7.6.6 Test Results

EUT:	5G Smart Phone	Model No.:	GQ5002
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Mukzi Lee

Test data reference attachment.

7.7 CONDUCTED BAND EDGE MEASUREMENT

7.7.1 Applicable Standard

According to FCC Part 15.247(d) and KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.7.

7.7.2 Conformance Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

7.7.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.7.4 Test Setup

Please refer to Section 6.1 of this test report.

7.7.5 Test Procedure

The testing follows FCC KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.7.
The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.
The path loss was compensated to the results for each measurement.
Set to the maximum power setting and enable the EUT transmit continuously.
The EUT was operating in controlled its channel.
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.

7.7.6 Test Results

EUT:	5G Smart Phone	Model No.:	GQ5002
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode4	Test By:	Mukzi Lee

Test data reference attachment.

7.8 SPURIOUS RF CONDUCTED EMISSIONS

7.8.1 Conformance Limit

1. Below -20dB of the highest emission level in operating band.
2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

7.8.2 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.8.3 Test Setup

Please refer to Section 6.1 of this test report.

7.8.4 Test Procedure

The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW=100kHz and VBW= 300KHz to measure the peak field strength , and measure frequency range from 30MHz to 26.5GHz.

7.8.5 Test Results

Remark: The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.

Test data reference attachment.

7.9 ANTENNA APPLICATION

7.9.1 Antenna Requirement

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

7.9.2 Result

The EUT antenna is permanent attached PIFA antenna (Gain: 0.3 dBi). It comply with the standard requirement.

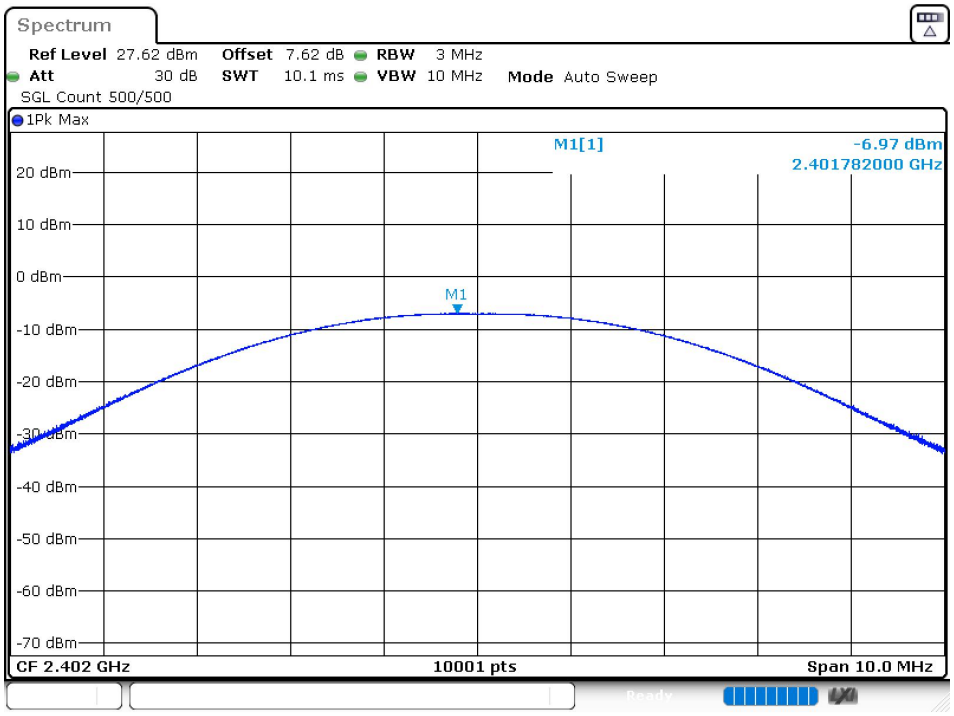
8 TEST RESULTS

8.1 1M

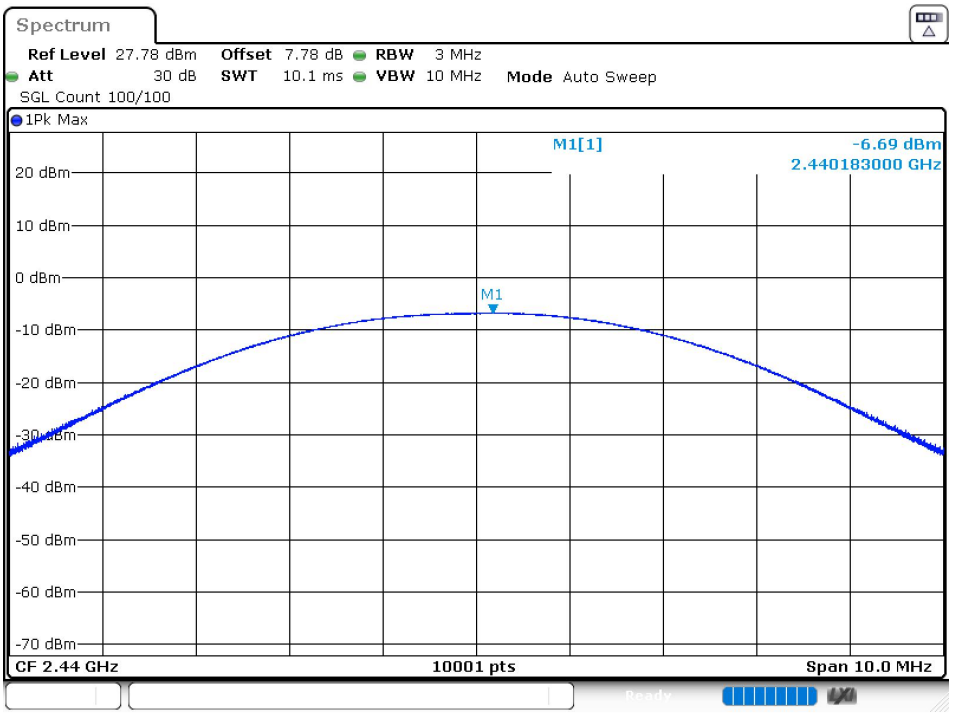
8.1.1 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant 1	-6.968	0	-6.968	30	Pass
NVNT	BLE	2440	Ant 1	-6.694	0	-6.694	30	Pass
NVNT	BLE	2480	Ant 1	-6.58	0	-6.58	30	Pass

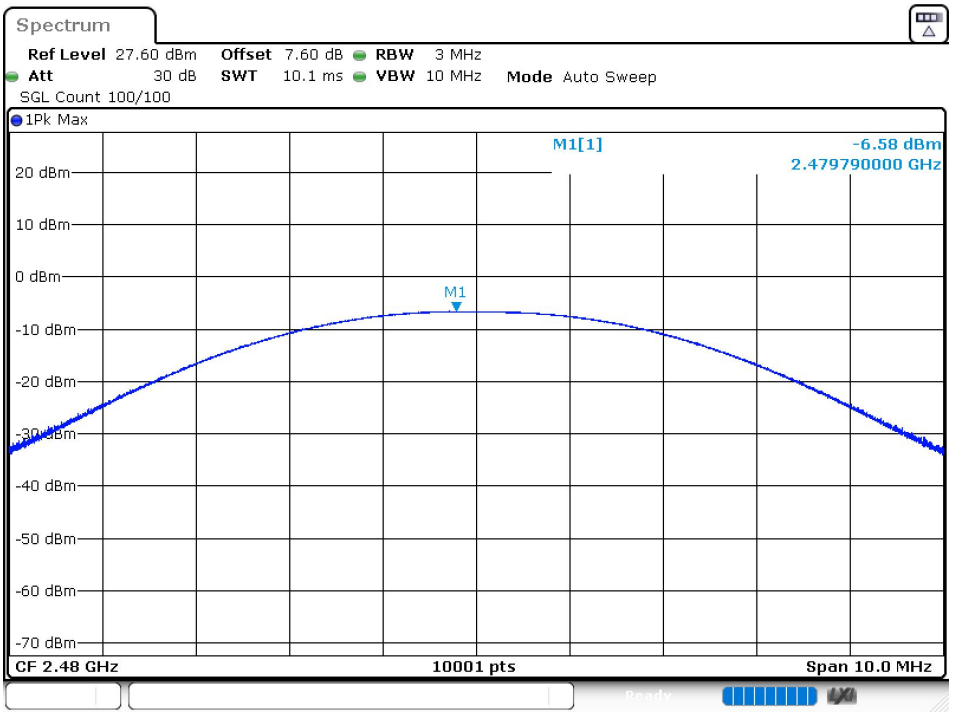
Power NVNT BLE 2402MHz Ant1



Power NVNT BLE 2440MHz Ant1



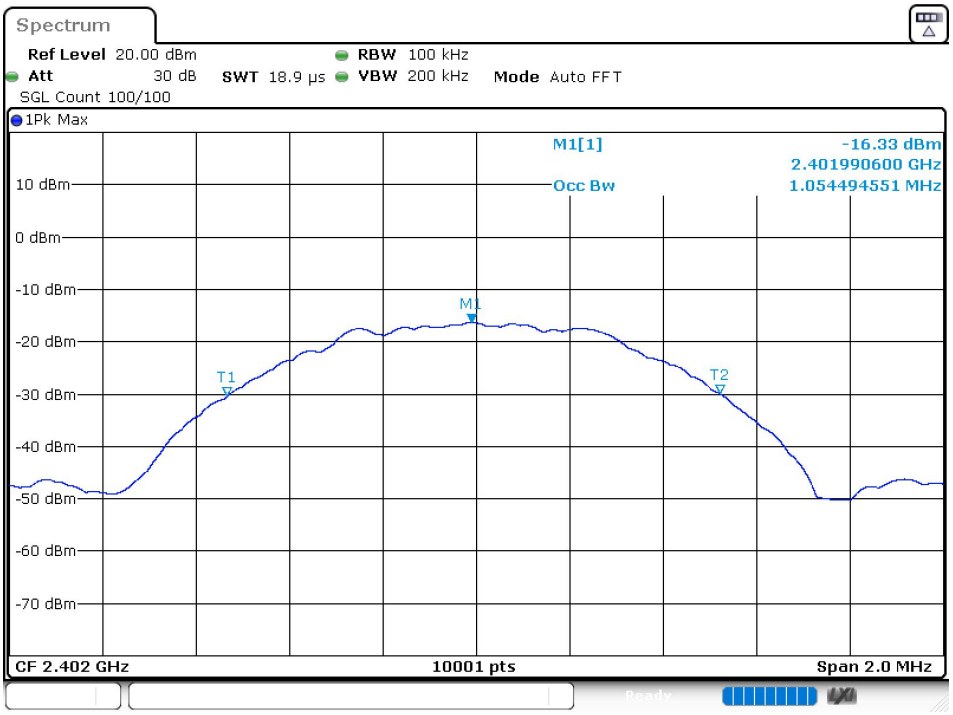
Power NVNT BLE 2480MHz Ant1



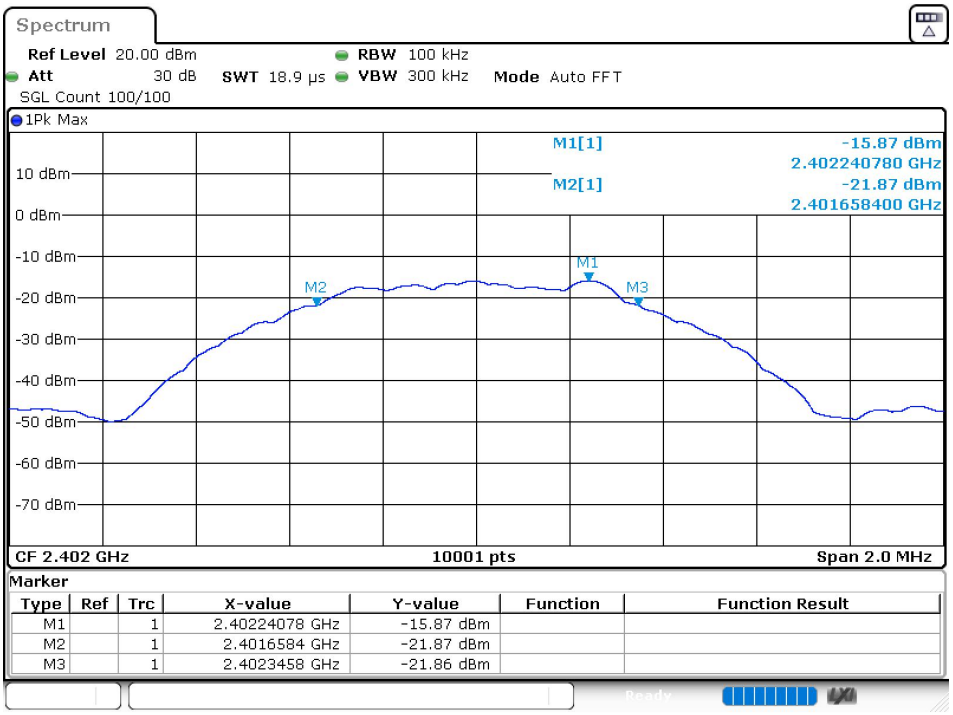
8.1.2 **Occupied Channel Bandwidth**

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE	2402	Ant 1	1.0545	0.6874	0.5	Pass
NVNT	BLE	2440	Ant 1	1.0547	0.6582	0.5	Pass
NVNT	BLE	2480	Ant 1	1.0497	0.664	0.5	Pass

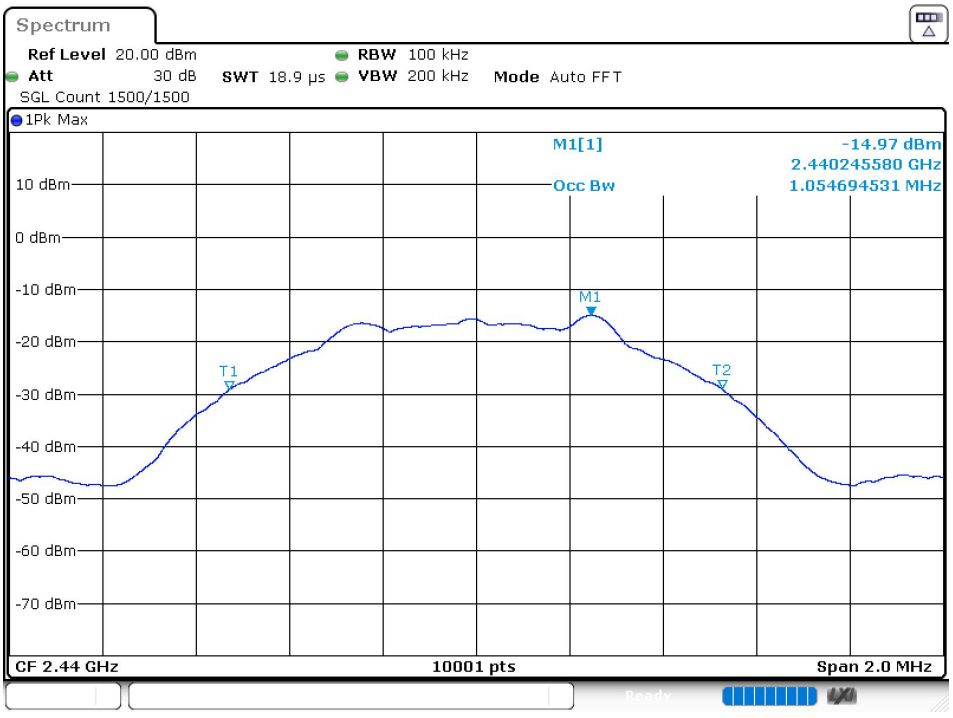
OBW NVNT BLE 2402MHz Ant1



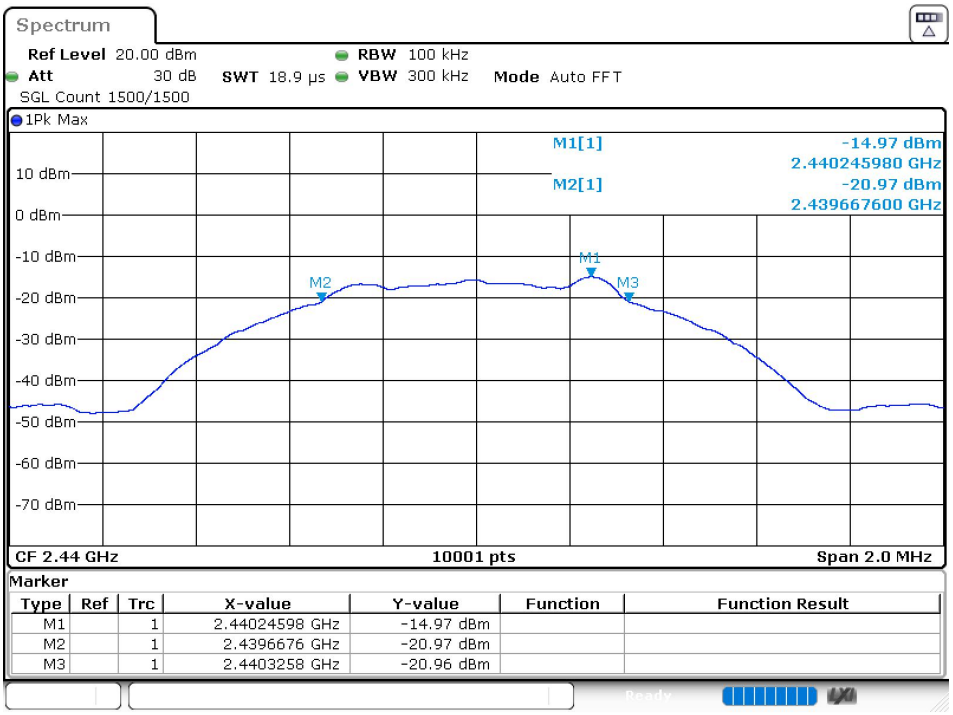
-6 dB BW NVNT BLE 2402MHz Ant1



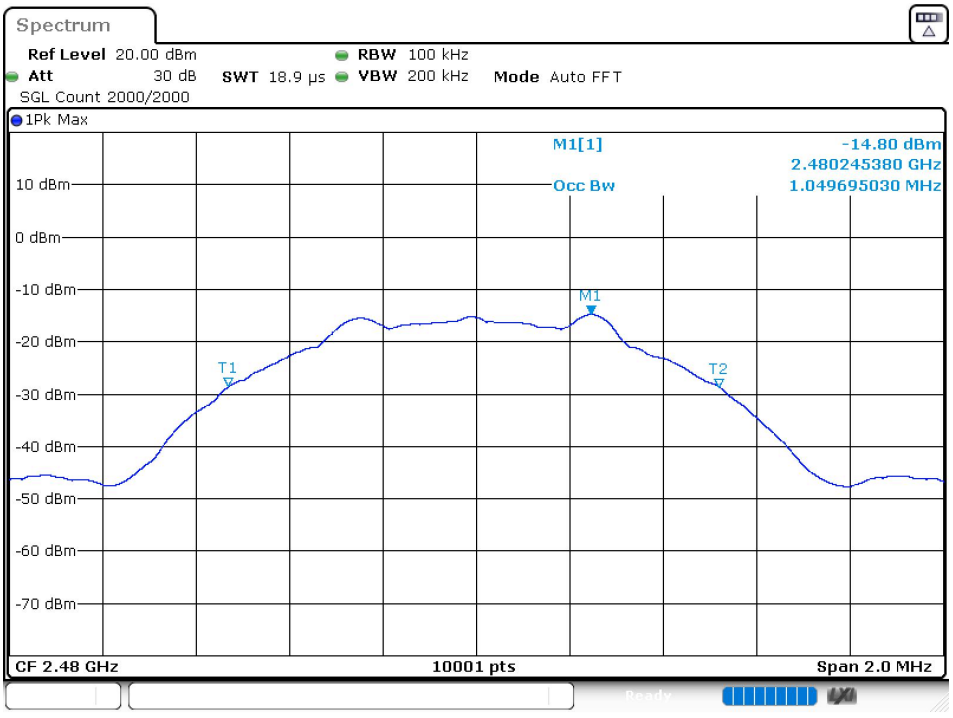
OBW NVNT BLE 2440MHz Ant1



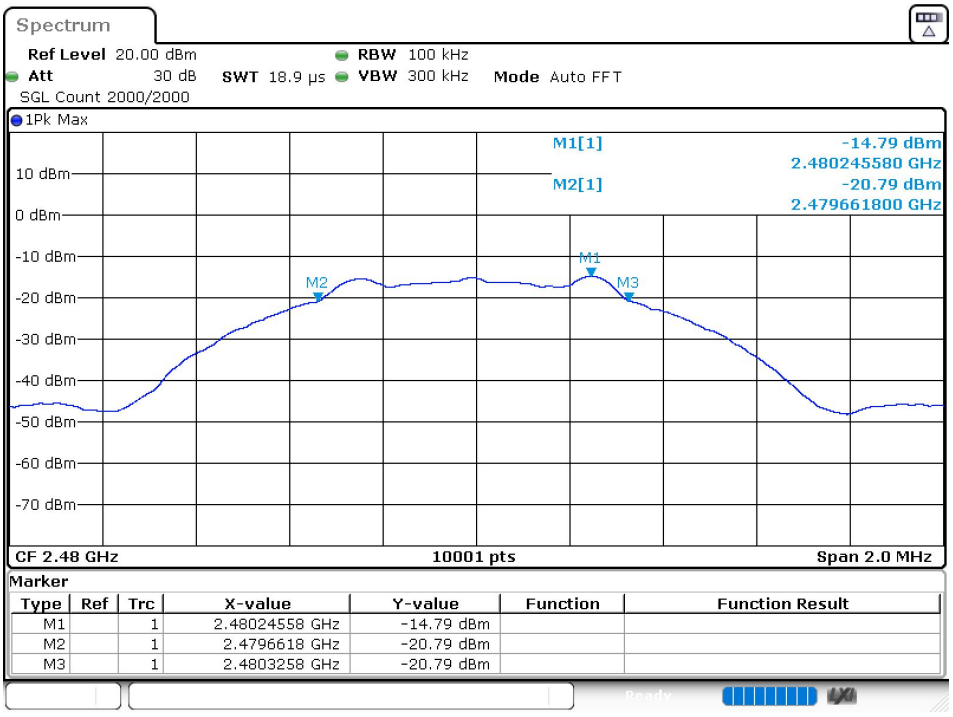
-6 dB BW NVNT BLE 2440MHz Ant1



OBW NVNT BLE 2480MHz Ant1



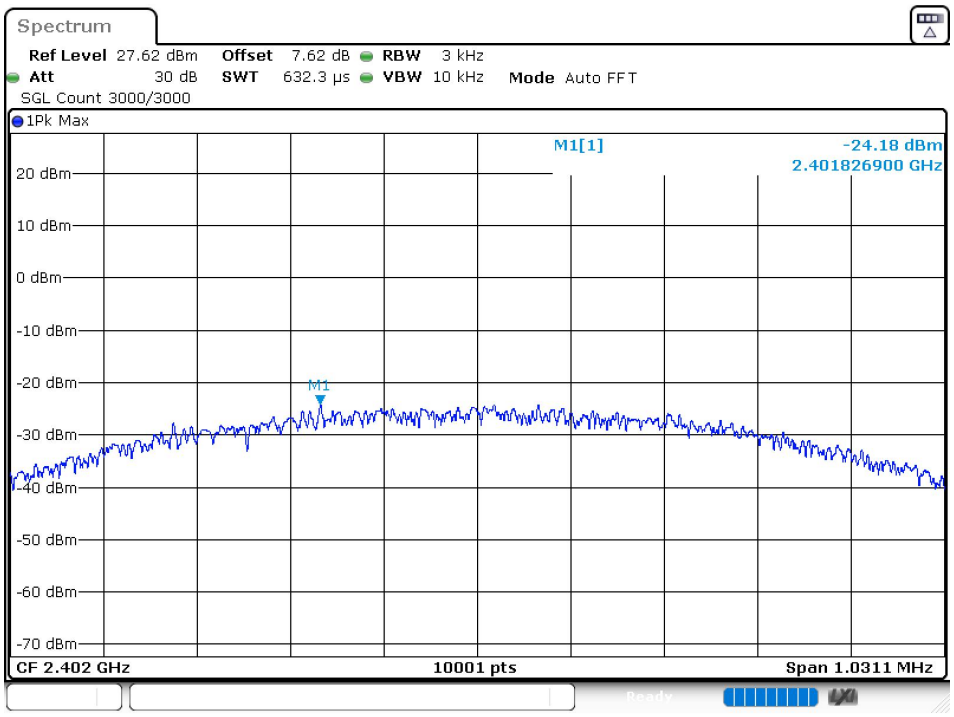
-6 dB BW NVNT BLE 2480MHz Ant1



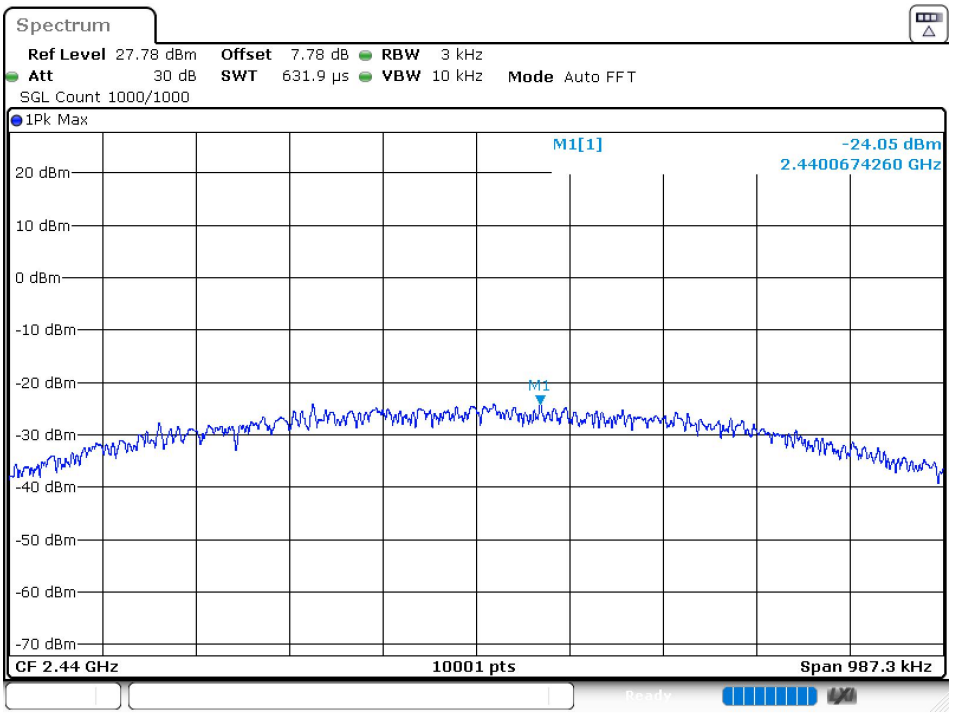
8.1.3 **Maximum Power Spectral Density Level**

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE	2402	Ant 1	-24.182	8	Pass
NVNT	BLE	2440	Ant 1	-24.047	8	Pass
NVNT	BLE	2480	Ant 1	-23.89	8	Pass

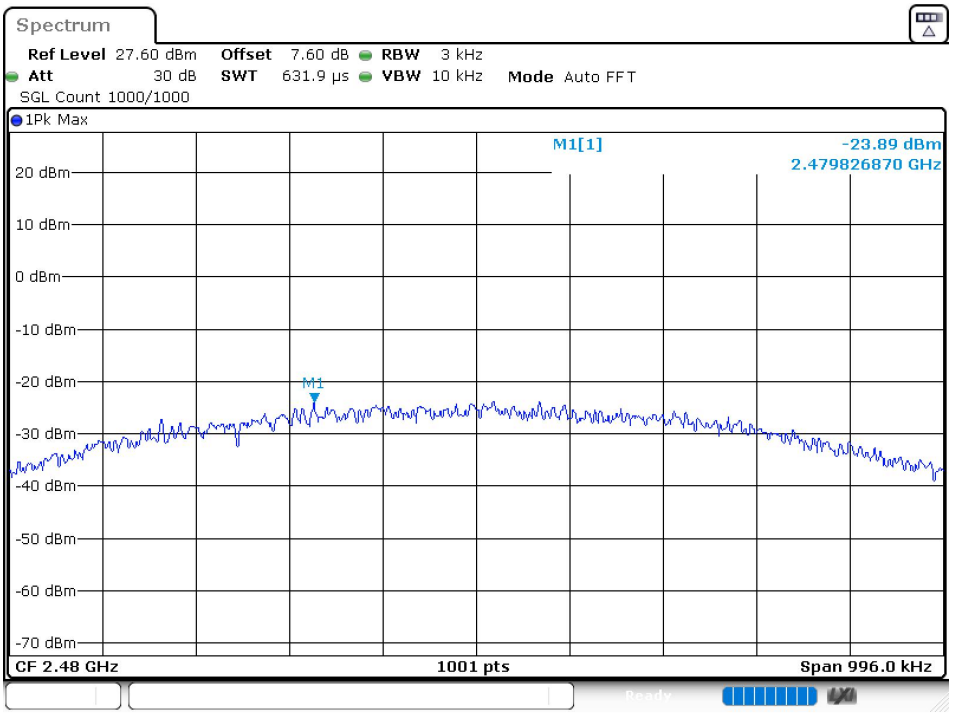
PSD NVNT BLE 2402MHz Ant1



PSD NVNT BLE 2440MHz Ant1



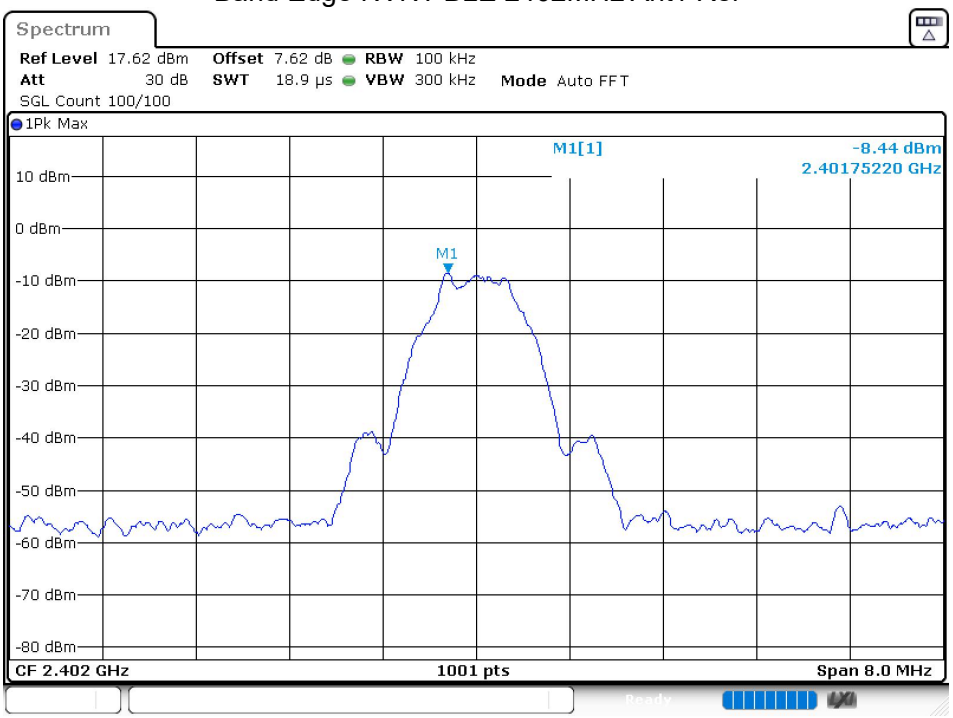
PSD NVNT BLE 2480MHz Ant1



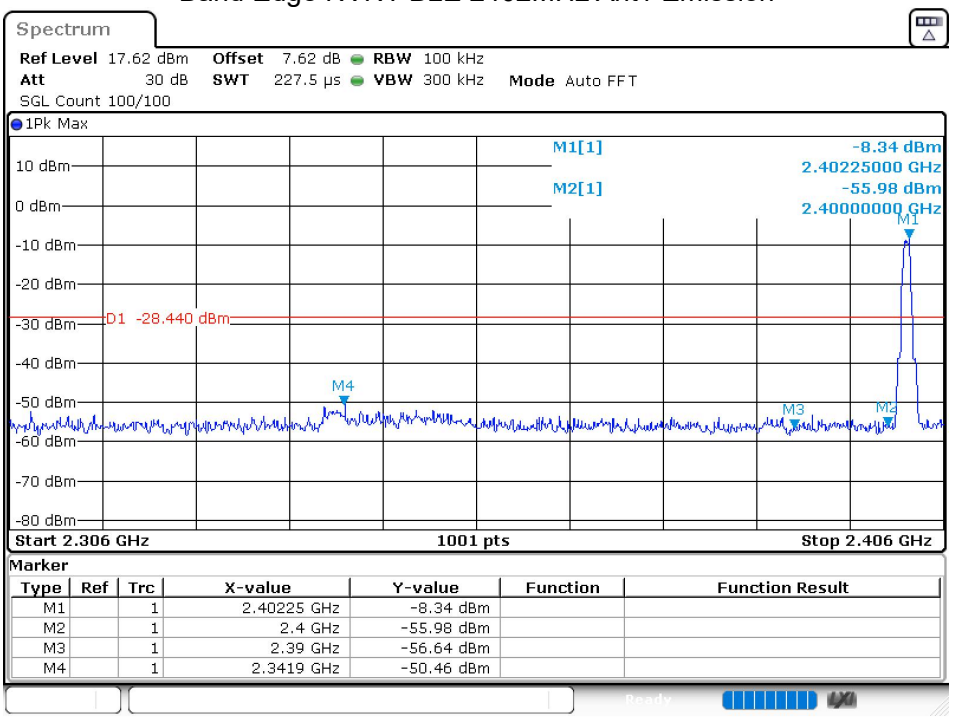
8.1.4 **Band Edge**

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant 1	-42.02	-20	Pass
NVNT	BLE	2480	Ant 1	-43.34	-20	Pass

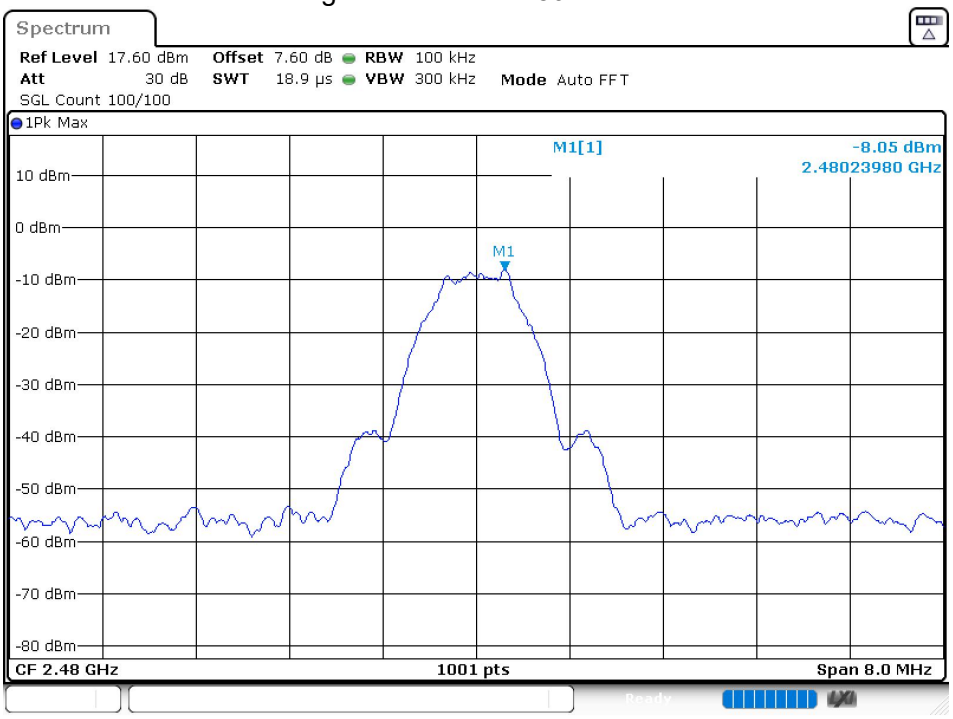
Band Edge NVNT BLE 2402MHz Ant1 Ref



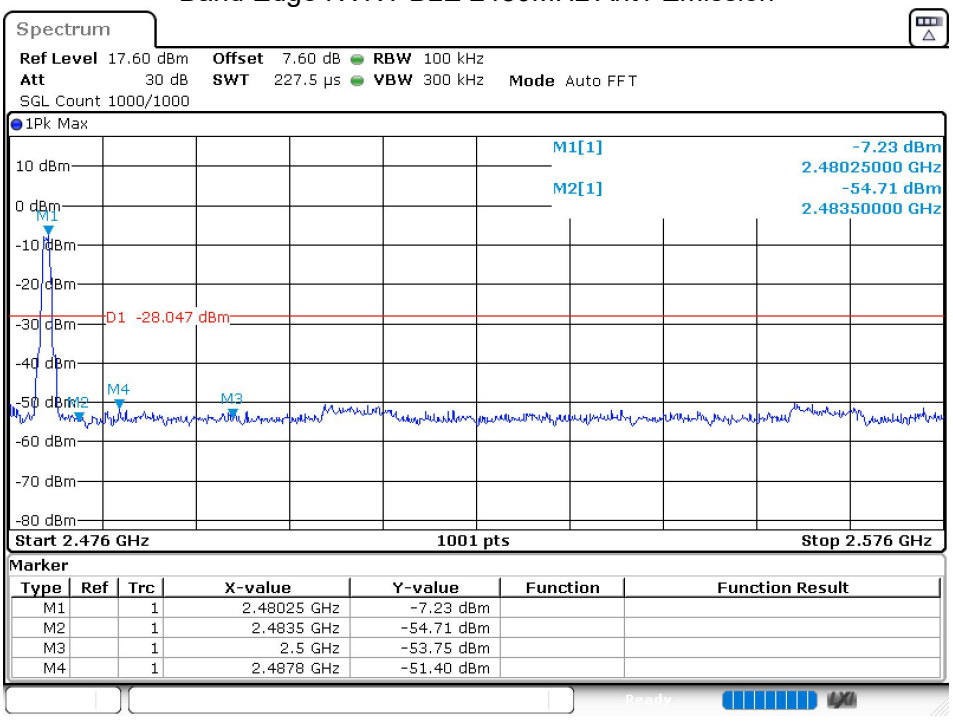
Band Edge NVNT BLE 2402MHz Ant1 Emission



Band Edge NVNT BLE 2480MHz Ant1 Ref



Band Edge NVNT BLE 2480MHz Ant1 Emission



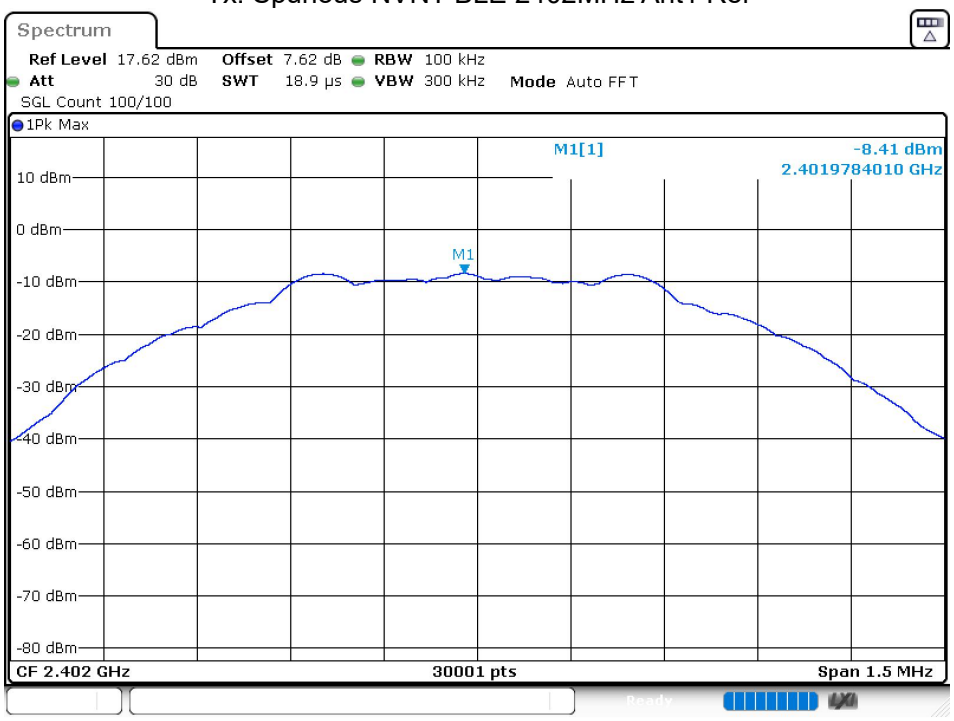
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.48025 GHz	-7.23 dBm		
M2		1	2.4835 GHz	-54.71 dBm		
M3		1	2.5 GHz	-53.75 dBm		
M4		1	2.4878 GHz	-51.40 dBm		

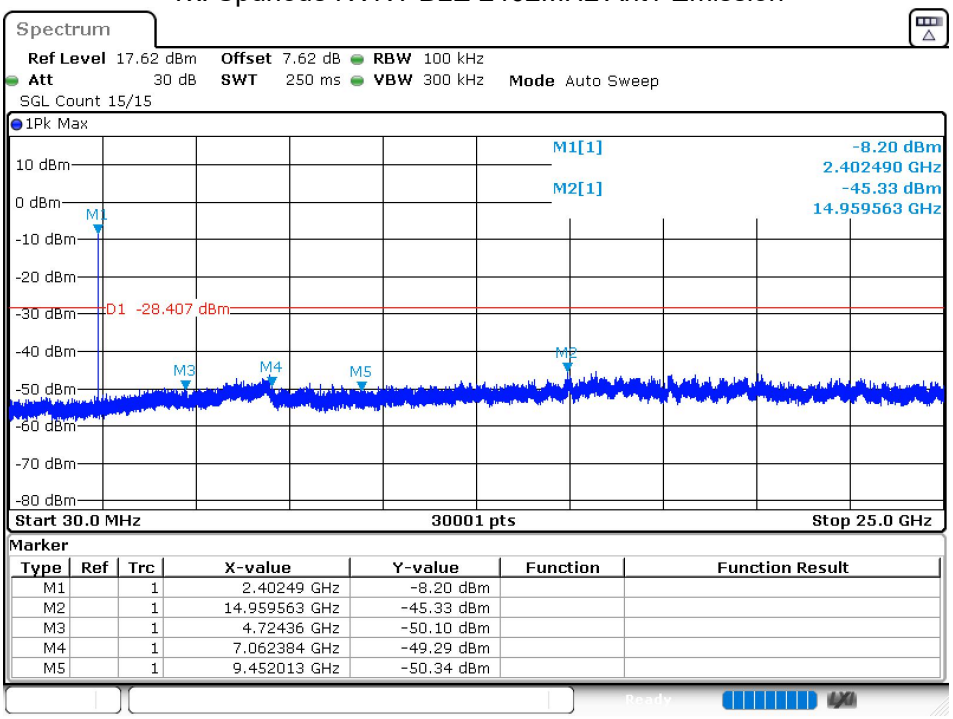
8.1.5 **Conducted RF Spurious Emission**

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant 1	-36.92	-20	Pass
NVNT	BLE	2440	Ant 1	-38.41	-20	Pass
NVNT	BLE	2480	Ant 1	-38.32	-20	Pass

Tx. Spurious NVNT BLE 2402MHz Ant1 Ref



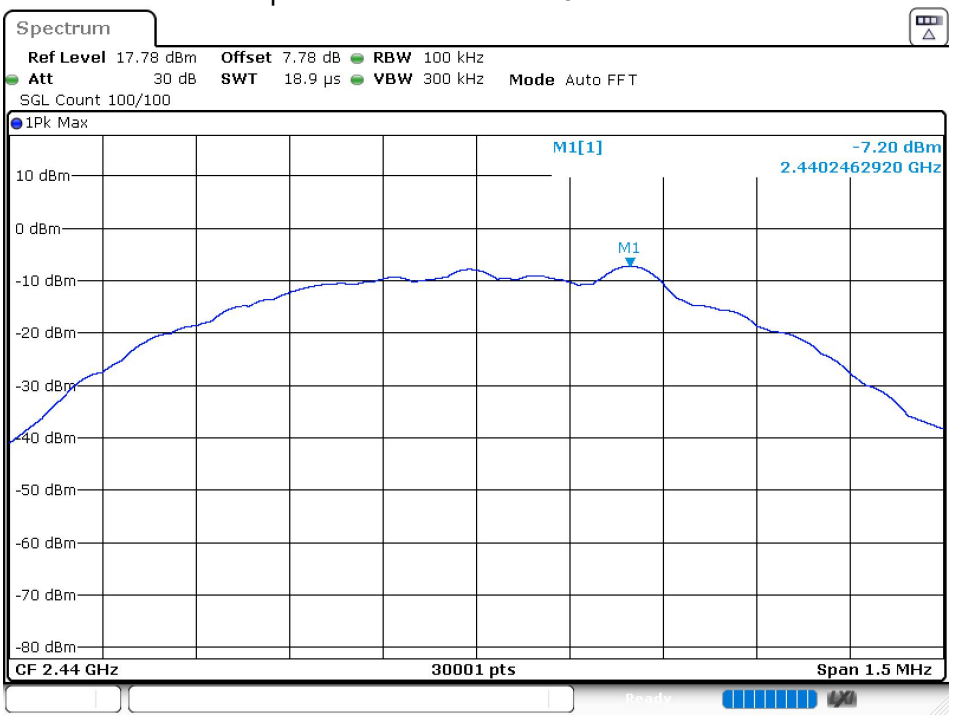
Tx. Spurious NVNT BLE 2402MHz Ant1 Emission



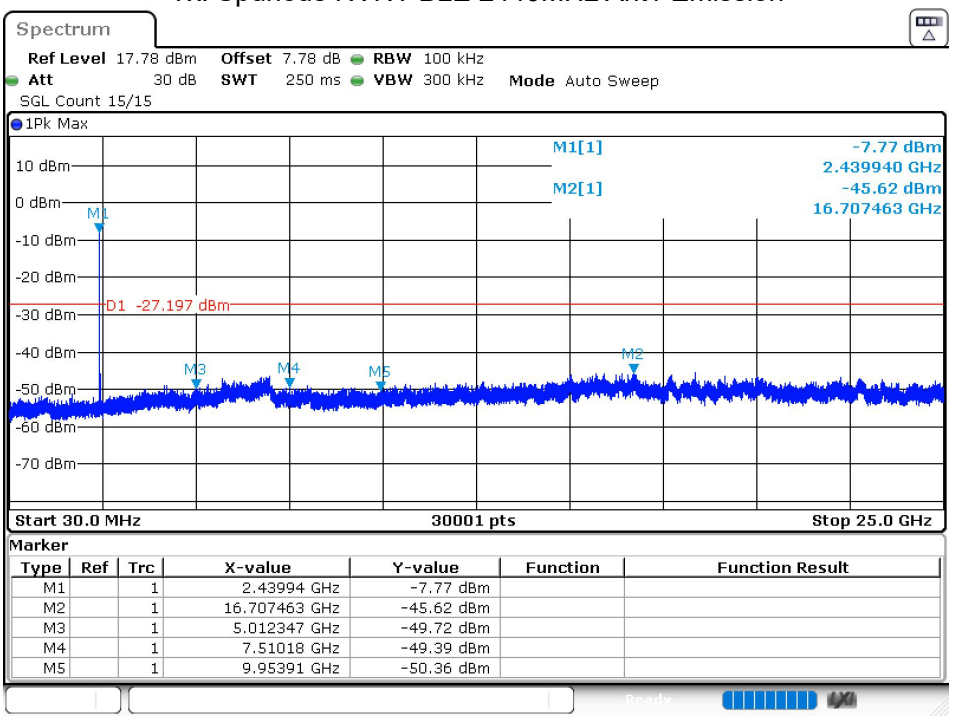
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40249 GHz	-8.20 dBm		
M2		1	14.959563 GHz	-45.33 dBm		
M3		1	4.72436 GHz	-50.10 dBm		
M4		1	7.062384 GHz	-49.29 dBm		
M5		1	9.452013 GHz	-50.34 dBm		

Tx. Spurious NVNT BLE 2440MHz Ant1 Ref



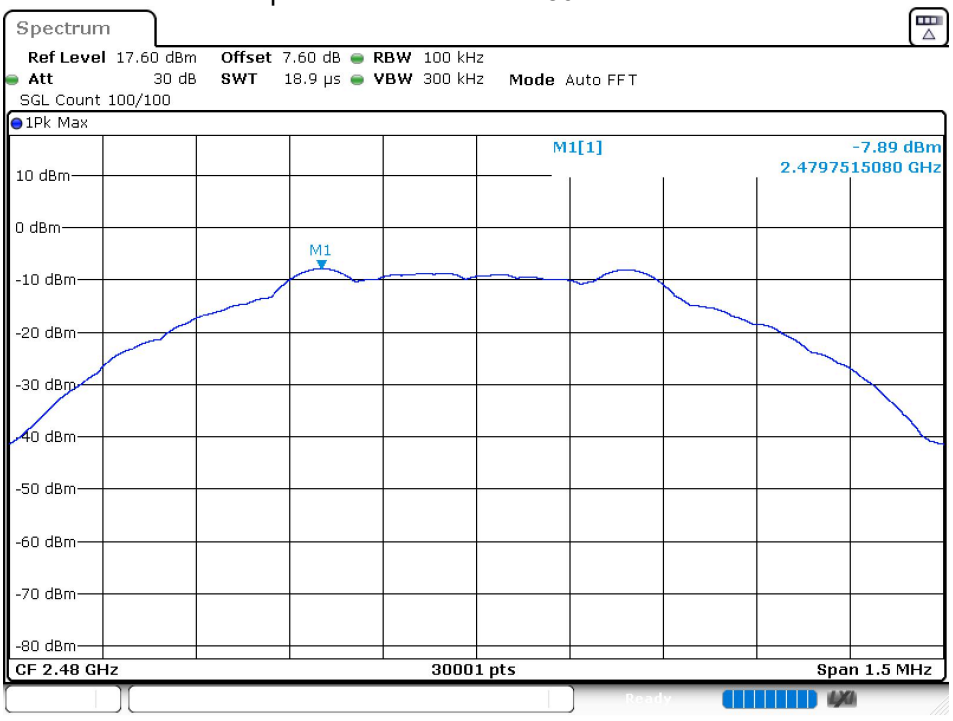
Tx. Spurious NVNT BLE 2440MHz Ant1 Emission



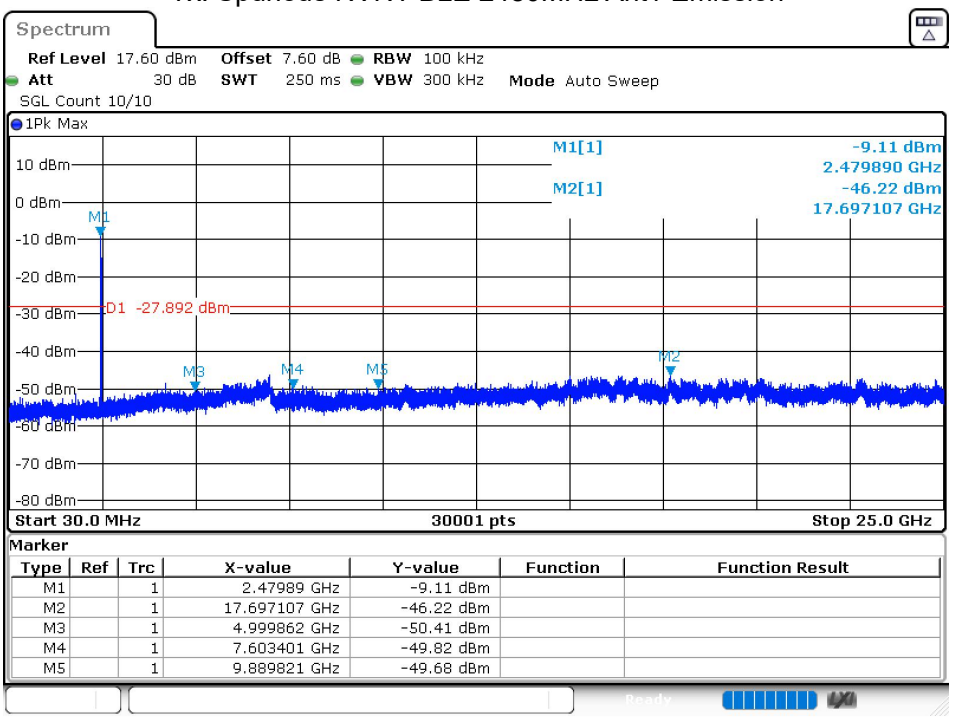
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43994 GHz	-7.77 dBm		
M2		1	16.707463 GHz	-45.62 dBm		
M3		1	5.012347 GHz	-49.72 dBm		
M4		1	7.51018 GHz	-49.39 dBm		
M5		1	9.95391 GHz	-50.36 dBm		

Tx. Spurious NVNT BLE 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 2480MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.47989 GHz	-9.11 dBm		
M2		1	17.697107 GHz	-46.22 dBm		
M3		1	4.999862 GHz	-50.41 dBm		
M4		1	7.603401 GHz	-49.82 dBm		
M5		1	9.889821 GHz	-49.68 dBm		

8.2 2M

8.2.1 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant 1	-7.001	0	-7.001	30	Pass
NVNT	BLE	2440	Ant 1	-7.044	0	-7.044	30	Pass
NVNT	BLE	2480	Ant 1	-6.553	0	-6.553	30	Pass

Power NVNT BLE 2402MHz Ant1