

Test data, continued

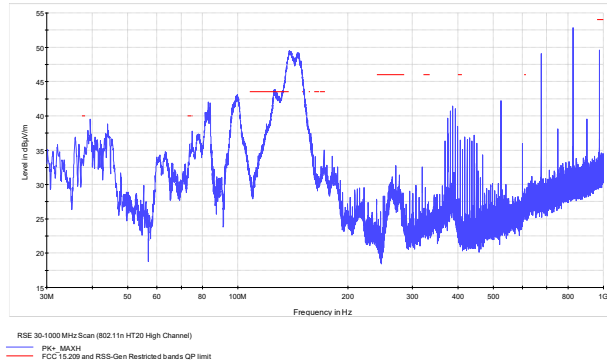


Figure 7.7-55: Radiated spurious emissions on 30-1000 MHz (802.11n HT20 Low Channel)

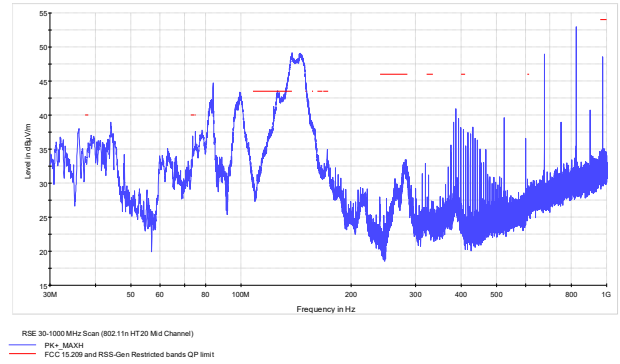


Figure 7.7-56: Radiated spurious emissions on 30-1000 MHz (802.11n HT20 Mid Channel)

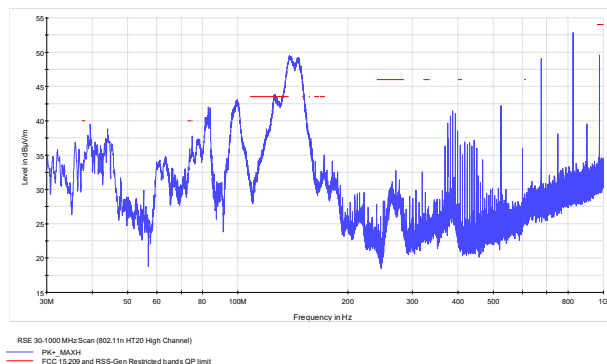


Figure 7.7-57: Radiated spurious emissions on 30-1000 MHz (802.11n HT20 High Channel)

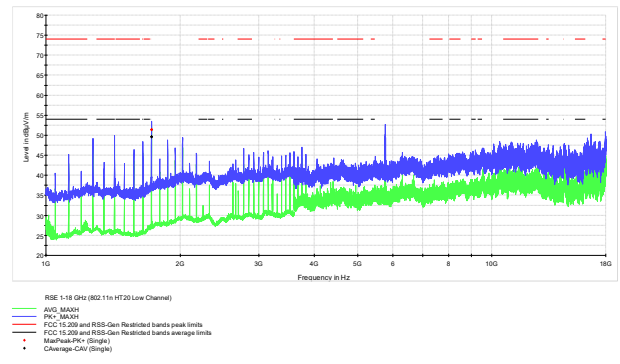


Figure 7.7-58: Radiated spurious emissions on 1-18 GHz (802.11n HT20 Low Channel)

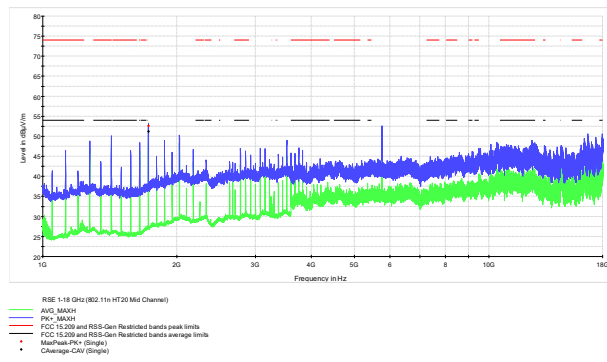


Figure 7.7-59: Radiated spurious emissions on 1-18 GHz (802.11n HT20 Mid Channel)

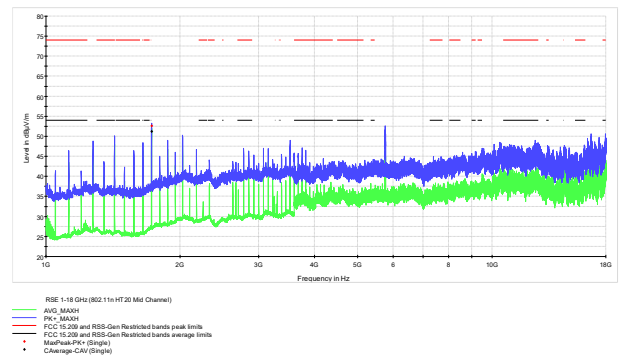


Figure 7.7-60: Radiated spurious emissions on 1-18 GHz (802.11n HT20 High Channel)

Test data, continued

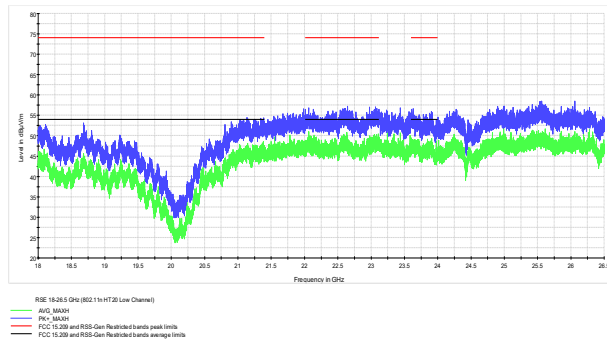


Figure 7.7-61: Radiated spurious emissions on 18-26 GHz 802.11n HT20 Low Channel)

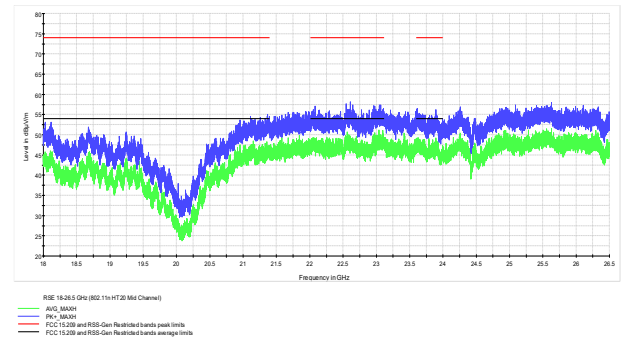


Figure 7.7-62: Radiated spurious emissions on 18-26 GHz (802.11n HT20 Mid Channel)

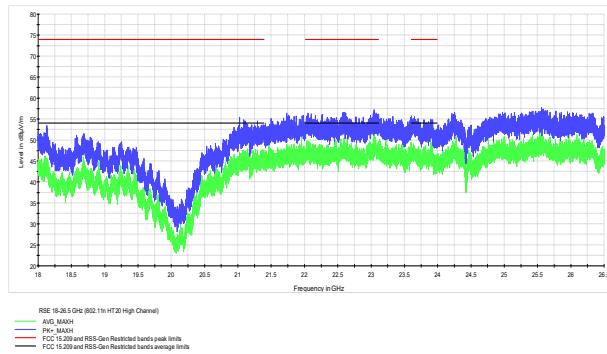


Figure 7.7-63: Radiated spurious emissions on 18-26 GHz (802.11n HT20 High Channel)

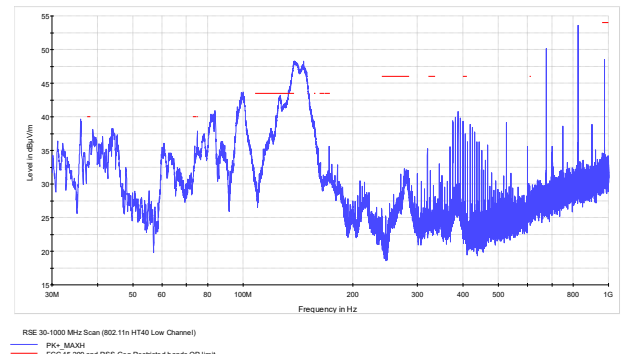


Figure 7.7-64: Radiated spurious emissions on 30-1000 MHz (802.11n HT40 Low Channel)

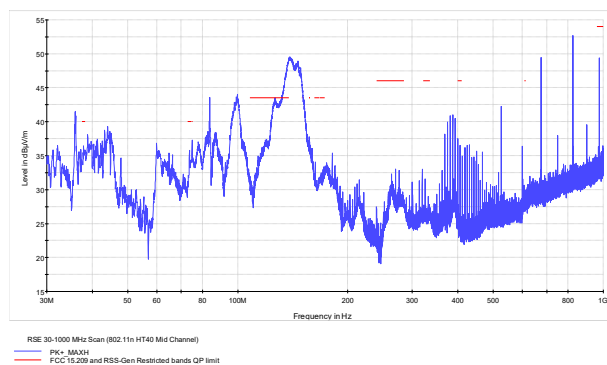


Figure 7.7-65: Radiated spurious emissions on 30-1000 MHz (802.11n HT40 Mid Channel)

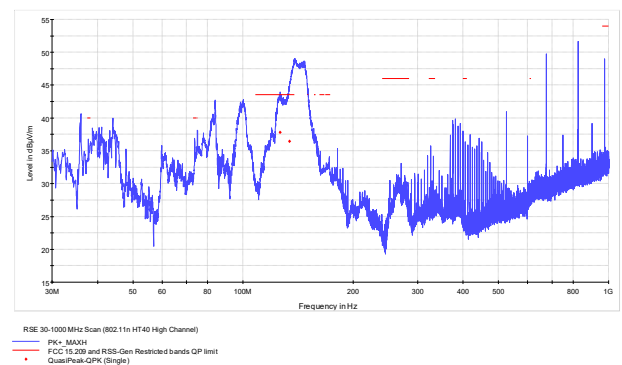


Figure 7.7-66: Radiated spurious emissions on 30-1000 MHz (802.11n HT40 High Channel)

Test data, continued

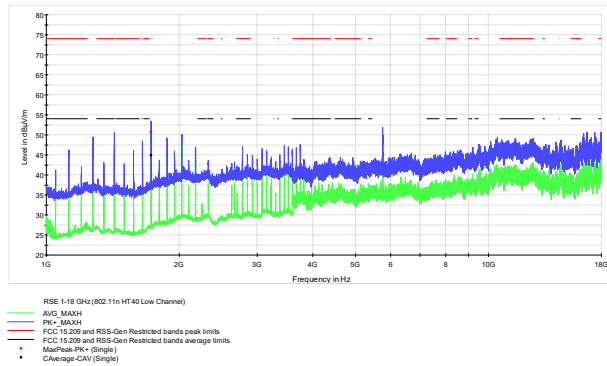


Figure 7.7-67: Radiated spurious emissions on 1-18 GHz (802.11n HT40 Low Channel)

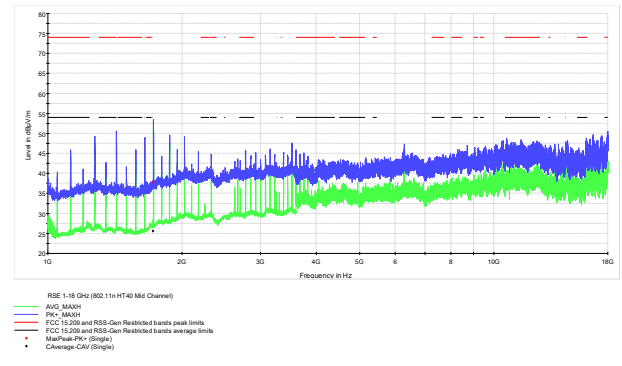


Figure 7.7-68: Radiated spurious emissions on 1-18 GHz (802.11n HT40 Mid Channel)

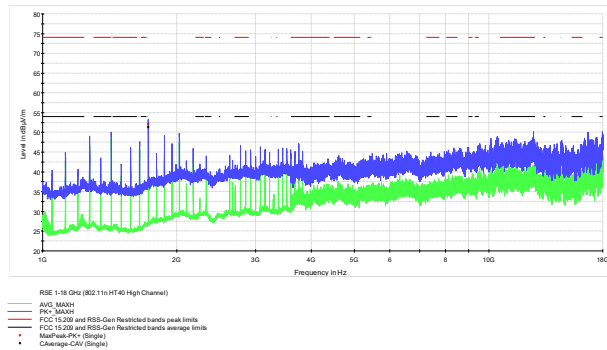


Figure 7.7-69: Radiated spurious emissions on 1-18 GHz (802.11n HT40 High Channel)

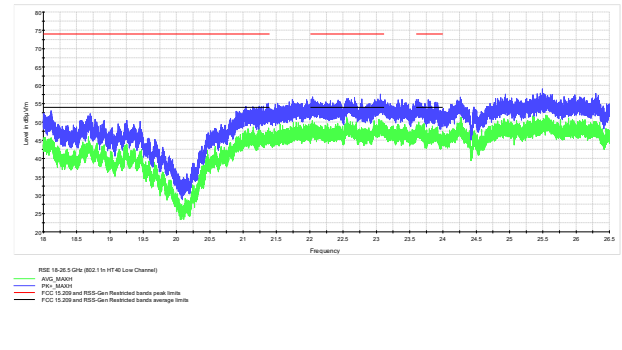


Figure 7.7-70: Radiated spurious emissions on 18-26 GHz (802.11n HT40 Low Channel)

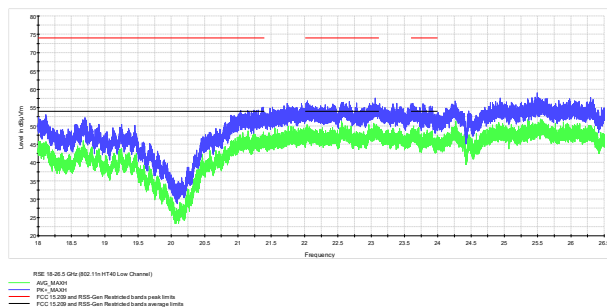


Figure 7.7-71: Radiated spurious emissions on 18-26 GHz (802.11n HT40 Mid Channel)

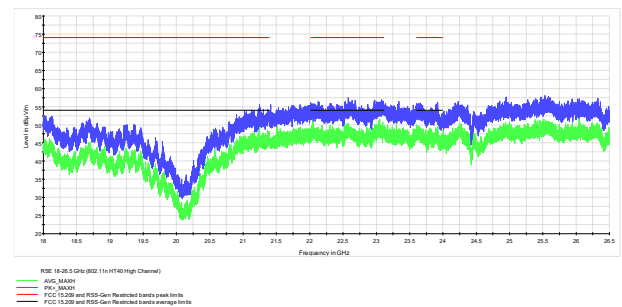


Figure 7.7-72: Radiated spurious emissions on 18-26 GHz (802.11n HT40 High Channel)

7.8 Power spectral density for digitally modulated devices

7.8.1 References, definitions and limits

FCC §15.247:

- (e) 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.

RSS-247, Clause 5.2:

DTSs include systems that employ digital modulation techniques resulting in spectral characteristics similar to direct sequence systems. The following applies to the bands 902-928 MHz and 2400-2483.5 MHz:

- b. 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).

RSS-247, Clause 5.3:

Hybrid systems employ a combination of both frequency hopping and digital transmission techniques and shall comply with the following:

- b. 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.

7.8.2 Test summary

Verdict	Pass		
Test date	September 5, 2025	Temperature	21 °C
Tested by	Sagarkumar Patel	Air pressure	998 mbar
Test location	Ottawa	Relative humidity	49 %

7.8.3 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 PKPSD (peak PSD).

Spectrum analyser settings:

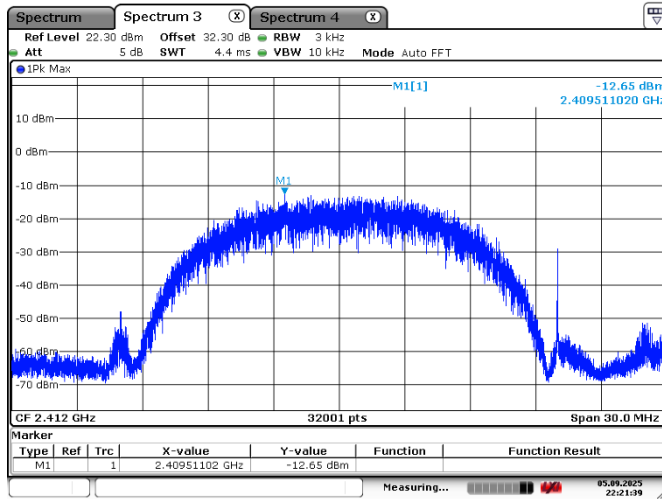
Resolution bandwidth:	3 kHz
Video bandwidth:	$\geq 3 \times \text{RBW}$
Frequency span:	1.5 times the DTS BW (Peak)
Detector mode:	Peak
Trace mode:	Max Hold

7.8.4 Test data

Table 7.8-1: PSD results (antenna port measurement)

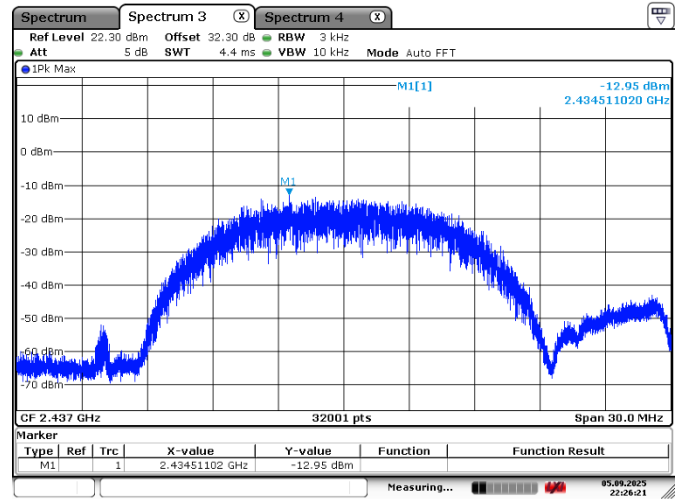
Modulation	Frequency, MHz	PSD, dBm/3 kHz	PSD limit, dBm/3 kHz	Margin, dB
802.11b	2412	-12.65	8.00	20.65
	2437	-12.95	8.00	20.95
	2462	-13.23	8.00	21.23
802.11g	2412	-26.31	8.00	34.31
	2437	-28.07	8.00	36.07
	2462	-27.81	8.00	35.81
802.11n HT20	2412	-23.71	8.00	31.71
	2437	-24.74	8.00	32.74
	2462	-24.30	8.00	32.30
802.11n HT40	2422	-27.19	8.00	35.19
	2447	-26.78	8.00	34.78
	2452	-27.69	8.00	35.69

Test data, continued



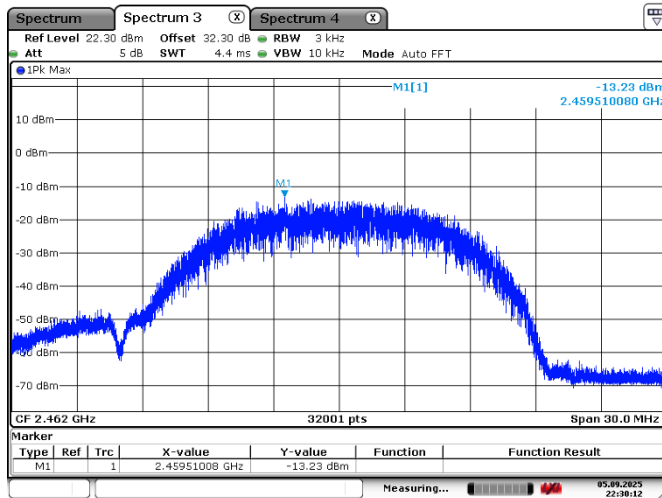
Date: 5.SEP.2025 22:21:39

Figure 7.8-1: PSD on low channel (802.11b)



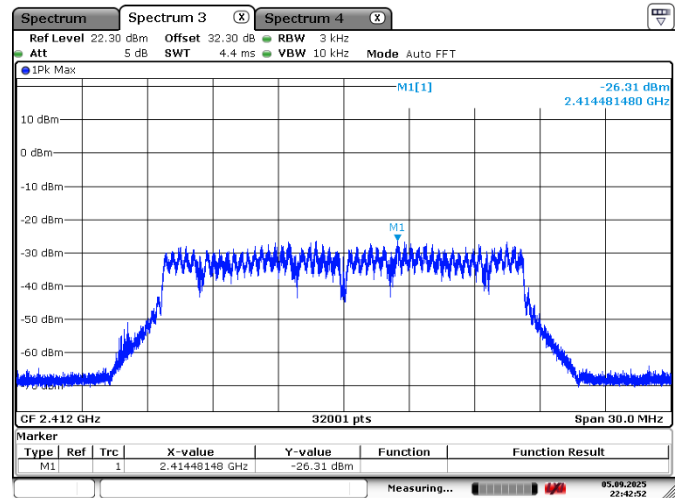
Date: 5.SEP.2025 22:26:21

Figure 7.8-2: PSD on mid channel (802.11b)



Date: 5.SEP.2025 22:30:12

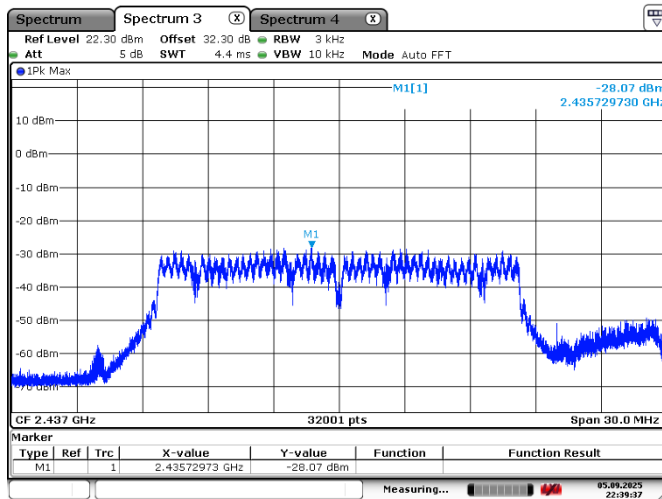
Figure 7.8-3: PSD on high channel (802.11b)



Date: 5.SEP.2025 22:42:52

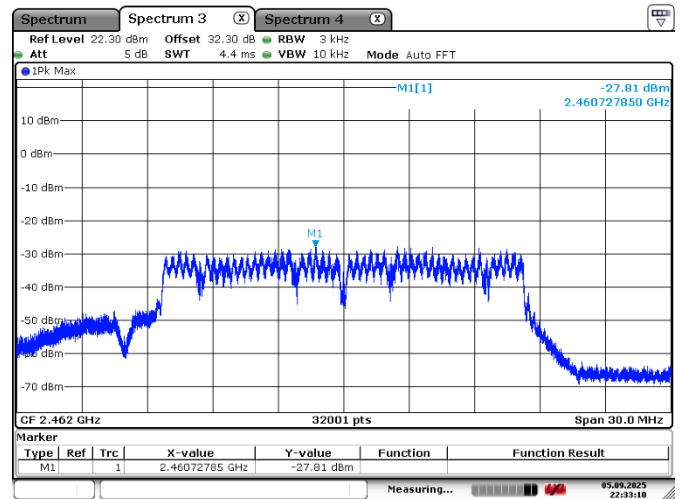
Figure 7.8-4: PSD on low channel (802.11g)

Test data, continued



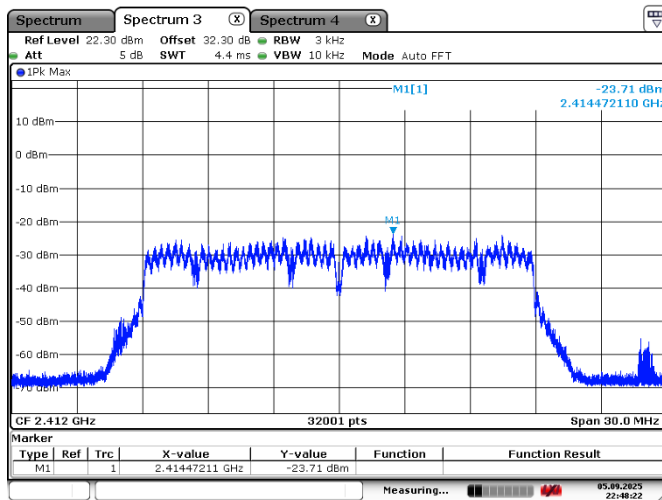
Date: 5.SEP.2025 22:39:37

Figure 7.8-5: PSD on mid channel (802.11g)



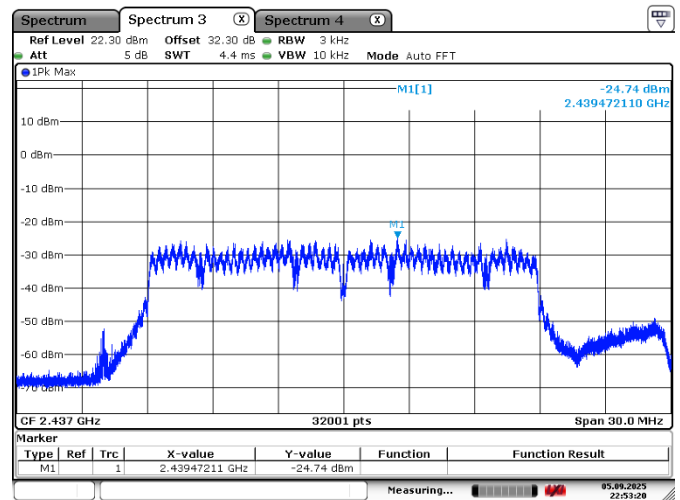
Date: 5.SEP.2025 22:33:10

Figure 7.8-6: PSD on high channel (802.11g)



Date: 5.SEP.2025 22:48:22

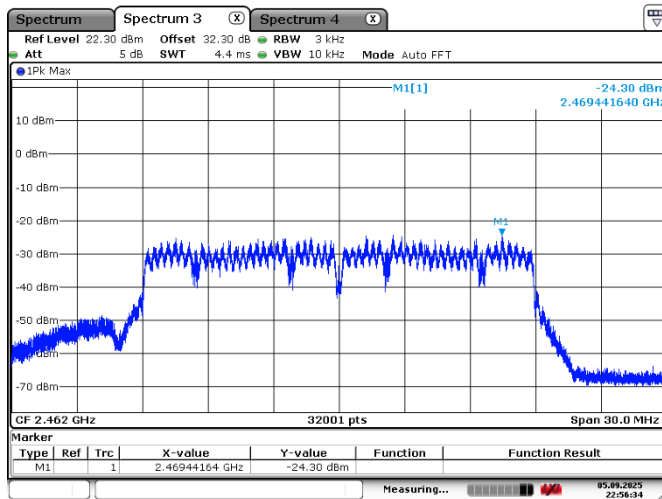
Figure 7.8-7: PSD on low channel (802.11n H20)



Date: 5.SEP.2025 22:53:20

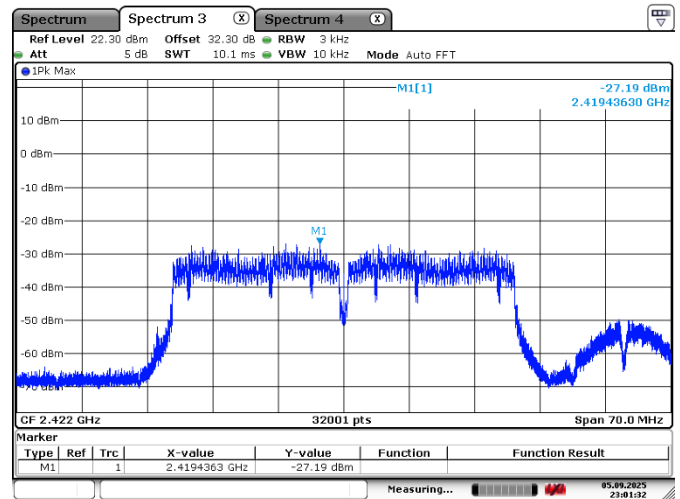
Figure 7.8-8: PSD on mid channel (802.11n H20)

Test data, continued



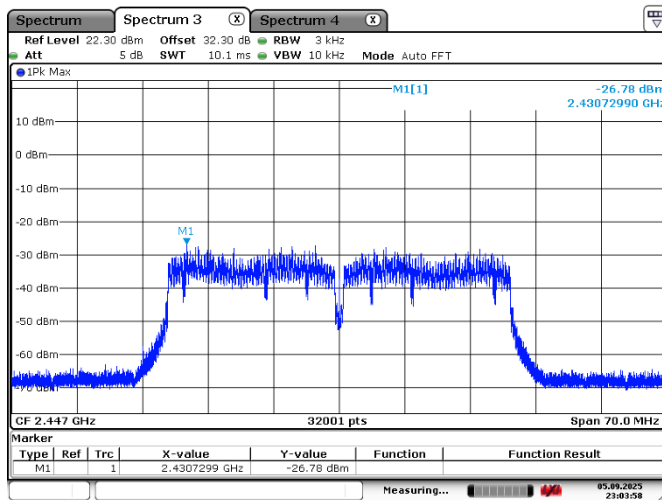
Date: 5.SEP.2025 22:56:34

Figure 7.8-9: PSD on high channel (802.11n H20)



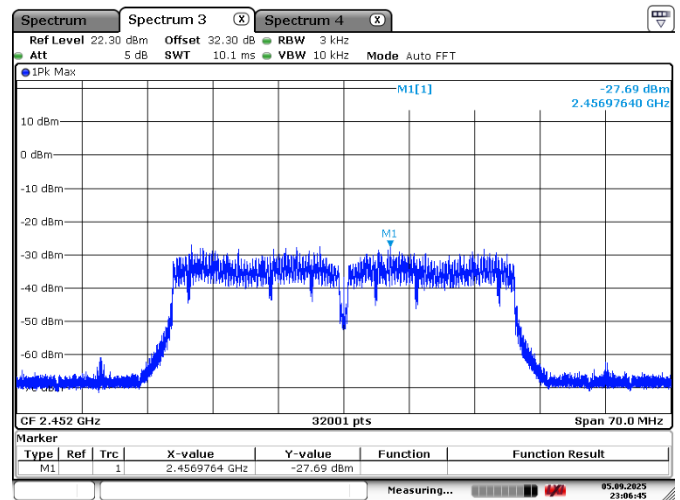
Date: 5.SEP.2025 23:01:32

Figure 7.8-10: PSD on low channel (802.11n H40)



Date: 5.SEP.2025 23:03:58

Figure 7.8-11: PSD on mid channel (802.11n H40)

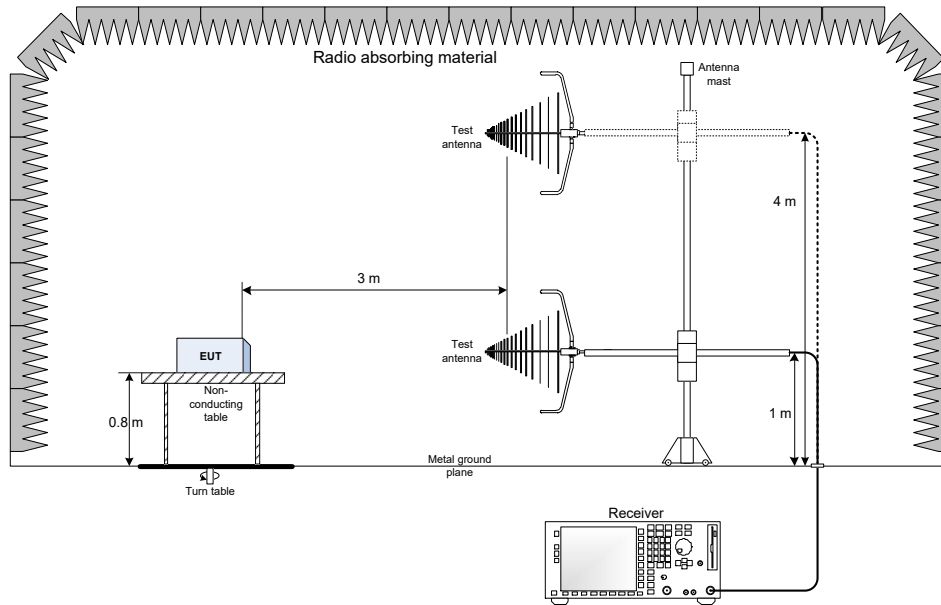


Date: 5.SEP.2025 23:06:46

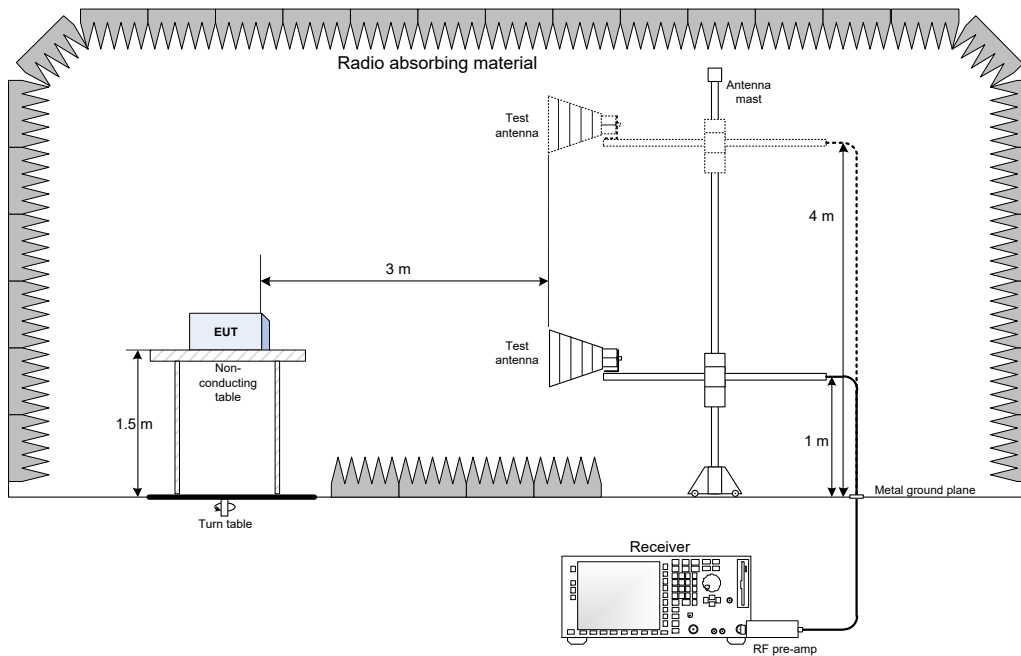
Figure 7.8-12: PSD on high channel (802.11n H40)

Section 8 Test setup diagrams

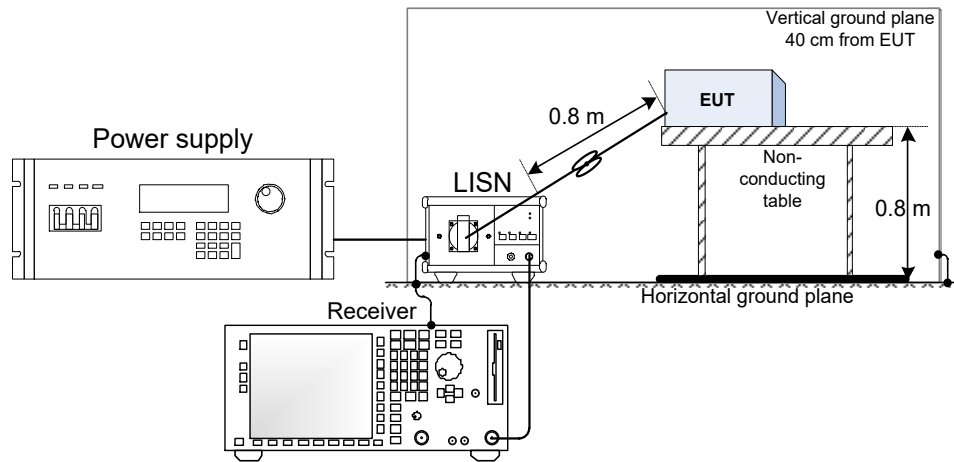
8.1 Radiated emissions set-up for frequencies below 1 GHz



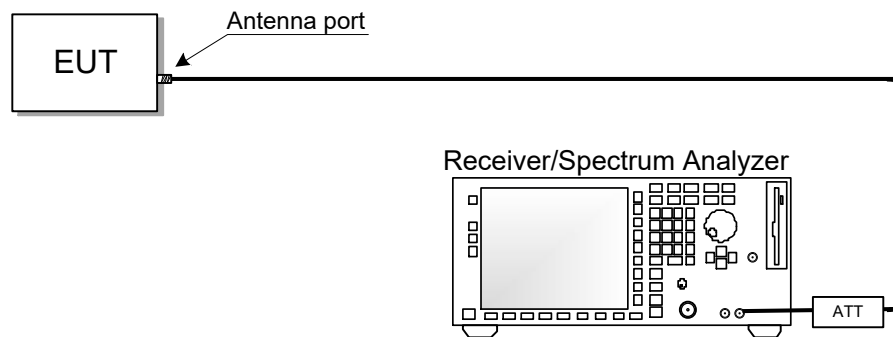
8.2 Radiated emissions set-up for frequencies above 1 GHz



8.3 AC mains conducted emissions set-up



8.4 Antenna port set-up



End of the test report