



FCC PART 15.247 TEST REPORT

On Behalf of
Fujian Youtong Electronics Co.,Ltd.

North part of 1st, 2nd-3rd floor, Building1#, No.18, Majiang Road, Mawei,
Fuzhou Fujian, China

FCC ID: 2BORN-YT60311

Model: YT60311

August 14, 2025

This Report Concerns: ☒ Original Report	Equipment Type: weather station
Test Engineer:	Fan Yang / <i>Fan Yang</i>
Report Number:	QCT25HR-1827E-01
Test Date:	August 04, 2025 ~ August 14, 2025
Test Result:	Pass
Reviewed By:	Vincent Yang / <i>Vincent Yang</i>
Approved By:	Kendy Wang / <i>Kendy Wang</i>
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Report Number

Description

Issued Date

QCT25HR-1827E-01

Initial Issue

2025-8-14



1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Description	weather station
Model No.	YT60311
Tested Model	YT60311
Sample(s) Status	Engineer sample
Operation Frequency:	802.11b/802.11g/802.11n(HT20)/802.11ax(HE20): 2412MHz~2462MHz 802.11n(HT40)/802.11ax(HE40): 2422MHz~2452MHz
Channel numbers:	802.11b/802.11g /802.11n(HT20)/802.11ax(HE20): 11 802.11n(HT40)/802.11ax(HE40):7
Channel separation:	5MHz
Modulation type:	802.11b: Direct Sequence Spread Spectrum (DSSS) 802.11g/802.11n(HT20)/802.11n(HT40): Orthogonal Frequency Division Multiplexing (OFDM) 802.11ax(HE20)/802.11ax(HE40): (OFDMA) (802.11ax mode only support Full RU)
Antenna Type:	PCB antenna
Antenna gain*1:	-1.04dBi
Power supply:	DC 5V (Powered by adapter)
Adapter Information:	Model: XZ0500-1000U Input: 100-240V AC, 50/60Hz 0.4A Output: 5.0V --- 1.0A, 5.0W
Trade Mark:	VEVOR
Applicant:	Fujian Youtong Electronics Co.,Ltd.
Address:	North part of 1st, 2nd-3rd floor, Building1#, No.18, Majiang Road, Mawei, Fuzhou Fujian, China
Manufacturer:	Fujian Youtong Electronics Co.,Ltd.
Address:	North part of 1st, 2nd-3rd floor, Building1#, No.18, Majiang Road, Mawei, Fuzhou Fujian, China
Sample No.:	Y25H1827E01YN

Note: *1This information provided by Manufacturer, SZ QC Lab is not responsible for the accuracy of this information.

1.2 System Test Configuration

1.2.1 Channel List

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

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:

Test channel	Frequency (MHz)	
	802.11b/802.11g/802.11n(HT20) /802.11ax(HE20)	802.11n(HT40) /802.11ax(HE40)
Lowest channel	2412MHz	2422MHz
Middle channel	2437MHz	2437MHz
Highest channel	2462MHz	2452MHz

1.2.2 EUT Exercise Software

The device was tested with the worst case was performed as below:

Test Mode	Data Rate	Power Level
802.11b	1Mbps	15
802.11g	6Mbps	25
802.11n(HT20)	MCS0	23
802.11n(HT40)	MCS0	20
802.11ax(HE20)	MCS0	23
802.11ax(HE40)	MCS0	20

"Wifi_Test_Tool_V1.7.8.1" exercise software was made to the EUT tested, The software and power level was provided by the applicant.

1.2.3 Support Equipment

Manufacturer	Description	Model	Serial Number
/	/	/	/

1.2.4 Test mode and test voltage

1. Transmitting mode: Keep the EUT in continuously transmitting.
2. 802.11ax mode only support Full RU.
3. Test voltage: DC 5V (Powered by adapter)



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	$\pm 1.42 \times 10^{-4}\%$
RF output power, conducted	$\pm 1.06\text{dB}$
Power Spectral Density, conducted	$\pm 1.06\text{dB}$
Unwanted Emissions, conducted	$\pm 2.51\text{dB}$
AC Power Line Conducted Emission	$\pm 1.80\text{dB}$
Radiated Spurious Emission test (9kHz-30MHz)	$\pm 2.66\text{dB}$
Radiated Spurious Emission test (30MHz-1000MHz)	$\pm 4.04\text{dB}$
Radiated Spurious Emission test (1000MHz-18000MHz)	$\pm 4.70\text{ dB}$
Radiated Spurious Emission test (18GHz-40GHz)	$\pm 4.80\text{dB}$
Temperature	$\pm 0.8^{\circ}\text{C}$
Humidity	$\pm 3.2\%$
DC and low frequency voltages	$\pm 0.1\%$
Time	$\pm 5\%$
Duty cycle	$\pm 5\%$

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



2. Summary of Test Results

Test Item	Section	Result
Antenna Requirement	FCC part 15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	FCC part 15.207	Pass
Conducted Peak Output Power	FCC part 15.247 (b)(3)	Pass
Channel Bandwidth & 99% Occupied Bandwidth	FCC part 15.247 (a)(2)	Pass
Power Spectral Density	FCC part 15.247 (e)	Pass
Band Edge	FCC part 15.247(d)	Pass
Spurious Emissions	FCC part 15.205/15.209	Pass

- Note:
1. In the configuration tested, the EUT complied with the standards specified above.
 2. Test according to ANSI C63.10:2013
 3. 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.



3. List of Test and Measurement Instruments

3.1 Radiated Emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
1.	EMI Test Receiver	Rohde&Schwarz	ESIB 7	2277573376	2025.03.17	2026.03.16
2.	EMI Test Receiver	Rohde&Schwarz	ESPI3	101131	2025.03.17	2026.03.16
3.	Spectrum Analyzer	Rohde&Schwarz	FSV 40	101458	2025.03.18	2026.03.17
4.	TRILOG Broadband Test-Antenna	SCHWARZBECK	VULB9168	VULB9168-588	2025.03.22	2026.03.21
5.	Loop Antenna	EMCO	6502	2133	2025.03.19	2026.03.18
6.	horn antenna	SCHWARZBECK	BBHA9120D	2069	2025.08.11	2026.08.10
7.	Horn Antenna	COM-MW	ZLB7-18-40G-950	12221225	2025.08.11	2026.08.10
8.	Pre-amplifier	MITEQ	TTA0001-18	2063645	2025.03.17	2026.03.16
9.	Pre-amplifier	MITEQ	TTA1800-30-HG	2063644	2025.03.17	2026.03.16
10.	Pre-amplifier	COM-MW	DLAN-18000-40000-02	10229104	2025.03.22	2026.03.21
11.	966 Camber	ZhongYU	9*6*6	/	2023.05.08	2026.05.07

Radiated Emission Measurement Software: EZ EMC Ver QCT03A2 RE+

3.2 RF Conducted test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
1.	Wideband Radio Communication Tester	Rohde & Schwarz	CW500	151583	2025.03.18	2026.03.17
2.	Spectrum Analyzer	ROHDE&SCHWARZ	FSV 40	101458	2025.03.18	2026.03.17
3.	Signal Generator	Agilent	N5182A	MY50141563	2025.03.18	2026.03.17
4.	RF Automatic Test System	MW	MW100-RFCB/MW100-PSB	MW2007004	2025.03.18	2026.03.17

RF Conducted Measurement Software: MTS 8310 Ver 2.0.0.0



3.3 Conducted Emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
1	EMI Test Receiver	Rohde&Schwarz	ESIB 7	2277573376	2025.03.17	2026.03.16
2	EMI Test Receiver	Rohde&Schwarz	ESCI3	101820	2025.03.17	2026.03.16
3	Artificial Mains Network	SCHWARZBECK	NSLK8126	8126200	2025.03.17	2026.03.16
4	PULSE LIMITER	Rohde&Schwarz	ESH3-Z2	100058	2025.03.17	2026.03.16
Conducted Emission Measurement Software: TS+ JS32-CE Ver 5.0.0						



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 Antenna is PCB Antenna, the best case gain of the antenna is -1.04dBi, reference to the Internal photo for details.

5. Conducted Emissions

5.1 Applicable Standard

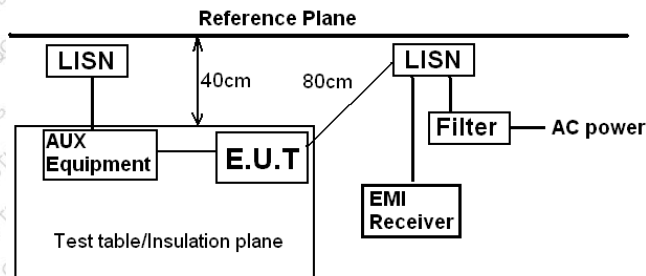
FCC Part15 C Section 15.207

5.2 Limit

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

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

5.3 Test setup



Remark:
E.U.T: Equipment Under Test
LISN: Line Impedance 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

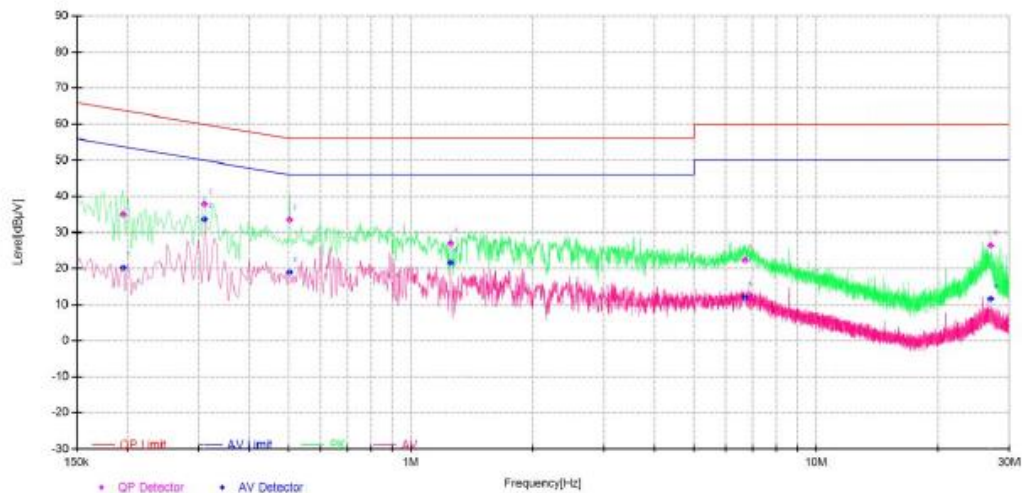
Temperature	25°C	Humidity	55%
ATM Pressure	101.1kPa	Antenna Gain	-1.04dBi
Test by	Fan Yang	Test result	PASS



Measurement data:

Pre-scan all test modes, found worst case at b 2412MHz TX, and so only show the test result of b 2412MHz TX.

Line:

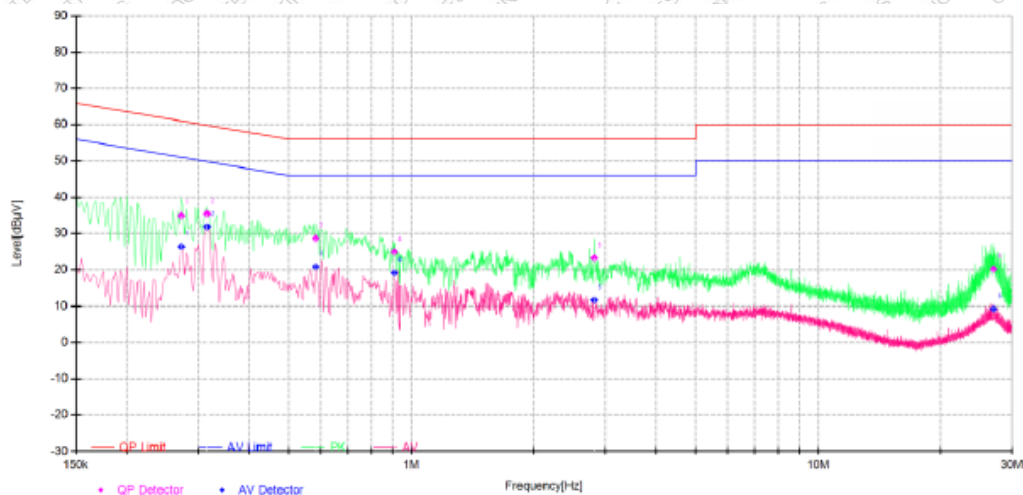


Final Data List

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	0.195	10.66	35.08	63.82	28.74	20.22	53.82	33.60	L	PASS
2	0.31	10.70	37.80	59.97	22.17	33.67	49.97	16.30	L	PASS
3	0.5025	10.73	33.51	56.00	22.49	18.97	46.00	27.03	L	PASS
4	1.2525	10.65	26.98	56.00	29.02	21.68	46.00	24.32	L	PASS
5	6.6845	10.75	22.35	60.00	37.65	12.05	50.00	37.95	L	PASS
6	27.011	10.87	26.36	60.00	33.64	11.54	50.00	38.46	L	PASS



Neutral:



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	0.2725	10.75	34.96	61.04	26.08	26.39	51.04	24.65	N	PASS
2	0.315	10.81	35.47	59.84	24.37	31.86	49.84	17.98	N	PASS
3	0.5825	10.66	28.69	56.00	27.31	20.90	46.00	25.10	N	PASS
4	0.91	10.66	24.92	56.00	31.08	19.20	46.00	26.80	N	PASS
5	2.8145	10.66	23.24	56.00	32.76	11.67	46.00	34.33	N	PASS
6	27.0155	10.84	20.22	60.00	39.78	9.23	50.00	40.77	N	PASS

6. Conducted Peak Output Power

6.1. Applicable Standard

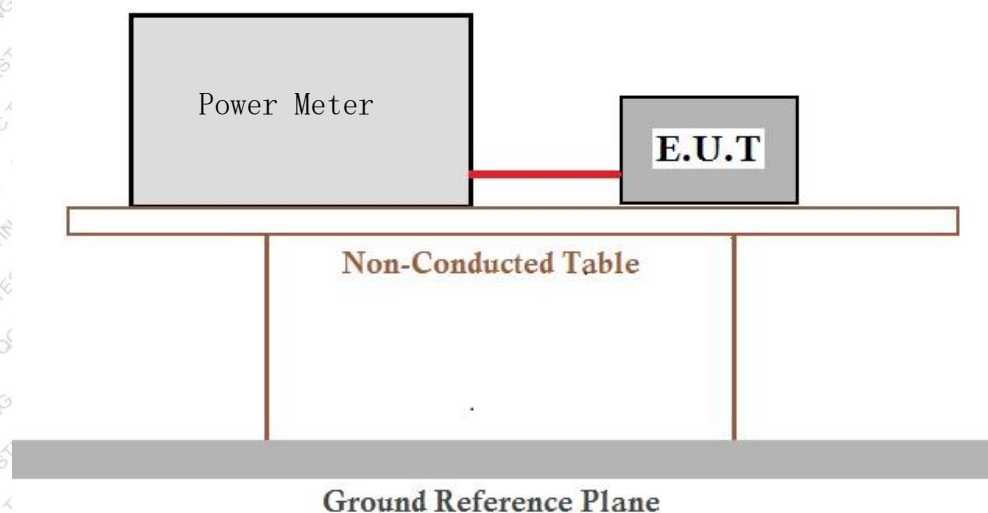
FCC Part15 C Section 15.247 (b)(3)

6.2. Limit

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

As an alternative to a peak power measurement, compliance can be based on a measurement of the maximum conducted output power. The maximum conducted output power is the total transmit power delivered to all antennas and antenna elements, averaged across all symbols in the signalling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or transmitting at a reduced power level. If multiple modes of operation are implemented, the maximum conducted output power is the highest total transmit power occurring in any mode.

6.3. Test setup



6.4. Test Procedure

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.



6.5. Test Data

Temperature	25.1 °C	Humidity	54 %
ATM Pressure	101.1kPa	Antenna Gain	-1.04dBi
Test by	Fan Yang	Test result	PASS

Please refer to following table and plots.

Output Power:

Modulation	CH No.	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Verdict
802.11b	01	2412	16.93	≤30	PASS
	06	2437	17.03	≤30	PASS
	11	2462	17.06	≤30	PASS
802.11g	01	2412	14.79	≤30	PASS
	06	2437	14.98	≤30	PASS
	11	2462	14.99	≤30	PASS
802.11n(HT20)	01	2412	13.97	≤30	PASS
	06	2437	14.15	≤30	PASS
	11	2462	14.19	≤30	PASS
802.11n(HT40)	03	2422	12.37	≤30	PASS
	06	2437	12.65	≤30	PASS
	09	2452	12.82	≤30	PASS
802.11ax(HE20)	01	2412	13.86	≤30	PASS
	06	2437	14.08	≤30	PASS
	11	2462	14.11	≤30	PASS
802.11ax(HE40)	03	2422	12.61	≤30	PASS
	06	2437	12.97	≤30	PASS
	09	2452	13.07	≤30	PASS

7. Channel Bandwidth & 99% Occupied Bandwidth

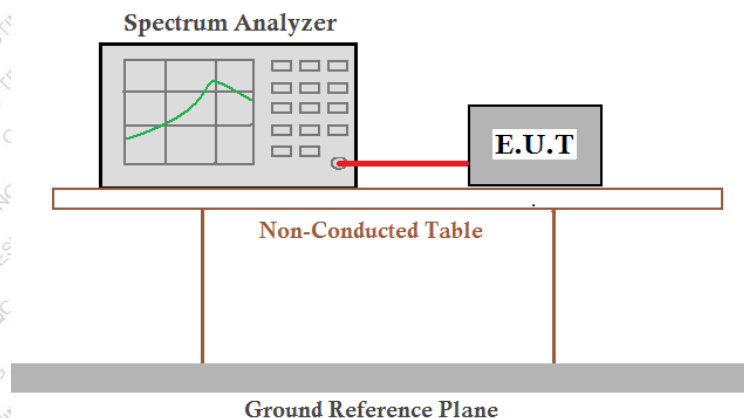
7.1. Applicable Standard

FCC Part15 C Section 15.247 (a)(2)

7.2. Limit

The minimum 6 dB bandwidth shall be 500 kHz.

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	25.1 °C	Humidity	54 %
ATM Pressure	101.1kPa	Antenna Gain	-1.04dBi
Test by	Fan Yang	Test result	PASS

Please refer to following table and plots.

**DTS Bandwidth:**

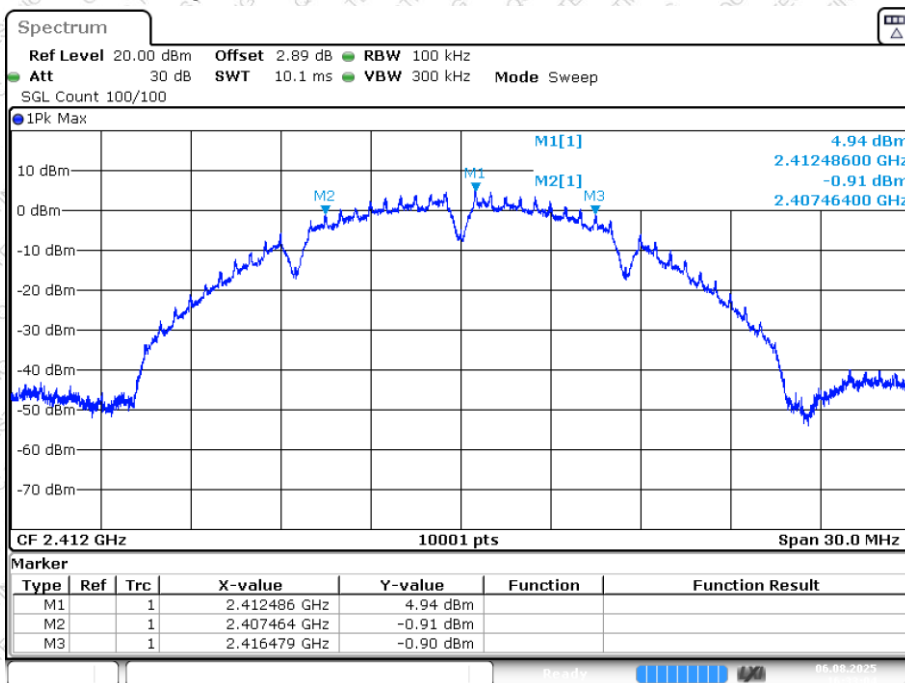
Modulation	CH No.	Frequency (MHz)	DTS Bandwidth (MHz)	Limit (MHz)	Verdict
802.11b	01	2412	9.015	0.5	PASS
	06	2437	8.553	0.5	PASS
	11	2462	8.082	0.5	PASS
802.11g	01	2412	13.821	0.5	PASS
	06	2437	14.985	0.5	PASS
	11	2462	14.985	0.5	PASS
802.11n(HT20)	01	2412	15.006	0.5	PASS
	06	2437	13.818	0.5	PASS
	11	2462	14.994	0.5	PASS
802.11n(HT40)	03	2422	25.038	0.5	PASS
	06	2437	25.032	0.5	PASS
	09	2452	25.032	0.5	PASS
802.11ax(HE20)	01	2412	15.012	0.5	PASS
	06	2437	13.812	0.5	PASS
	11	2462	13.818	0.5	PASS
802.11ax(HE40)	03	2422	25.05	0.5	PASS
	06	2437	25.014	0.5	PASS
	09	2452	25.032	0.5	PASS

99% Occupied Bandwidth:

Modulation	CH No.	Frequency (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Verdict
802.11b	01	2412	13.703	---	PASS
	06	2437	13.673	---	PASS
	11	2462	13.7	---	PASS
802.11g	01	2412	16.204	---	PASS
	06	2437	16.171	---	PASS
	11	2462	16.192	---	PASS
802.11n(HT20)	01	2412	17.578	---	PASS
	06	2437	17.56	---	PASS
	11	2462	17.572	---	PASS
802.11n(HT40)	03	2422	34.443	---	PASS
	06	2437	34.365	---	PASS
	09	2452	34.401	---	PASS
802.11ax(HE20)	01	2412	18.214	---	PASS
	06	2437	18.169	---	PASS
	11	2462	18.223	---	PASS
802.11ax(HE40)	03	2422	35.786	---	PASS
	06	2437	35.666	---	PASS
	09	2452	35.732	---	PASS

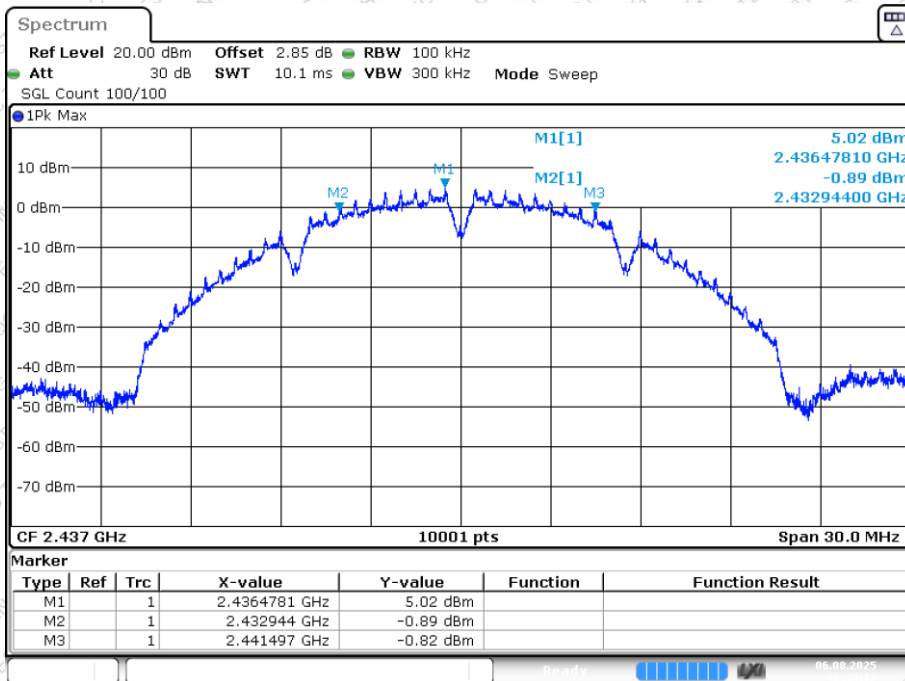


-6dB Bandwidth NVNT b 2412MHz Ant1



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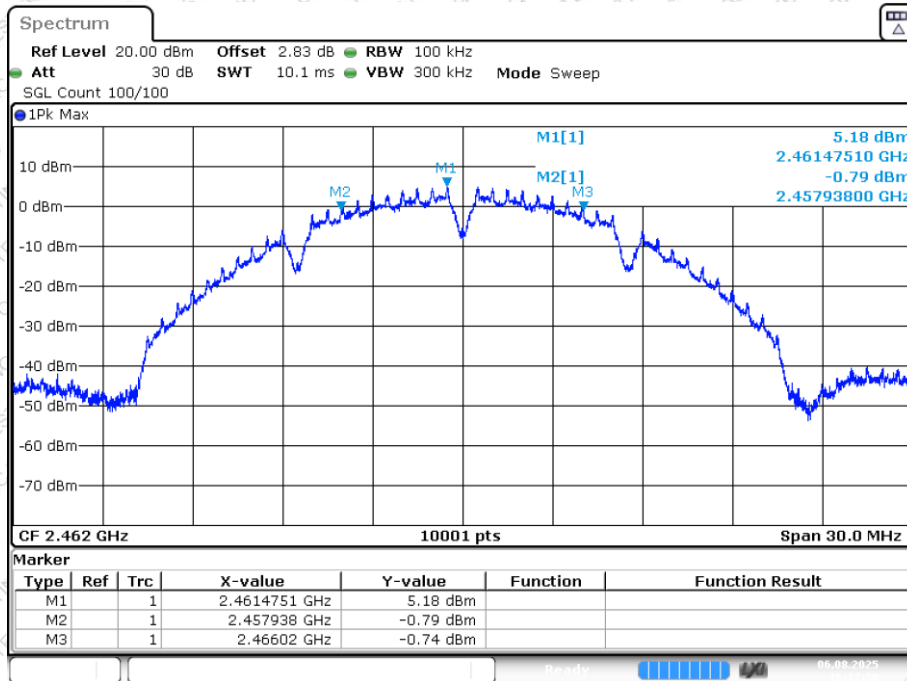
-6dB Bandwidth NVNT b 2437MHz Ant1



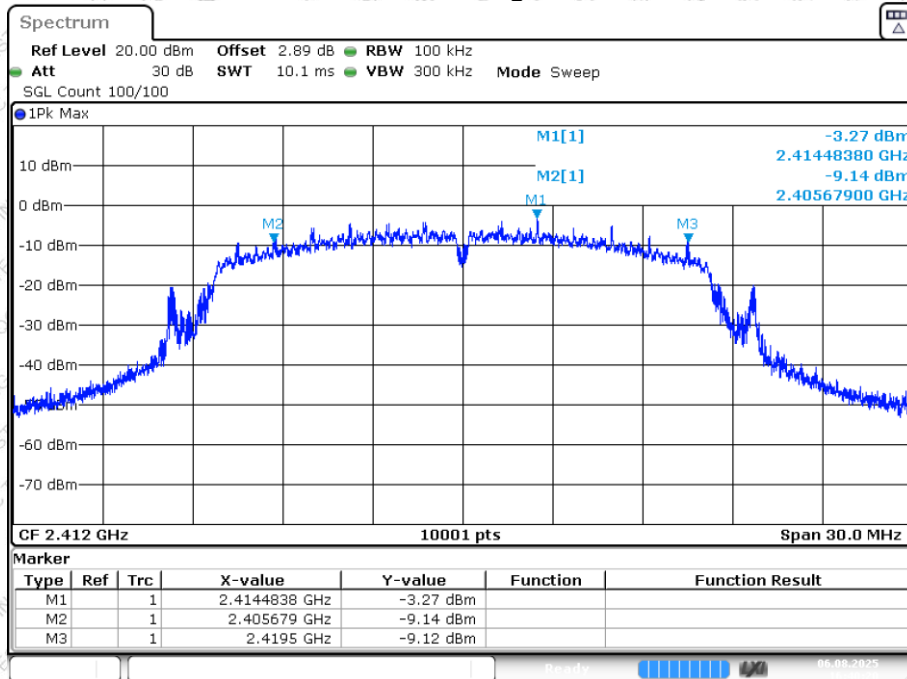
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-6dB Bandwidth NVNT b 2462MHz Ant1

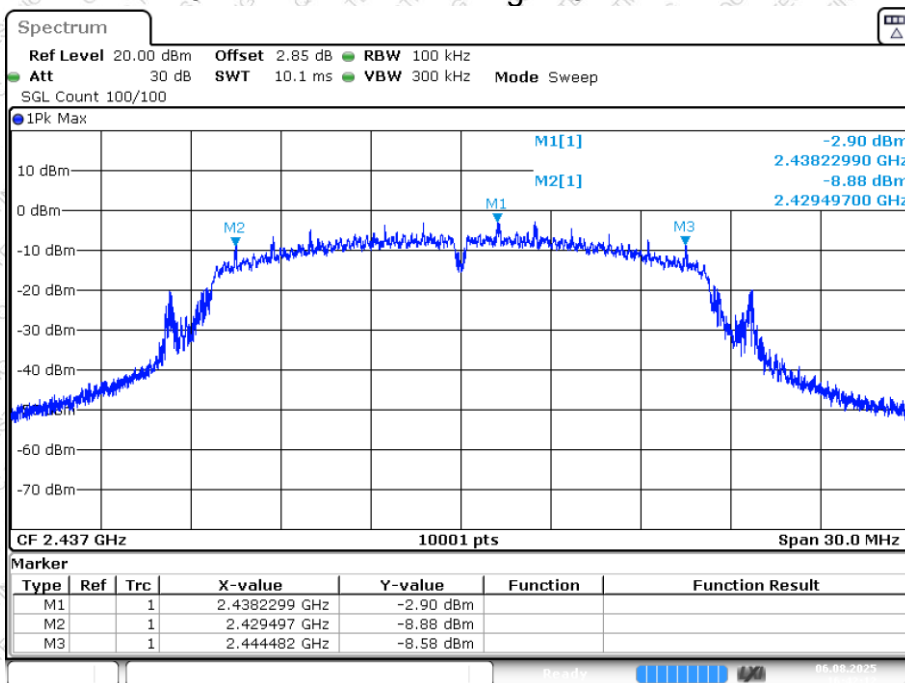


-6dB Bandwidth NVNT g 2412MHz Ant1

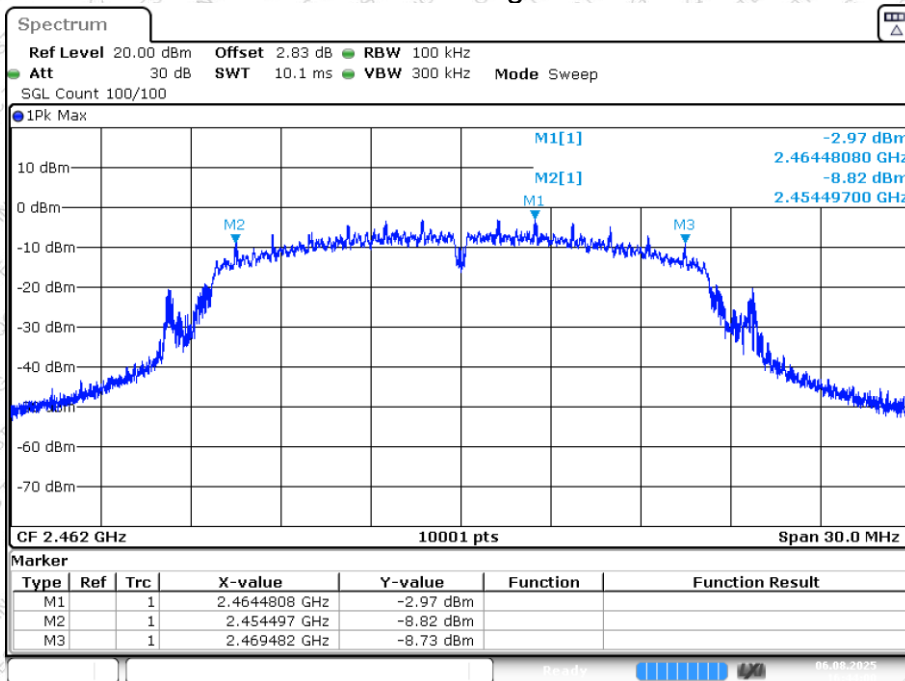




-6dB Bandwidth NVNT g 2437MHz Ant1

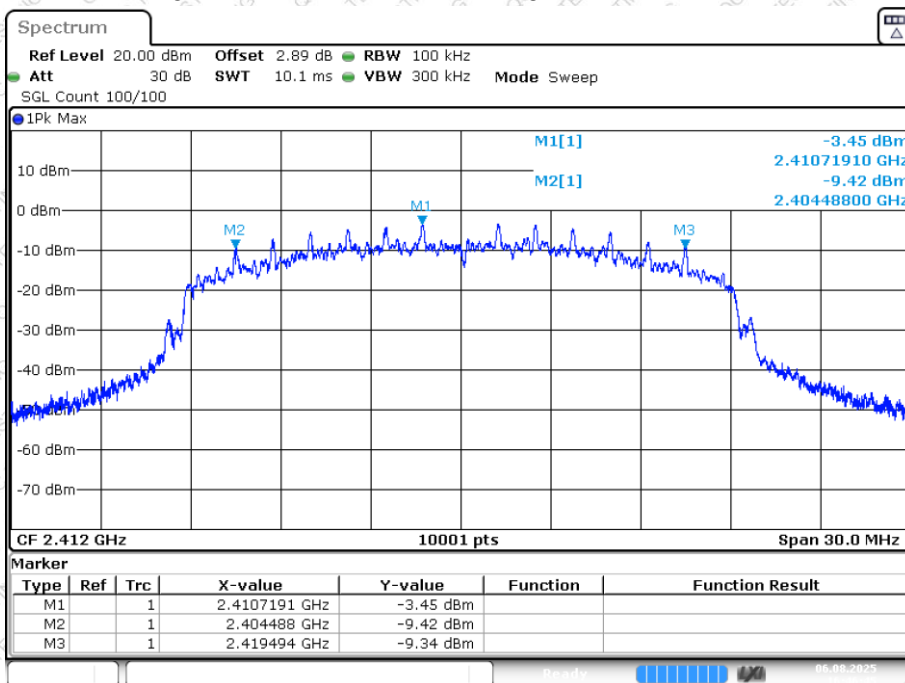


-6dB Bandwidth NVNT g 2462MHz Ant1

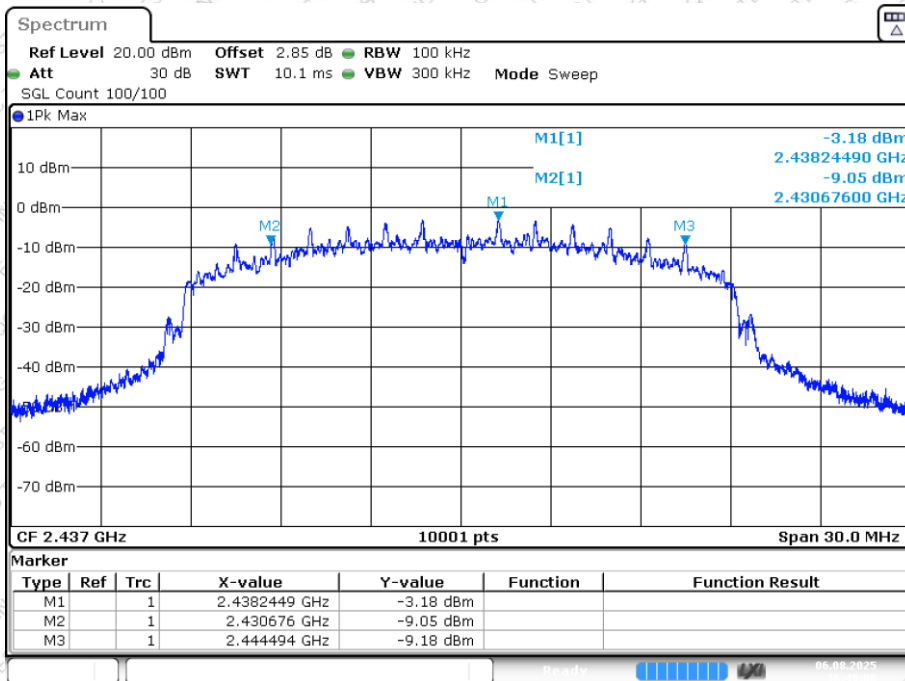




-6dB Bandwidth NVNT n20 2412MHz Ant1

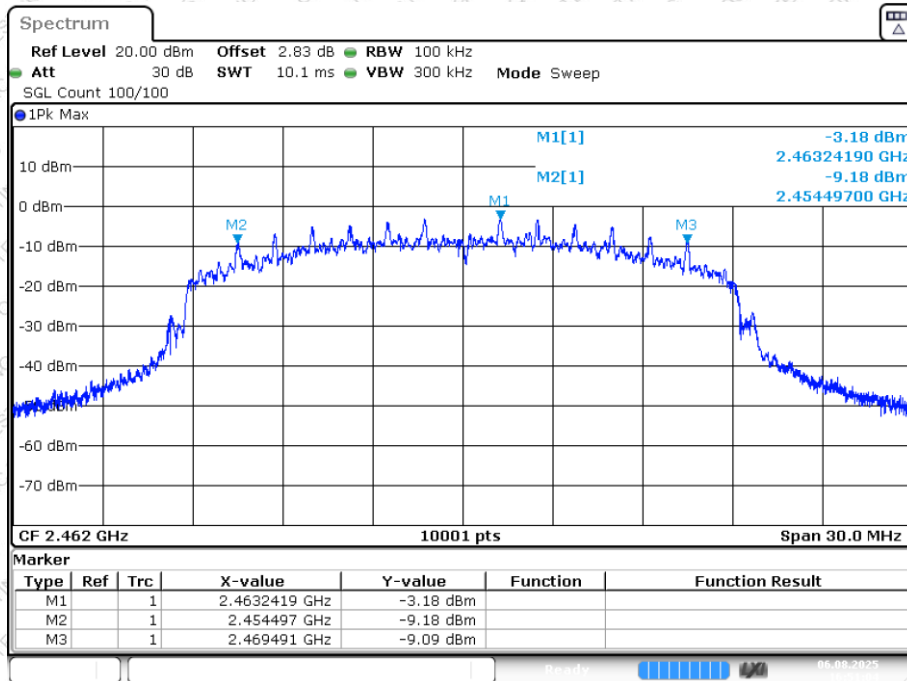


-6dB Bandwidth NVNT n20 2437MHz Ant1

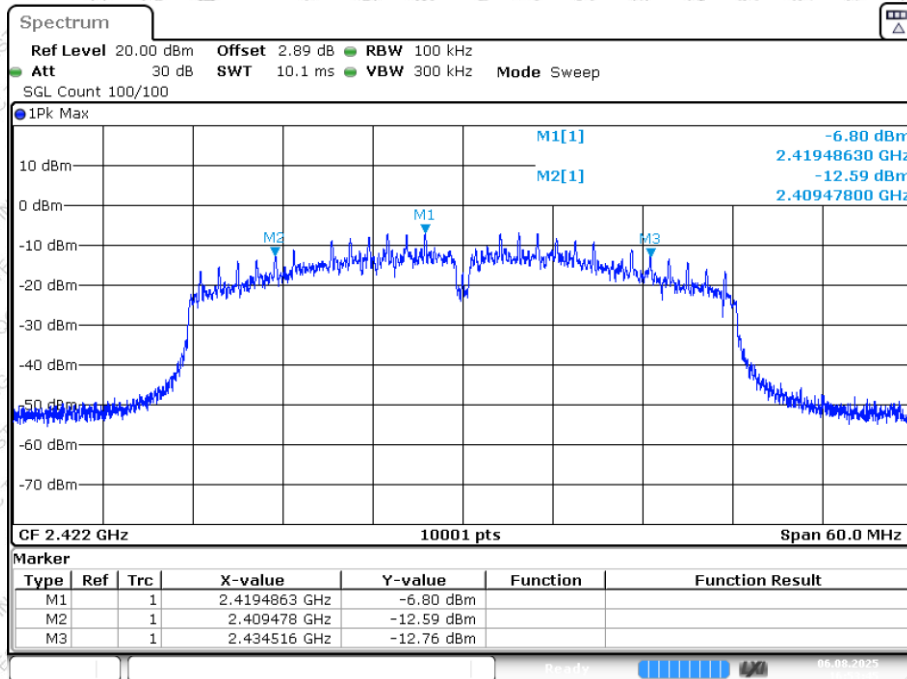




-6dB Bandwidth NVNT n20 2462MHz Ant1

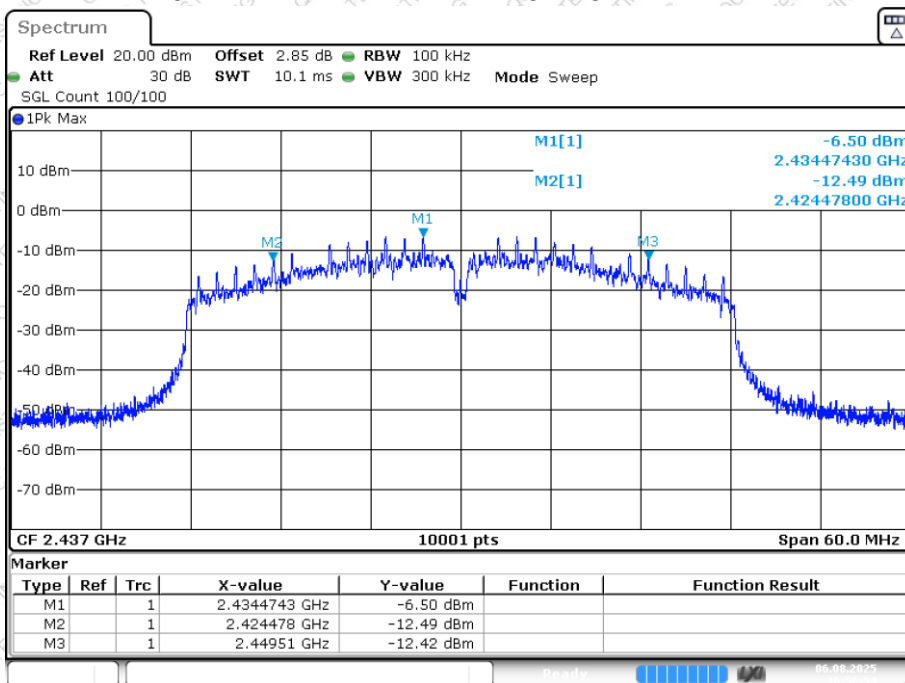


-6dB Bandwidth NVNT n40 2422MHz Ant1

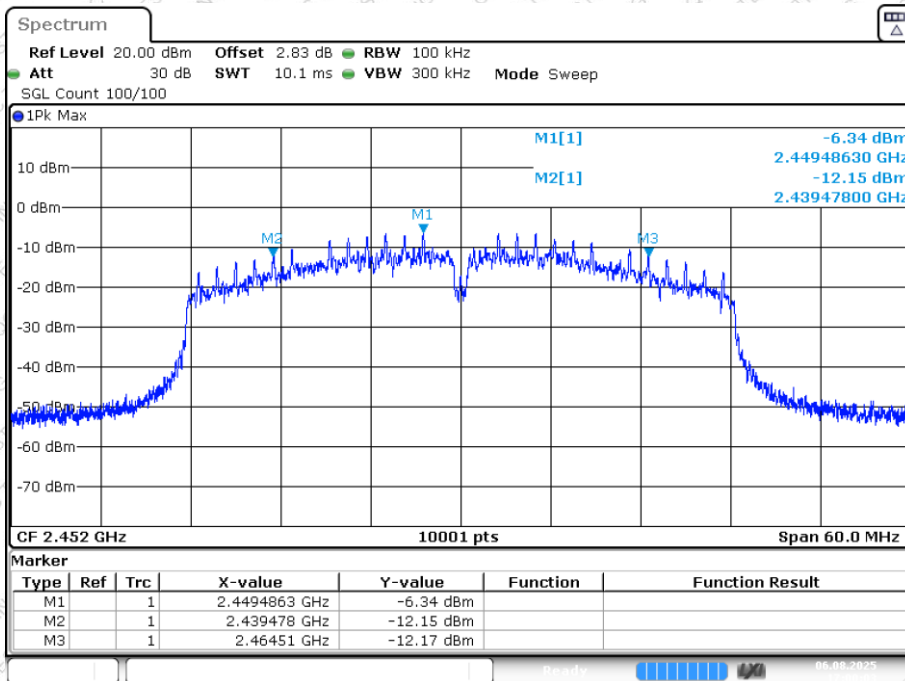




-6dB Bandwidth NVNT n40 2437MHz Ant1

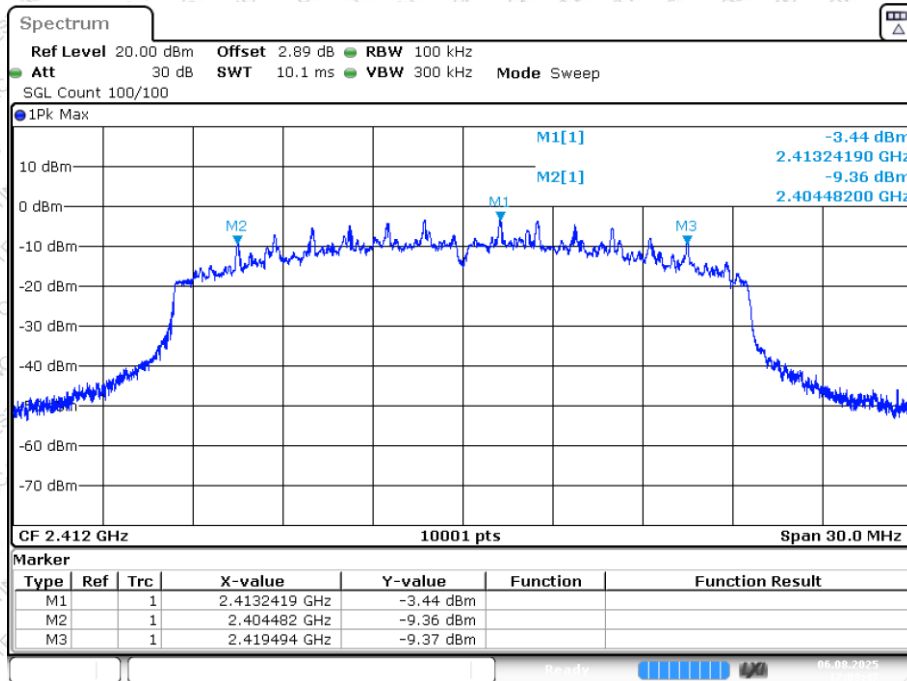


-6dB Bandwidth NVNT n40 2452MHz Ant1

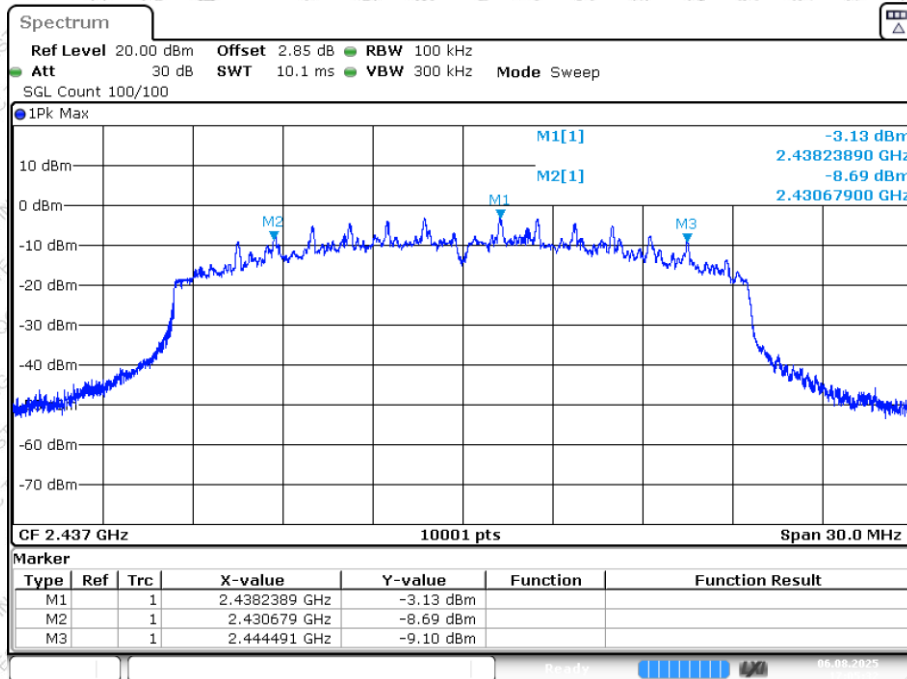




-6dB Bandwidth NVNT ax20 2412MHz Ant1

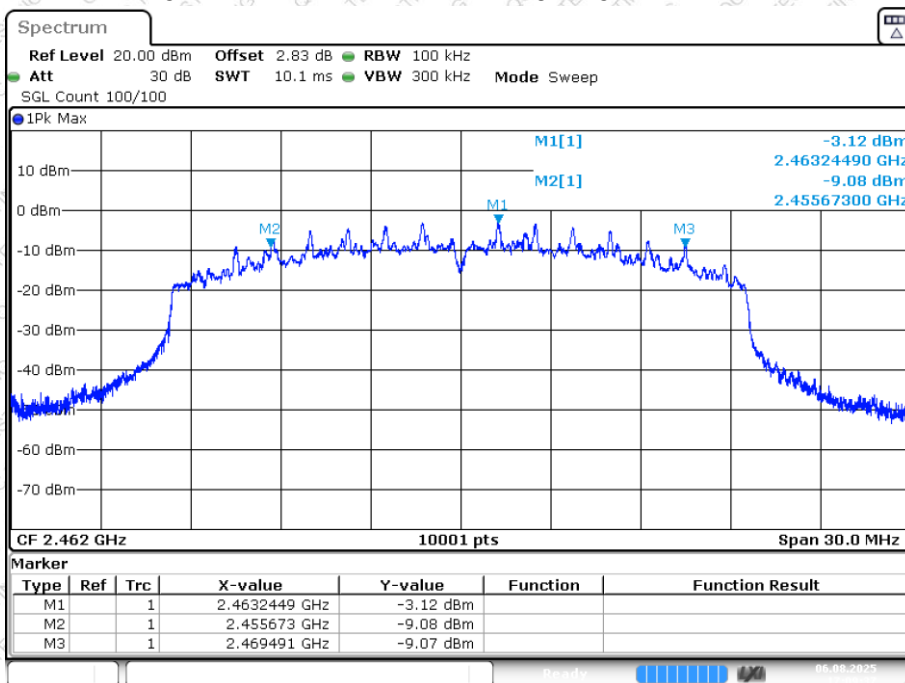


-6dB Bandwidth NVNT ax20 2437MHz Ant1

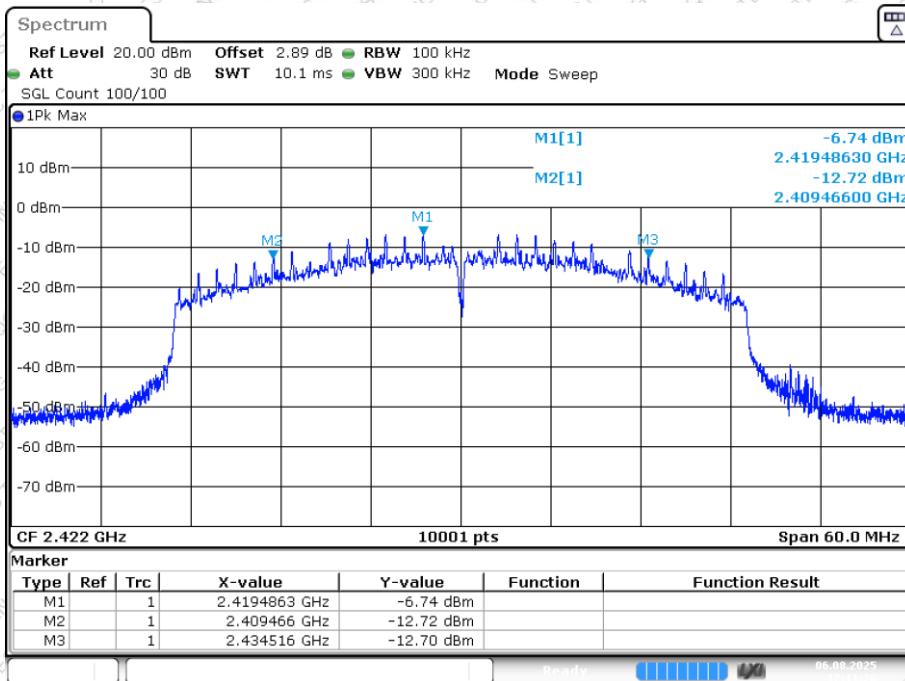




-6dB Bandwidth NVNT ax20 2462MHz Ant1

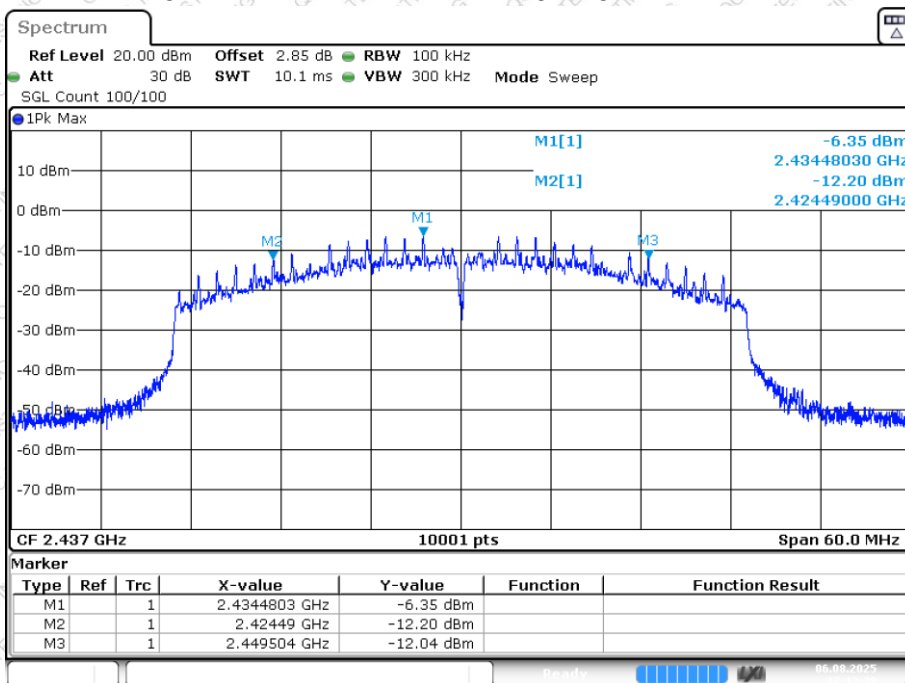


-6dB Bandwidth NVNT ax40 2422MHz Ant1

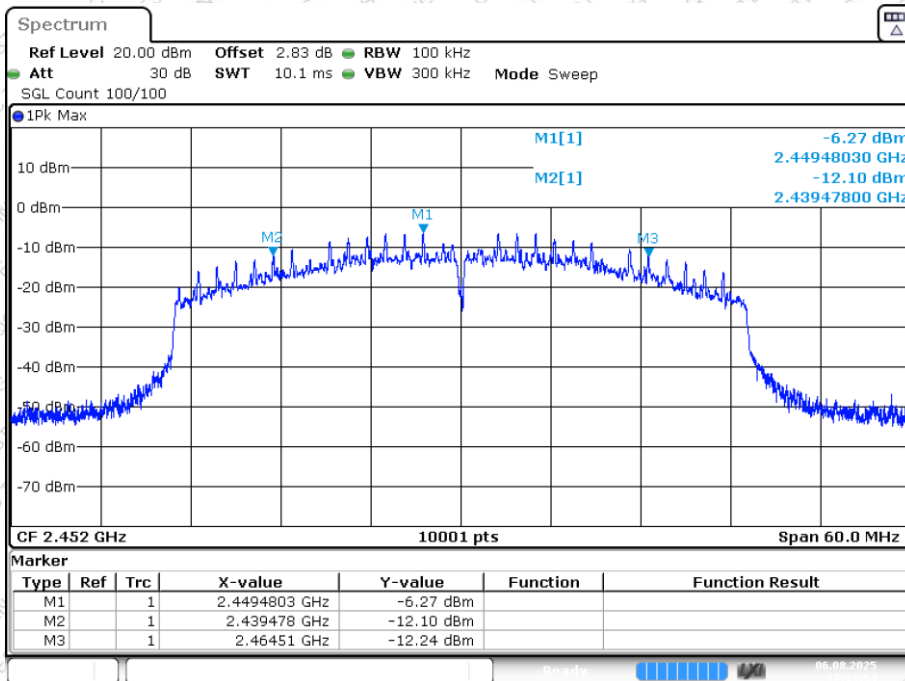




-6dB Bandwidth NVNT ax40 2437MHz Ant1

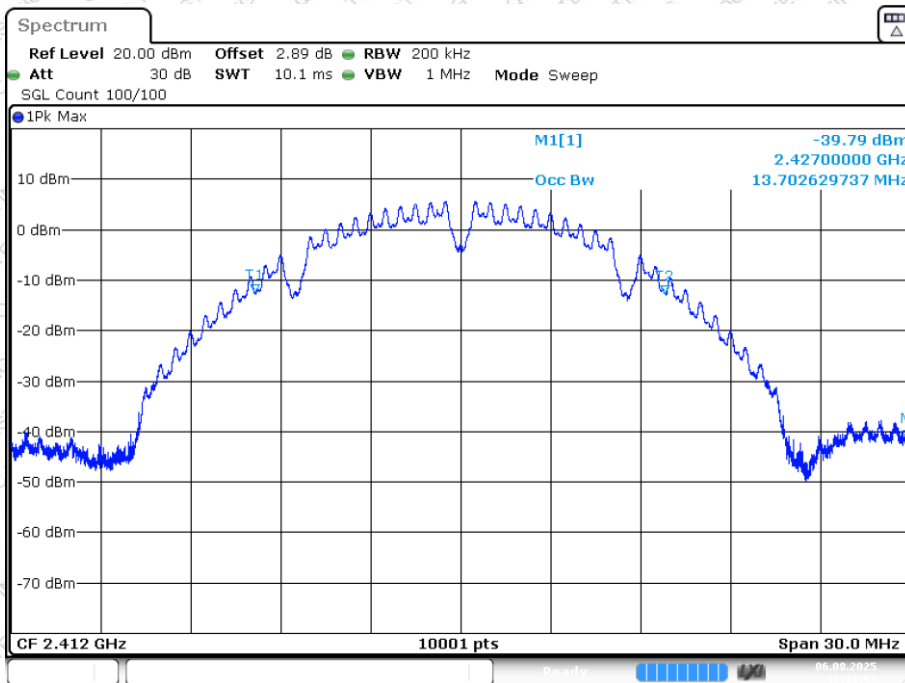


-6dB Bandwidth NVNT ax40 2452MHz Ant1



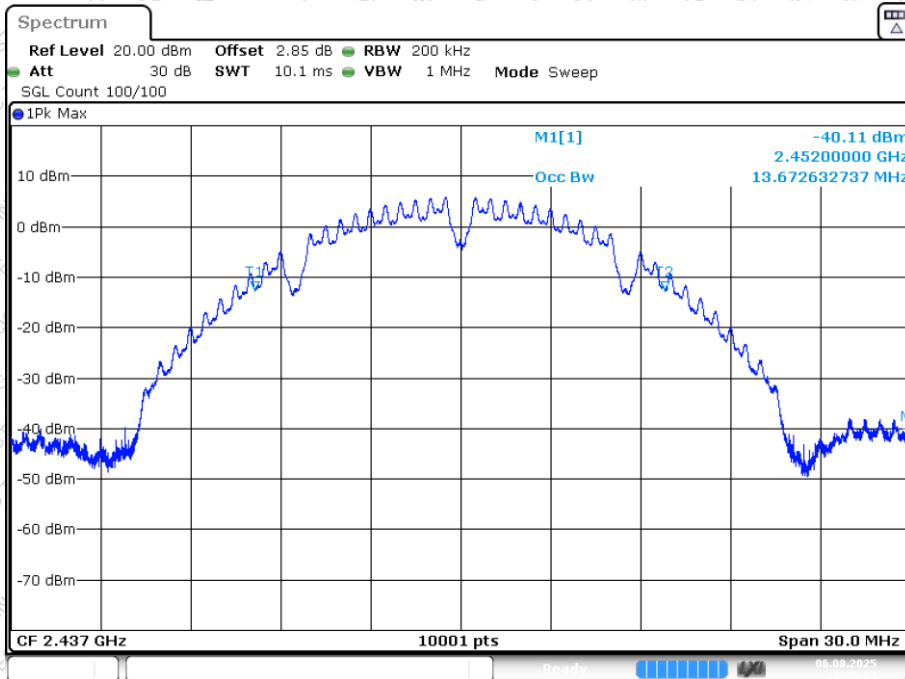


OBW NVNT b 2412MHz Ant1



Date: 6.AUG.2025 16:32:58

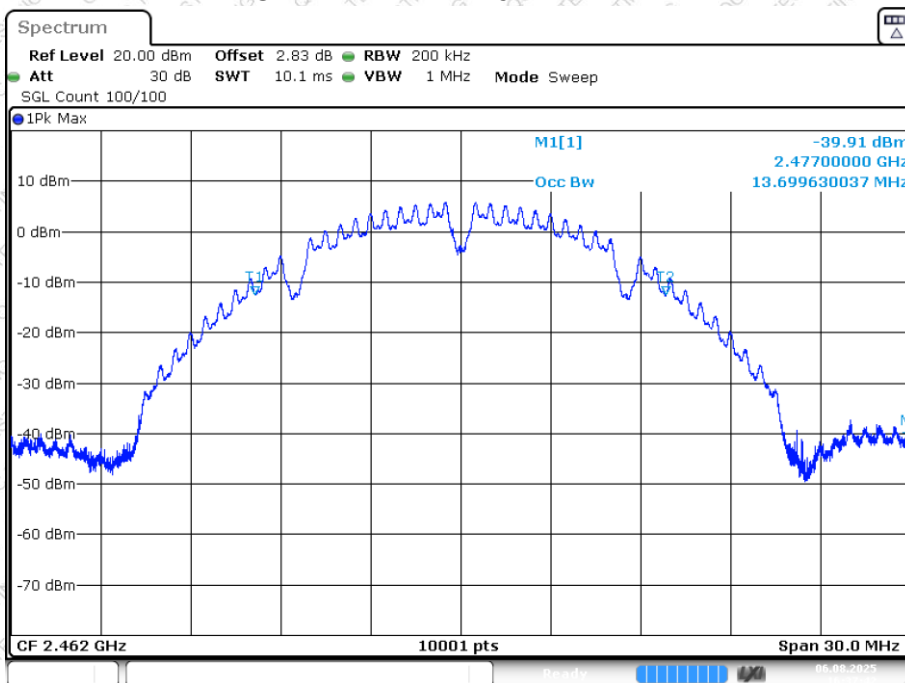
OBW NVNT b 2437MHz Ant1



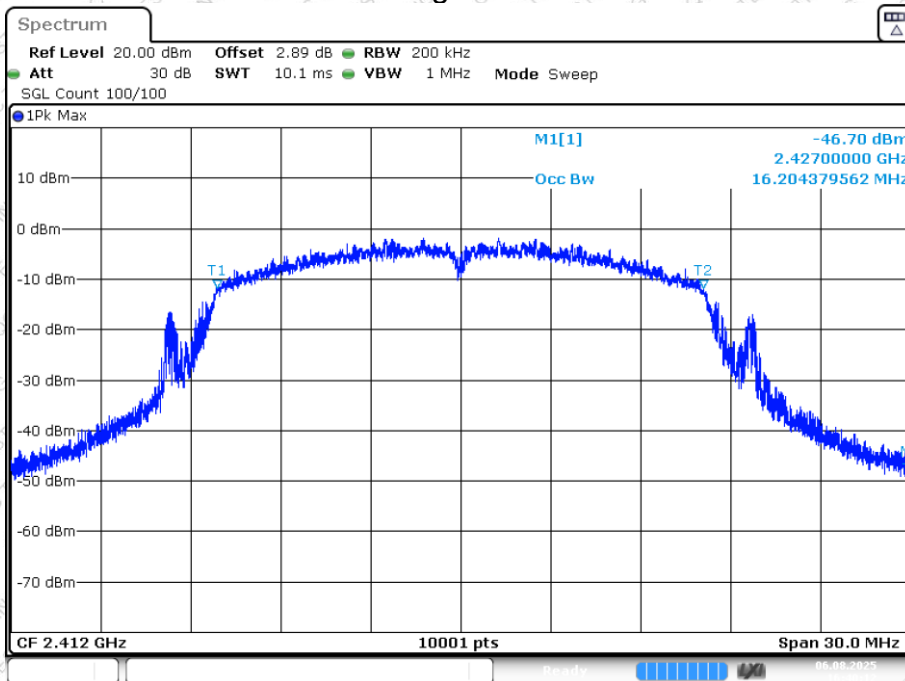
Date: 6.AUG.2025 16:35:04



OBW NVNT b 2462MHz Ant1

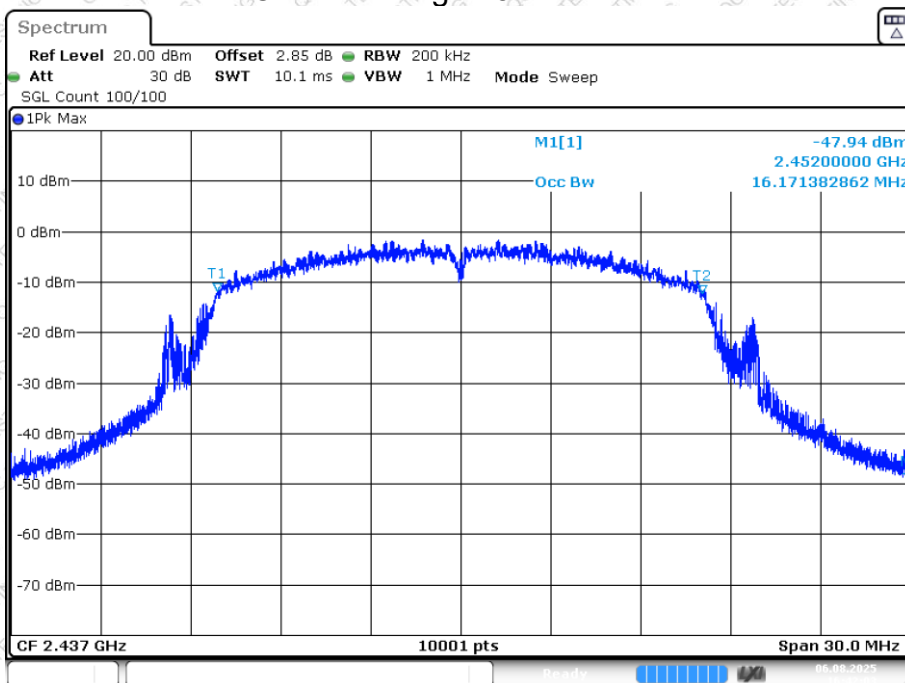


OBW NVNT g 2412MHz Ant1



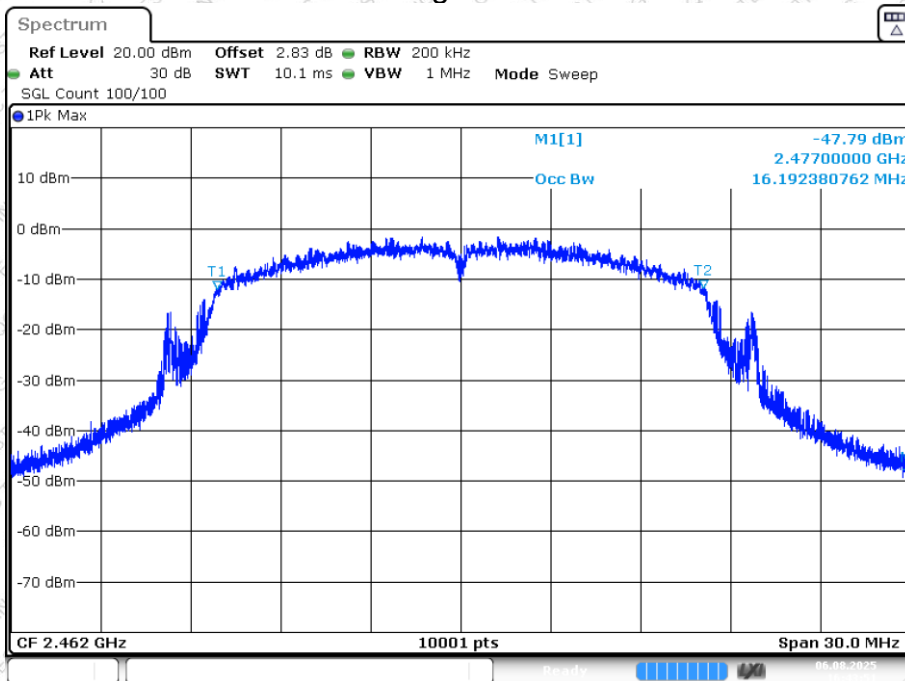


OBW NVNT g 2437MHz Ant1



Date: 6.AUG.2025 16:42:03

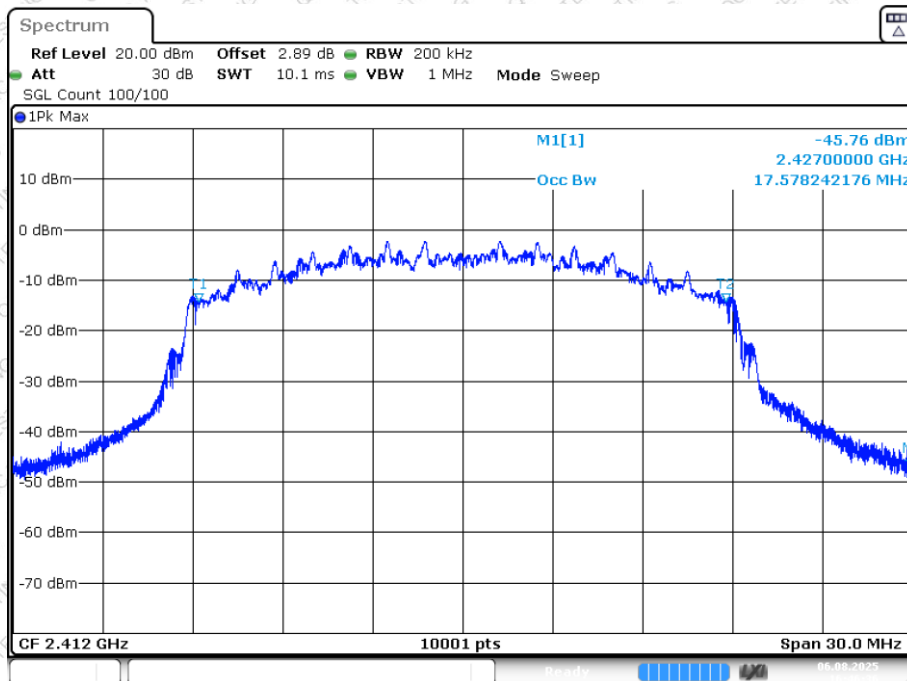
OBW NVNT g 2462MHz Ant1



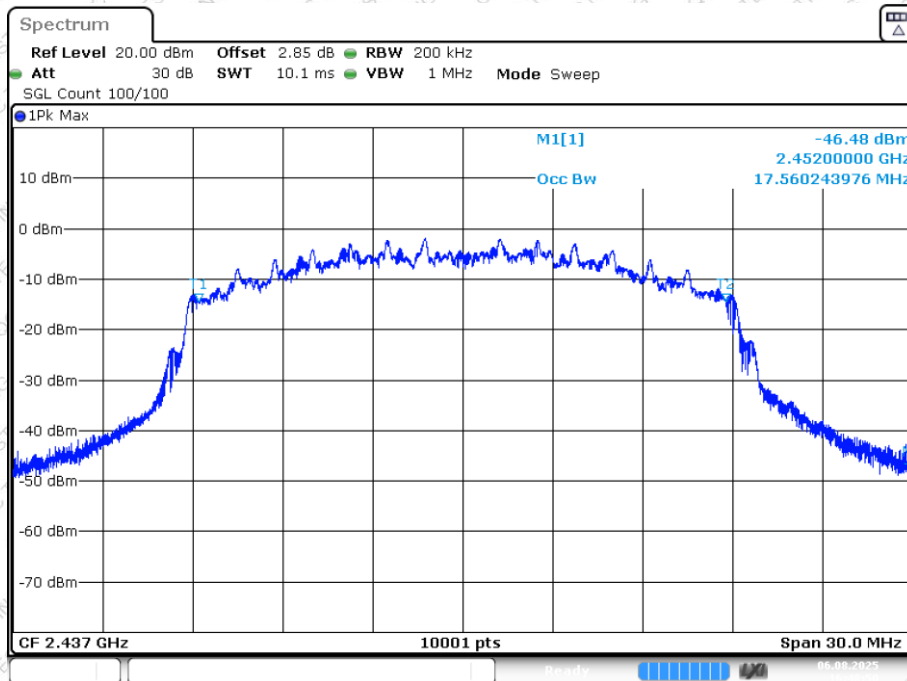
Date: 6.AUG.2025 16:43:51



OBW NVNT n20 2412MHz Ant1

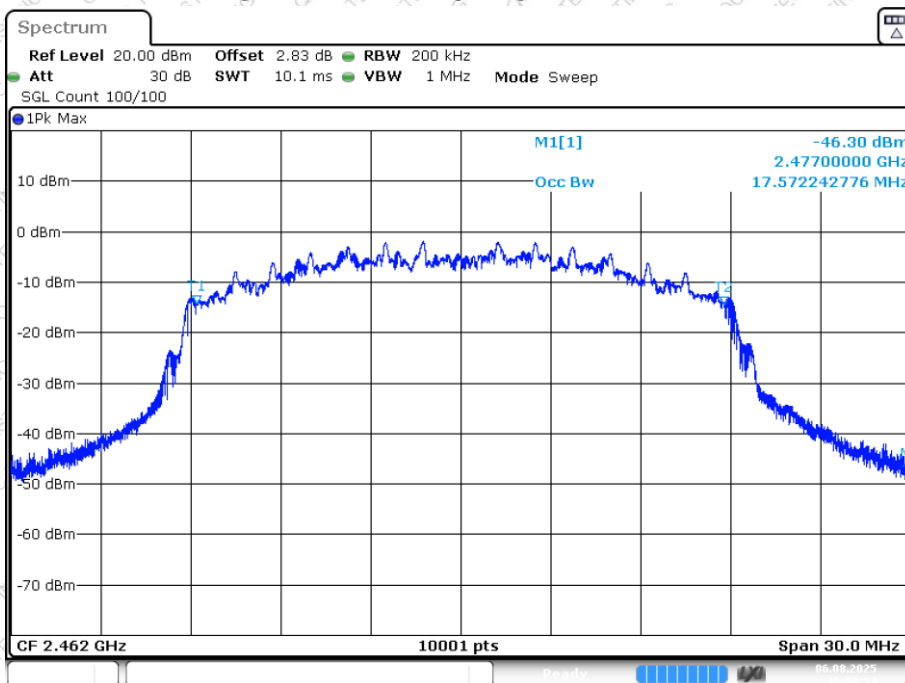


OBW NVNT n20 2437MHz Ant1

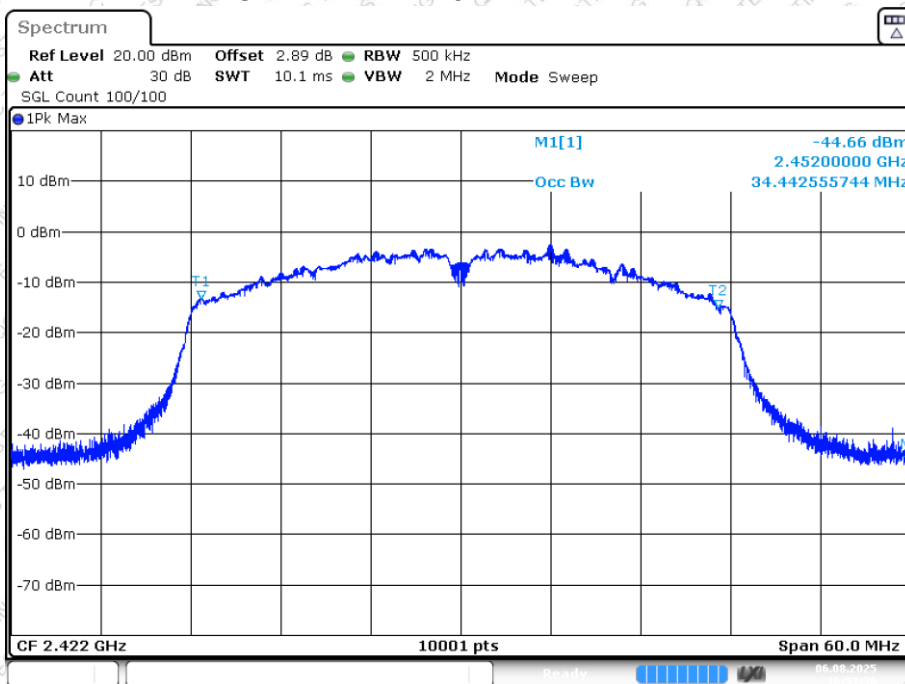




OBW NVNT n20 2462MHz Ant1

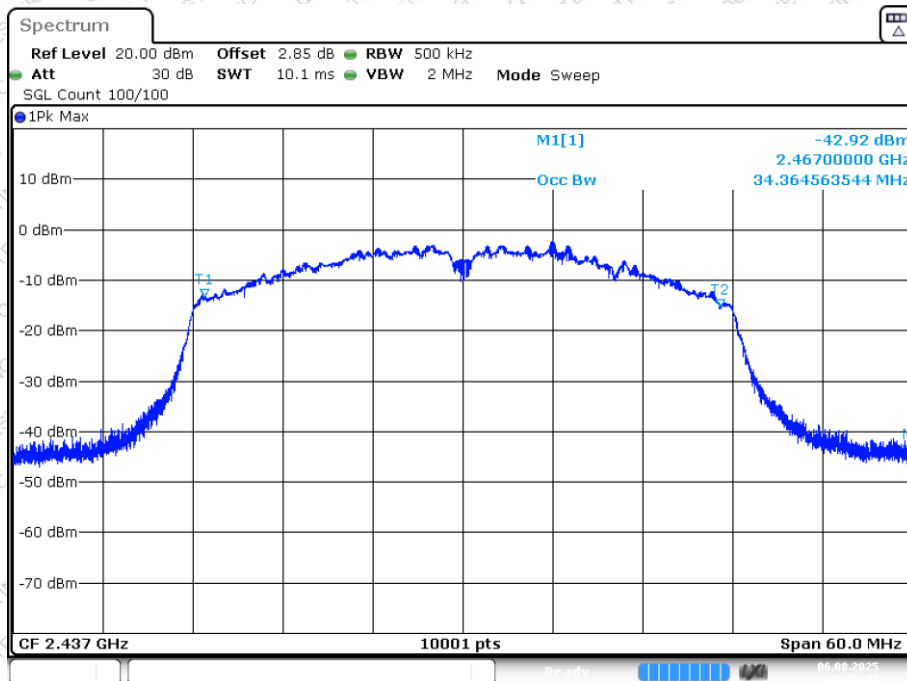


OBW NVNT n40 2422MHz Ant1

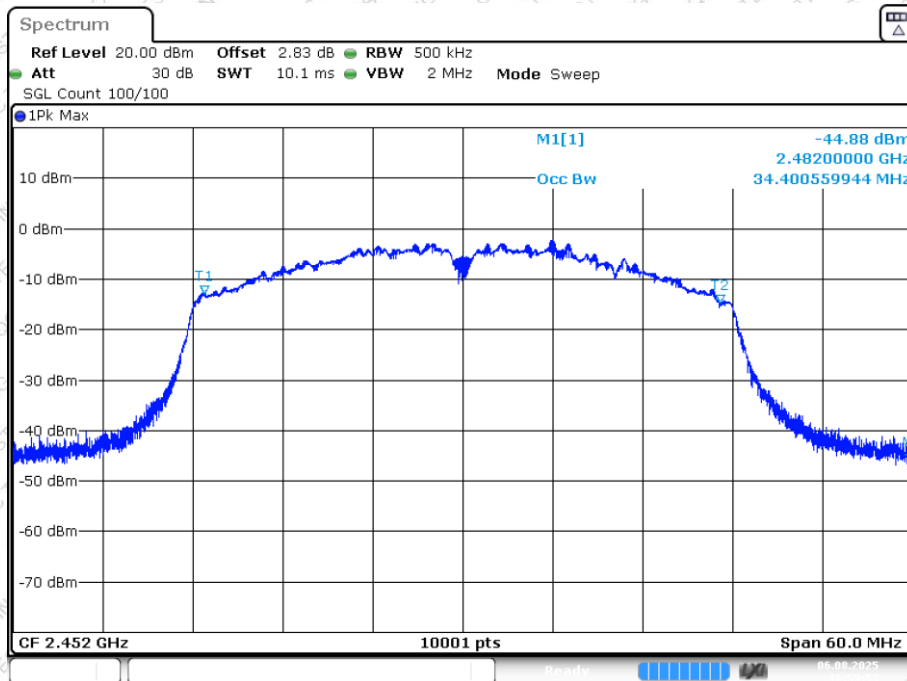




OBW NVNT n40 2437MHz Ant1

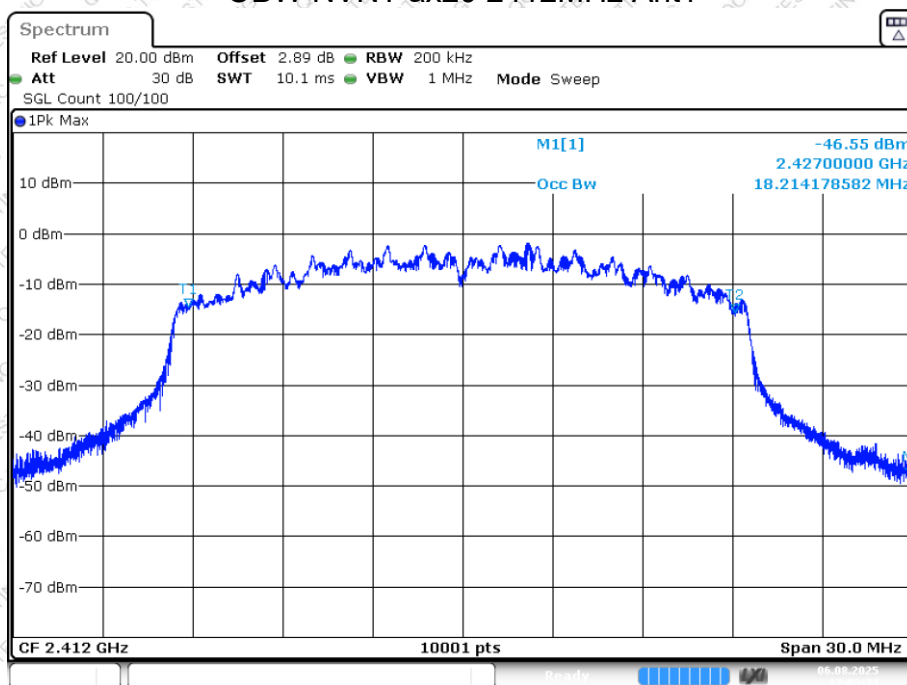


OBW NVNT n40 2452MHz Ant1



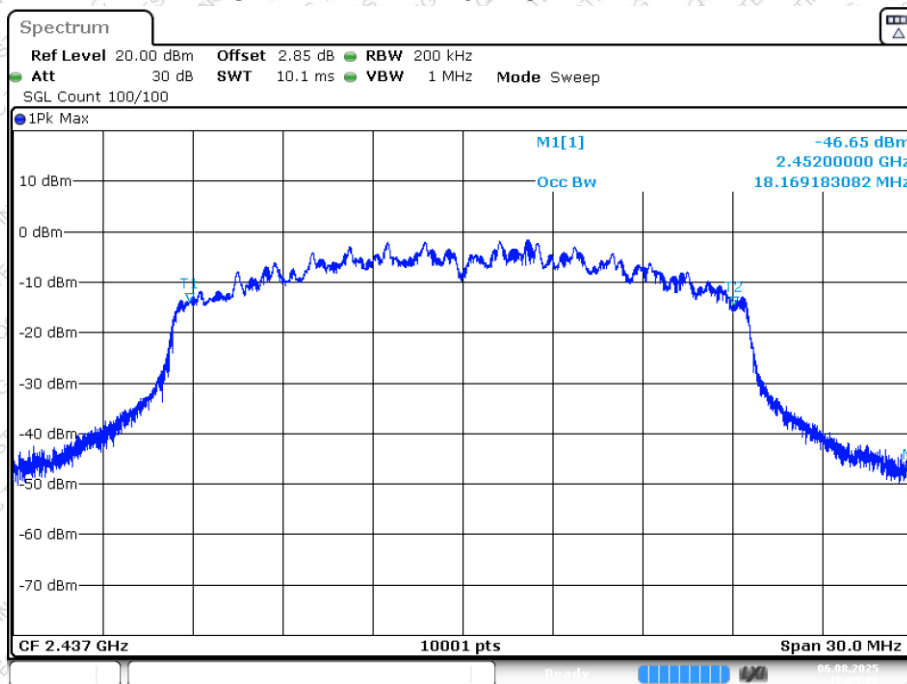


OBW NVNT ax20 2412MHz Ant1



Date: 6.AUG.2025 17:03:35

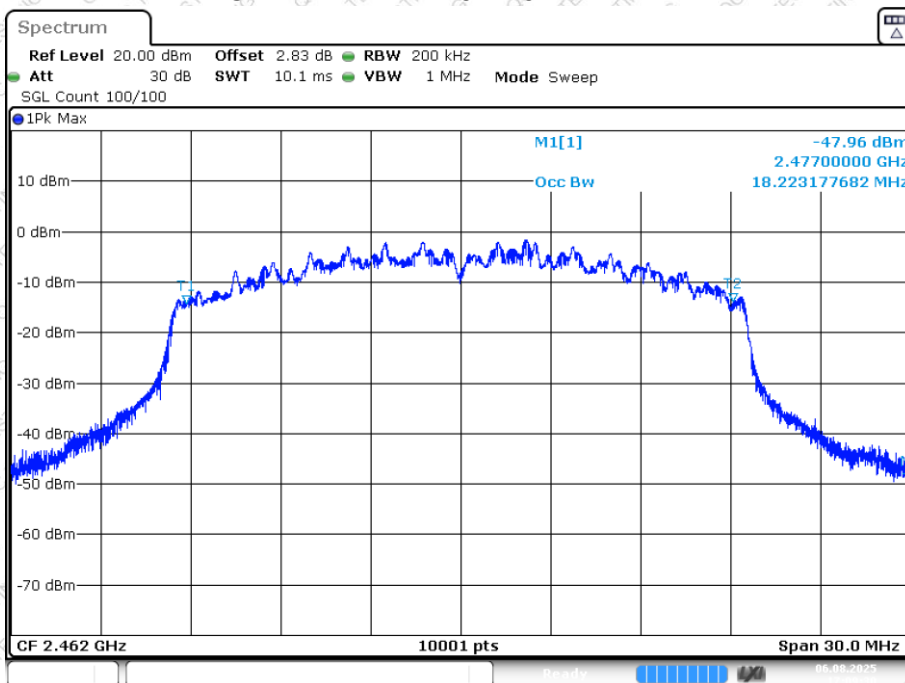
OBW NVNT ax20 2437MHz Ant1



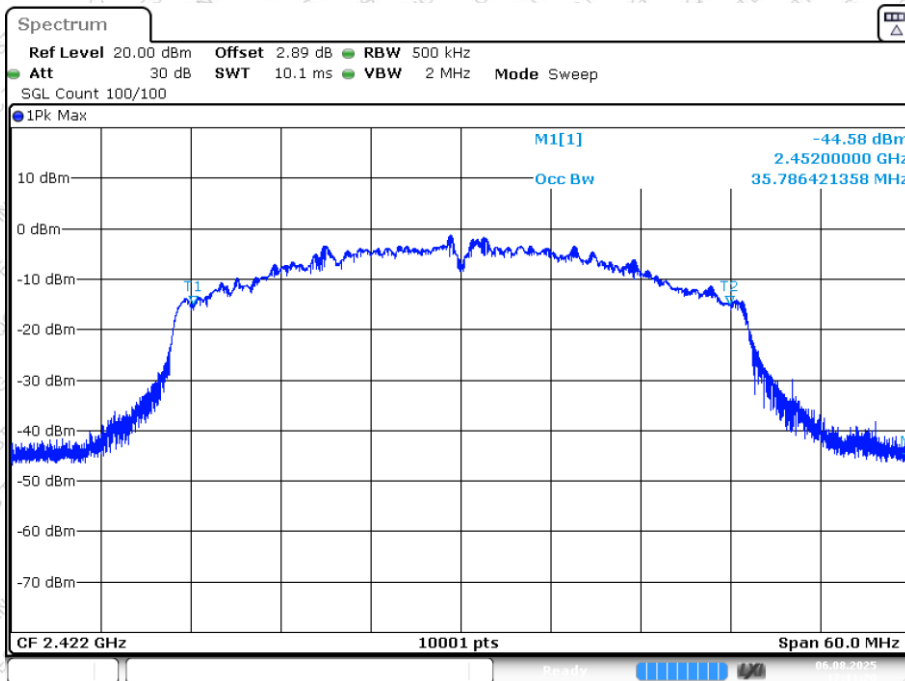
Date: 6.AUG.2025 17:05:20



OBW NVNT ax20 2462MHz Ant1

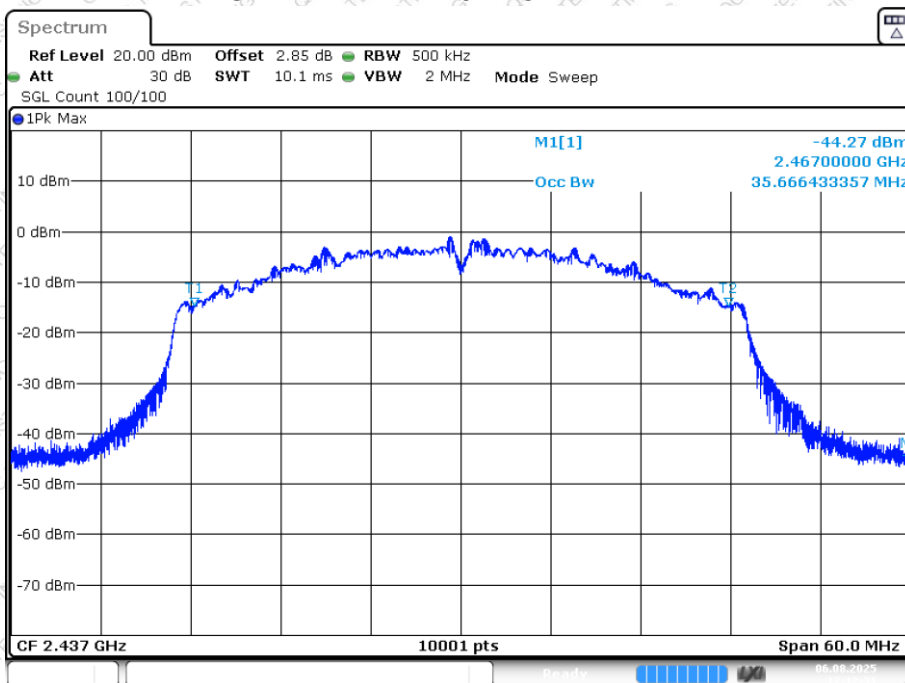


OBW NVNT ax40 2422MHz Ant1



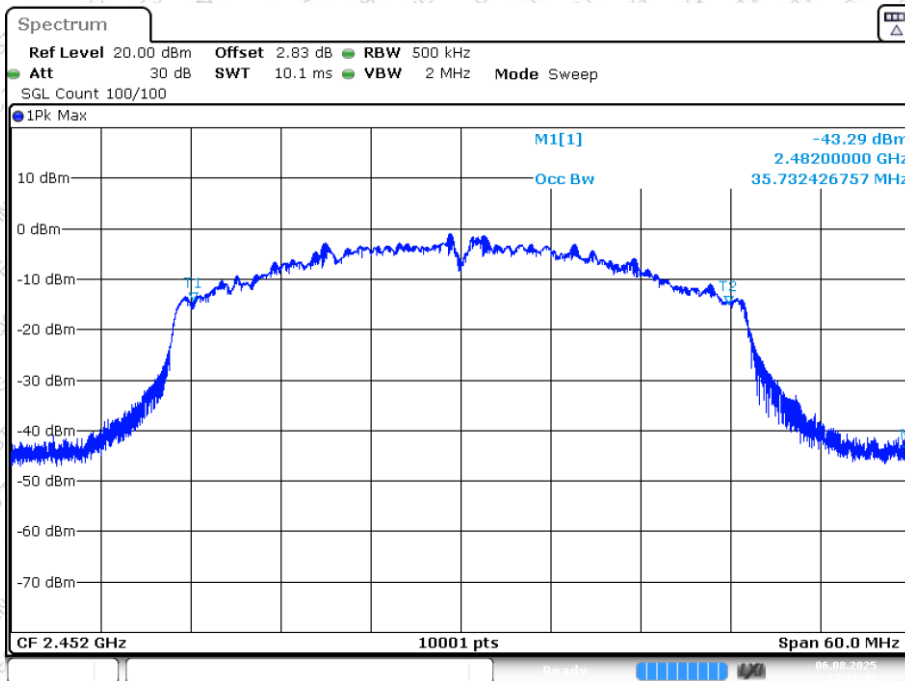


OBW NVNT ax40 2437MHz Ant1



Date: 6.AUG.2025 17:12:31

OBW NVNT ax40 2452MHz Ant1



Date: 6.AUG.2025 17:13:48

8. Power Spectral Density

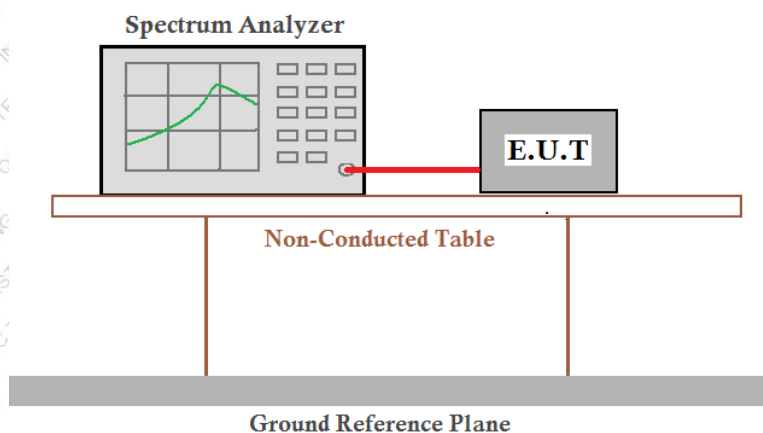
8.1 Applicable Standard

FCC Part15 C Section 15.247 (e)

8.2 Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

8.3 Test setup



8.4 Test Procedure

Refer to KDB558074 D01 15.247 Meas Guidance v05r02

8.5 Test Data

Temperature	25.1 °C	Humidity	54 %
ATM Pressure	101.1kPa	Antenna Gain	-1.04dBi
Test by	Fan Yang	Test result	PASS

Please refer to following table and plots.

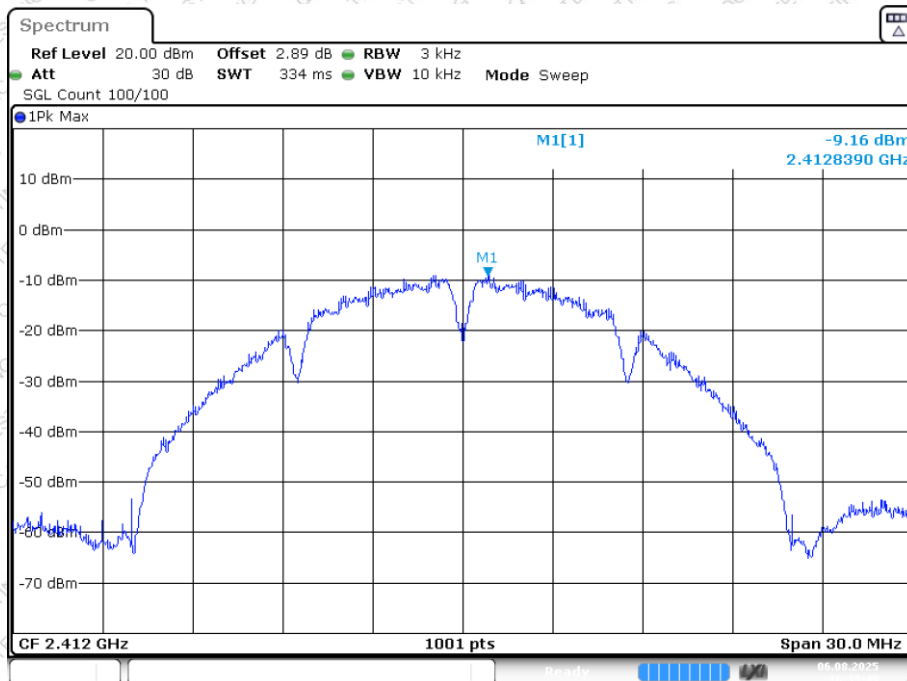


Power Spectral Density:

Modulation	Frequency (MHz)	Max PSD (dBm)	Limit (dBm/3kHz)
802.11b	2412	-9.16	8
	2437	-8.91	8
	2462	-8.91	8
802.11g	2412	-17.58	8
	2437	-17.27	8
	2462	-17.3	8
802.11 n(HT20)	2412	-16.59	8
	2437	-16.32	8
	2462	-16.3	8
802.11 n(HT40)	2422	-17.71	8
	2437	-17.36	8
	2452	-17.17	8
802.11 ax(HE20)	2412	-3.41	8
	2437	-3.18	8
	2462	-3.1	8
802.11 ax(HE40)	2422	-6.39	8
	2437	-6.14	8
	2452	-5.98	8

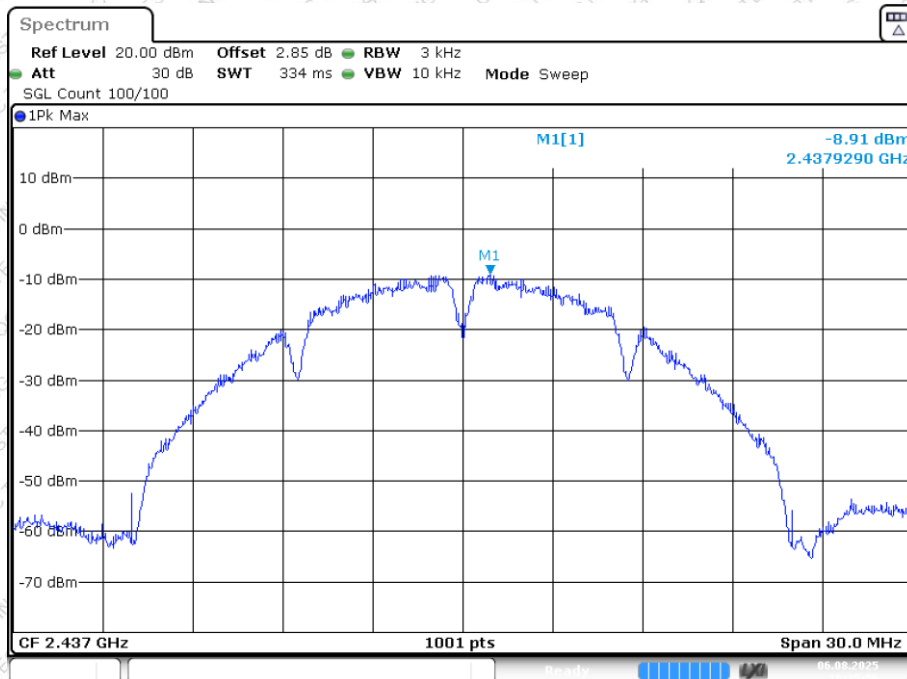


PSD NVNT b 2412MHz Ant1



Date: 6.AUG.2025 16:33:49

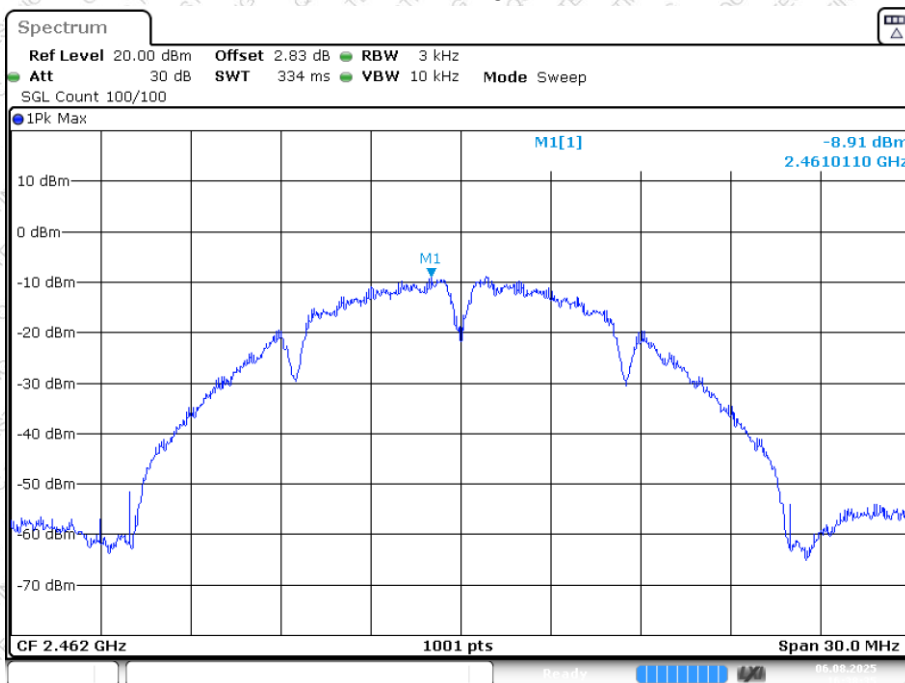
PSD NVNT b 2437MHz Ant1



Date: 6.AUG.2025 16:35:57

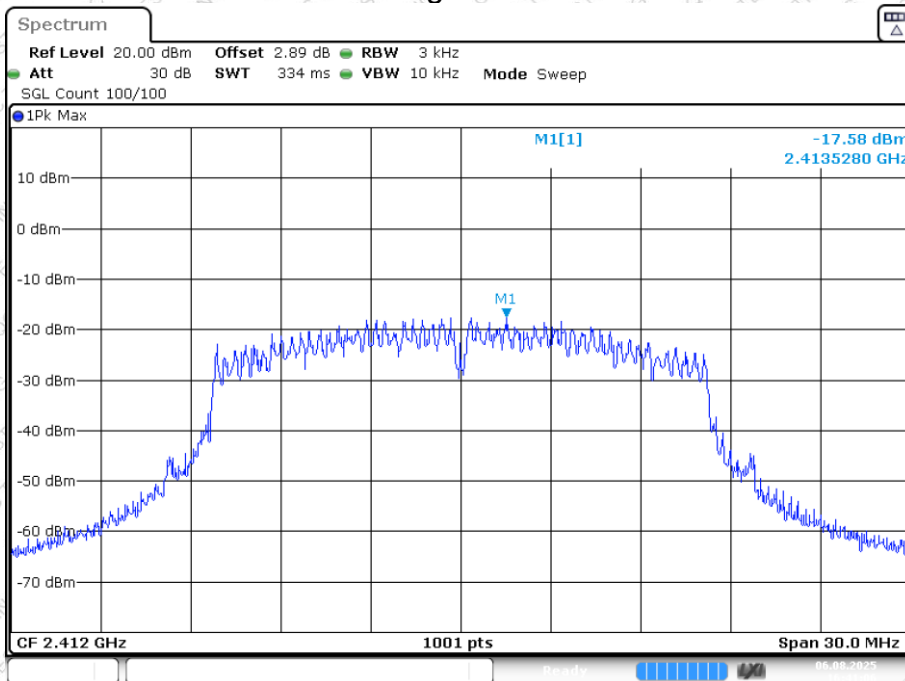


PSD NVNT b 2462MHz Ant1



Date: 6.AUG.2025 16:38:35

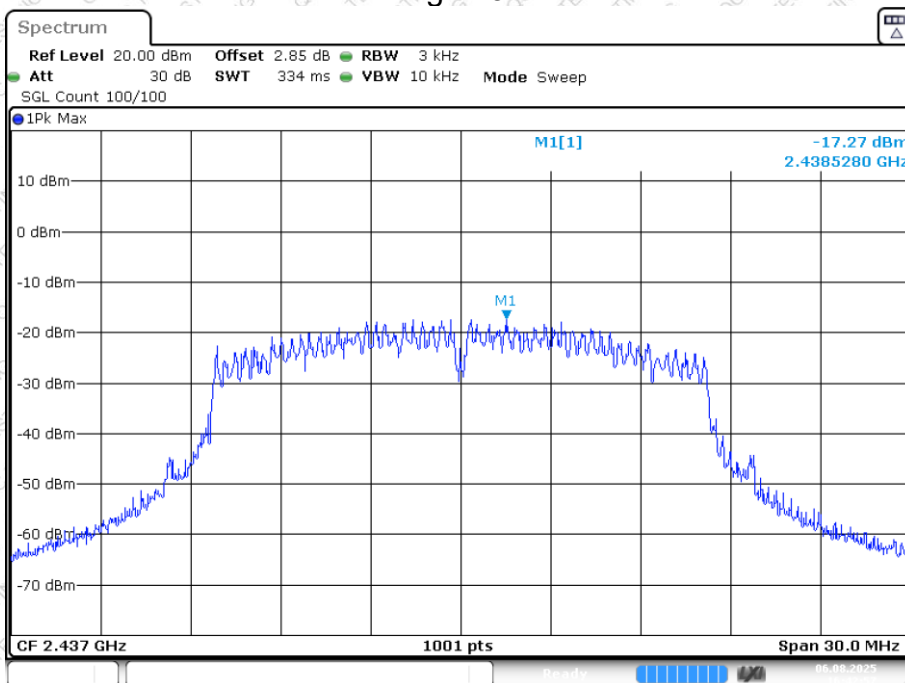
PSD NVNT g 2412MHz Ant1



Date: 6.AUG.2025 16:41:06

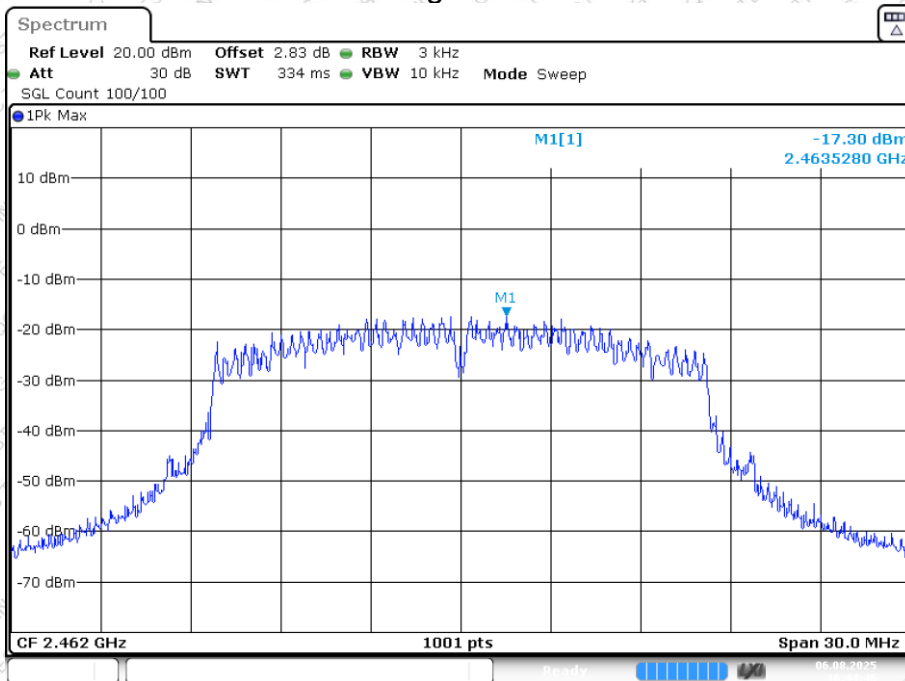


PSD NVNT g 2437MHz Ant1



Date: 6.AUG.2025 16:42:58

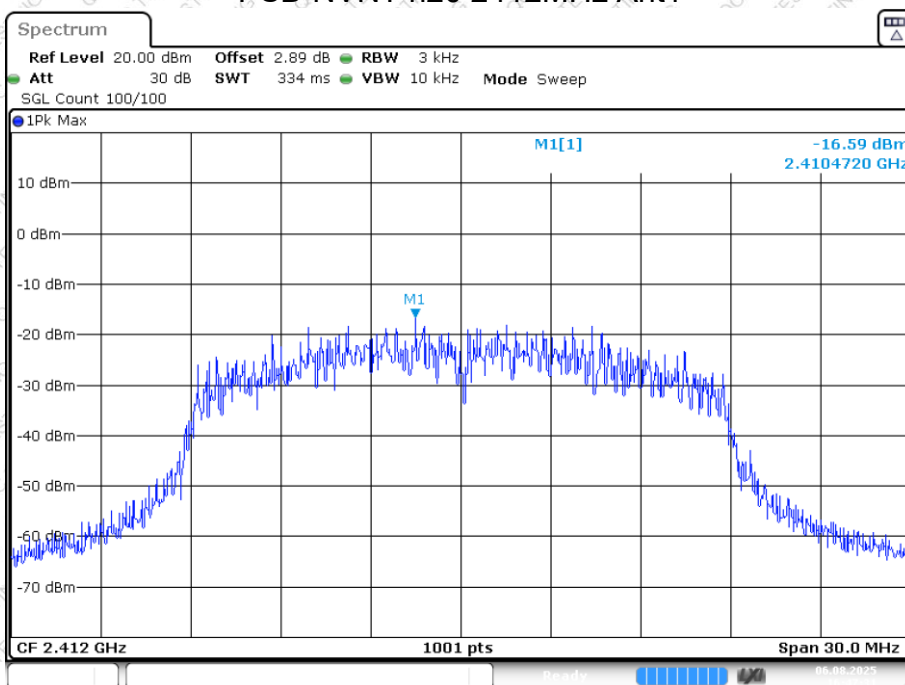
PSD NVNT g 2462MHz Ant1



Date: 6.AUG.2025 16:44:47

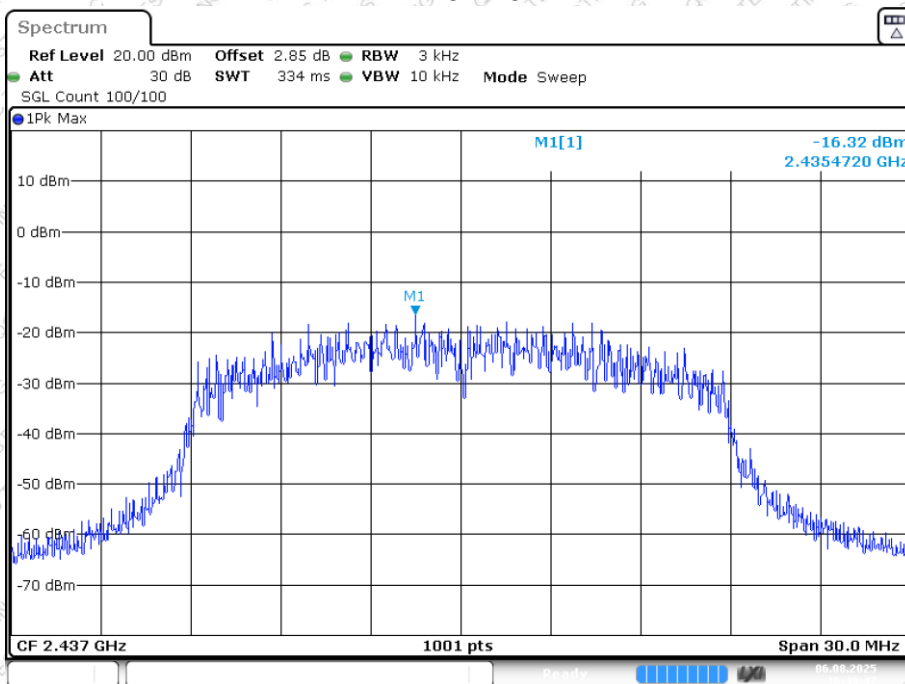


PSD NVNT n20 2412MHz Ant1



Date: 6.AUG.2025 16:47:32

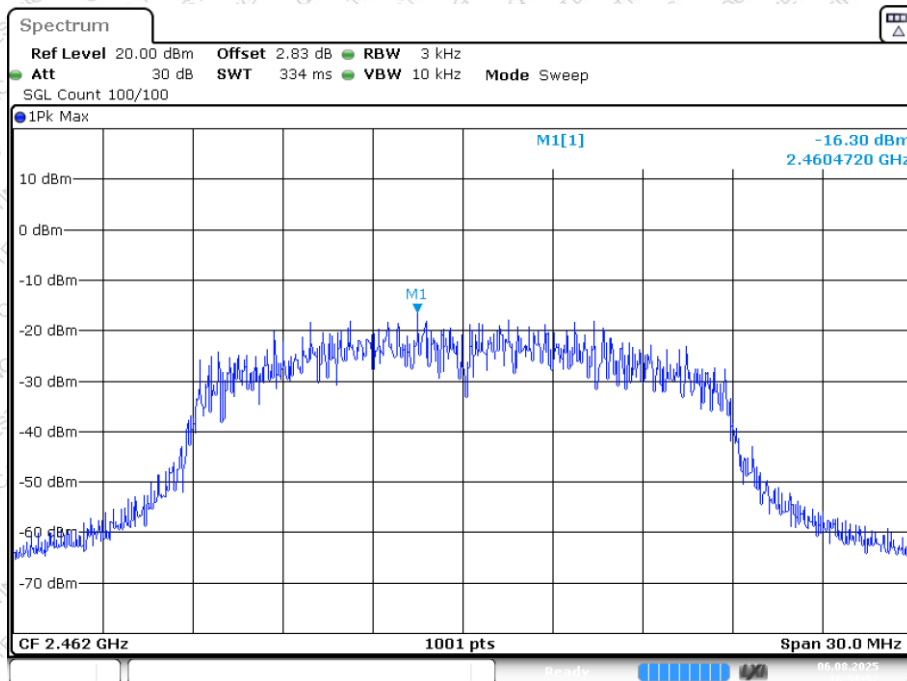
PSD NVNT n20 2437MHz Ant1



Date: 6.AUG.2025 16:49:48

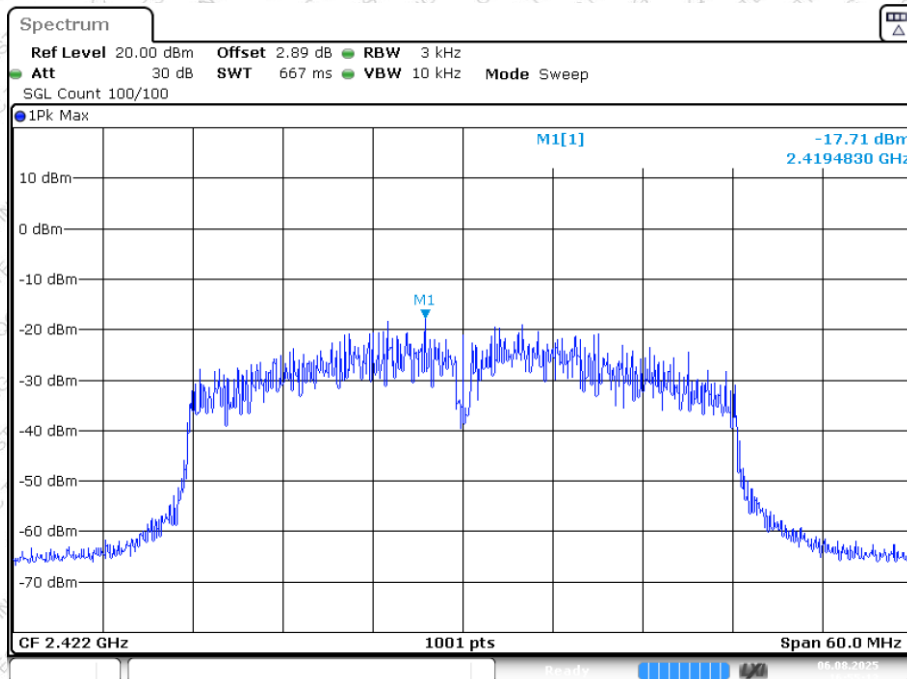


PSD NVNT n20 2462MHz Ant1



Date: 6.AUG.2025 16:51:52

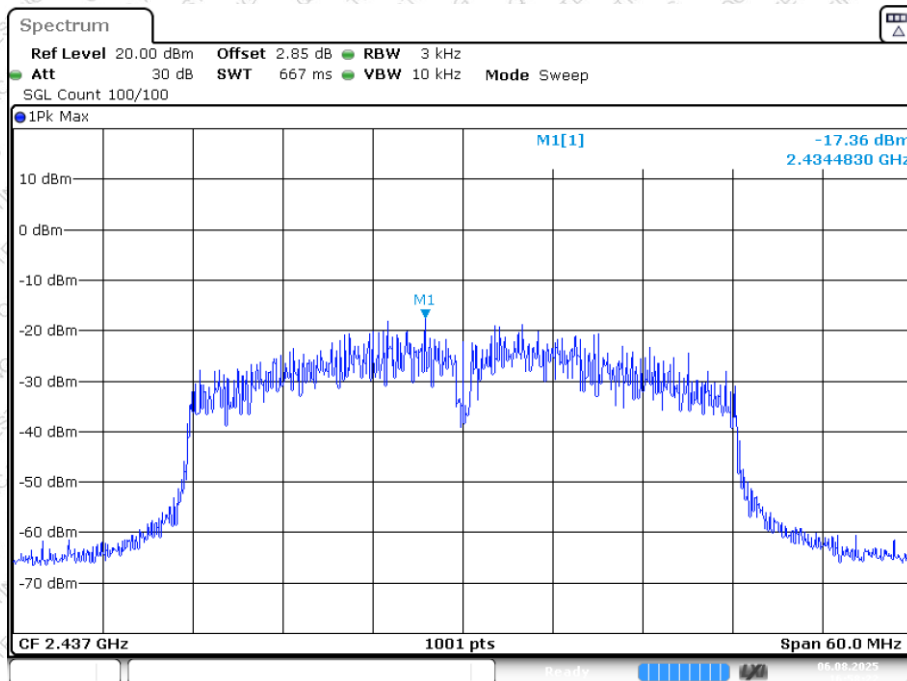
PSD NVNT n40 2422MHz Ant1



Date: 6.AUG.2025 16:55:14

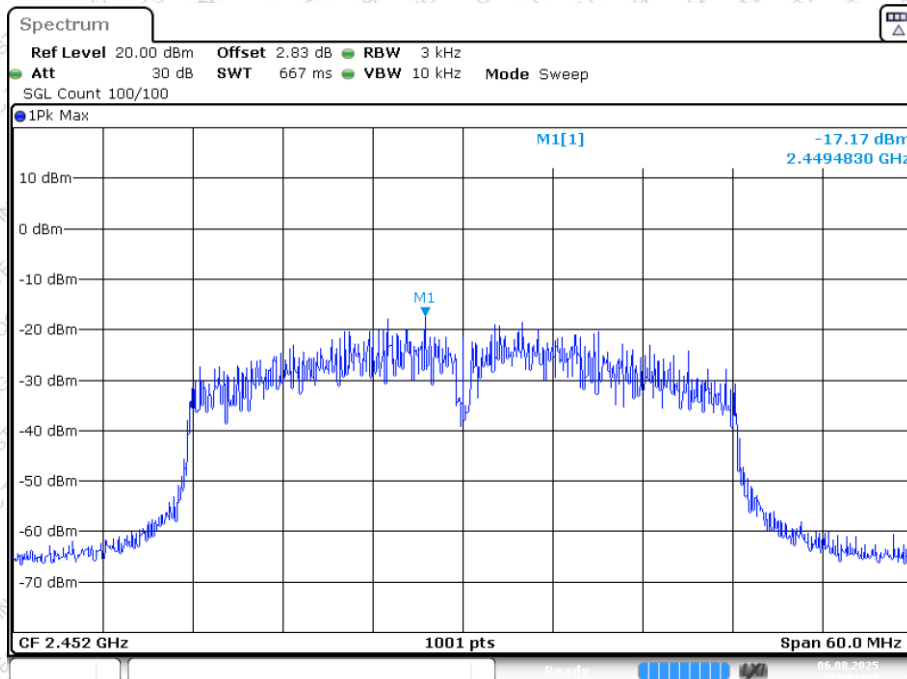


PSD NVNT n40 2437MHz Ant1



Date: 6.AUG.2025 16:58:23

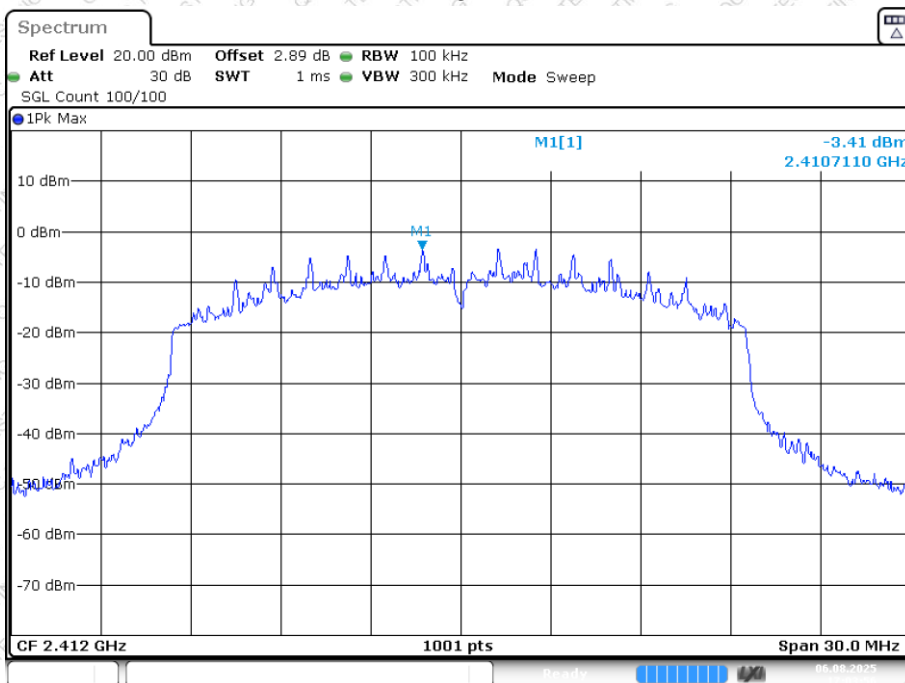
PSD NVNT n40 2452MHz Ant1



Date: 6.AUG.2025 17:01:33

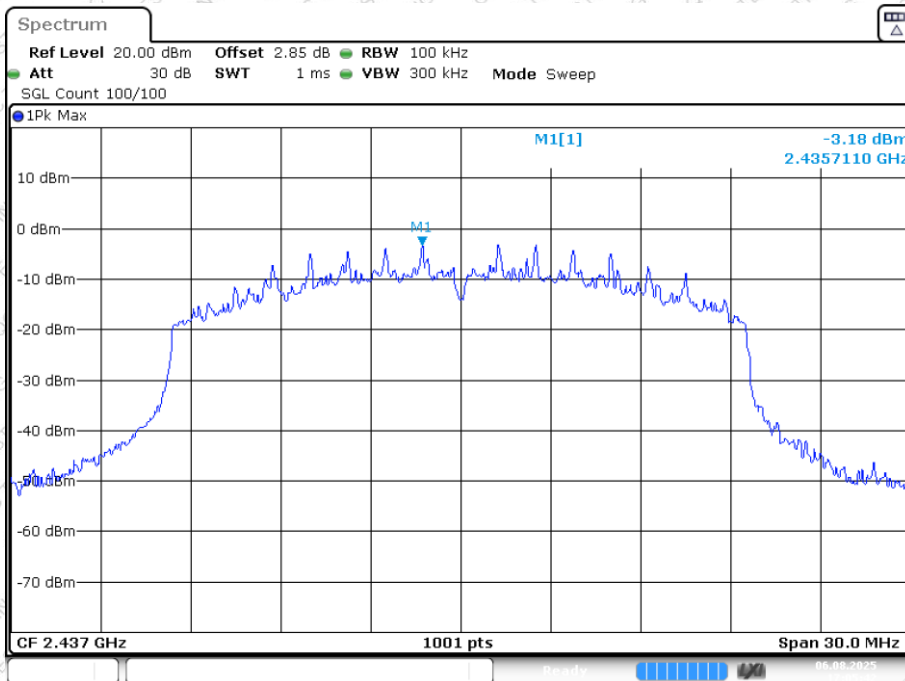


PSD NVNT ax20 2412MHz Ant1



Date: 6.AUG.2025 17:03:56

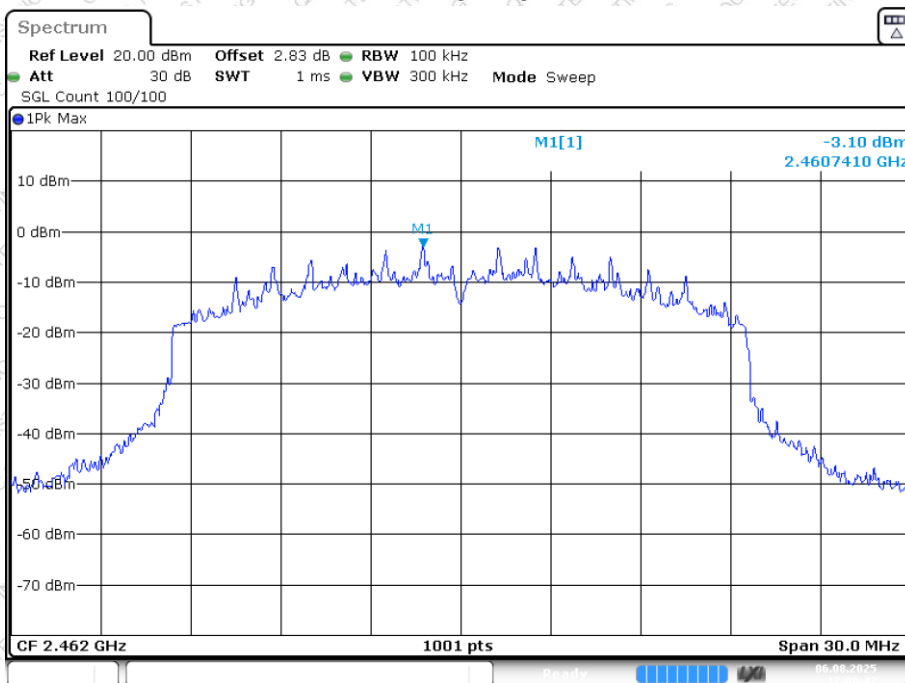
PSD NVNT ax20 2437MHz Ant1



Date: 6.AUG.2025 17:05:43

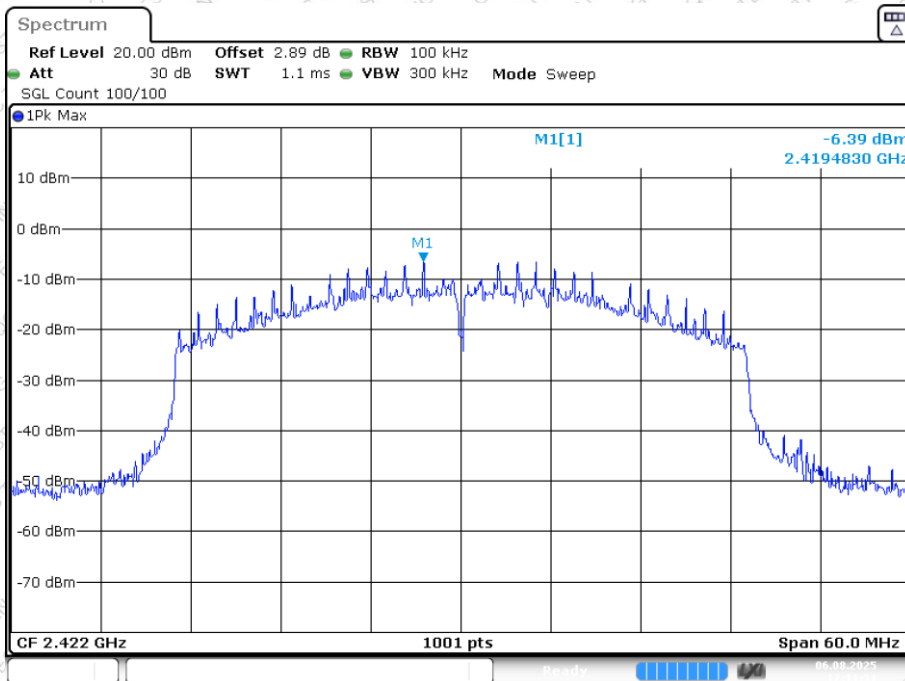


PSD NVNT ax20 2462MHz Ant1



Date: 6.AUG.2025 17:09:43

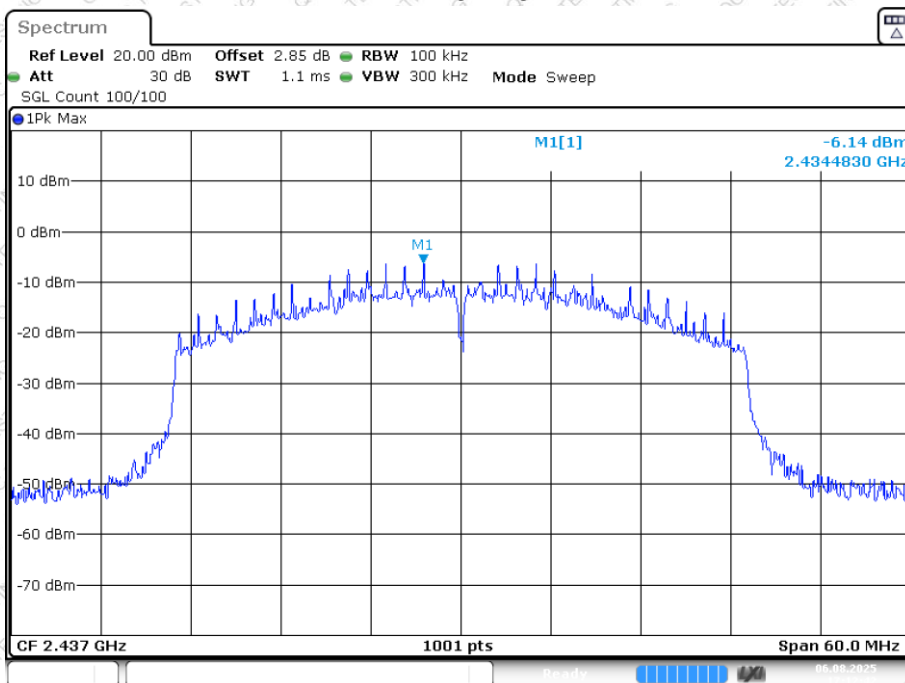
PSD NVNT ax40 2422MHz Ant1



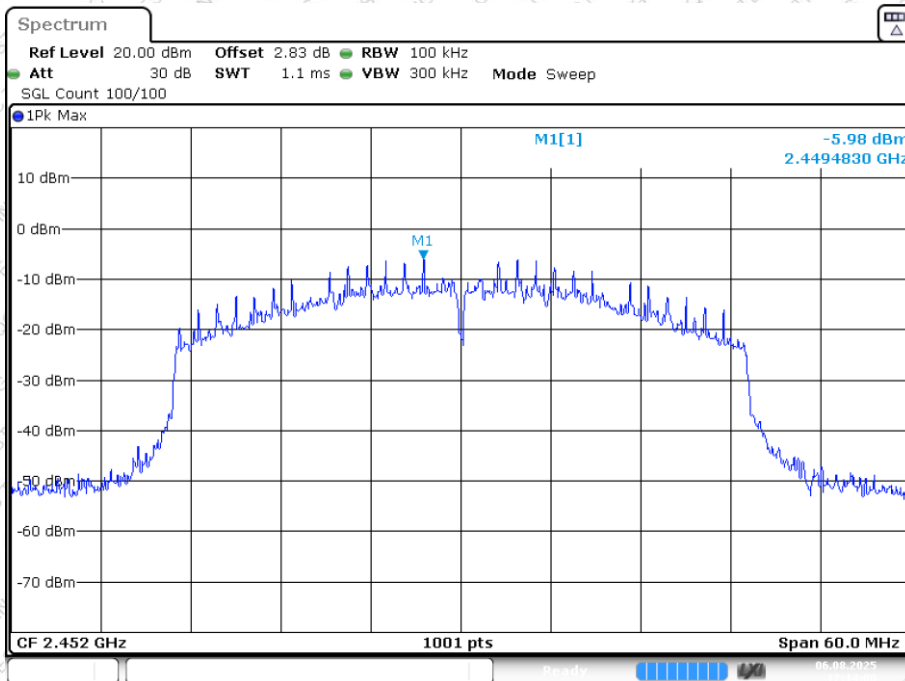
Date: 6.AUG.2025 17:11:31



PSD NVNT ax40 2437MHz Ant1



PSD NVNT ax40 2452MHz Ant1



9. Spurious Emission in Non-restricted & restricted Bands

9.1 Conducted Emission Method

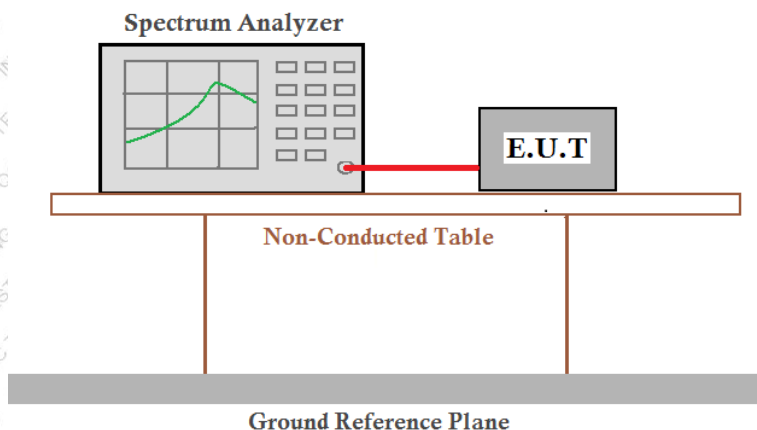
9.1.1 Applicable Standard

FCC Part15 C Section 15.247 (d)

9.1.2 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.

9.1.3 Test setup



9.1.4 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.

9.1.5 Test Data

Temperature	25.1 °C	Humidity	54 %
ATM Pressure	101.1kPa	Antenna Gain	-1.04dBi
Test by	Fan Yang	Test result	PASS

Please refer to following plots.

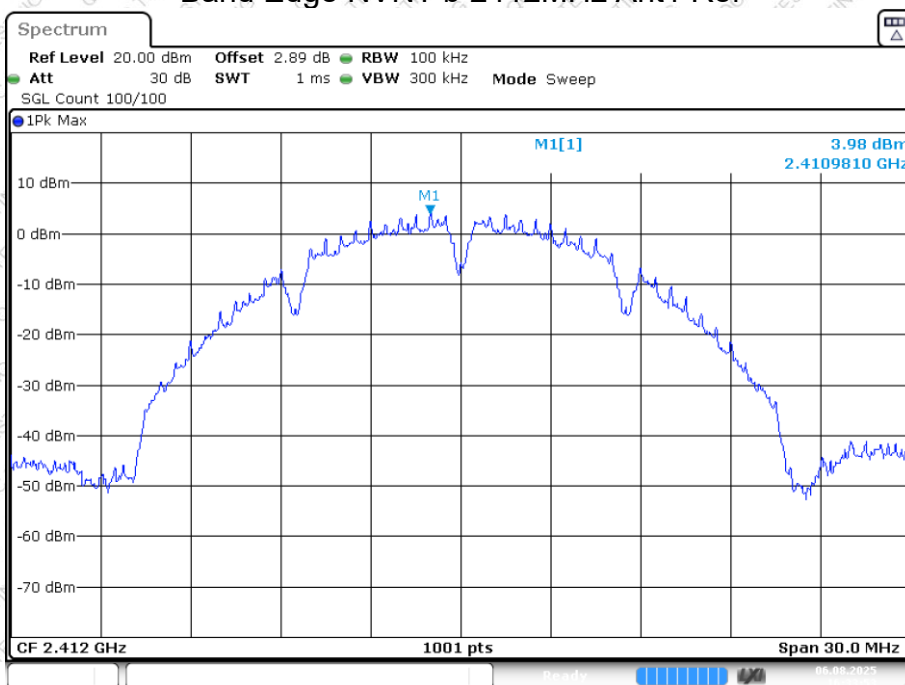


Band Edge:

Modulation	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	-51.81	-20	Pass
b	2462	-53.51	-20	Pass
g	2412	-45.7	-20	Pass
g	2462	-46.35	-20	Pass
n20	2412	-44.87	-20	Pass
n20	2462	-45.95	-20	Pass
n40	2422	-42.96	-20	Pass
n40	2452	-43.22	-20	Pass
ax20	2412	-39.66	-20	Pass
ax20	2462	-40.06	-20	Pass
ax40	2422	-37.52	-20	Pass
ax40	2452	-38.79	-20	Pass

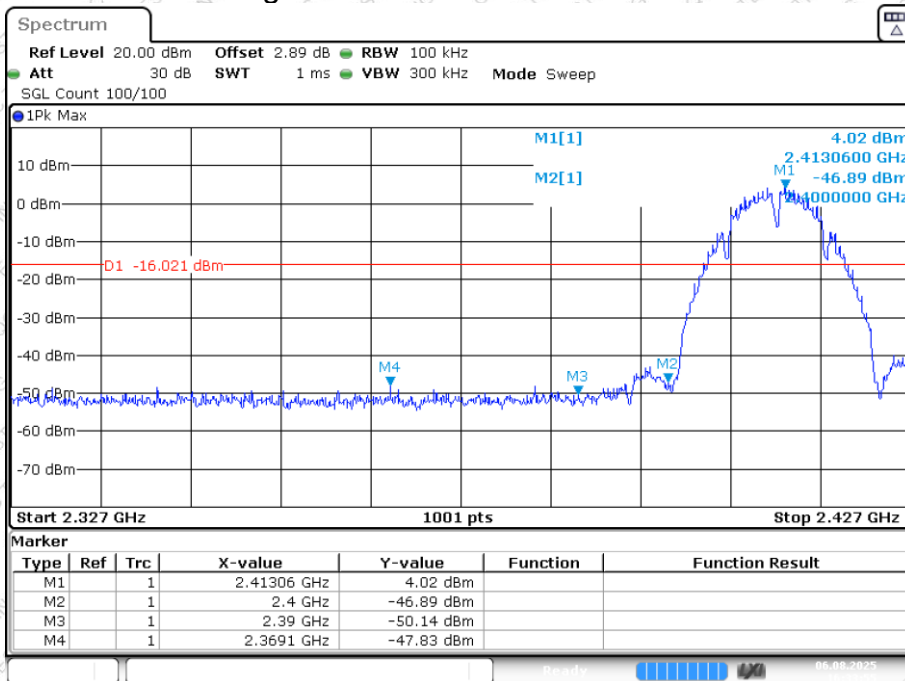


Band Edge NVNT b 2412MHz Ant1 Ref



Date: 6.AUG.2025 16:33:53

Band Edge NVNT b 2412MHz Ant1 Emission



Date: 6.AUG.2025 16:33:55