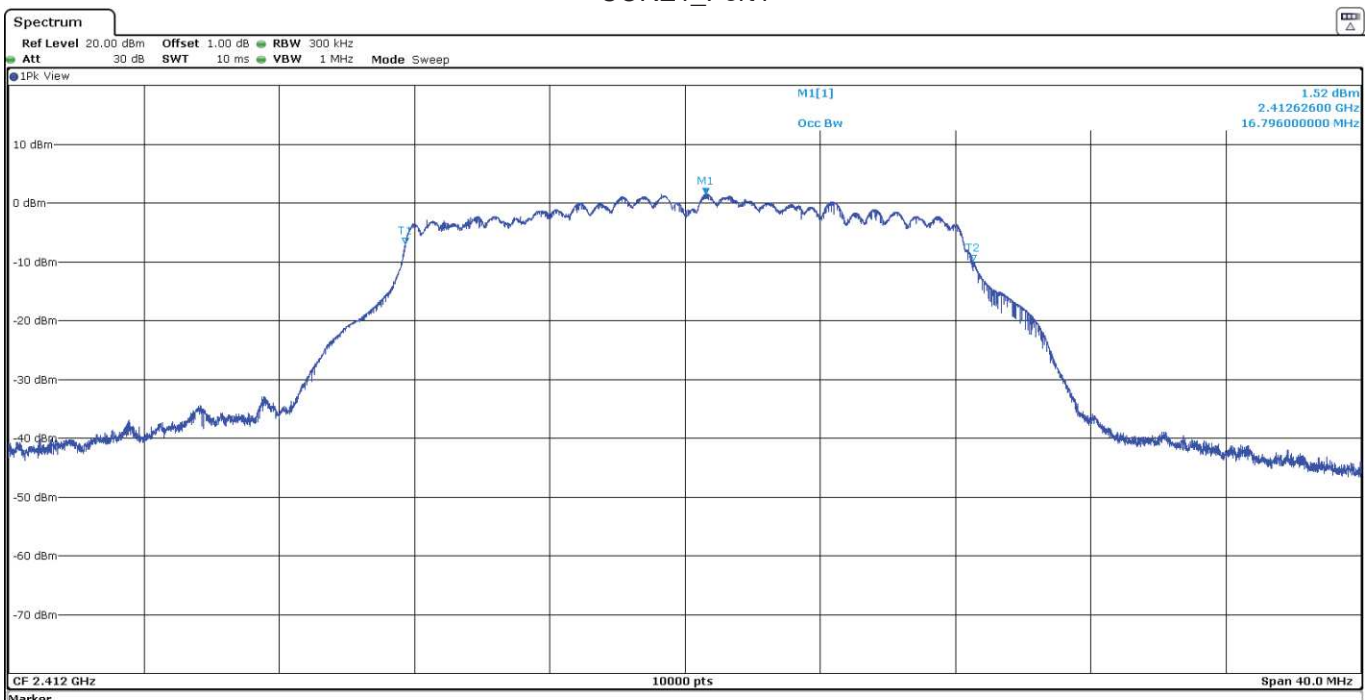
- **Mode 802.11 g – Occupied Bandwidth**

- Low Channel:

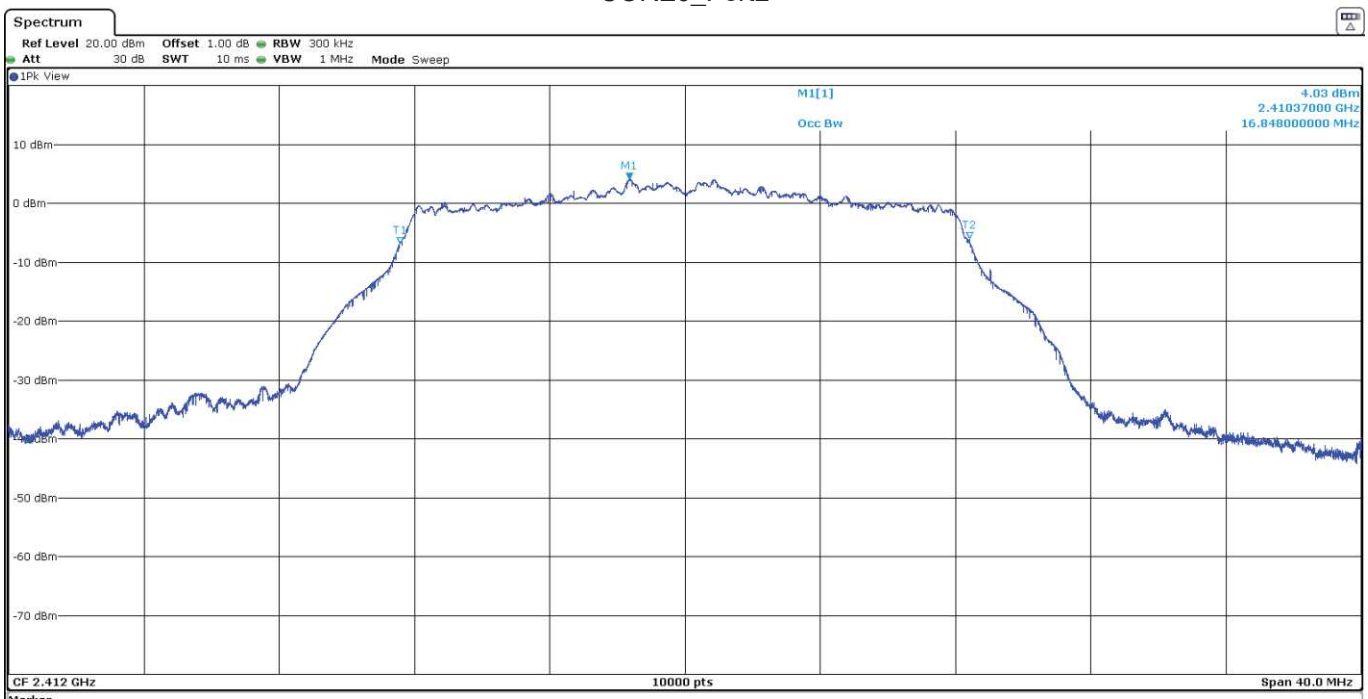
CORE1_Port4



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.412626 GHz	1.52 dBm		
T1		1	2.403734 GHz	-7.06 dBm	Occ Bw	16.796 MHz
T2		1	2.42053 GHz	-9.91 dBm		

CORE0_Port2

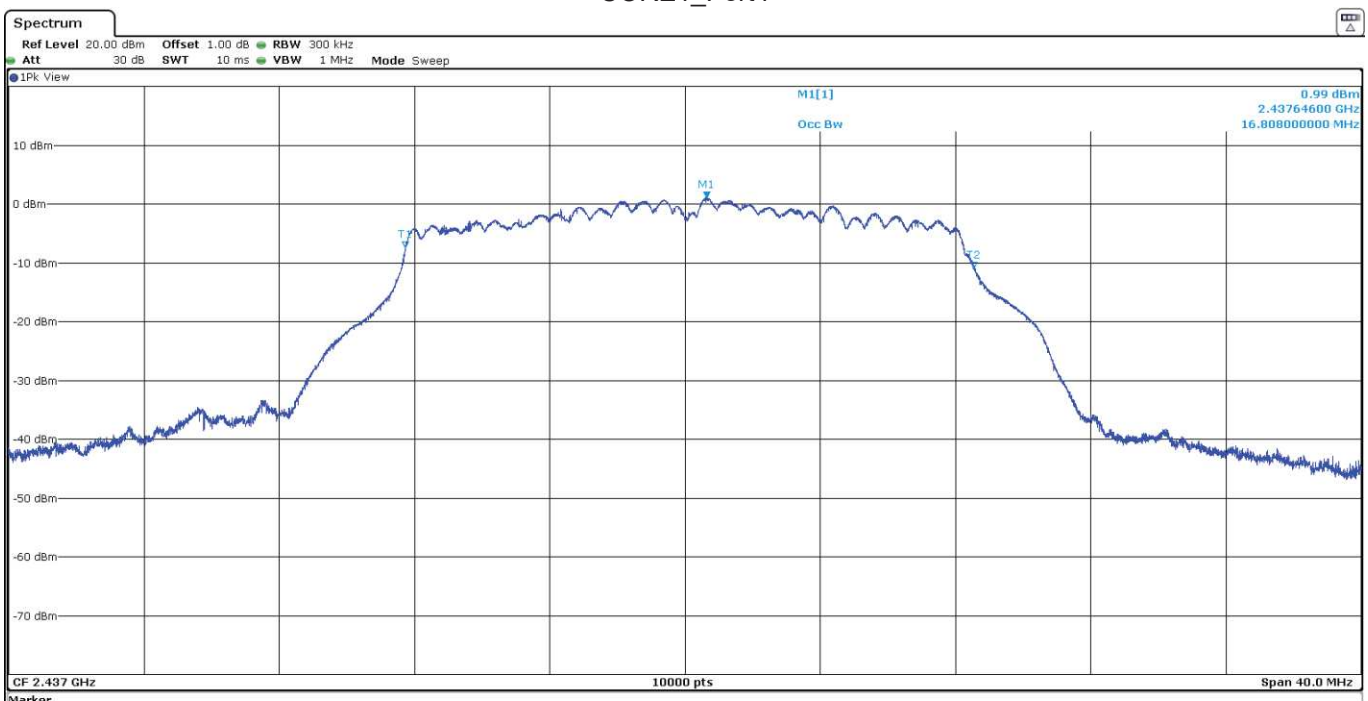


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41037 GHz	4.03 dBm		
T1		1	2.403574 GHz	-6.84 dBm	Occ Bw	16.848 MHz
T2		1	2.420422 GHz	-5.98 dBm		

- Middle Channel:

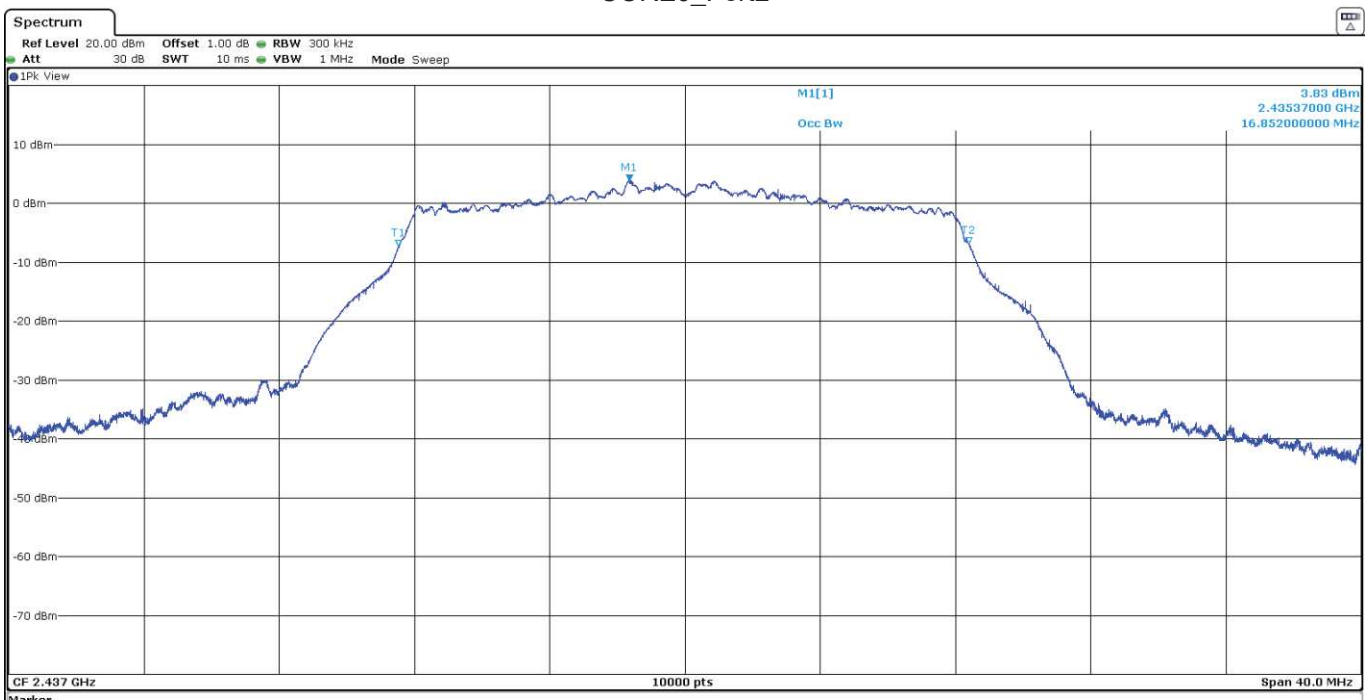
CORE1_Port4



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.437646 GHz	0.99 dBm		
T1		1	2.428734 GHz	-7.47 dBm	Occ Bw	16.808 MHz
T2		1	2.445542 GHz	-10.93 dBm		

CORE0_Port2

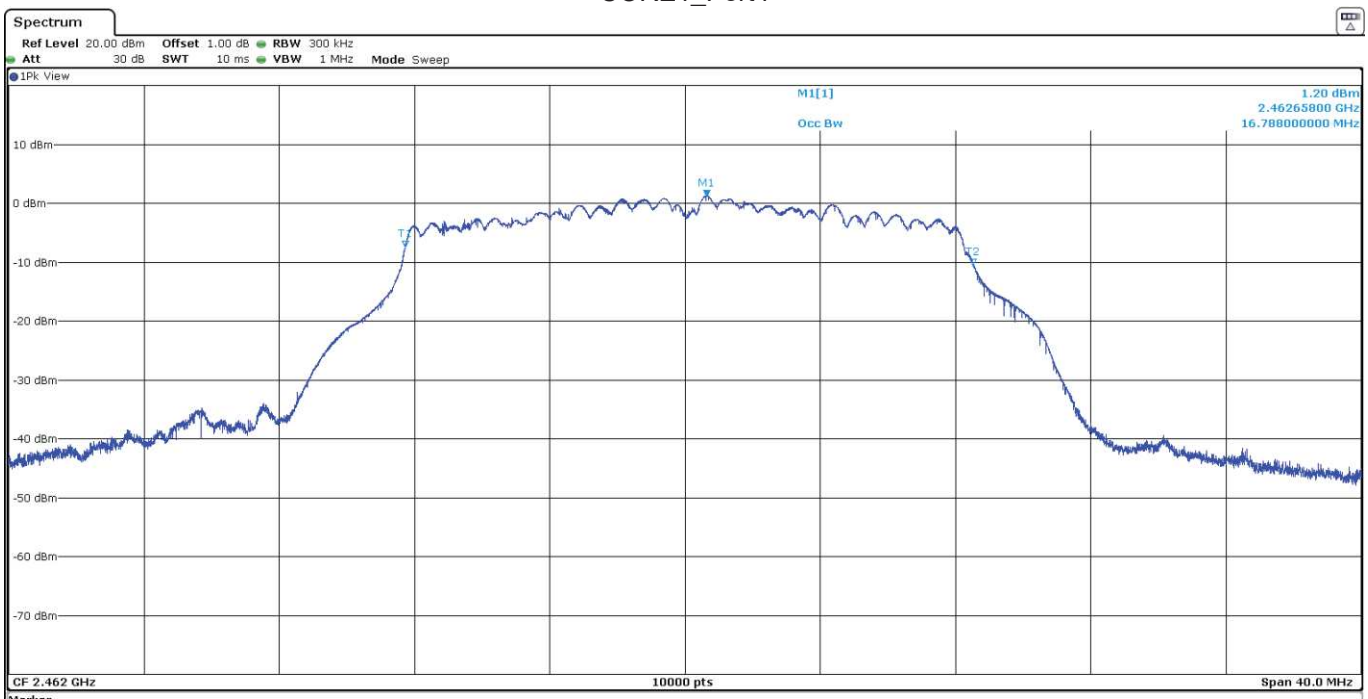


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43537 GHz	3.83 dBm		
T1		1	2.428538 GHz	-7.34 dBm	Occ Bw	16.852 MHz
T2		1	2.44539 GHz	-6.91 dBm		

- High Channel:

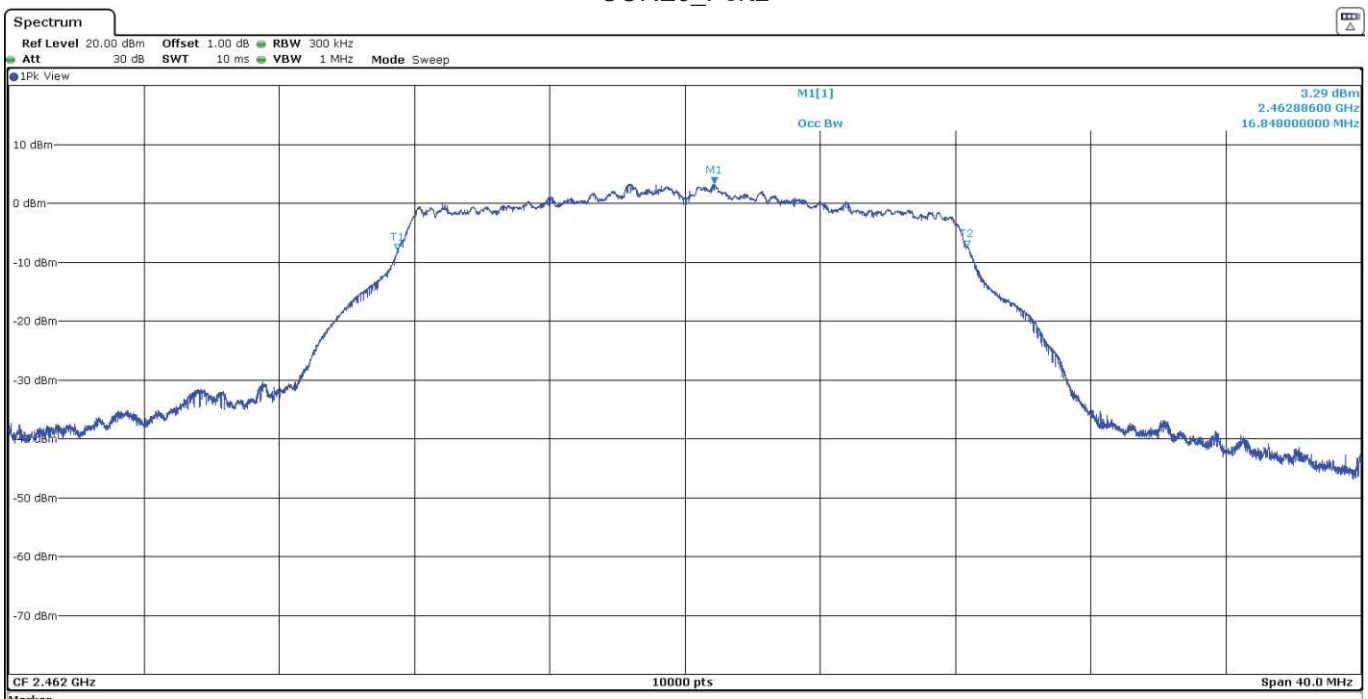
CORE1_Port4



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.462658 GHz	1.20 dBm		
T1		1	2.45373 GHz	-7.44 dBm	Occ Bw	16.788 MHz
T2		1	2.470518 GHz	-10.48 dBm		

CORE0_Port2



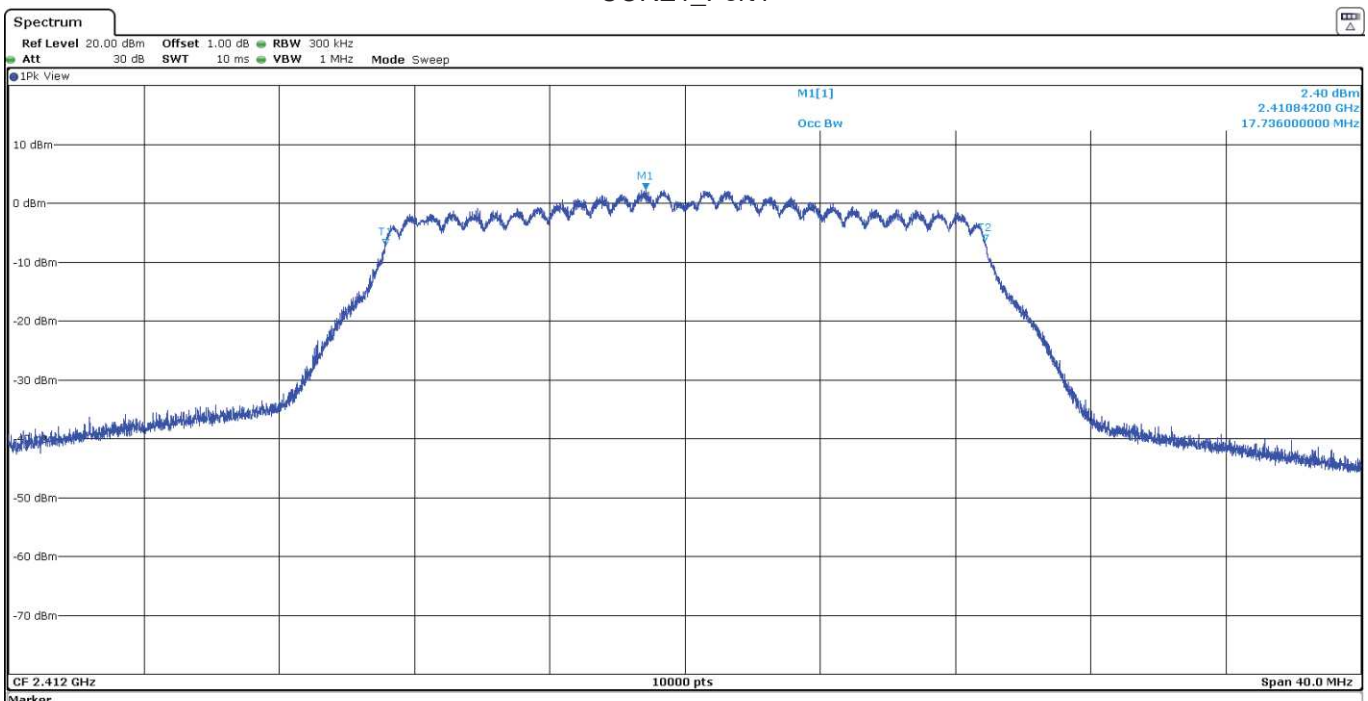
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.462886 GHz	3.29 dBm		
T1		1	2.453502 GHz	-8.08 dBm	Occ Bw	16.848 MHz
T2		1	2.47035 GHz	-7.44 dBm		

- **Mode 802.11 n20 – Occupied Bandwidth**

- Low Channel:

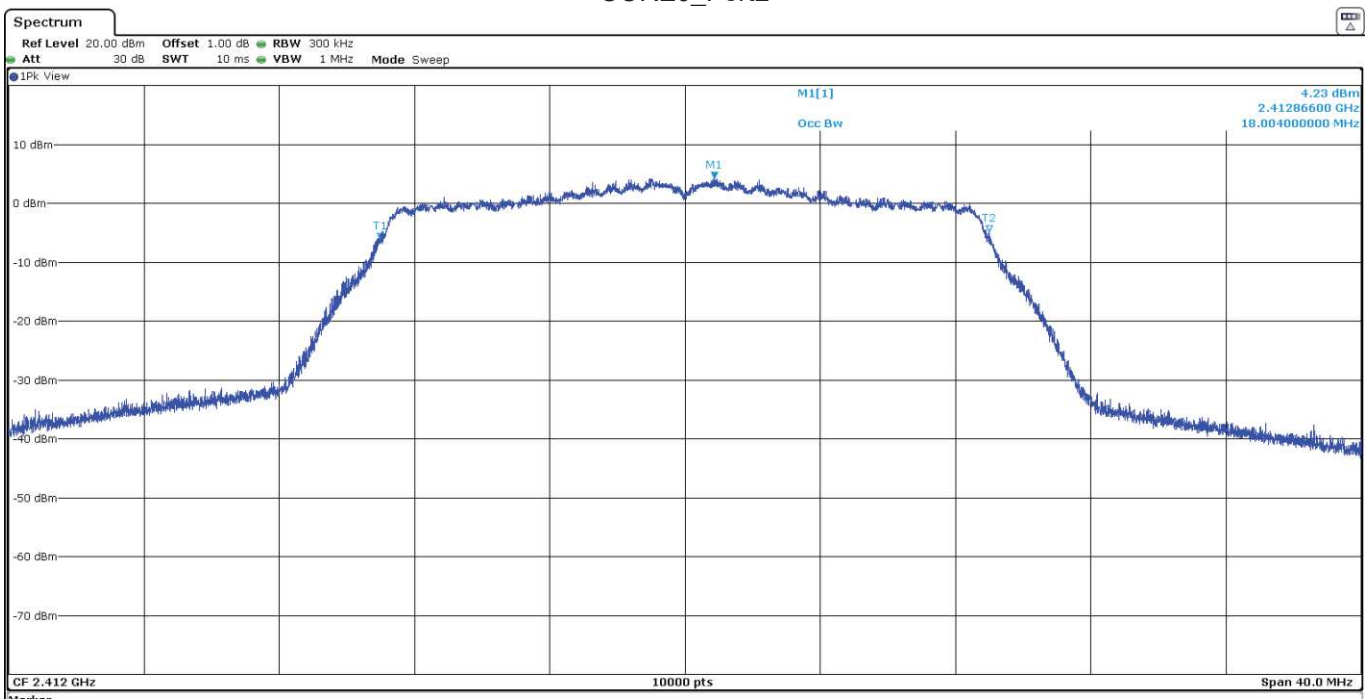
CORE1_Port4



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.410842 GHz	2.40 dBm		
T1		1	2.403142 GHz	-7.08 dBm	Occ Bw	17.736 MHz
T2		1	2.420878 GHz	-6.39 dBm		

CORE0_Port2

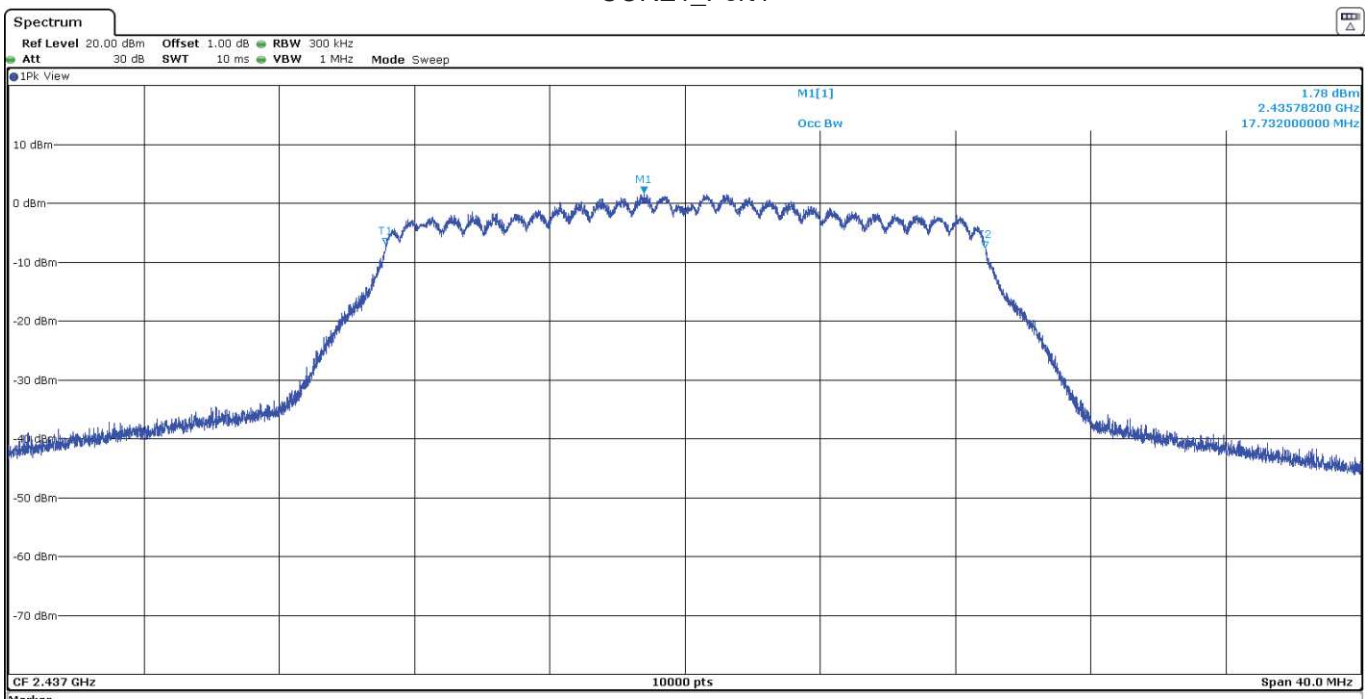


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.412866 GHz	4.23 dBm		
T1		1	2.402994 GHz	-6.20 dBm	Occ Bw	18.004 MHz
T2		1	2.420998 GHz	-4.87 dBm		

- Middle Channel:

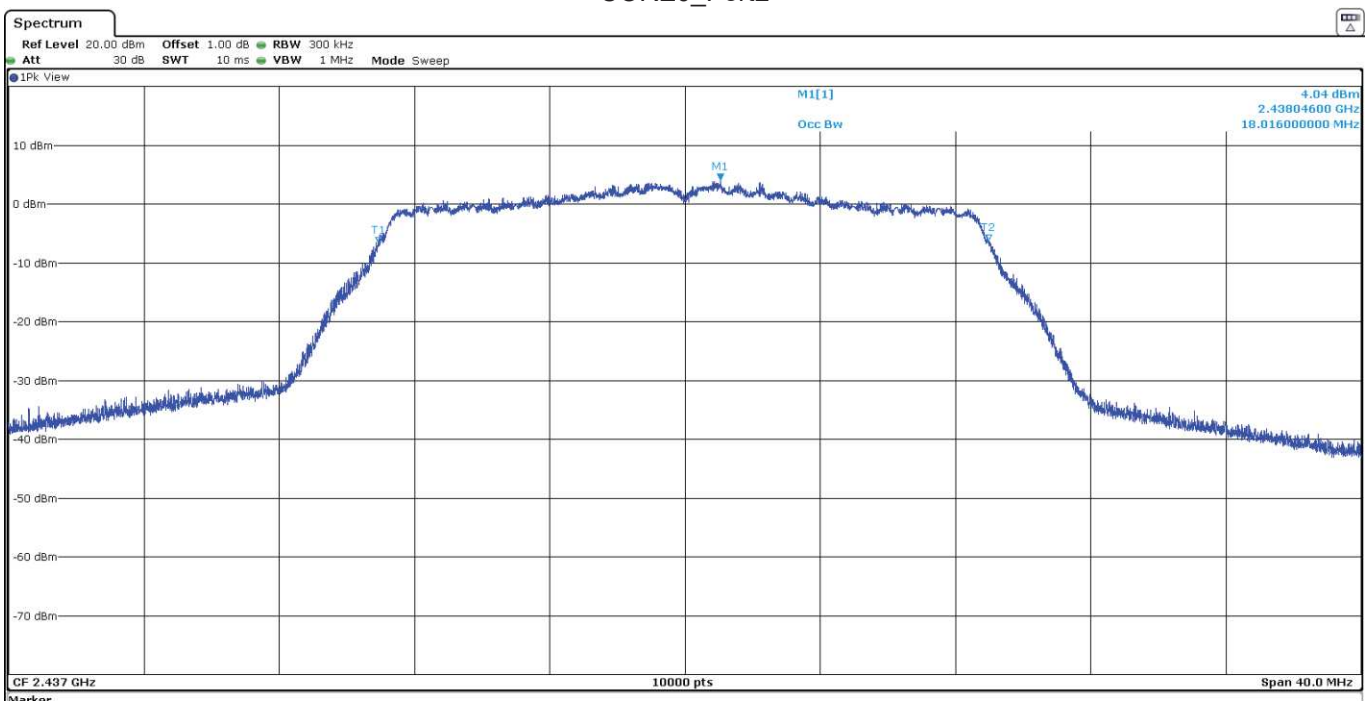
CORE1_Port4



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.435782 GHz	1.78 dBm		
T1		1	2.428146 GHz	-7.07 dBm	Occ Bw	17.732 MHz
T2		1	2.445878 GHz	-7.63 dBm		

CORE0_Port2

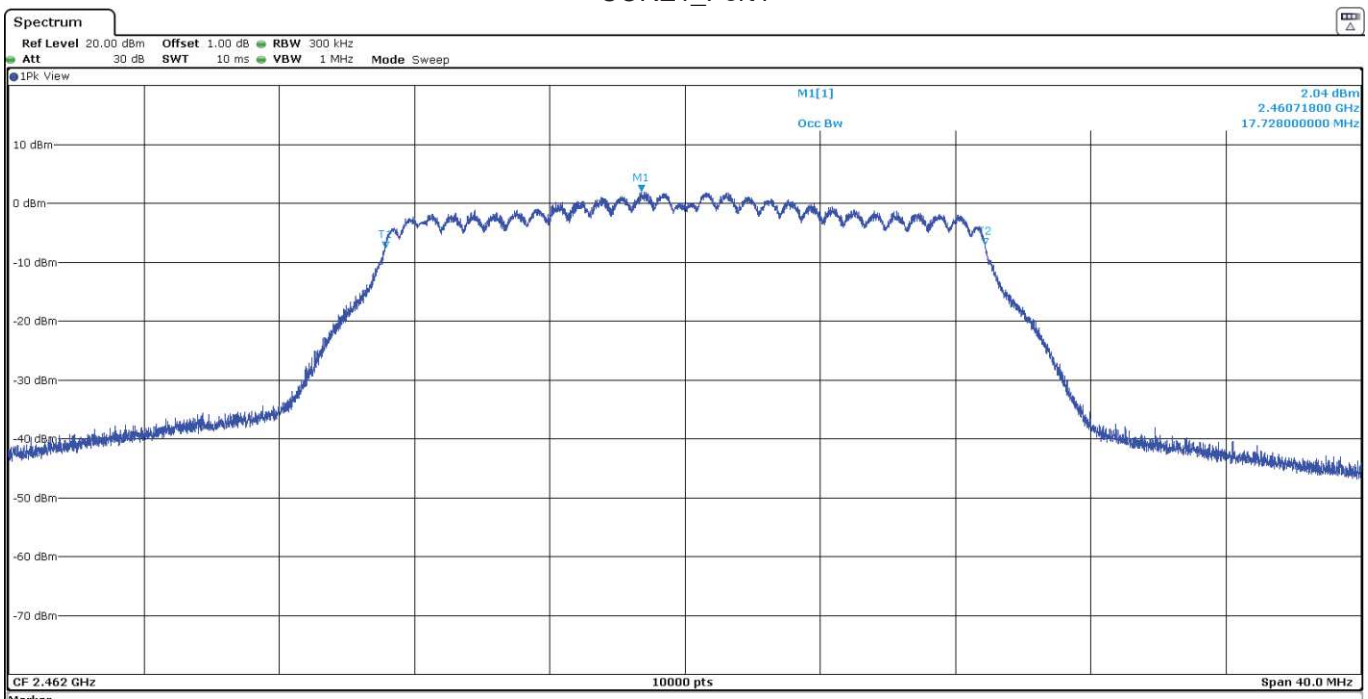


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.438046 GHz	4.04 dBm		
T1		1	2.42795 GHz	-6.73 dBm	Occ Bw	18.016 MHz
T2		1	2.445966 GHz	-6.23 dBm		

- High Channel:

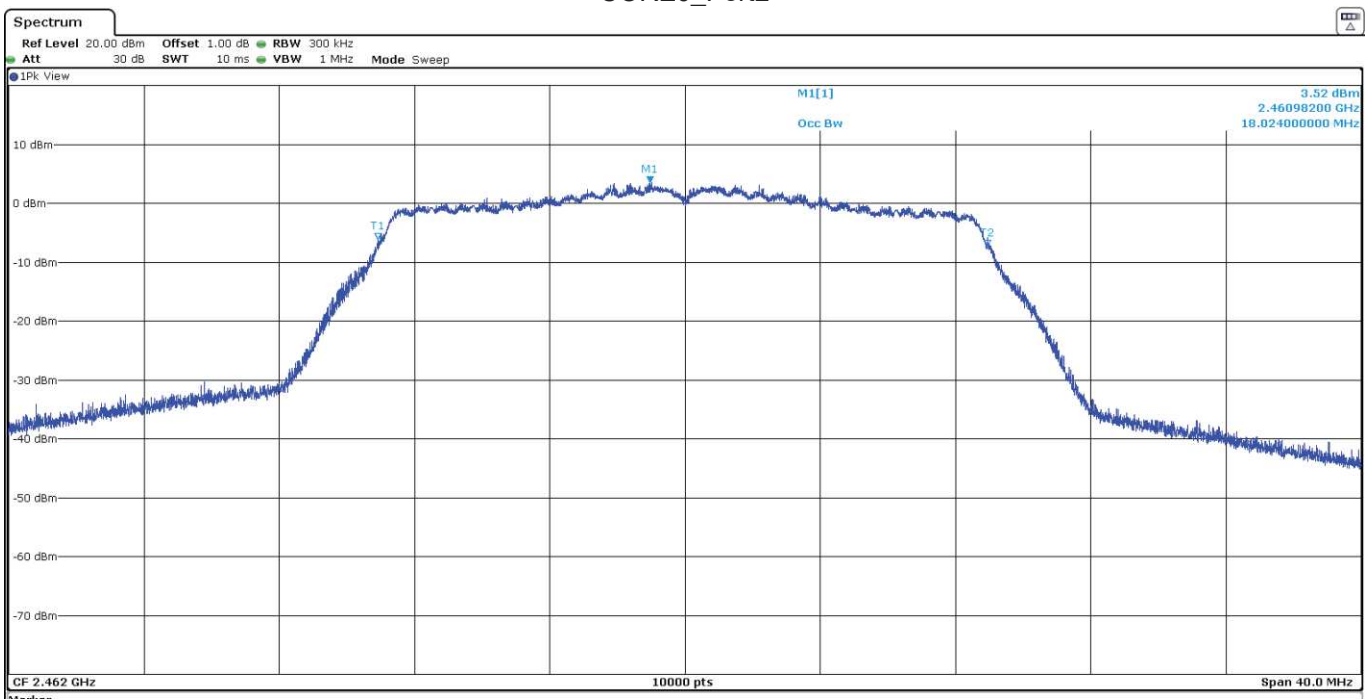
CORE1_Port4



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.460718 GHz	2.04 dBm		
T1		1	2.453142 GHz	-7.61 dBm	Occ Bw	17.728 MHz
T2		1	2.47087 GHz	-6.99 dBm		

CORE0_Port2



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.460982 GHz	3.52 dBm		
T1		1	2.452918 GHz	-6.06 dBm	Occ Bw	18.024 MHz
T2		1	2.470942 GHz	-7.30 dBm		

FCC 15.35 (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	12.3377	12.9032	0.19
SISO	802.11 g	CORE1_Port4	2.0384	2.5709	1.01
SISO	802.11 n20	CORE1_Port4	1.9083	2.4207	1.03
SISO	802.11 b	CORE0_Port2	12.4215	12.937	0.18
SISO	802.11 g	CORE0_Port2	2.0379	2.5649	0.99
SISO	802.11 n20	CORE0_Port2	1.9061	2.4256	1.05
MIMO	802.11 b	CORE1_Port4	12.3687	12.9099	0.19
MIMO	802.11 b	CORE0_Port2	2.0406	2.5695	1.00
MIMO	802.11 g	CORE1_Port4	1.9053	2.4275	1.05
MIMO	802.11 g	CORE0_Port2	12.458	12.9437	0.17
MIMO	802.11 n20	CORE1_Port4	2.0438	2.5655	0.99
MIMO	802.11 n20	CORE0_Port2	1.9037	2.4253	1.05

FCC 15.247 (b) / RSS-247 5.4 (d) Maximum peak 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:

For SISO and 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 maximum declared antenna gain to the measured conducted power.

SISO case CORE1_Port4 Antenna and SISO case CORE0_Port2.
MIMO case CORE1_Port4 Antenna & CORE0_Port2 Antenna.

Maximum Declared Antenna Gain:

CORE1_Port4:	+2.4 dBi
CORE0_Port2:	-0.3 dBi

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

In the measure-and-sum approach for MIMO mode, the conducted emission level (e.g., transmit power or power in specified bandwidth) is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in linear power units (mW—not dBm).

SISO – CORE1_Port4 Antenna:

- **Mode 802.11 b**

	Low Channel	Middle Channel	High Channel
Maximum Average Conducted Power (dBm)	9.78	9.93	10.32
Duty Cycle Correction (dB)	0.19		
Max. conducted power corrected (dBm)	9.97	10.12	10.51
Maximum EIRP Power with Duty Cycle Correction (dBm)	12.37	12.52	12.91
Measurement uncertainty (dB)	<±2.57		

- **Mode 802.11 g**

	Low Channel	Middle Channel	High Channel
Maximum Average Conducted Power (dBm)	9.26	9.48	10.12
Duty Cycle Correction (dB)	1.01		
Max. conducted power corrected (dBm)	11.16	10.49	11.13
Maximum EIRP Power with Duty Cycle Correction (dBm)	13.56	12.89	13.53
Measurement uncertainty (dB)	<±2.57		

- **Mode 802.11 n20**

	Low Channel	Middle Channel	High Channel
Maximum Average Conducted Power (dBm)	9.03	9.27	9.88
Duty Cycle Correction (dB)	1.03		
Max. conducted power corrected (dBm)	10.06	10.30	10.91
Maximum EIRP Power with Duty Cycle Correction (dBm)	12.46	12.70	13.31
Measurement uncertainty (dB)	<±2.57		

Verdict: PASS

SISO – CORE0_Port2 Antenna:

- **Mode 802.11 b**

	Low Channel	Middle Channel	High Channel
Maximum Average Conducted Power (dBm)	12.89	12.71	12.06
Duty Cycle Correction (dB)	0.18		
Max. conducted power corrected (dBm)	13.07	12.89	12.24
Maximum EIRP Power with Duty Cycle Correction (dBm)	12.77	12.59	11.94
Measurement uncertainty (dB)	<±2.57		

- **Mode 802.11 g**

	Low Channel	Middle Channel	High Channel
Maximum Average Conducted Power (dBm)	12.30	12.08	11.59
Duty Cycle Correction (dB)	0.99		
Max. conducted power corrected (dBm)	13.30	13.08	12.59
Maximum EIRP Power with Duty Cycle Correction (dBm)	13	12.78	12.29
Measurement uncertainty (dB)	<±2.57		

- **Mode 802.11 n20**

	Low Channel	Middle Channel	High Channel
Maximum Average Conducted Power (dBm)	12.03	11.89	11.38
Duty Cycle Correction (dB)	1.05		
Max. conducted power corrected (dBm)	13.08	12.94	12.13
Maximum EIRP Power with Duty Cycle Correction (dBm)	12.78	12.64	12.13
Measurement uncertainty (dB)	<±2.57		

Verdict: PASS

MIMO – CORE1_Port4 Antenna & CORE1_Port1 Antenna:

- **Mode 802.11 b**

Gain MIMO mode (CORE1_Port4 & CORE0_Port2) = +4.16 dBi

	Low Channel		Middle Channel		High Channel	
	CORE1_ Port4	CORE0_ Port2	CORE1_ Port4	CORE0_ Port2	CORE1_ Port4	CORE0_ Port2
Maximum Average Conducted Power (dBm)	8	11.18	7.67	10.46	8	10.16
Maximum Average Conducted Power corrected (dBm)	8.19	11.35	7.86	10.63	8.19	10.33
	CORE1_Port4 + CORE0_Port2		CORE1_Port4 + CORE0_Port2		CORE1_Port4 + CORE0_Port2	
Maximum Conducted Power (dBm)	13.06		12.47		12.40	
Maximum EIRP Power (dBm)	17.22		16.63		16.56	
Measurement uncertainty (dB)	<±2.574					

- **Mode 802.11 g**

Gain MIMO mode (CORE1_Port4 & CORE0_Port2) = +4.16 dBi

	Low Channel		Middle Channel		High Channel	
	CORE1_ Port4	CORE0_ Port2	CORE1_ Port4	CORE0_ Port2	CORE1_ Port4	CORE0_ Port2
Maximum Average Conducted Power (dBm)	7.3	9.93	6.88	9.54	6.98	9.32
Maximum Average Conducted Power corrected (dBm)	8.30	10.92	7.88	10.53	7.98	10.31
	CORE1_Port4 + CORE0_Port2		CORE1_Port4 + CORE0_Port2		CORE1_Port4 + CORE0_Port2	
Maximum Conducted Power (dBm)	12.81		12.41		12.31	
Maximum EIRP Power (dBm)	16.97		16.57		16.47	
Measurement uncertainty (dB)	<±2.574					