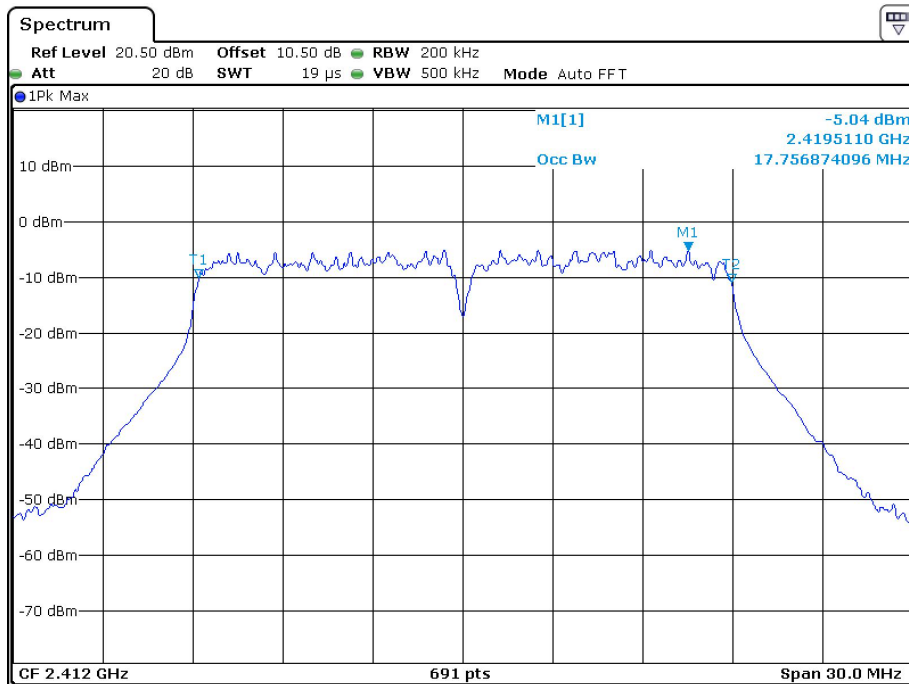
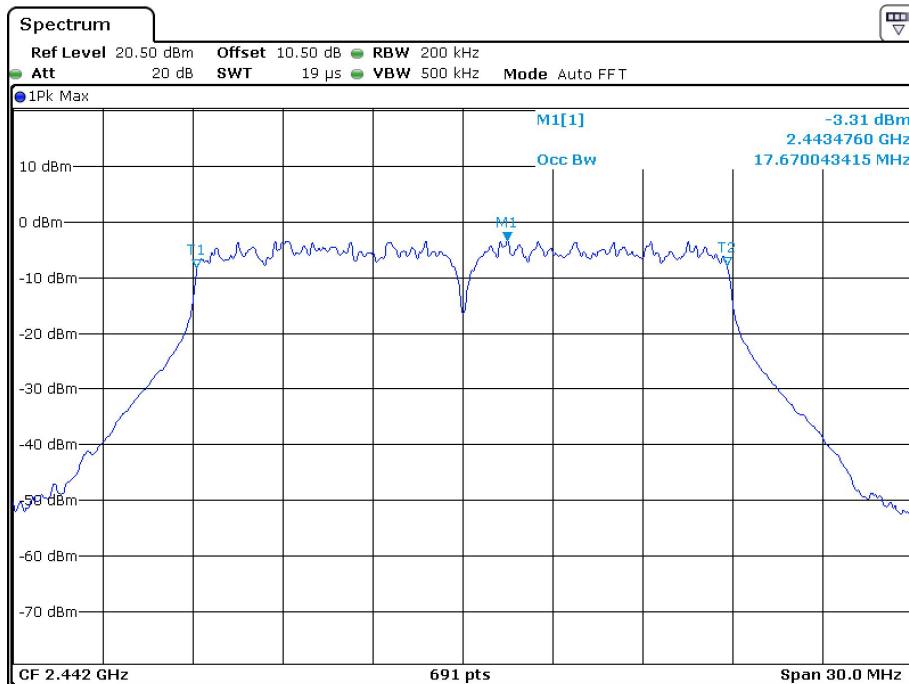


99% Emission Bandwidth, 802.11n-HT20 Low Channel



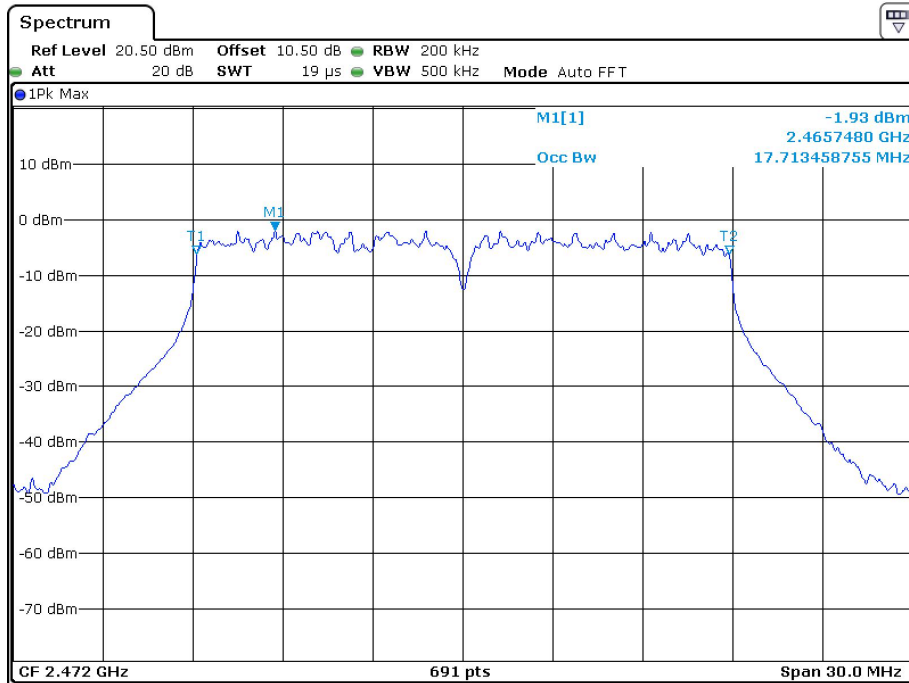
Date: 22.FEB.2022 09:47:41

99% Emission Bandwidth, 802.11n-HT20 Middle Channel



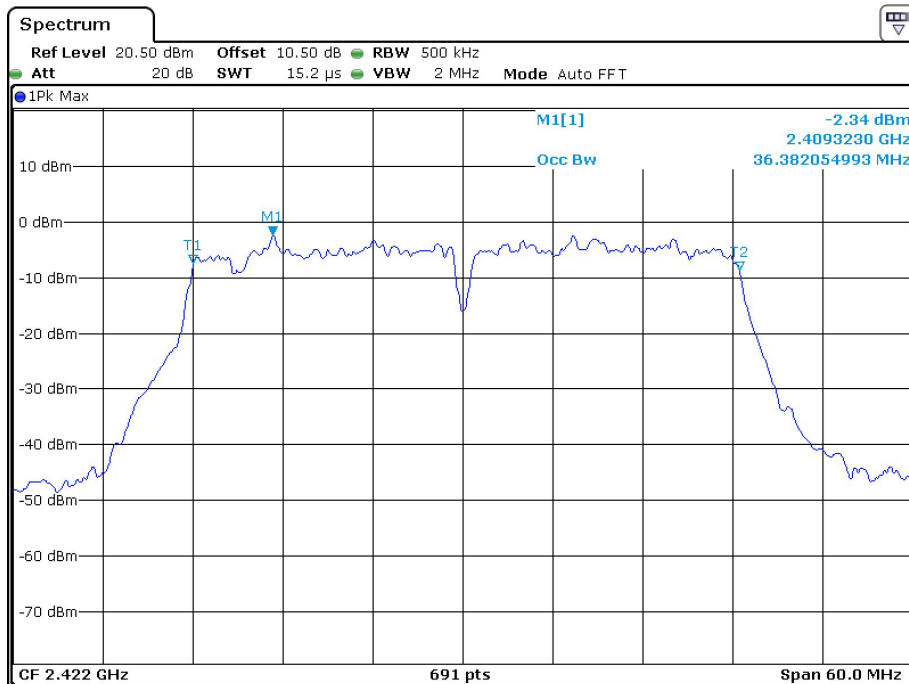
Date: 22.FEB.2022 09:47:16

99% Emission Bandwidth, 802.11n-HT20 High Channel



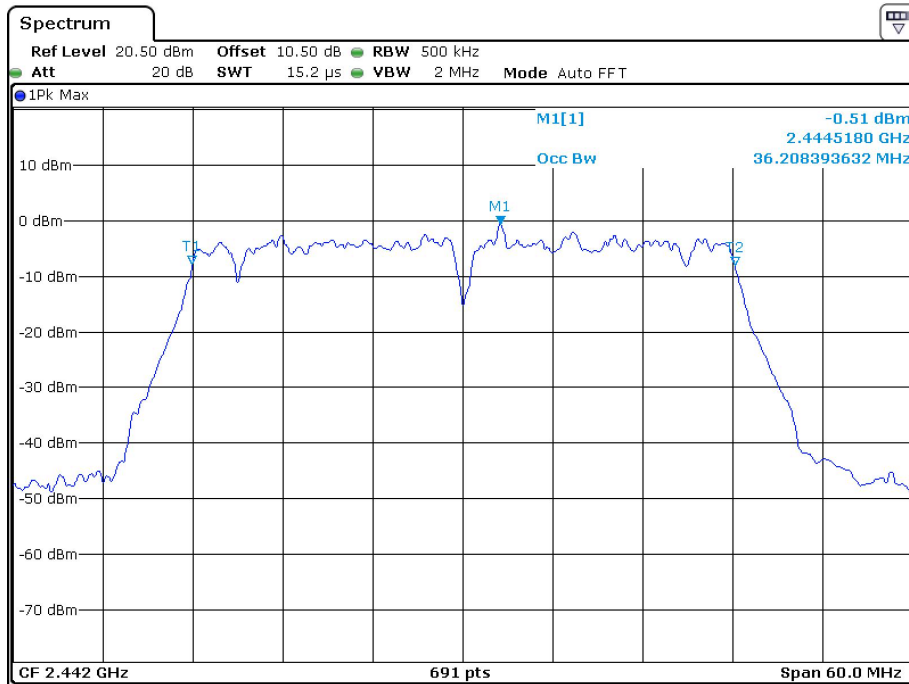
Date: 22.FEB.2022 09:46:56

99% Emission Bandwidth, 802.11n-HT40 Low Channel



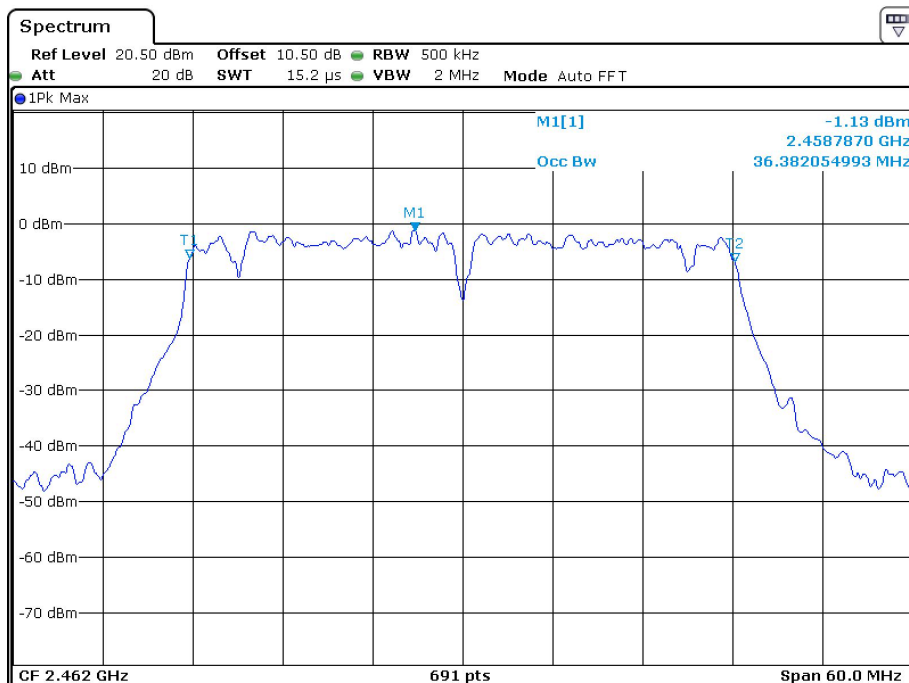
Date: 22.FEB.2022 09:45:06

99% Emission Bandwidth, 802.11n-HT40 Middle Channel



Date: 22.FEB.2022 09:45:31

99% Emission Bandwidth, 802.11n-HT40 High Channel



Date: 22.FEB.2022 09:46:03

§15.247(b)(3) & RSS-247 § 5.4(d) MAXIMUM CONDUCTED OUTPUT POWER

Applicable Standard

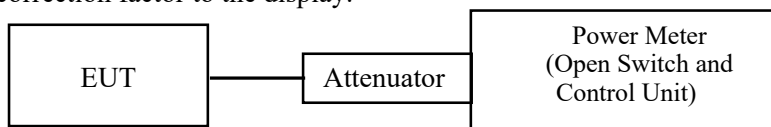
According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted 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. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

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 1 W. 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

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.
3. Add a correction factor to the display.



Note: the open switch and control unit has a built-in power sensor.

Test Data**Environmental Conditions**

Temperature:	20.3 °C
Relative Humidity:	62 %
ATM Pressure:	101.0 kPa

The testing was performed by Key Pei on 2022-02-22.

EUT operation mode: Transmitting

Channel	Frequency (MHz)	Max Conducted Peak Output Power (dBm)	Limit (dBm)
802.11b mode			
Low	2412	11.17	30
Middle	2442	13.40	30
High	2472	13.83	30
802.11g mode			
Low	2412	16.46	30
Middle	2442	16.82	30
High	2472	18.19	30
802.11n HT20 mode			
Low	2412	13.30	30
Middle	2442	15.14	30
High	2472	16.28	30
802.11n HT40 mode			
Low	2422	14.06	30
Middle	2442	16.27	30
High	2462	15.84	30

Note: the antenna gain is 0dBi, the maximum EIRP=18.19dBm+2dBi=20.19dBm<36dBm, so it's compliance with EIRP limit of ISED.

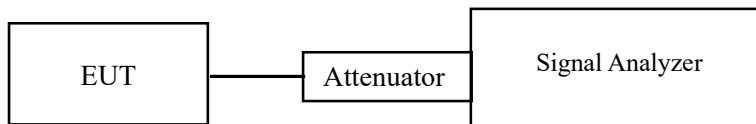
§ 15.247(d) & RSS-247 § 5.5 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

Applicable Standard

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. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. 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.
4. 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.
5. Repeat above procedures until all measured frequencies were complete.



Test Data

Environmental Conditions

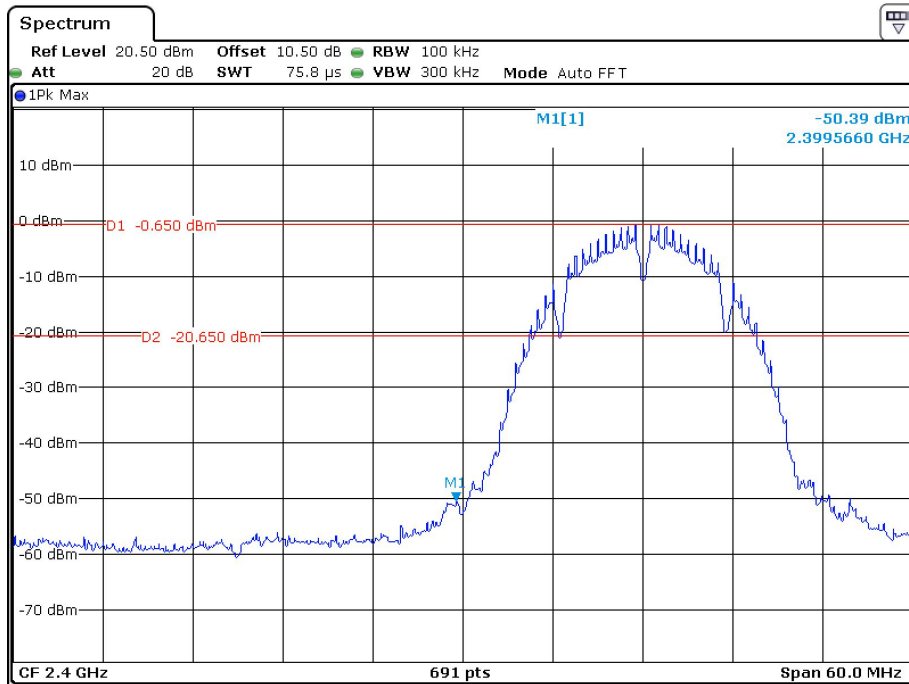
Temperature:	20.3 °C
Relative Humidity:	62 %
ATM Pressure:	101.0 kPa

The testing was performed by Key Pei on 2022-02-22.

EUT operation mode: Transmitting

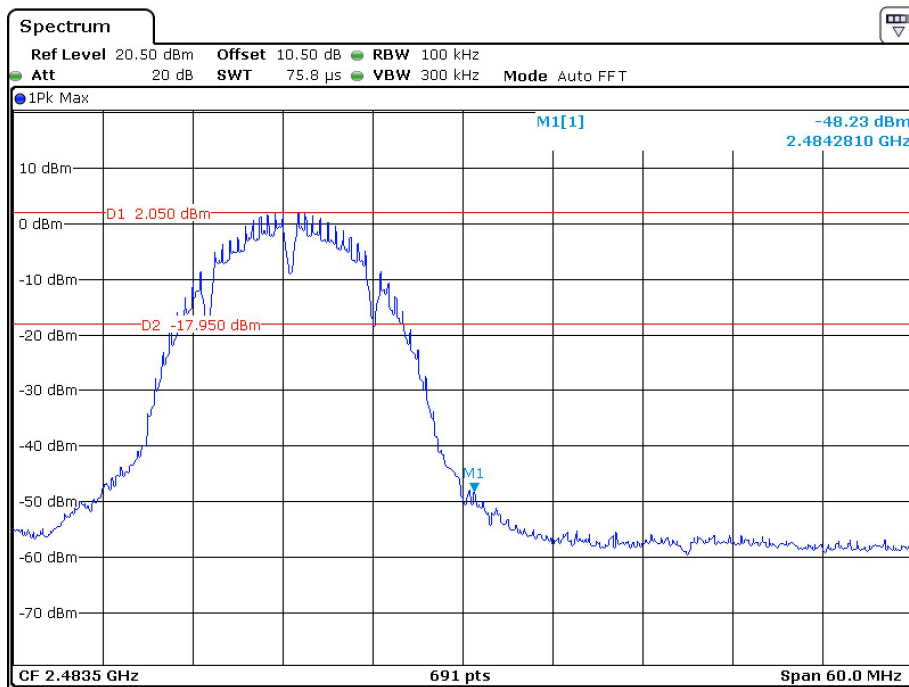
Test Result: Pass

802.11b: Band Edge, Left Side



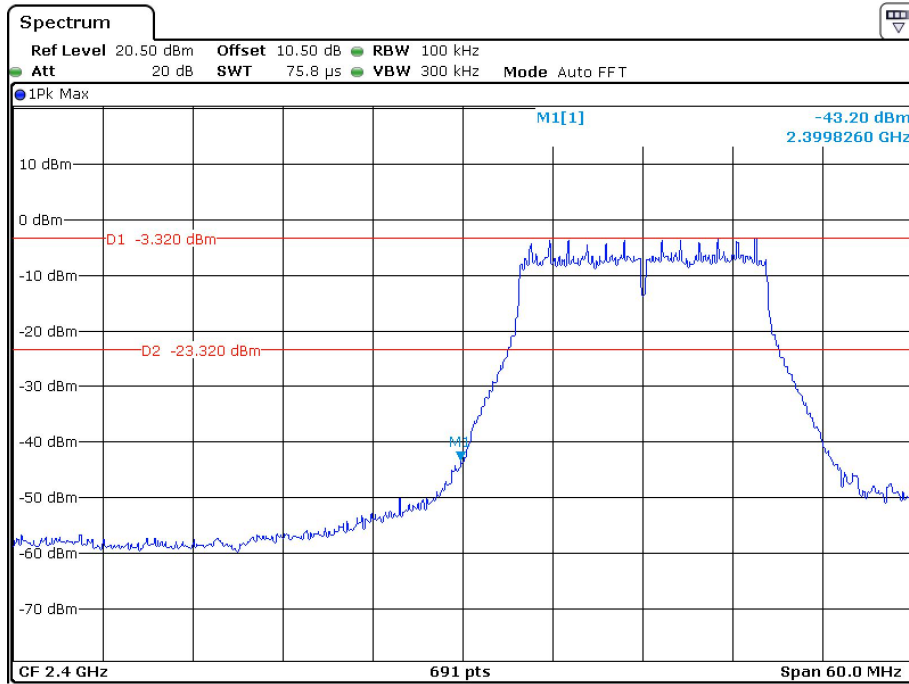
Date: 22.FEB.2022 10:27:54

802.11b: Band Edge, Right Side



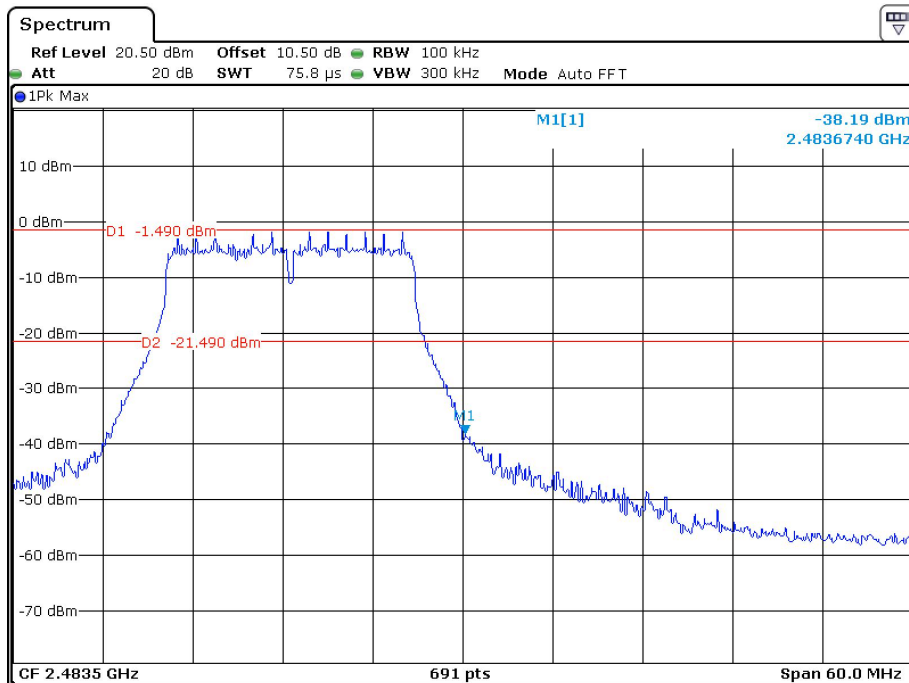
Date: 22.FEB.2022 10:32:31

802.11g: Band Edge, Left Side



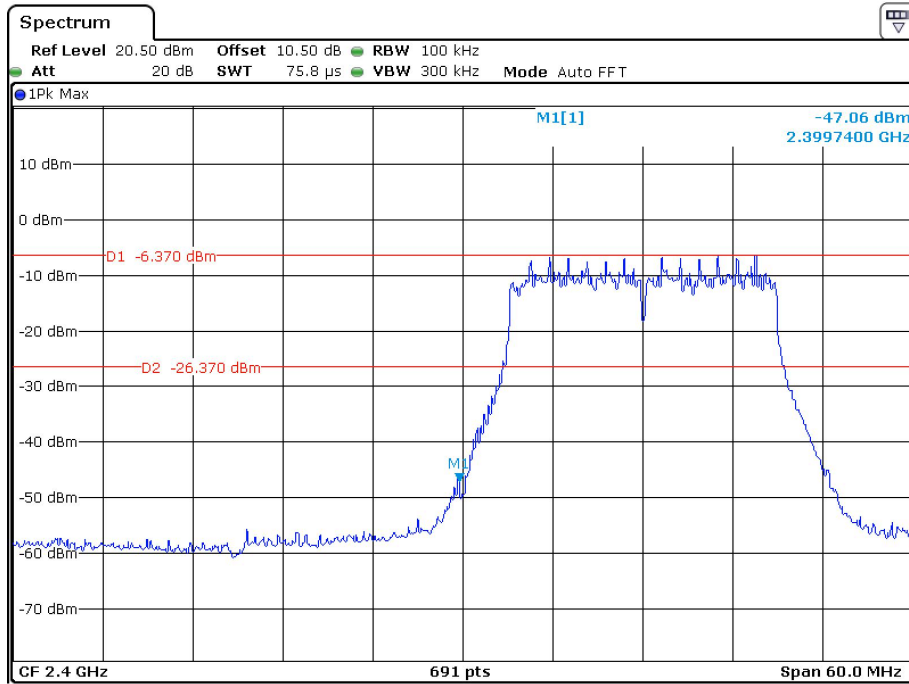
Date: 22.FEB.2022 10:28:35

802.11g: Band Edge, Right Side



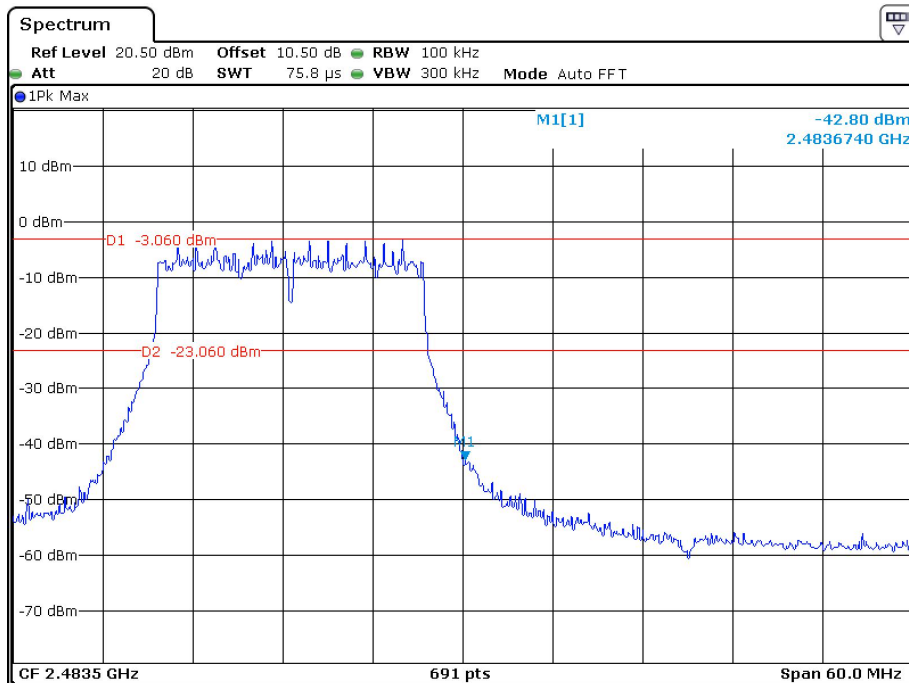
Date: 22.FEB.2022 10:31:55

802.11n-HT20: Band Edge, Left Side



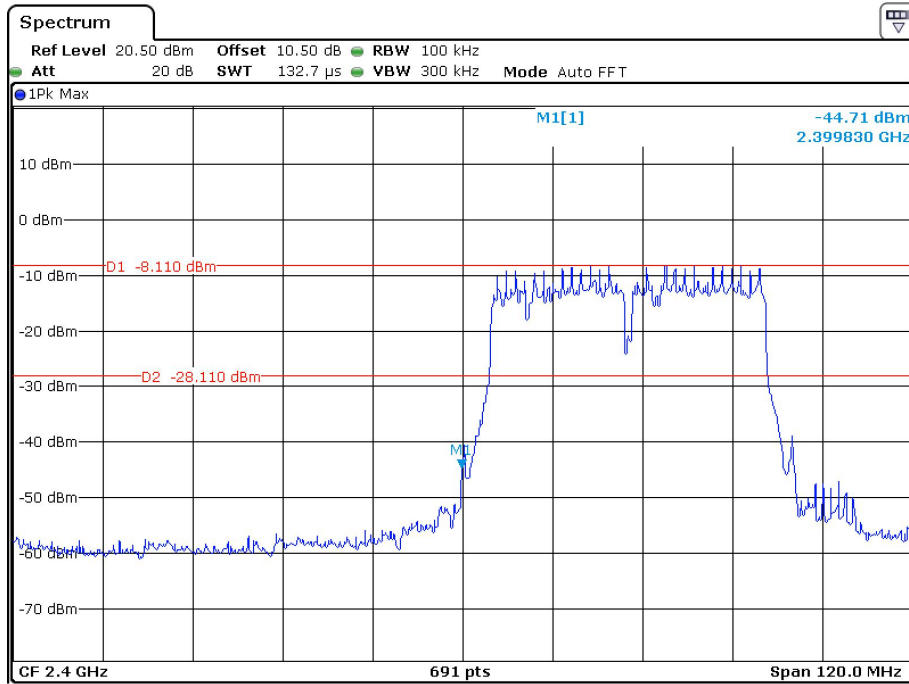
Date: 22.FEB.2022 10:29:20

802.11n-HT20: Band Edge, Right Side



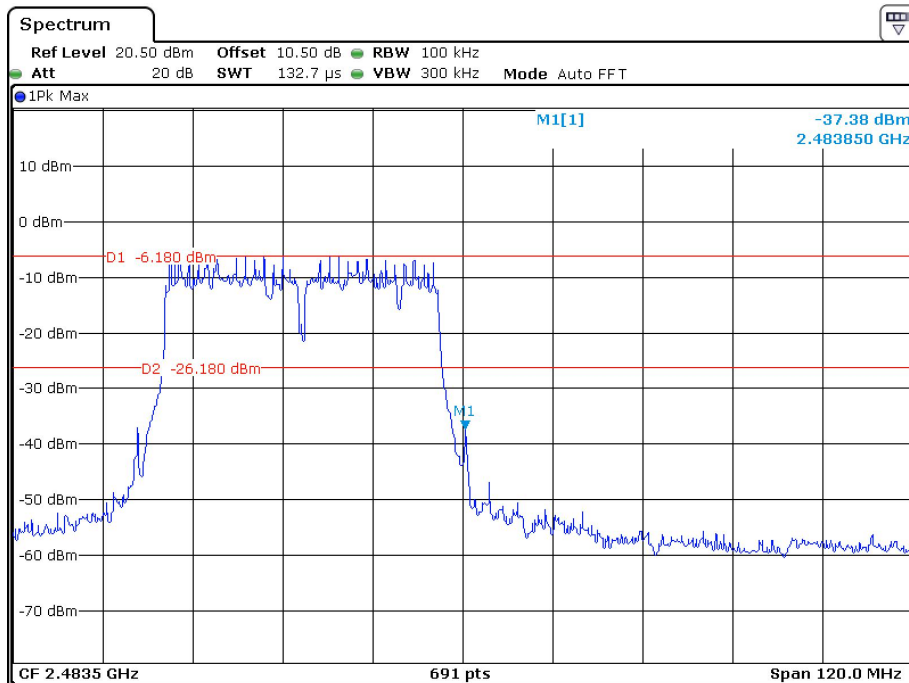
Date: 22.FEB.2022 10:31:22

802.11n-HT40: Band Edge, Left Side



Date: 22.FEB.2022 10:30:06

802.11n-HT40: Band Edge, Right Side



Date: 22.FEB.2022 10:30:42

§15.247(e) & RSS-247 § 5.2 (b) POWER SPECTRAL DENSITY

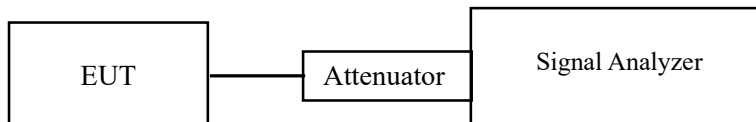
Applicable Standard

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of section 5.4(d), (i.e. the power spectral density shall be determined using the same method as is used to determine the conducted output power).

Test Procedure

1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
2. Set the RBW to: $3\text{kHz} \leq \text{RBW} \leq 100\text{ kHz}$.
3. Set the VBW $\geq 3 \times \text{RBW}$.
4. Set the span to 1.5 times the DTS bandwidth.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.



Test Data

Environmental Conditions

Temperature:	20.3 °C
Relative Humidity:	62 %
ATM Pressure:	101.0 kPa

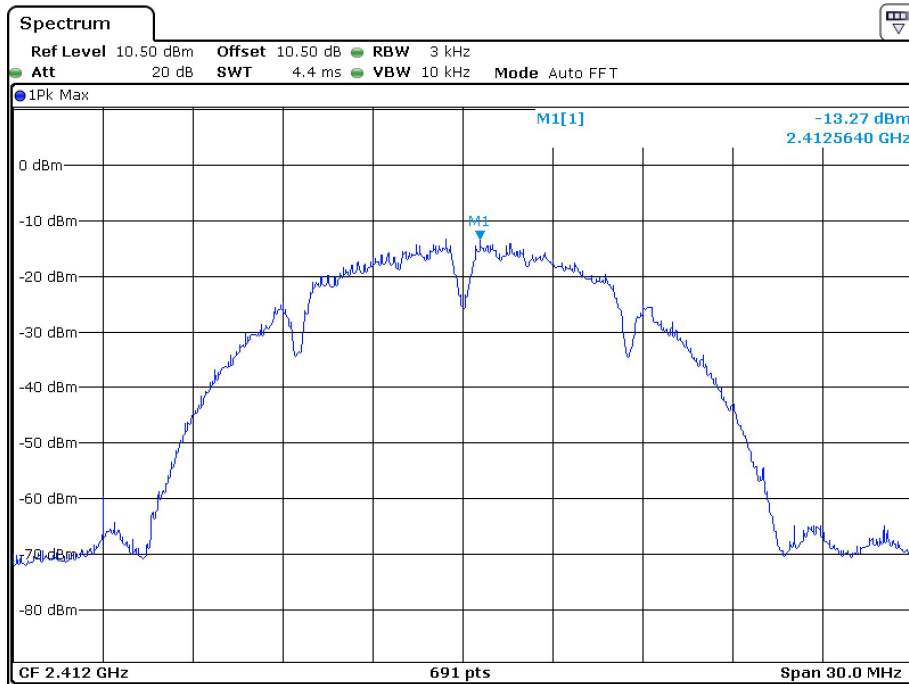
The testing was performed by Key Pei on 2022-02-22.

EUT operation mode: Transmitting

Test Result: Pass

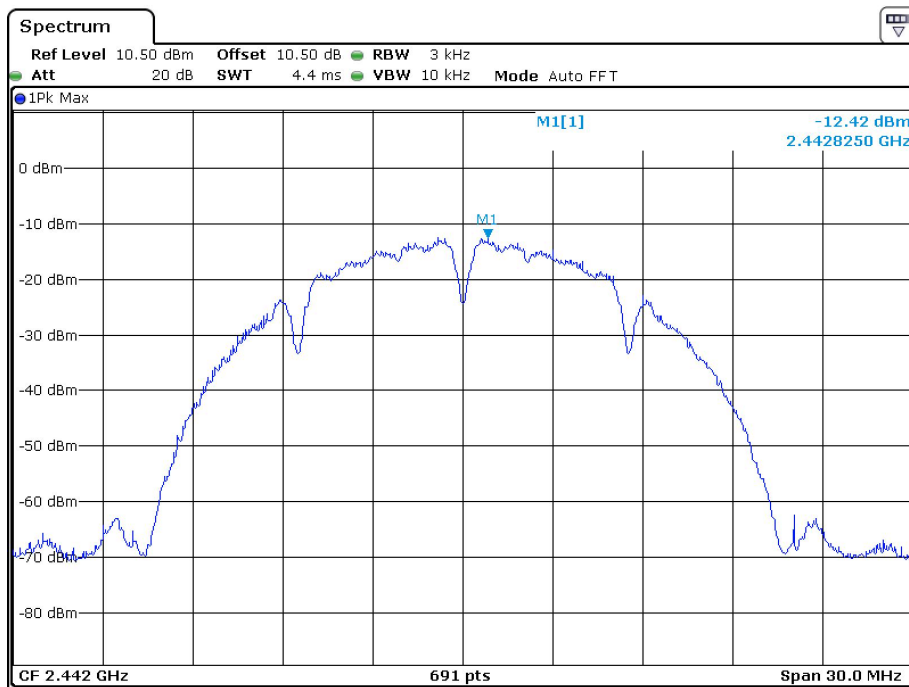
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)
802.11b mode			
Low	2412	-13.27	≤ 8
Middle	2442	-12.42	≤ 8
High	2472	-11.14	≤ 8
802.11g mode			
Low	2412	-16.43	≤ 8
Middle	2442	-15.44	≤ 8
High	2472	-13.00	≤ 8
802.11n-HT20 mode			
Low	2412	-20.71	≤ 8
Middle	2442	-19.52	≤ 8
High	2472	-19.38	≤ 8
802.11n-HT40 mode			
Low	2422	-25.05	≤ 8
Middle	2442	-21.48	≤ 8
High	2462	-22.36	≤ 8

Power Spectral Density, 802.11b Low Channel



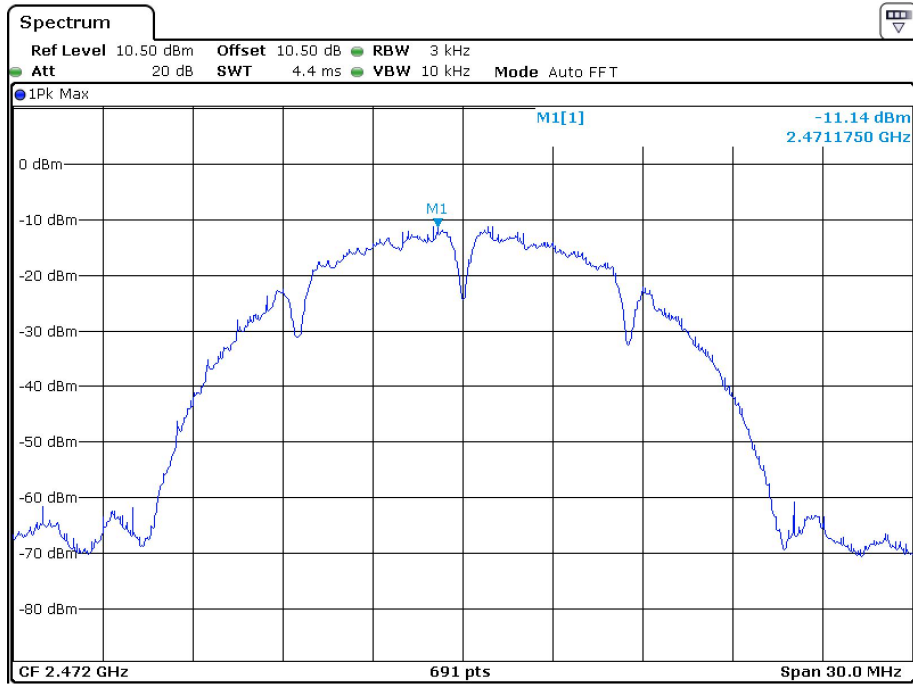
Date: 22.FEB.2022 10:26:48

Power Spectral Density, 802.11b Middle Channel



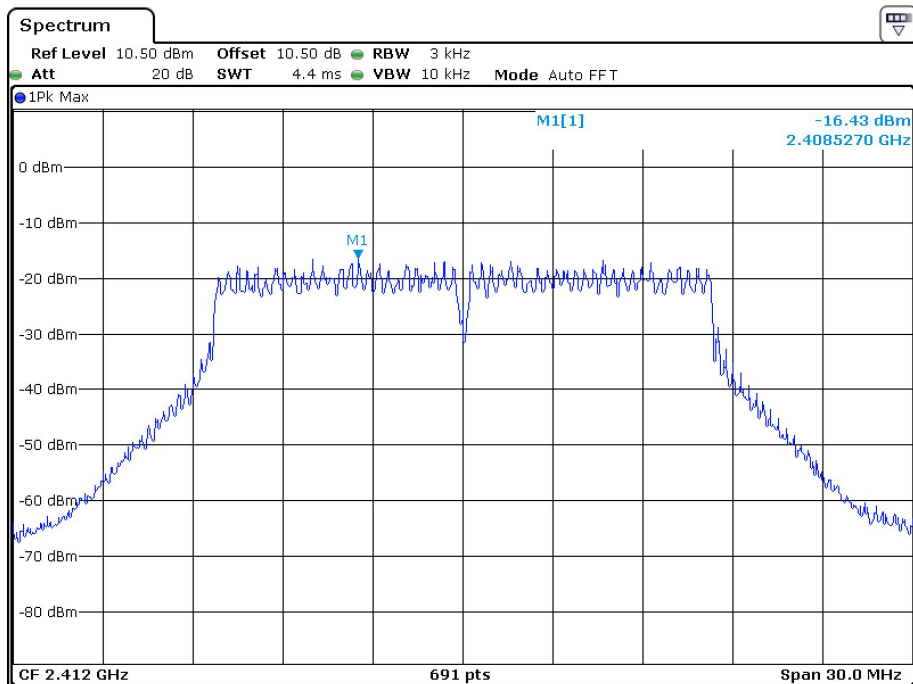
Date: 22.FEB.2022 10:26:29

Power Spectral Density, 802.11b High Channel



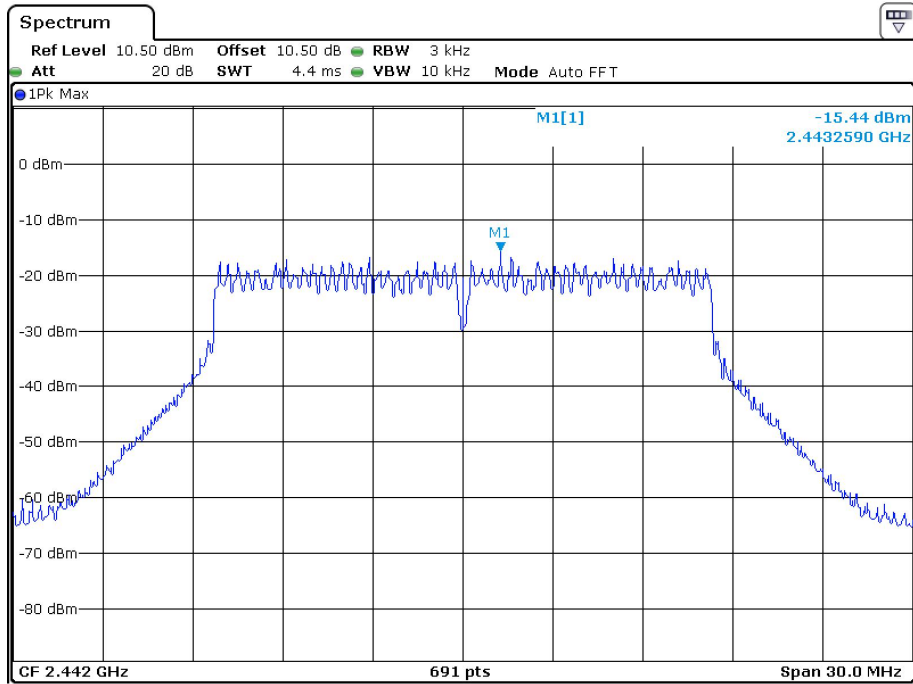
Date: 22.FEB.2022 10:26:06

Power Spectral Density, 802.11g Low Channel



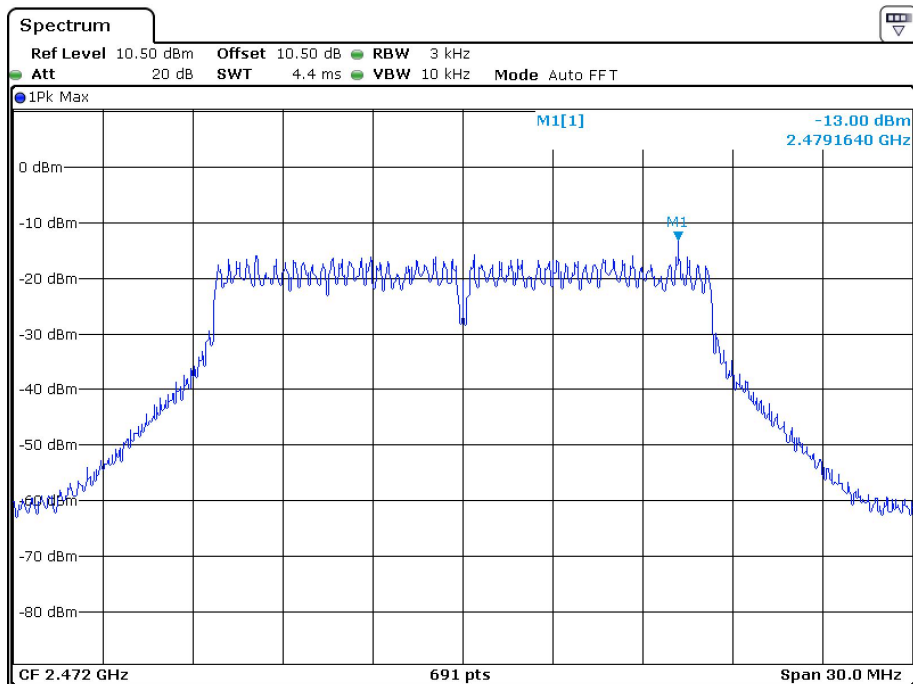
Date: 22.FEB.2022 10:24:45

Power Spectral Density, 802.11g Middle Channel



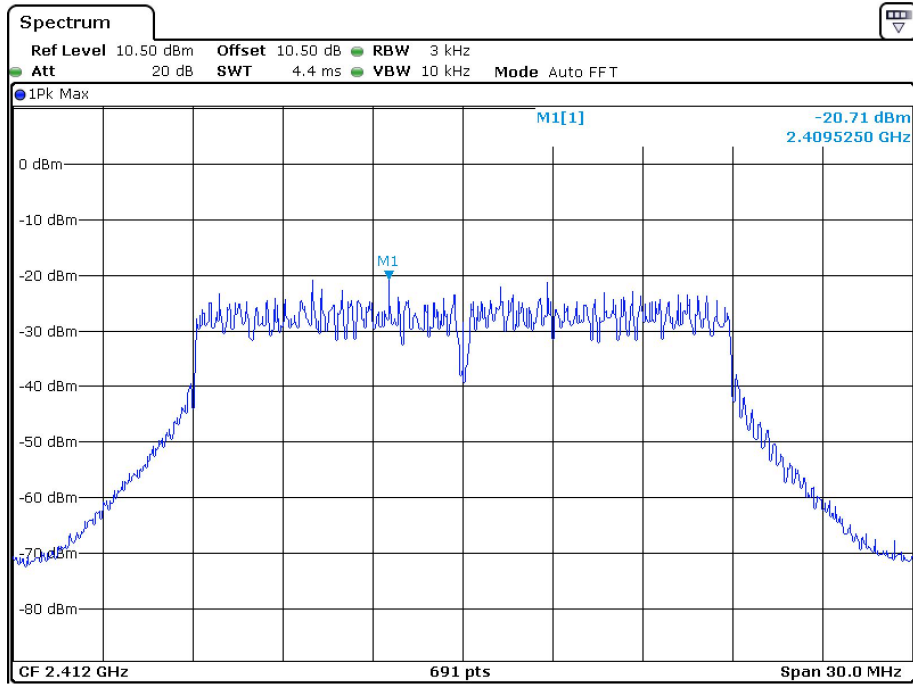
Date: 22.FEB.2022 10:25:00

Power Spectral Density, 802.11g High Channel



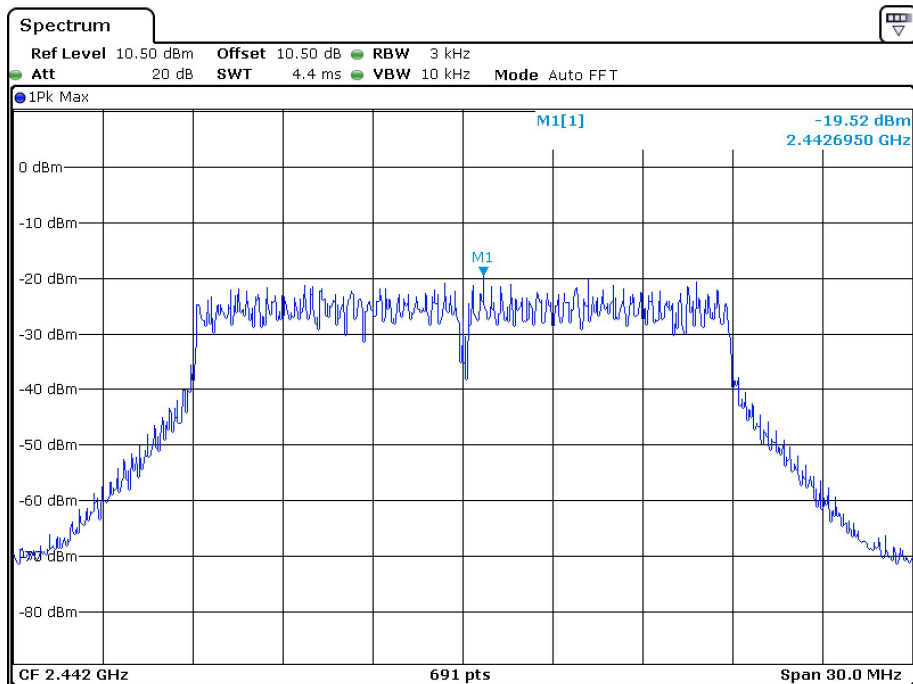
Date: 22.FEB.2022 10:25:16

Power Spectral Density, 802.11n-HT20 Low Channel



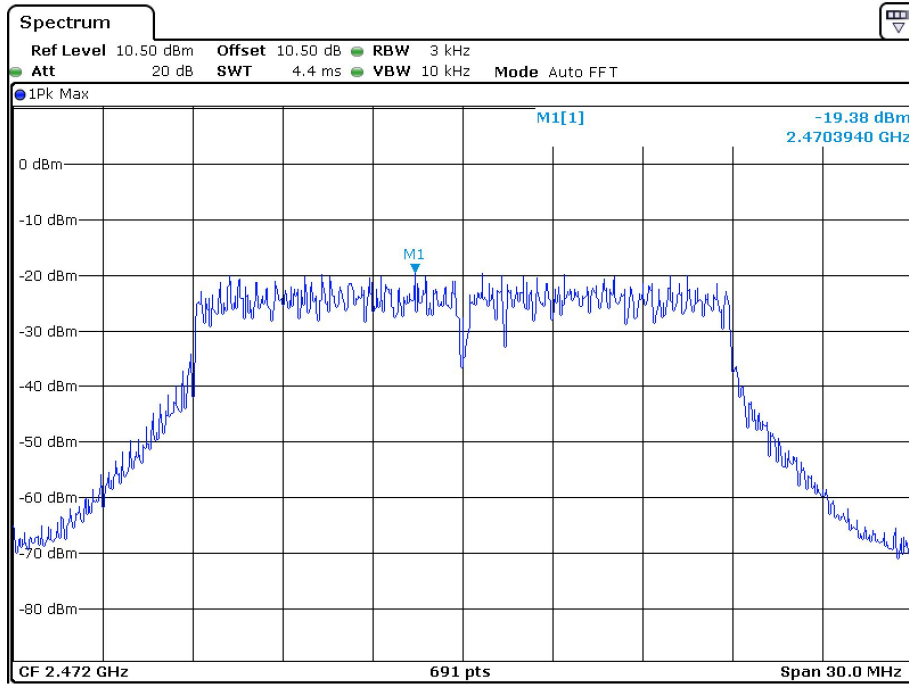
Date: 22.FEB.2022 10:24:27

Power Spectral Density, 802.11n-HT20 Middle Channel



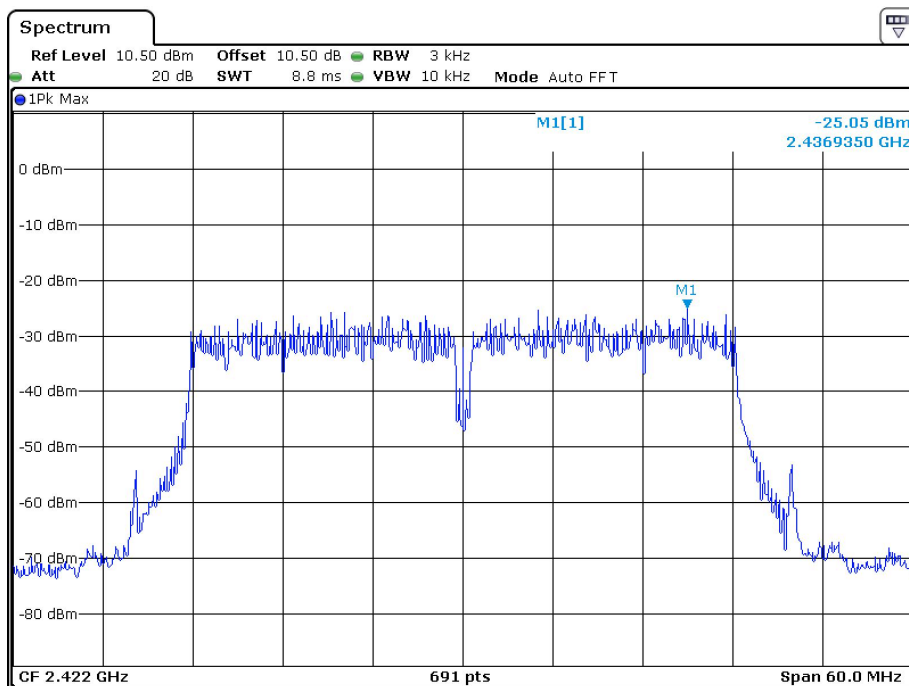
Date: 22.FEB.2022 10:24:08

Power Spectral Density, 802.11n-HT20 High Channel



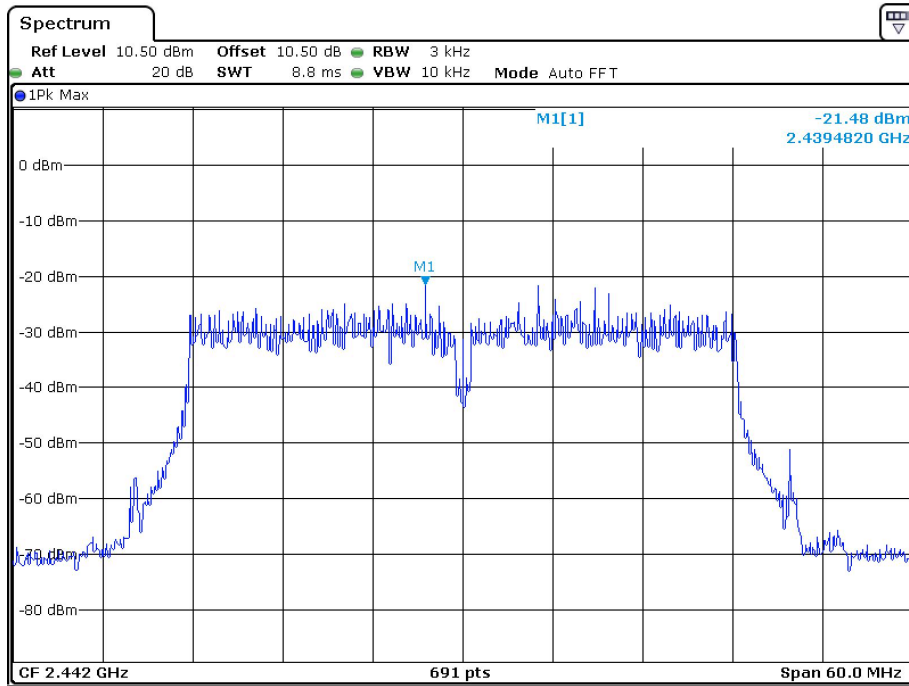
Date: 22.FEB.2022 10:23:51

Power Spectral Density, 802.11n-HT40 Low Channel



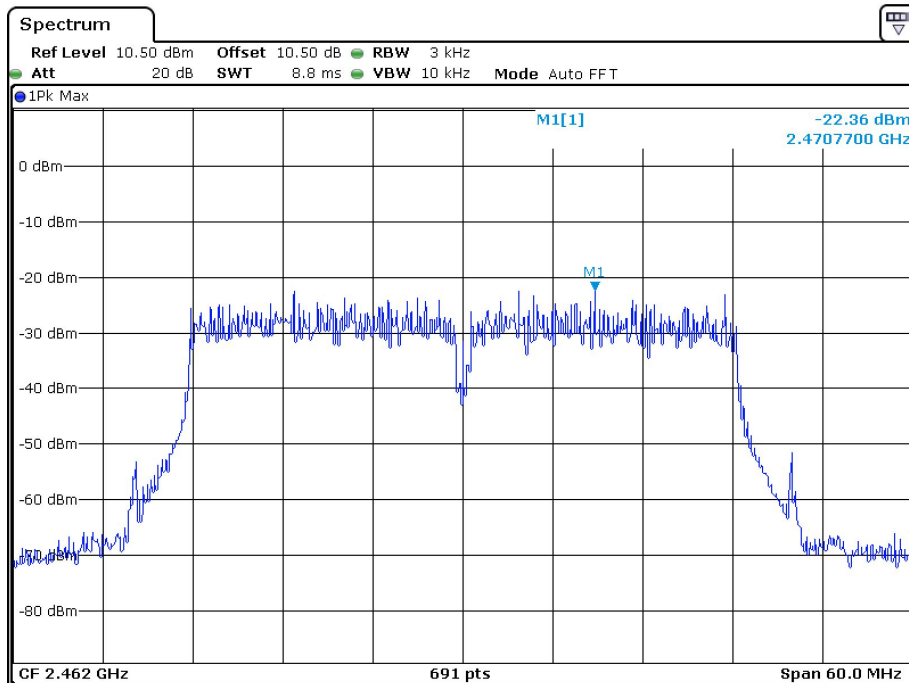
Date: 22.FEB.2022 10:20:08

Power Spectral Density, 802.11n-HT40 Middle Channel



Date: 22.FEB.2022 10:22:41

Power Spectral Density, 802.11n-HT40 High Channel



Date: 22.FEB.2022 10:23:22

***** END OF REPORT *****