FCC PART 15.247
TEST REPORT

On Behalf of

SHOKZ (SINGAPORE) PTE. LTD.

11 NORTH BUONA VISTA DRIVE #16-09 THE METROPOLIS SINGAPORE 138589, Singapore

FCC ID: 2BCD6-C120
Model: SHOKZ C120, SHOKZ C121

September 18, 2024

This Report Concerns:	Equipment Type:
☒ Original Report	OpenComm2 2025 Upgrade

Test Engineer:	LBi Li / LBi Li
Report Number:	**QCT24IR-2121E-01**
Test Date:	September 1, 2024 ~ September 18, 2024
Reviewed By:	Gordon Tan/ Gordon Tan
Approved By:	Kendy Wang / Kendy Wang
Prepared By:	**Shenzhen QC Testing Laboratory Co., Ltd.** East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China **Tel: 0755-23008269** **Fax: 0755-23726780**

Address: East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
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Revision History of This Test Report

Report Number	Description	Issued Date
QCT24IR-2121E-01	Initial Issue	2024-9-18

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1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Description:	OpenComm2 2025 Upgrade
Model No.:	SHOKZ C120, SHOKZ C121
HVIN:	SHOKZ C120, SHOKZ C121 Note: the two models/HVIN are identical and different model number and NFC function, Only SHOKZ C121 has NFC function and the NFC module activated by induced energy.
Tested Model:	SHOKZ C120
HW Version:	1.0
SW Version:	HCU_A_01_20240506
Sample(s) Status:	Engineer sample
Operation Frequency:	2402MHz~2480MHz
Channel numbers:	79
Channel separation:	1MHz
Modulation type:	GFSK, π/4-DQPSK, 8-DPSK
Antenna Type:	PIFA Antenna
Antenna gain:	-1dBi
Power supply:	DC 5V(Powered by adapter) DC 3.8V(Powered by battery)
Trade Mark:	SHOKZ
Applicant:	SHOKZ (SINGAPORE) PTE. LTD.
Address:	11 NORTH BUONA VISTA DRIVE #16-09 THE METROPOLIS SINGAPORE 138589, Singapore
Manufacturer:	SHOKZ (SINGAPORE) PTE. LTD.
Address:	11 NORTH BUONA VISTA DRIVE #16-09 THE METROPOLIS SINGAPORE 138589, Singapore
Sample No.:	Y24I2121E01LW

Note: The above EUT information is declared by manufacturer and for more detailed features description please refers to the manufacturer's specifications or User's Manual.

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1.2 System Test Configuration

1.2.1 Channel List

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402MHz	21	2422MHz	41	2442MHz	61	2462MHz
2	2403MHz	22	2423MHz	42	2443MHz	62	2463MHz
3	2404MHz	23	2424MHz	43	2444MHz	63	2464MHz
4	2405MHz	24	2425MHz	44	2445MHz	64	2465MHz
5	2406MHz	25	2426MHz	45	2446MHz	65	2466MHz
6	2407MHz	26	2427MHz	46	2447MHz	66	2467MHz
7	2408MHz	27	2428MHz	47	2448MHz	67	2468MHz
8	2409MHz	28	2429MHz	48	2449MHz	68	2469MHz
9	2410MHz	29	2430MHz	49	2450MHz	69	2470MHz
10	2411MHz	30	2431MHz	50	2451MHz	70	2471MHz
11	2412MHz	31	2432MHz	51	2452MHz	71	2472MHz
12	2413MHz	32	2433MHz	52	2453MHz	72	2473MHz
13	2414MHz	33	2434MHz	53	2454MHz	73	2474MHz
14	2415MHz	34	2435MHz	54	2455MHz	74	2475MHz
15	2416MHz	35	2436MHz	55	2456MHz	75	2476MHz
16	2417MHz	36	2437MHz	56	2457MHz	76	2477MHz
17	2418MHz	37	2438MHz	57	2458MHz	77	2478MHz
18	2419MHz	38	2439MHz	58	2459MHz	78	2479MHz
19	2420MHz	39	2440MHz	59	2460MHz	79	2480MHz
20	2421MHz	40	2441MHz	60	2461MHz		

Note: In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency	Channel	Frequency
The lowest channel	2402MHz	The middle channel	2441MHz
The Highest channel	2480MHz		

1.2.2 EUT Exercise Software

" BlueTest3 " software was used to test, The power level is default. The software and power level was provided by the applicant.

1.2.3 Support Equipment

Manufacturer	Description	Model	Remark
Vivo	Adapter	BK-T-01Q	Input:110-240V~, 50/60Hz Output:5V/1A

1.2.4 Test mode

Transmitting mode: Keep the EUT in continuously transmitting.

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1.3 Test Facility

Test Firm : Shenzhen QC Testing Laboratory Co., Ltd.

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19. The testing quality system of our laboratory meets with ISO/IEC-17025 requirements. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

CNAS – Registration No.: L8464

The EMC Laboratory has been accredited by CNAS, and in compliance with ISO/IEC 17025:2017 General Requirements for testing Laboratories.

A2LA Certificate Number: 6759.01

The EMC Laboratory has been accredited by A2LA, and in compliance with ISO/IEC 17025:2017 General Requirements for testing Laboratories.

FCC Registration Number: 561109

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission.

IC Registration Number: 29628

CAB identifier: CN0141

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada.

1.4 Measurement Uncertainty

Parameter	Uncertainty
Occupied Channel Bandwidth	±1.42 x10^{-4}%
RF output power, conducted	±1.06dB
Power Spectral Density, conducted	±1.06dB
Unwanted Emissions, conducted	±2.51dB
AC Power Line Conducted Emission	±1.80dB
Radiated Spurious Emission test (9kHz-30MHz)	±2.66dB
Radiated Spurious Emission test (30MHz-1000MHz)	±4.04dB
Radiated Spurious Emission test (1000MHz-18000MHz)	±4.70 dB
Radiated Spurious Emission test (18GHz-40GHz)	±4.80dB
Temperature	±0.8℃
Humidity	±3.2%
DC and low frequency voltages	±0.1%
Time	±5%
Duty cycle	±5%

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2

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2. Summary of Test Results

Test Item	Section	Result
Antenna Requirement	15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	15.207	Pass
Conducted Peak Output Power	15.247 (b)(1)	Pass
20dB Occupied Bandwidth	15.247 (a)(1)	Pass
Carrier Frequencies Separation	15.247 (a)(1)	Pass
Hopping Channel Number	15.247 (b)(1)	Pass
Dwell Time	15.247 (a)(1)(iii)	Pass
Radiated Emission	15.205/15.209	Pass
Band Edge	15.247(d)	Pass

Note: 1. Pass: The EUT complies with the essential requirements in the standard.

2. All indications of Pass/Fail in this report are opinions expressed by Shenzhen QC Testing Laboratory Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.

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3. List of Test and Measurement Instruments

3.1 Conducted Emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
1	EMI Test Receiver	Rohde&Schwarz	ESIB 7	2277573376	2024.03.14	2025.03.13
2	EMI Test Receiver	Rohde&Schwarz	ESCI3	101820	2024.08.06	2025.08.05
3	Artificial Mains Network	SCHWARZBECK	NSLK8126	8126200	2024.08.06	2025.08.05
4	PULSE LIMITER	Rohde&Schwarz	ESH3-Z2	100058	2024.03.14	2025.03.13
Conducted Emission Measurement Software: TS+ JS32-CE Ver 5.0.0						

3.2 Radiated Emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
1.	EMI Test Receiver	R&S	ESIB 7	2277573376	2024.03.14	2025.03.13
2.	EMI Test Receiver	ESPI3	ESPI3	101131	2024.03.14	2025.03.13
3.	Spectrum Analyzer	Rohde&Schwarz	FSV 40	101458	2024.03.14	2025.03.13
4.	TRILOG Broadband Test-Antenna	SCHWARZBECK	VULB9168	VULB9168-588	2023.04.01	2025.03.31
5.	Loop Antenna	EMCO	6502	2133	2023.03.18	2025.03.17
6.	horn antenna	SCHWARZBECK	BBHA9120D	2069	2023.04.01	2025.03.31
7.	Horn Antenna	COM-MW	ZLB7-18-40G -950	12221225	2023.01.12	2025.01.09
8.	Pre-amplifier	MITEQ	TTA0001-18	2063645	2024.03.27	2025.03.26
9.	Pre-amplifier	COM-MW	DLAN-18000 -40000-02	10229104	2024.03.14	2025.03.13
10.	966 Camber	ZhongYU	9*6*6	/	2023.05.08	2026.05.07
Radiated Emission Measurement Software: EZ_EMC Ver QCT03A2 RE+						

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3.3 RF Conducted test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
1.	Wideband Radio Communication Tester	Rohde & Schwarz	CW500	151583	2024.03.14	2025.03.13
2.	Spectrum Analyzer	ROHDE& SCHWARZ	FSV 40	101458	2024.03.14	2025.03.13
3.	Signal Generator	Agilent	N5182A	MY50141563	2024.03.14	2025.03.13
4.	RF Automatic Test System	MW	MW100-RFCB/ MW100-PSB	MW2007004	2024.03.14	2025.03.13
RF Conducted Measurement Software: MTS 8310 Ver 2.0.0.0						

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4. Antenna requirement

Standard requirement: FCC Part15 C Section 15.203 /247(c)

15.203 requirement:
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, 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.
15.247(c) (1)(i) requirement:
(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

EUT Antenna: The Ant is PIFA Antenna, the best case gain of the antenna is -1dBi, reference to the Internal photo for details.

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5. Conducted Emissions

Applicable Standard

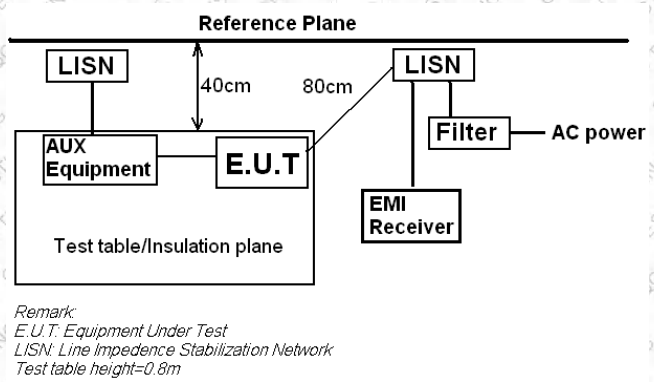
FCC Part15 C Section 15.207

5.2 Limit

Frequency range (MHz)	Limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

Note *: The level decreases linearly with the logarithm of the frequency.

5.3 Test setup



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

5.4 EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.
RBW=9 kHz, VBW=30 kHz, Sweep time=auto

5.5 Test procedure

1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.
2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).
3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

5.6 Test Data

Temperature	24℃	Humidity	51%
ATM Pressure	101kPa	Antenna Gain	-1dBi
Test by	LBi Li	Test result	PASS

Test voltage: AC 120V/60Hz

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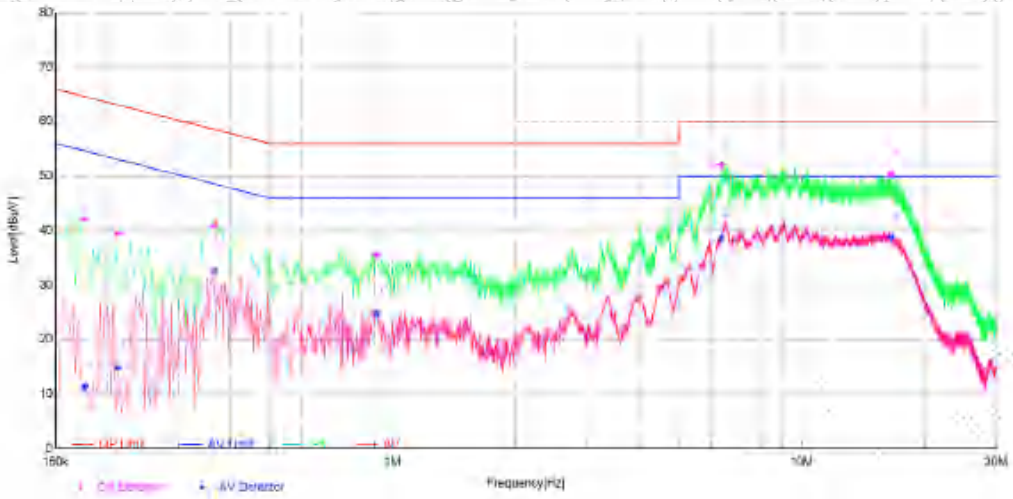
Measurement data:

Pre-scan all test modes, found worst case at GFSK 2402MHz, and so only show the test result of GFSK 2402MHz.

Line:



Final Data List

NO.	Freq. [MHz]	Factor[dB]	QP Value [dBuV]	QP Limit [dBuV]	QP Margin [dB]	AV Value [dBuV]	AV Limit [dBuV]	AV Margin [dB]	Phase	Verdict
1	0.1775	10.63	42.06	64.60	22.54	11.34	54.60	43.26	L	PASS
2	0.2125	10.67	39.42	63.11	23.69	14.86	53.11	38.25	L	PASS
3	0.3675	10.74	40.99	58.56	17.57	32.65	48.56	15.91	L	PASS
4	0.9125	10.68	35.54	56.00	20.46	24.76	46.00	21.24	L	PASS
5	6.3695	10.75	52.14	60.00	7.86	38.52	50.00	11.48	L	PASS
6	16.5755	10.98	50.28	60.00	9.72	38.70	50.00	11.30	L	PASS

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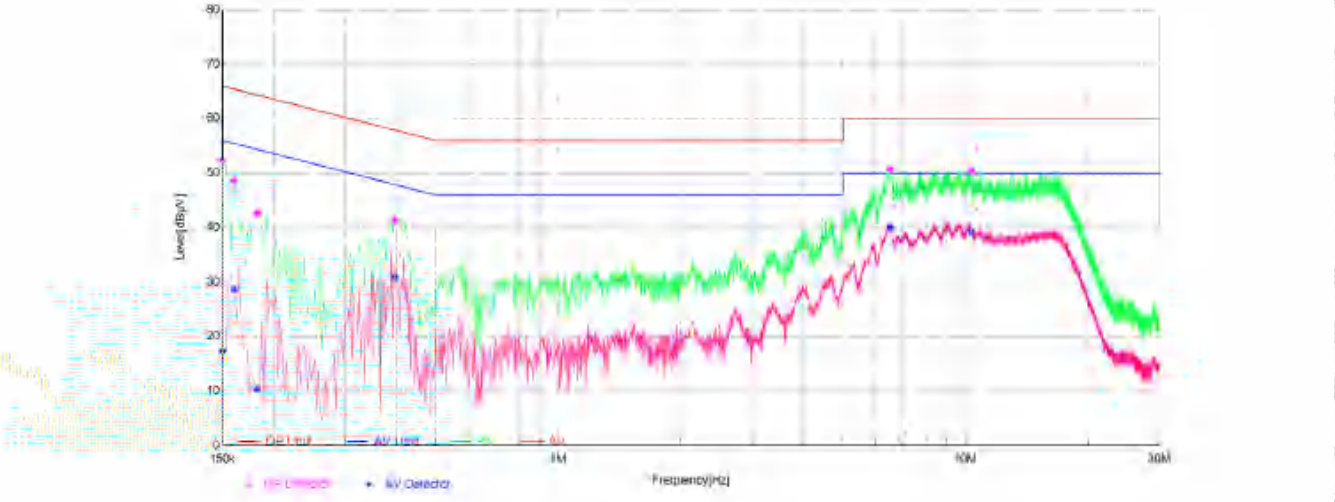
Neutral:



Final Data List

NO.	Freq. [MHz]	Factor[dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Phase	Verdict
1	0.15	10.48	52.36	66.00	13.64	17.35	56.00	38.65	N	PASS
2	0.16	10.48	48.60	65.46	16.86	28.66	55.46	26.80	N	PASS
3	0.1825	10.48	42.63	64.37	21.74	10.39	54.37	43.98	N	PASS
4	0.3975	10.60	41.16	57.91	16.75	30.83	47.91	17.08	N	PASS
5	6.5495	10.45	50.67	60.00	9.33	39.91	50.00	10.09	N	PASS
6	10.3475	10.79	50.29	60.00	9.71	39.28	50.00	10.72	N	PASS

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.

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6. Conducted Peak Output Power

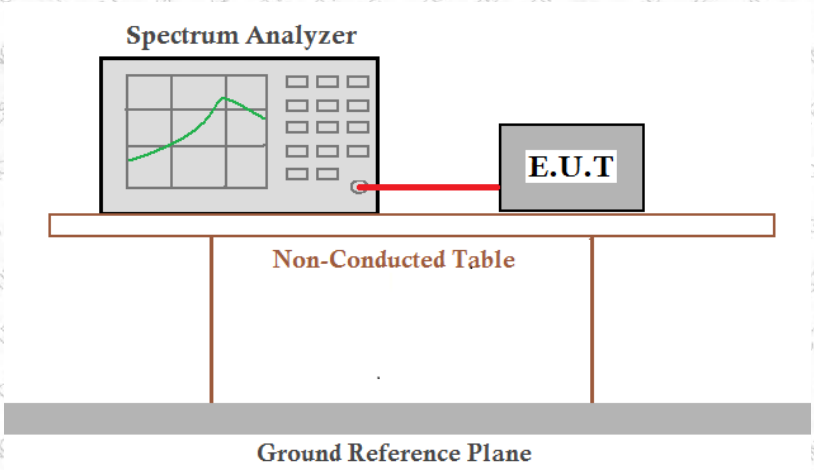
6.1 Applicable Standard

FCC Part15 C Section 15.247 (a)(1)

6.2 Limit

For frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. And for all other frequency hopping systems in the 2400–2483.5 MHz band: 0.125 watts.

6.3 Test setup



6.4 Test Data

Temperature	23 ℃	Humidity	51 %
ATM Pressure	101kPa	Antenna Gain	-1dBi
Test by	LBi Li	Test result	PASS

Please refer to following table and plots.

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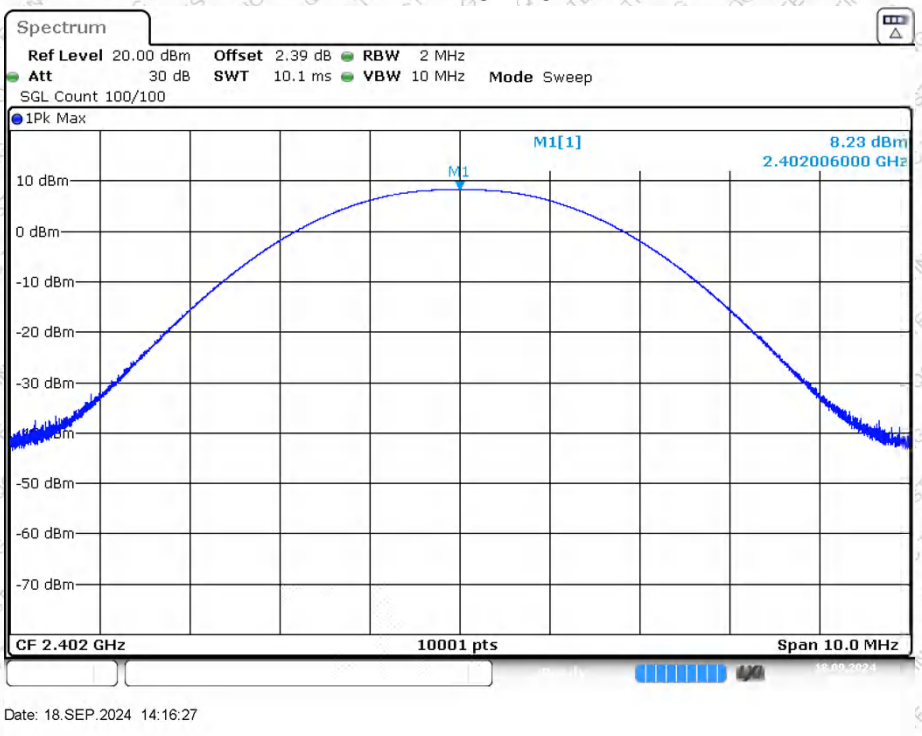
Output Power:

Mode	Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
GFSK	Lowest	8.23	20.97	Pass
	Middle	8.26		
	Highest	8.24		
π/4-DQPSK	Lowest	10.53	20.97	Pass
	Middle	10.44		
	Highest	10.38		
8-DPSK	Lowest	**11.31**	20.97	Pass
	Middle	11.03		
	Highest	11.08		

Power NVNT 1-DH5 2402MHz Ant1



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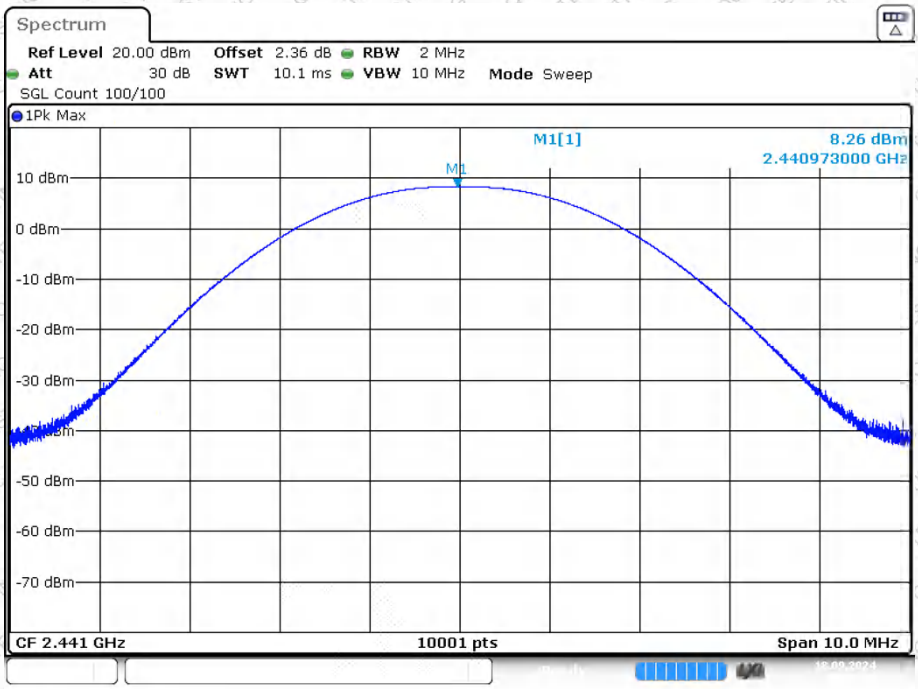
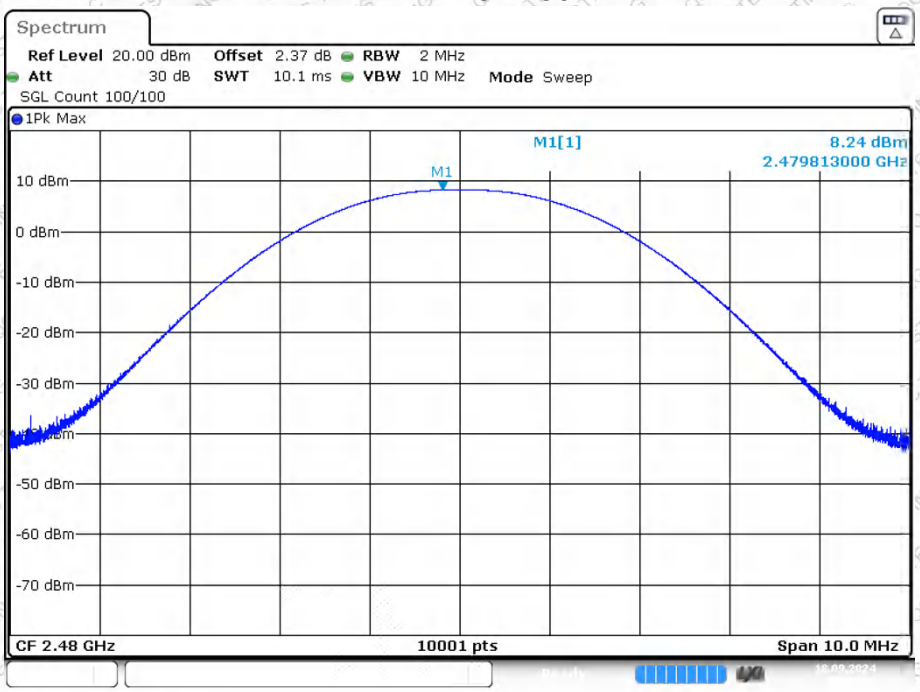
Power NVNT 1-DH5 2441MHz Ant1



Power NVNT 1-DH5 2480MHz Ant1



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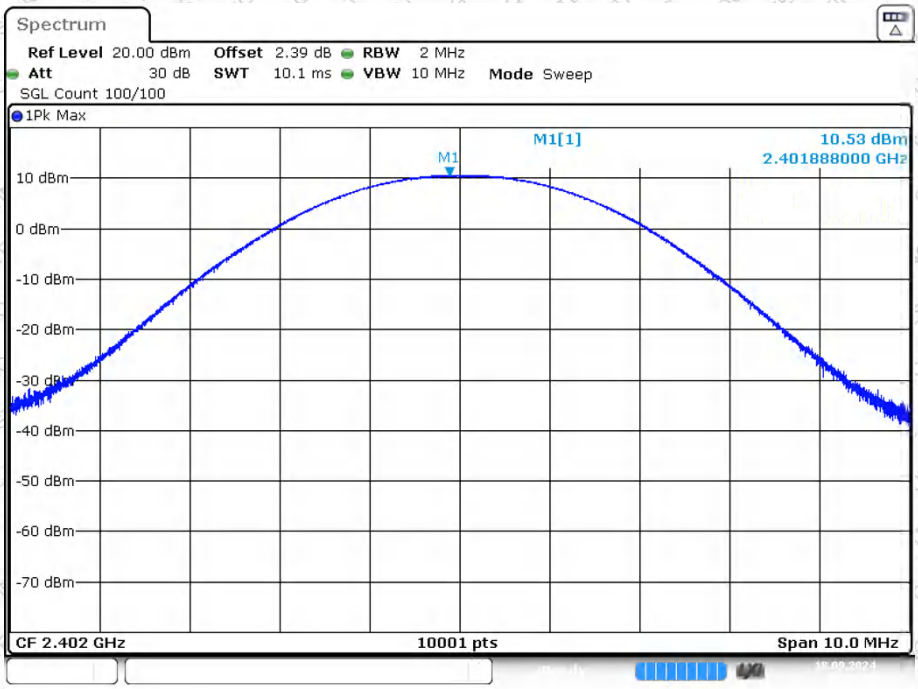
Power NVNT 2-DH5 2402MHz Ant1



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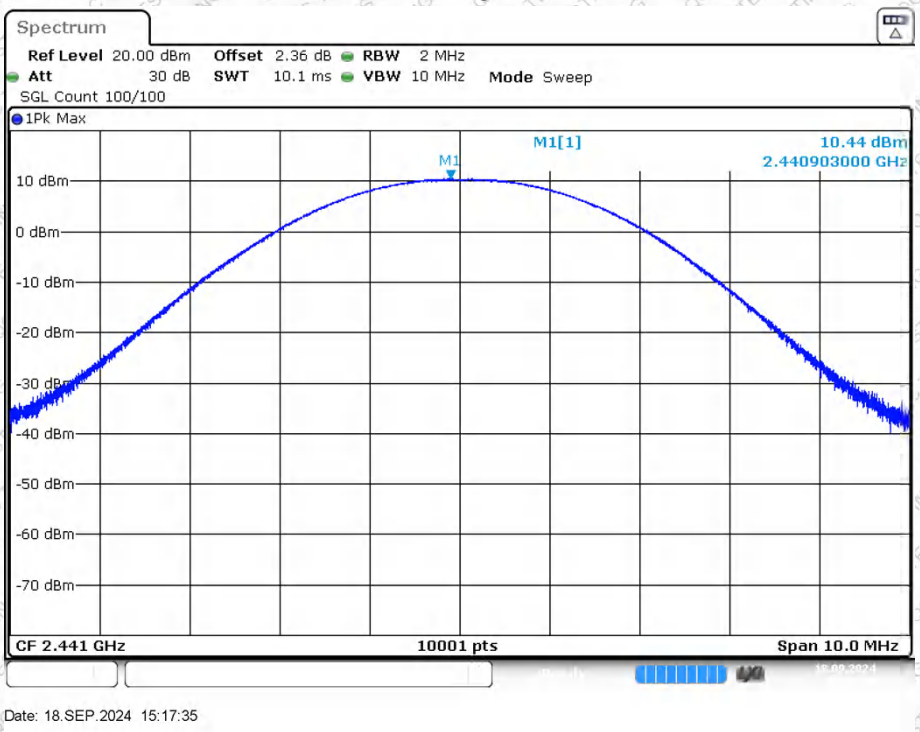

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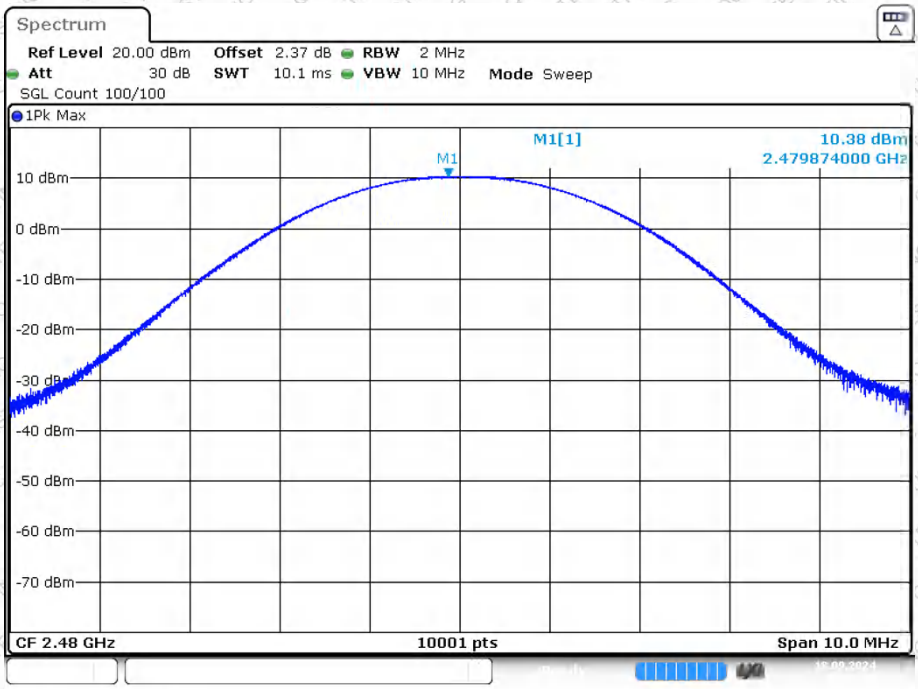
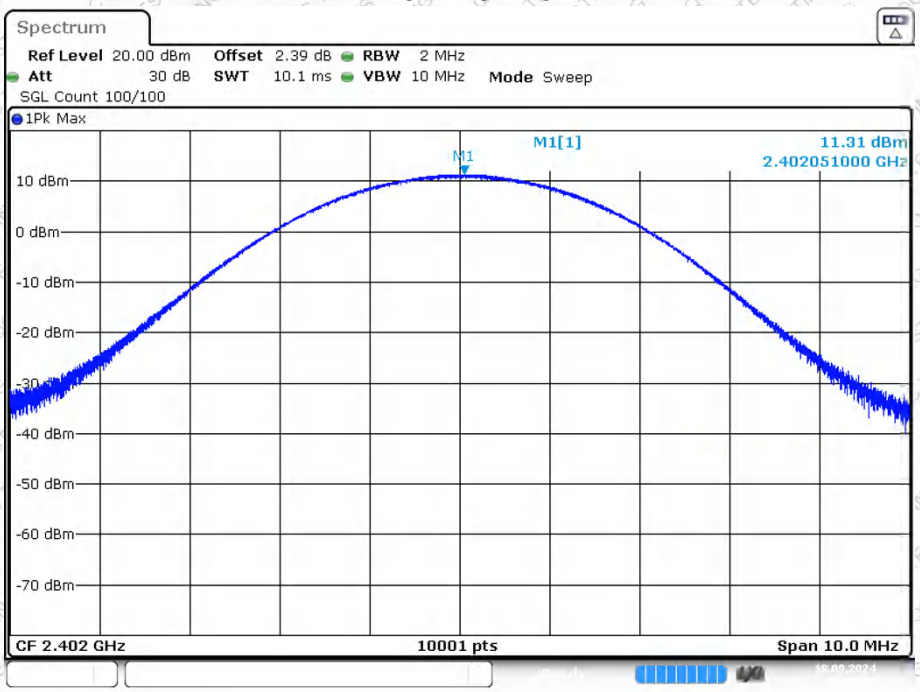
Power NVNT 2-DH5 2480MHz Ant1



Power NVNT 3-DH5 2402MHz Ant1



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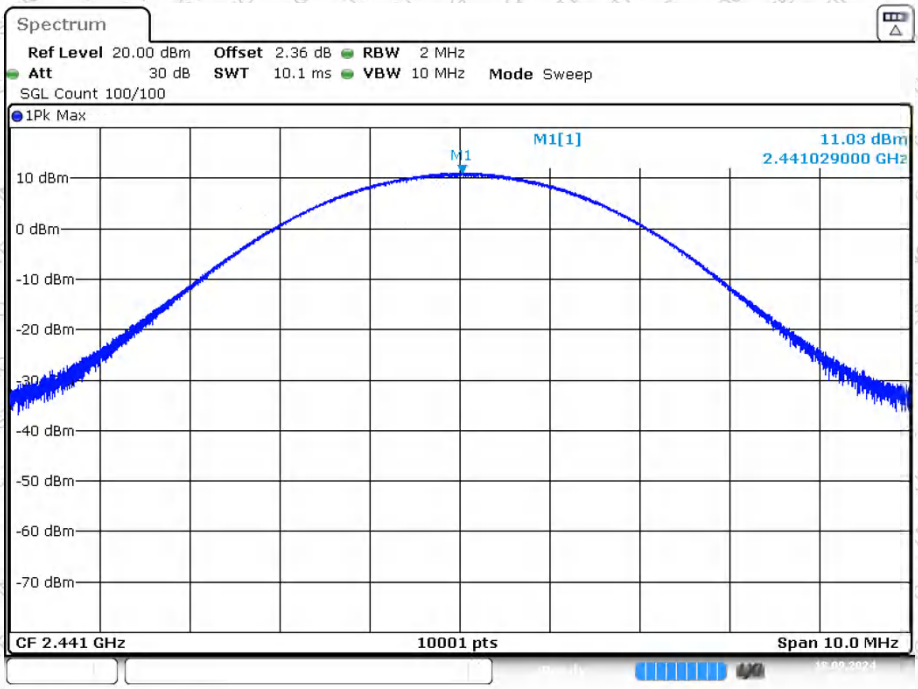
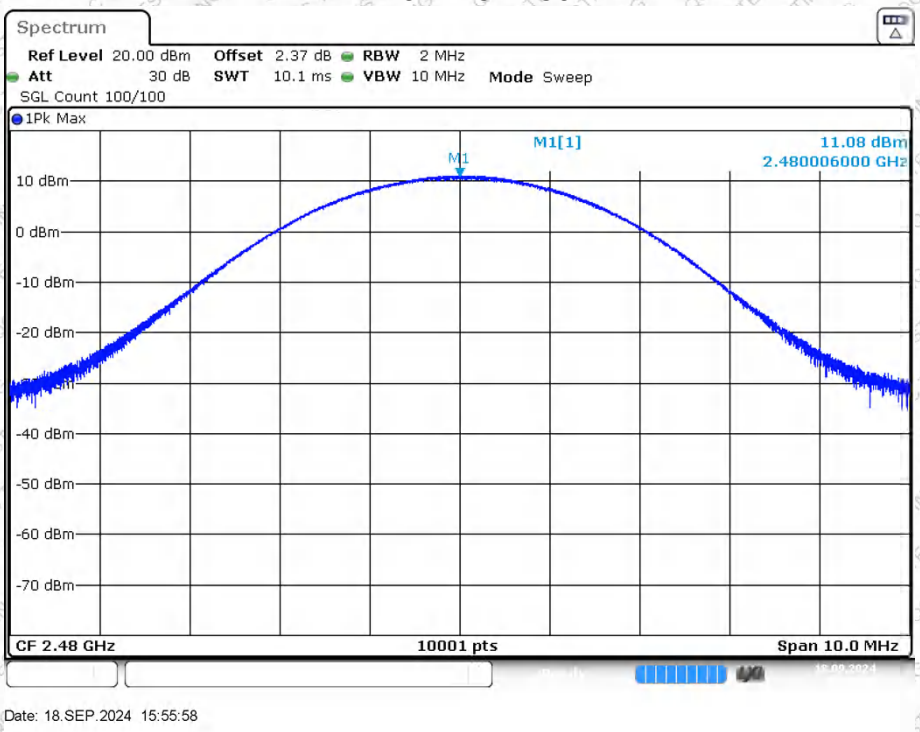
Power NVNT 3-DH5 2441MHz Ant1



Power NVNT 3-DH5 2480MHz Ant1



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7. 20dB Emission Bandwidth

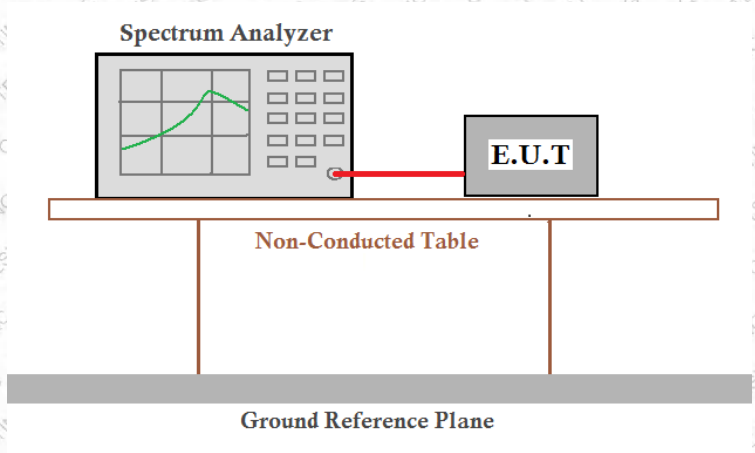
7.1 Applicable Standard

FCC Part15 C Section 15.247 (a)(1)

7.2 Limit

N/A

7.3 Test setup



7.4 Test Procedure

The following conditions shall be observed for measuring the occupied bandwidth and x dB bandwidth:

• The transmitter shall be operated at its maximum carrier power measured under normal test conditions.

• The span of the spectrum analyzer shall be set large enough to capture all products of the modulation process, including the emission skirts, around the carrier frequency, but small enough to avoid having other emissions (e.g. on adjacent channels) within the span.

• The detector of the spectrum analyzer shall be set to “Sample”. However, a peak, or peak hold, may be used in place of the sampling detector since this usually produces a wider bandwidth than the actual bandwidth (worst-case measurement). Use of a peak hold (or “Max Hold”) may be necessary to determine the occupied / x dB bandwidth if the device is not transmitting continuously.

• The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value. Video averaging is not permitted.

Note: It may be necessary to repeat the measurement a few times until the RBW and VBW are in compliance with the above requirement.

For the 99% emission bandwidth, the trace data points are recovered and directly summed in linear power level terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached, and that frequency recorded. The process is repeated for the highest frequency data points (starting at the highest frequency, at the right side of the span, and going down in frequency). This frequency is then recorded. The difference between the two recorded frequencies is the occupied bandwidth (or the 99% emission bandwidth).

7.5 Test Data

Temperature	23 ℃	Humidity	51 %
ATM Pressure	101kPa	Antenna Gain	-1dBi
Test by	LBi Li	Test result	PASS

Please refer to following table and plots.

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Measurement Data

Test CH	20dB Emission Bandwidth (MHz)			Result
	GFSK	π/4-DQPSK	8-DPSK	
Lowest	0.955	1.333	1.312	Pass
Middle	0.953	1.334	1.314	
Highest	0.954	1.334	1.314	

Test CH	99% Occupy Bandwidth (MHz)			Result
	GFSK	π/4-DQPSK	8-DPSK	
Lowest	0.879	1.196	1.19	Pass
Middle	0.871	1.196	1.191	
Highest	0.871	1.194	1.19	

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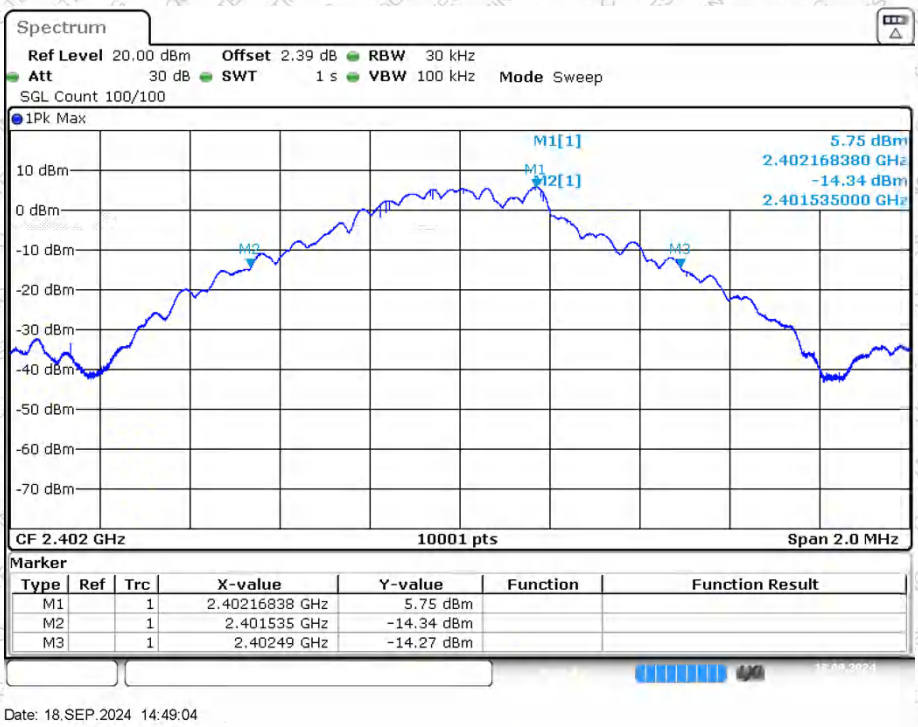
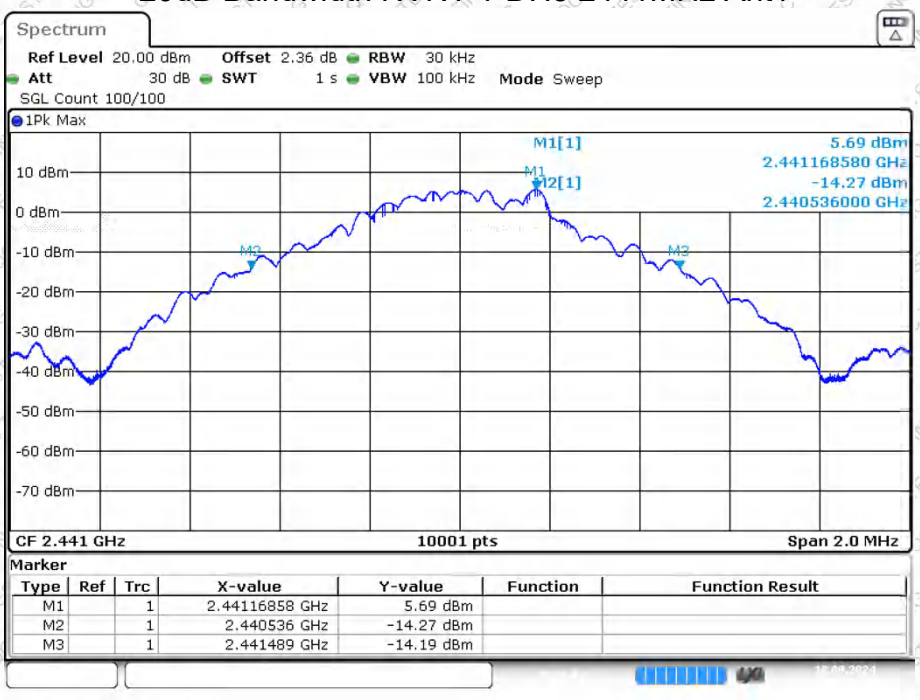
-20dB Bandwidth:

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



Date: 18.SEP.2024 14:49:04

-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



Date: 18.SEP.2024 14:40:41

Address: East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
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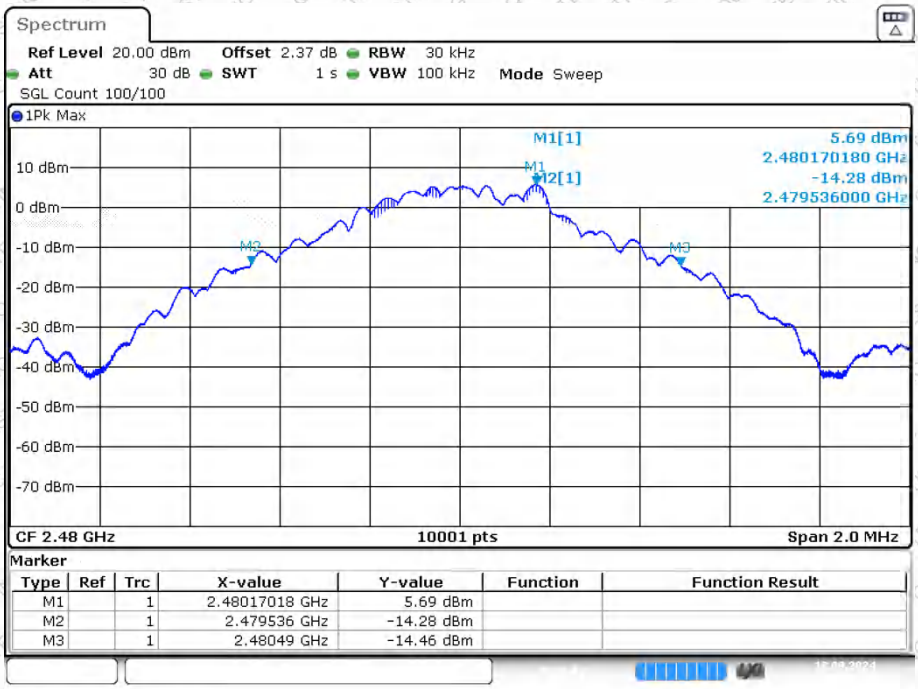
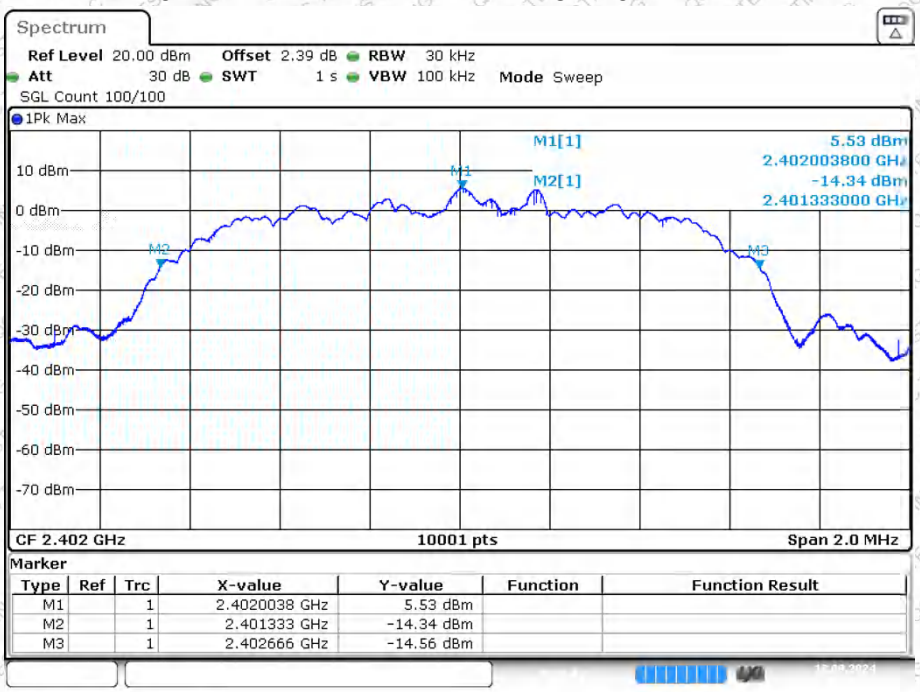
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



Date: 18.SEP.2024 14:32:27

-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



Date: 18.SEP.2024 15:14:54

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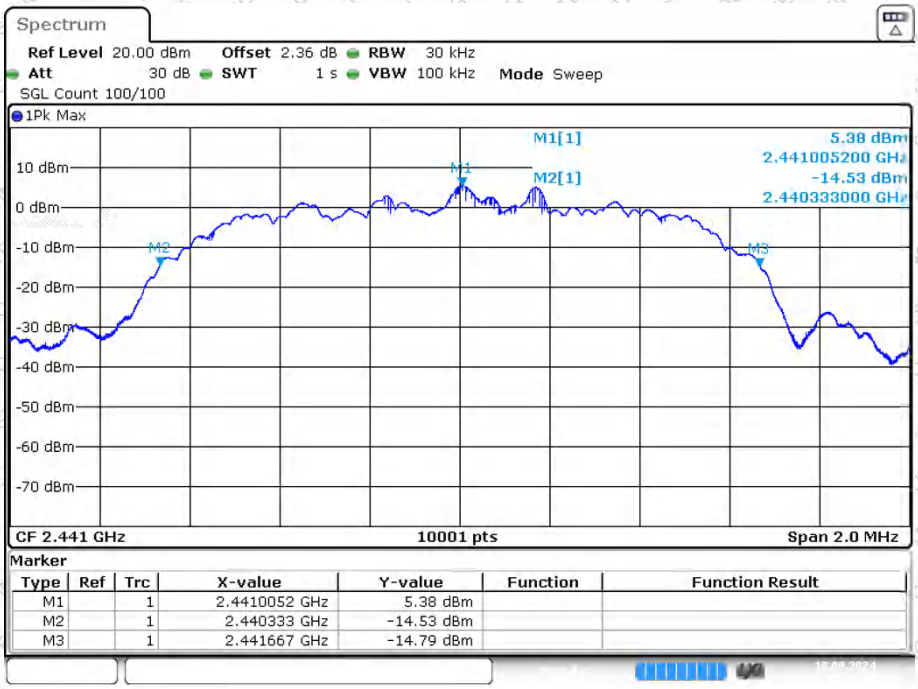
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



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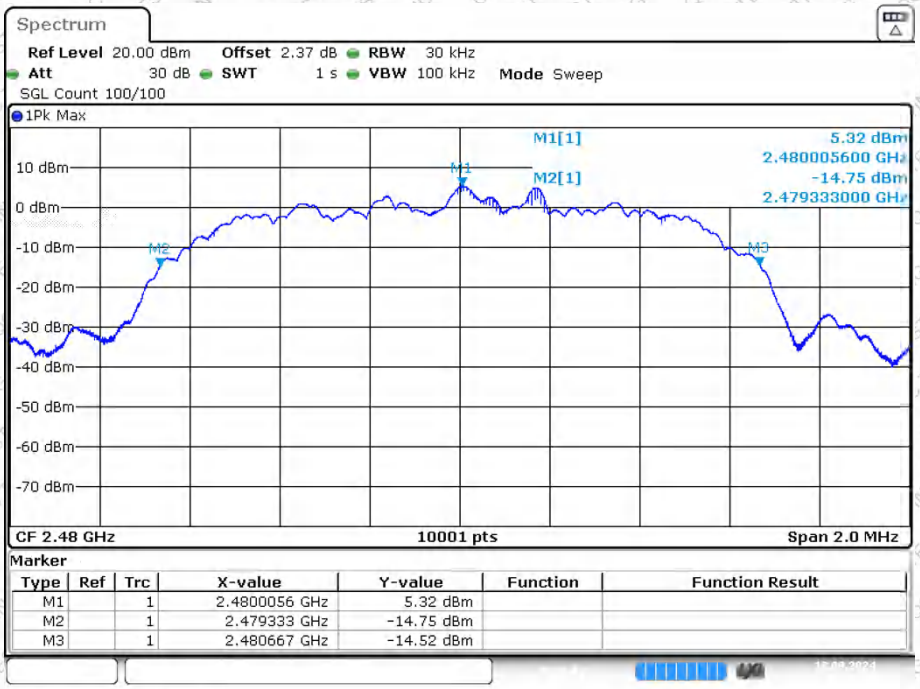

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Address: East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
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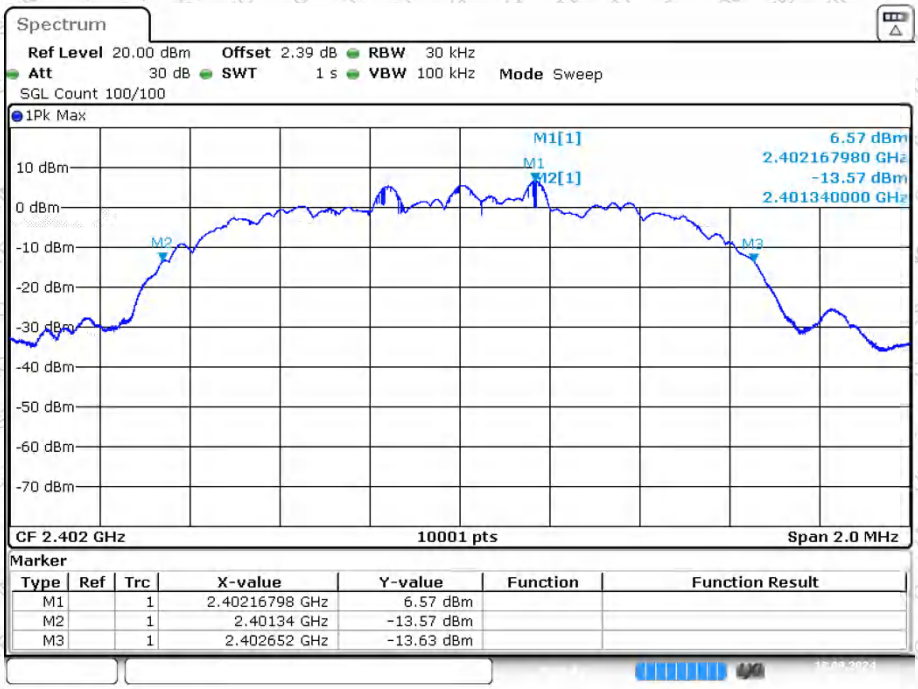
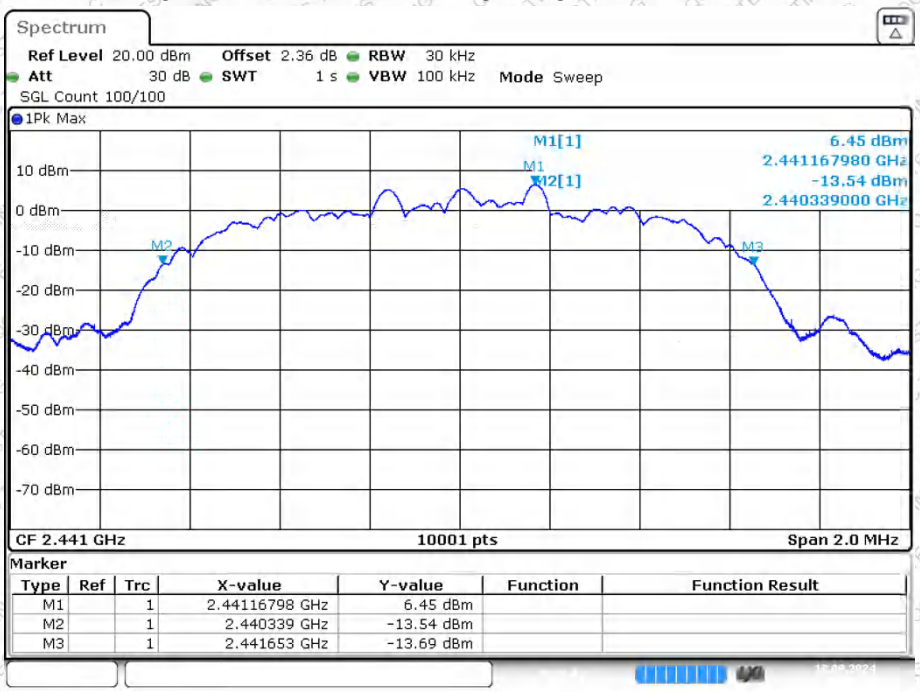
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



Date: 18.SEP.2024 15:46:49

-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



Date: 18.SEP.2024 15:53:20

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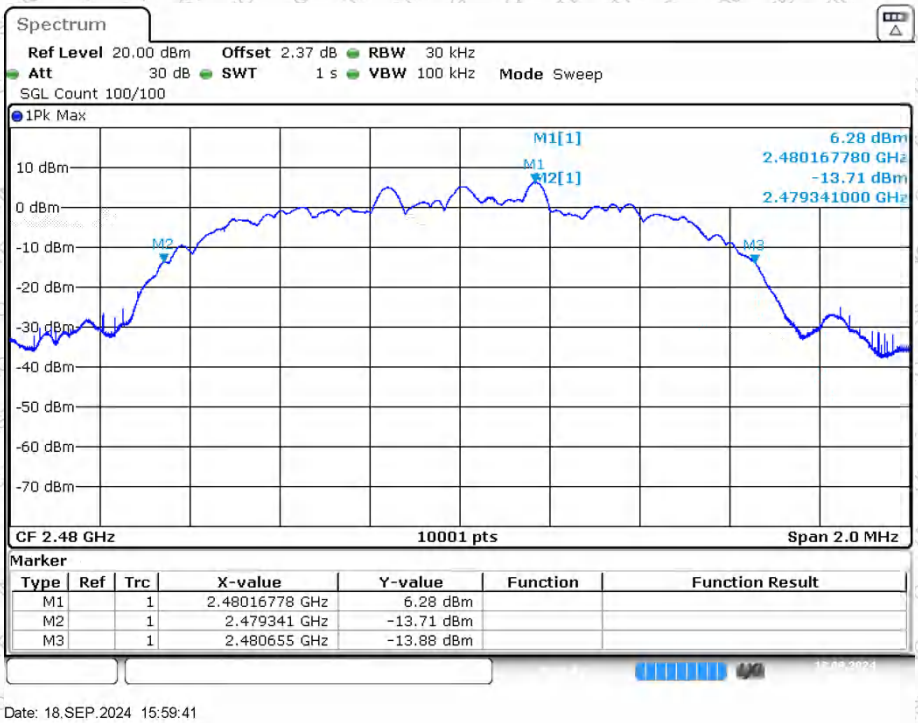
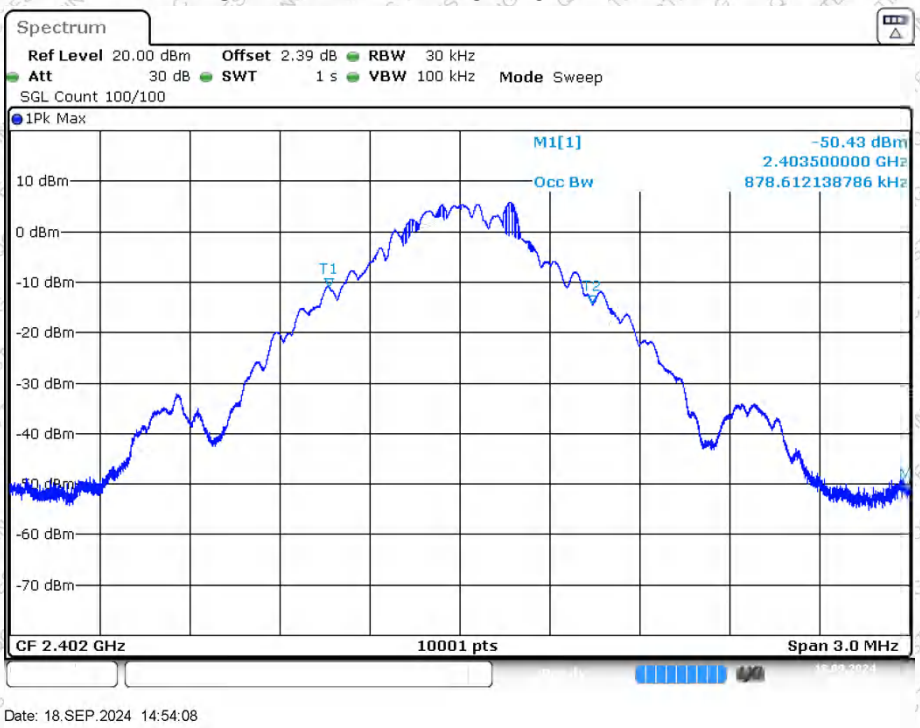
-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1



99% Occupied Bandwidth:

OBW NVNT 1-DH5 2402MHz Ant1



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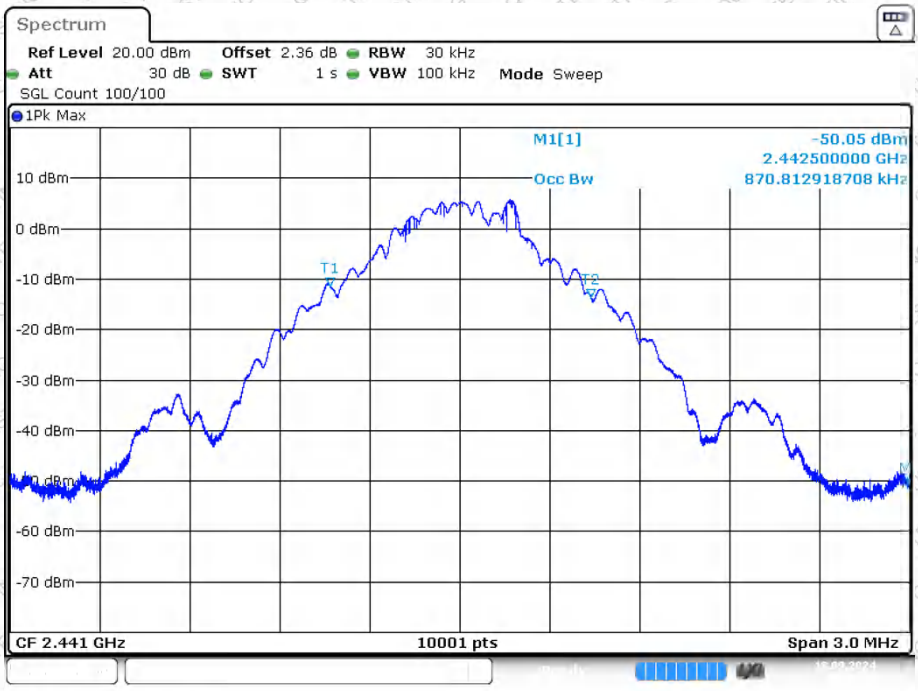
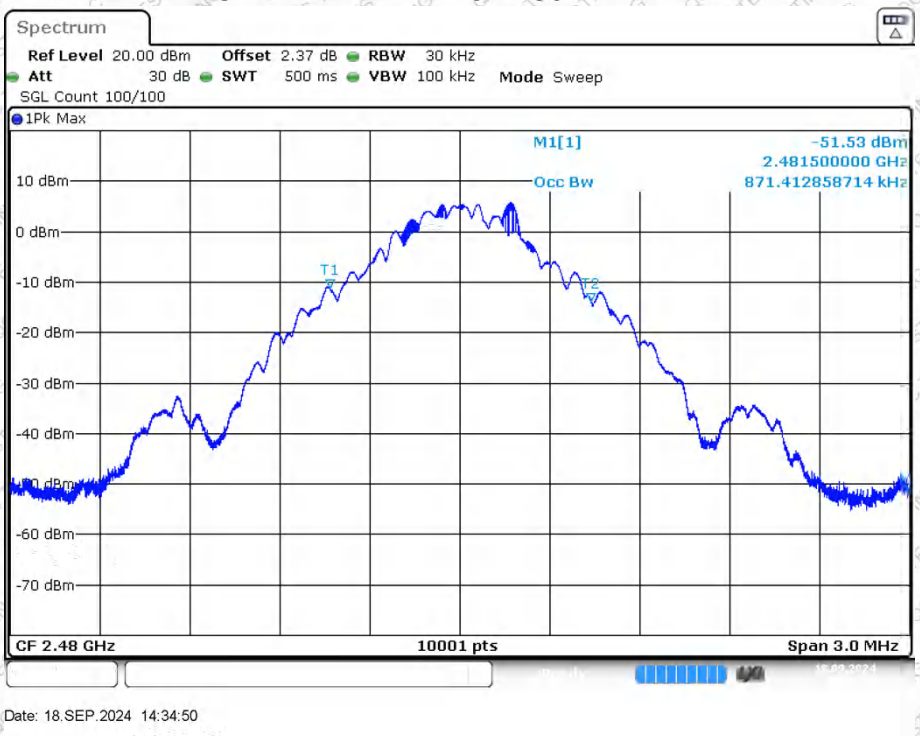
OBW NVNT 1-DH5 2441MHz Ant1



OBW NVNT 1-DH5 2480MHz Ant1



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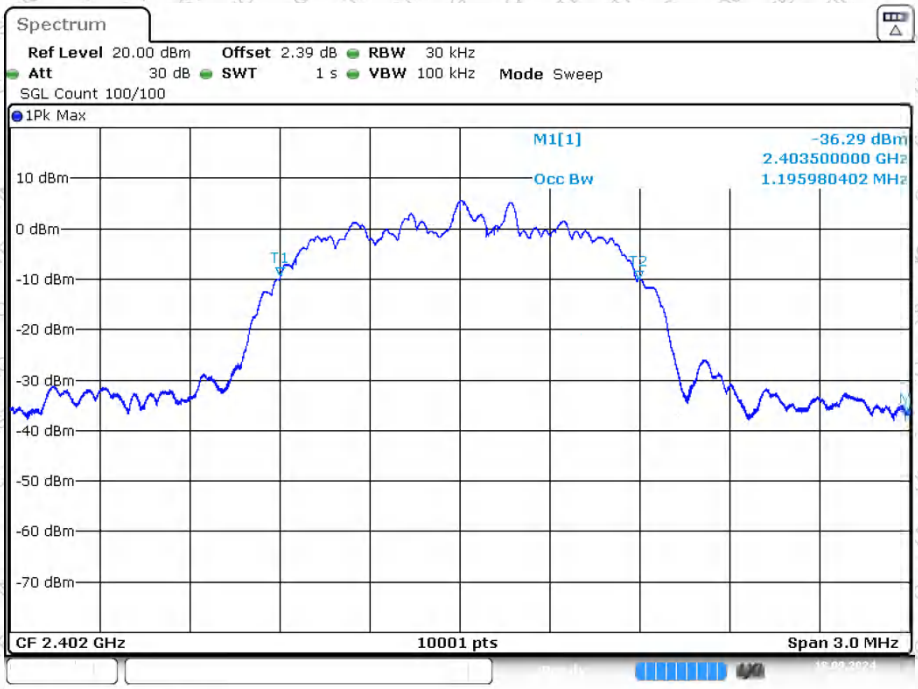
OBW NVNT 2-DH5 2402MHz Ant1



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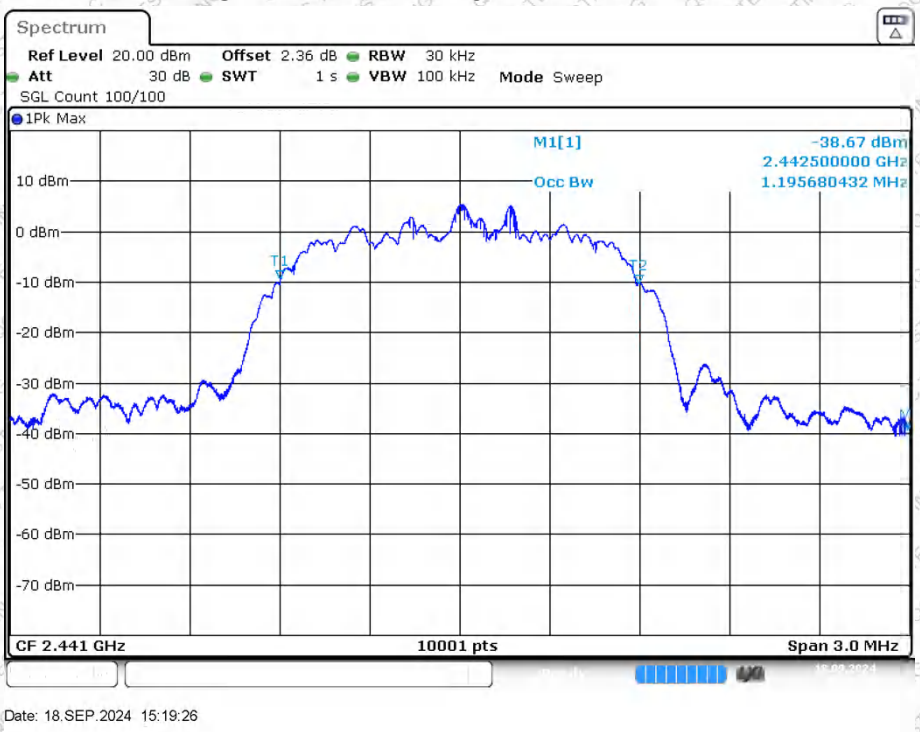

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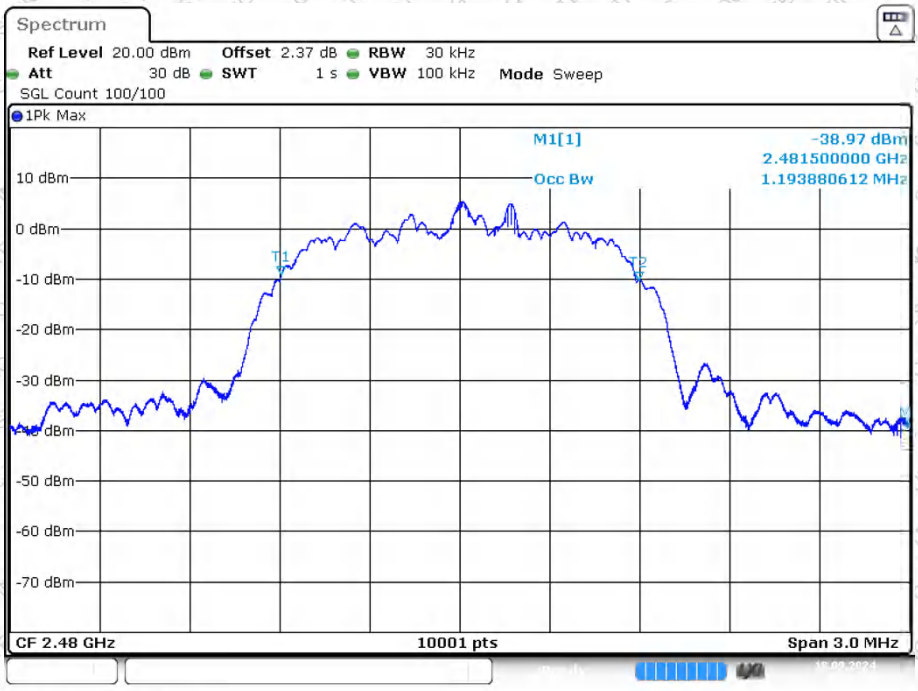
OBW NVNT 2-DH5 2480MHz Ant1



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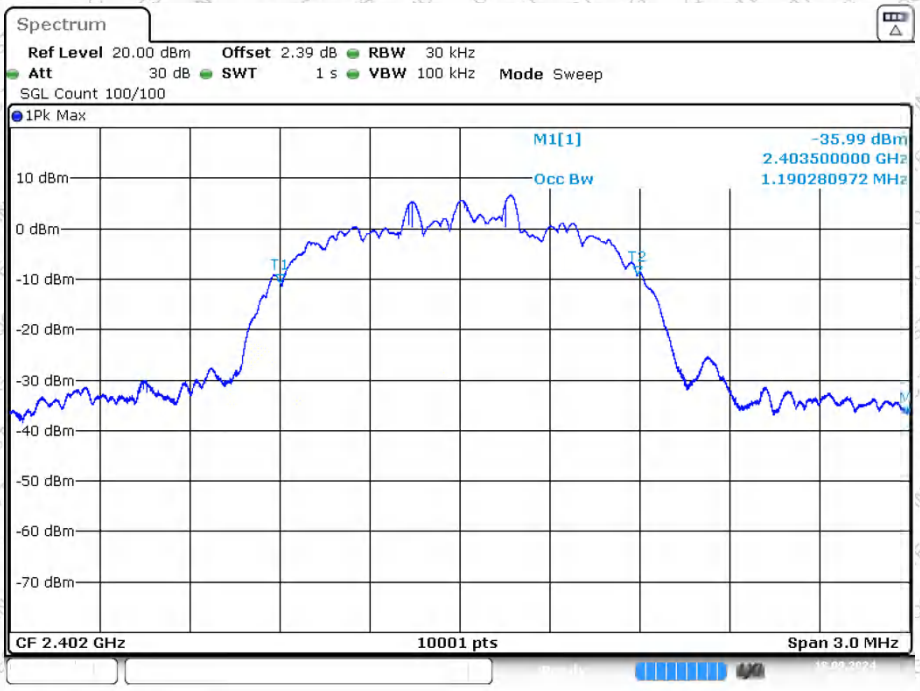

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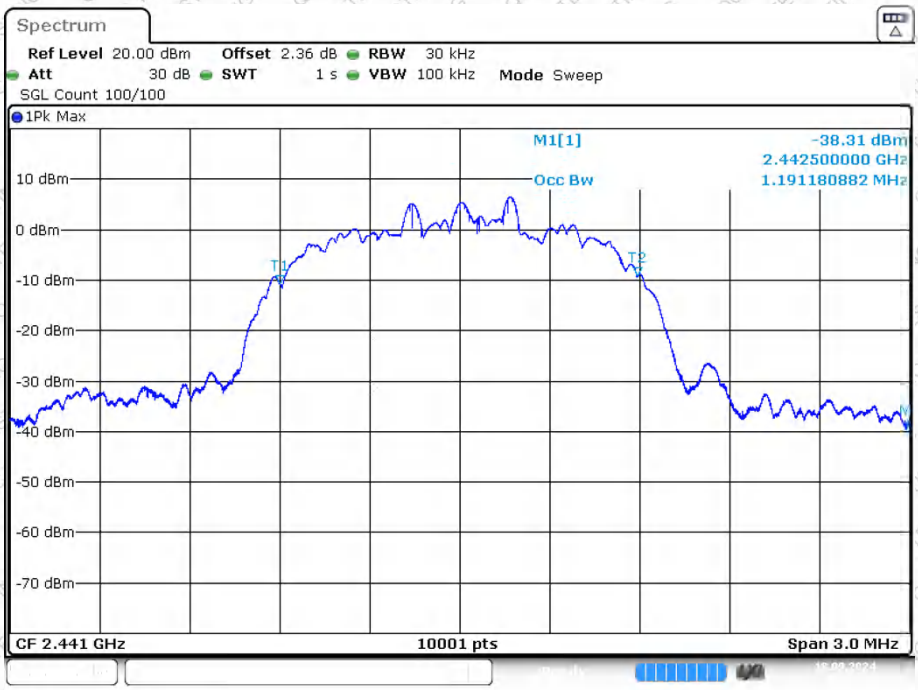
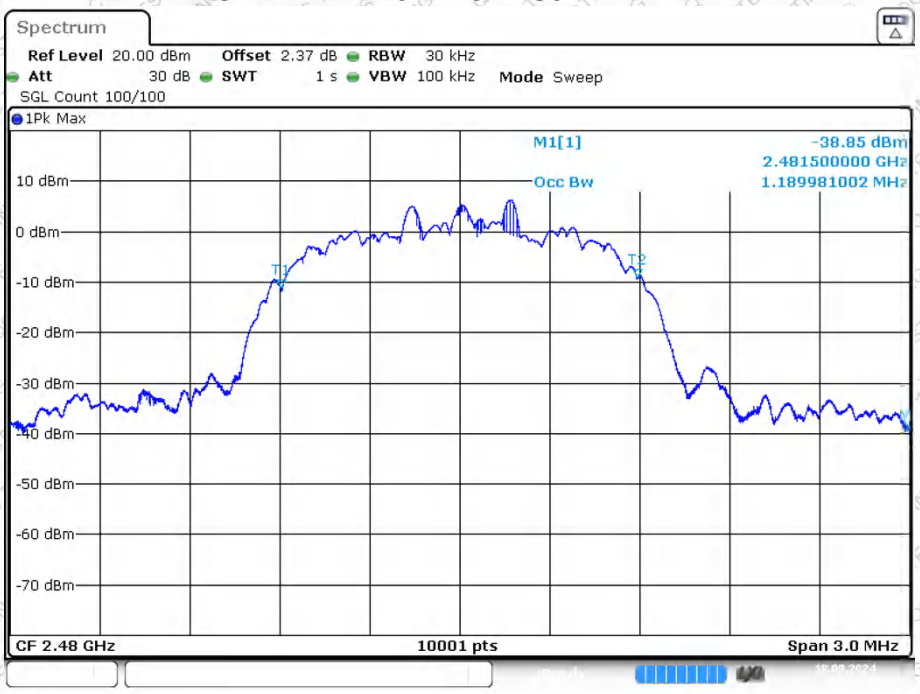
OBW NVNT 3-DH5 2441MHz Ant1



OBW NVNT 3-DH5 2480MHz Ant1



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8. Carrier Frequencies Separation

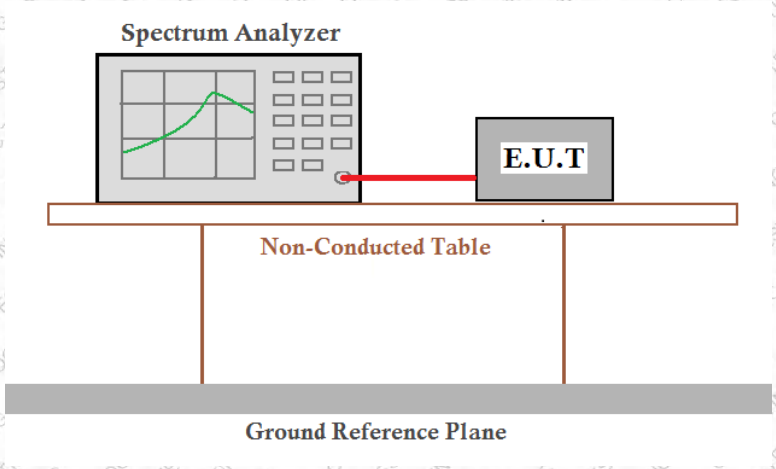
8.1 Applicable Standard

FCC Part15 C Section 15.247 (a)(1)

8.2 Limit

Frequency hopping systems shall have hoping 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 125 mW. The 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.

8.3 Test setup



8.4 Test Procedure

1. Set the EUT in transmitting mode, max hold the channel.
2. Set the adjacent channel of the EUT and max hold another trace.
3. Measure the channel separation.

8.5 Test Data

Temperature	23 ℃	Humidity	51 %
ATM Pressure	101kPa	Antenna Gain	-1dBi
Test by	LBi Li	Test result	PASS

Please refer to following table and plots.

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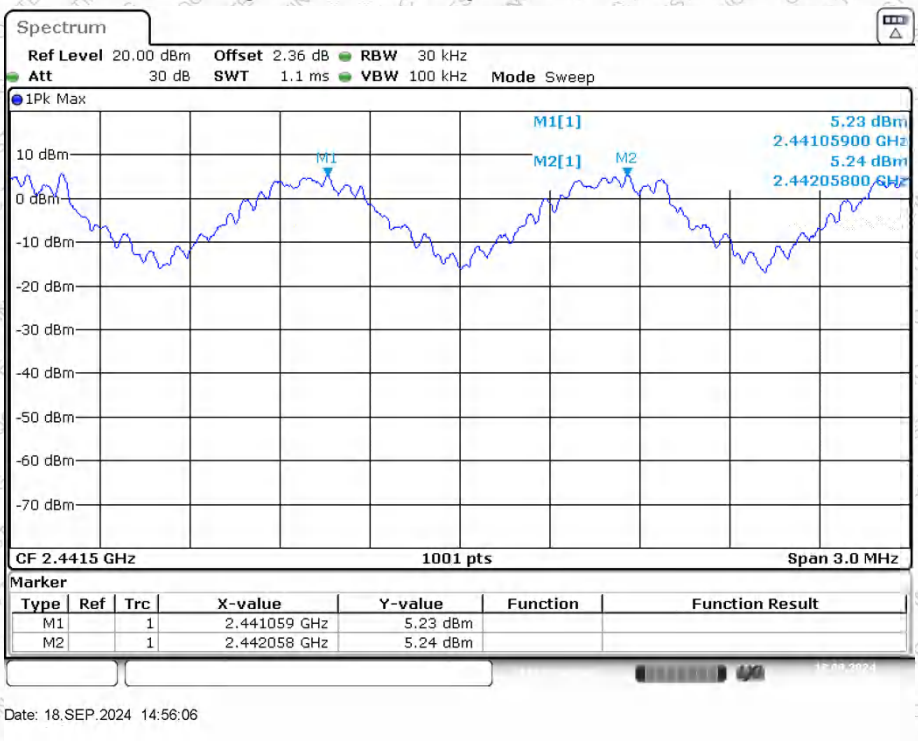
Measurement Data

Mode	Test channel	Carrier Frequencies Separation (kHz)	Limit (kHz)	Result
GFSK	Middle	0.999	635.33	Pass
π/4-DQPSK	Middle	1.167	888.67	Pass
8-DPSK	Middle	1.17	874.67	Pass

Mode	20dB bandwidth (kHz) (worse case)	Limit (kHz) (Carrier Frequencies Separation)
GFSK	0.953	635.33
π/4-DQPSK	1.333	888.67
8-DPSK	1.312	874.67

Note: According to section 7.5
*Limit = (2/3) * 20dB bandwidth*

CFS NVNT 1-DH5 2441MHz Ant1



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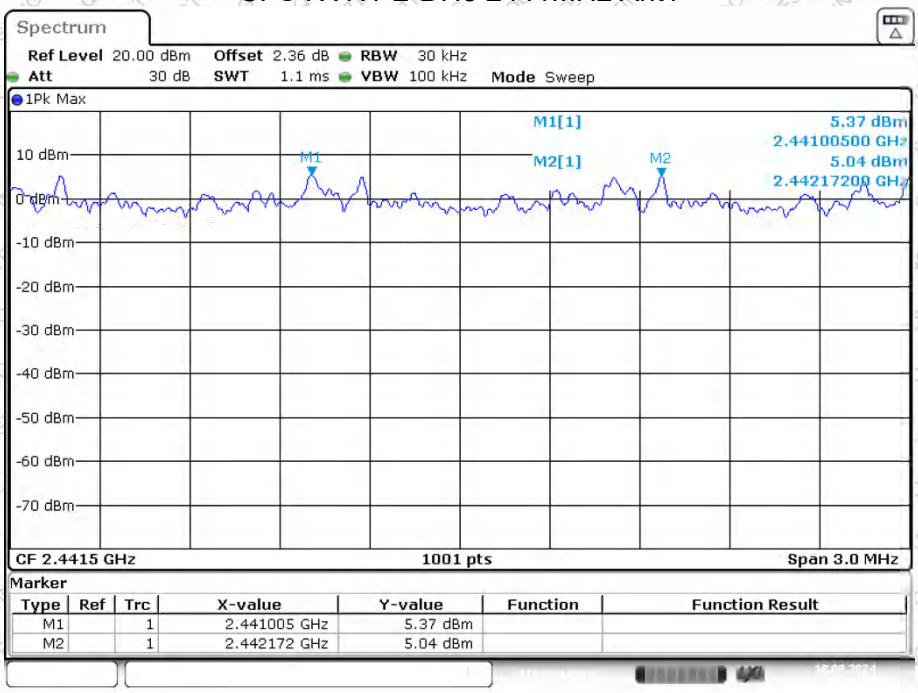
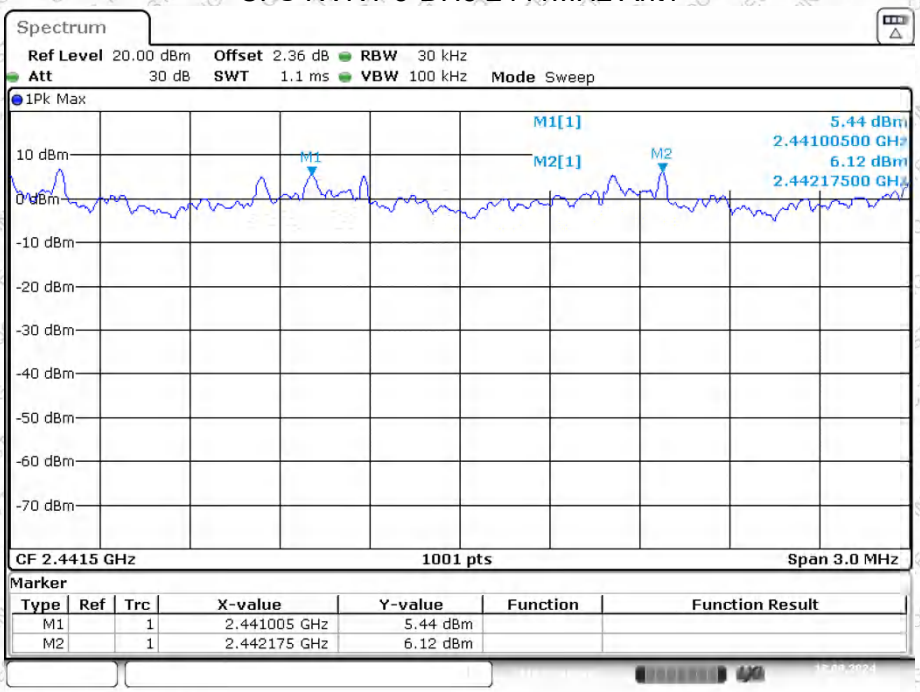
Tel: 0755-23008269 Fax: 0755-23726780 www.qctest.com.cn

CFS NVNT 2-DH5 2441MHz Ant1



Date: 18.SEP.2024 15:05:26

CFS NVNT 3-DH5 2441MHz Ant1



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9. Hopping Channel Number

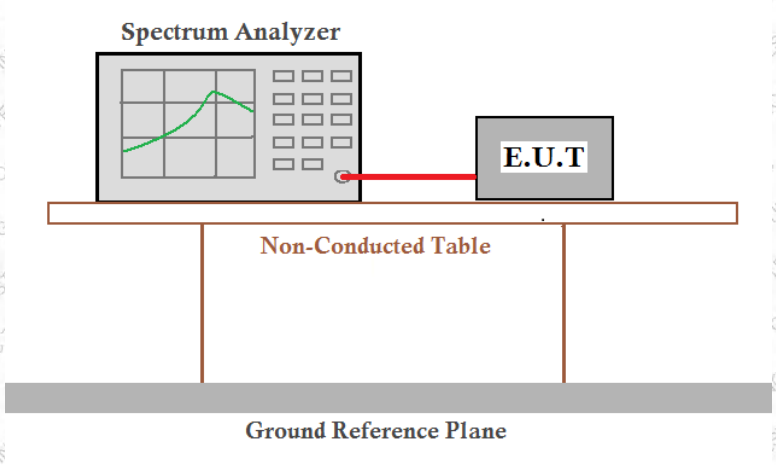
9.1 Applicable Standard

FCC Part15 C Section 15.247 (a) (1) (iii)

9.2 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.

9.3 Test setup



9.4 Test Procedure

1. Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.
2. Set the EUT in hopping mode from first channel to last.
3. By using the max-hold function record the quantity of the channel.

9.5 Test Data

Temperature	23 ℃	Humidity	51 %
ATM Pressure	101kPa	Antenna Gain	-1dBi
Test by	LBi Li	Test result	PASS

Please refer to following table and plots.

Measurement Data:

Mode	Hopping channel numbers	Limit	Result
GFSK	79	15	Pass
π/4-DQPSK	79	15	Pass
8-DPSK	79	15	Pass

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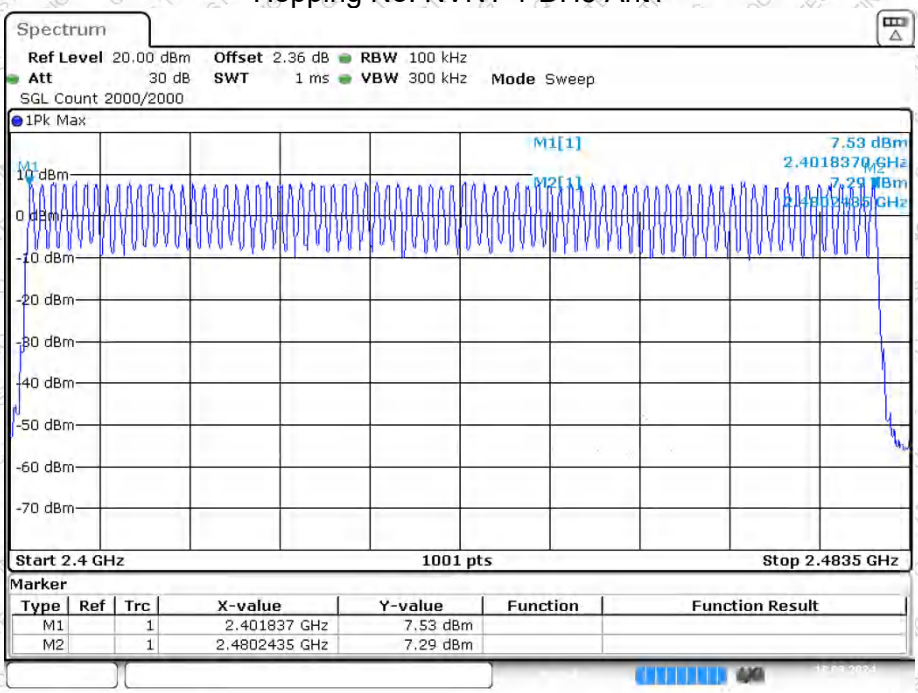
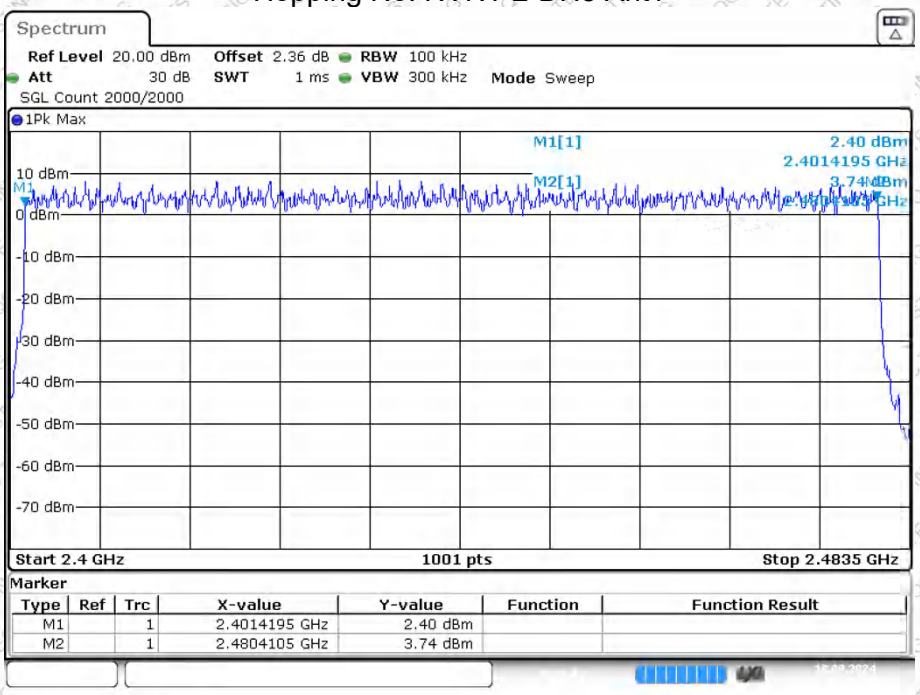
Hopping No. NVNT 1-DH5 Ant1



Date: 18.SEP.2024 14:56:14

Hopping No. NVNT 2-DH5 Ant1



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Address: East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
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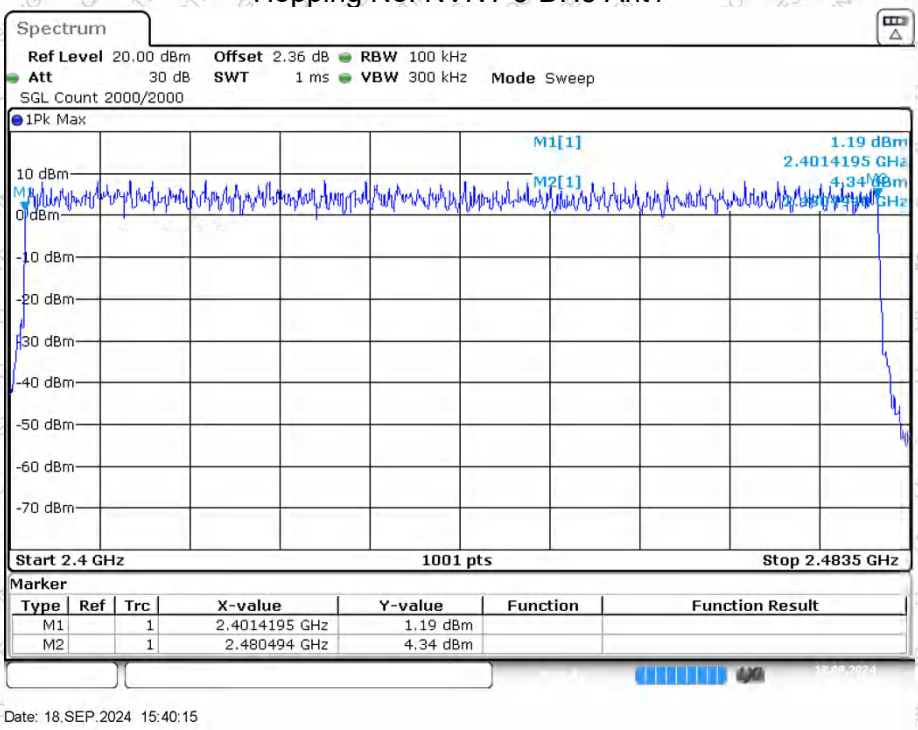
Hopping No. NVNT 3-DH5 Ant1



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10. Dwell Time

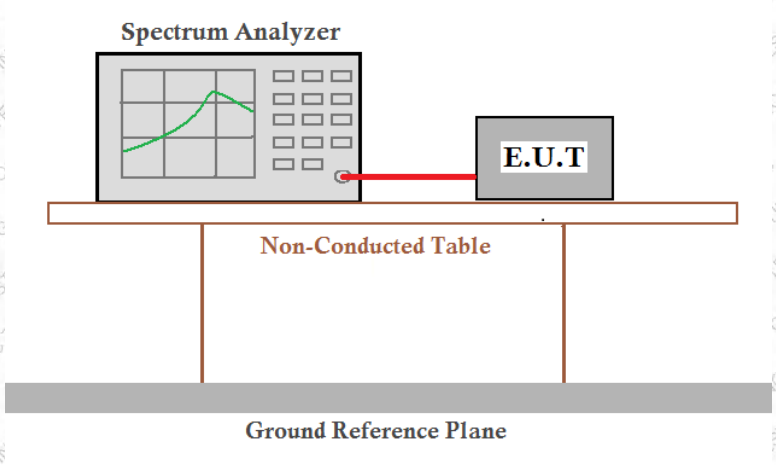
10.1 Applicable Standard

FCC Part15 C Section 15.247 (a)(1)(iii)

10.2 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.

10.3 Test setup



10.4 Test Data

Temperature	23 ℃	Humidity	51 %
ATM Pressure	101kPa	Antenna Gain	-1dBi
Test by	LBi Li	Test result	PASS

Please refer to following table and plots.

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Mode	Channel	Burst Width [ms]	Total Hops [Num]	Result[s]	Limit[s]	Result
DH1	Hop	0.364	319	116.116	<=0.4	PASS
DH3	Hop	1.623	159	258.057	<=0.4	PASS
DH5	Hop	2.871	107	307.197	<=0.4	PASS
2DH1	Hop	0.365	320	116.8	<=0.4	PASS
2DH3	Hop	1.608	159	255.672	<=0.4	PASS
2DH5	Hop	2.861	107	306.127	<=0.4	PASS
3DH1	Hop	0.241	319	76.879	<=0.4	PASS
3DH3	Hop	1.492	159	237.228	<=0.4	PASS
3DH5	Hop	2.742	105	287.91	<=0.4	PASS

Note: The test period: T= 0.4 Second/Channel x 79 Channel = 31.6 s.

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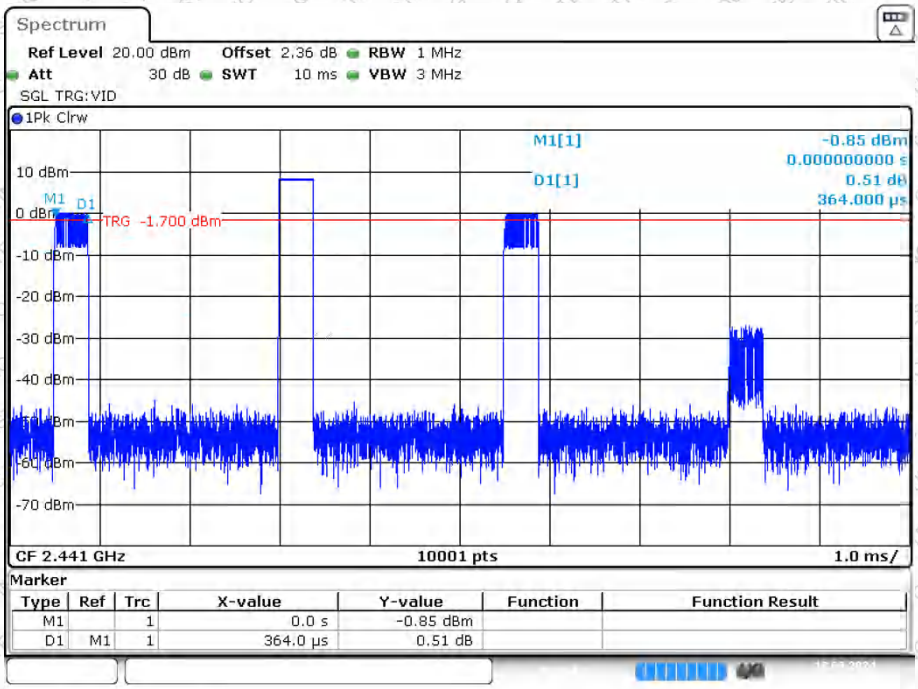
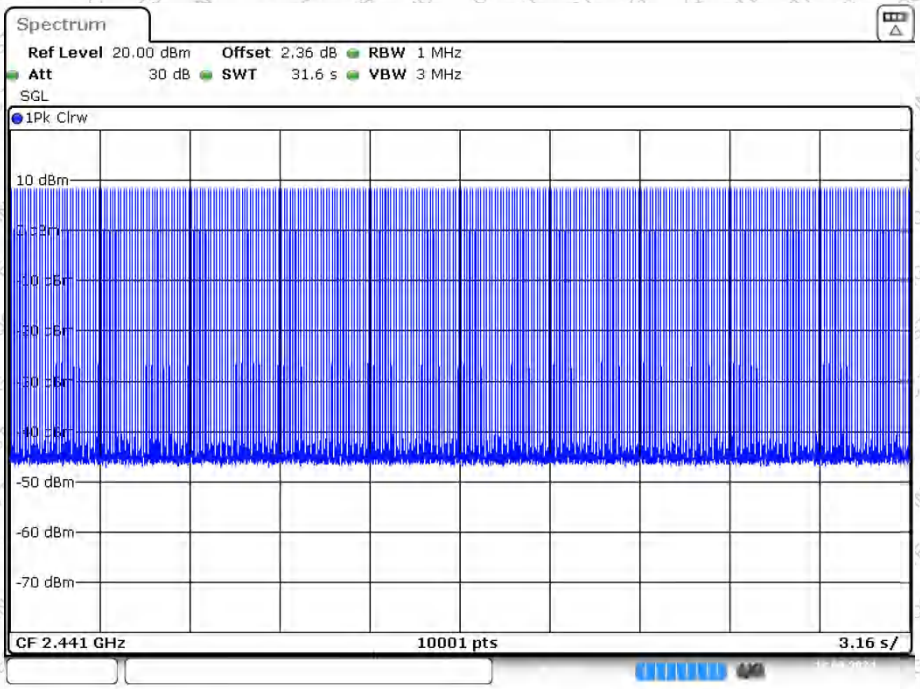
Dwell NVNT 1-DH1 2441MHz Ant1 One Burst



Date: 18.SEP.2024 14:58:01

Dwell NVNT 1-DH1 2441MHz Ant1 Accumulated



Date: 18.SEP.2024 14:58:34

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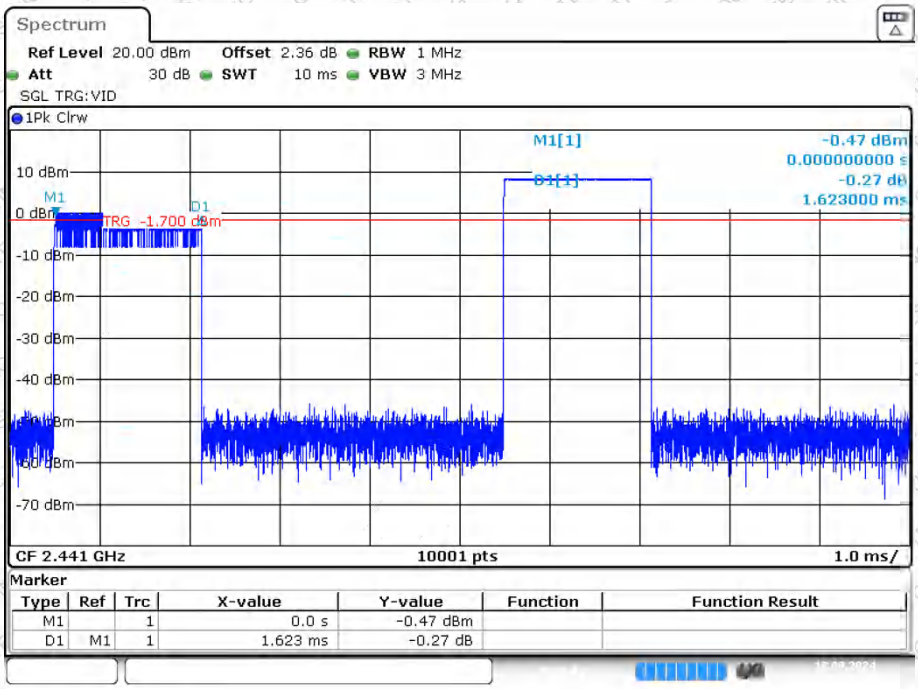
Dwell NVNT 1-DH3 2441MHz Ant1 One Burst



Date: 18.SEP.2024 14:59:00

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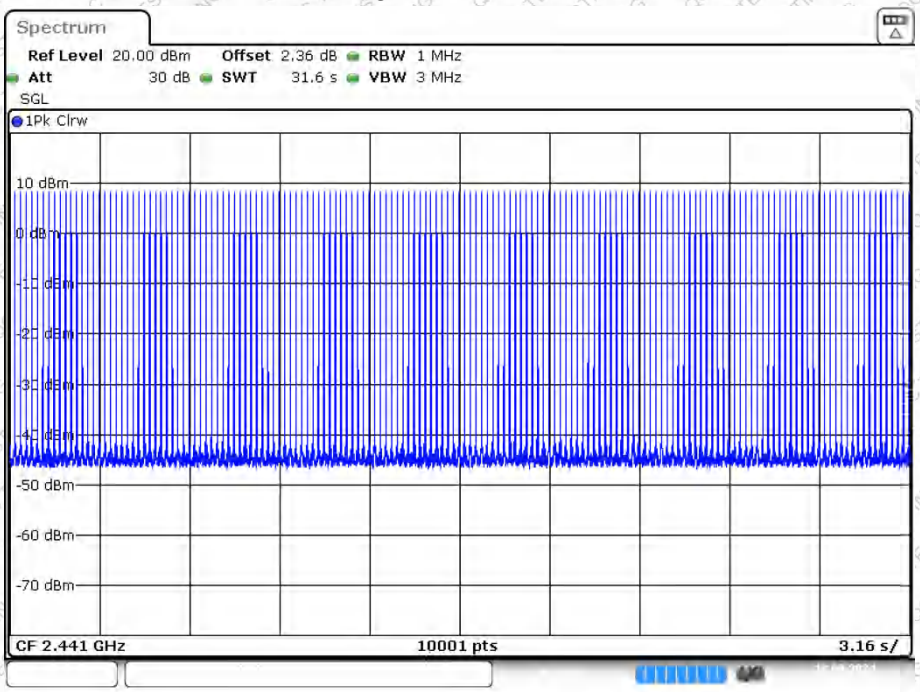

Date: 18.SEP.2024 14:59:33

Address: East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
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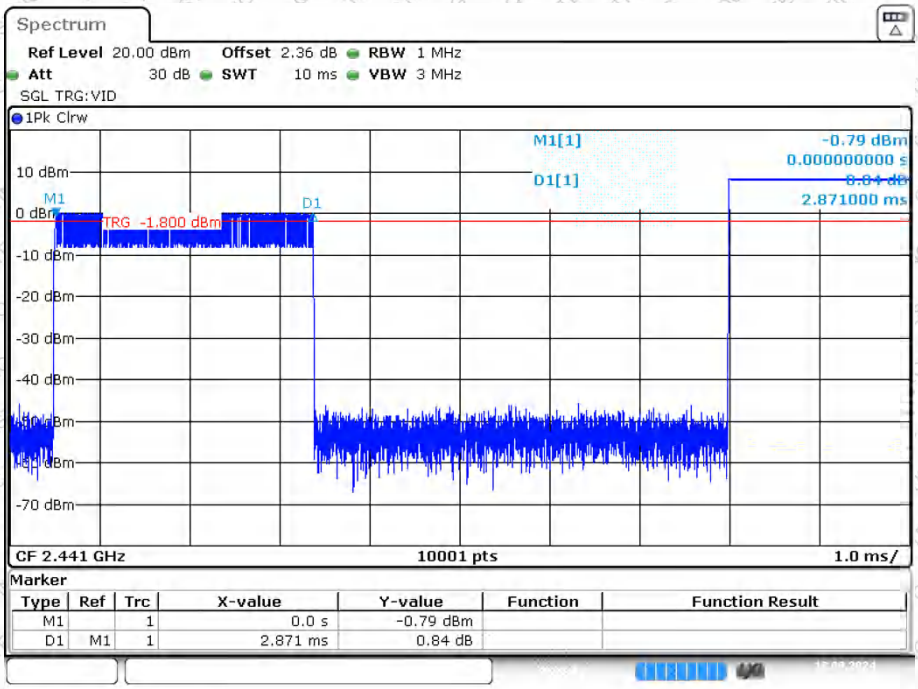
Dwell NVNT 1-DH5 2441MHz Ant1 One Burst



Date: 18.SEP.2024 14:56:19

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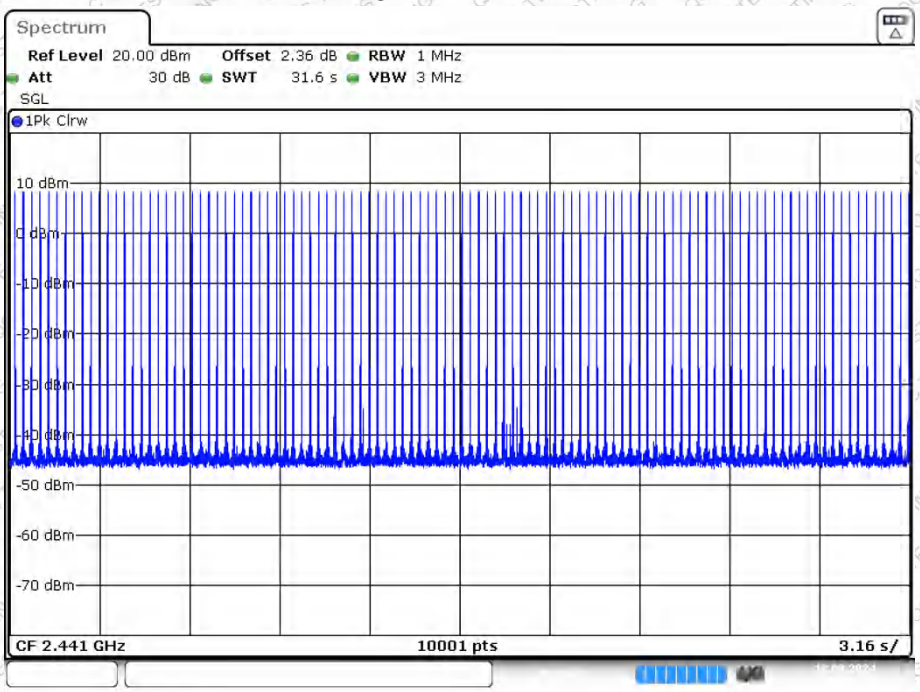

Date: 18.SEP.2024 14:56:52

Address: East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
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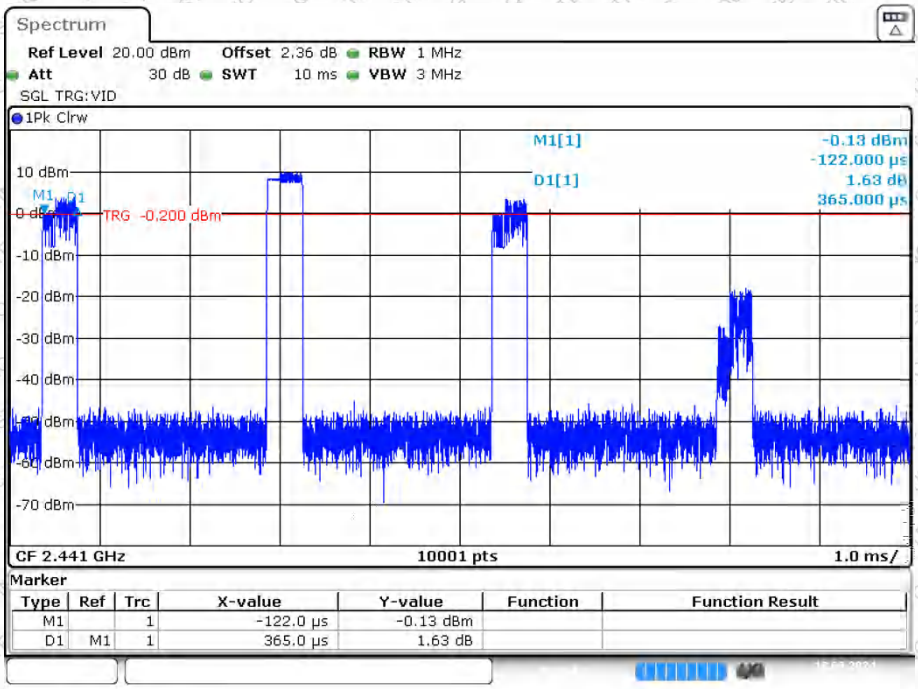
Dwell NVNT 2-DH1 2441MHz Ant1 One Burst



Date: 18.SEP.2024 15:00:20

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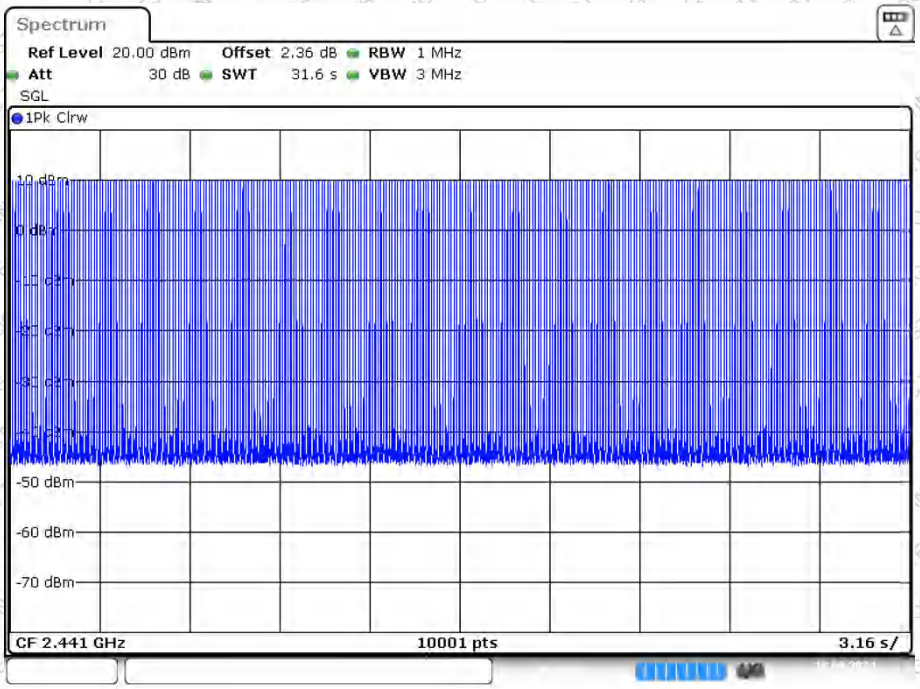

Date: 18.SEP.2024 15:00:53

Address: East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
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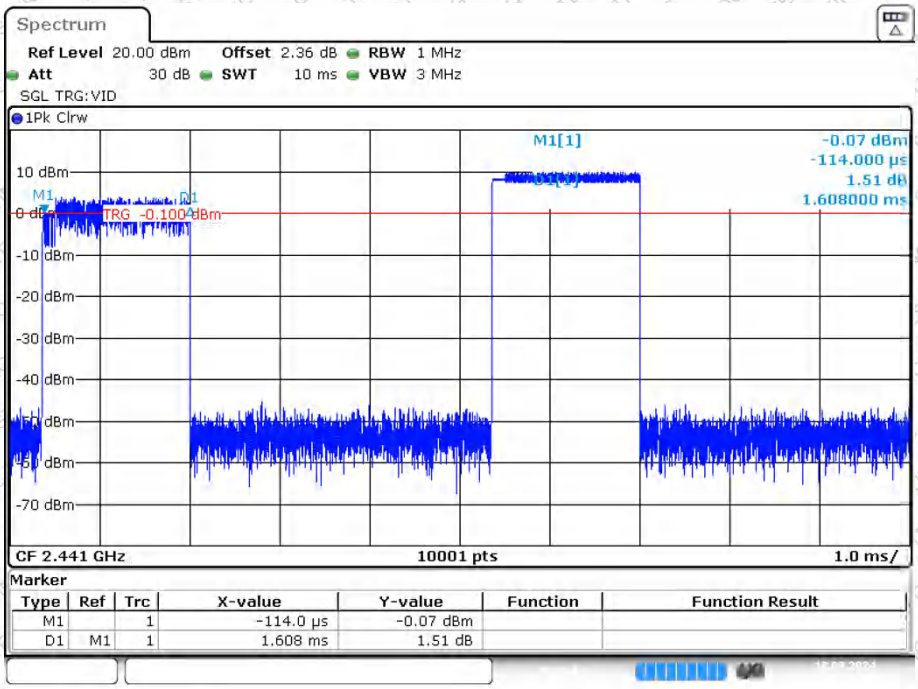
Dwell NVNT 2-DH3 2441MHz Ant1 One Burst



Date: 18.SEP.2024 15:01:12

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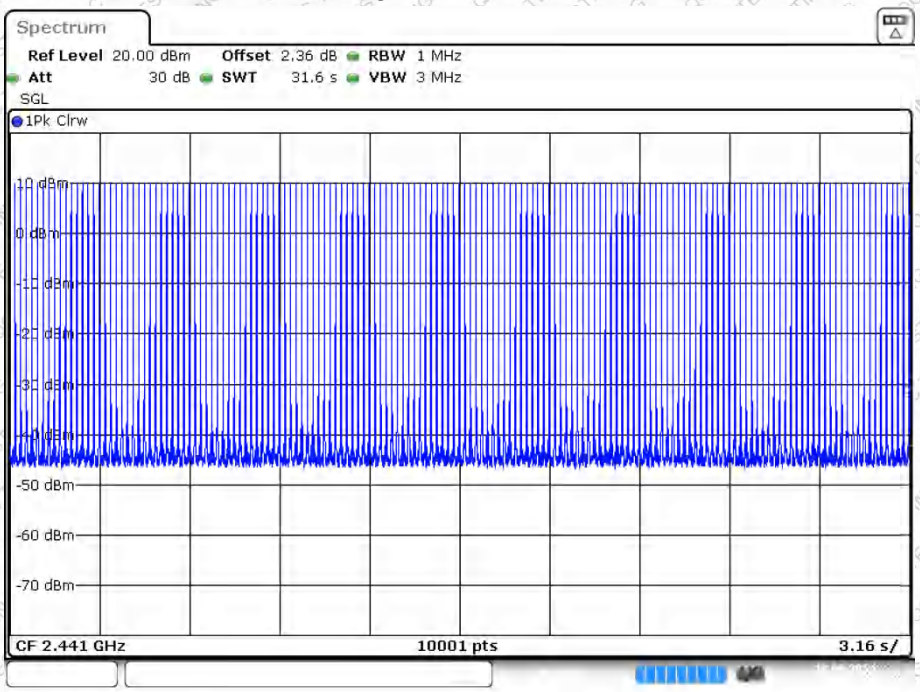

Date: 18.SEP.2024 15:01:45

Address: East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
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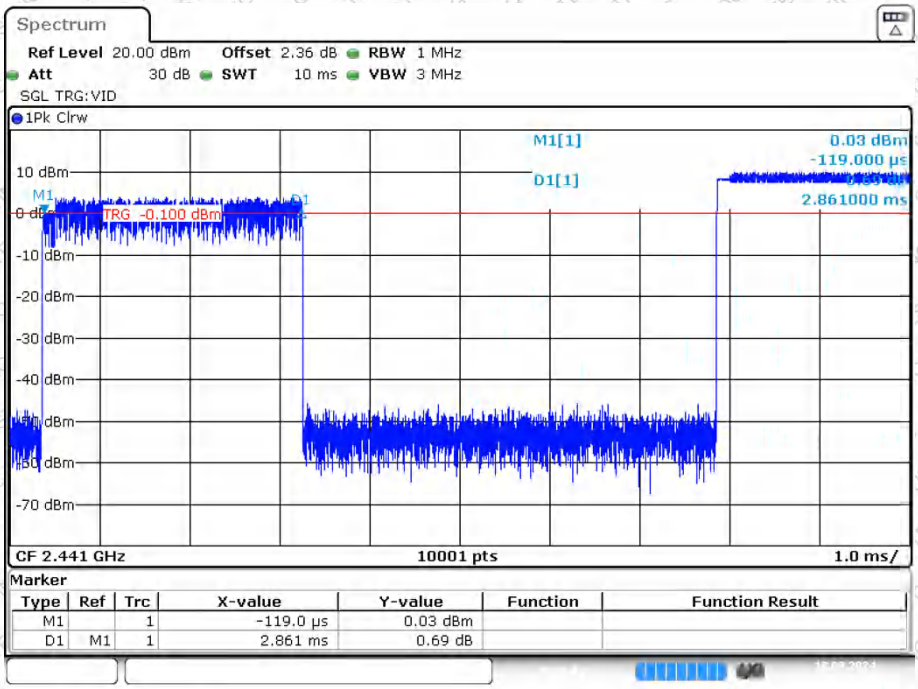
Dwell NVNT 2-DH5 2441MHz Ant1 One Burst



Date: 18.SEP.2024 15:05:40

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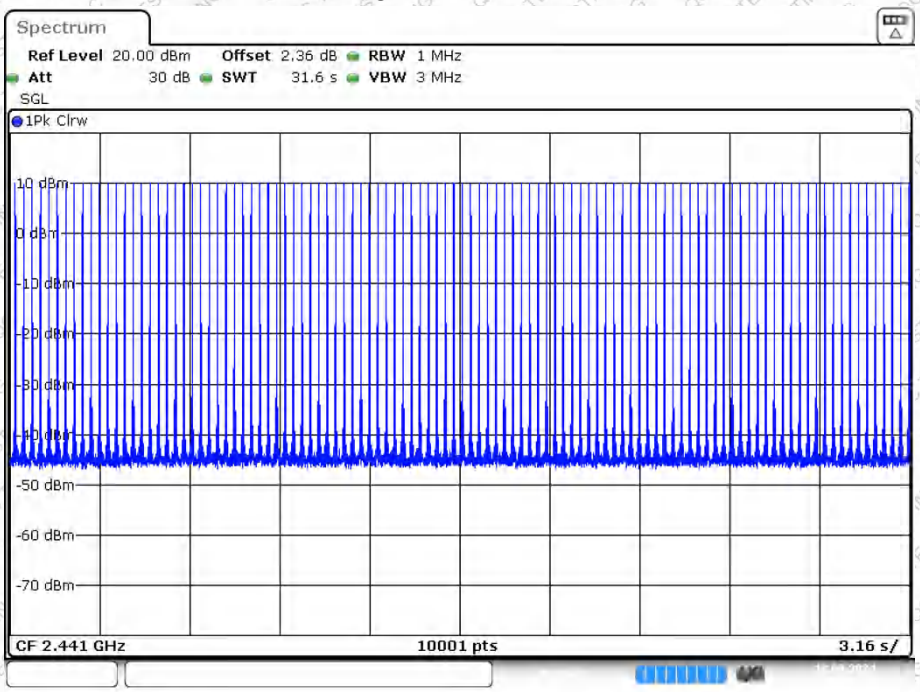

Date: 18.SEP.2024 15:06:13

Address: East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
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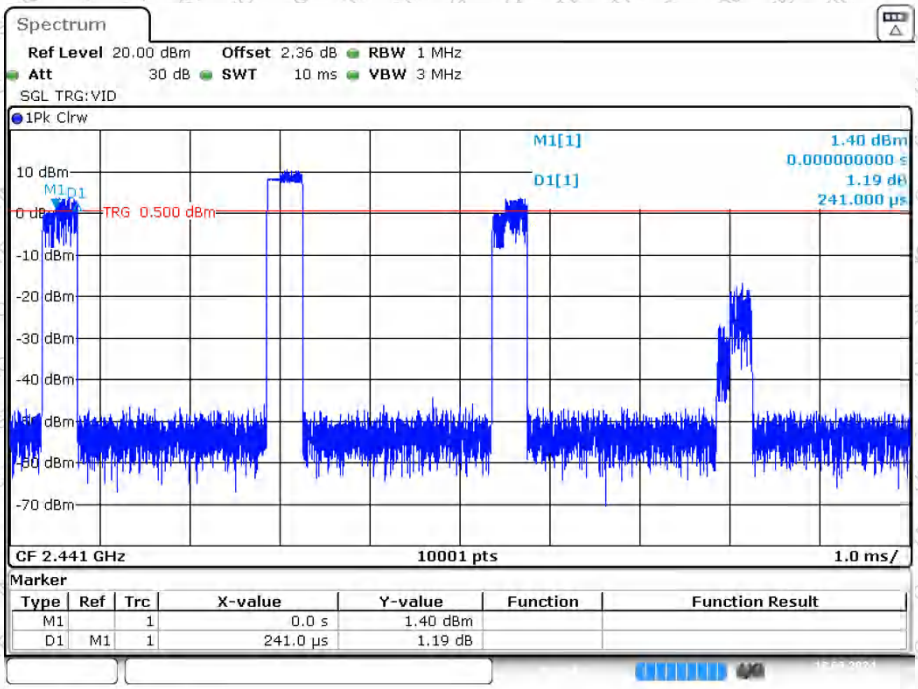
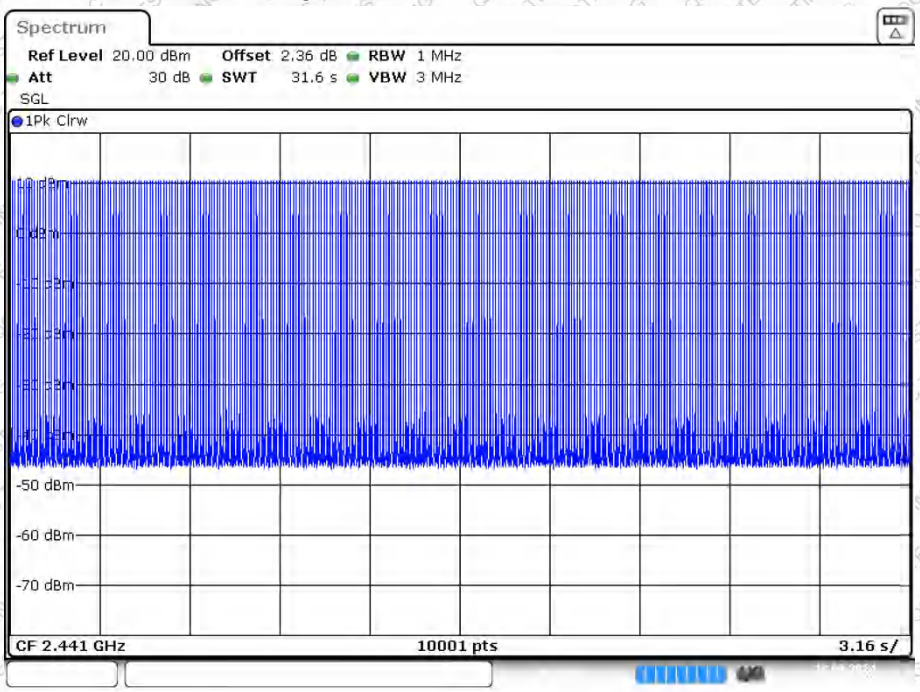
Dwell NVNT 3-DH1 2441MHz Ant1 One Burst



Date: 18.SEP.2024 15:36:22

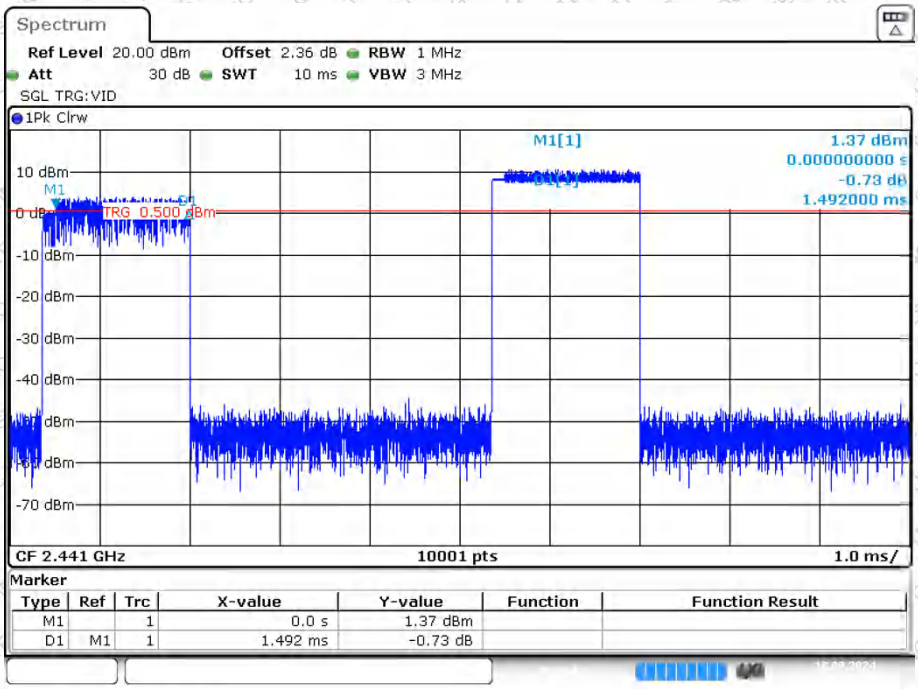
Dwell NVNT 3-DH1 2441MHz Ant1 Accumulated



Date: 18.SEP.2024 15:36:54

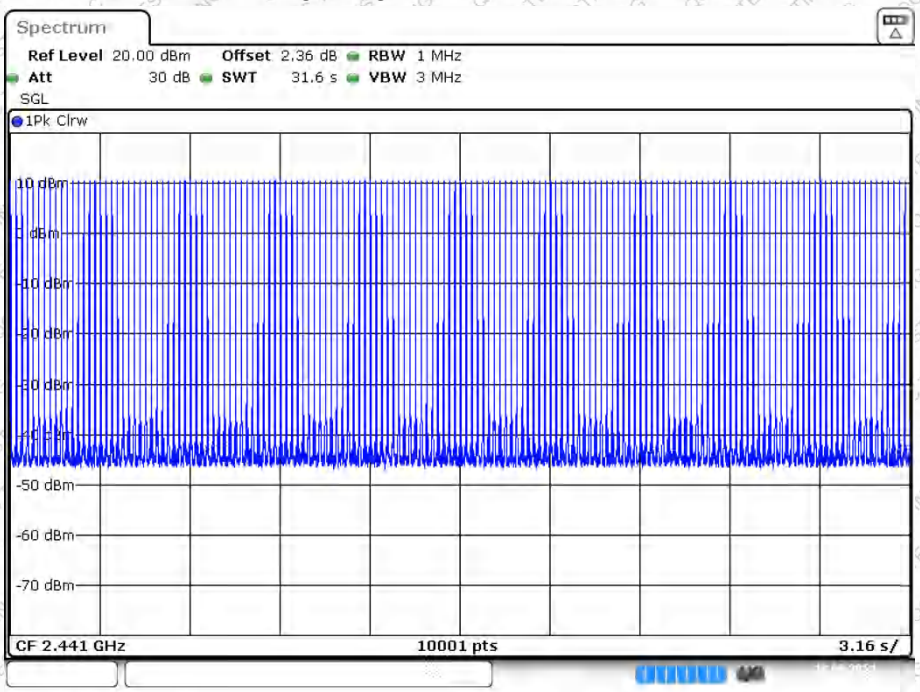
Address: East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
Tel: 0755-23008269 Fax: 0755-23726780 www.qctest.com.cn

Dwell NVNT 3-DH3 2441MHz Ant1 One Burst



Date: 18.SEP.2024 15:37:36

Dwell NVNT 3-DH3 2441MHz Ant1 Accumulated



Date: 18.SEP.2024 15:38:09

Address: East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
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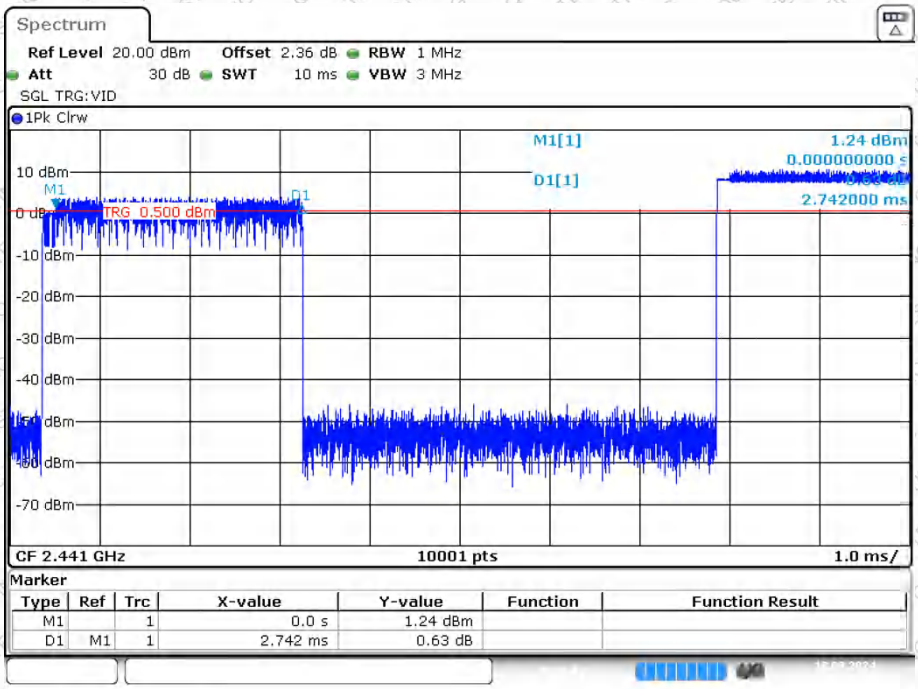
Dwell NVNT 3-DH5 2441MHz Ant1 One Burst



Date: 18.SEP.2024 15:40:21

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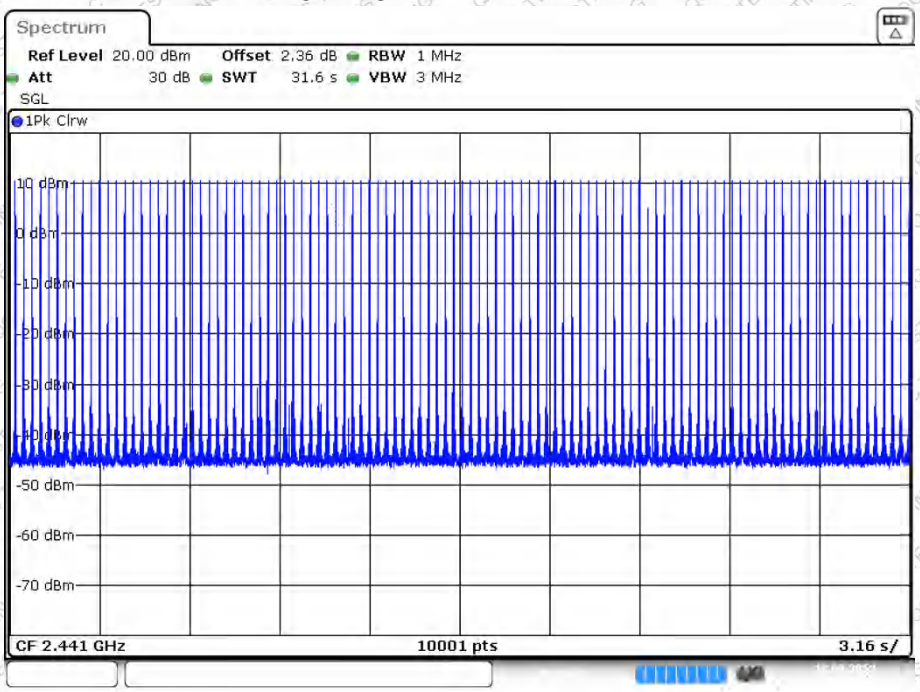

Date: 18.SEP.2024 15:40:54

Address: East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
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11. Spurious Emission in Non-restricted & restricted Bands

11.1 Conducted Emission Method

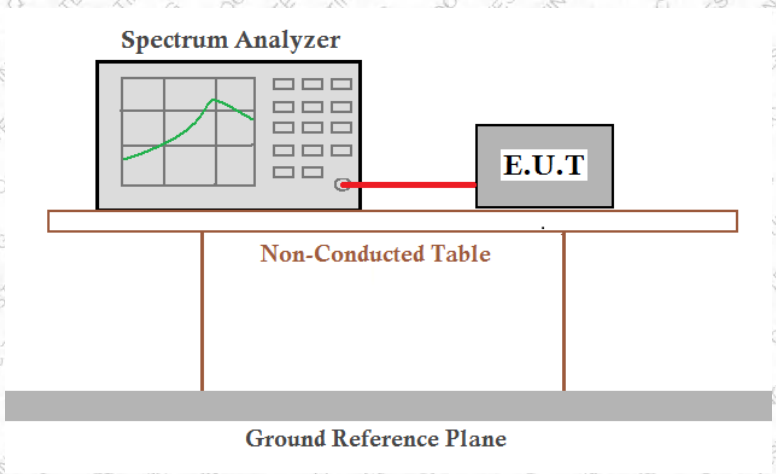
11.1.1 Applicable Standard

FCC Part15 C Section 15.247 (d)

11.1.2 Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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.

11.1.3 Test setup



11.1.4 Test Procedure

- Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
- Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
- Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
- Repeat above procedures until all measured frequencies were complete.

11.1.5 Test Data

Temperature	23 ℃	Humidity	51 %
ATM Pressure	101kPa	Antenna Gain	-1dBi
Test by	LBi Li	Test result	PASS

Please refer to following plots.

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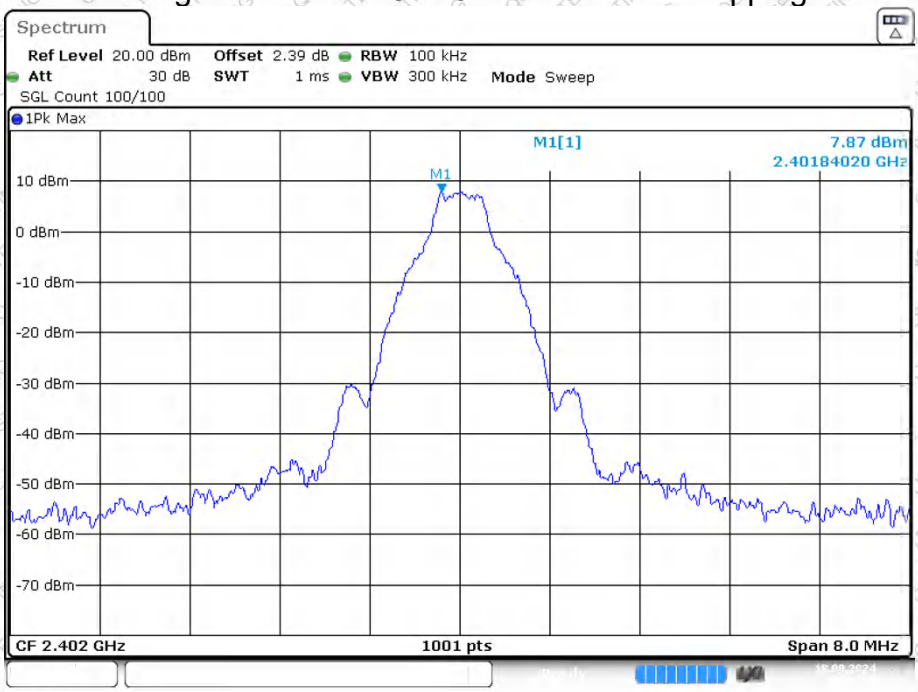
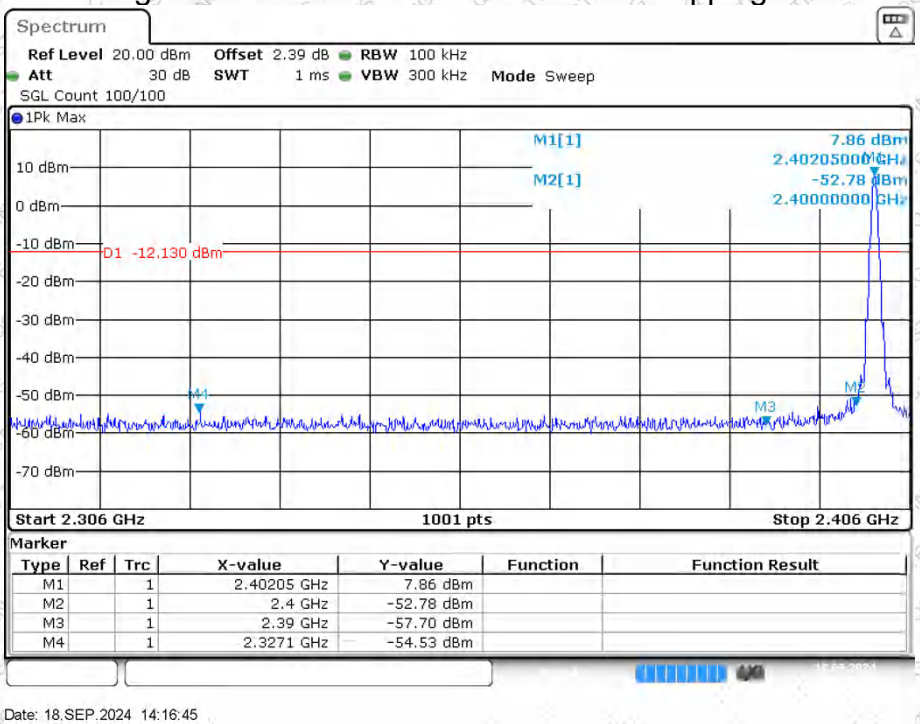
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



Date: 18.SEP.2024 14:16:43

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



Date: 18.SEP.2024 14:16:45

Address: East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
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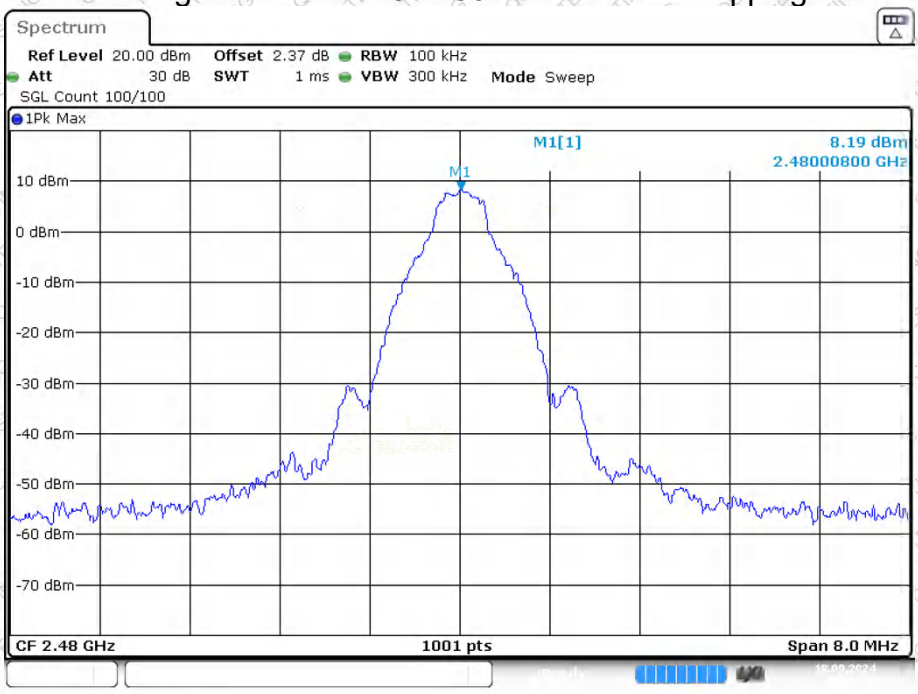
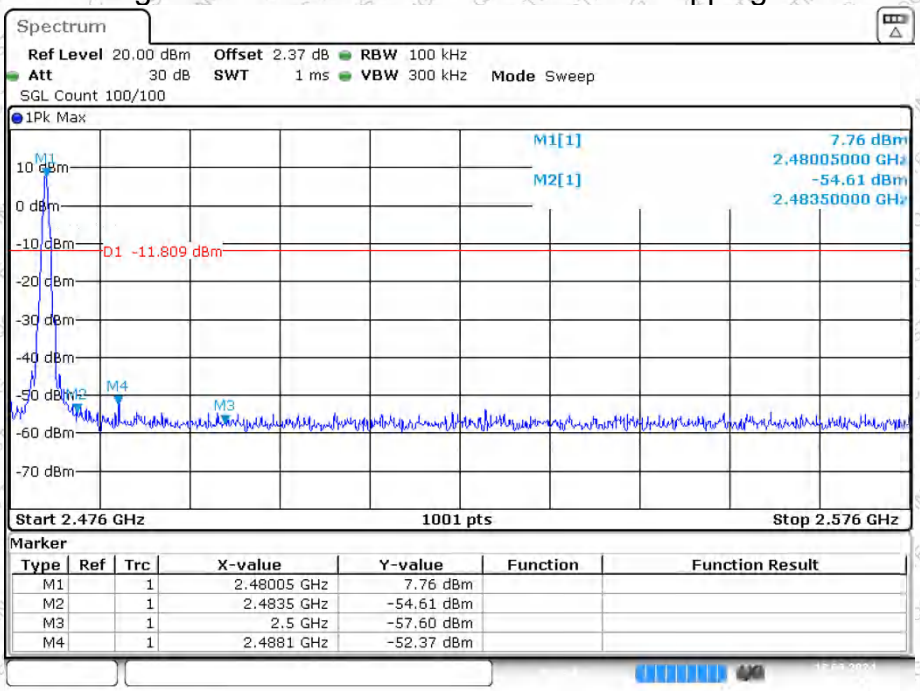
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



Date: 18.SEP.2024 14:18:44

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



Date: 18.SEP.2024 14:18:45

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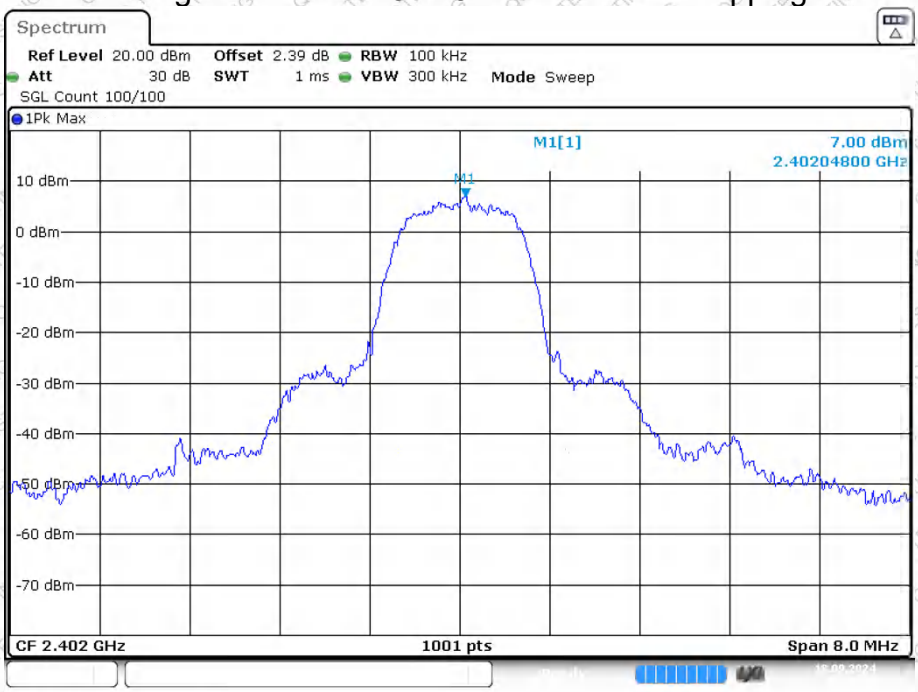
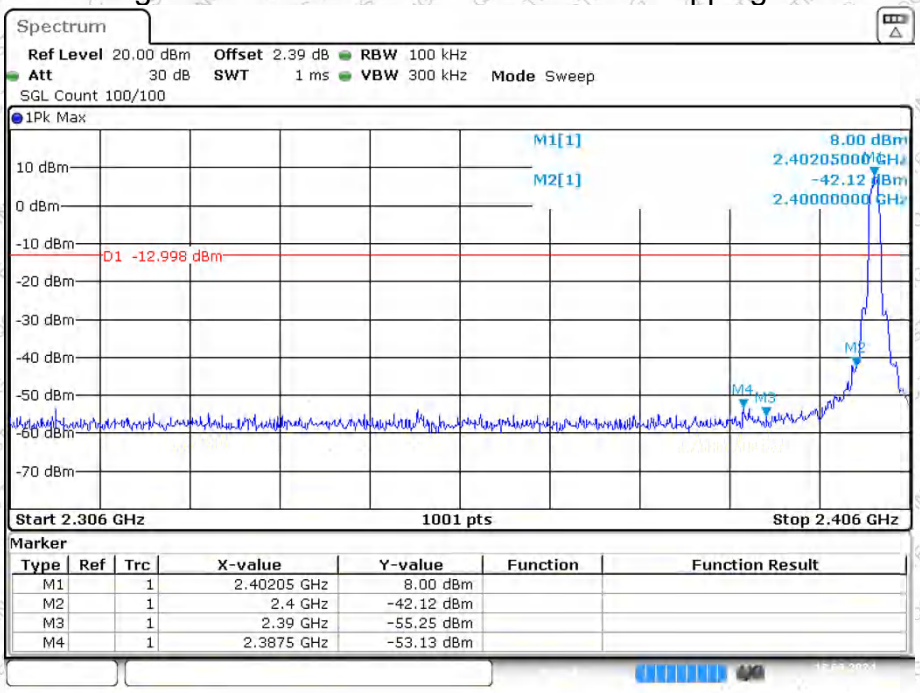
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



Date: 18.SEP.2024 15:14:59

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



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40205 GHz	8.00 dBm		
M2		1	2.4 GHz	-42.12 dBm		
M3		1	2.39 GHz	-55.25 dBm		
M4		1	2.3875 GHz	-53.13 dBm		

Date: 18.SEP.2024 15:15:01

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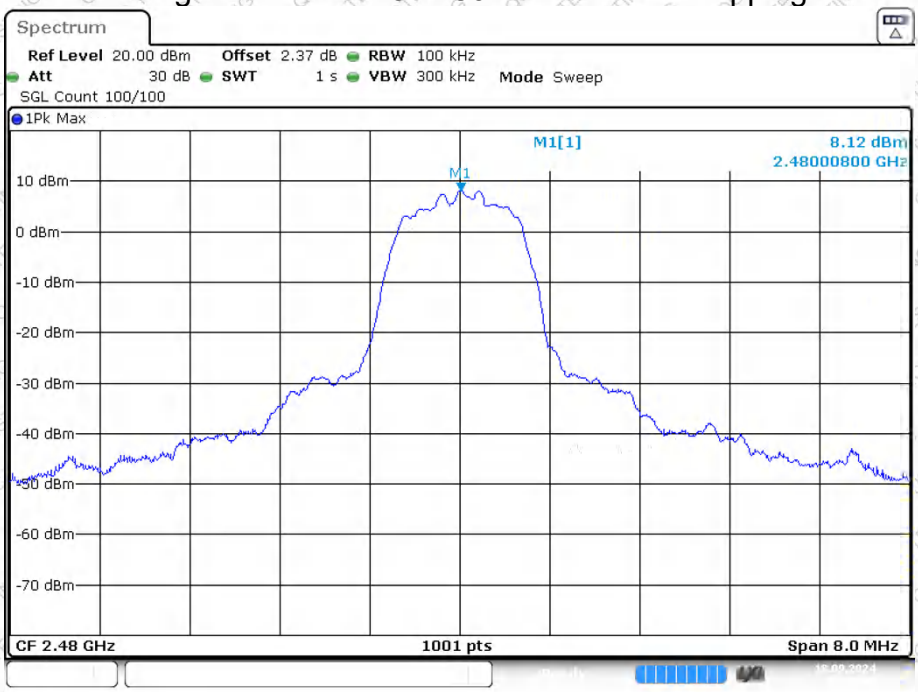
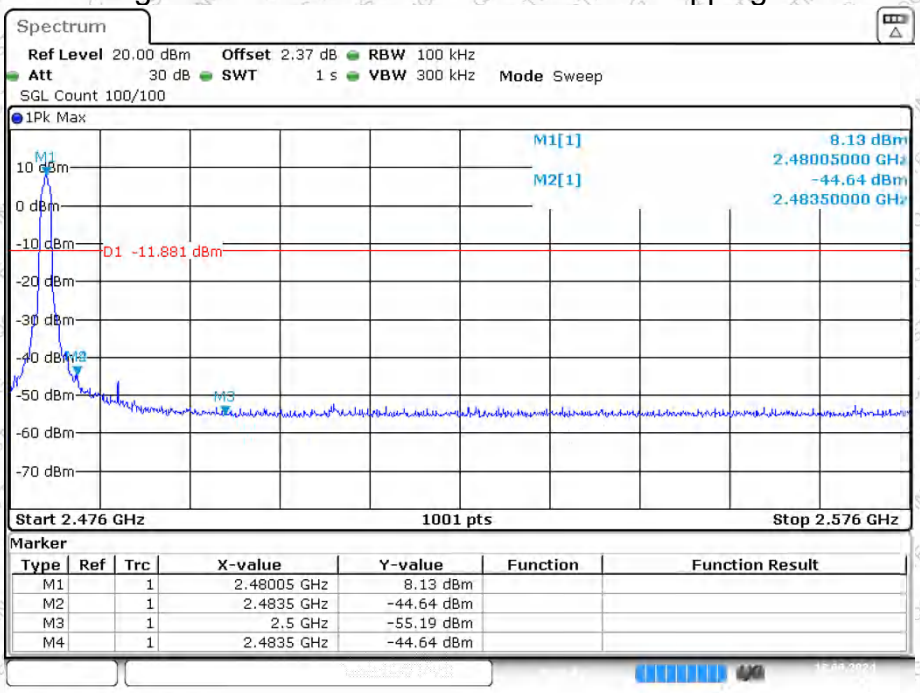
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



Date: 18.SEP.2024 15:27:46

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



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.48005 GHz	8.13 dBm		
M2		1	2.4835 GHz	-44.64 dBm		
M3		1	2.5 GHz	-55.19 dBm		
M4		1	2.4835 GHz	-44.64 dBm		

Date: 18.SEP.2024 15:29:32

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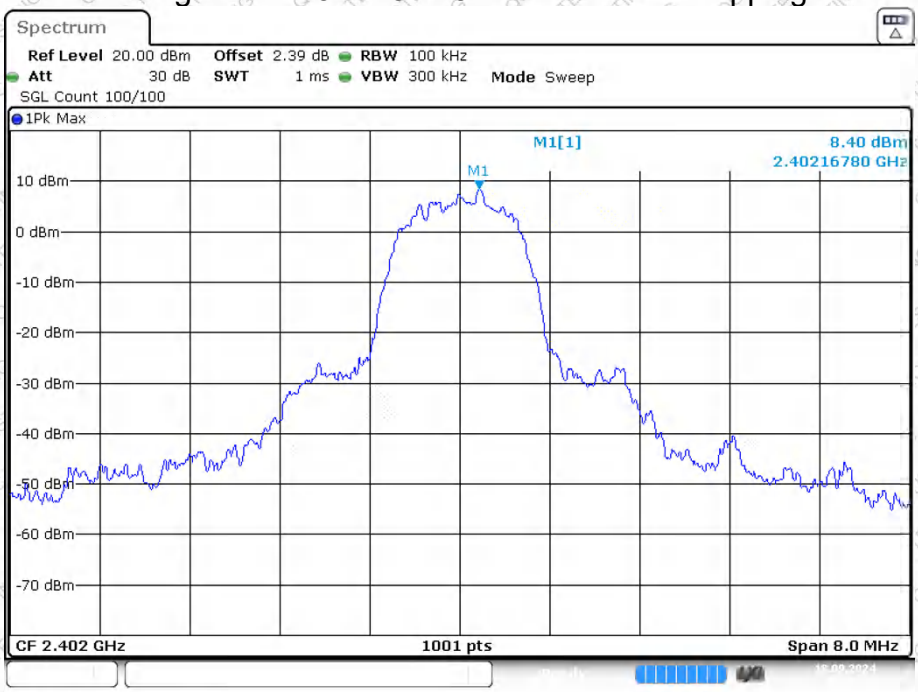
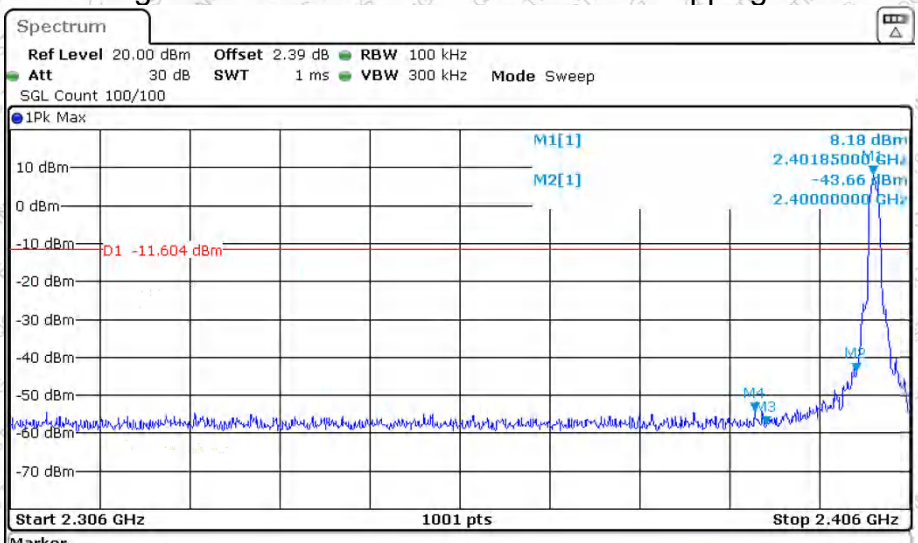
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



Date: 18.SEP.2024 15:46:55

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



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Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40185 GHz	8.18 dBm		
M2		1	2.4 GHz	-43.66 dBm		
M3		1	2.39 GHz	-57.82 dBm		
M4		1	2.3888 GHz	-54.03 dBm		

Date: 18.SEP.2024 15:46:57

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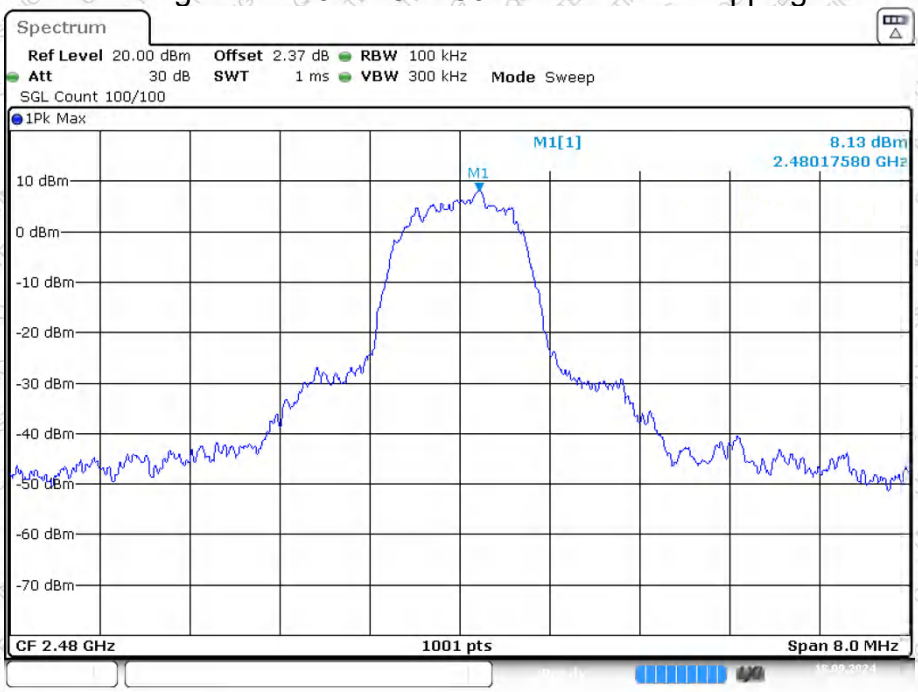
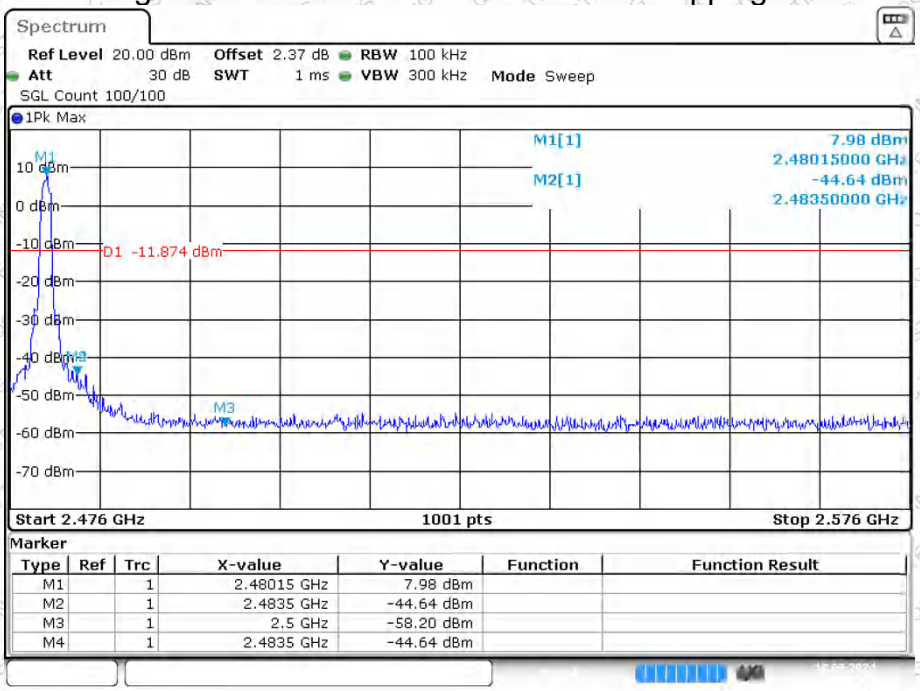
Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



Date: 18.SEP.2024 15:59:46

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



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Address: East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
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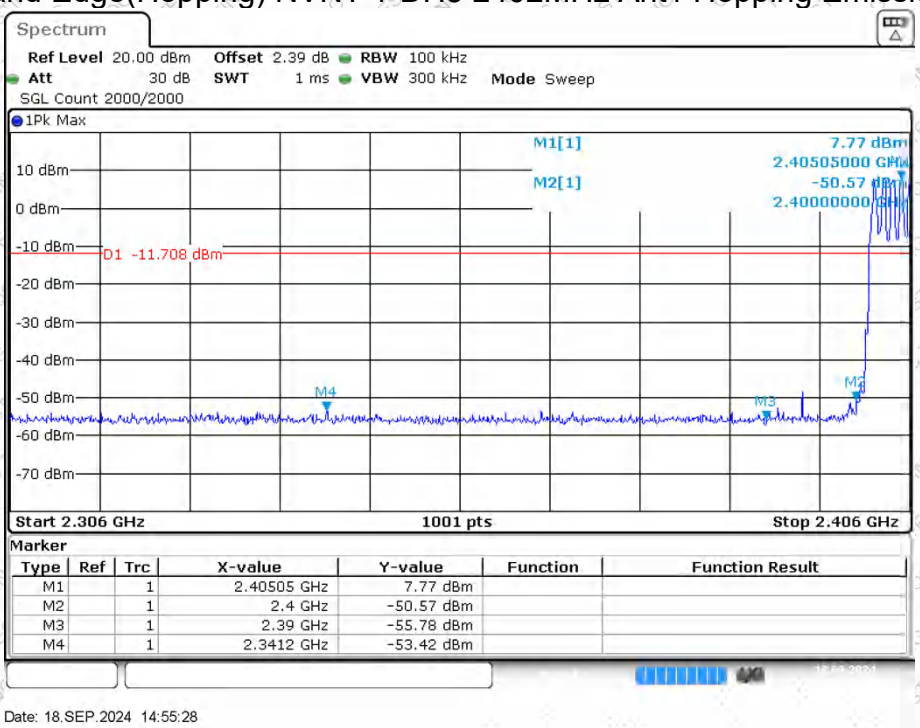
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

Date: 18.SEP.2024 14:55:18

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



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40505 GHz	7.77 dBm		
M2		1	2.4 GHz	-50.57 dBm		
M3		1	2.39 GHz	-55.78 dBm		
M4		1	2.3412 GHz	-53.42 dBm		

Date: 18.SEP.2024 14:55:28

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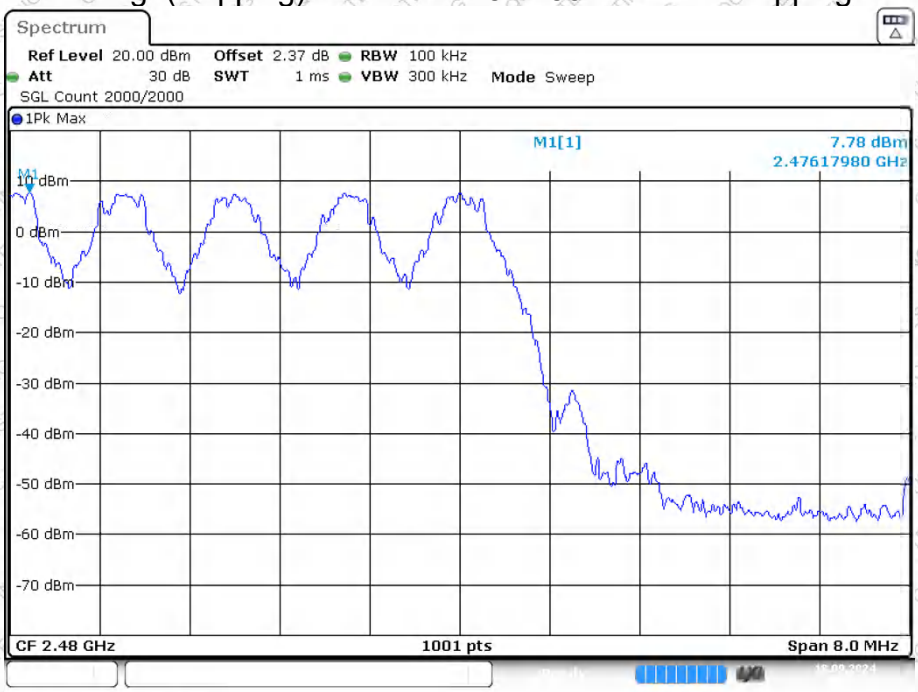
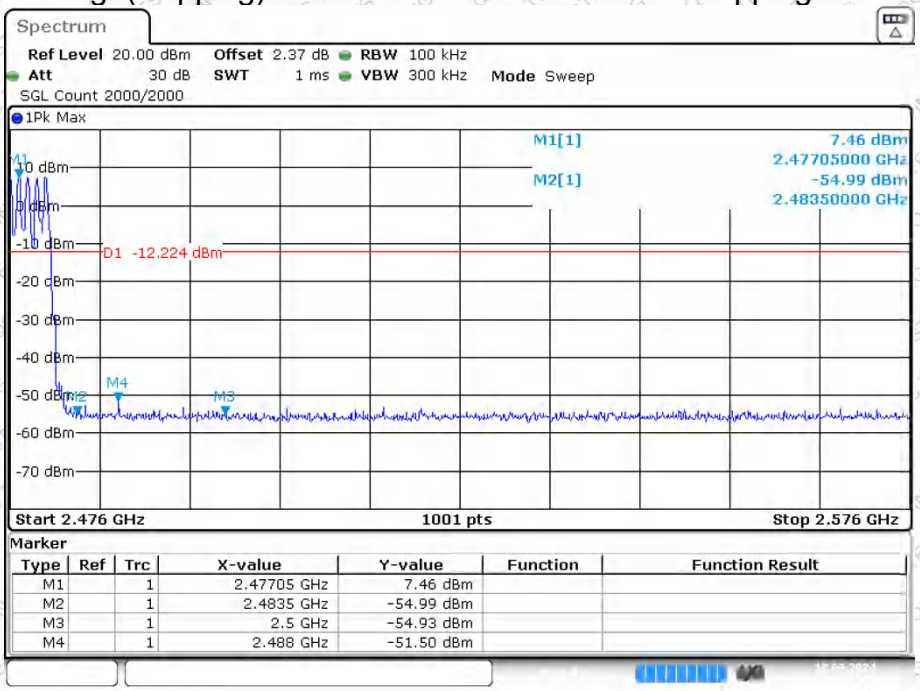
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



Date: 18.SEP.2024 14:57:05

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



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.47705 GHz	7.46 dBm		
M2		1	2.4835 GHz	-54.99 dBm		
M3		1	2.5 GHz	-54.93 dBm		
M4		1	2.488 GHz	-51.50 dBm		

Date: 18.SEP.2024 14:57:10

Address: East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
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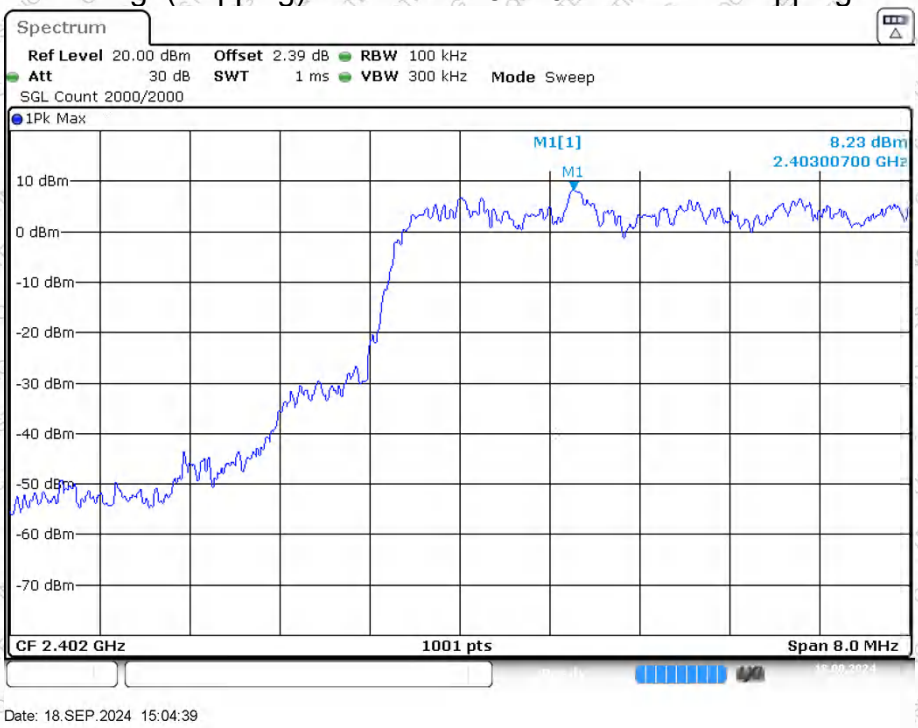
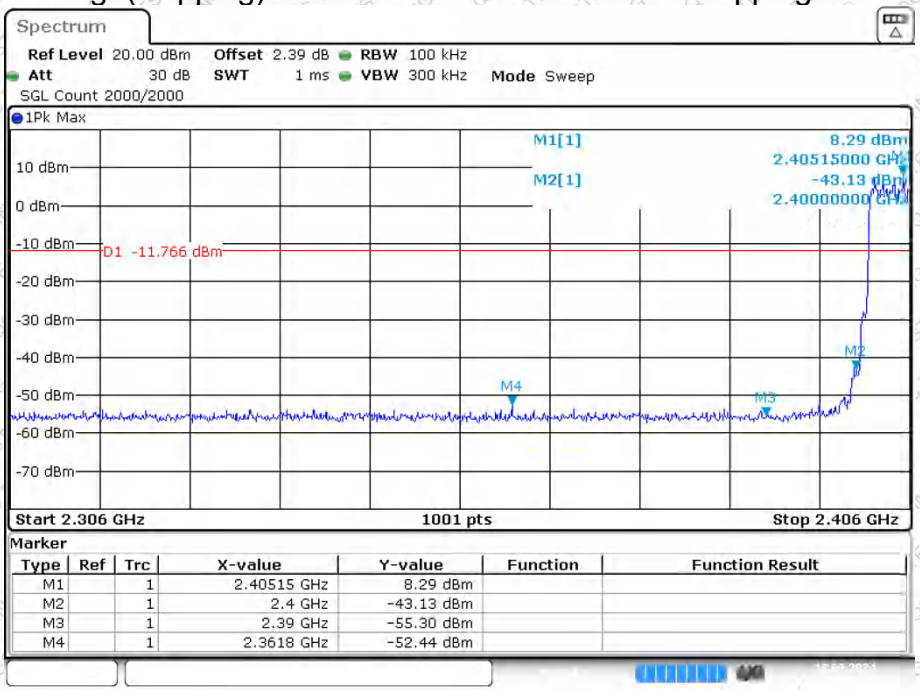
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



Date: 18.SEP.2024 15:04:39

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



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40515 GHz	8.29 dBm		
M2		1	2.4 GHz	-43.13 dBm		
M3		1	2.39 GHz	-55.30 dBm		
M4		1	2.3618 GHz	-52.44 dBm		

Date: 18.SEP.2024 15:04:49

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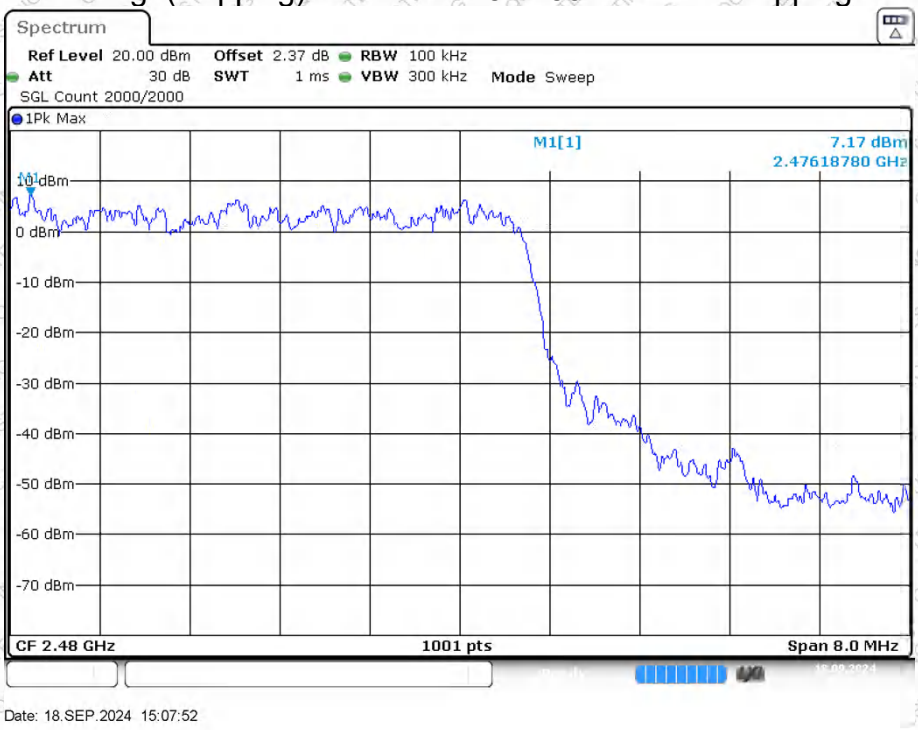
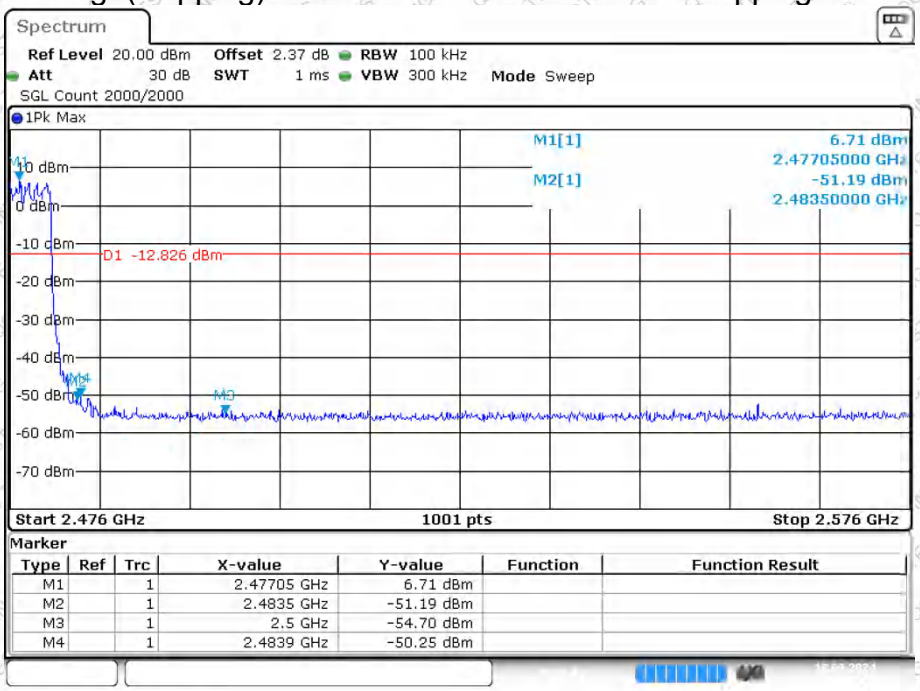
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



Date: 18.SEP.2024 15:07:52

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



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.47705 GHz	6.71 dBm		
M2		1	2.4835 GHz	-51.19 dBm		
M3		1	2.5 GHz	-54.70 dBm		
M4		1	2.4839 GHz	-50.25 dBm		

Date: 18.SEP.2024 15:07:57

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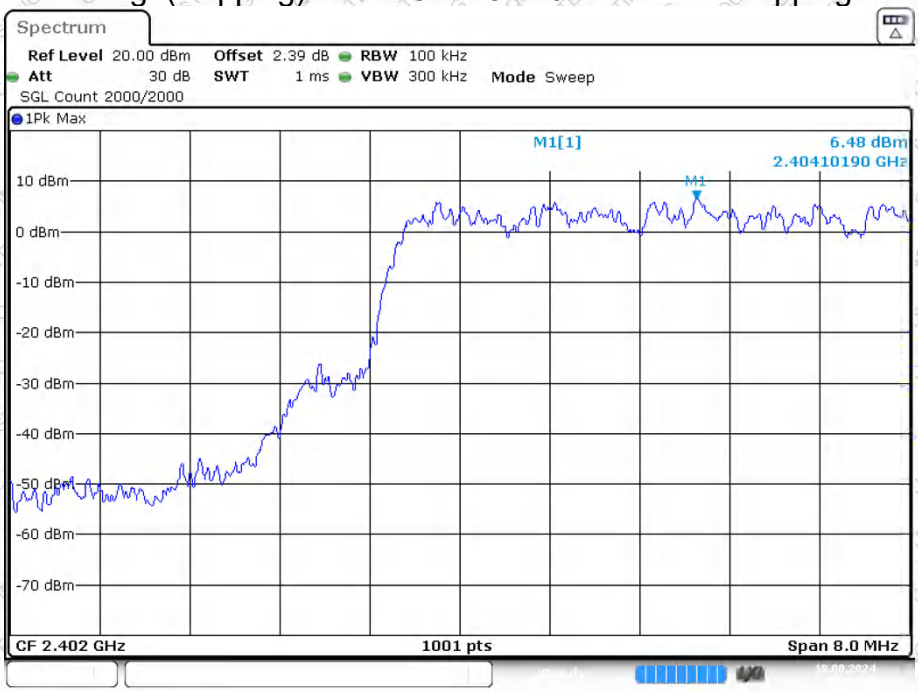
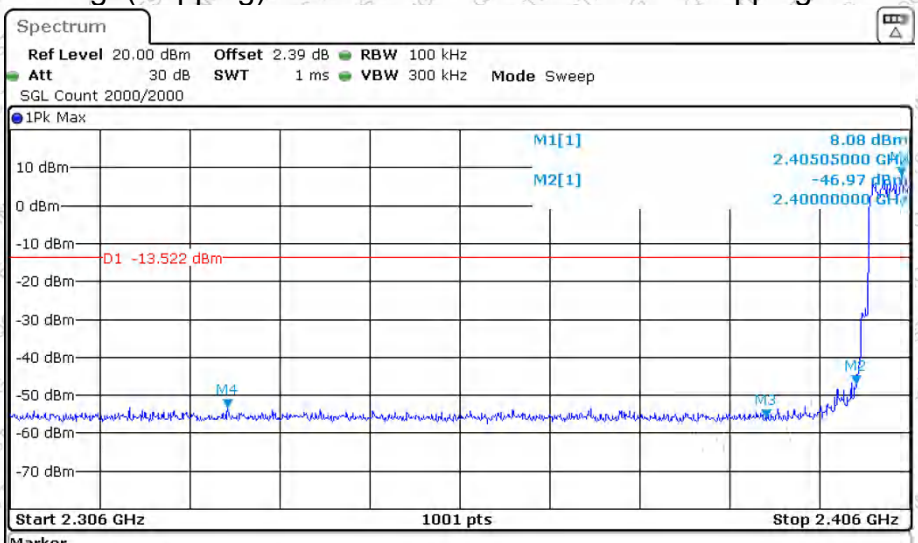
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



Date: 18.SEP.2024 15:39:12

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



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Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40505 GHz	8.08 dBm		
M2		1	2.4 GHz	-46.97 dBm		
M3		1	2.39 GHz	-55.95 dBm		
M4		1	2.3302 GHz	-53.26 dBm		

Date: 18.SEP.2024 15:39:23

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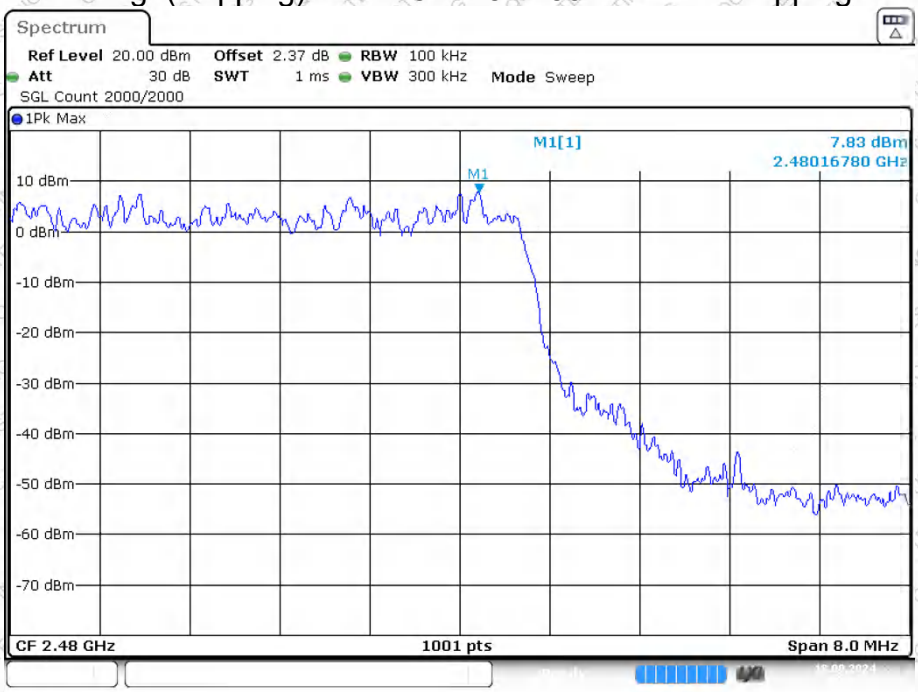
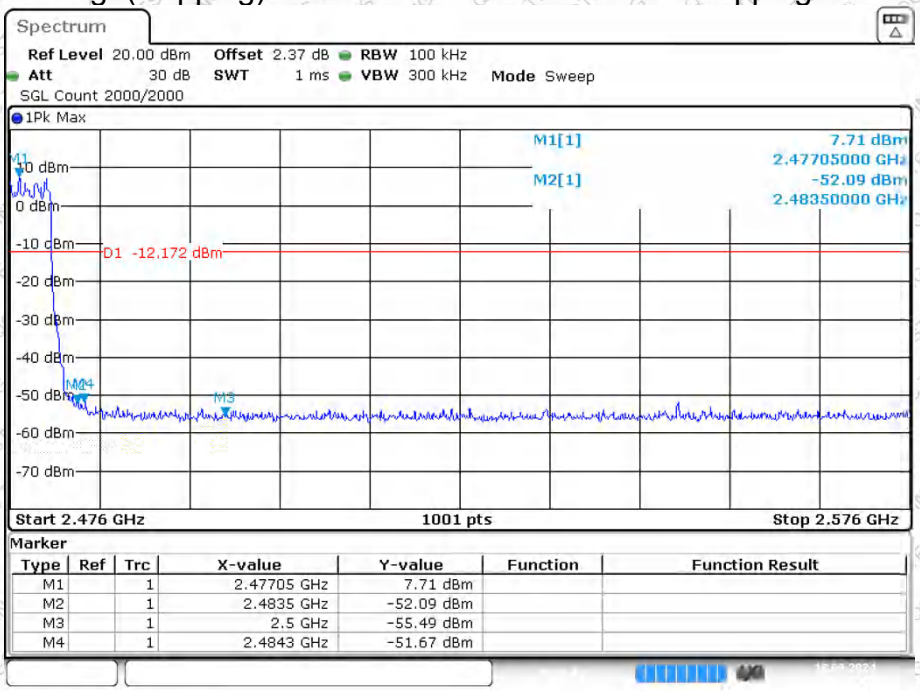
Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



Date: 18.SEP.2024 15:41:11

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



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Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.47705 GHz	7.71 dBm		
M2		1	2.4835 GHz	-52.09 dBm		
M3		1	2.5 GHz	-55.49 dBm		
M4		1	2.4843 GHz	-51.67 dBm		

Date: 18.SEP.2024 15:41:16

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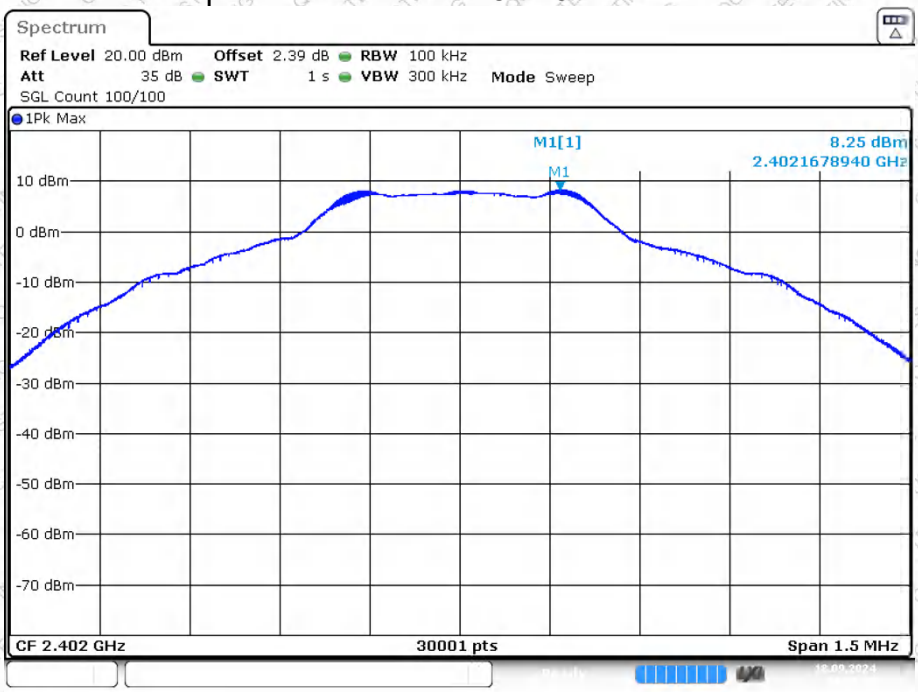
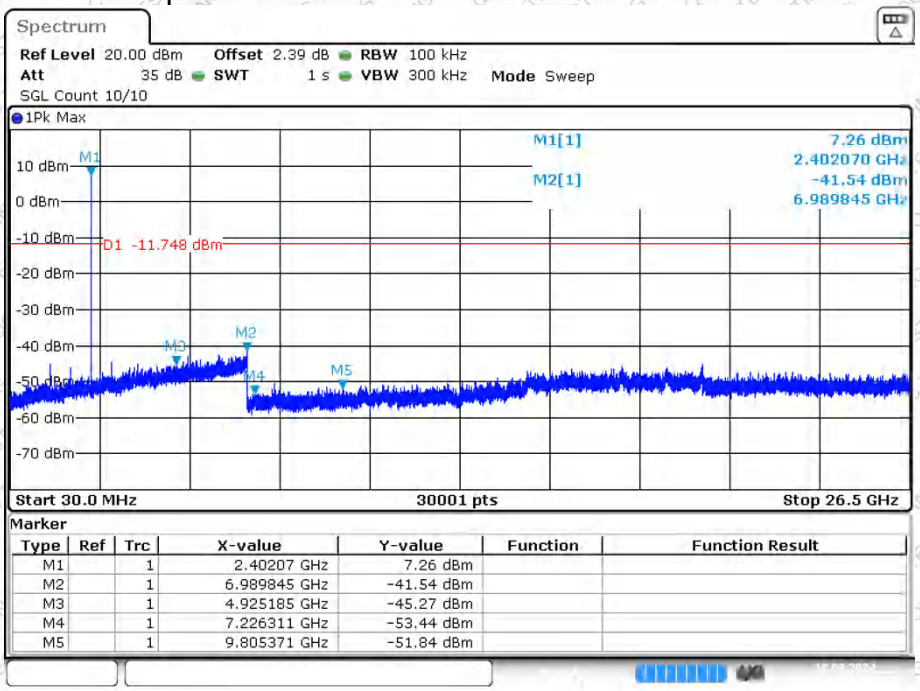
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



Date: 18.SEP.2024 14:50:53

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40207 GHz	7.26 dBm		
M2		1	6.989845 GHz	-41.54 dBm		
M3		1	4.925185 GHz	-45.27 dBm		
M4		1	7.226311 GHz	-53.44 dBm		
M5		1	9.805371 GHz	-51.84 dBm		

Date: 18.SEP.2024 14:51:13

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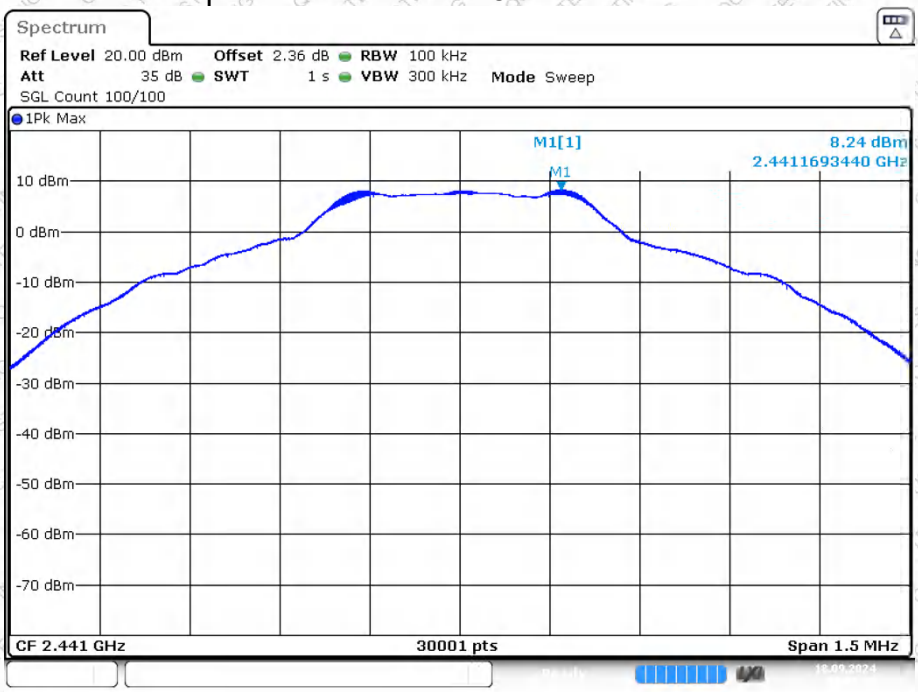
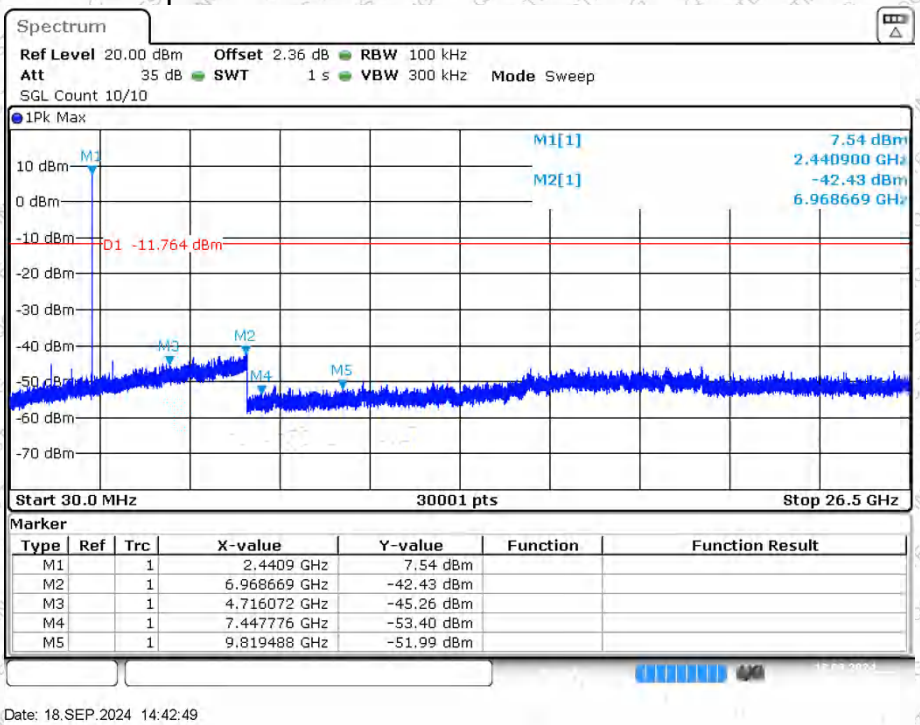
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



Date: 18.SEP.2024 14:42:30

Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.4409 GHz	7.54 dBm		
M2		1	6.968669 GHz	-42.43 dBm		
M3		1	4.716072 GHz	-45.26 dBm		
M4		1	7.447776 GHz	-53.40 dBm		
M5		1	9.819488 GHz	-51.99 dBm		

Date: 18.SEP.2024 14:42:49

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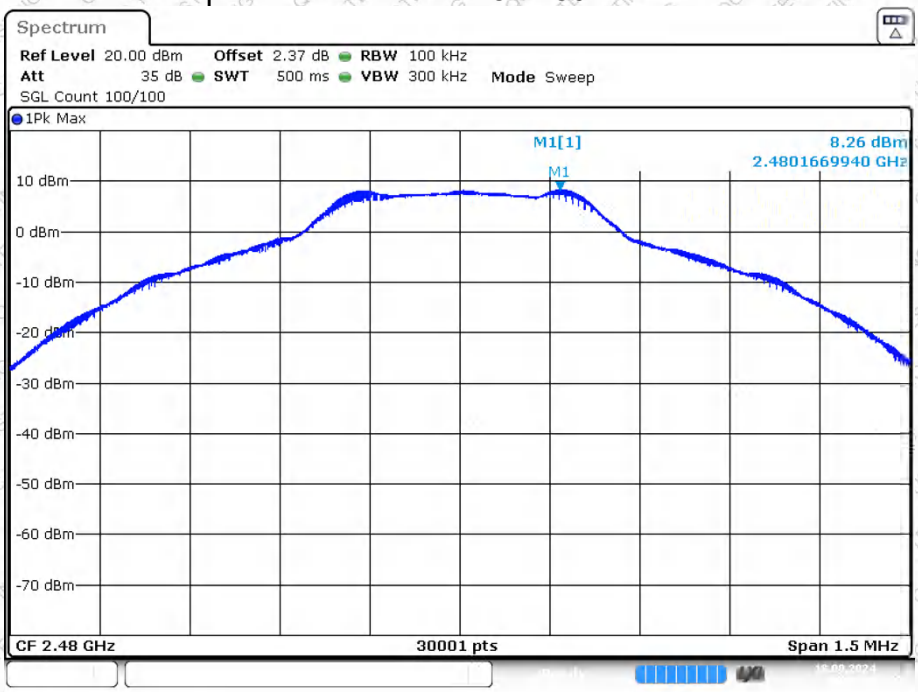
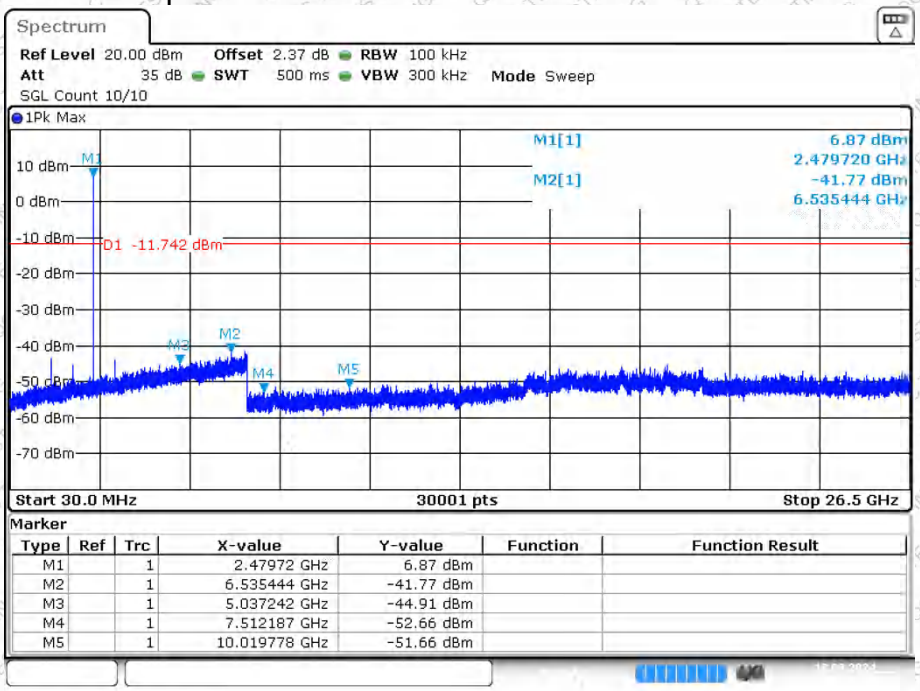
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



Date: 18.SEP.2024 14:29:31

Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.47972 GHz	6.87 dBm		
M2		1	6.535444 GHz	-41.77 dBm		
M3		1	5.037242 GHz	-44.91 dBm		
M4		1	7.512187 GHz	-52.66 dBm		
M5		1	10.019778 GHz	-51.66 dBm		

Date: 18.SEP.2024 14:29:45

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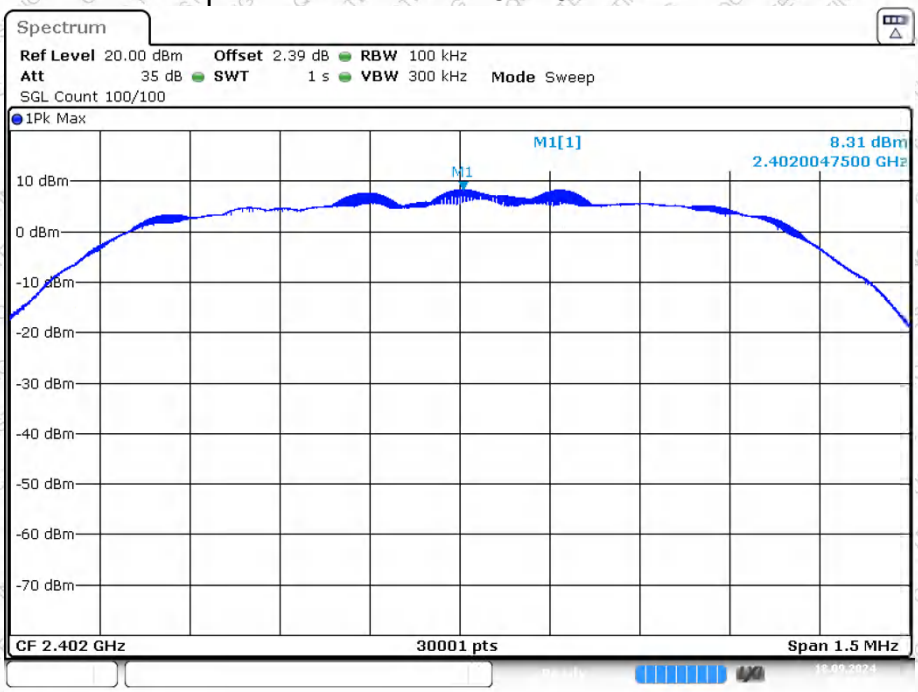
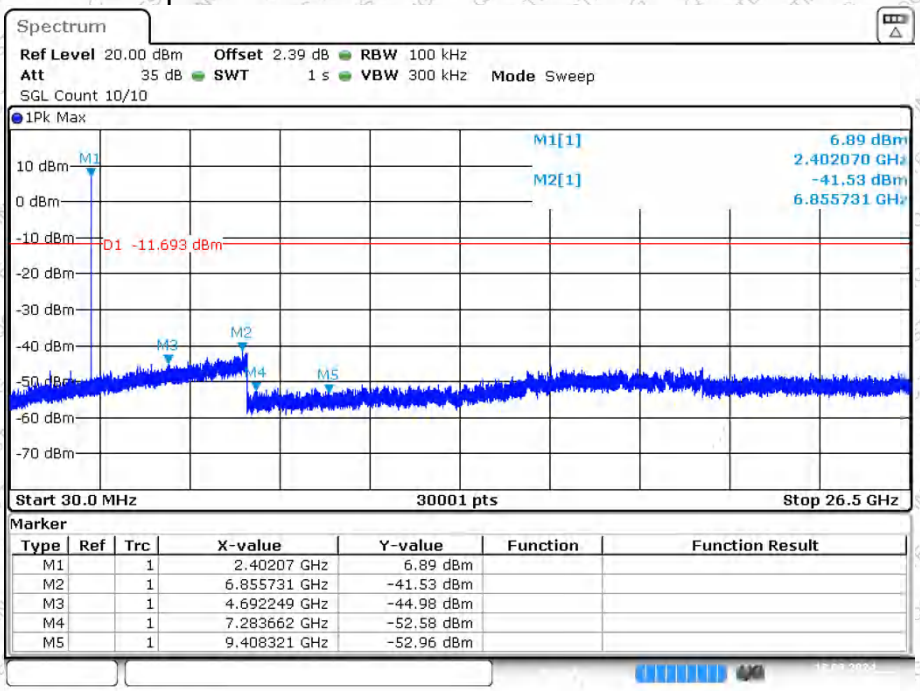
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



Date: 18.SEP.2024 15:16:50

Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40207 GHz	6.89 dBm		
M2		1	6.855731 GHz	-41.53 dBm		
M3		1	4.692249 GHz	-44.98 dBm		
M4		1	7.283662 GHz	-52.58 dBm		
M5		1	9.408321 GHz	-52.96 dBm		

Date: 18.SEP.2024 15:17:10

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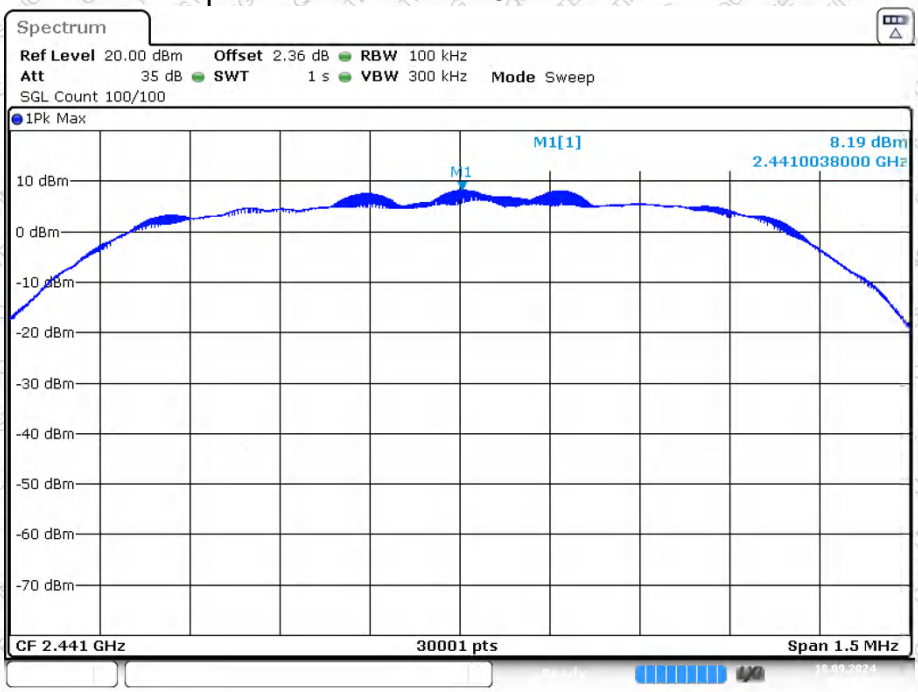
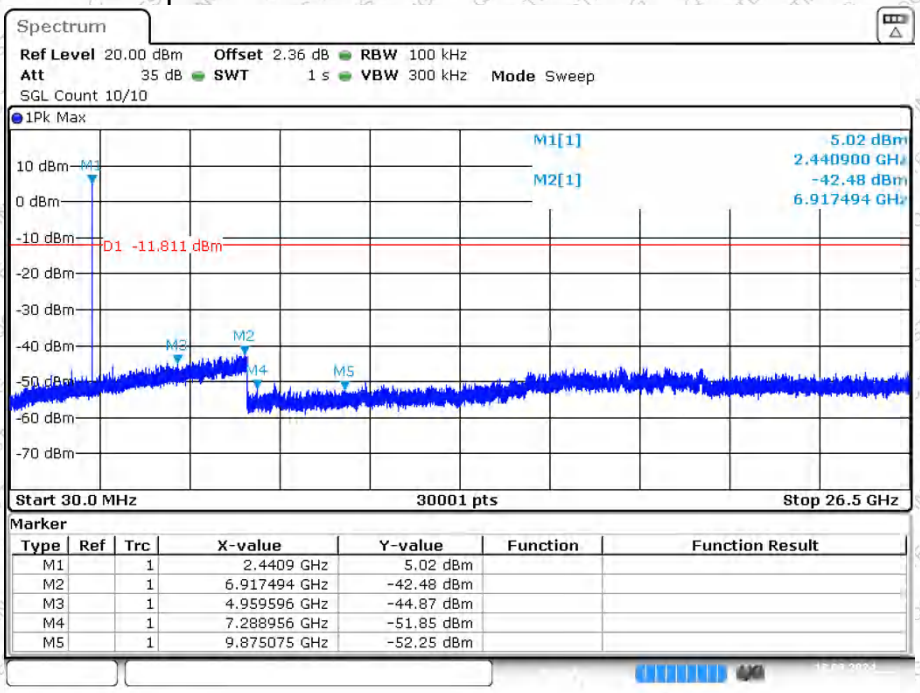
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



Date: 18.SEP.2024 15:23:08

Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.4409 GHz	5.02 dBm		
M2		1	6.917494 GHz	-42.48 dBm		
M3		1	4.959596 GHz	-44.87 dBm		
M4		1	7.288956 GHz	-51.85 dBm		
M5		1	9.875075 GHz	-52.25 dBm		

Date: 18.SEP.2024 15:23:28

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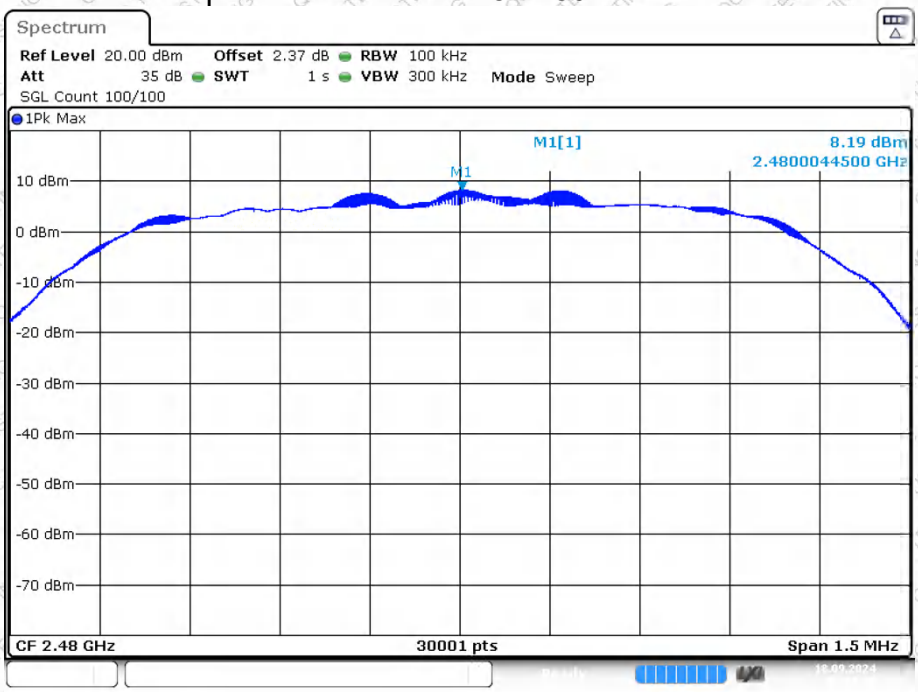
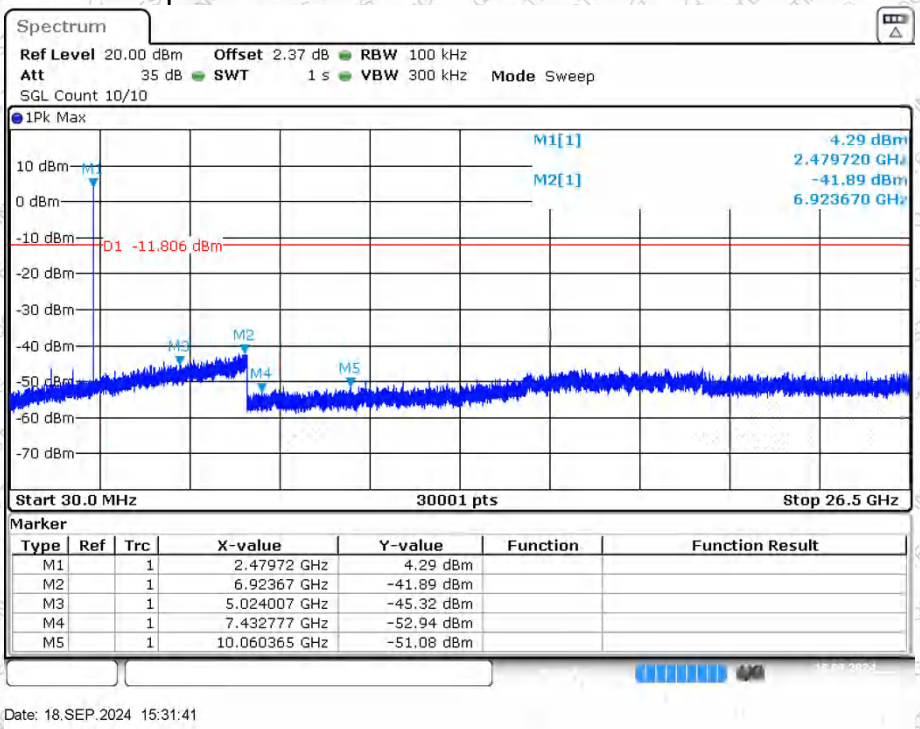
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



Date: 18.SEP.2024 15:31:21

Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.47972 GHz	4.29 dBm		
M2		1	6.92367 GHz	-41.89 dBm		
M3		1	5.024007 GHz	-45.32 dBm		
M4		1	7.432777 GHz	-52.94 dBm		
M5		1	10.060365 GHz	-51.08 dBm		

Date: 18.SEP.2024 15:31:41

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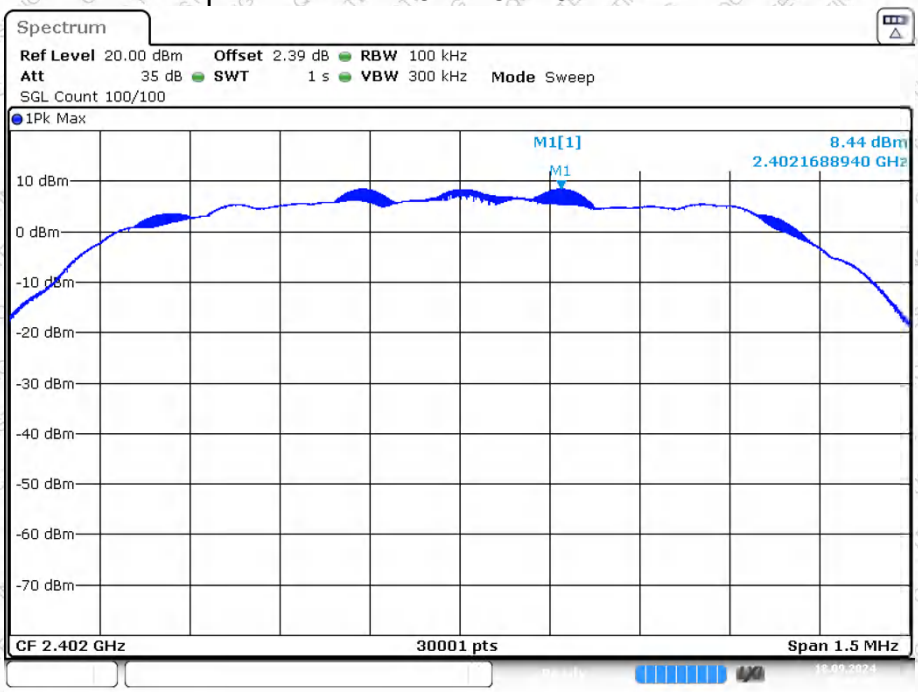
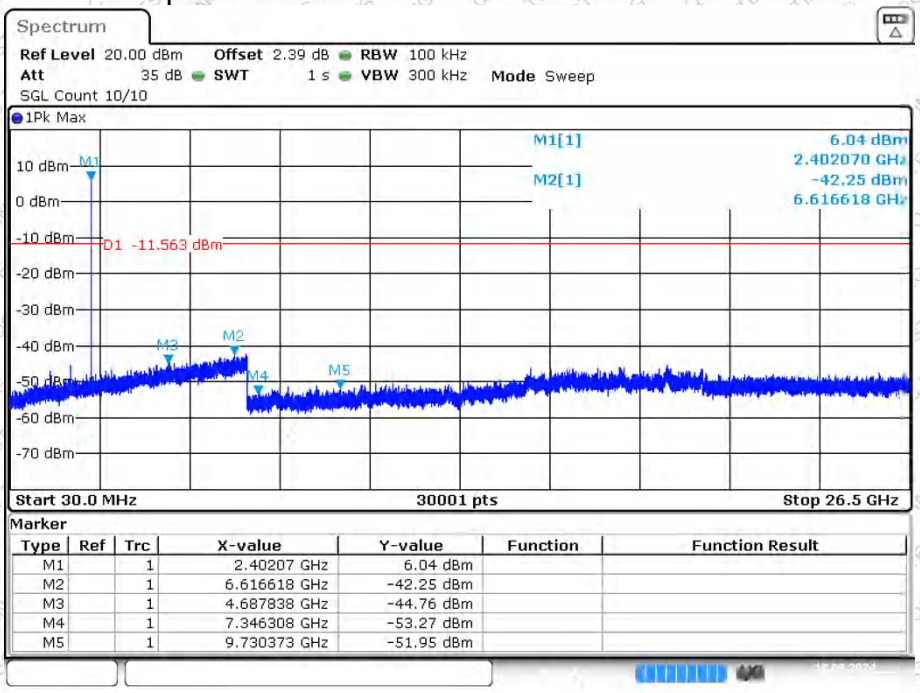
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



Date: 18.SEP.2024 15:48:47

Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40207 GHz	6.04 dBm		
M2		1	6.616618 GHz	-42.25 dBm		
M3		1	4.687838 GHz	-44.76 dBm		
M4		1	7.346308 GHz	-53.27 dBm		
M5		1	9.730373 GHz	-51.95 dBm		

Date: 18.SEP.2024 15:49:07

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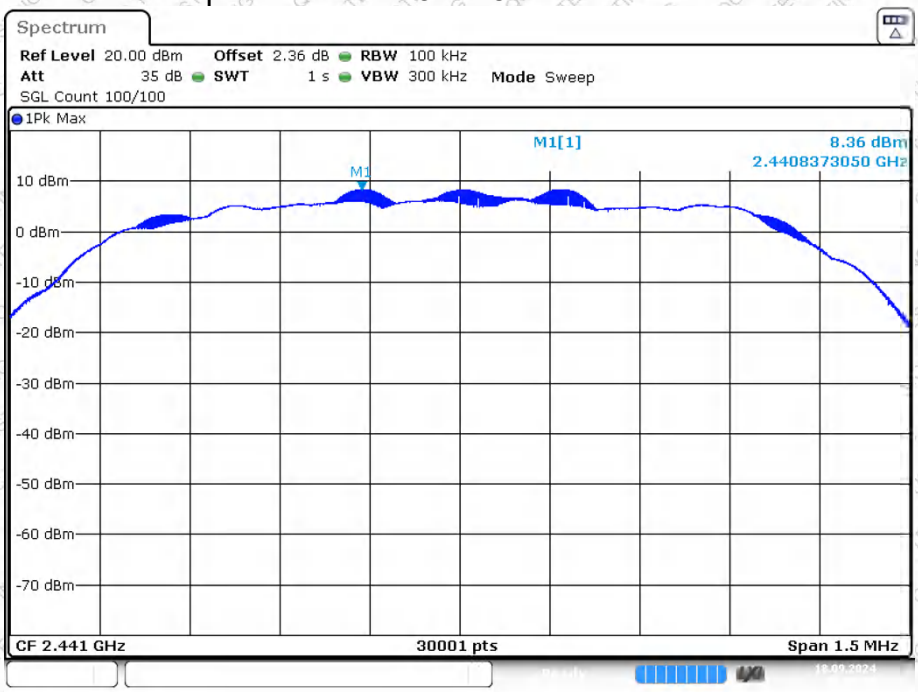
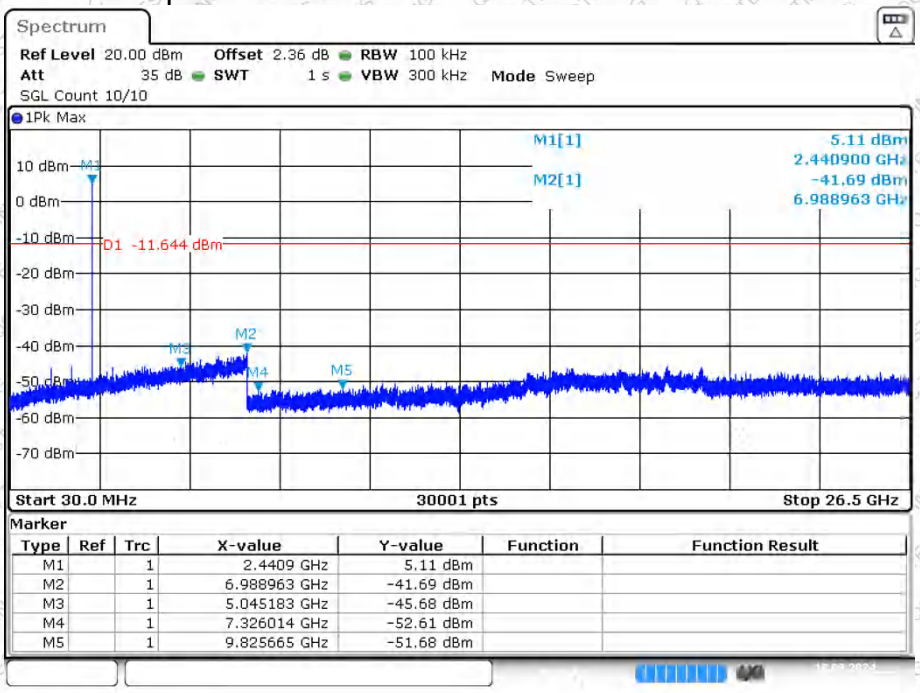
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



Date: 18.SEP.2024 15:55:11

Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.4409 GHz	5.11 dBm		
M2		1	6.988963 GHz	-41.69 dBm		
M3		1	5.045183 GHz	-45.68 dBm		
M4		1	7.326014 GHz	-52.61 dBm		
M5		1	9.825665 GHz	-51.68 dBm		

Date: 18.SEP.2024 15:55:31

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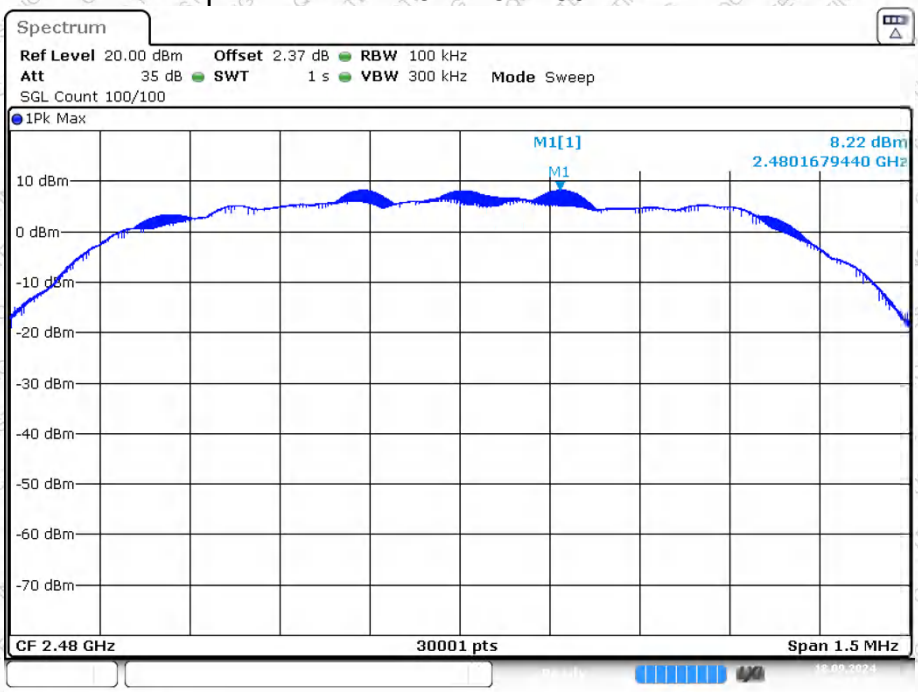
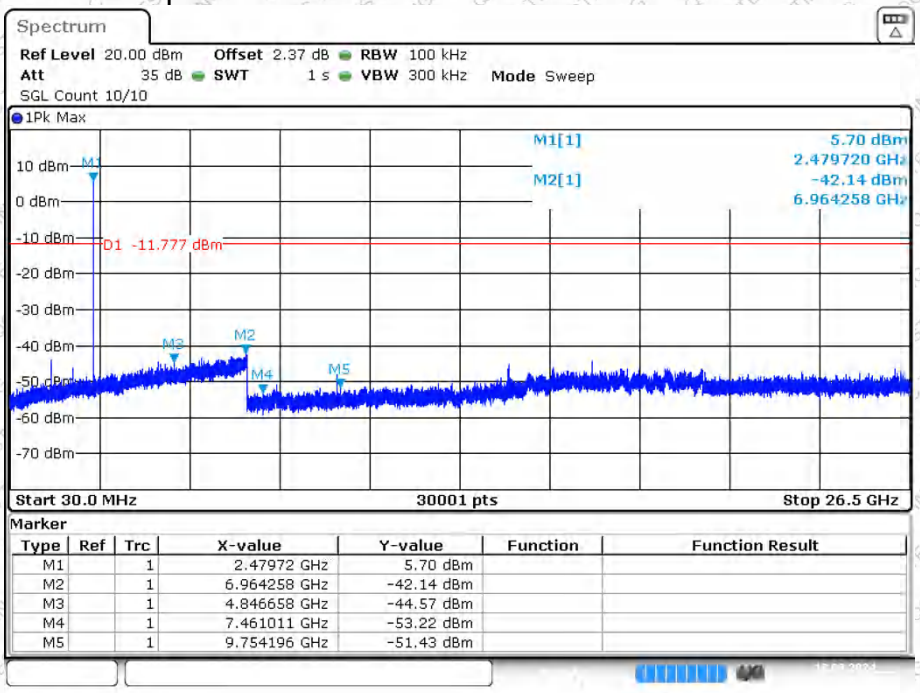
Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Date: 18.SEP.2024 16:01:39

Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.47972 GHz	5.70 dBm		
M2		1	6.964258 GHz	-42.14 dBm		
M3		1	4.846658 GHz	-44.57 dBm		
M4		1	7.461011 GHz	-53.22 dBm		
M5		1	9.754196 GHz	-51.43 dBm		

Date: 18.SEP.2024 16:01:58

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11.2 Radiated Emission Method

11.2.1 Applicable Standard

FCC Part15 C Section 15.209 and 15.205

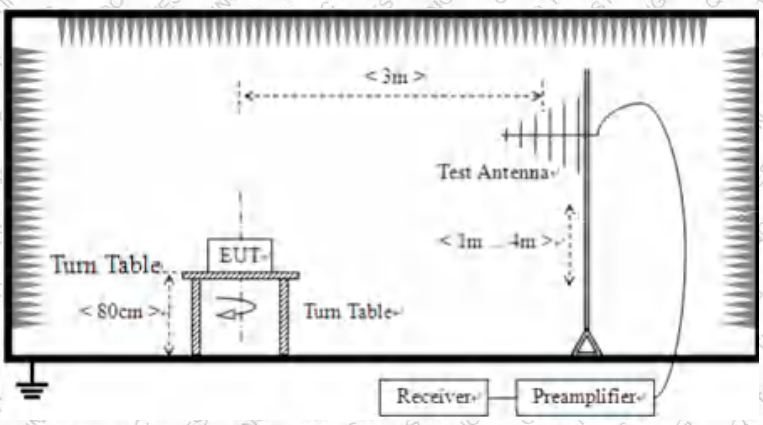
11.2.2 Limit

Frequency	Field Strengths Limits (μV/m at 3 m)	Field Strengths Limits (dBμV/m at 3 m)	Remark
30 – 88	100	40.0	Quasi-peak
88 – 216	150	43.5	Quasi-peak
216 – 960	200	46.0	Quasi-peak
Above 960	500	54.0	Quasi-peak
Above 1GHz	/	54.0	Peak
		74.0	Average

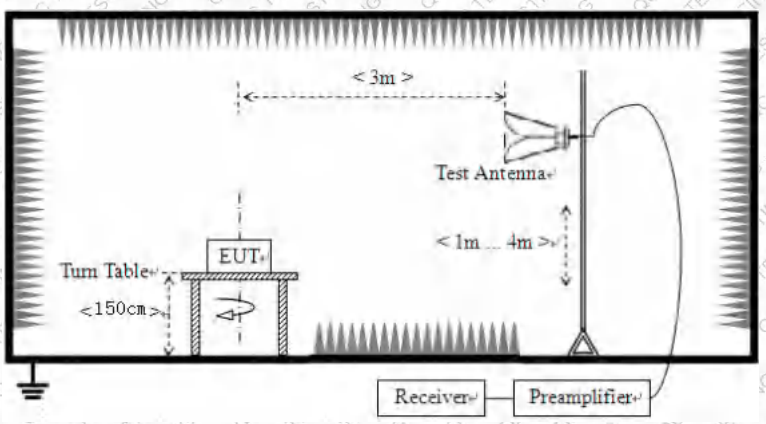
Note: dBμV/m =20log(μV/m)

11.2.3 Test setup

For radiated emissions from 30MHz to1GHz



For radiated emissions from above 1GHz



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11.2.4 EMI Test Receiver Setup

Frequency	RBW	VBW	IF B/W	Measurement
30 MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1 MHz	3 MHz	/	Peak
	1 MHz	10 Hz	/	Average

11.2.5 Test procedure

- The EUT was placed on the top of a rotating table (0.8m for below 1G and 1.5m for above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

11.2.6 Test Data

Temperature	26 ℃	Humidity	54%
ATM Pressure	101kPa	Antenna Gain	-1dBi
Test by	LBi Li	Test result	PASS

Test voltage: DC 3.7V.

Remarks:

1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y- axis which it is worse case.
2. The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

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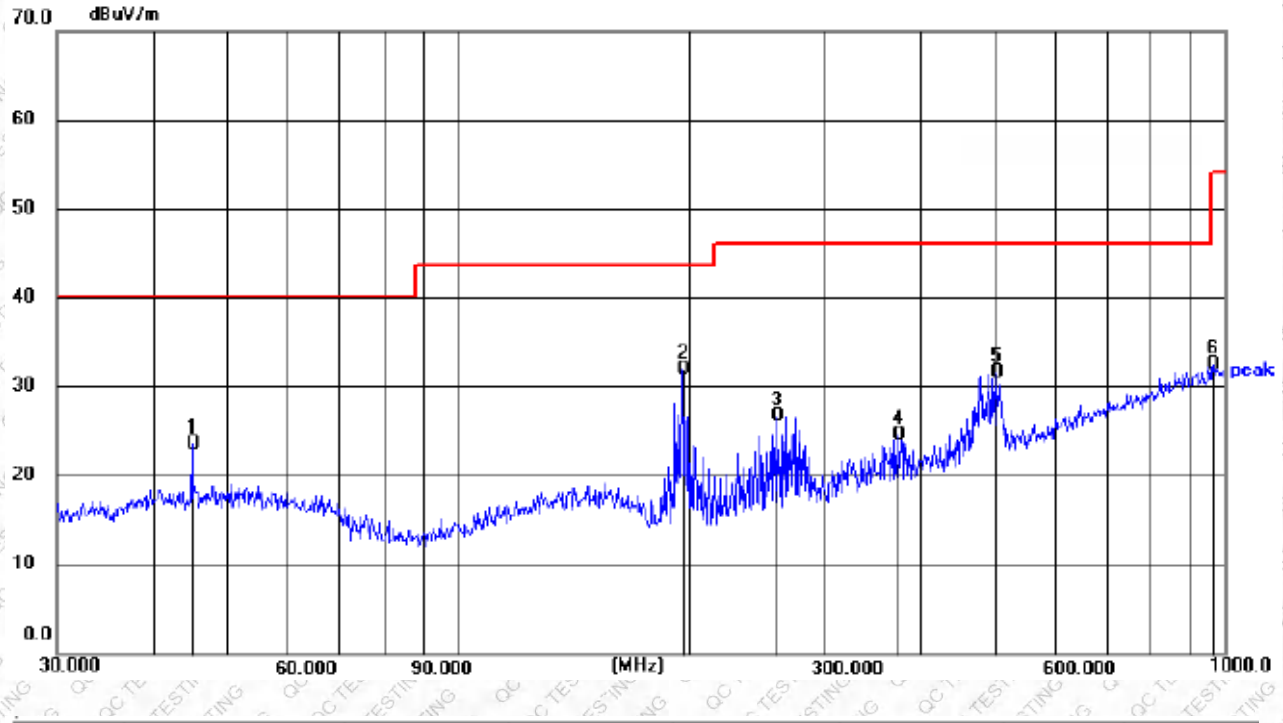
Below 1GHz

Pre-scan all test modes, found worst case at GFSK 2402MHz, and so only show the test result of GFSK 2402MHz.

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	45.0583	8.85	14.72	23.57	40.00	16.43	QP
2 *	195.8218	20.40	11.56	31.96	43.50	11.54	QP
3	260.1444	13.10	13.56	26.66	46.00	19.34	QP
4	375.9384	7.56	17.02	24.58	46.00	21.42	QP
5	501.1789	11.53	20.06	31.59	46.00	14.41	QP
6	965.5420	5.69	26.84	32.53	54.00	21.47	QP

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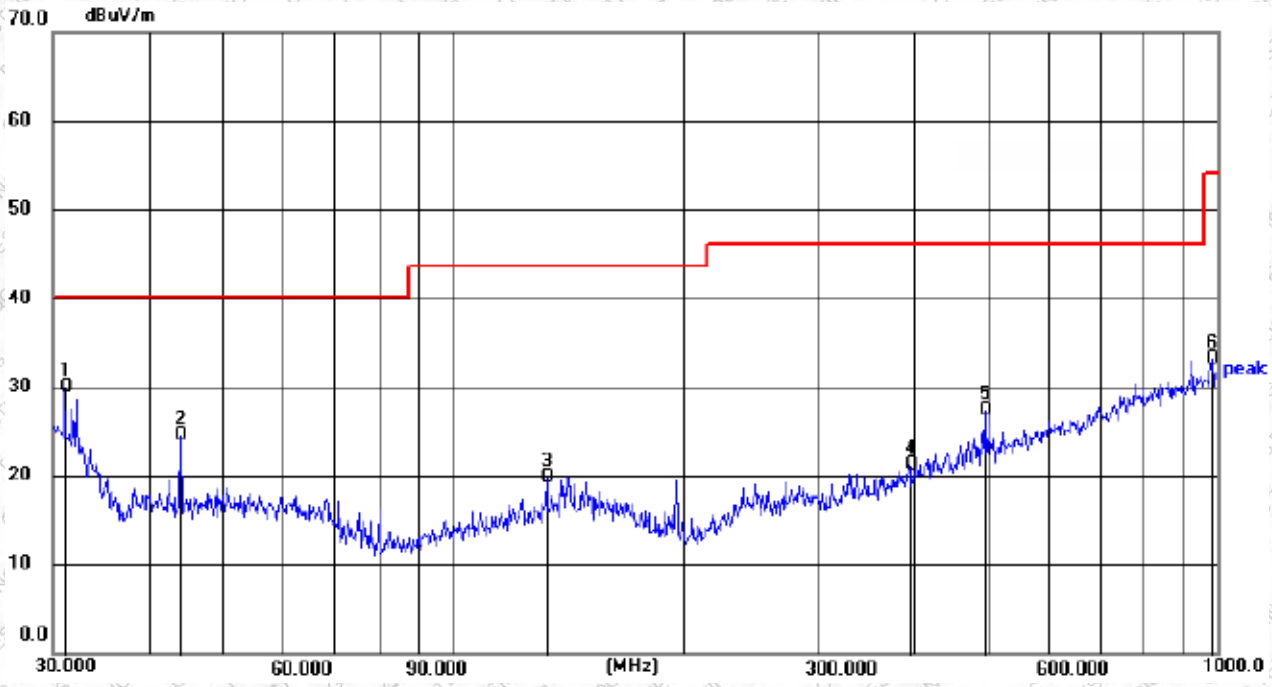
Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	31.0705	17.36	12.65	30.01	40.00	9.99	QP
2	44.1200	10.06	14.53	24.59	40.00	15.41	QP
3	132.6850	6.05	13.87	19.92	43.50	23.58	QP
4	394.8544	3.81	17.43	21.24	46.00	24.76	QP
5	495.9343	7.86	19.47	27.33	46.00	18.67	QP
6	982.6200	6.23	26.85	33.08	54.00	20.92	QP

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Above 1GHz

Pre-scan all test modes, found worst case at GFSK Mode, and so only show the test result of GFSK Mode.

Test channel: Lowest channel

Frequency (MHz)	Read Level (dBμV)	polarization	Factor (dB/m)	Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector
2310	51.70	H	-11.46	40.24	74	33.76	peak
2310	51.45	V	-11.46	39.99	74	34.01	peak
2362.10	64.51	H	-11.26	53.25	74	20.75	peak
2362.10	56.60	H	-11.26	45.34	54	8.66	AVG
2362	65.66	V	-11.26	54.40	74	19.60	peak
2362	56.50	V	-11.26	45.24	54	8.76	AVG
2390	54.10	H	-11.16	42.94	74	31.06	peak
2390	53.88	V	-11.16	42.72	74	31.28	peak
3602.751	65.07	H	-8.41	56.66	74	17.34	peak
3602.751	53.10	H	-8.41	44.69	54	9.31	AVG
3602.748	60.43	V	-8.41	52.02	74	21.98	peak
3602.748	54.72	V	-8.41	46.31	54	7.69	AVG
4804	54.40	H	-5.98	48.42	74	25.58	peak
4804	53.22	V	-5.98	47.24	74	26.76	peak

Test channel: Middle channel

Frequency (MHz)	Read Level (dBμV)	polarization	Factor (dB/m)	Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector
3661.742	60.87	H	-8.38	52.49	74	21.51	peak
3661.724	54.22	H	-8.38	45.84	54	8.16	AVG
3661.724	63.03	V	-8.38	54.65	74	19.35	peak
3661.724	52.48	V	-8.38	44.10	54	9.90	AVG
4882	52.75	H	-5.71	47.04	74	26.96	peak
4882	52.50	V	-5.71	46.79	74	27.21	peak

Test channel: Highest channel

Frequency (MHz)	Read Level (dBμV)	polarization	Factor (dB/m)	Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector
2483.5	53.92	H	-10.81	43.11	74	30.89	peak

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2483.5	54.68	V	-10.81	43.87	74	30.13	peak
2500	54.34	H	-10.75	43.59	74	30.41	peak
2500	56.41	V	-10.75	45.66	74	28.34	peak
3720.195	62.22	H	-8.37	53.85	74	20.15	peak
3720.195	52.74	H	-8.37	44.37	54	9.63	AVG
3720.271	61.83	V	-8.37	53.46	74	20.54	peak
3720.271	50.67	V	-8.37	42.30	54	11.70	AVG
4960	53.27	H	-5.45	47.82	74	26.18	peak
4960	55.01	V	-5.45	49.56	74	24.44	peak

Remarks:

1. Level =Receiver Read level + Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. If the peak-detected amplitude can be shown to comply with the average limit, then it is not necessary to performa separate average measurement.

---------- THE END OF TEST REPORT ----------

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