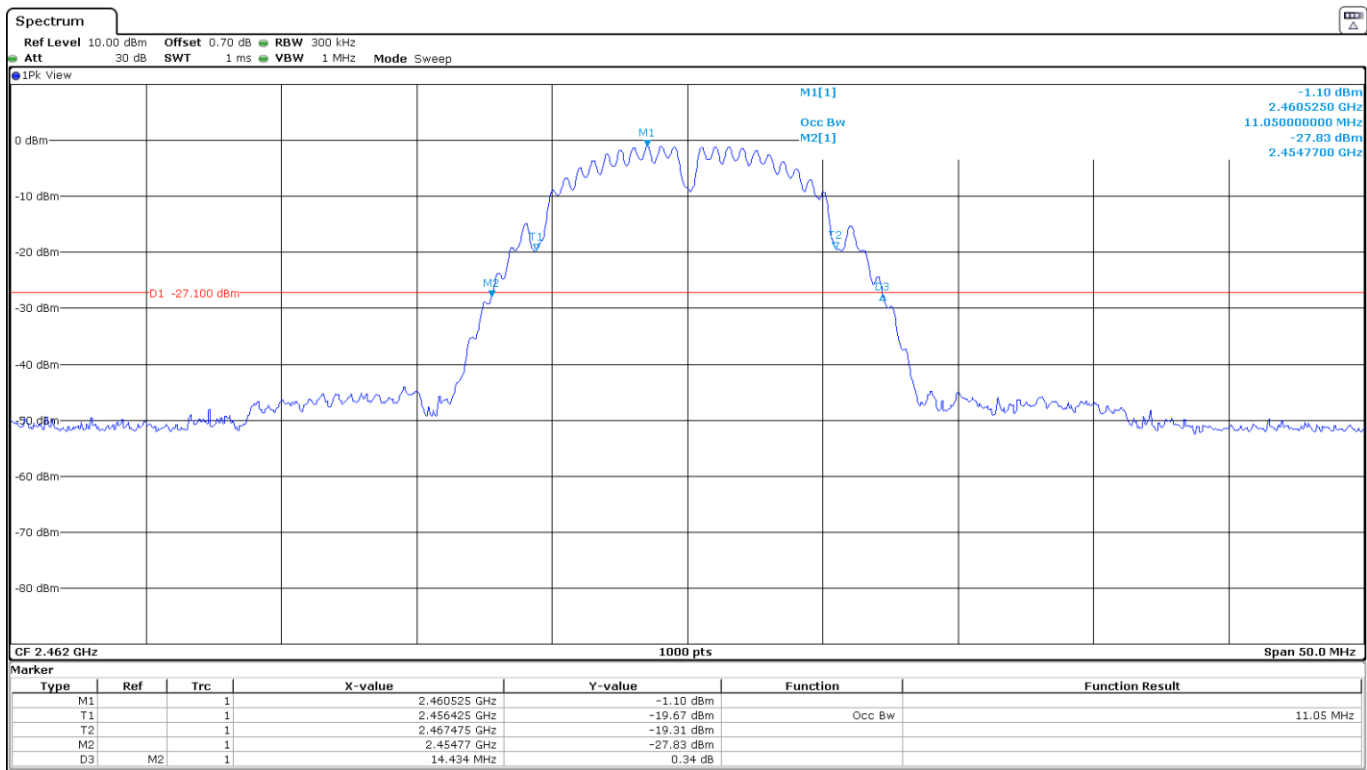
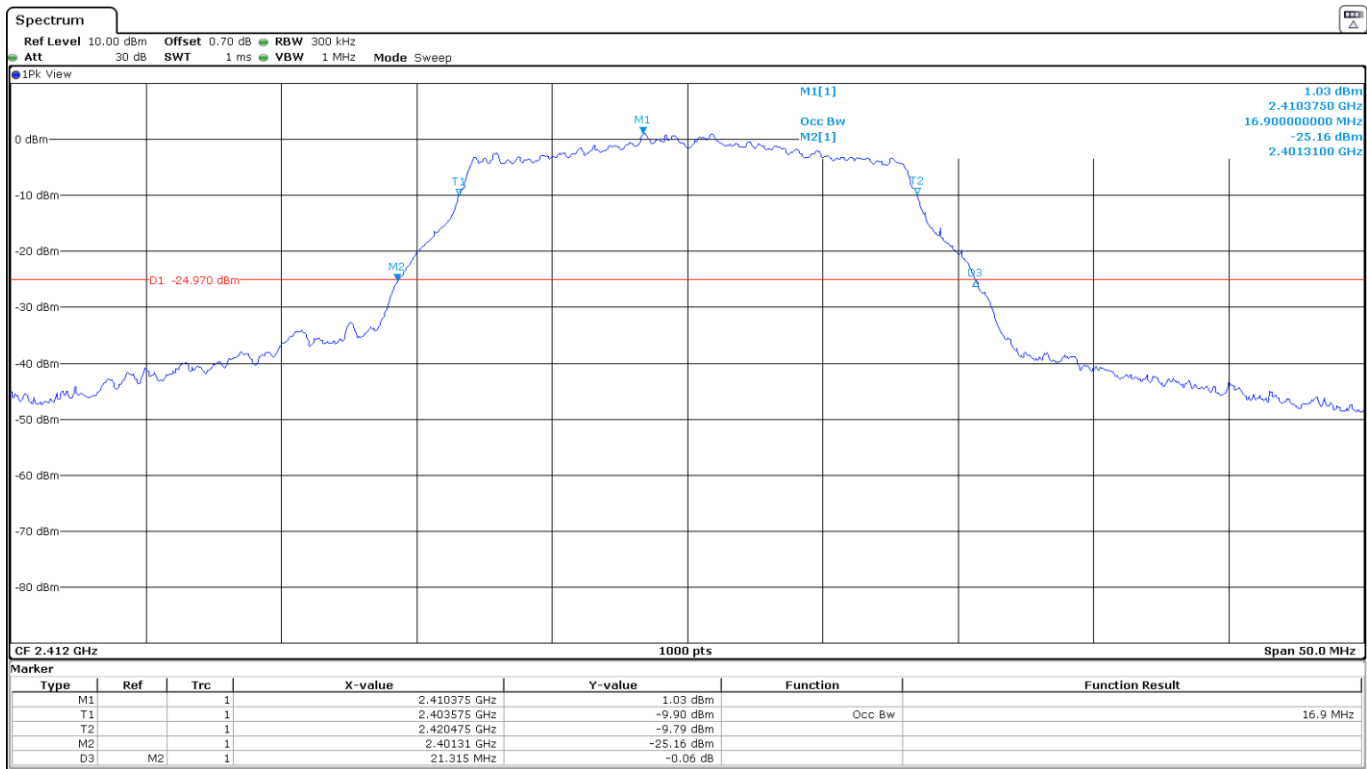


- High Channel:

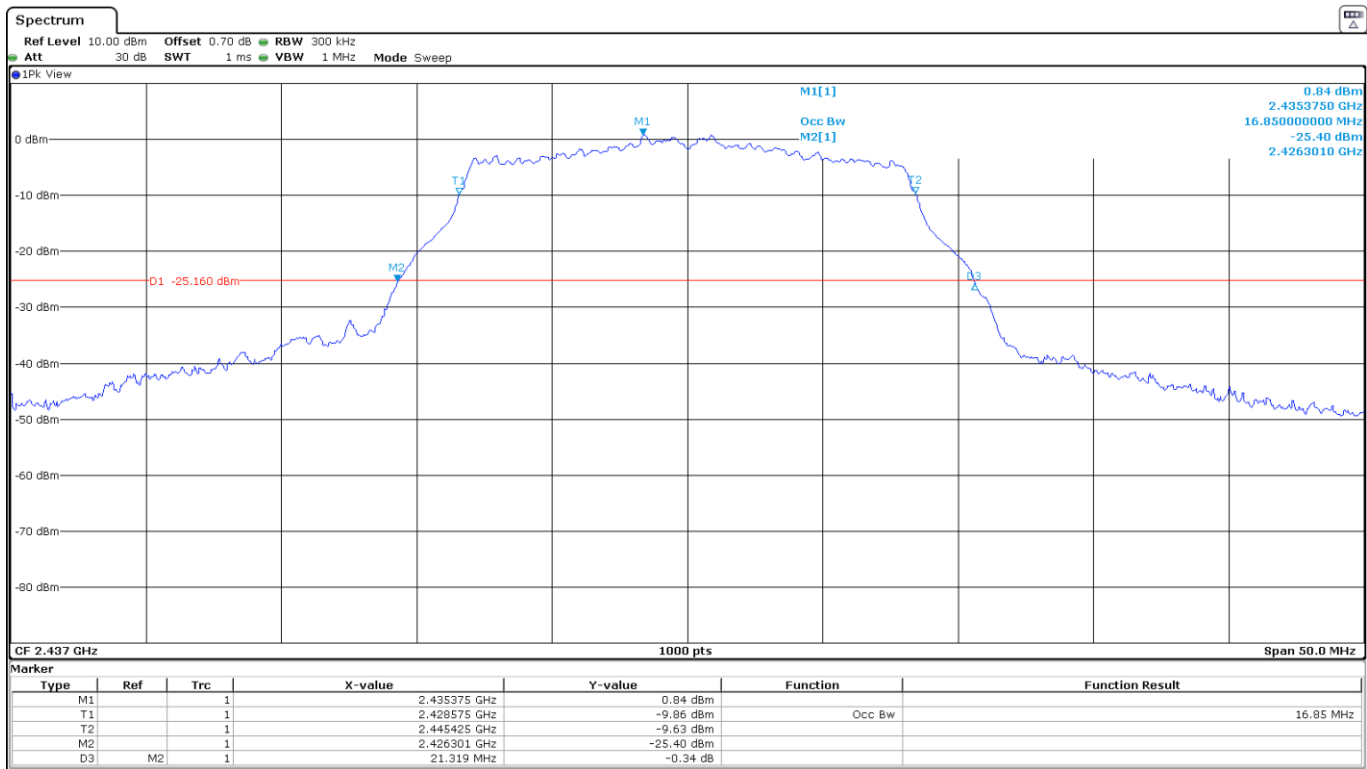


- Mode 802.11 g – Occupied Bandwidth

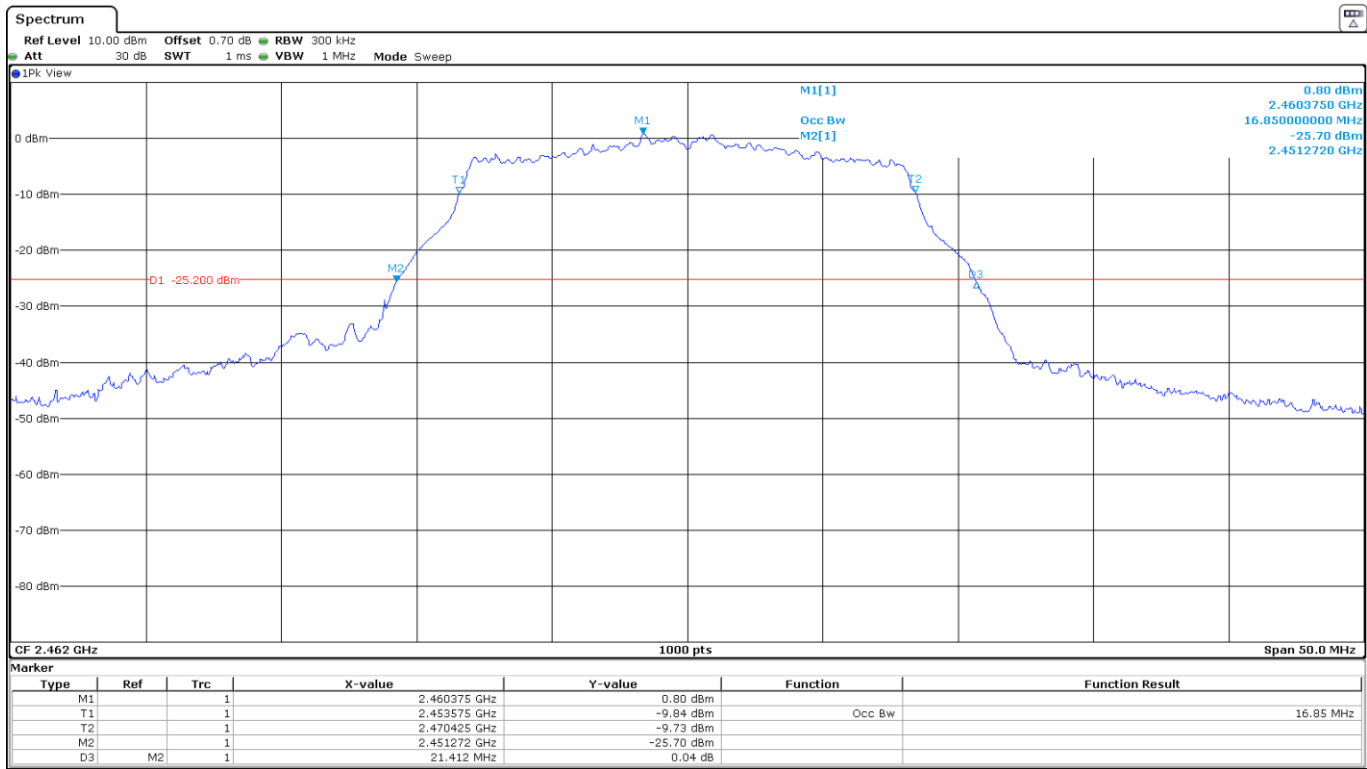
- Low Channel:



- Middle Channel:

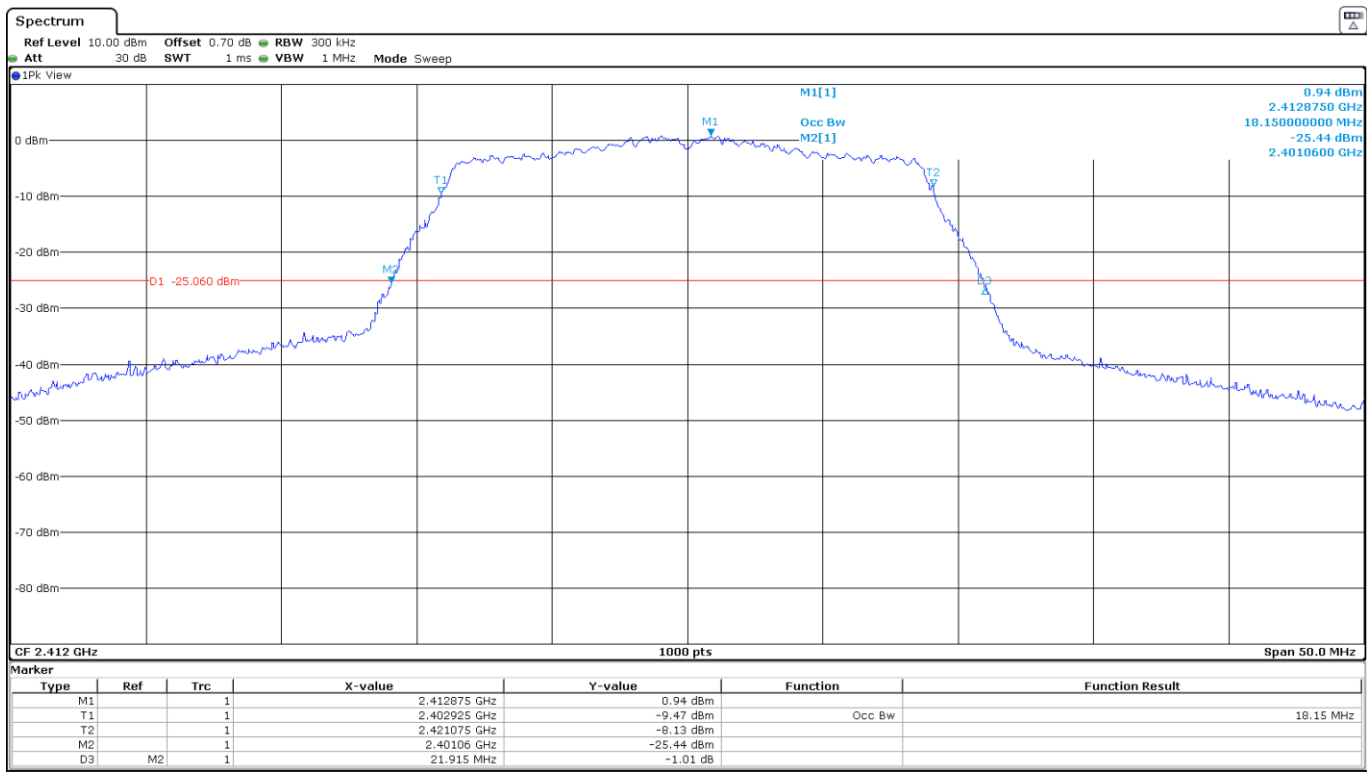


- High Channel:

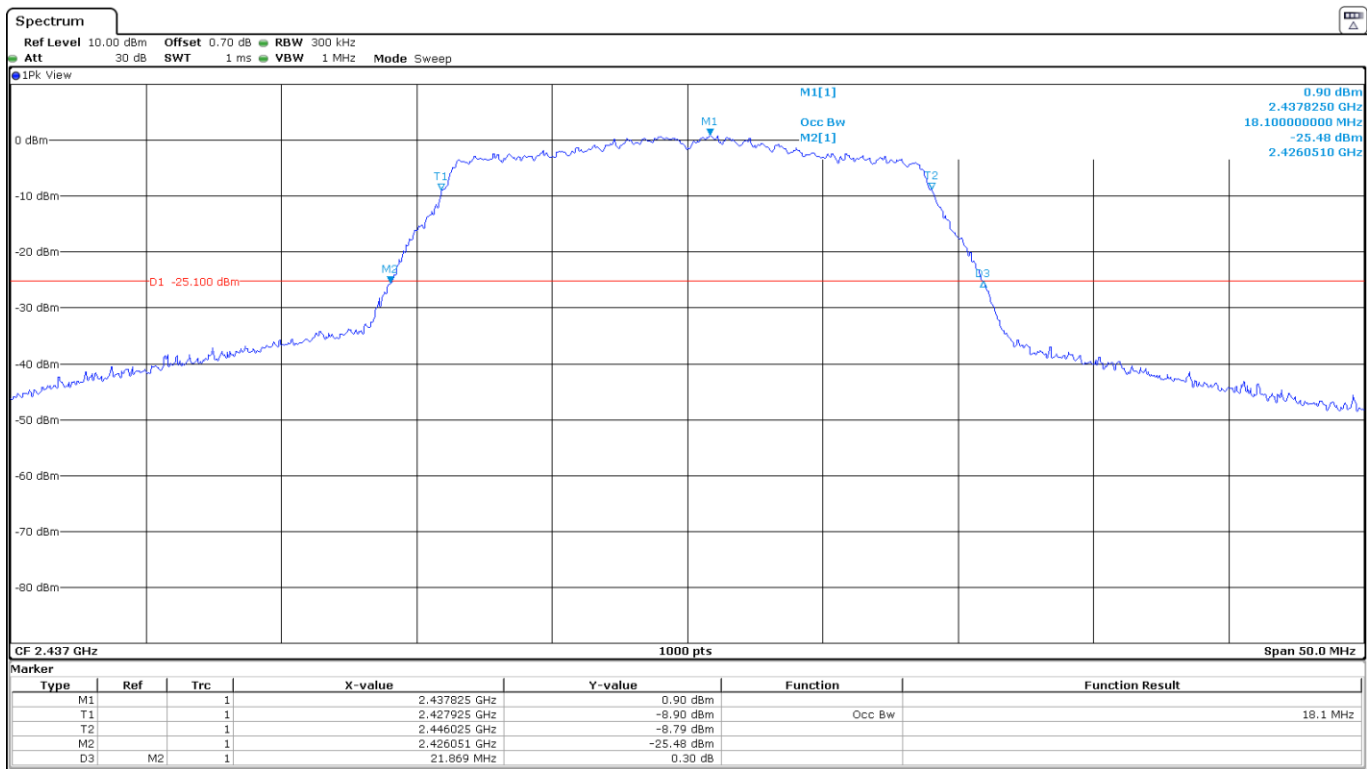


• Mode 802.11 n20 – Occupied Bandwidth

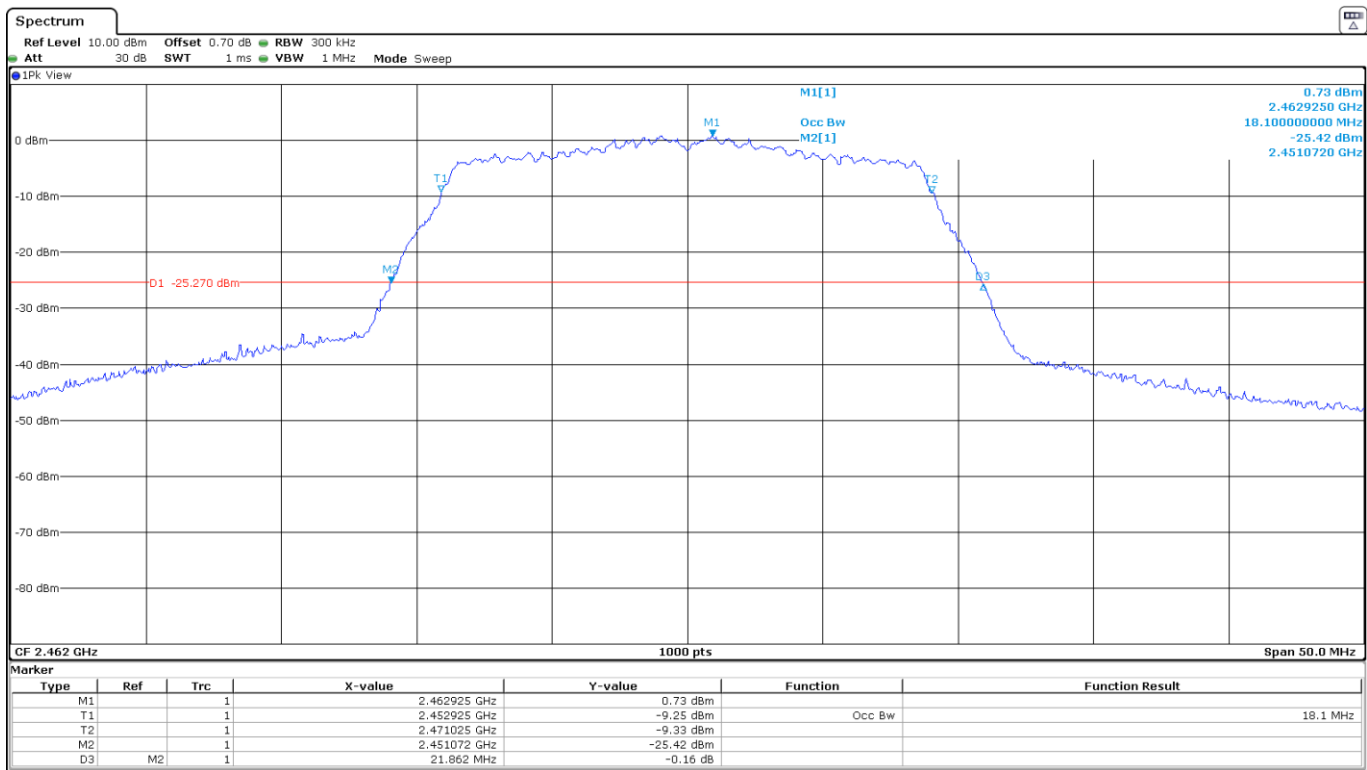
- Low Channel:



- Middle Channel:



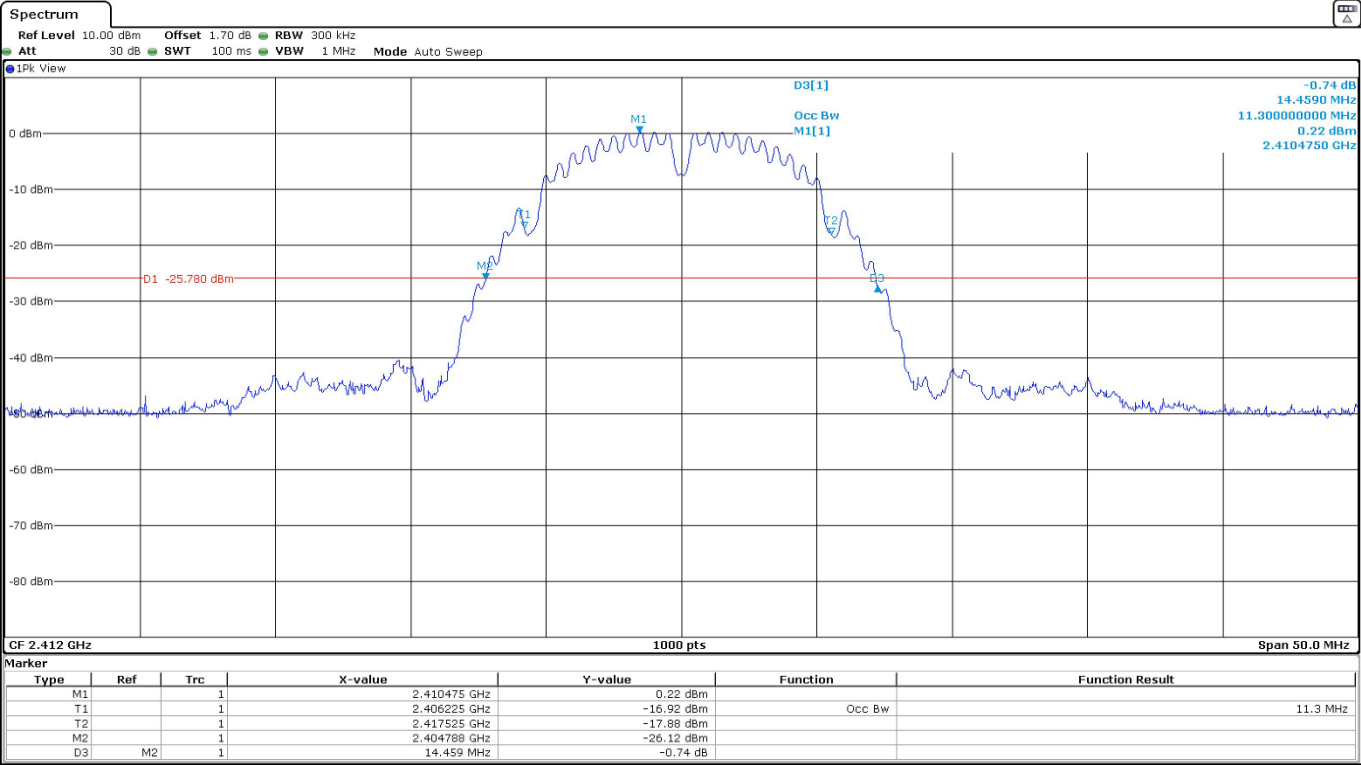
- High Channel:



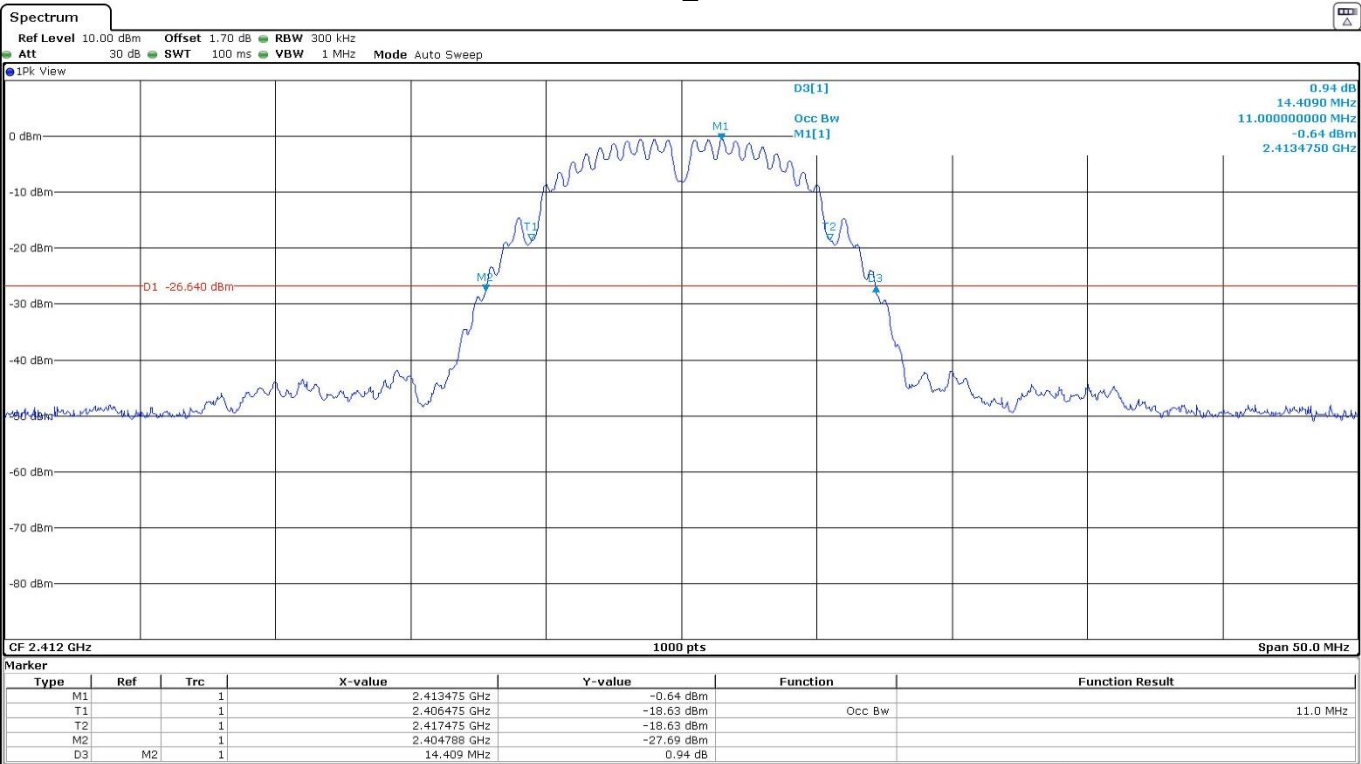
MIMO – CORE1_Port4 Antenna & CORE1_Port1 Antenna:

- Mode 802.11 b – Occupied Bandwidth
- Low Channel:

CORE1_Port4

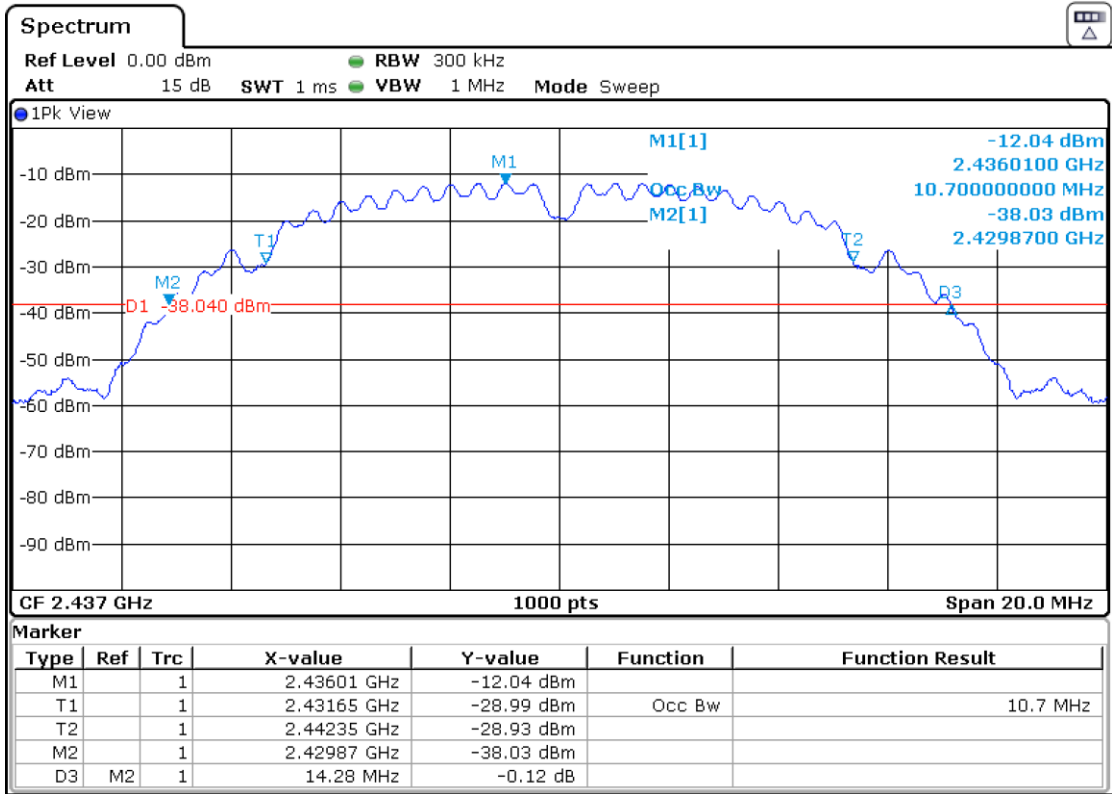


CORE1_Port1

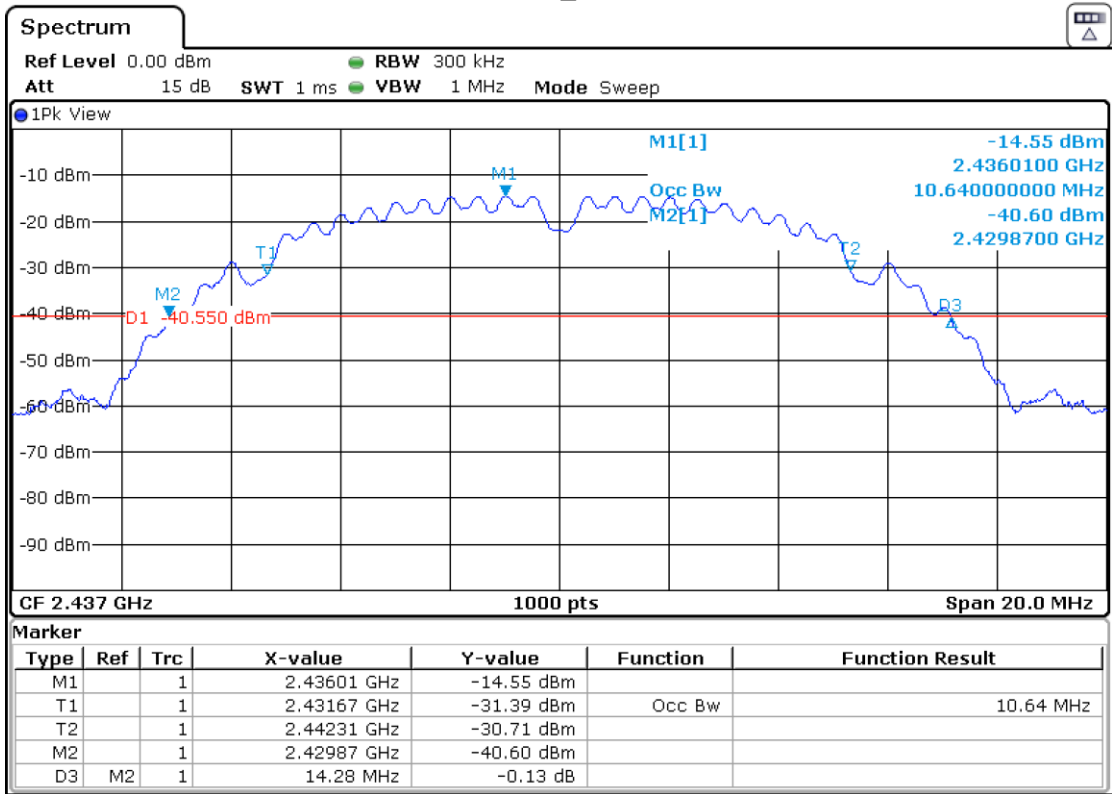


- Middle Channel:

CORE1_Port4

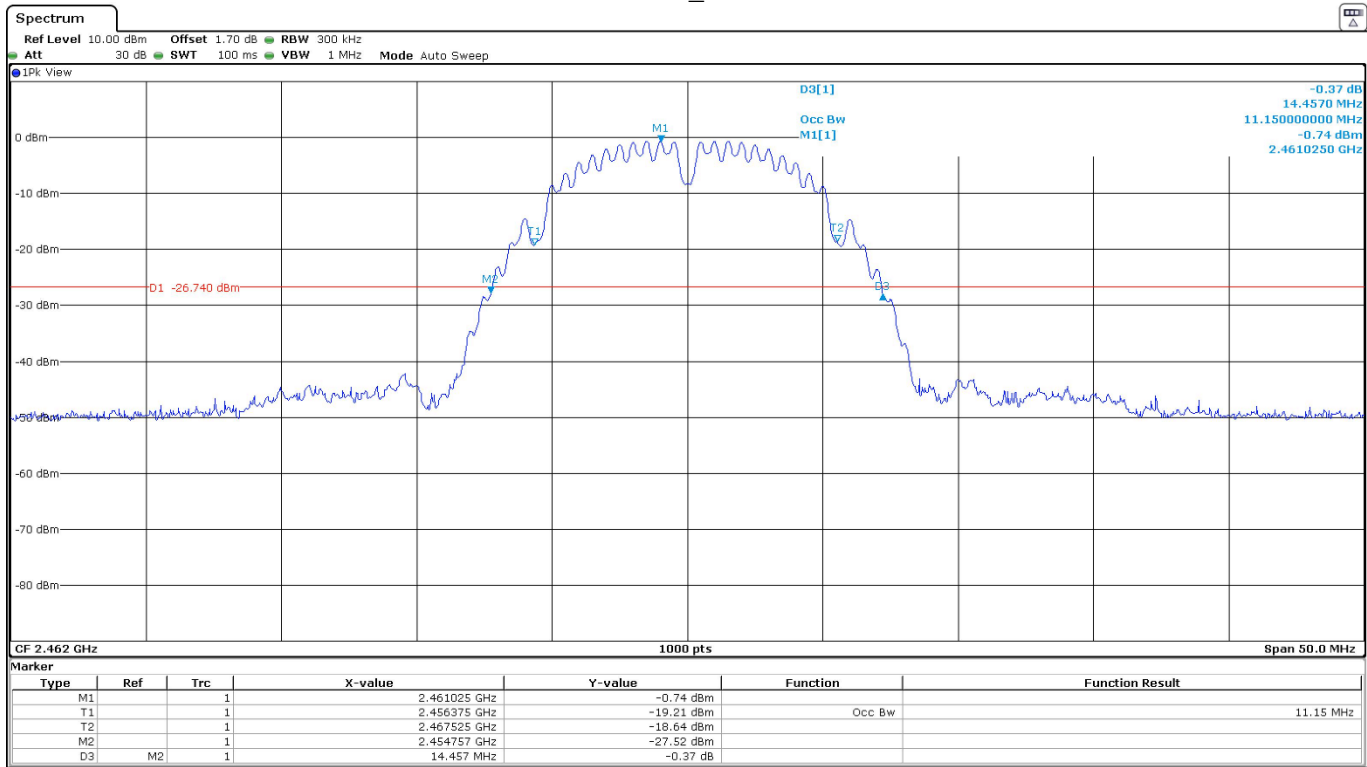


CORE1_Port1

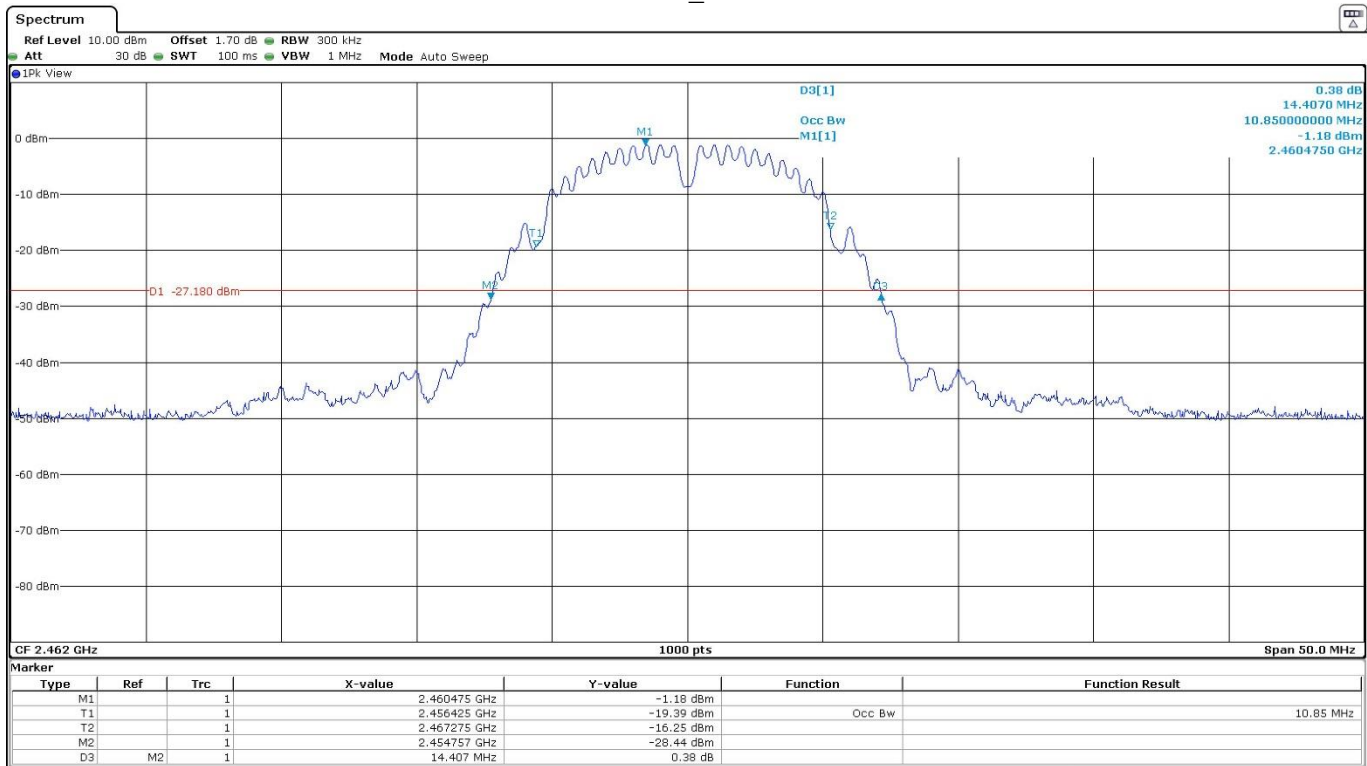


- High Channel:

CORE1_Port4



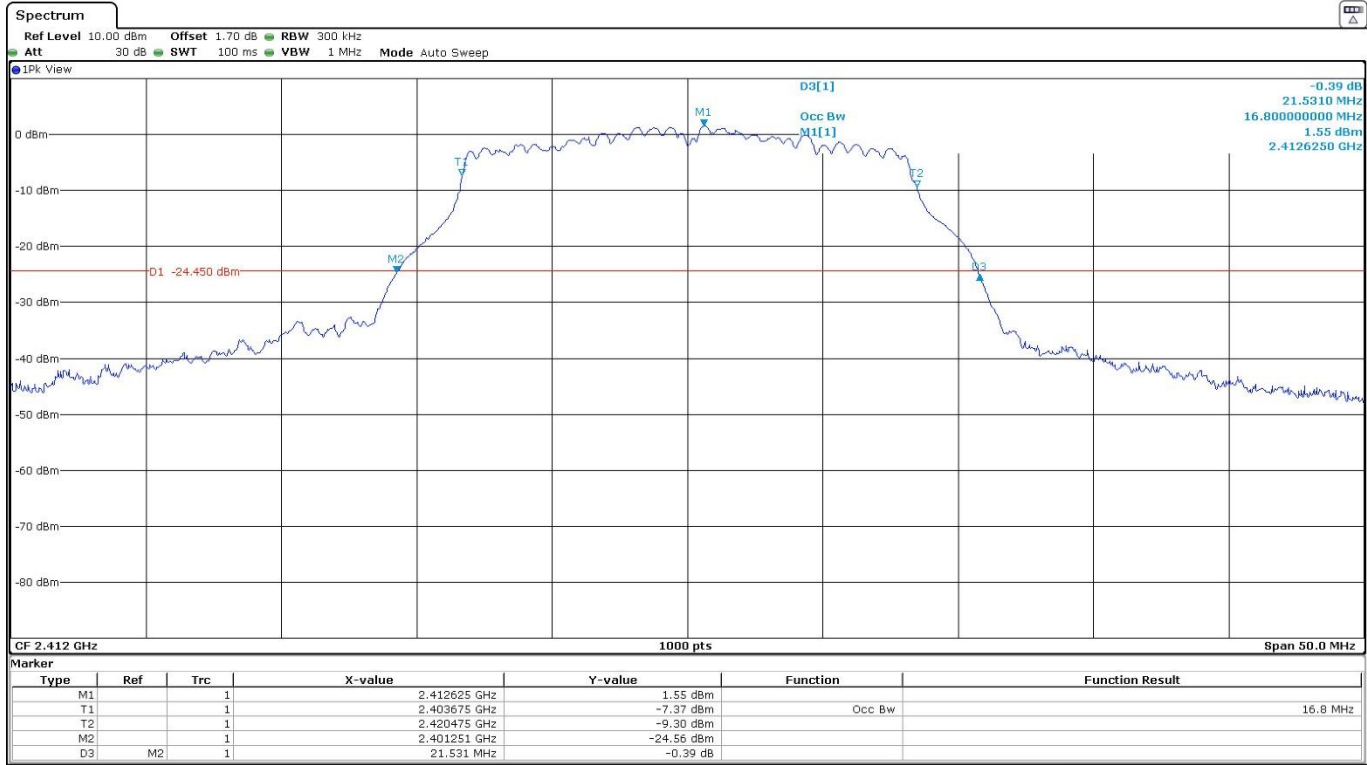
CORE1_Port1



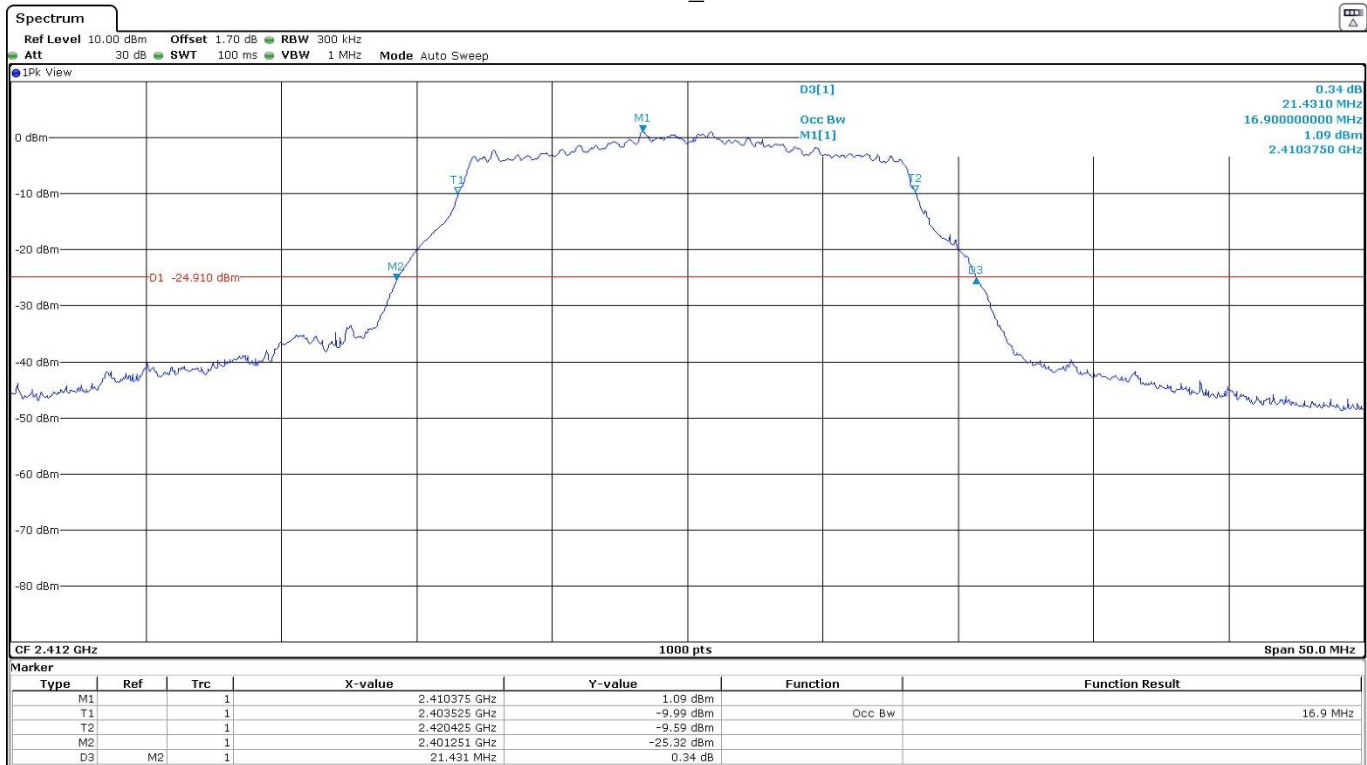
• Mode 802.11 g – Occupied Bandwidth

- Low Channel:

CORE1_Port4

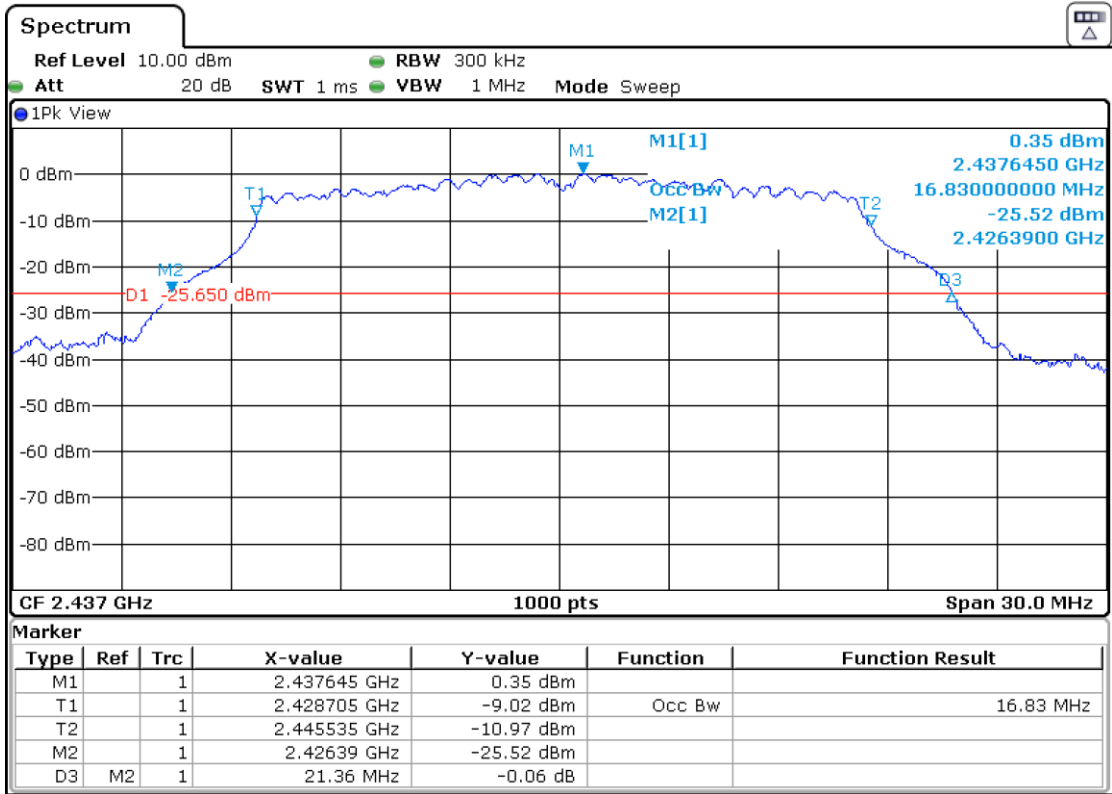


CORE1_Port1

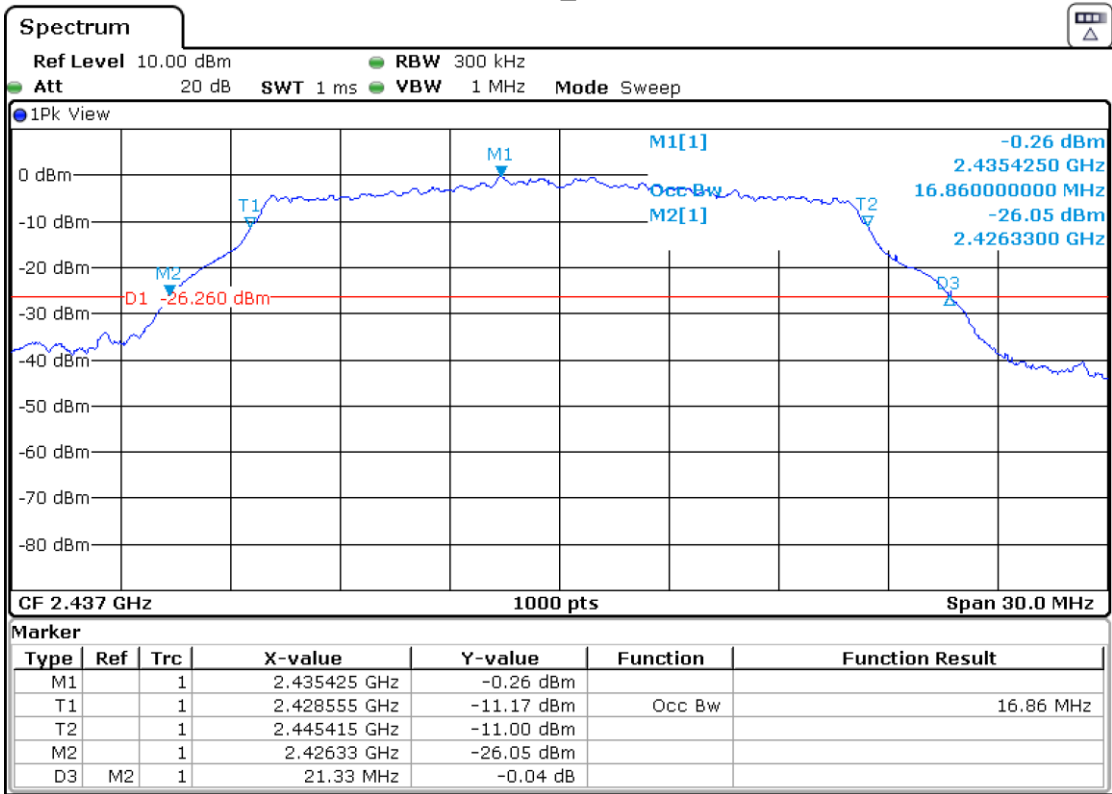


- Middle Channel:

CORE1_Port4

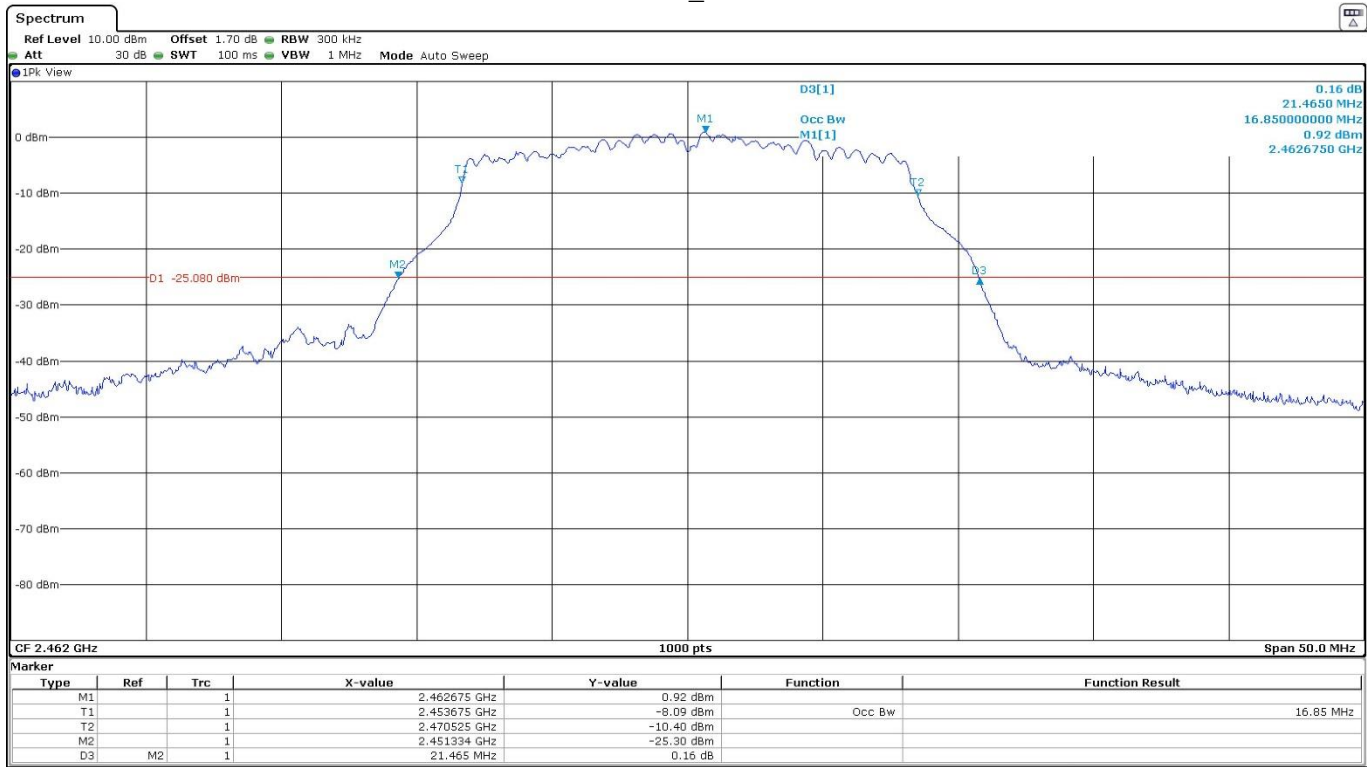


CORE1_Port1

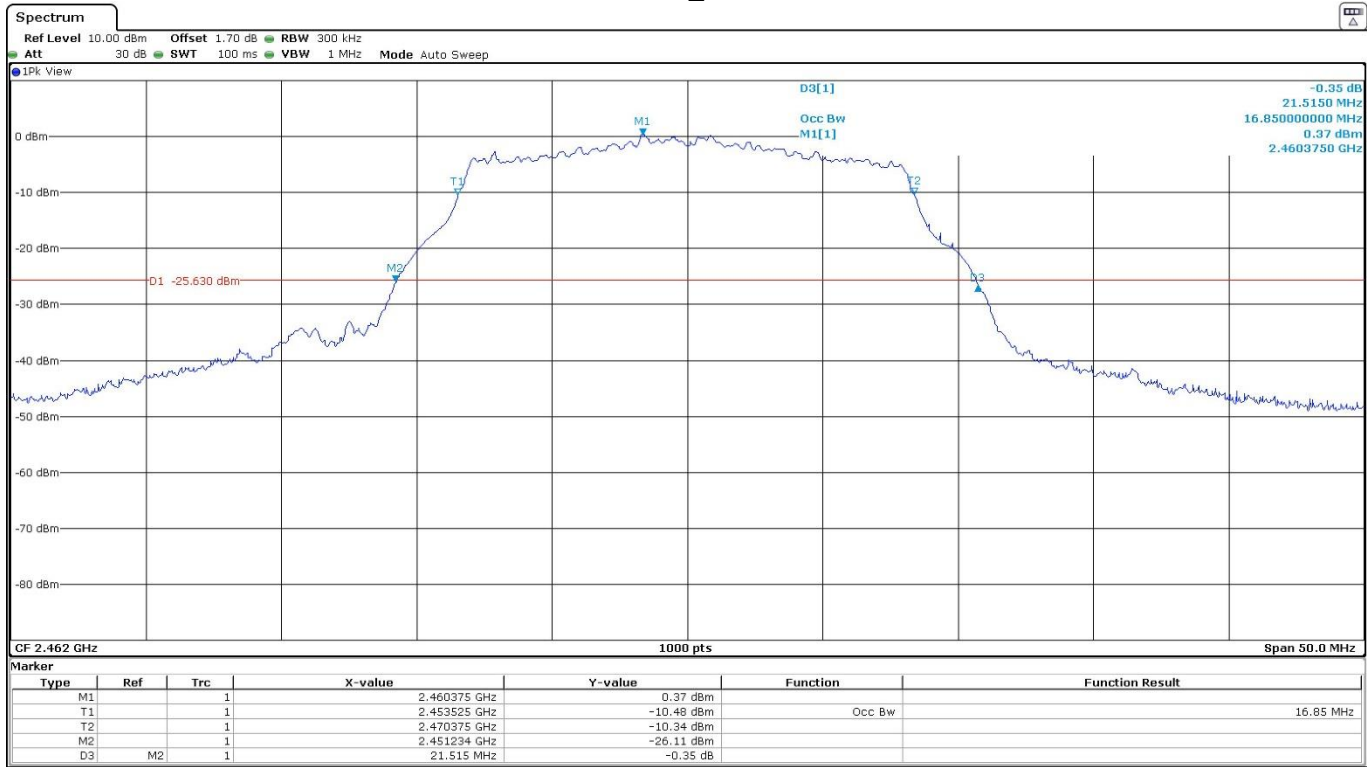


- High Channel:

CORE1_Port4



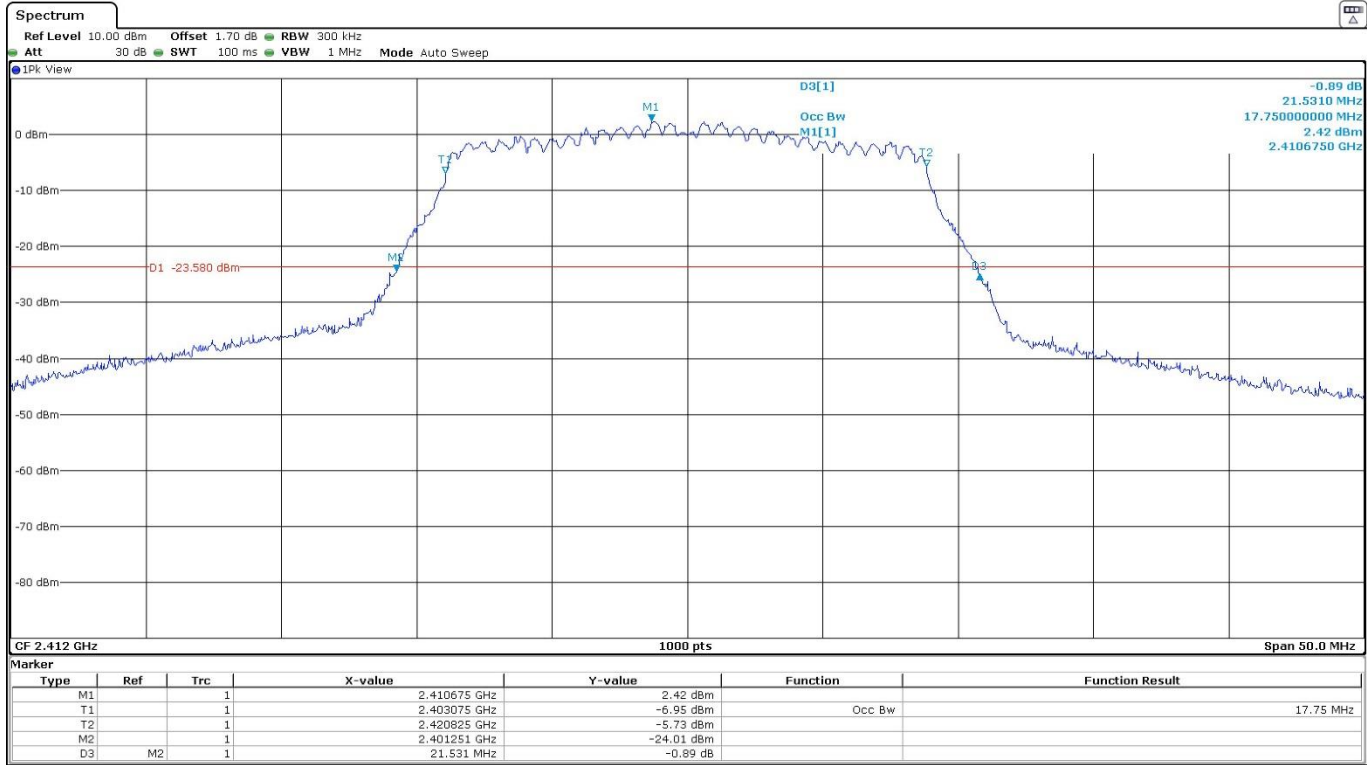
CORE1_Port1



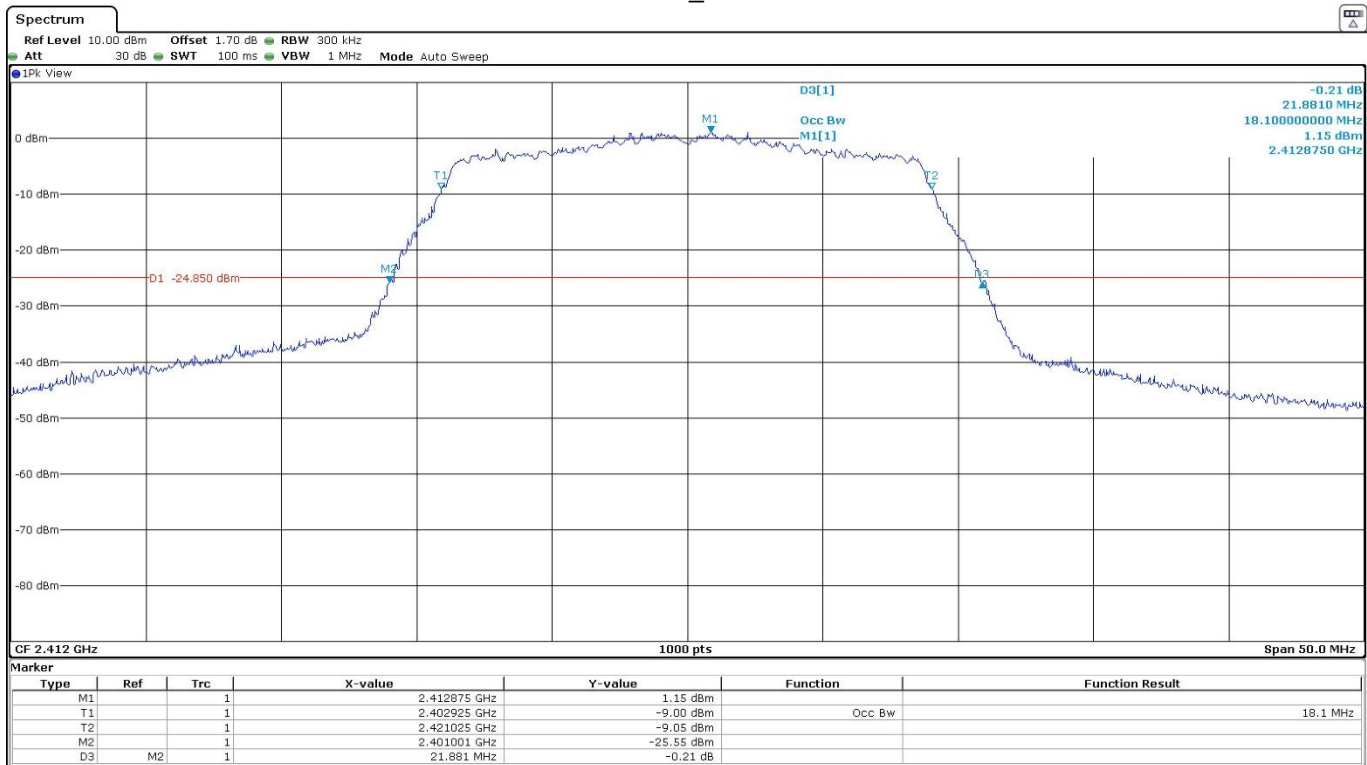
• Mode 802.11 n20 – Occupied Bandwidth

- Low Channel:

CORE1_Port4

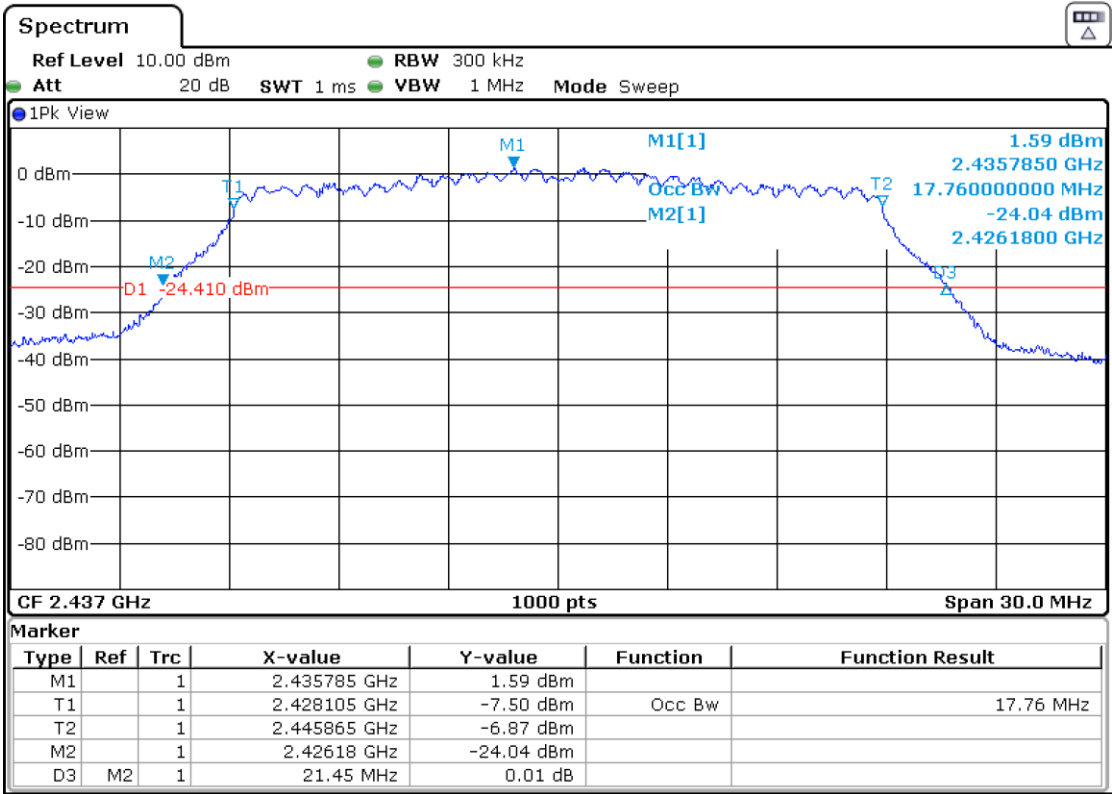


CORE1_Port1

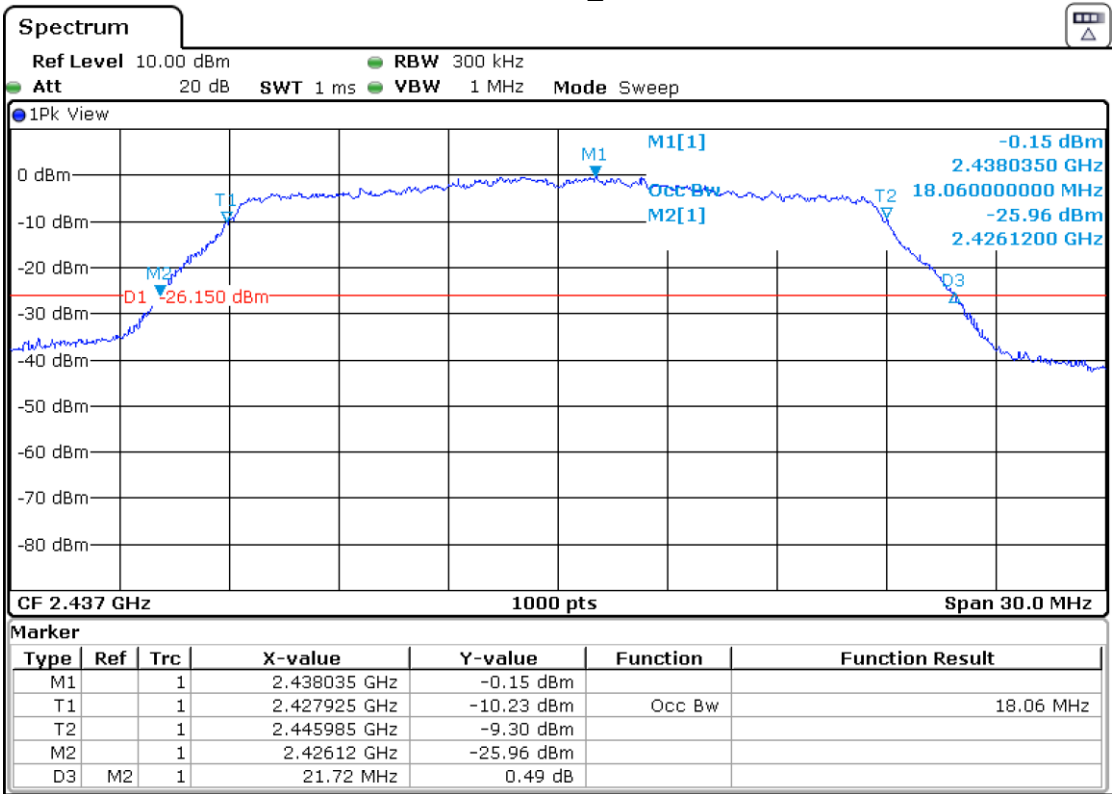


- Middle Channel:

CORE1_Port4

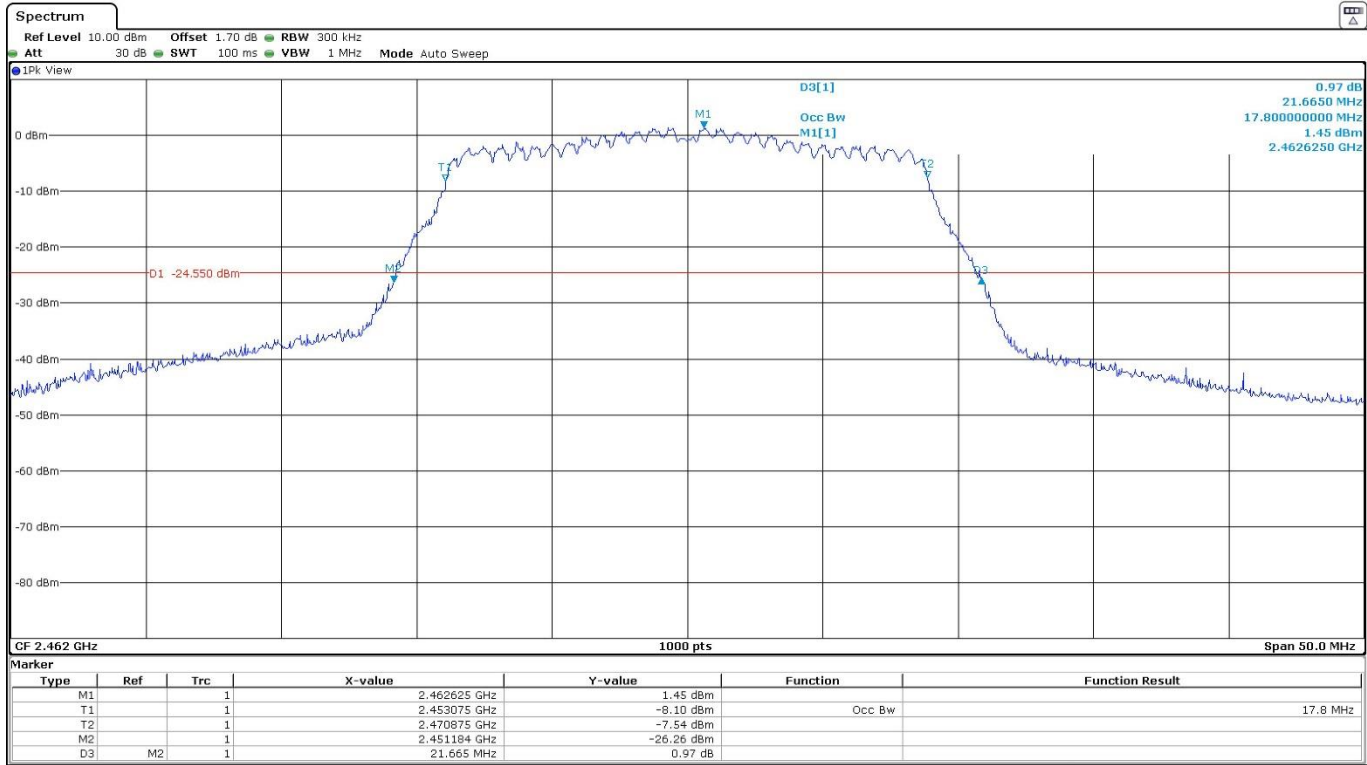


CORE1_Port1

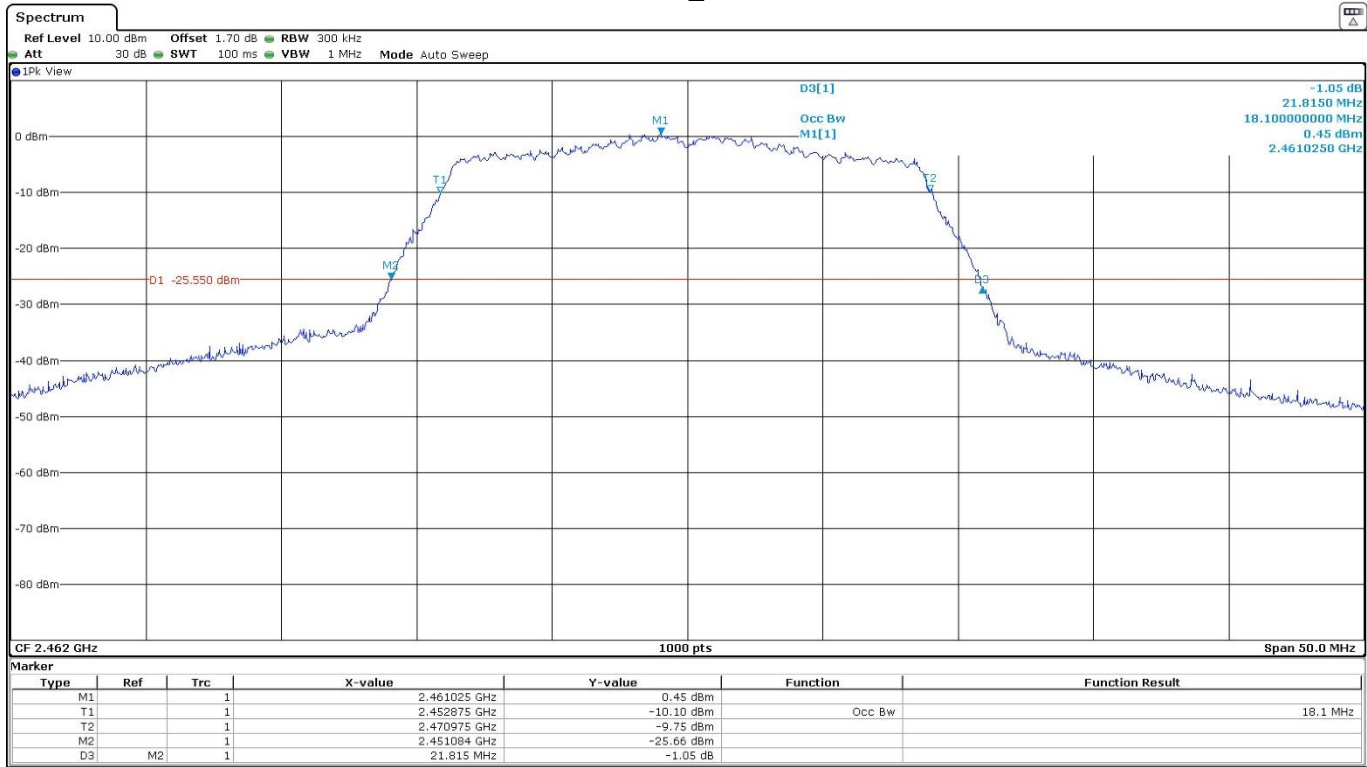


- High Channel:

CORE1_Port4



CORE1_Port1



FCC Section 15.247 Subclause (a) (2) / RSS-247 Clause 5.2 (a) 6 dB Bandwidth.

SPECIFICATION:

The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS:

SISO CORE1_Port4 Antenna:

- Mode 802.11 b

	Low Channel 2412 MHz	Middle Channel 2437 MHz	High Channel 2462 MHz
6 dB Spectrum Bandwidth (kHz)	9014	9071	9081
Measurement uncertainty (kHz)	<±11.01		

- Mode 802.11 g

	Low Channel 2412 MHz	Middle Channel 2437 MHz	High Channel 2462 MHz
6 dB Spectrum Bandwidth (kHz)	16334	16334	16343
Measurement uncertainty (kHz)	<±1.80		

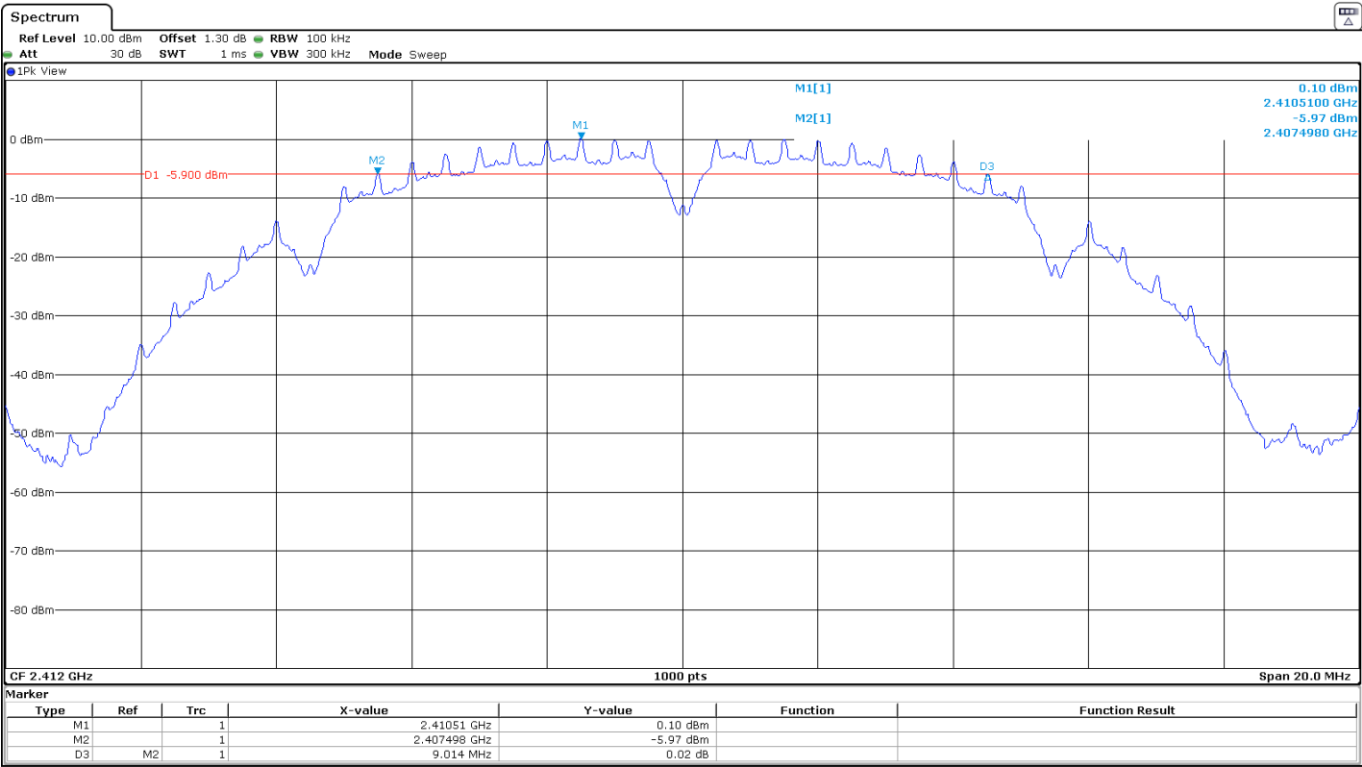
- Mode 802.11 n20

	Low Channel 2412 MHz	Middle Channel 2437 MHz	High Channel 2462 MHz
6 dB Spectrum Bandwidth (kHz)	17574	17294	17563
Measurement uncertainty (kHz)	<±1.80		

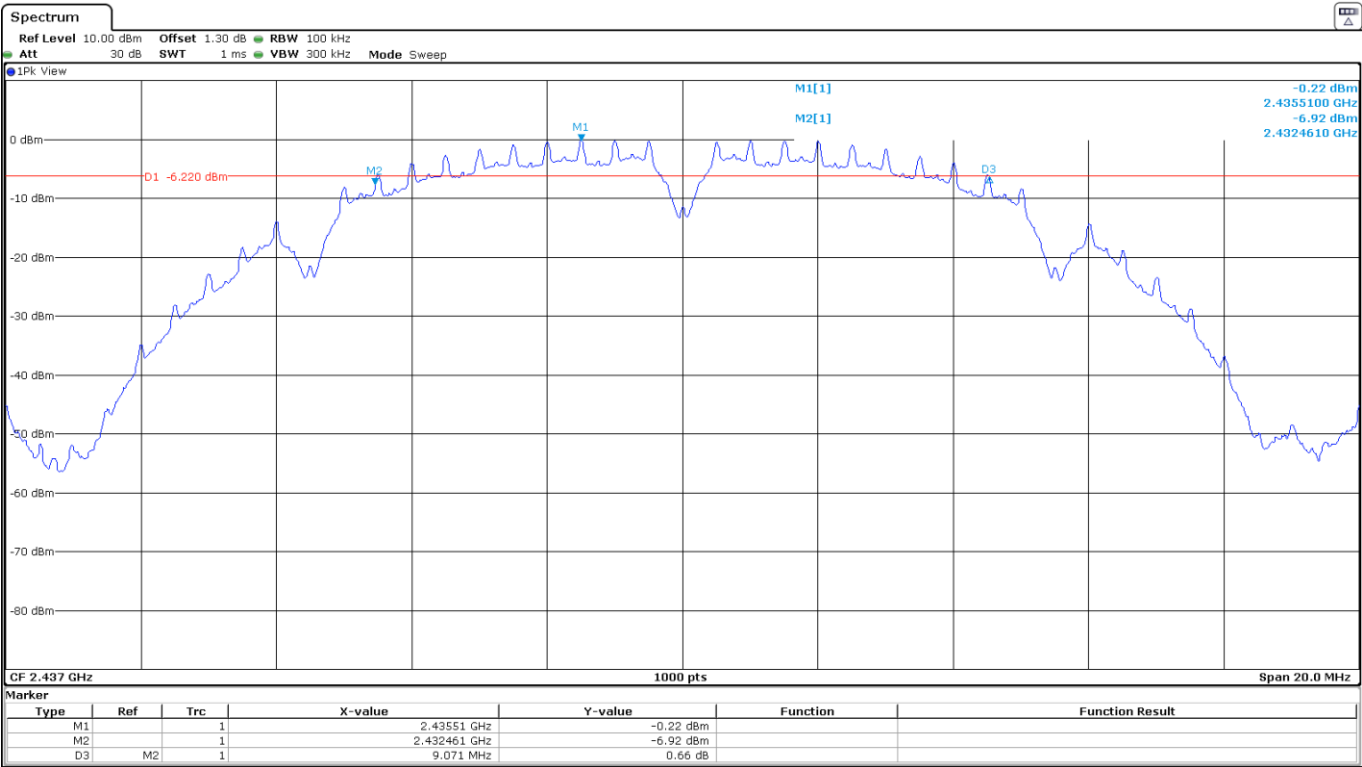
Verdict: PASS

SISO CORE1_Port4 Antenna:

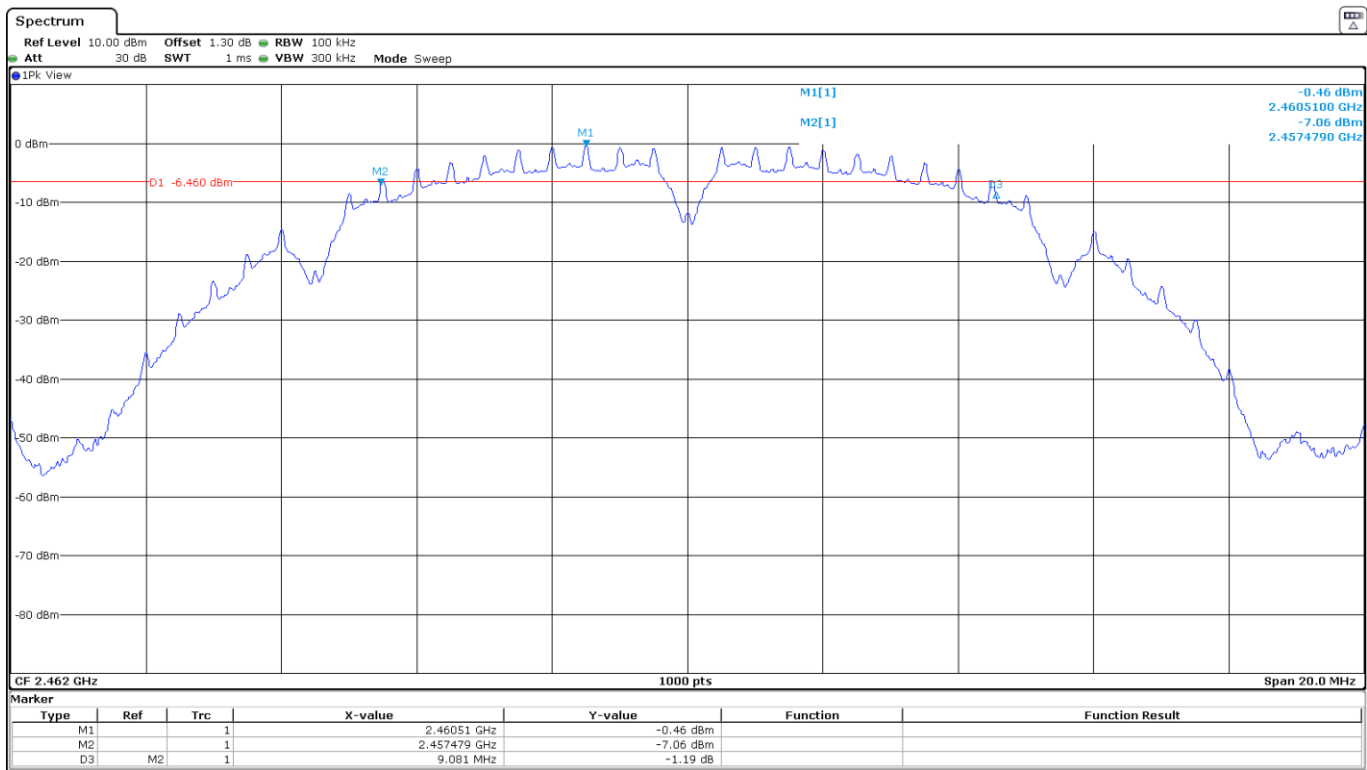
- Mode 802.11 b – 6 dB Bandwidth
- Low Channel:



- Middle Channel:

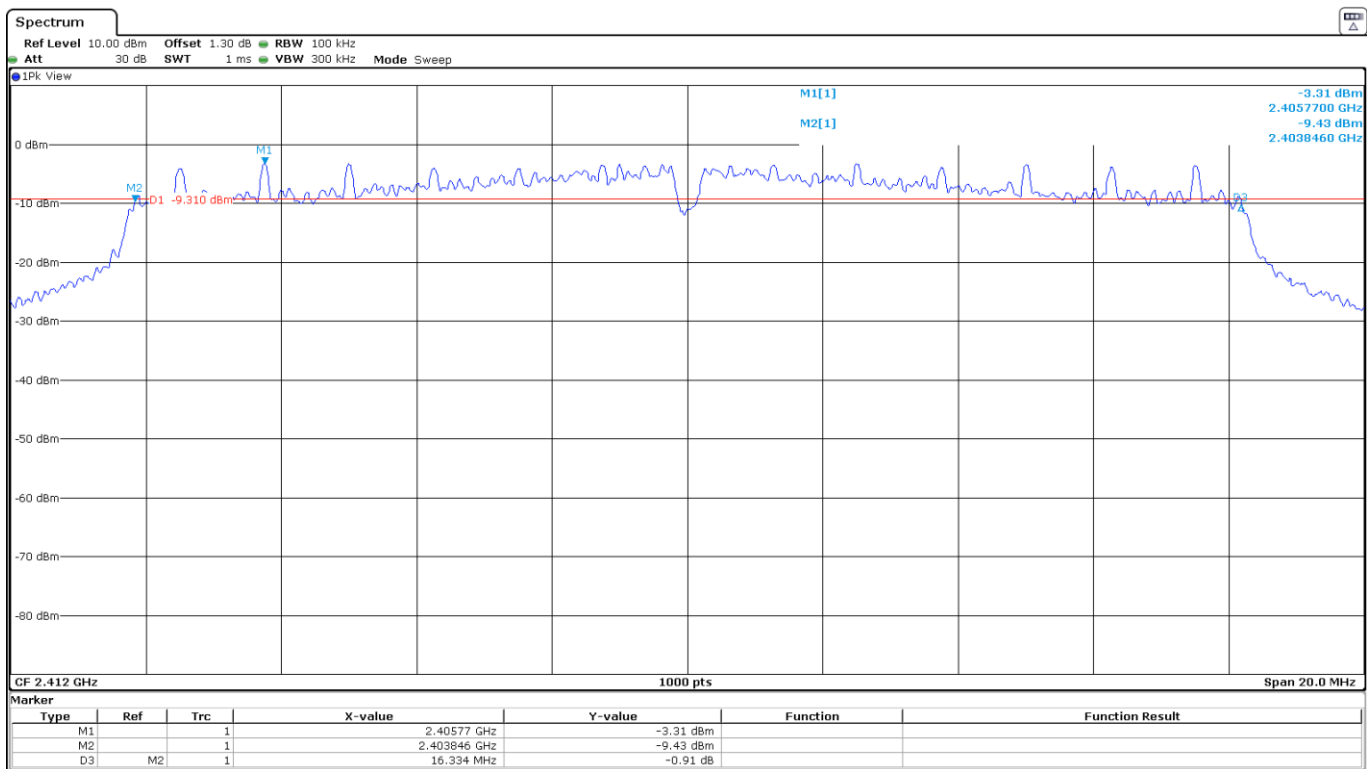


- High Channel:

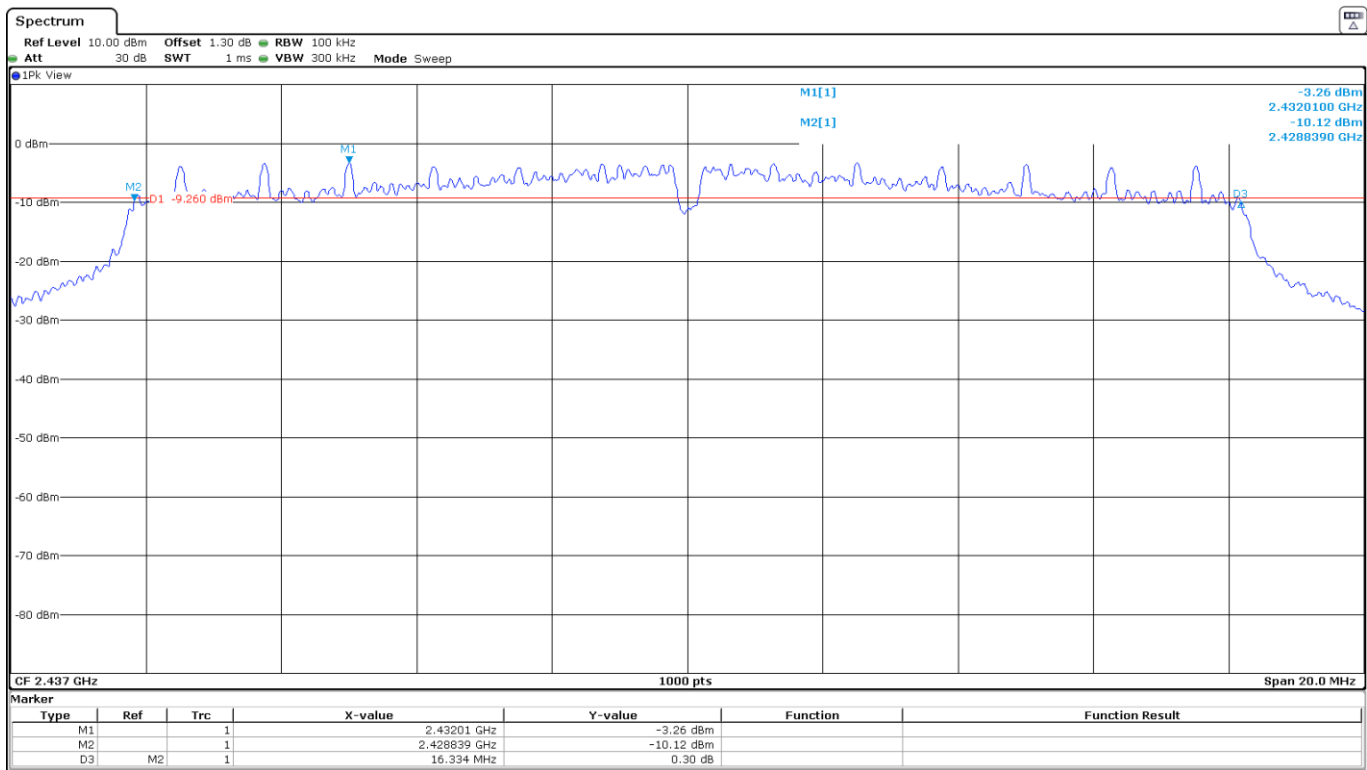


- Mode 802.11 g – 6 dB Bandwidth

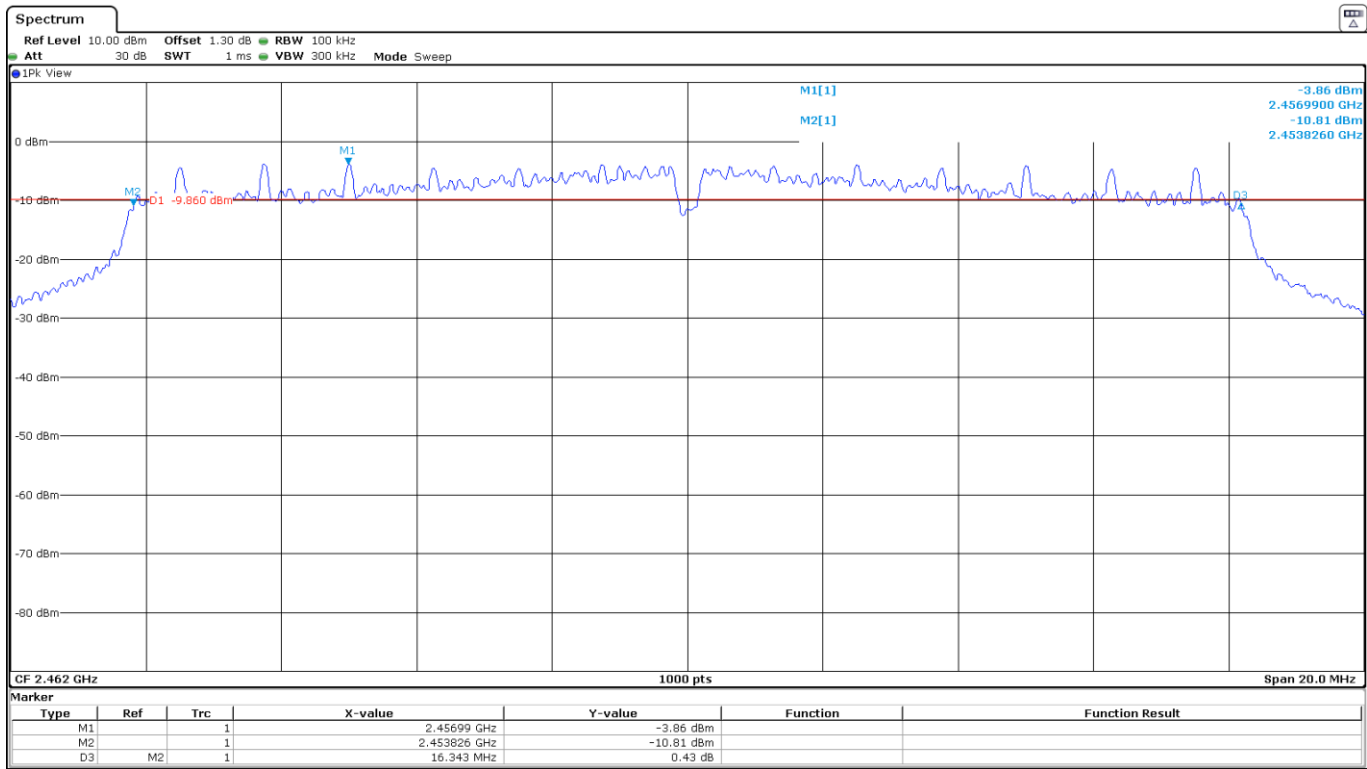
- Low Channel:



- Middle Channel:

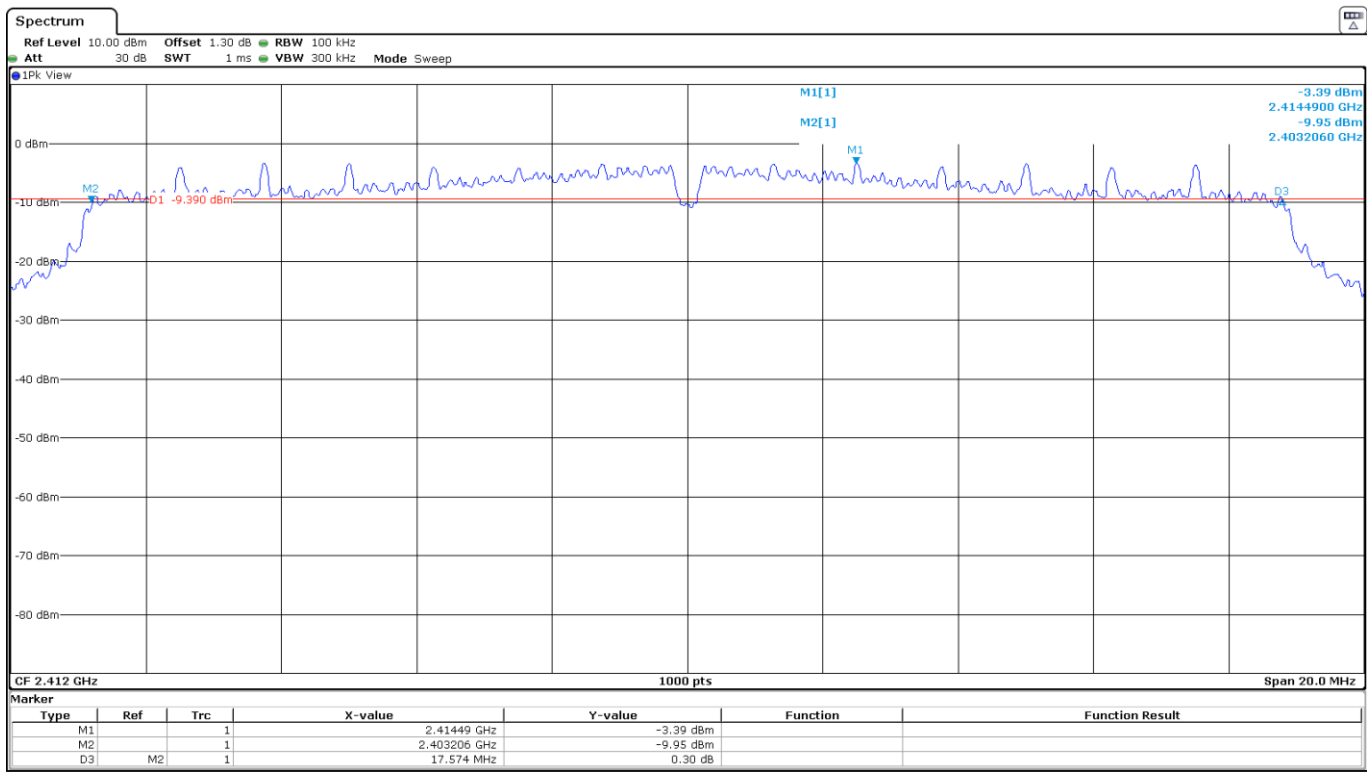


- High Channel:

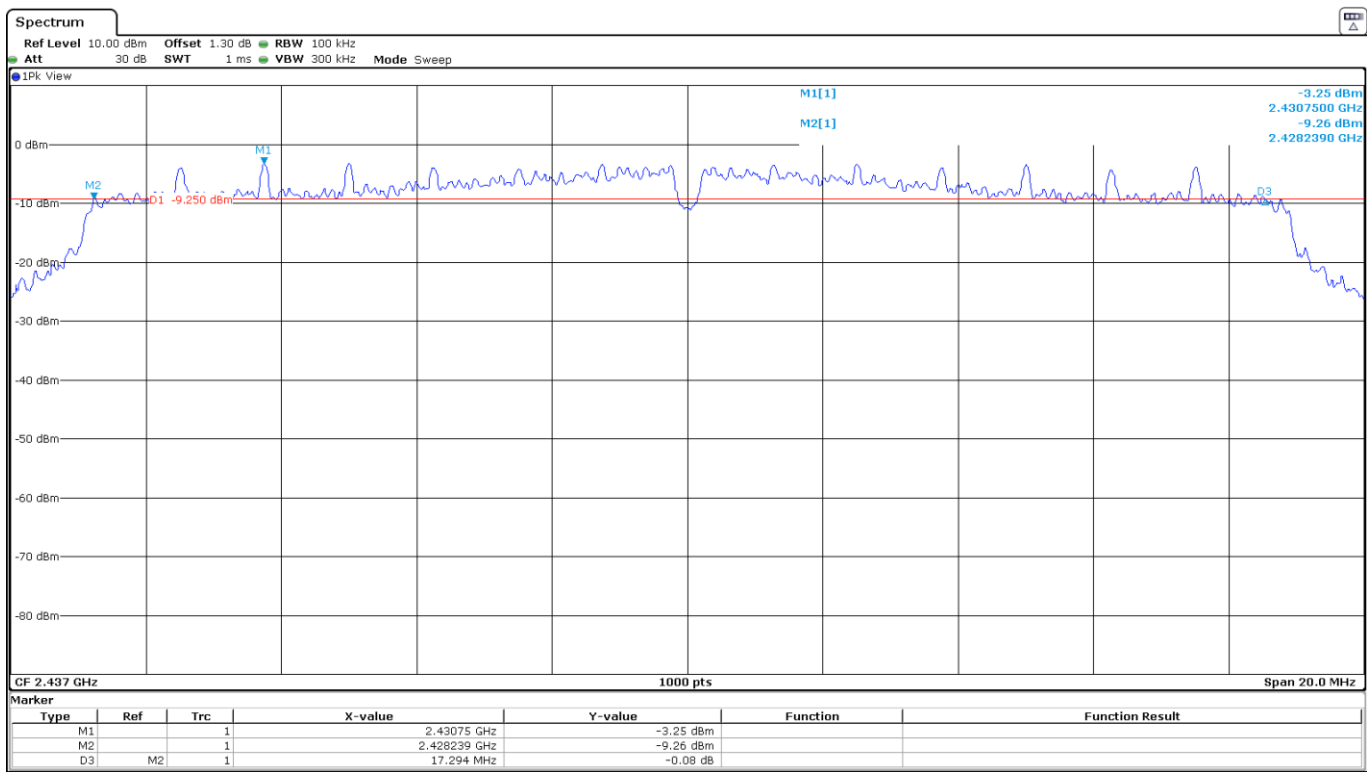


• Mode 802.11 n20 – 6 dB Bandwidth

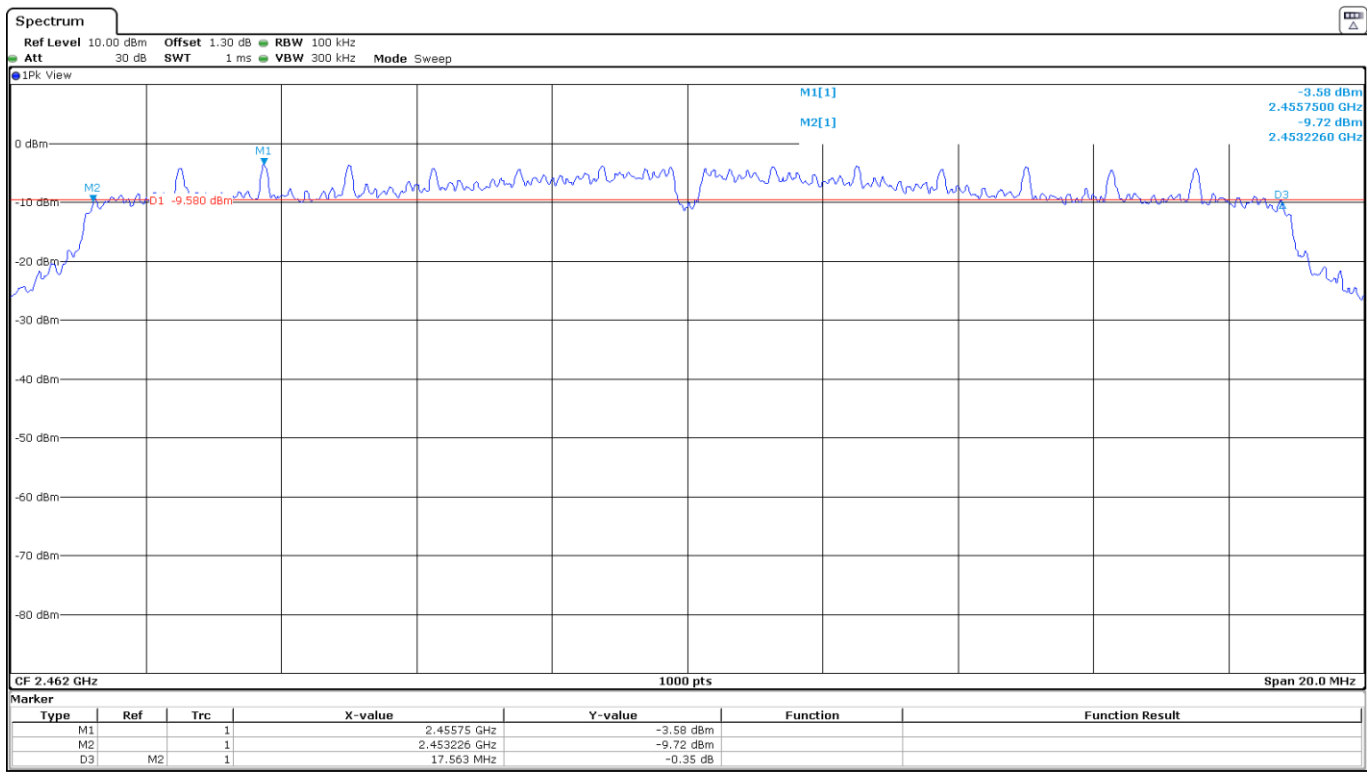
- Low Channel:



- Middle Channel:



- High Channel:



FCC Section 15.35 Subclause (c) / RSS-Gen 6.10. Transmitter Duty Cycle.

SPECIFICATION:

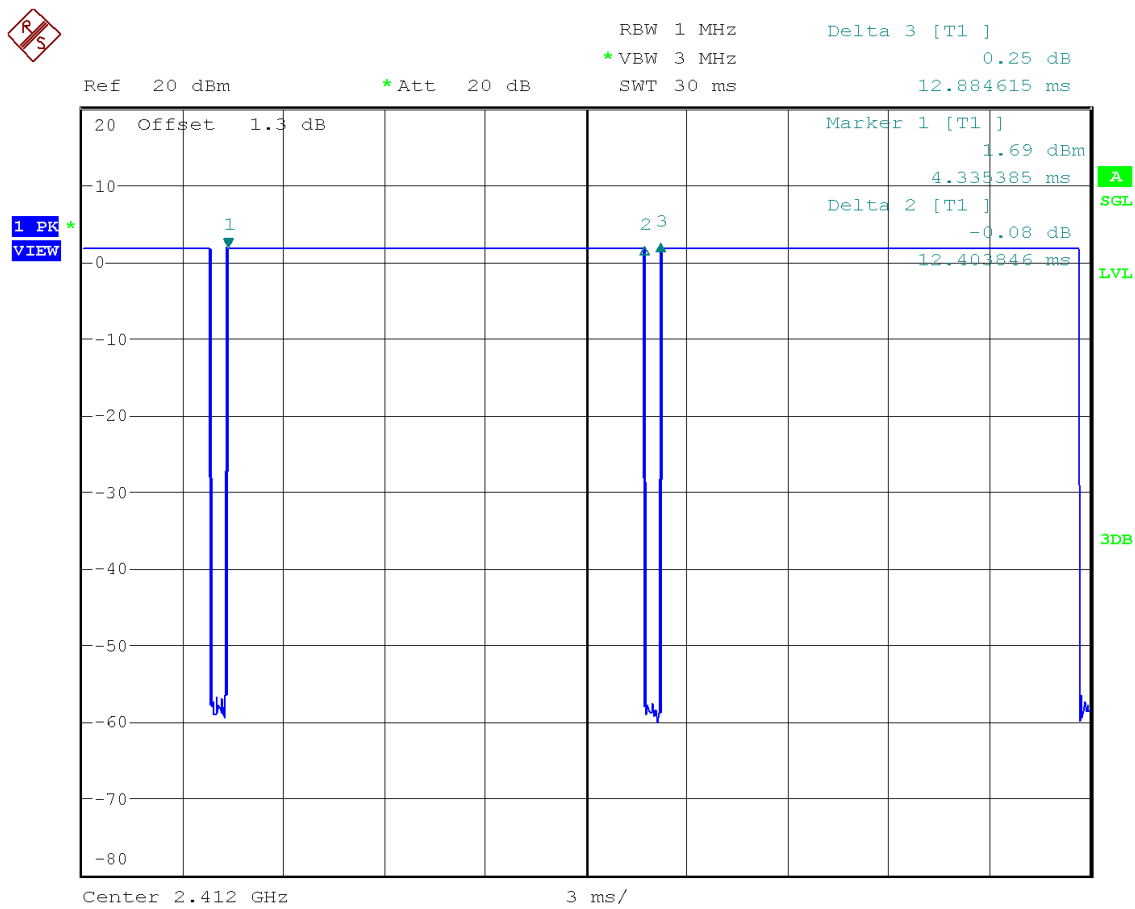
When the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.

RESULTS:

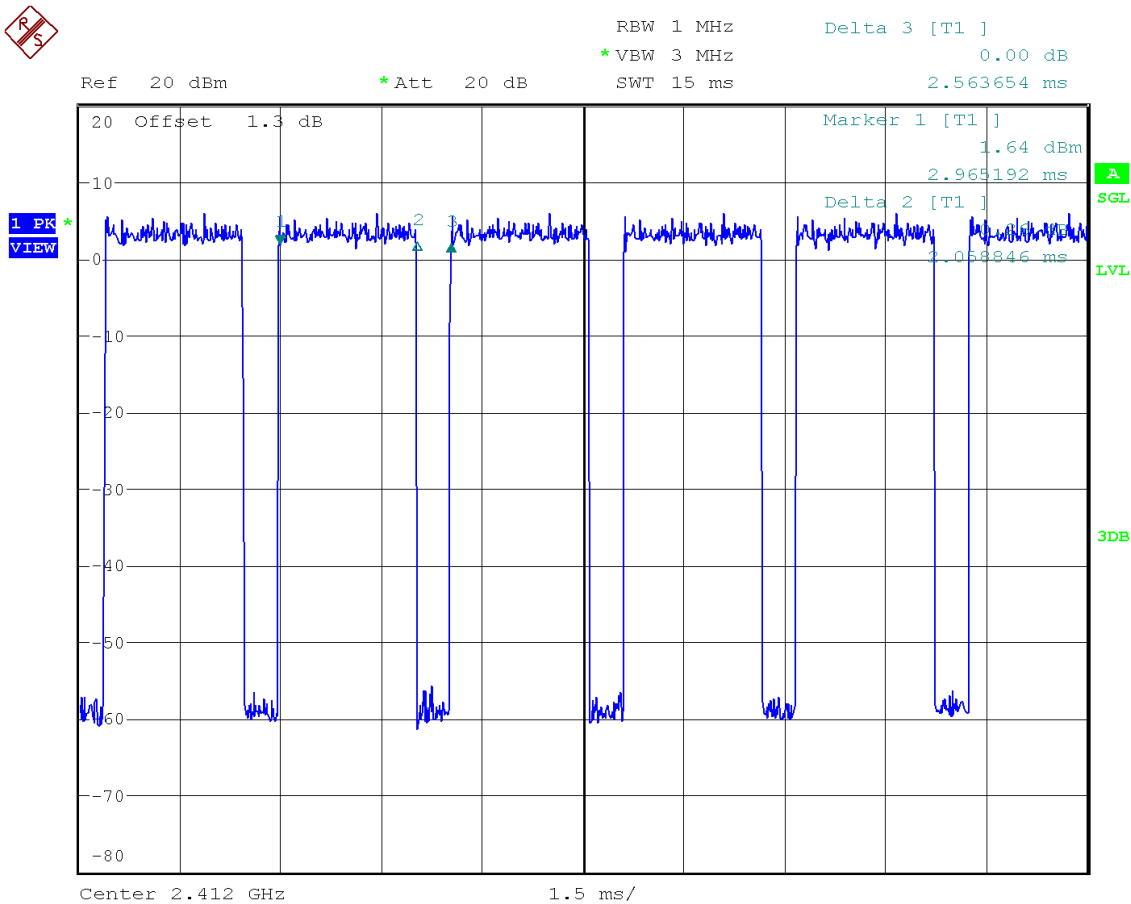
The results below are for data rates with a duty cycle less than 98%. The results for all rest of modes having a value > 98%.

Technique	Mode	Antenna Port	Pulse Duration (ms)	Period (ms)	Duty Cycle Correction (dB)
SISO	802.11 b	CORE1_Port4	12.403846	12.884615	0.165
SISO	802.11 g	CORE1_Port4	2.058846	2.563654	0.952
SISO	802.11 n20	CORE1_Port4	1.914615	2.419423	1.016
MIMO	802.11 b	CORE1_Port4	12.4184	12.9412	0.179
MIMO	802.11 b	CORE1_Port1	12.4525	12.9037	0.154
MIMO	802.11 g	CORE1_Port4	2.0605	2.5702	0.956
MIMO	802.11 g	CORE1_Port1	2.0562	2.5687	0.966
MIMO	802.11 n20	CORE1_Port4	1.9205	2.4249	1.013
MIMO	802.11 n20	CORE1_Port1	1.9229	2.4311	1.018

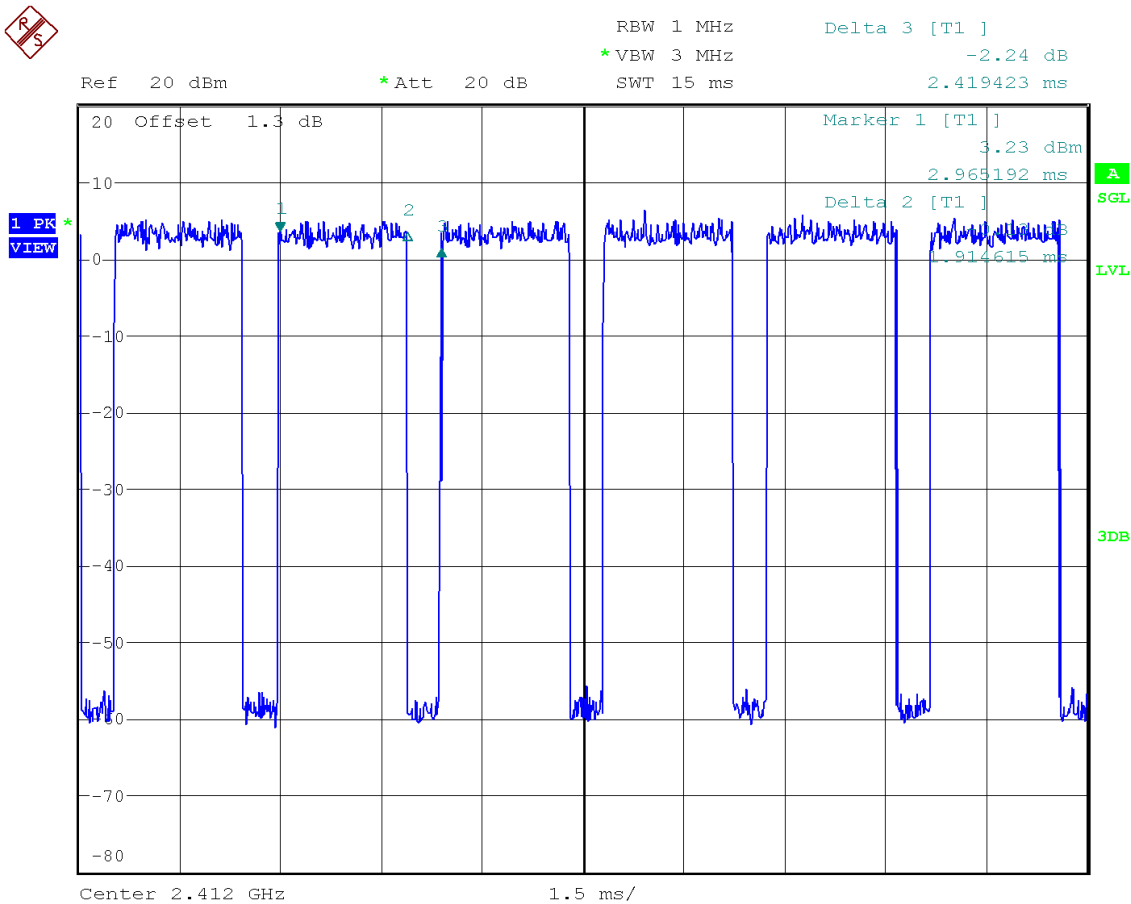
SISO 802.11 b: CORE1_Port4



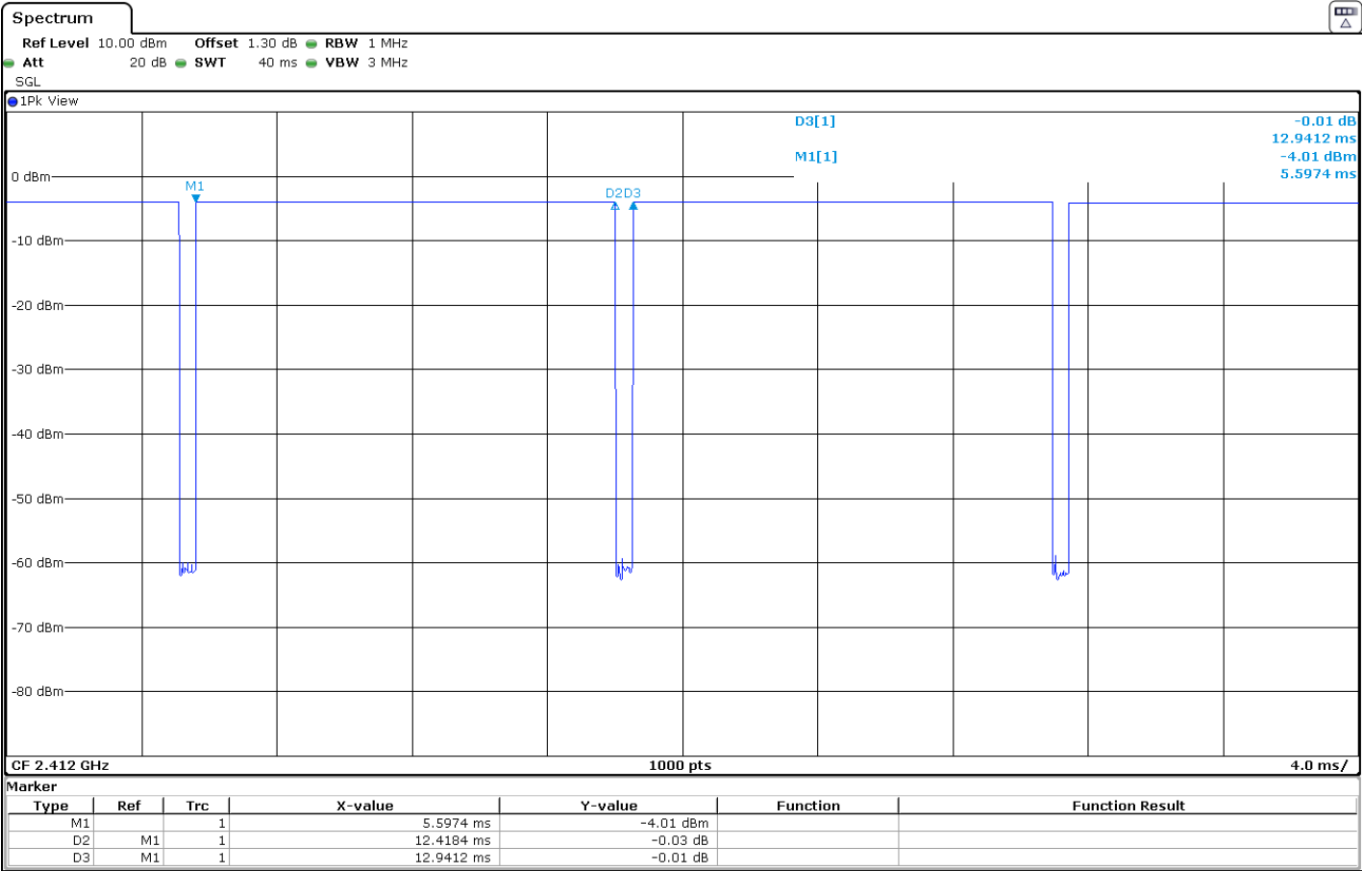
SISO 802.11 g: CORE1_Port4



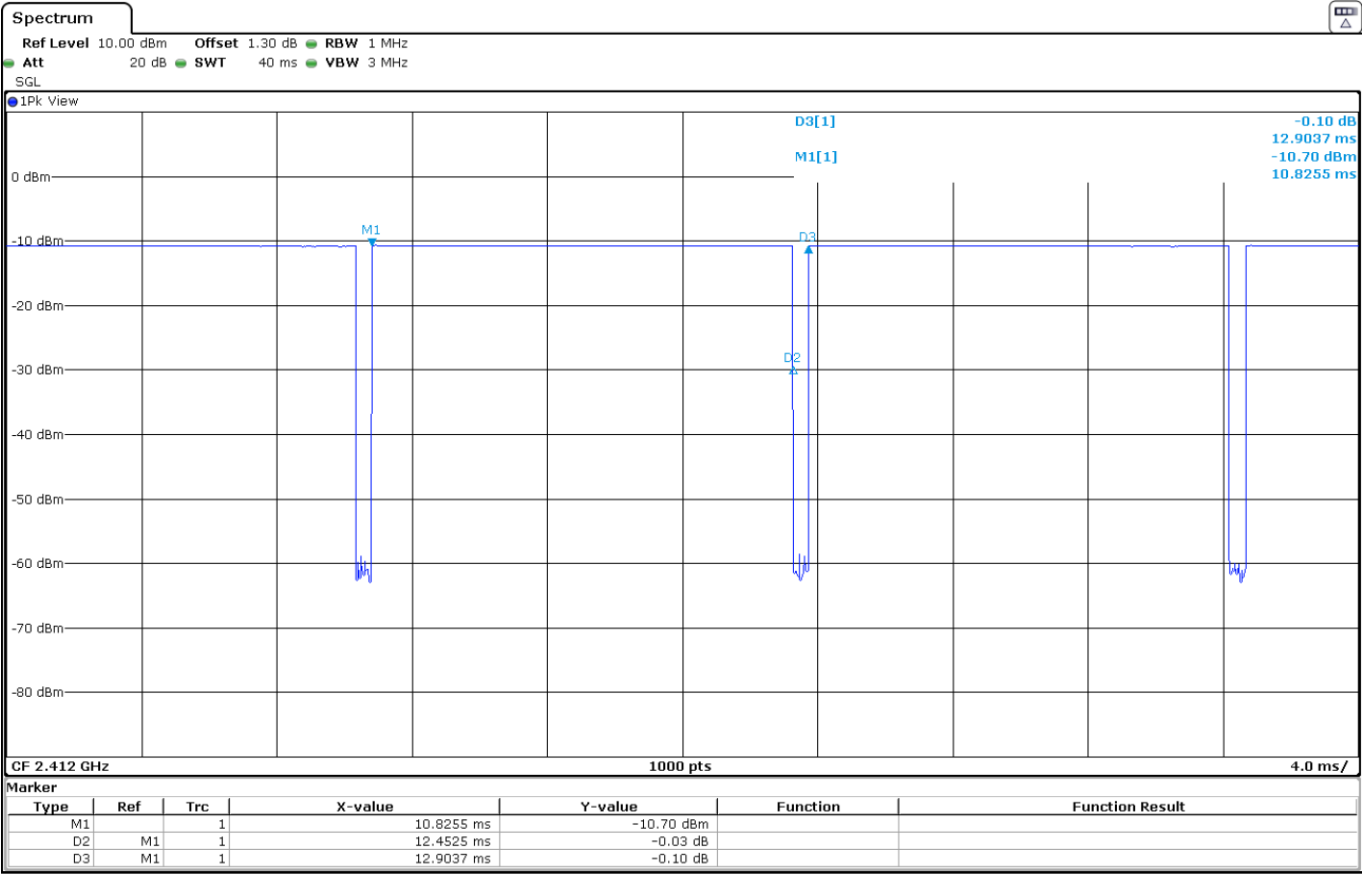
SISO 802.11 n20: CORE1_Port4



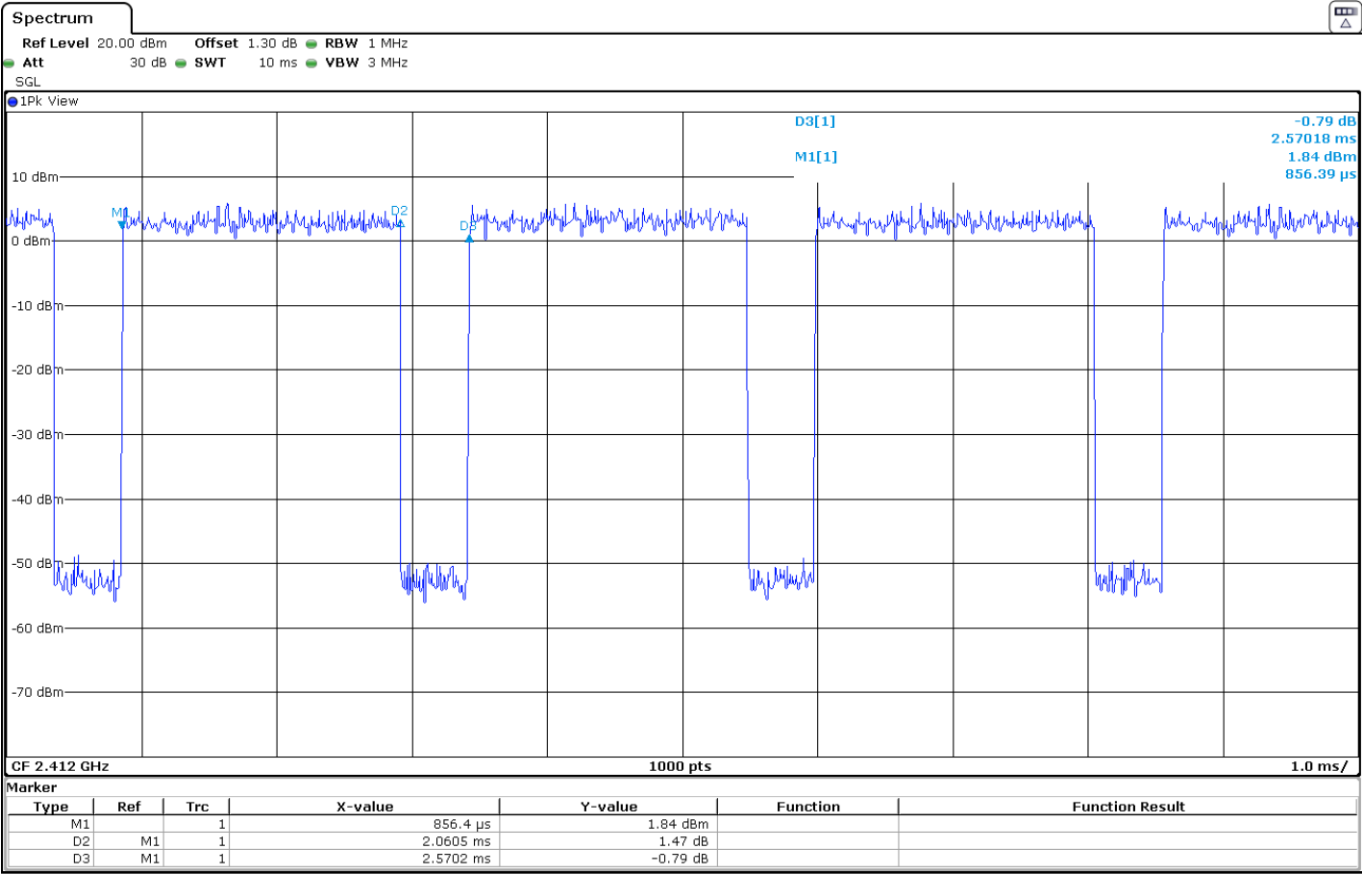
MIMO 802.11 b: CORE1_Port4



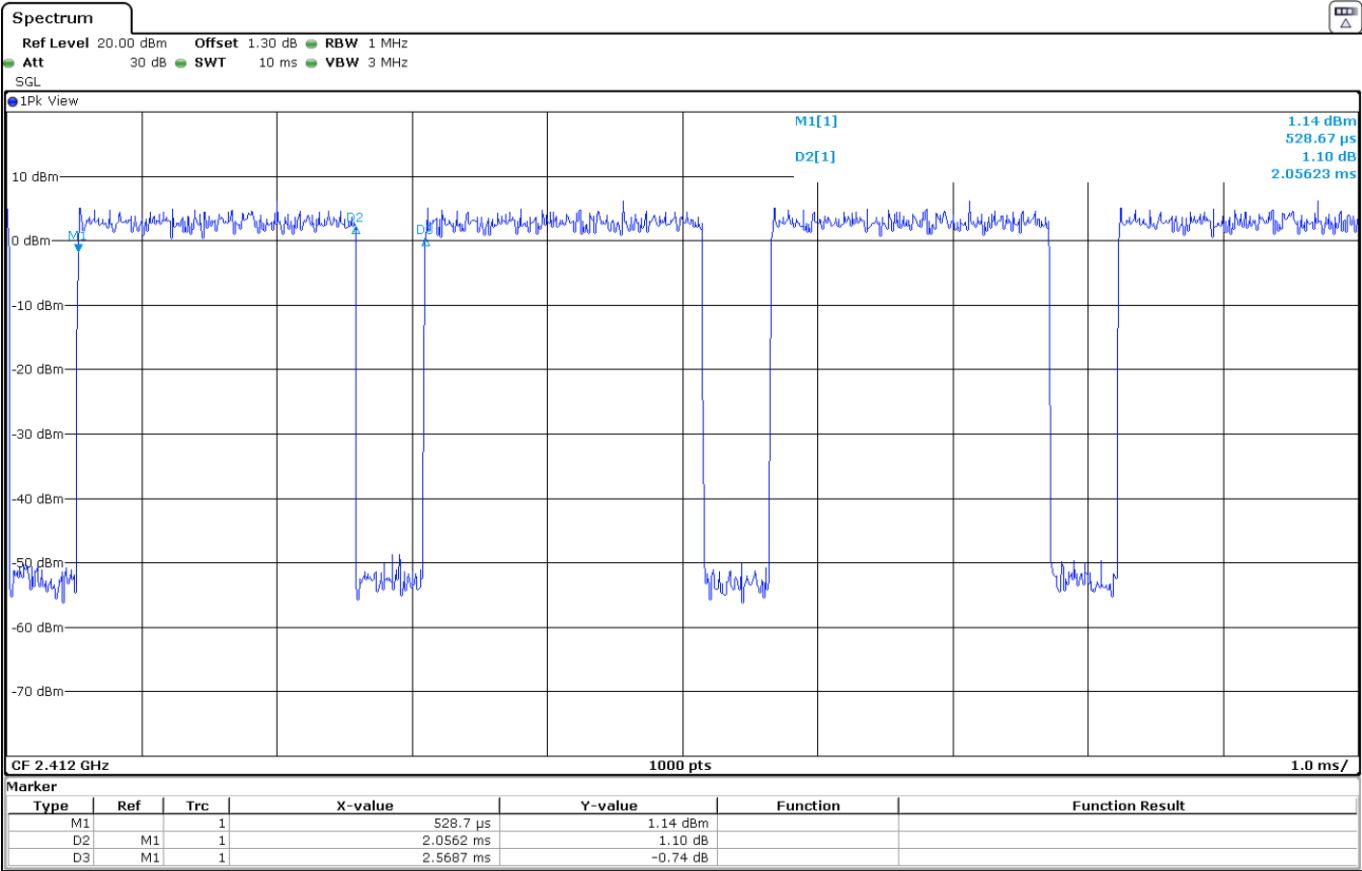
MIMO 802.11 b: CORE1_Port1



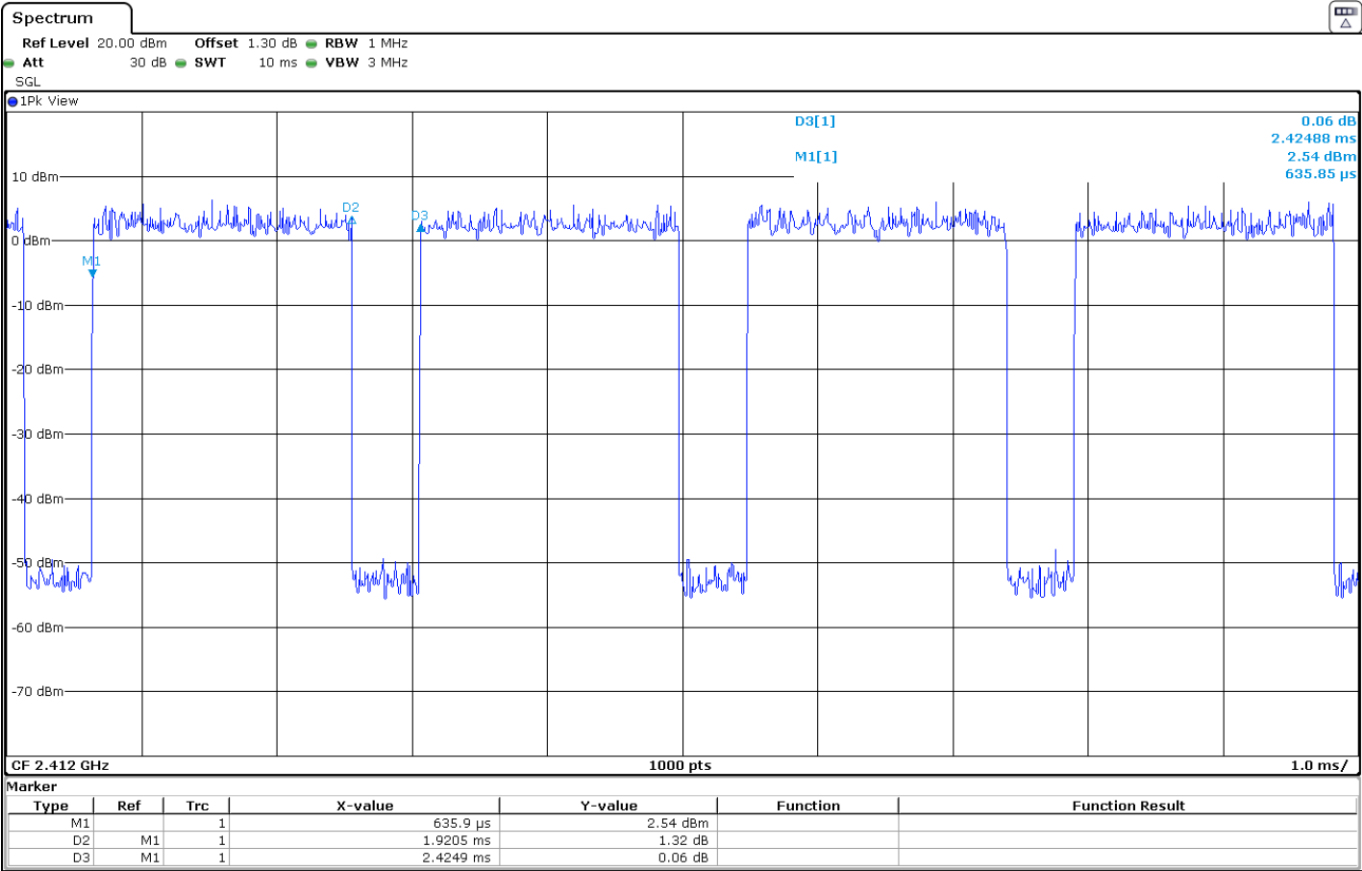
MIMO 802.11 g: CORE1_Port4



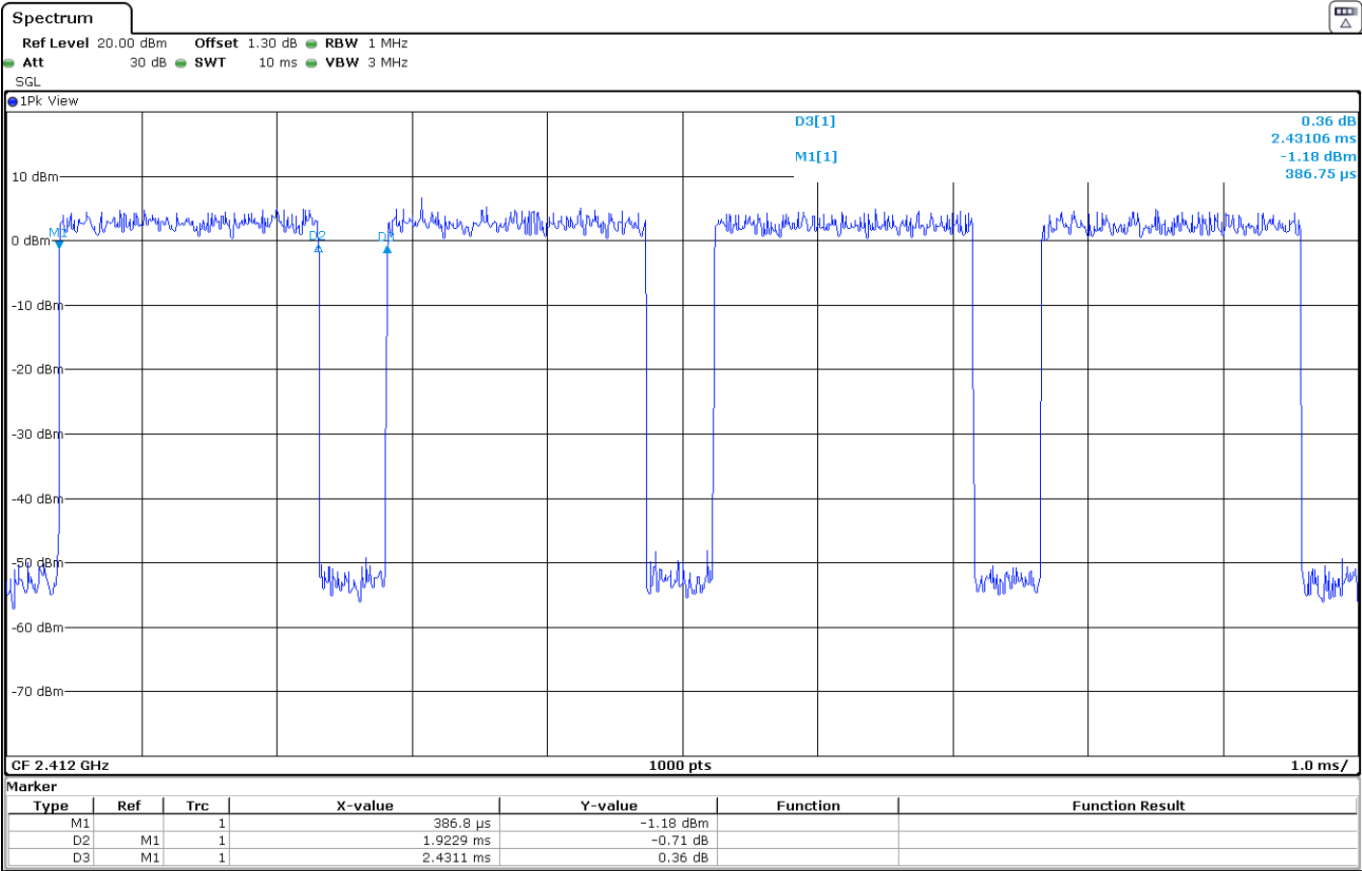
MIMO 802.11 g: CORE1_Port1



MIMO 802.11 n20: CORE1_Port4



MIMO 802.11 n20: CORE1_Port1



FCC Section 15.247 Subclause (b) / RSS-247 Clause 5.4 (d) Maximum output power and antenna gain

SPECIFICATION:

For systems using digital modulation in the 2400-2483.5 MHz band: 1 watt (30 dBm).
The e.i.r.p. shall not exceed 4 W (36 dBm) (Canada).

RESULTS:

Preliminary tests determined the SISO worst case is CORE1_Port4 Antenna.
Preliminary tests determined the MIMO worst case is CORE1_Port4 Antenna & CORE1_Port1 Antenna.

- SISO – CORE1_Port4 – Declared Maximum Antenna Gain: +2.4 dBi
- MIMO – CORE1_Port4 Antenna & CORE1_Port1 Antenna – Declared Maximum Antenna Gain: +3 dBi

For SISO modes b, g and n20, the maximum conducted output power was measured using the method according to point 11.9.2.3.1 "Method AVGPM" of ANSI C.63.10-2013.

For MIMO modes b, g and n20, the maximum conducted output power was measured using the method according to point 11.9.2.2.4 "Method AVGSA-2" of ANSI C.63.10-2013.

The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power.

SISO – CORE1_Port4 Antenna:

- **Mode 802.11 b**

	Low Channel 2412 MHz	Middle Channel 2437 MHz	High Channel 2462 MHz
Maximum Average Conducted Power (dBm)	7.39	7.35	7.21
Maximum EIRP Power (dBm)	9.79	9.75	9.61
Duty Cycle Correction (dB)	0.165		
Maximum EIRP Power with Duty Cycle Correction (dBm)	9.955	9.915	9.775
Measurement uncertainty (dB)	<±0.79		

- **Mode 802.11 g**

	Low Channel 2412 MHz	Middle Channel 2437 MHz	High Channel 2462 MHz
Maximum Average Conducted Power (dBm)	7.06	6.87	6.52
Maximum EIRP Power (dBm)	9.46	9.27	8.92
Duty Cycle Correction (dB)	0.952		
Maximum EIRP Power with Duty Cycle Correction (dBm)	10.412	10.222	9.872
Measurement uncertainty (dB)	<±0.79		

- **Mode 802.11 n20**

	Low Channel 2412 MHz	Middle Channel 2437 MHz	High Channel 2462 MHz
Maximum Average Conducted Power (dBm)	6.67	6.68	6.30
Maximum EIRP Power (dBm)	9.07	9.08	8.70
Duty Cycle Correction (dB)	1.016		
Maximum EIRP Power with Duty Cycle Correction (dBm)	10.086	10.096	9.716
Measurement uncertainty (dB)	<±0.79		

Verdict: PASS

MIMO – CORE1_Port4 Antenna & CORE1_Port1 Antenna:

- **Mode 802.11 b**

	Low Channel 2412 MHz		Middle Channel 2437 MHz		High Channel 2462 MHz	
	CORE1_ Port4	CORE1_ Port1	CORE1_ Port4	CORE1_ Port1	CORE1_ Port4	CORE1_ Port1
Maximum Average Conducted Power (dBm)	8.10	7.77	8.17	7.34	7.82	6.77
Maximum Average Conducted Power corrected (dBm)	8.28	7.92	8.35	7.49	8.00	6.92
	CORE1_Port4 + CORE1_Port1		CORE1_Port4 + CORE1_Port1		CORE1_Port4 + CORE1_Port1	
Maximum Conducted Power (dBm)	11.12		10.95		10.51	
Maximum EIRP Power (dBm)	14.12		13.95		13.51	
Measurement uncertainty (dB)	<±1.20					

- **Mode 802.11 g**

	Low Channel 2412 MHz		Middle Channel 2437 MHz		High Channel 2462 MHz	
	CORE1_ Port4	CORE1_ Port1	CORE1_ Port4	CORE1_ Port1	CORE1_ Port4	CORE1_ Port1
Maximum Average Conducted Power (dBm)	7.99	7.72	7.86	7.07	7.62	6.87
Maximum Average Conducted Power corrected (dBm)	8.95	8.69	8.82	8.04	8.58	7.84
	CORE1_Port4 + CORE1_Port1		CORE1_Port4 + CORE1_Port1		CORE1_Port4 + CORE1_Port1	
Maximum Conducted Power (dBm)	11.83		11.46		11.23	
Maximum EIRP Power (dBm)	14.83		14.46		14.23	
Measurement uncertainty (dB)	<±1.20					

- **Mode 802.11 n20**

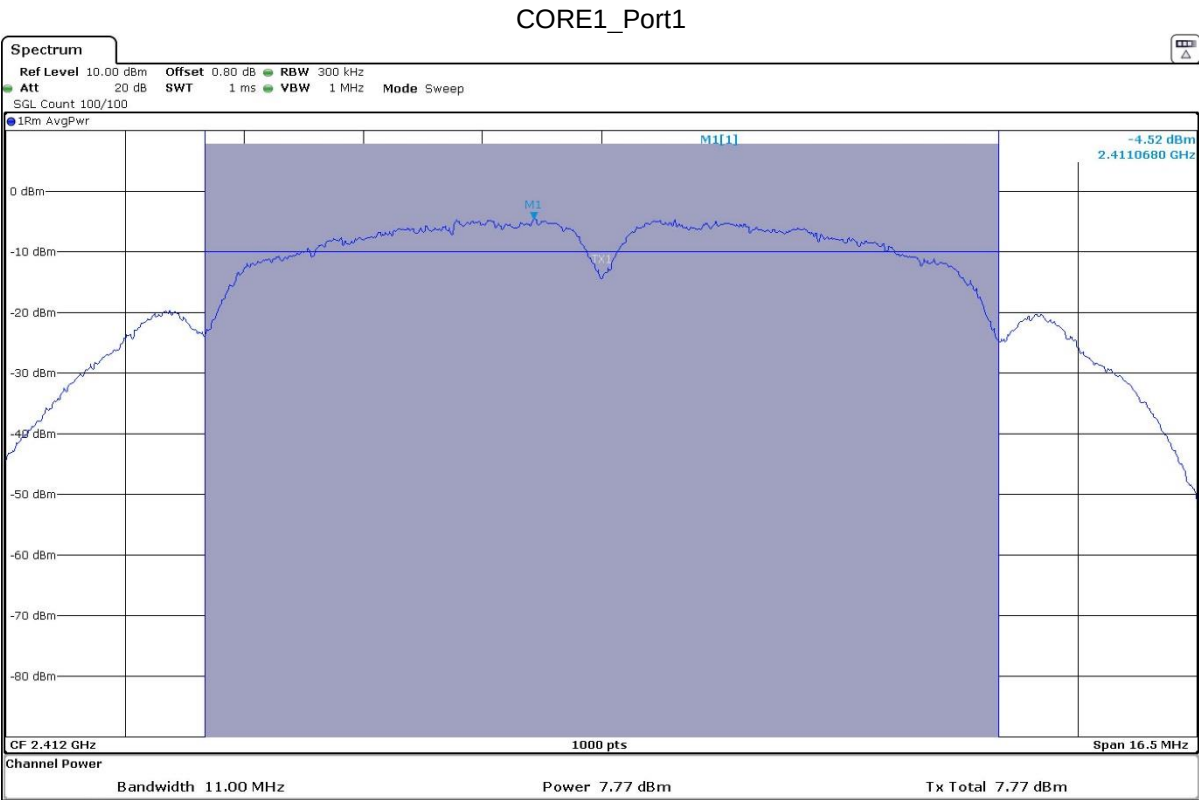
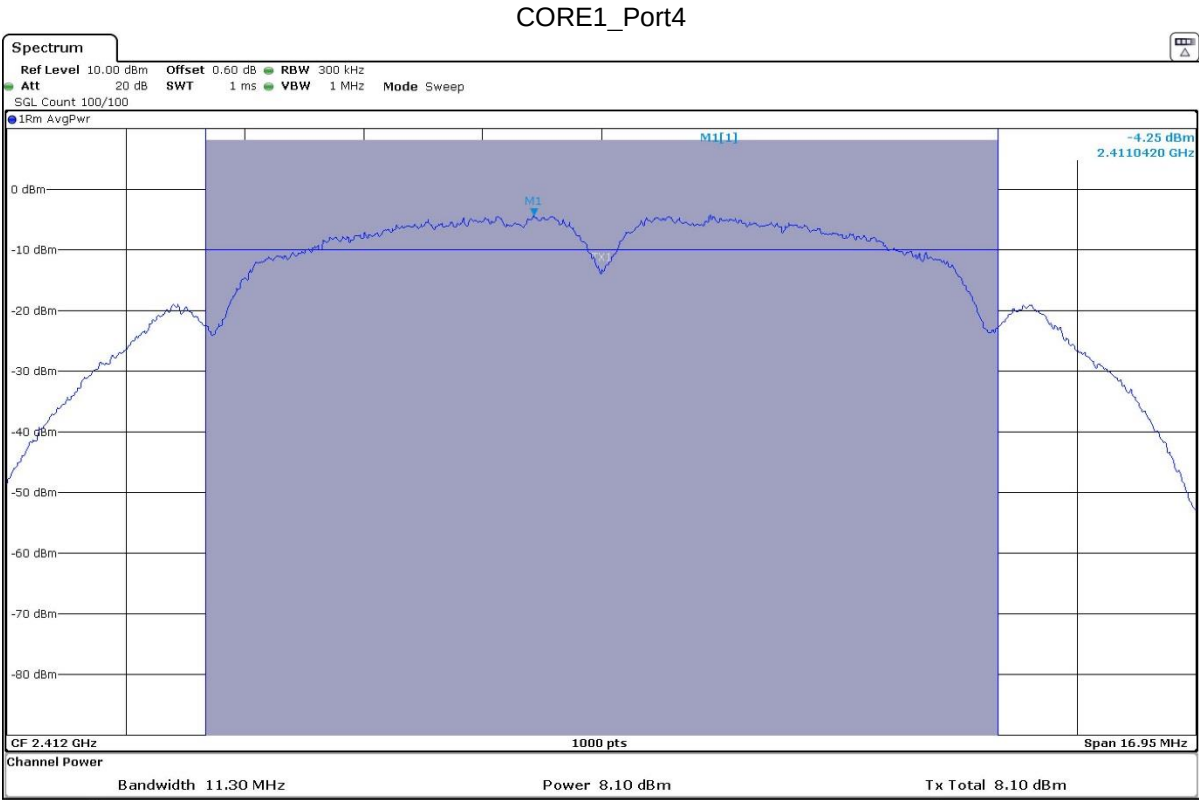
	Low Channel 2412 MHz		Middle Channel 2437 MHz		High Channel 2462 MHz	
	CORE1_ Port4	CORE1_ Port1	CORE1_ Port4	CORE1_ Port1	CORE1_ Port4	CORE1_ Port1
Maximum Average Conducted Power (dBm)	8.28	7.58	7.68	6.65	7.51	6.61
Maximum Average Conducted Power corrected (dBm)	9.29	8.60	8.69	7.67	8.52	7.63
	CORE1_Port4 + CORE1_Port1		CORE1_Port4 + CORE1_Port1		CORE1_Port4 + CORE1_Port1	
Maximum Conducted Power (dBm)	11.97		11.22		11.11	
Maximum EIRP Power (dBm)	14.97		14.22		14.11	
Measurement uncertainty (dB)	<±1.20					

Verdict: PASS

MIMO – CORE1_Port4 Antenna & CORE1_Port1 Antenna:

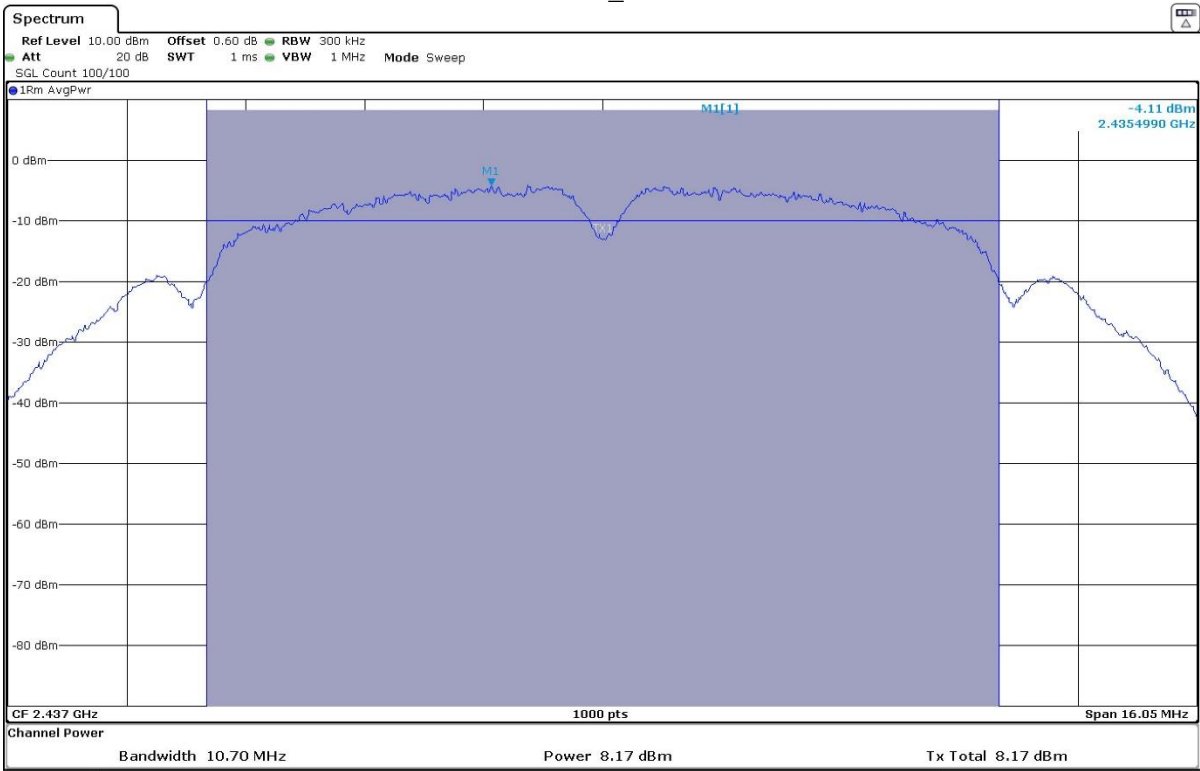
- Mode 802.11 b

- Low Channel:

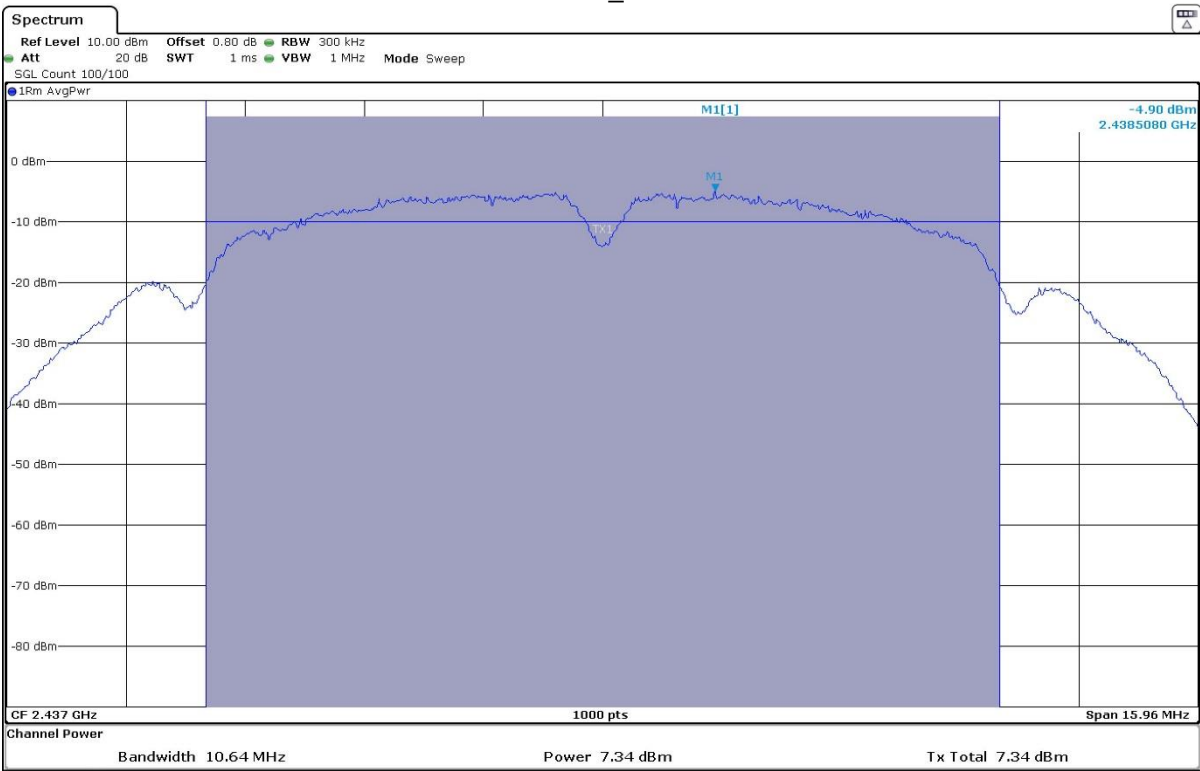


- Middle Channel:

CORE1_Port4

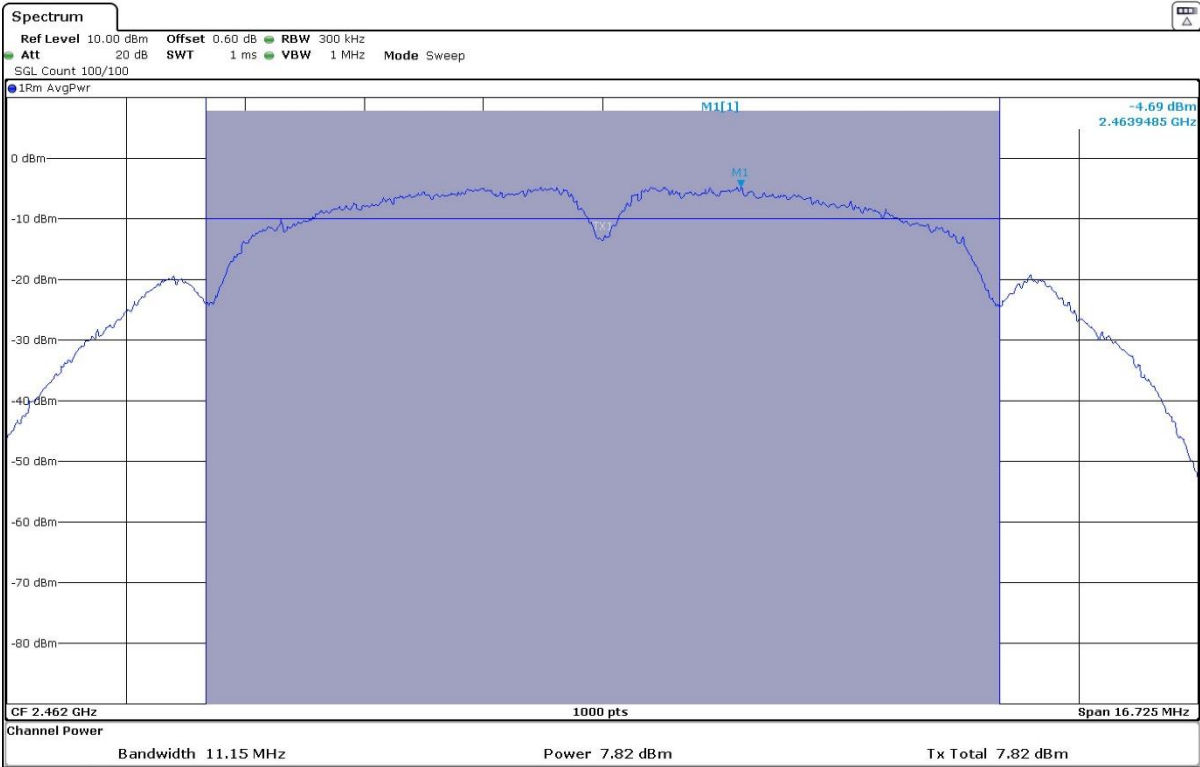


CORE1_Port1

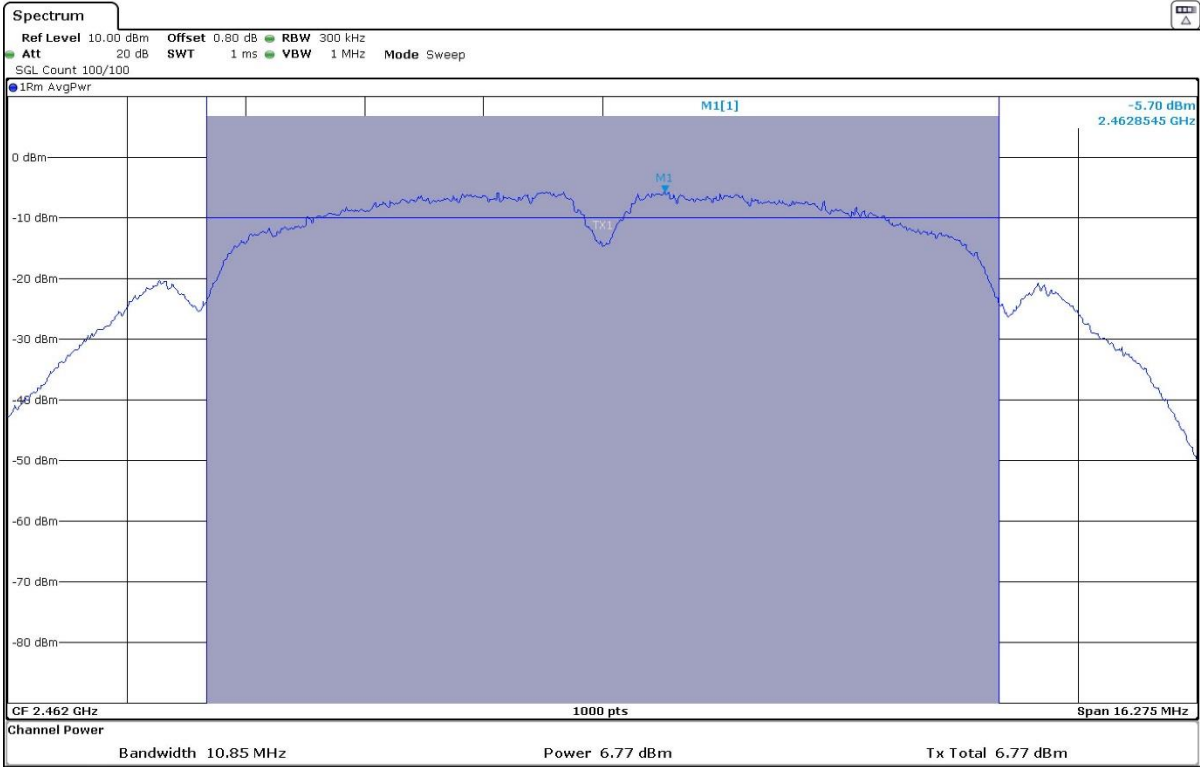


- High Channel:

CORE1_Port4



CORE1_Port1



- Mode 802.11 g

- Low Channel:

