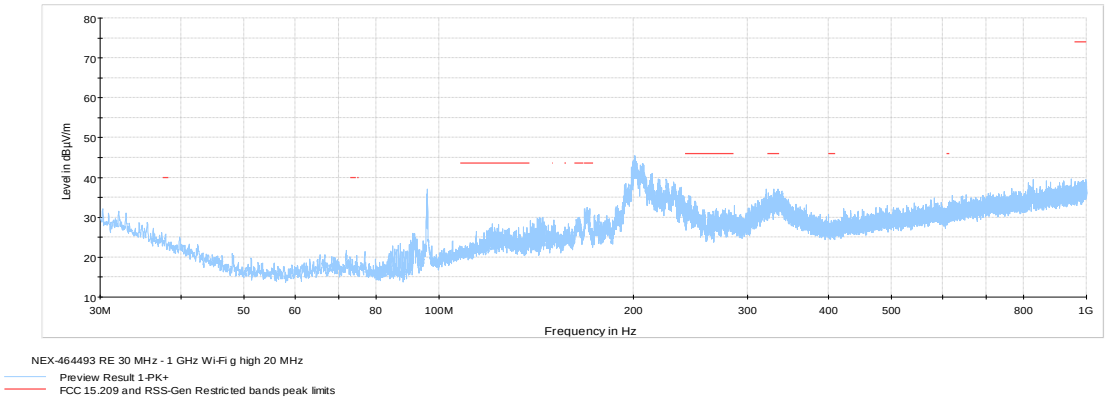


Figure 8.9-52: Radiated spurious emissions below 1 GHz high channel, 802.11g

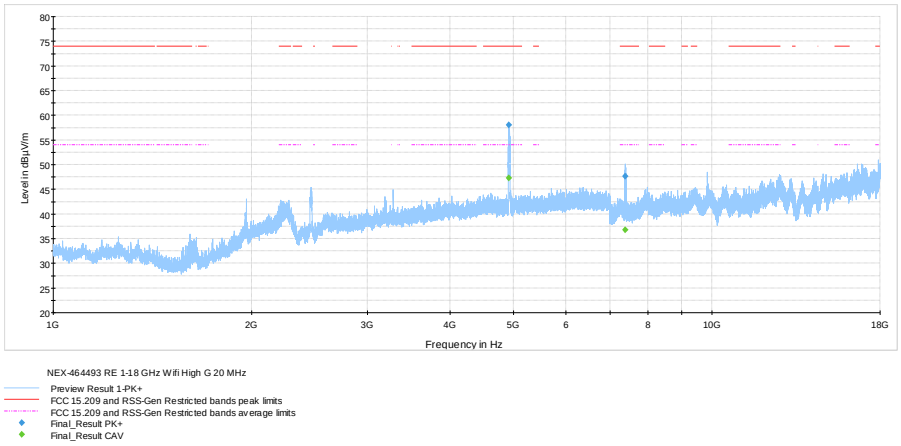


Figure 8.9-53: Radiated spurious emissions 1 -18 GHz high channel, 802.11g

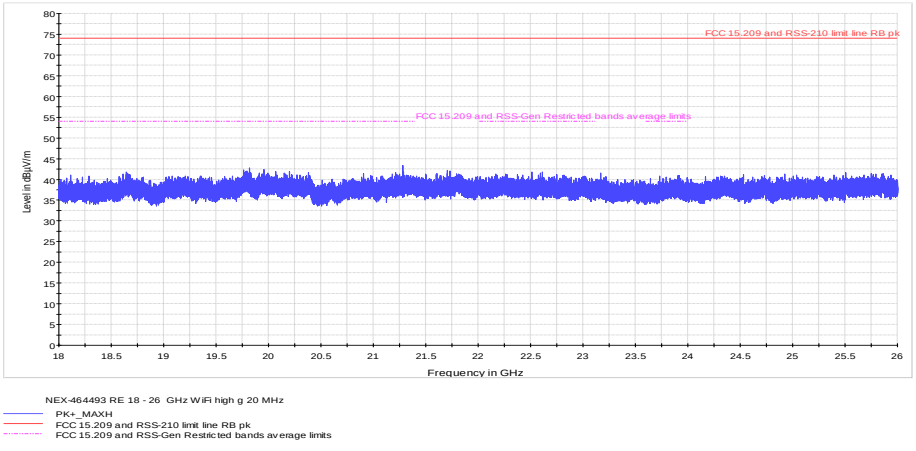


Figure 8.9-54: Radiated spurious emissions 18-26 GHz high channel, 802.11g

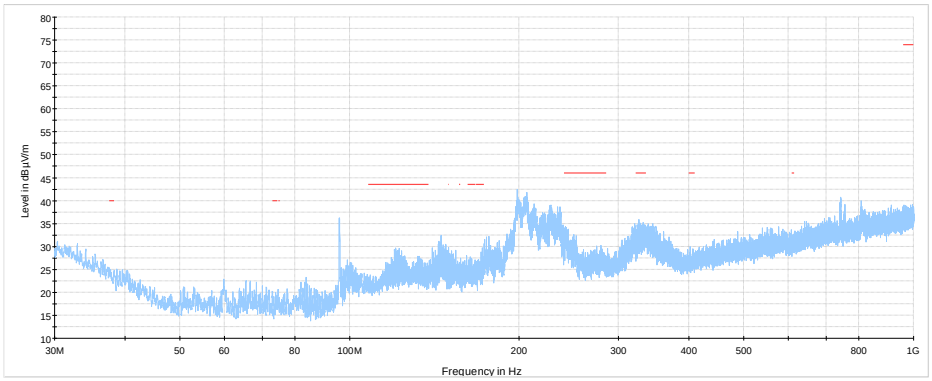


Figure 8.9-55: Radiated spurious emissions below 1 GHz low channel, 802.11n HT20

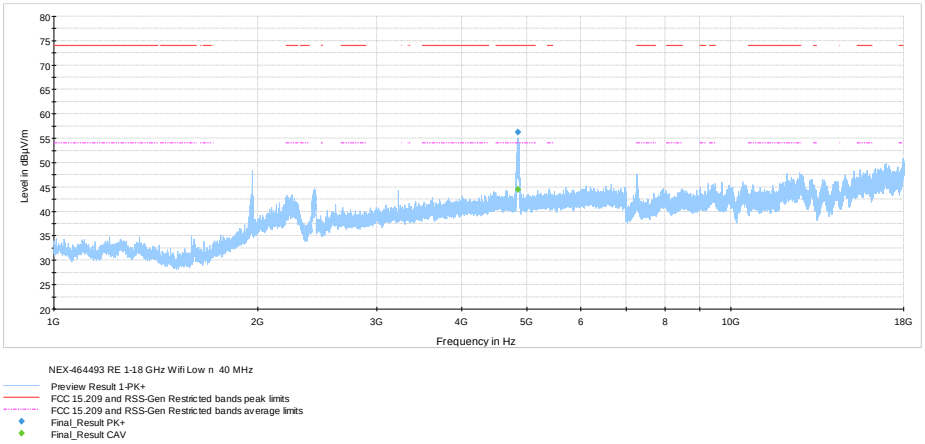


Figure 8.9-56: Radiated spurious emissions 1 -18 GHz low channel, 802.11n HT20

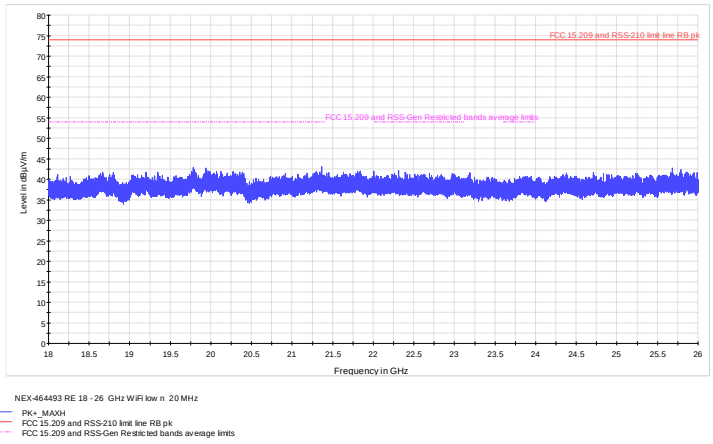


Figure 8.9-57: Radiated spurious emissions 18-26 GHz low channel, 802.11n HT20

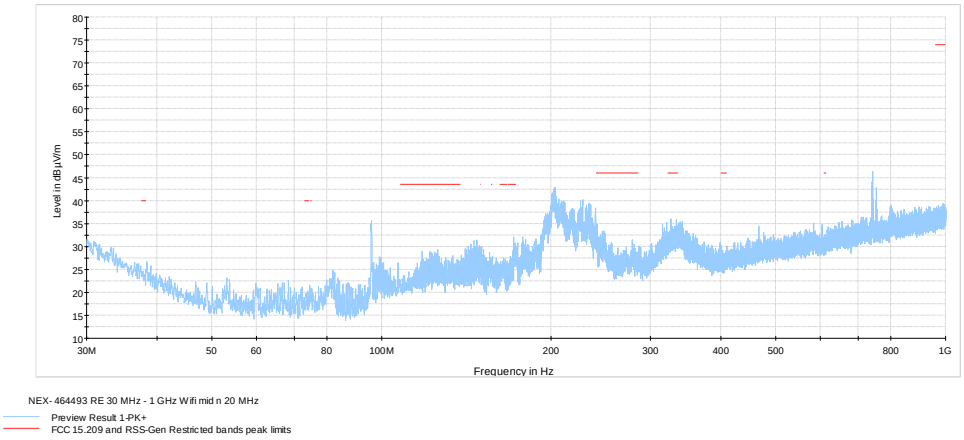


Figure 8.9-58: Radiated spurious emissions below 1 GHz mid channel, 802.11n HT20

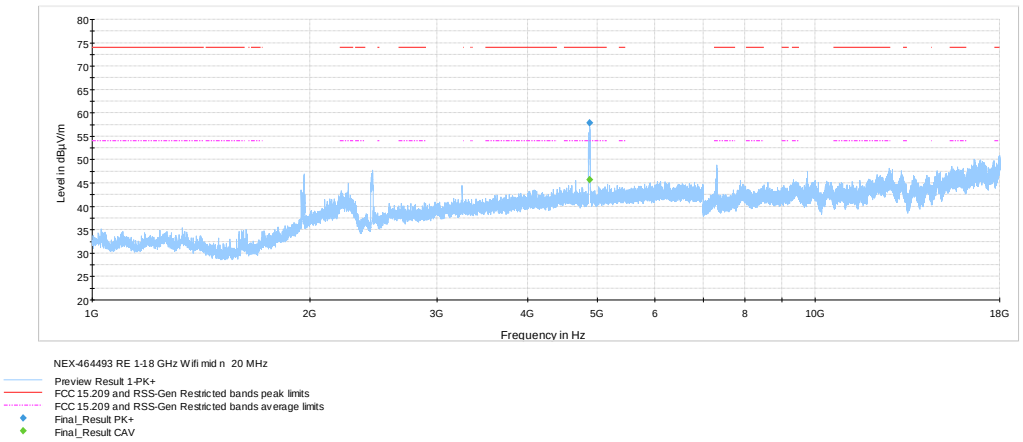


Figure 8.9-59: Radiated spurious emissions 1 -18 GHz mid channel, 802.11 n HT20

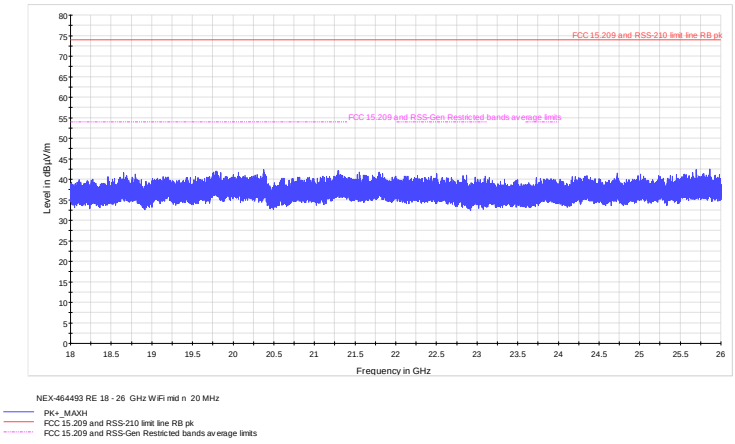


Figure 8.9-60: Radiated spurious emissions 18-26 GHz mid channel, 802.11n HT20

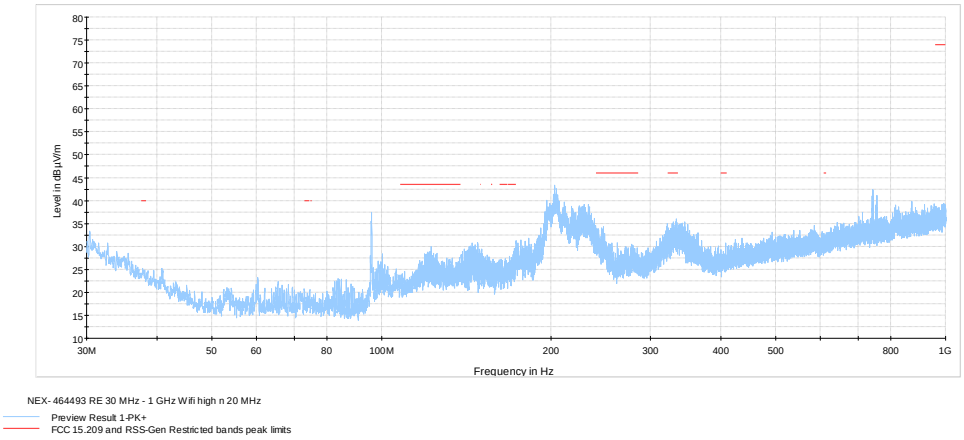


Figure 8.9-61: Radiated spurious emissions below 1 GHz high channel, 802.11n HT20

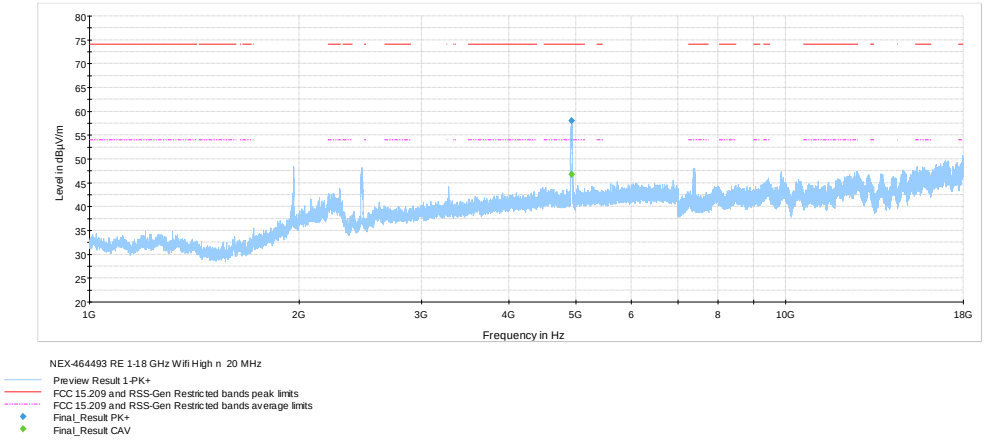


Figure 8.9-62: Radiated spurious emissions 1 -18 GHz high channel, 802.11n HT20

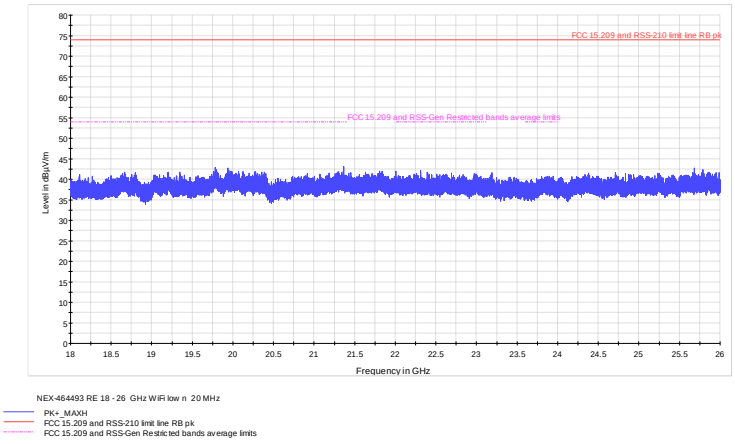


Figure 8.9-63: Radiated spurious emissions 18-26 GHz high channel, 802.11n HT20

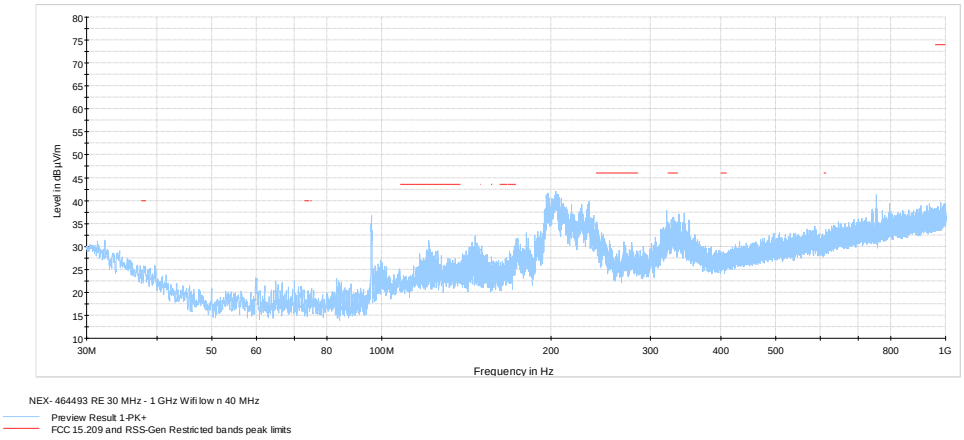


Figure 8.9-64: Radiated spurious emissions below 1 GHz low channel, 802.11n HT40

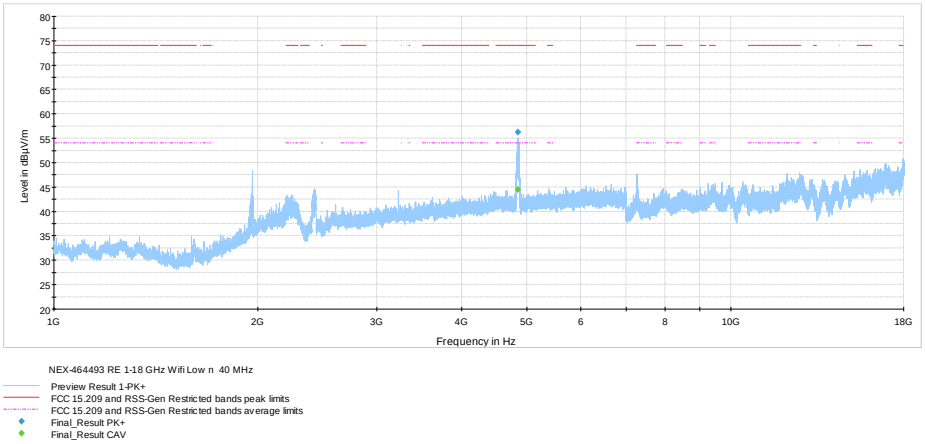


Figure 8.9-65: Radiated spurious emissions 1 -18 GHz low channel, 802.11n HT40

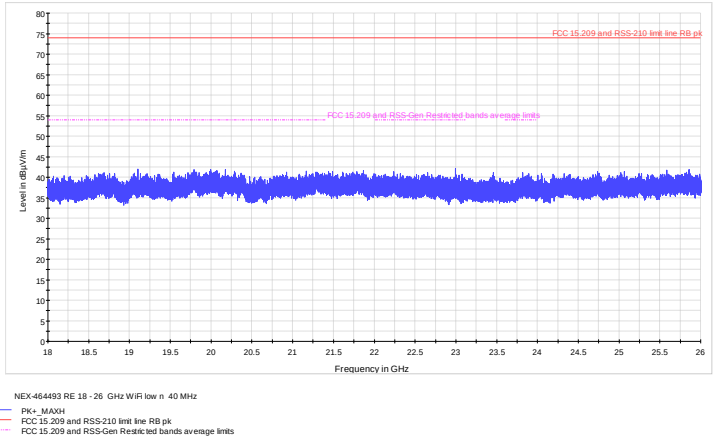


Figure 8.9-66: Radiated spurious emissions 18-26 GHz low channel, 802.11n HT40

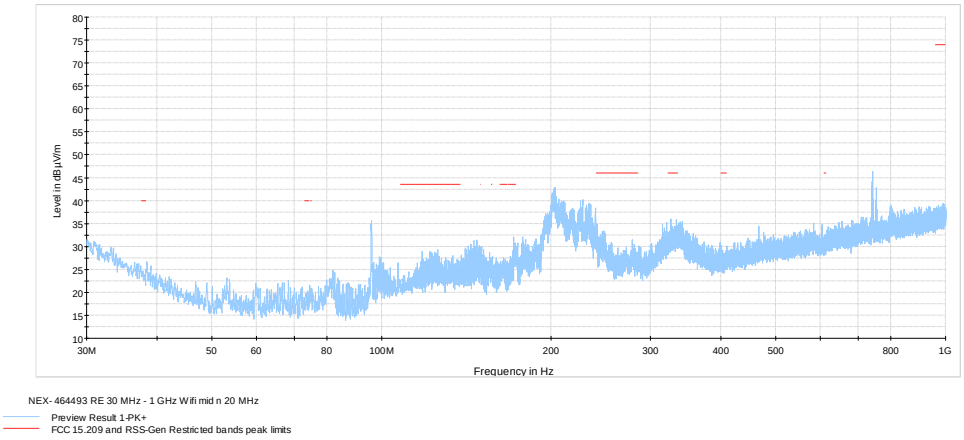


Figure 8.9-67: Radiated spurious emissions below 1 GHz mid channel, 802.11n HT40

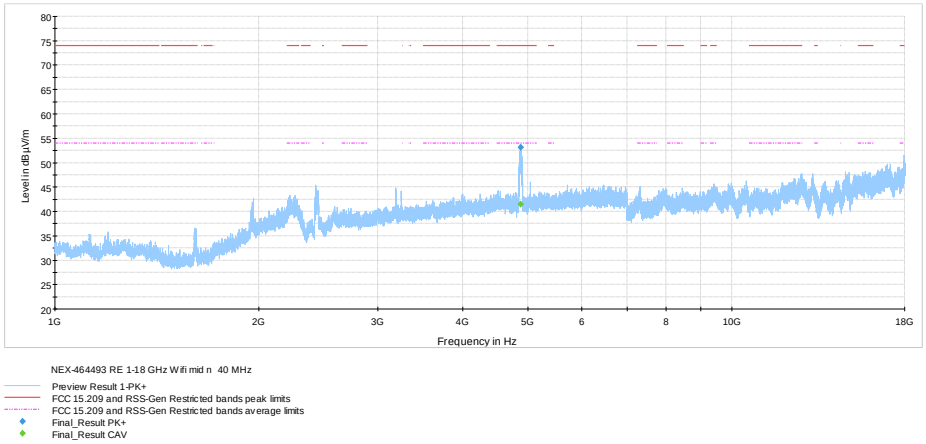


Figure 8.9-68: Radiated spurious emissions 1 -18 GHz mid channel, 802.11n HT40

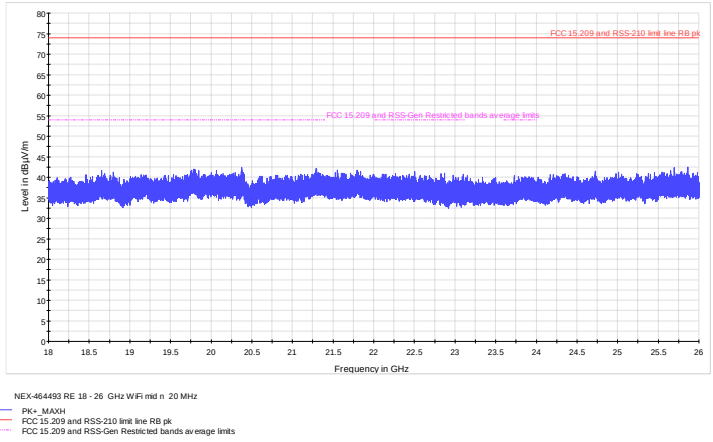


Figure 8.9-69: Radiated spurious emissions 18-26 GHz mid channel, 802.11n HT40

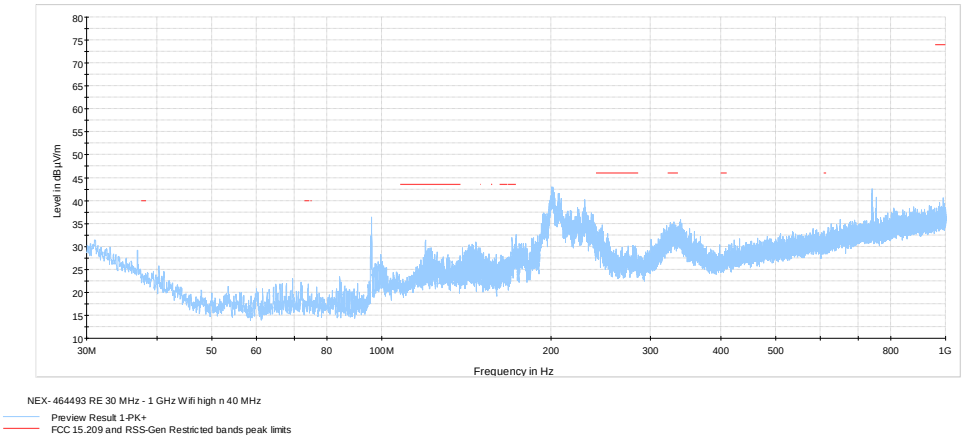


Figure 8.9-70: Radiated spurious emissions below 1 GHz high channel, 802.11n HT40

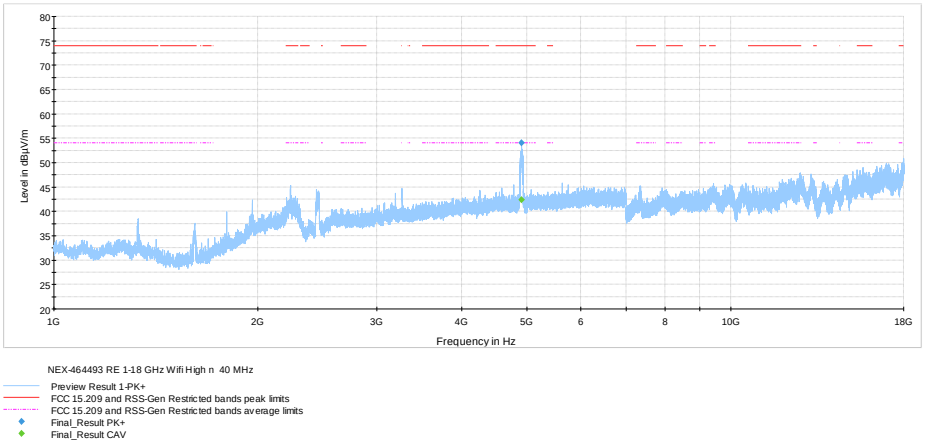


Figure 8.9-71: Radiated spurious emissions 1 -18 GHz high channel, 802.11n HT40

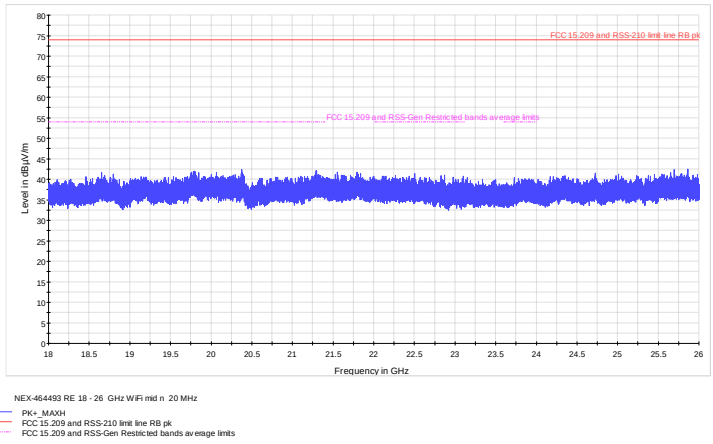


Figure 8.9-72: Radiated spurious emissions 18-26 GHz high channel, 802.11n HT40

8.10 FCC 15.247(e) and RSS-247 5.2(b) Power spectral density for digitally modulated devices

8.10.1 References, definitions and limits

FCC:
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.

(f) For the purposes of this section, hybrid systems are those that employ a combination of both frequency hopping and digital modulation techniques. The frequency hopping operation of the hybrid system, with the direct sequence or digital modulation operation turned-off, shall have an average time of occupancy on any frequency not to exceed 0.4 seconds within a time period in seconds equal to the number of hopping frequencies employed multiplied by 0.4. The power spectral density conducted from the intentional radiator to the antenna due to the digital modulation operation of the hybrid system, with the frequency hopping operation turned off, shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

ISED:
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).

5.3 Hybrid systems
Hybrid systems employ a combination of both frequency hopping and digital transmission techniques and shall comply with the following:
With the frequency hopping turned off, the digital transmission operation shall comply with the power spectral density requirements for digital modulation systems set out in of section 5.2(b) or section 6.2.4 for hybrid devices operating in the band 5725–5850 MHz.

8.10.2 Test summary

Verdict	Pass		
Tested by	Fahar Abdul Sukkoor	Test date	April 21, 2022

8.10.3 Observations, settings and special notes

Power spectral density test was performed as per KDB 558074, section 8.4 with reference to ANSI C63.10 subclause 11.10.
The test was performed using method AVGPSD-1 (trace averaging with EUT transmitting at full power throughout each sweep).
Spectrum analyser settings:

Resolution bandwidth:	3 kHz ≤ RBW ≤ 100 kHz
Video bandwidth:	≥3 × RBW
Frequency span:	1.5 times the OBW (Average)
Detector mode:	RMS
Trace mode:	Average
Averaging sweeps number:	100

8.10.4 Test data

Table 8.10-1: PSD results (antenna port measurement) 802.11b modulation

Frequency, MHz	PSD, dBm/3 kHz	PSD limit, dBm/3 kHz	Margin, dB
2412	-18.0	8.0	26.0
2437	-20.5	8.0	28.5
2462	-21.1	8.0	29.1

Table 8.10-2: PSD results (antenna port measurement) 802.11g modulation

Frequency, MHz	PSD, dBm/3 kHz	PSD limit, dBm/3 kHz	Margin, dB
2412	-23.9	8.0	31.9
2437	-24.9	8.0	32.9
2462	-24.8	8.0	32.8

Table 8.10-3: PSD results (antenna port measurement) 802.11n HT20 modulation

Frequency, MHz	PSD, dBm/3 kHz	PSD limit, dBm/3 kHz	Margin, dB
2412	-24.2	8.0	32.2
2437	-25.5	8.0	33.5
2462	-25.8	8.0	33.8

Table 8.10-4: PSD results (antenna port measurement) 802.11n HT40 modulation

Frequency, MHz	PSD, dBm/3 kHz	PSD limit, dBm/3 kHz	Margin, dB
2412	-27.6	8.0	35.6
2437	-28.1	8.0	36.1
2452	-28.6	8.0	36.6

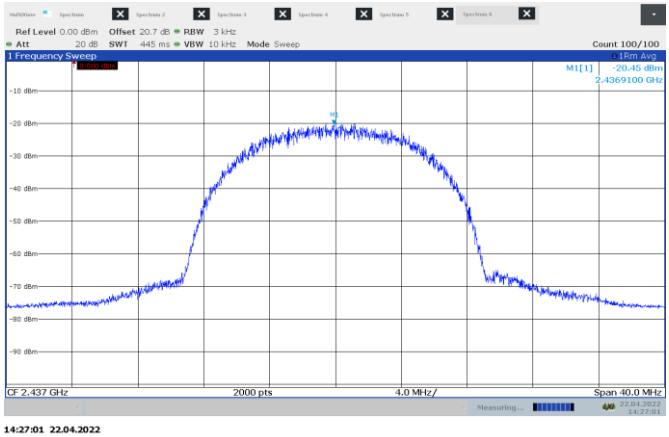


Figure 8.10-1: PSD on 802.11b sample plot

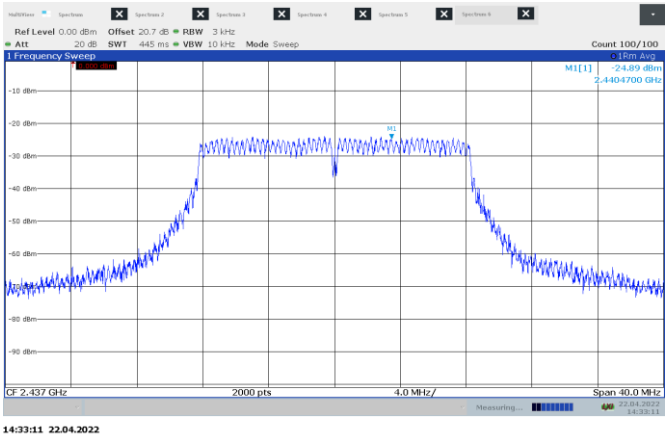


Figure 8.10-2: PSD on 802.11g sample plot

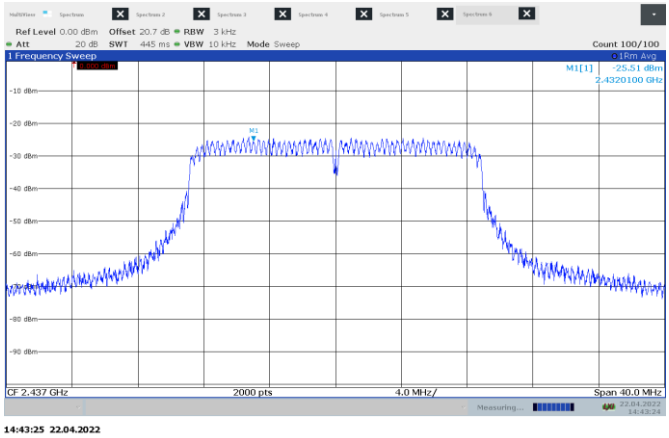


Figure 8.10-3: PSD on 802.11n HT20 sample plot

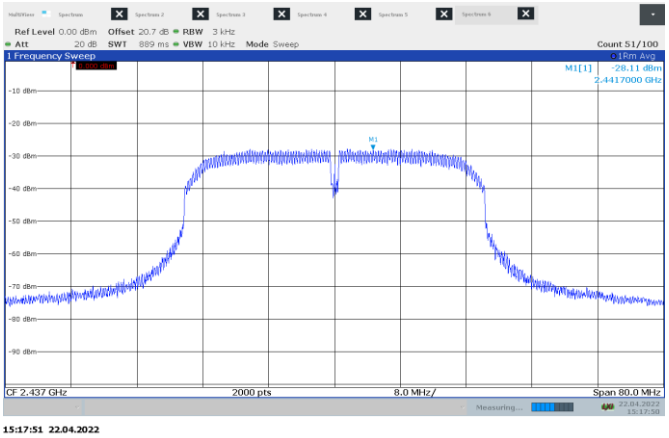
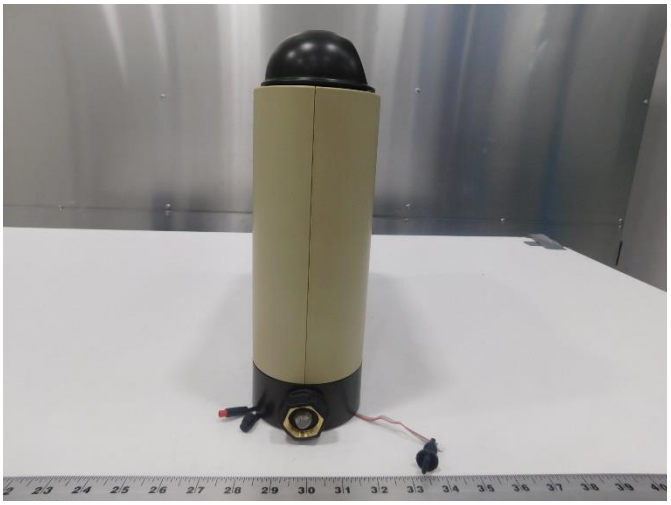


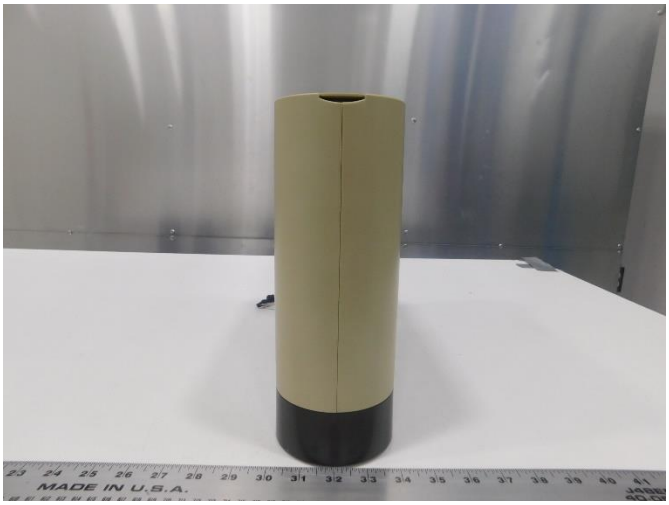
Figure 8.10-4: PSD on 802.11n HT40 sample plot

Section 9 EUT photos

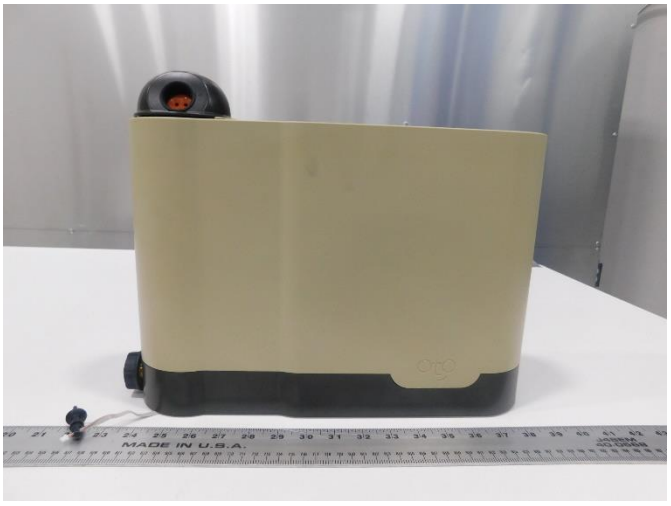
9.1 External photos



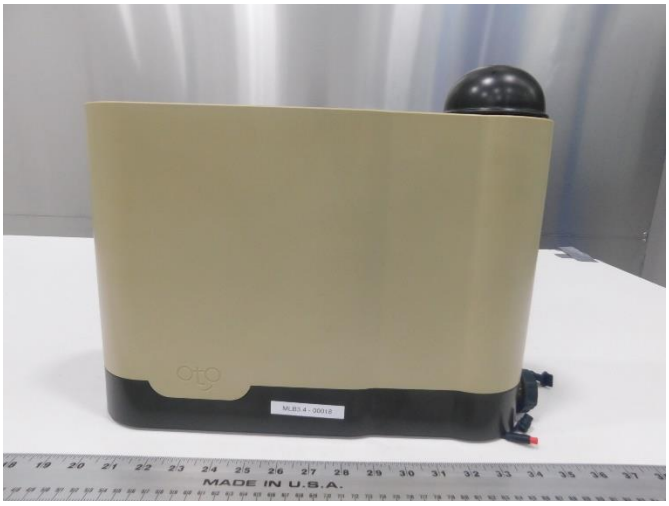
Front view photo



Rear view photo

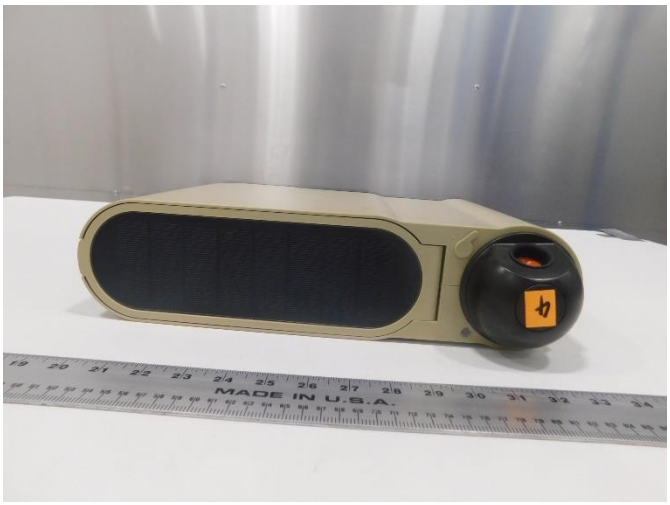


Side view photo



Side view photo

9.1.1 External photos continued



Top view photo

Bottom view photo

EUT adaptor photo

End of the test report