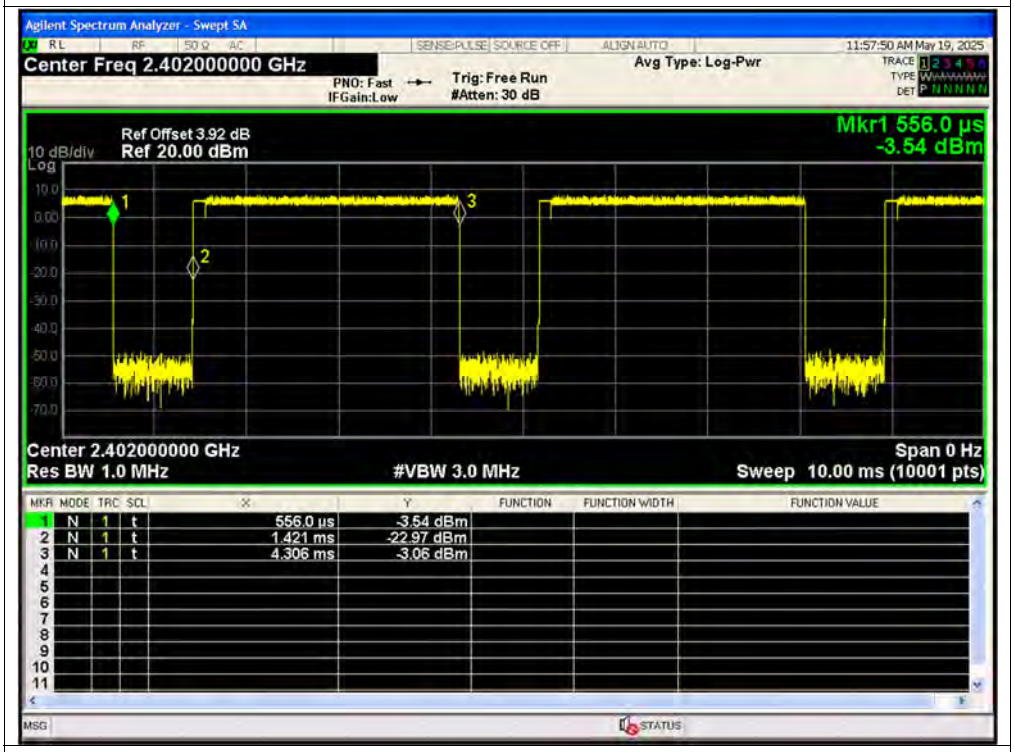
Duty Cycle NVNT 2-DH5 2441MHz Ant1



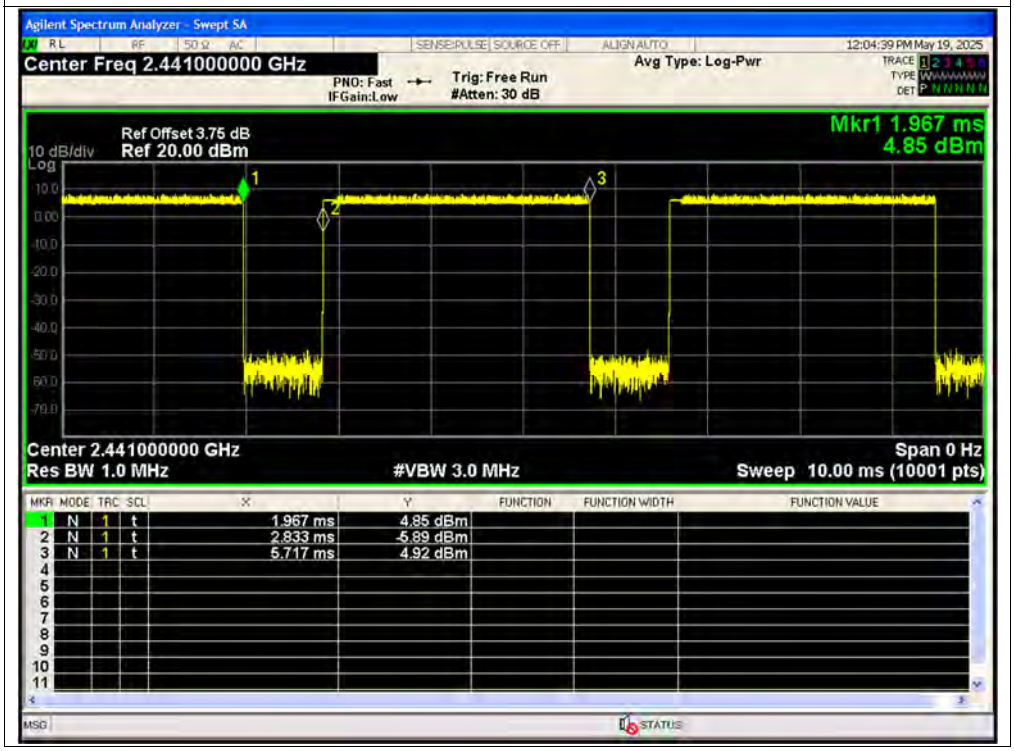
Duty Cycle NVNT 2-DH5 2480MHz Ant1



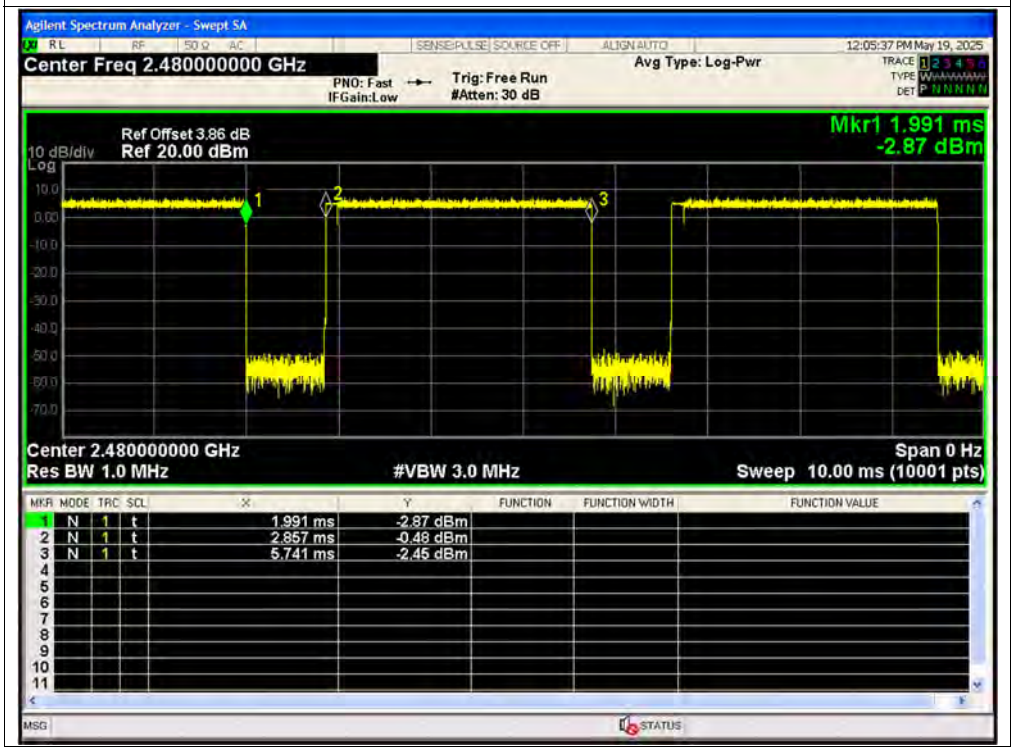
Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



Duty Cycle NVNT 3-DH5 2480MHz Ant1



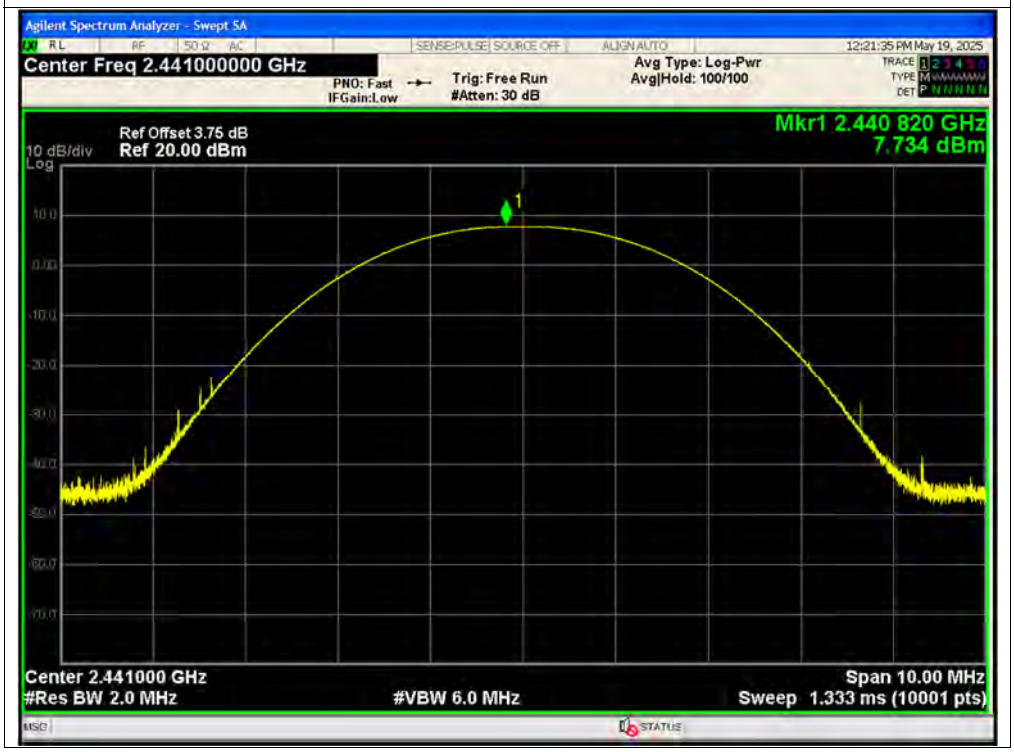
A.3. Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Conducted Power (dBm)	Total Conducted Power (W)	Limit Conducted (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	7.91	0	7.91	0.00618	30	Pass
NVNT	1-DH5	2441	Ant1	7.73	0	7.73	0.00593	30	Pass
NVNT	1-DH5	2480	Ant1	6.35	0	6.35	0.00432	30	Pass
NVNT	2-DH5	2402	Ant1	8.1	0	8.1	0.00646	30	Pass
NVNT	2-DH5	2441	Ant1	8.24	0	8.24	0.00667	30	Pass
NVNT	2-DH5	2480	Ant1	7.26	0	7.26	0.00532	30	Pass
NVNT	3-DH5	2402	Ant1	8.41	0	8.41	0.00693	30	Pass
NVNT	3-DH5	2441	Ant1	8.56	0	8.56	0.00718	30	Pass
NVNT	3-DH5	2480	Ant1	7.63	0	7.63	0.00579	30	Pass

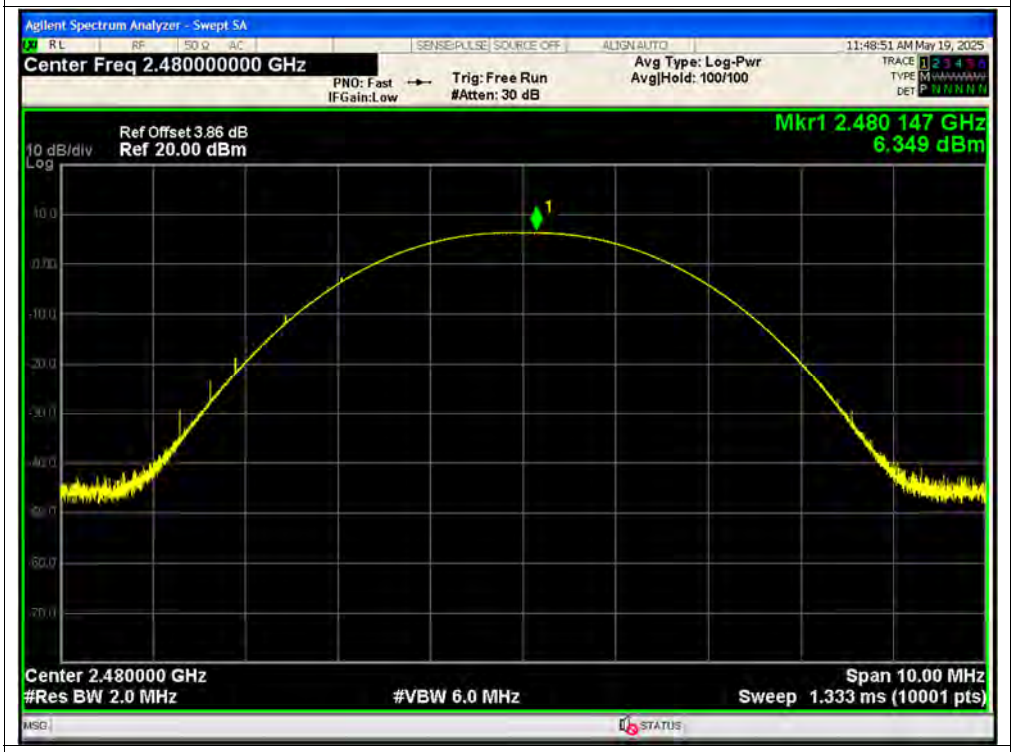
Test Graphs

Peak Power NVNT 1-DH5 2402MHz Ant1

Peak Power NVNT 1-DH5 2441MHz Ant1

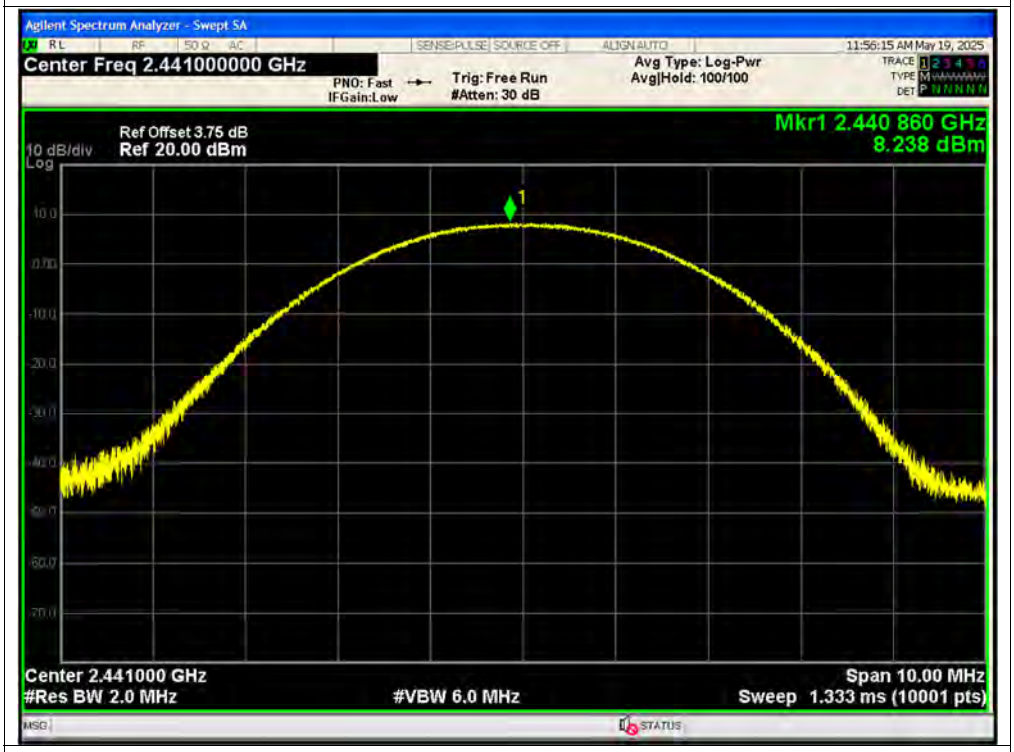


Peak Power NVNT 1-DH5 2480MHz Ant1

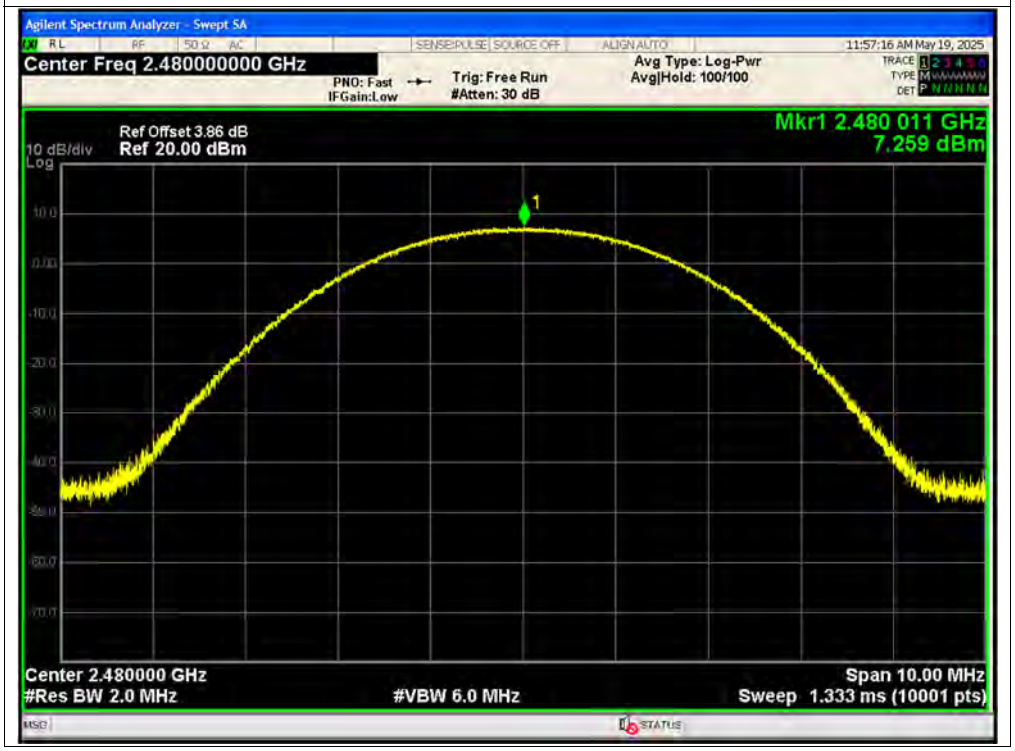


Peak Power NVNT 2-DH5 2402MHz Ant1

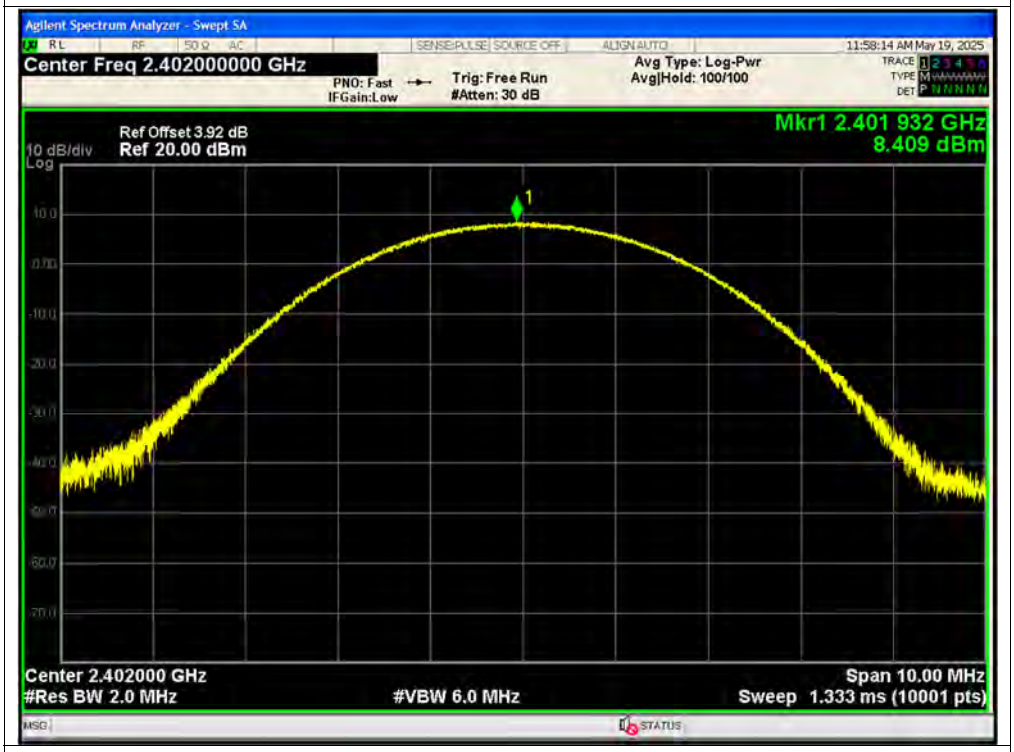
Peak Power NVNT 2-DH5 2441MHz Ant1



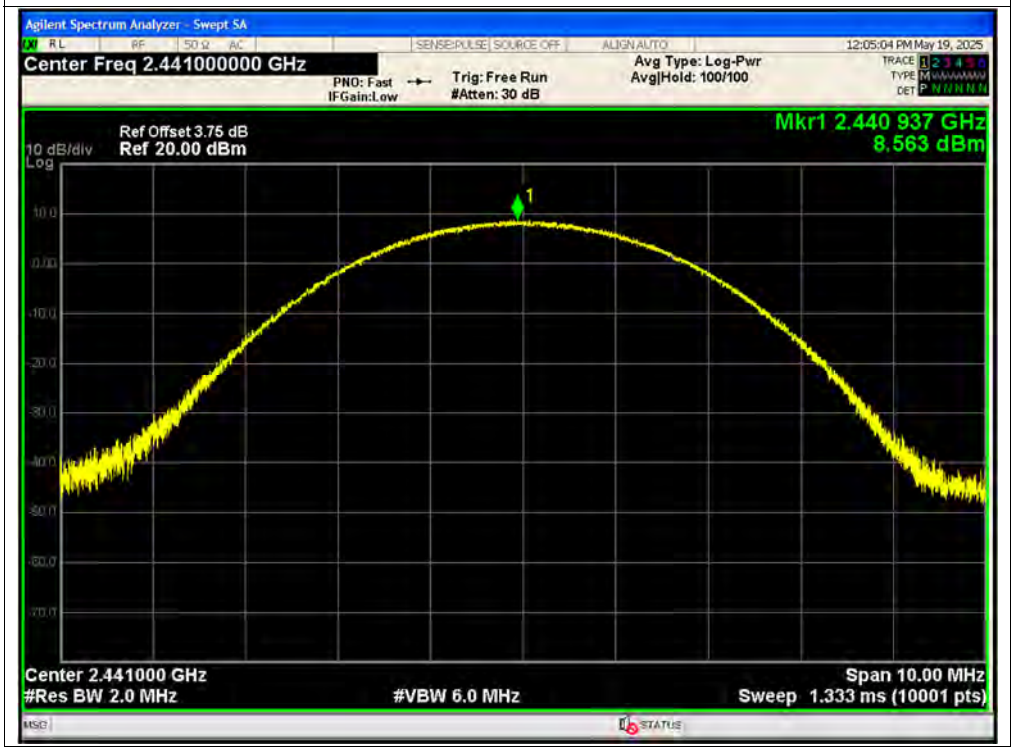
Peak Power NVNT 2-DH5 2480MHz Ant1



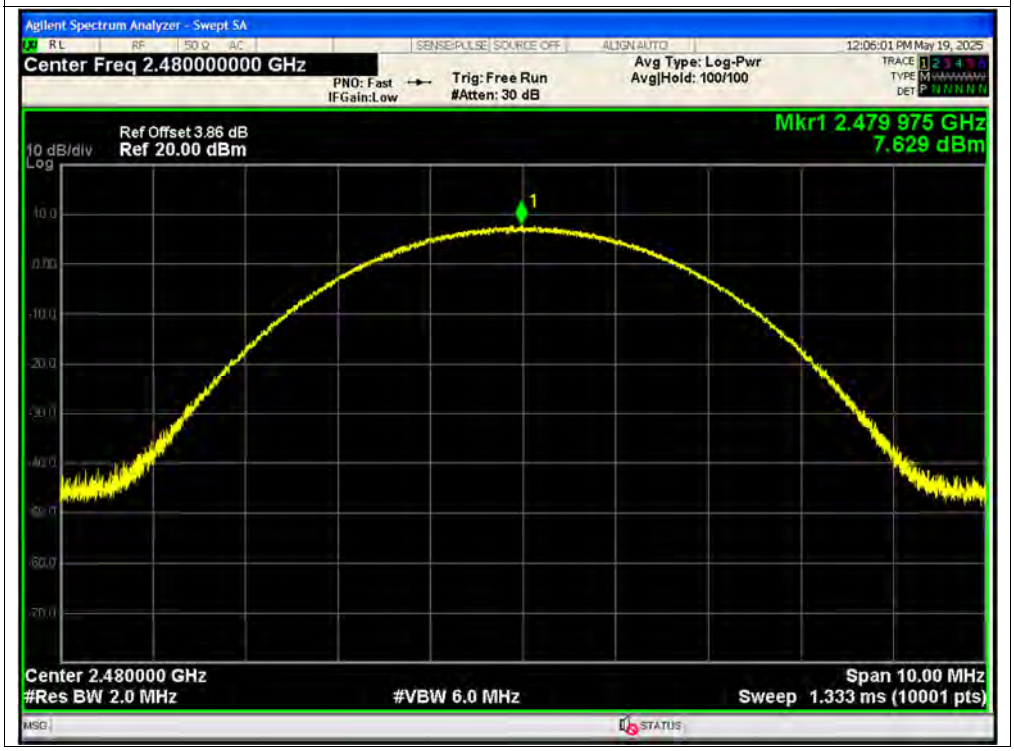
Peak Power NVNT 3-DH5 2402MHz Ant1



Peak Power NVNT 3-DH5 2441MHz Ant1



Peak Power NVNT 3-DH5 2480MHz Ant1

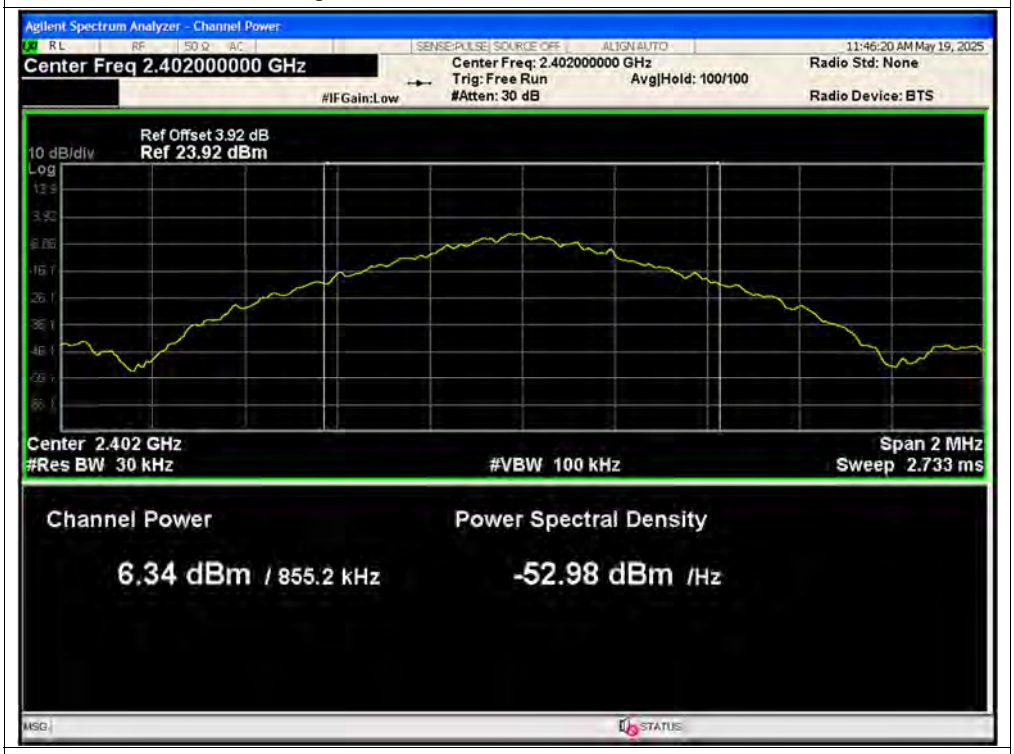


A.4. Maximum Average Conducted Output Power

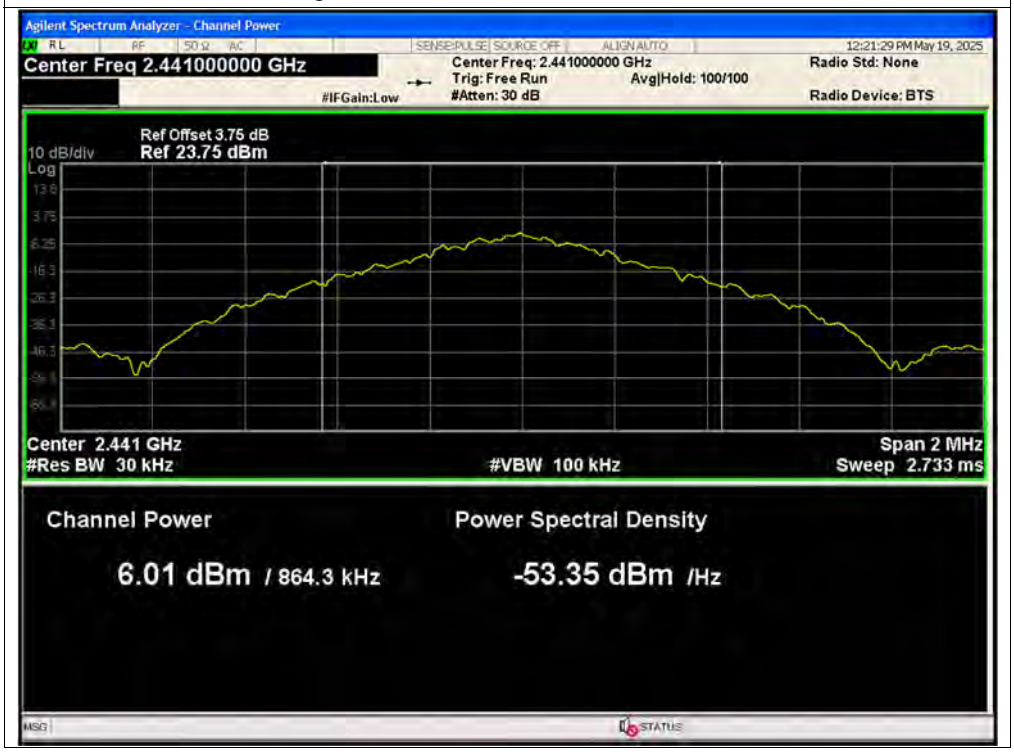
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Conducted Power (dBm)	Total Conducted Power (W)	Limit Conducted (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	6.34	1.12	7.46	0.00557	30	Pass
NVNT	1-DH5	2441	Ant1	6.01	1.12	7.13	0.00516	30	Pass
NVNT	1-DH5	2480	Ant1	2.36	1.14	3.5	0.00224	30	Pass
NVNT	2-DH5	2402	Ant1	4.23	1.14	5.37	0.00344	30	Pass
NVNT	2-DH5	2441	Ant1	4.35	1.14	5.49	0.00354	30	Pass
NVNT	2-DH5	2480	Ant1	3.07	1.14	4.21	0.00264	30	Pass
NVNT	3-DH5	2402	Ant1	4.18	1.14	5.32	0.0034	30	Pass
NVNT	3-DH5	2441	Ant1	4.57	1.14	5.71	0.00372	30	Pass
NVNT	3-DH5	2480	Ant1	3.38	1.14	4.52	0.00283	30	Pass

Test Graphs

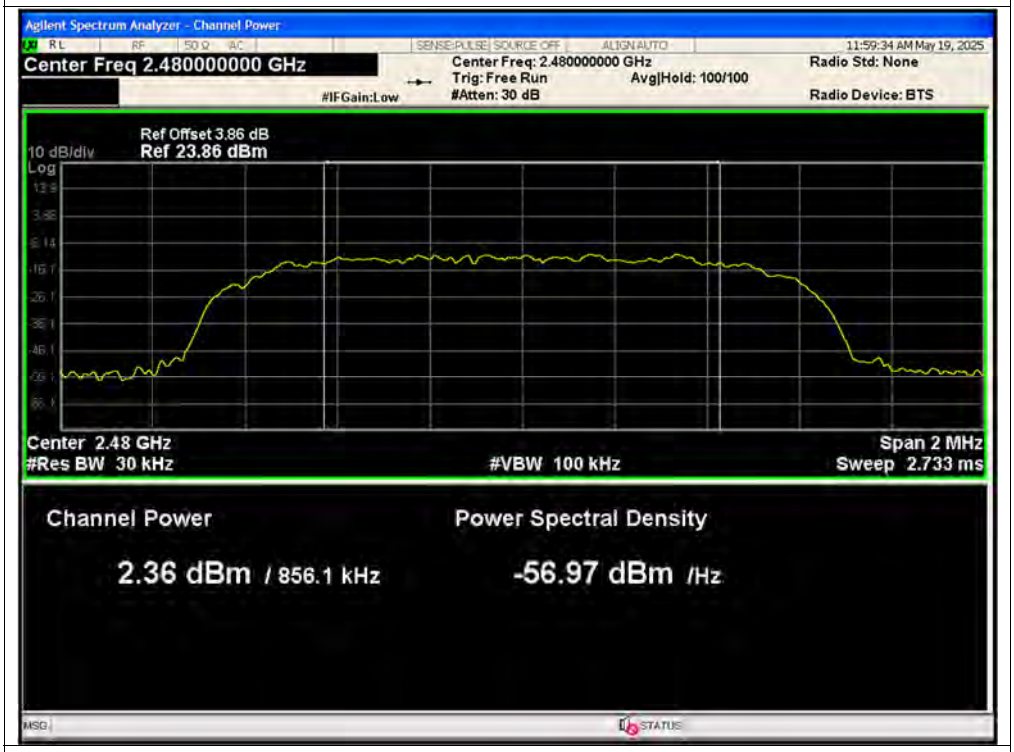
Average Power NVNT 1-DH5 2402MHz Ant1



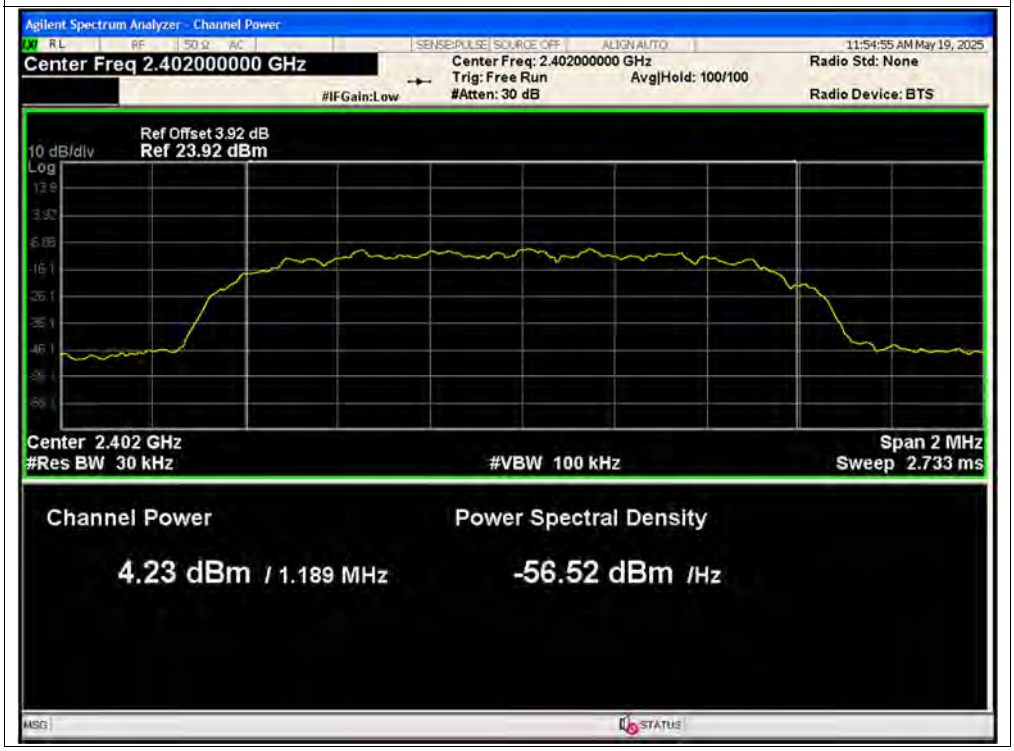
Average Power NVNT 1-DH5 2441MHz Ant1



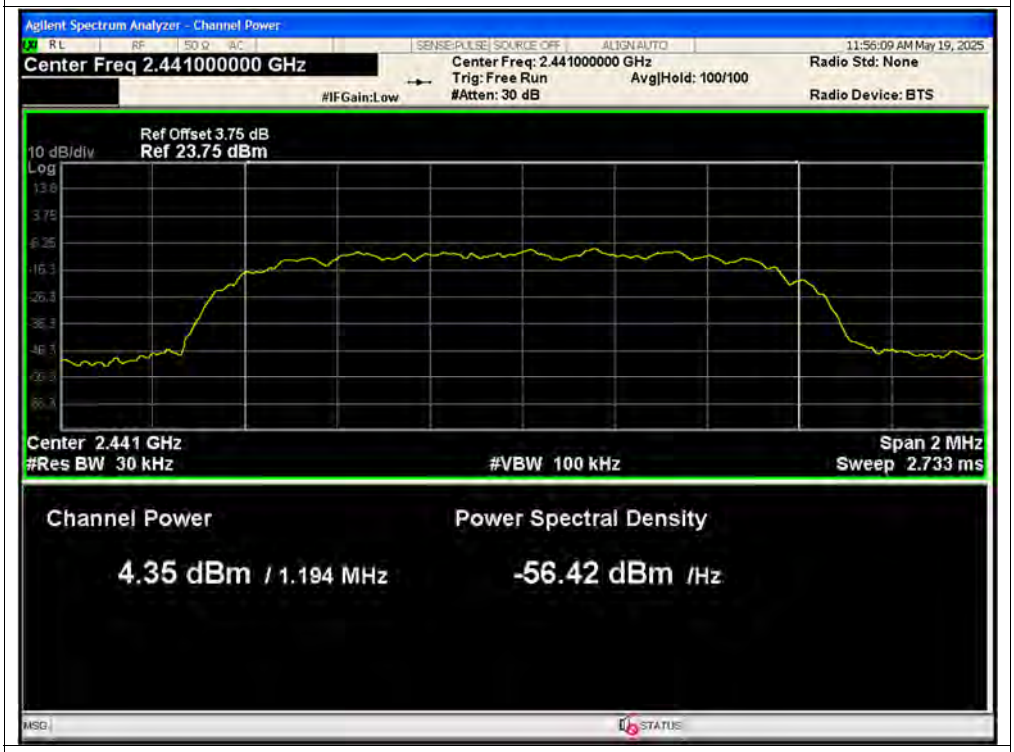
Average Power NVNT 1-DH5 2480MHz Ant1



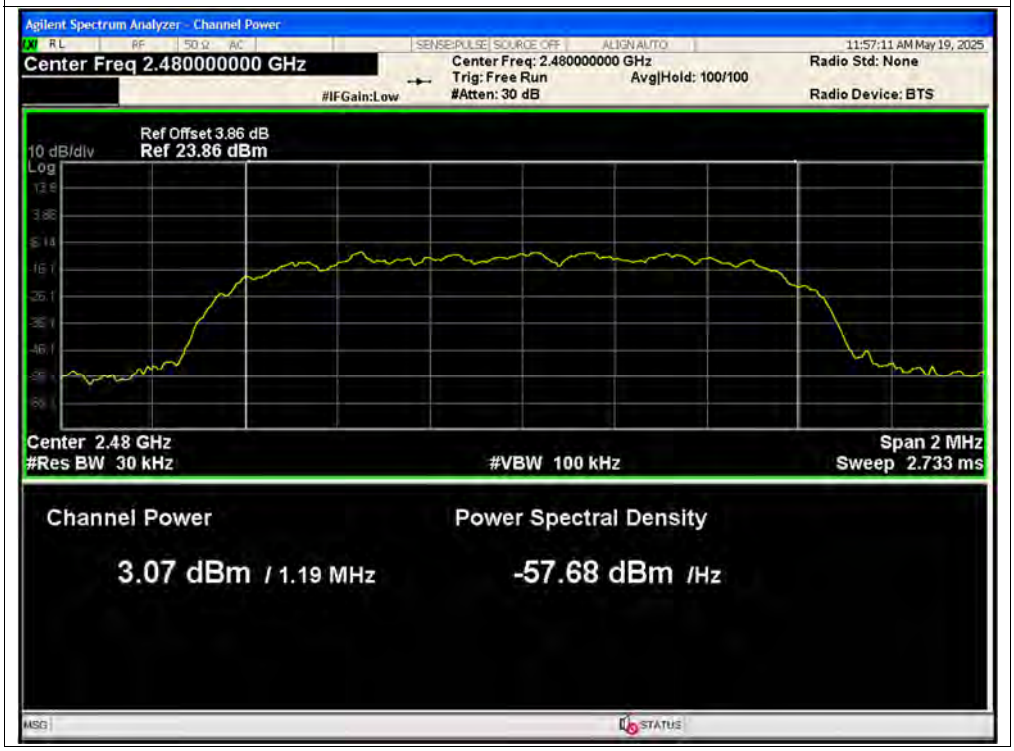
Average Power NVNT 2-DH5 2402MHz Ant1



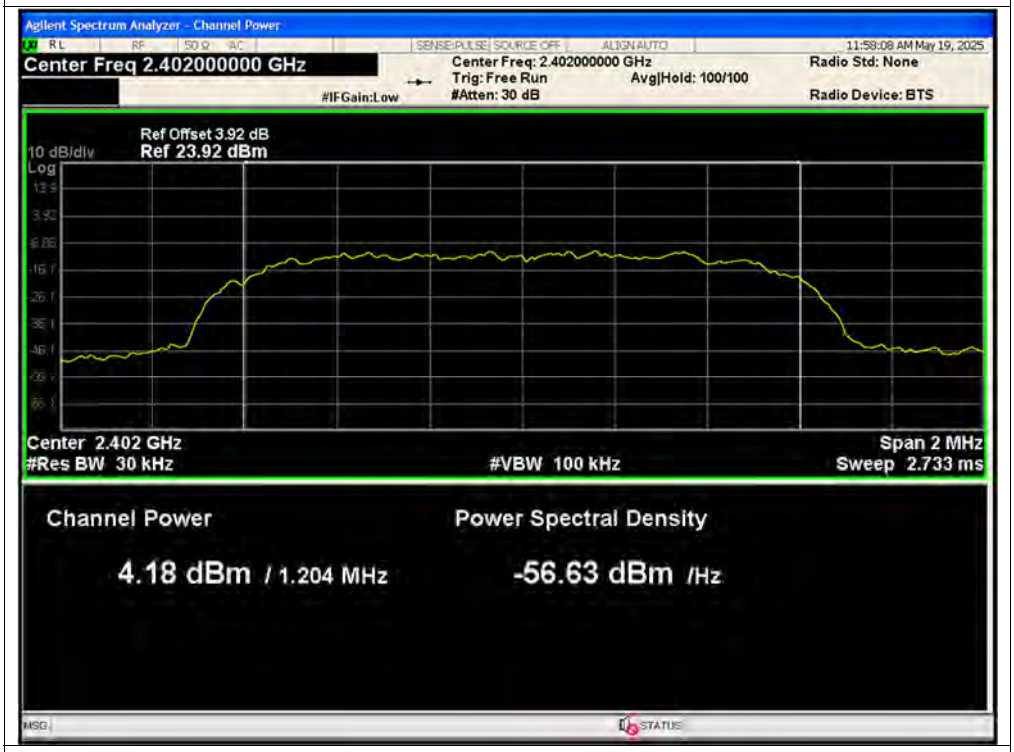
Average Power NVNT 2-DH5 2441MHz Ant1



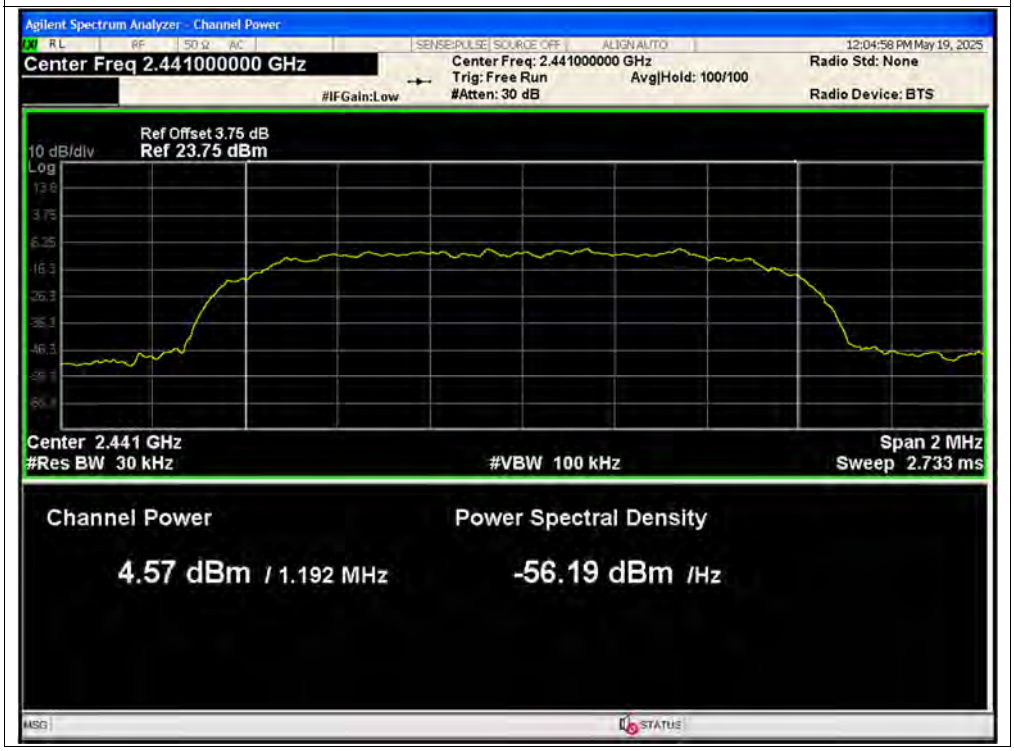
Average Power NVNT 2-DH5 2480MHz Ant1



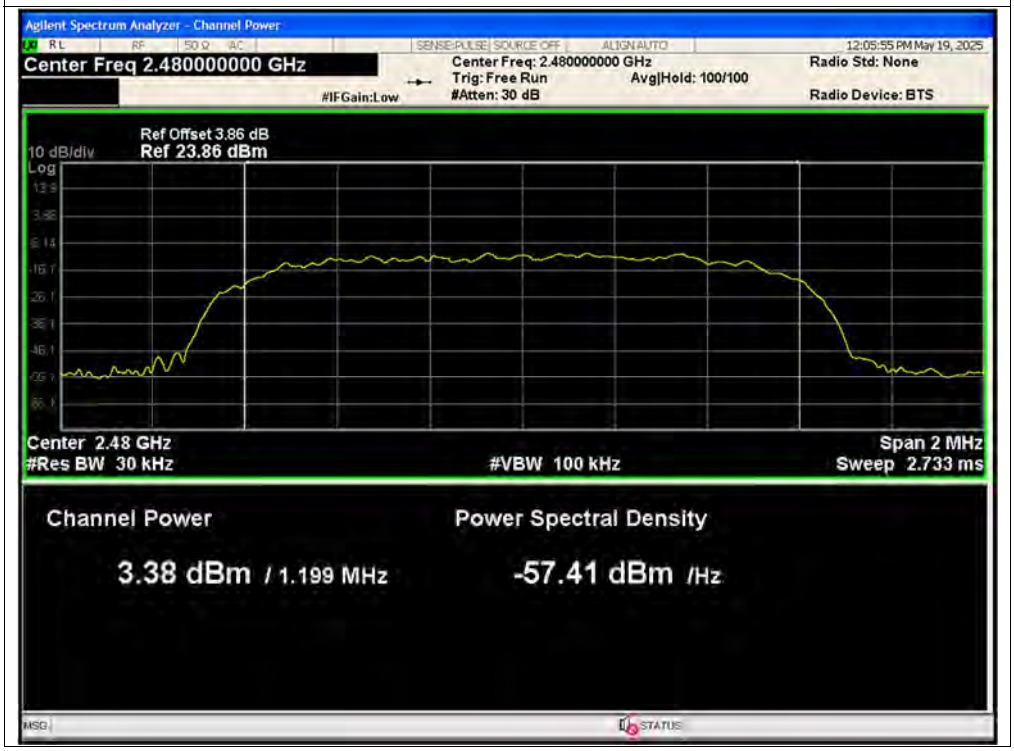
Average Power NVNT 3-DH5 2402MHz Ant1



Average Power NVNT 3-DH5 2441MHz Ant1



Average Power NVNT 3-DH5 2480MHz Ant1



A.5. 20 dB Bandwidth

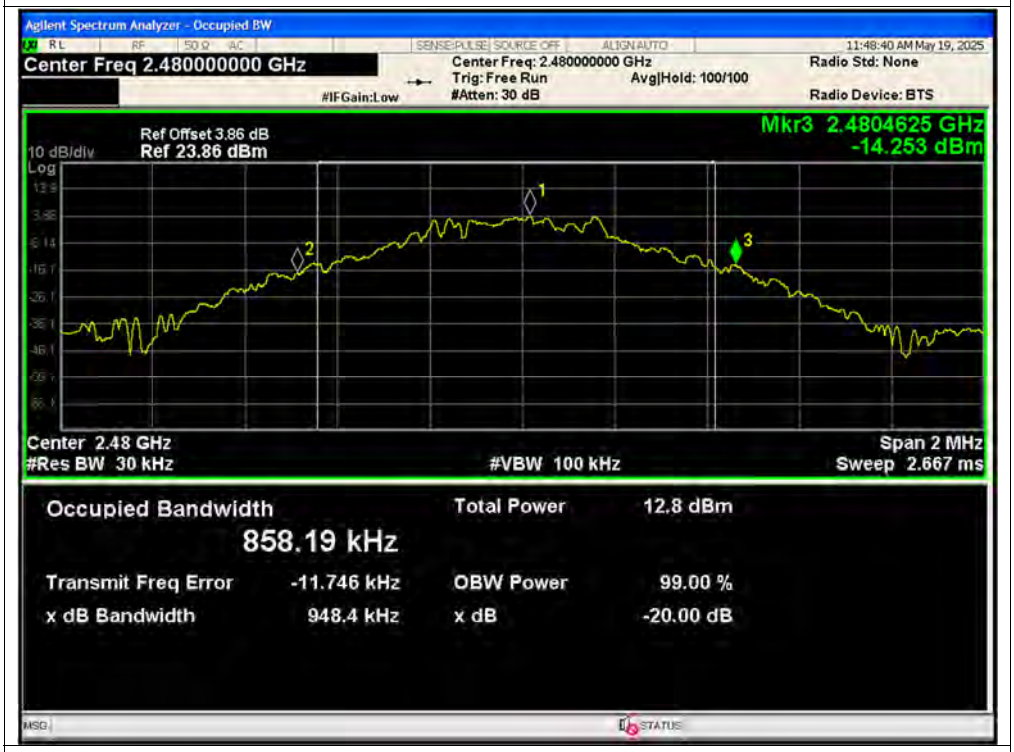
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)
NVNT	1-DH5	2402	Ant1	0.9513
NVNT	1-DH5	2441	Ant1	0.9425
NVNT	1-DH5	2480	Ant1	0.9484
NVNT	2-DH5	2402	Ant1	1.279
NVNT	2-DH5	2441	Ant1	1.283
NVNT	2-DH5	2480	Ant1	1.286
NVNT	3-DH5	2402	Ant1	1.297
NVNT	3-DH5	2441	Ant1	1.296
NVNT	3-DH5	2480	Ant1	1.274

Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



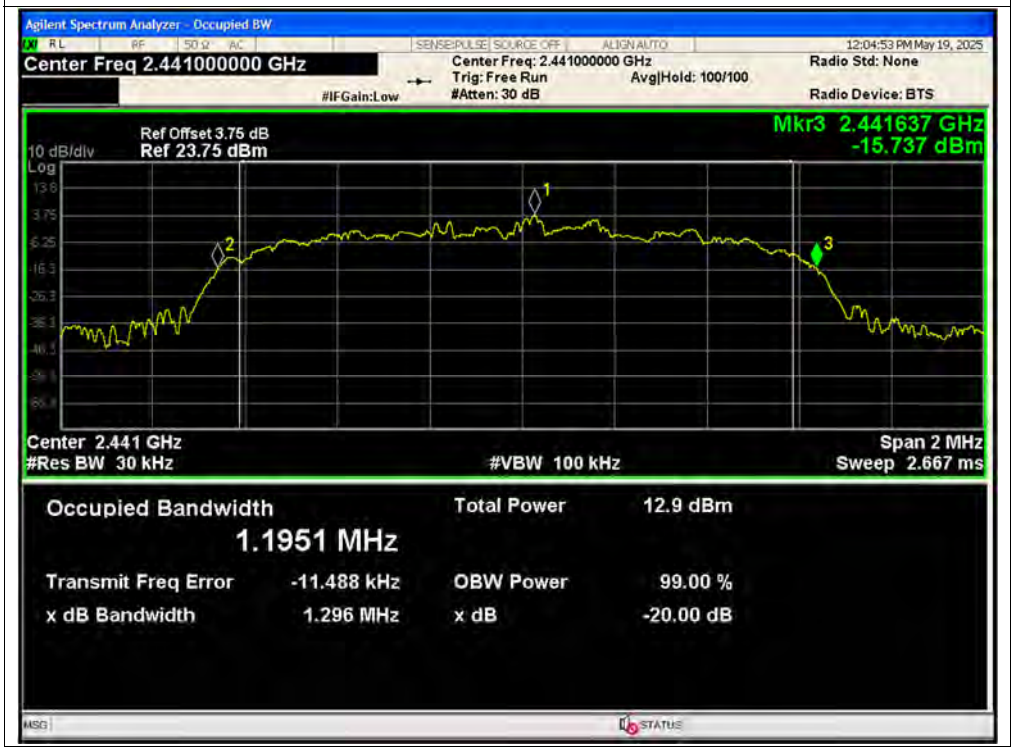
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1

-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

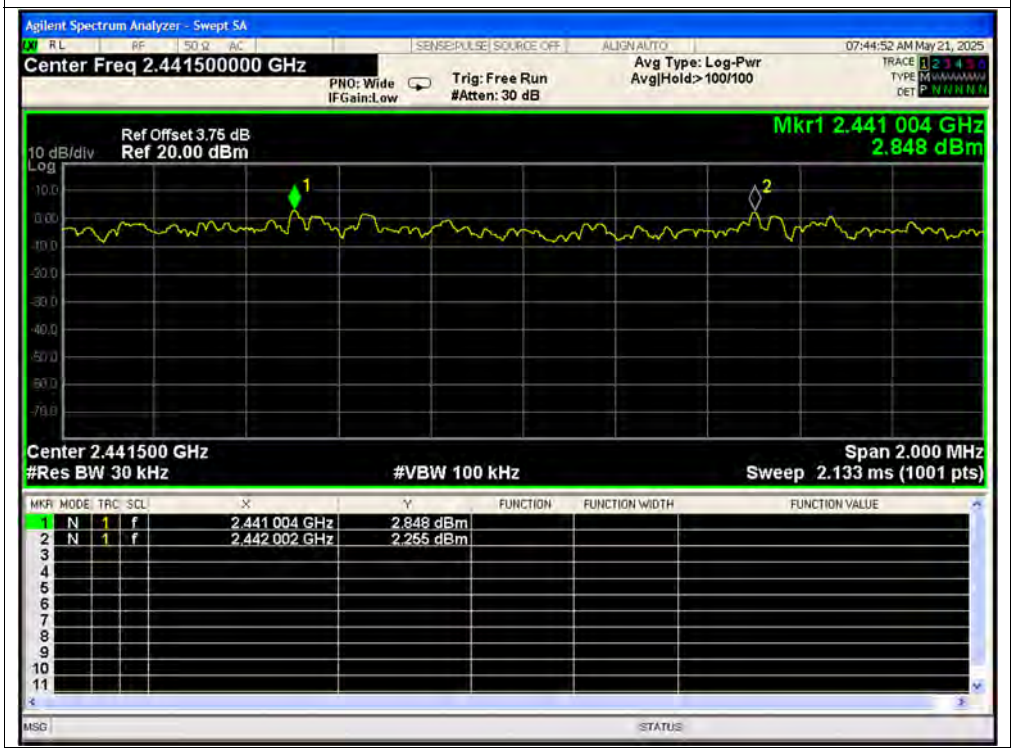
A.6. Carried Frequency Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2441.024	2441.83	0.806	0.628	Pass
NVNT	2-DH5	Ant1	2441.004	2442.002	0.998	0.855	Pass
NVNT	3-DH5	Ant1	2441.016	2442.028	1.012	0.864	Pass

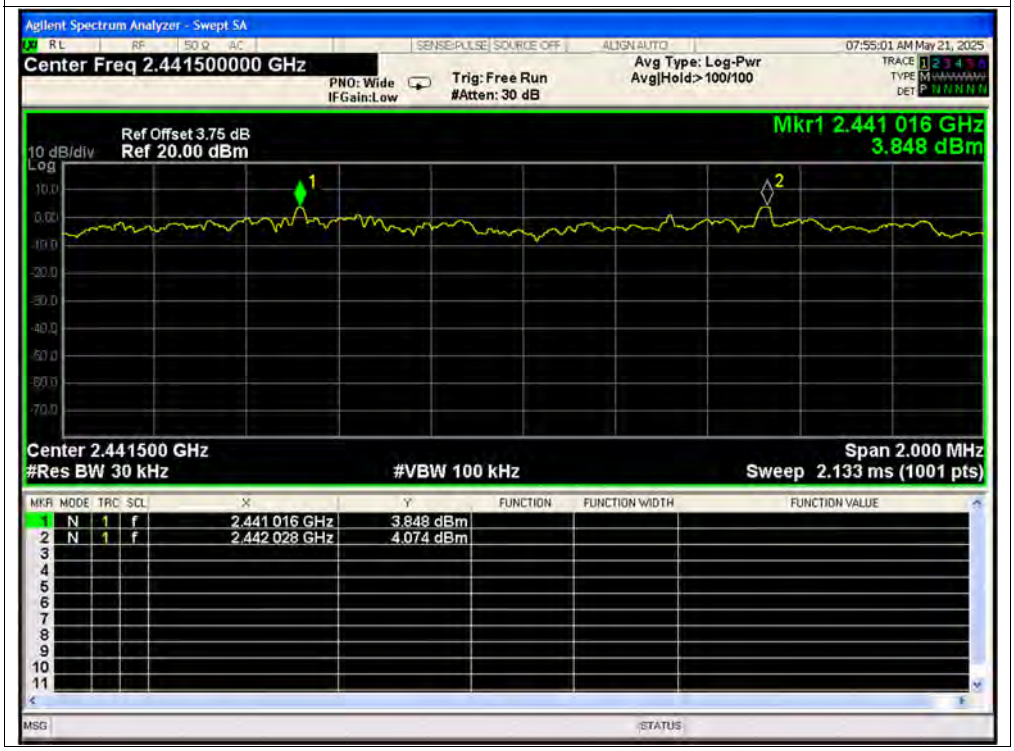
Test Graphs

CFS NVNT 1-DH5 2441MHz Ant1

CFS NVNT 2-DH5 2441MHz Ant1



CFS NVNT 3-DH5 2441MHz Ant1

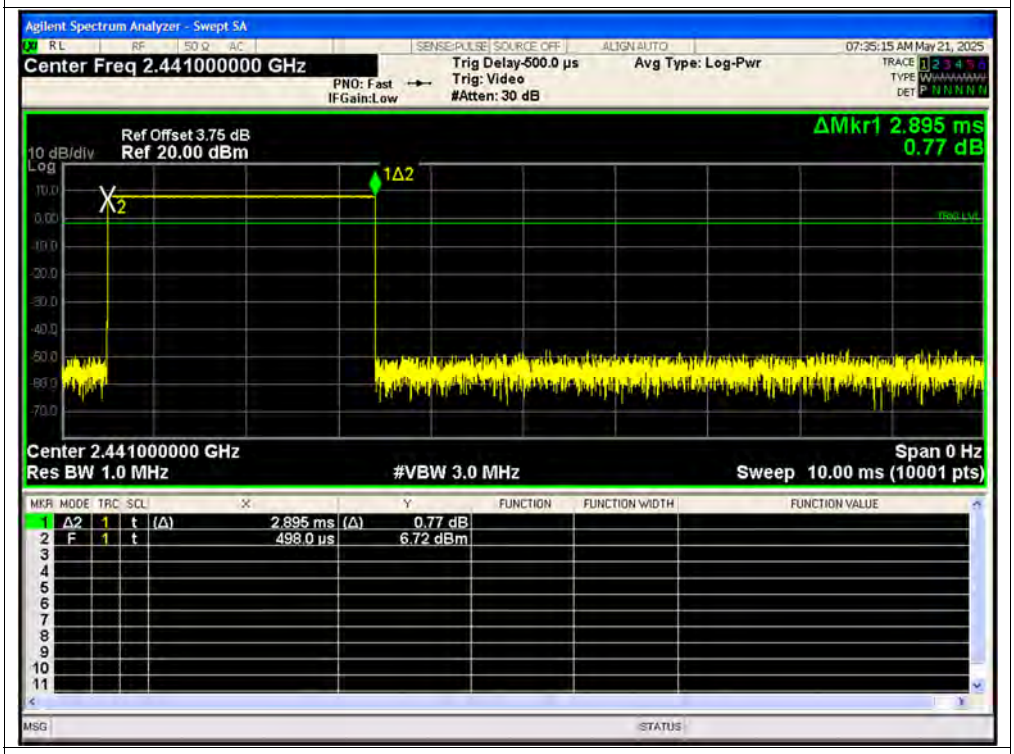


A.7. Time of Occupancy (Dwell time)

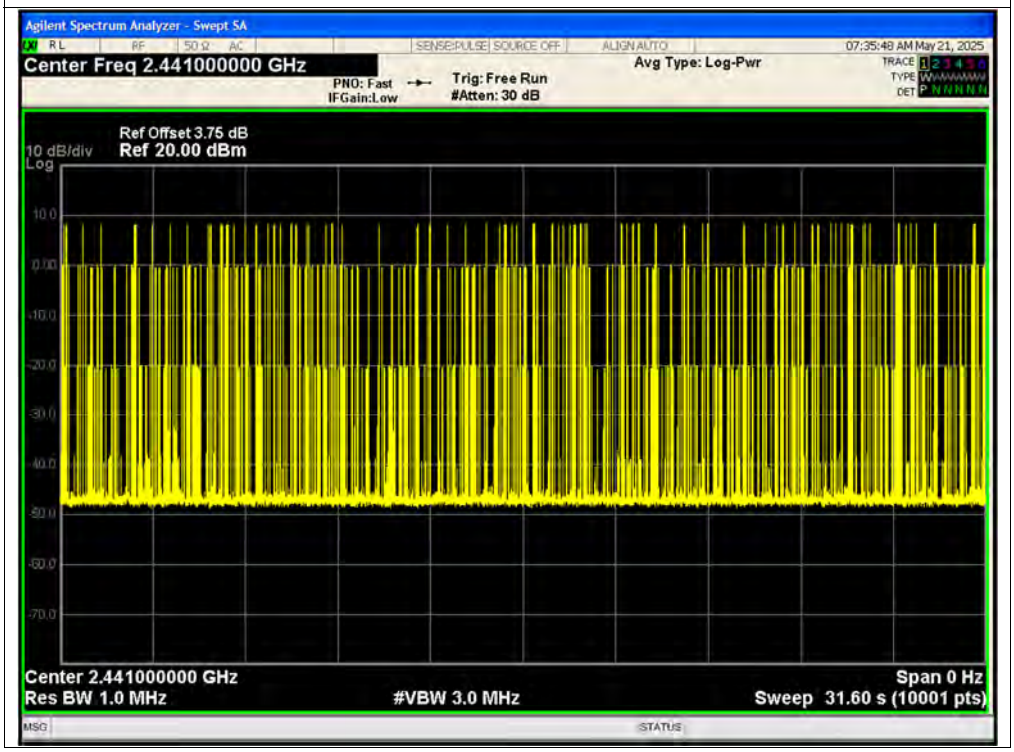
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2441	Ant1	2.895	266.34	92	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.884	305.704	106	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.883	311.364	108	31600	400	Pass

Test Graphs

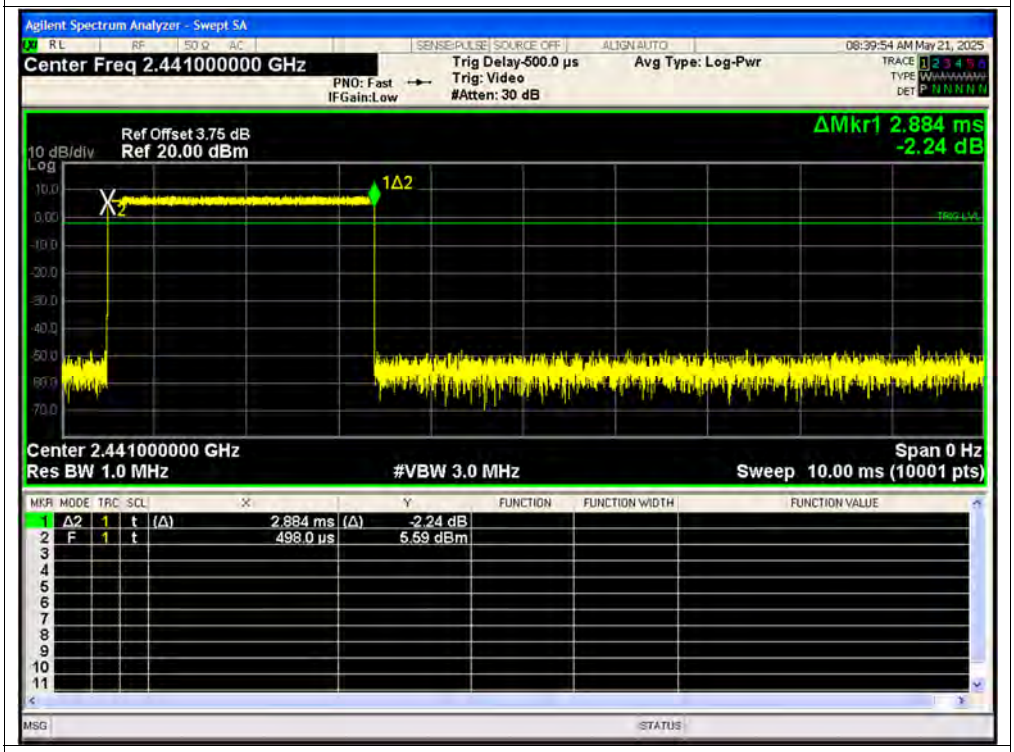
Dwell NVNT 1-DH5 2441MHz Ant1 One Burst



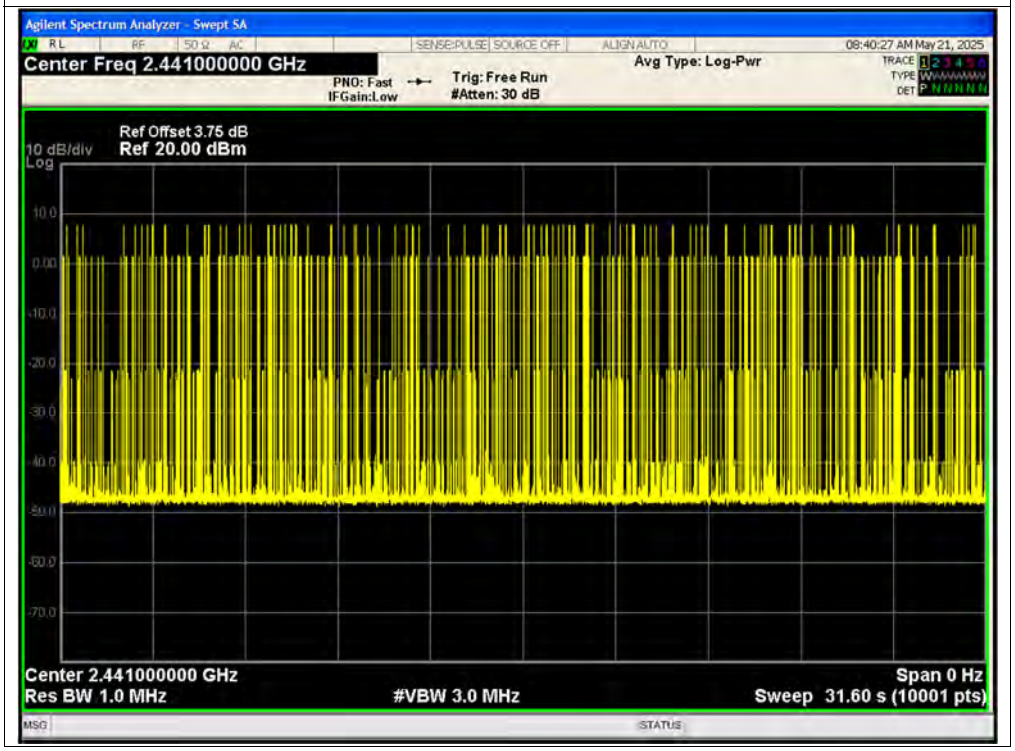
Dwell NVNT 1-DH5 2441MHz Ant1 Accumulated



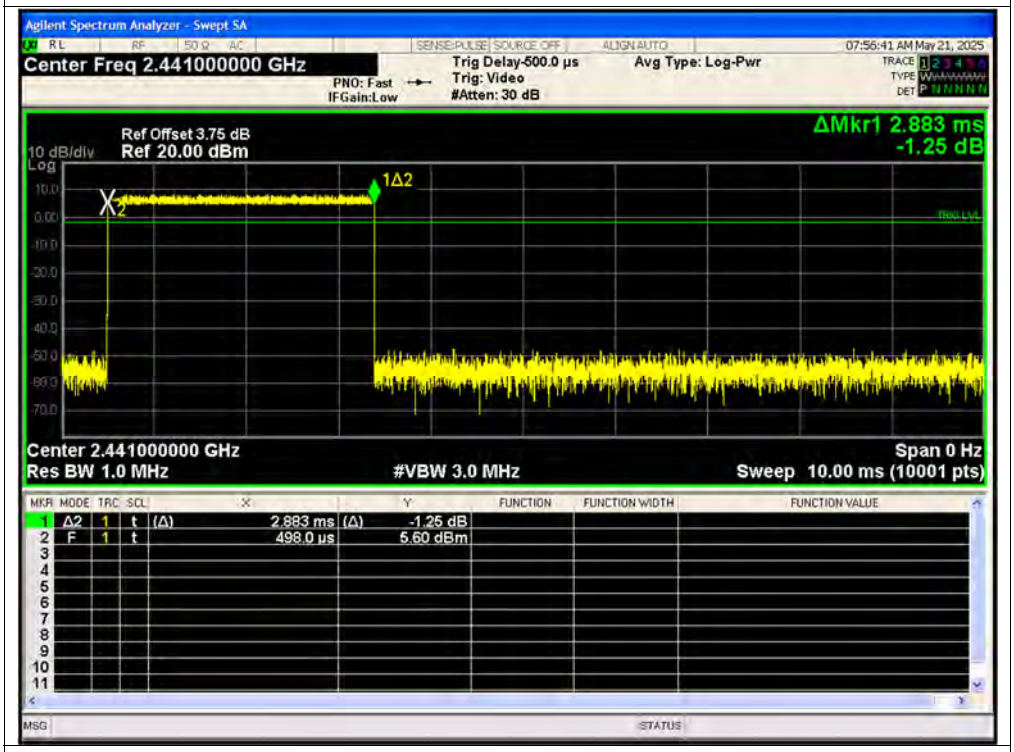
Dwell NVNT 2-DH5 2441MHz Ant1 One Burst



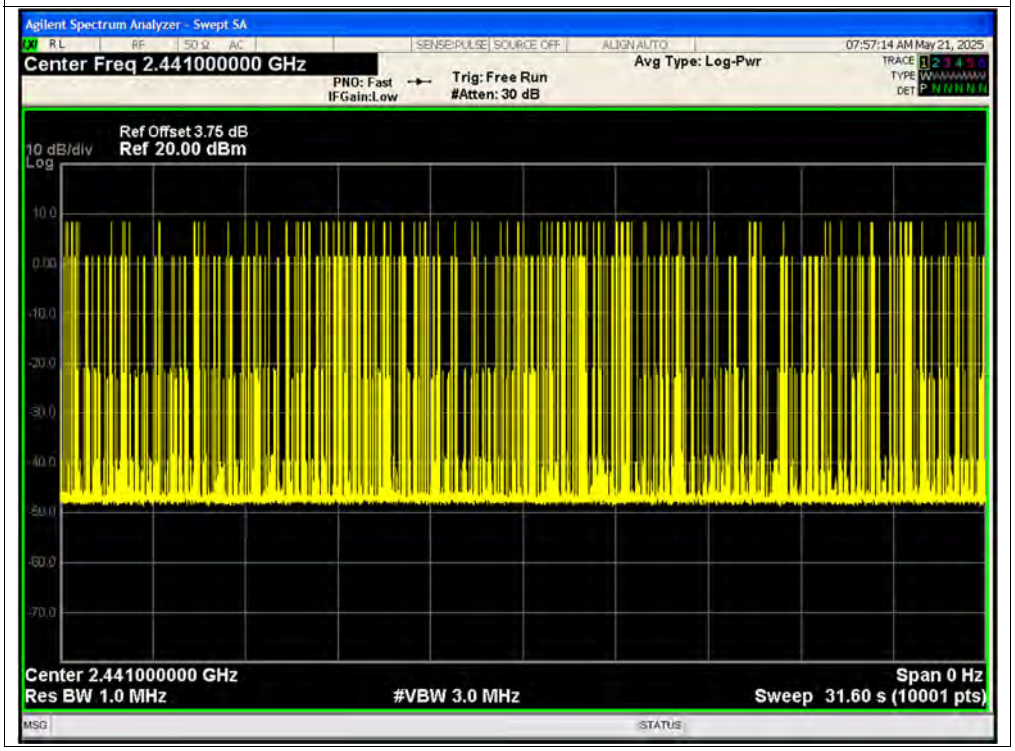
Dwell NVNT 2-DH5 2441MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2441MHz Ant1 One Burst



Dwell NVNT 3-DH5 2441MHz Ant1 Accumulated



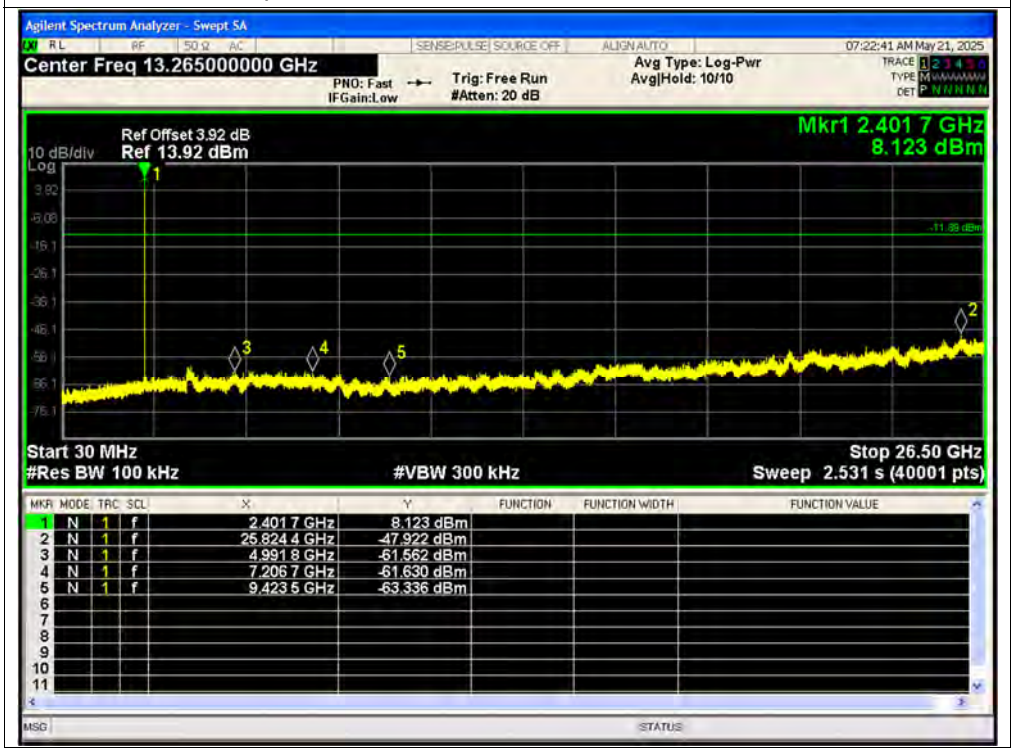
A.8. Conducted Spurious Emissions

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-56.03	-20	Pass
NVNT	1-DH5	2441	Ant1	-56.18	-20	Pass
NVNT	1-DH5	2480	Ant1	-53.15	-20	Pass
NVNT	2-DH5	2402	Ant1	-55.23	-20	Pass
NVNT	2-DH5	2441	Ant1	-55.68	-20	Pass
NVNT	2-DH5	2480	Ant1	-53.89	-20	Pass
NVNT	3-DH5	2402	Ant1	-55.38	-20	Pass
NVNT	3-DH5	2441	Ant1	-54.14	-20	Pass
NVNT	3-DH5	2480	Ant1	-53.88	-20	Pass

Test Graphs

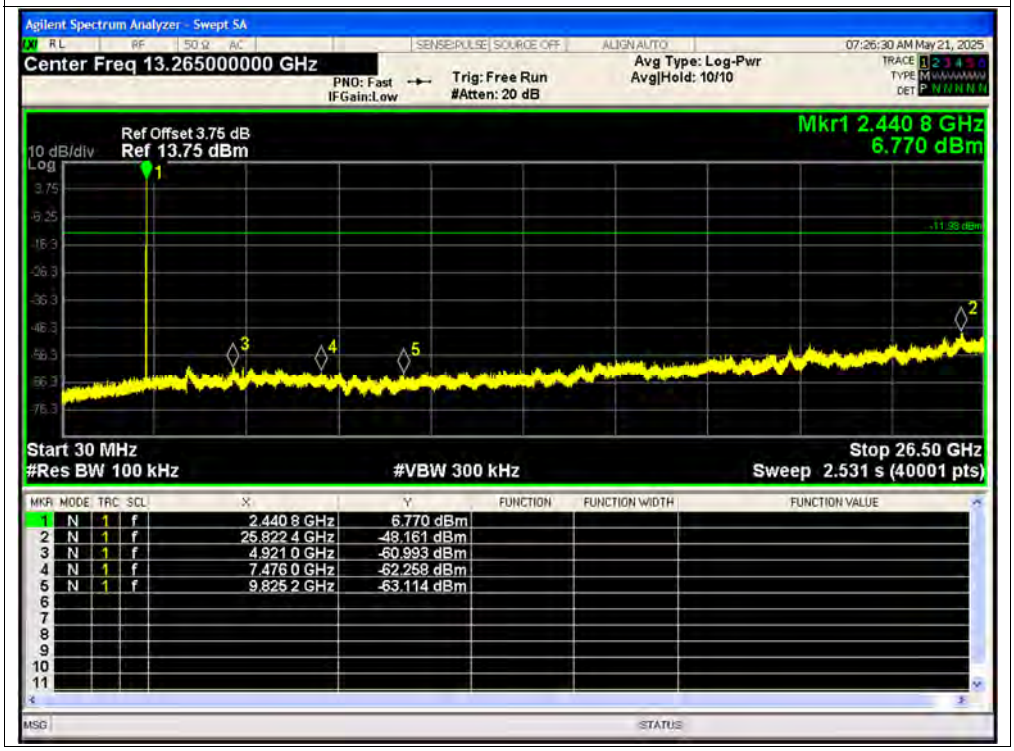
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



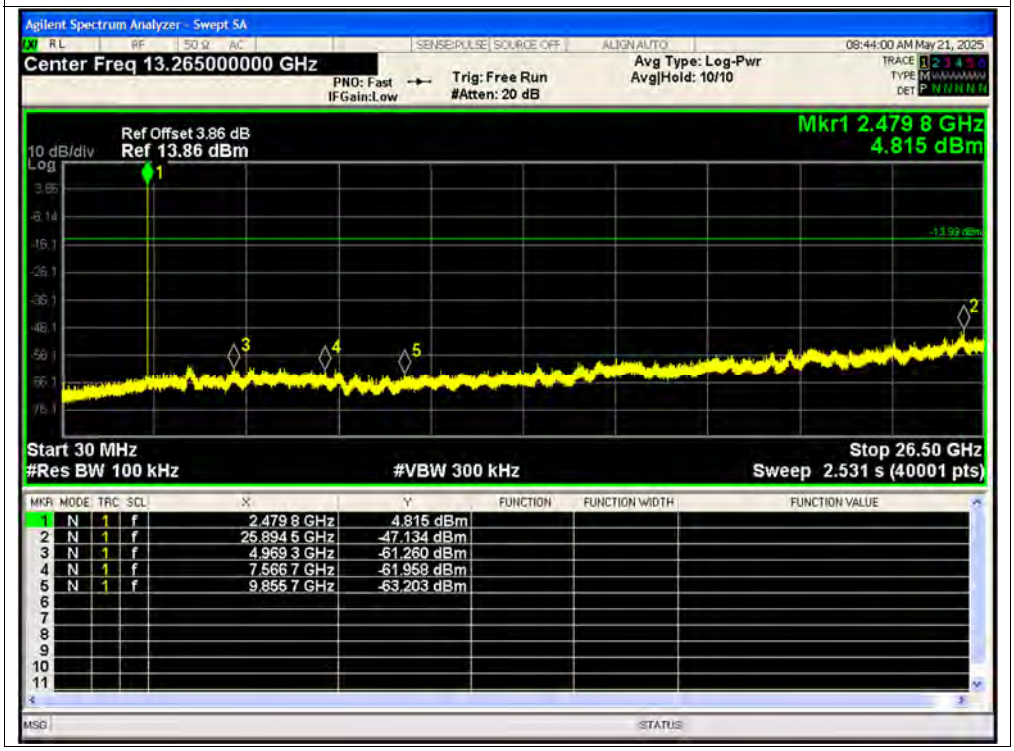
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



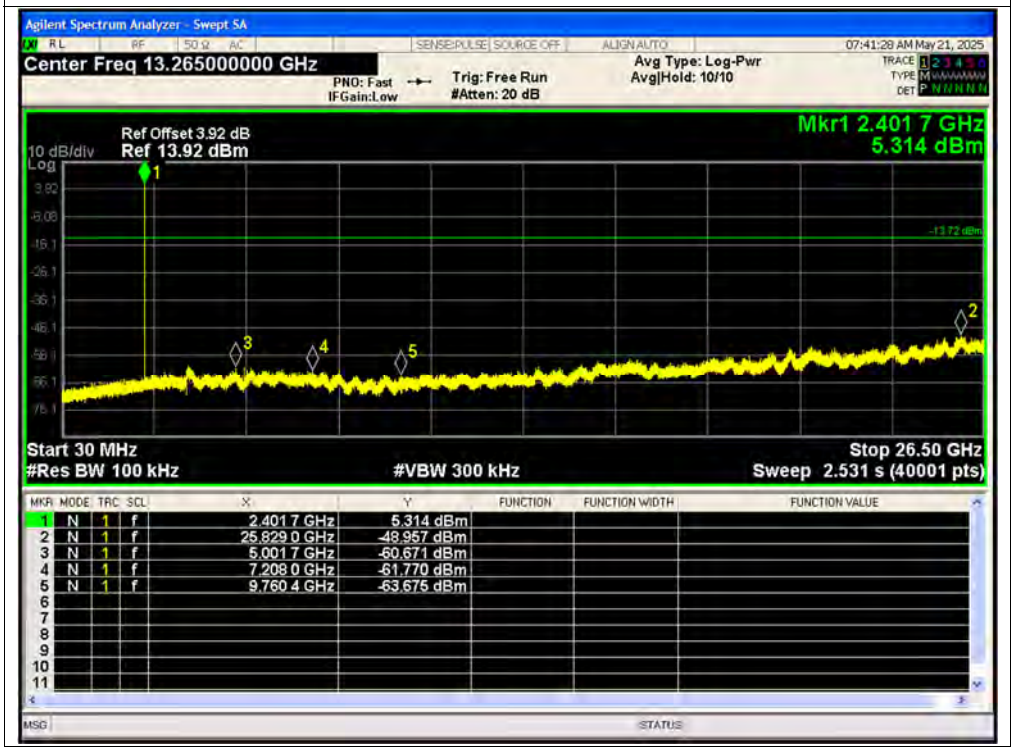
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



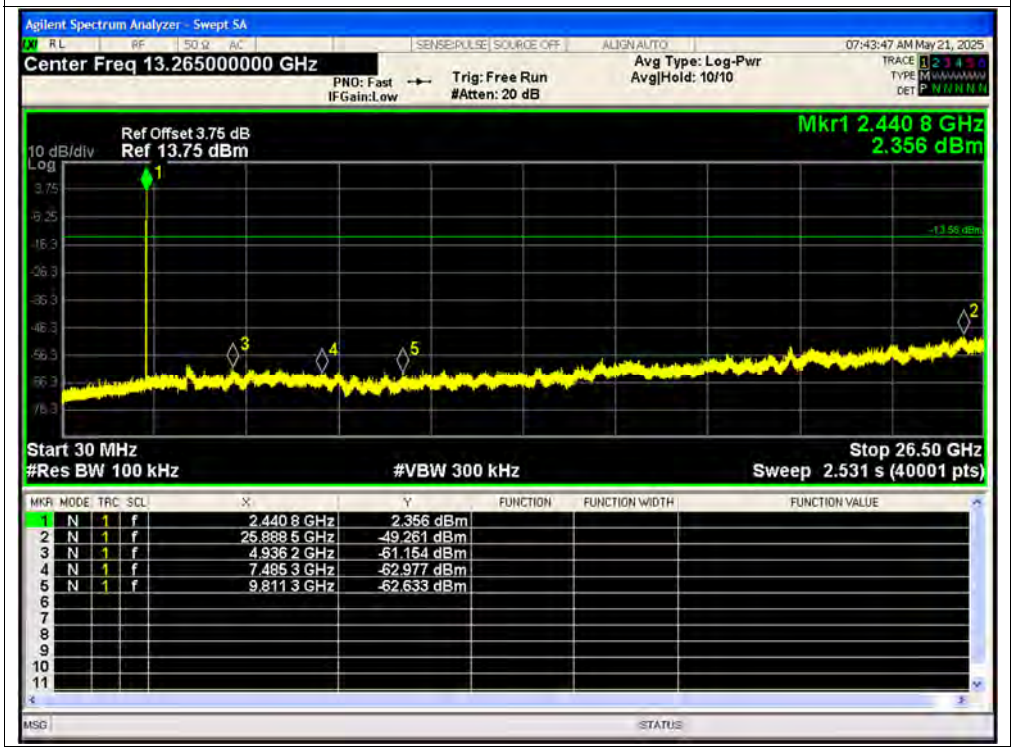
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



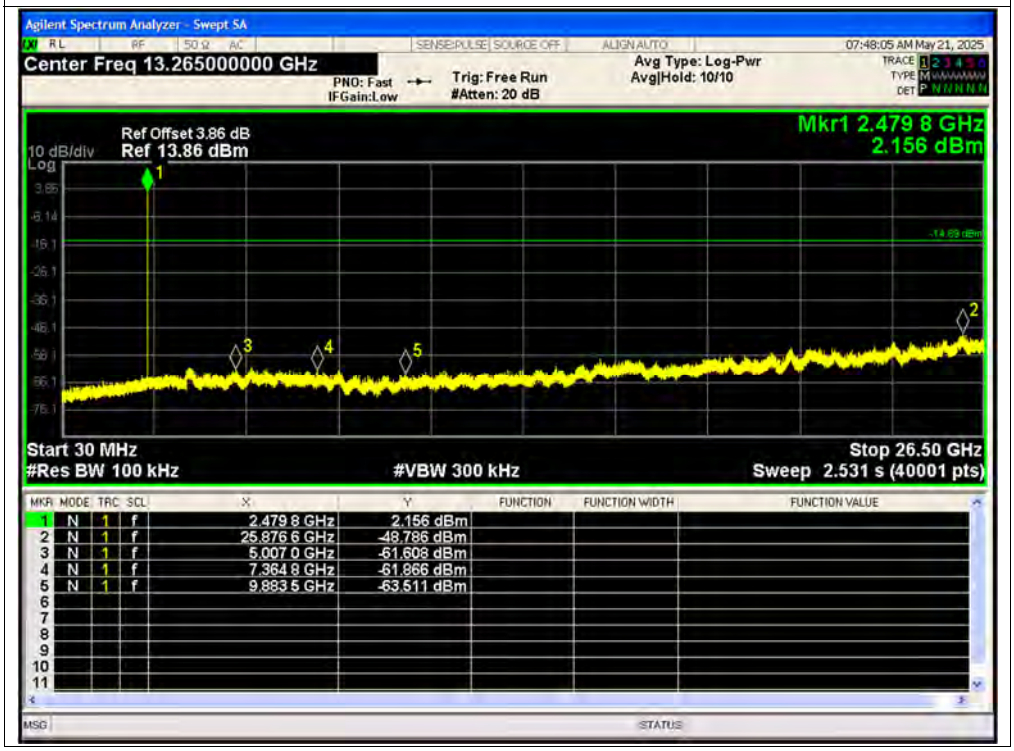
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref

Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



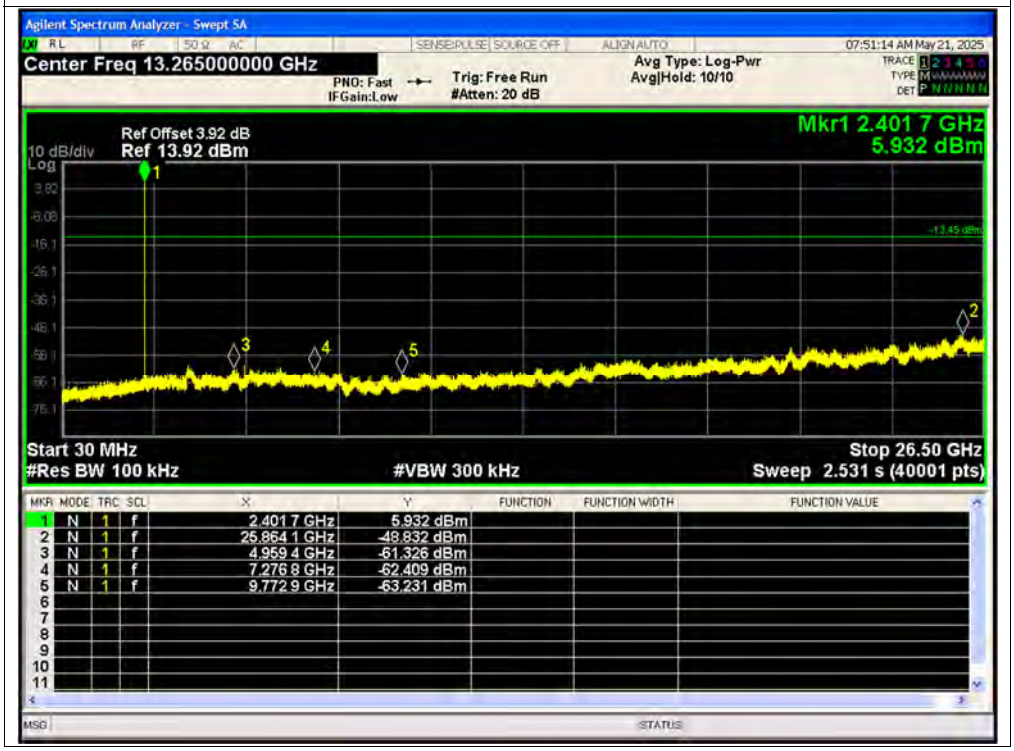
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref

Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



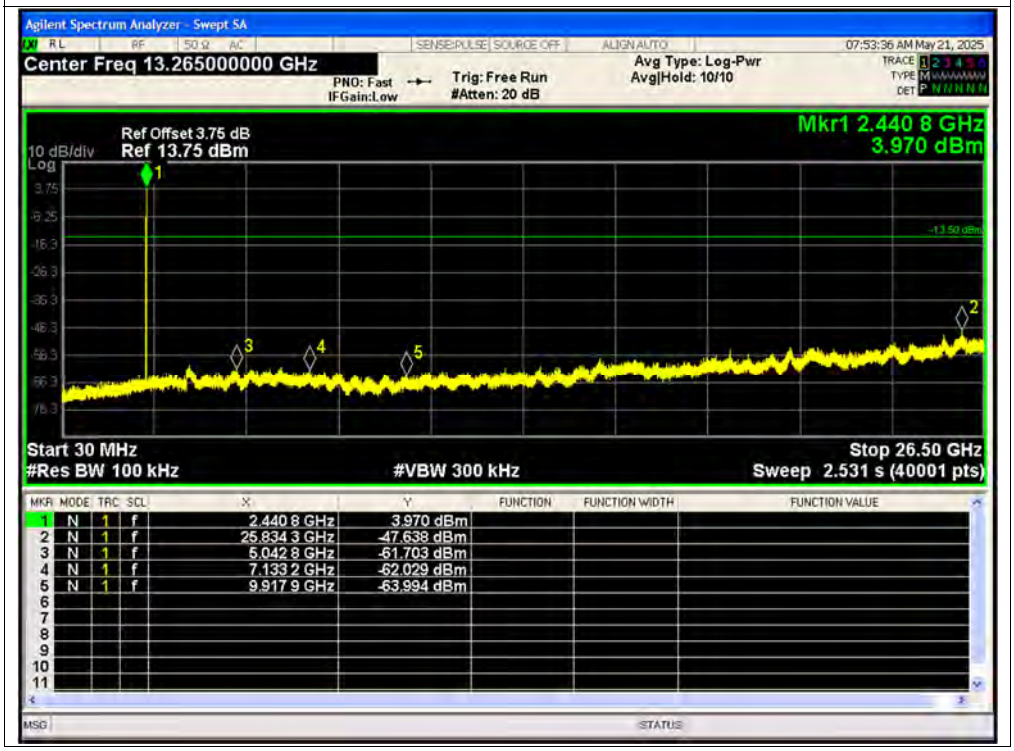
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref

Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



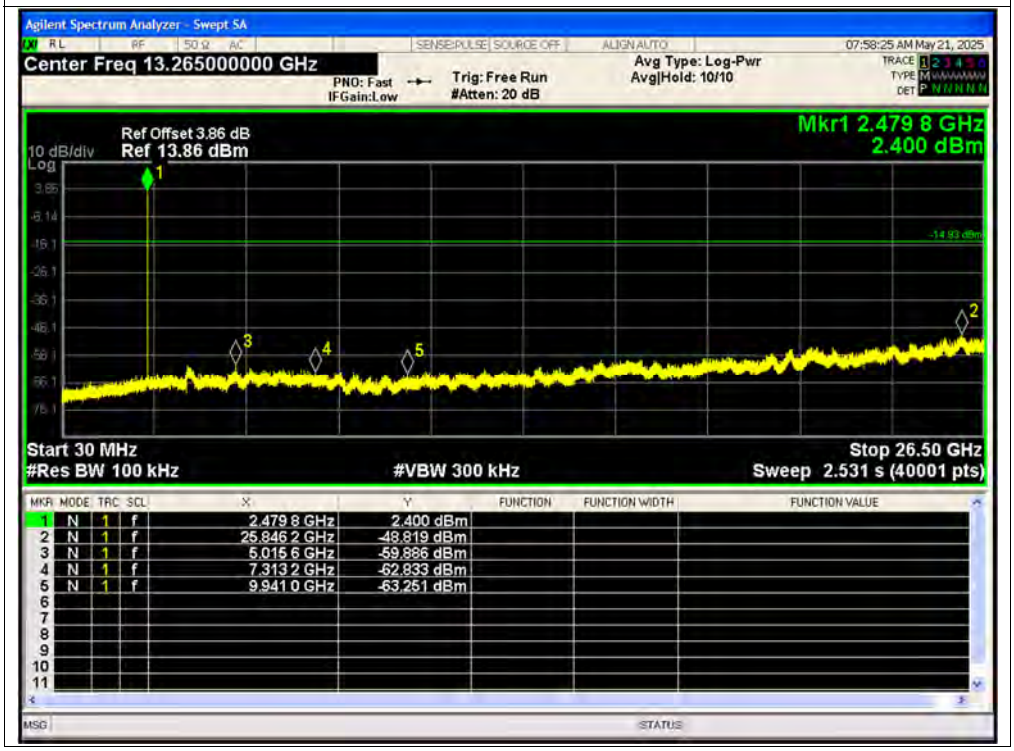
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref

Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref

Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

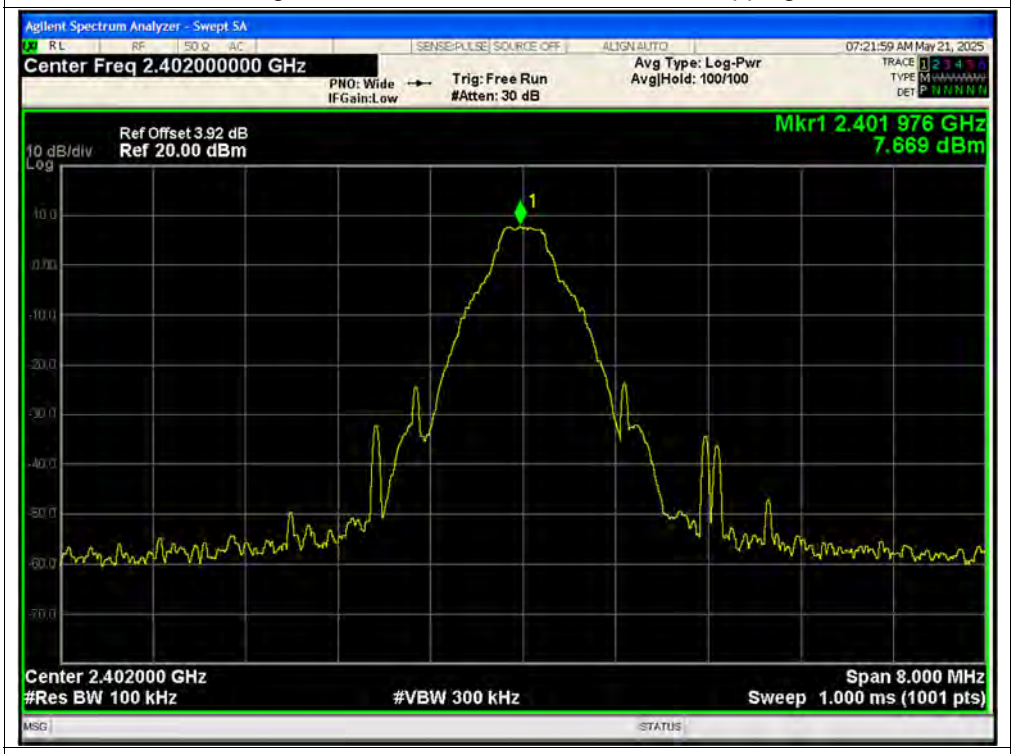


A.9. Band Edge

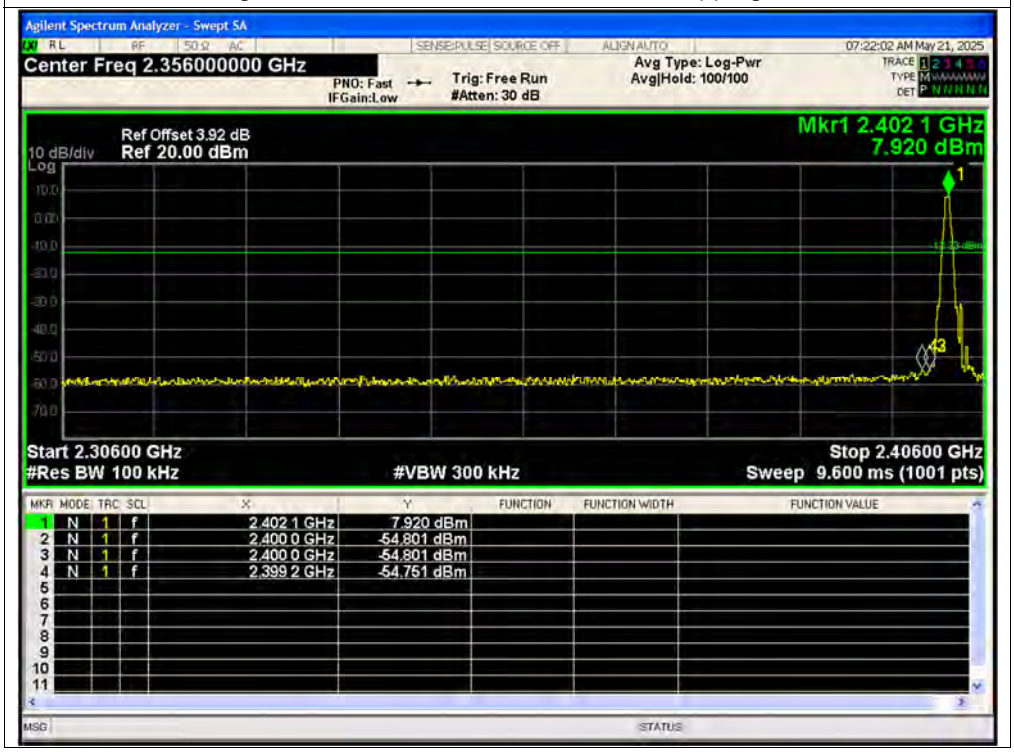
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-62.42	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-61.49	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-52.26	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-58.7	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-52.24	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-59.52	-20	Pass
NVNT	1-DH5	2402	Ant1	Hopping	-62.46	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-60.83	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-60.88	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-57.55	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-59.42	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-59.37	-20	Pass

Test Graphs

Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref

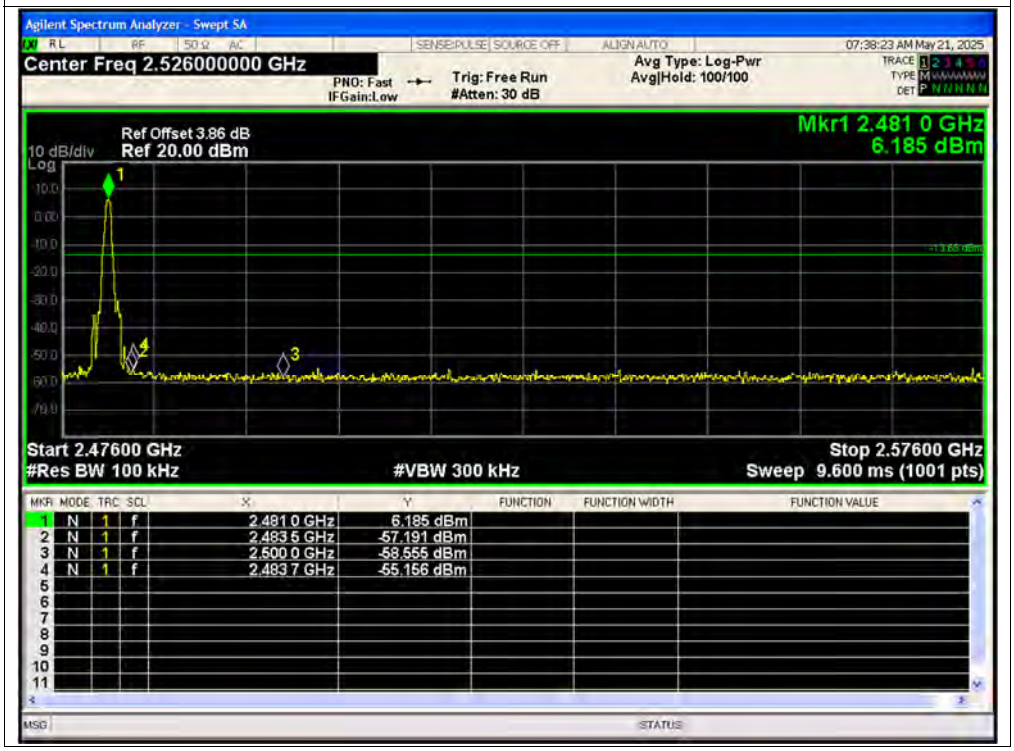


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



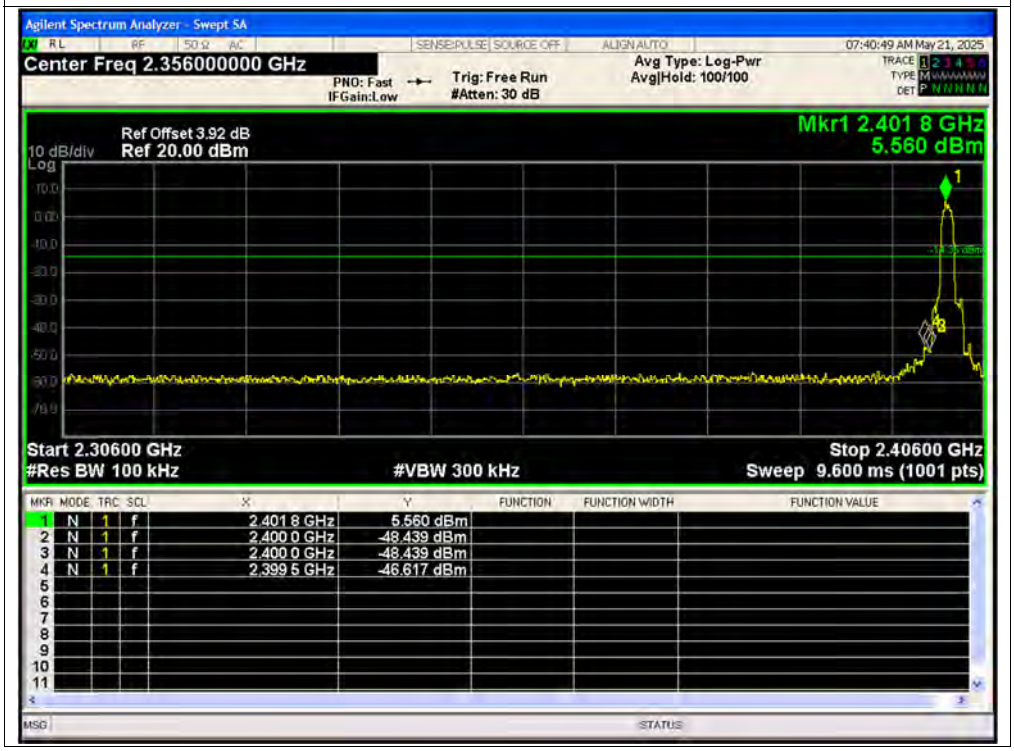
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



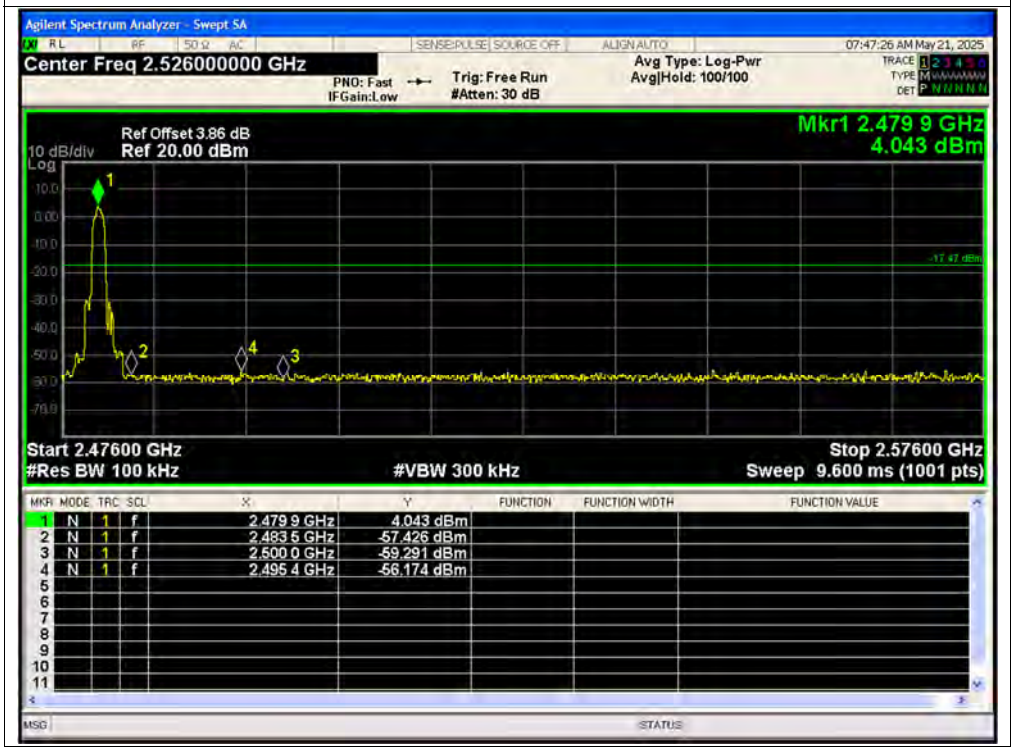
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



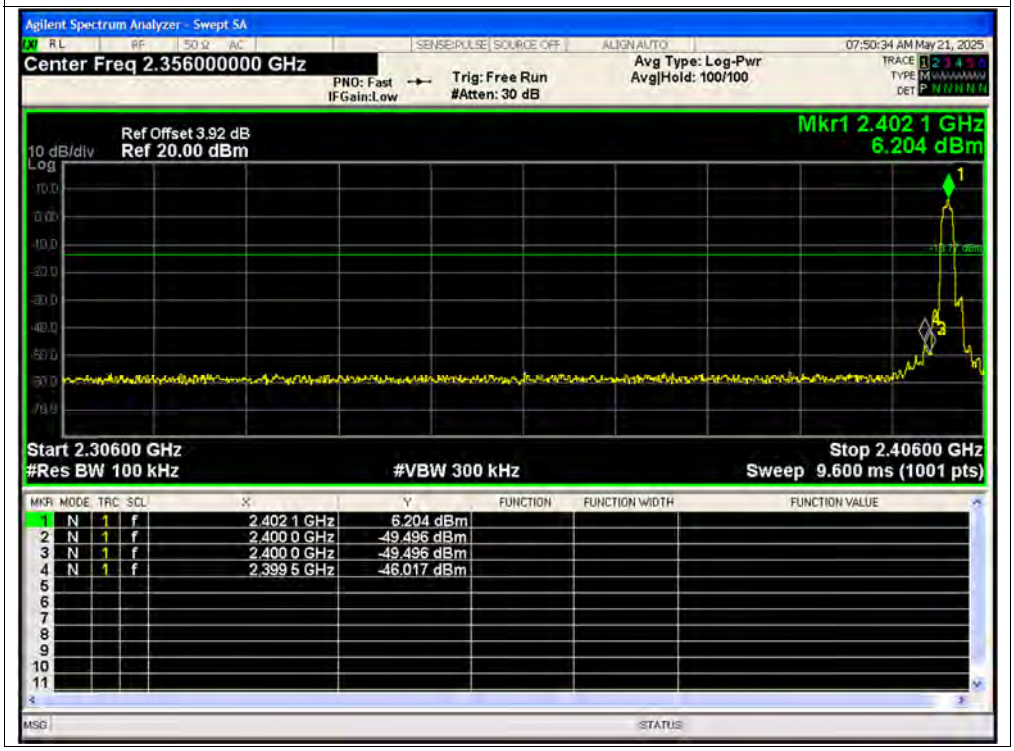
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



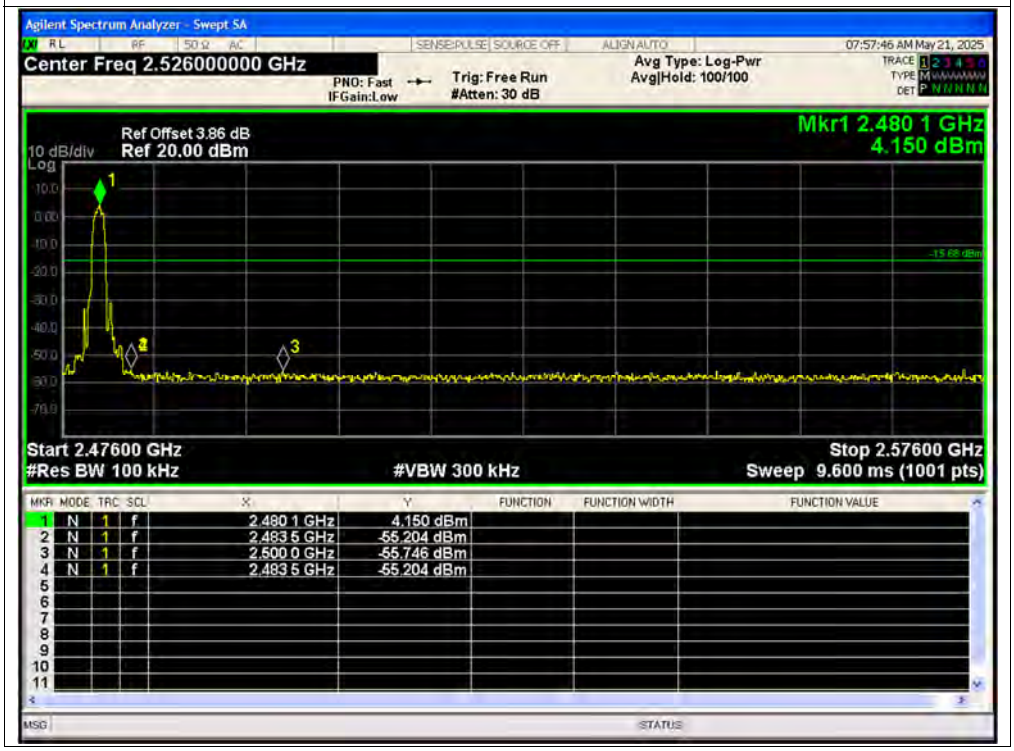
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref

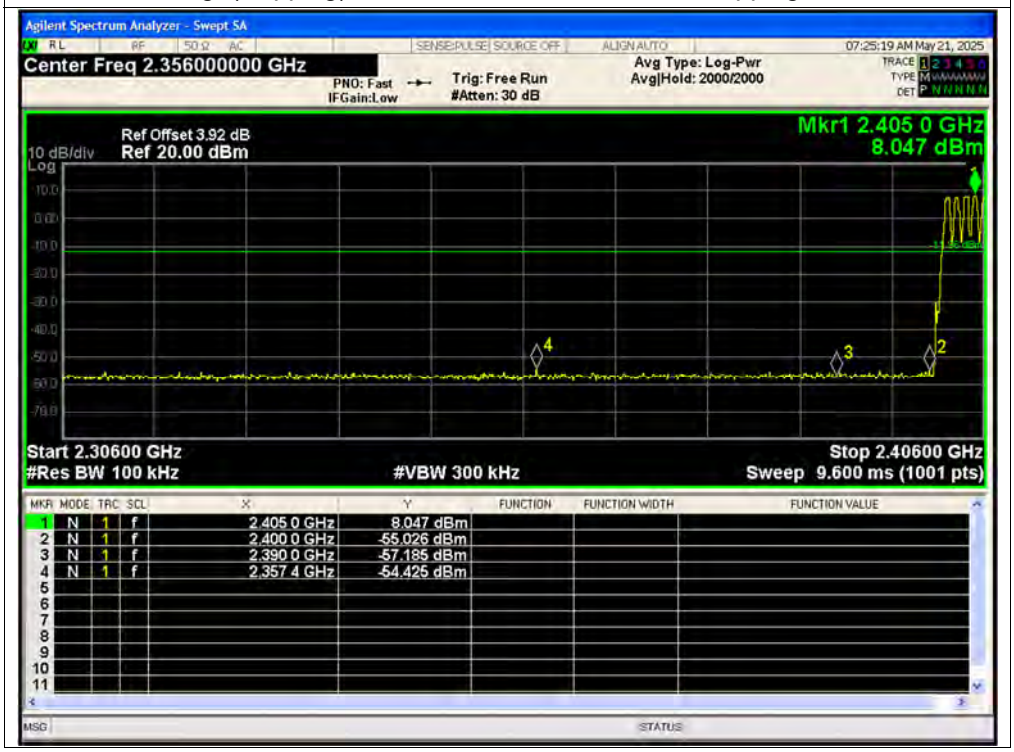
Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Emission



Test Graphs

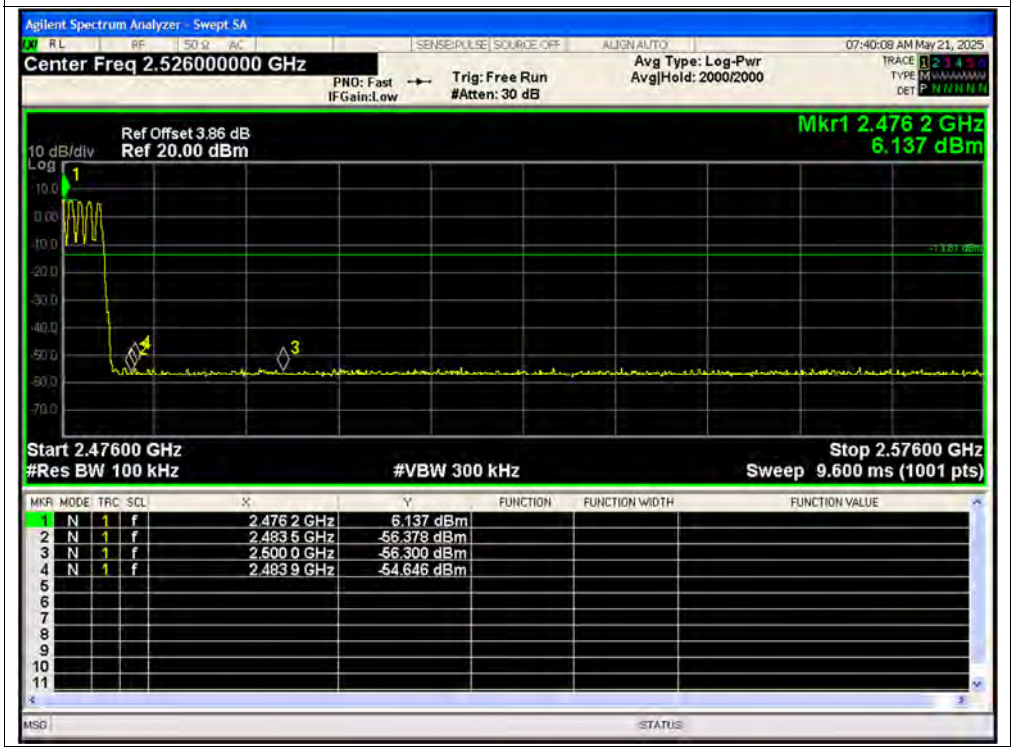
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



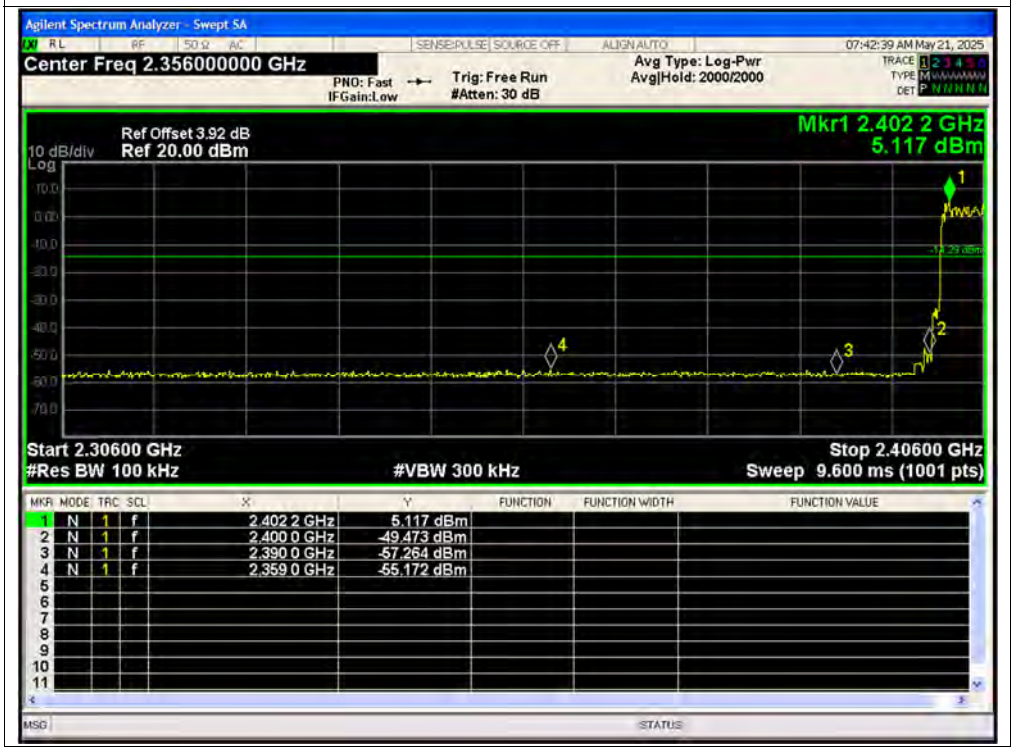
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



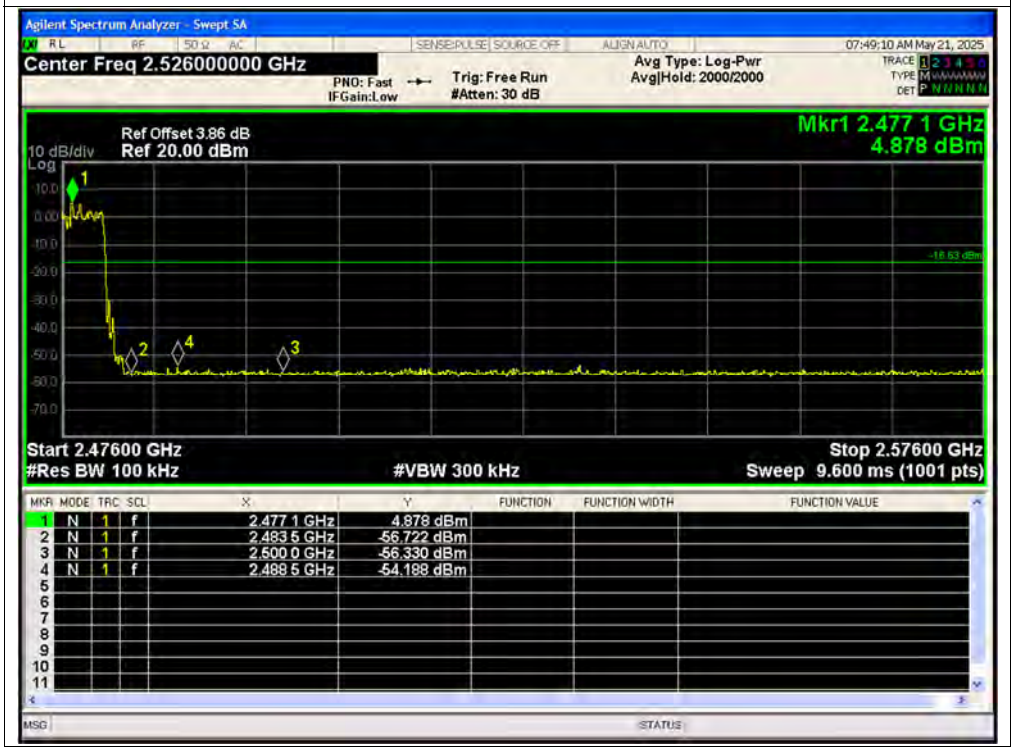
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



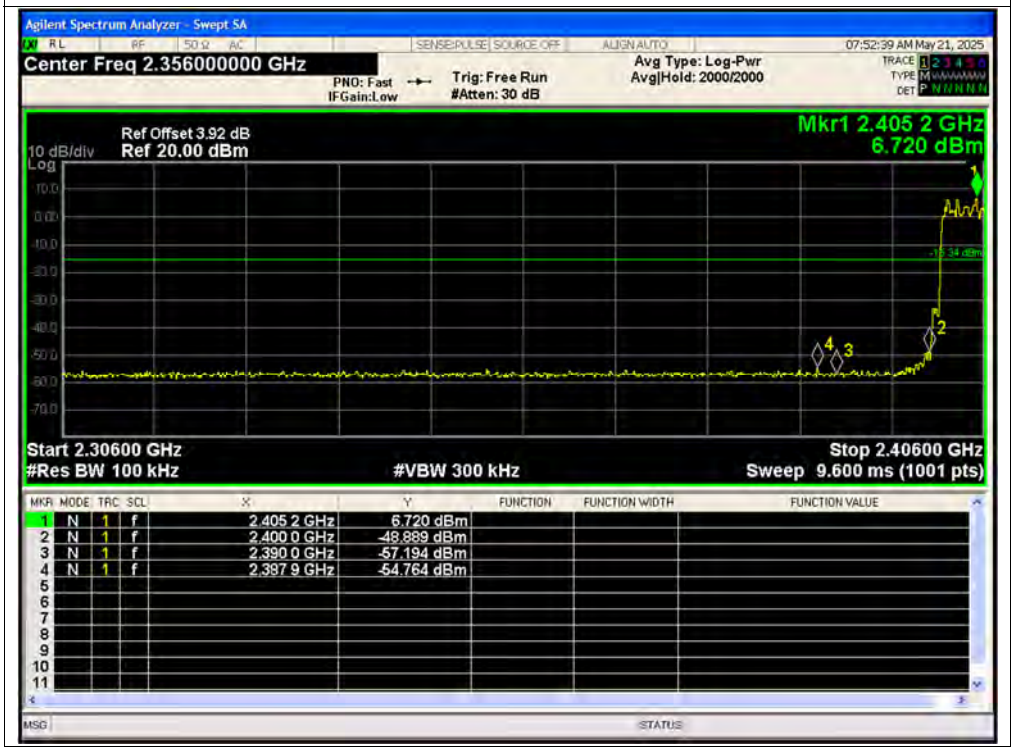
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission



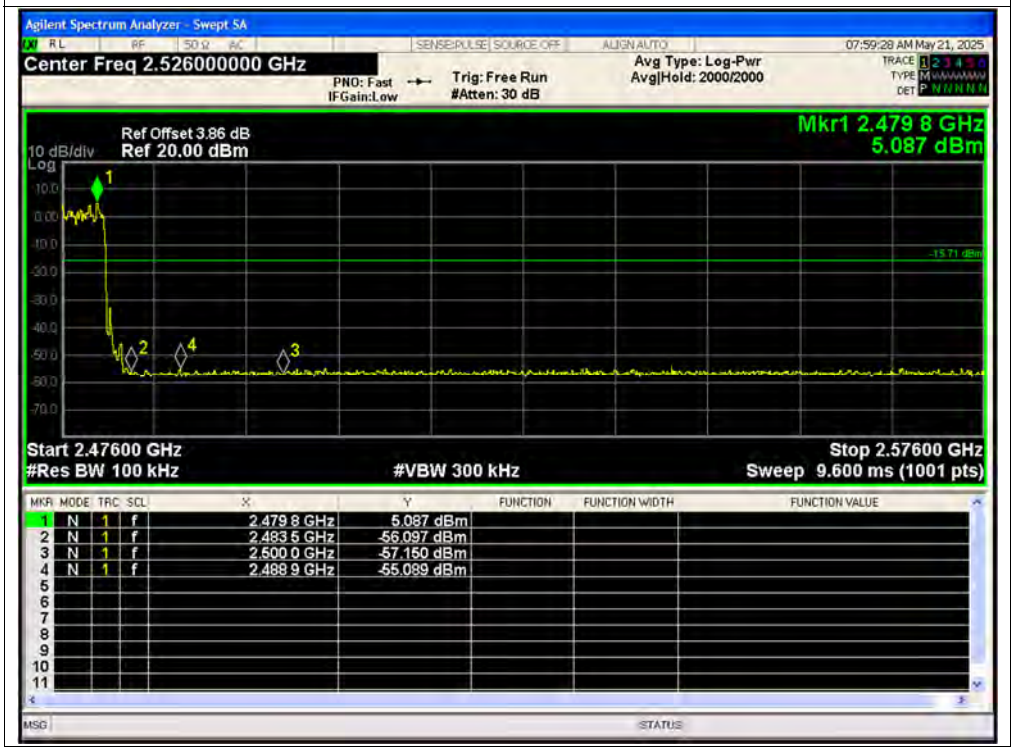
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Emission



A.10. Conducted Emission

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Set RBW=9kHz, VBW=30kHz. Refer to recorded points and plots below.

Note: Both of the test voltage AC 120V/60Hz and AC 230V/50Hz were considered and tested respectively, only the results of the worst case AC 120V/60Hz were recorded in this report.

A. Test Setup:

Test Mode: EUT + Adapter + Data Cable + Earphone + BT TX

Test voltage: AC 120V/60Hz

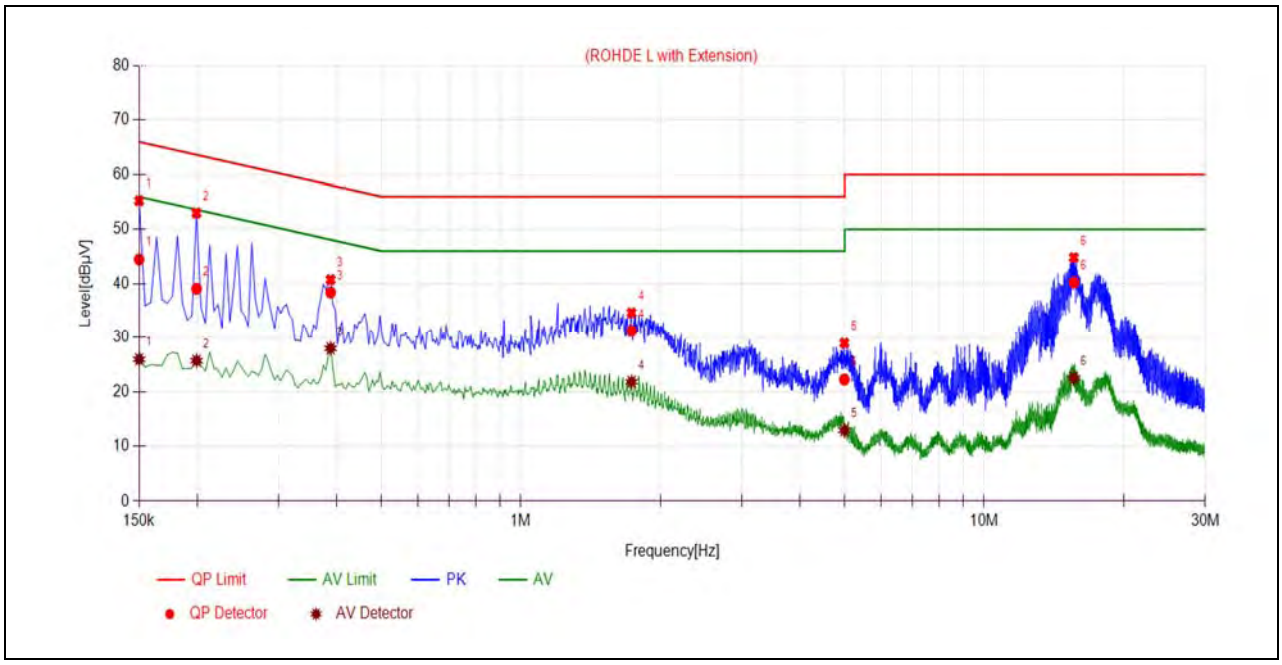
The measurement results are obtained as below:

E [dBμV] $=U_R + L_{Cable\ loss}$ [dB] + A_{Factor}

U_R: Receiver Reading

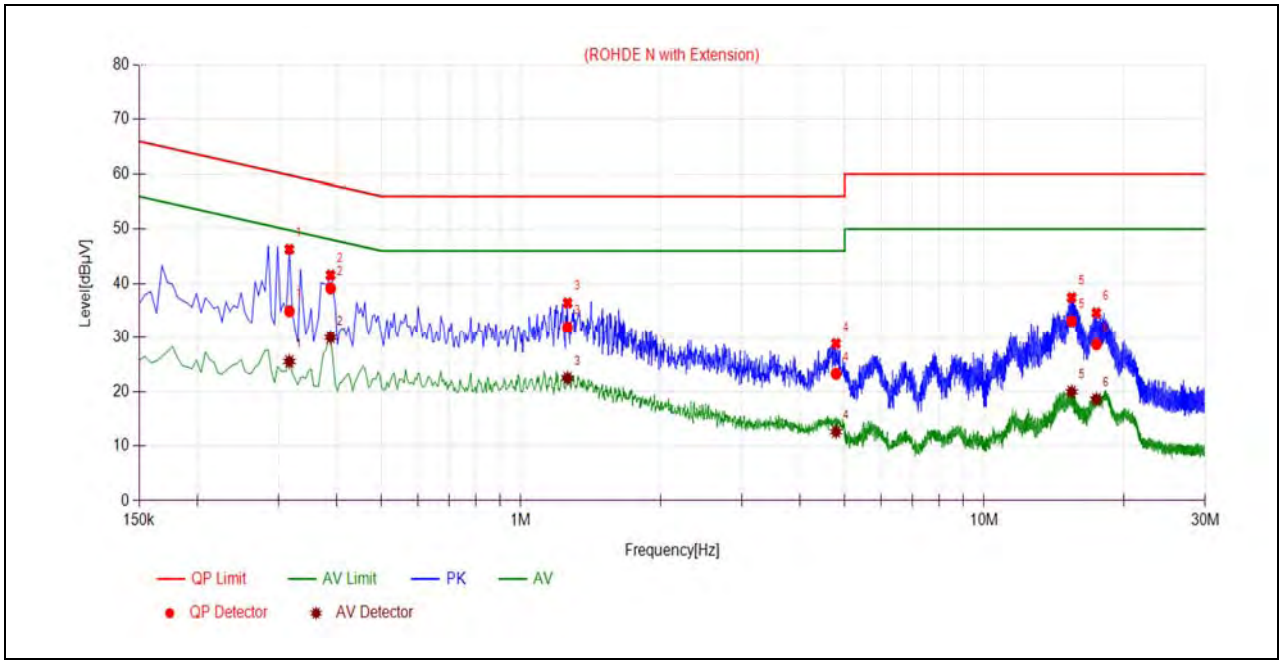
A_{Factor}: Voltage division factor of LISN

B. Test Plot:



(L Phase)

No.	Fre. (MHz)	Emission Level (dBµV)		Limit (dBµV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.1500	44.47	25.94	66.00	56.00	Line	PASS
2	0.1995	39.06	25.68	63.63	53.63		PASS
3	0.3885	38.37	27.96	58.09	48.09		PASS
4	1.7340	31.23	21.79	56.00	46.00		PASS
5	4.9918	22.21	12.90	56.00	46.00		PASS
6	15.6161	40.26	22.48	60.00	50.00		PASS



(N Phase)

No.	Fre. (MHz)	Emission Level (dBµV)		Limit (dBµV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.3165	34.92	25.54	59.80	49.80	Neutral	PASS
2	0.3885	39.13	30.00	58.10	48.10		PASS
3	1.2614	31.91	22.46	56.00	46.00		PASS
4	4.7891	23.24	12.59	56.00	46.00		PASS
5	15.4486	33.07	19.94	60.00	50.00		PASS
6	17.4655	28.69	18.56	60.00	50.00		PASS

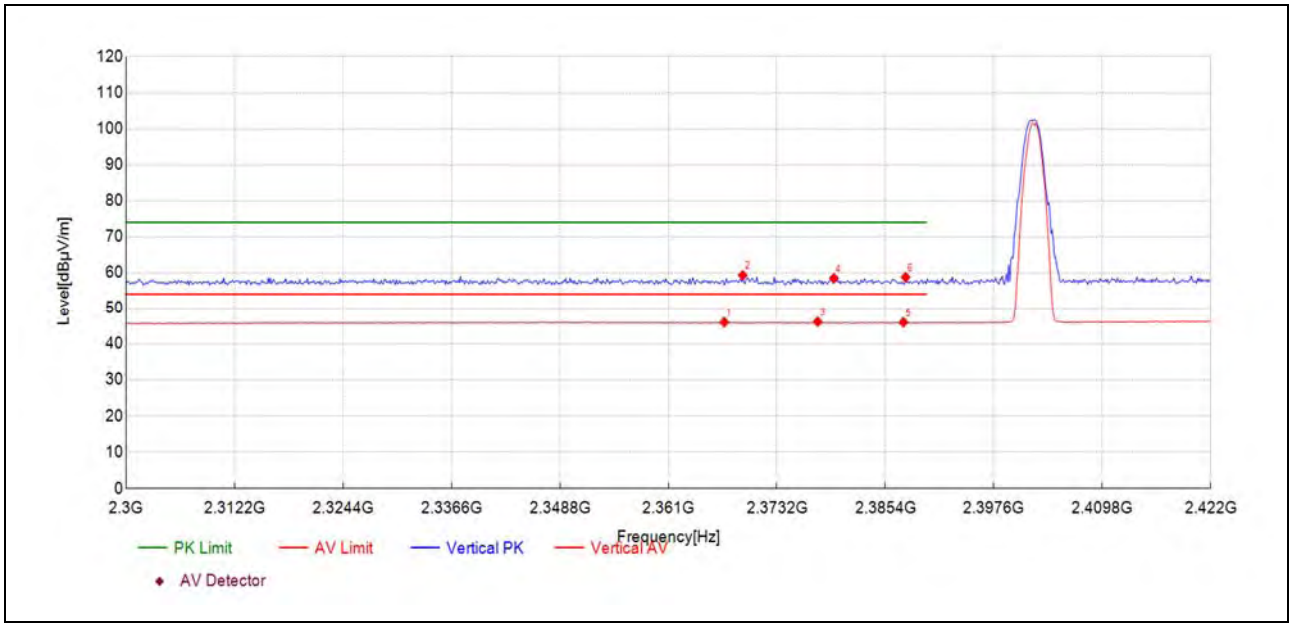
A.11. Restricted Frequency Bands

Note 1: Restricted Frequency Bands were performed when antenna was at vertical and horizontal polarity, and only the worse test condition (Vertical) was recorded in this test report.

Note 2: All test modes were considered and evaluated respectively by performing full test, only the worst data were recorded.

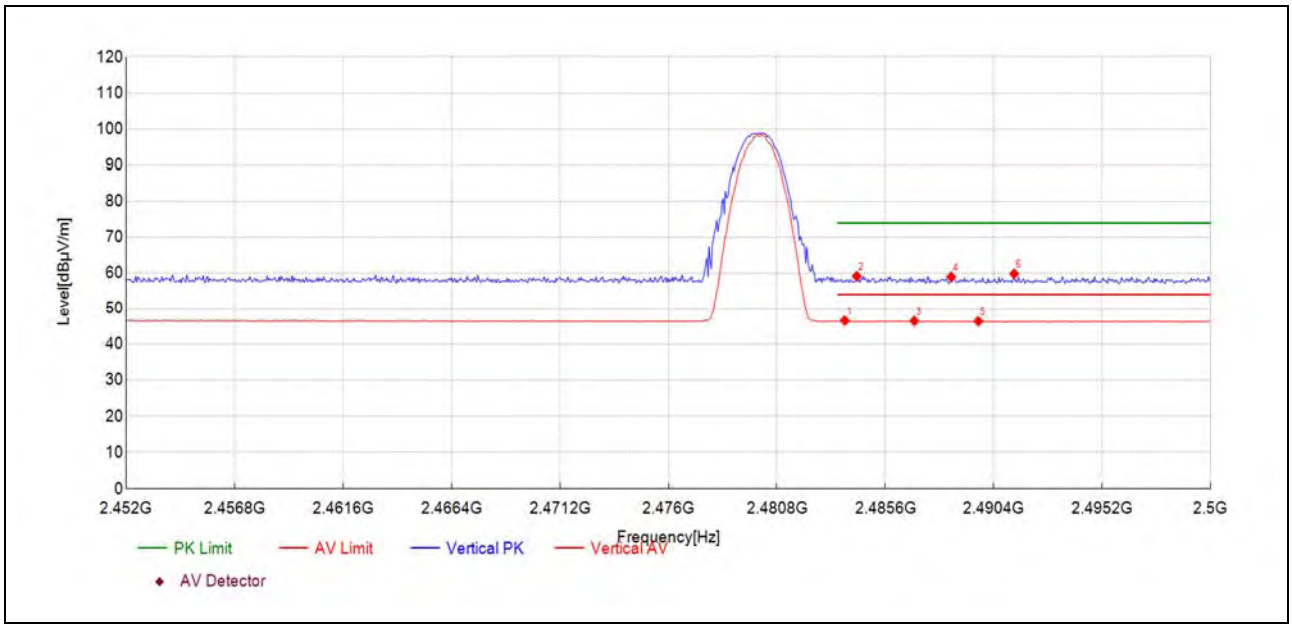
GFSK Mode

Plot for Channel 0



Fre. (MHz)	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
2367.29	8.6	46.02	37.470	54.00	7.98	150	65	AV	PASS
2369.37	21.8	59.31	37.470	74.00	14.69	150	88	PK	PASS
2377.79	8.7	46.16	37.480	54.00	7.84	150	146	AV	PASS
2379.62	21.0	58.47	37.480	74.00	15.53	150	266	PK	PASS
2387.44	8.5	45.99	37.490	54.00	8.01	150	333	AV	PASS
2387.68	21.3	58.79	37.490	74.00	15.21	150	240	PK	PASS

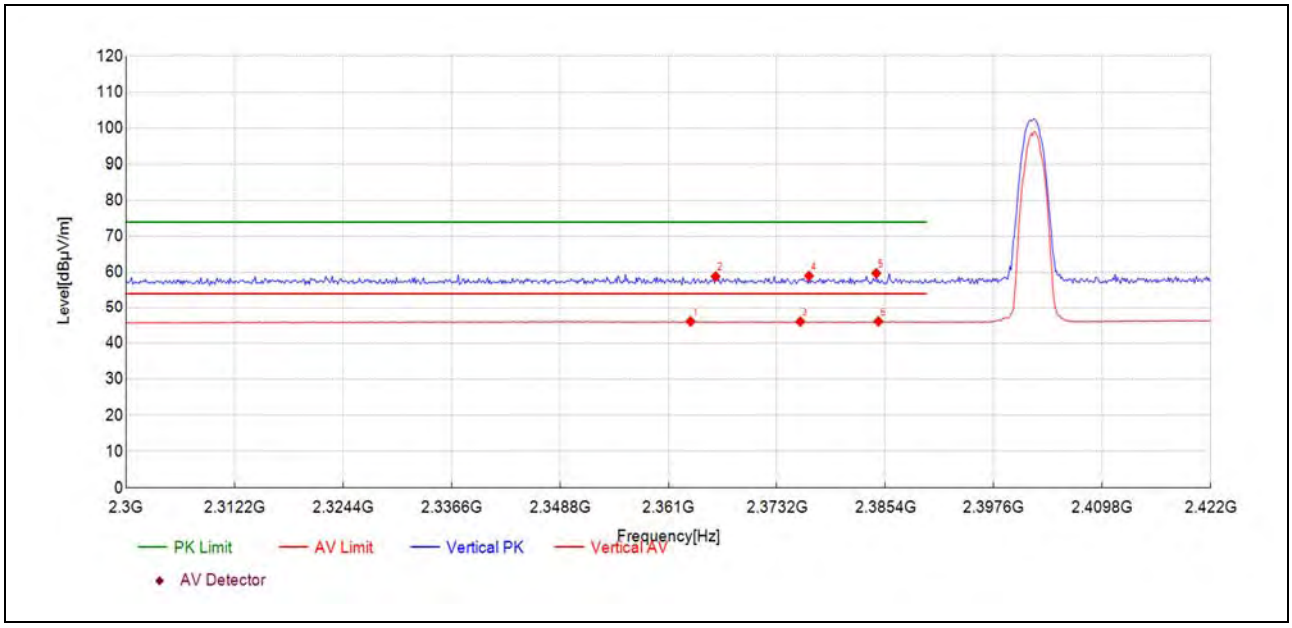
Plot for Channel 78



Fre. (MHz)	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
2483.81	8.3	46.57	38.270	54.00	7.43	150	132	AV	PASS
2484.34	20.9	59.15	38.270	74.00	14.85	150	22	PK	PASS
2486.88	8.2	46.46	38.270	54.00	7.54	150	5	AV	PASS
2488.52	20.7	58.99	38.270	74.00	15.01	150	5	PK	PASS
2489.72	8.1	46.40	38.260	54.00	7.60	150	163	AV	PASS
2491.30	21.6	59.83	38.260	74.00	14.17	150	57	PK	PASS

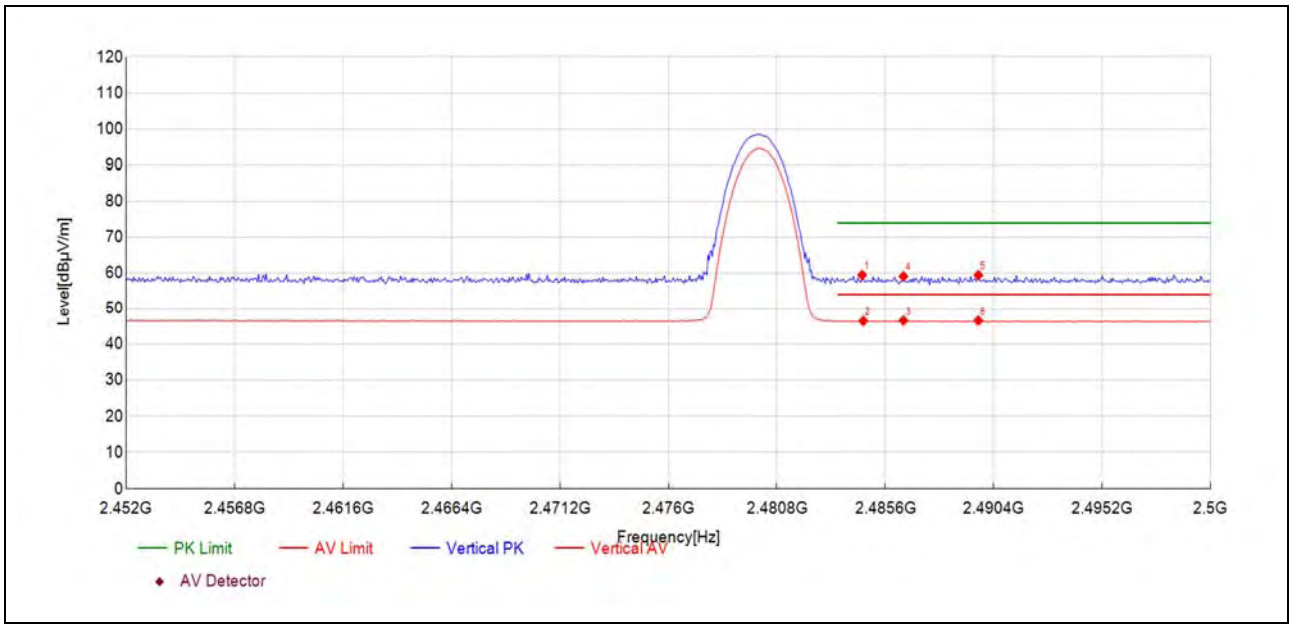
8-DPSK Mode

Plot for Channel 0



Fre. (MHz)	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
2363.50	8.6	46.04	37.470	54.00	7.96	150	243	AV	PASS
2366.31	21.4	58.85	37.470	74.00	15.15	150	203	PK	PASS
2375.84	8.5	45.99	37.480	54.00	8.01	150	177	AV	PASS
2376.81	21.5	58.98	37.480	74.00	15.02	150	199	PK	PASS
2384.39	22.2	59.73	37.490	74.00	14.27	150	146	PK	PASS
2384.63	8.6	46.05	37.490	54.00	7.95	150	239	AV	PASS

Plot for Channel 78



Fre. (MHz)	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
2484.58	21.2	59.48	38.270	74.00	14.52	150	178	PK	PASS
2484.62	8.2	46.45	38.270	54.00	7.55	150	298	AV	PASS
2486.40	8.3	46.57	38.270	54.00	7.43	150	342	AV	PASS
2486.40	20.8	59.11	38.270	74.00	14.89	150	289	PK	PASS
2489.72	21.2	59.45	38.260	74.00	14.55	150	10	PK	PASS
2489.72	8.3	46.57	38.260	54.00	7.43	150	36	AV	PASS

A.12. Radiated Emission

According to ANSI C63.10, because of peak detection will yield amplitudes equal to or greater than amplitudes measured with the quasi-peak (or average) detector, the measurement data from a spectrum analyzer peak detector will represent the worst-case results, if the peak measured value complies with the quasi-peak (or average) limit, it is unnecessary to perform an quasi-peak measurement (or average).

The measurement results are obtained as below:

E [dBμV/m] $=U_R + A_T + A_{Factor}$ [dB]; $A_T = L_{Cable\ loss}$ [dB]$-G_{preamp}$ [dB]

A_T: Total correction Factor except Antenna

U_R: Receiver Reading

G_{preamp}: Preamplifier Gain

A_{Factor}: Antenna Factor at 3m

During the test, the total correction Factor A_T and A_{Factor} were built in test software.

Note1: All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Note2: For the frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

Note3: For the frequency, which started from 18GHz to 10th harmonic of the highest frequency, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

Note 4: All test modes were considered and evaluated respectively by performing full test, only the worst data were recorded.

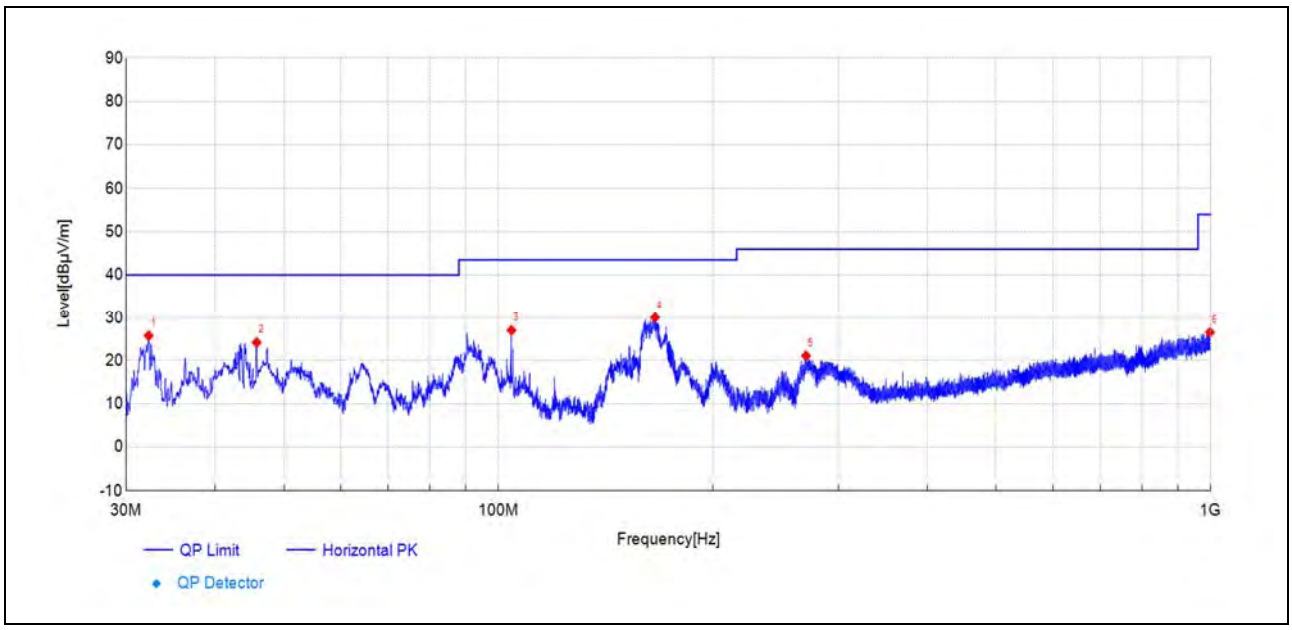
Field strength of fundamental:

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Detector
2480.17	56.6	94.89	38.280	74.00	PK

The field strength (the lowest) of fundamenta is more than 20dB higher than the unwanted emissions, in accordance with FCC part 15.215(b).

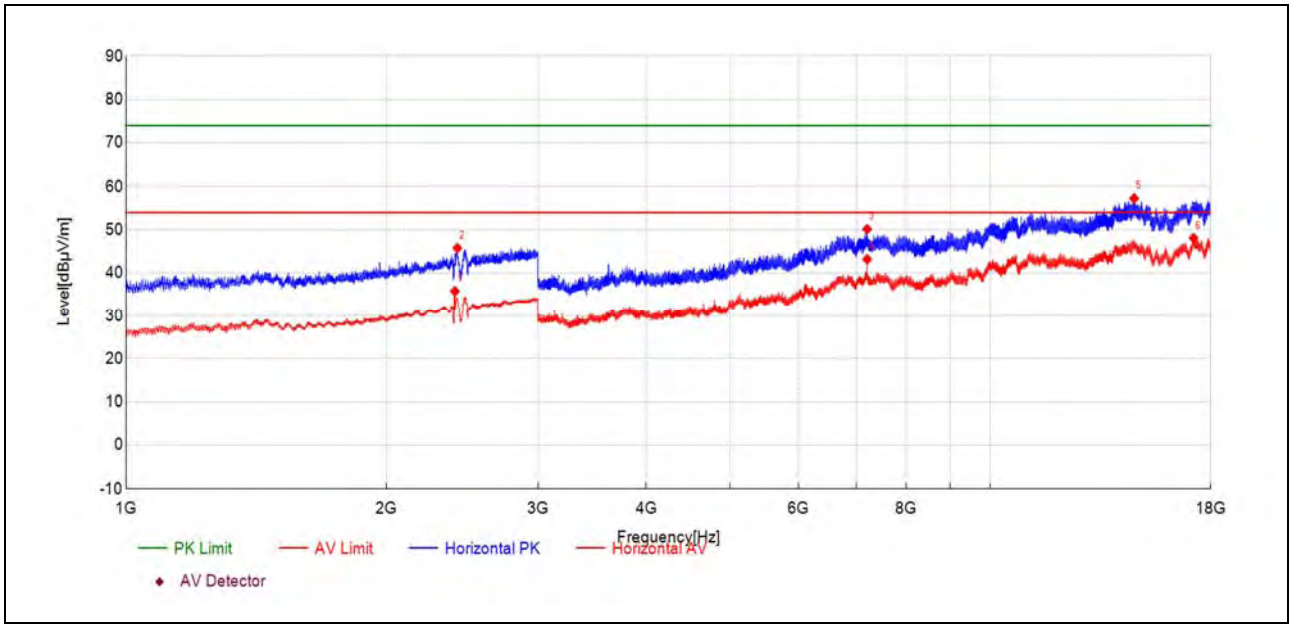
GFSK Mode

Plot for Channel 0



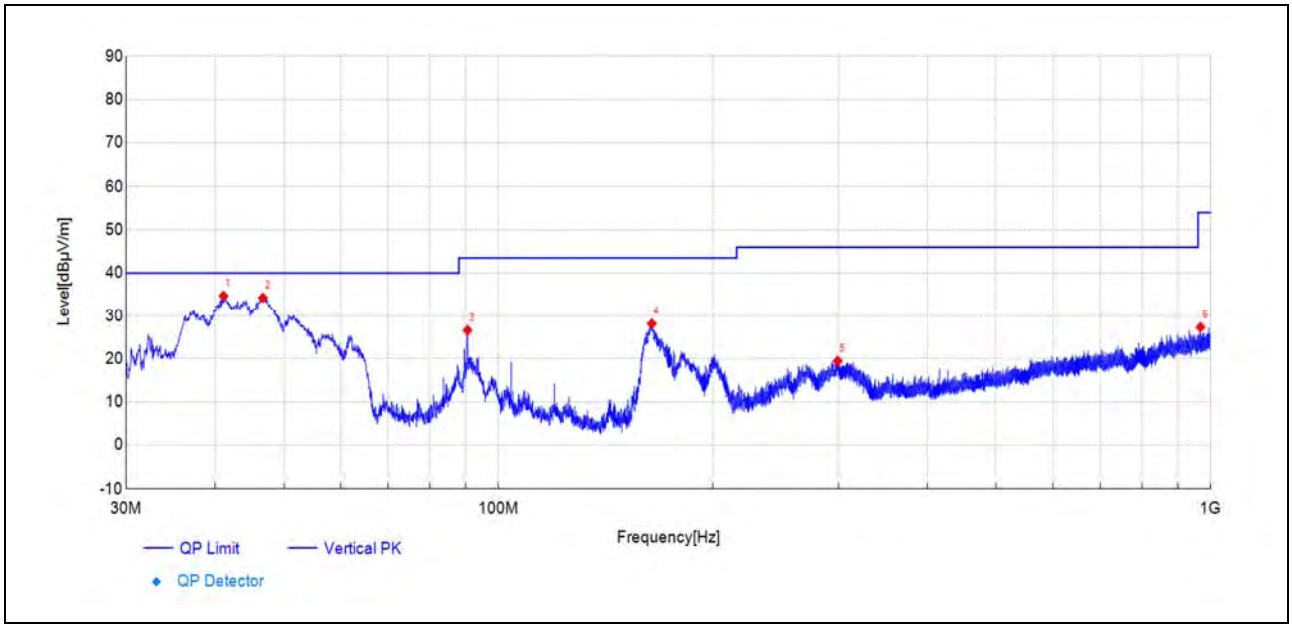
(Antenna Horizontal, 30MHz to 1GHz)

Fre. (MHz)	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
32.28	56.2	25.75	-30.480	40.00	14.25	150	288	PK	PASS
45.76	52.6	24.17	-28.380	40.00	15.83	150	226	PK	PASS
104.31	56.5	27.01	-29.520	43.50	16.49	150	226	PK	PASS
165.90	61.6	29.99	-31.590	43.50	13.51	150	165	PK	PASS
270.28	48.1	21.08	-26.990	46.00	24.92	150	192	PK	PASS
997.62	37.2	26.52	-10.630	54.00	27.48	150	16	PK	PASS



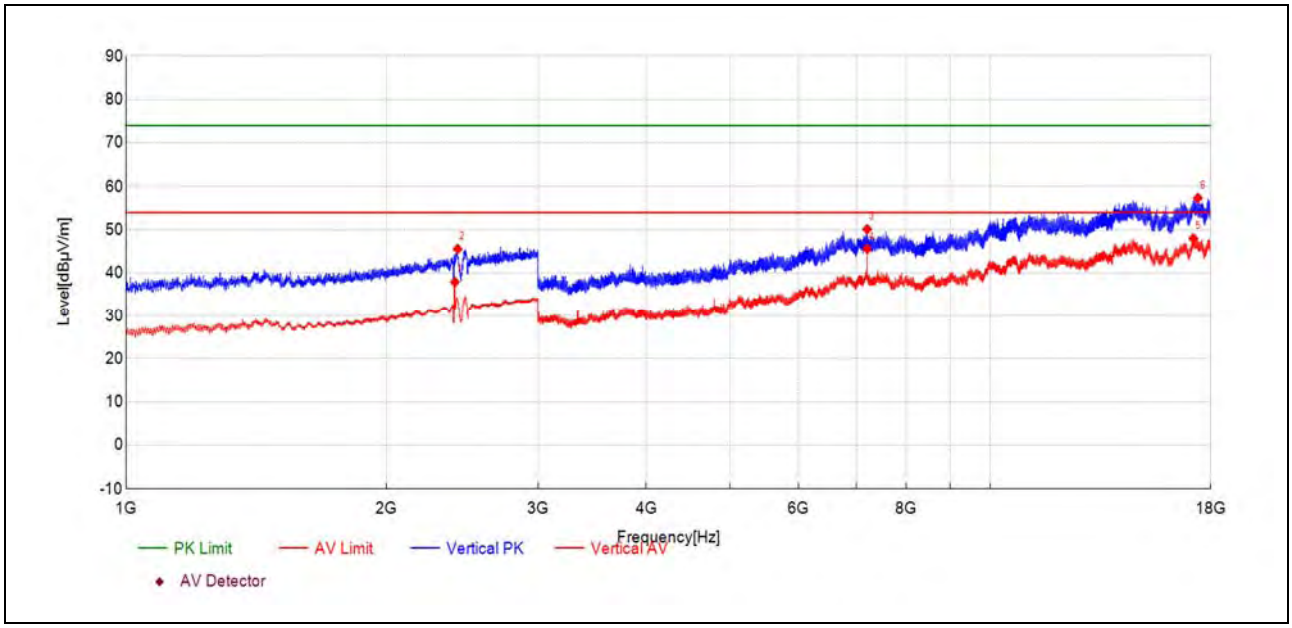
(Antenna Horizontal, 1GHz to 18GHz)

Fre. (MHz)	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
2402.28	30.5	35.78	5.250	-	-	150	85	AV	NA
2417.48	40.3	45.76	5.470	74.00	28.24	150	107	PK	PASS
7206.12	45.1	50.15	5.030	74.00	23.85	150	44	PK	PASS
7206.55	38.2	43.21	5.020	54.00	10.79	150	44	AV	PASS
14677.62	36.7	57.28	20.540	74.00	16.72	150	4	PK	PASS
17195.98	28.2	48.10	19.900	54.00	5.90	150	337	AV	PASS



(Antenna Vertical, 30MHz to 1GHz)

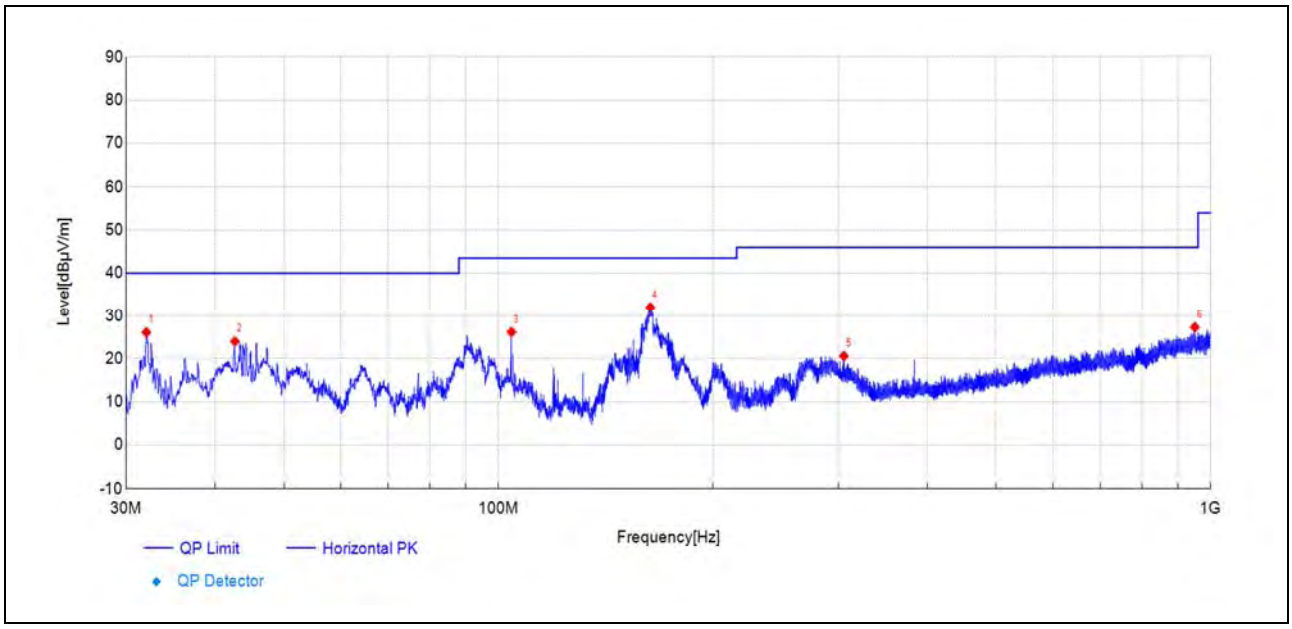
Fre. (MHz)	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
41.11	63.6	34.68	-28.950	40.00	5.32	150	351	PK	PASS
46.68	62.6	34.24	-28.380	40.00	5.76	150	351	PK	PASS
90.48	58.1	26.59	-31.470	43.50	16.91	150	129	PK	PASS
164.16	59.2	28.10	-31.080	43.50	15.40	150	82	PK	PASS
299.48	45.0	19.45	-25.500	46.00	26.55	150	256	PK	PASS
967.41	38.6	27.29	-11.300	54.00	26.71	150	290	PK	PASS



(Antenna Vertical, 1GHz to 18GHz)

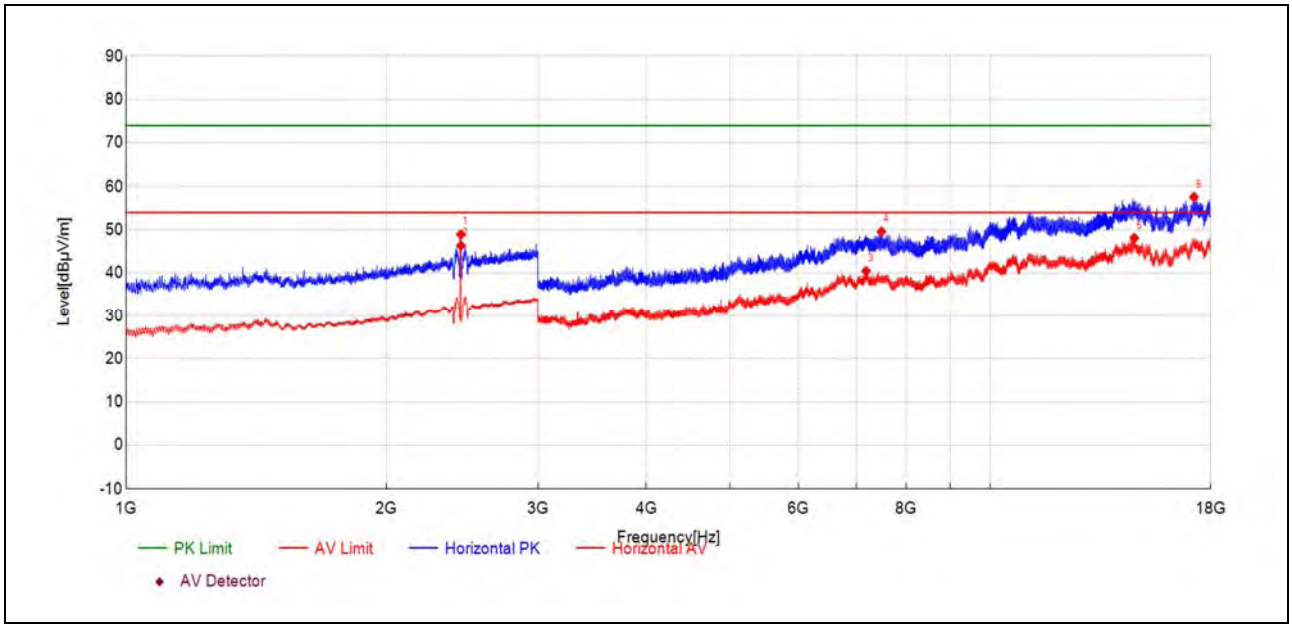
Fre. (MHz)	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
2402.28	32.7	37.93	5.250	-	-	150	96	AV	NA
2419.88	40.1	45.57	5.520	74.00	28.43	150	128	PK	PASS
7206.12	45.1	50.15	5.030	74.00	23.85	150	44	PK	PASS
7206.55	40.6	45.63	5.020	54.00	8.37	150	44	AV	PASS
17185.69	28.2	48.01	19.830	54.00	5.99	150	97	AV	PASS
17395.70	37.3	57.37	20.110	74.00	16.63	150	203	PK	PASS

Plot for Channel 39



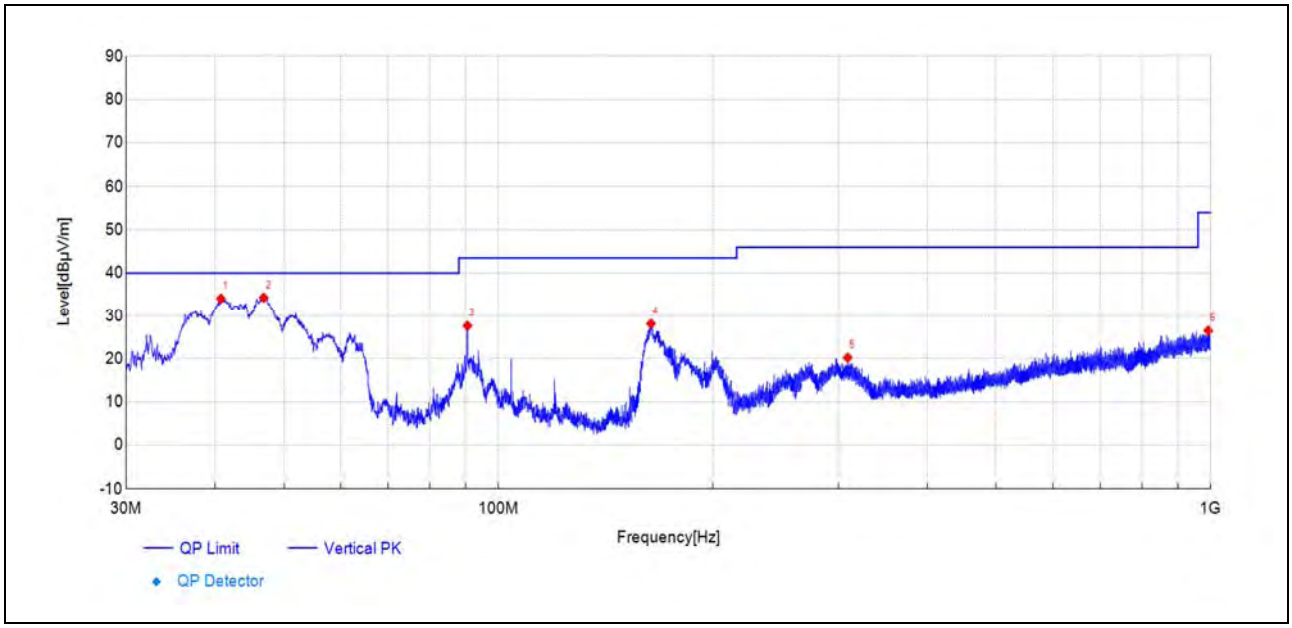
(Antenna Horizontal, 30MHz to 1GHz)

Fre. (MHz)	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
32.04	56.6	26.08	-30.480	40.00	13.92	150	168	PK	PASS
42.66	52.2	23.98	-28.240	40.00	16.02	150	23	PK	PASS
104.31	55.7	26.14	-29.520	43.50	17.36	150	225	PK	PASS
163.38	63.1	31.98	-31.150	43.50	11.52	150	154	PK	PASS
305.40	45.7	20.59	-25.120	46.00	25.41	150	182	PK	PASS
949.99	38.2	27.27	-10.910	46.00	18.73	150	23	PK	PASS



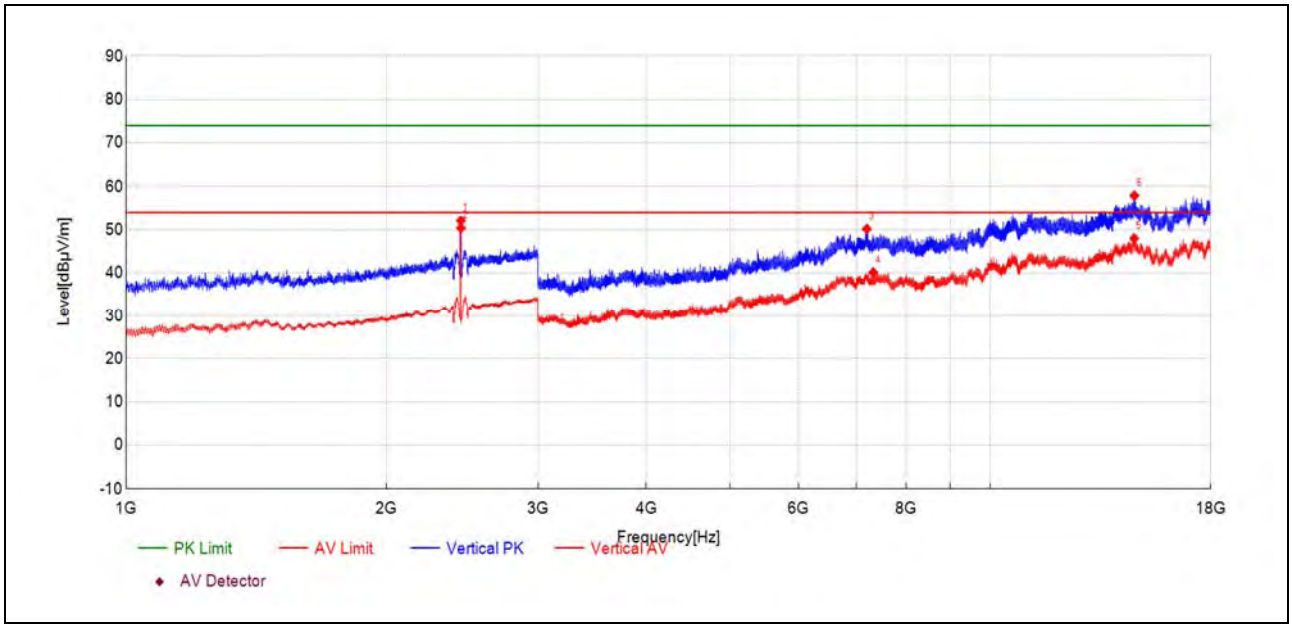
(Antenna Horizontal, 1GHz to 18GHz)

Fre. (MHz)	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
2441.09	43.1	48.96	5.840	-	-	150	86	PK	NA
2441.49	40.5	46.34	5.840	-	-	150	86	AV	NA
7184.69	35.5	40.46	4.960	54.00	13.54	150	71	AV	PASS
7486.41	44.8	49.60	4.790	74.00	24.40	150	56	PK	PASS
14684.05	27.6	48.11	20.560	54.00	5.89	150	112	AV	PASS
17215.26	37.8	57.59	19.770	74.00	16.41	150	217	PK	PASS



(Antenna Vertical, 30MHz to 1GHz)

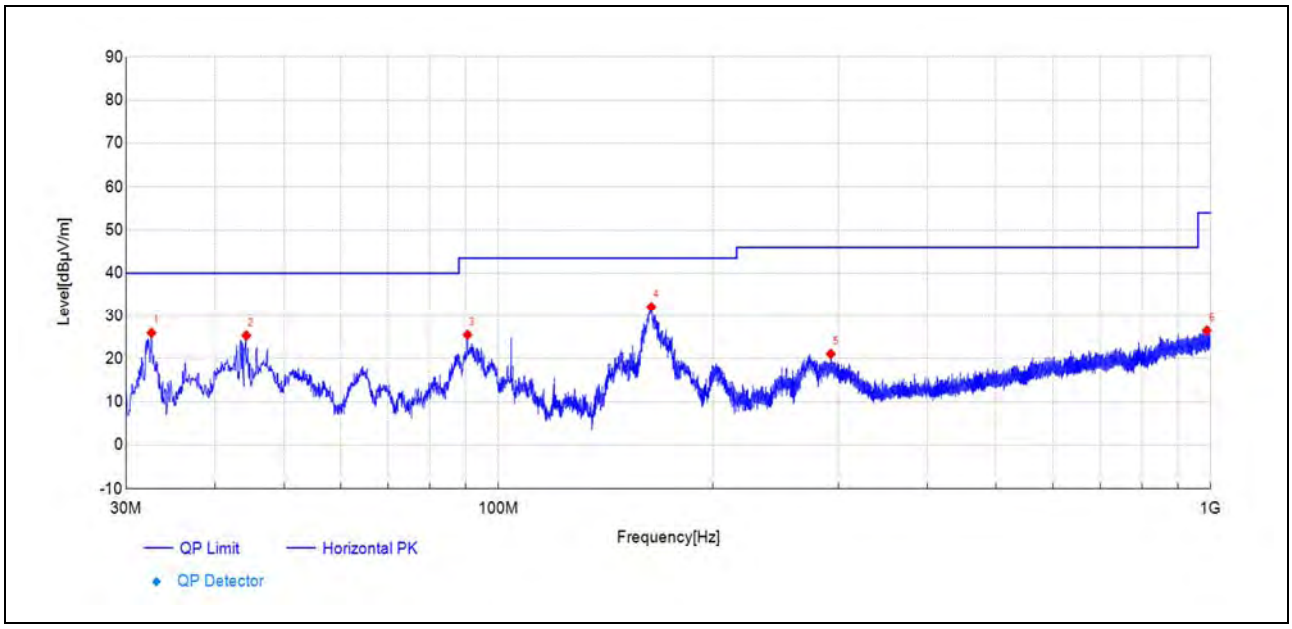
Fre. (MHz)	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
40.77	63.0	34.05	-28.900	40.00	5.95	150	351	PK	PASS
46.83	62.7	34.30	-28.370	40.00	5.70	150	351	PK	PASS
90.48	59.1	27.62	-31.470	43.50	15.88	150	83	PK	PASS
163.72	59.2	28.10	-31.090	43.50	15.40	150	110	PK	PASS
309.23	45.6	20.21	-25.380	46.00	25.79	150	250	PK	PASS
992.34	37.0	26.47	-10.490	54.00	27.53	150	141	PK	PASS



(Antenna Vertical, 1GHz to 18GHz)

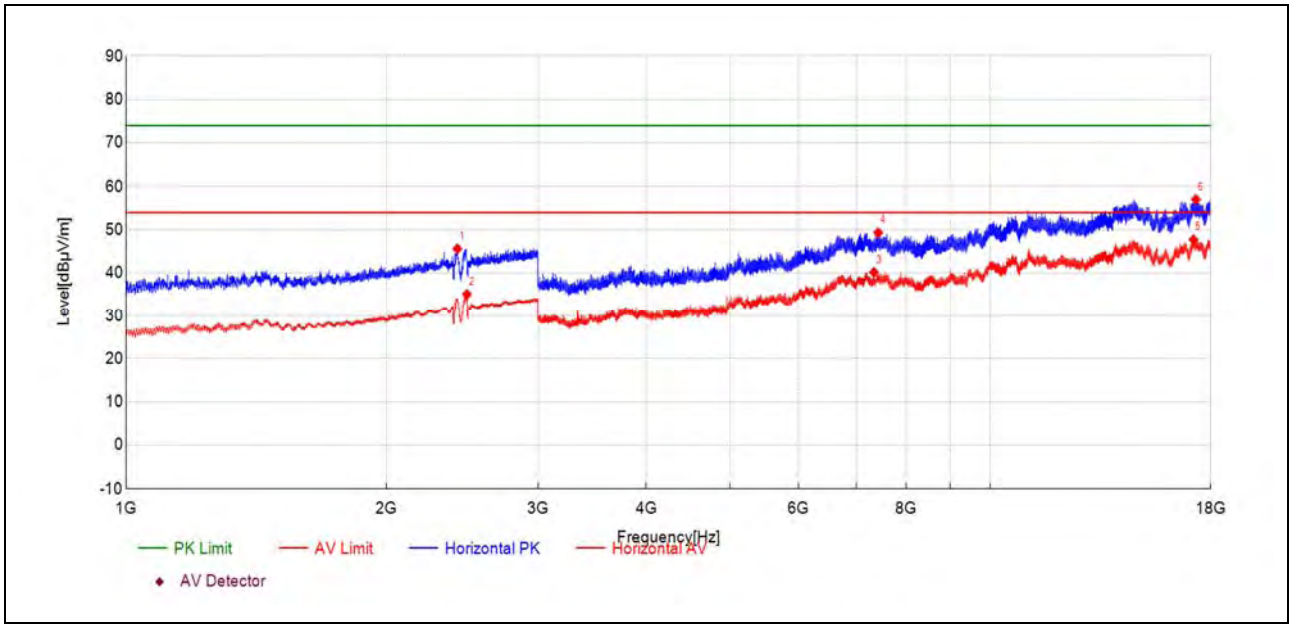
Fre. (MHz)	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
2441.09	46.3	52.13	5.840	-	-	150	91	PK	NA
2441.49	44.6	50.43	5.840	-	-	150	91	AV	NA
7199.69	45.1	50.22	5.120	74.00	23.78	150	232	PK	PASS
7323.12	35.9	40.15	4.300	54.00	13.85	150	43	AV	PASS
14681.05	27.5	48.03	20.560	54.00	5.97	150	204	AV	PASS
14687.91	37.4	57.94	20.570	74.00	16.06	150	337	PK	PASS

Plot for Channel 78



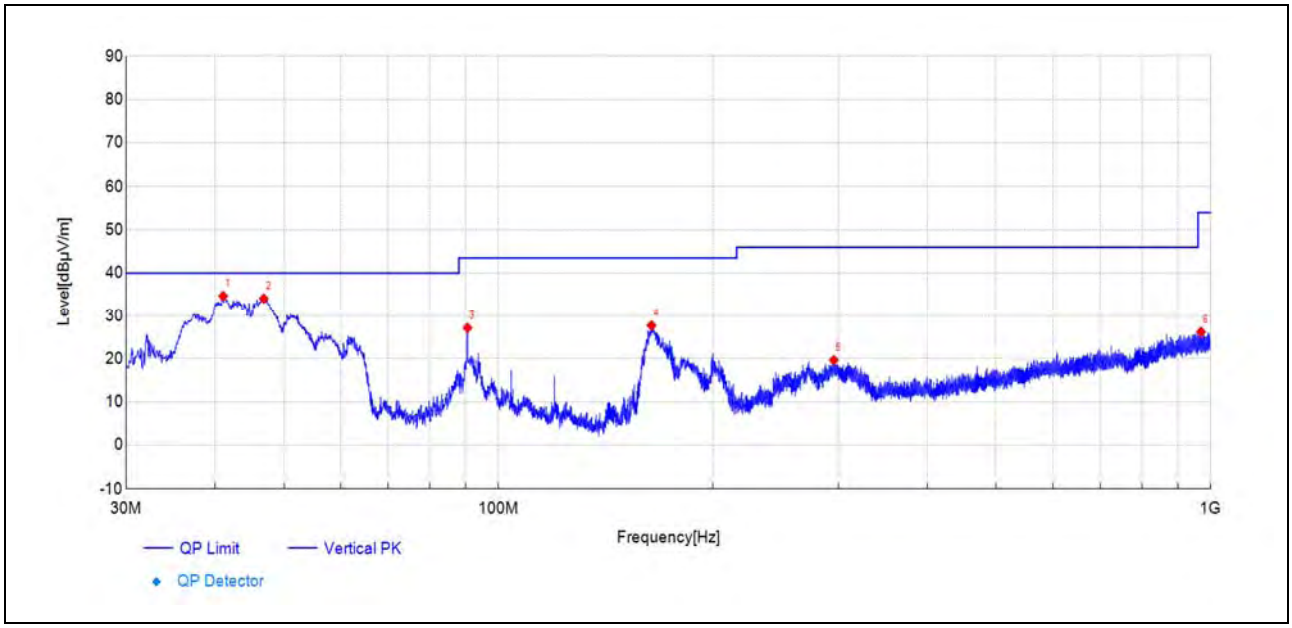
(Antenna Horizontal, 30MHz to 1GHz)

Fre. (MHz)	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
32.57	56.4	25.94	-30.470	40.00	14.06	150	237	PK	PASS
44.26	53.2	25.33	-27.890	40.00	14.67	150	117	PK	PASS
90.48	57.0	25.51	-31.470	43.50	17.99	150	299	PK	PASS
163.92	63.1	32.09	-31.050	43.50	11.41	150	164	PK	PASS
292.79	47.2	21.06	-26.170	46.00	24.94	150	197	PK	PASS
987.92	37.2	26.47	-10.750	54.00	27.53	150	354	PK	PASS



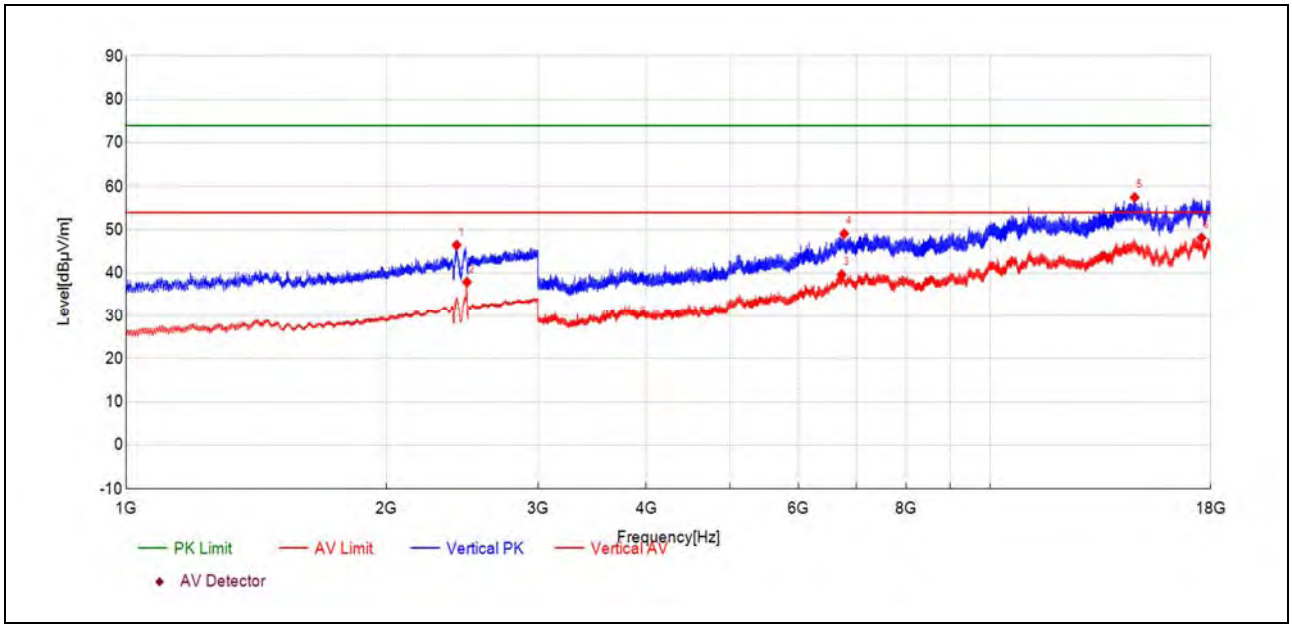
(Antenna Horizontal, 1GHz to 18GHz)

Fre. (MHz)	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
2417.88	40.1	45.62	5.480	74.00	28.38	150	130	PK	PASS
2480.70	29.2	35.07	5.890	54.00	18.93	150	81	AV	PASS
7337.70	35.8	40.18	4.420	54.00	13.82	150	161	AV	PASS
7421.27	44.7	49.36	4.680	74.00	24.64	150	270	PK	PASS
17192.98	27.8	47.73	19.890	54.00	6.27	150	53	AV	PASS
17306.12	38.1	57.03	18.970	74.00	16.97	150	94	PK	PASS



(Antenna Vertical, 30MHz to 1GHz)

Fre. (MHz)	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
41.06	63.6	34.65	-28.960	40.00	5.35	150	182	PK	PASS
46.83	62.4	34.07	-28.370	40.00	5.93	150	351	PK	PASS
90.48	58.6	27.15	-31.470	43.50	16.35	150	155	PK	PASS
164.01	58.7	27.70	-31.030	43.50	15.80	150	19	PK	PASS
295.65	45.5	19.64	-25.890	46.00	26.36	150	223	PK	PASS
969.25	37.7	26.18	-11.540	54.00	27.82	150	53	PK	PASS



(Antenna Vertical, 1GHz to 18GHz)

Fre. (MHz)	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
2413.48	41.1	46.48	5.420	74.00	27.52	150	167	PK	PASS
2480.30	32.0	37.91	5.890	-	-	150	86	AV	NA
6732.54	35.6	39.65	4.080	54.00	14.35	150	218	AV	PASS
6777.97	45.2	49.13	3.900	74.00	24.87	150	97	PK	PASS
14696.05	36.9	57.52	20.590	74.00	16.48	150	336	PK	PASS
17566.70	27.3	48.17	20.900	54.00	5.83	150	192	AV	PASS

END OF REPORT