

Test result: 2.4G_2

Channel No.	Frequency (MHz)	Mode	Data Rate	Measured Peak Power Spectral Density (dBm/3KHz)	Limit	Result
1	2412	802.11b	11 Mbps	-9.92	8dBm/3KHz	Pass
6	2437		11 Mbps	-9.64		Pass
11	2462		11 Mbps	-9.41		Pass
1	2412	802.11g	54 Mbps	-10.91		Pass
6	2437		54 Mbps	-10.02		Pass
11	2462		54 Mbps	-10.70		Pass
1	2412	802.11n (HT20)	72.2 Mbps	-8.85		Pass
6	2437		72.2 Mbps	-8.84		Pass
11	2462		72.2 Mbps	-9.06		Pass
3	2422	802.11n (HT40)	150 Mbps	-13.07		Pass
6	2437		150Mbps	-12.27		Pass
9	2452		150 Mbps	-13.07		Pass
1	2412	802.11ax (HE20)	MCS11	-10.09		Pass
6	2437		MCS11	-9.36		Pass
11	2462		MCS11	-10.43		Pass
3	2422	802.11ax (HE40)	MCS11	-12.20		Pass
6	2437		MCS11	-11.45		Pass
9	2452		MCS11	-12.05		Pass

Test result: 2.4G_3

Channel No.	Frequency (MHz)	Mode	Data Rate	Measured Peak Power Spectral Density (dBm/3KHz)	Limit	Result
1	2412	802.11b	11 Mbps	-10.24	8dBm/3KHz	Pass
6	2437		11 Mbps	-9.62		Pass
11	2462		11 Mbps	-9.21		Pass
1	2412	802.11g	54 Mbps	-11.25		Pass
6	2437		54 Mbps	-10.78		Pass
11	2462		54 Mbps	-11.31		Pass
1	2412	802.11n (HT20)	72.2 Mbps	-10.06		Pass
6	2437		72.2 Mbps	-9.48		Pass
11	2462		72.2 Mbps	-9.54		Pass
3	2422	802.11n (HT40)	150 Mbps	-12.54		Pass
6	2437		150Mbps	-12.85		Pass
9	2452		150 Mbps	-11.83		Pass
1	2412	802.11ax (HE20)	MCS11	-10.63		Pass
6	2437		MCS11	-10.47		Pass
11	2462		MCS11	-10.52		Pass
3	2422	802.11ax (HE40)	MCS11	-12.93		Pass
6	2437		MCS11	-12.95		Pass
9	2452		MCS11	-12.81		Pass

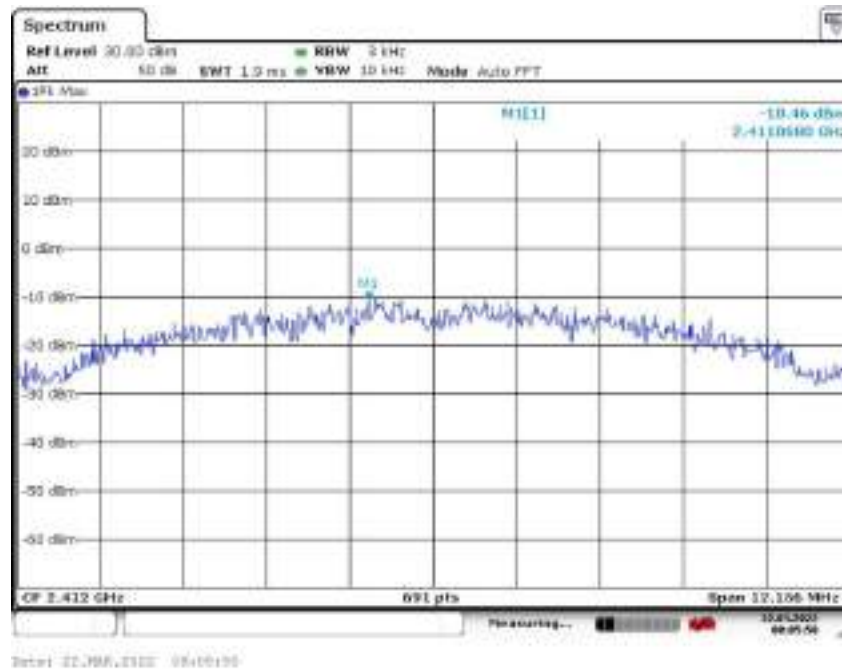
Test result: Level = Read Level + Cable Loss.

The unit does meet the FCC requirements.

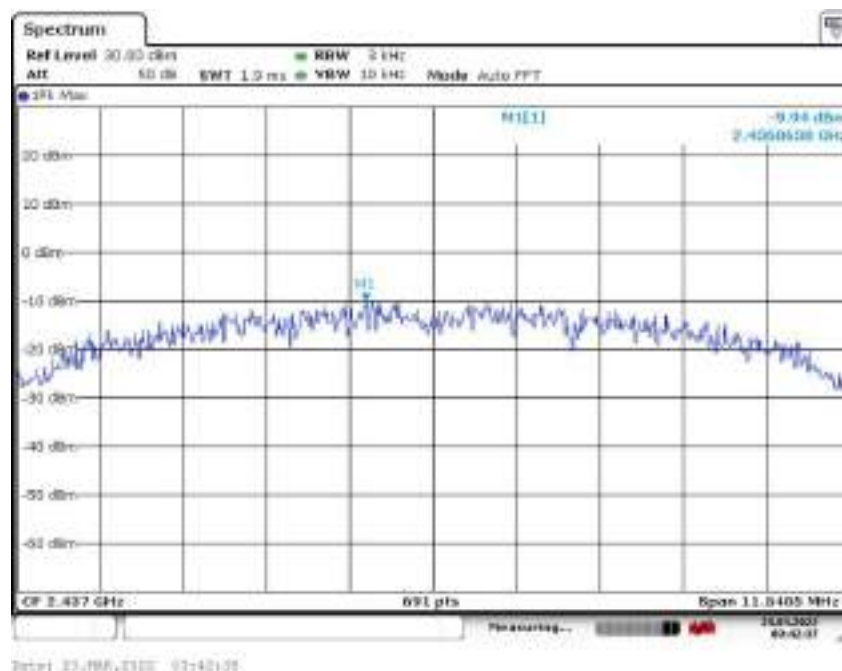
Test Result plot as follows: 2.4G_0

802.11b mode with 11Mbps data rate

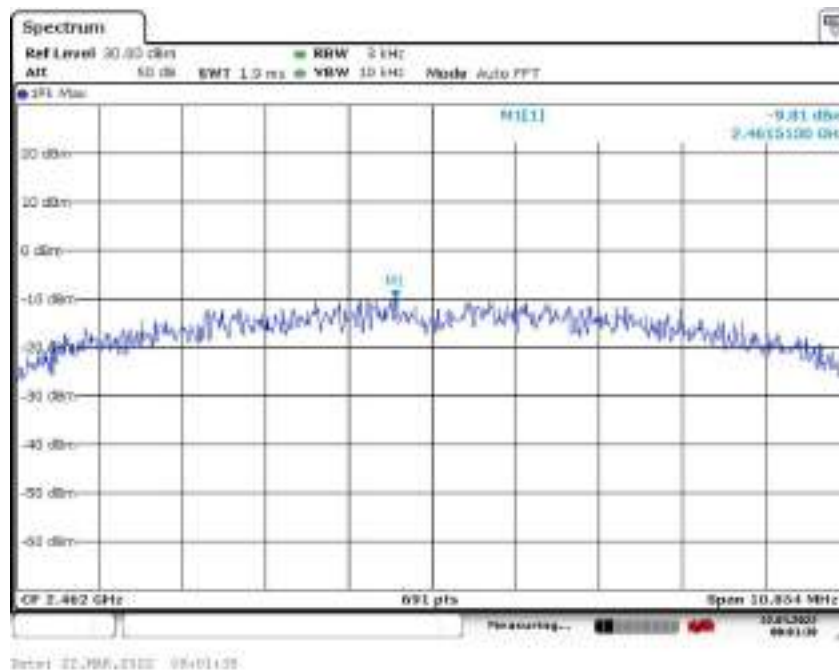
Channel 1: 2.412GHz:



Channel 6: 2.437GHz:

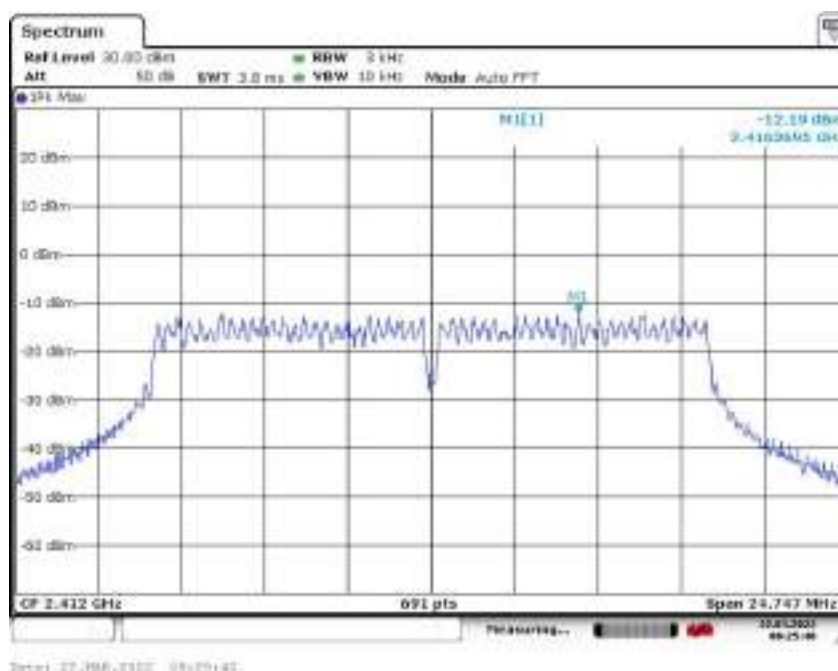


Channel 11: 2.462GHz:

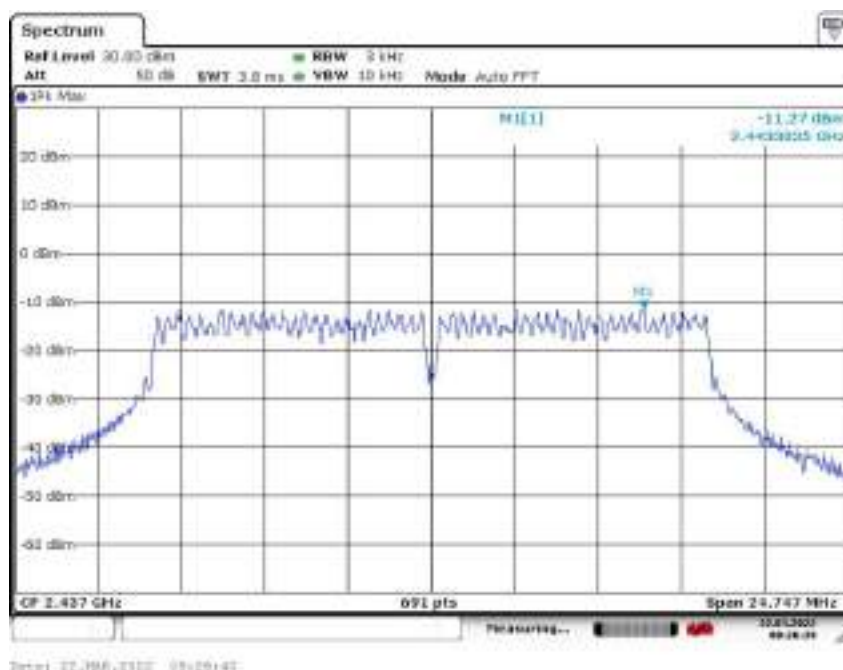


802.11g mode with 54Mbps data rate

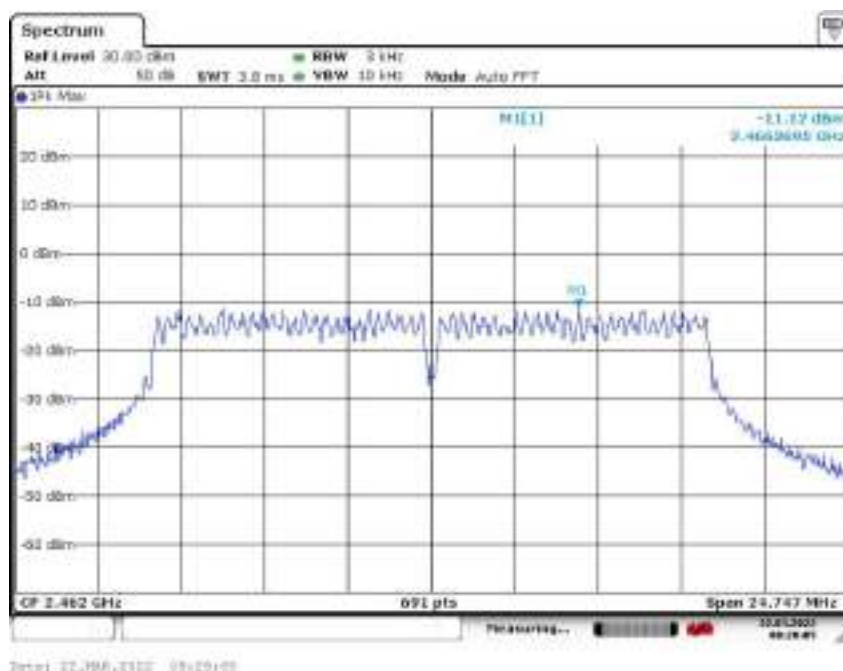
Channel 1: 2.412GHz:



Channel 6: 2.437GHz:

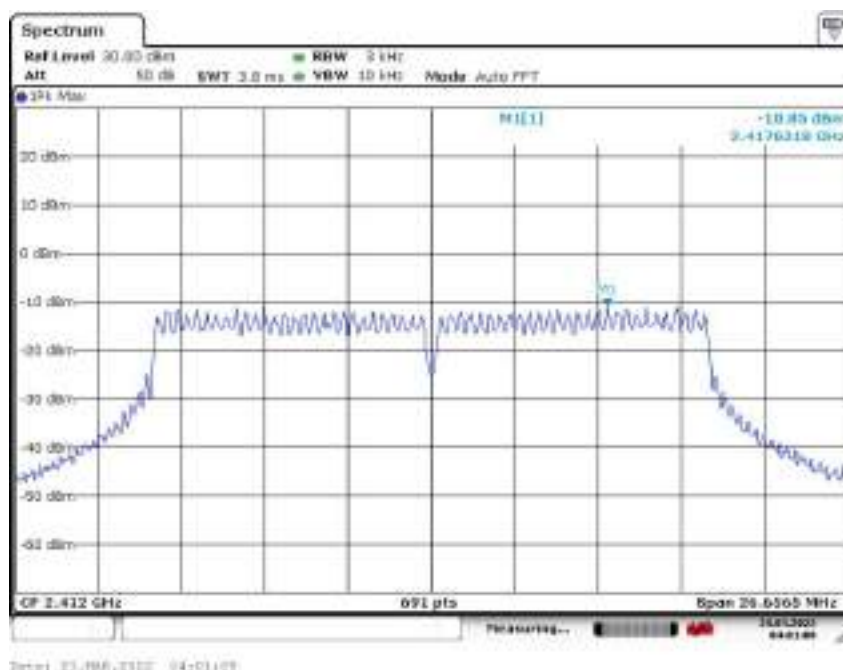


Channel 11: 2.462GHz:

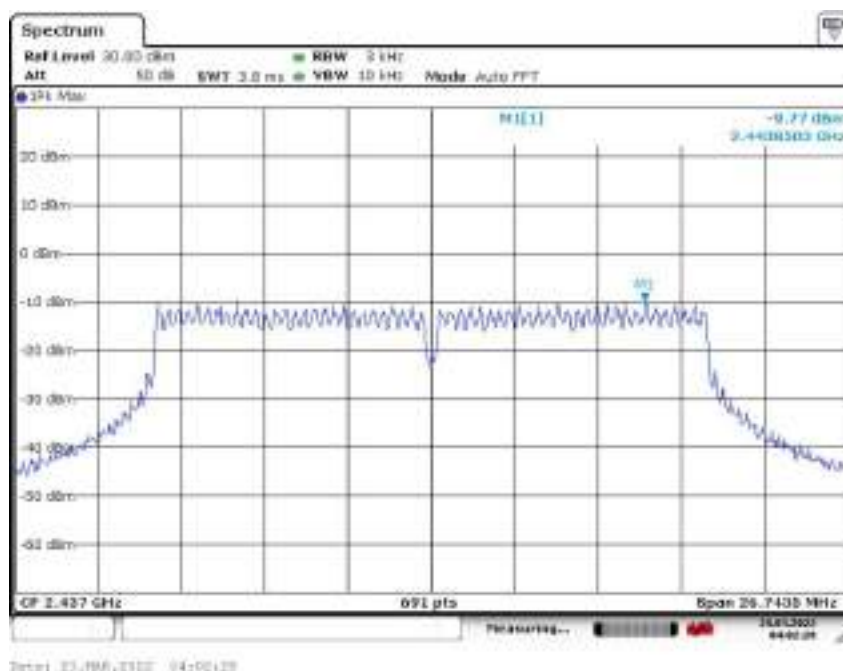


802.11n(HT20) mode with 72.2Mbps data rate

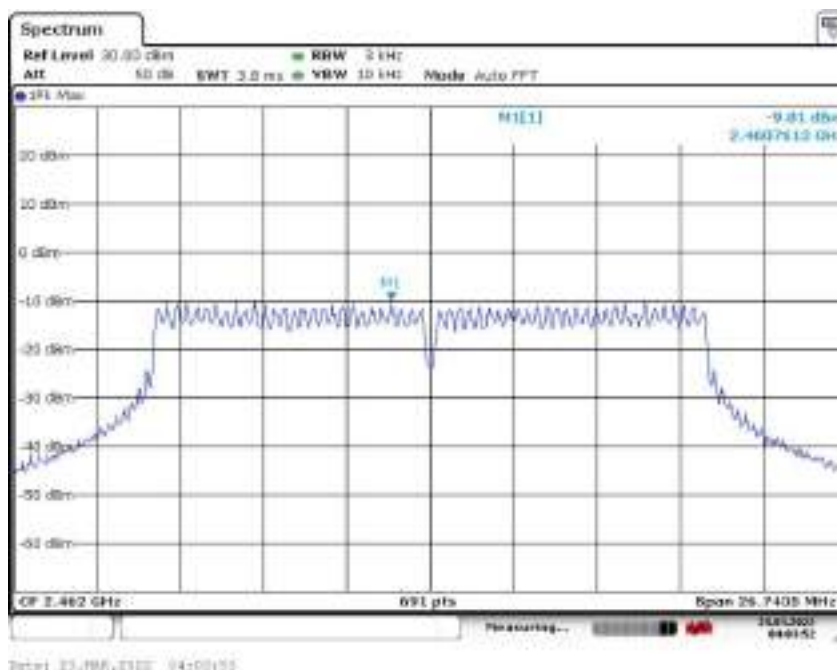
Channel 1: 2.412GHz:



Channel 6: 2.437GHz:

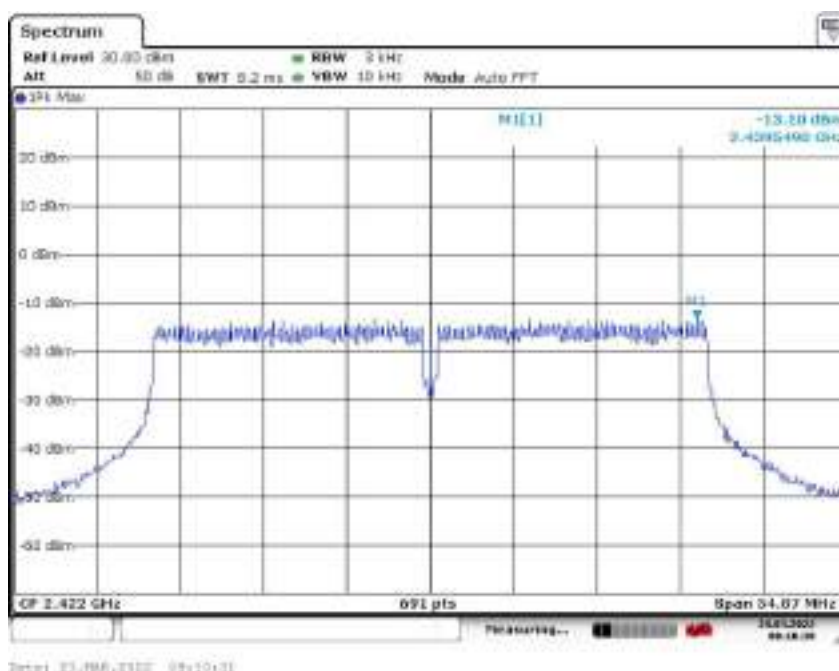


Channel 11: 2.462GHz:

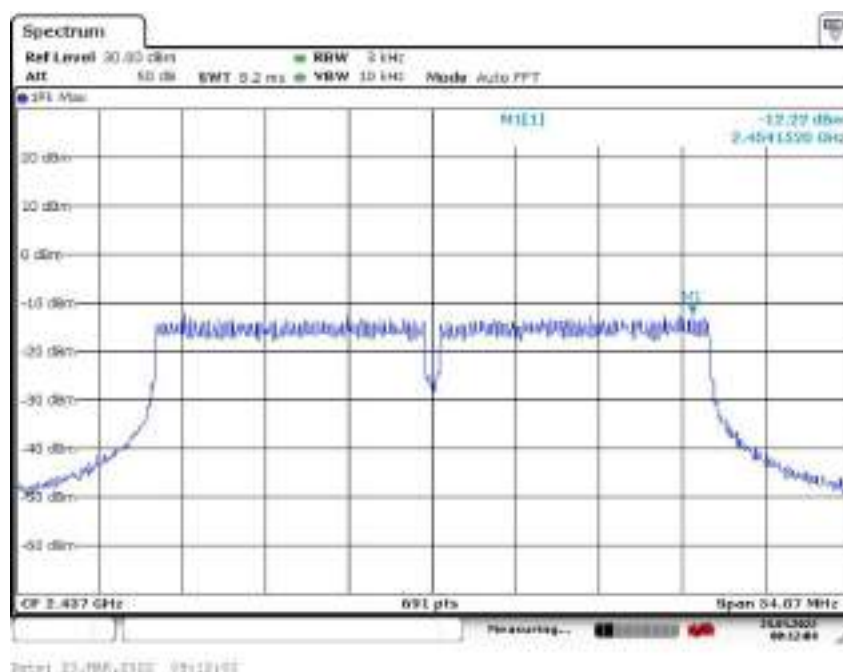


802.11n(HT40) mode with 150Mbps data rate

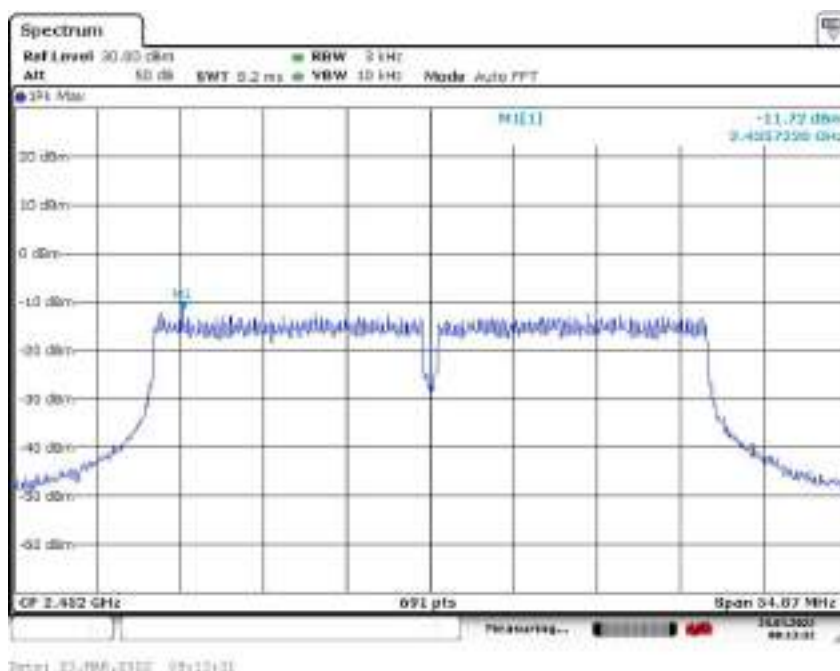
Channel 3: 2.422GHz:



Channel 6: 2.437GHz:

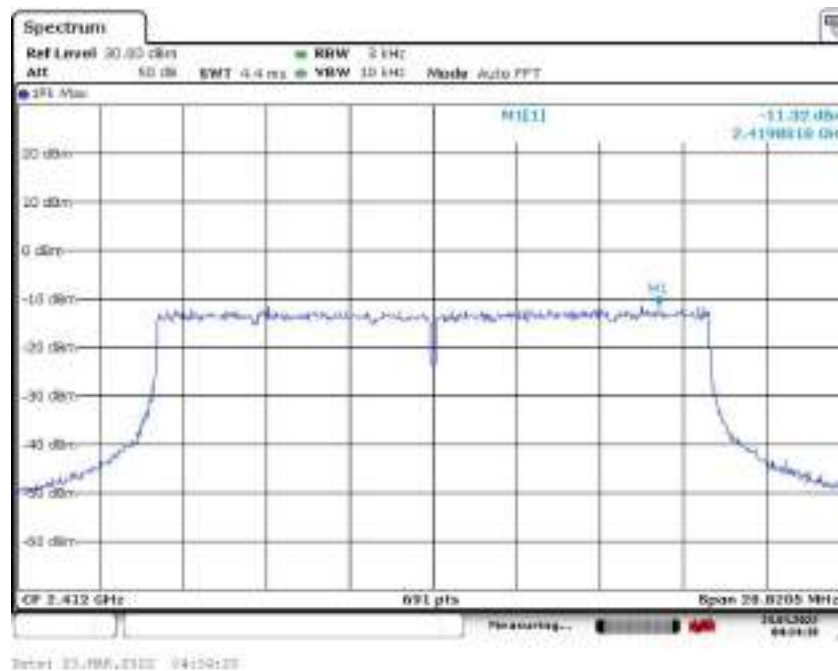


Channel 9: 2.452GHz:

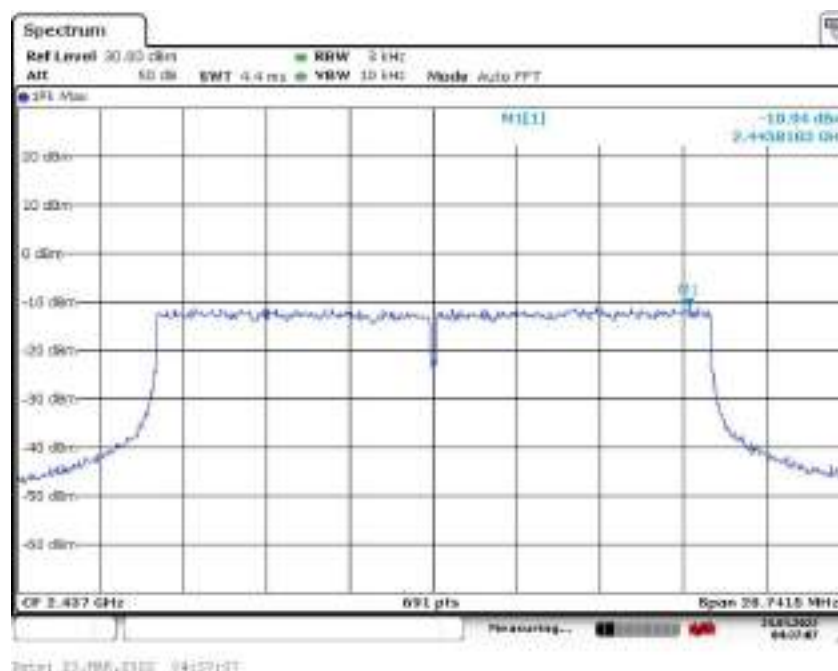


802.11ax(HE20) mode with MCS11 data rate

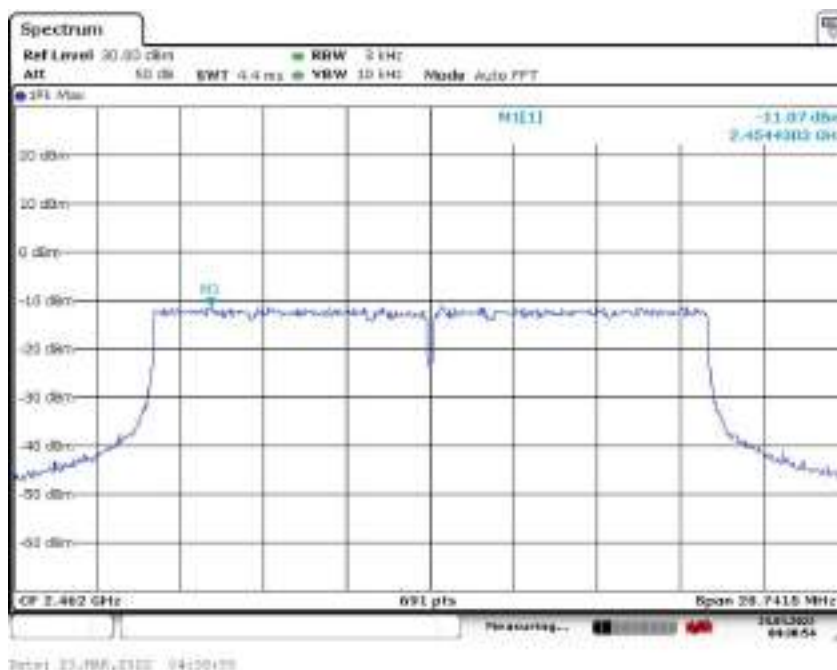
Channel 1: 2.412GHz



Channel 6: 2.437GHz:

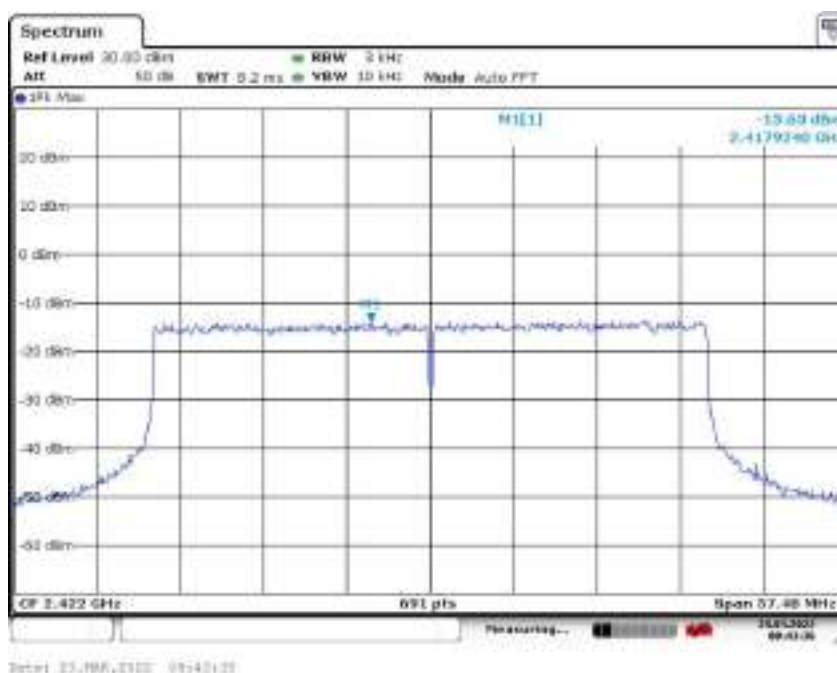


Channel 11: 2.462GHz:

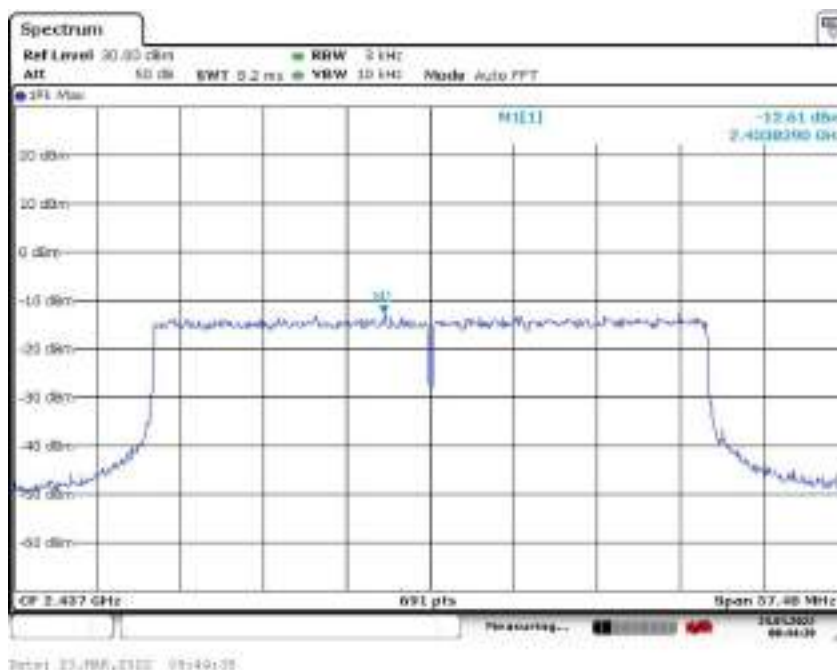


802.11ax(HE40) mode with MCS11 data rate

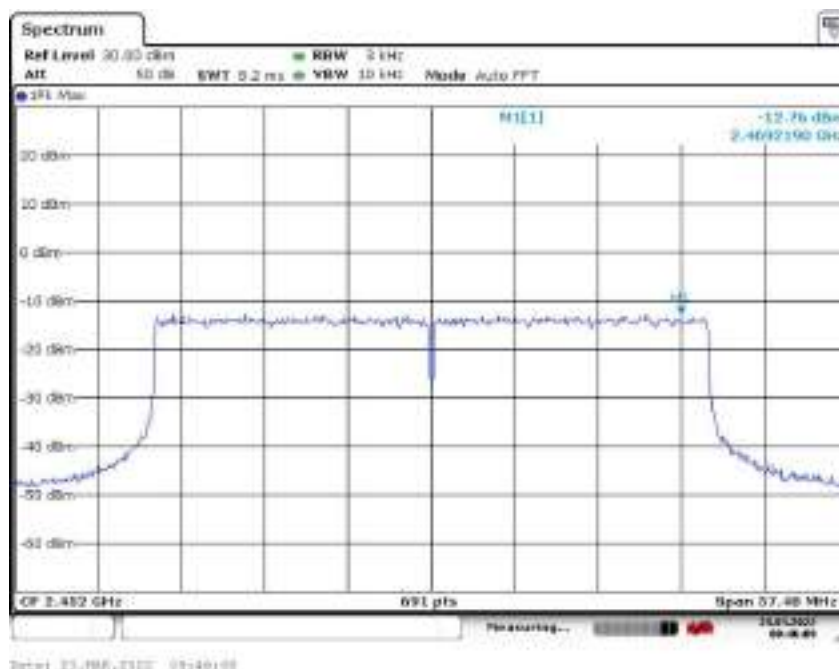
Channel 3: 2.422GHz:



Channel 6: 2.437GHz:



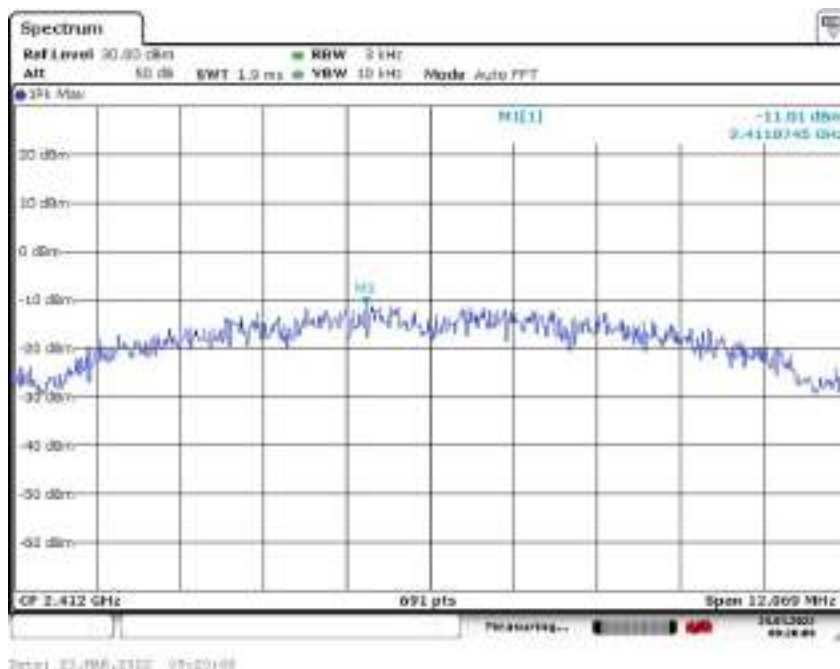
Channel 9: 2.452GHz:



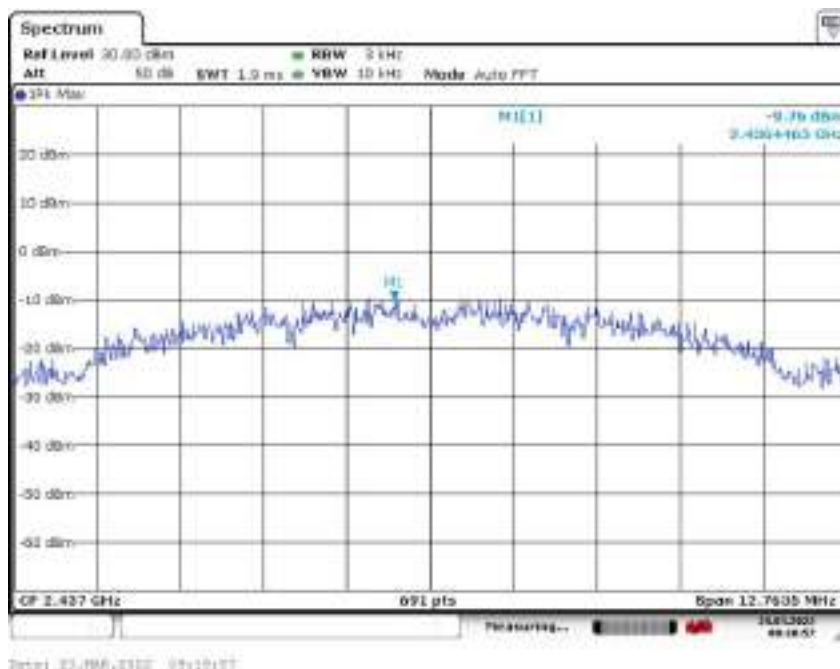
Test Result plot as follows: 2.4G_1

802.11b mode with 11Mbps data rate

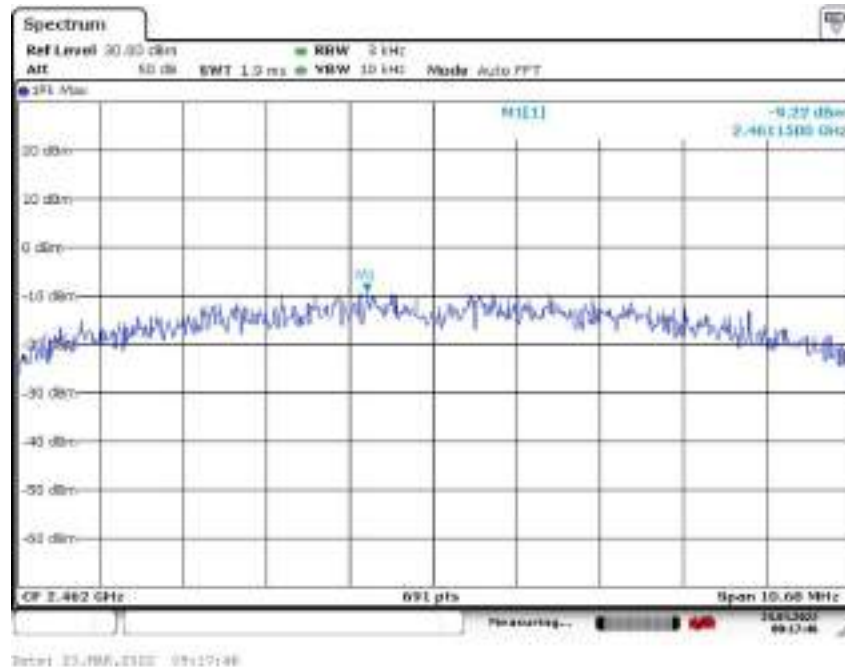
Channel 1: 2.412GHz:



Channel 6: 2.437GHz:

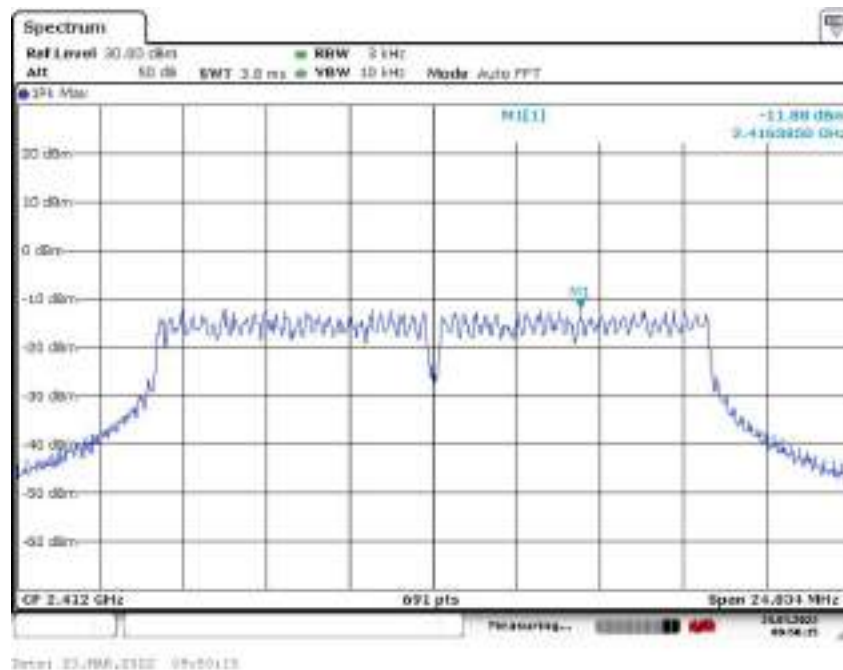


Channel 11: 2.462GHz:

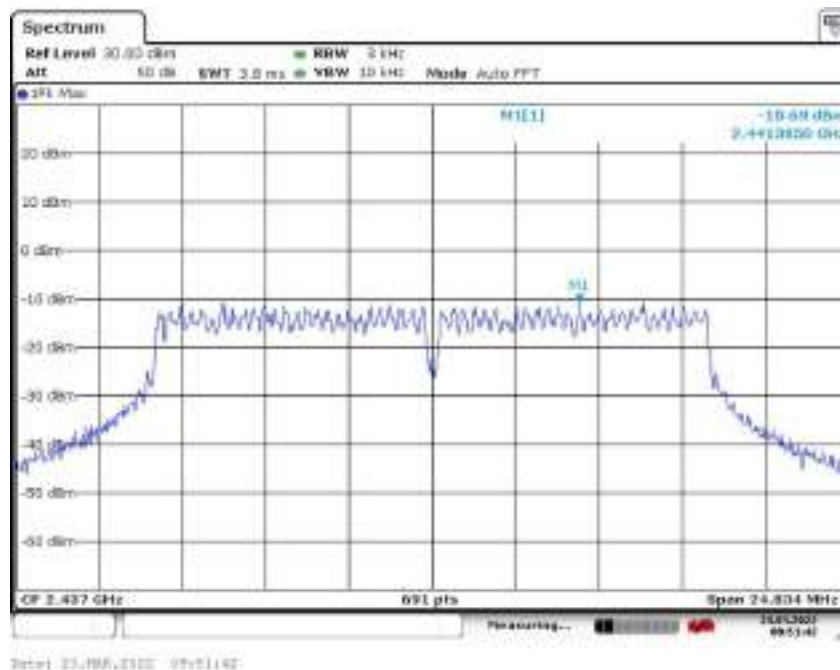


802.11g mode with 54Mbps data rate

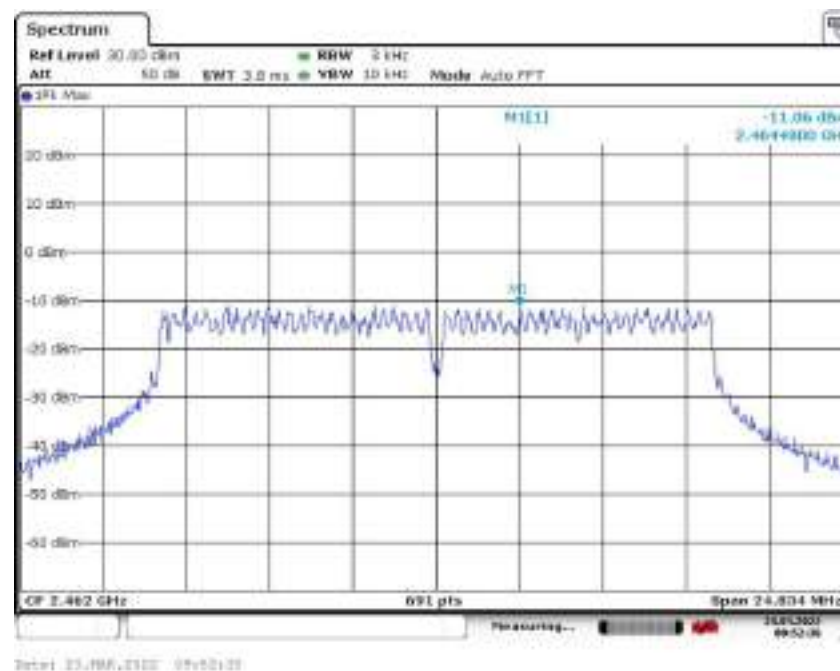
Channel 1: 2.412GHz:



Channel 6: 2.437GHz:

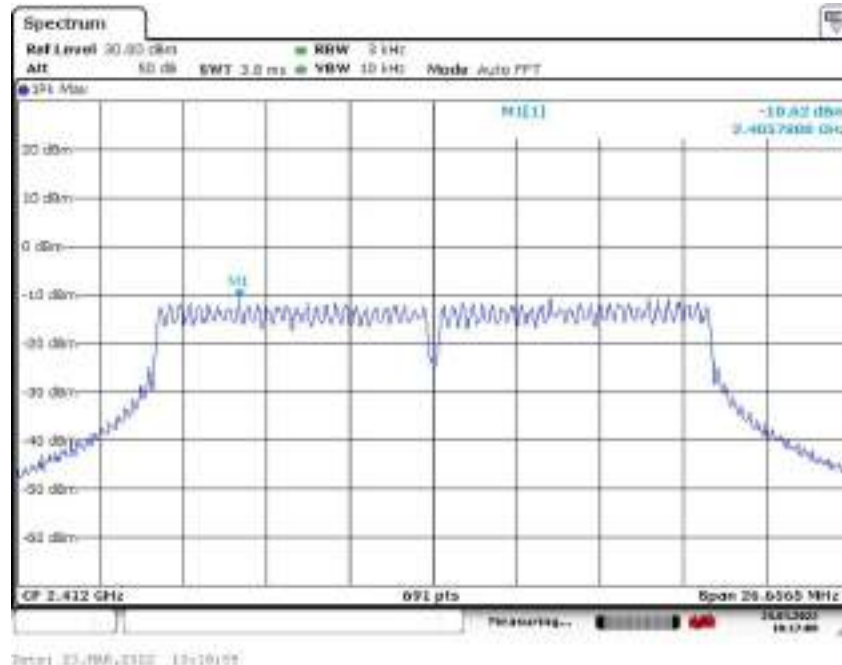


Channel 11: 2.462GHz:

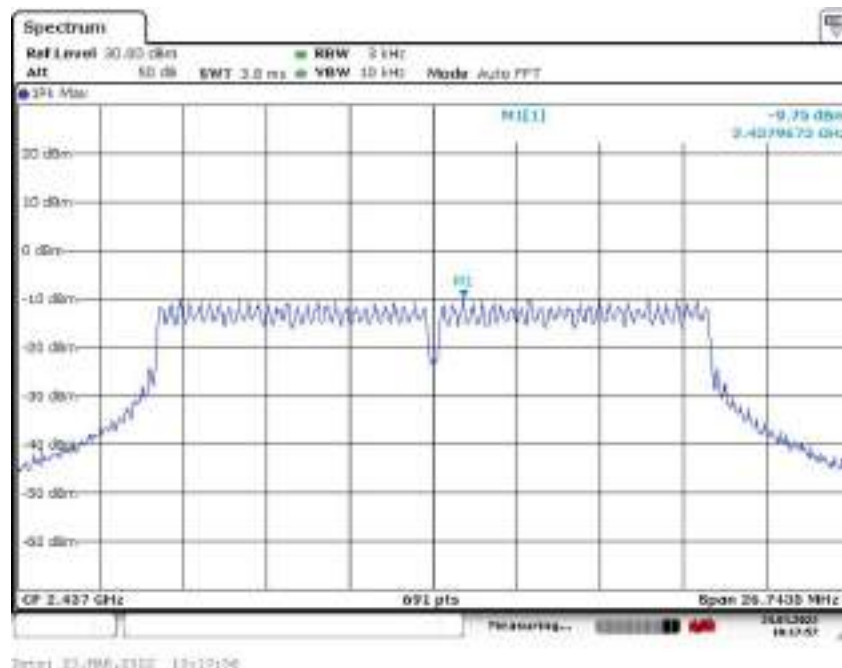


802.11n(HT20) mode with 72.2Mbps data rate

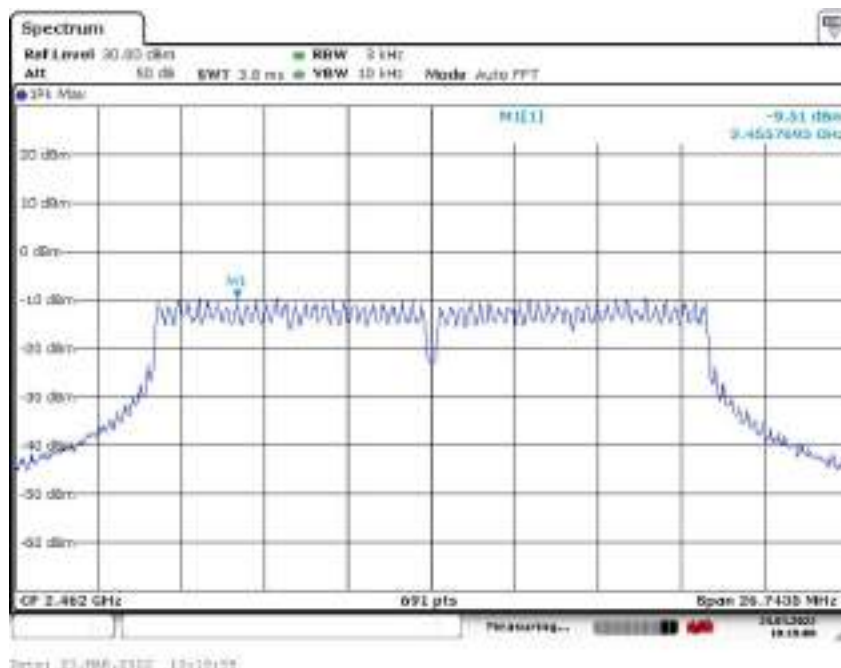
Channel 1: 2.412GHz:



Channel 6: 2.437GHz:

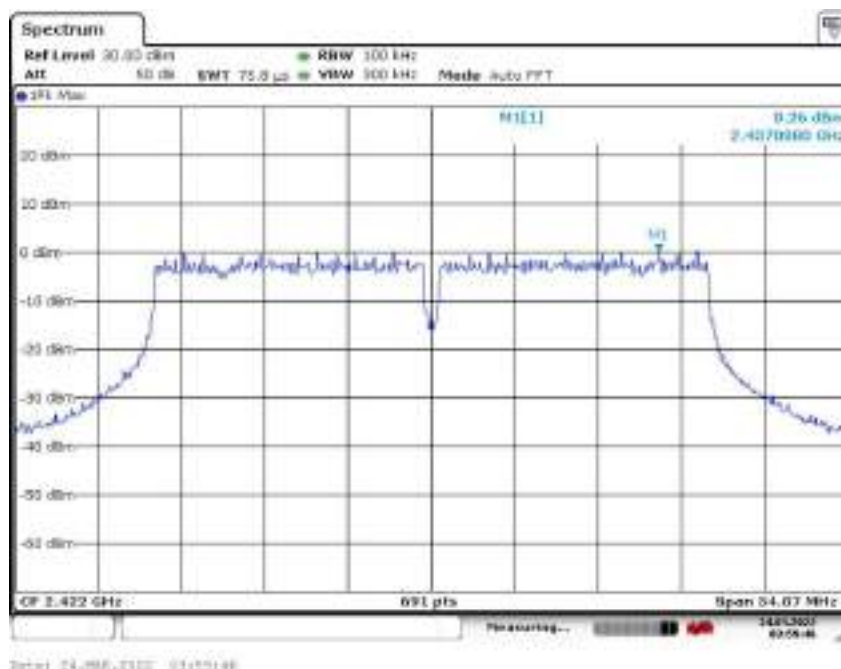


Channel 11: 2.462GHz:

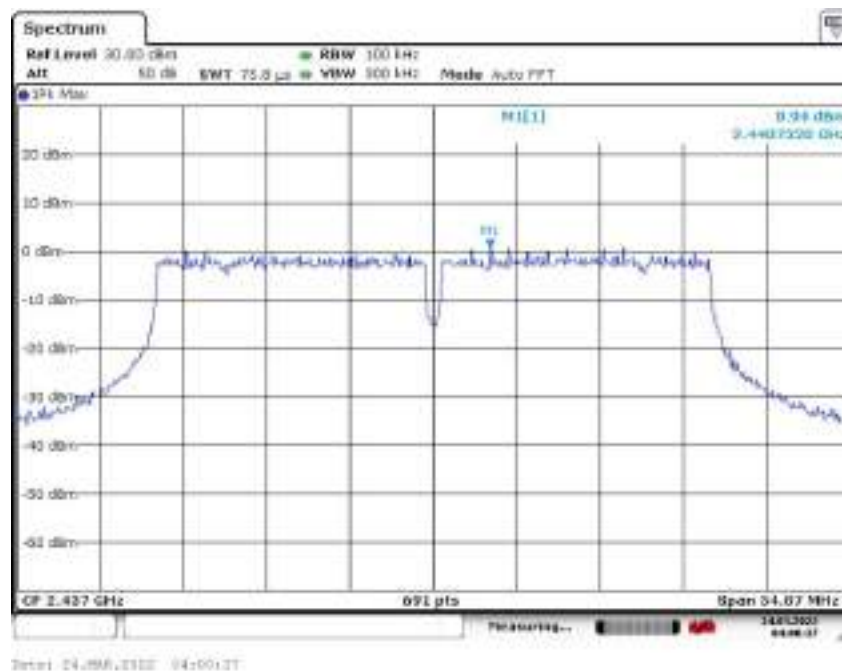


802.11n(HT40) mode with 150Mbps data rate

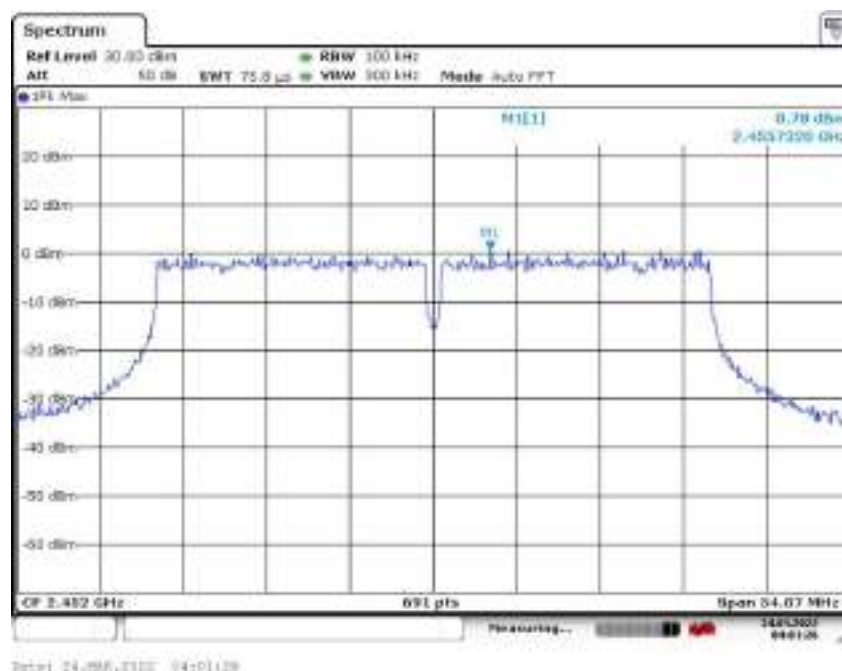
Channel 3: 2.422GHz:



Channel 6: 2.437GHz:

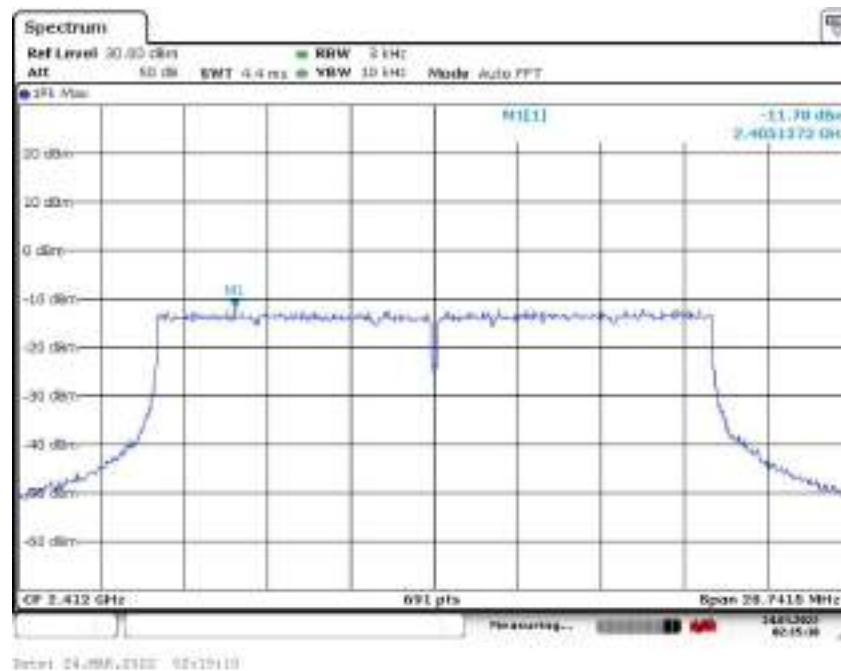


Channel 9: 2.452GHz:

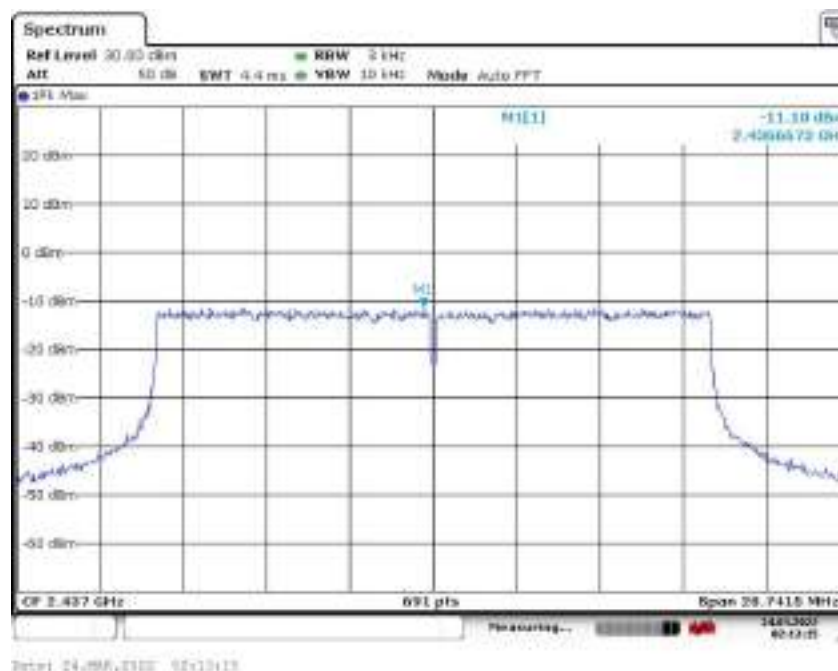


802.11ax(HE20) mode with MCS11 data rate

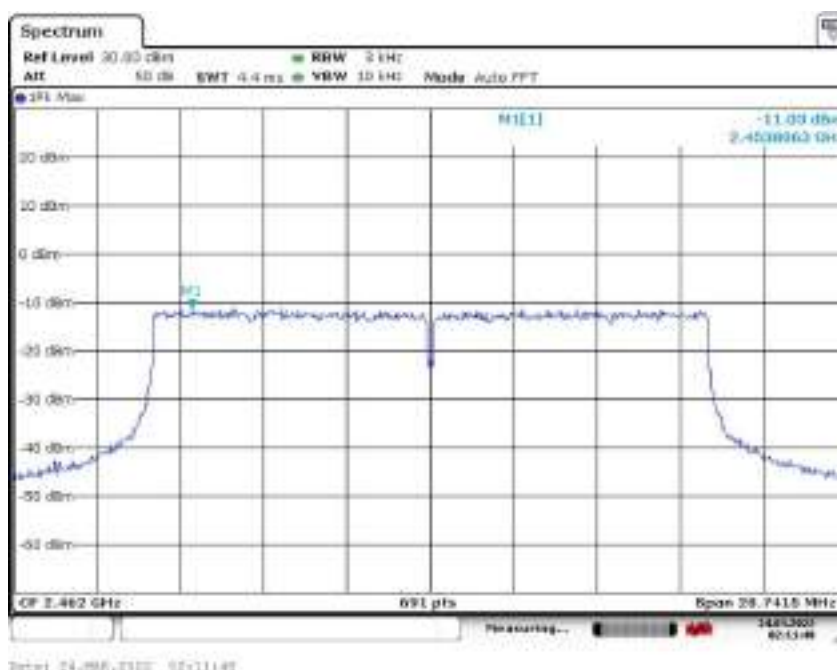
Channel 1: 2.412GHz



Channel 6: 2.437GHz:

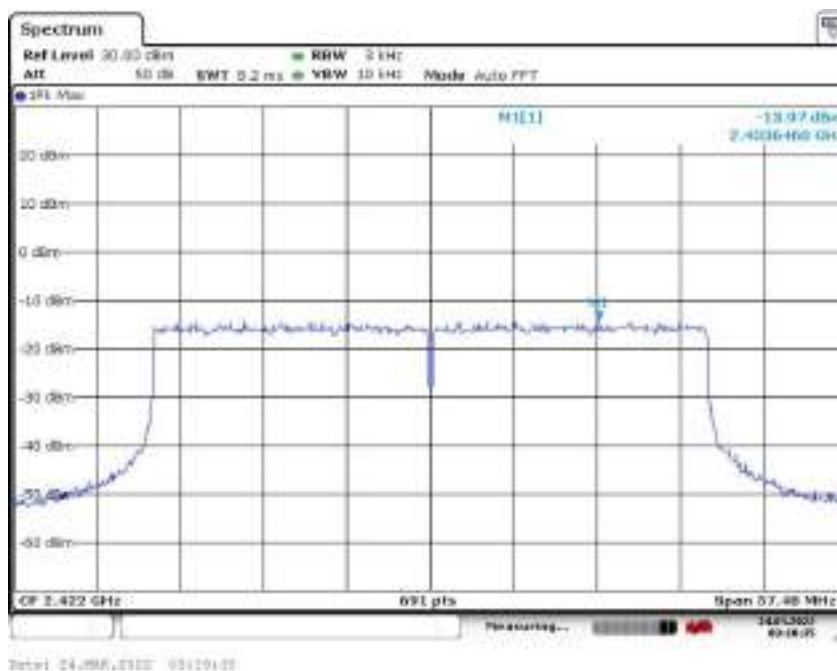


Channel 11: 2.462GHz:

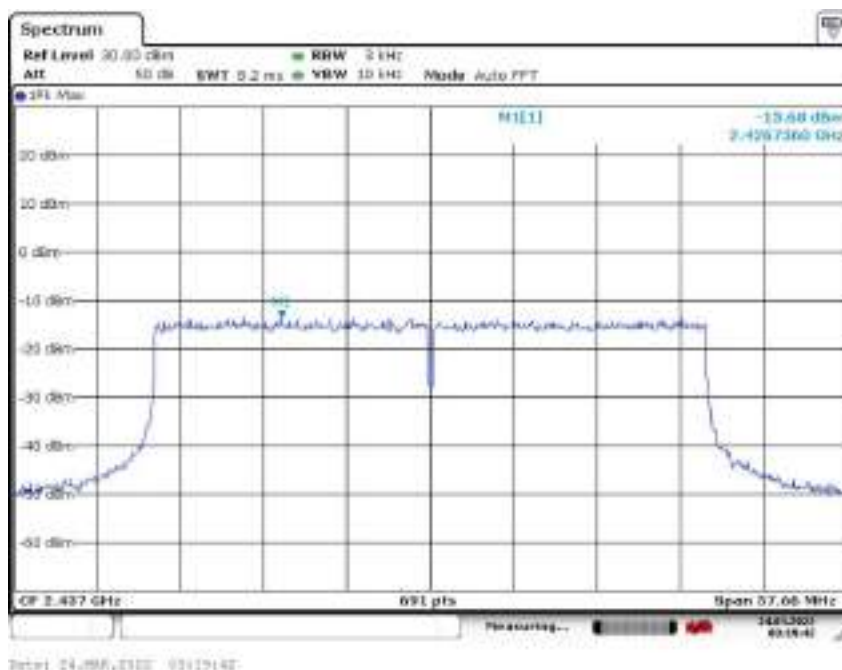


802.11ax(HE40) mode with MCS11 data rate

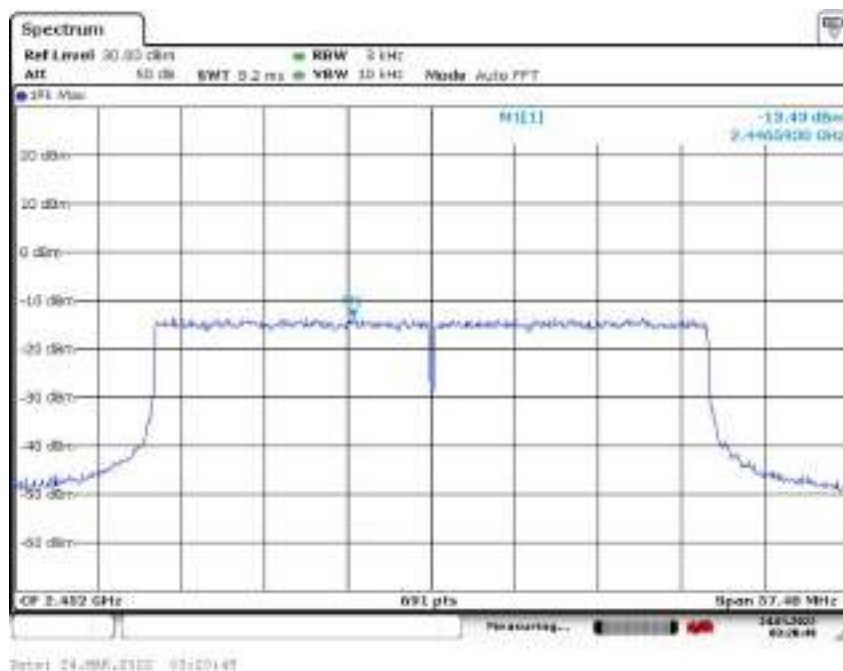
Channel 3: 2.422GHz:



Channel 6: 2.437GHz:



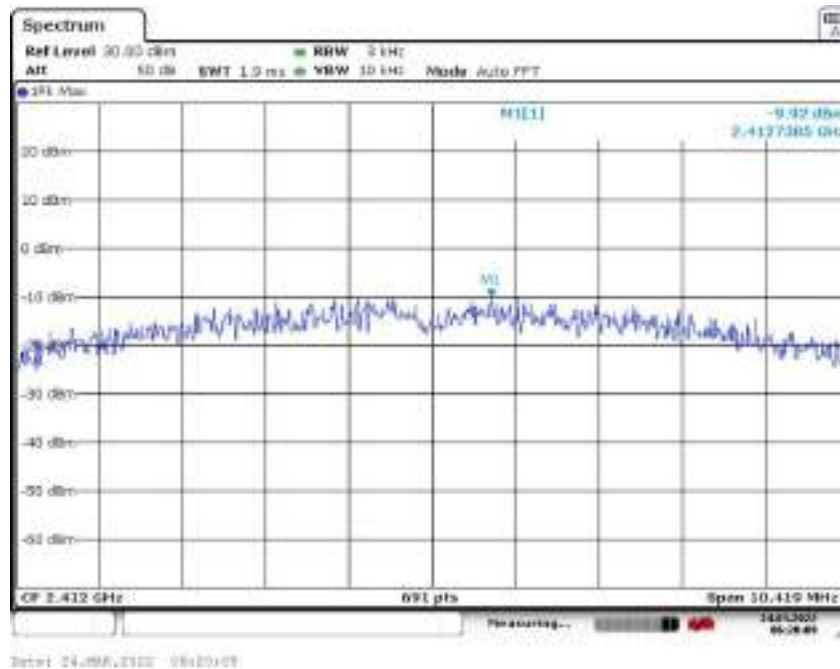
Channel 9: 2.452GHz:



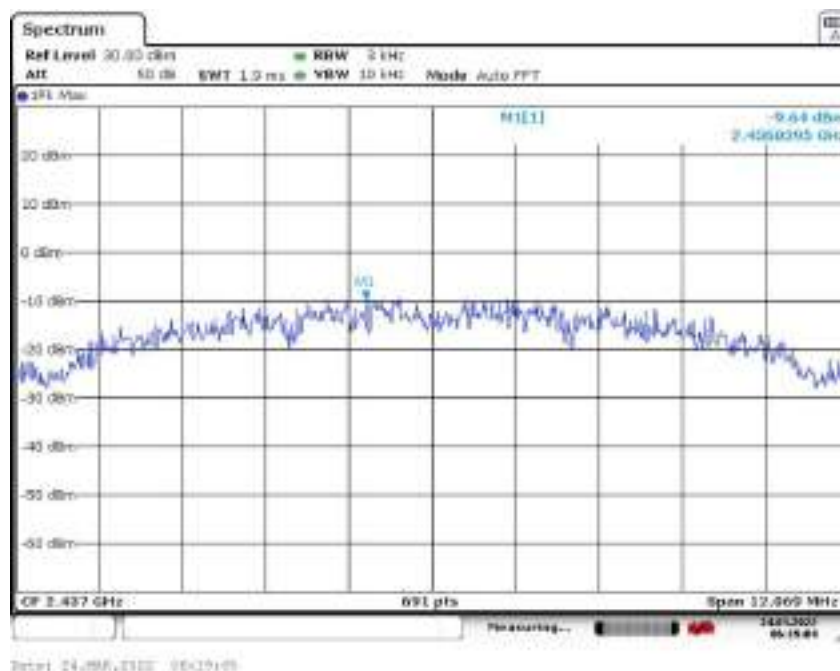
Test Result plot as follows: 2.4G_2

802.11b mode with 11Mbps data rate

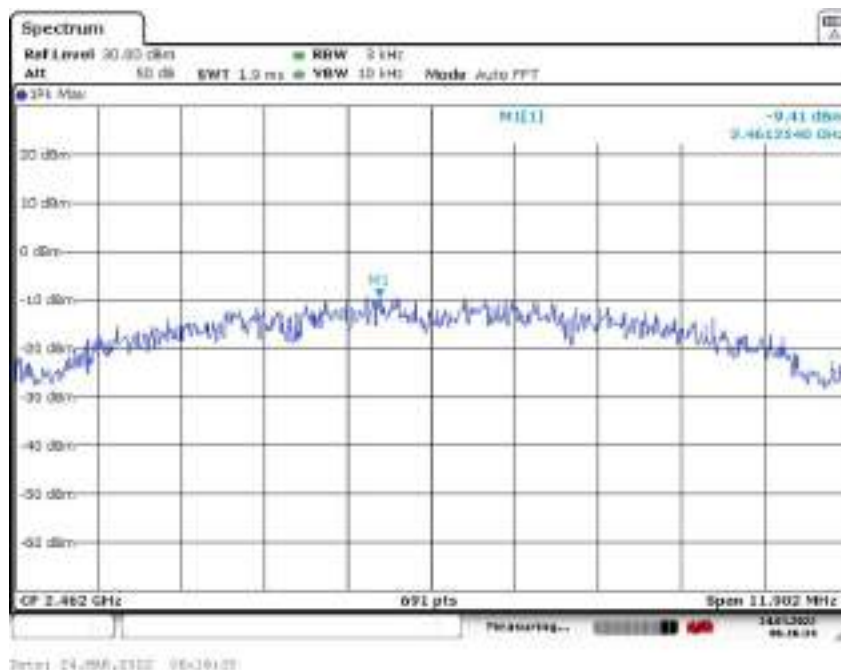
Channel 1: 2.412GHz:



Channel 6: 2.437GHz:

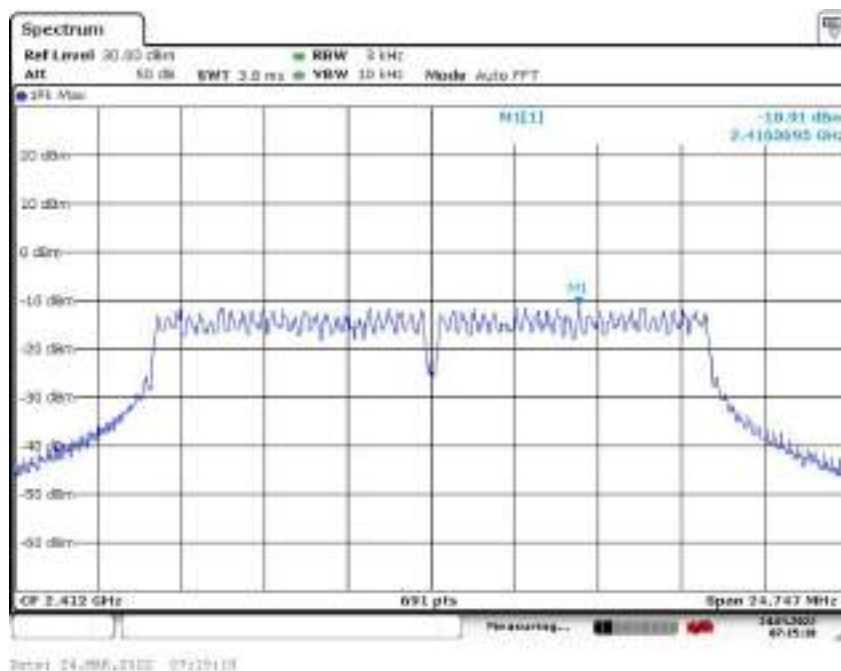


Channel 11: 2.462GHz:



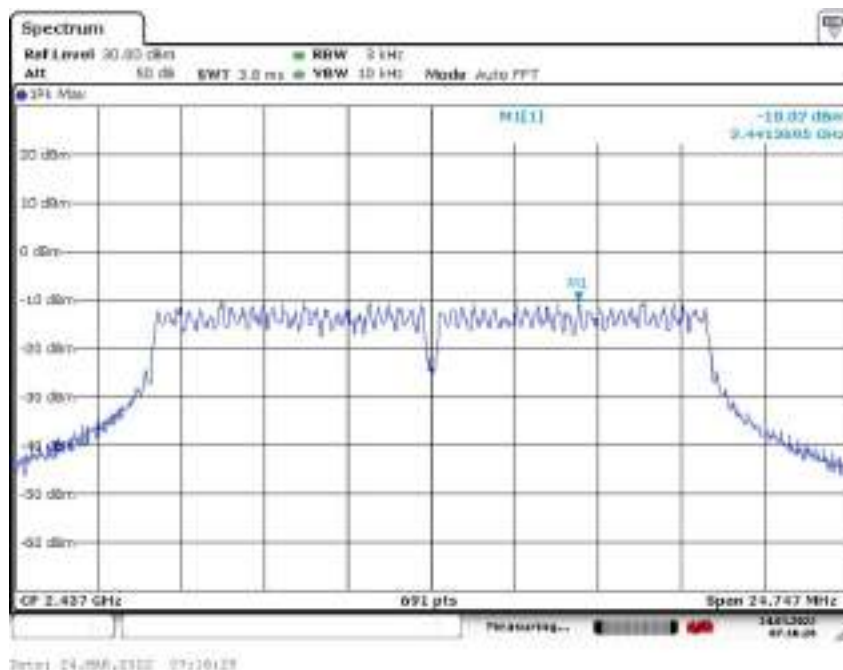
802.11g mode with 54Mbps data rate

Channel 1: 2.412GHz:

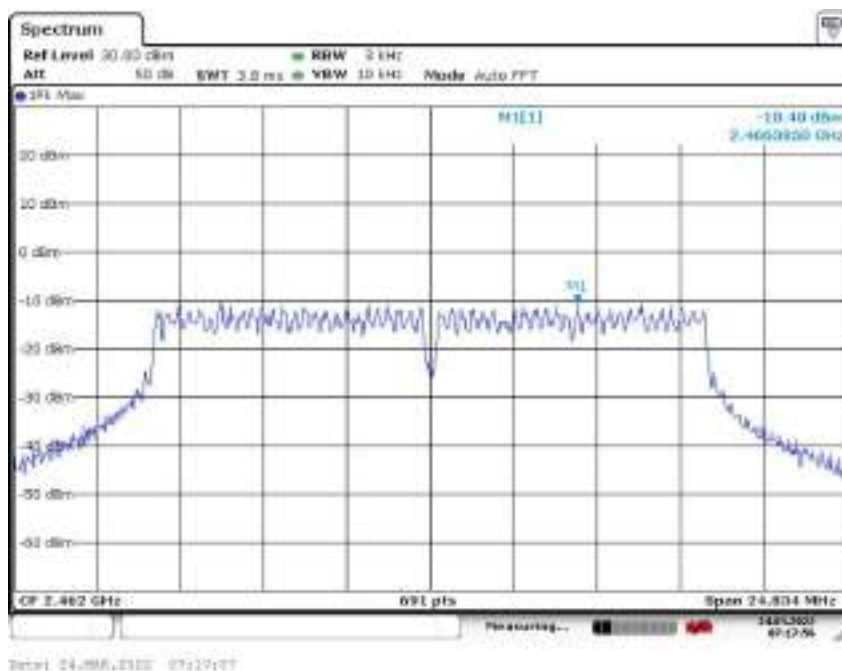


Report No.: AAEMT/EMC/220321-01-04

Channel 6: 2.437GHz:

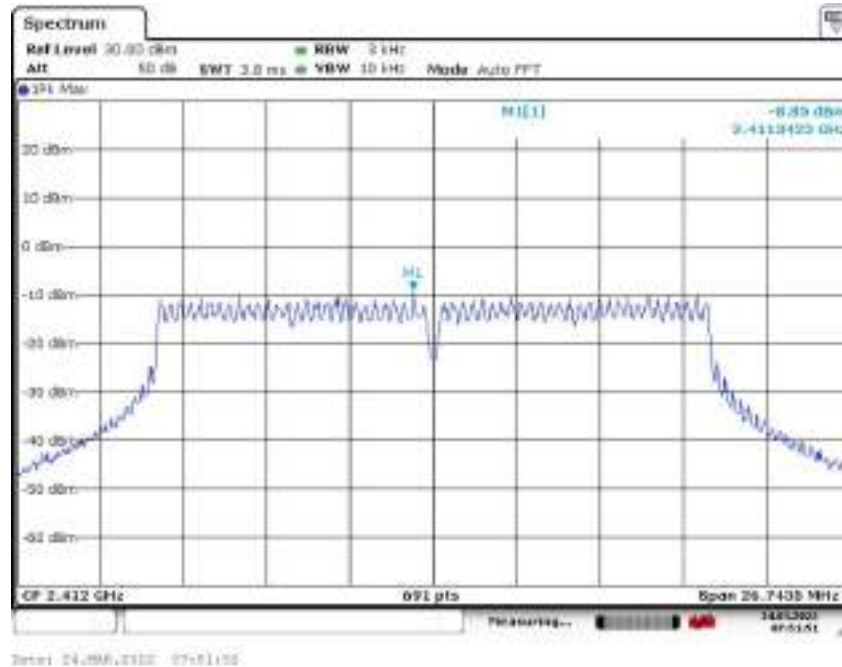


Channel 11: 2.462GHz:

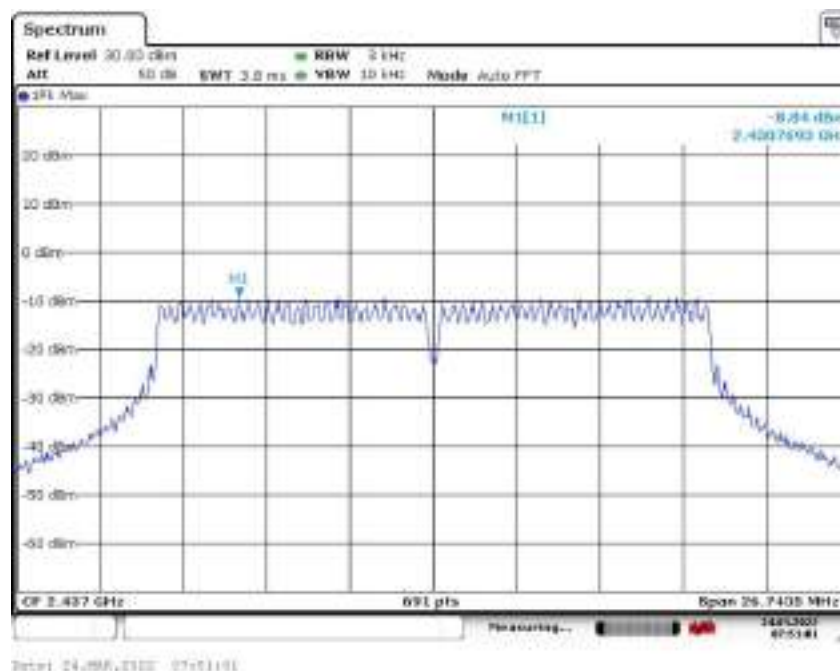


802.11n(HT20) mode with 72.2Mbps data rate

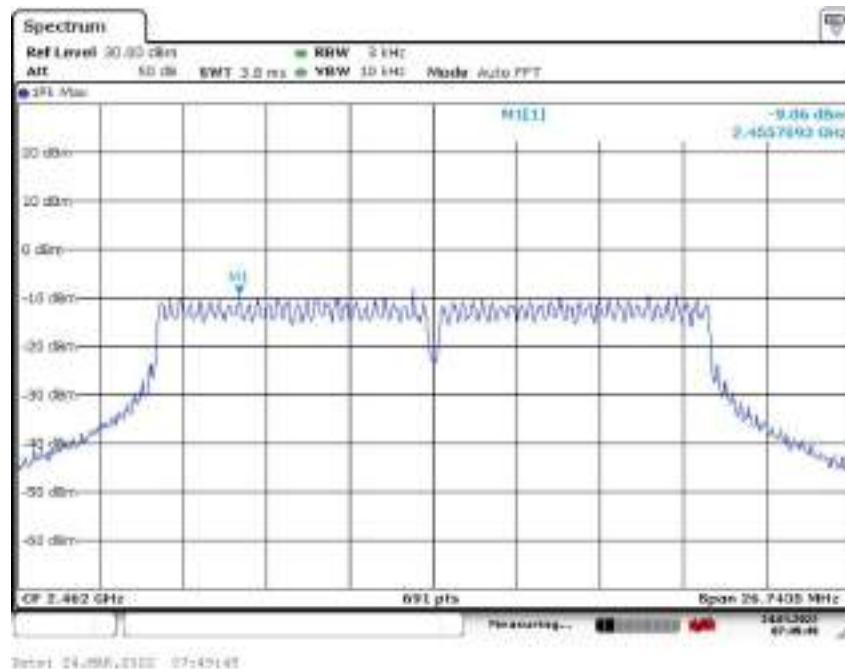
Channel 1: 2.412GHz:



Channel 6: 2.437GHz:

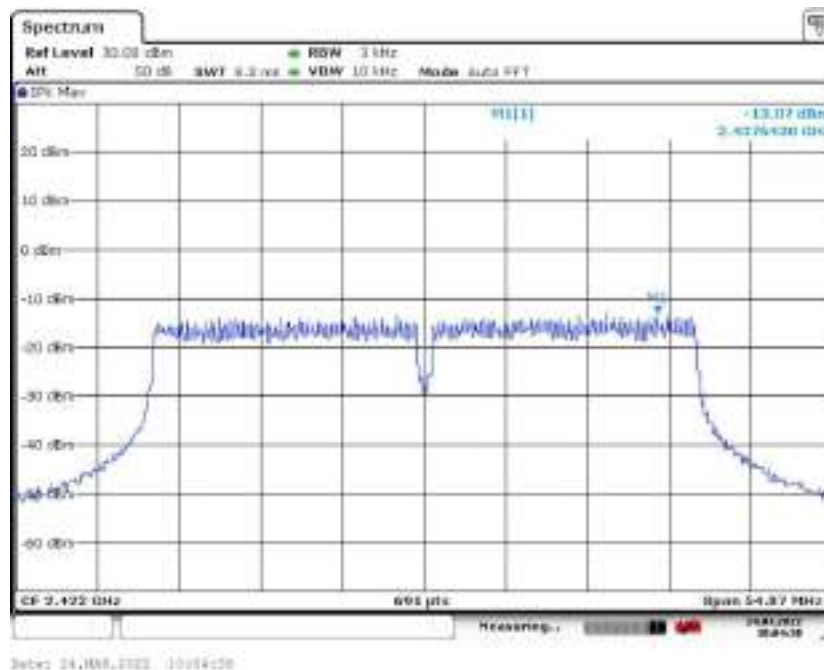


Channel 11: 2.462GHz:

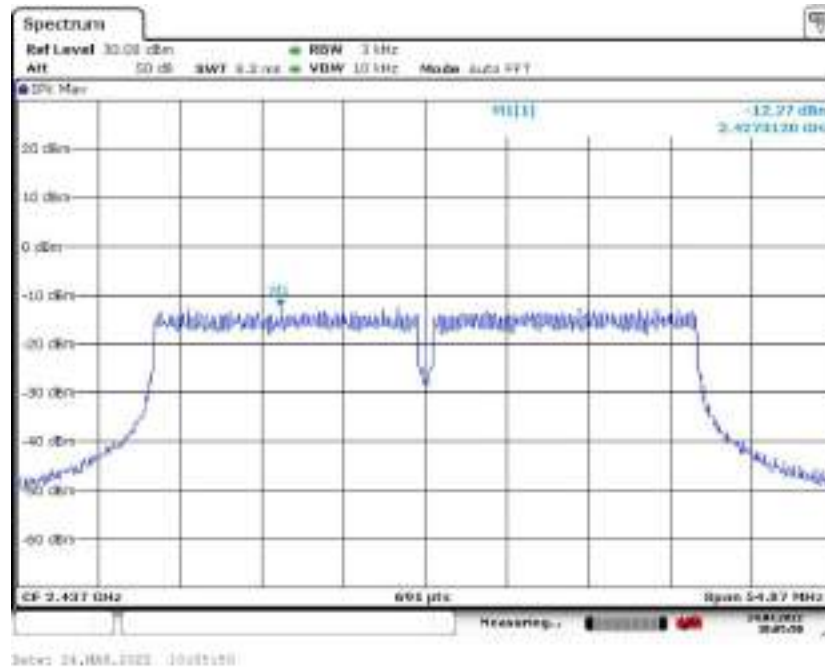


802.11n(HT40) mode with 150Mbps data rate

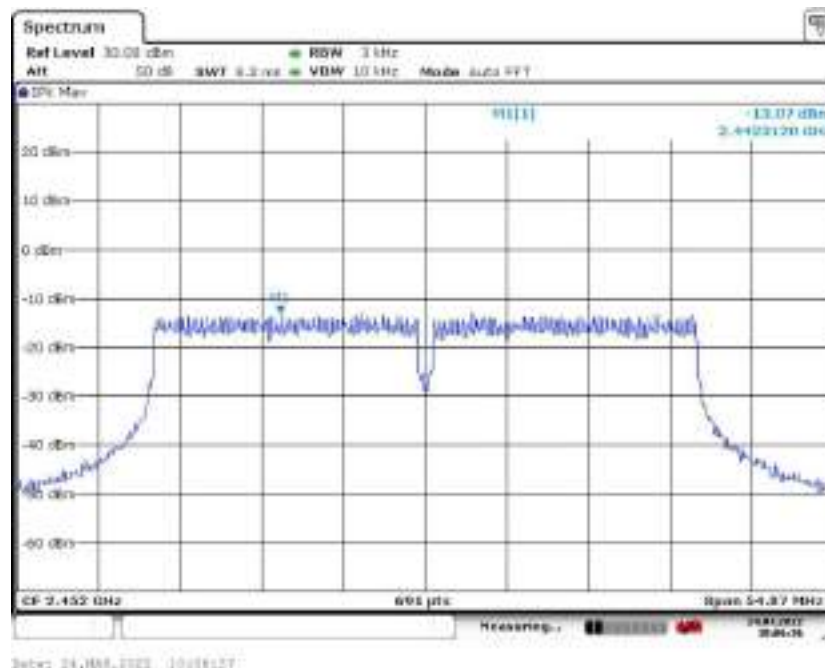
Channel 3: 2.422GHz:



Channel 6: 2.437GHz:

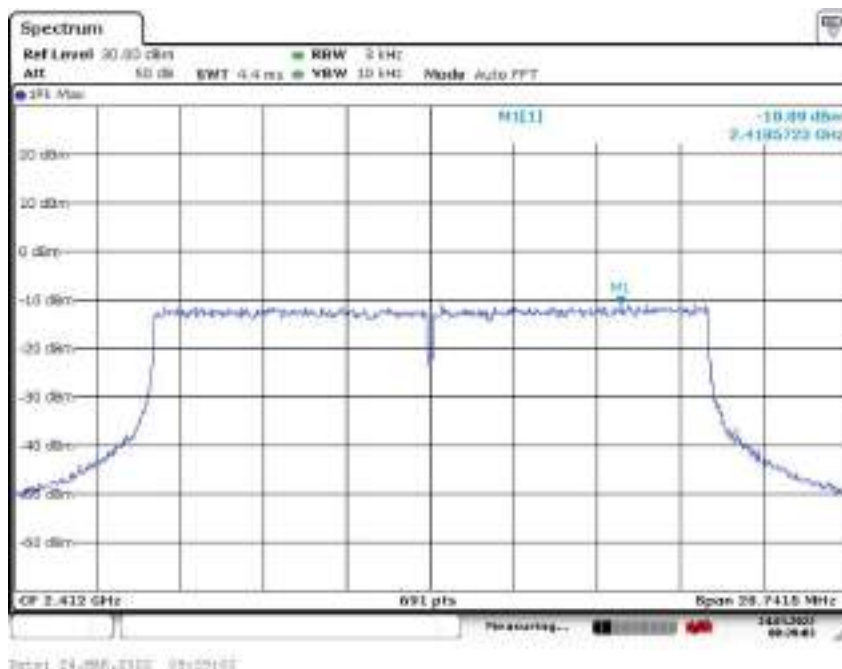


Channel 9: 2.452GHz:

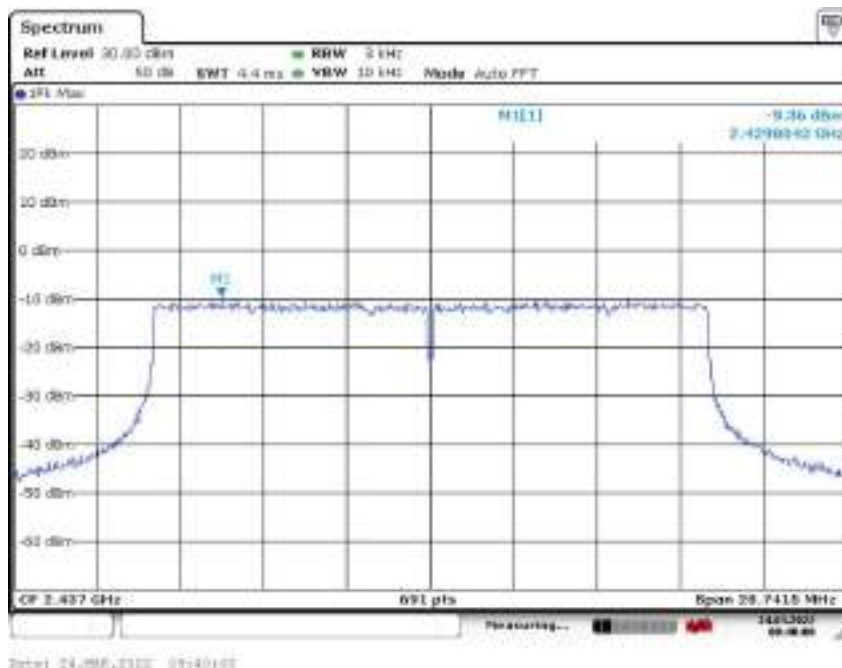


802.11ax(HE20) mode with MCS11 data rate

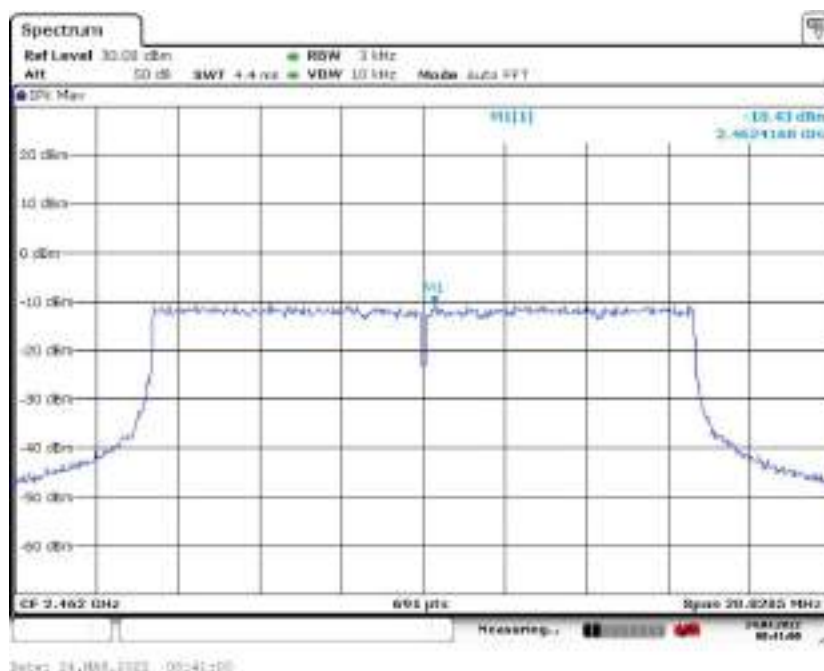
Channel 1: 2.412GHz



Channel 6: 2.437GHz:

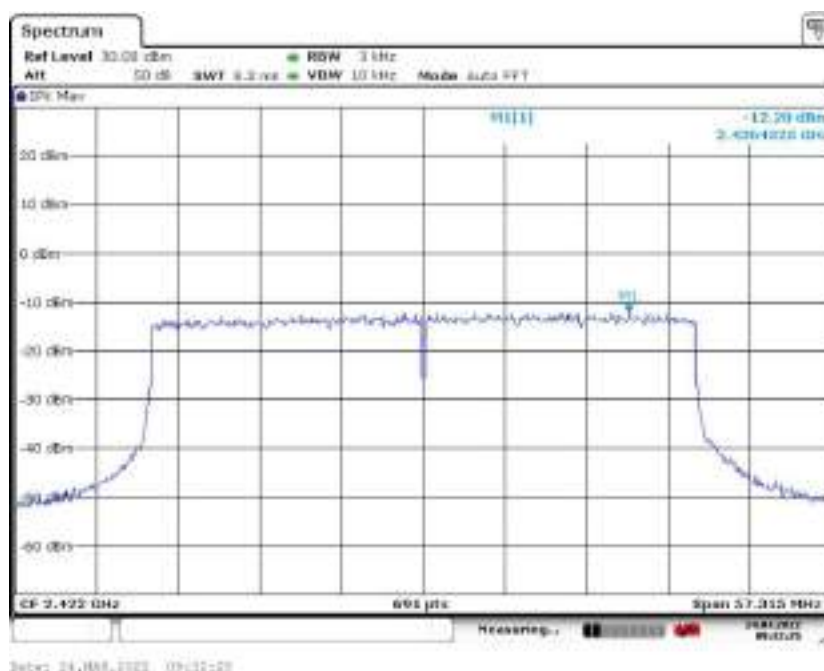


Channel 11: 2.462GHz:

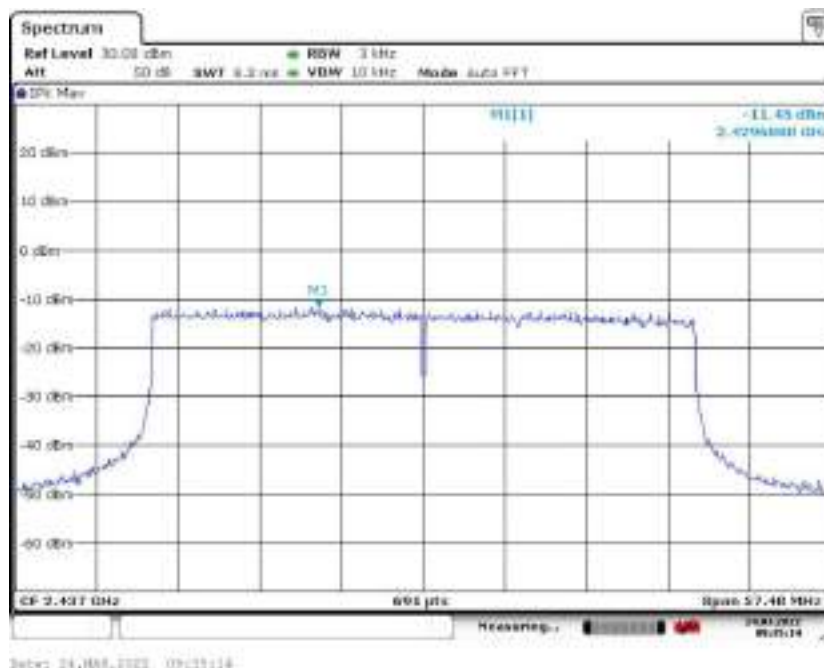


802.11ax(HE40) mode with MCS11 data rate

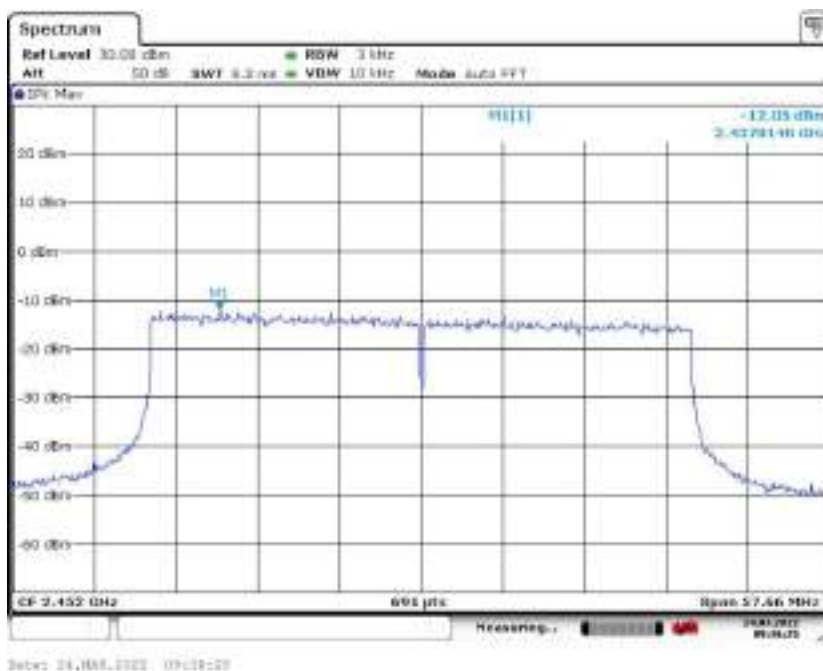
Channel 3: 2.422GHz:



Channel 6: 2.437GHz:



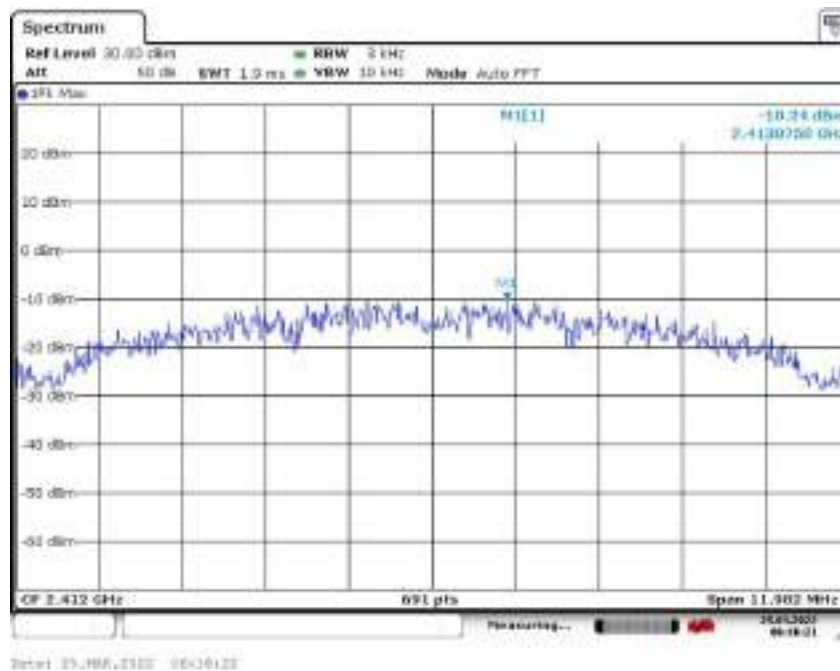
Channel 9: 2.452GHz:



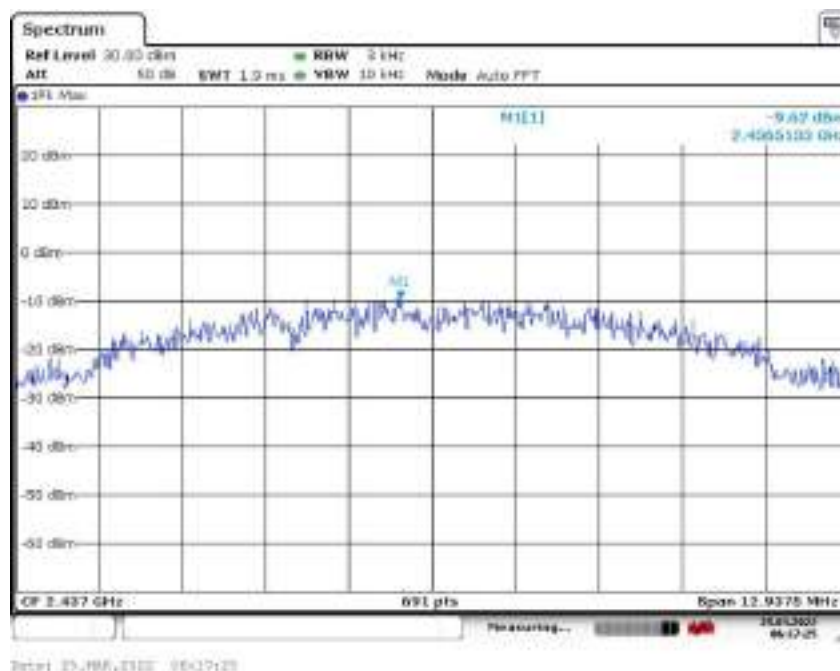
Test Result plot as follows: 2.4G_3

802.11b mode with 11Mbps data rate

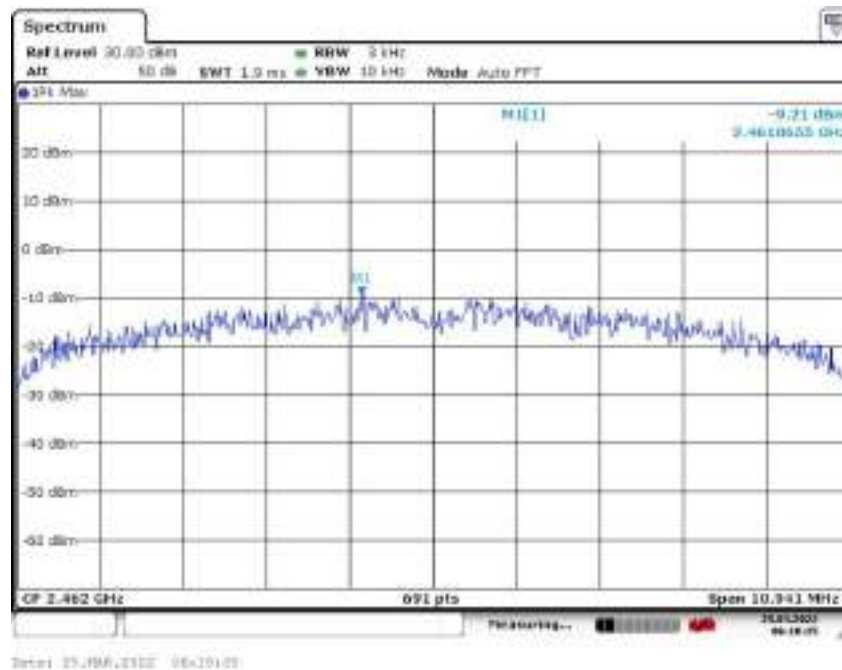
Channel 1: 2.412GHz:



Channel 6: 2.437GHz:

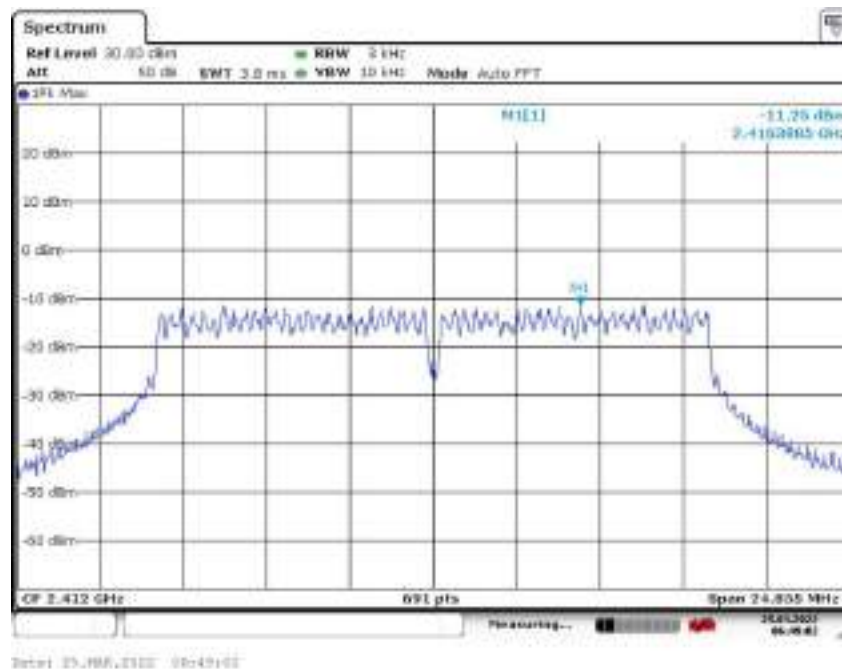


Channel 11: 2.462GHz:

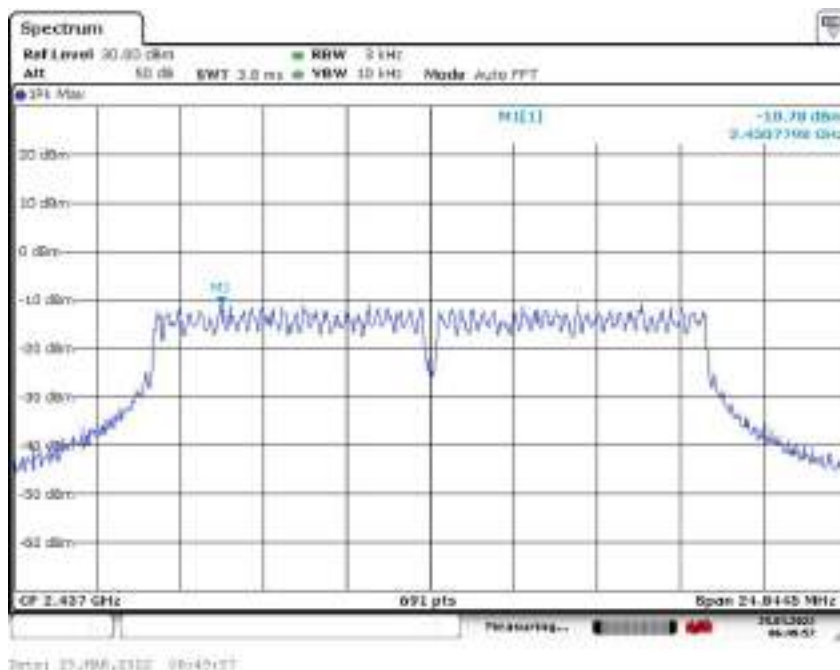


802.11g mode with 54Mbps data rate

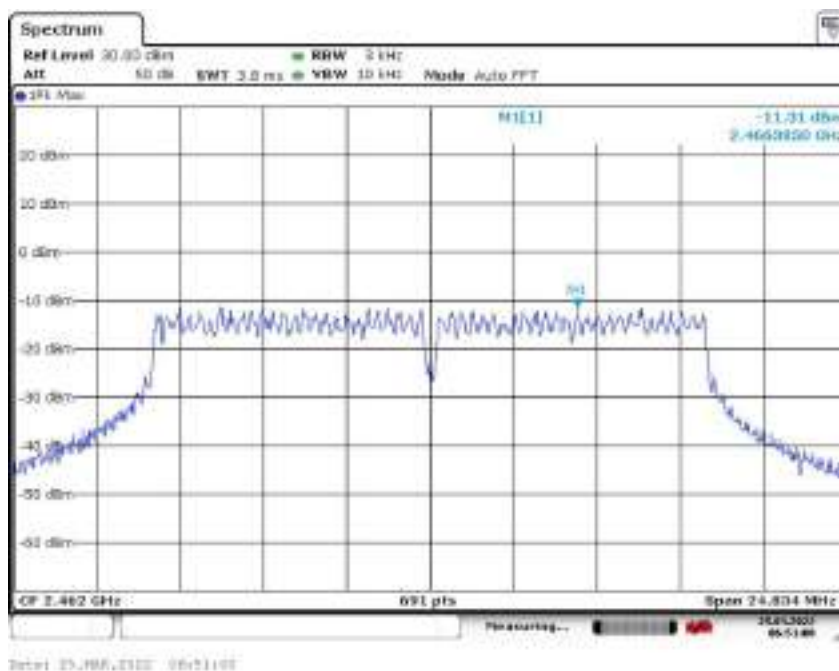
Channel 1: 2.412GHz:



Channel 6: 2.437GHz:

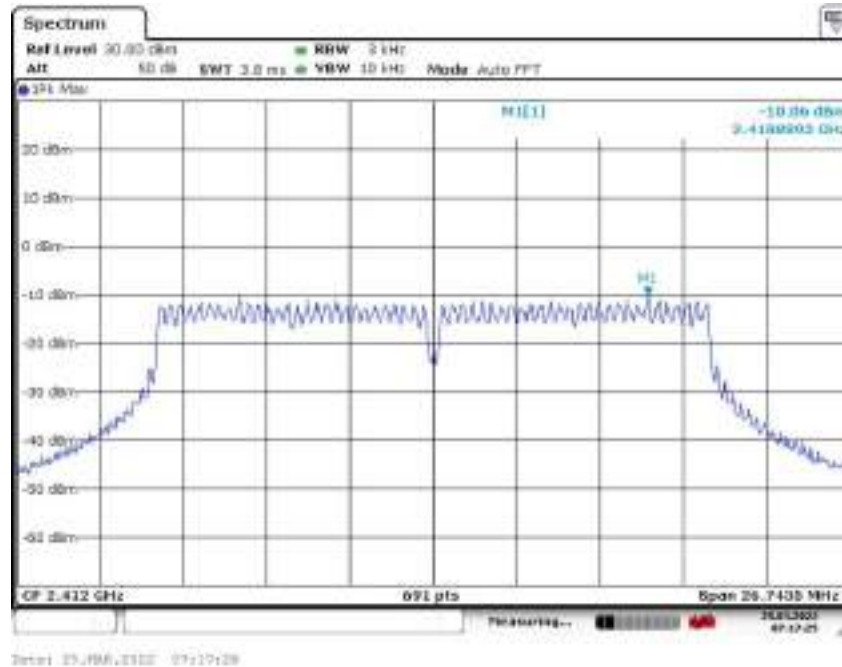


Channel 11: 2.462GHz:

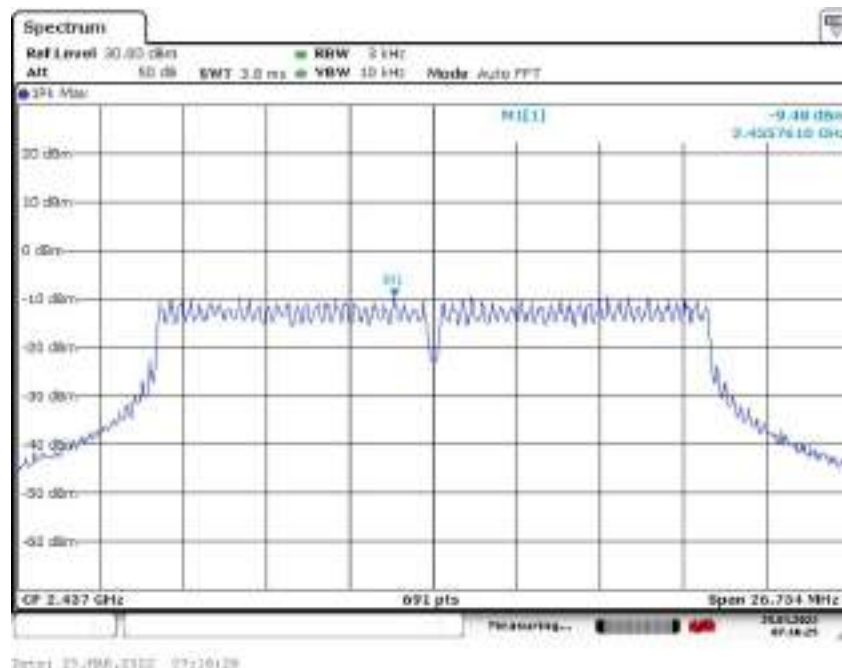


802.11n(HT20) mode with 72.2Mbps data rate

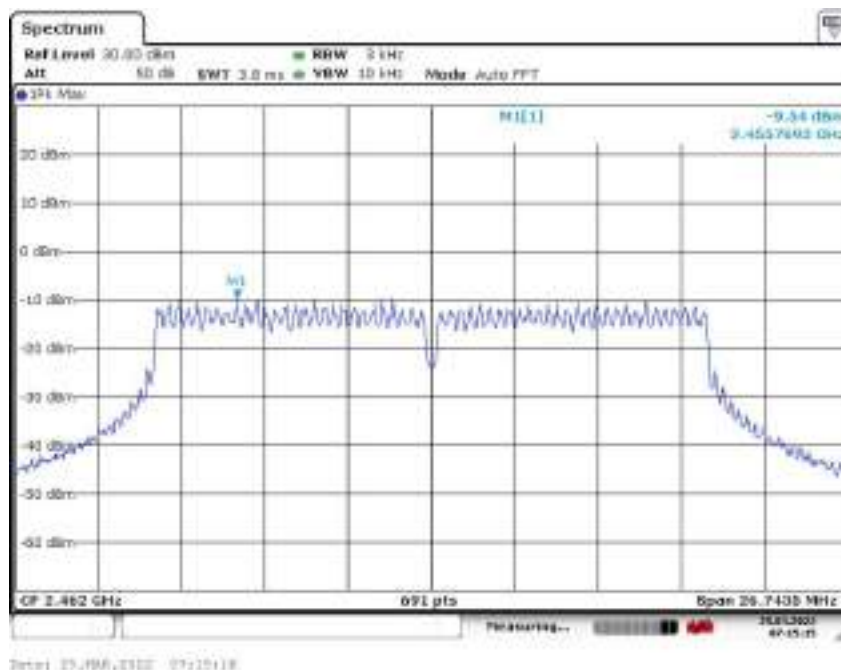
Channel 1: 2.412GHz:



Channel 6: 2.437GHz:

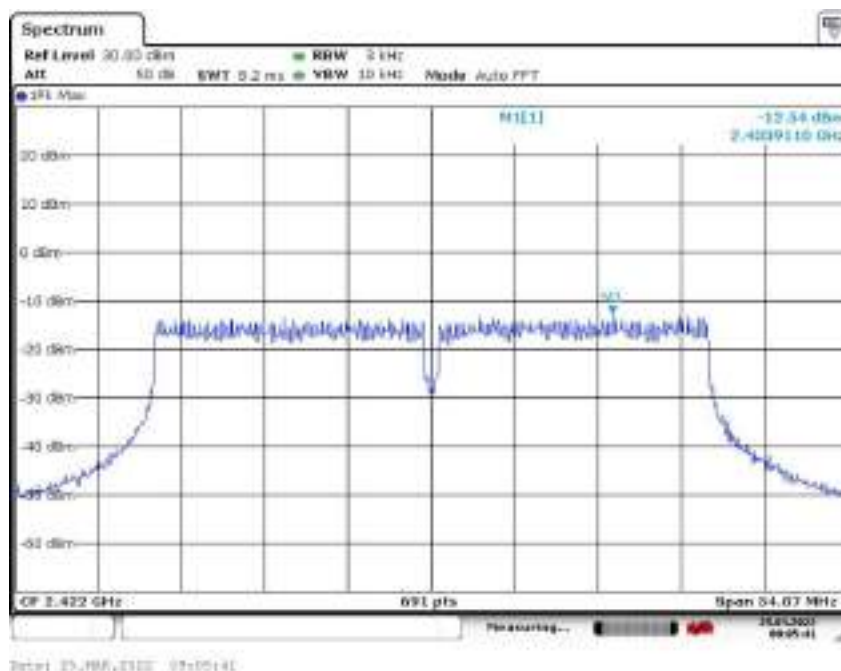


Channel 11: 2.462GHz:

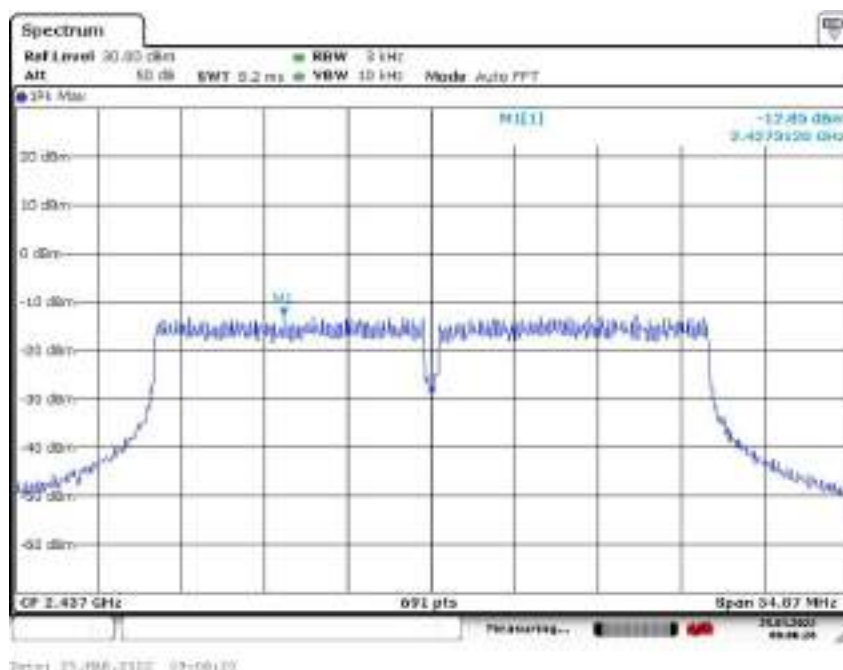


802.11n(HT40) mode with 150Mbps data rate

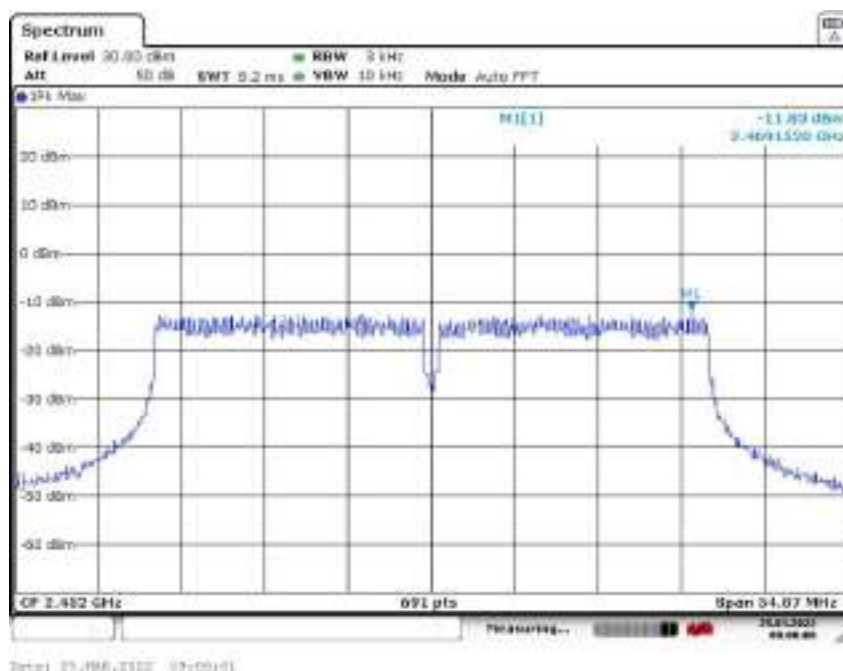
Channel 3: 2.422GHz:



Channel 6: 2.437GHz:

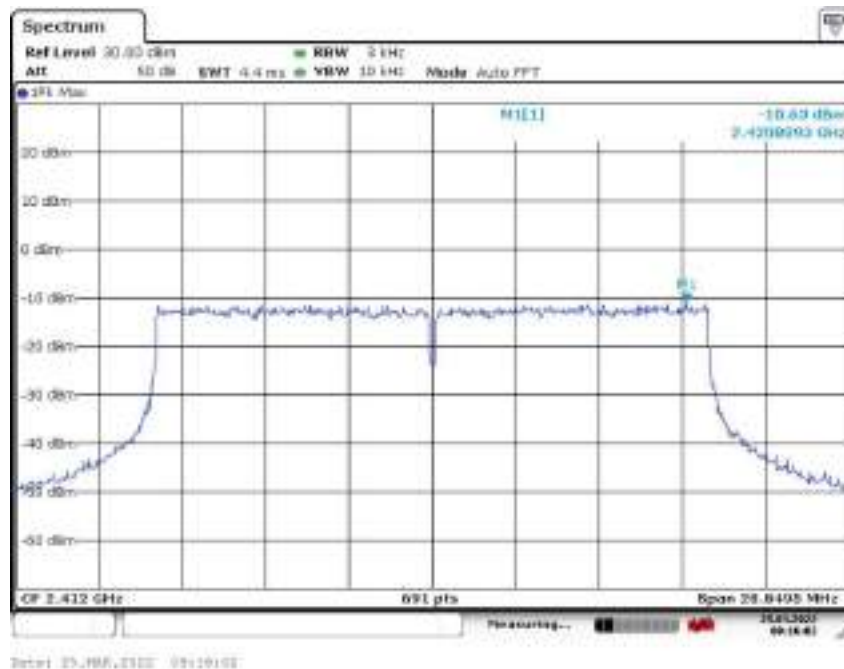


Channel 9: 2.452GHz:

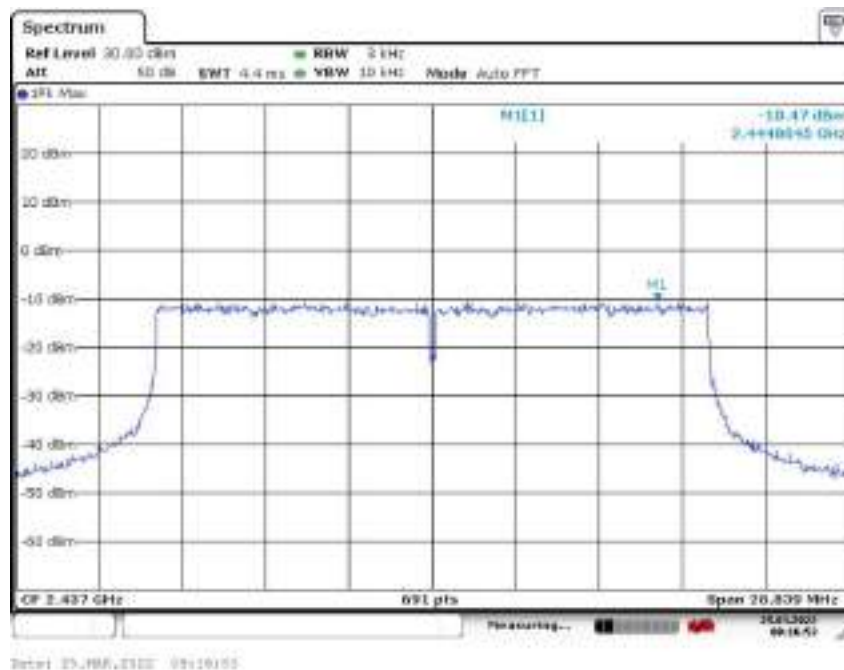


802.11ax(HE20) mode with MCS11 data rate

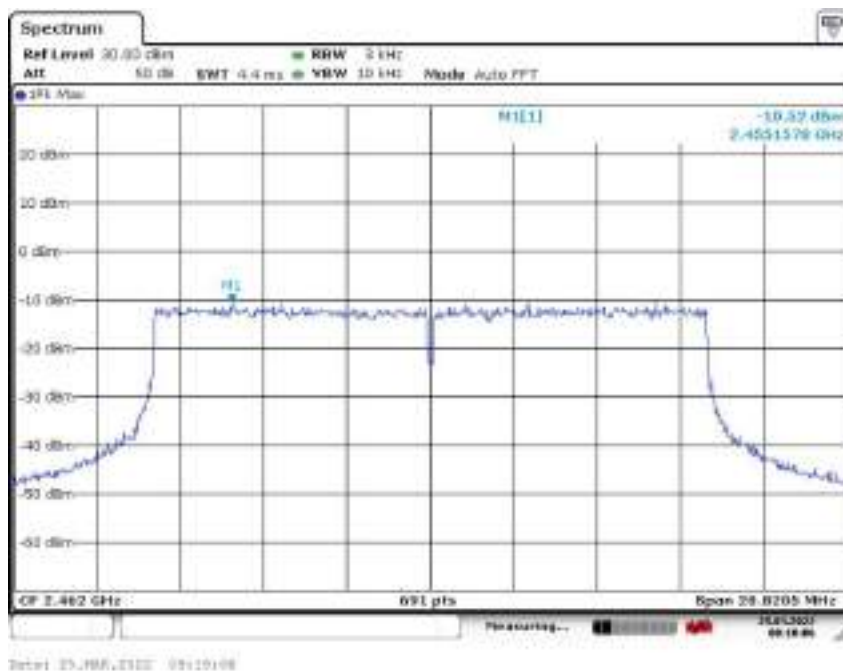
Channel 1: 2.412GHz



Channel 6: 2.437GHz:

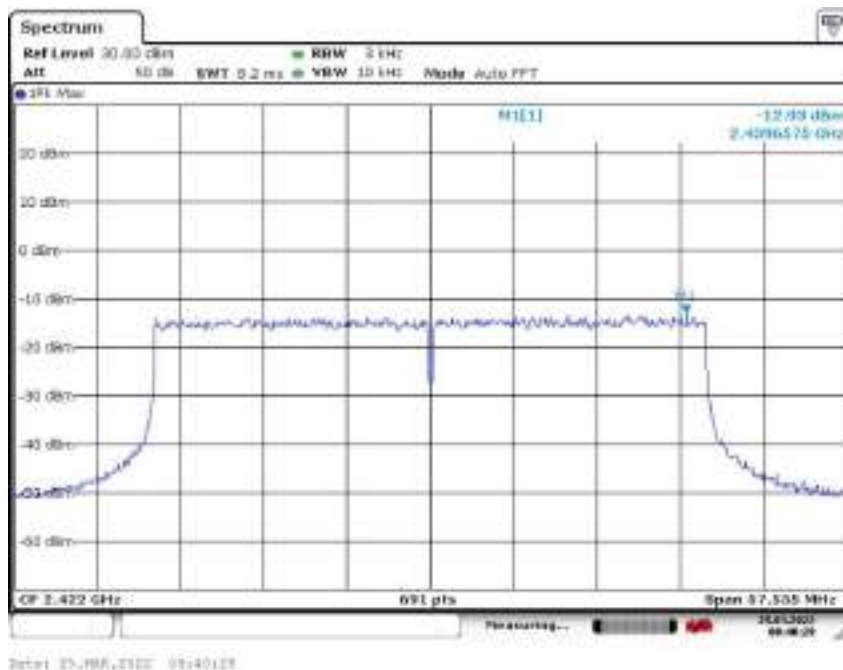


Channel 11: 2.462GHz:

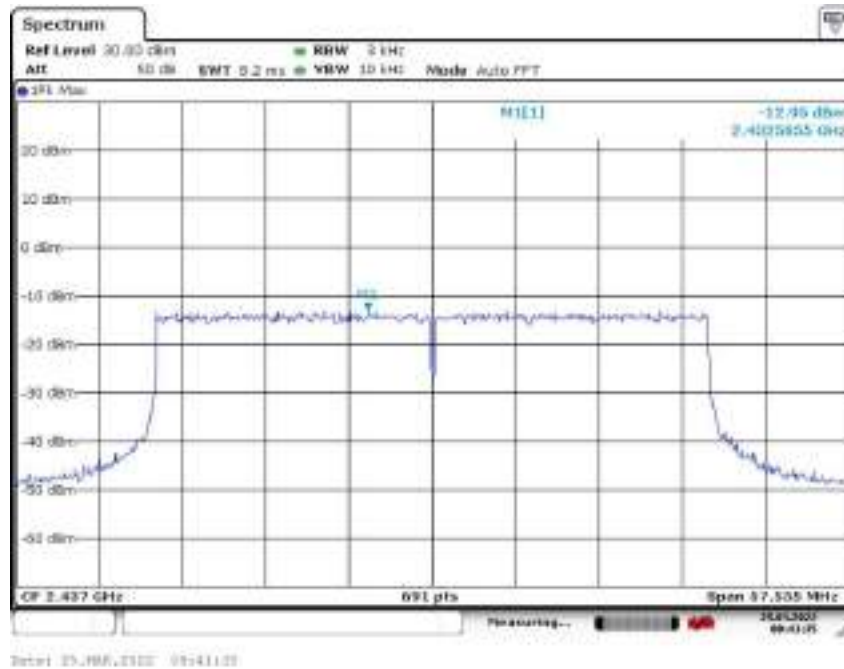


802.11ax(HE40) mode with MCS11 data rate

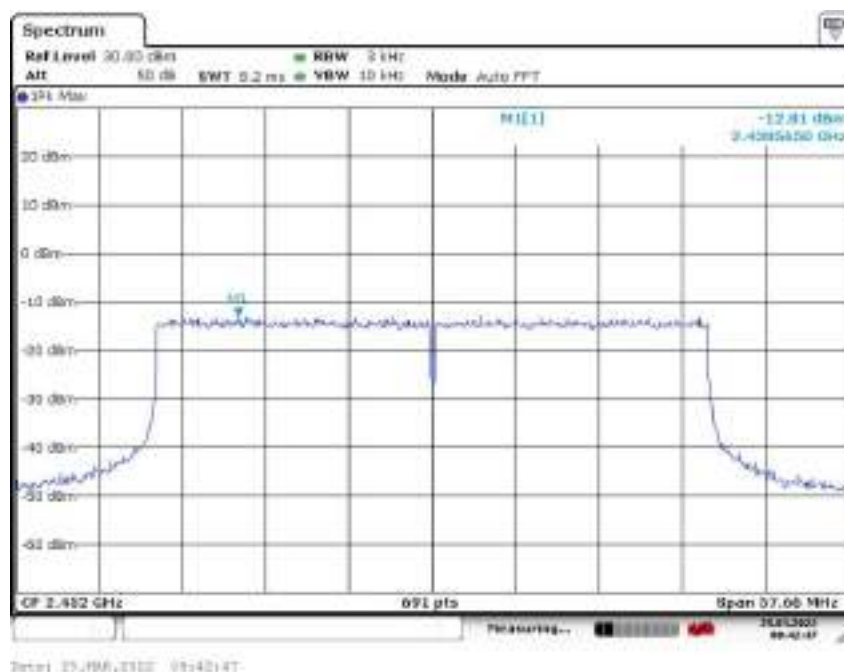
Channel 3: 2.422GHz:



Channel 6: 2.437GHz:

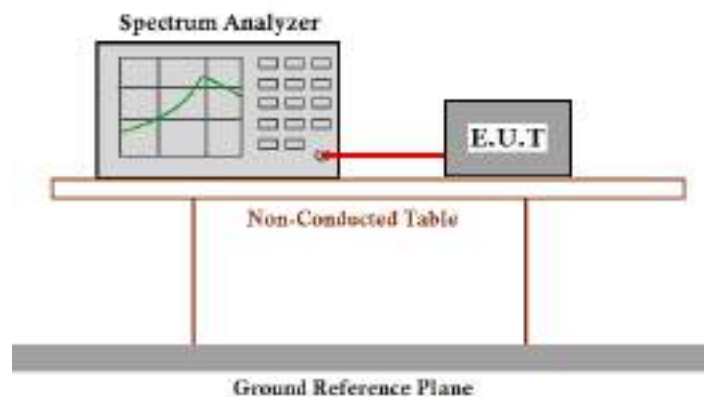


Channel 9: 2.452GHz:



7.8 Band Edges Requirement

Test Requirement:	FCC Part 15 C section 15.247 (d) 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.
Frequency Band:	2400 MHz to 2483.5 MHz
Test Method:	FCC/KDB-558074 D01 v03r01 Clause 13.3.1
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below. Pre-test the EUT under 2 modes: power-supplied by using the AC adapter and power-supplied by using internal battery. After pre-testing, we found the worst case is the test mode of EUT power-supplied by using internal battery.
Test Configuration:	



Test Procedure:

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum analyzer or power meter.
2. Set instrument center frequency to the frequency of the emission to be measured (must be within 2MHz of the authorized band edge).
3. Set span to 2MHz,
4. RBW=100kHz,
5. VBW $\geq$ 3 $\times$ RBW
6. Detector=peak



7. Sweep time =auto,
8. Trace mode=max hold.
9. Allow sweep to continue until the trace stabilizes(required measurement time may increase for low duty cycle applications)
10. Compute the power by integrating the spectrum over 1MHz using the analyzer's band power measurement function with band limits set equal to the emission frequency($f_{\text{emission}} \pm 0.5\text{MHz}$). If the instrument does not have a band power function, the sum the amplitude levels(in power units) at 100kHz intervals extending across the 1MHz spectrum defined by $f_{\text{emission}} \pm 0.5\text{MHz}$.

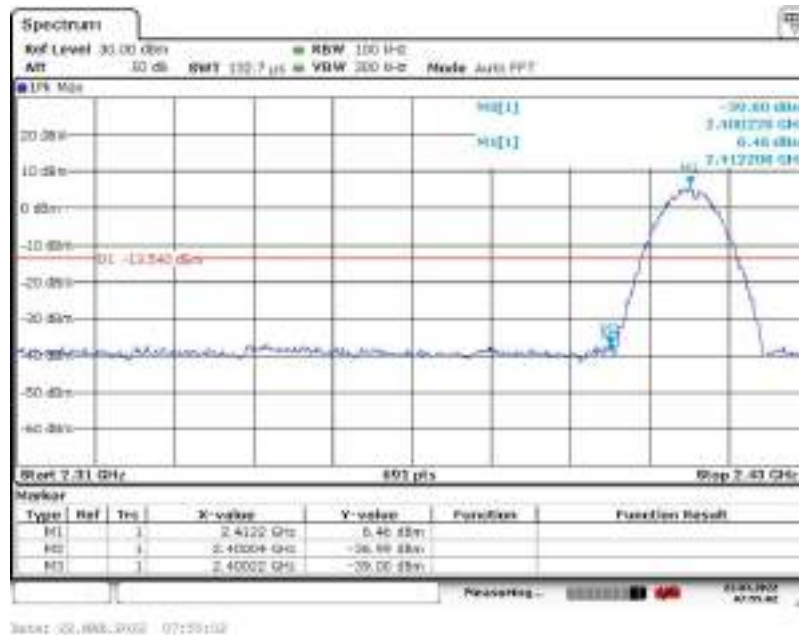
Test result with plots as follows: 2.4G_0

Compare with the output power of the lowest frequency, the Lower Edges attenuated more than 20dB

Compare with the output power of the highest frequency, the Upper Edges attenuated more than 20dB.

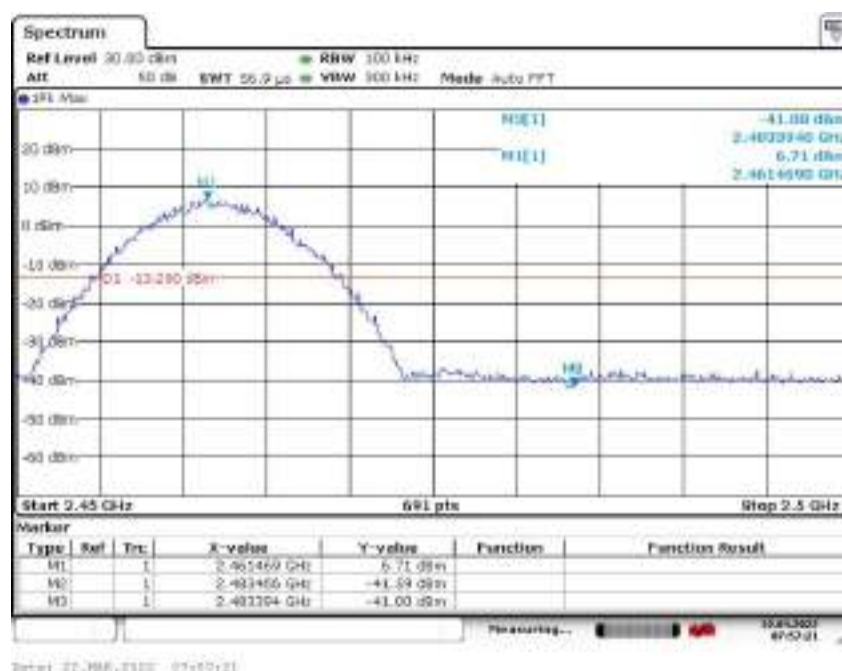
802.11b mode with 11Mbps data rate

Channel1: 2.412 GHz



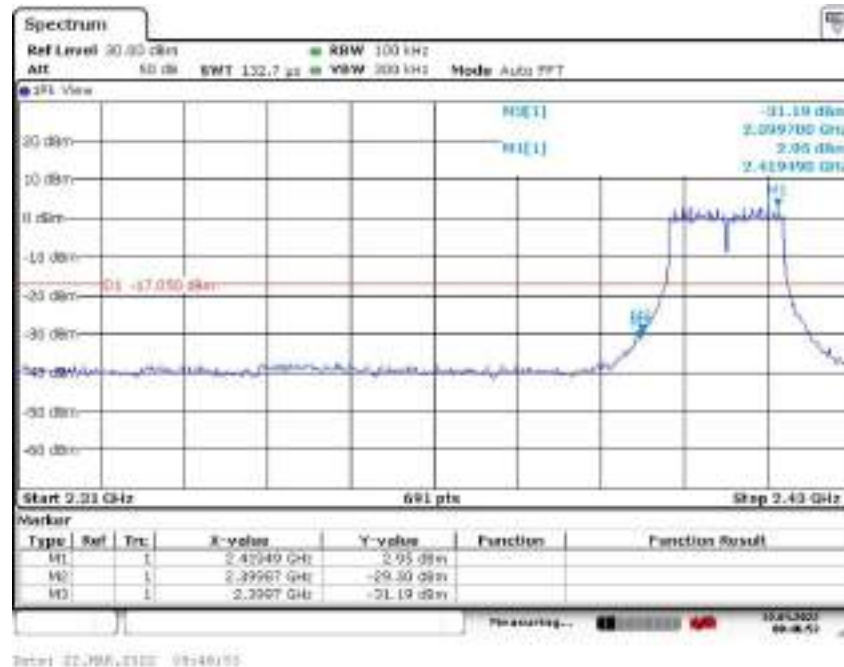
802.11b mode with 11Mbps data rate

Channel11: 2.462 GHz



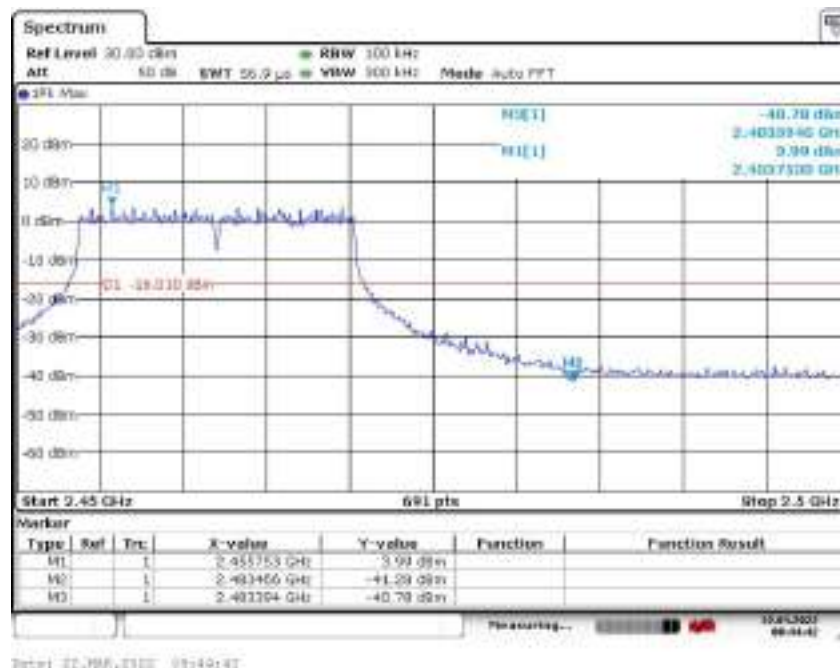
802.11g mode with 54 Mbps data rate

Channel1: 2.412 GHz



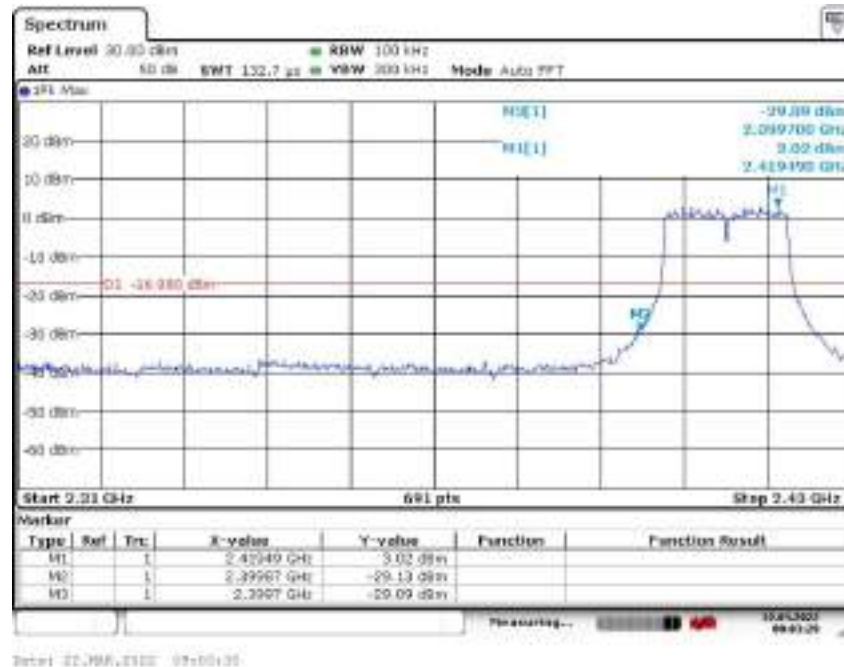
802.11g mode with 54 Mbps data rate

Channel1: 2.462 GHz



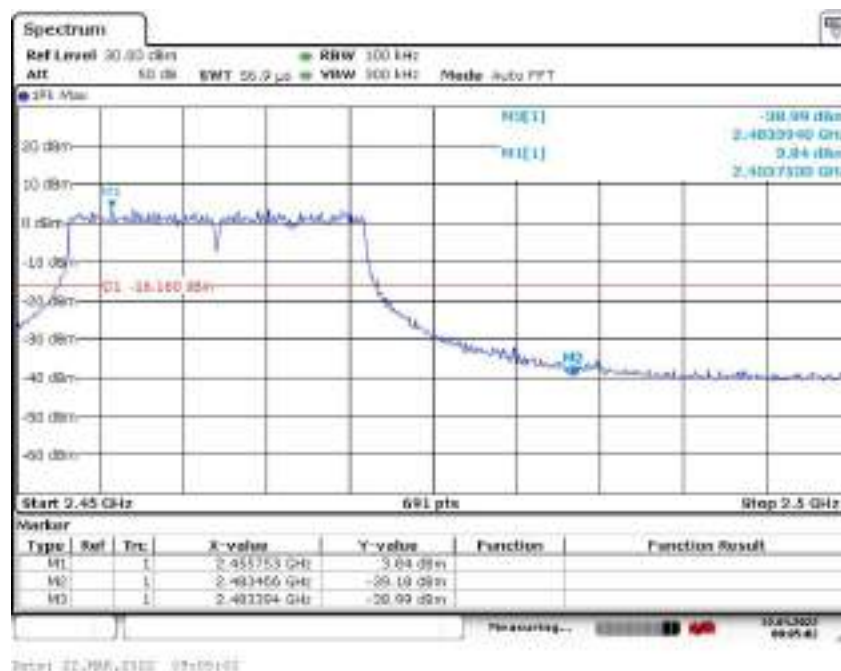
802.11n(HT20) mode with 72.2Mbps data rate

Channel1: 2.412 GHz



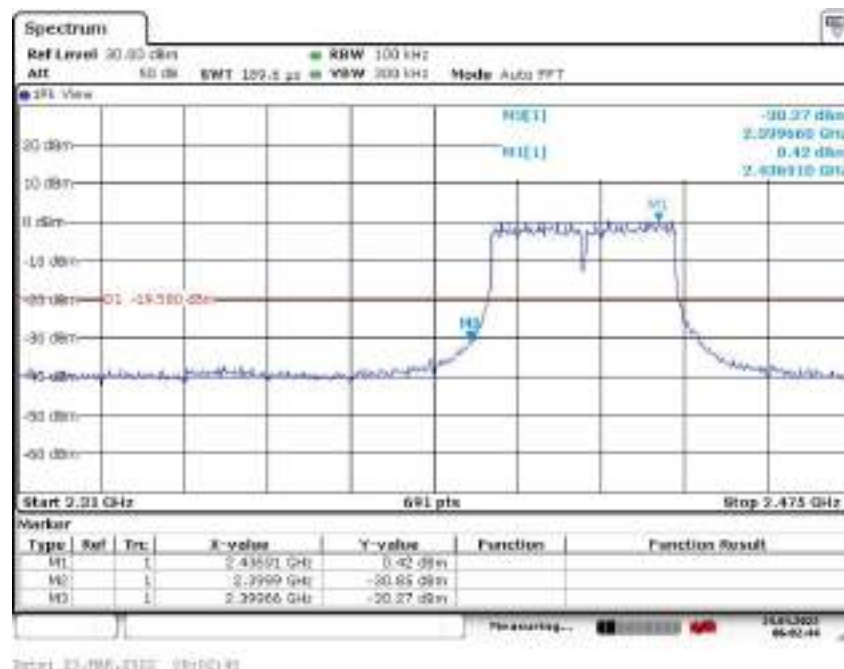
802.11n(HT20) mode with 72.2Mbps data rate

Channel11: 2.462 GHz



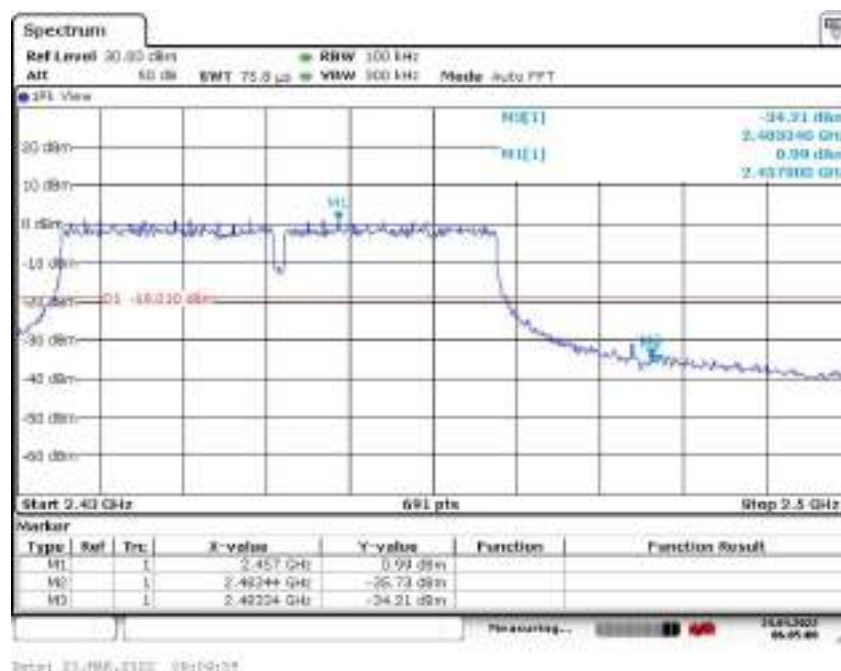
802.11n(HT40) mode with 150Mbps data rate

Channel 3: 2.422 GHz



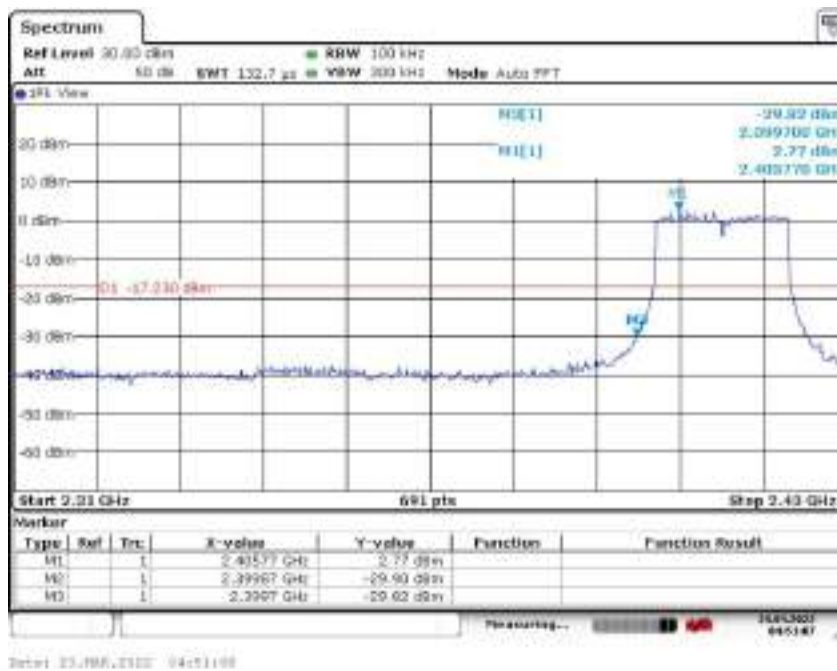
802.11n(HT40) mode with 150Mbps data rate

Channel 9: 2.452 GHz

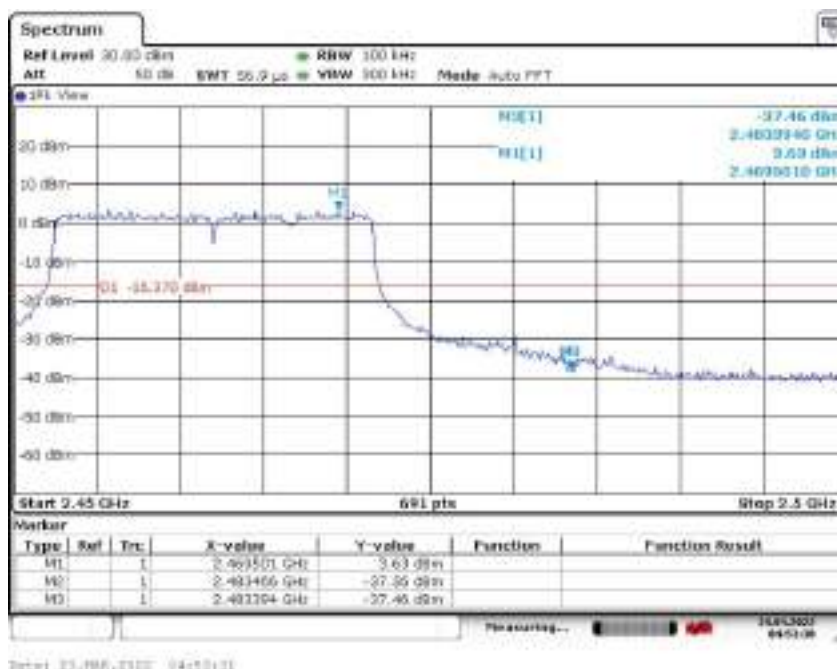


802.11ax(HE20) mode with MCS11 data rate

Channel1: 2.412 GHz



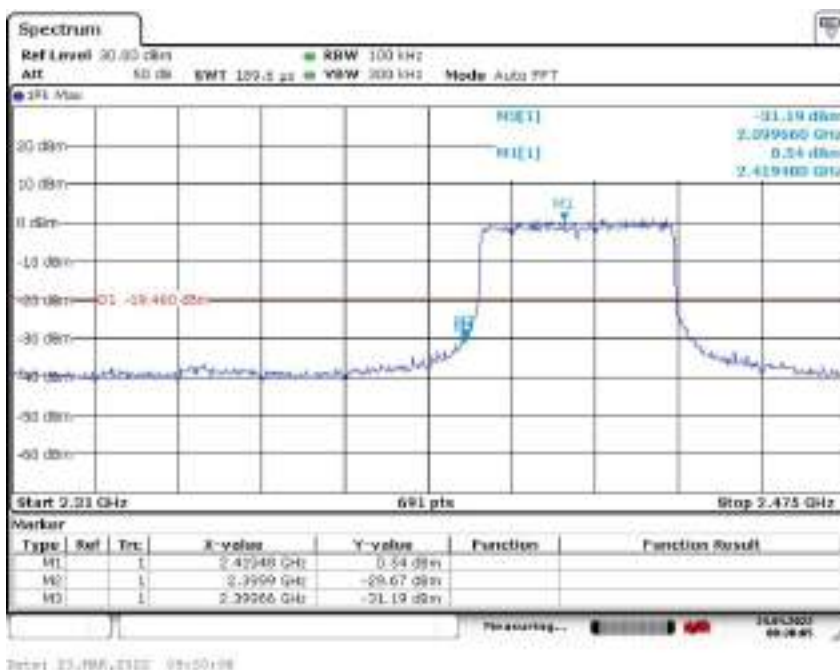
Channel11: 2.462 GHz



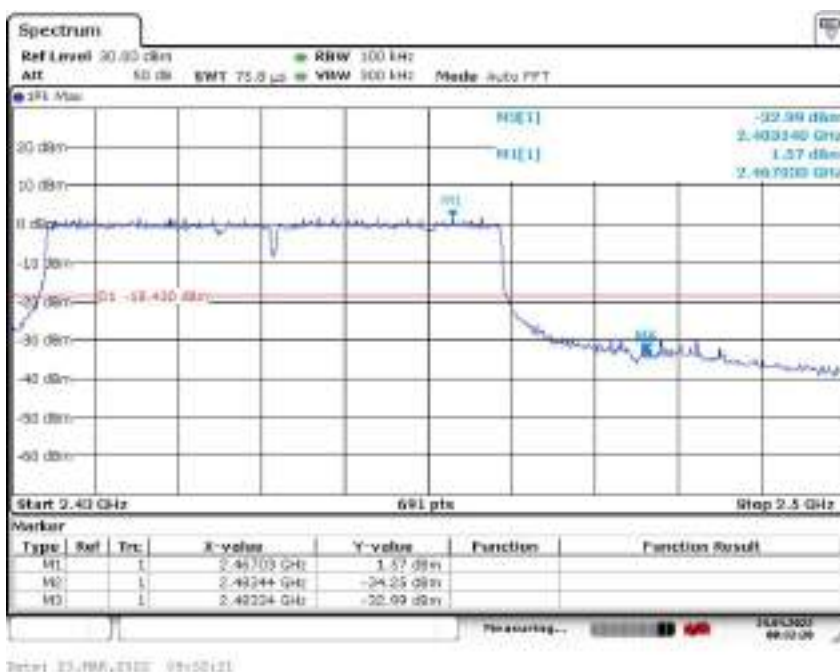
Report No.: AAEMT/EMC/220321-01-04

802.11ax(HE40) mode with MCS11 data rate

Channel 3: 2.422 GHz



Channel 9: 2.452 GHz



Result with plots as follows: 2.4G_1

Compare with the output power of the lowest frequency, the Lower Edges attenuated more than 20dB

Compare with the output power of the highest frequency, the Upper Edges attenuated more than 20dB.

802.11b mode with 11Mbps data rate

Channel1: 2.412 GHz

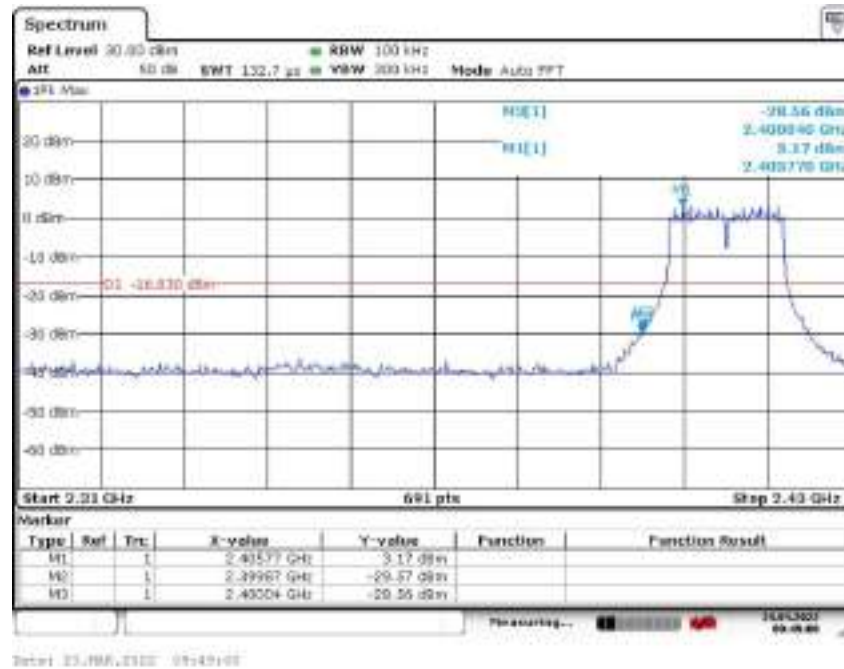


Channel11: 2.462 GHz



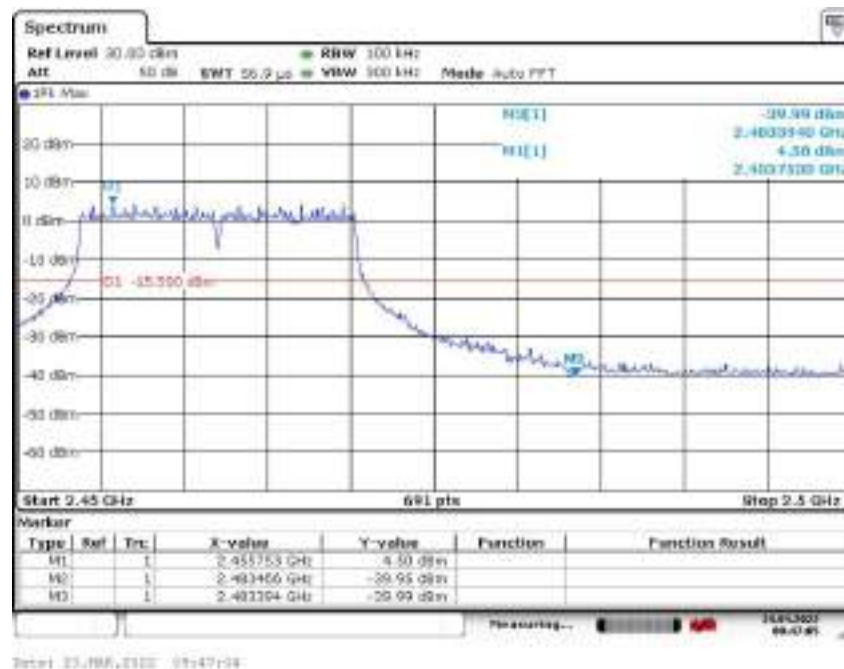
802.11g mode with 54 Mbps data rate

Channel1: 2.412 GHz



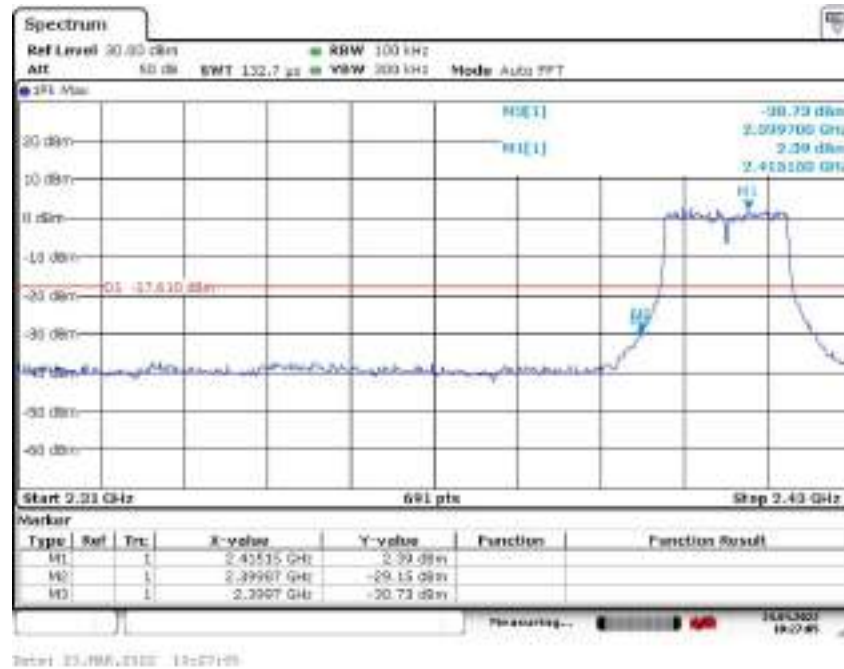
802.11g mode with 54 Mbps data rate

Channel1: 2.462 GHz



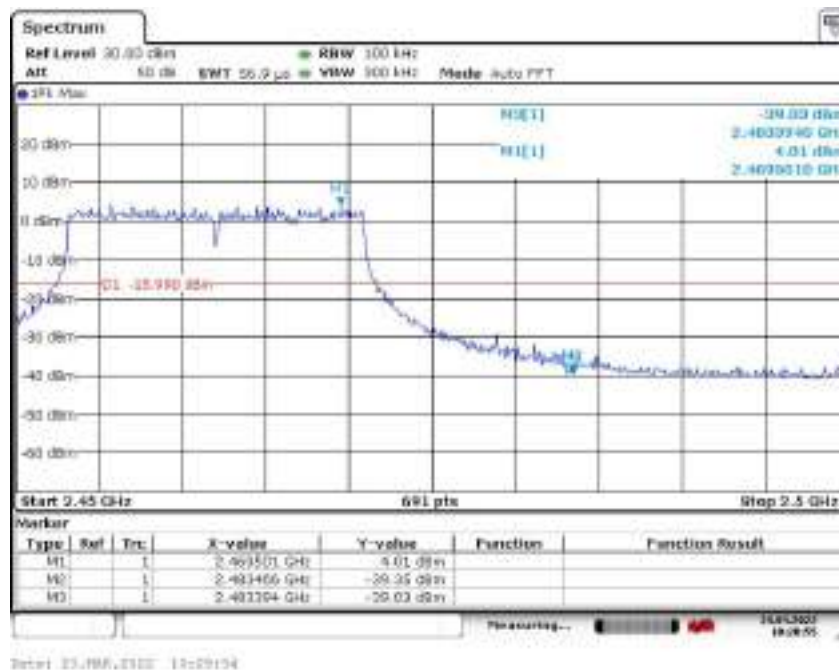
802.11n(HT20) mode with 72.2Mbps data rate

Channel1: 2.412 GHz



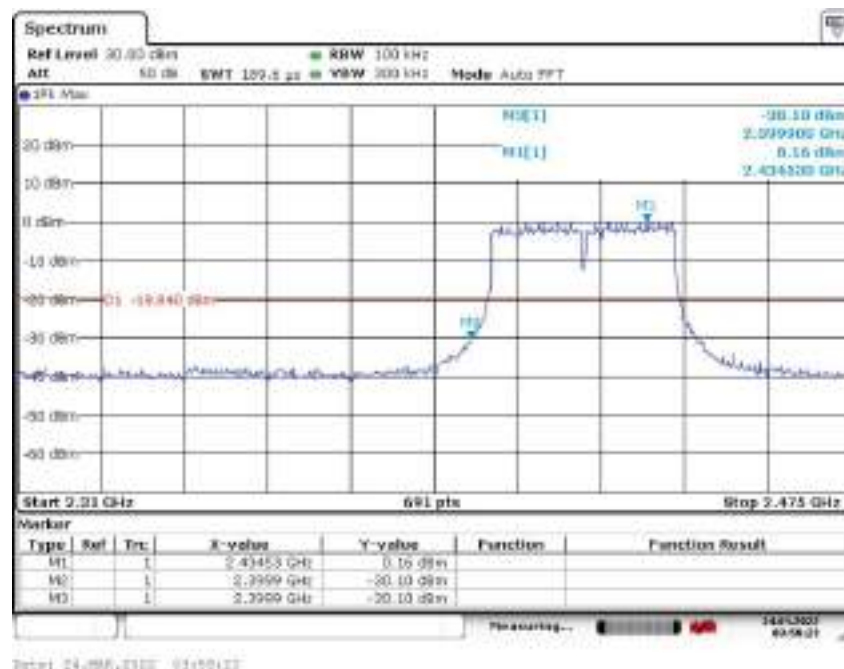
802.11n(HT20) mode with 72.2Mbps data rate

Channel1: 2.462 GHz



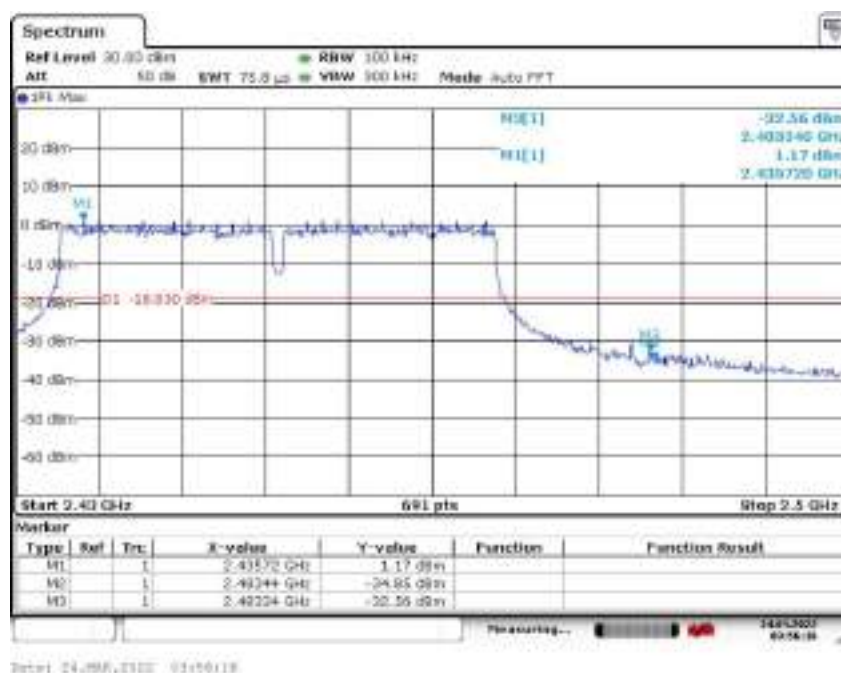
802.11n(HT40) mode with 150Mbps data rate

Channel 3: 2.422 GHz



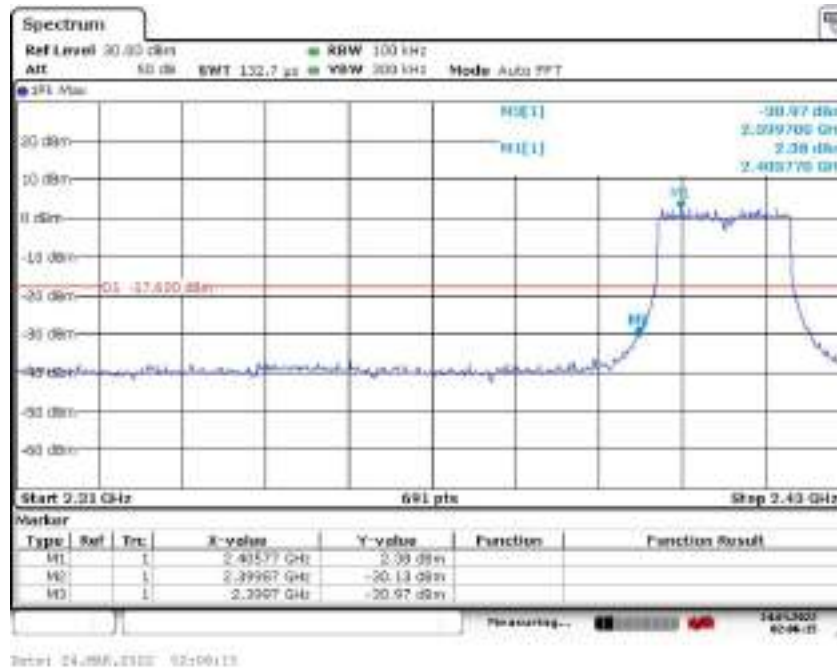
802.11n(HT40) mode with 150Mbps data rate

Channel 9: 2.452 GHz

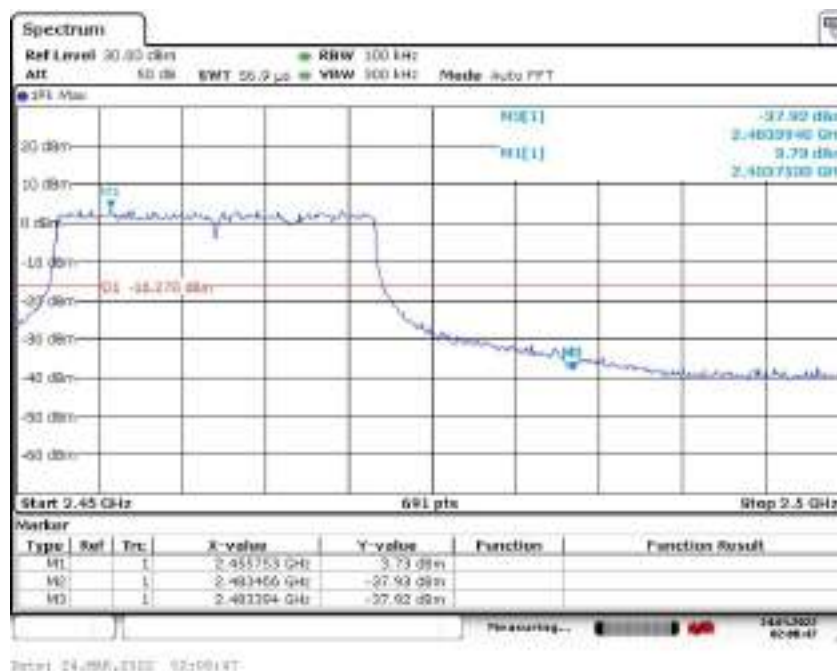


802.11ax(HE20) mode with MCS11 data rate

Channel1: 2.412 GHz

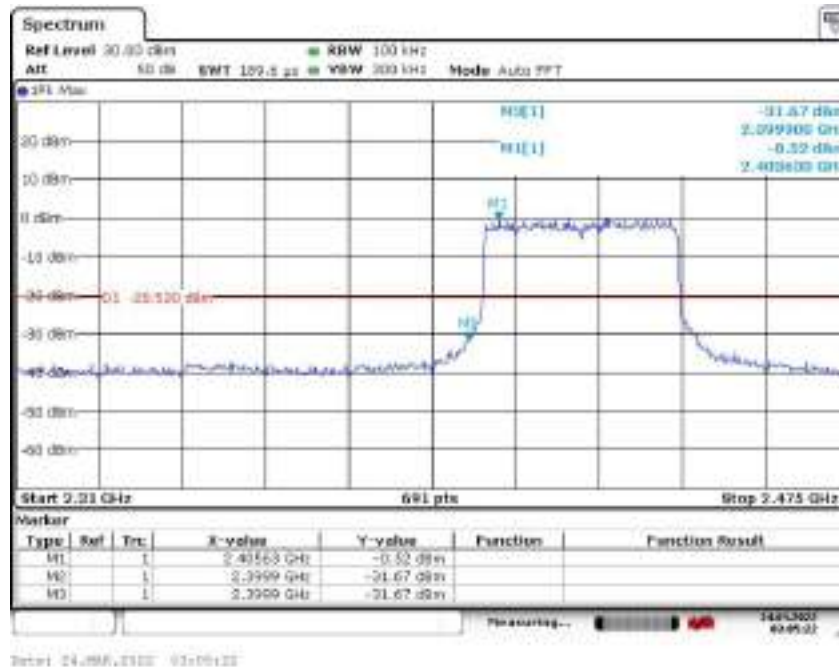


Channel11: 2.462 GHz



802.11ax(HE40) mode with MCS11 data rate

Channel 3: 2.422 GHz



Channel 9: 2.452 GHz



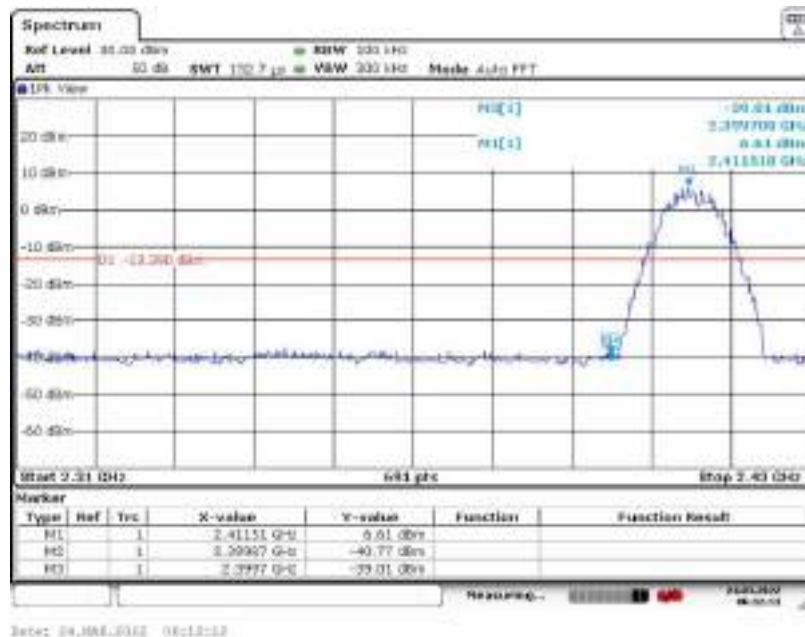
Result with plots as follows: 2.4G_2

Compare with the output power of the lowest frequency, the Lower Edges attenuated more than 20dB

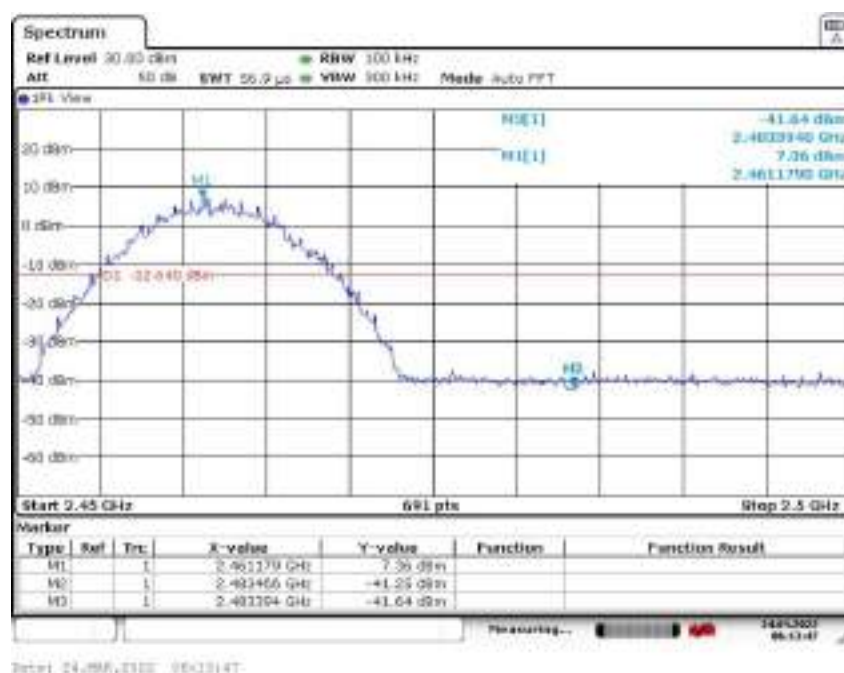
Compare with the output power of the highest frequency, the Upper Edges attenuated more than 20dB.

802.11b mode with 11Mbps data rate

Channel1: 2.412 GHz

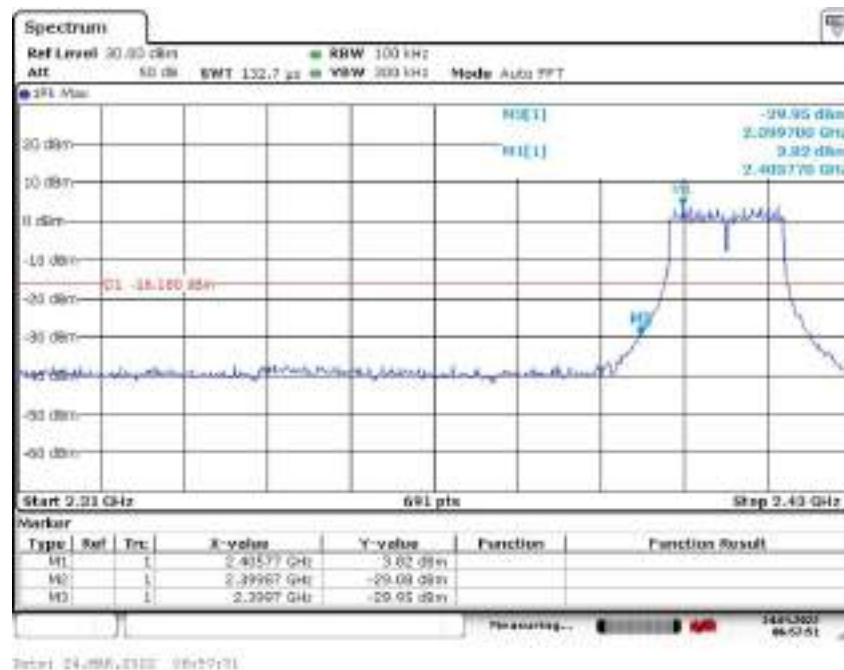


Channel11: 2.462 GHz



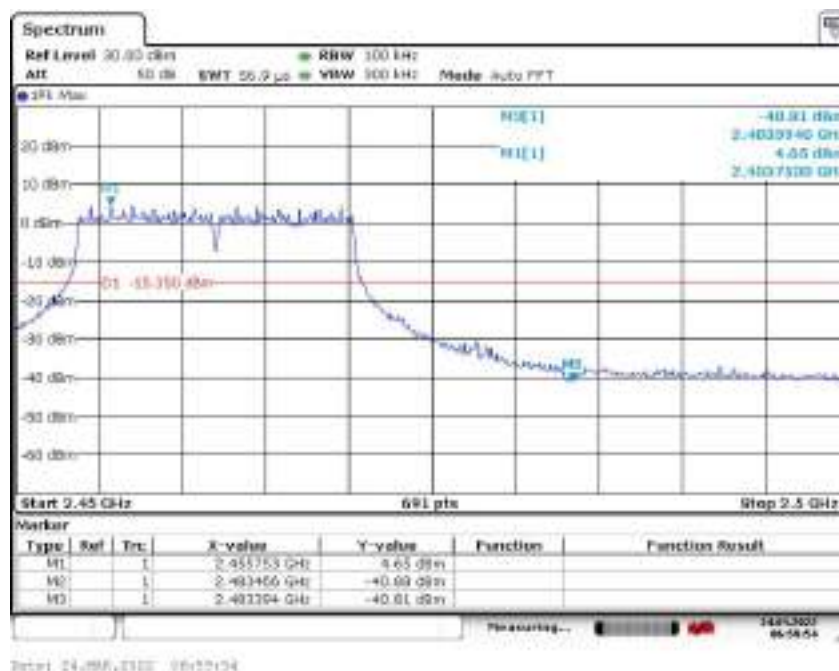
802.11g mode with 54 Mbps data rate

Channel1: 2.412 GHz



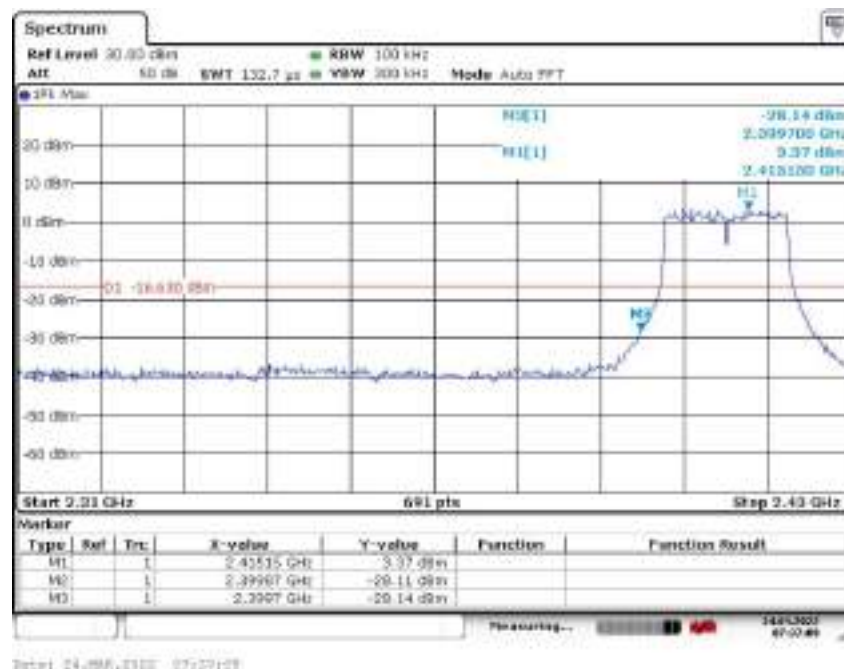
802.11g mode with 54 Mbps data rate

Channel1: 2.462 GHz



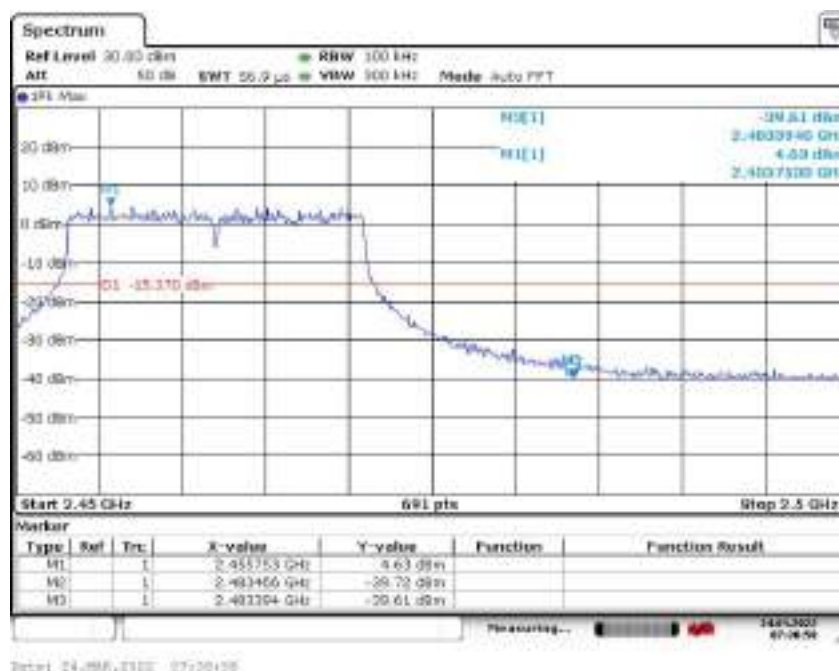
802.11n(HT20) mode with 72.2Mbps data rate

Channel1: 2.412 GHz



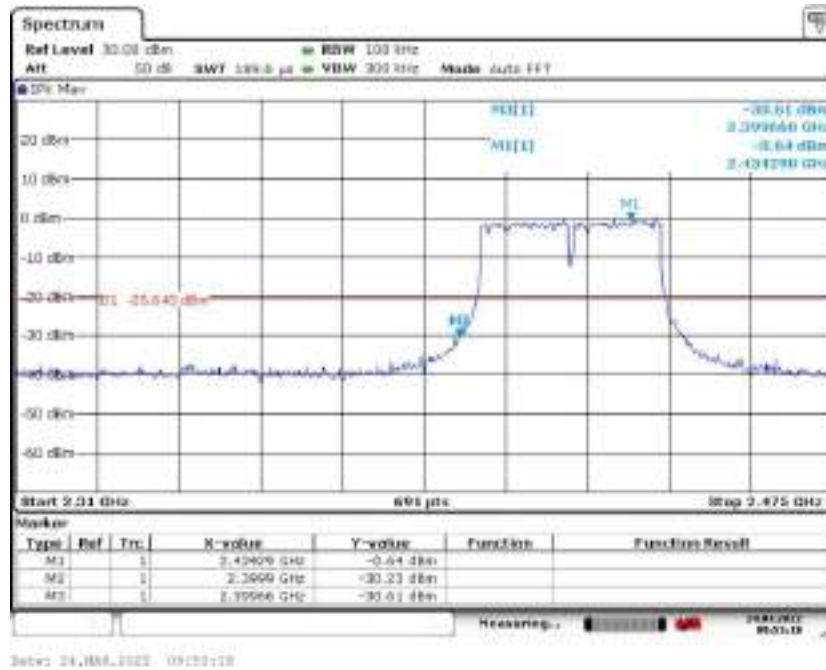
802.11n(HT20) mode with 72.2Mbps data rate

Channel1: 2.462 GHz



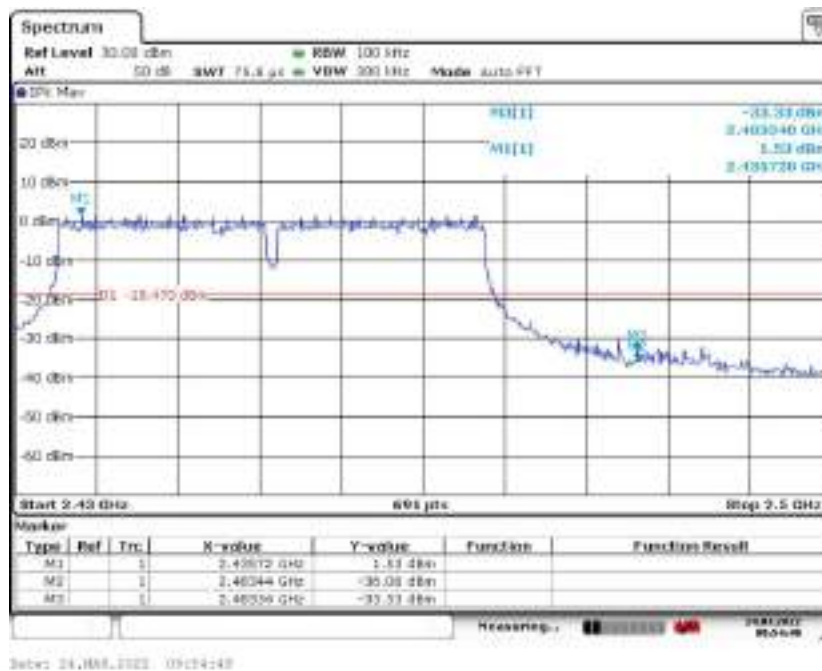
802.11n(HT40) mode with 150Mbps data rate

Channel 3: 2.422 GHz



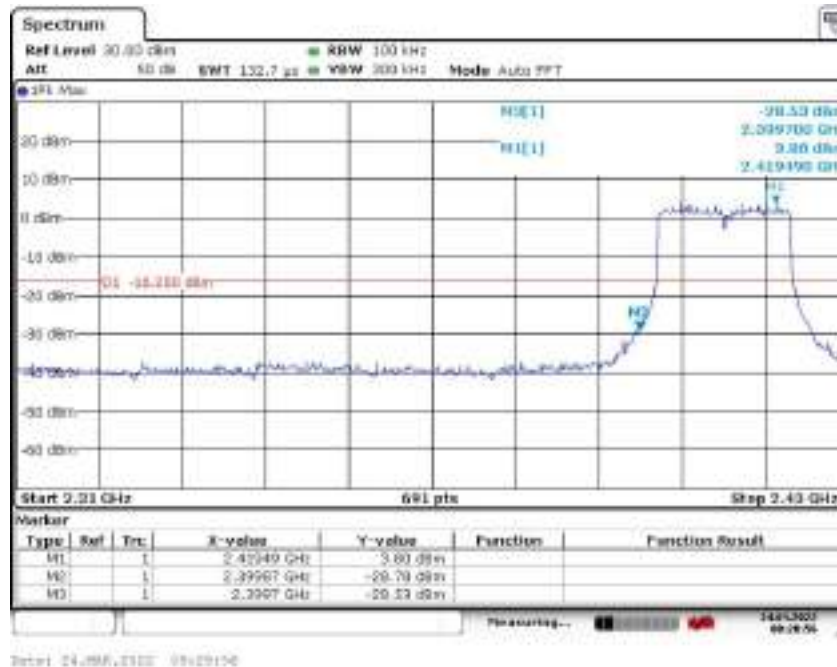
802.11n(HT40) mode with 150Mbps data rate

Channel 9: 2.452 GHz

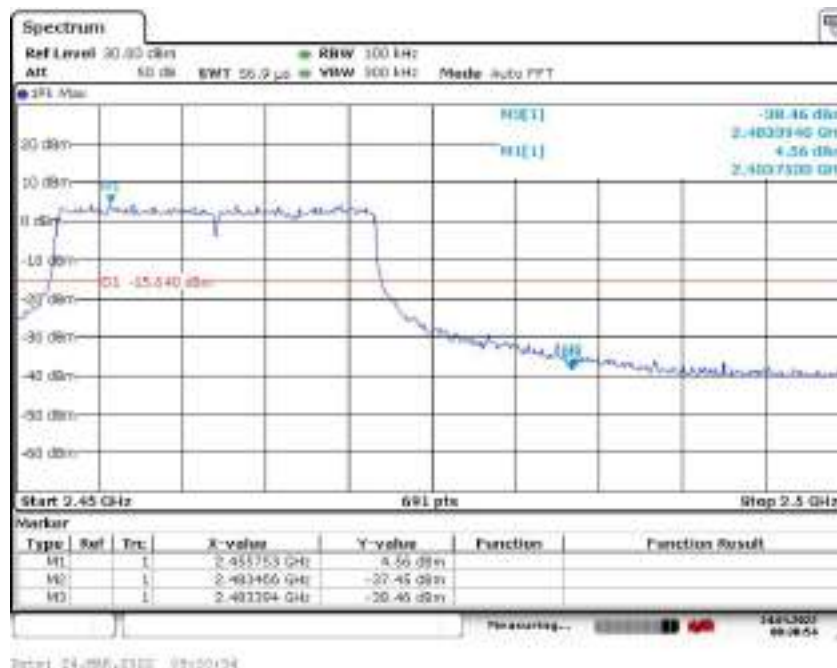


802.11ax(HE20) mode with MCS11 data rate

Channel1: 2.412 GHz

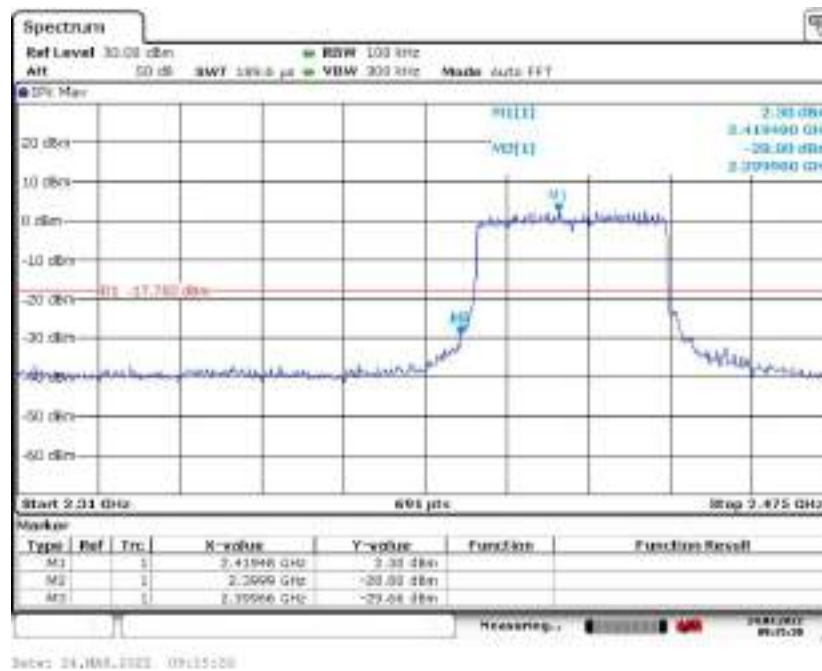


Channel11: 2.462 GHz

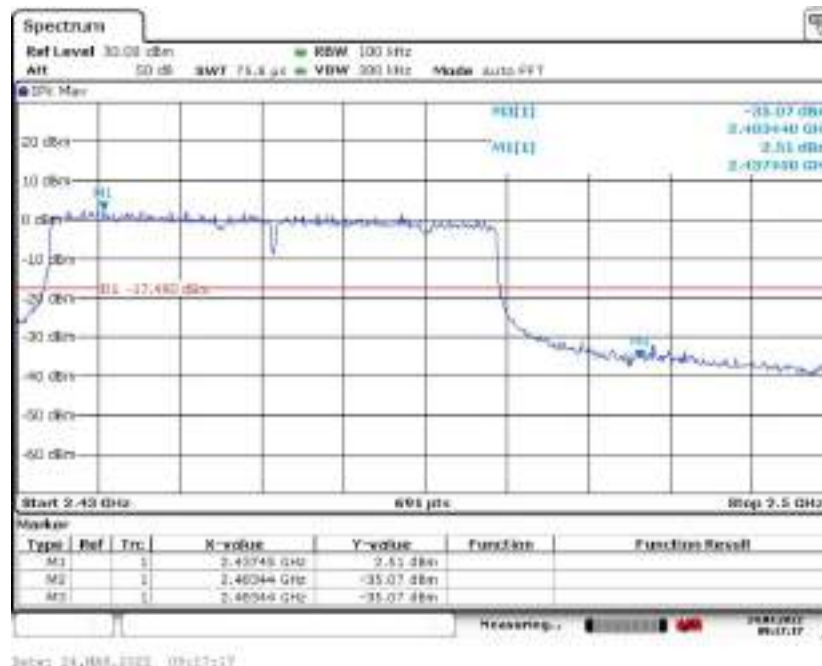


802.11ax(HE40) mode with MCS11 data rate

Channel 3: 2.422 GHz



Channel 9: 2.452 GHz



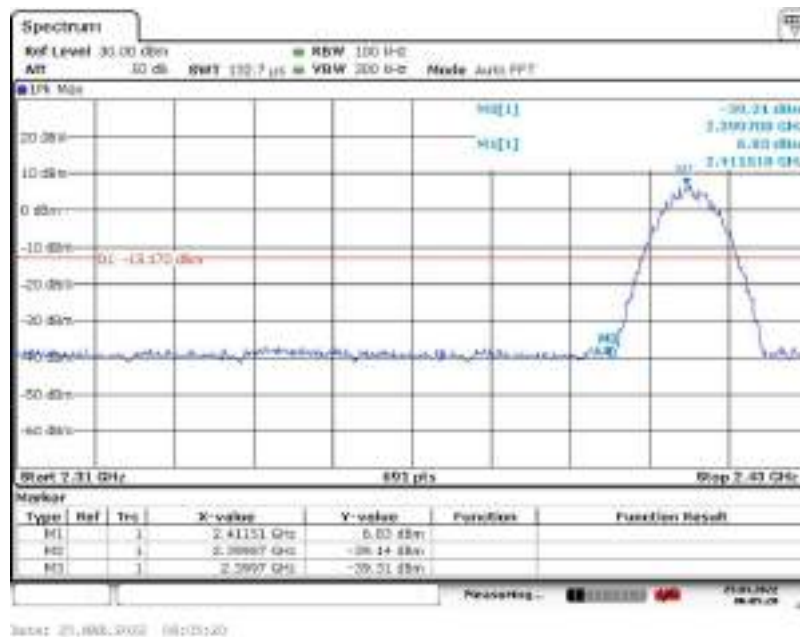
Result with plots as follows: 2.4G_3

Compare with the output power of the lowest frequency, the Lower Edges attenuated more than 20dB

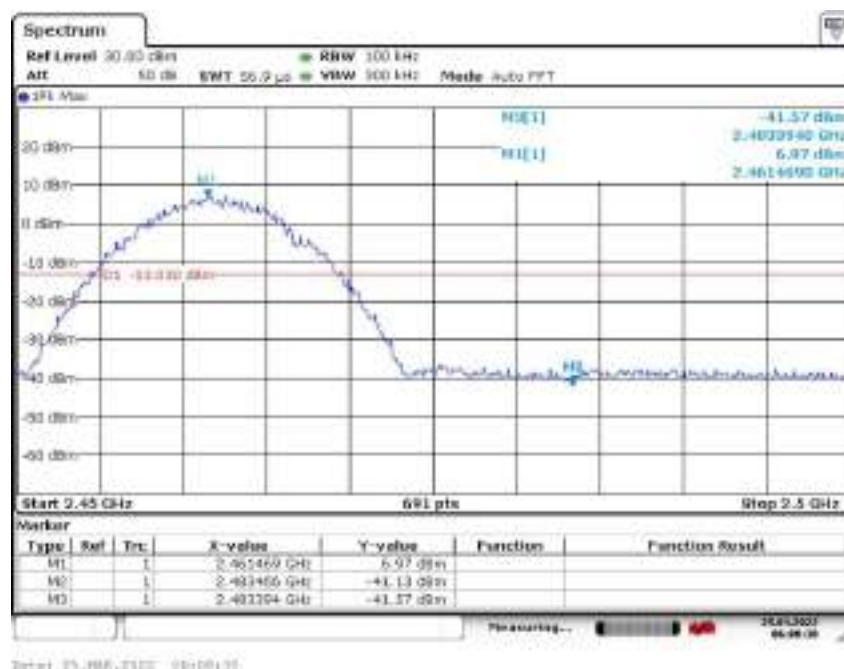
Compare with the output power of the highest frequency, the Upper Edges attenuated more than 20dB.

802.11b mode with 11Mbps data rate

Channel1: 2.412 GHz

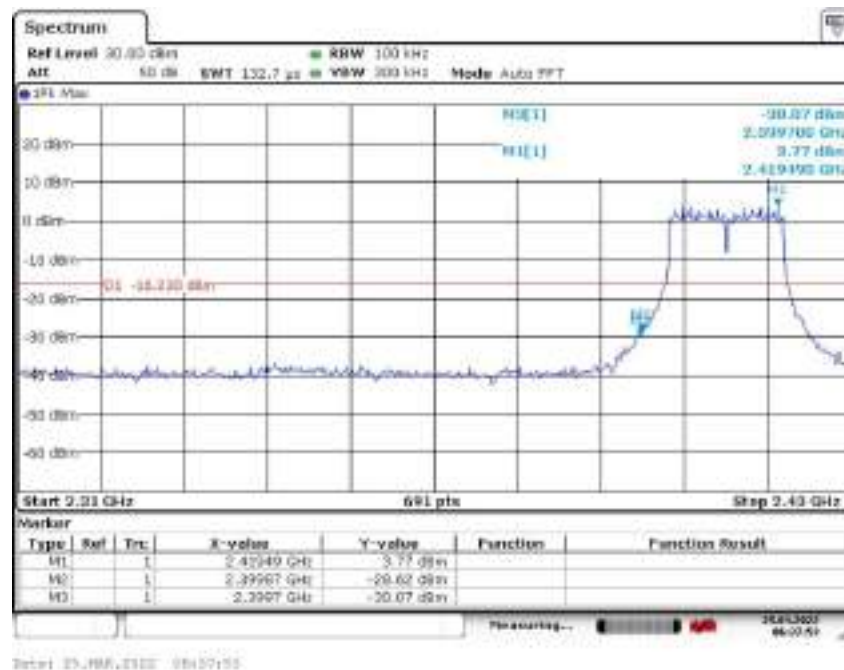


Channel11: 2.462 GHz



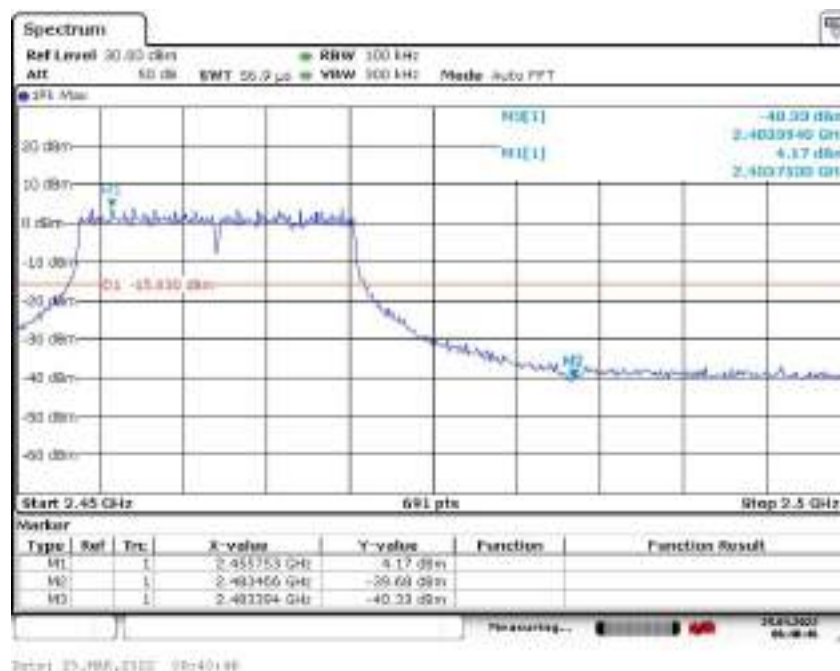
802.11g mode with 54 Mbps data rate

Channel1: 2.412 GHz



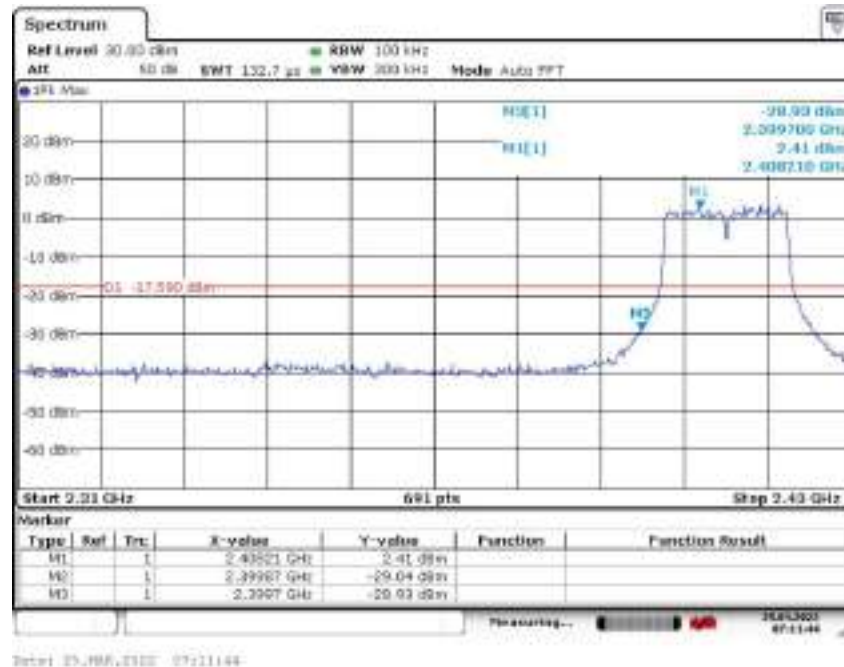
802.11g mode with 54 Mbps data rate

Channel1: 2.462 GHz



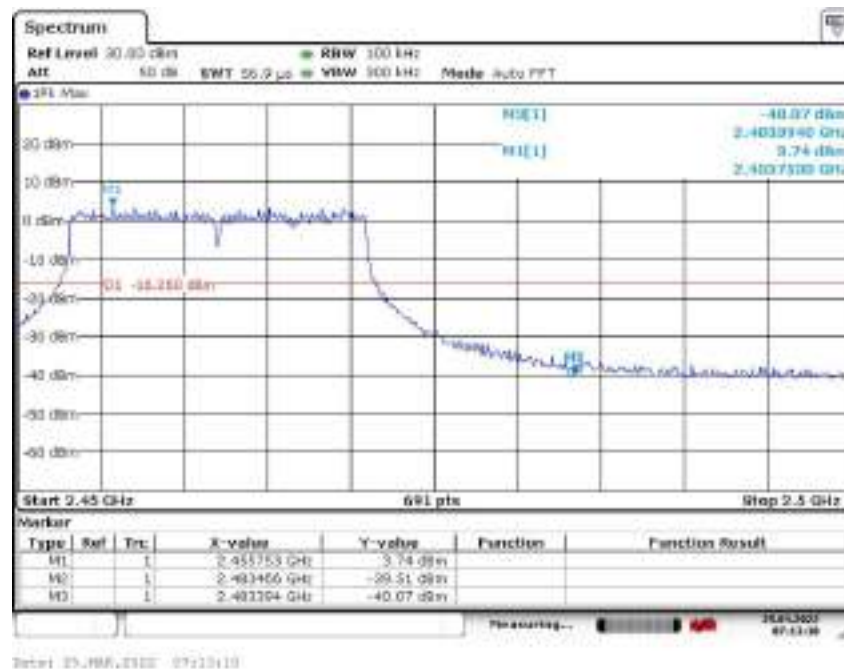
802.11n(HT20) mode with 72.2Mbps data rate

Channel1: 2.412 GHz



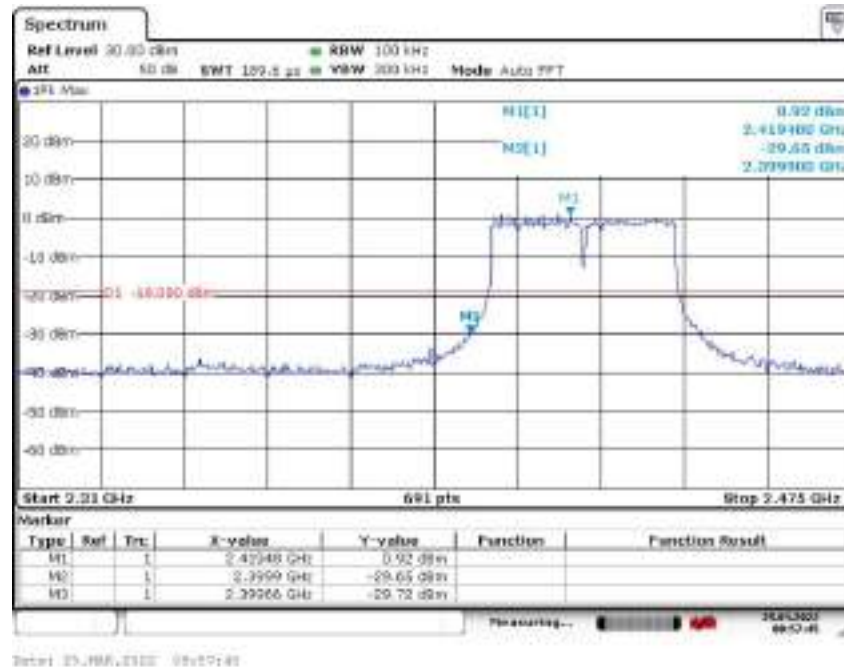
802.11n(HT20) mode with 72.2Mbps data rate

Channel1: 2.462 GHz



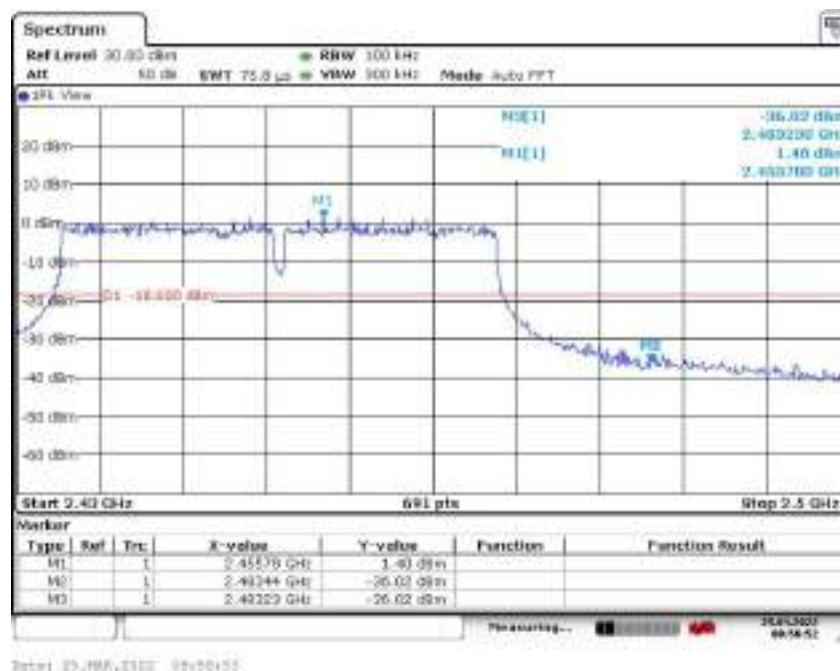
802.11n(HT40) mode with 150Mbps data rate

Channel 3: 2.422 GHz



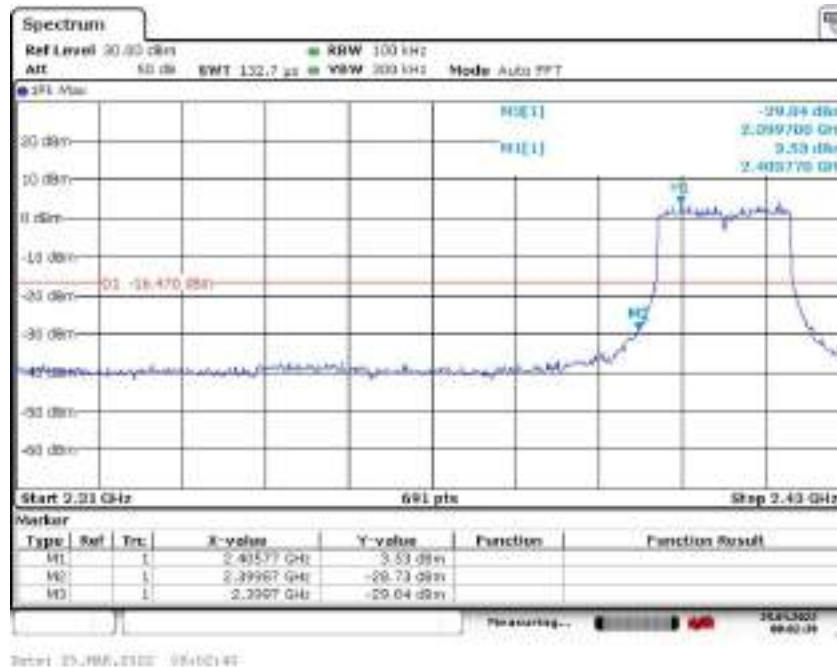
802.11n(HT40) mode with 150Mbps data rate

Channel 9: 2.452 GHz

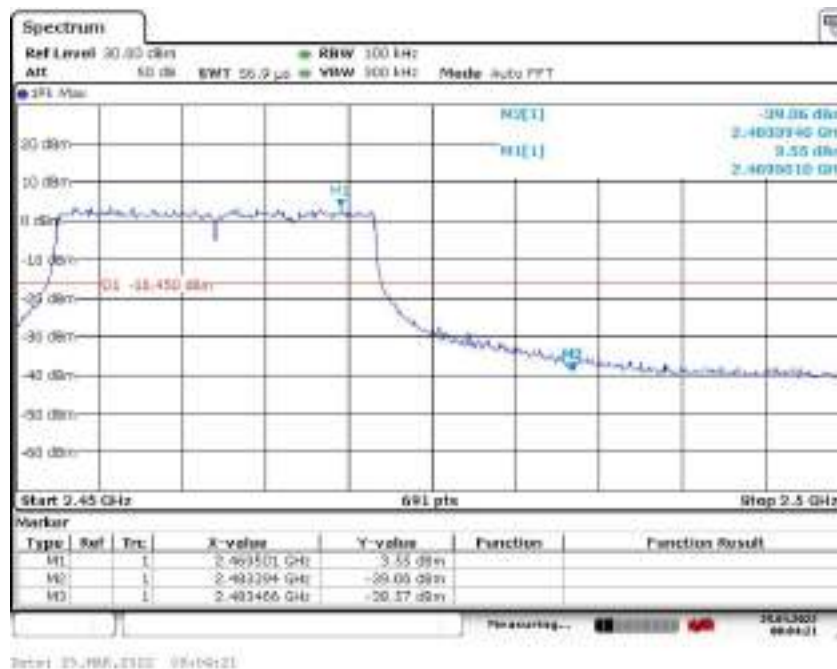


802.11ax(HE20) mode with MCS11 data rate

Channel1: 2.412 GHz

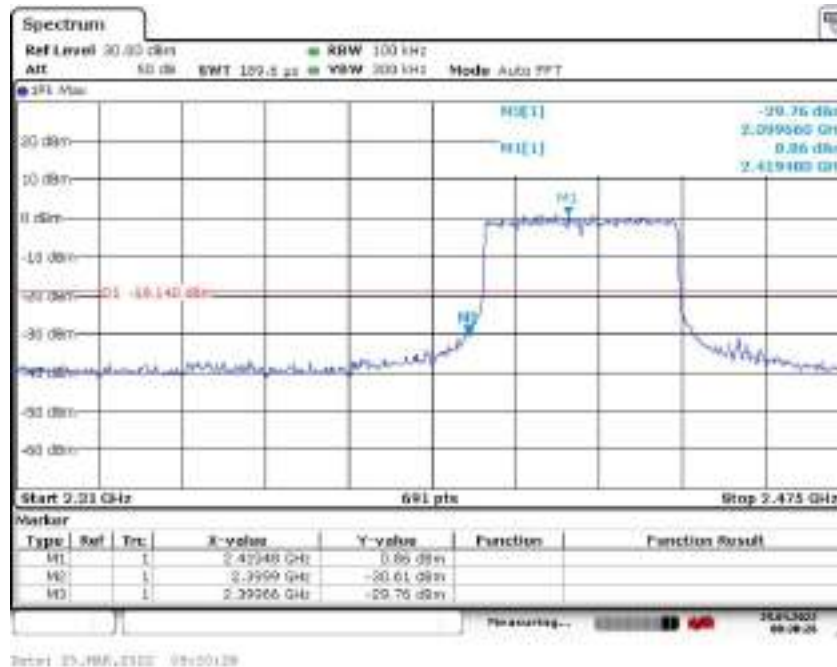


Channel11: 2.462 GHz

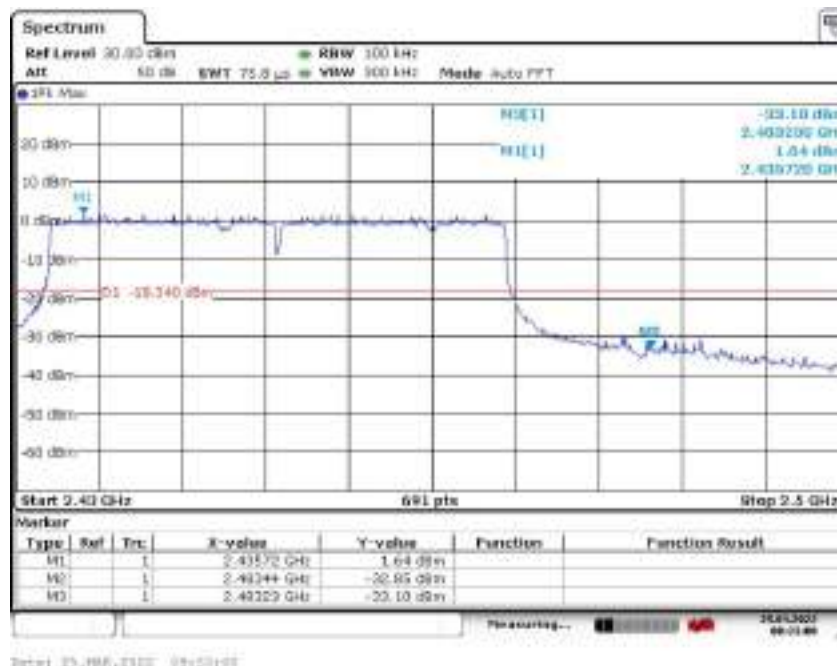


802.11ax(HE40) mode with MCS11 data rate

Channel 3: 2.422 GHz



Channel 9: 2.452 GHz



7.9 Conducted Spurious Emissions

Test Requirement:

FCC Part 15 C section 15.247

(d) 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.

Test Method:

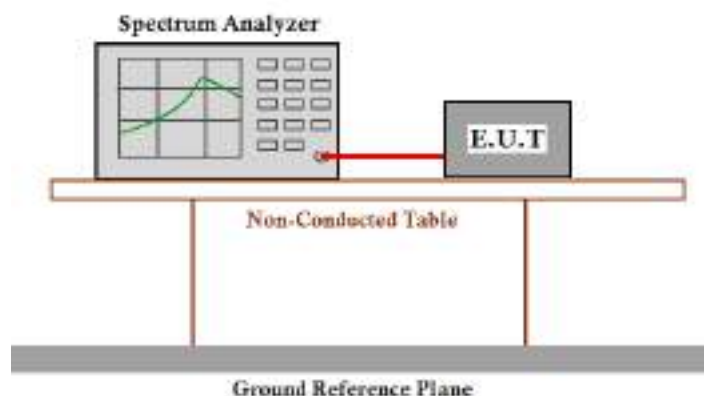
ANSI C63.10: Clause 6.7

Test Status:

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Pre-Test the EUT using external Standard DC power source for powering on the board.

Test Configuration:



Test Procedure:

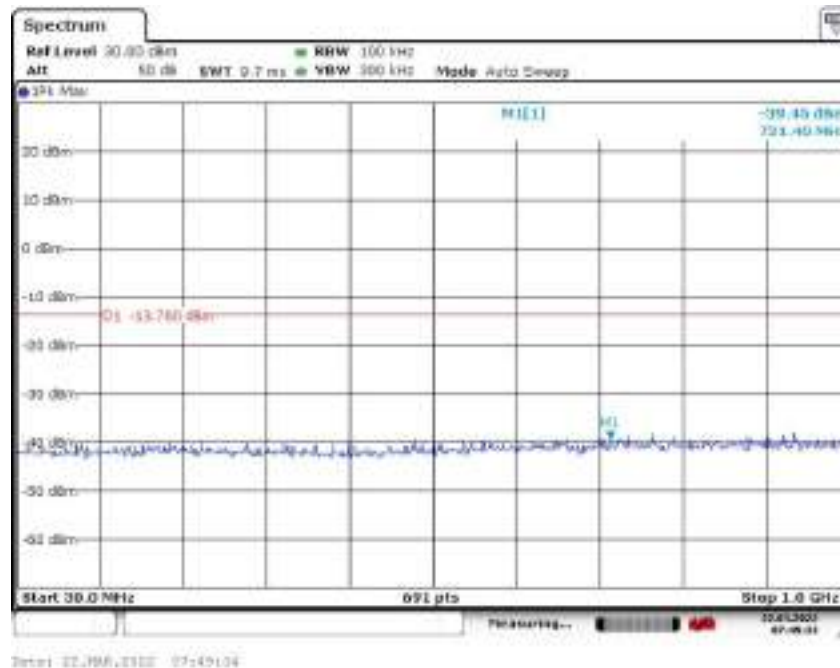
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum analyzer or power meter.
2. Set the spectrum analyzer: RBW=100 KHz, VBW = 300KHz. Sweep = auto; Detector Function = Peak. Trace = Max Hold, Scan up through 10th harmonic.
3. Measure the Conducted Spurious Emissions of the test frequency with special test status.
4. Repeat until all the test status is investigated.
5. Report the worse case.

Result plot as follows: 2.4G_0

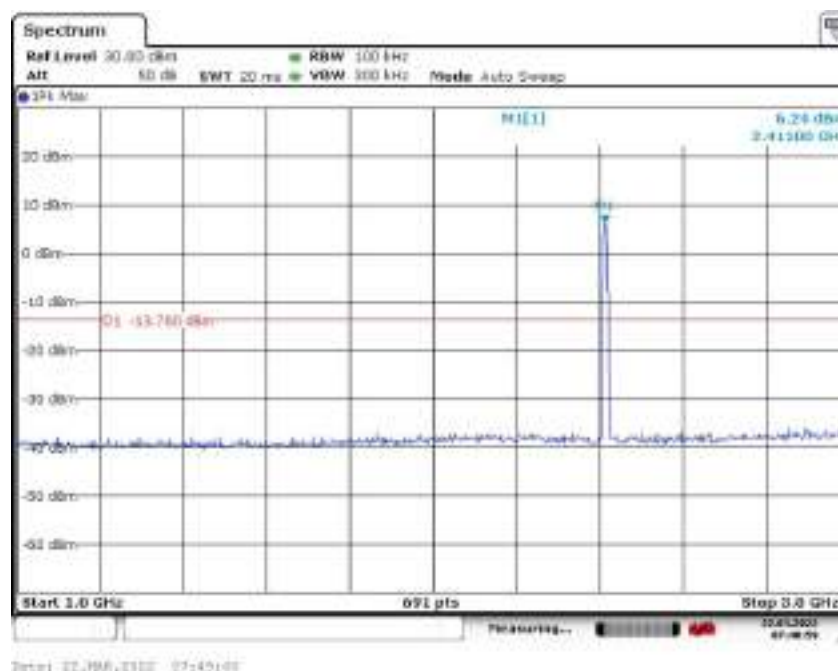
802.11b mode with 11Mbps data rate

Channel 1: 2.412GHz:

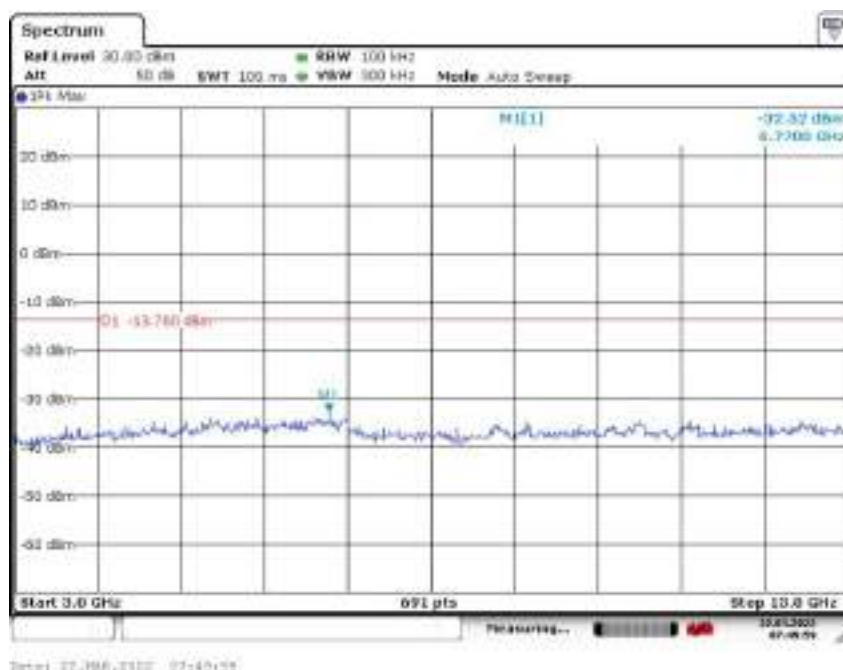
30 MHz to 1 GHz



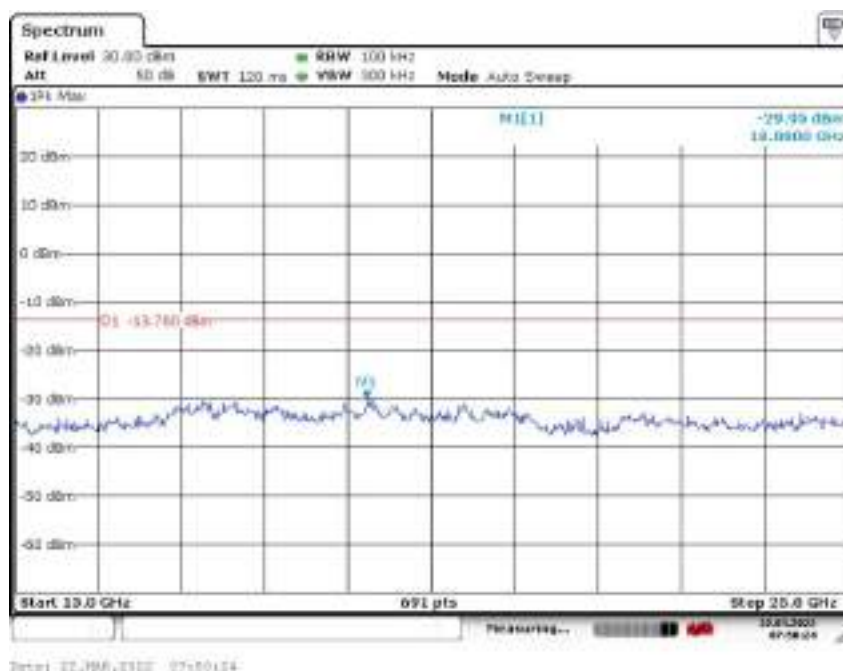
1 G to 3 GHz



3 G to 13 GHz

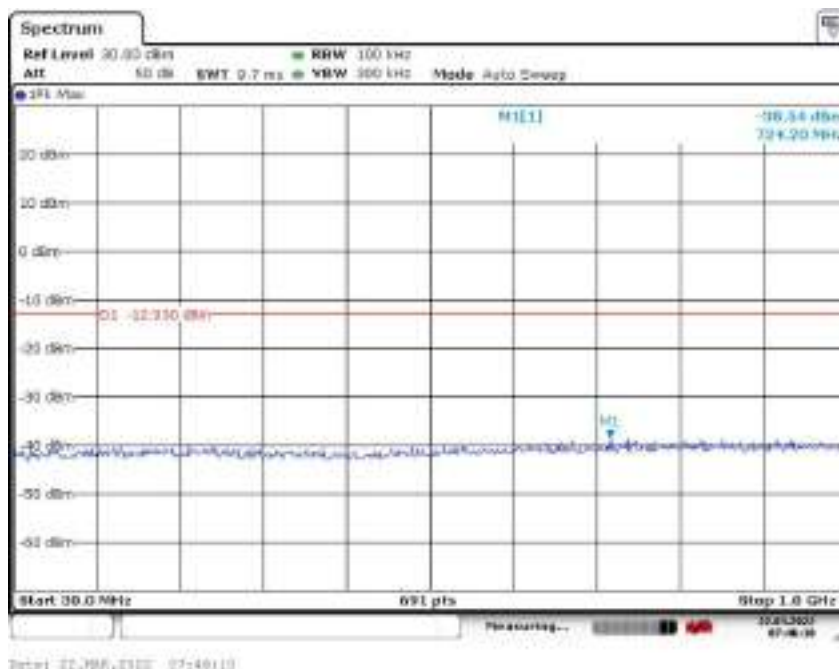


13 G to 25 GHz

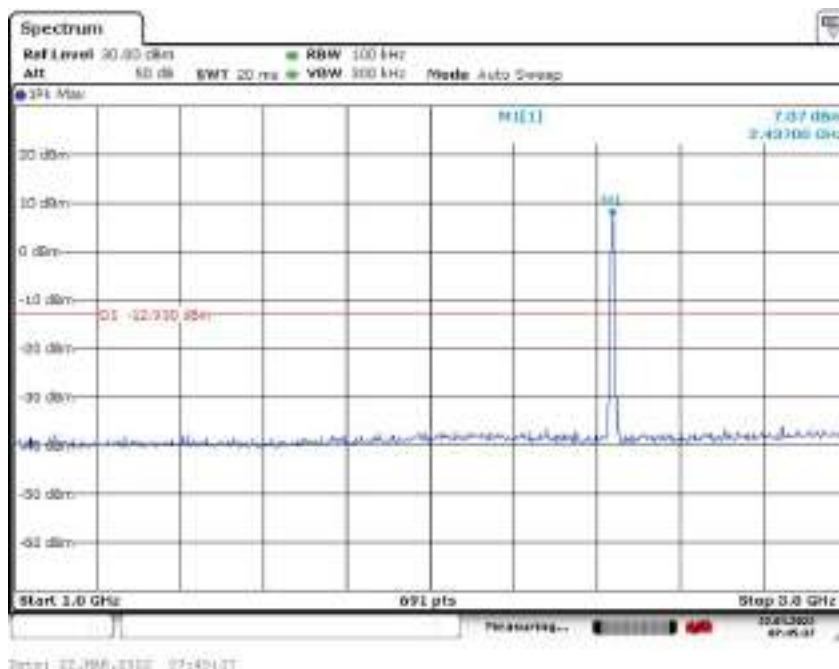


Channel 6: 2.437GHz:

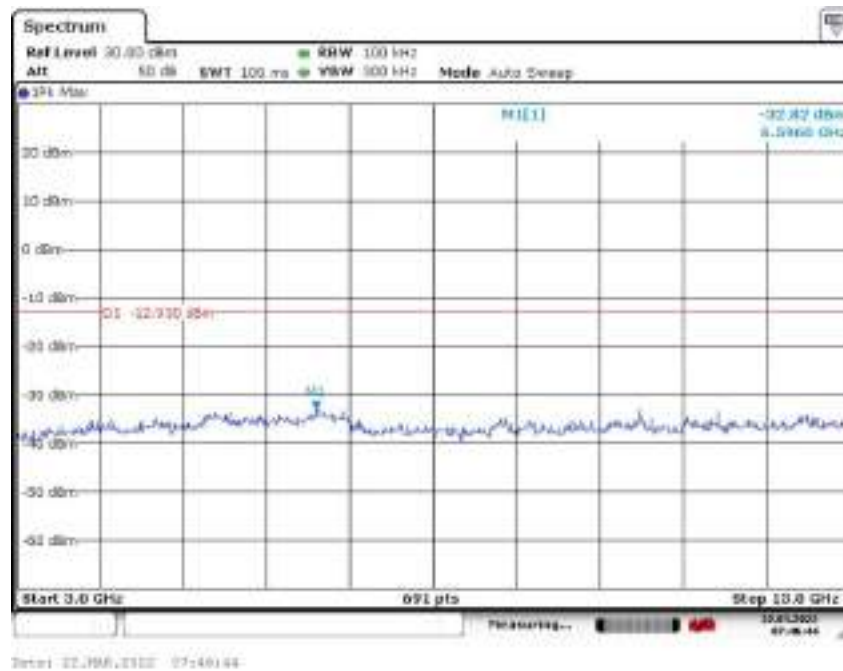
30 MHz to 1 GHz



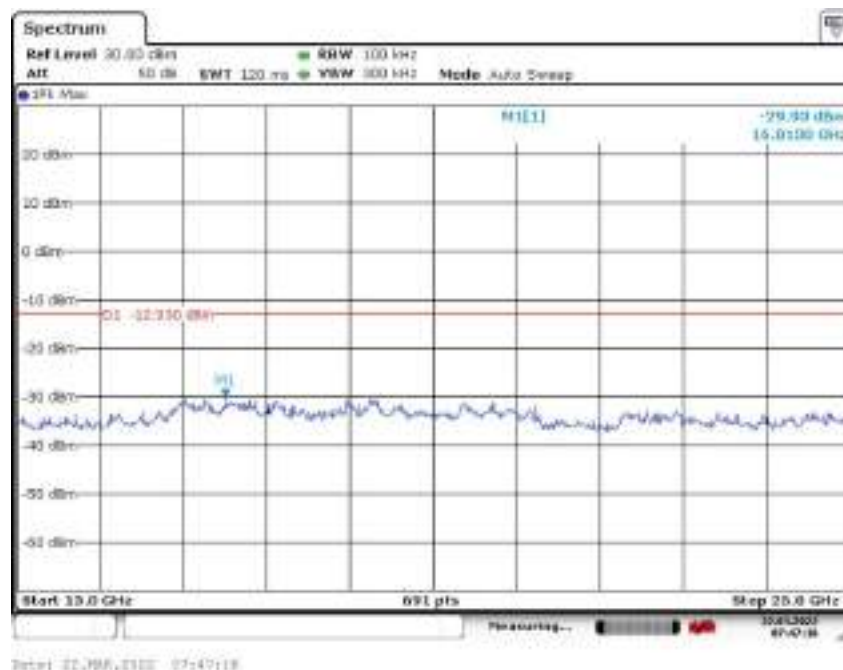
1 G to 3 GHz



3 G to 13 GHz

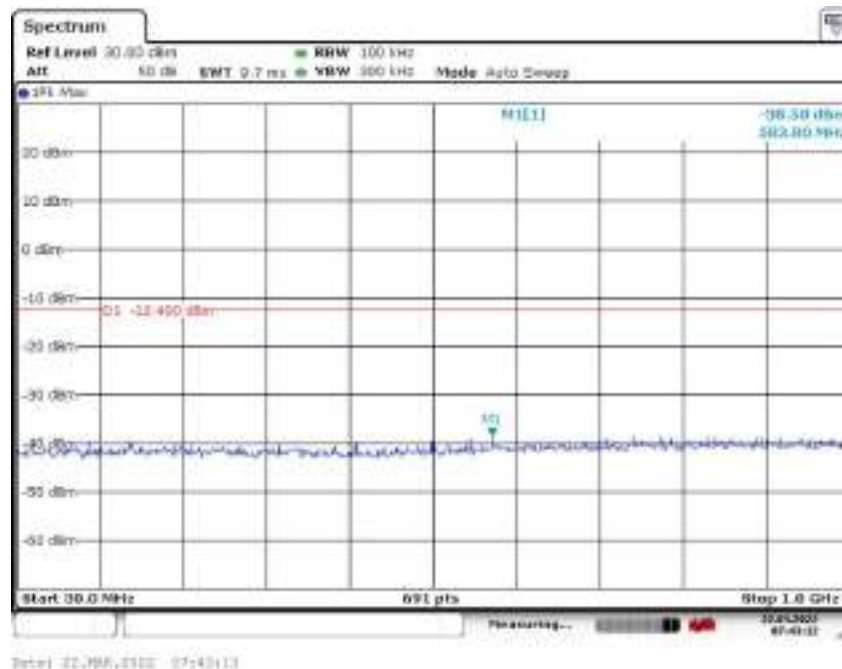


13 G to 25 GHz

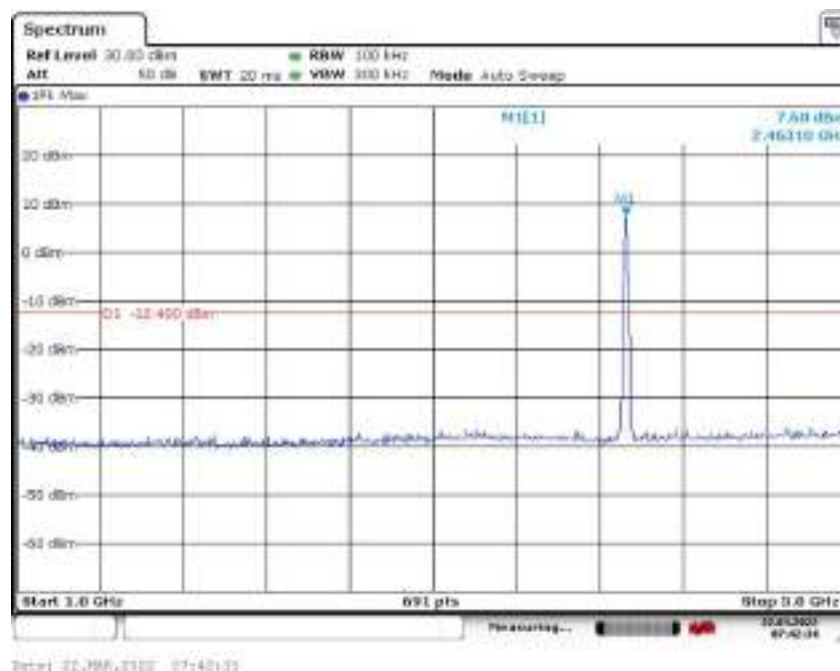


Channel 11:2.462 GHz

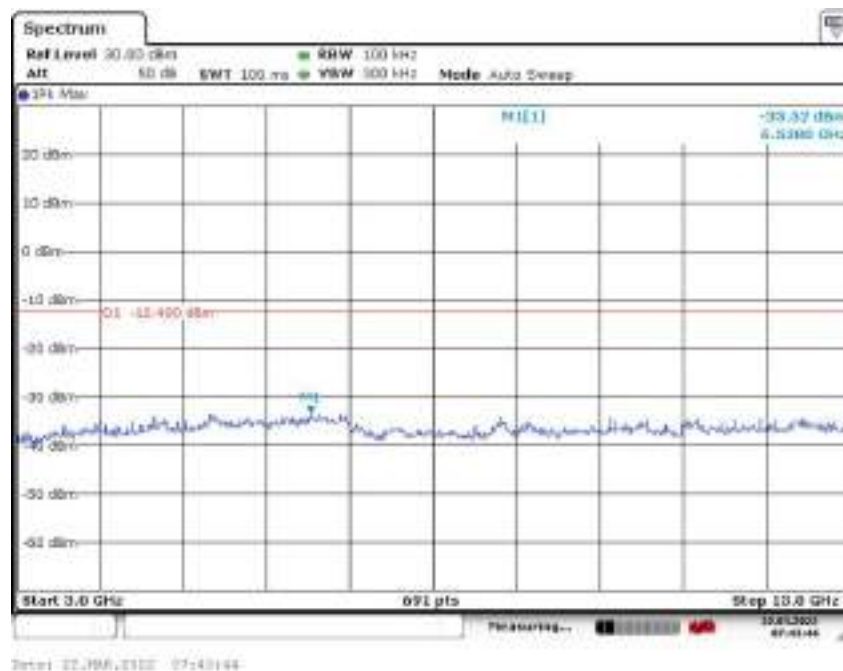
30 MHz to 1 GHz



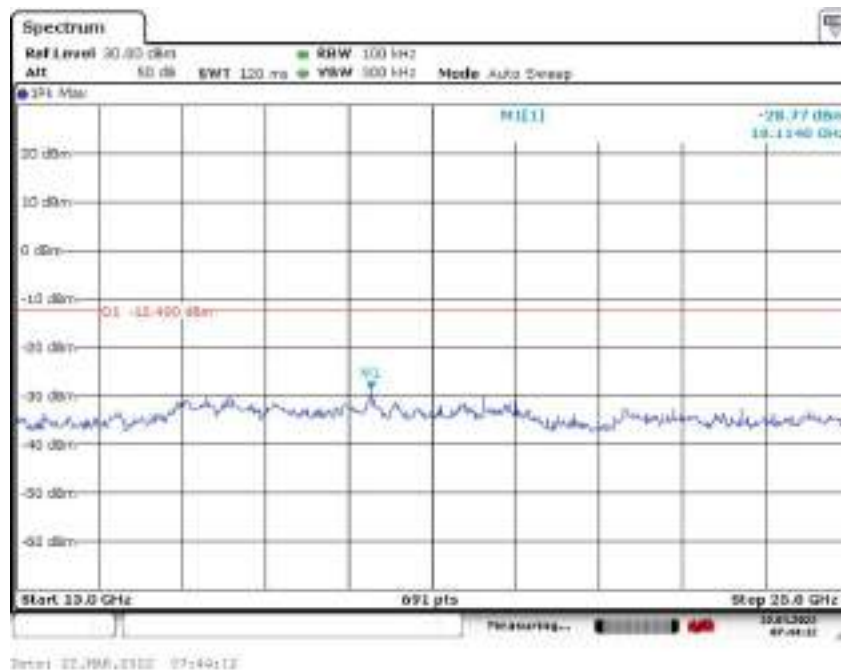
1 G to 3 GHz



3 G to 13 GHz



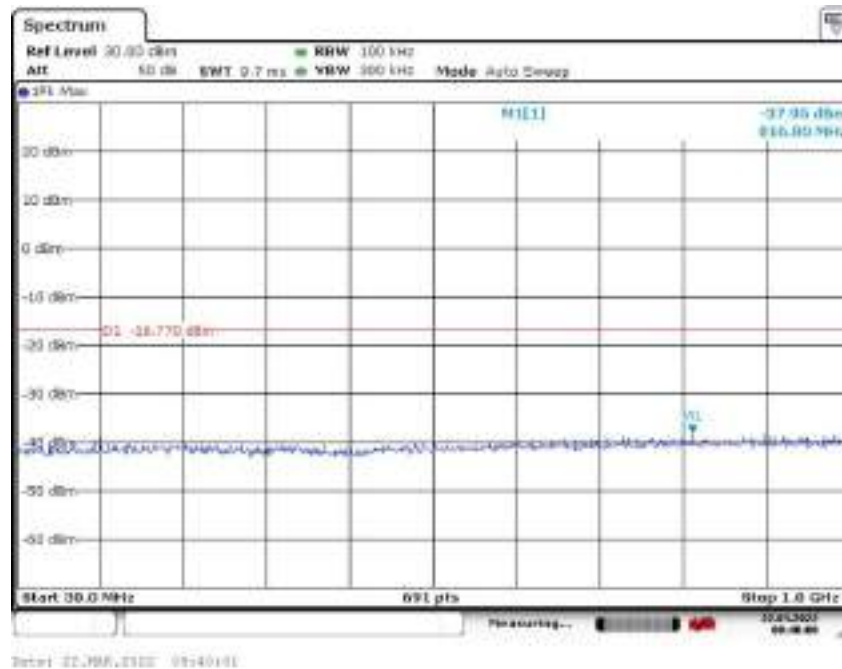
13 G to 25 GHz



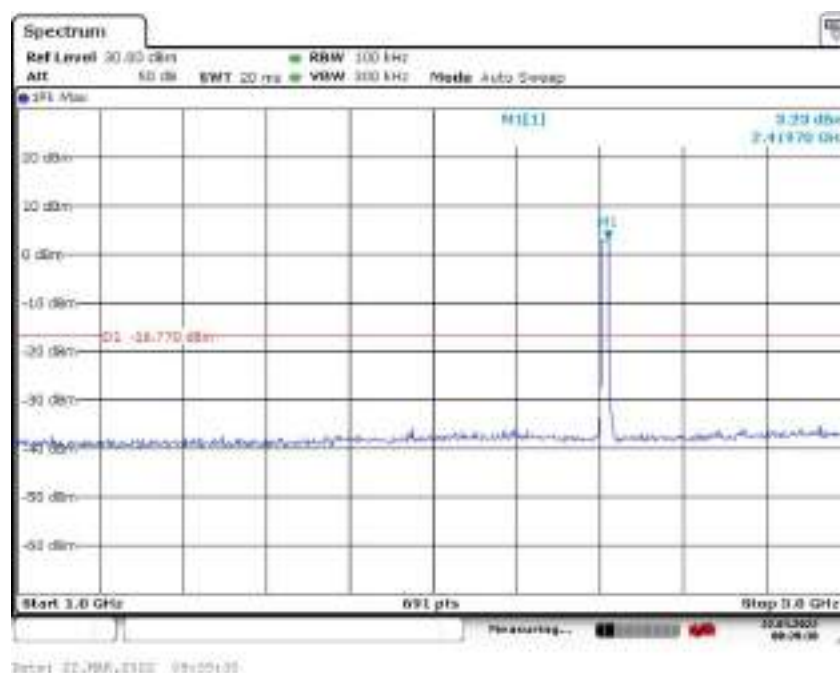
802.11g mode with 54Mbps data rate

Channel 1: 2.412GHz:

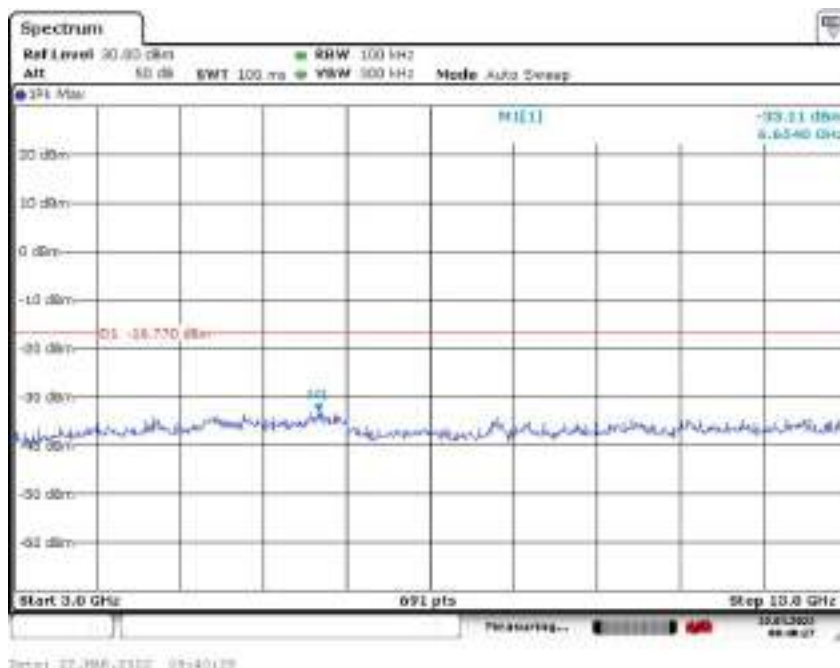
30 MHz to 1 GHz



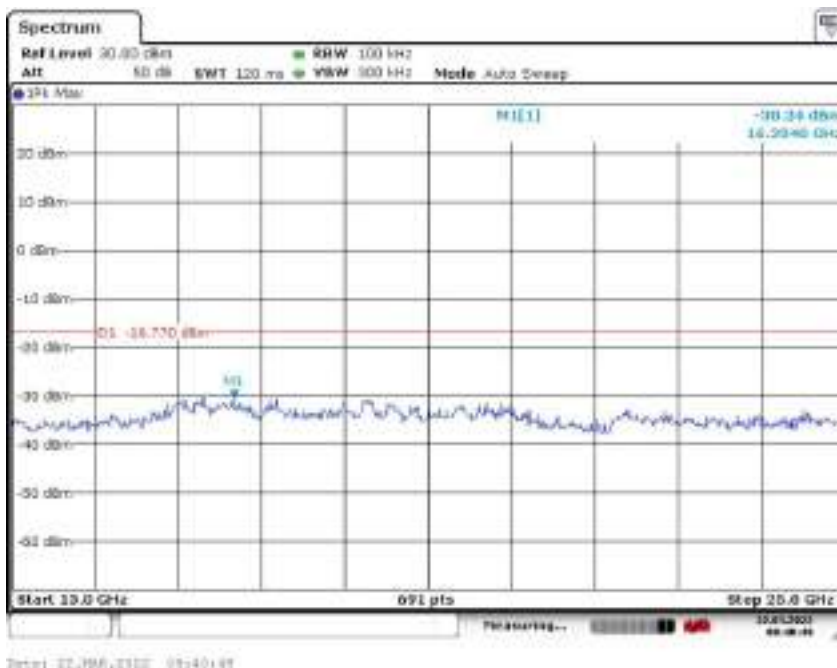
1 G to 3 GHz



3 G to 13 GHz

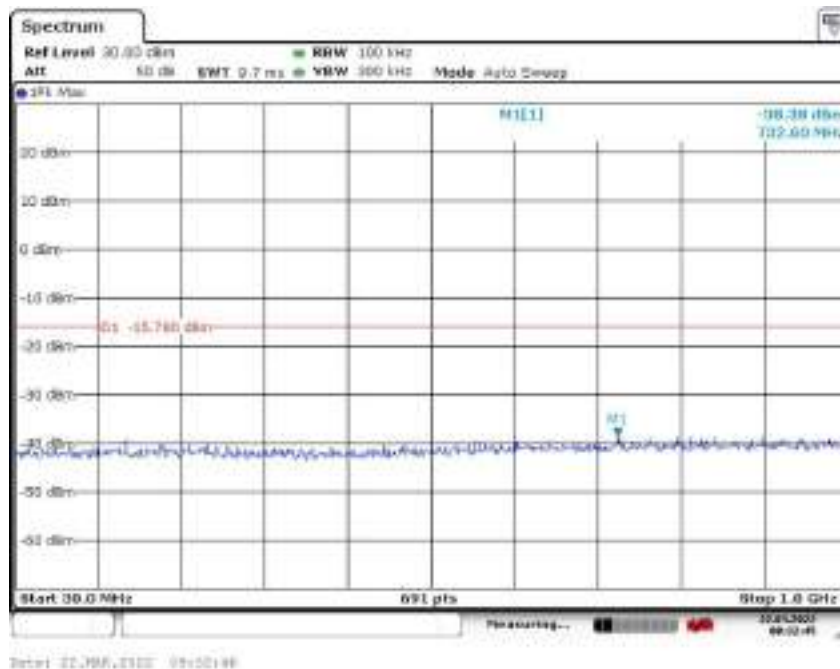


13 G to 25 GHz

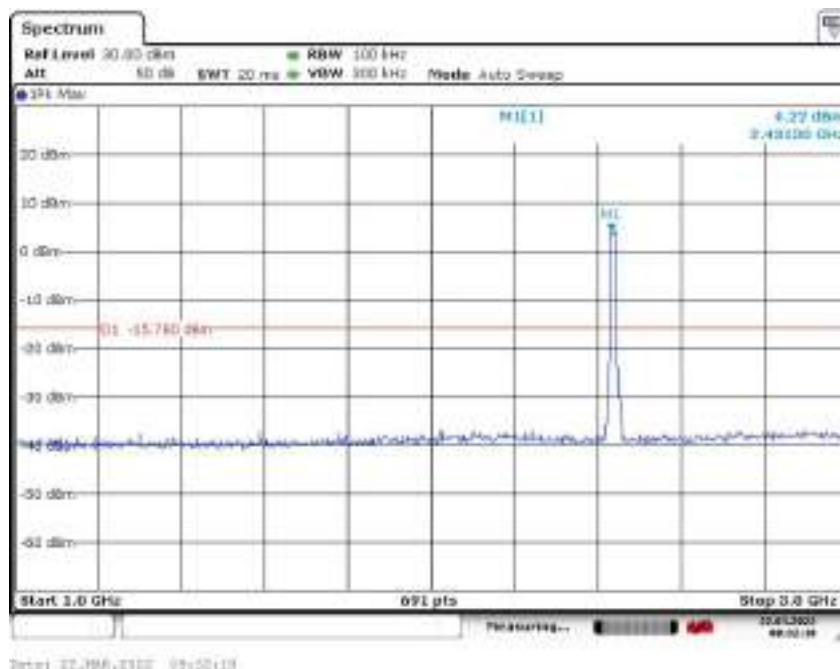


Channel 6: 2.437GHz:

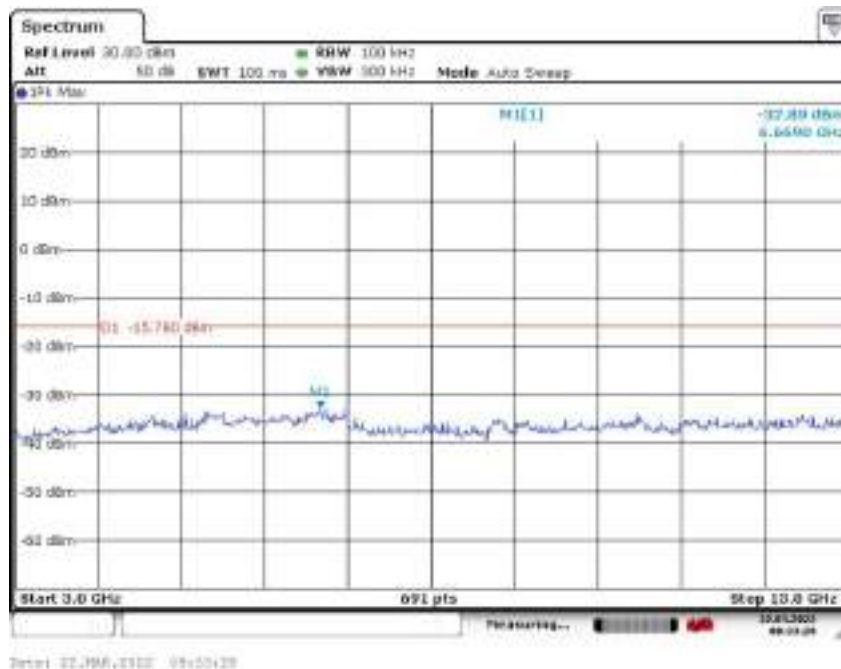
30 MHz to 1 GHz



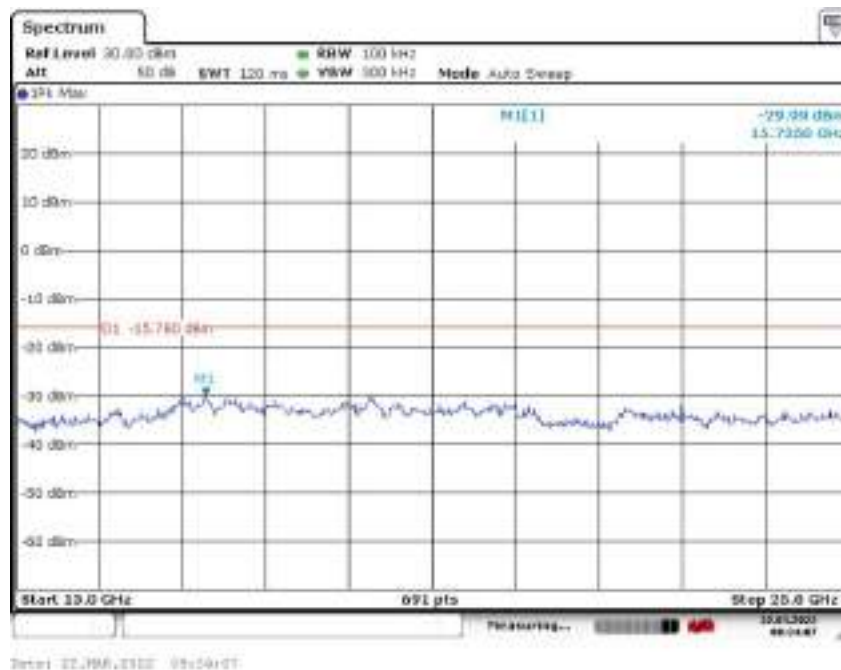
1 G to 3 GHz



3 G to 13 GHz

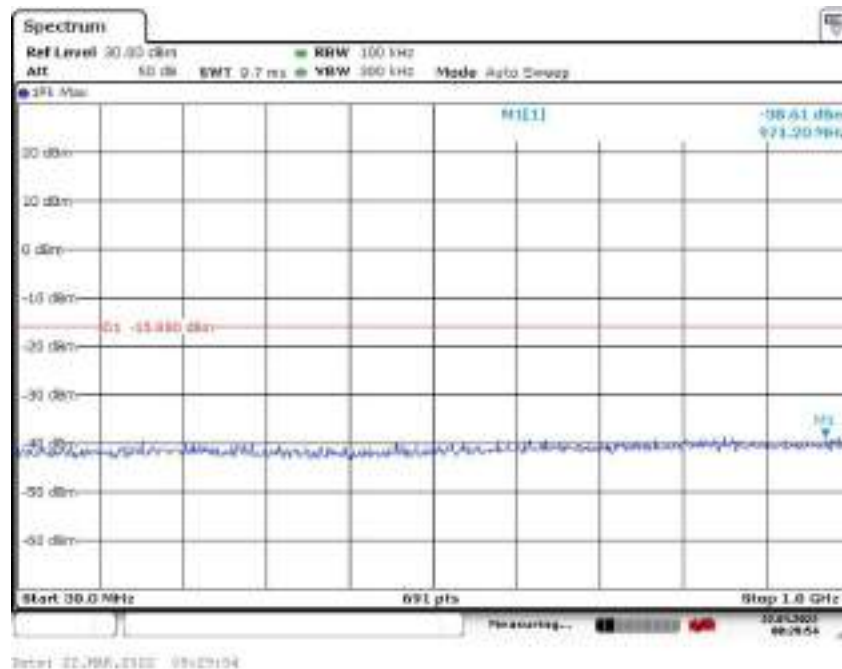


13 G to 25 GHz

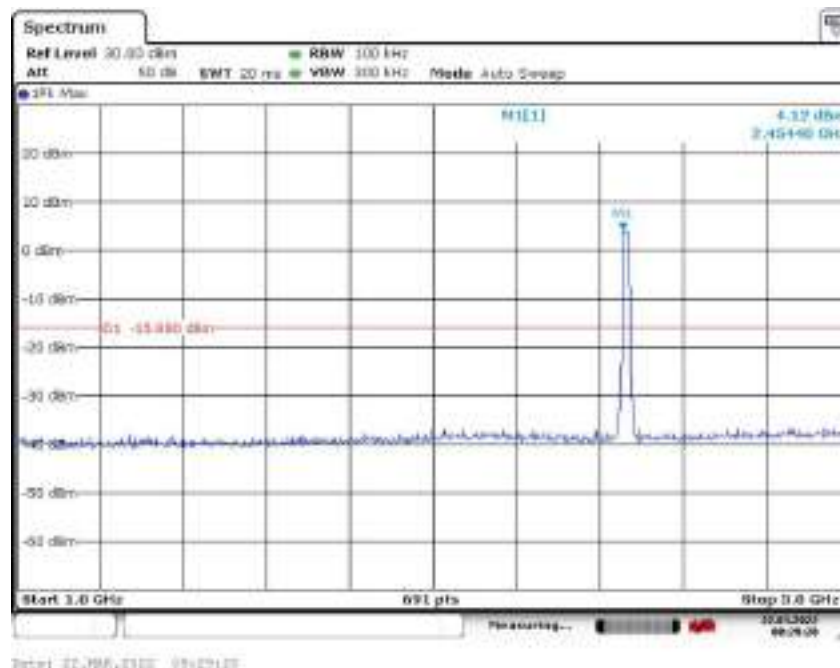


Channel 11:2.462 GHz

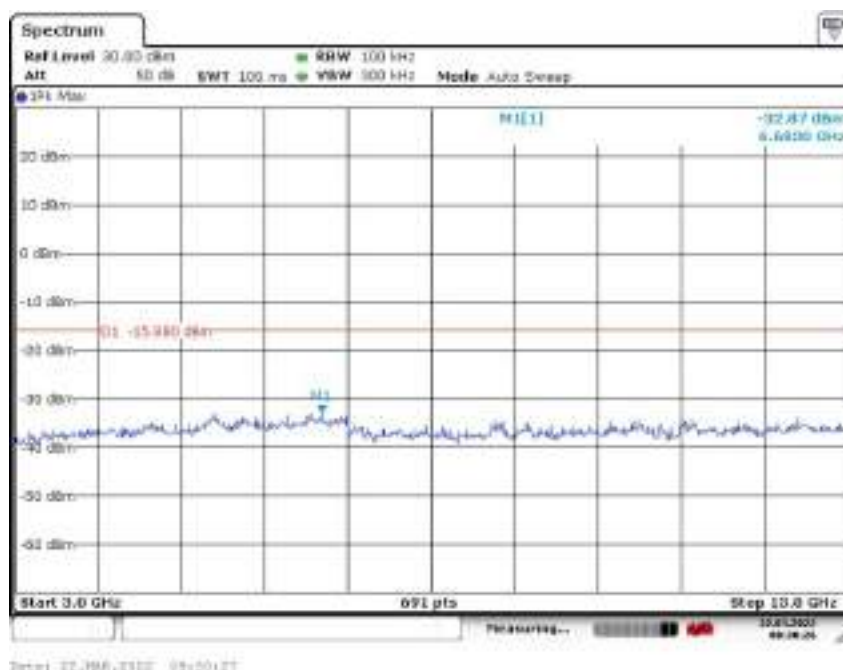
30 MHz to 1 GHz



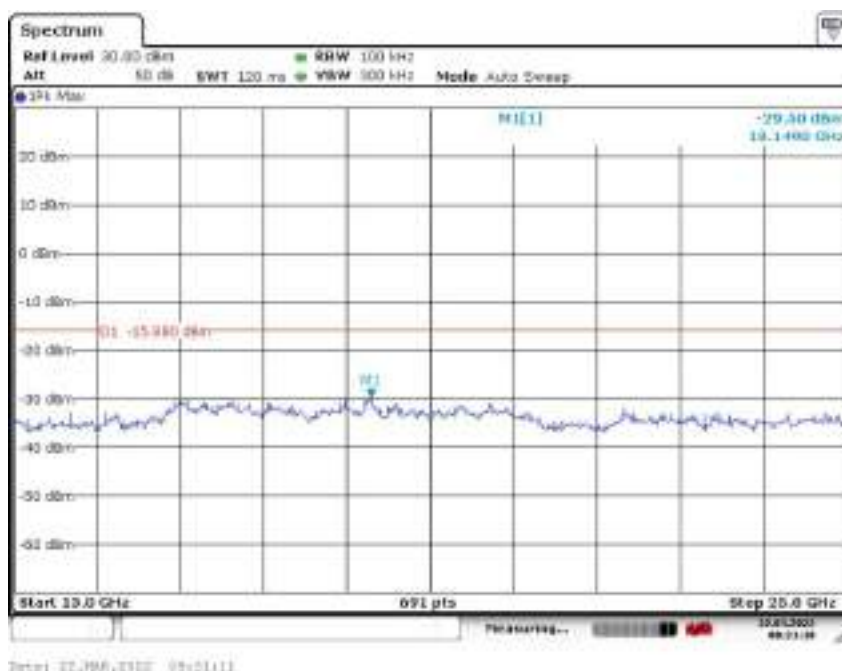
1 G to 3 GHz



3 G to 13 GHz



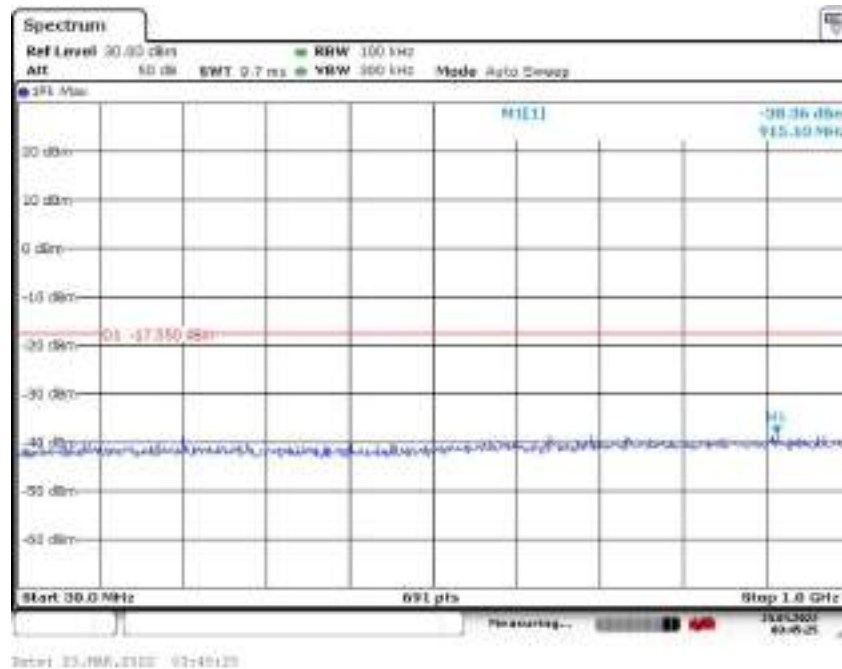
13 G to 25 GHz



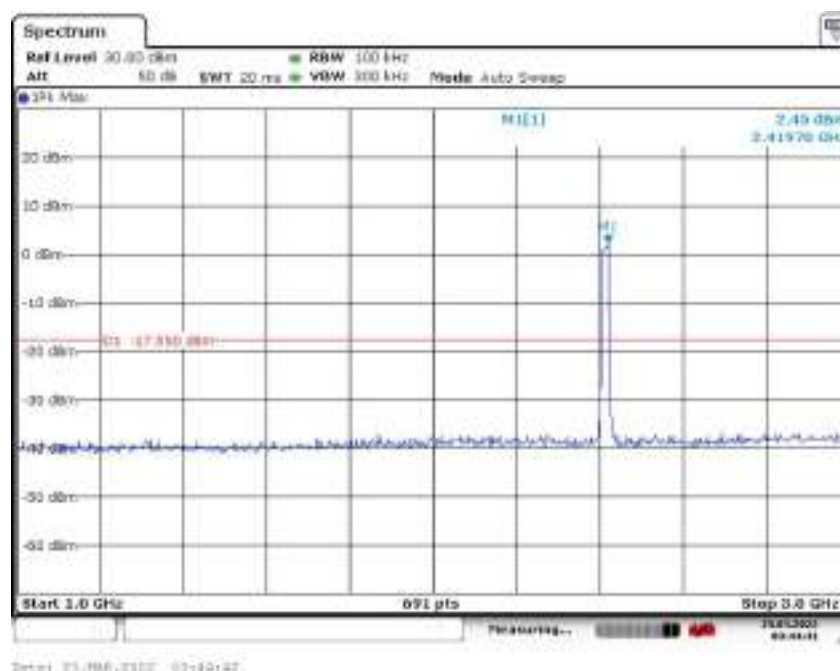
802.11n(HT20) mode with 72.2Mbps data rate

Channel 1: 2.412GHz:

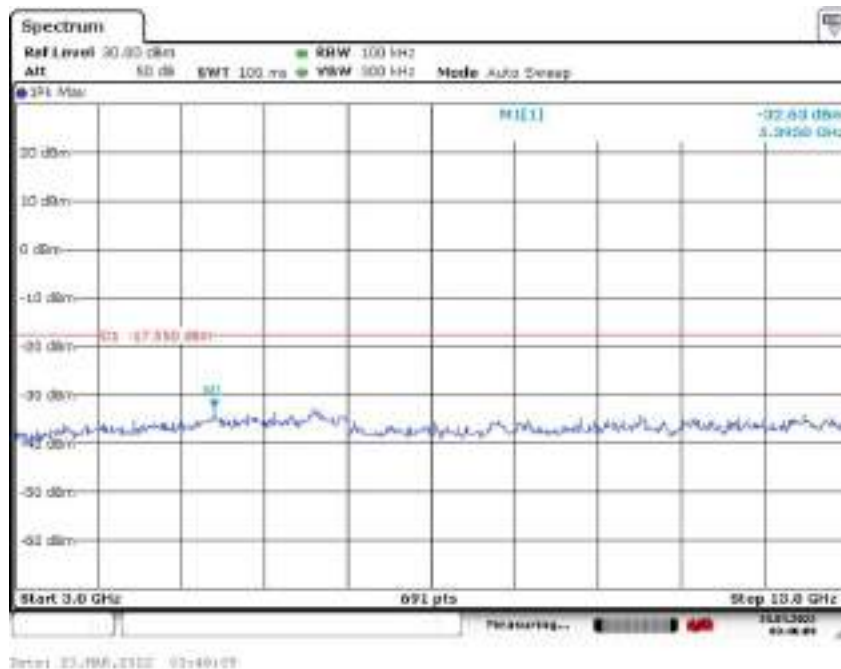
30 MHz to 1 GHz



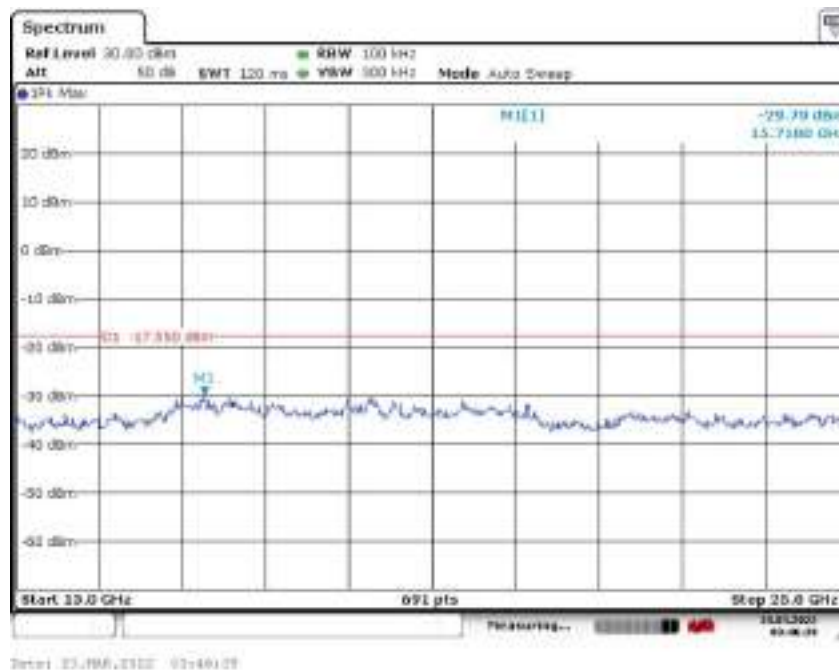
1 G to 3 GHz



3 G to 13 GHz



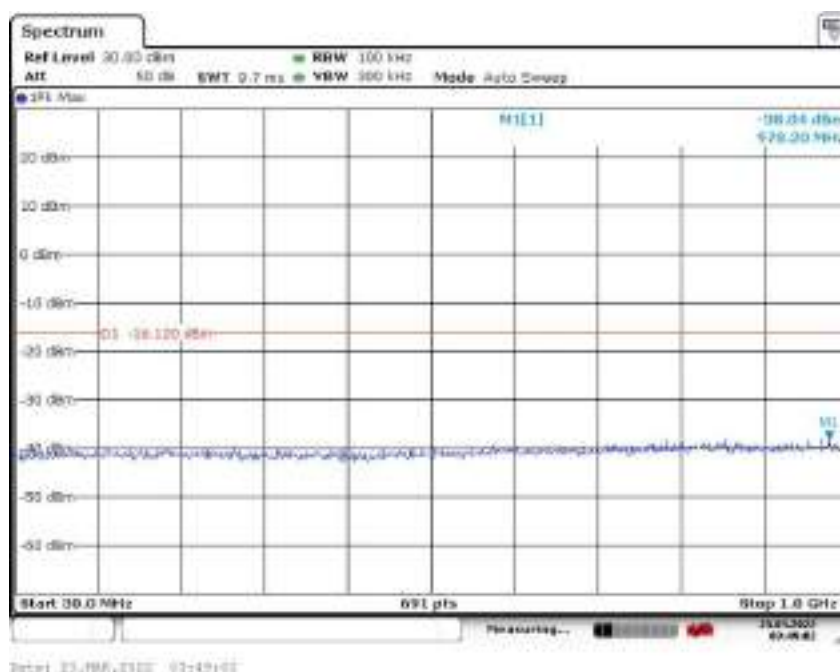
13 G to 25 GHz



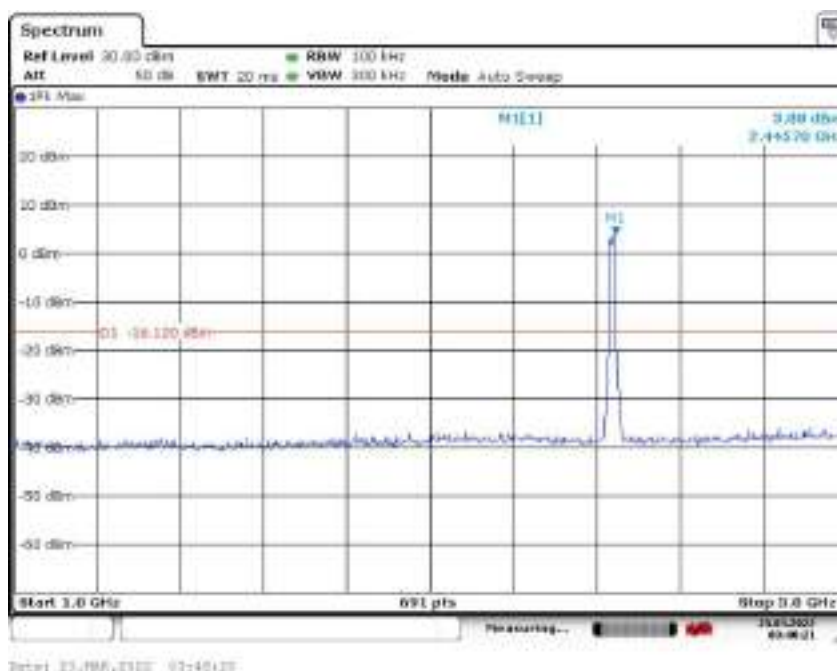
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Channel 6: 2.437GHz:

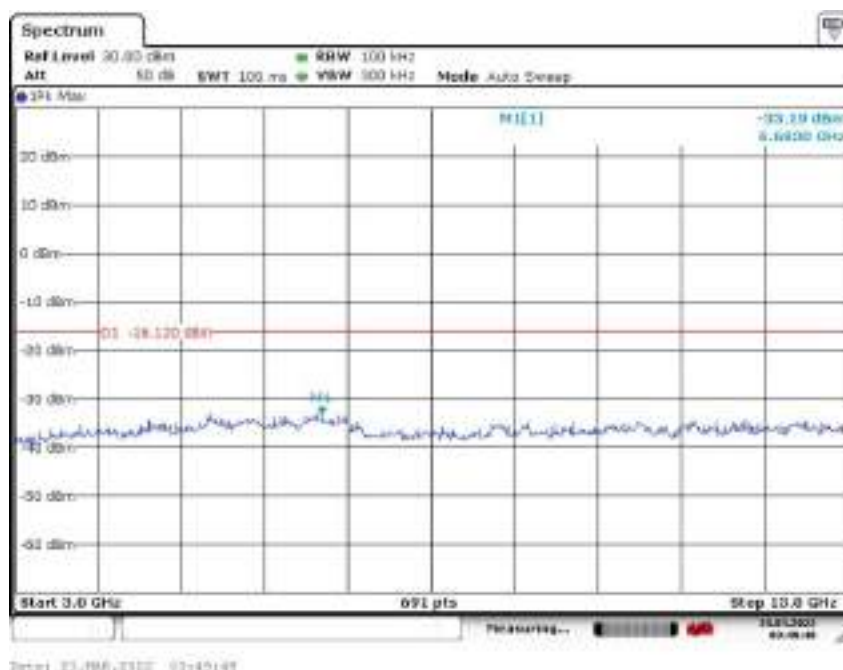
30 MHz to 1 GHz



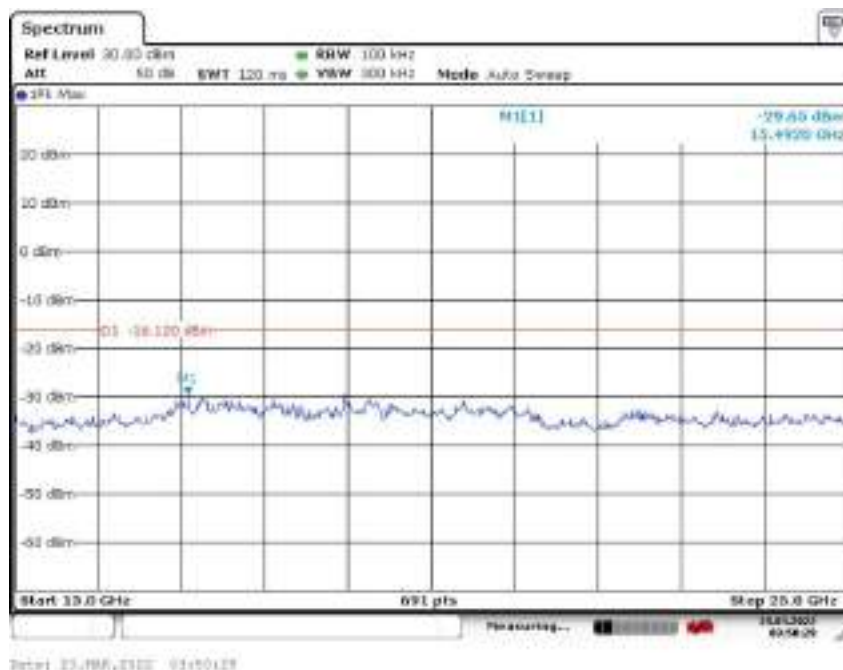
1 G to 3 GHz



3 G to 13 GHz

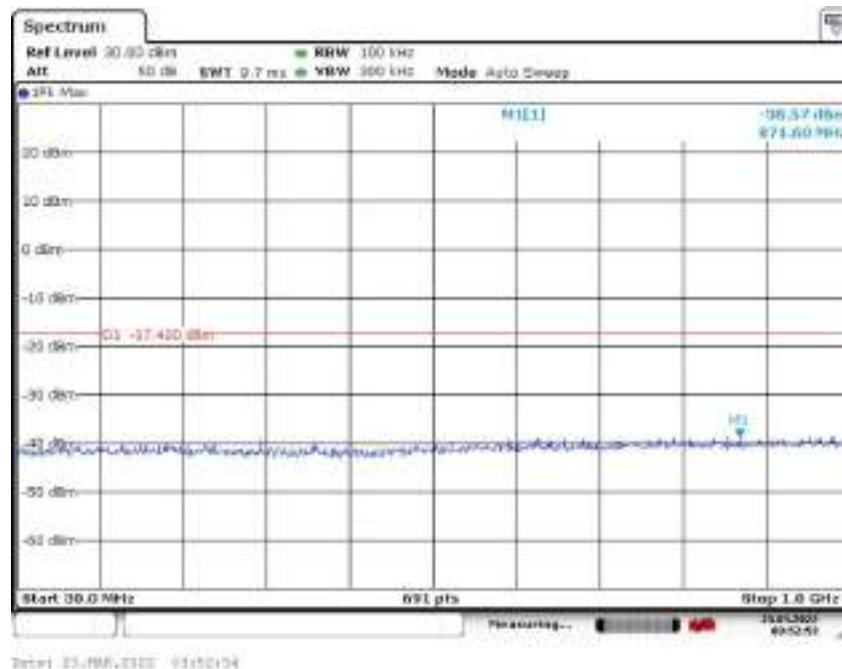


13 G to 25 GHz

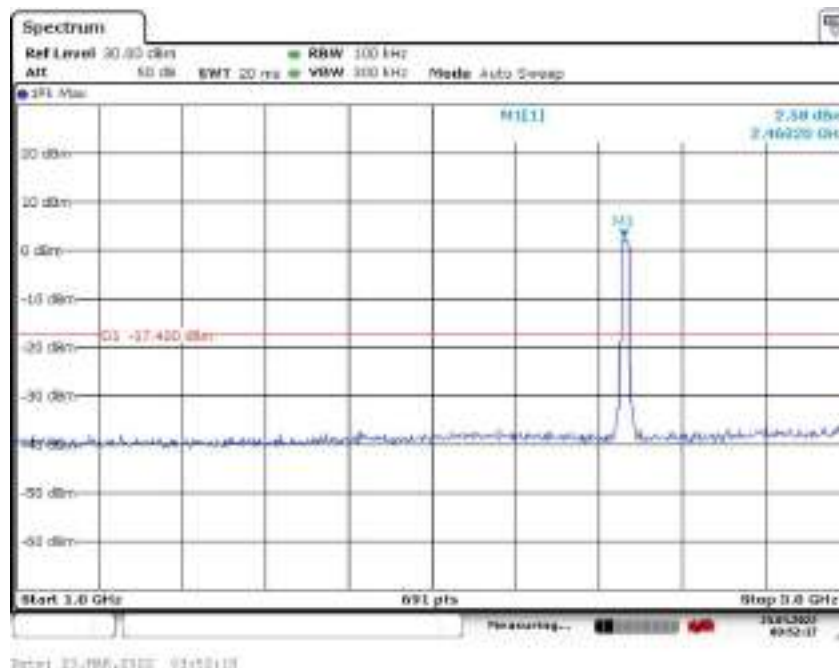


Channel 11:2.462 GHz

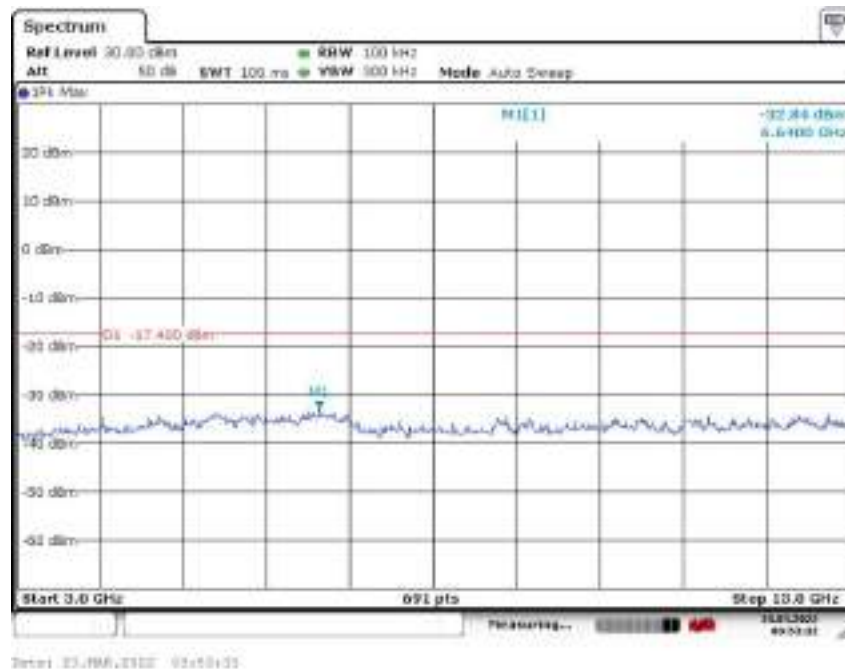
30 MHz to 1 GHz



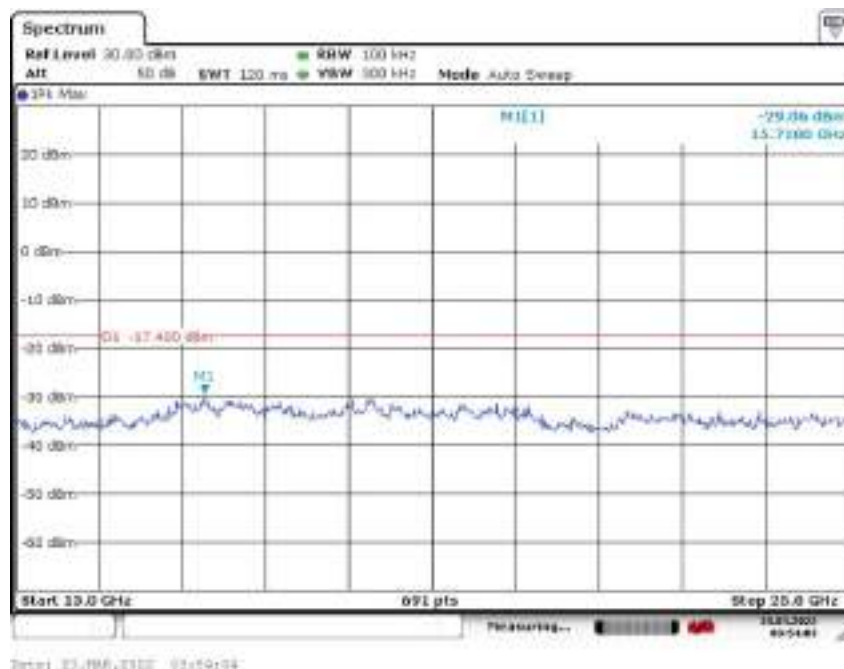
1 G to 3 GHz



3 G to 13 GHz



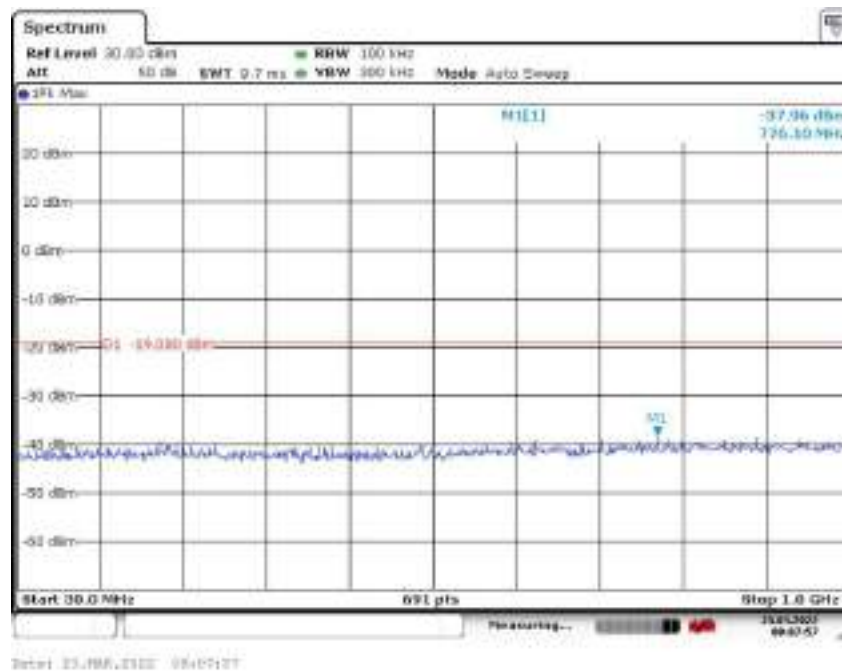
13 G to 25 GHz



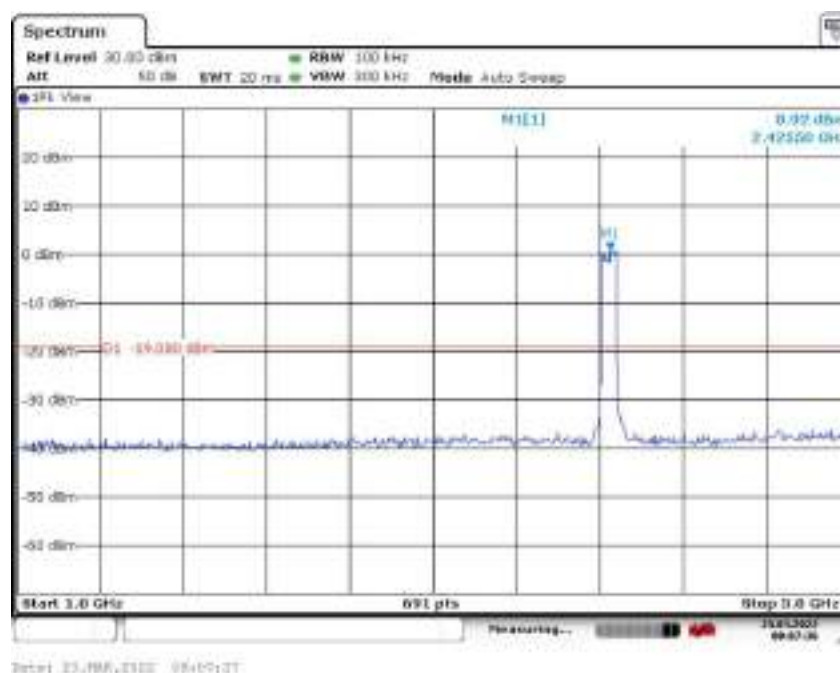
802.11n(HT40) mode with 150Mbps data rate

Channel 3: 2.422GHz:

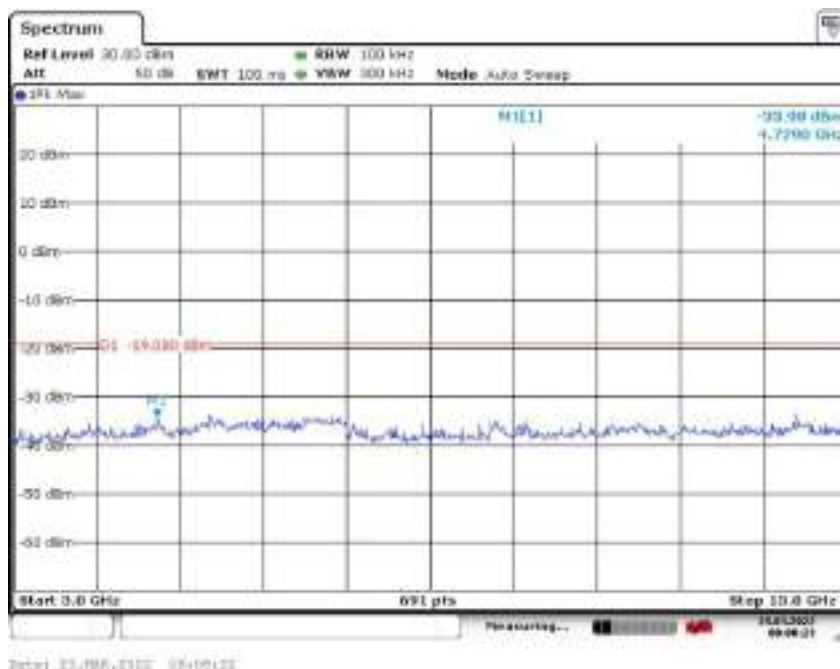
30 MHz to 1 GHz



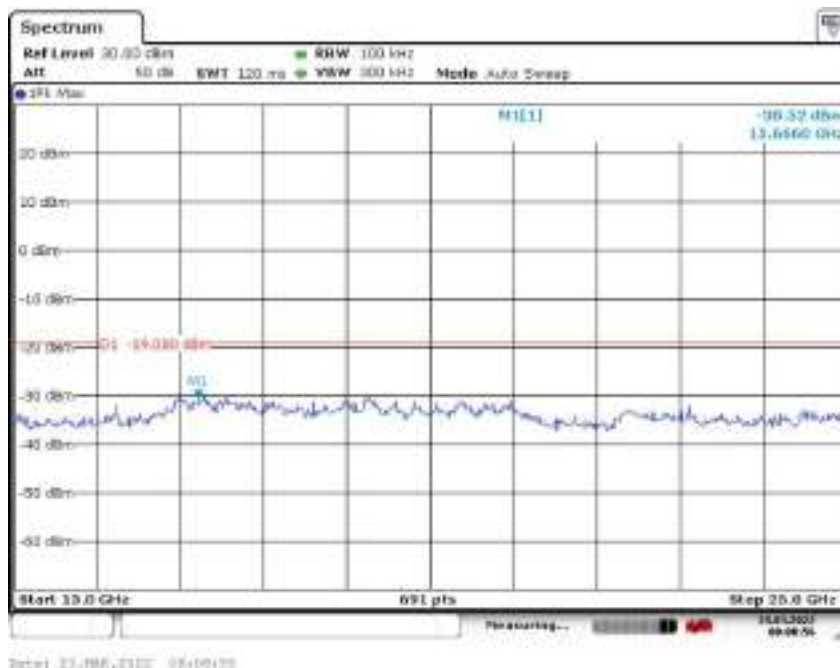
1 G to 3 GHz



3 G to 13 GHz

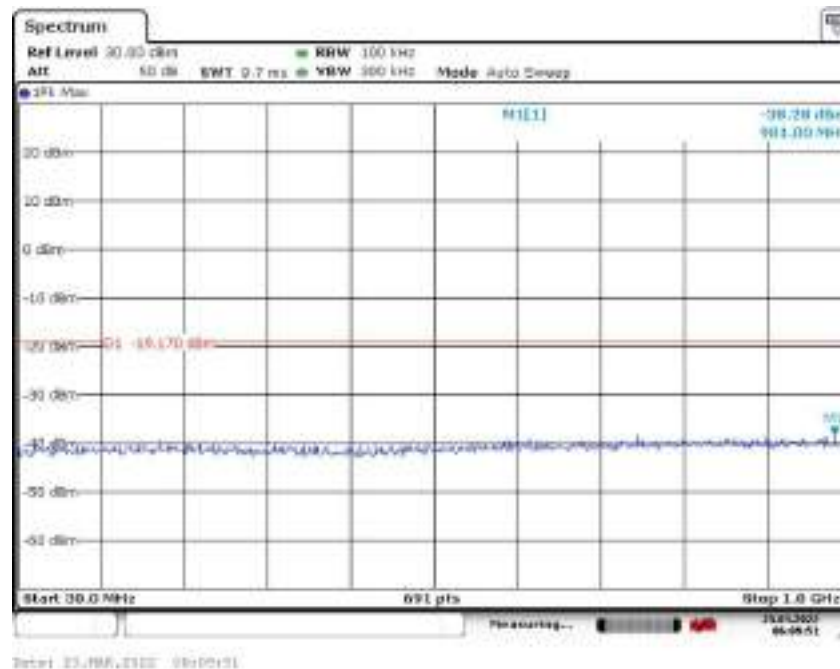


13 G to 25 GHz

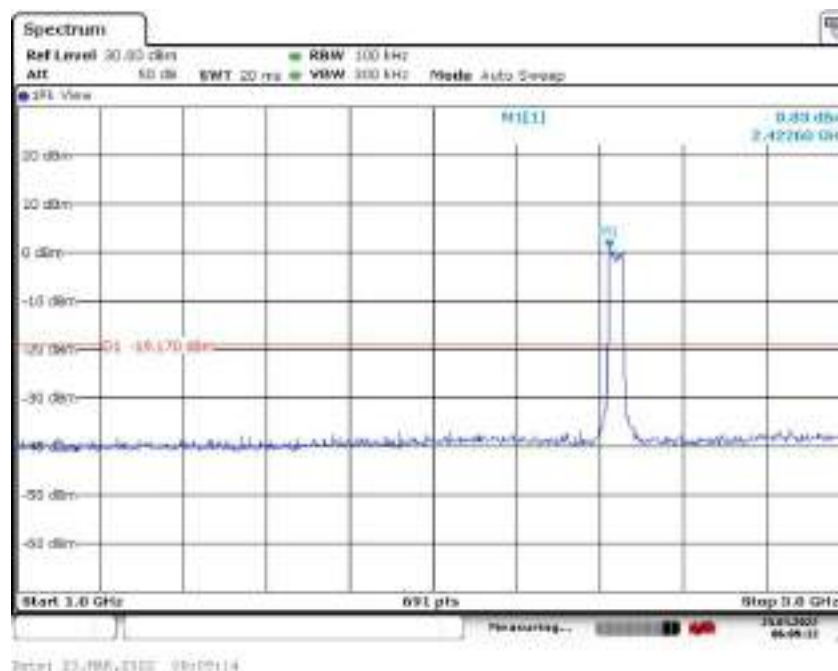


Channel 6: 2.437GHz:

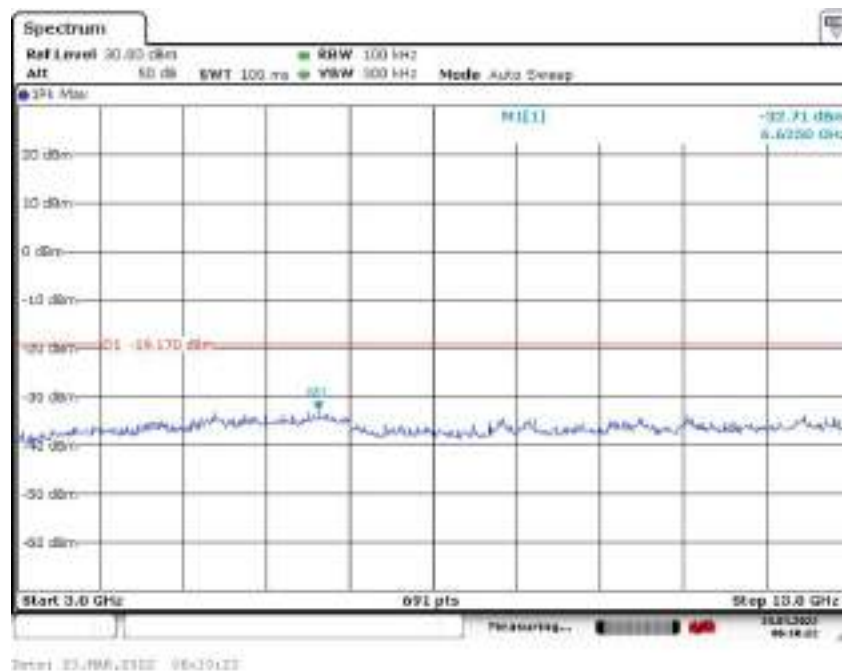
30 MHz to 1 GHz



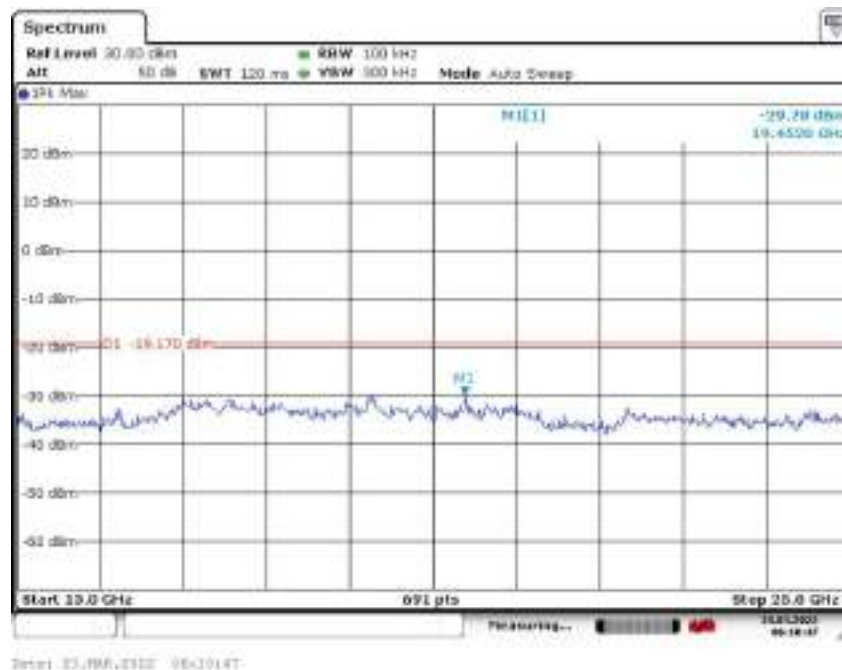
1 G to 3 GHz



3 G to 13 GHz

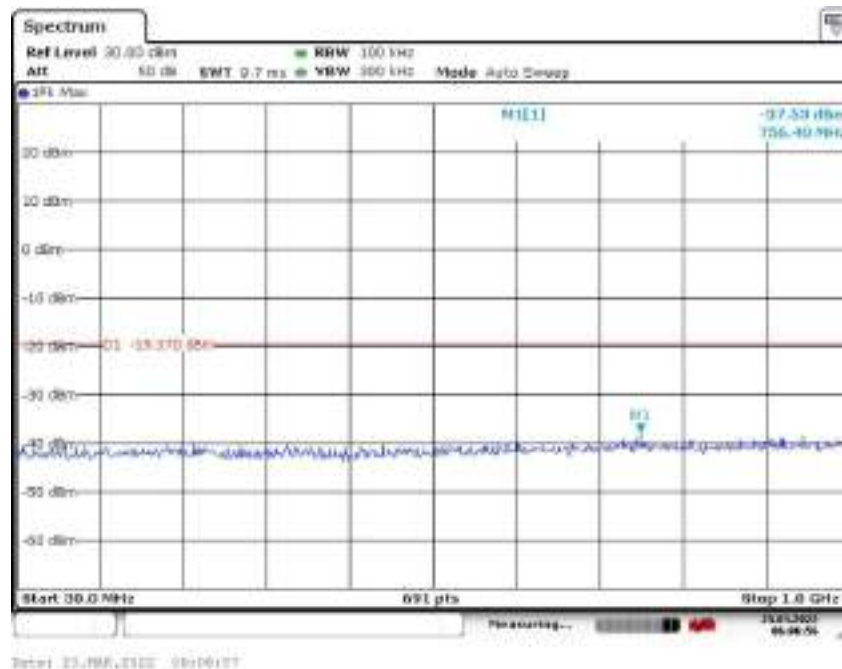


13 G to 25 GHz

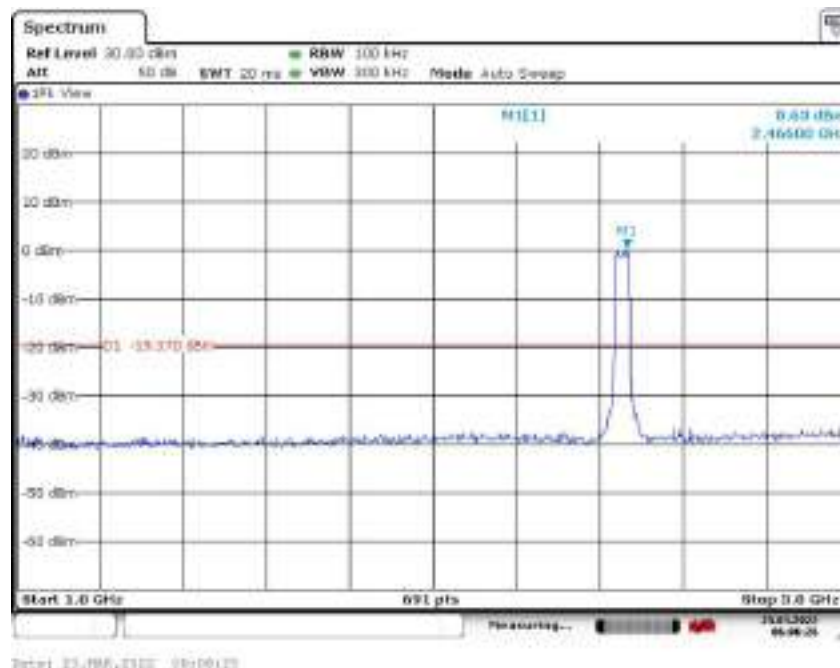


Channel 9:2.452 GHz

30 MHz to 1 GHz

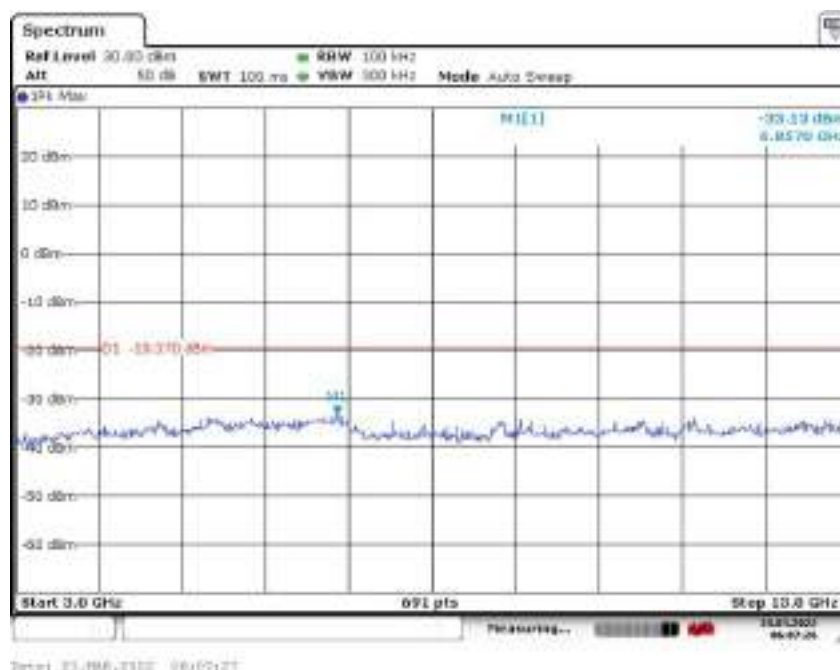


1 G to 3 GHz

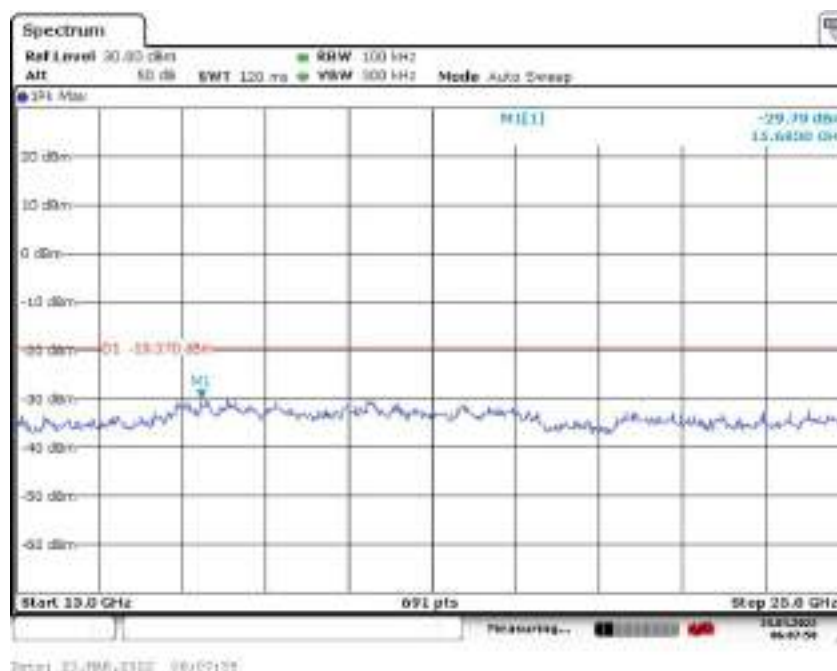


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3 G to 13 GHz



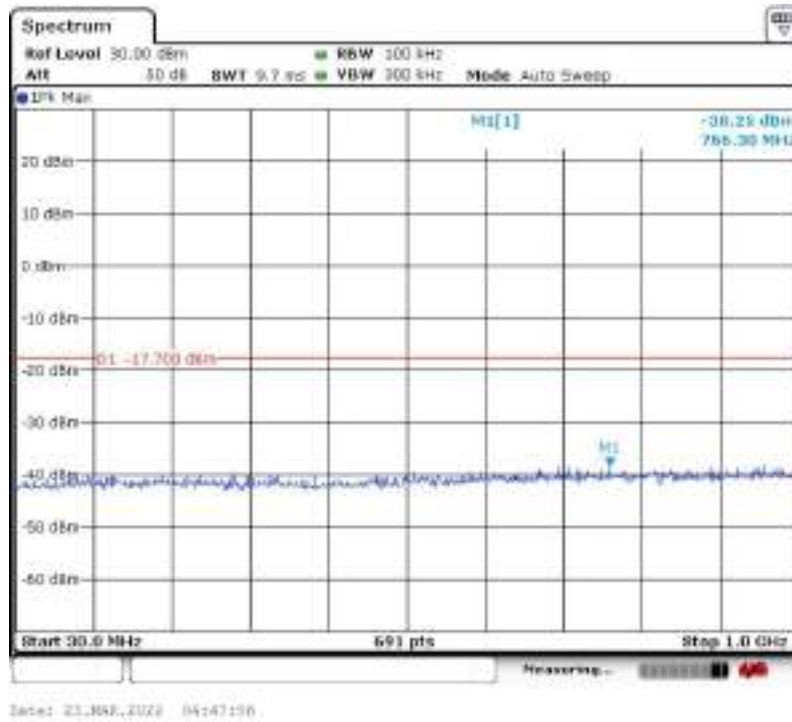
13 G to 25 GHz



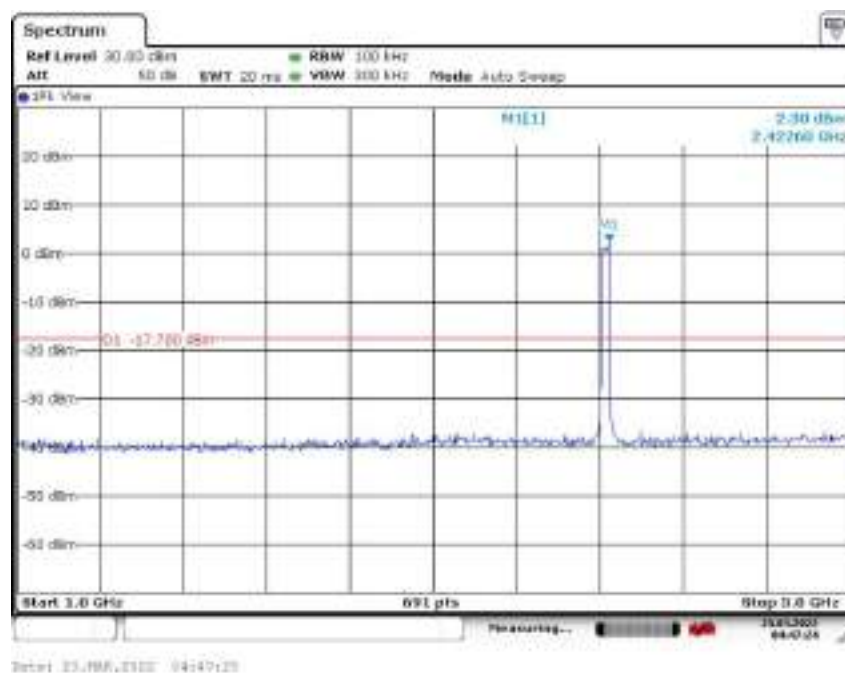
802.11ax(HE20) mode with MCS11 data rate

Channel 1: 2.412GHz:

30 MHz to 1 GHz

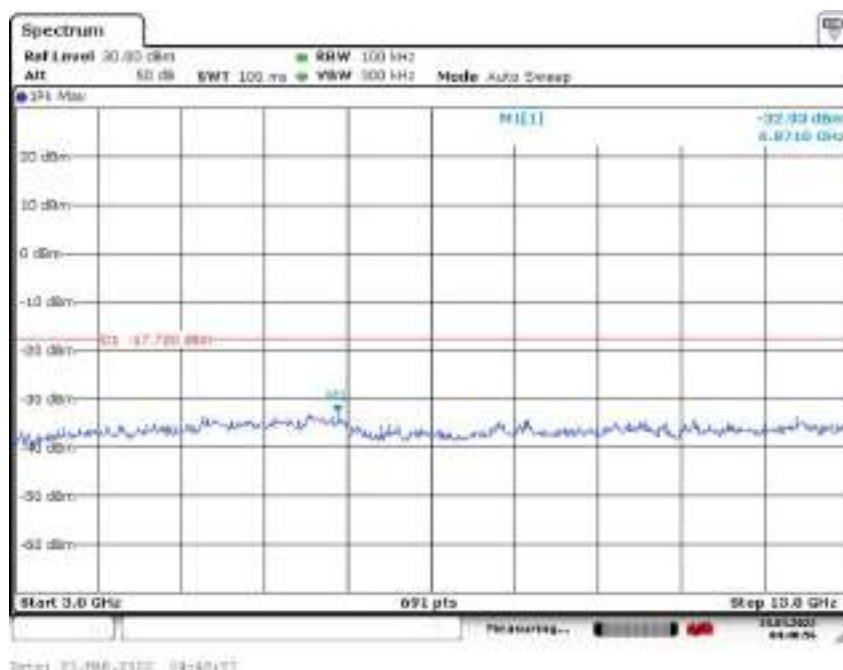


1 G to 3 GHz

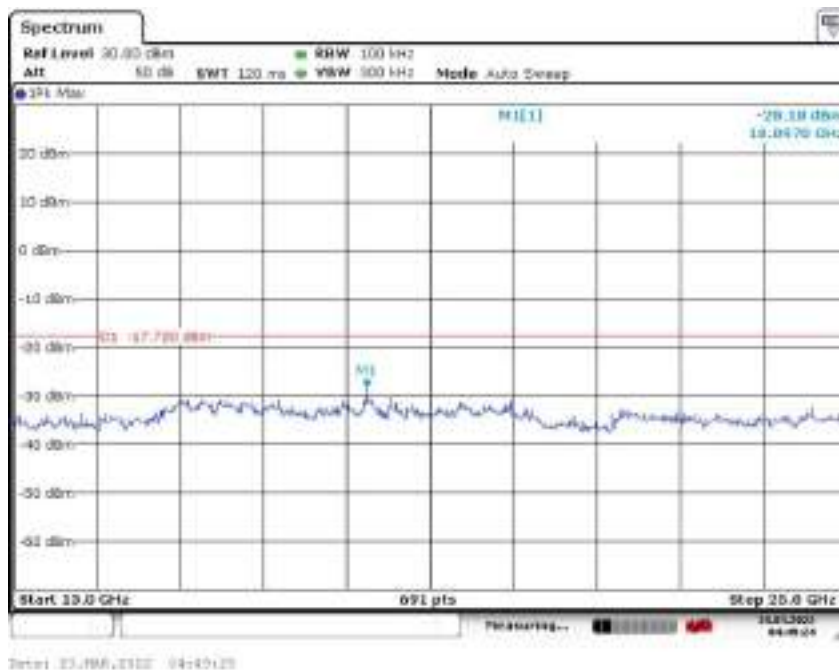


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3 G to 13 GHz

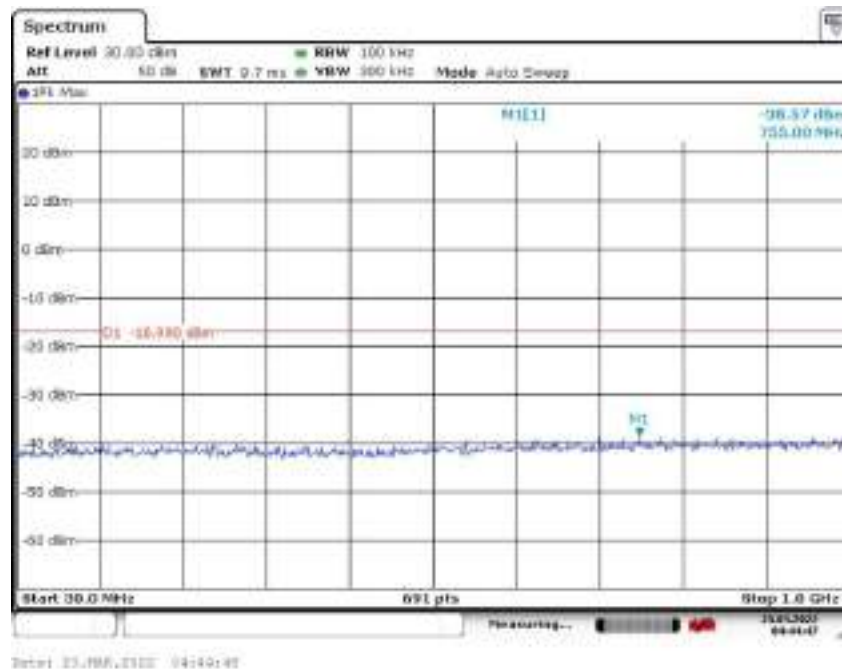


13 G to 25 GHz

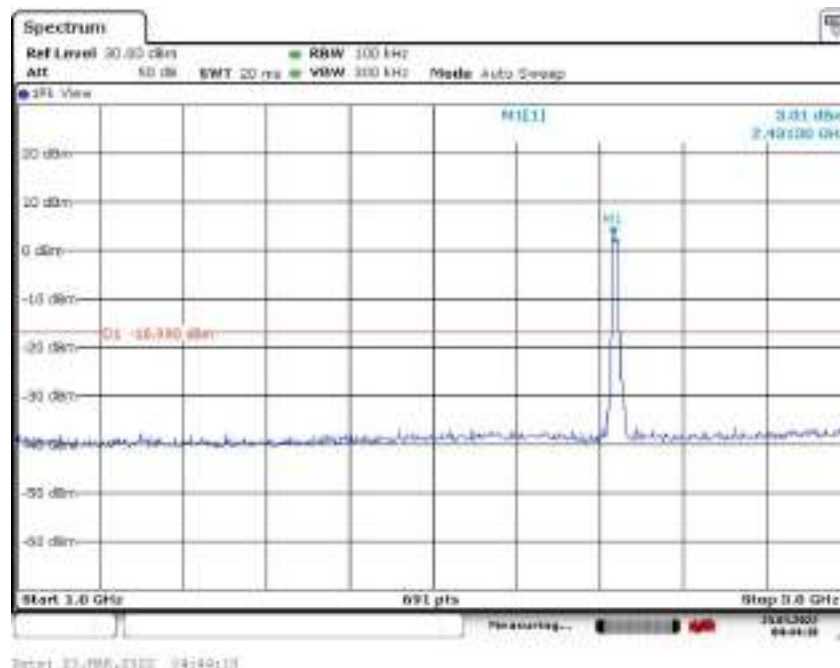


Channel 6: 2.437GHz:

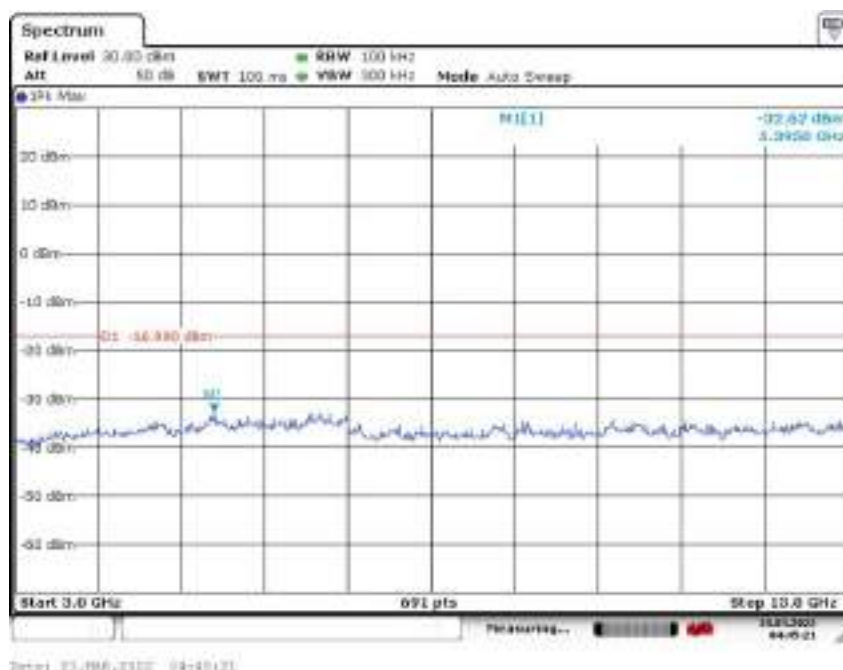
30 MHz to 1 GHz



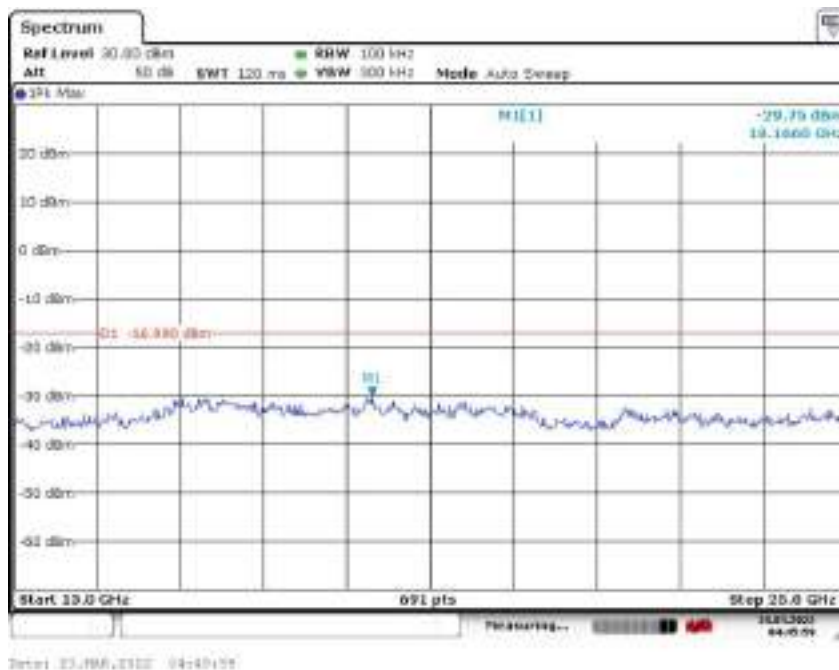
1 G to 3 GHz



3 G to 13 GHz

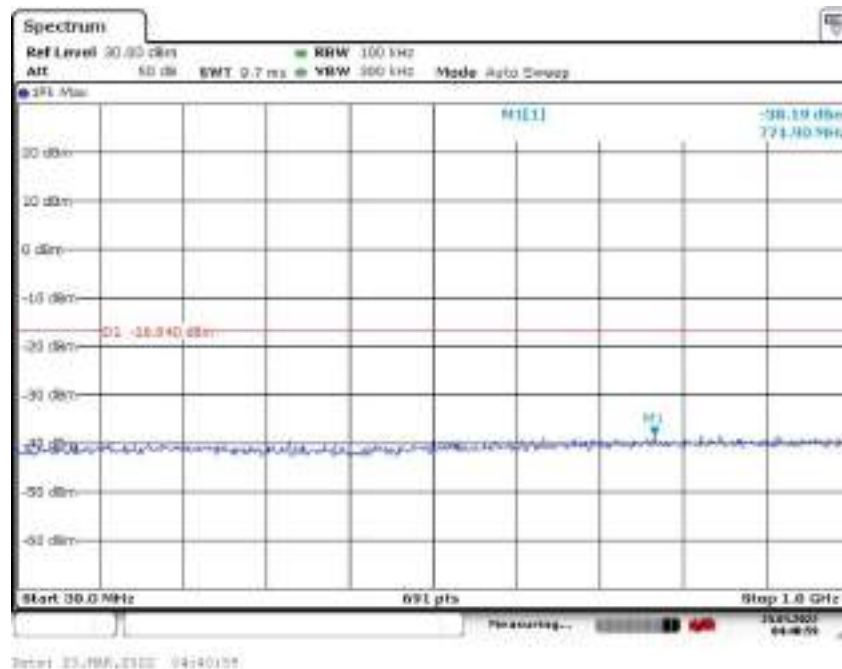


13 G to 25 GHz

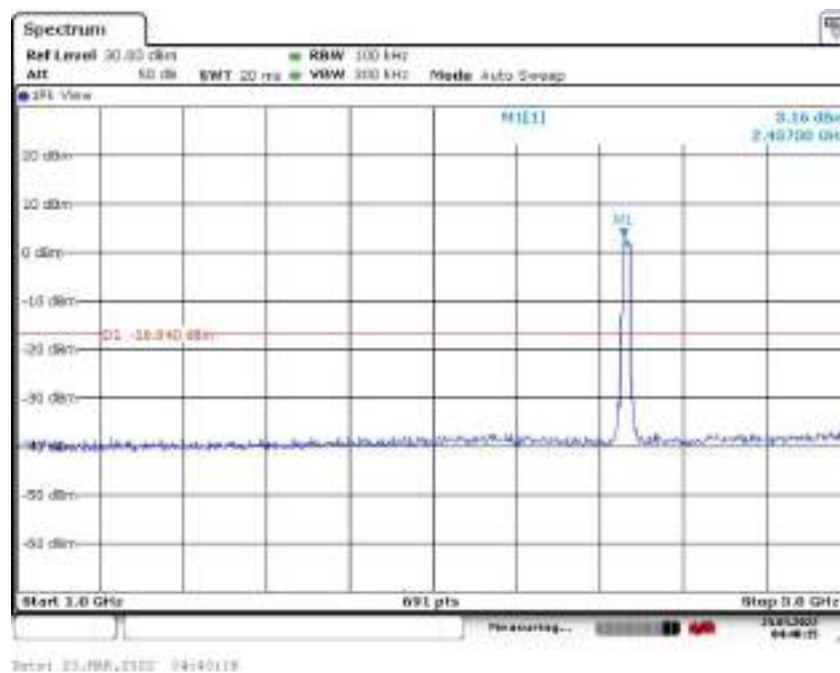


Channel 11:2.462 GHz

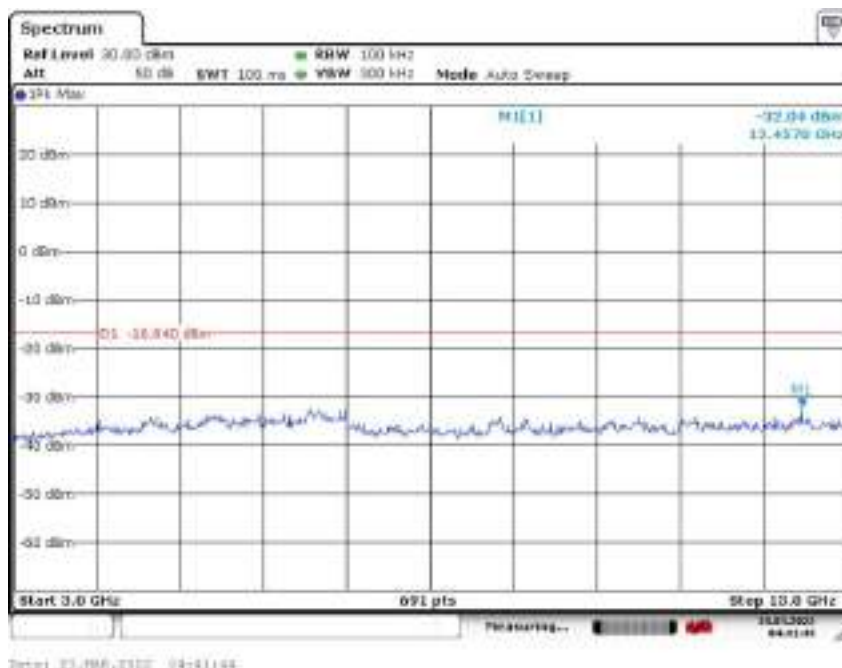
30 MHz to 1 GHz



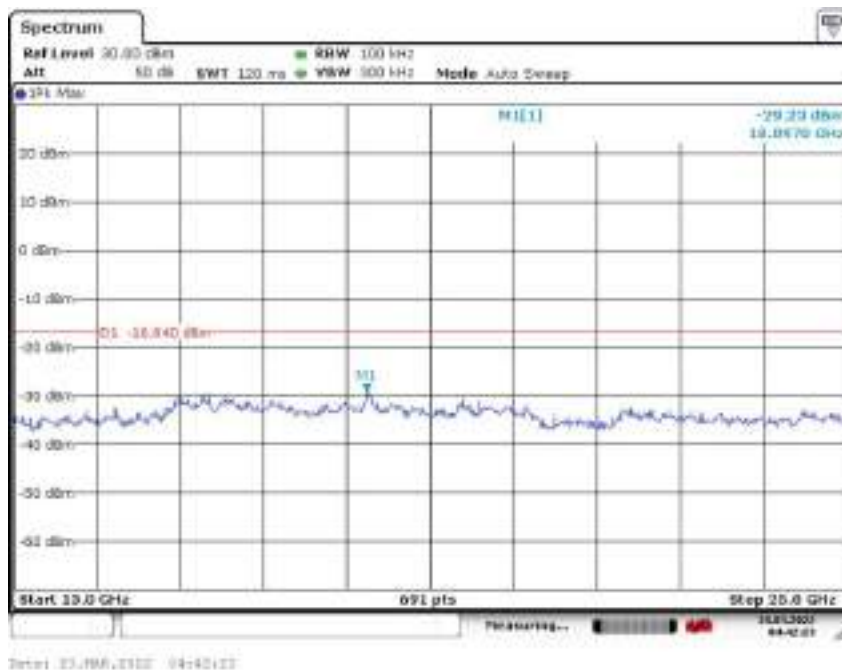
1 G to 3 GHz



3 G to 13 GHz



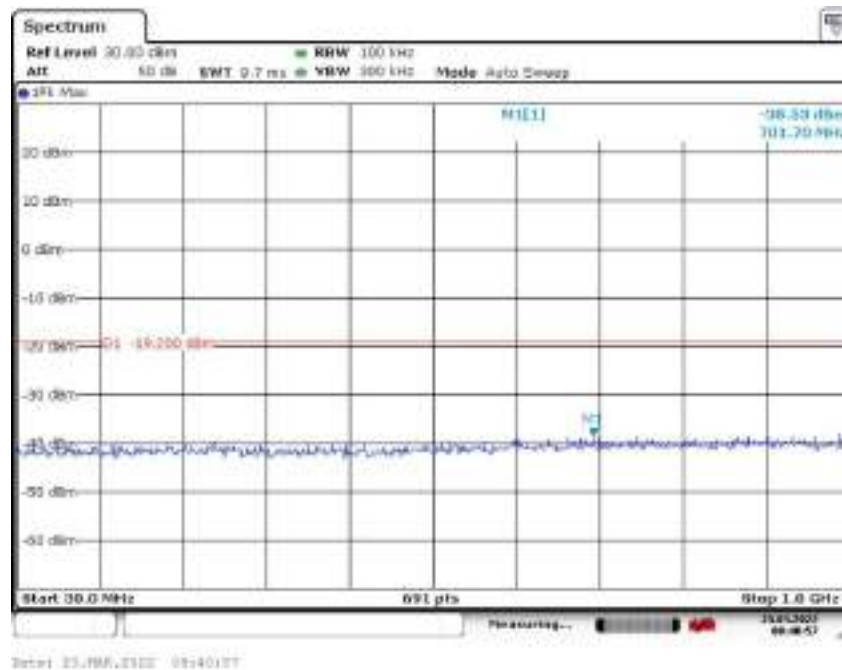
13 G to 25 GHz



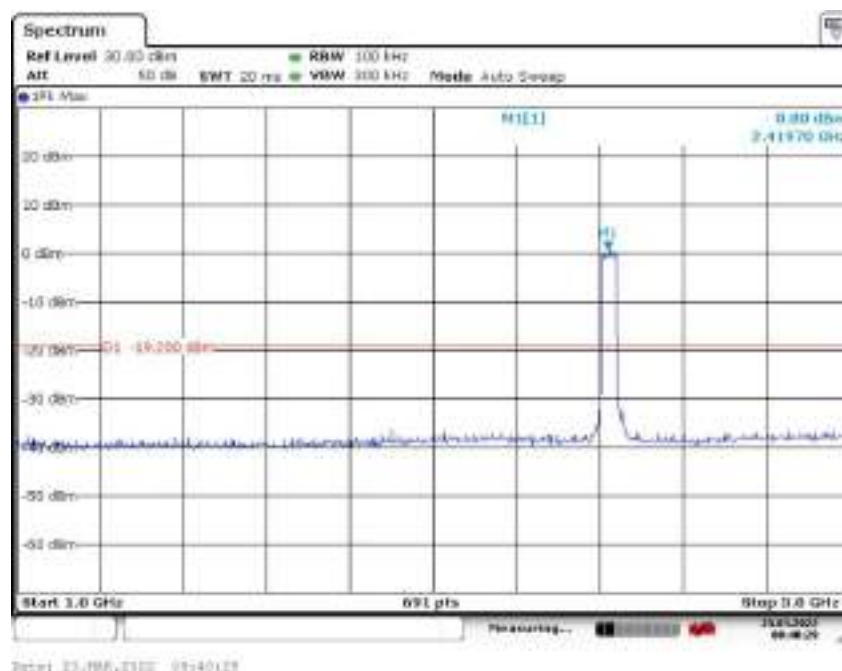
802.11ax(HE40) mode with MCS11 data rate

Channel 3: 2.422GHz:

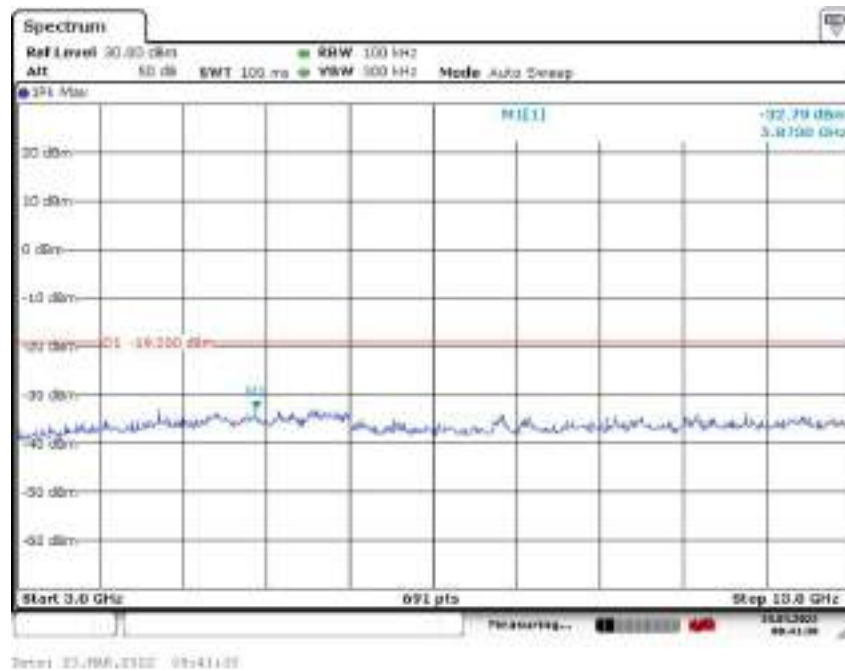
30 MHz to 1 GHz



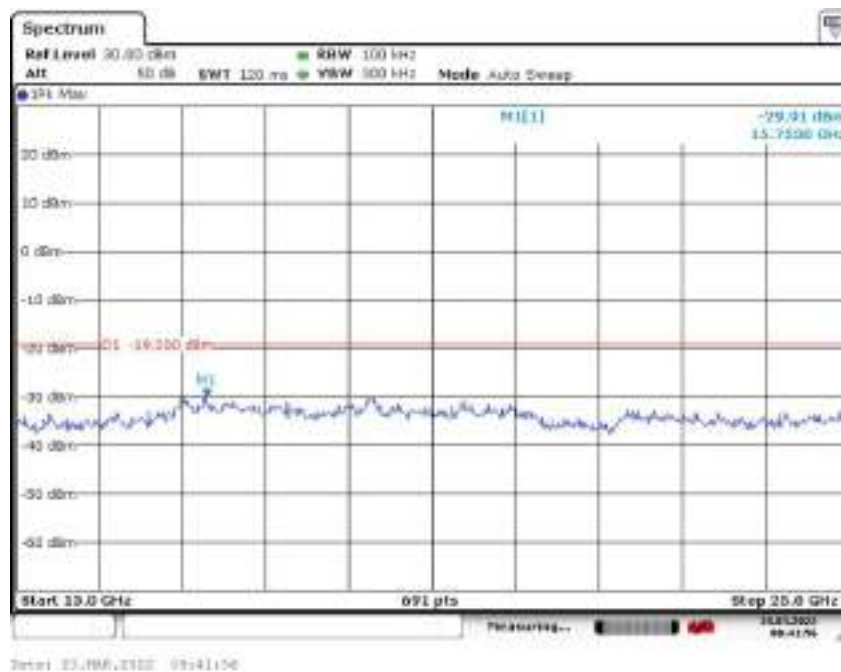
1 G to 3 GHz



3 G to 13 GHz

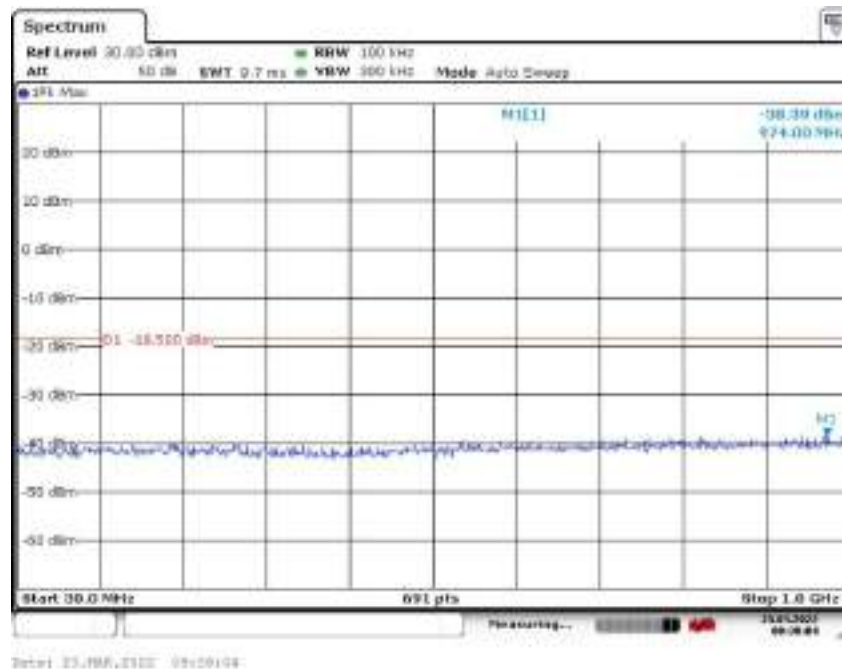


13 G to 25 GHz

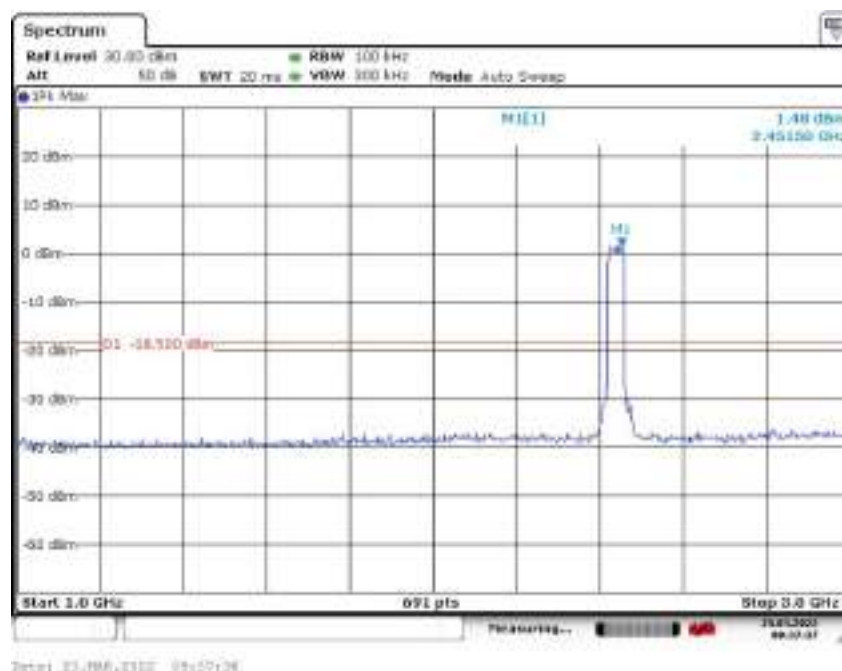


Channel 6: 2.437GHz:

30 MHz to 1 GHz

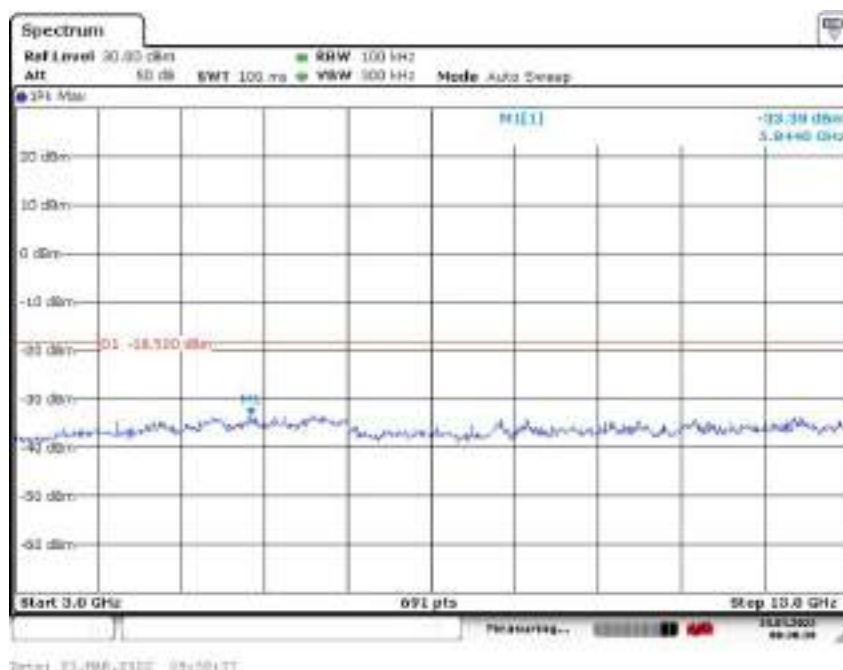


1 G to 3 GHz

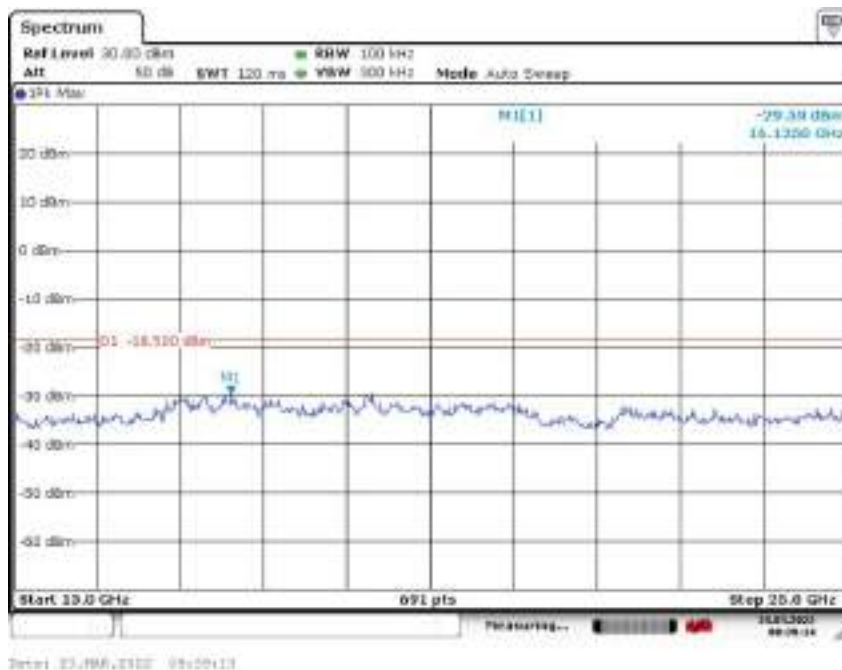


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3 G to 13 GHz

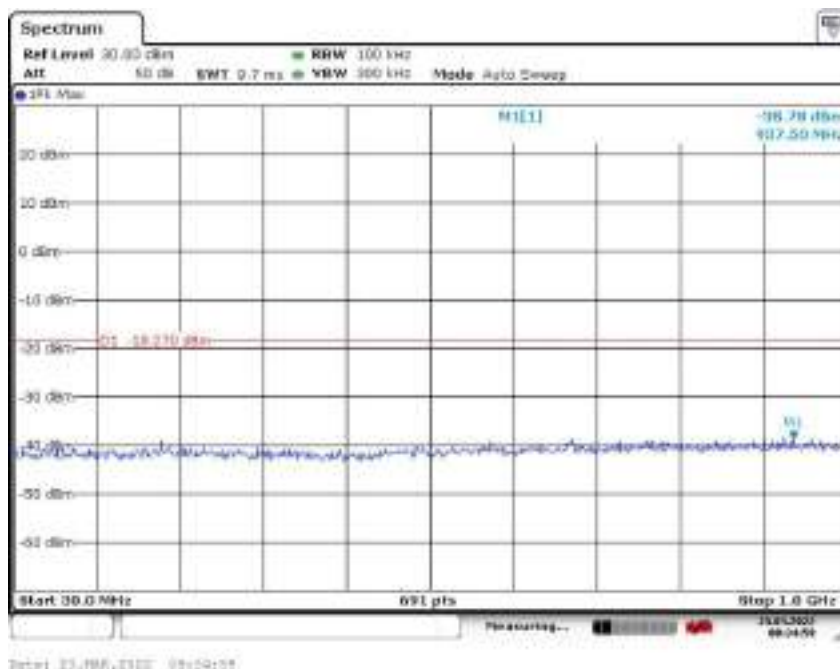


13 G to 25 GHz



Channel 9:2.452 GHz

30 MHz to 1 GHz



1 G to 3 GHz

