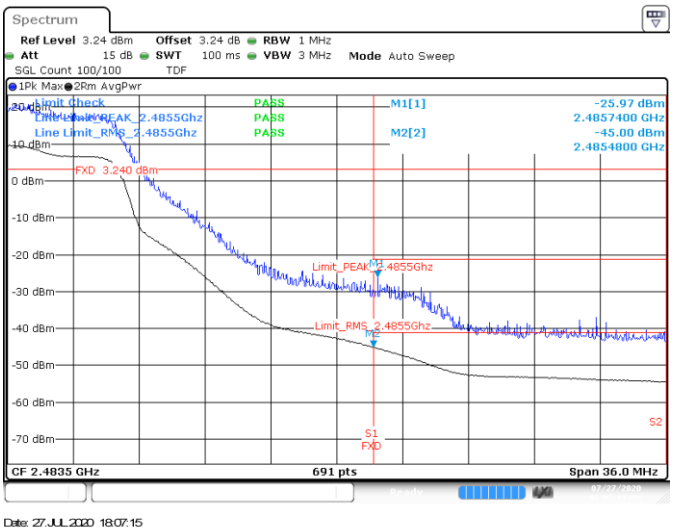
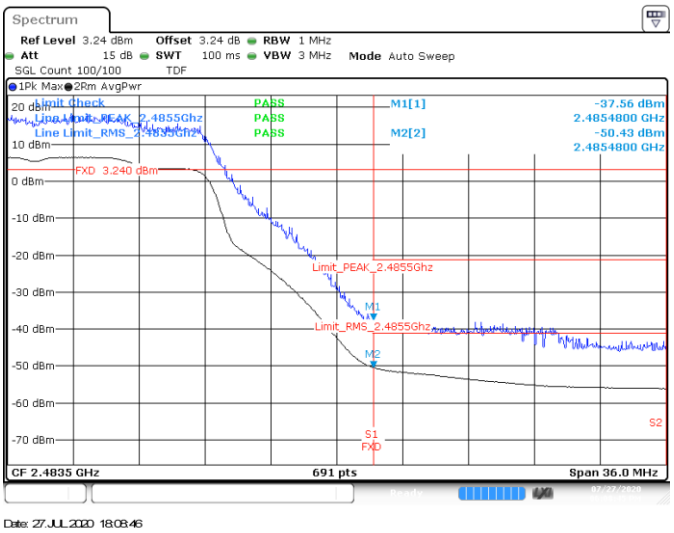
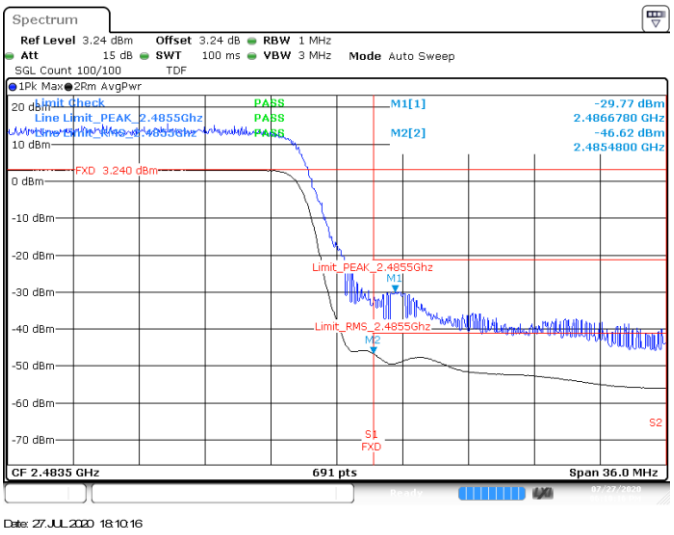
SISO-B, 802.11ax20, HE0



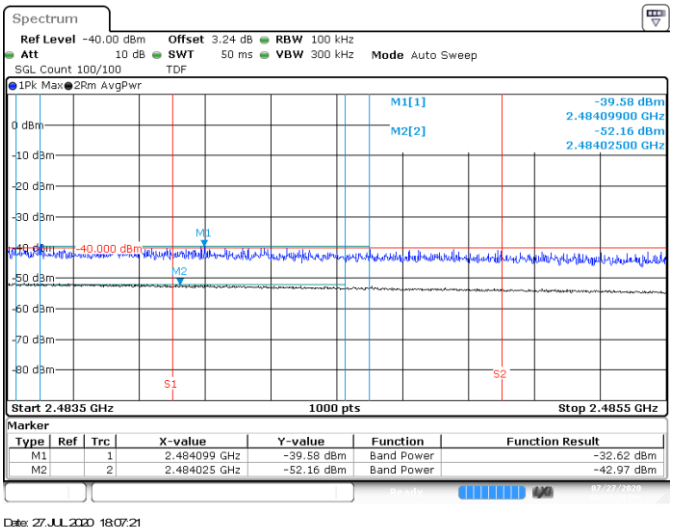
Channel 11 - BE High Freq Section (restricted)



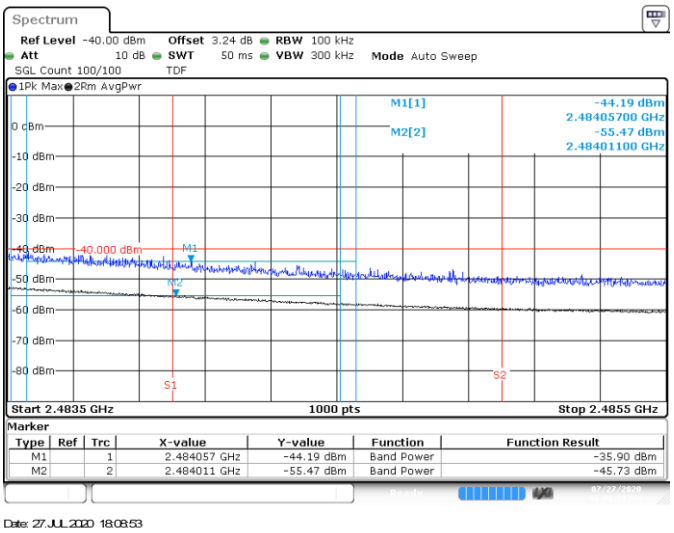
Channel 12 - BE High Freq Section (restricted)



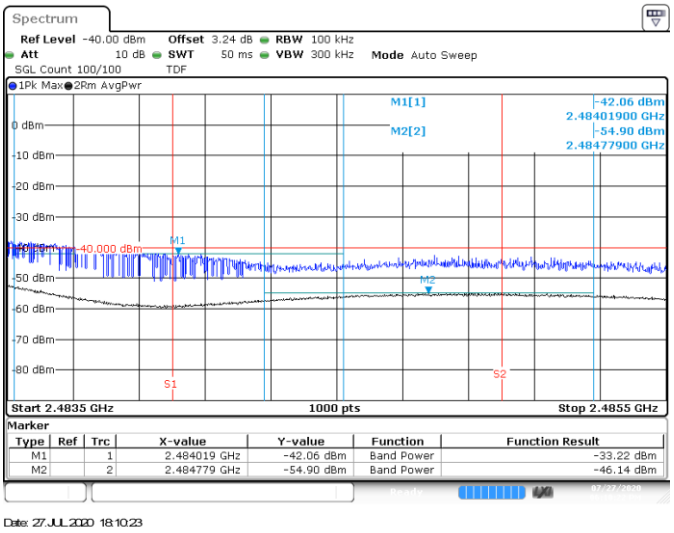
Channel 13 - BE High Freq Section (restricted)



Channel 11 - BE High Freq Section RMS within 2MHz (restricted)

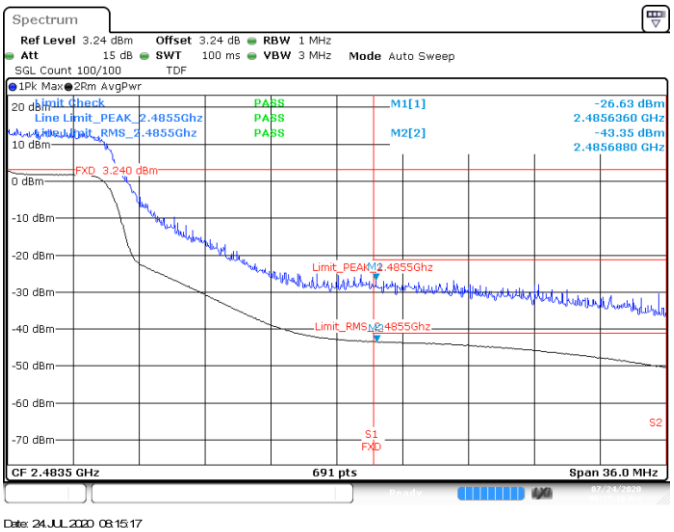


Channel 12 - BE High Freq Section RMS within 2MHz (restricted)

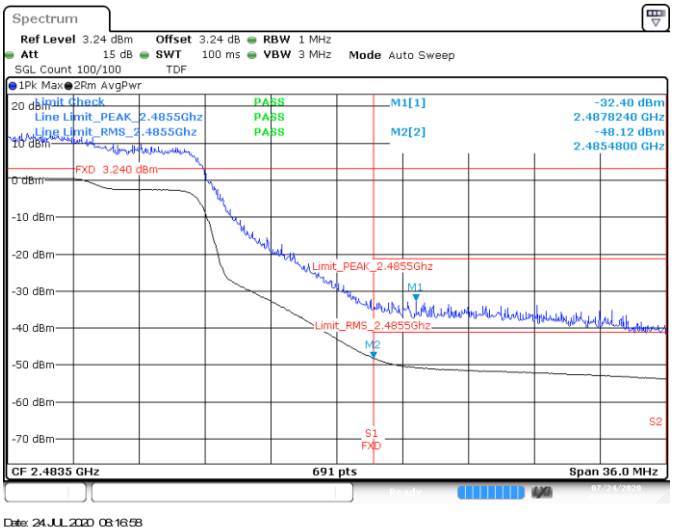


Channel 13 - BE High Freq Section RMS within 2MHz (restricted)

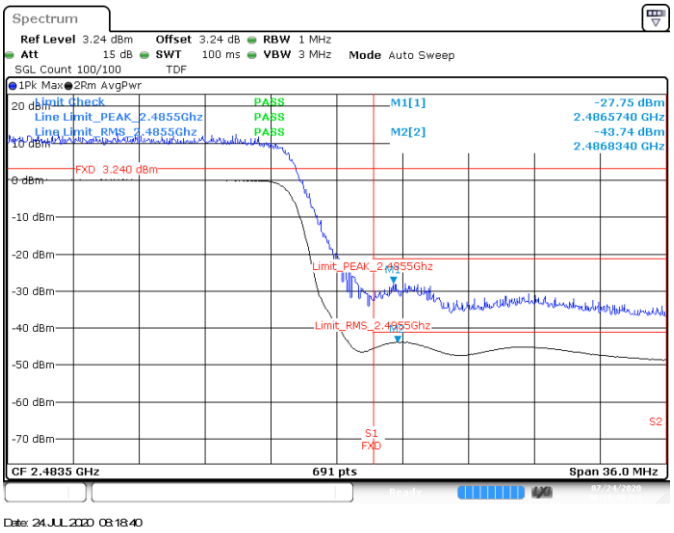
SISO-A, 802.11ax40, HE0



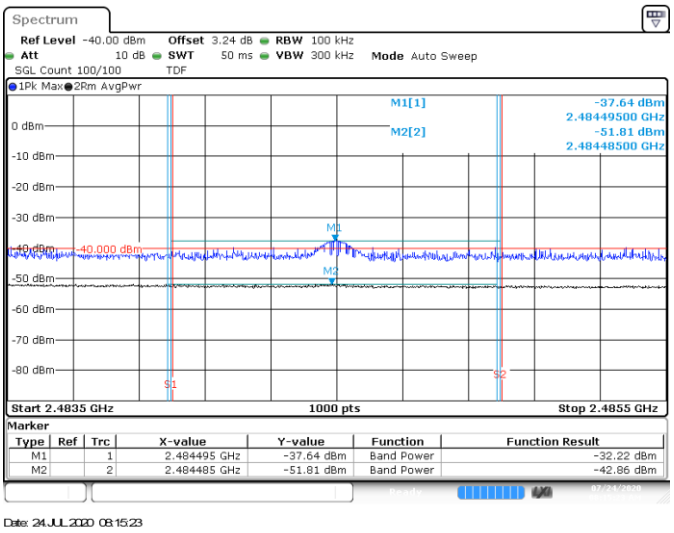
Channel 9F - BE High Freq Section (restricted)



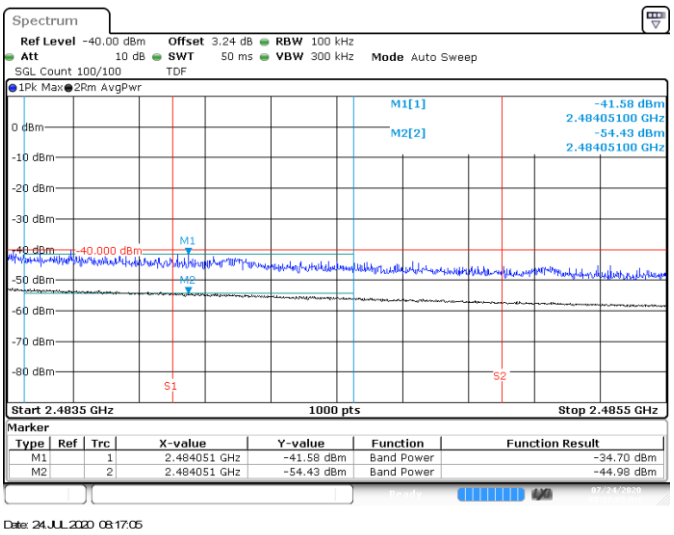
Channel 10F - BE High Freq Section (restricted)



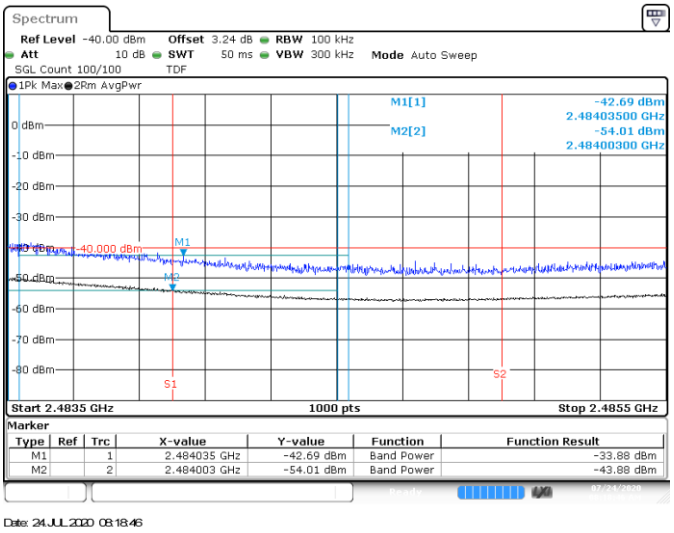
Channel 11F - BE High Freq Section (restricted)



Channel 9F - BE High Freq Section RMS within 2MHz (restricted)

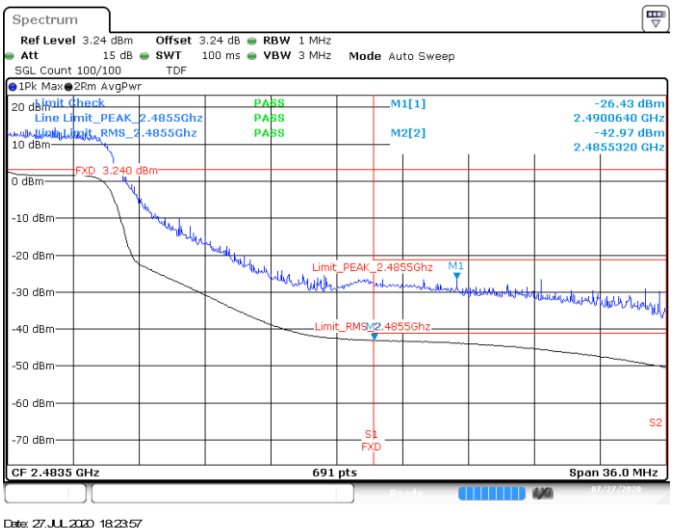


Channel 10F - BE High Freq Section RMS within 2MHz (restricted)

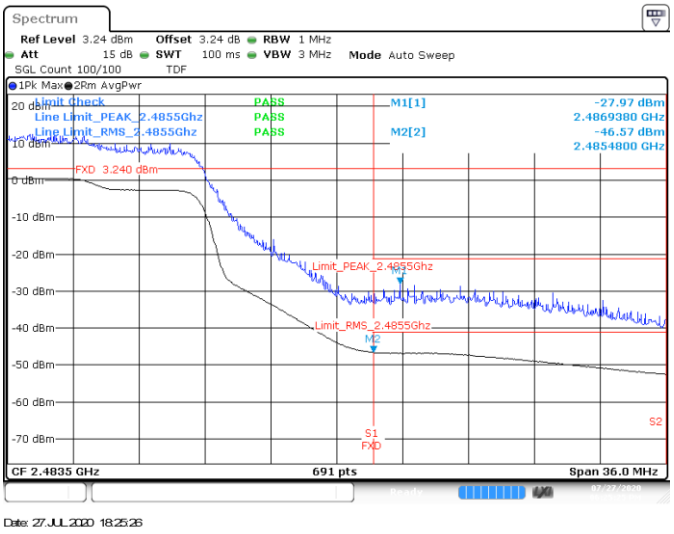


Channel 11F - BE High Freq Section RMS within 2MHz (restricted)

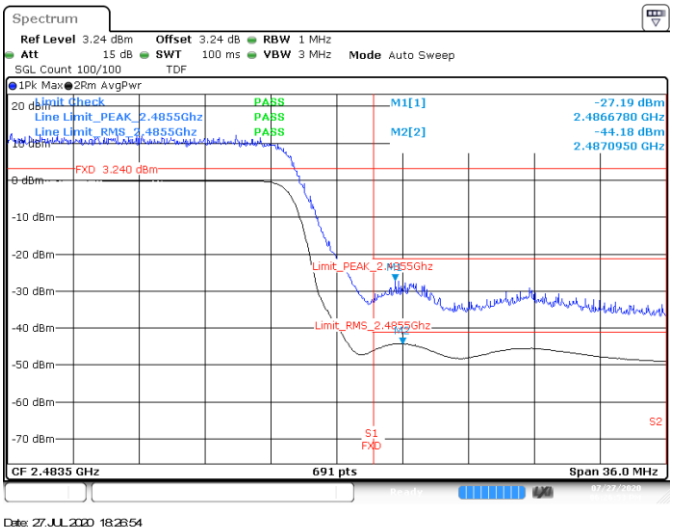
SISO-B, 802.11ax40, HE0



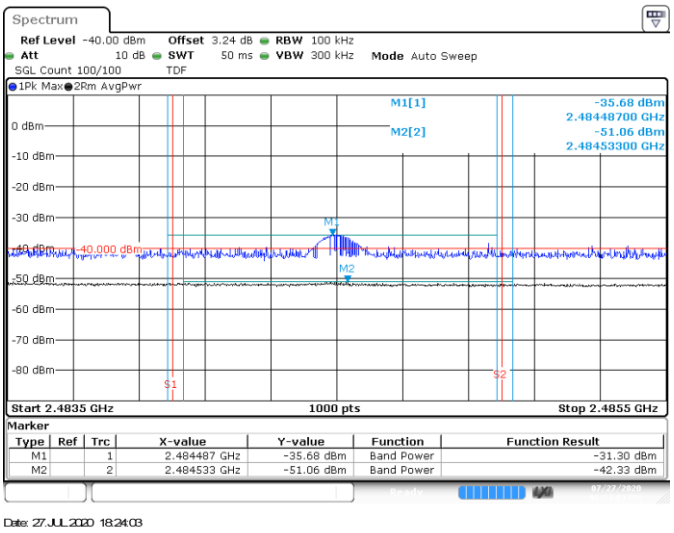
Channel 9F - BE High Freq Section (restricted)



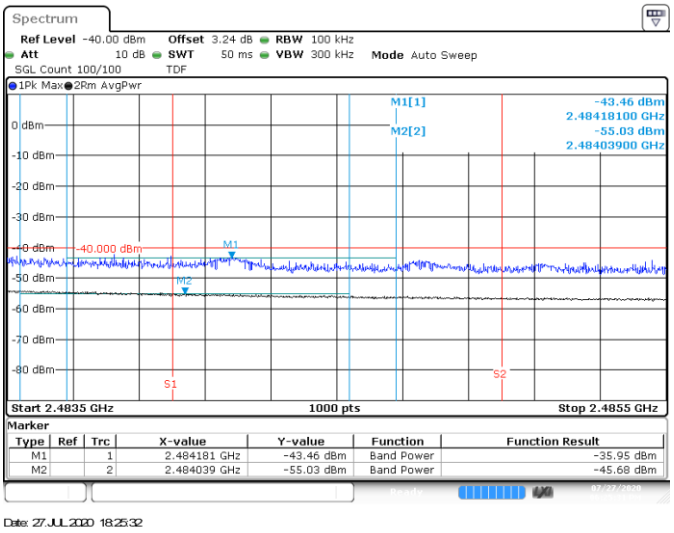
Channel 10F - BE High Freq Section (restricted)



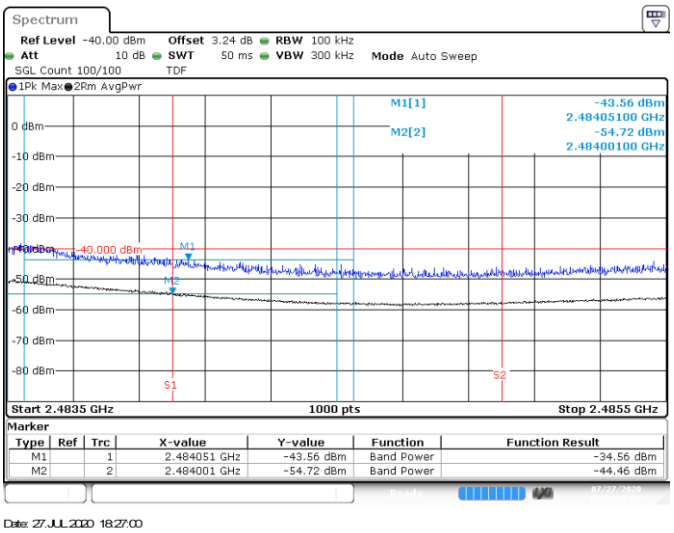
Channel 11F - BE High Freq Section (restricted)



Channel 9F - BE High Freq Section RMS within 2MHz (restricted)

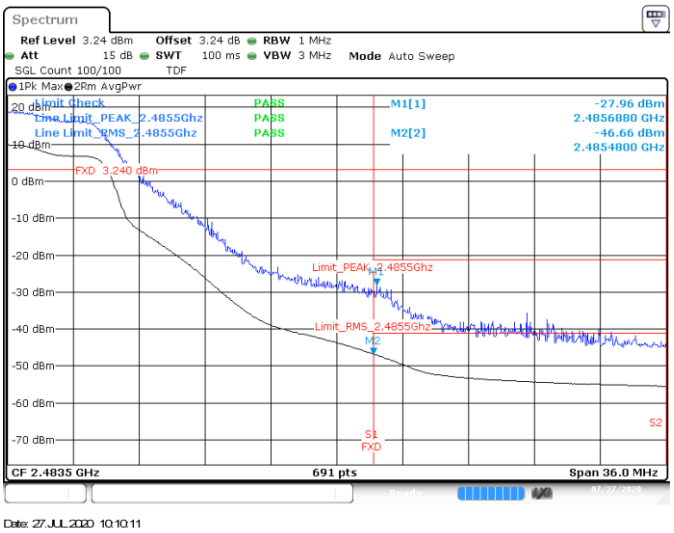


Channel 10F - BE High Freq Section RMS within 2MHz (restricted)

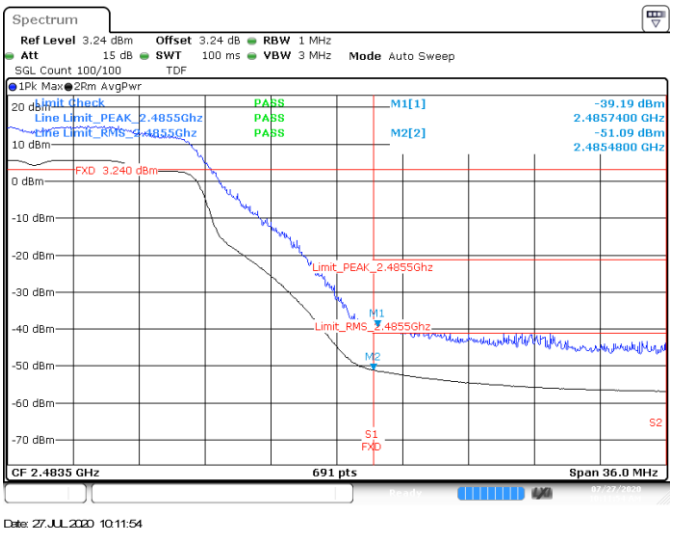


Channel 11F - BE High Freq Section RMS within 2MHz (restricted)

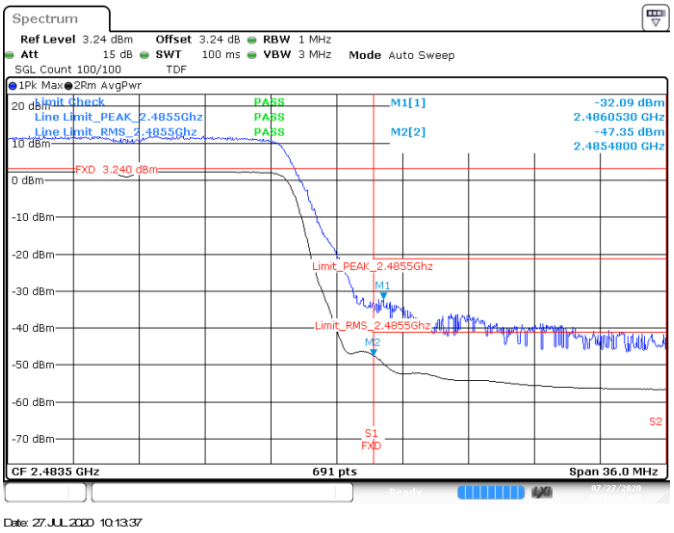
MIMO-A, 802.11n20, HT8



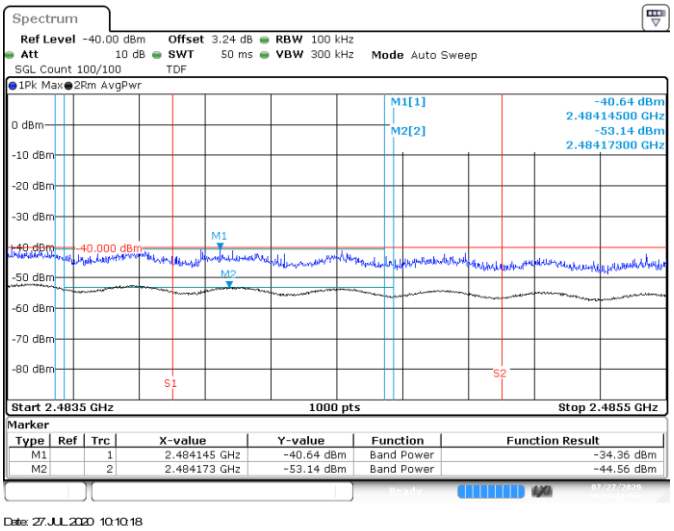
Channel 11 - BE High Freq Section (restricted)



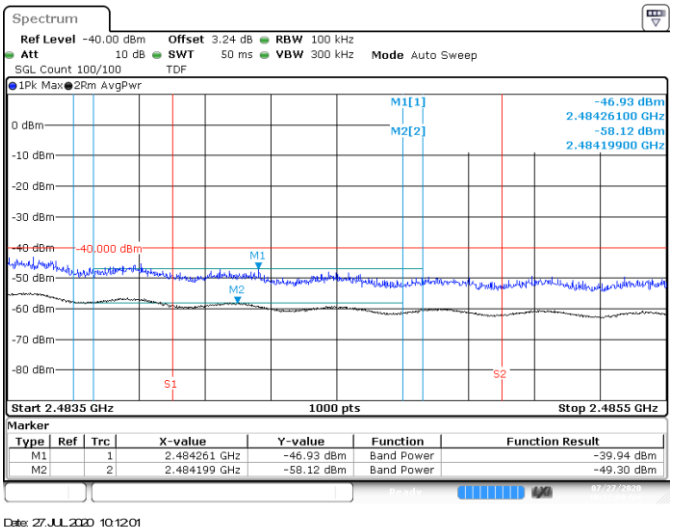
Channel 12 - BE High Freq Section (restricted)



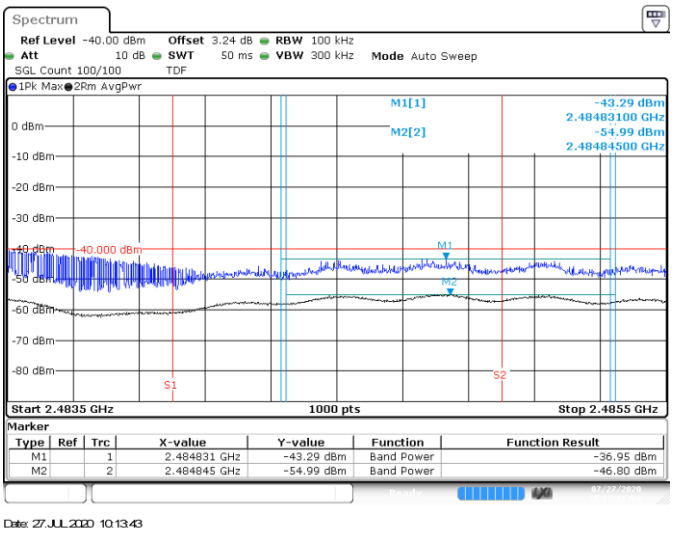
Channel 13 - BE High Freq Section (restricted)



Channel 11 - BE High Freq Section RMS within 2MHz (restricted)

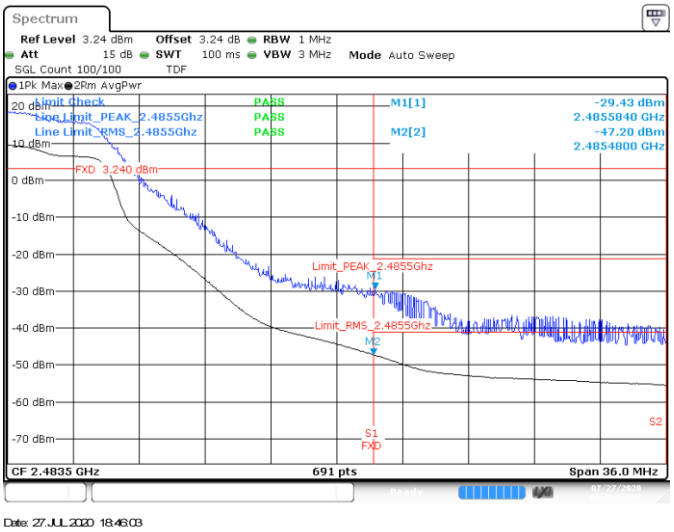


Channel 12 - BE High Freq Section RMS within 2MHz (restricted)

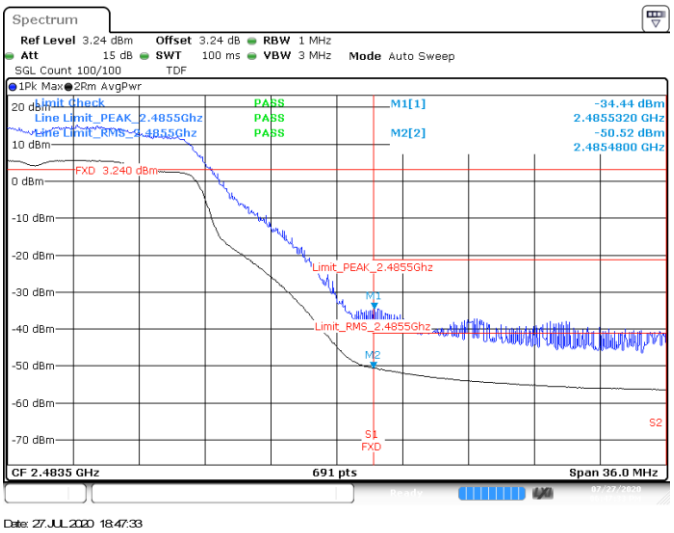


Channel 13 - BE High Freq Section RMS within 2MHz (restricted)

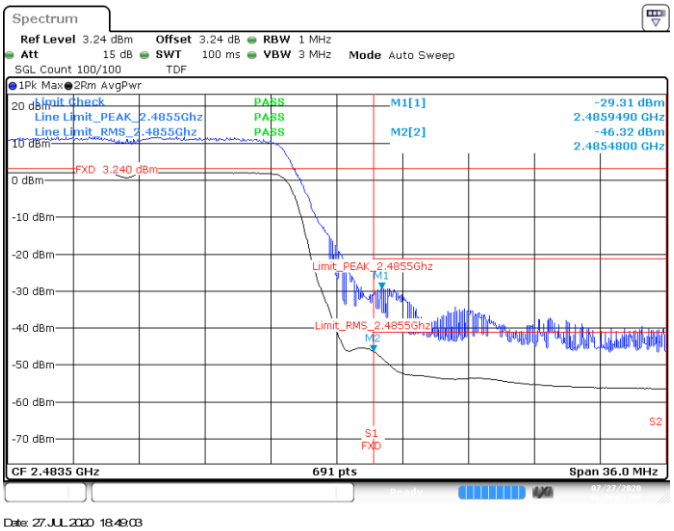
MIMO-B, 802.11n20, HT8



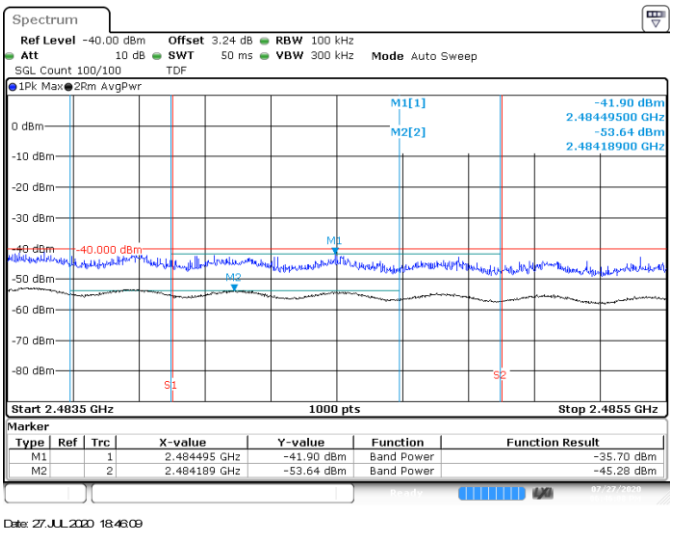
Channel 11 - BE High Freq Section (restricted)



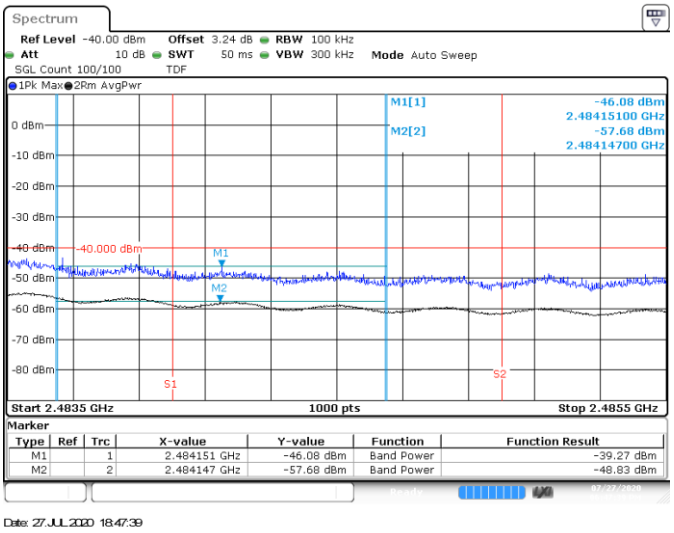
Channel 12 - BE High Freq Section (restricted)



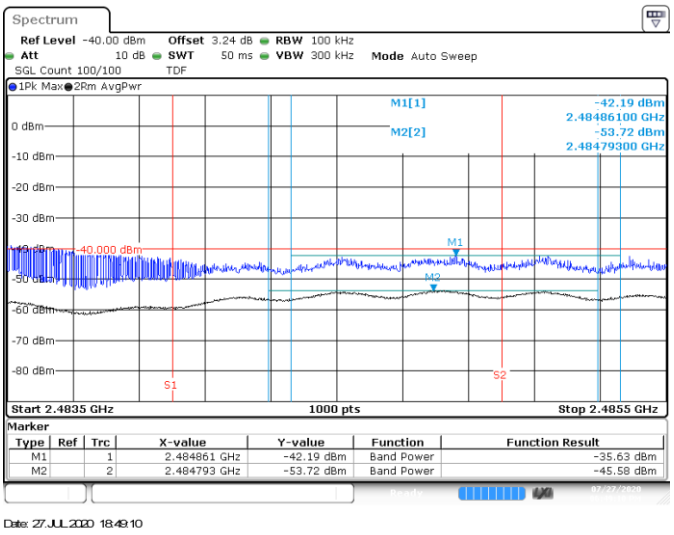
Channel 13 - BE High Freq Section (restricted)



Channel 11 - BE High Freq Section RMS within 2MHz (restricted)

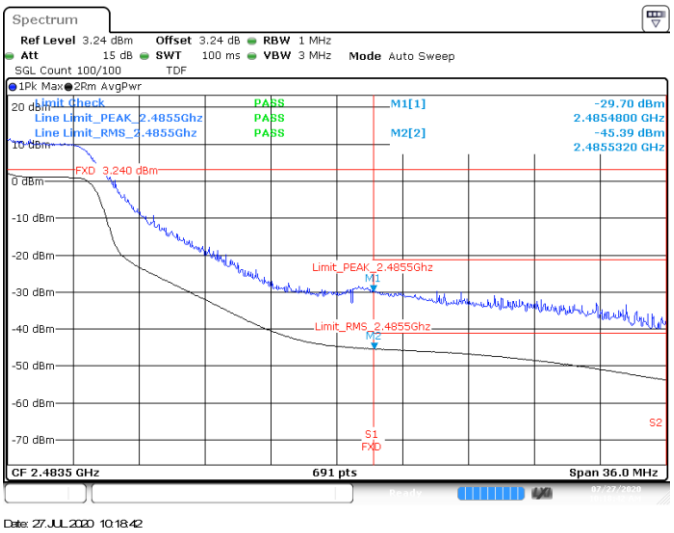


Channel 12 - BE High Freq Section RMS within 2MHz (restricted)

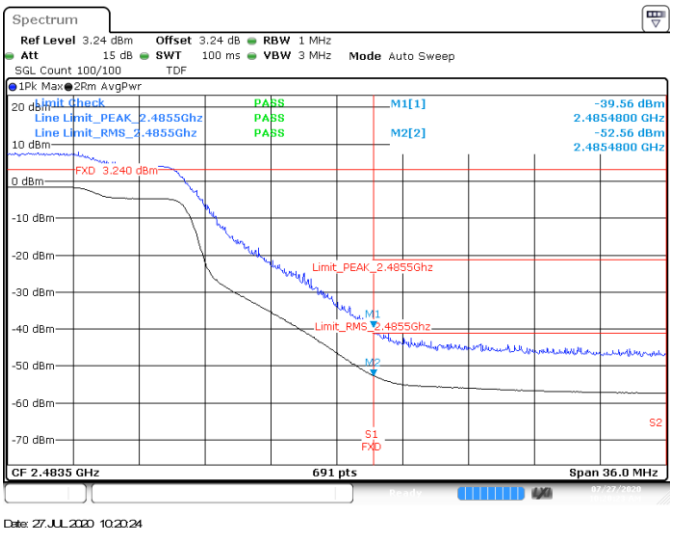


Channel 13 - BE High Freq Section RMS within 2MHz (restricted)

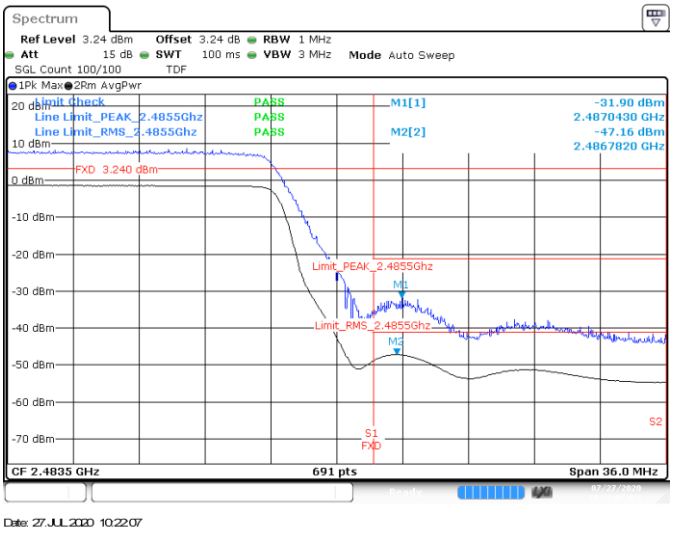
MIMO-A, 802.11n40, HT8



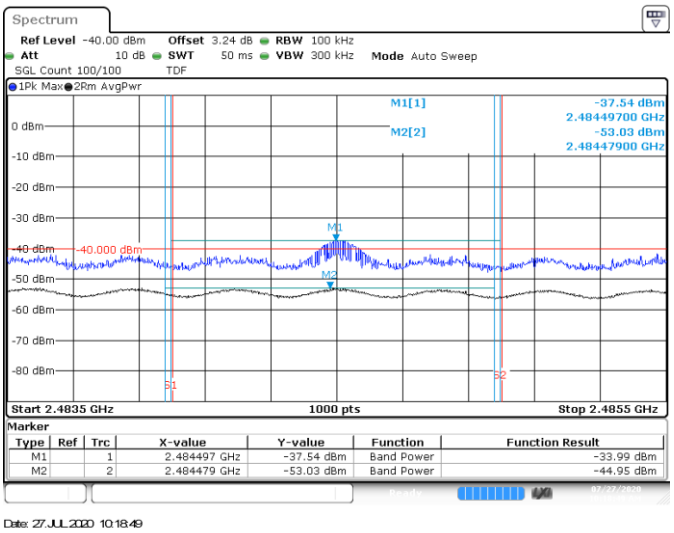
Channel 9F - BE High Freq Section (restricted)



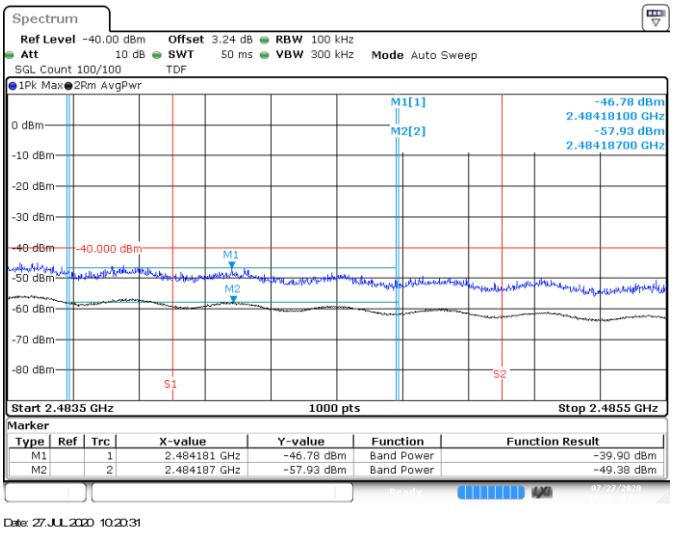
Channel 10F - BE High Freq Section (restricted)



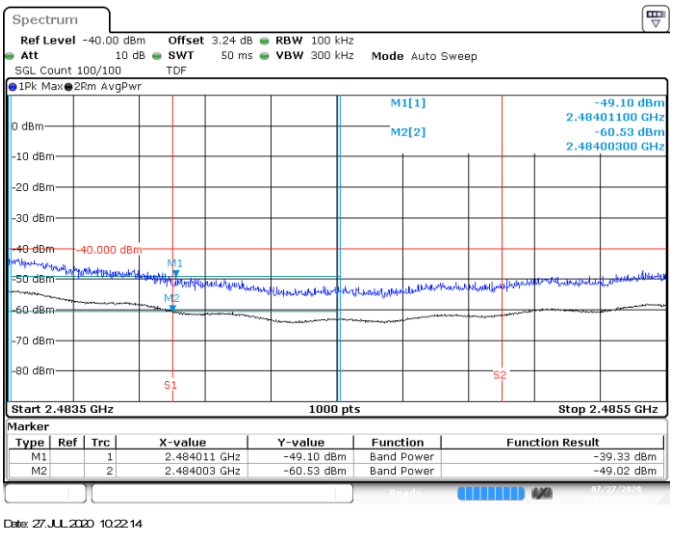
Channel 11F - BE High Freq Section (restricted)



Channel 9F - BE High Freq Section RMS within 2MHz (restricted)

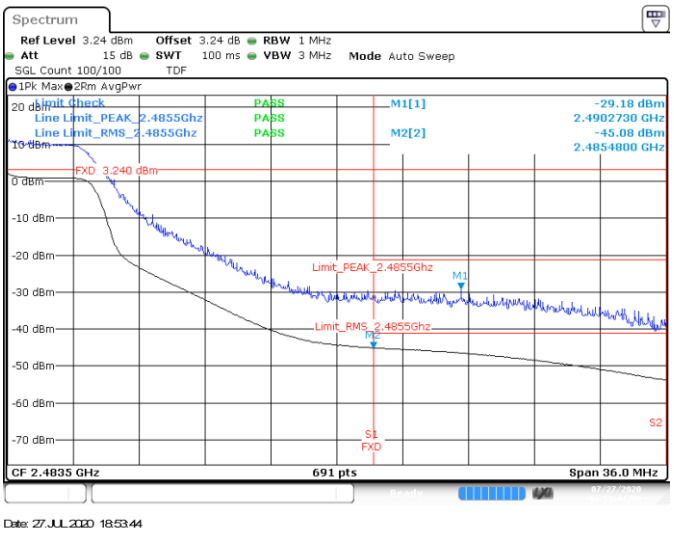


Channel 10F - BE High Freq Section RMS within 2MHz (restricted)

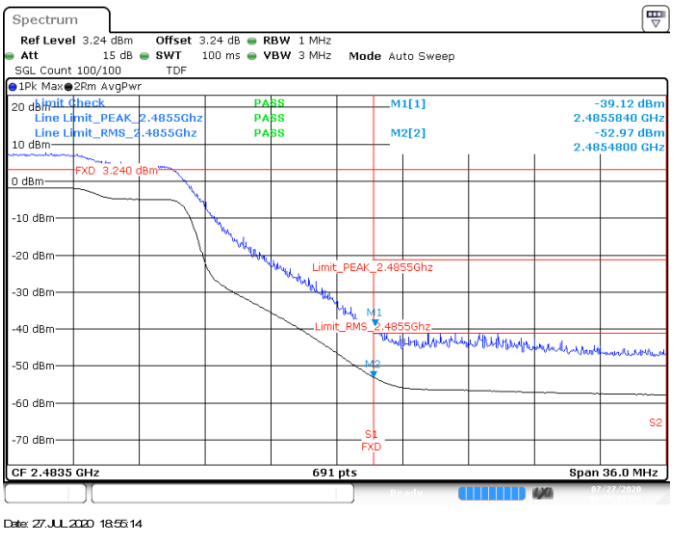


Channel 11F - BE High Freq Section RMS within 2MHz (restricted)

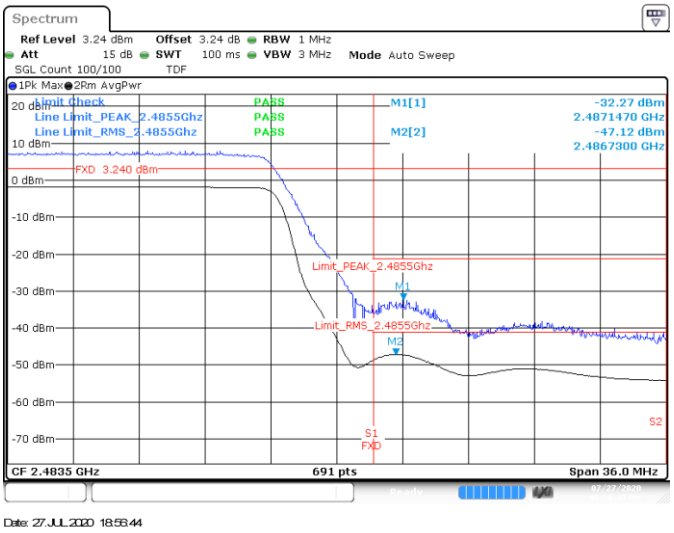
MIMO-B, 802.11n40, HT8



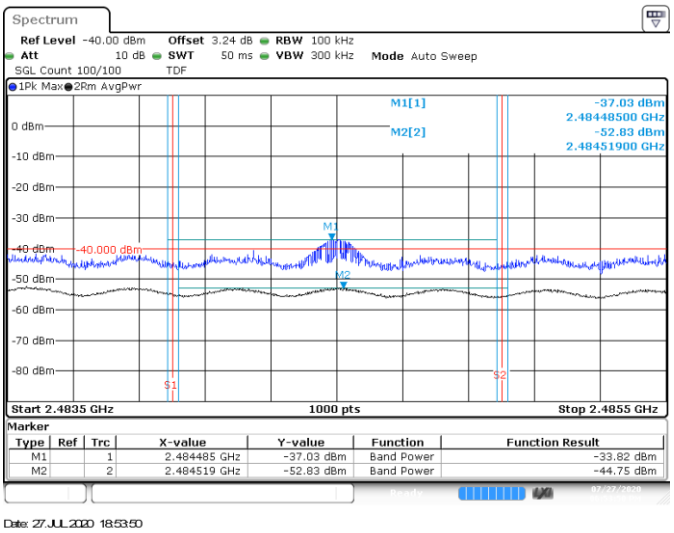
Channel 9F - BE High Freq Section (restricted)



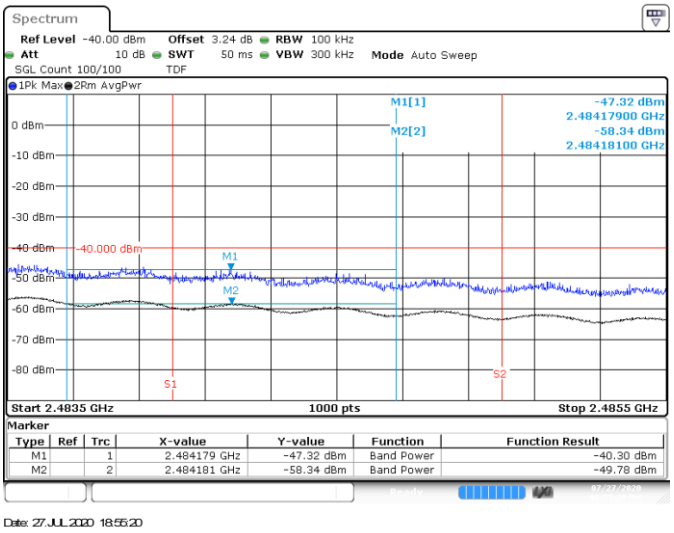
Channel 10F - BE High Freq Section (restricted)



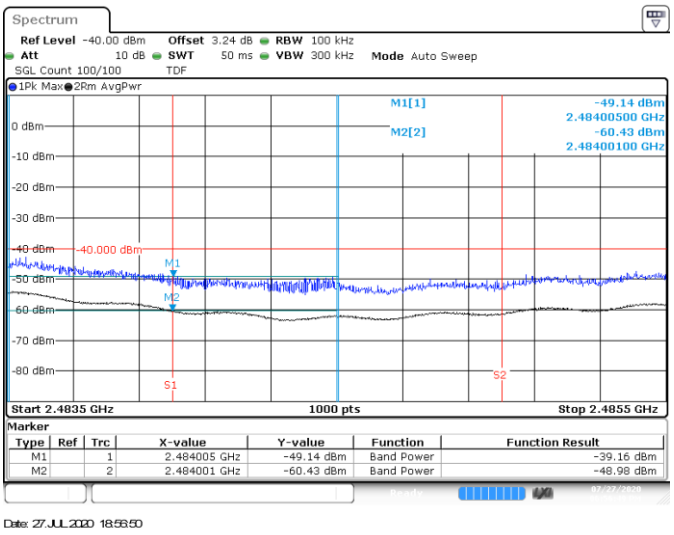
Channel 11F - BE High Freq Section (restricted)



Channel 9F - BE High Freq Section RMS within 2MHz (restricted)

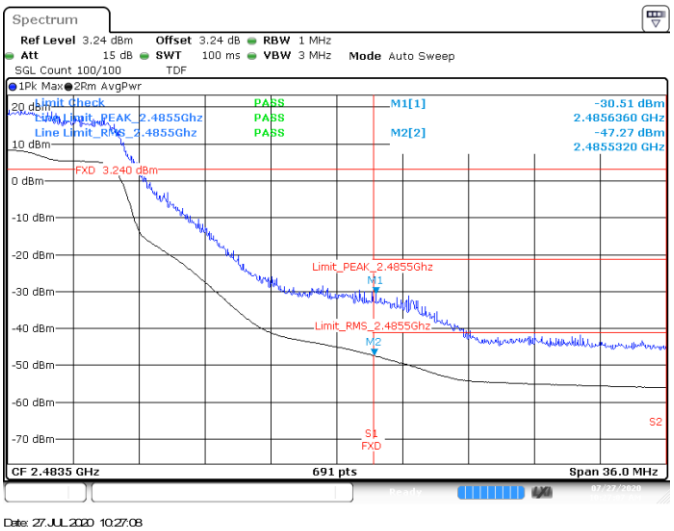


Channel 10F - BE High Freq Section RMS within 2MHz (restricted)

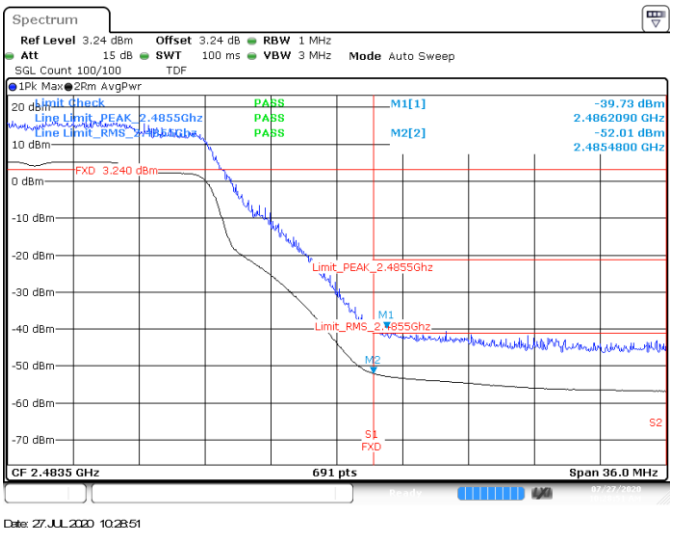


Channel 11F - BE High Freq Section RMS within 2MHz (restricted)

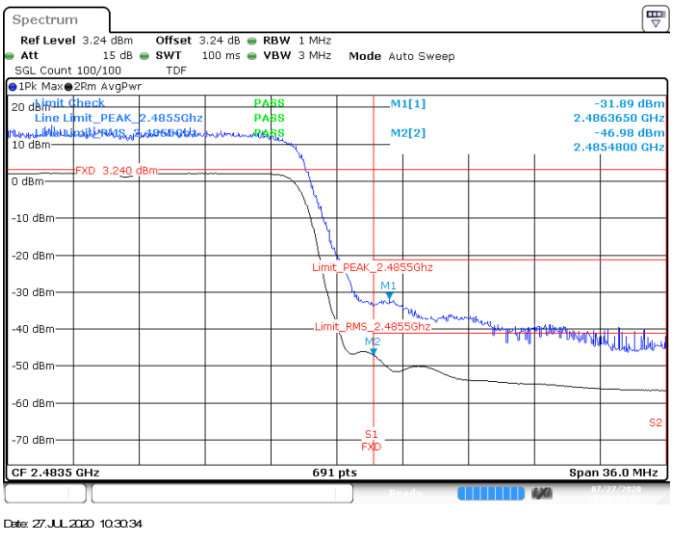
MIMO-A, 802.11ax20, HE0



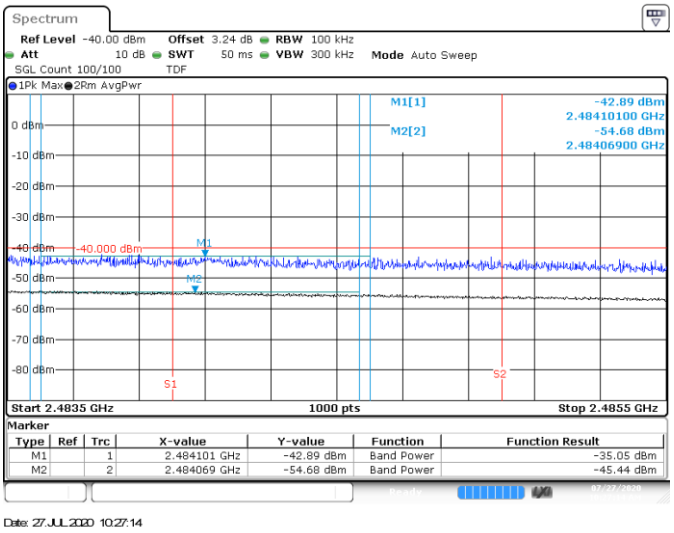
Channel 11 - BE High Freq Section (restricted)



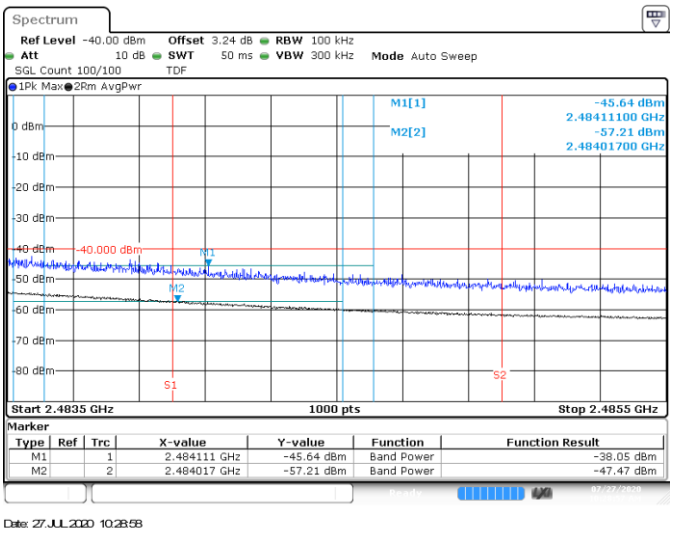
Channel 12 - BE High Freq Section (restricted)



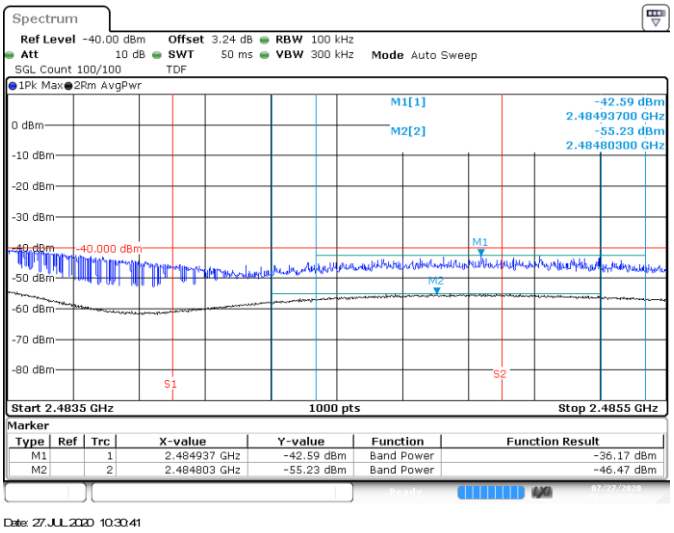
Channel 13 - BE High Freq Section (restricted)



Channel 11 - BE High Freq Section RMS within 2MHz (restricted)

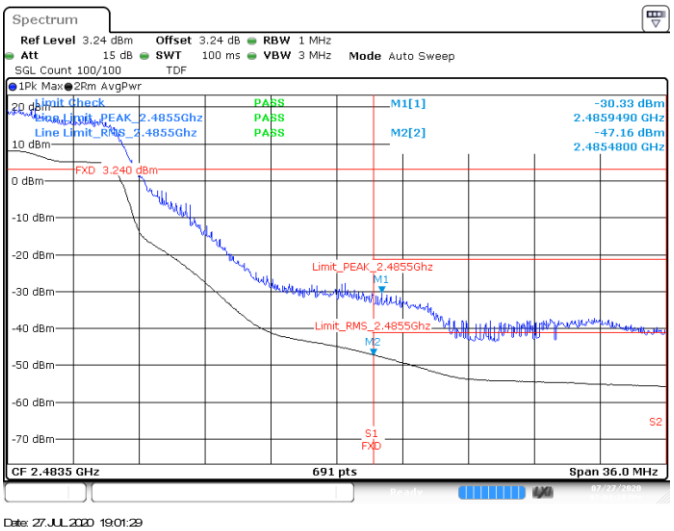


Channel 12 - BE High Freq Section RMS within 2MHz (restricted)

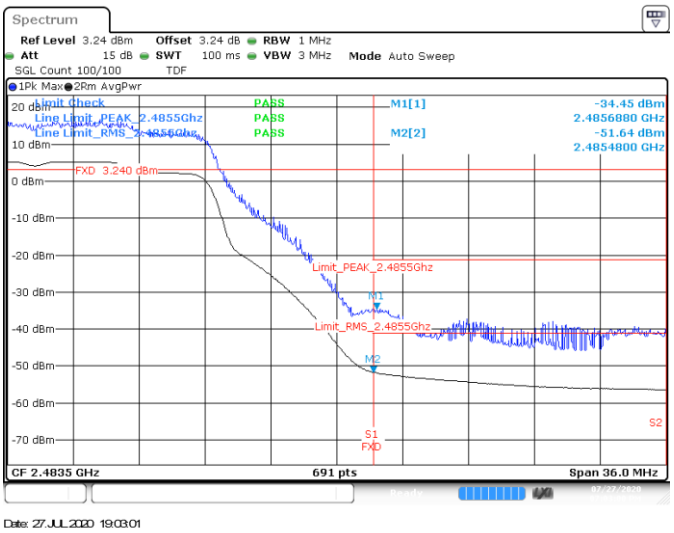


Channel 13 - BE High Freq Section RMS within 2MHz (restricted)

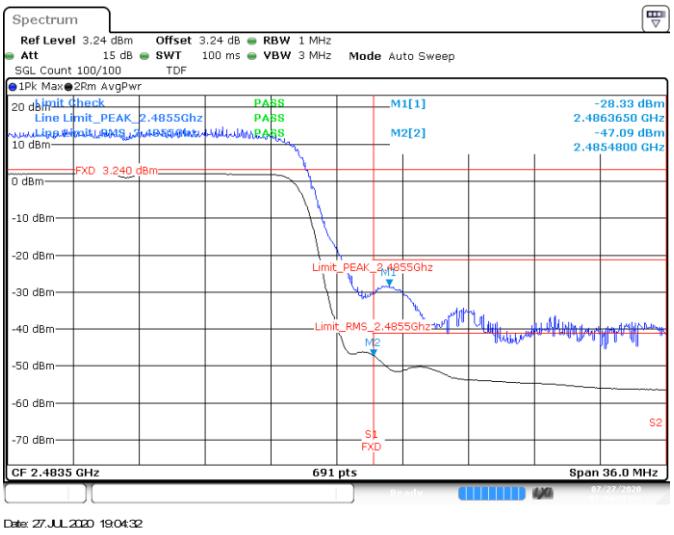
MIMO-B, 802.11ax20, HE0



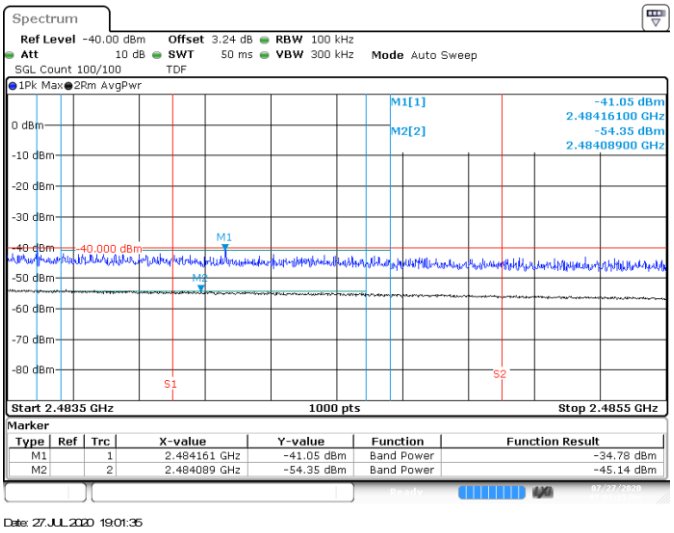
Channel 11 - BE High Freq Section (restricted)



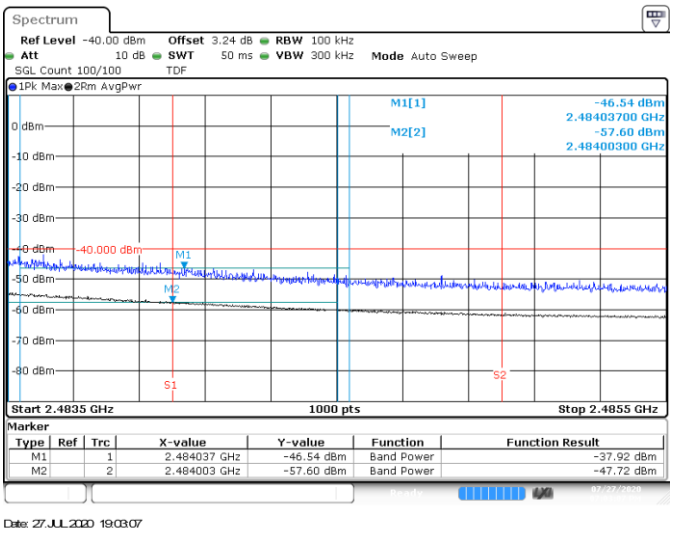
Channel 12 - BE High Freq Section (restricted)



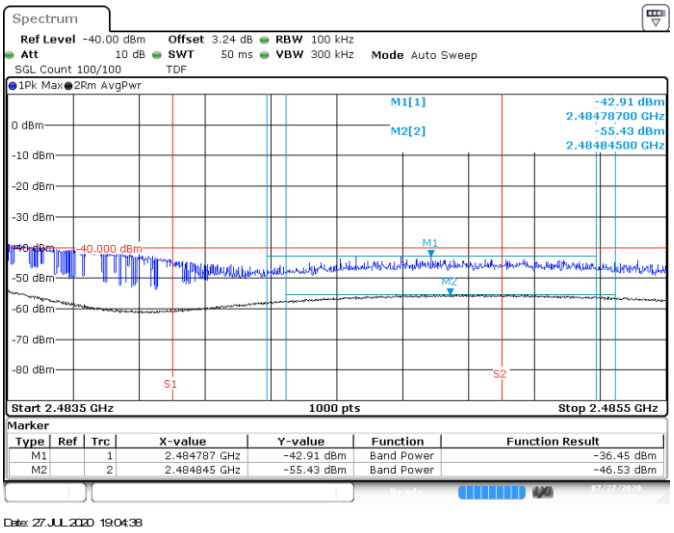
Channel 13 - BE High Freq Section (restricted)



Channel 11 - BE High Freq Section RMS within 2MHz (restricted)

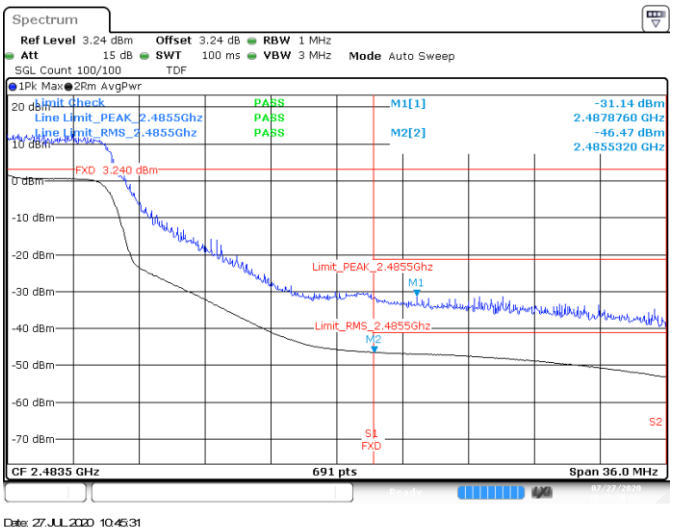


Channel 12 - BE High Freq Section RMS within 2MHz (restricted)

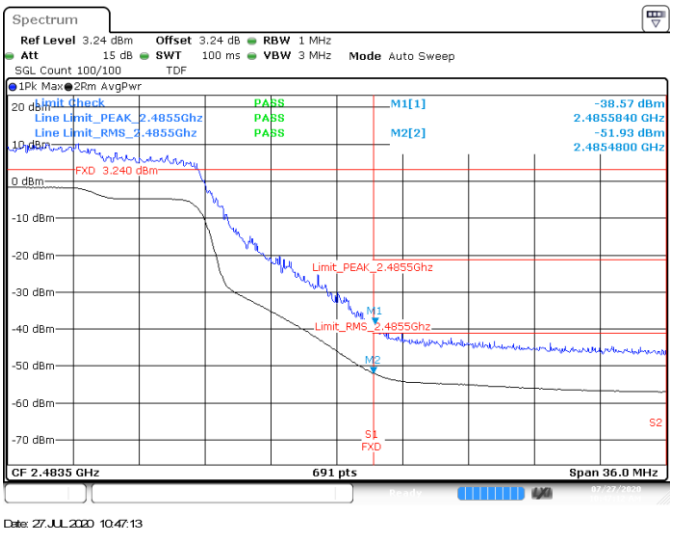


Channel 13 - BE High Freq Section RMS within 2MHz (restricted)

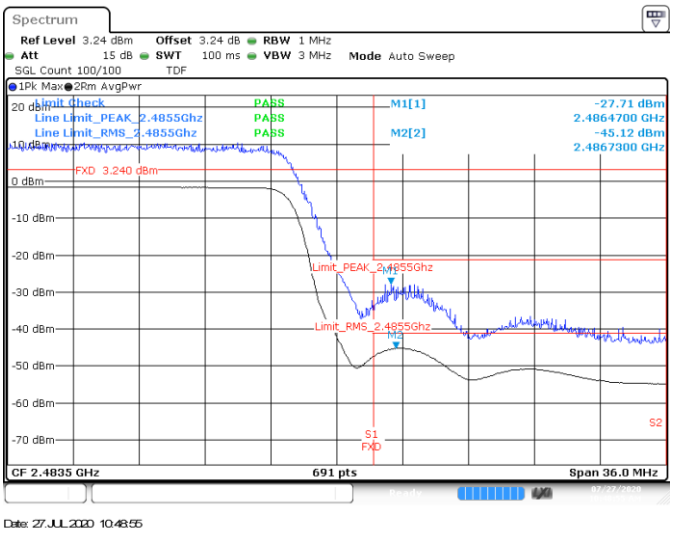
MIMO-A, 802.11ax40, HE0



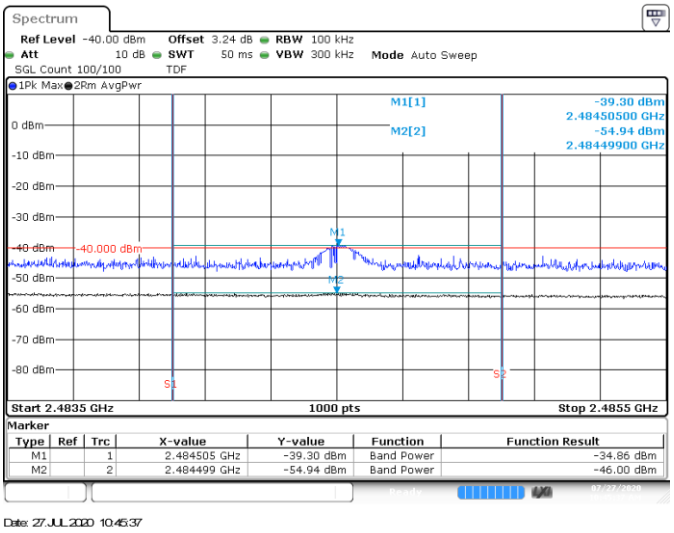
Channel 9F - BE High Freq Section (restricted)



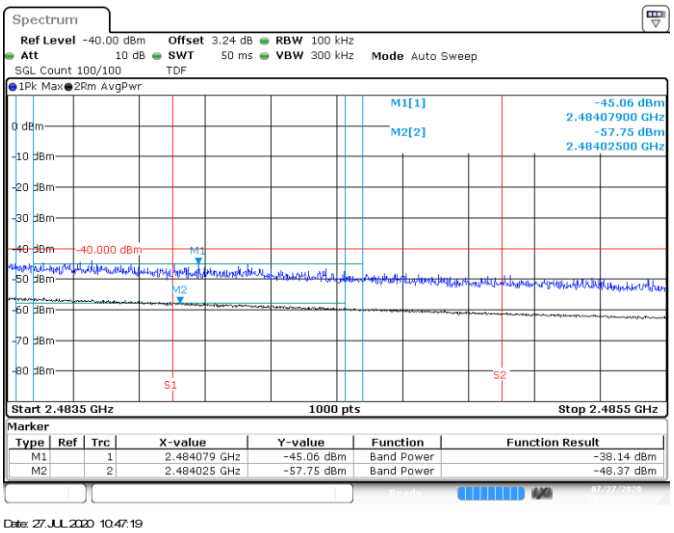
Channel 10F - BE High Freq Section (restricted)



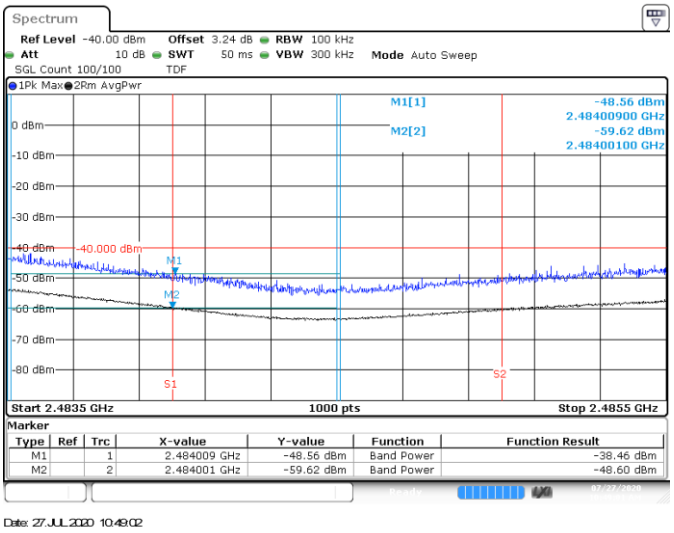
Channel 11F - BE High Freq Section (restricted)



Channel 9F - BE High Freq Section RMS within 2MHz (restricted)

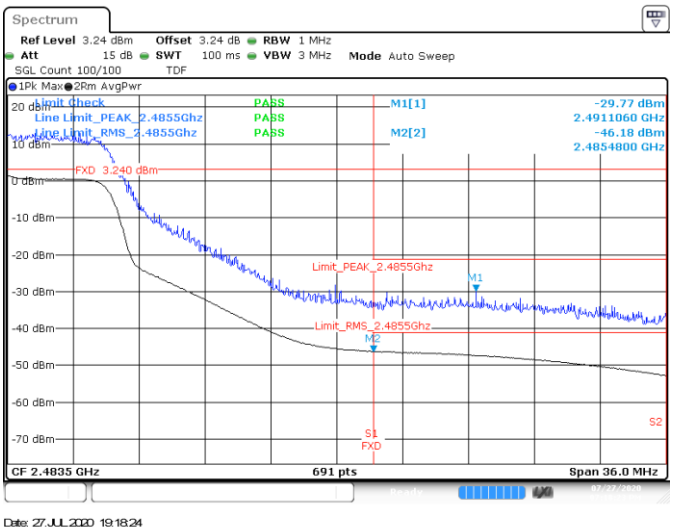


Channel 10F - BE High Freq Section RMS within 2MHz (restricted)

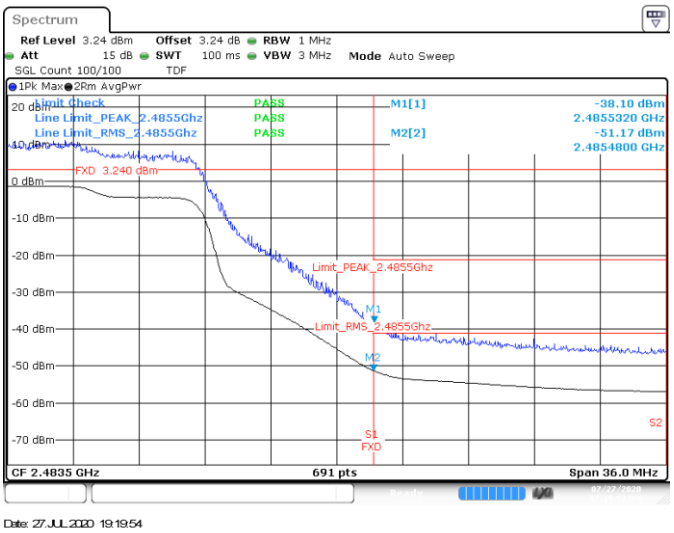


Channel 11F - BE High Freq Section RMS within 2MHz (restricted)

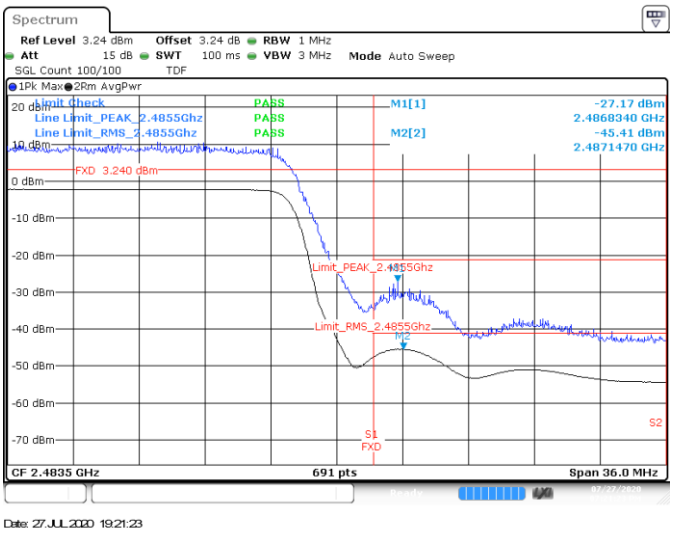
MIMO-B, 802.11ax40, HE0



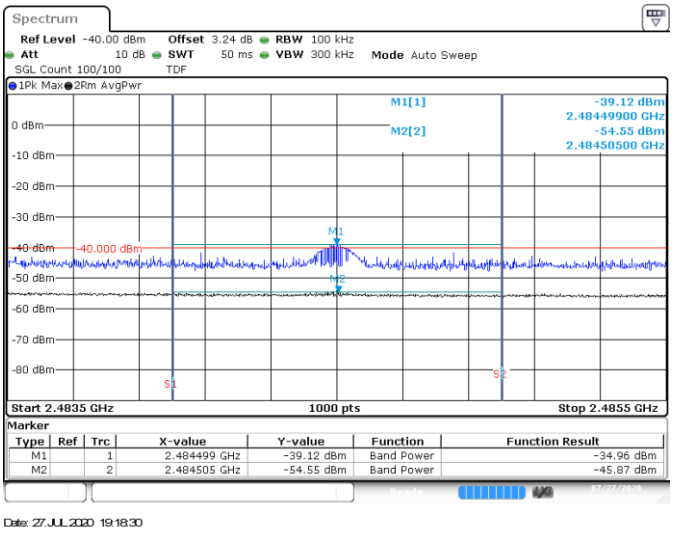
Channel 9F - BE High Freq Section (restricted)



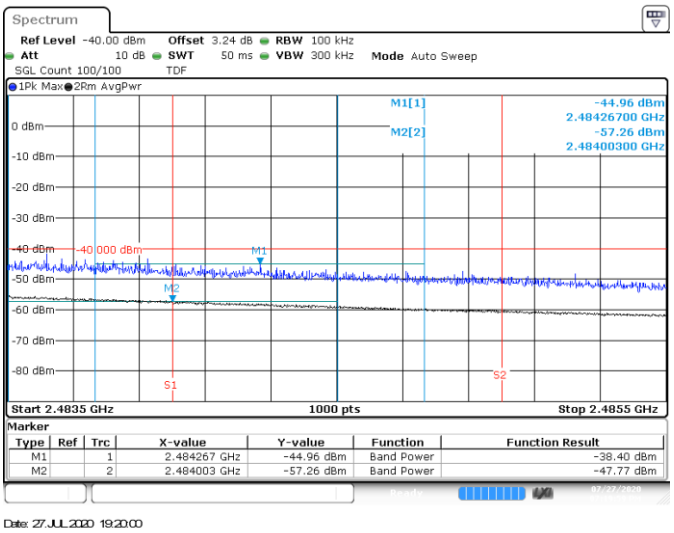
Channel 10F - BE High Freq Section (restricted)



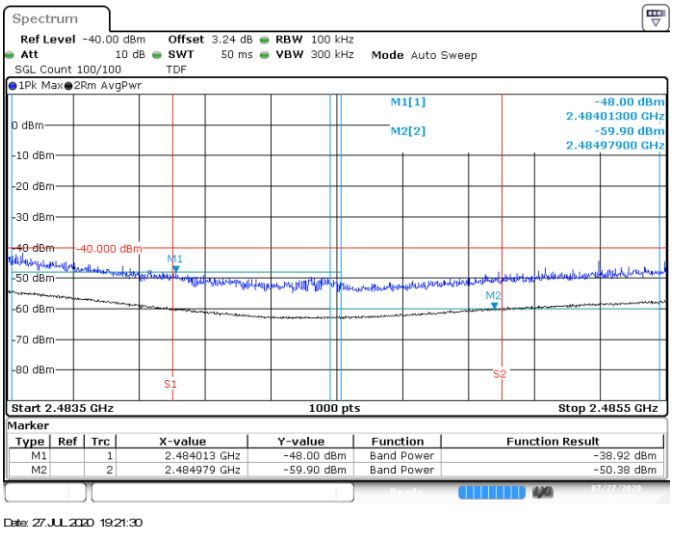
Channel 11F - BE High Freq Section (restricted)



Channel 9F - BE High Freq Section RMS within 2MHz (restricted)



Channel 10F - BE High Freq Section RMS within 2MHz (restricted)



Channel 11F - BE High Freq Section RMS within 2MHz (restricted)

B.4 Test Results BLE

B.4.1 6dB & 99% Bandwidth

Test limits

FCC part	RSS part	Limits
15.247 (a) (2)	RSS-247 Clause 5.2 (a)	Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test procedure

The conducted setup shown in section *Test & System Description* was used to measure the 6dB & 99% Bandwidth. The antenna terminal of the EUT is connected to the spectrum through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.

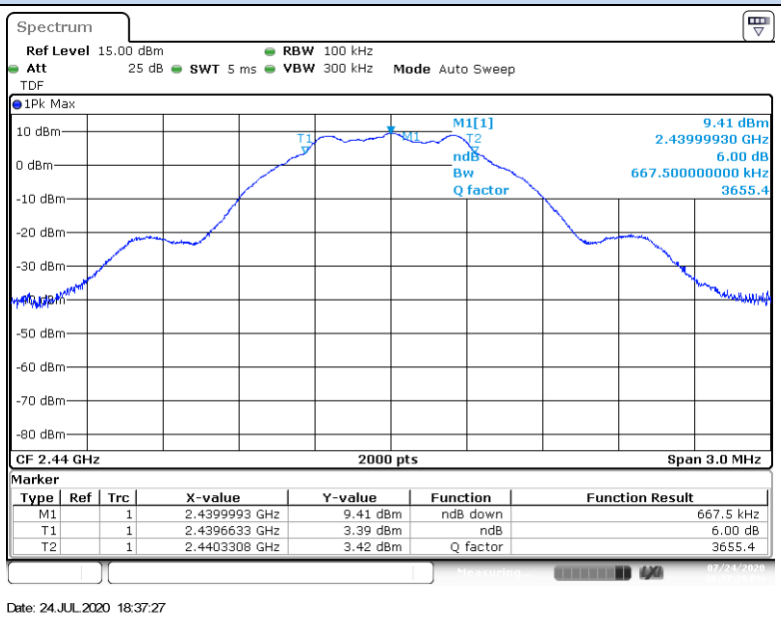
Results tables

Mode	Frequency [MHz]	6dB BW [MHz]	99% BW [MHz]
BLE	2402	0.673	1.16
	2440	0.667	1.16
	2480	0.666	1.16

Max Value

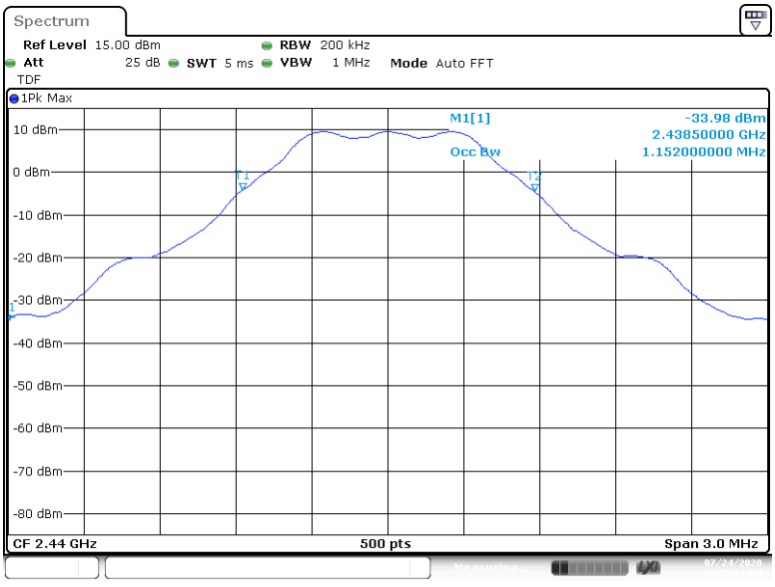
Results screenshot

6dB BW – 2440 MHz



Date: 24.JUL.2020 18:37:27

99% BW – 2440 MHz



Date: 24.JUL.2020 18:35:25

B.4.2 Maximum Output Power and antenna gain

Test limits

	Limits
FCC Part 15.247 (b) (3)	(b) The maximum peak conducted output power of the intentional radiator shall not exceed the following: (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. (4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi.
RSS-247 Clause 5.4 (d)	For DTSs employing digital modulation techniques operating in the bands 902-928 MHz and 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1W. The e.i.r.p. shall not exceed 4 W, except as provided in section 5.4(e). 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

Test procedure:

The Maximum peak conducted output power was measured using the *RBW ≥ DTS bandwidth* method defined in paragraph 11.9.1.1 of ANSI C63.10-2013.

The Maximum conducted average output power was measured using the channel integration method according to Method AVGSA-2, defined in paragraph 11.9.2.2.4 of ANSI C63.10-2013.

The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power. The declared maximum antenna gain is +3.24dBi.

The conducted setup shown in section *Test & System Description* was used to measure the maximum conducted output power. The antenna terminal of the EUT is connected to the spectrum through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.

Results tables

			Peak Power [dBm]		
Mode	Meas. Duty Cycle [%]	Frequency [MHz]	Measured Conducted Output Power	EIRP	Peak Output Power [mW]
BLE	55.23	2402	9.58	12.82	9.08
		2440	9.63	12.87	9.18
		2480	9.97	13.21	9.93

Max Value
Min Value

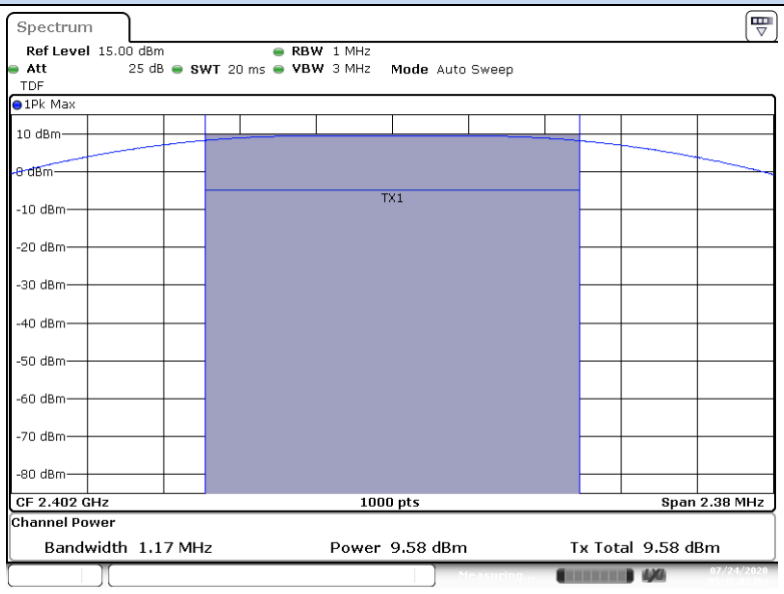
			Average Output Power* [dBm]			
Mode	Meas. Duty Cycle [%]	Frequency [MHz]	Maximum Conducted Output Power	Maximum Conducted Output Power Duty cycle Compensated	EIRP	Average Output Power [mW]
BLE	55.23	2402	7.30	9.88	13.12	9.73
		2440	7.41	9.99	13.23	9.98
		2480	7.74	10.32	13.56	10.76

* Output Power RMS values are shown for indicative purpose only

Results screenshot

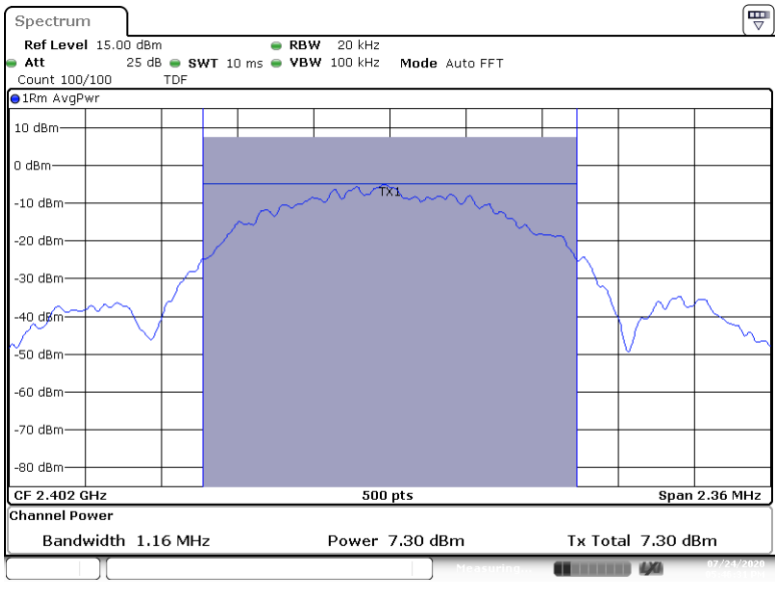
BLE

Max Power Peak – 2402 MHz



Date: 24.JUL.2020 17:48:03

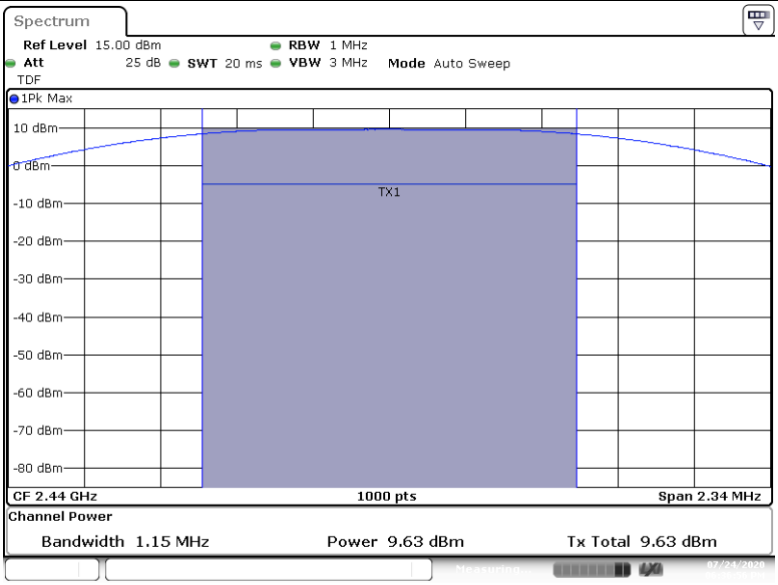
Max Power RMS – 2402 MHz



Date: 24.JUL.2020 17:46:31

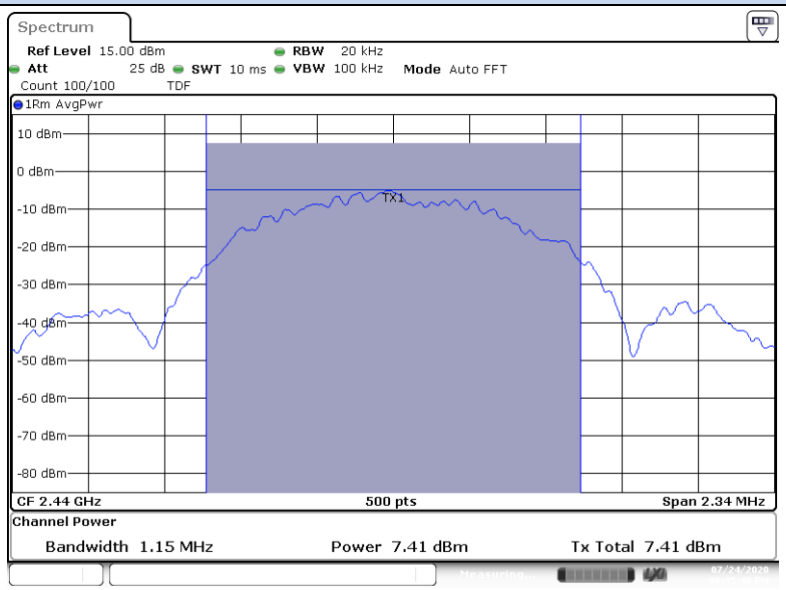
BLE

Max Power Peak – 2440 MHz



Date: 24.JUL.2020 18:36:56

Max Power RMS – 2440 MHz



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