TEST REPORT

Report No.:	BCTC2605005052-2E
Applicant:	Shenzhen Feiyufei Digital Technology Co., Ltd
Product Name:	Tablet
Test Model:	NET Z3
Tested Date:	2026-06-02 to 2026-06-15
Issued Date:	2026-07-31

Shenzhen BCTC Technology Co., Ltd.

FCC ID:2BCOA-NETZ3

Product Name:	Tablet
Trademark:	Krono
Model/Type Reference:	NET Z3
Prepared For:	Shenzhen Feiyufei Digital Technology Co., Ltd
Address:	3A18, Building A2, Fuhai Technology Industrial Park, Fuyong Community, Baoan, Shenzhen, China.
Manufacturer:	Shenzhen Feiyufei Digital Technology Co., Ltd
Address:	3A18, Building A2, Fuhai Technology Industrial Park, Fuyong Community, Baoan, Shenzhen, China.
Prepared By:	Shenzhen BCTC Technology Co., Ltd.
Address:	Room 101M, Unit 1, Building1, Pengyuan, No.18, Lilang Road, Shanglilang, Nanwan Subdistrict, Longgang District, Shenzhen, Guangdong, China.
Sample Received Date:	2026-06-02
Sample Tested Date:	2026-06-02 to 2026-06-15
Report No.:	BCTC2605005052-2E
Test Standards	CFR 47 FCC Part 15 Subpart C (clause15.247) ANSI C63.10-2020
Test Results	PASS
Remark:	This is Bluetooth Classic radio test report.

Prepared by :	Reviewer by :	Approved by:
Louis.zeng	Mike Zheng	Sewen Guo
Louis Zeng /Editor	Mike Zheng / Supervisor	Sewen Guo/Manager

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Table of Content

Test Report Declaration Page
1. Version 5
2. Test Summary 6
3. Measurement Uncertainty 7
4. Product Information and Test Setup 8
4.1 Product Information 8
4.2 Test Setup Configuration 9
4.3 Support Equipment 9
4.4 Channel List 10
4.5 Test Mode 10
4.6 Table Of Parameters Of Text Software Setting 11
5. Test Facility And Test Instrument Used 12
5.1 Test Facility 12
5.2 Test Instrument Used 12
6. Conducted Emissions 15
6.1 Block Diagram Of Test Setup 15
6.2 Limit 15
6.3 Test procedure 15
6.4 EUT operating Conditions 15
6.5 Test Result 16
7. Radiated emissions 18
7.1 Block Diagram Of Test Setup 18
7.2 Limit 19
7.3 Test procedure 20
7.4 EUT operating Conditions 21
7.5 Test Result 22
8. Radiated Band Emission Measurement and Restricted Bands of Operation 28
8.1 Block Diagram Of Test Setup 28
8.2 Limit 28
8.3 Test procedure 29
8.4 EUT operating Conditions 29
8.5 Test Result 30
9. Spurious RF Conducted Emissions 31
9.1 Block Diagram Of Test Setup 31
9.2 Limit 31
9.3 Test procedure 31
9.4 Test Result 32
10. 20 dB Bandwidth 53
10.1 Block Diagram Of Test Setup 53
10.2 Limit 53
10.3 Test procedure 53
10.4 Test Result 54
11. Maximum Peak Output Power 60
11.1 Block Diagram Of Test Setup 60
11.2 Limit 60
11.3 Test procedure 60

11.4 Test Result 60
12. Hopping Channel Separation 66
12.1 Block Diagram Of Test Setup 66
12.2 Limit 66
12.3 Test procedure 66
12.4 Test Result 66
13. Number of Hopping Frequency 71
13.1 Block Diagram Of Test Setup 71
13.2 Limit 71
13.3 Test procedure 71
13.4 Test Result 71
14. Dwell Time 74
14.1 Block Diagram Of Test Setup 74
14.2 Limit 74
14.3 Test procedure 74
14.4 Test Result 74
15. Antenna Requirement 80
15.1 Limit 80
15.2 Test Result 80
16. EUT Test Setup Photographs 81

1. Version

Report No.	Issue Date	Description	Approved
BCTC2605005052-2E	2026-07-31	Original	Valid

2. Test Summary

The Product has been tested according to the following specifications:

No.	Test Parameter	Clause No.	Results
1	Conducted emission AC power port	§15.207	PASS*
2	Conducted peak output power for FHSS	§15.247(b)(1)	PASS*
3	20dB Occupied bandwidth	§15.247(a)(1)	PASS*
4	Number of hopping frequencies	§15.247(a)(1)(iii)	PASS*
5	Dwell Time	§15.247(a)(1)(iii)	PASS*
6	Spurious RF conducted emissions	§15.247(d)	PASS*
7	Band edge	§15.247(d)	PASS*
8	Spurious radiated emissions for transmitter	§15.247(d) & §15.209 & §15.205	PASS*
9	Antenna Requirement	15.203	PASS

NOTE1: N/A (Not Applicable)
NOTE2: According to FCC OET KDB 558074, the report use radiated measurements in the restricted frequency bands. In addition, the radiated test is also performed to ensure the emissions emanating from the device cabinet also comply with the applicable limits.
Note 3: "*" indicates that the test results are determined base on CFR 47 FCC Part 15 Subpart C (clause 15.247). And the test results are took into account measurement uncertainty (see section 3 for measurement uncertainty information)

3. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2:2011/AMD2:2018. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Uncertainty
1	3m chamber Radiated spurious emission(9kHz-30MHz)	U=3.7dB
2	3m chamber Radiated spurious emission(30MHz-1GHz)	U=4.8dB
3	3m chamber Radiated spurious emission(1GHz-18GHz)	U=5.5dB
4	3m chamber Radiated spurious emission(18GHz-40GHz)	U=5.0dB
5	Conducted Emission(150kHz-30MHz)	U=3.0dB
6	Power Spectral Density	U=3.46dB
7	Peak Power	U=0.31dB
8	Occupied Bandwidth/Frequency Range	U=3.46%
9	Conducted output power uncertainty	U=0.55dB
10	Frequency Error	U= 53.50 Hz
11	Frequency Drift	U=0.64 KHz
12	Temperature	U= 0.59 ℃
13	Humidity	U= 5.3 %

4. Product Information and Test Setup

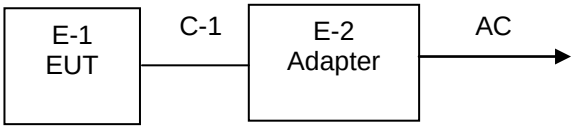
4.1 Product Information

Model/Type reference:	NET Z3
Model differences:	N/A
Bluetooth Version:	N/A
Hardware Version:	N/A
Software Version:	N/A
Operation Frequency:	Bluetooth: 2402-2480MHz
Type of Modulation:	GFSK modulation for BR(1Mbps) pi/4-DQPSK modulation for EDR(2Mbps) 8DPSK modulation for BT EDR (3Mbps)
Number Of Channel	79 channels
Antenna installation:	Internal antenna
Antenna Gain:	-2.56 dBi
	Remark: ☒The antenna gain of the product comes from the antenna report provided by the customer, and the test data is affected by the customer information. Antenna gain information is provided by the client and the laboratory is not responsible for its authenticity ☐The antenna gain of the product is provided by the customer, and the test data is affected by the customer information. Antenna gain information is provided by the client and the laboratory is not responsible for its authenticity
Power Rating	DC 5V/2A
Adapter:	Input: AC 100-240V,50/60Hz,0.5A,Max Output: DC 5V/2.0A,10W
Battery:	DC 3.7 V,3000mAh

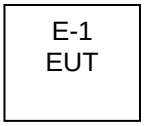
4.2 Test Setup Configuration

See test photographs attached in eut test setup photographs for the actual connections between product and support equipment.

Conducted Emission:



Radiated Spurious Emission:



4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	Tablet	N/A	NET Z3	N/A	EUT
E-2	Adapter	N/A	N/A	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note
C-1	Charging cable	N/A	N/A	EUT

Notes:
1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.4 Channel List

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

4.5 Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Test Mode	Test mode	Low channel	Middle channel	High channel
1	Transmitting(GFSK)	2402MHz	2441MHz	2480MHz
2	Transmitting(π/ 4 DQPSK)	2402MHz	2441MHz	2480MHz
3	Transmitting(8DPSK)	2402MHz	2441MHz	2480MHz
4	Transmitting (Conducted emission & Radiated emission)			

Note:
(1) The measurements are performed at the highest, middle, lowest available channels.
(2) Fully-charged battery is used during the test

4.6 Table Of Parameters Of Text Software Setting

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters

RF Function	Mode Or Modulation type	Power Class	Software For Testing
BT	GFSK	Default	Engineer Mode
	π/4-DQPSK	Default	
	8DPSK	Default	

5. Test Facility And Test Instrument Used

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at
Shenzhen BCTC Technology Co., Ltd.
Address: Room 101M, Unit 1, Building1, Pengyuan, No.18, Lilang Road, Shanglilang, Nanwan Subdistrict, Longgang District, Shenzhen, Guangdong, China.
The site and apparatus are constructed in conformance with the requirements of ANSI C63.4a-2017 and CISPR 16-1-1:2019 other equivalent standards.
FCC Test Firm Registration Number: 754702
ANAB certificate registration number is: CN3479

5.2 Test Instrument Used

Conducted emissions Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Receiver	R&S	ESCI	101421	2025.08.30	2026.08.29
AMN	SCHWHRZBECK	NSLK8128	05152	2026.01.22	2027.01.21
AMN	SCHWHRZBECK	NSLK8127	8127739	2025.09.16	2026.09.15
Pulse Limiter	SCHWHRZBECK	VTSD 9561-F-N	00547	2025.08.30	2026.08.29
Temperature & Humidity	Wetest	HTC-1	/	2025.09.01	2026.08.31
Software	EZ-EMC	Ver.EMC-CON 3A1	/	/	/

Radiated disturbance 1#					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Shielded room	CRT	9*6*6	/	2023.08.02	2026.08.01
Broadband antenna	Schwarzbeck	VULB9160	3369	2026.05.16	2027.05.15
Receiver	R&S	ESPI	101396	2025.08.30	2026.08.29
Preamplifier	Schwarzbeck	BBV9744	00342	2025.08.30	2026.08.29
Loop Antenna	Schwarzbeck	FMZB1519B	00014	2026.01.05	2027.01.04
RF cable 5# (9kHz-6GHz)	Yunyi	3M	/	2025.08.30	2026.08.29
RF cable 8# (9kHz-1GHz)	Yunyi	7M	/	2025.10.28	2026.10.27

Temperature & Humidity	Wetest	HTC-1	/	2025.09.01	2026.08.31
Software	EZ-EMC	Ver.FA-03A2	/	/	/

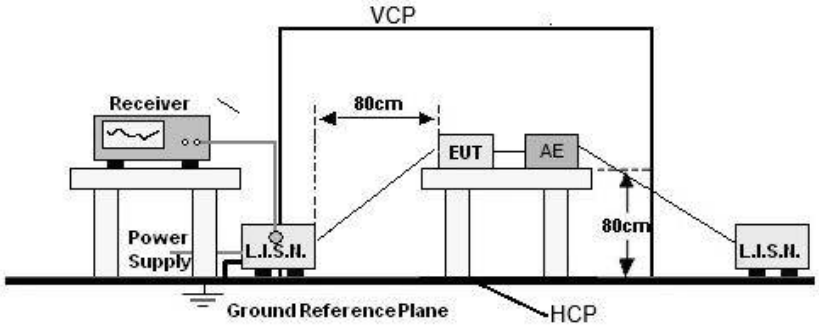
Radiated disturbance 2#					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Shielded room	ChengYu	9*6*6	/	2023.09.25	2026.09.24
Loop Antenna	Schwarzbeck	FMZB1519B	00014	2026.01.05	2027.01.04
Broadband antenna	SCHWHRZBECK	VULB9168	01620	2025.08.29	2026.08.28
Horn antenna(1 GHz -18GHz)	SCHWARZBECK	BBHA 9120 D	2792	2025.08.29	2026.08.28
Horn antenna (18 GHz -40GHz)	SCHWARZBECK	BBHA9170	00822	2025.12.29	2026.12.28
Receiver	R&S	ESR	1316	2025.08.30	2026.08.29
Spectrum Analyzer	R&S	FSV40	101328	2026.01.22	2027.01.21
Amplifier	SCHWHRZBECK	BBV9744	568	2025.08.30	2026.08.29
Amplifier	EMC INSTRUMENTS CORPORATION	EMC0518A45SE E	EMT-SZ2 233	2025.08.30	2026.08.29
Amplifier (18GHz-40GHz)	MITEQ	TTA1840-35-HG	2034381	2026.05.09	2027.05.08
RF cable 3# (9kHz-6GHz)	Yunyi	10M	/	2025.08.30	2026.08.29
RF cable 9# (9kHz-1GHz)	Yunyi	2M	/	2025.10.28	2026.10.27
RF cable 5# (1GHz -18GHz)	SKET	9M	18038626	2025.08.30	2026.08.29
RF cable 6# (1GHz -18GHz)	SKET	5M	#10	2025.09.05	2026.09.04
RF cable 10# (18GHz-40GHz)	/	2M	2M	2026.05.09	2027.05.08
RF cable 11# (18GHz-40GHz)	/	2.5M	2.5M	2026.05.09	2027.05.08
Temperature & Humidity	Wetest	HTC-1	/	2025.09.05	2026.09.04
Software	EZ-EMC	Ver.FA-03A2	/	/	/

RF Conducted Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**

Spectrum Analyzer	Keysight	N9020A	MY51287403	2025.08.30	2026.08.29
Signal Generator	Keysight	N5182A	MY50144088	2025.08.30	2026.08.29
Power Sensor	Keysight	U2001	MY51250006	2025.10.28	2026.10.27
Temperature & Humidity	Wetest	HTC-1	/	2025.09.01	2026.08.31
Communication test set	R&S	CMW500	157483	2025.08.30	2026.08.29
Radio frequency control box	MWRFtest	MW100-RFCB	\	\	\
Software	MWRFtest	MTS 8310	V 3.0.0.0	\	\
D.C. Power Supply	Elektro-Automatik GmbH & Co.KG	D-41747 Viersen	6230316	2025.09.30	2026.08.29
Temperature and humidity test chamber	Auchno	OJN-9606-408L	19120183	2025.07.09	2026.07.08

6. Conducted Emissions

6.1 Block Diagram Of Test Setup



6.2 Limit

Frequency (MHz)	Limit (dBuV)	
	Quas-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00
Notes: 1. *Decreasing linearly with logarithm of frequency. 2. The lower limit shall apply at the transition frequencies.		

6.3 Test procedure

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

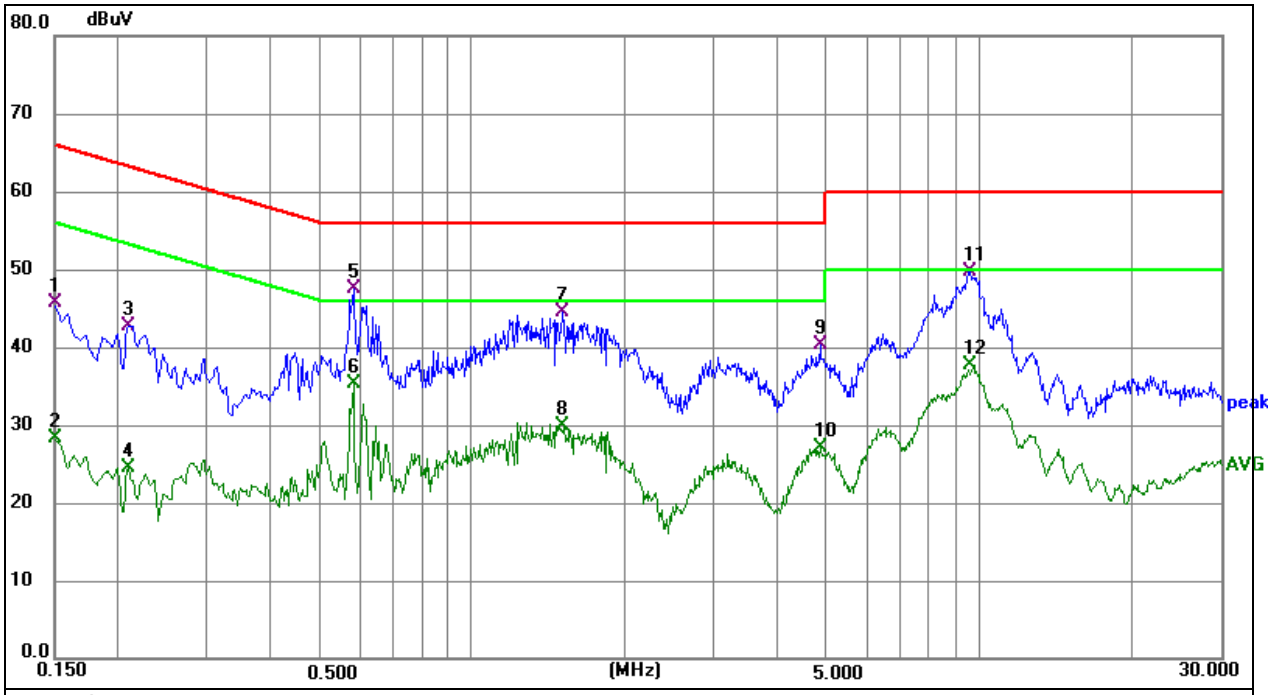
a. The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
b. The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
c. For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

6.4 EUT operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

6.5 Test Result

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	L
Test Mode:	Mode 4	Test Voltage :	AC 120V/60Hz

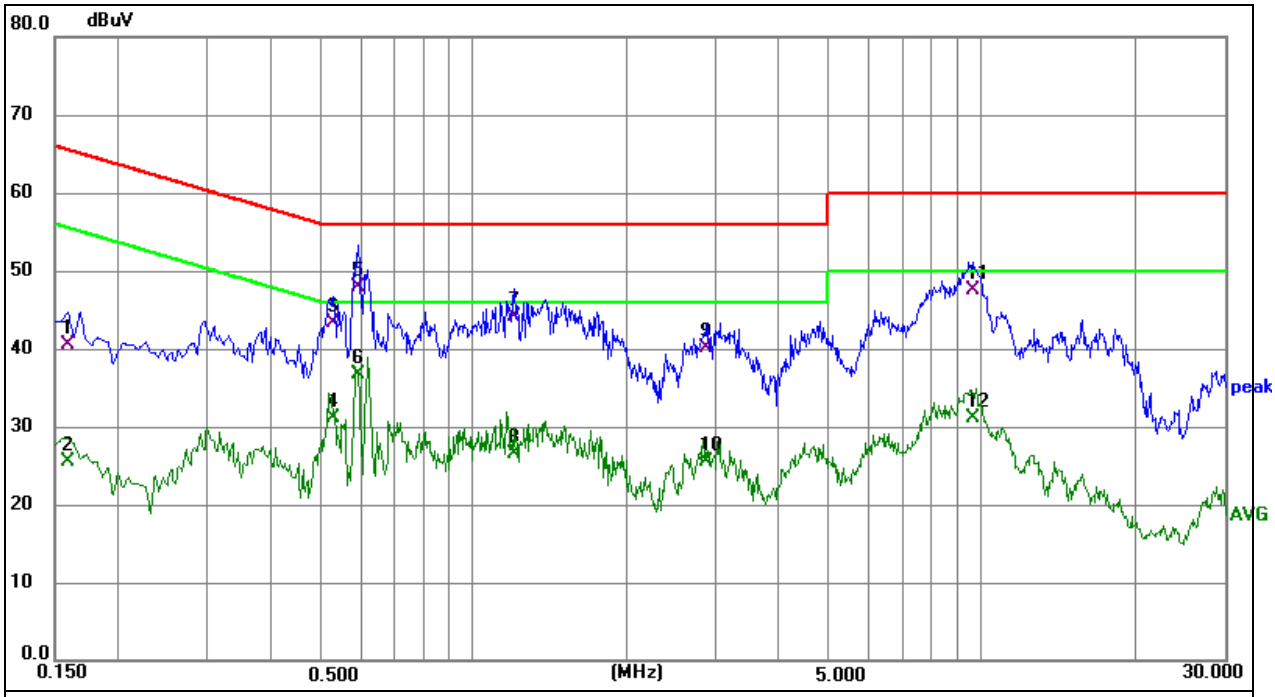


Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = LISN factor + Cable Loss+ Limiter (10dB).
3. Margin = (Reading+ Factor)–Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1500	35.25	10.51	45.76	66.00	-20.24	QP
2	0.1500	17.80	10.51	28.31	56.00	-27.69	AVG
3	0.2085	32.15	10.51	42.66	63.26	-20.60	QP
4	0.2085	13.98	10.51	24.49	53.26	-28.77	AVG
5 *	0.5820	36.91	10.53	47.44	56.00	-8.56	QP
6	0.5820	24.69	10.53	35.22	46.00	-10.78	AVG
7	1.5045	34.00	10.55	44.55	56.00	-11.45	QP
8	1.5045	19.26	10.55	29.81	46.00	-16.19	AVG
9	4.8705	29.55	10.76	40.31	56.00	-15.69	QP
10	4.8705	16.31	10.76	27.07	46.00	-18.93	AVG
11	9.6450	38.58	11.19	49.77	60.00	-10.23	QP
12	9.6450	26.55	11.19	37.74	50.00	-12.26	AVG

* Indicates the worst data.

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	N
Test Mode:	Mode 4	Test Voltage :	AC 120V/60Hz



Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = LISN factor + Cable Loss+ Limiter (10dB).
3. Margin = (Reading+ Factor)–Limit

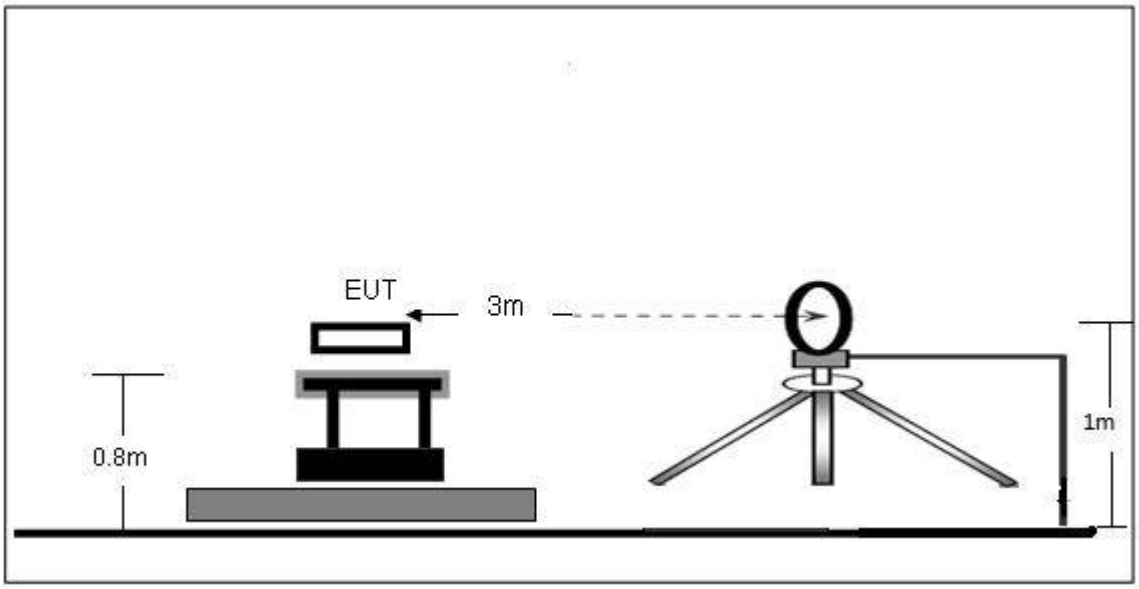
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1590	29.99	10.51	40.50	65.52	-25.02	QP
2	0.1590	15.09	10.51	25.60	55.52	-29.92	AVG
3	0.5280	32.77	10.53	43.30	56.00	-12.70	QP
4	0.5280	20.67	10.53	31.20	46.00	-14.80	AVG
5 *	0.5910	37.37	10.53	47.90	56.00	-8.10	QP
6	0.5910	26.27	10.53	36.80	46.00	-9.20	AVG
7	1.2075	33.67	10.53	44.20	56.00	-11.80	QP
8	1.2075	16.07	10.53	26.60	46.00	-19.40	AVG
9	2.8770	29.55	10.55	40.10	56.00	-15.90	QP
10	2.8770	15.05	10.55	25.60	46.00	-20.40	AVG
11	9.6360	36.41	11.19	47.60	60.00	-12.40	QP
12	9.6360	20.01	11.19	31.20	50.00	-18.80	AVG

* Indicates the worst data.

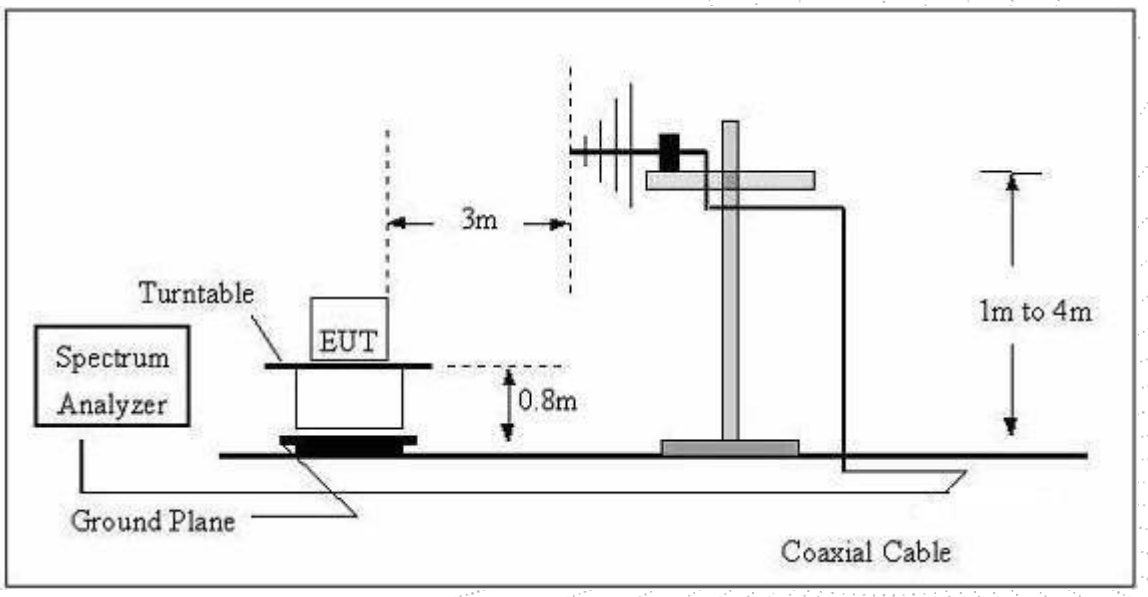
7. Radiated emissions

7.1 Block Diagram Of Test Setup

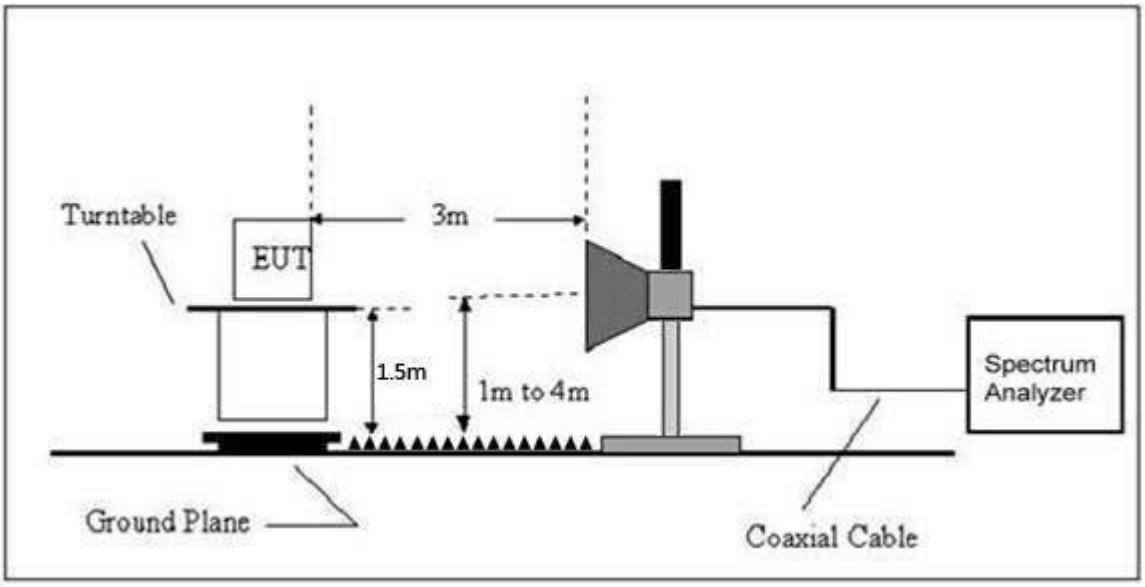
（A）Radiated Emission Test-Up Frequency Below 30MHz



（B）Radiated Emission Test-Up Frequency 30MHz~1GHz



（C）Radiated Emission Test-Up Frequency Above 1GHz



7.2 Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency	Field Strength	Distance	Field Strength Limit at 3m Distance	
(MHz)	uV/m	(m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	$20\log^{(2400/F(kHz))}$ + 80
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	$20\log^{(24000/F(kHz))}$ + 40
1.705 ~ 30	30	30	100 * 30	$20\log^{(30)}$ + 40
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

Limits Of Radiated Emission Measurement (Above 1000MHz)

Frequency (MHz)	Limit (dBuV/m) (at 3M)	
	Peak	Average
Above 1000	74	54

Notes:
(1)The limit for radiated test was performed according to FCC PART 15C.
(2)The tighter limit applies at the band edges.
(3) Emission level (dBuV/m)=20log Emission level (uV/m).

Frequency Range Of Radiated Measurement

(a) For an intentional radiator the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to at least the frequency shown in this paragraph:

(1) If the intentional radiator operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

(2) If the intentional radiator operates at or above 10 GHz and below 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.

(3) If the intentional radiator operates at or above 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.

(4) If the intentional radiator operates at or above 95 GHz: To the third harmonic of the highest fundamental frequency or to 750 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.

(5) If the intentional radiator contains a digital device, regardless of whether this digital device controls the functions of the intentional radiator or the digital device is used for additional control or function purposes other than to enable the operation of the intentional radiator, the frequency range shall be investigated up to the range specified in paragraphs (a) (1)through (4) of this section or the range applicable to the digital device, as shown in paragraph (b)(1) of this section, whichever is the higher frequency range of investigation.

7.3 Test procedure

Receiver Parameter	Setting
Attenuation	Auto
9kHz~150kHz	RBW 200Hz for QP
150kHz~30MHz	RBW 9kHz for QP
30MHz~1000MHz	RBW 120kHz for QP

Spectrum Parameter	Setting
1-25GHz	RBW 1 MHz /VBW 1 MHz for Peak, RBW 1 MHz / VBW 10Hz for Average

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.

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

c. The 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.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (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.

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

f. 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.

Above 1GHz test procedure as below:

a.The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.

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

c.The 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.

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

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

f. 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.

g. Test the EUT in the lowest channel, the middlest channel, the Highest channel.

Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

7.4 EUT operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

7.5 Test Result

Below 30MHz

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage :	DC 3.7V
Test Mode:	Mode 4		

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

Note:

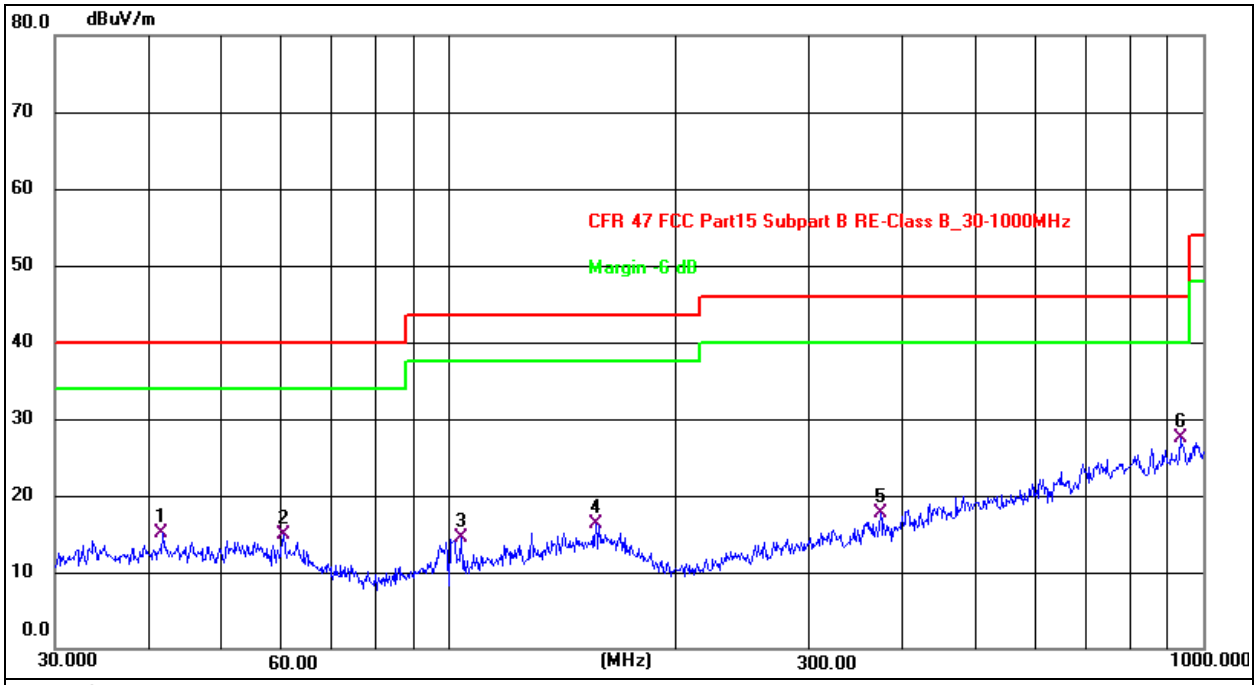
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor =40 log (specific distance/test distance)(dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.

Between 30MHz – 1GHz

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Test Mode:	Mode 4	Test Voltage:	DC 3.7V

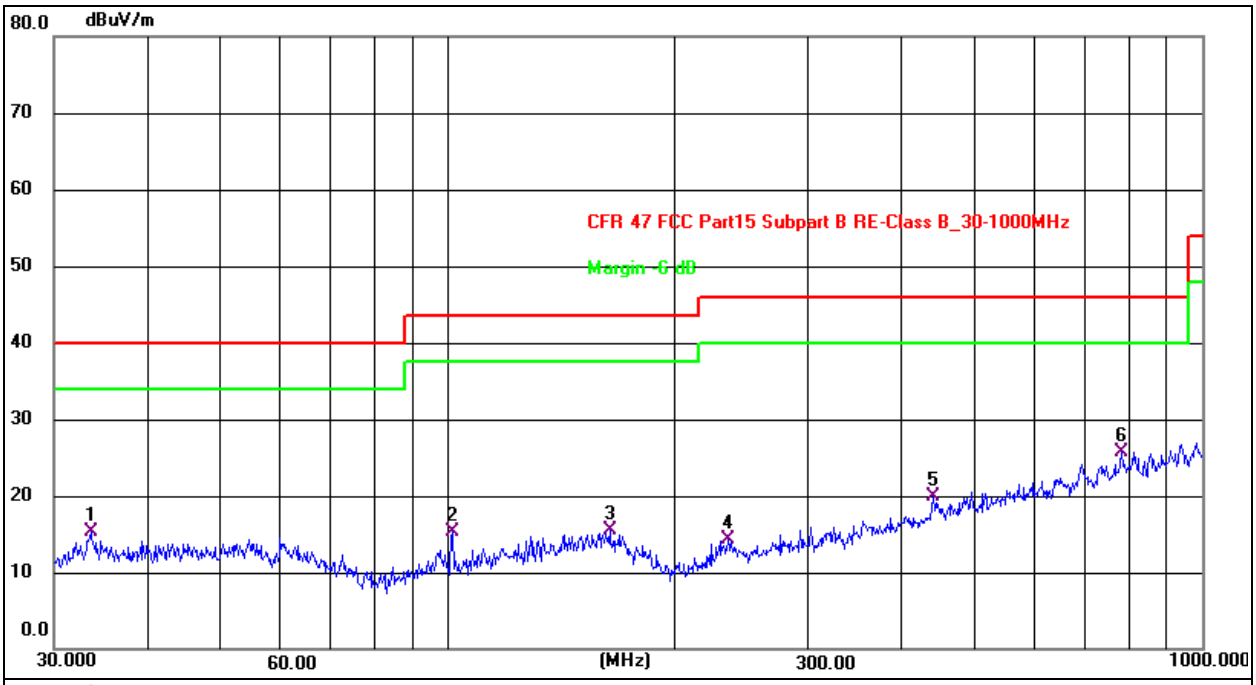


Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
Margin = (Reading + Factor)–Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	41.7129	27.02	-11.87	15.15	40.00	-24.85	QP
2	60.2801	27.28	-12.40	14.88	40.00	-25.12	QP
3	103.8055	28.91	-14.32	14.59	43.50	-28.91	QP
4	156.4578	26.47	-10.13	16.34	43.50	-27.16	QP
5	373.3112	26.42	-8.78	17.64	46.00	-28.36	QP
6 *	932.2715	25.80	1.79	27.59	46.00	-18.41	QP

* Indicates the worst data.

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Test Mode:	Mode 4	Test Voltage:	DC 3.7V



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
Margin = (Reading + Factor)–Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	33.5624	28.29	-13.05	15.24	40.00	-24.76	QP
2	101.2885	29.46	-14.21	15.25	43.50	-28.25	QP
3	163.7550	25.70	-10.13	15.57	43.50	-27.93	QP
4	234.9909	26.90	-12.62	14.28	46.00	-31.72	QP
5	440.1963	26.47	-6.66	19.81	46.00	-26.19	QP
6 *	782.3453	26.19	-0.42	25.77	46.00	-20.23	QP

* Indicates the worst data.

Between 1GHz – 25GHz

Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measurement (dBuV/m)	Limits (dBuV/m)	Over (dB)	Detector Type
GFSK Low channel							
V	4804.00	66.68	-9.61	57.07	74.00	-16.93	PK
V	4804.00	57.70	-9.61	48.09	54.00	-5.91	AV
V	7206.00	58.46	-4.13	54.33	74.00	-19.67	PK
V	7206.00	47.78	-4.13	43.65	54.00	-10.35	AV
H	4804.00	61.68	-9.61	52.07	74.00	-21.93	PK
H	4804.00	51.84	-9.61	42.23	54.00	-11.77	AV
H	7206.00	55.63	-4.13	51.50	74.00	-22.50	PK
H	7206.00	48.34	-4.13	44.21	54.00	-9.79	AV
GFSK Middle channel							
V	4882.00	65.67	-8.84	56.83	74.00	-17.17	PK
V	4882.00	59.57	-8.84	50.73	54.00	-3.27	AV
V	7323.00	57.64	-3.41	54.23	74.00	-19.77	PK
V	7323.00	48.36	-3.41	44.95	54.00	-9.05	AV
H	4882.00	62.57	-8.84	53.73	74.00	-20.27	PK
H	4882.00	53.07	-8.84	44.23	54.00	-9.77	AV
H	7323.00	55.82	-3.41	52.41	74.00	-21.59	PK
H	7323.00	47.52	-3.41	44.11	54.00	-9.89	AV
GFSK High channel							
V	4960.00	68.51	-8.65	59.86	74.00	-14.14	PK
V	4960.00	59.62	-8.65	50.97	54.00	-3.03	AV
V	7440.00	61.65	-3.4	58.25	74.00	-15.75	PK
V	7440.00	51.36	-3.4	47.96	54.00	-6.04	AV
H	4960.00	66.19	-8.65	57.54	74.00	-16.46	PK
H	4960.00	56.58	-8.65	47.93	54.00	-6.07	AV
H	7440.00	59.93	-3.4	56.53	74.00	-17.47	PK
H	7440.00	51.01	-3.4	47.61	54.00	-6.39	AV

Remark:
1. Measurement = Reading Level + Correct Factor, Factor = Antenna Factor + Cable Loss – Pre-amplifier.
Over= Measurement - Limit
2.If peak below the average limit, the average emission was no test.
3. In restricted bands of operation, The spurious emissions below the permissible value more than 20dB
4. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measurement (dBuV/m)	Limits (dBuV/m)	Over (dB)	Detector Type
π/4-DQPSK Low channel							
V	4804.00	67.92	-9.61	58.31	74.00	-15.69	PK
V	4804.00	57.14	-9.61	47.53	54.00	-6.47	AV
V	7206.00	57.63	-4.13	53.50	74.00	-20.50	PK
V	7206.00	46.70	-4.13	42.57	54.00	-11.43	AV
H	4804.00	63.58	-9.61	53.97	74.00	-20.03	PK
H	4804.00	53.08	-9.61	43.47	54.00	-10.53	AV
H	7206.00	56.46	-4.13	52.33	74.00	-21.67	PK
H	7206.00	47.83	-4.13	43.70	54.00	-10.30	AV
π/4-DQPSK Middle channel							
V	4882.00	66.55	-8.84	57.71	74.00	-16.29	PK
V	4882.00	59.55	-8.84	50.71	54.00	-3.29	AV
V	7323.00	57.77	-3.41	54.36	74.00	-19.64	PK
V	7323.00	48.75	-3.41	45.34	54.00	-8.66	AV
H	4882.00	63.51	-8.84	54.67	74.00	-19.33	PK
H	4882.00	53.35	-8.84	44.51	54.00	-9.49	AV
H	7323.00	56.29	-3.41	52.88	74.00	-21.12	PK
H	7323.00	47.78	-3.41	44.37	54.00	-9.63	AV
π/4-DQPSK High channel							
V	4960.00	68.82	-8.65	60.17	74.00	-13.83	PK
V	4960.00	59.84	-8.65	51.19	54.00	-2.81	AV
V	7440.00	62.43	-3.4	59.03	74.00	-14.97	PK
V	7440.00	51.51	-3.4	48.11	54.00	-5.89	AV
H	4960.00	66.51	-8.65	57.86	74.00	-16.14	PK
H	4960.00	56.11	-8.65	47.46	54.00	-6.54	AV
H	7440.00	59.90	-3.4	56.50	74.00	-17.50	PK
H	7440.00	51.11	-3.4	47.71	54.00	-6.29	AV

Remark:
1. Measurement = Reading Level + Correct Factor, Factor = Antenna Factor + Cable Loss – Pre-amplifier.
Over= Measurement - Limit
2.If peak below the average limit, the average emission was no test.
3. In restricted bands of operation, The spurious emissions below the permissible value more than 20dB
4. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

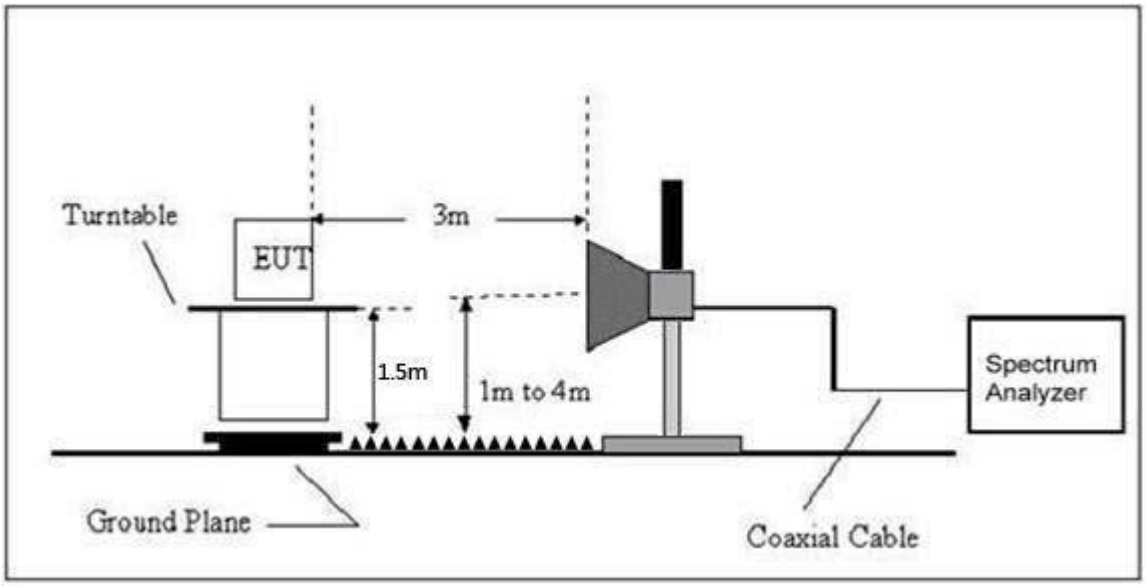
Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measurement (dBuV/m)	Limits (dBuV/m)	Over (dB)	Detector Type
8DPSK Low channel							
V	4804.00	66.77	-9.61	57.16	74.00	-16.84	PK
V	4804.00	57.92	-9.61	48.31	54.00	-5.69	AV
V	7206.00	58.42	-4.13	54.29	74.00	-19.71	PK
V	7206.00	49.09	-4.13	44.96	54.00	-9.04	AV
H	4804.00	64.87	-9.61	55.26	74.00	-18.74	PK
H	4804.00	54.22	-9.61	44.61	54.00	-9.39	AV
H	7206.00	55.51	-4.13	51.38	74.00	-22.62	PK
H	7206.00	47.52	-4.13	43.39	54.00	-10.61	AV
8DPSK Middle channel							
V	4882.00	64.44	-8.84	55.60	74.00	-18.40	PK
V	4882.00	58.40	-8.84	49.56	54.00	-4.44	AV
V	7323.00	54.42	-3.41	51.01	74.00	-22.99	PK
V	7323.00	45.62	-3.41	42.21	54.00	-11.79	AV
H	4882.00	60.54	-8.84	51.70	74.00	-22.30	PK
H	4882.00	50.12	-8.84	41.28	54.00	-12.72	AV
H	7323.00	53.38	-3.41	49.97	74.00	-24.03	PK
H	7323.00	44.44	-3.41	41.03	54.00	-12.97	AV
8DPSK High channel							
V	4960.00	66.48	-8.65	57.83	74.00	-16.17	PK
V	4960.00	55.64	-8.65	46.99	54.00	-7.01	AV
V	7440.00	58.91	-3.4	55.51	74.00	-18.49	PK
V	7440.00	48.83	-3.4	45.43	54.00	-8.57	AV
H	4960.00	64.94	-8.65	56.29	74.00	-17.71	PK
H	4960.00	55.73	-8.65	47.08	54.00	-6.92	AV
H	7440.00	55.98	-3.4	52.58	74.00	-21.42	PK
H	7440.00	47.98	-3.4	44.58	54.00	-9.42	AV

Remark:
1. Measurement = Reading Level + Correct Factor, Factor = Antenna Factor + Cable Loss – Pre-amplifier.
Over= Measurement - Limit
2.If peak below the average limit, the average emission was no test.
3. In restricted bands of operation, The spurious emissions below the permissible value more than 20dB
4. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

8. Radiated Band Emission Measurement and Restricted Bands of Operation

8.1 Block Diagram Of Test Setup

Radiated Emission Test-Up Frequency Above 1GHz



8.2 Limit

FCC Part15 C Section 15.209 and 15.205

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

Limits Of Radiated Emission Measurement (Above 1000MHz)

Frequency (MHz)	Limit (dBuV/m) (at 3M)	
	Peak	Average
Above 1000	74	54

Notes:
(1)The limit for radiated test was performed according to FCC PART 15C.
(2)The tighter limit applies at the band edges.
(3)Emission level (dBuV/m)=20log Emission level (uV/m).

8.3 Test procedure

Receiver Parameter	Setting
Attenuation	Auto
Start Frequency	2300MHz
Stop Frequency	2520
RB / VB (Emission In Restricted Band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Above 1GHz test procedure as below:
a.The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.

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

c.The 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.

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

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

f. 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.

g. Test the EUT in the lowest channel, the middlest channel, the Highest channel.

Note:
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

8.4 EUT operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

8.5 Test Result

Test mode	Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measure-ment (dBuV/m)	Limits (dBuV/m)		Result
					PK	PK	AV	
GFSK	Low Channel 2402MHz							
	H	2390.00	62.59	-17.27	45.32	74.00	54.00	PASS
	H	2400.00	66.56	-17.23	49.33	74.00	54.00	PASS
	V	2390.00	63.51	-17.27	46.24	74.00	54.00	PASS
	V	2400.00	65.46	-17.23	48.23	74.00	54.00	PASS
	High Channel 2480MHz							
	H	2483.50	66.50	-16.91	49.59	74.00	54.00	PASS
	H	2500.00	63.34	-16.71	46.63	74.00	54.00	PASS
	V	2483.50	66.77	-16.91	49.86	74.00	54.00	PASS
	V	2500.00	63.47	-16.71	46.76	74.00	54.00	PASS
π/4DQPSK	Low Channel 2402MHz							
	H	2390.00	62.65	-17.27	45.38	74.00	54.00	PASS
	H	2400.00	66.25	-17.23	49.02	74.00	54.00	PASS
	V	2390.00	62.06	-17.27	44.79	74.00	54.00	PASS
	V	2400.00	66.27	-17.23	49.04	74.00	54.00	PASS
	High Channel 2480MHz							
	H	2483.50	65.52	-16.91	48.61	74.00	54.00	PASS
	H	2500.00	63.57	-16.71	46.86	74.00	54.00	PASS
	V	2483.50	65.71	-16.91	48.80	74.00	54.00	PASS
	V	2500.00	62.46	-16.71	45.75	74.00	54.00	PASS
8DPSK	Low Channel 2402MHz							
	H	2390.00	63.95	-17.27	46.68	74.00	54.00	PASS
	H	2400.00	66.69	-17.23	49.46	74.00	54.00	PASS
	V	2390.00	62.97	-17.27	45.70	74.00	54.00	PASS
	V	2400.00	66.21	-17.23	48.98	74.00	54.00	PASS
	High Channel 2480MHz							
	H	2483.50	65.69	-16.91	48.78	74.00	54.00	PASS
	H	2500.00	63.34	-16.71	46.63	74.00	54.00	PASS
	V	2483.50	66.82	-16.91	49.91	74.00	54.00	PASS
	V	2500.00	63.89	-16.71	47.18	74.00	54.00	PASS

Remark:

1. Emission Level = Meter Reading + Factor, Factor = Antenna Factor + Cable Loss – Pre-amplifier. Over= Emission Level - Limit

2. If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.

3 In restricted bands of operation, The spurious emissions below the permissible value more than 20dB

4. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

9. Spurious RF Conducted Emissions

9.1 Block Diagram Of Test Setup

9.2 Limit

Regulation 15.247 (d),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))

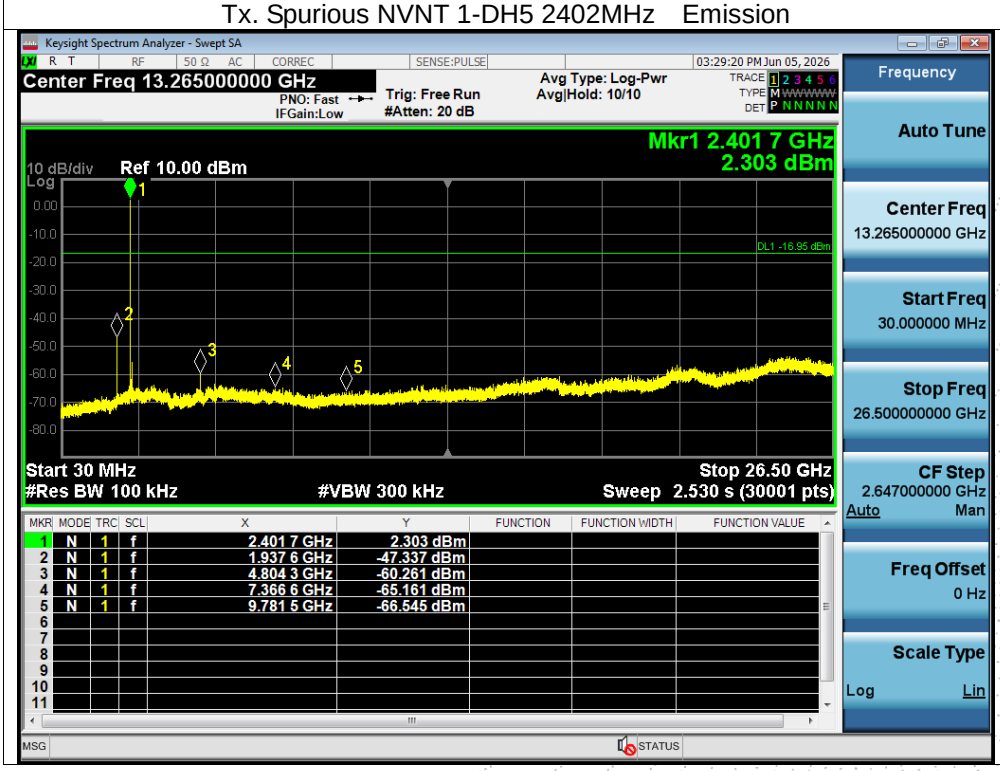
9.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer:
Below 30MHz:
RBW = 100kHz, VBW = 300kHz, Sweep = auto
Detector function = peak, Trace = max hold
Above 30MHz:
RBW = 100KHz, VBW = 300KHz, Sweep = auto
Detector function = peak, Trace = max hold

9.4 Test Result

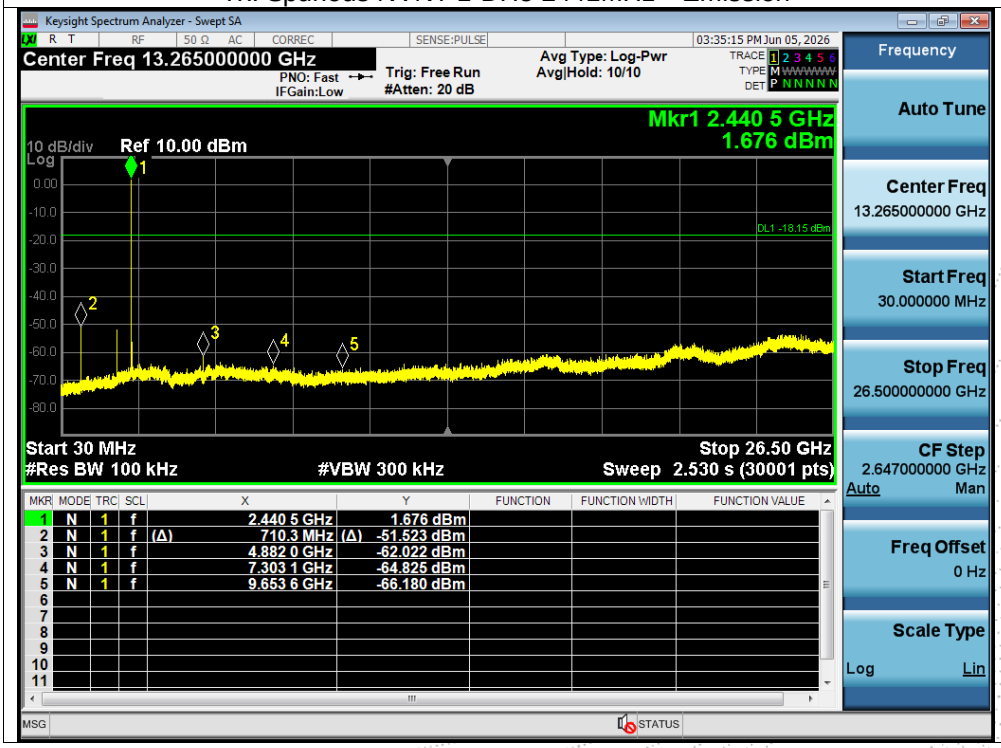
Test Graphs
Tx. Spurious NVNT 1-DH5 2402MHz

Tx. Spurious NVNT 1-DH5 2402MHz Emission



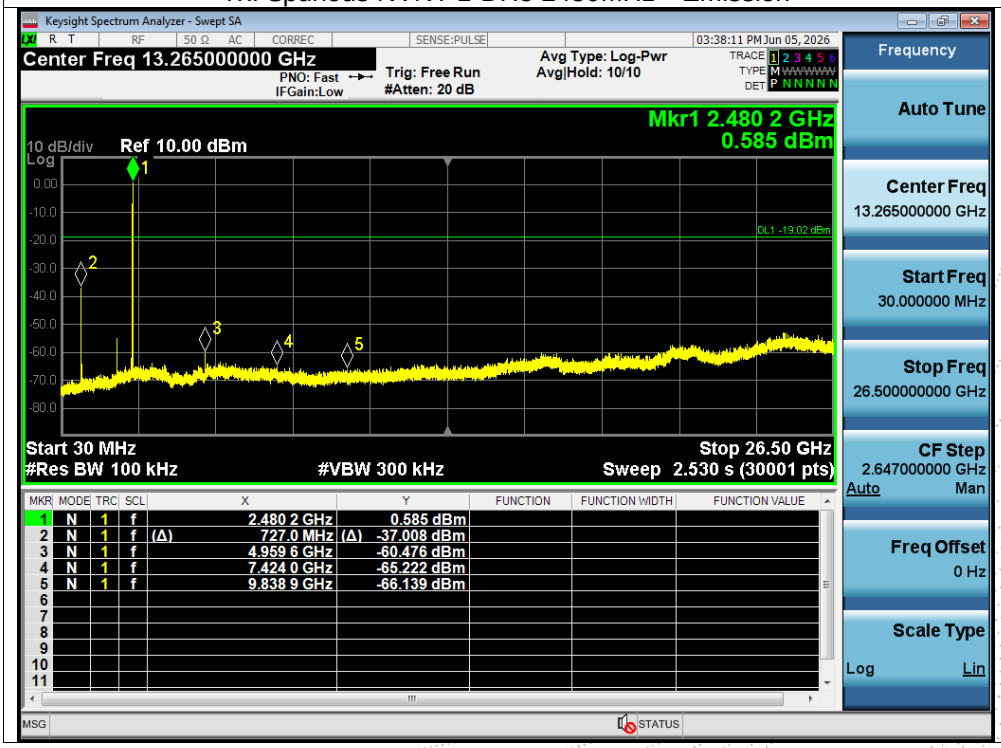
Tx. Spurious NVNT 1-DH5 2441MHz

Tx. Spurious NVNT 1-DH5 2441MHz Emission



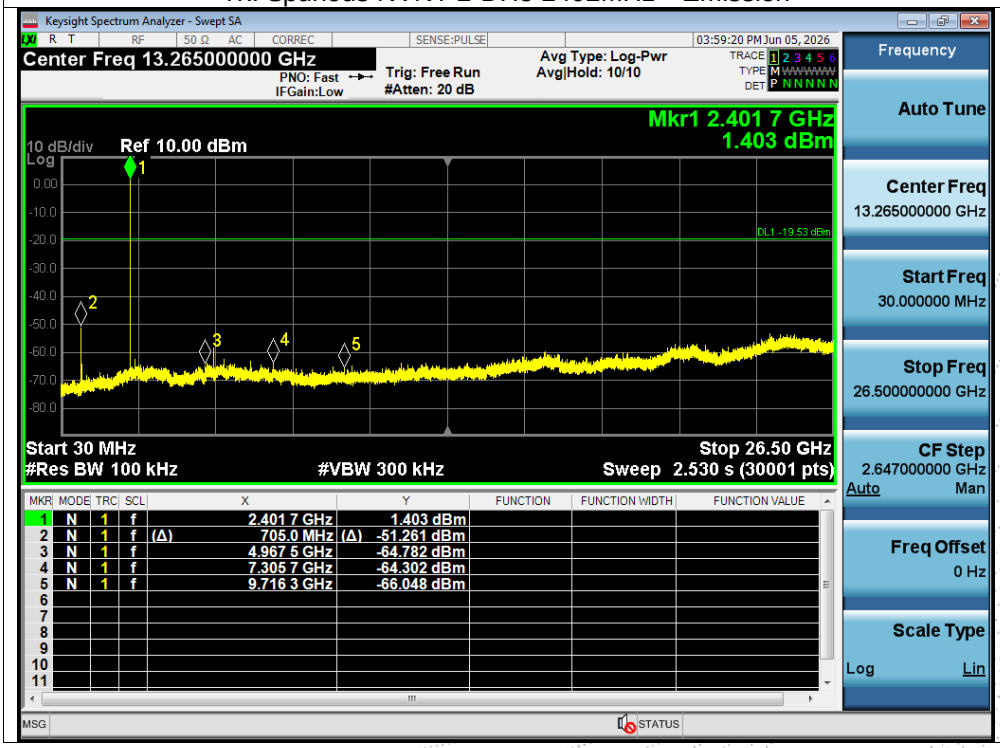
Tx. Spurious NVNT 1-DH5 2480MHz

Tx. Spurious NVNT 1-DH5 2480MHz Emission



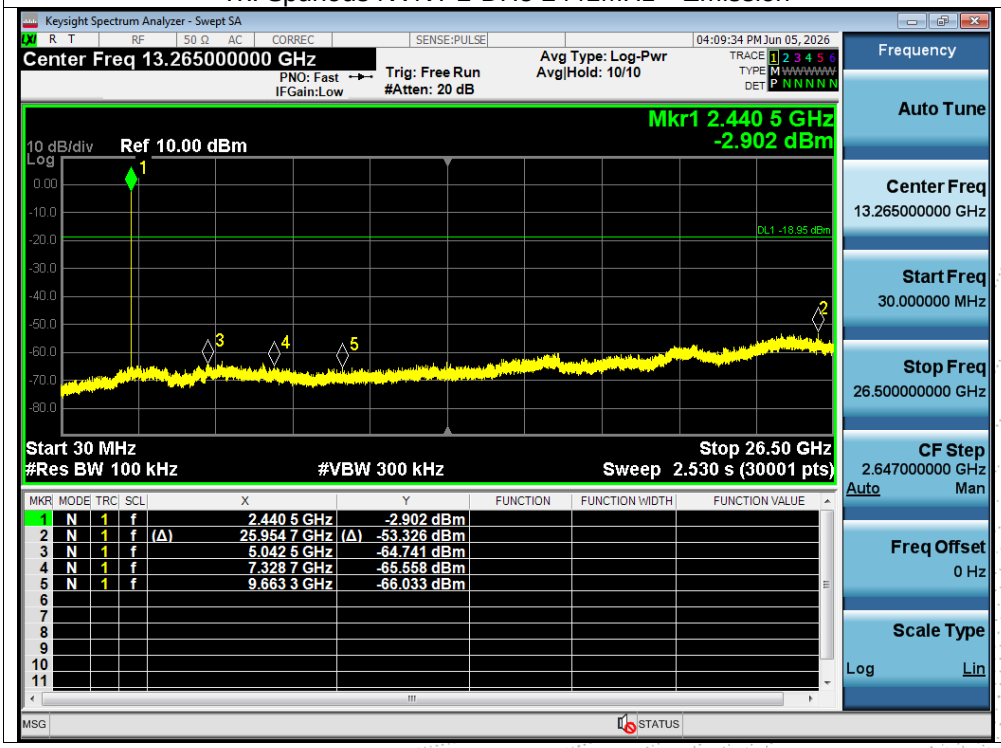
Tx. Spurious NVNT 2-DH5 2402MHz

Tx. Spurious NVNT 2-DH5 2402MHz Emission



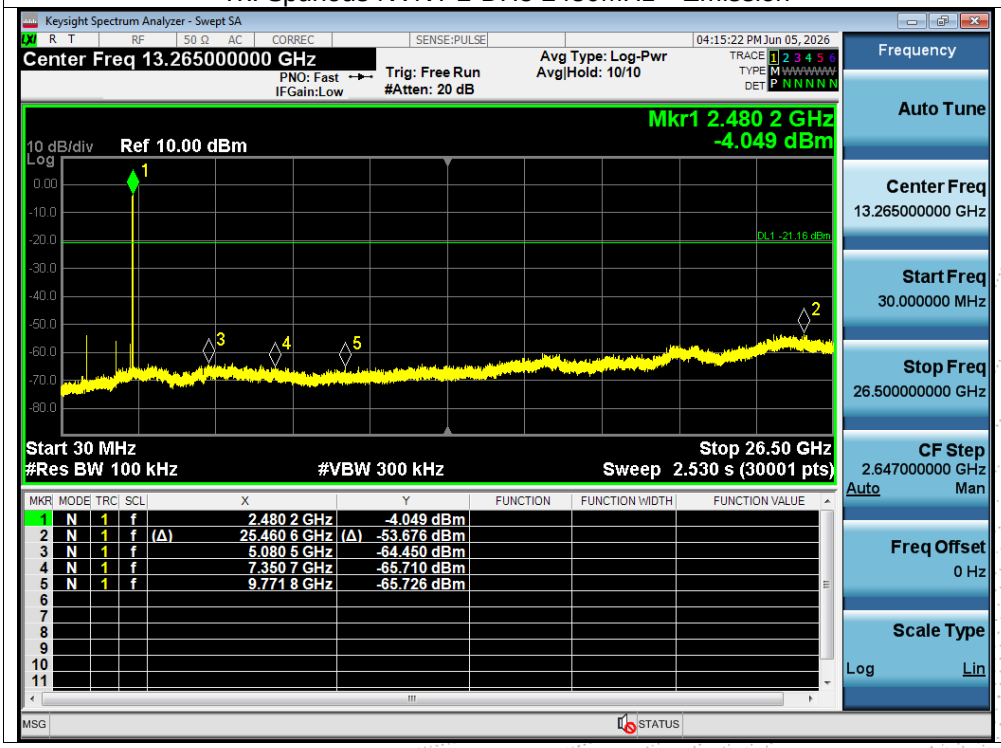
Tx. Spurious NVNT 2-DH5 2441MHz

Tx. Spurious NVNT 2-DH5 2441MHz Emission



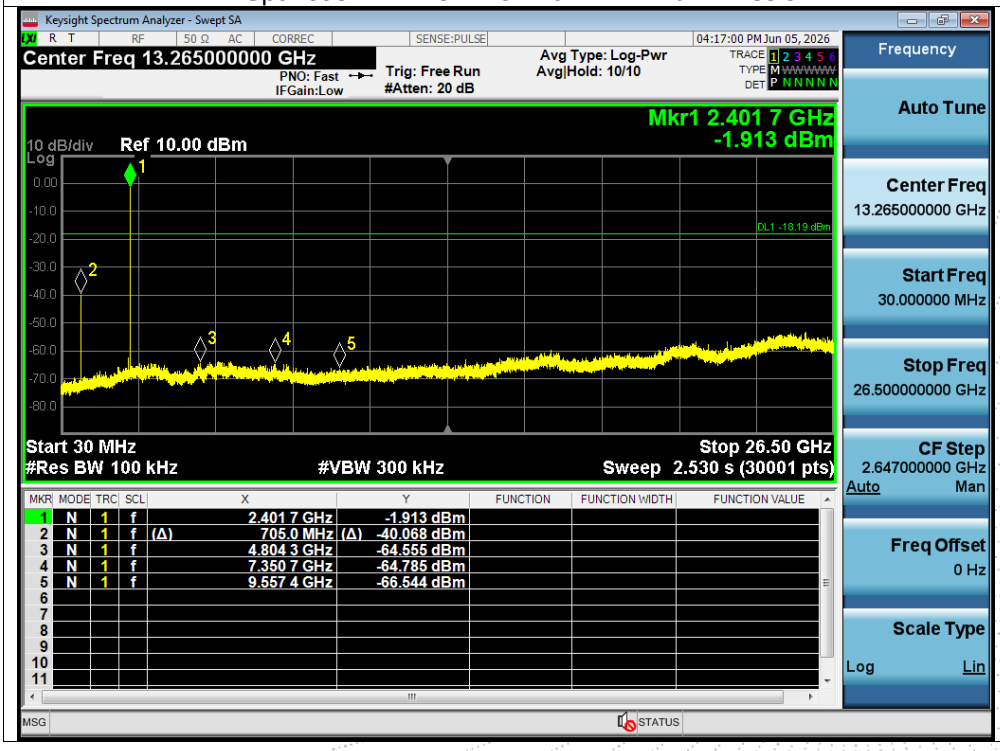
Tx. Spurious NVNT 2-DH5 2480MHz

Tx. Spurious NVNT 2-DH5 2480MHz Emission



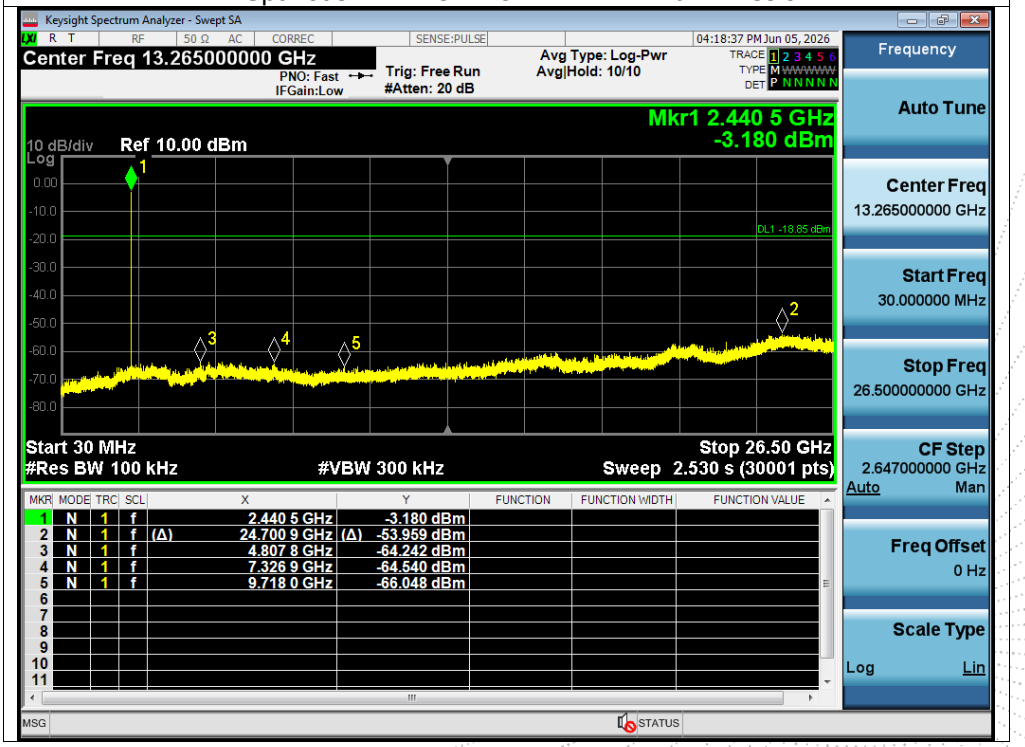
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref

Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



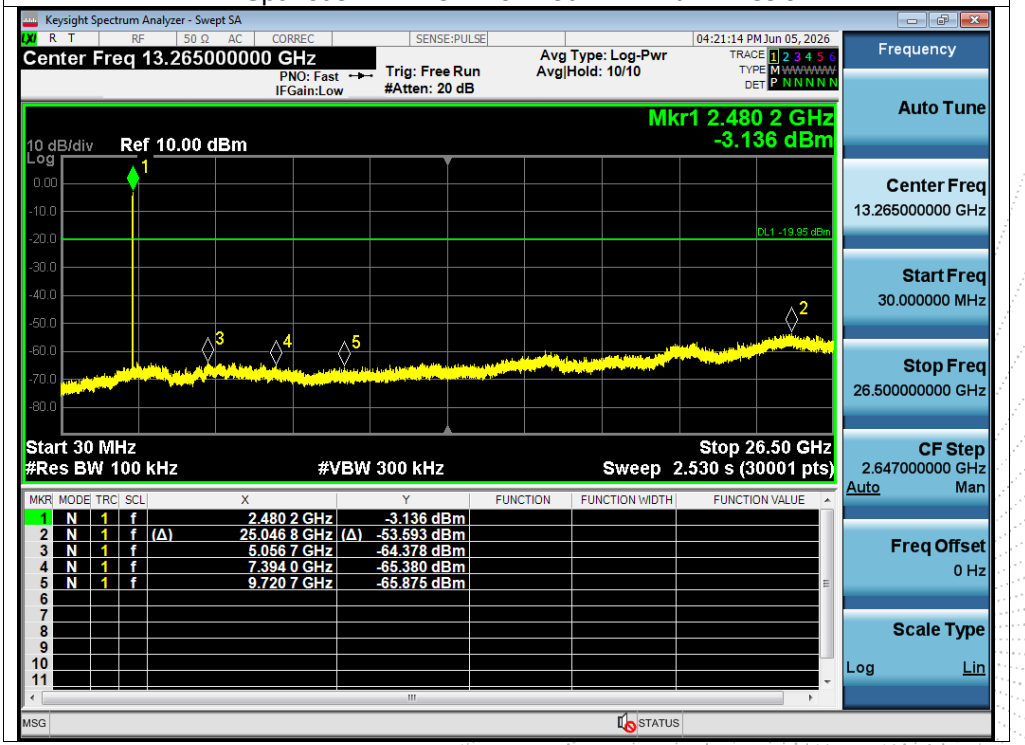
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref

Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



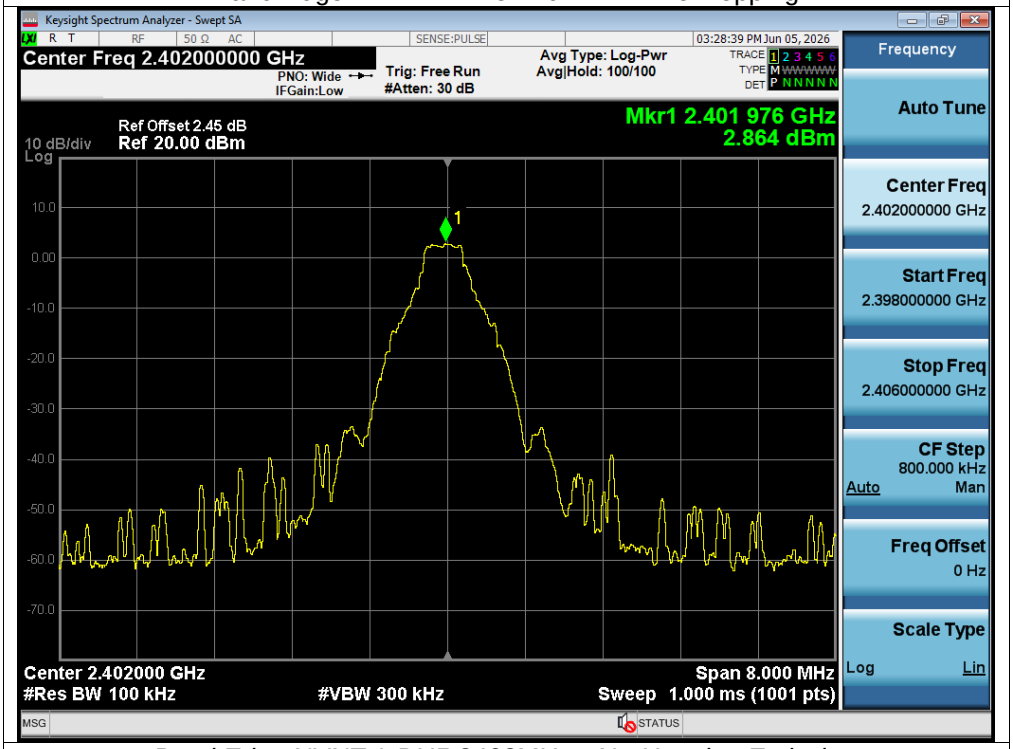
Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref

Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

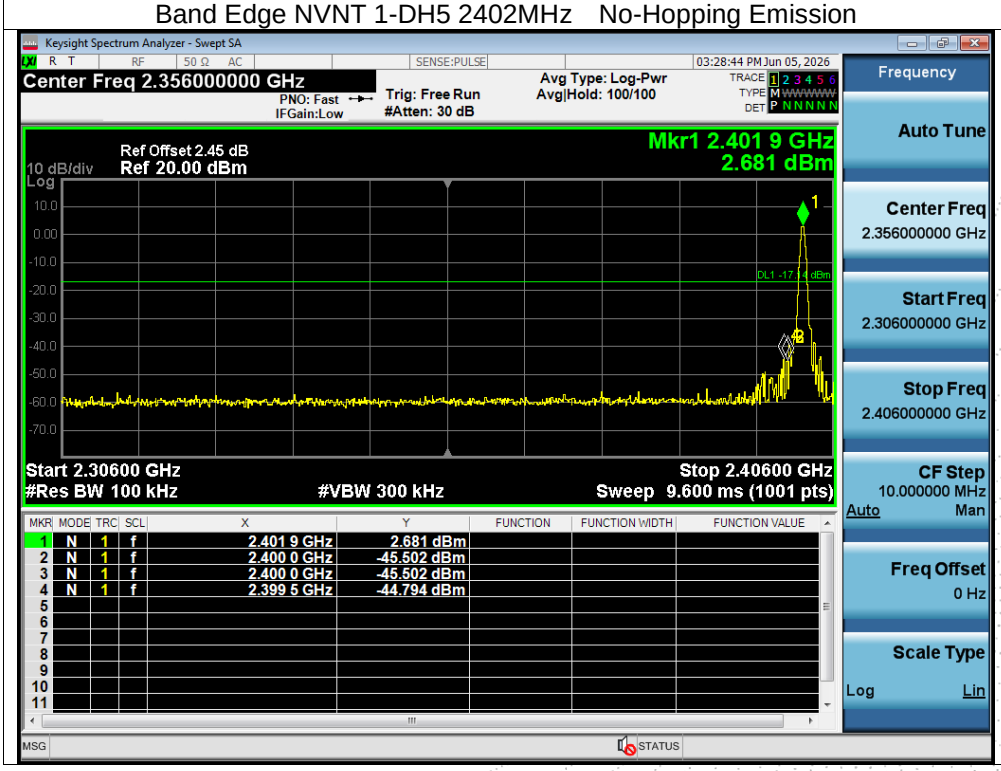


Test Graphs

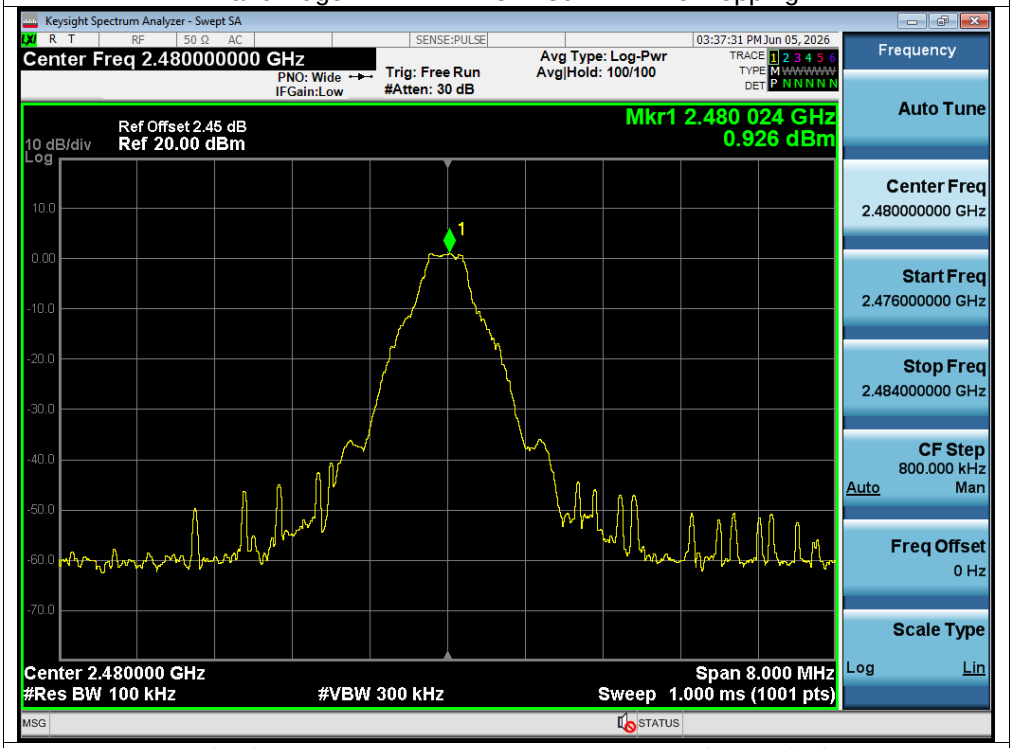
Band Edge NVNT 1-DH5 2402MHz No-Hopping



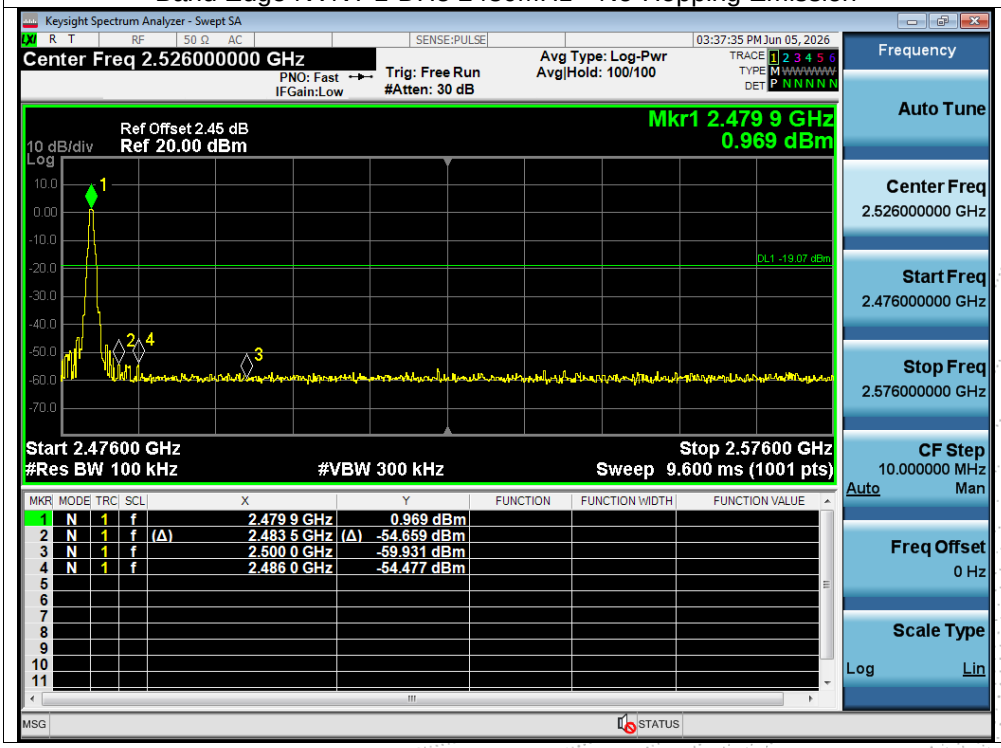
Band Edge NVNT 1-DH5 2402MHz No-Hopping Emission



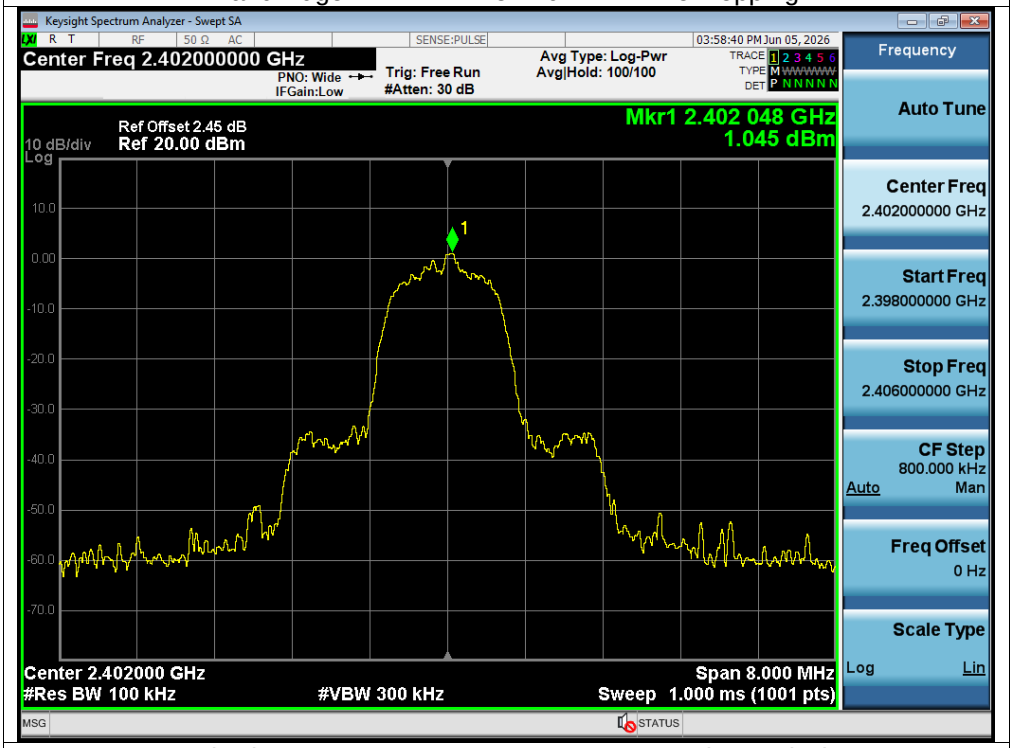
Band Edge NVNT 1-DH5 2480MHz No-Hopping



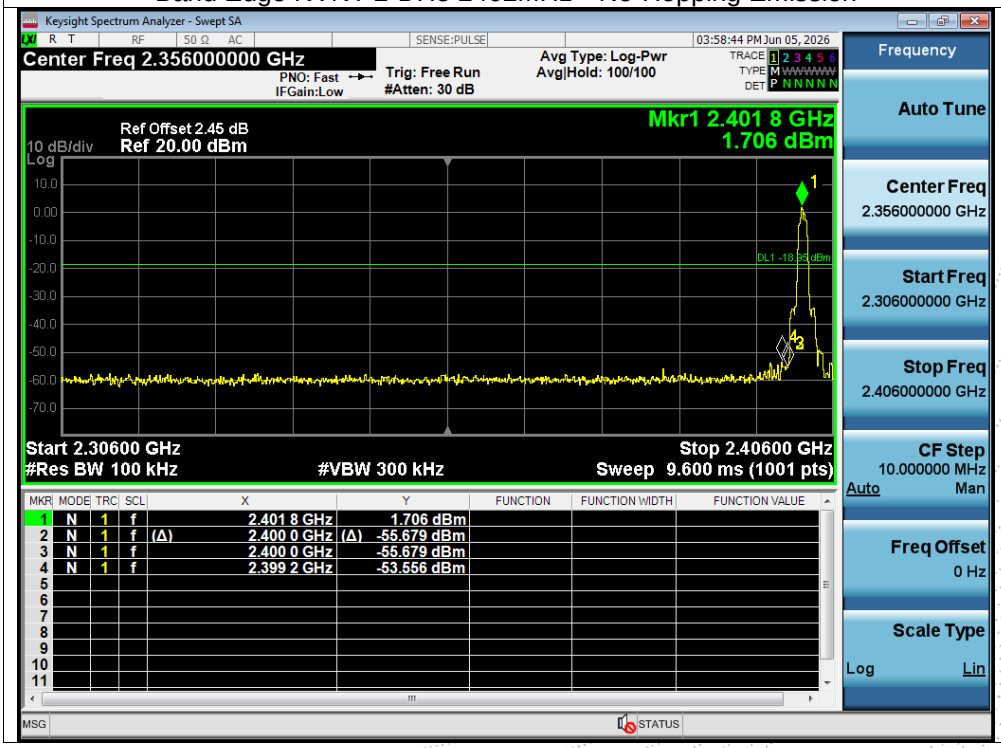
Band Edge NVNT 1-DH5 2480MHz No-Hopping Emission



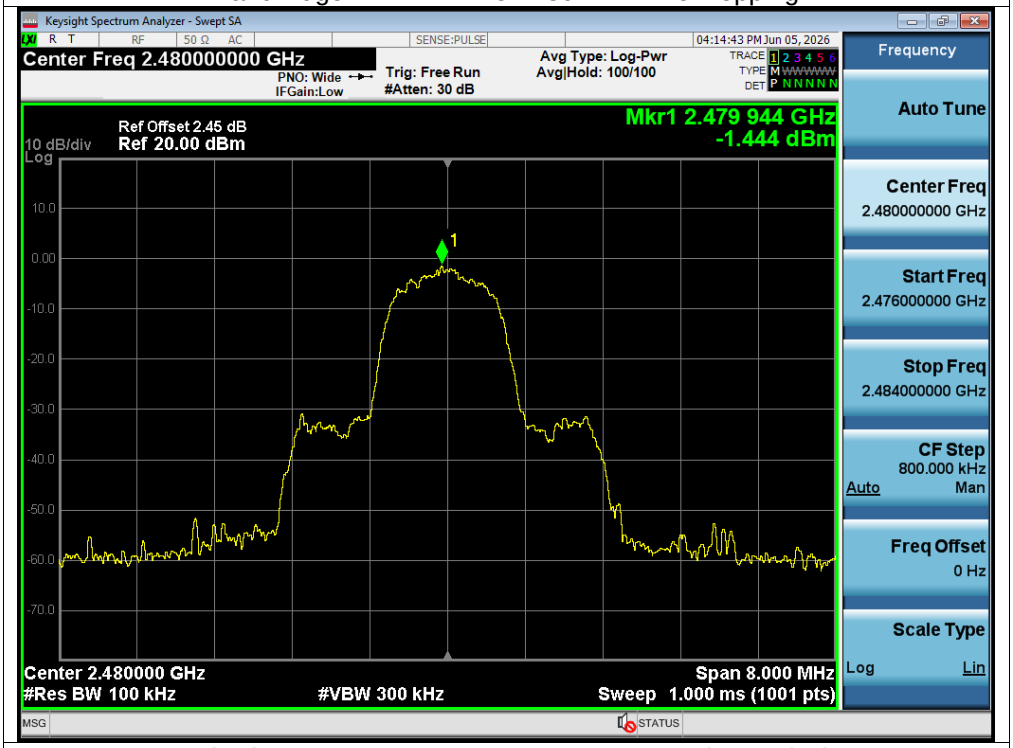
Band Edge NVNT 2-DH5 2402MHz No-Hopping



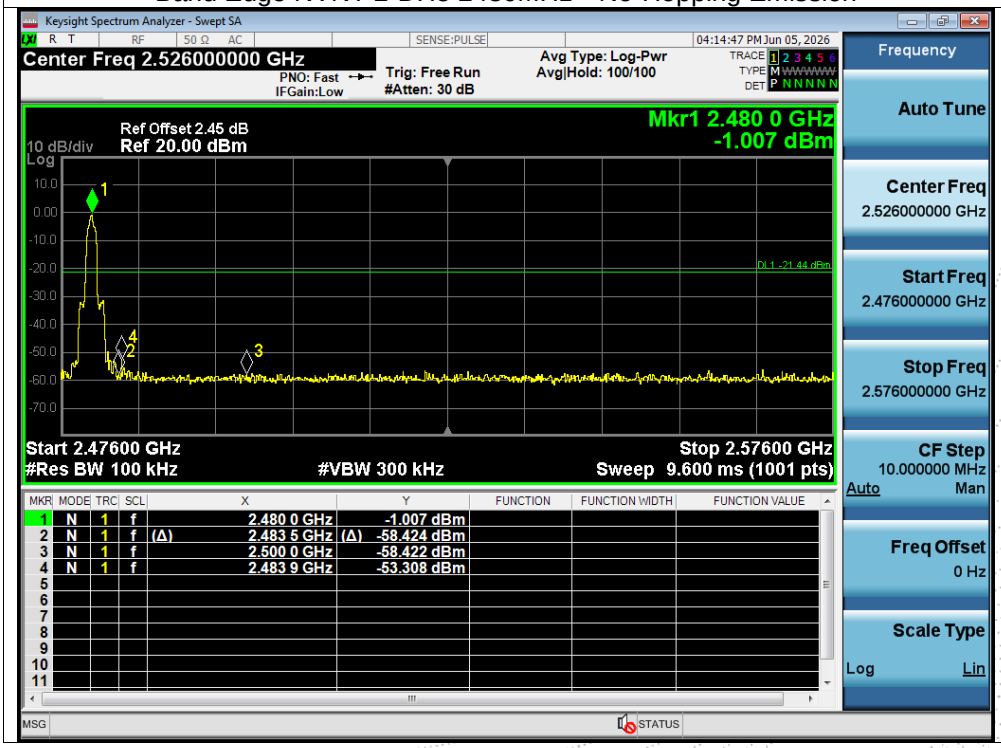
Band Edge NVNT 2-DH5 2402MHz No-Hopping Emission



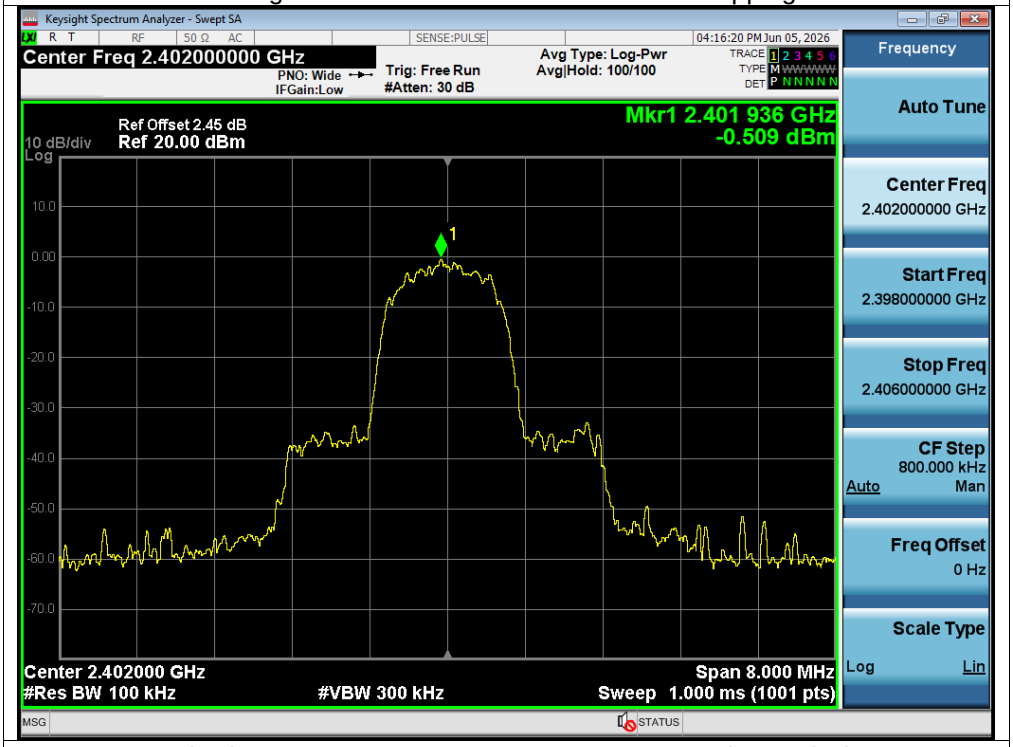
Band Edge NVNT 2-DH5 2480MHz No-Hopping



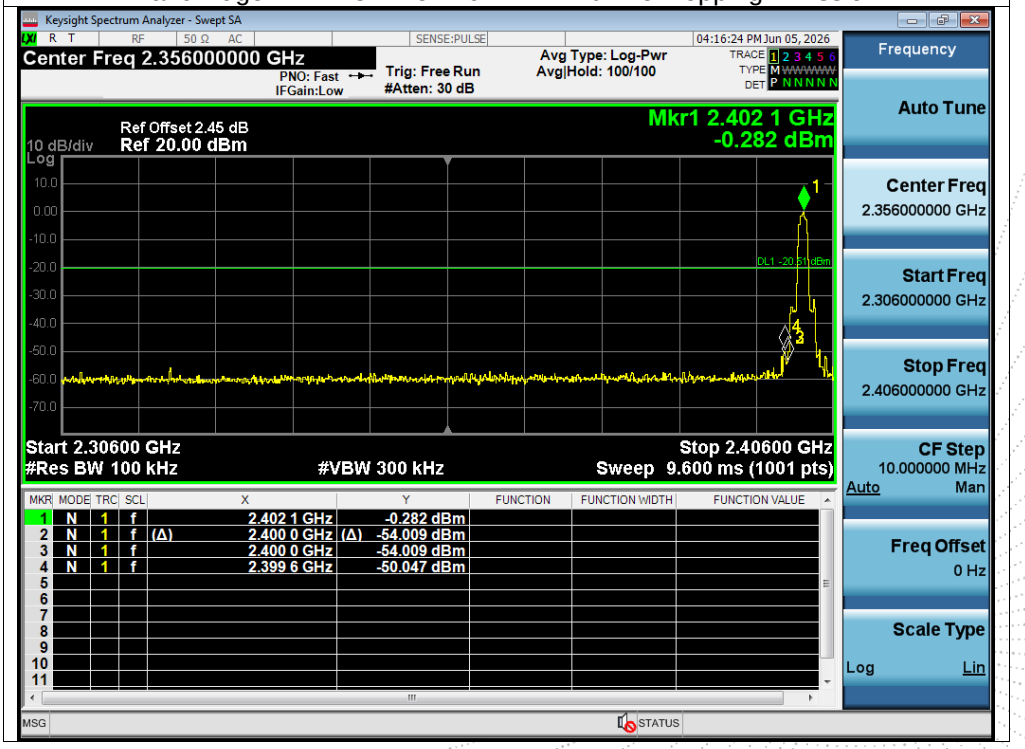
Band Edge NVNT 2-DH5 2480MHz No-Hopping Emission



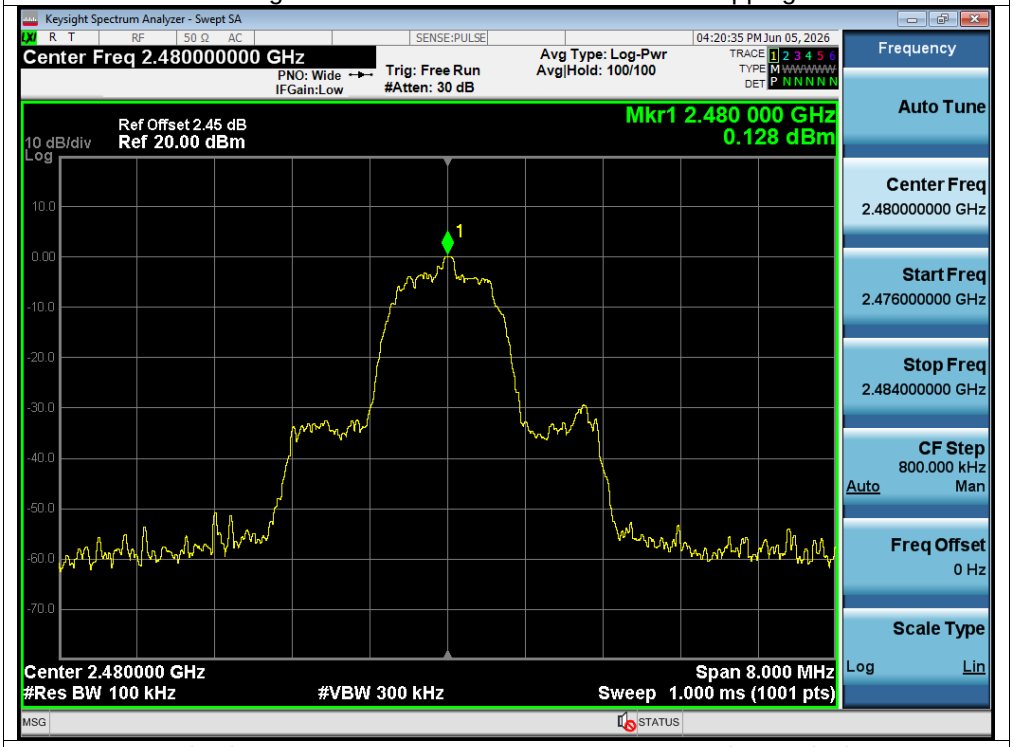
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



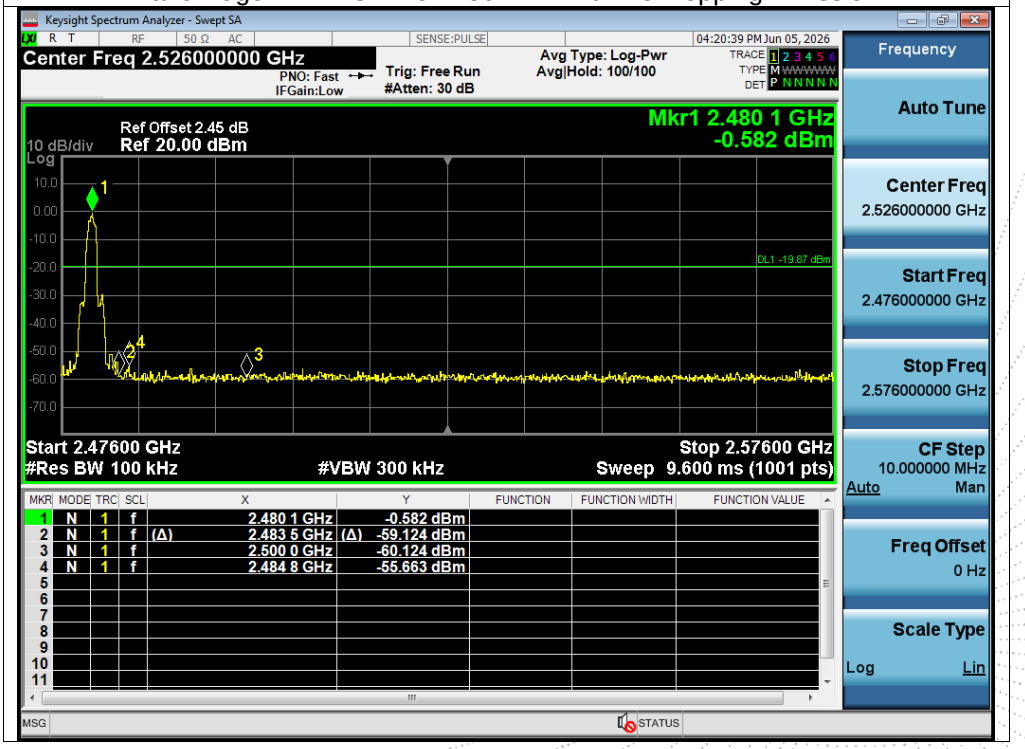
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



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

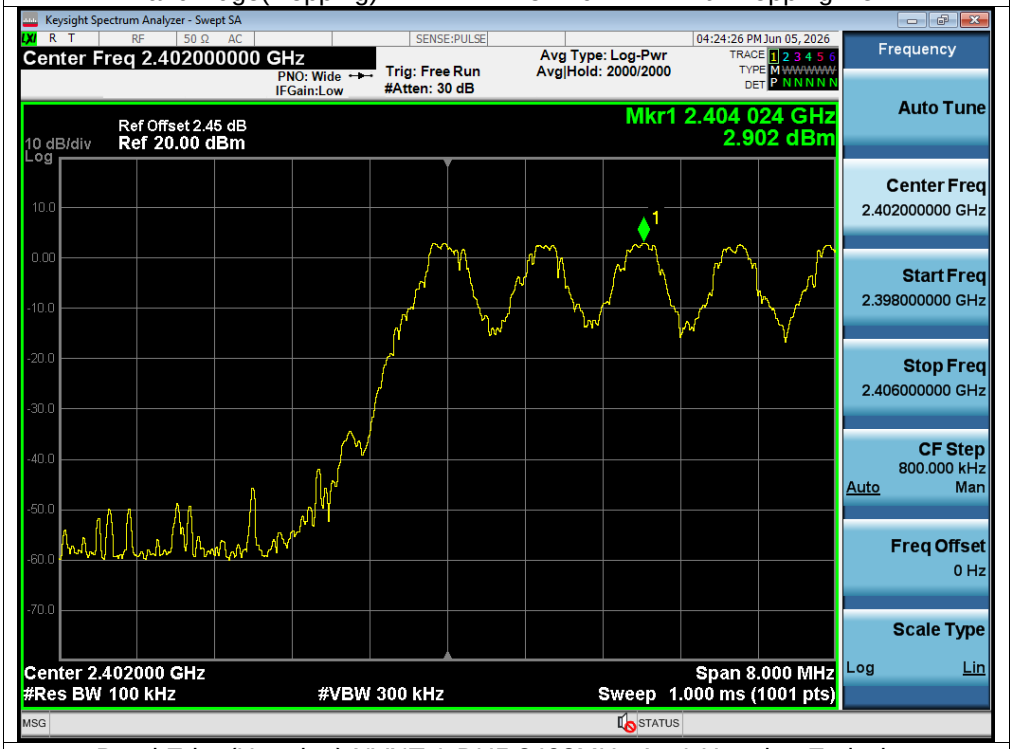


Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Emission

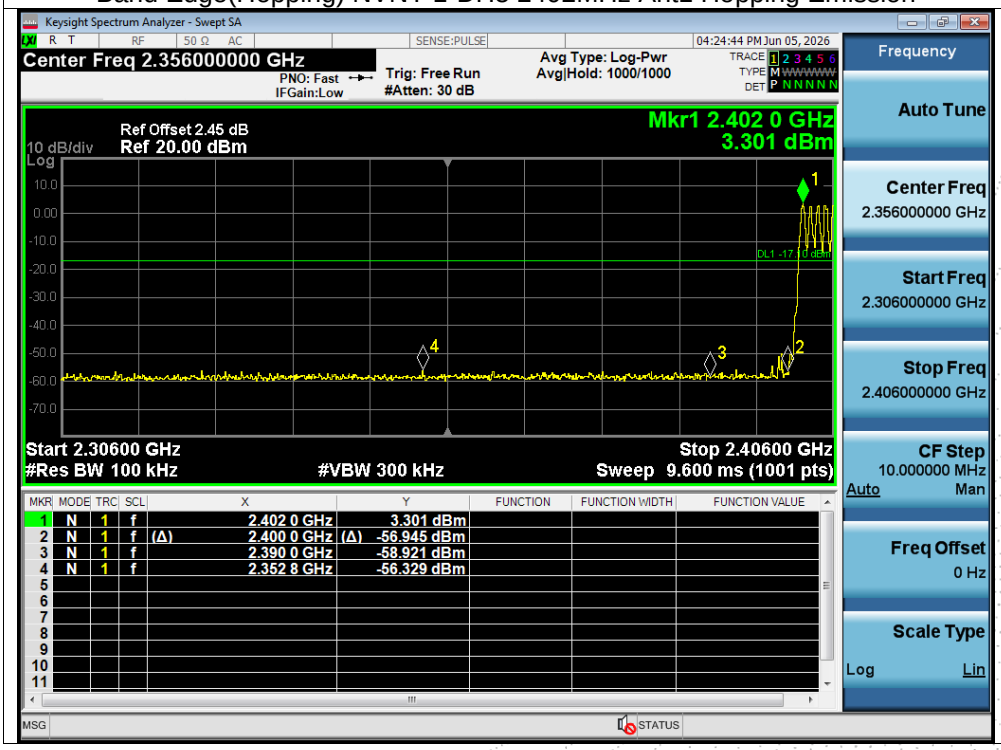


Test Graphs

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

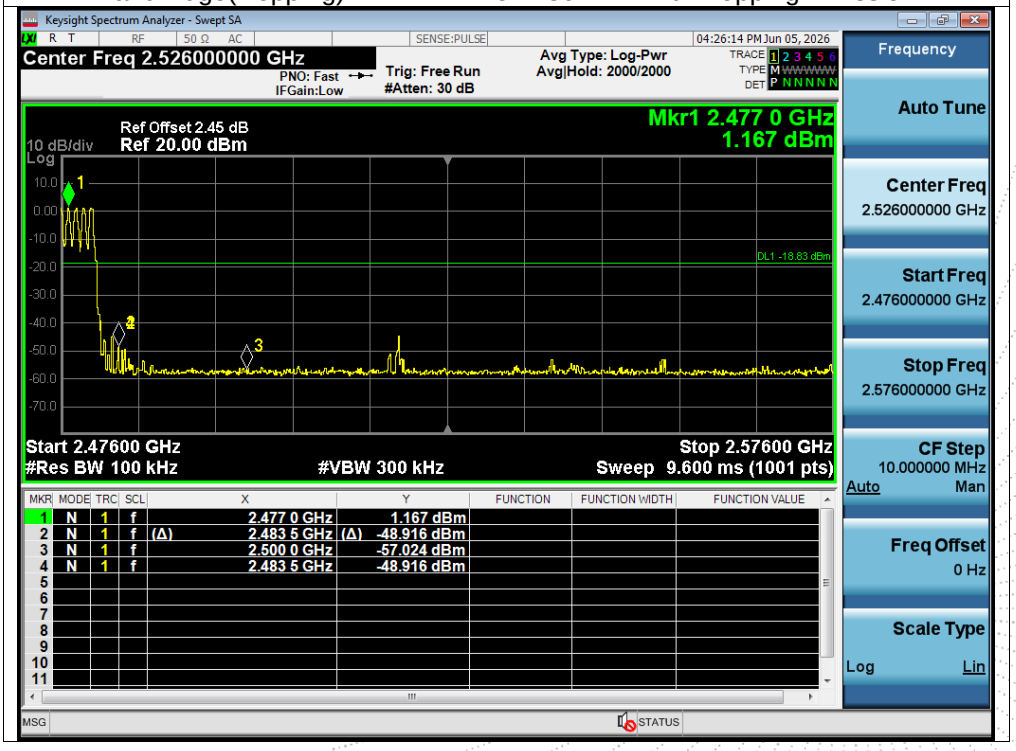


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



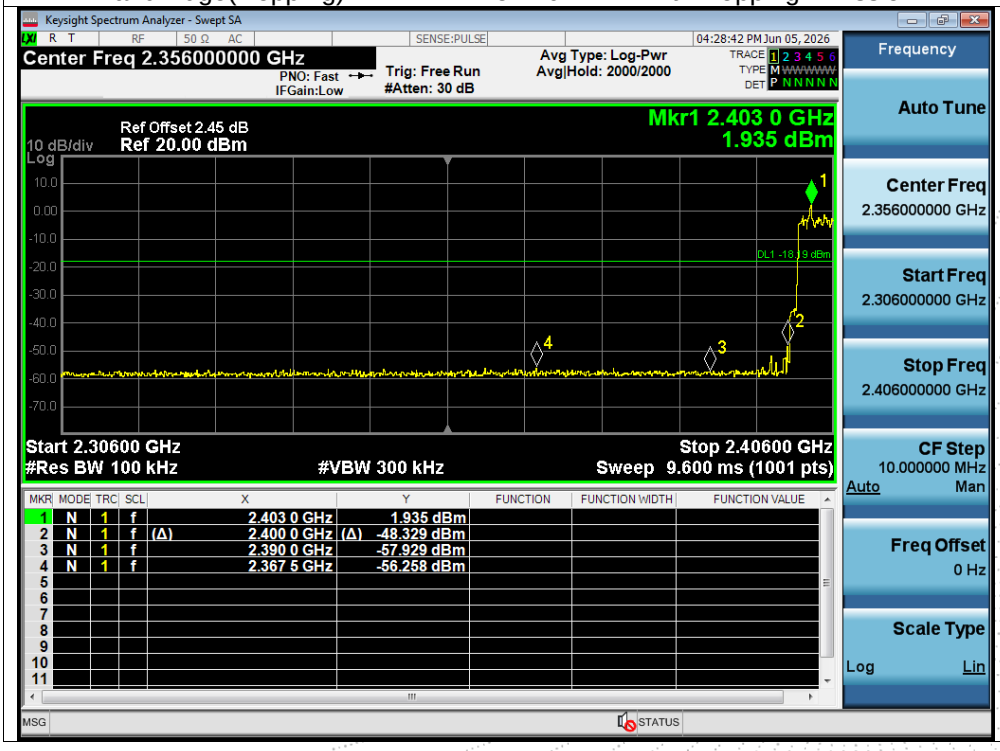
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref

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



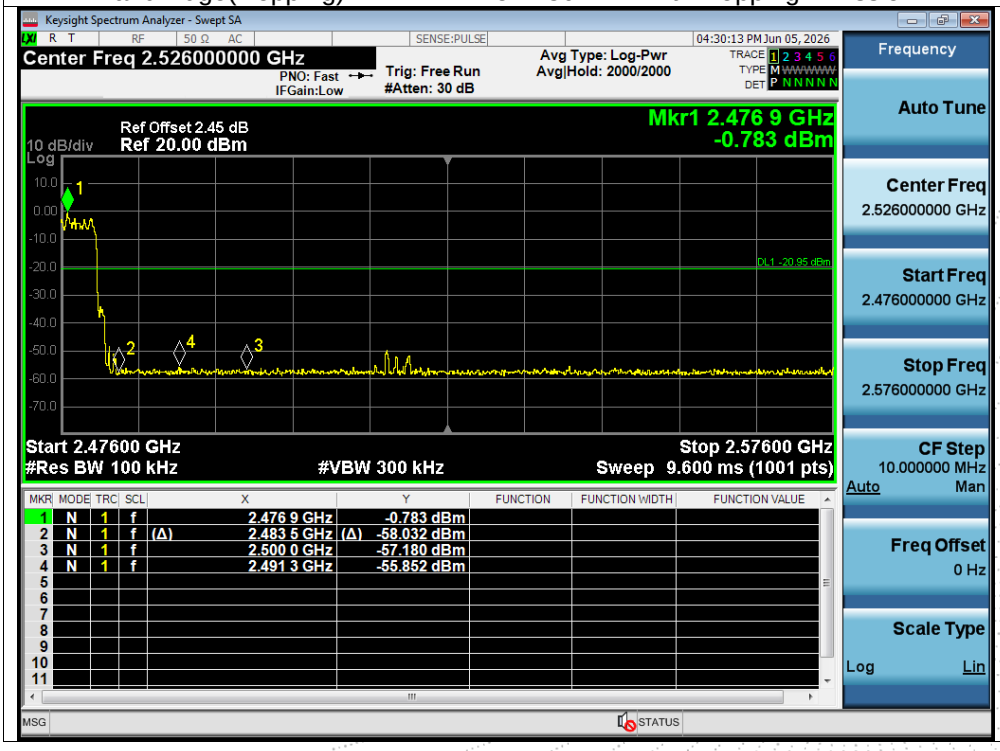
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

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



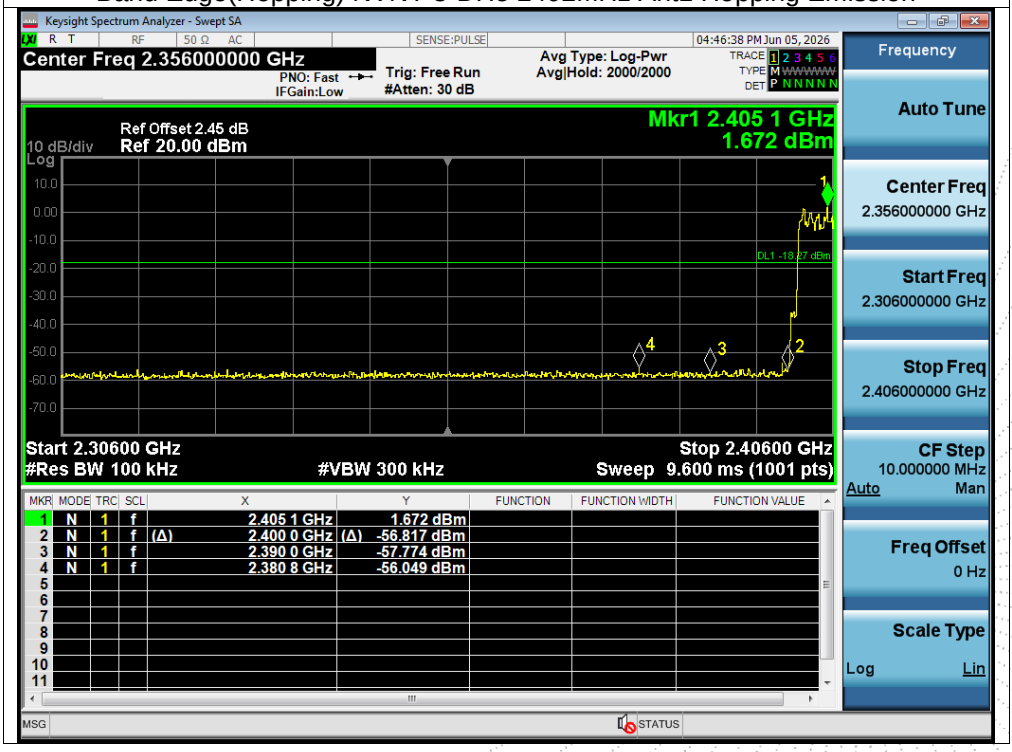
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref

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



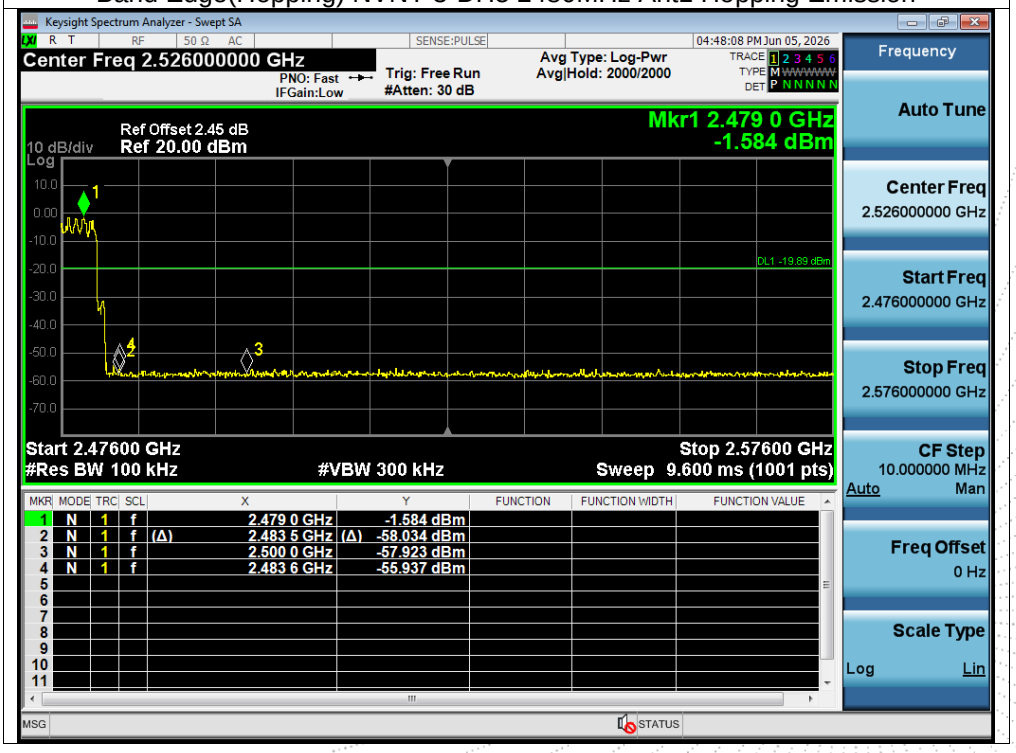
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref

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



10. 20 dB Bandwidth

10.1 Block Diagram Of Test Setup

10.2 Limit

N/A

10.3 Test procedure

1. Set RBW = 30kHz.

2. Set the video bandwidth (VBW) ≥ 3 x RBW.

3. Detector = Peak.

4. Trace mode = max hold.

5. Sweep = auto couple.

6. Allow the trace to stabilize.

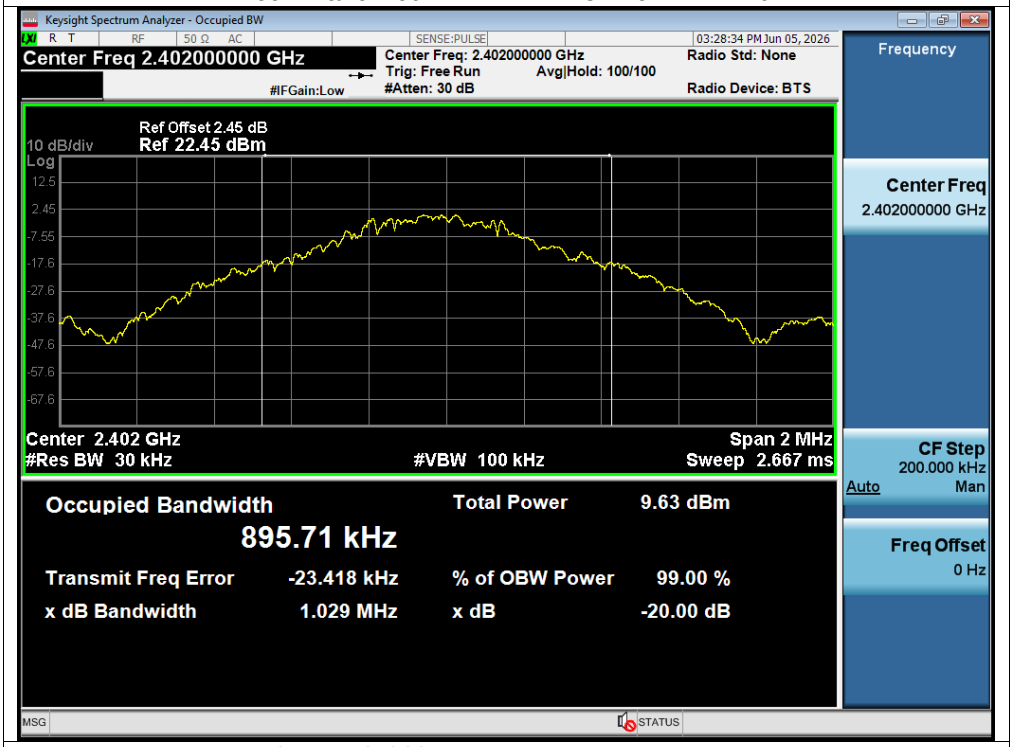
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

10.4 Test Result

Condition	Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	0.871	Pass
NVNT	1-DH5	2441	0.970	Pass
NVNT	1-DH5	2480	0.887	Pass
NVNT	2-DH5	2402	1.256	Pass
NVNT	2-DH5	2441	1.211	Pass
NVNT	2-DH5	2480	1.194	Pass
NVNT	3-DH5	2402	1.256	Pass
NVNT	3-DH5	2441	1.211	Pass
NVNT	3-DH5	2480	1.194	Pass

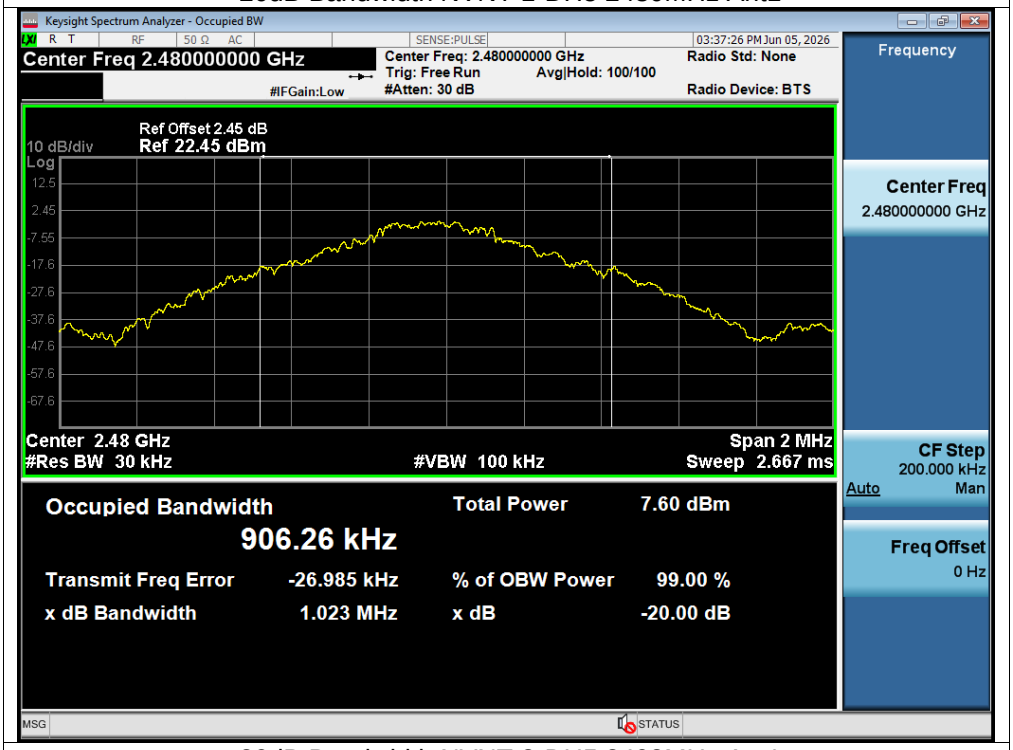
Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

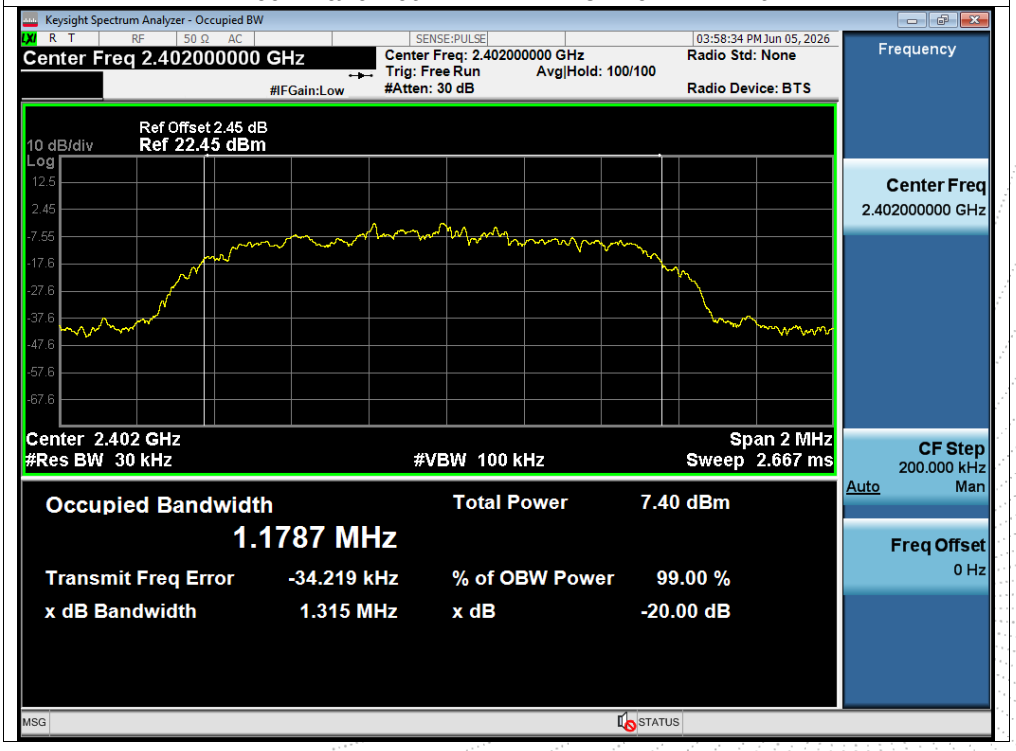


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

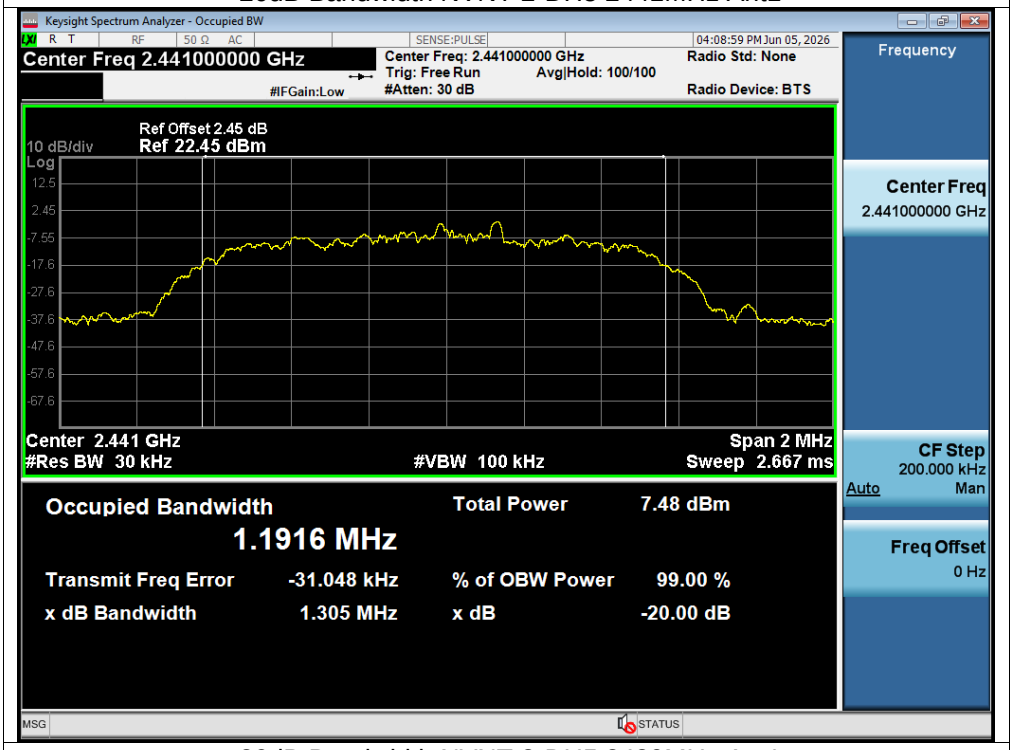
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



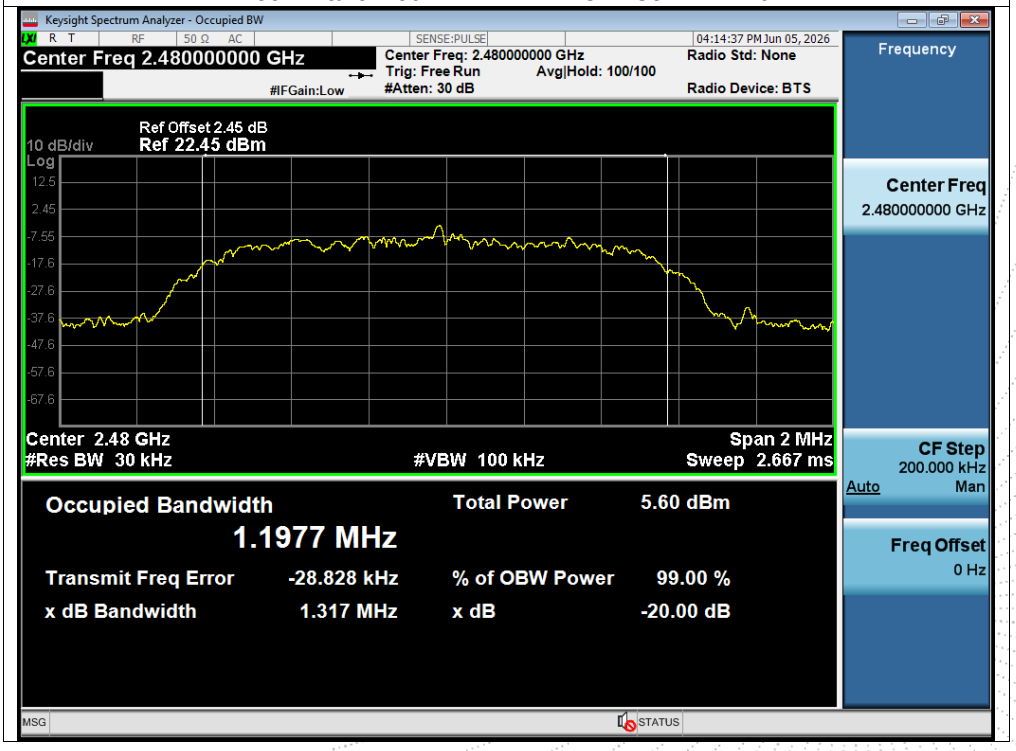
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



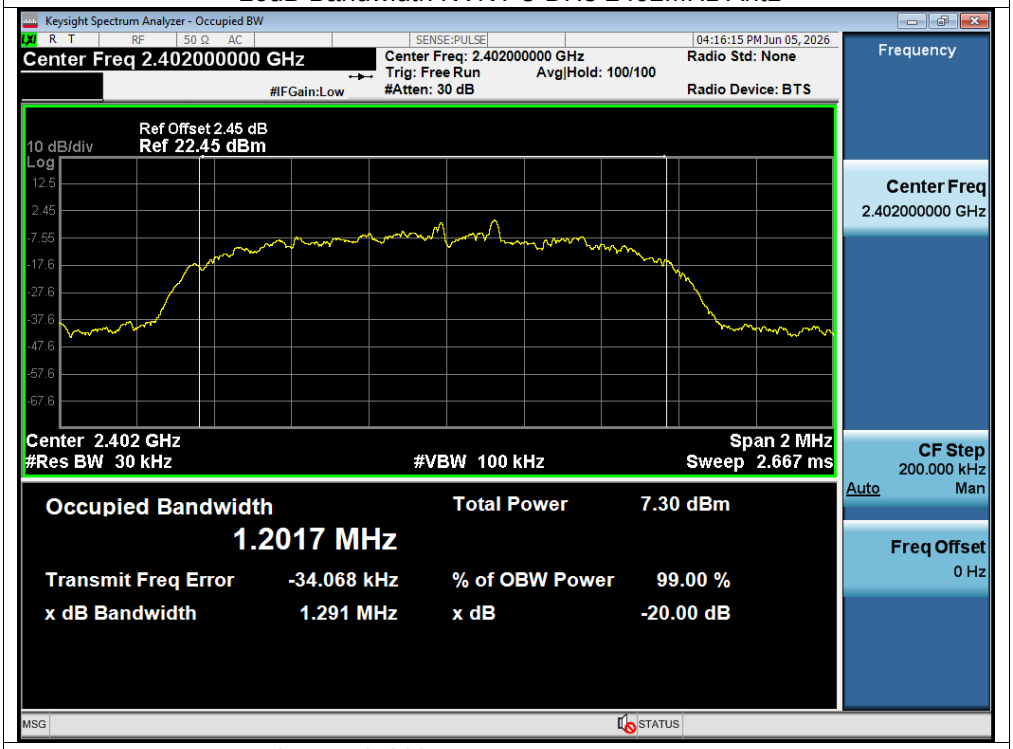
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



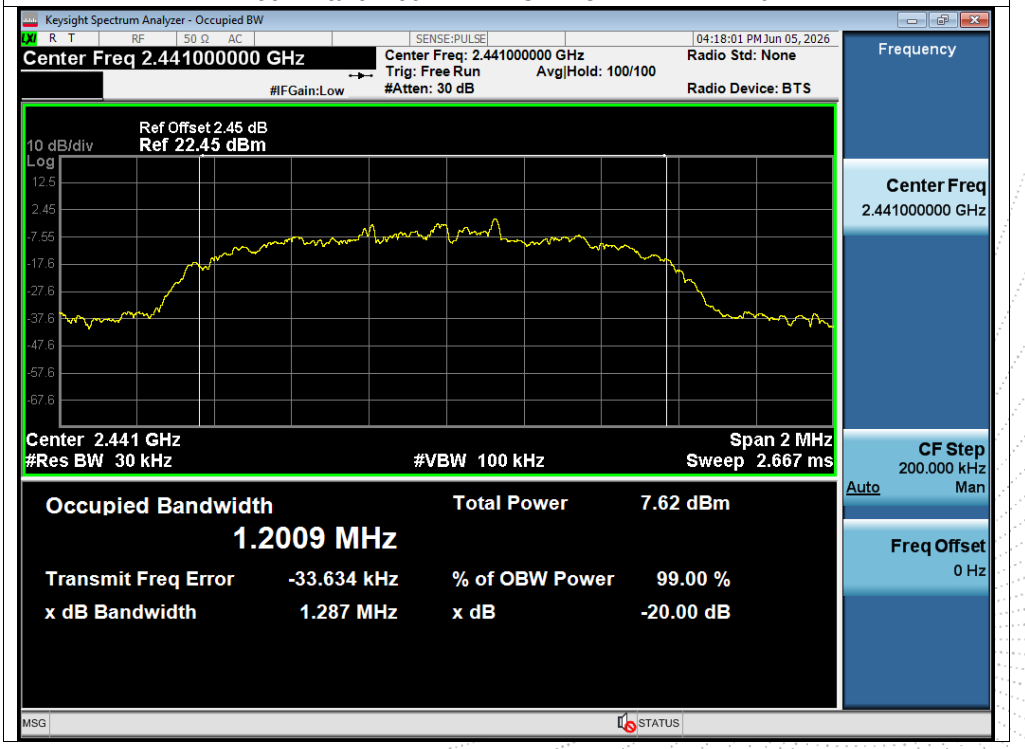
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



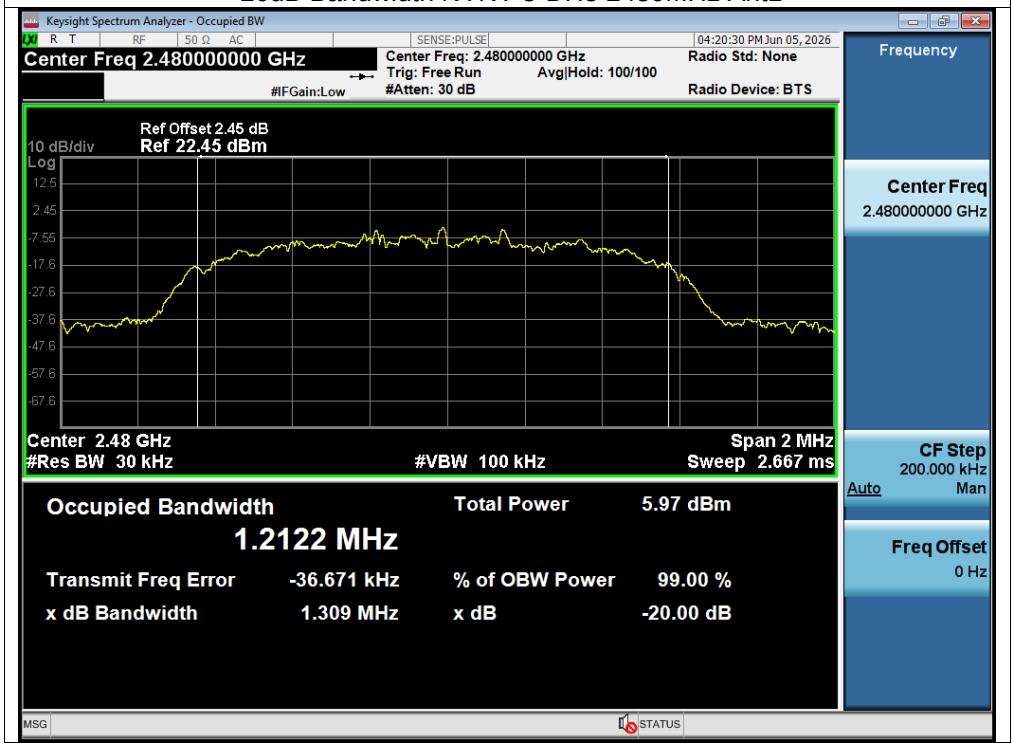
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1

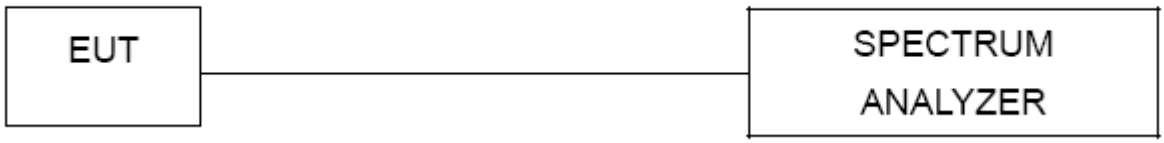


-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1



11. Maximum Peak Output Power

11.1 Block Diagram Of Test Setup



11.2 Limit

FCC Part15 (15.247) , Subpart C				
Section	**Test Item**	**Limit**	**Frequency Range (MHz)**	**Result**
15.247(b)(1)	Peak Output Power	0.125 watt or 21dBm	2400-2483.5	PASS

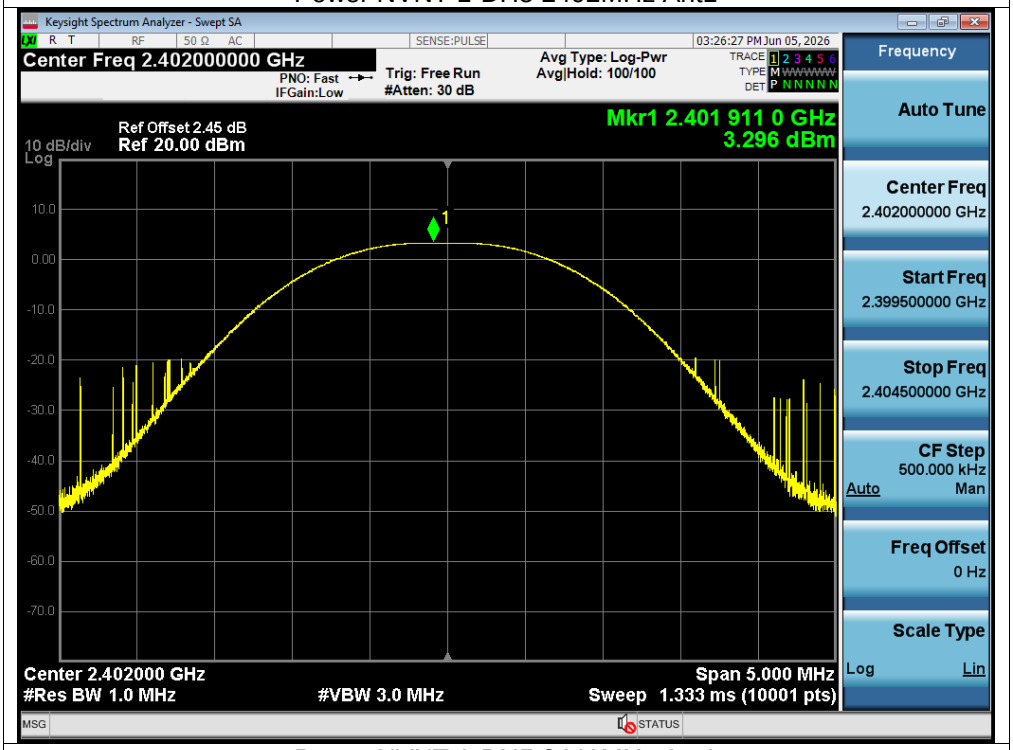
11.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set the spectrum analyzer: BDR:RBW = 1MHz. VBW = 3MHz. Sweep = auto; Detector Function = Peak.EDR:RBW = 2MHz. VBW = 6MHz. Sweep = auto; Detector Function = Peak.
3. Keep the EUT in transmitting at lowest, medium and highest channel individually. Record the max value.

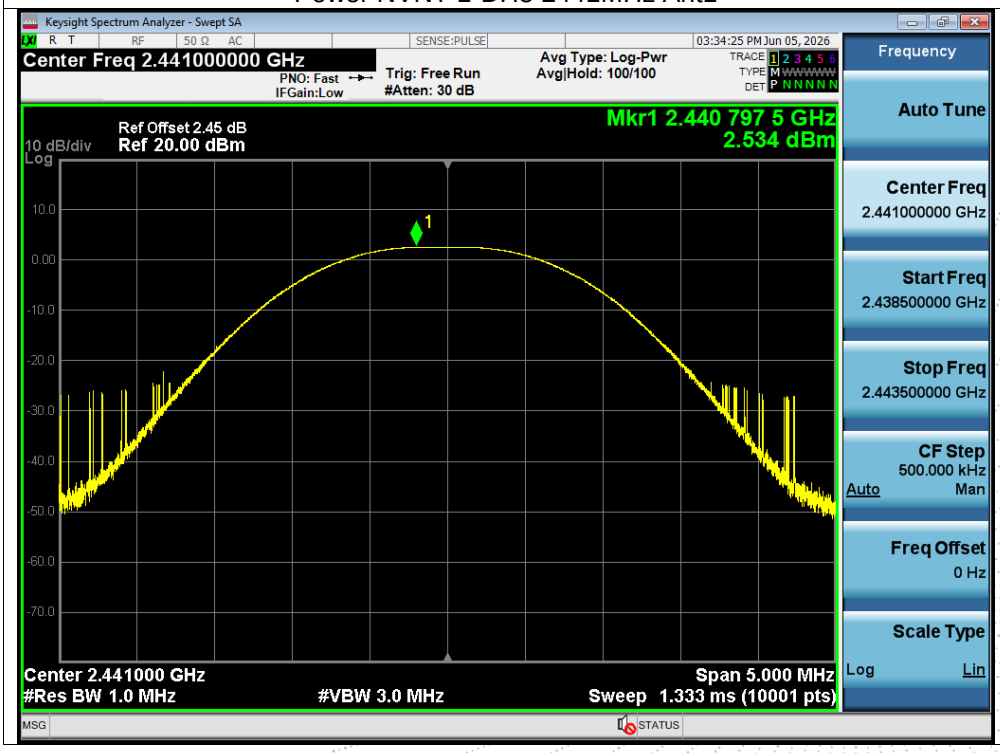
11.4 Test Result

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	3.3	21	Pass
NVNT	1-DH5	2441	2.53	21	Pass
NVNT	1-DH5	2480	1.35	21	Pass
NVNT	2-DH5	2402	2.56	21	Pass
NVNT	2-DH5	2441	2.09	21	Pass
NVNT	2-DH5	2480	0.84	21	Pass
NVNT	3-DH5	2402	2.73	21	Pass
NVNT	3-DH5	2441	2.3	21	Pass
NVNT	3-DH5	2480	1.03	21	Pass

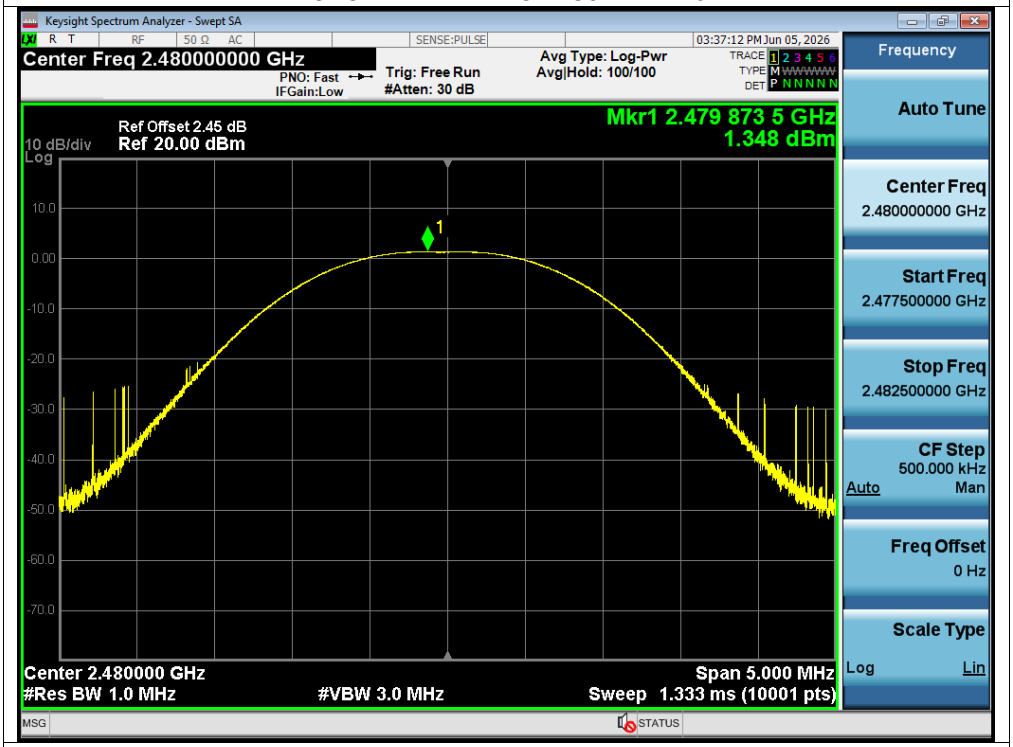
Test Graphs
Power NVNT 1-DH5 2402MHz Ant1



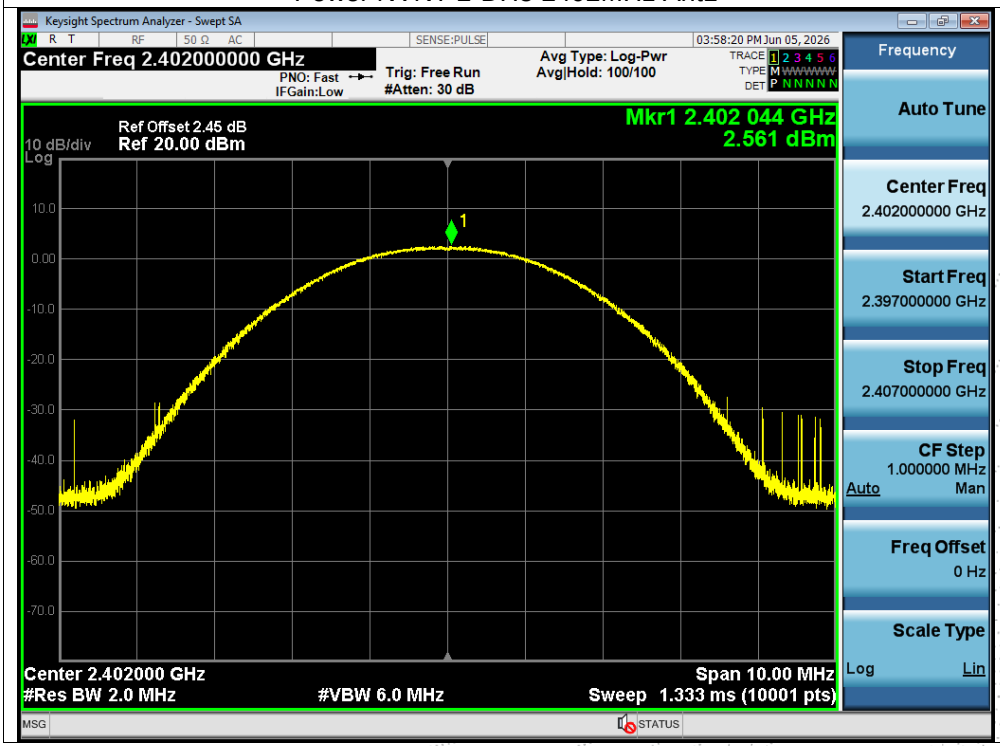
Power NVNT 1-DH5 2441MHz Ant1



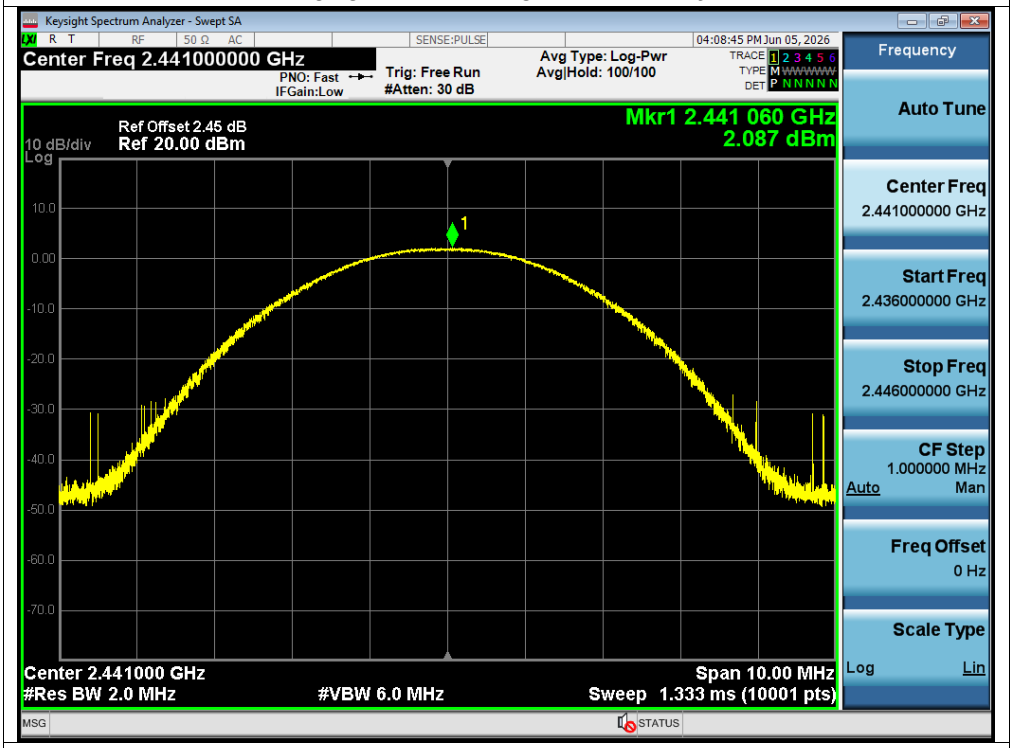
Power NVNT 1-DH5 2480MHz Ant1



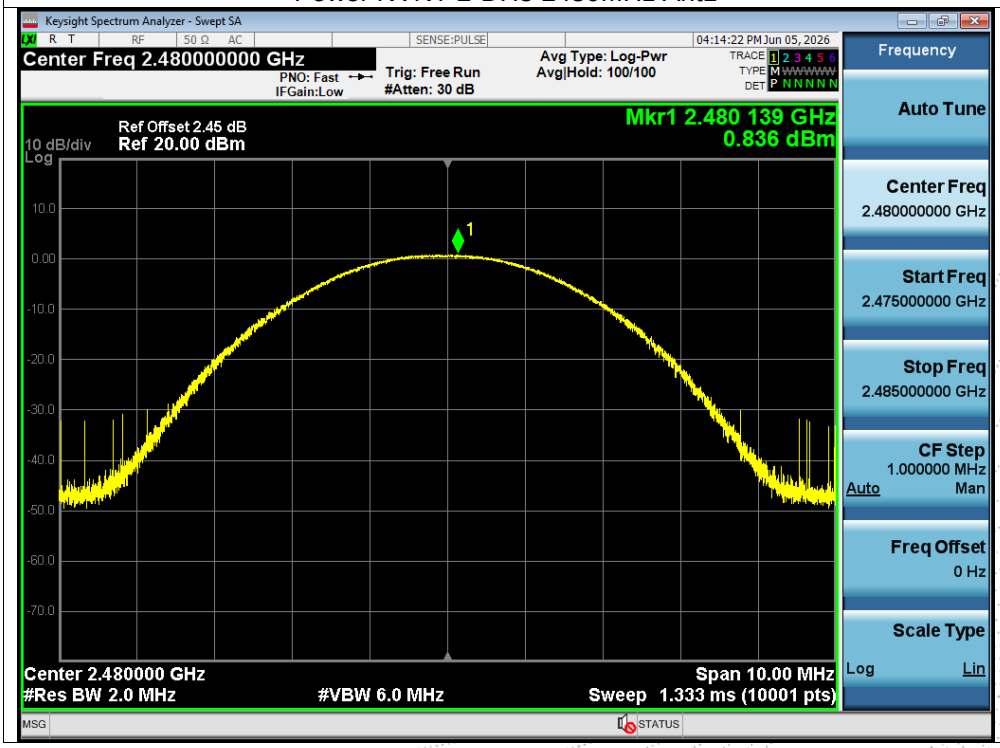
Power NVNT 2-DH5 2402MHz Ant1



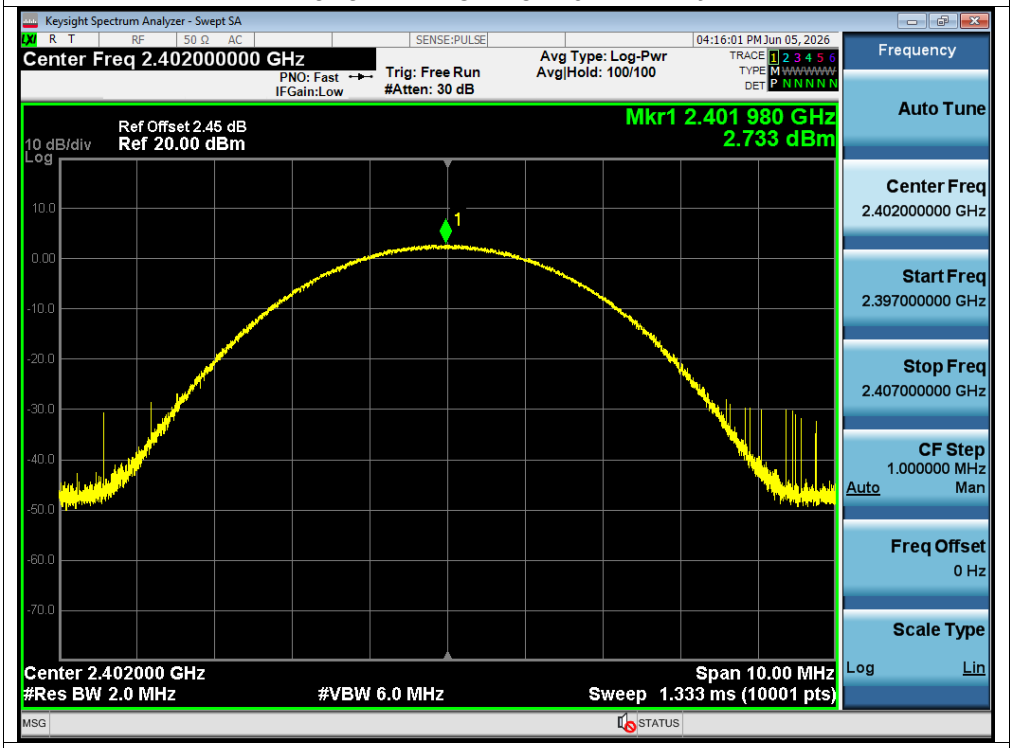
Power NVNT 2-DH5 2441MHz Ant1



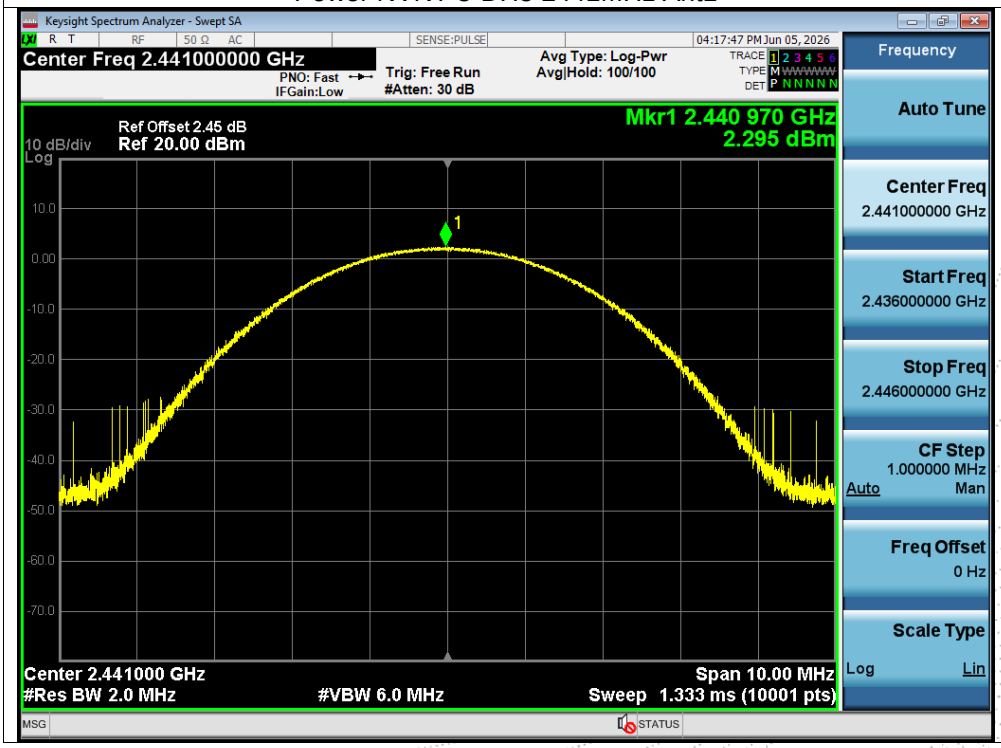
Power NVNT 2-DH5 2480MHz Ant1



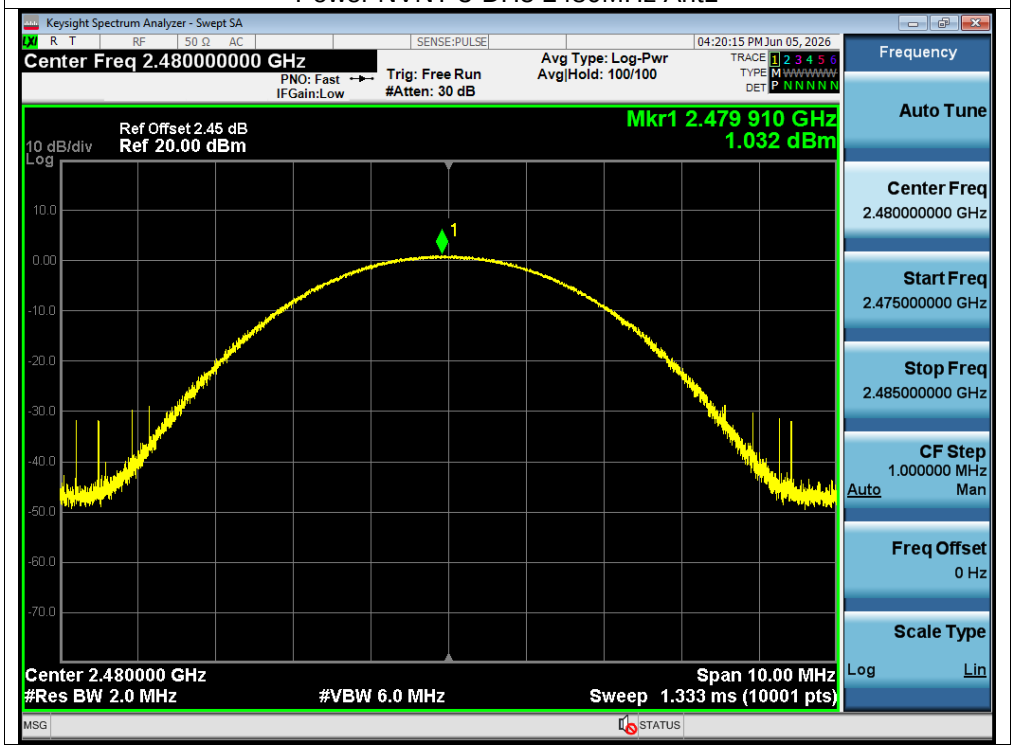
Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1

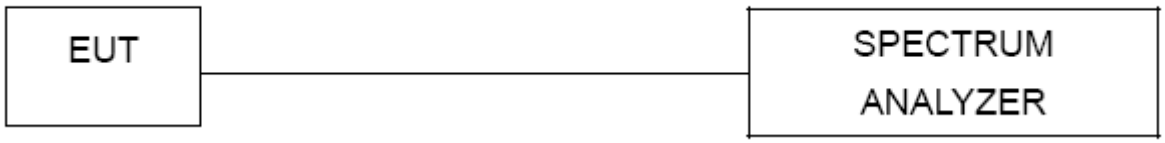


Power NVNT 3-DH5 2480MHz Ant1



12. Hopping Channel Separation

12.1 Block Diagram Of Test Setup



12.2 Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 0.125W.

12.3 Test procedure

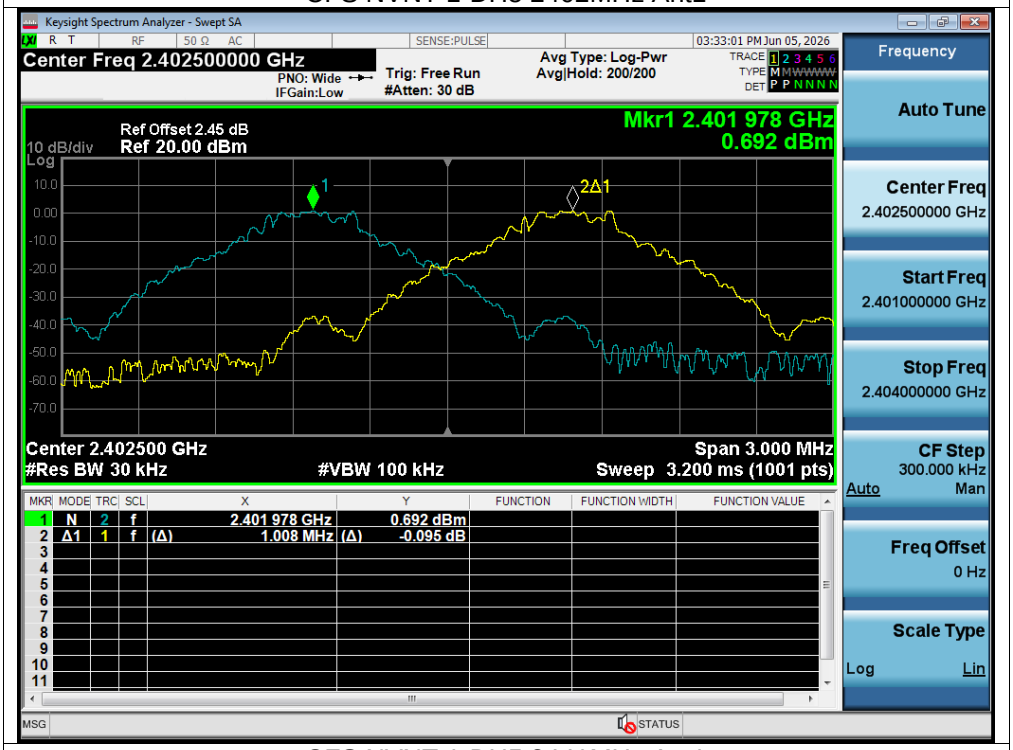
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set the spectrum analyzer: RBW = 30kHz. VBW = 100kHz , Span = 2.0MHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.
3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

12.4 Test Result

Condition	Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	2401.978	2402.986	1.0079	0.581	Pass
NVNT	1-DH5	2441.128	2441.98	0.8519	0.647	Pass
NVNT	1-DH5	2479.131	2479.941	0.8099	0.591	Pass
NVNT	2-DH5	2402.137	2403.136	0.9989	0.837	Pass
NVNT	2-DH5	2441.137	2442.139	1.0019	0.807	Pass
NVNT	2-DH5	2479.128	2480.13	1.0019	0.796	Pass
NVNT	3-DH5	2402.134	2403.121	0.9870	0.837	Pass
NVNT	3-DH5	2441.134	2441.992	0.8580	0.807	Pass
NVNT	3-DH5	2479.137	2480.139	1.00199	0.796	Pass

Test Graphs

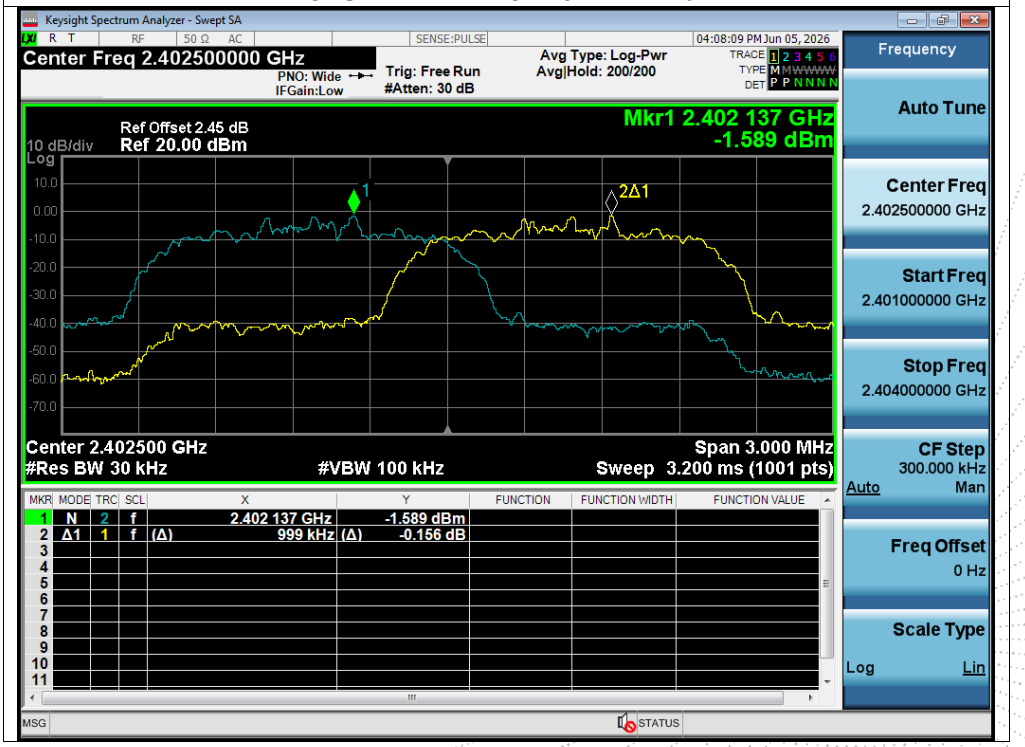
CFS NVNT 1-DH5 2402MHz Ant1



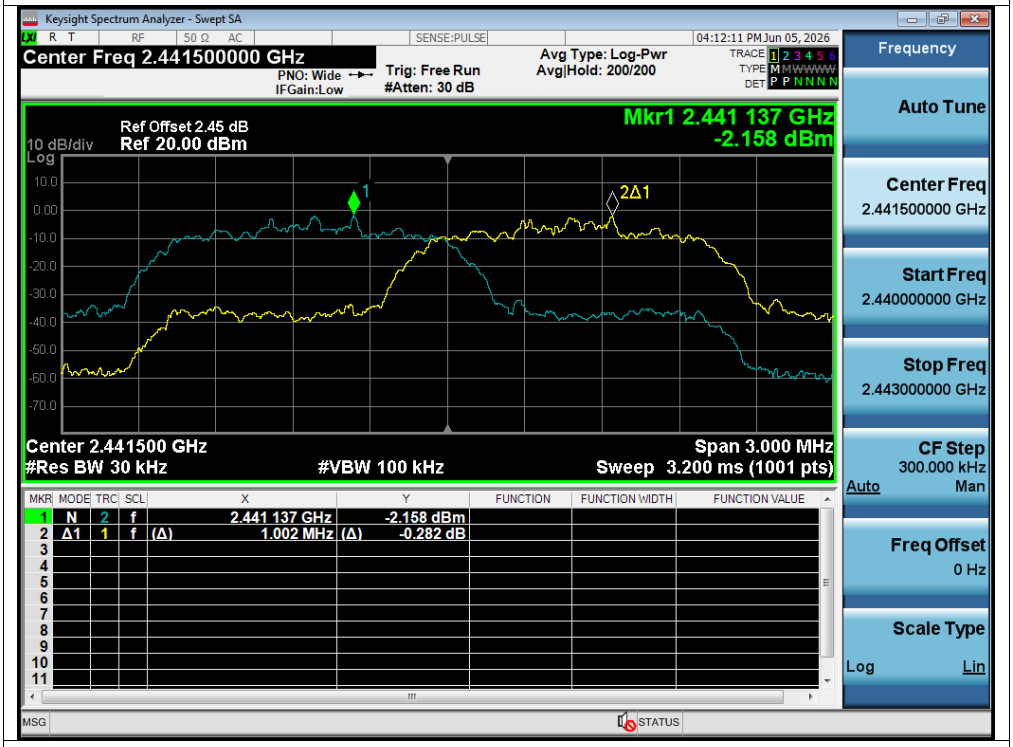
CFS NVNT 1-DH5 2441MHz Ant1

CFS NVNT 1-DH5 2480MHz Ant1

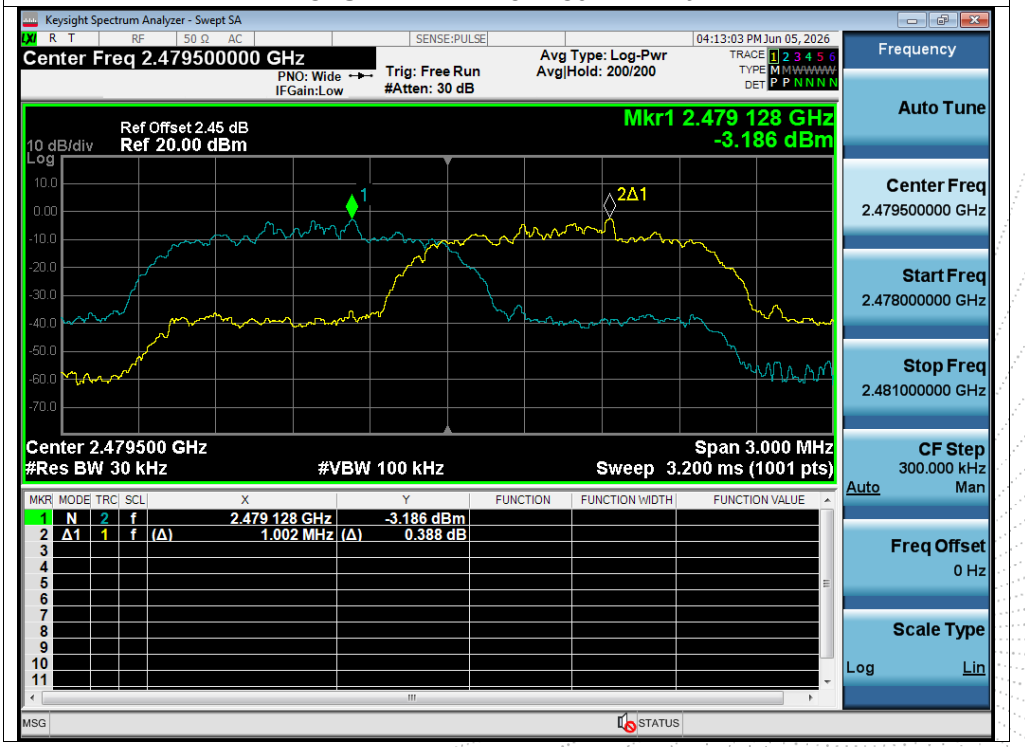
CFS NVNT 2-DH5 2402MHz Ant1



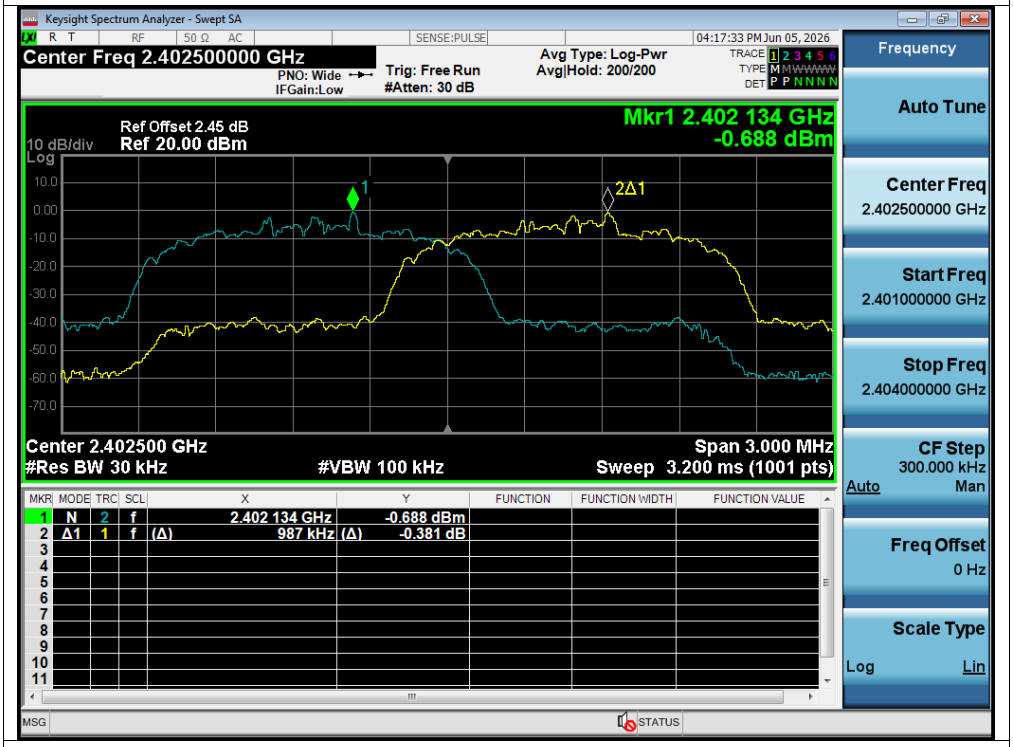
CFS NVNT 2-DH5 2441MHz Ant1



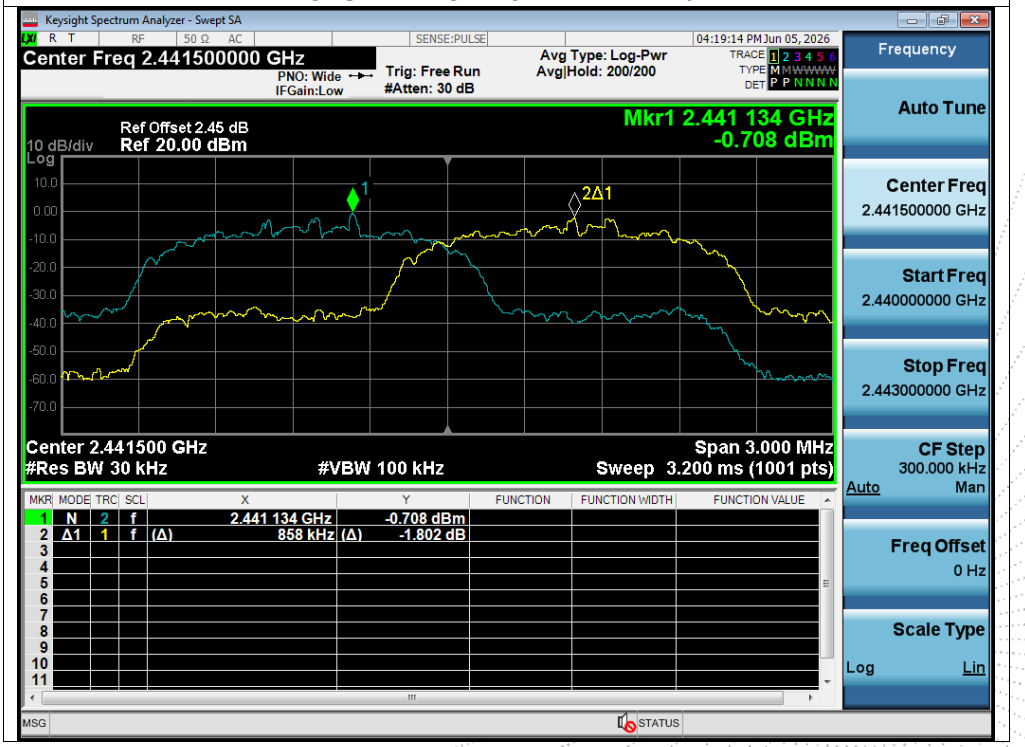
CFS NVNT 2-DH5 2480MHz Ant1



CFS NVNT 3-DH5 2402MHz Ant1

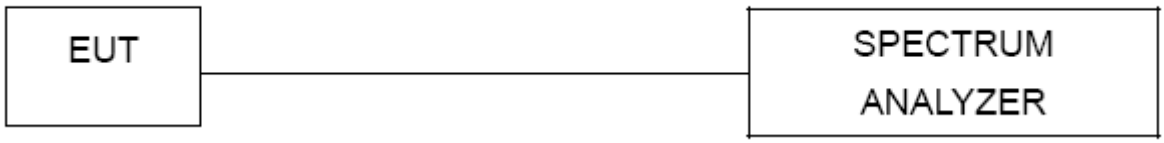


CFS NVNT 3-DH5 2441MHz Ant1



13. Number of Hopping Frequency

13.1 Block Diagram Of Test Setup



13.2 Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

13.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

2. Set the spectrum analyzer: RBW = 100kHz. VBW = 300kHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.

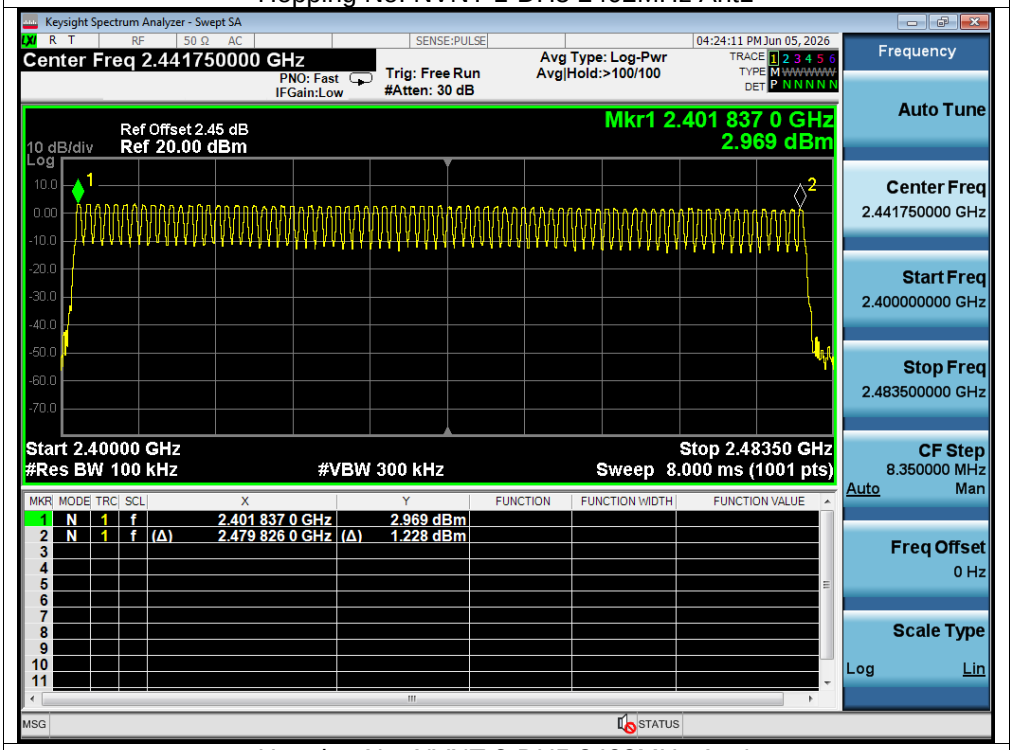
3. Allow the trace to stabilize. It may prove necessary to break the span up to sections. in order to clearly show all of the hopping frequencies. The limit is specified in one of the subparagraphs of this Section.

4. Set the spectrum analyzer: Start Frequency = 2.4GHz, Stop Frequency = 2.4835GHz. Sweep=auto;

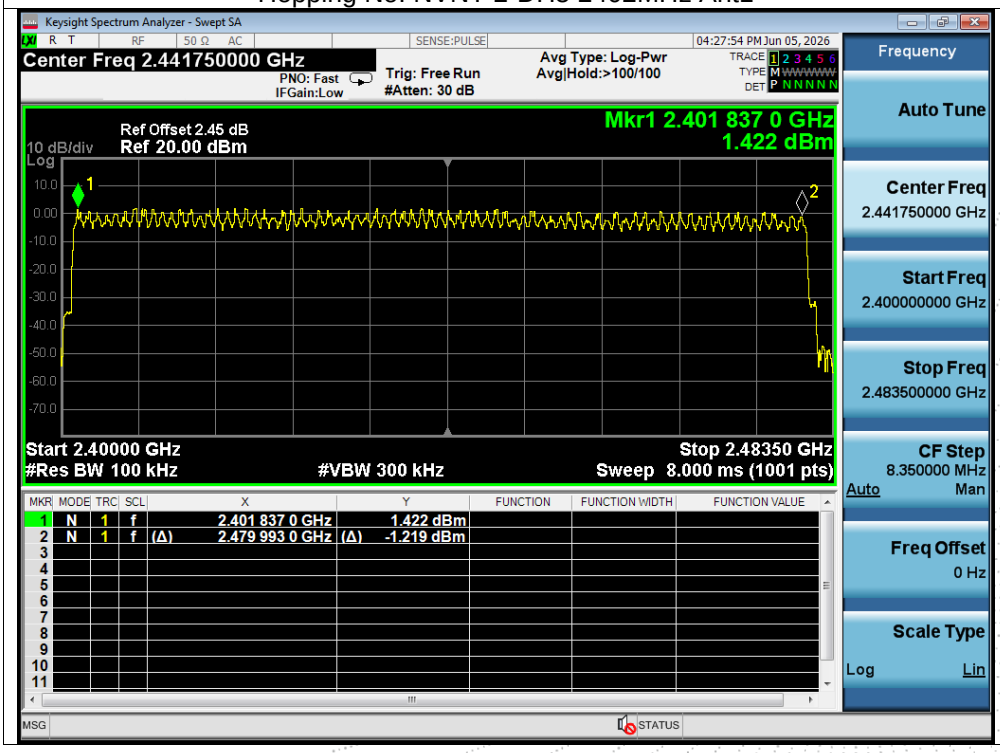
13.4 Test Result

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

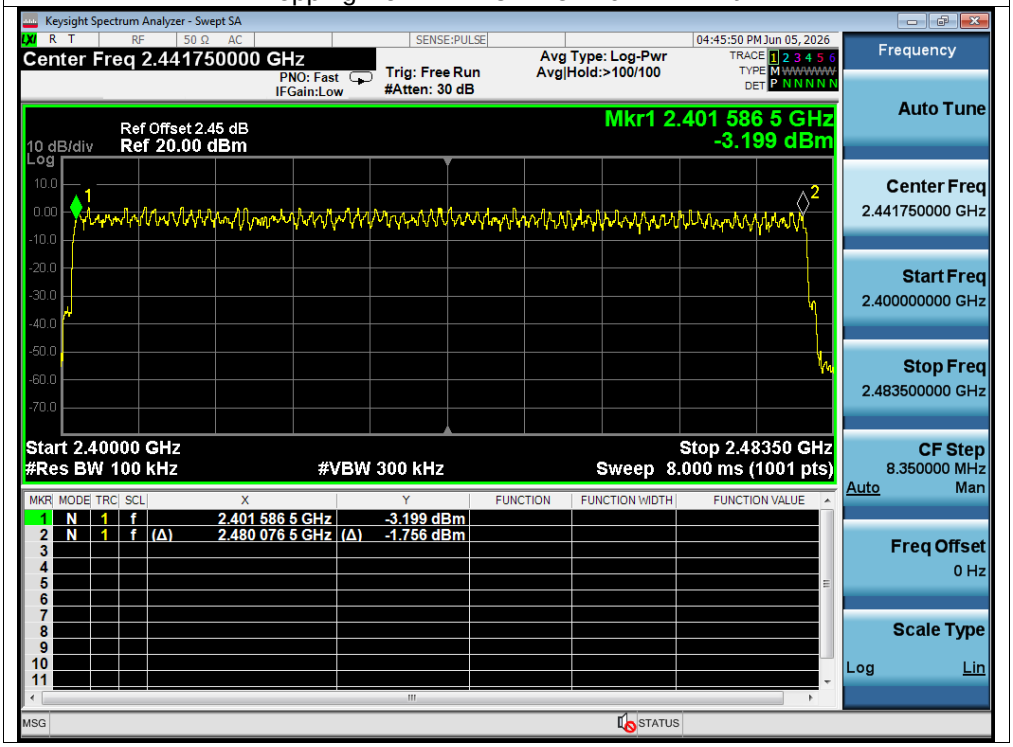
Test Graphs
Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1

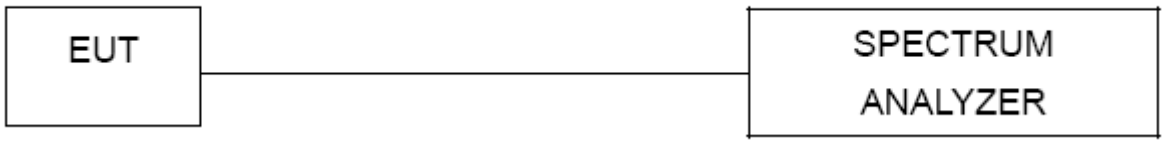


Hopping No. NVNT 3-DH5 2402MHz Ant1



14. Dwell Time

14.1 Block Diagram Of Test Setup



14.2 Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 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.

14.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set spectrum analyzer span = 0. Centred on a hopping channel;
3. Set RBW = 1MHz and VBW = 3MHz.Sweep = as necessary to capture the entire dwell time per hopping channel. Set the EUT for DH5, DH3 and DH1 packet transmitting.
4. Use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g.. data rate. modulation format. etc.). repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).

14.4 Test Result

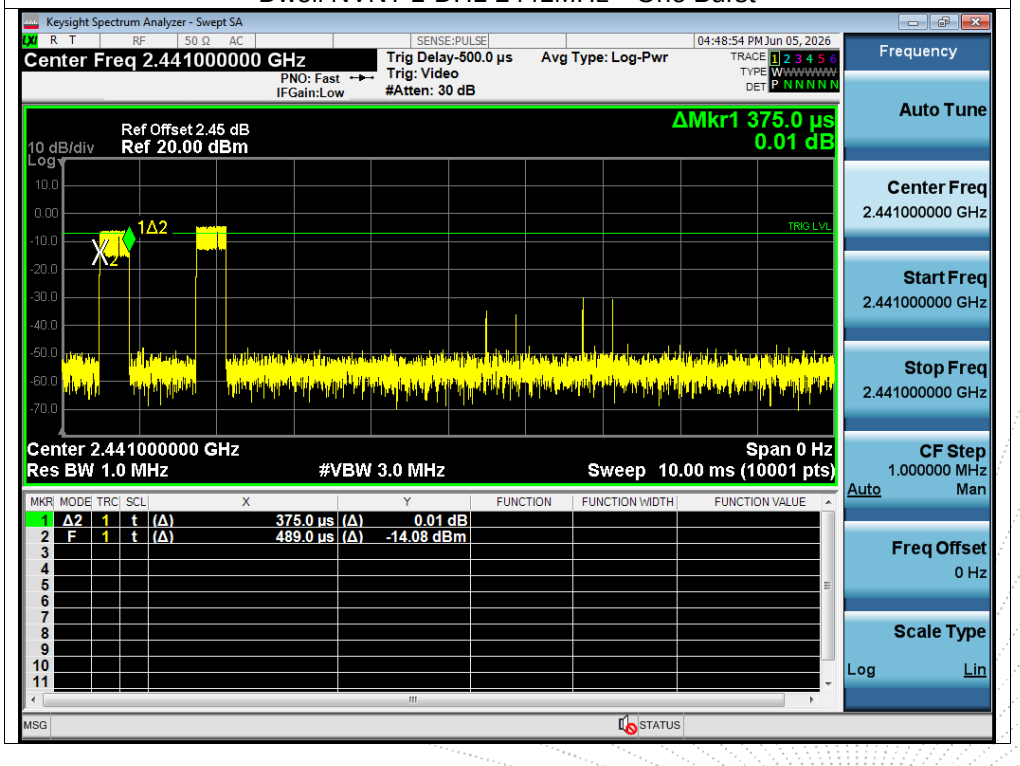
DH5 Packet permit maximum 1600 / 79 / 6 hops per second in each channel
(5 time slots RX, 1 time slot TX).
DH3 Packet permit maximum 1600 / 79 / 4 hops per second in each channel
(3 time slots RX, 1 time slot TX).
DH1 Packet permit maximum 1600 / 79 /2 hops per second in each channel
(1 time slot RX, 1 time slot TX). So, the Dwell Time can be calculated as follows:

DH5:1600/79/6*0.4*79*(MkrDelta)/1000
DH3:1600/79/4*0.4*79*(MkrDelta)/1000
DH1:1600/79/2*0.4*79*(MkrDelta)/1000
Remark: Mkr Delta is once pulse time.

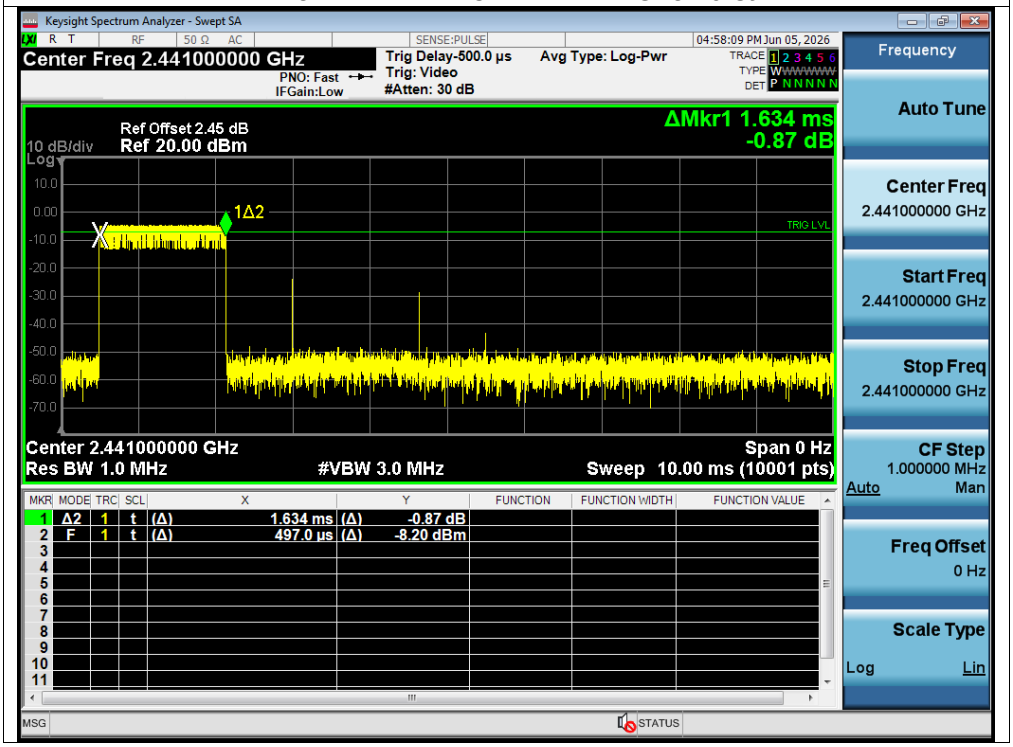
Condition	Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	0.375	120.000	400	Pass
NVNT	1-DH3	2441	1.634	261.440	400	Pass
NVNT	1-DH5	2441	2.884	307.627	400	Pass
NVNT	2-DH1	2441	0.382	122.240	400	Pass
NVNT	2-DH3	2441	1.637	261.920	400	Pass
NVNT	2-DH5	2441	2.884	307.627	400	Pass
NVNT	3-DH1	2441	0.386	123.520	400	Pass
NVNT	3-DH3	2441	1.633	261.280	400	Pass
NVNT	3-DH5	2441	1.975	210.667	400	Pass

Test Graphs

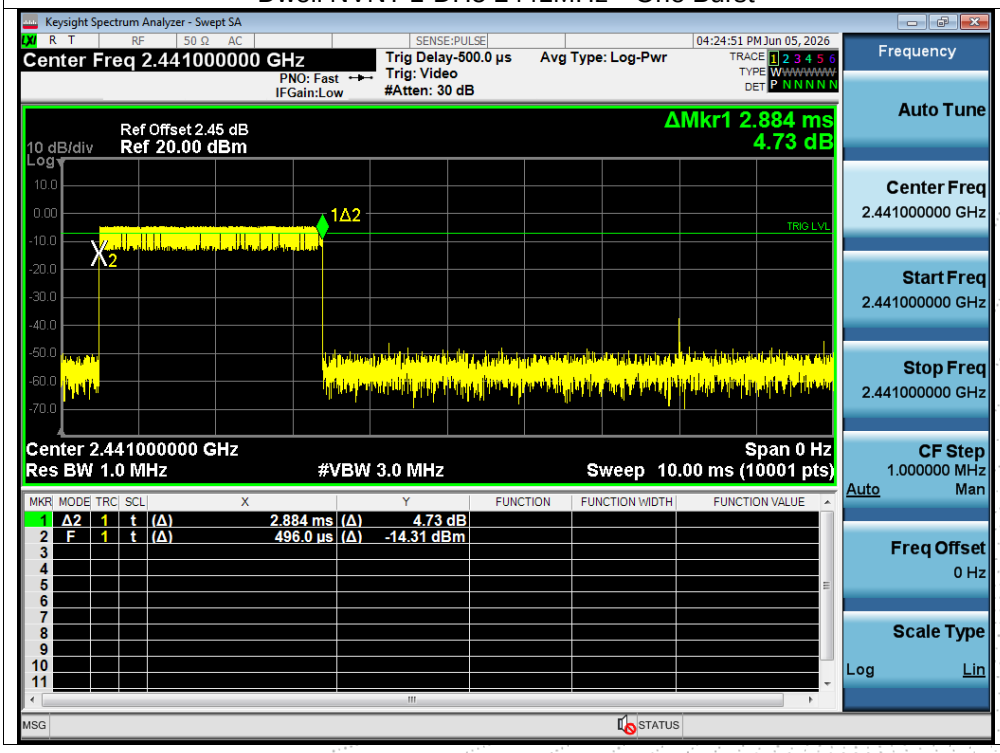
Dwell NVNT 1-DH1 2441MHz One Burst



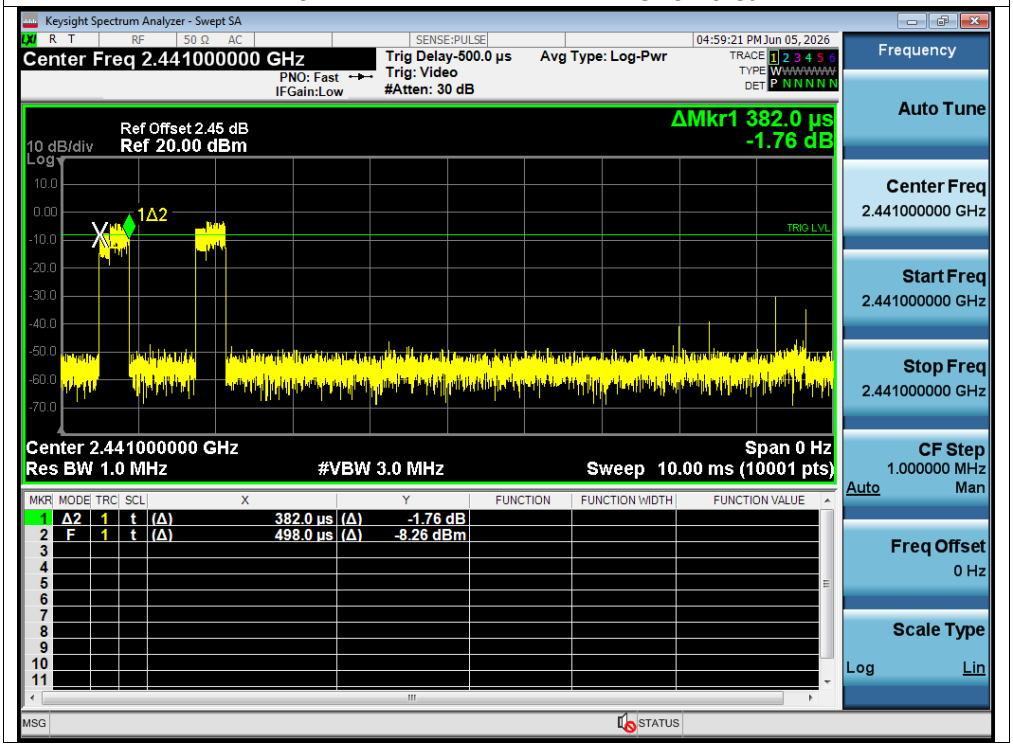
Dwell NVNT 1-DH3 2441MHz One Burst



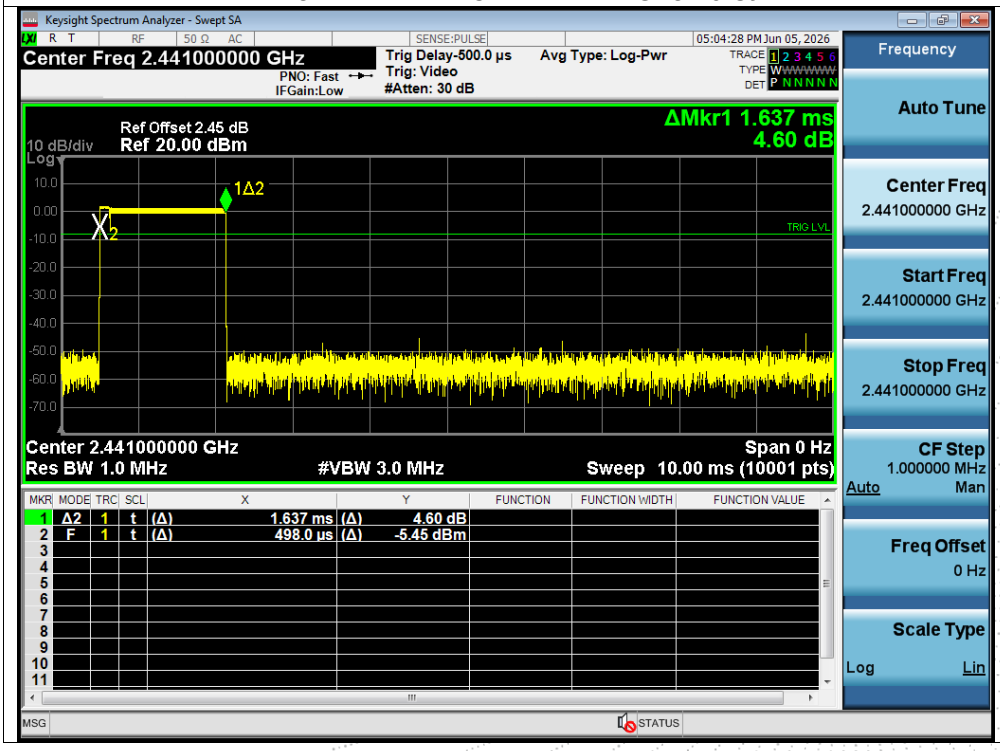
Dwell NVNT 1-DH5 2441MHz One Burst



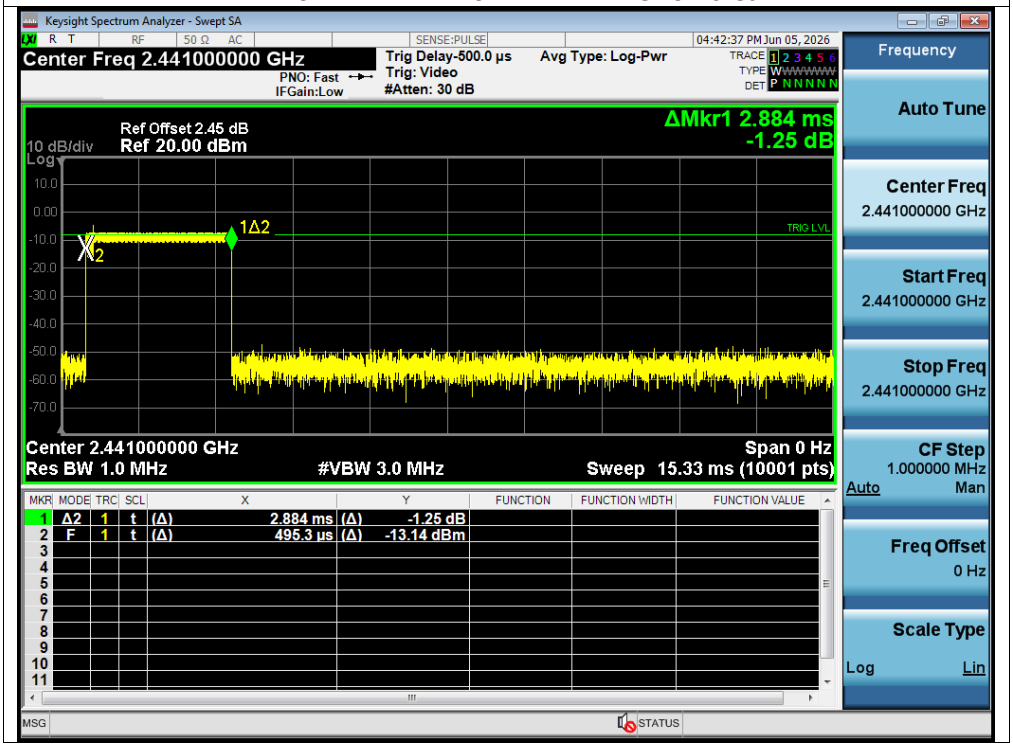
Dwell NVNT 2-DH1 2441MHz One Burst



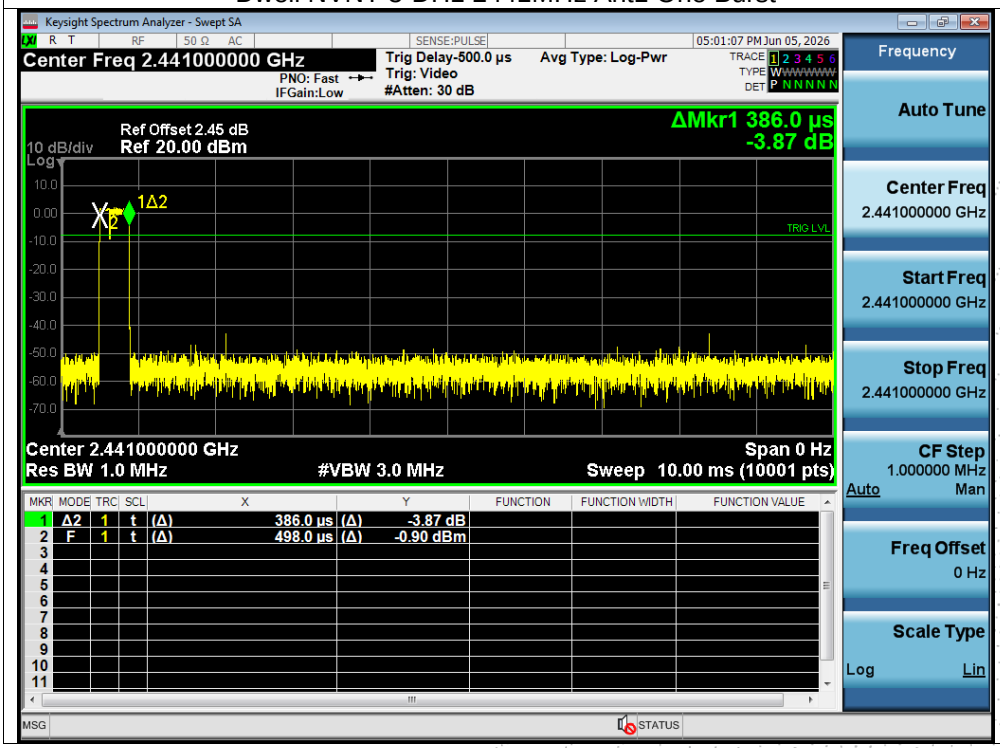
Dwell NVNT 2-DH3 2441MHz One Burst



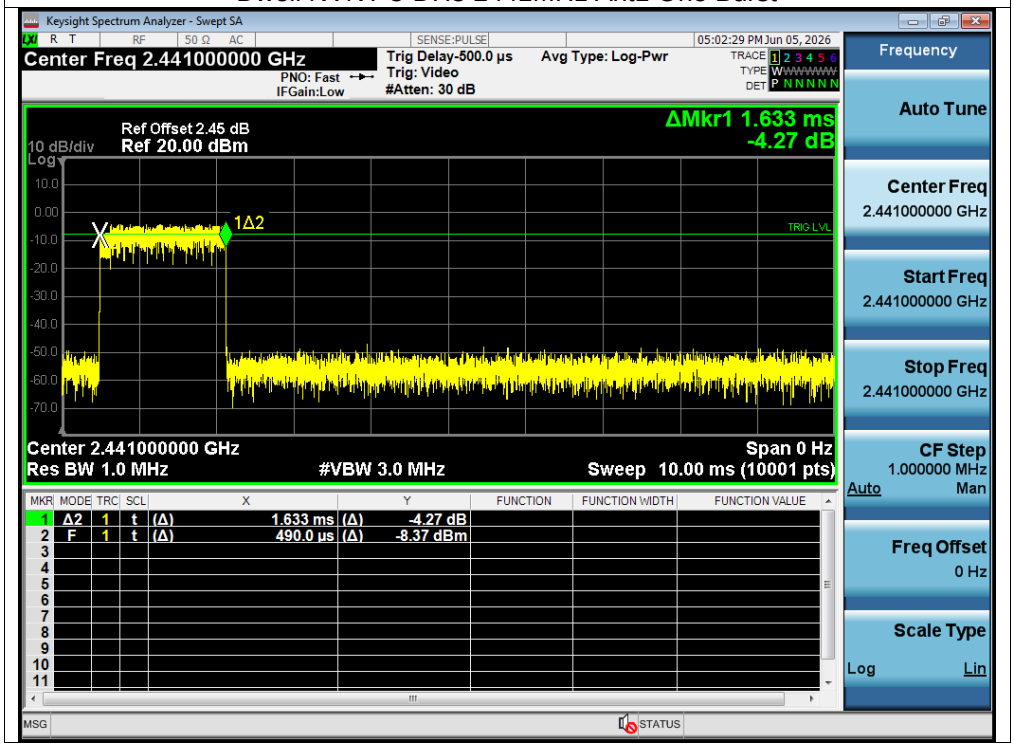
Dwell NVNT 2-DH5 2441MHz One Burst



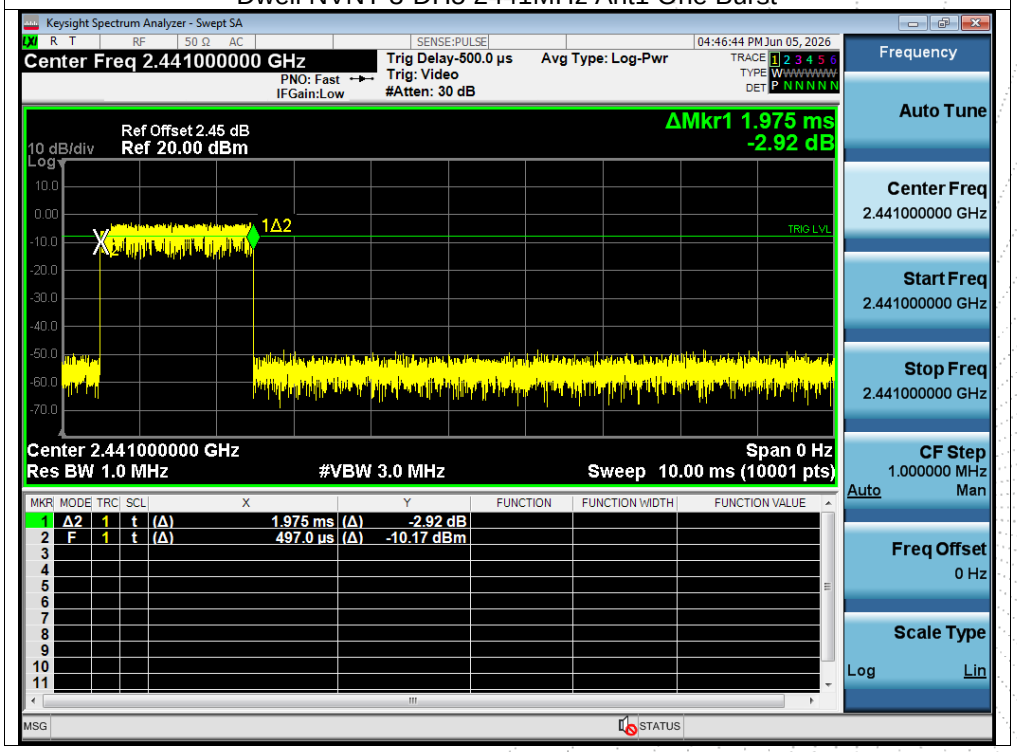
Dwell NVNT 3-DH1 2441MHz Ant1 One Burst



Dwell NVNT 3-DH3 2441MHz Ant1 One Burst



Dwell NVNT 3-DH5 2441MHz Ant1 One Burst



15. Antenna Requirement

15.1 Limit

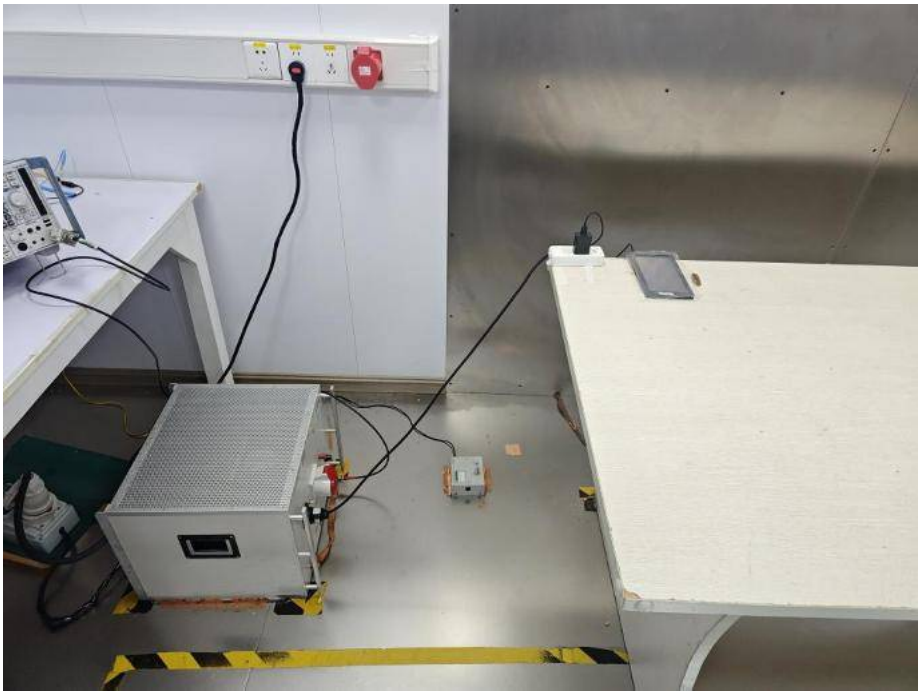
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §§ 15.211, 15.213, 15.217, 15.219, 15.221, or § 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

15.2 Test Result

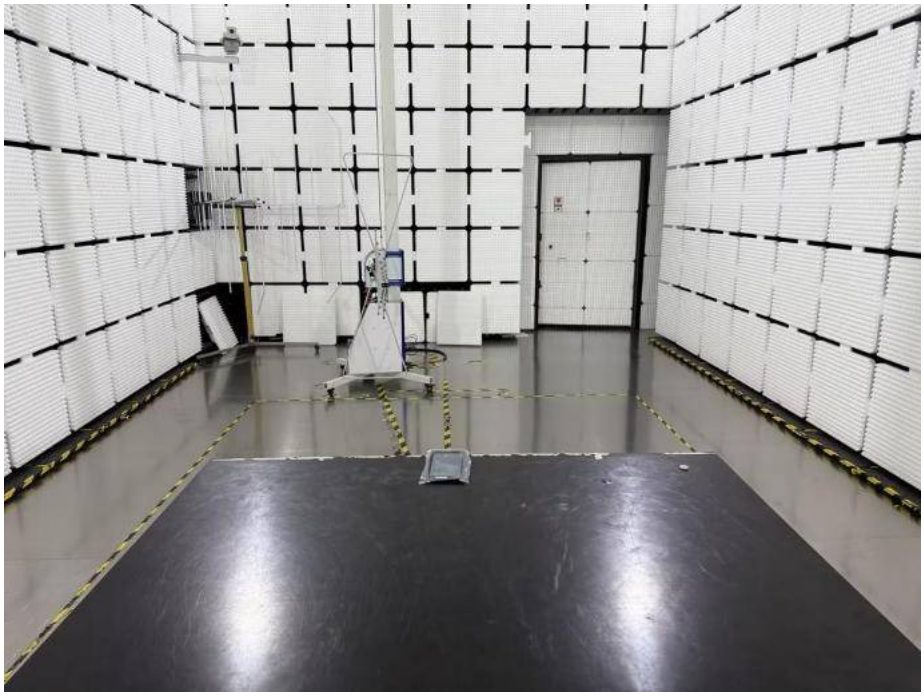
The EUT antenna is Internal antenna, fulfill the requirement of this section.

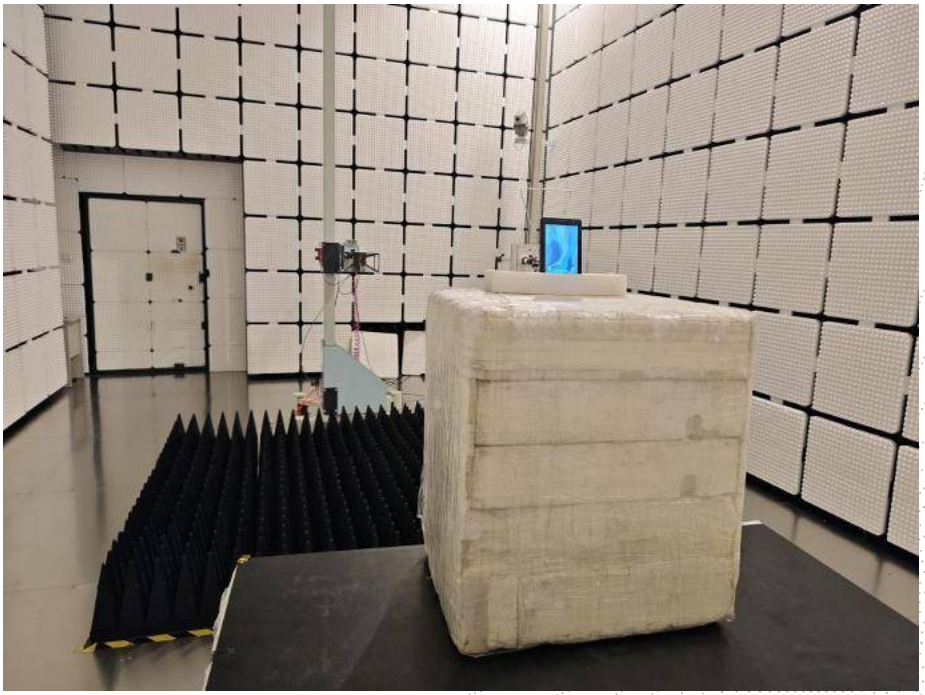
16. EUT Test Setup Photographs

Conducted emissions



Radiated Measurement Photos





RF Conducted Test

STATEMENT

1. The equipment lists are traceable to the International System of Units (SI)

2. The test report can not be partially copied unless prior written approval is issued from our lab.

3. The test report is invalid without the "special seal for inspection and testing".

4. The test report is invalid without the signature of the approver.

5. The test process and test result is only related to the Unit Under Test.

6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.

7. The quality system of our laboratory is in accordance with ISO/IEC 17025:2017.

8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:
Room 101M, Unit 1, Building1, Pengyuan, No.18, Lilang Road, Shanglilang, Nanwan Subdistrict, Longgang District, Shenzhen, Guangdong, China

TEL:400-788-9558

P.C.: 518116

FAX:0755-33229357

Website: http://www.chnbctc.com

Consultation E-mail: bctc@bctc-lab.com.cn

Complaint/Advice E-mail: advice@bctc-lab.com.cn

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