7. Bandwidth

7.1. Test limits

Please refer RSS-247 & FCC PART 15: 15.247
For direct sequence systems, the minimum 6dB bandwidth shall be at least 500 kHz.

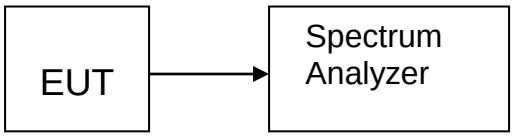
7.2. Test Procedure

Details see the KDB558074 D01 Meas Guidance v05r02

a) The bandwidth is measured at an amplitude level reduced 6dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

b) The test receiver set RBW = 100kHz, VBW≥3*RBW =300kHz,, Peak Detector, Sweep time set auto, detail see the test plot.

7.3. Test Setup

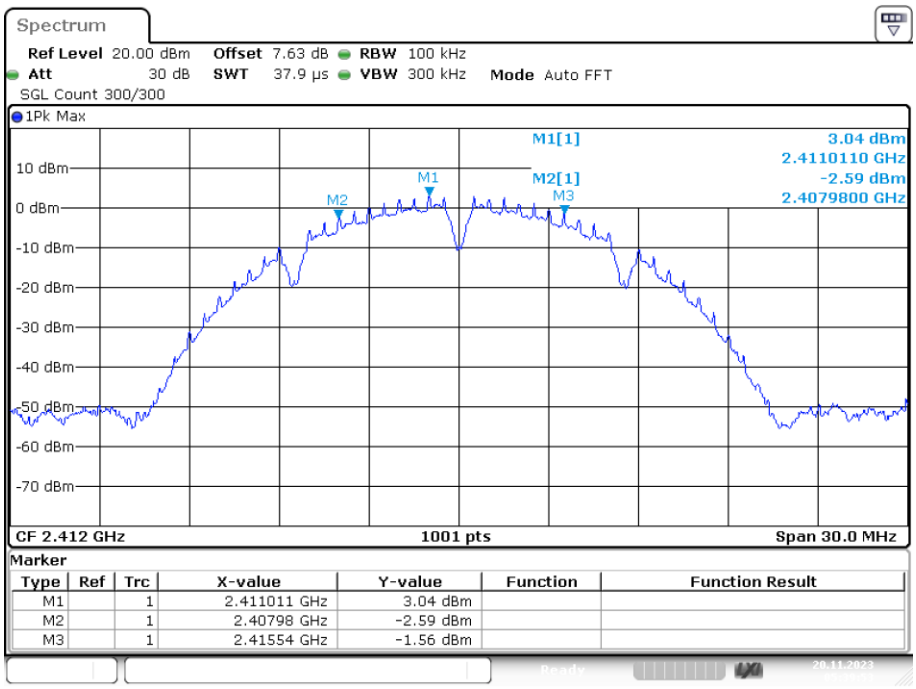


7.4. Test Results

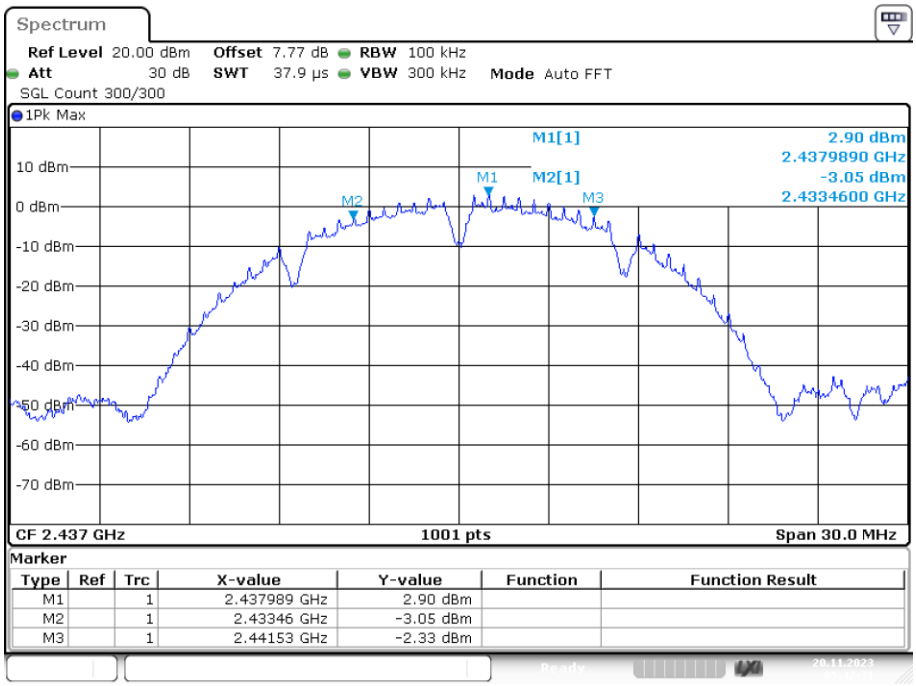
-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	7.56	0.5	Pass
NVNT	b	2437	Ant1	8.07	0.5	Pass
NVNT	b	2462	Ant1	8.1	0.5	Pass
NVNT	g	2412	Ant1	13.2	0.5	Pass
NVNT	g	2437	Ant1	15.69	0.5	Pass
NVNT	g	2462	Ant1	16.35	0.5	Pass
NVNT	n20	2412	Ant1	12.57	0.5	Pass
NVNT	n20	2437	Ant1	17.67	0.5	Pass
NVNT	n20	2462	Ant1	17.61	0.5	Pass
NVNT	n40	2422	Ant1	35.16	0.5	Pass
NVNT	n40	2437	Ant1	35.16	0.5	Pass
NVNT	n40	2452	Ant1	35.1	0.5	Pass

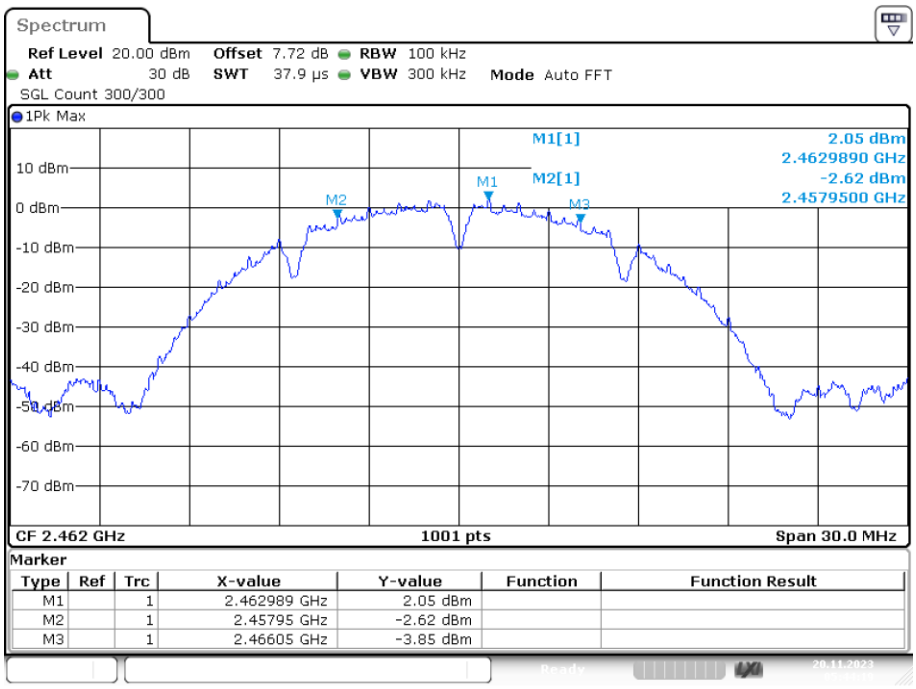
-6dB Bandwidth NVNT b 2412MHz Ant1



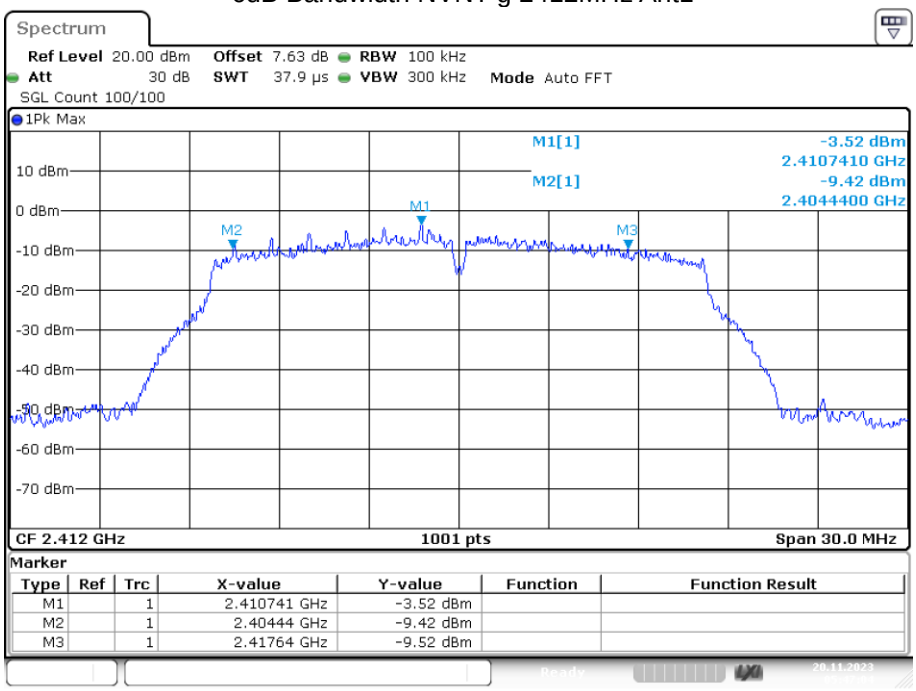
-6dB Bandwidth NVNT b 2437MHz Ant1



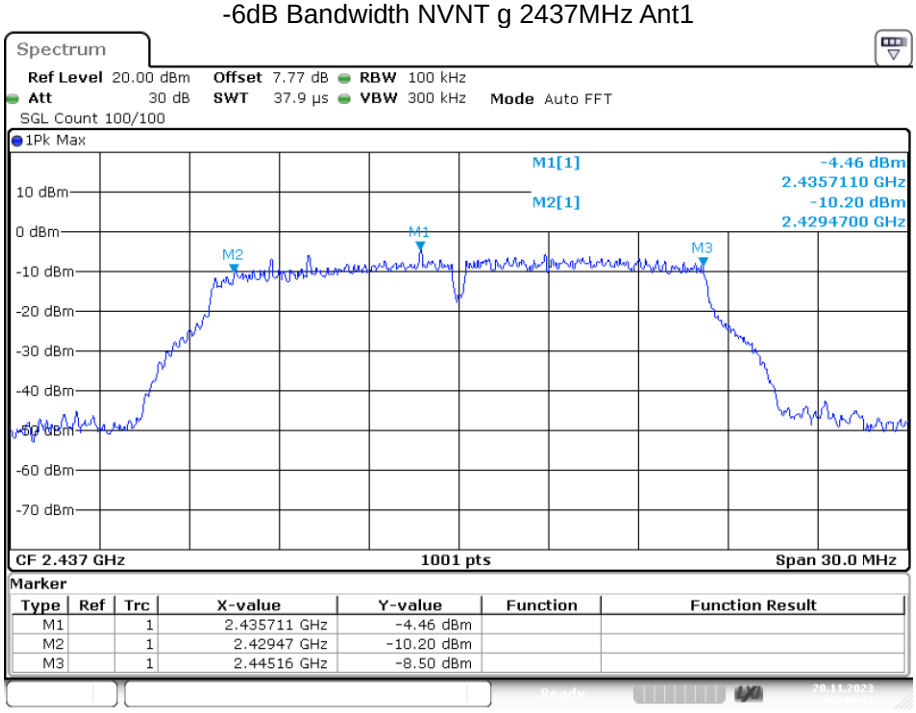
-6dB Bandwidth NVNT b 2462MHz Ant1



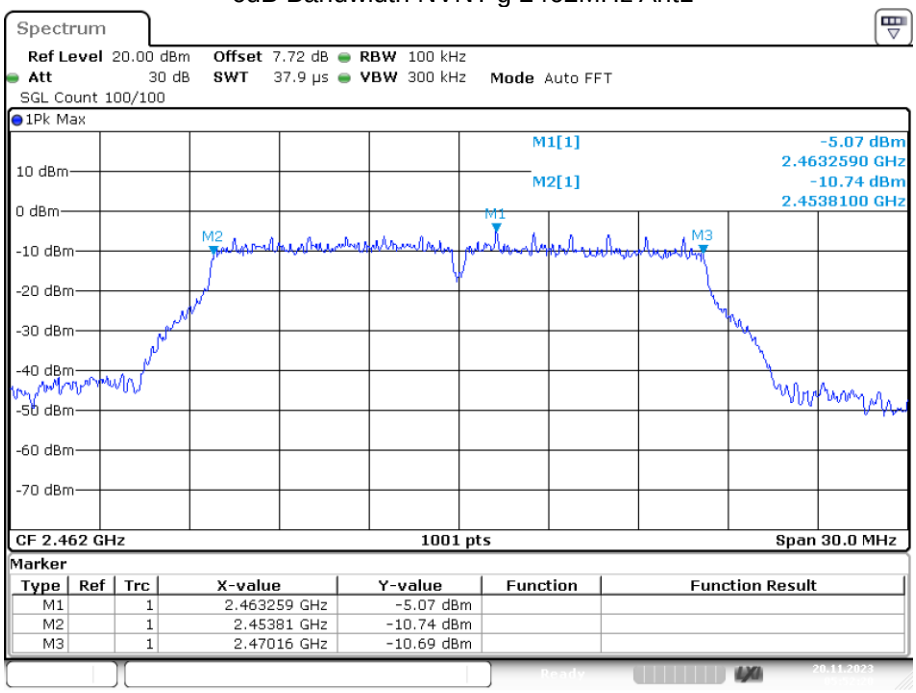
-6dB Bandwidth NVNT g 2412MHz Ant1



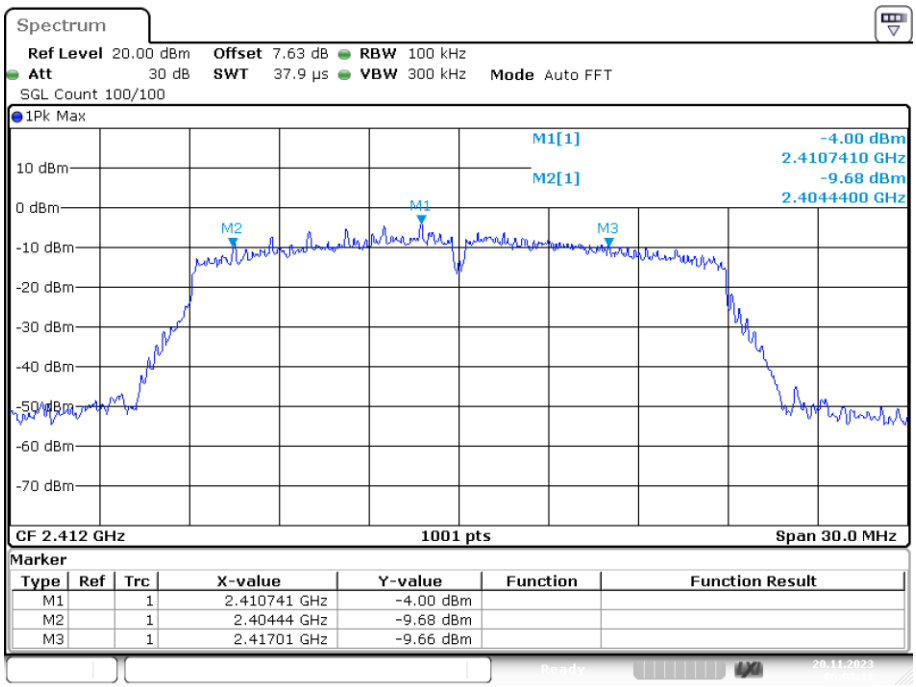
-6dB Bandwidth NVNT g 2437MHz Ant1



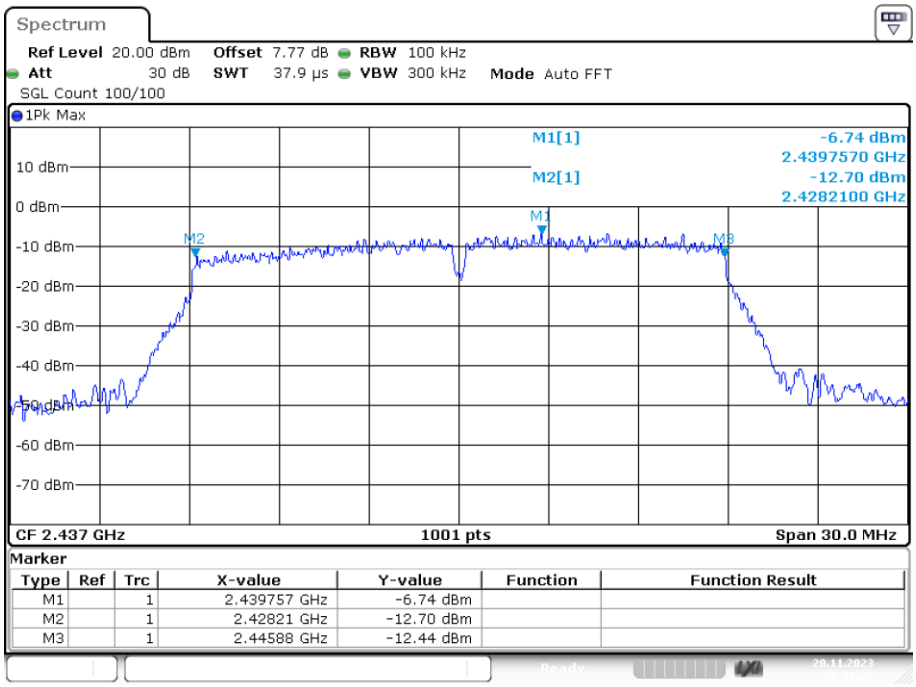
-6dB Bandwidth NVNT g 2462MHz Ant1



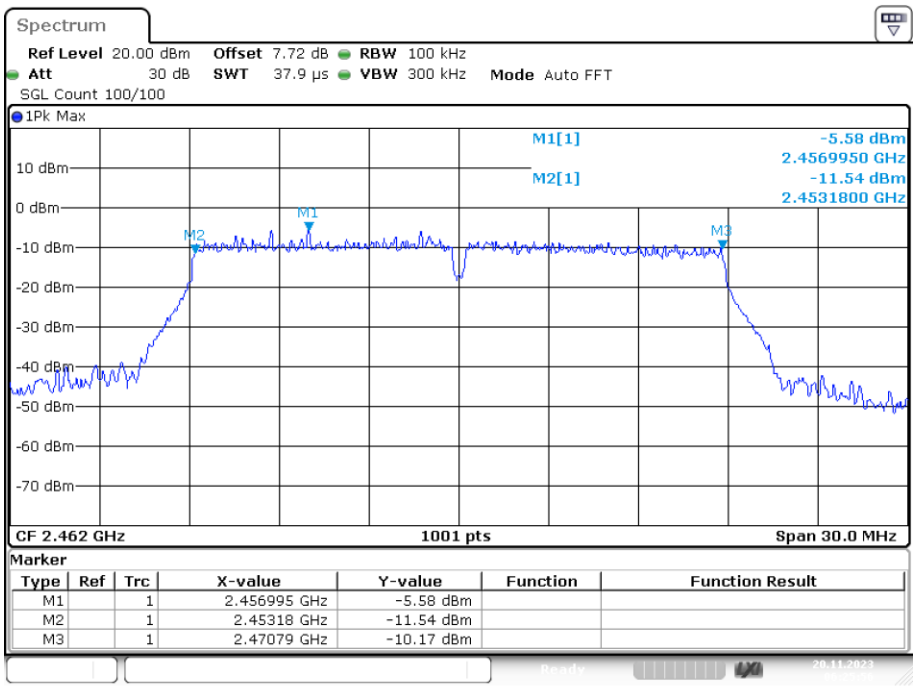
-6dB Bandwidth NVNT n20 2412MHz Ant1



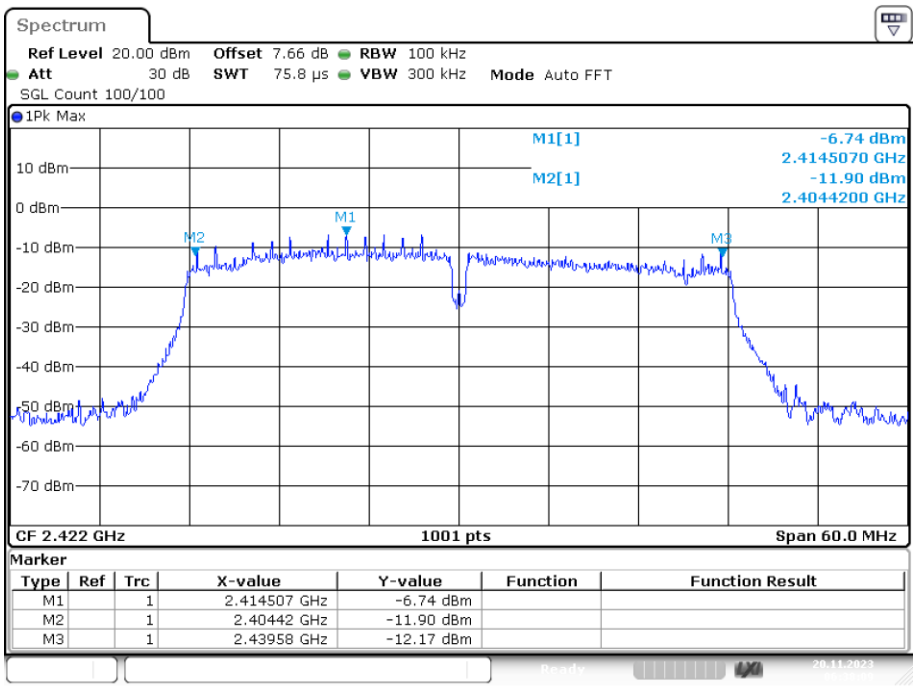
-6dB Bandwidth NVNT n20 2437MHz Ant1



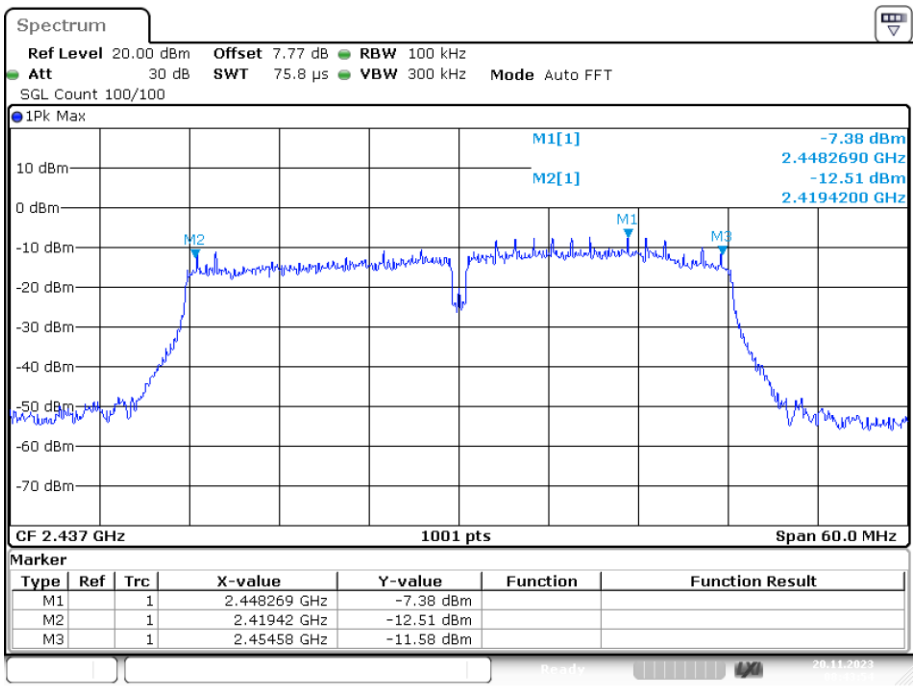
-6dB Bandwidth NVNT n20 2462MHz Ant1



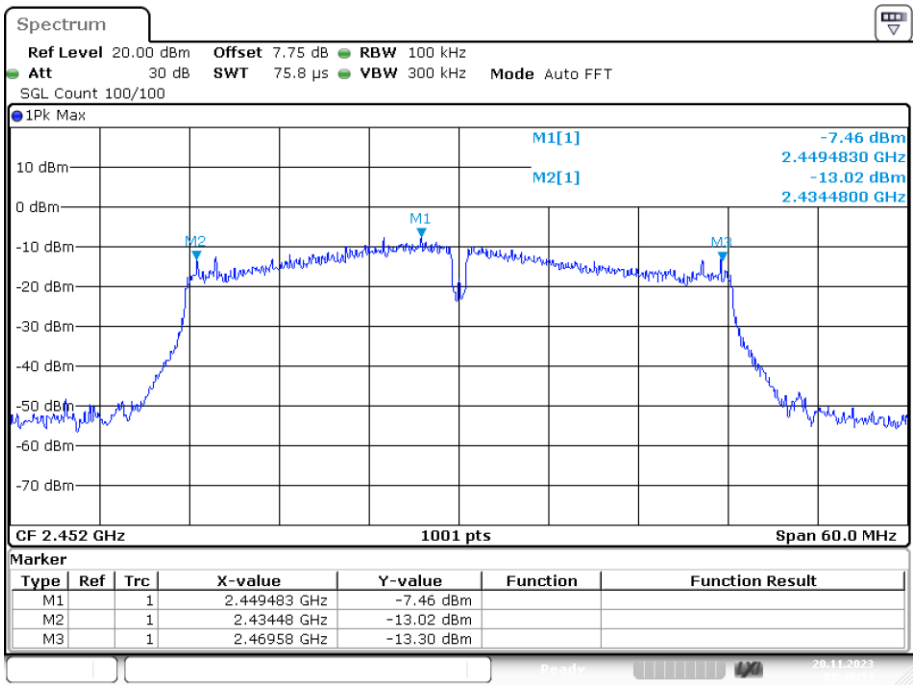
-6dB Bandwidth NVNT n40 2422MHz Ant1



-6dB Bandwidth NVNT n40 2437MHz Ant1



-6dB Bandwidth NVNT n40 2452MHz Ant1

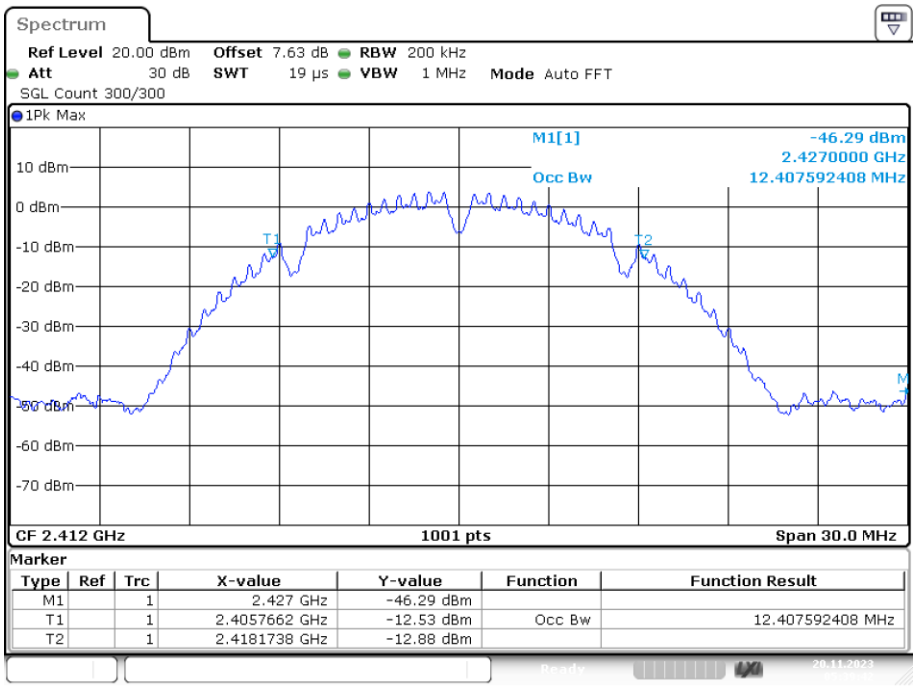


Occupied Channel Bandwidth

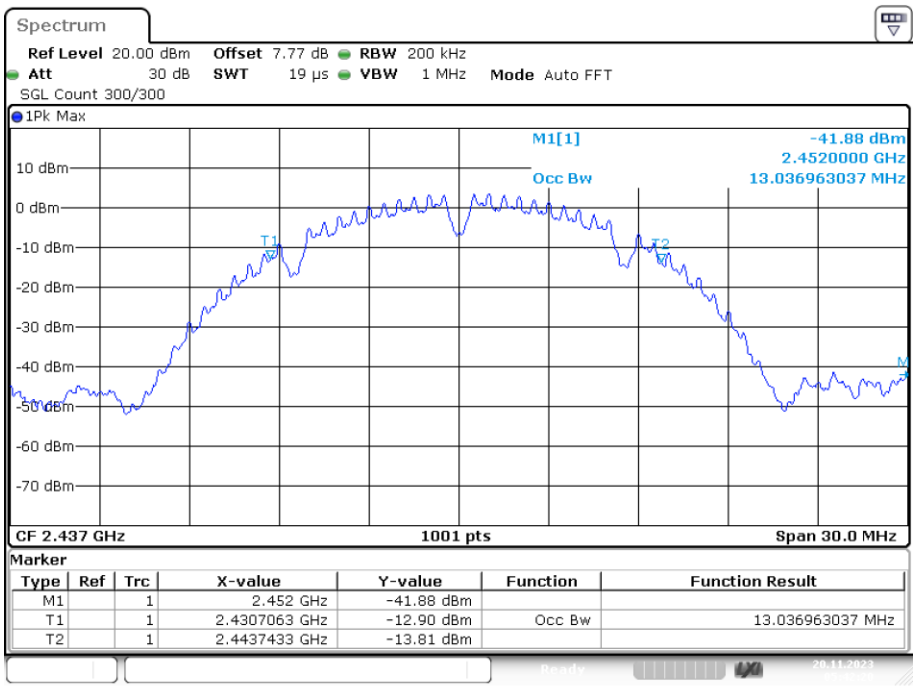
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	12.408
NVNT	b	2437	Ant1	13.037
NVNT	b	2462	Ant1	13.367
NVNT	g	2412	Ant1	16.274
NVNT	g	2437	Ant1	16.394
NVNT	g	2462	Ant1	16.603
NVNT	n20	2412	Ant1	17.413

NVNT	n20	2437	Ant1	17.592
NVNT	n20	2462	Ant1	17.832
NVNT	n40	2422	Ant1	36.084
NVNT	n40	2437	Ant1	36.024
NVNT	n40	2452	Ant1	35.904

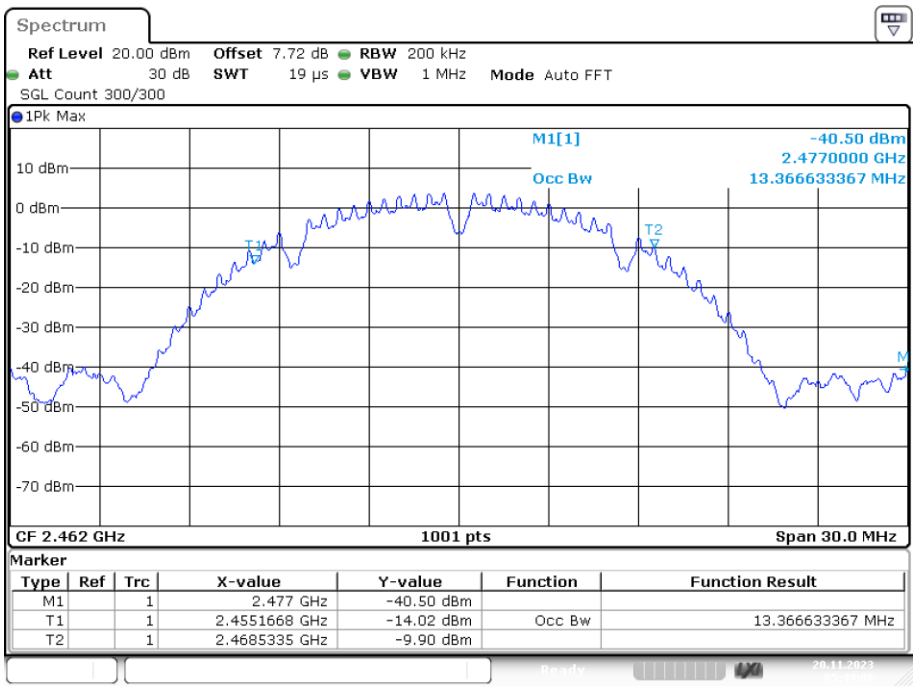
OBW NVNT b 2412MHz Ant1



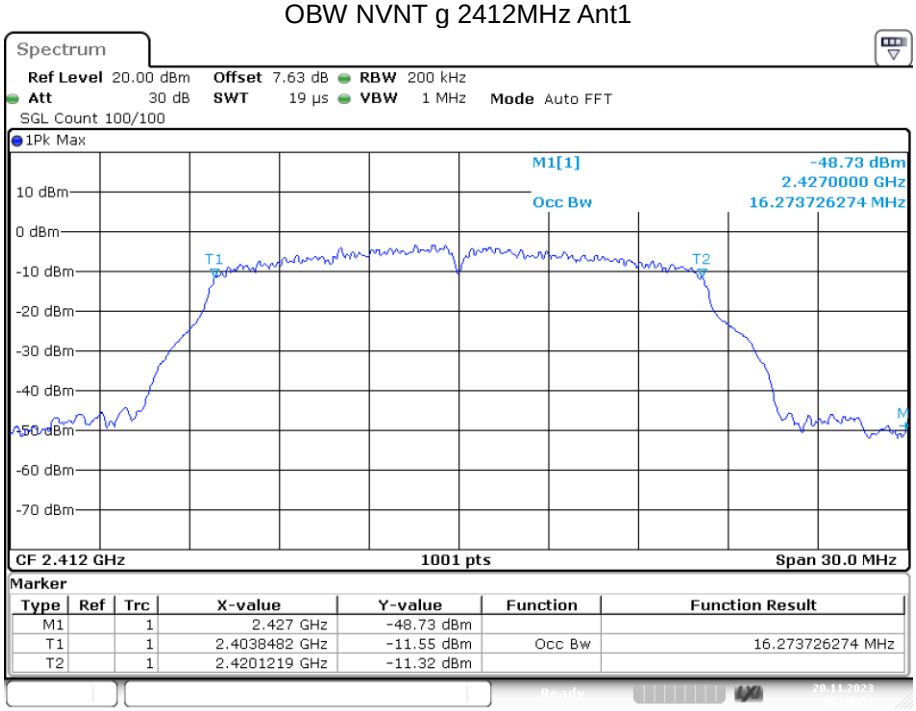
OBW NVNT b 2437MHz Ant1



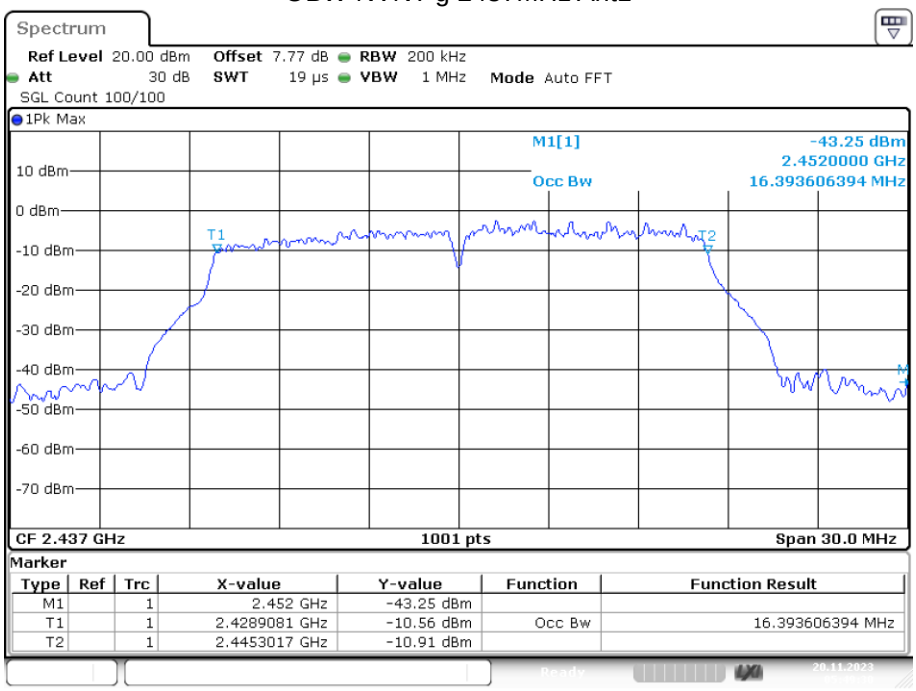
OBW NVNT b 2462MHz Ant1



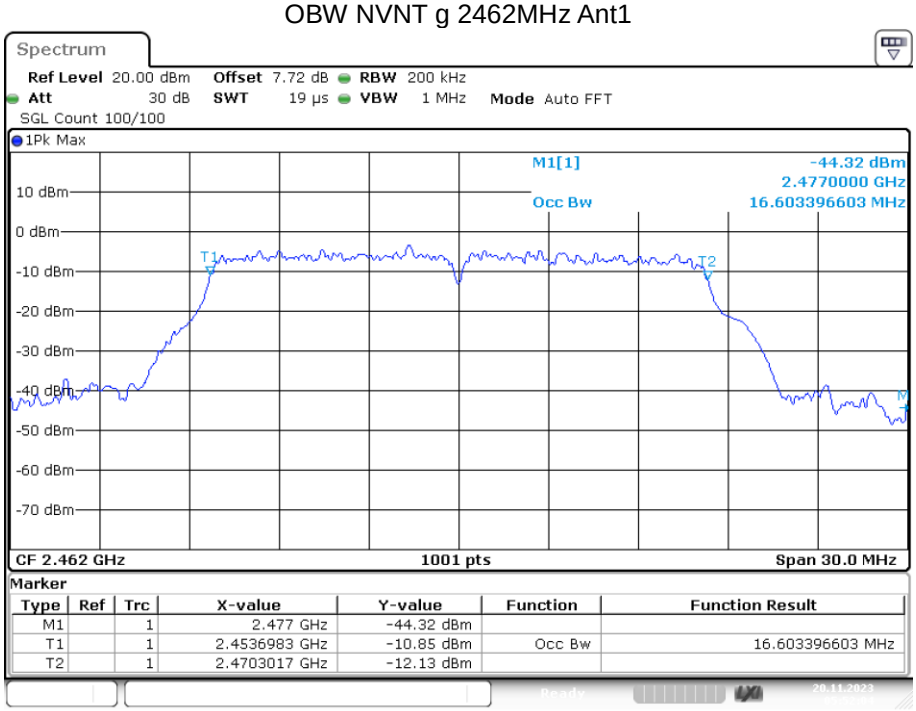
OBW NVNT g 2412MHz Ant1



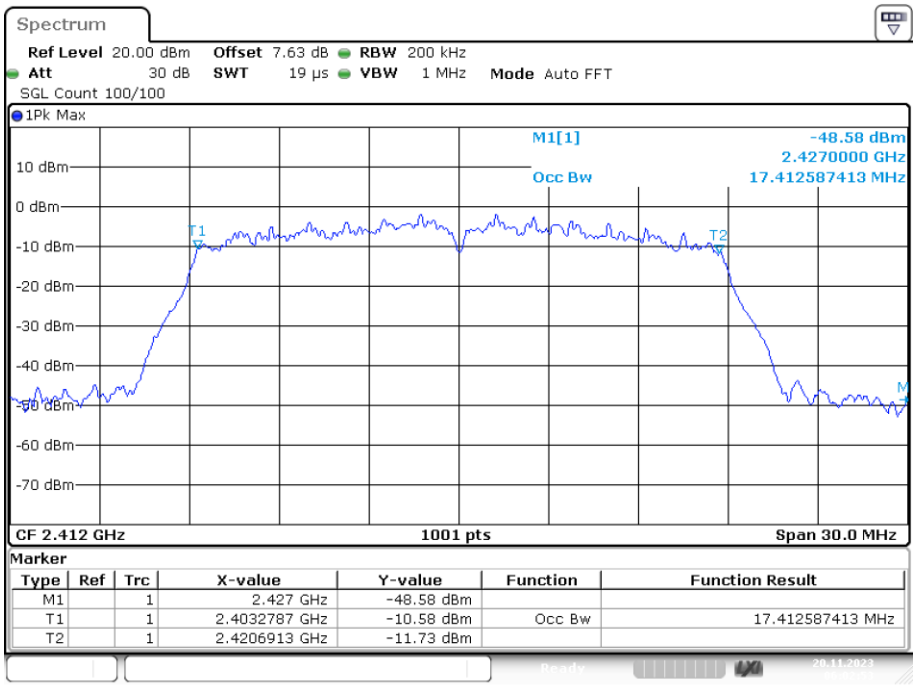
OBW NVNT g 2437MHz Ant1



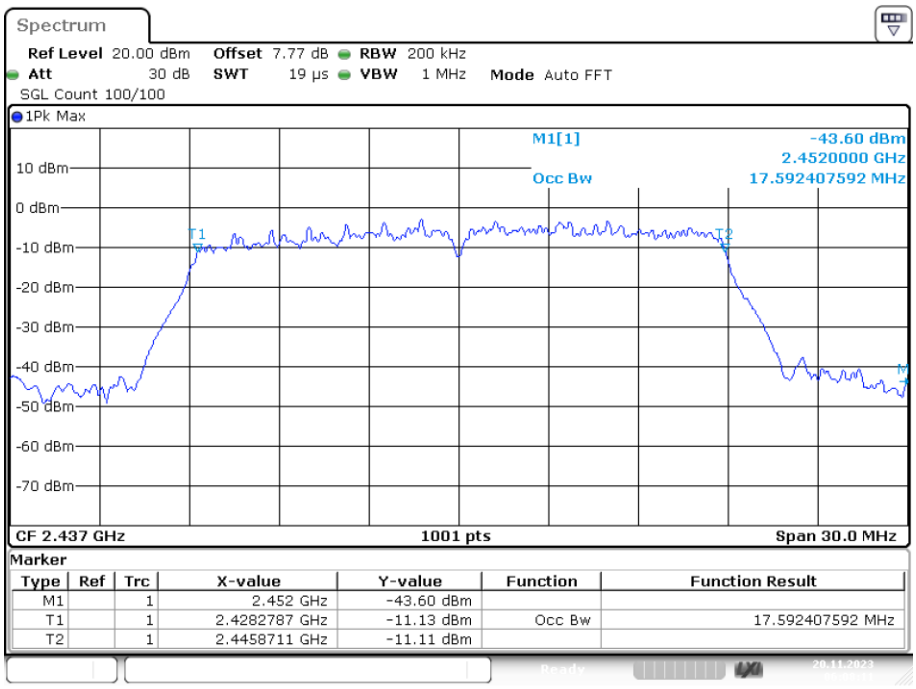
OBW NVNT g 2462MHz Ant1



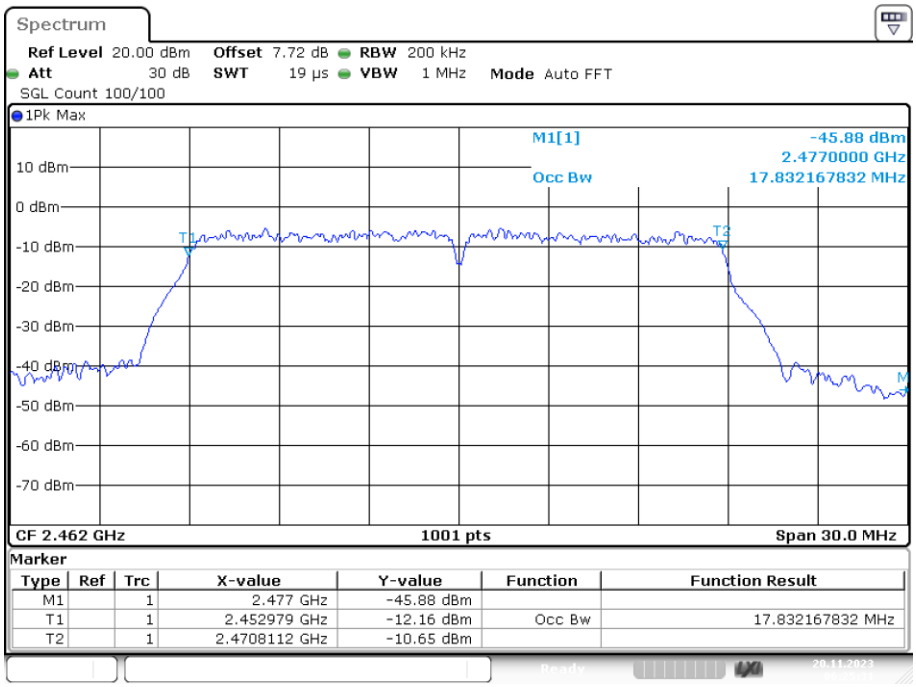
OBW NVNT n20 2412MHz Ant1



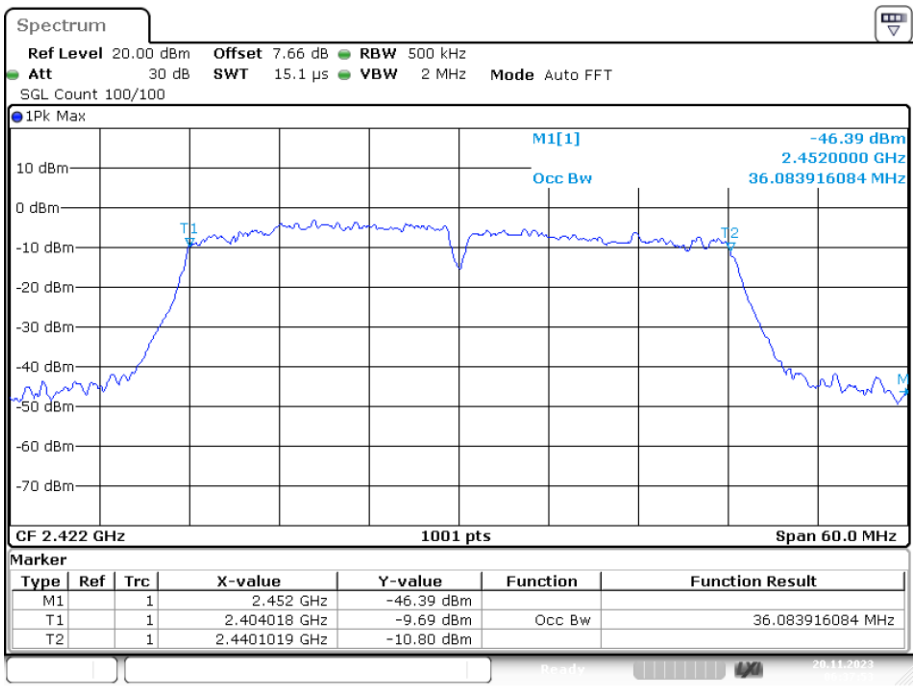
OBW NVNT n20 2437MHz Ant1



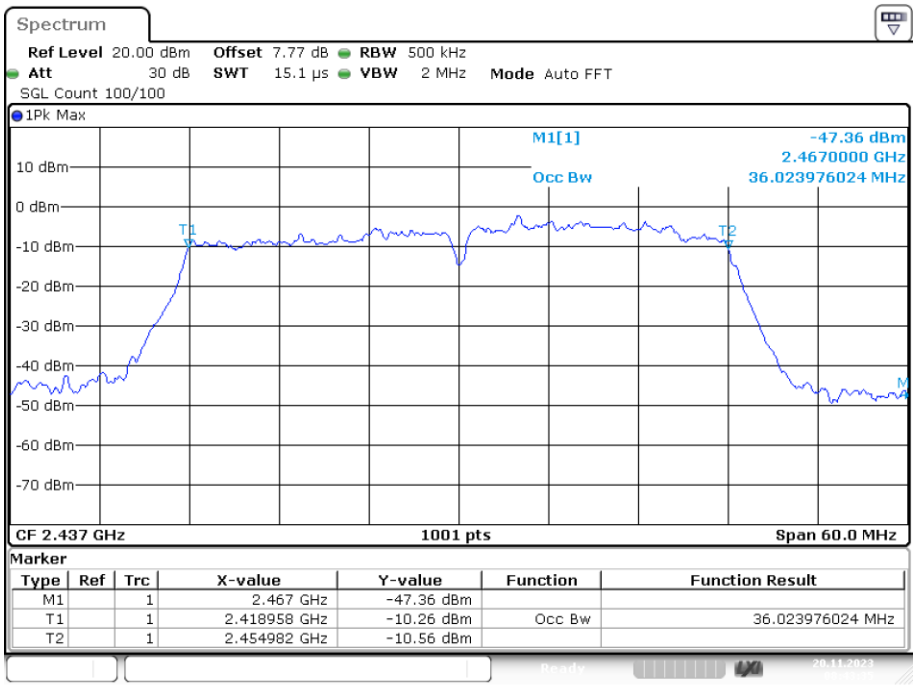
OBW NVNT n20 2462MHz Ant1



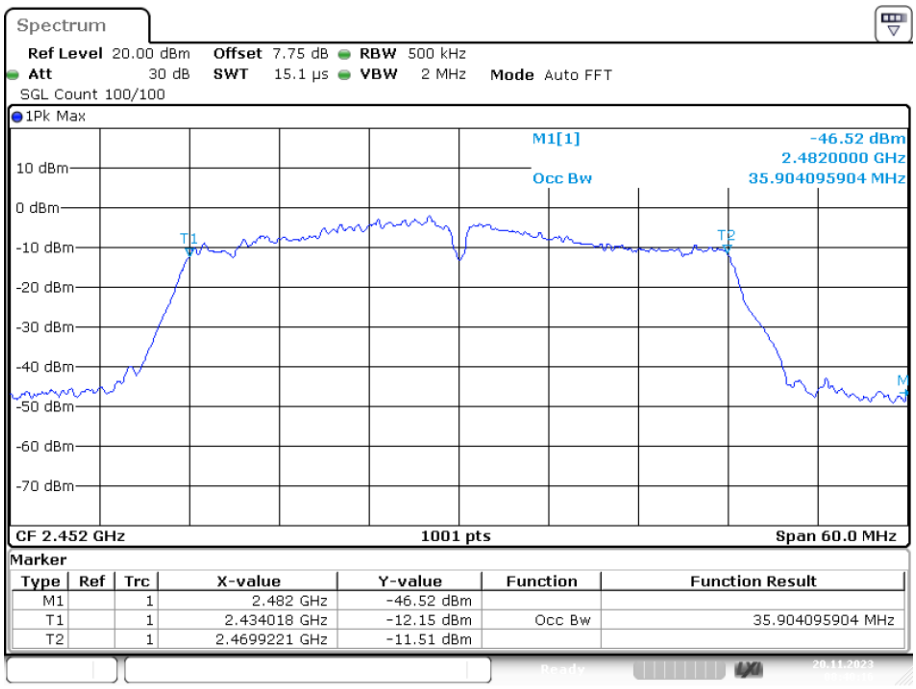
OBW NVNT n40 2422MHz Ant1



OBW NVNT n40 2437MHz Ant1



OBW NVNT n40 2452MHz Ant1



8. Band Edge Check

8.1. Test limits

Please refer RSS-GEN & FCC PART 15: 15.247

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits and RSS-GEN limits.

8.2. Test Procedure

Details see the KDB558074 D01 Meas Guidance v05r02

9.2.1 Put the EUT on a 1.5m high table, power on the EUT. Emissions were scanned and measured rotating the EUT to 360 degrees, Find the maximum Emission

9.2.2 Check the spurious emissions out of band.

9.2.3 RBW 1MHz, VBW 3MHz, peak detector for peak value , RBW 1MHz ,VBW 10Hz , RMS detector for AV value.

8.3. Test Setup

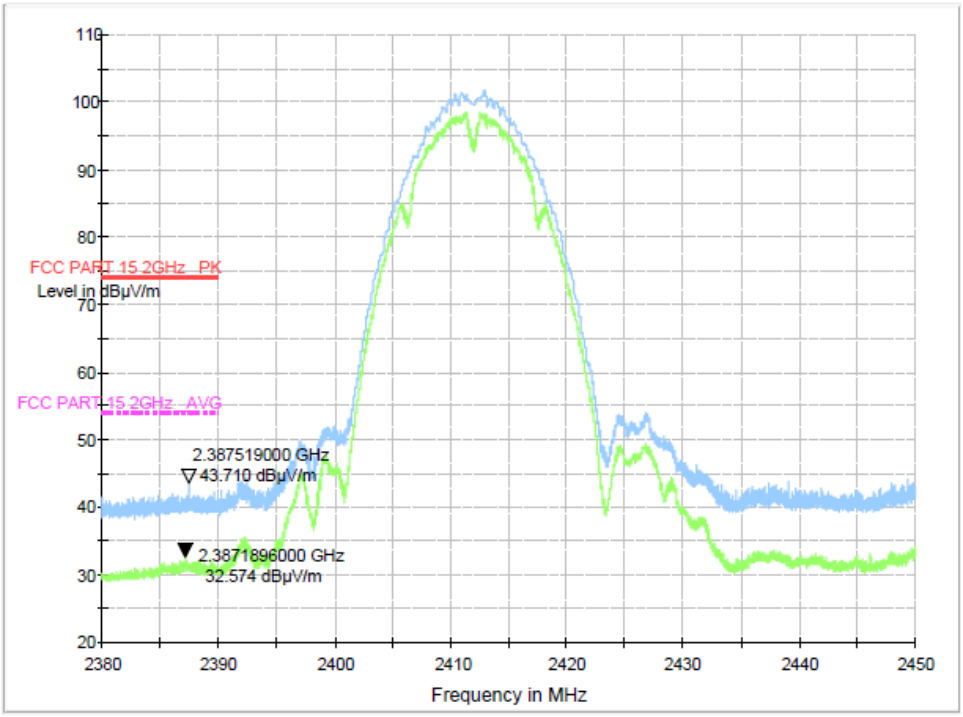
Same as 5.2.2.

8.4. Test Results

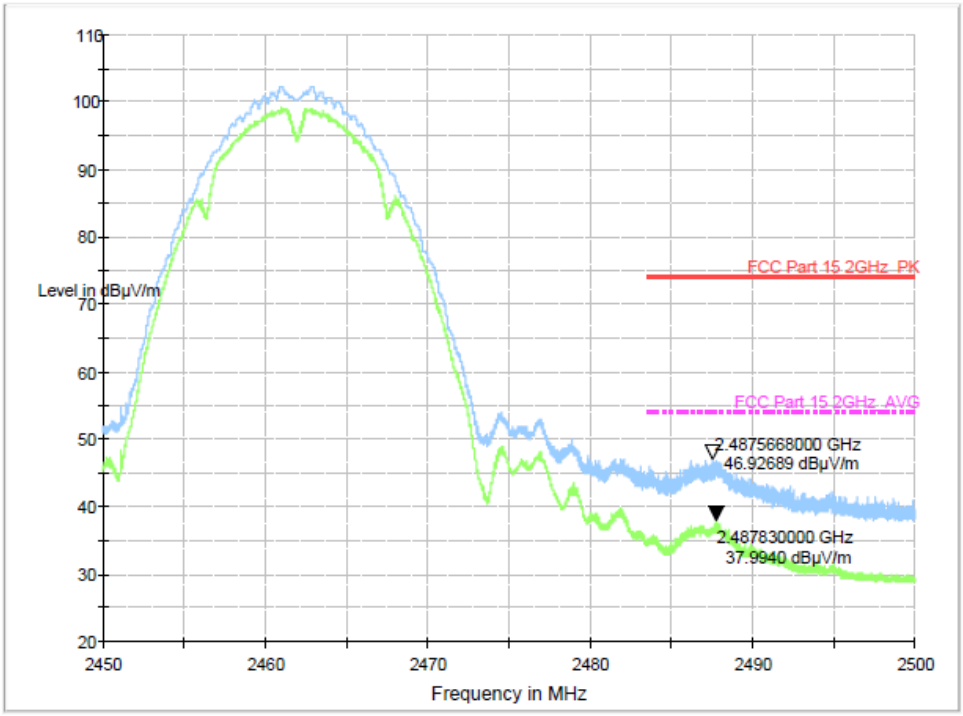
PASS.

Detailed information please see the following page.

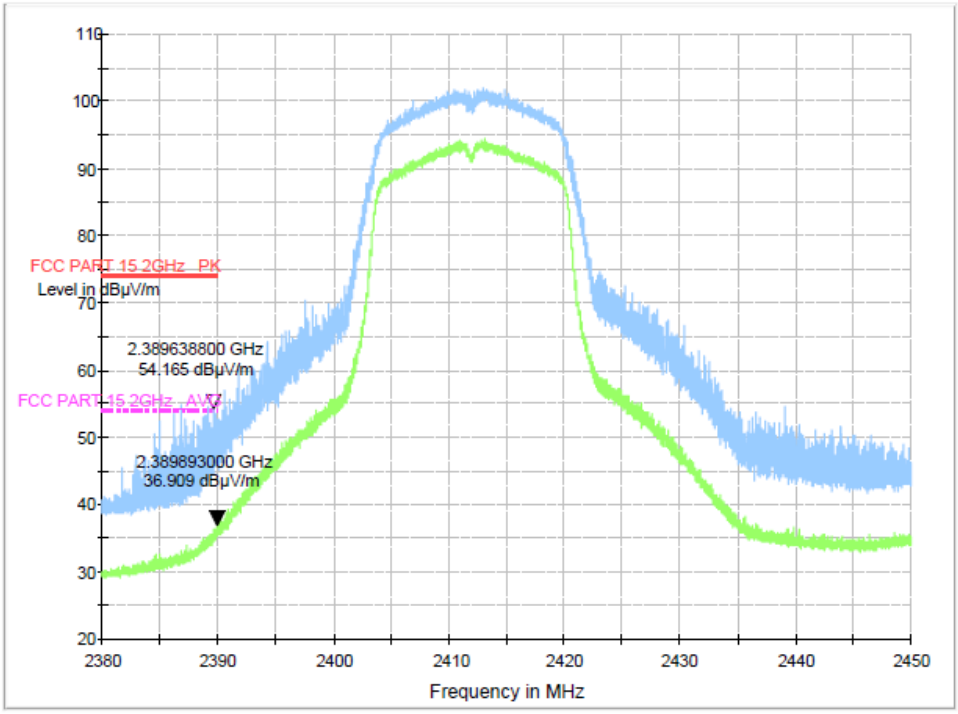
Test Mode: IEEE 802.11b-Low



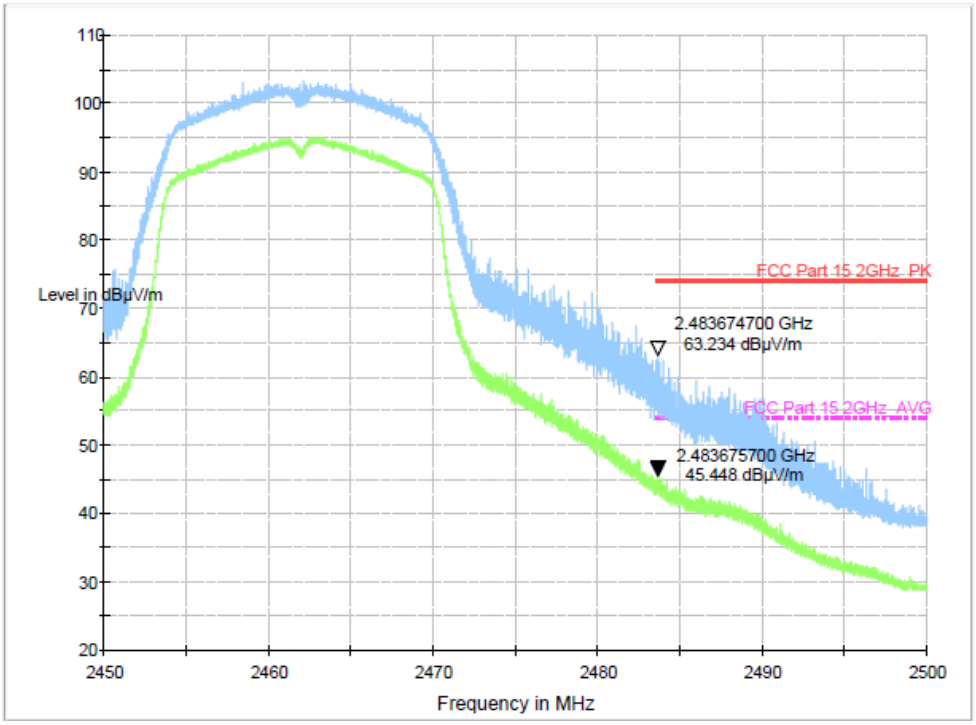
Test Mode: IEEE 802.11b-High



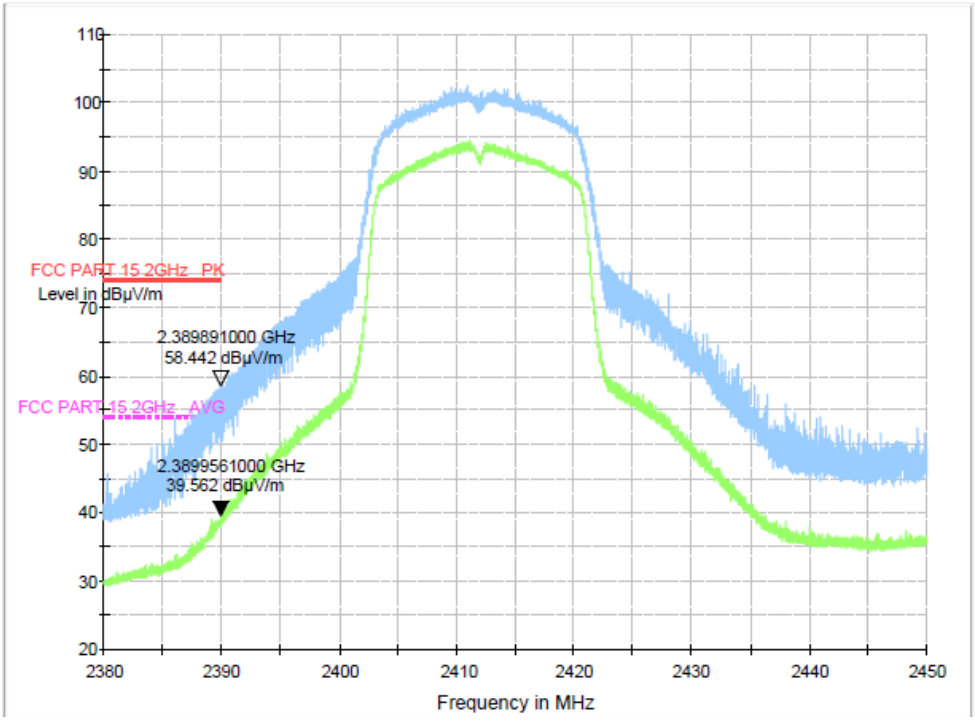
Test Mode: IEEE 802.11g-Low



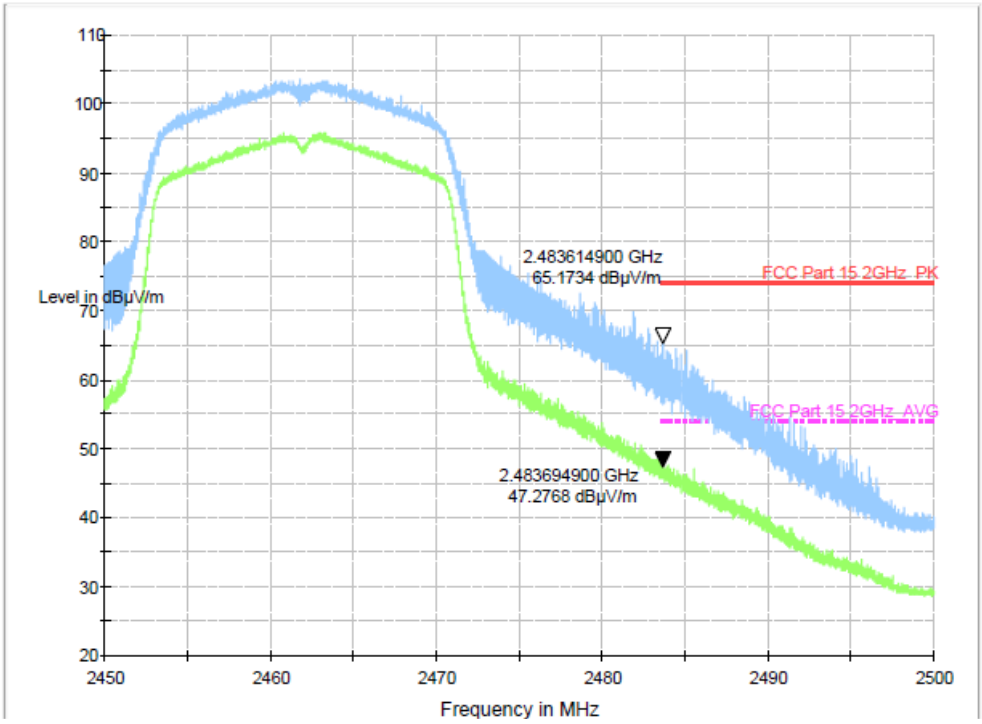
Test Mode: IEEE 802.11g-High



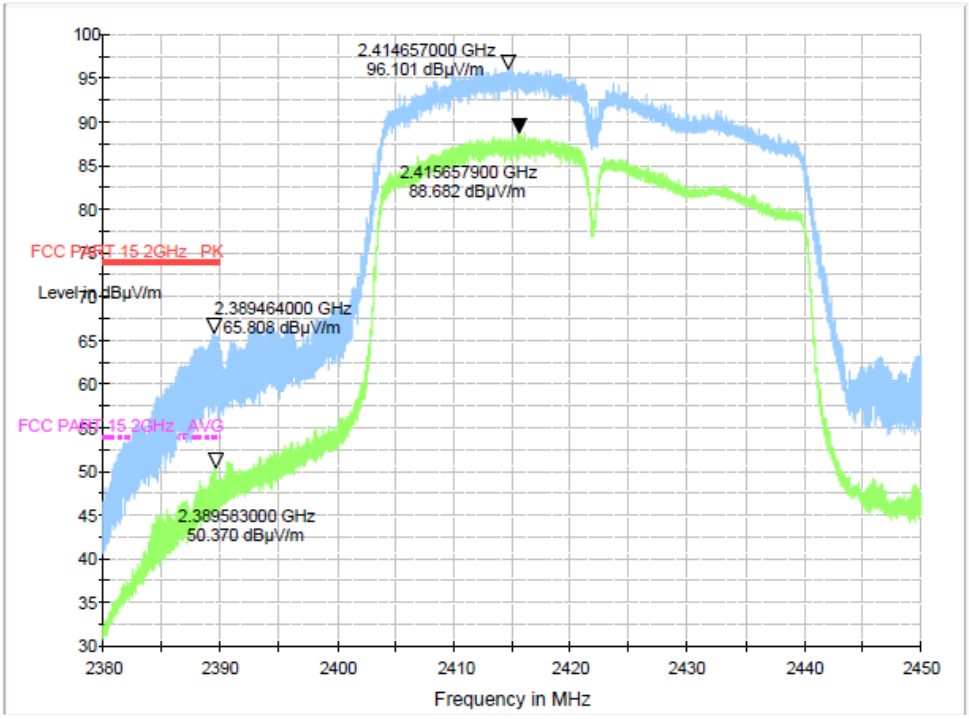
Test Mode: IEEE 802.11n20-Low



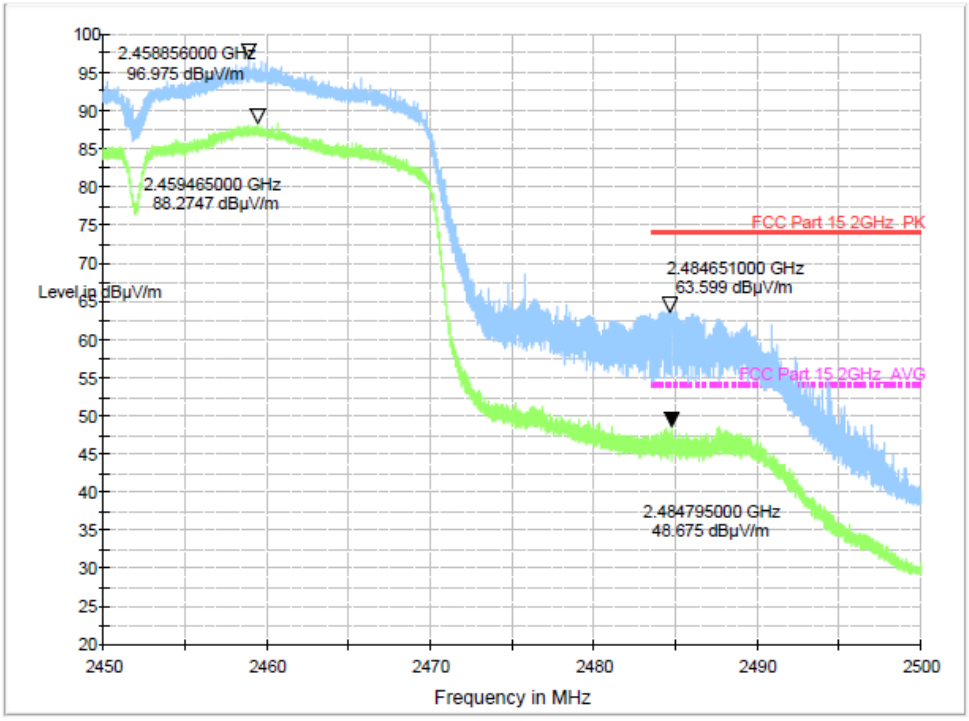
Test Mode: IEEE 802.11n20-High



Test Mode: IEEE 802.11n40-Low

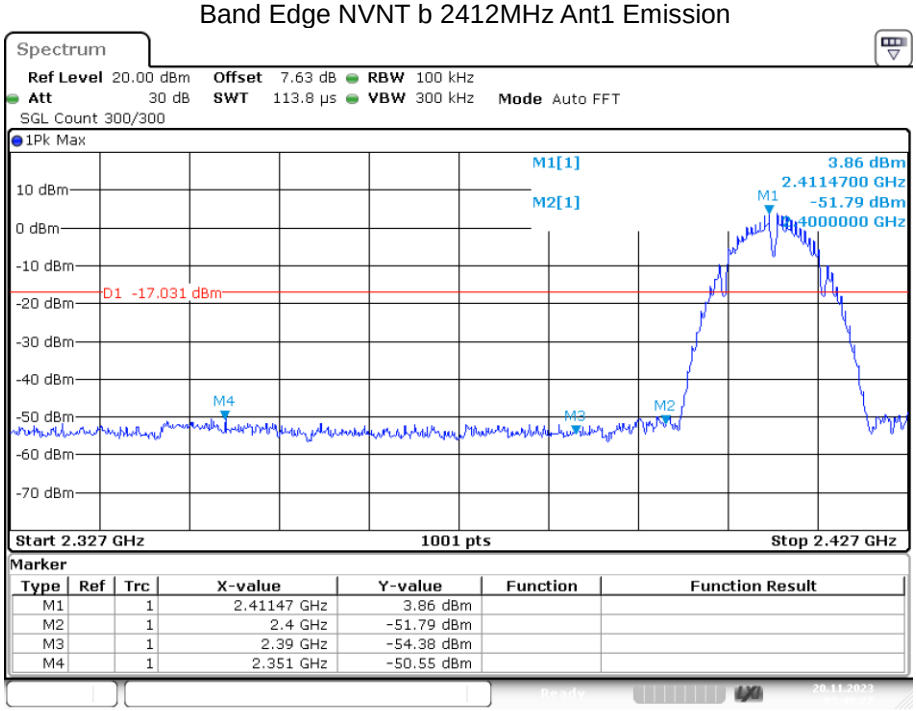


Test Mode: IEEE 802.11n40-High

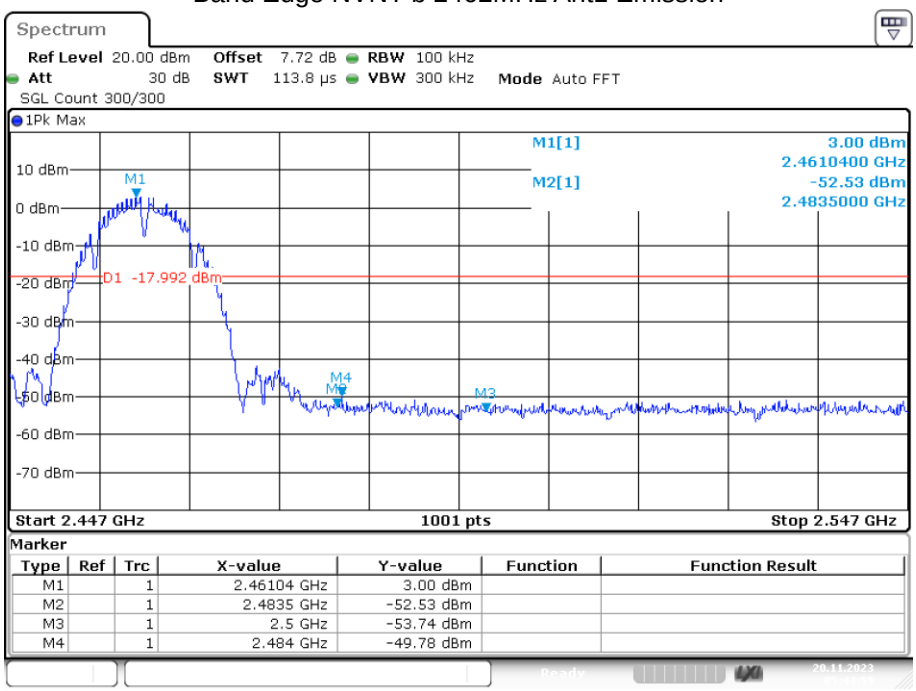


Note: 1. *:Maximum data; x:Over limit; !:over margin.
2.Measurement=Reading Level + Correct Factor; Correct Factor=Antenna Factor + Cable Loss.

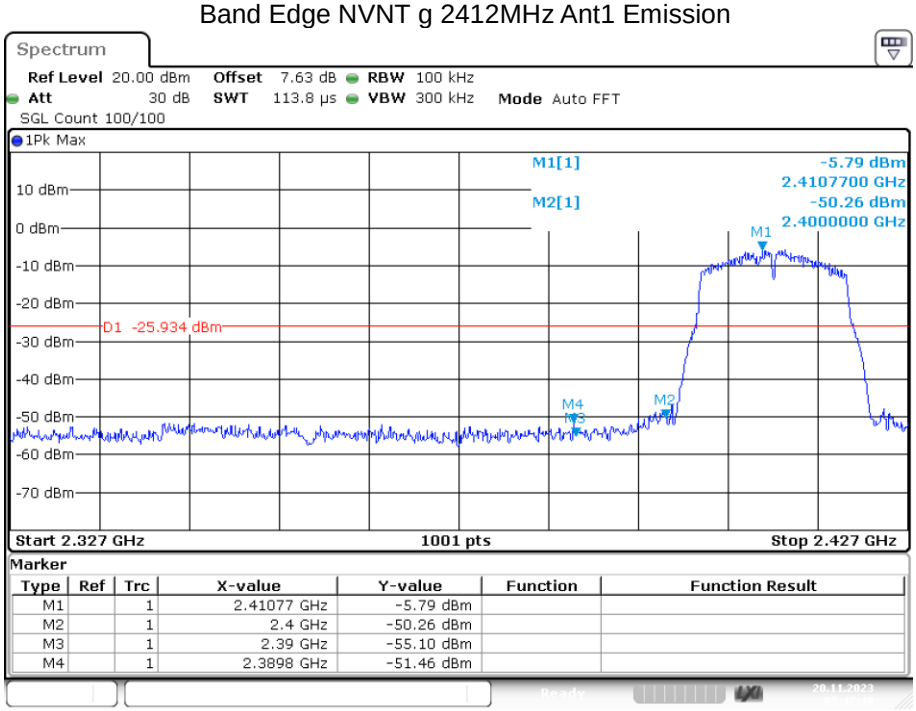
Band Edge NVNT b 2412MHz Ant1 Emission



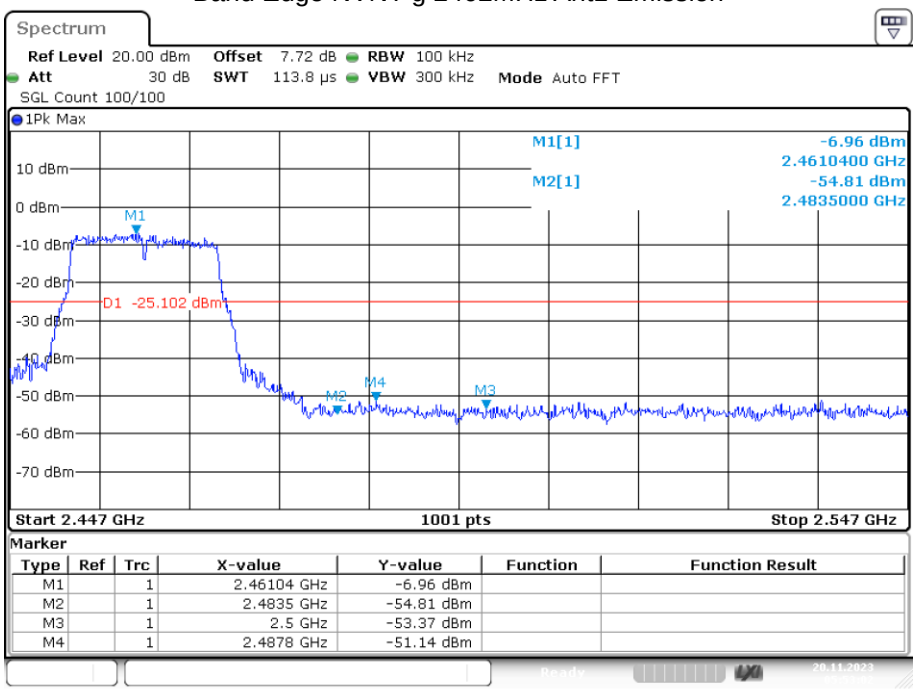
Band Edge NVNT b 2462MHz Ant1 Emission



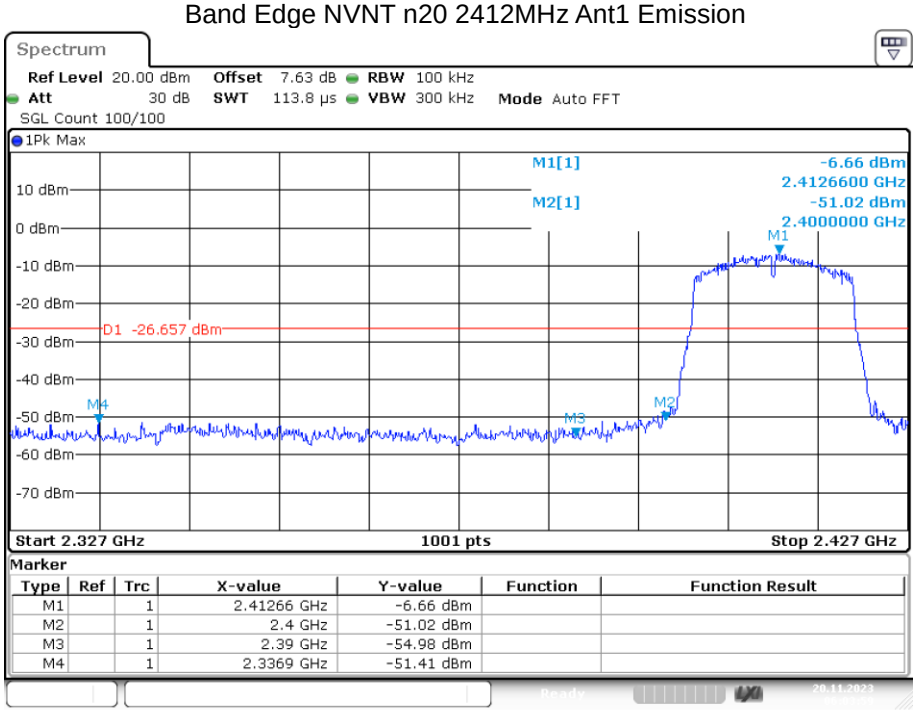
Band Edge NVNT g 2412MHz Ant1 Emission



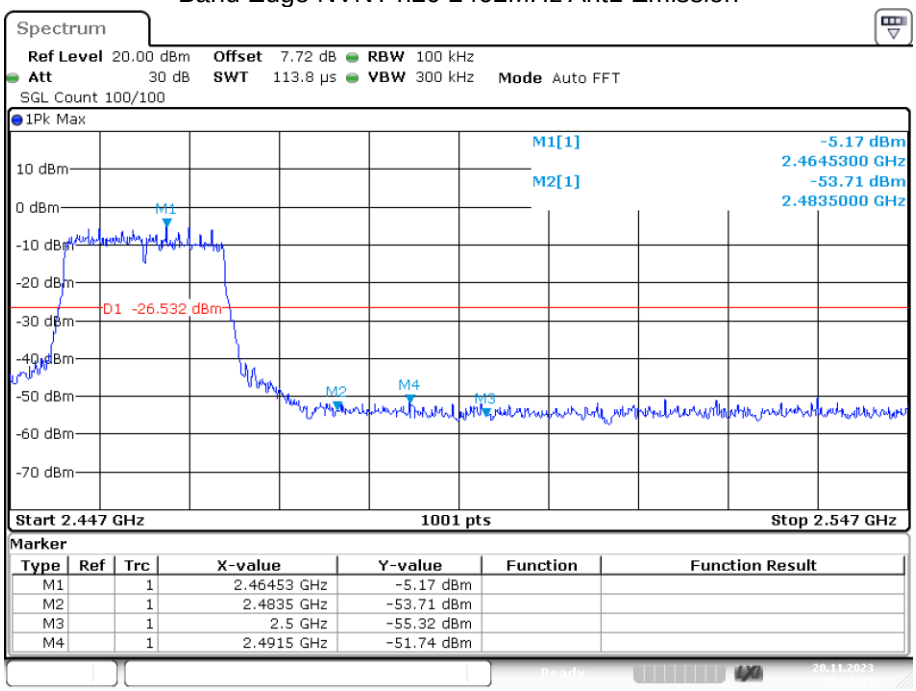
Band Edge NVNT g 2462MHz Ant1 Emission



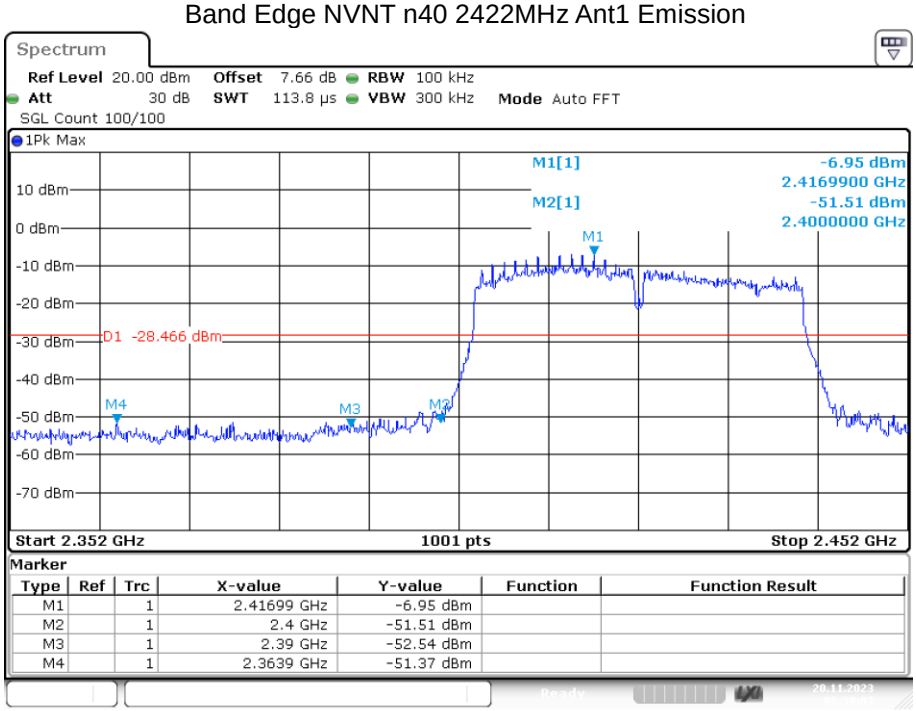
Band Edge NVNT n20 2412MHz Ant1 Emission



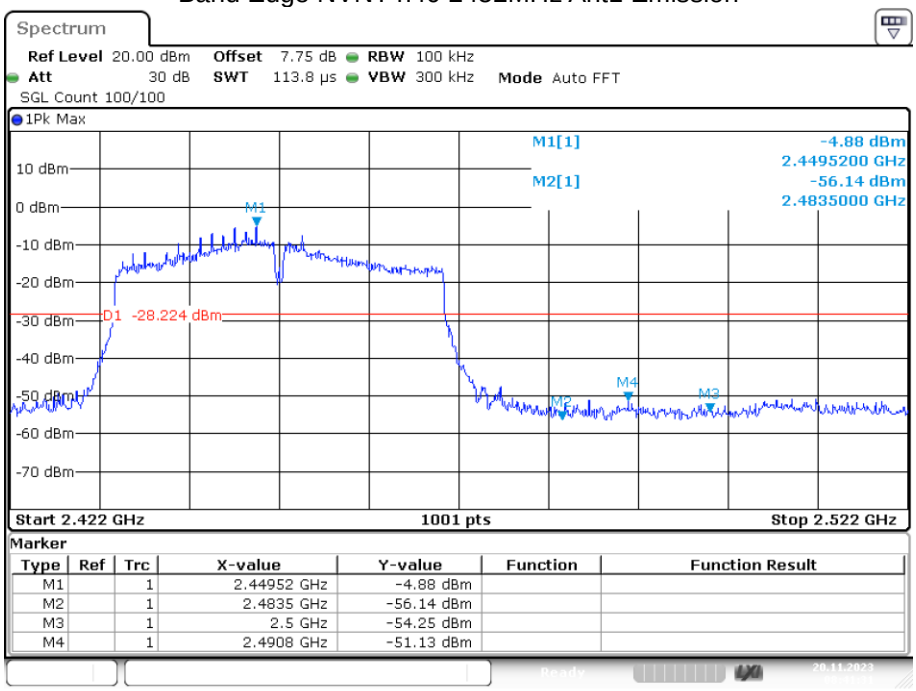
Band Edge NVNT n20 2462MHz Ant1 Emission



Band Edge NVNT n40 2422MHz Ant1 Emission



Band Edge NVNT n40 2452MHz Ant1 Emission



Note: 1. Except for mode b/g, other modes test the MIMO status.
2. Only the worst data of each pattern is reflected.

9. Antenna Requirement

9.1. Standard Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

9.2. Antenna Connected Construction

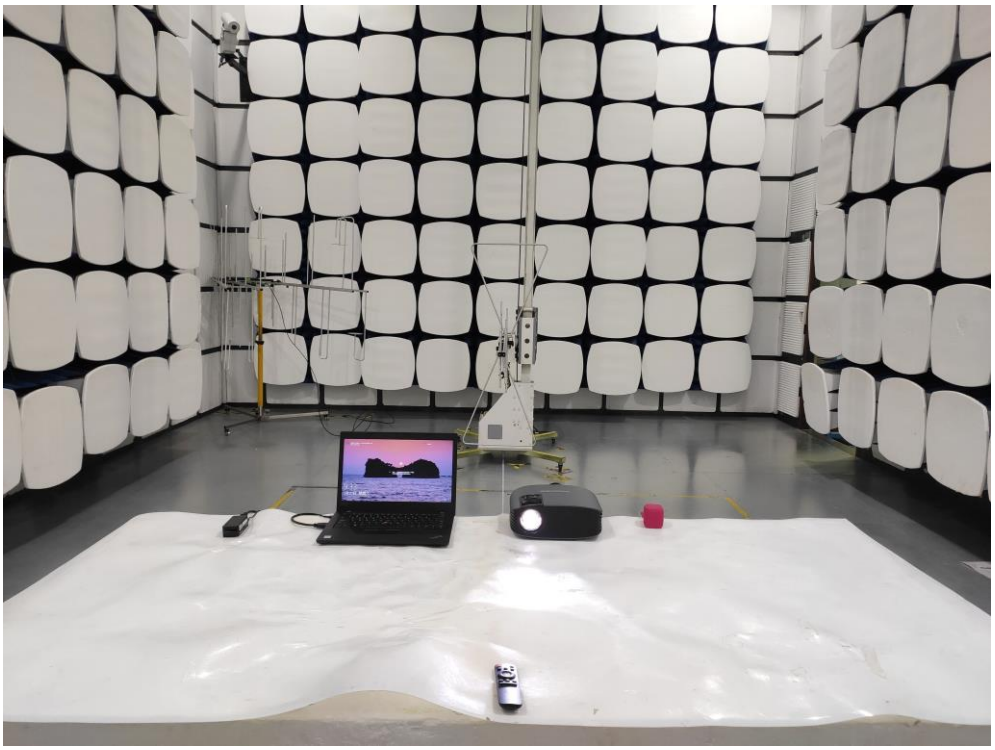
The antenna connector is unique antenna and no consideration of replacement. Please see EUT photo for details.

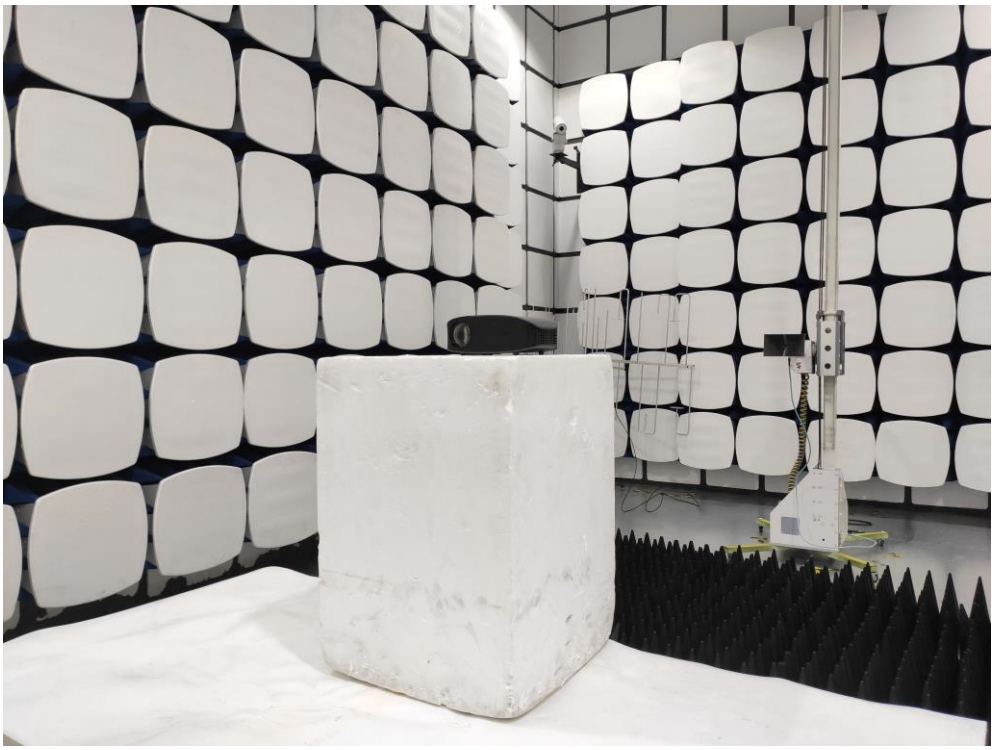
9.3. Results

The EUT antenna is internal Antenna. It complies with the standard requirement.

10. Photos Of Test Setup

10.1.Photos of Radiated emission





10.2.Photo of Conducted Emission test

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