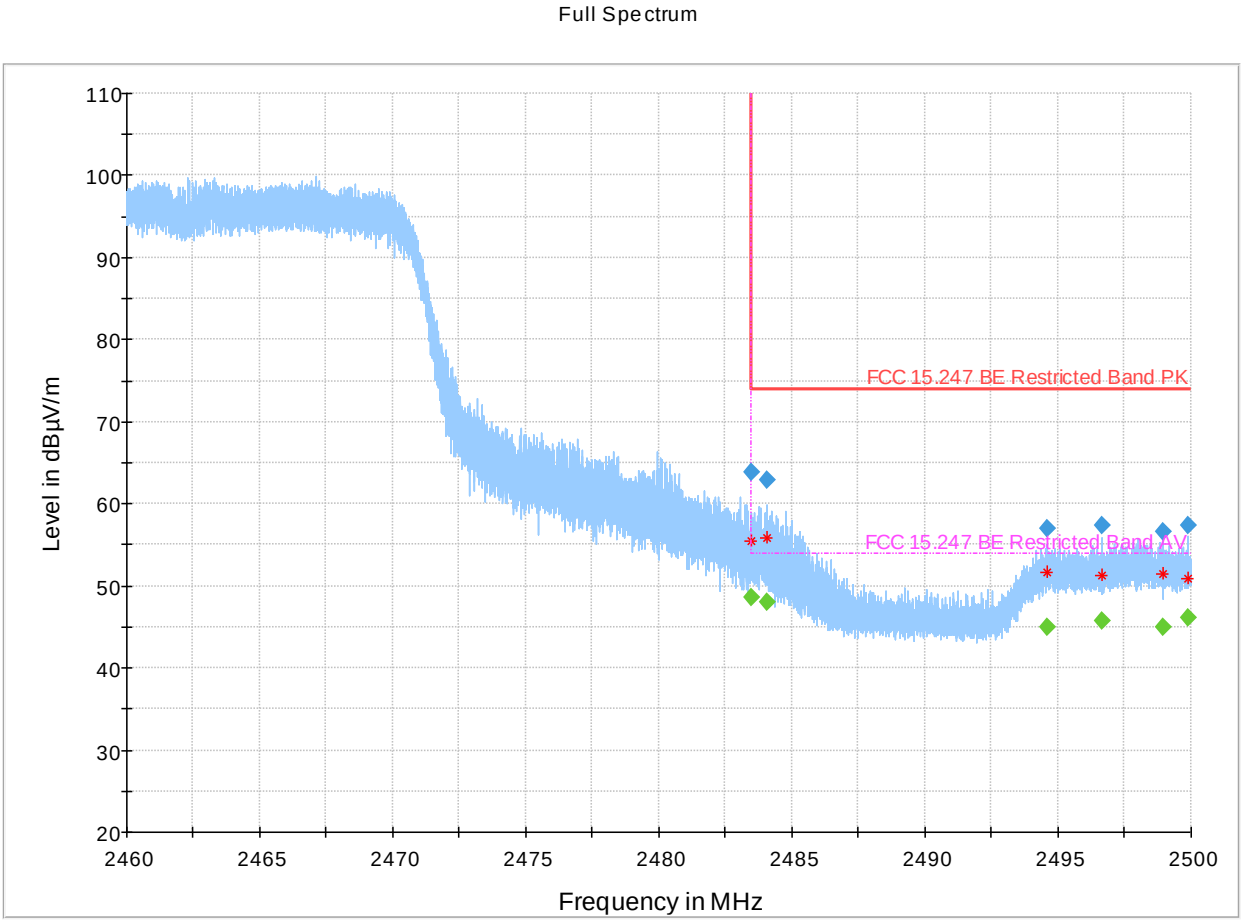


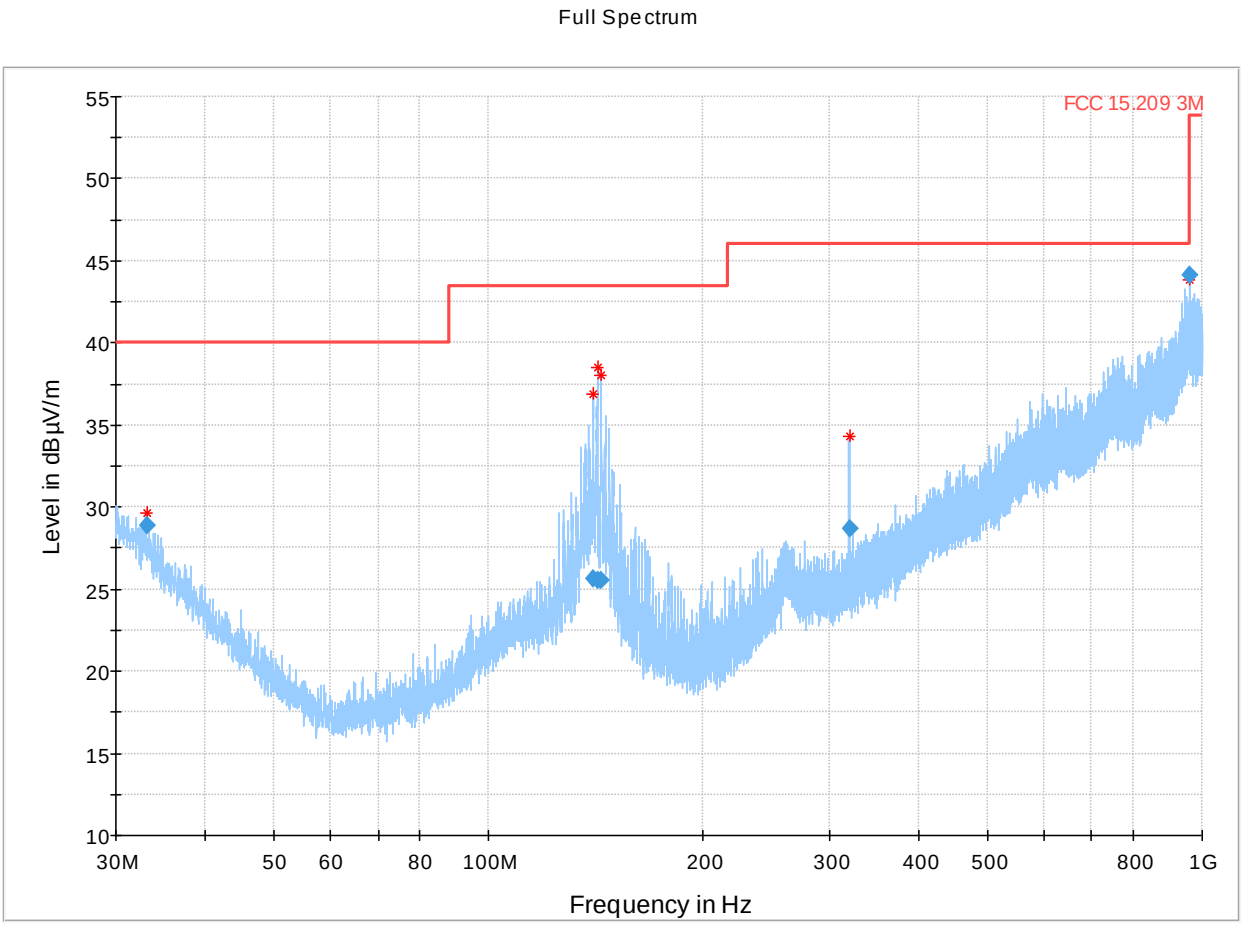
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-30: *Radiated emissions, 2462 MHz channel with 802.11n modulation, Restricted band-edge spectral plot*

Table 8.3-7: *Radiated emissions, 2462 MHz channel with 802.11n modulation, Restricted band-edge results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
2483.500000	---	48.68	53.90	5.22	5000.0	1000.000	126.3	H	293.0	0.2
2483.500000	63.84	---	73.90	10.06	5000.0	1000.000	126.3	H	293.0	0.2
2484.032000	---	48.04	53.90	5.86	5000.0	1000.000	125.4	H	290.0	0.2
2484.032000	62.88	---	73.90	11.02	5000.0	1000.000	125.4	H	290.0	0.2
2494.614667	---	44.94	53.90	8.96	5000.0	1000.000	159.8	H	281.0	0.2
2494.614667	56.92	---	73.90	16.98	5000.0	1000.000	159.8	H	281.0	0.2
2496.625333	---	45.71	53.90	8.19	5000.0	1000.000	129.6	H	289.0	0.3
2496.625333	57.41	---	73.90	16.49	5000.0	1000.000	129.6	H	289.0	0.3
2498.964000	---	45.02	53.90	8.88	5000.0	1000.000	154.0	H	275.0	0.3
2498.964000	56.65	---	73.90	17.25	5000.0	1000.000	154.0	H	275.0	0.3
2499.906667	---	46.11	53.90	7.79	5000.0	1000.000	131.3	H	341.0	0.3
2499.906667	57.34	---	73.90	16.56	5000.0	1000.000	131.3	H	341.0	0.3

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.



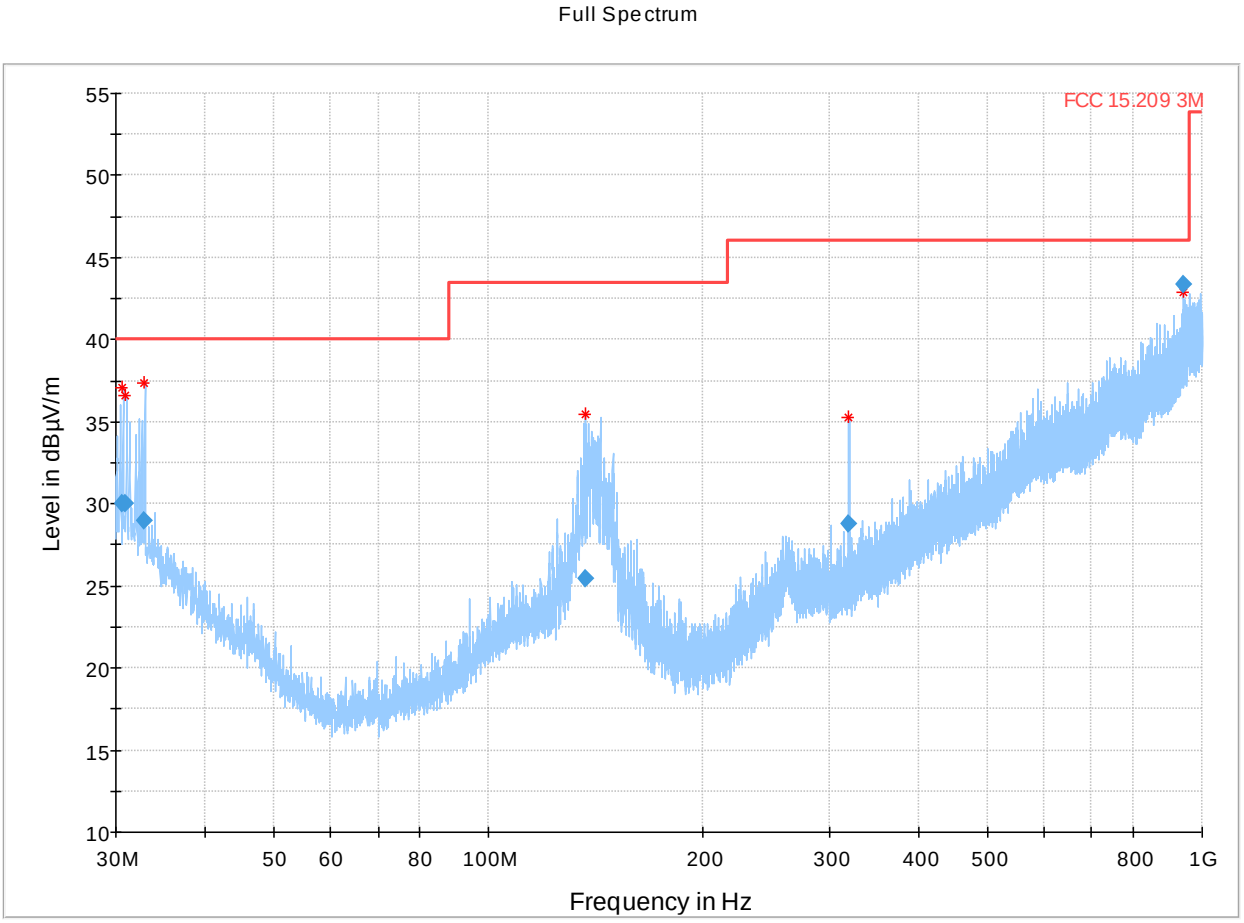
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-31: *Radiated emissions, 2412 MHz channel with 802.11b modulation, 30 – 1000 MHz spectral plot*

Table 8.3-8: *Radiated emissions, 2412 MHz channel with 802.11b modulation, 30 – 1000 MHz results*

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
33.211667	28.86	40.00	11.14	5000.0	120.000	266.6	V	304.0	23.1
140.242667	25.62	43.50	17.88	5000.0	120.000	132.1	H	215.0	18.6
141.975000	25.58	43.50	17.92	5000.0	120.000	234.8	H	267.0	18.5
143.745667	25.54	43.50	17.96	5000.0	120.000	246.7	H	36.0	18.5
320.130000	28.73	46.00	17.27	5000.0	120.000	271.9	H	252.0	21.3
959.143000	44.10	46.00	1.90	5000.0	120.000	182.9	H	230.0	35.4

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
[4] Limits converted to dBµV/m and an inverse proportionality factor of 20 dB per decade has been used to normalize the specification limit to a measurement distance of 3 meters to determine compliance.



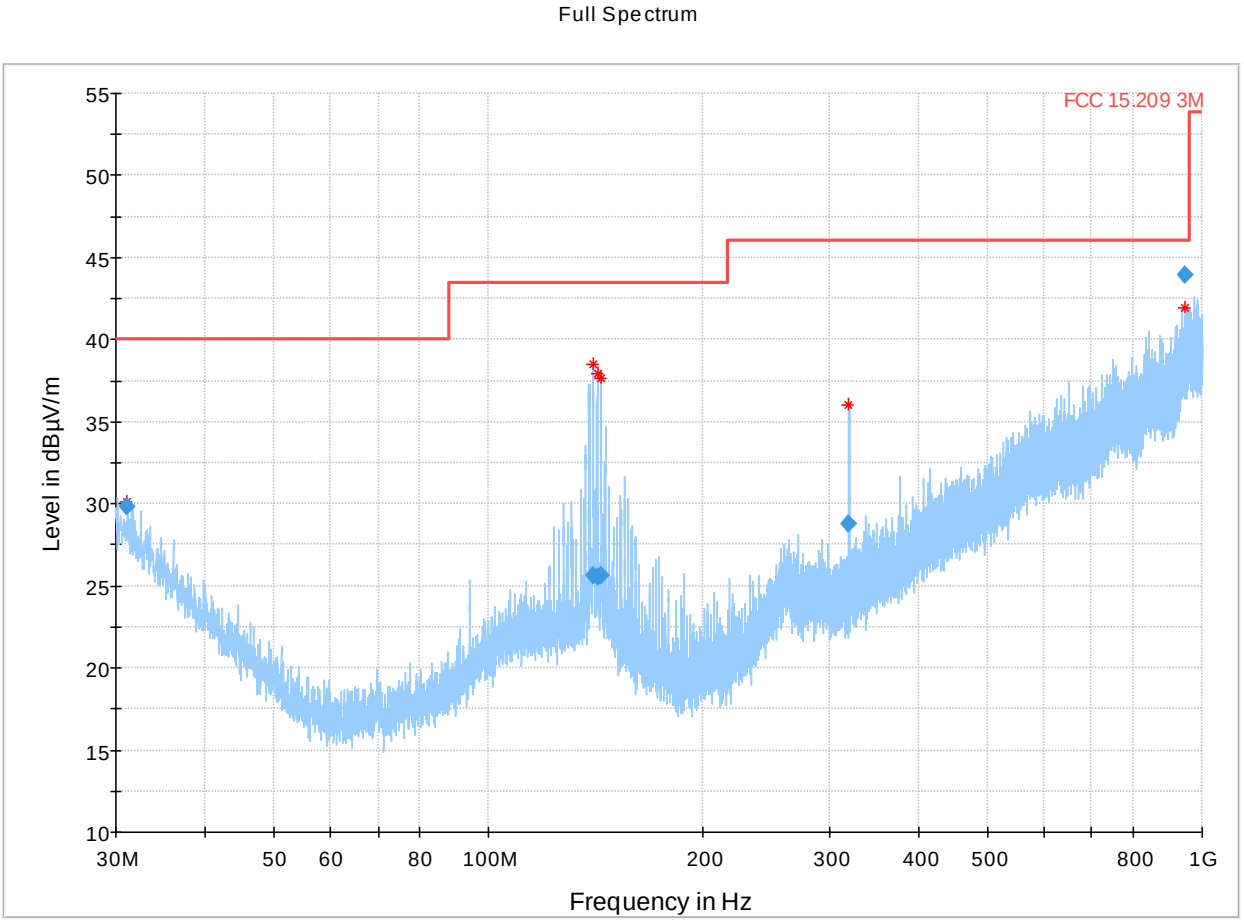
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-32: *Radiated emissions, 2412 MHz channel with 802.11g modulation, 30 – 1000 MHz spectral plot*

Table 8.3-9: *Radiated emissions, 2412 MHz channel with 802.11g modulation, 30 – 1000 MHz results*

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.643667	30.05	40.00	9.95	5000.0	120.000	104.4	V	69.0	24.6
30.887000	29.98	40.00	10.02	5000.0	120.000	296.6	V	231.0	24.4
32.874667	28.95	40.00	11.05	5000.0	120.000	111.3	V	275.0	23.2
136.581333	25.42	43.50	18.08	5000.0	120.000	294.7	H	220.0	18.4
320.010000	28.76	46.00	17.24	5000.0	120.000	280.5	H	197.0	21.3
938.991667	43.34	46.00	2.66	5000.0	120.000	321.8	V	72.0	34.7

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
[4] Limits converted to dBµV/m and an inverse proportionality factor of 20 dB per decade has been used to normalize the specification limit to a measurement distance of 3 meters to determine compliance.



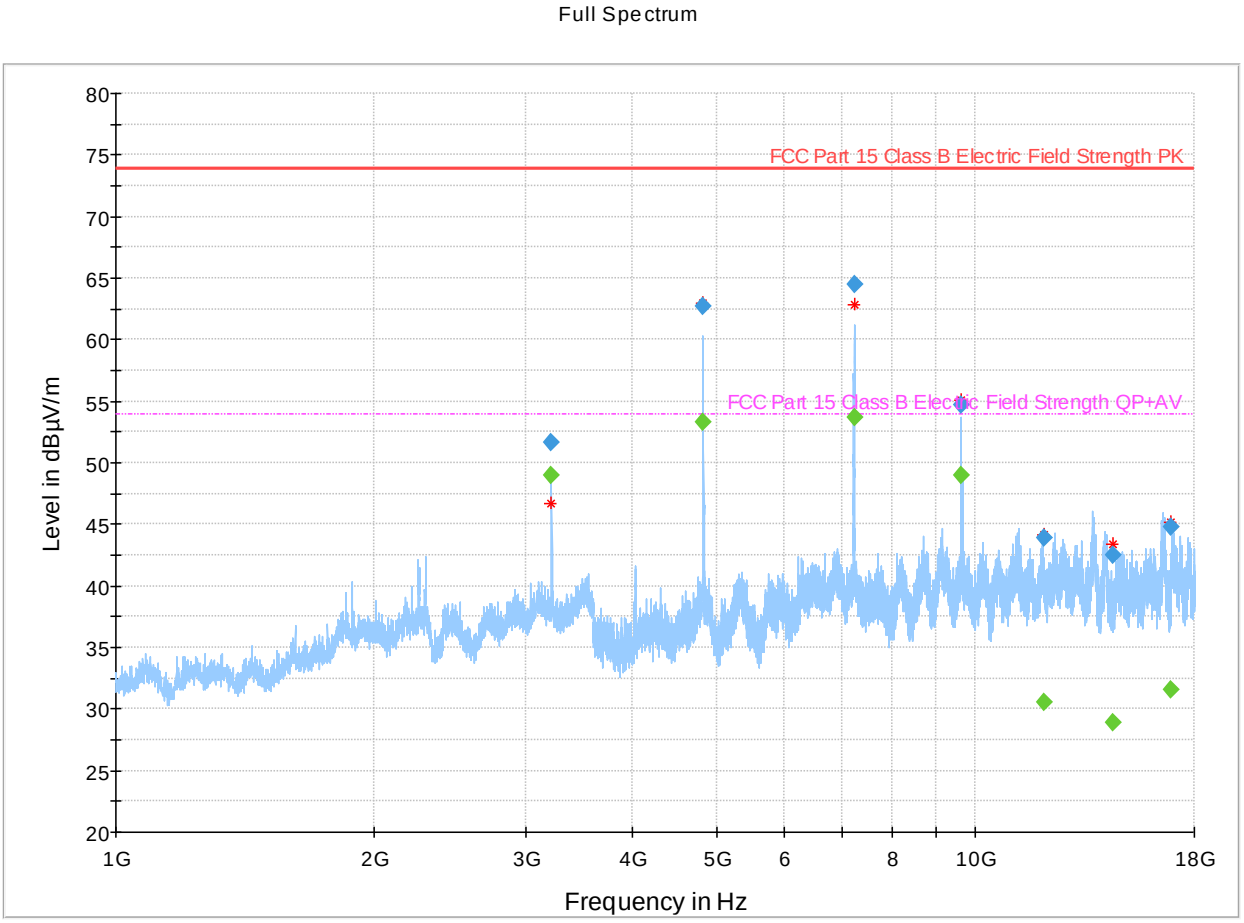
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-33: *Radiated emissions, 2412 MHz channel with 802.11n modulation, 30 – 1000 MHz spectral plot*

Table 8.3-10: *Radiated emissions, 2412 MHz channel with 802.11n modulation, 30 – 1000 MHz results*

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.136333	29.85	40.00	10.15	5000.0	120.000	214.5	V	0.0	24.3
140.242667	25.62	43.50	17.88	5000.0	120.000	363.9	H	51.0	18.6
142.095000	25.56	43.50	17.94	5000.0	120.000	330.4	H	226.0	18.5
144.002667	25.62	43.50	17.88	5000.0	120.000	274.3	H	134.0	18.5
319.850000	28.77	46.00	17.23	5000.0	120.000	182.9	H	176.0	21.3
948.216000	43.91	46.00	2.09	5000.0	120.000	193.2	H	160.0	35.2

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
[4] Limits converted to dBµV/m and an inverse proportionality factor of 20 dB per decade has been used to normalize the specification limit to a measurement distance of 3 meters to determine compliance.



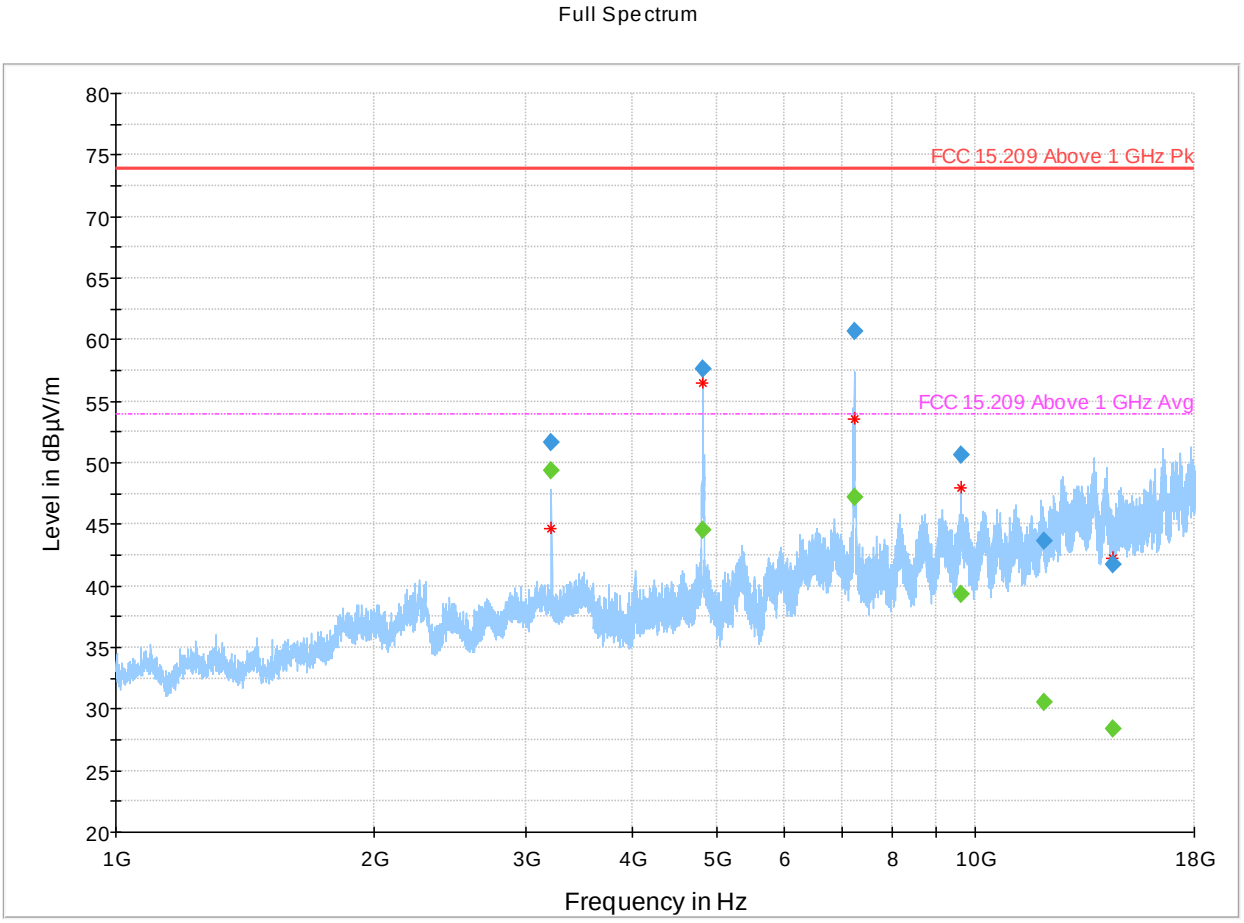
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-34: *Radiated emissions, 2412 MHz channel with 802.11b modulation, 1 – 18 GHz spectral plot*

Table 8.3-11: *Radiated emissions, 2412 MHz channel with 802.11b modulation, 1 – 18 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3216.433333	51.71	---	73.90	22.19	5000.0	1000.000	149.3	H	26.0	-7.5
3216.433333	---	48.94	53.90	4.96	5000.0	1000.000	149.3	H	26.0	-7.5
4824.466667	62.72	---	73.90	11.18	5000.0	1000.000	122.8	V	289.0	-1.6
4824.466667	---	53.35	53.90	0.55	5000.0	1000.000	122.8	V	289.0	-1.6
7236.066667	---	53.72	53.90	0.18	5000.0	1000.000	164.4	V	318.0	2.2
7236.066667	64.52	---	73.90	9.38	5000.0	1000.000	164.4	V	318.0	2.2
9648.666667	---	48.96	53.90	4.94	5000.0	1000.000	197.0	H	1.0	5.3
9648.666667	54.68	---	73.90	19.22	5000.0	1000.000	197.0	H	1.0	5.3
12046.600000	---	30.49	53.90	23.41	5000.0	1000.000	380.4	H	158.0	5.1
12046.600000	43.87	---	73.90	30.03	5000.0	1000.000	380.4	H	158.0	5.1
14476.200000	---	28.94	53.90	24.96	5000.0	1000.000	261.1	H	158.0	7.4
14476.200000	42.47	---	73.90	31.43	5000.0	1000.000	261.1	H	158.0	7.4
16887.000000	---	31.51	53.90	22.39	5000.0	1000.000	144.0	V	34.0	10.3
16887.000000	44.76	---	73.90	29.14	5000.0	1000.000	144.0	V	34.0	10.3

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
A notch filter at 2.4 GHz was used to reduce the level of the intentional transmitter



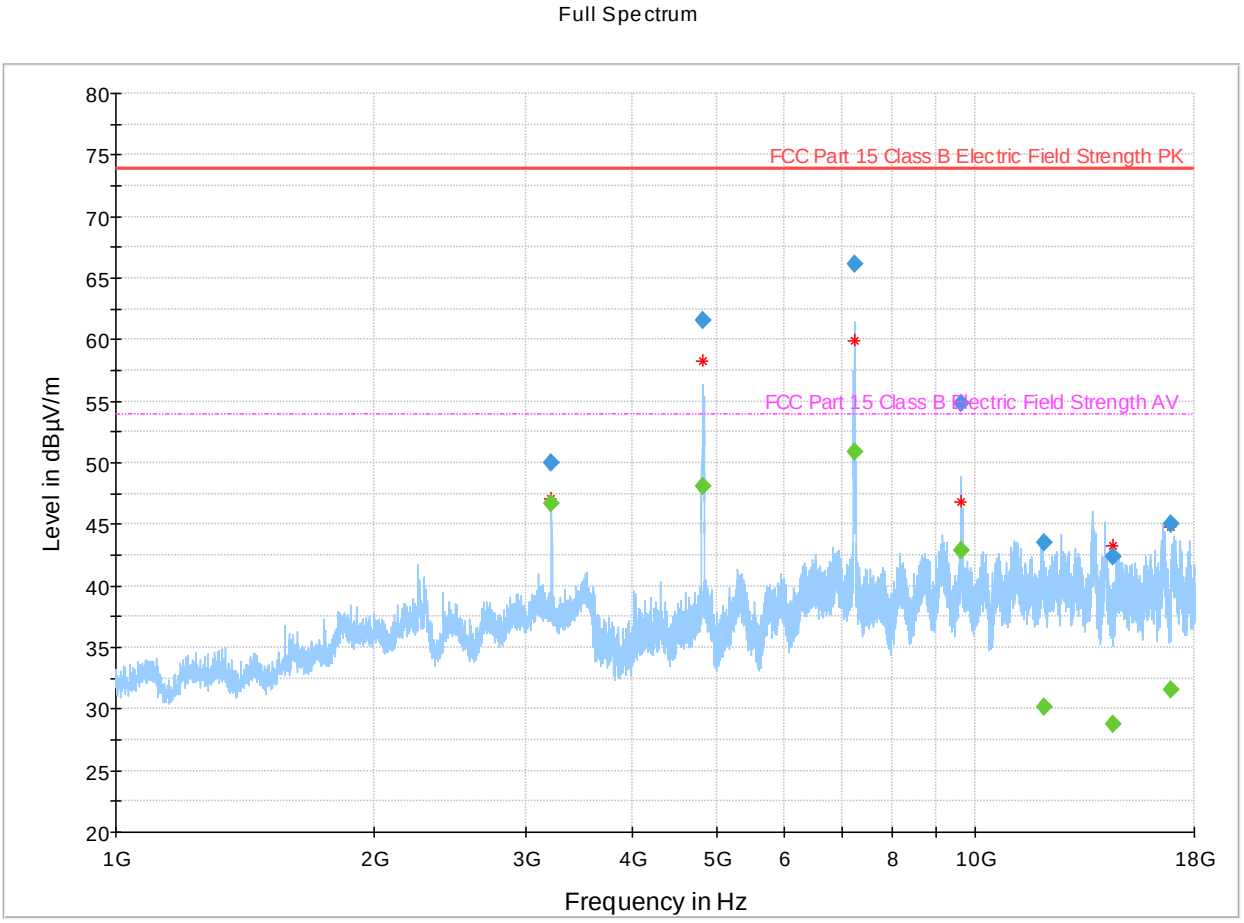
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-35: *Radiated emissions, 2412 MHz channel with 802.11g modulation, 1 – 18 GHz spectral plot*

Table 8.3-12: *Radiated emissions, 2412 MHz channel with 802.11g modulation, 1 – 18 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3216.266667	---	49.31	53.90	4.59	5000.0	1000.000	116.5	H	349.0	-7.5
3216.266667	51.71	---	73.90	22.19	5000.0	1000.000	116.5	H	349.0	-7.5
4824.866667	---	44.49	53.90	9.41	5000.0	1000.000	121.4	V	288.0	-1.6
4824.866667	57.68	---	73.90	16.22	5000.0	1000.000	121.4	V	288.0	-1.6
7238.566667	60.64	---	73.90	13.26	5000.0	1000.000	109.1	V	286.0	2.2
7238.566667	---	47.18	53.90	6.73	5000.0	1000.000	109.1	V	286.0	2.2
9648.200000	50.66	---	73.90	23.24	5000.0	1000.000	229.3	H	178.0	5.3
9648.200000	---	39.27	53.90	14.63	5000.0	1000.000	229.3	H	178.0	5.3
12054.200000	43.63	---	73.90	30.27	5000.0	1000.000	318.4	H	95.0	5.1
12054.200000	---	30.51	53.90	23.39	5000.0	1000.000	318.4	H	95.0	5.1
14465.800000	41.71	---	73.90	32.19	5000.0	1000.000	98.0	H	271.0	7.5
14465.800000	---	28.43	53.90	25.47	5000.0	1000.000	98.0	H	271.0	7.5

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
A notch filter at 2.4 GHz was used to reduce the level of the intentional transmitter



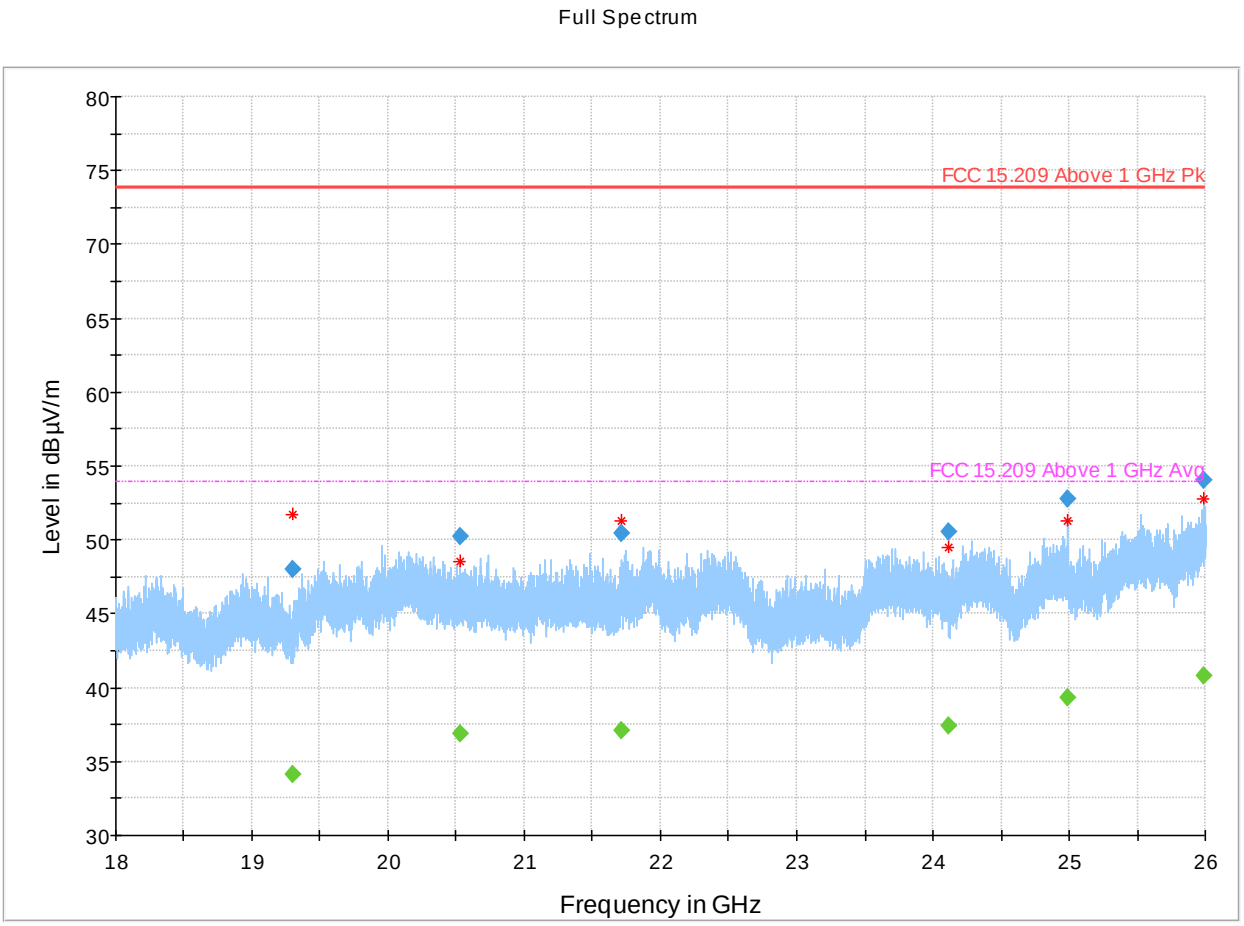
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-36: *Radiated emissions, 2412 MHz channel with 802.11n modulation, 1 – 18 GHz spectral plot*

Table 8.3-13: *Radiated emissions, 2412 MHz channel with 802.11n modulation, 1 – 18 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3216.433333	49.98	---	73.90	23.92	5000.0	1000.000	142.3	H	26.0	-7.5
3216.433333	---	46.69	53.90	7.21	5000.0	1000.000	142.3	H	26.0	-7.5
4822.466667	---	48.09	53.90	5.81	5000.0	1000.000	127.0	V	287.0	-1.6
4822.466667	61.58	---	73.90	12.32	5000.0	1000.000	127.0	V	287.0	-1.6
7244.300000	66.10	---	73.90	7.80	5000.0	1000.000	98.0	V	290.0	2.3
7244.300000	---	50.95	53.90	2.95	5000.0	1000.000	98.0	V	290.0	2.3
9648.833333	54.85	---	73.90	19.05	5000.0	1000.000	125.0	V	288.0	5.3
9648.833333	---	42.86	53.90	11.04	5000.0	1000.000	125.0	V	288.0	5.3
12049.800000	43.46	---	73.90	30.44	5000.0	1000.000	383.2	H	259.0	5.1
12049.800000	---	30.20	53.90	23.70	5000.0	1000.000	383.2	H	259.0	5.1
14475.800000	42.43	---	73.90	31.47	5000.0	1000.000	162.2	H	0.0	7.4
14475.800000	---	28.79	53.90	25.11	5000.0	1000.000	162.2	H	0.0	7.4
16896.600000	45.05	---	73.90	28.85	5000.0	1000.000	379.6	H	57.0	10.6
16896.600000	---	31.58	53.90	22.32	5000.0	1000.000	379.6	H	57.0	10.6

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
A notch filter at 2.4 GHz was used to reduce the level of the intentional transmitter



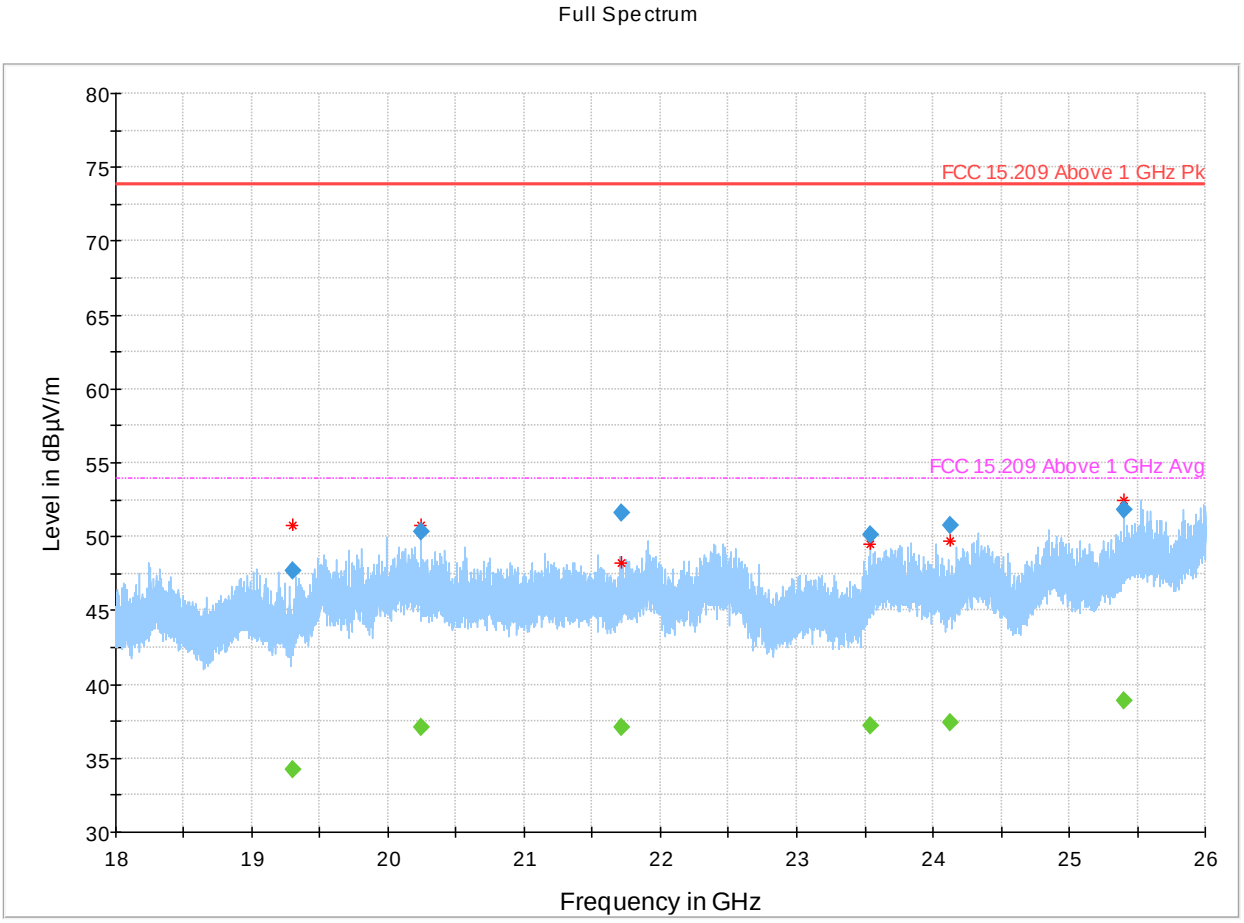
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-37: *Radiated emissions, 2412 MHz channel with 802.11b modulation, 18 – 26 GHz spectral plot*

Table 8.3-14: *Radiated emissions, 2412 MHz channel with 802.11b modulation, 18 – 26 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
19294.700000	---	34.18	53.90	19.72	5000.0	1000.000	122.7	H	132.0	10.3
19294.700000	48.05	---	73.90	25.85	5000.0	1000.000	122.7	H	132.0	10.3
20532.300000	---	36.87	53.90	17.03	5000.0	1000.000	125.0	V	100.0	12.5
20532.300000	50.20	---	73.90	23.70	5000.0	1000.000	125.0	V	100.0	12.5
21709.500000	50.50	---	73.90	23.40	5000.0	1000.000	113.3	V	271.0	11.6
21709.500000	---	37.11	53.90	16.79	5000.0	1000.000	113.3	V	271.0	11.6
24117.500000	---	37.43	53.90	16.47	5000.0	1000.000	124.9	V	299.0	11.4
24117.500000	50.52	---	73.90	23.38	5000.0	1000.000	124.9	V	299.0	11.4
24992.700000	52.80	---	73.90	21.10	5000.0	1000.000	112.0	V	180.0	12.6
24992.700000	---	39.36	53.90	14.54	5000.0	1000.000	112.0	V	180.0	12.6
25990.966667	---	40.85	53.90	13.05	5000.0	1000.000	125.0	V	198.0	15.3
25990.966667	54.07	---	73.90	19.83	5000.0	1000.000	125.0	V	198.0	15.3

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.



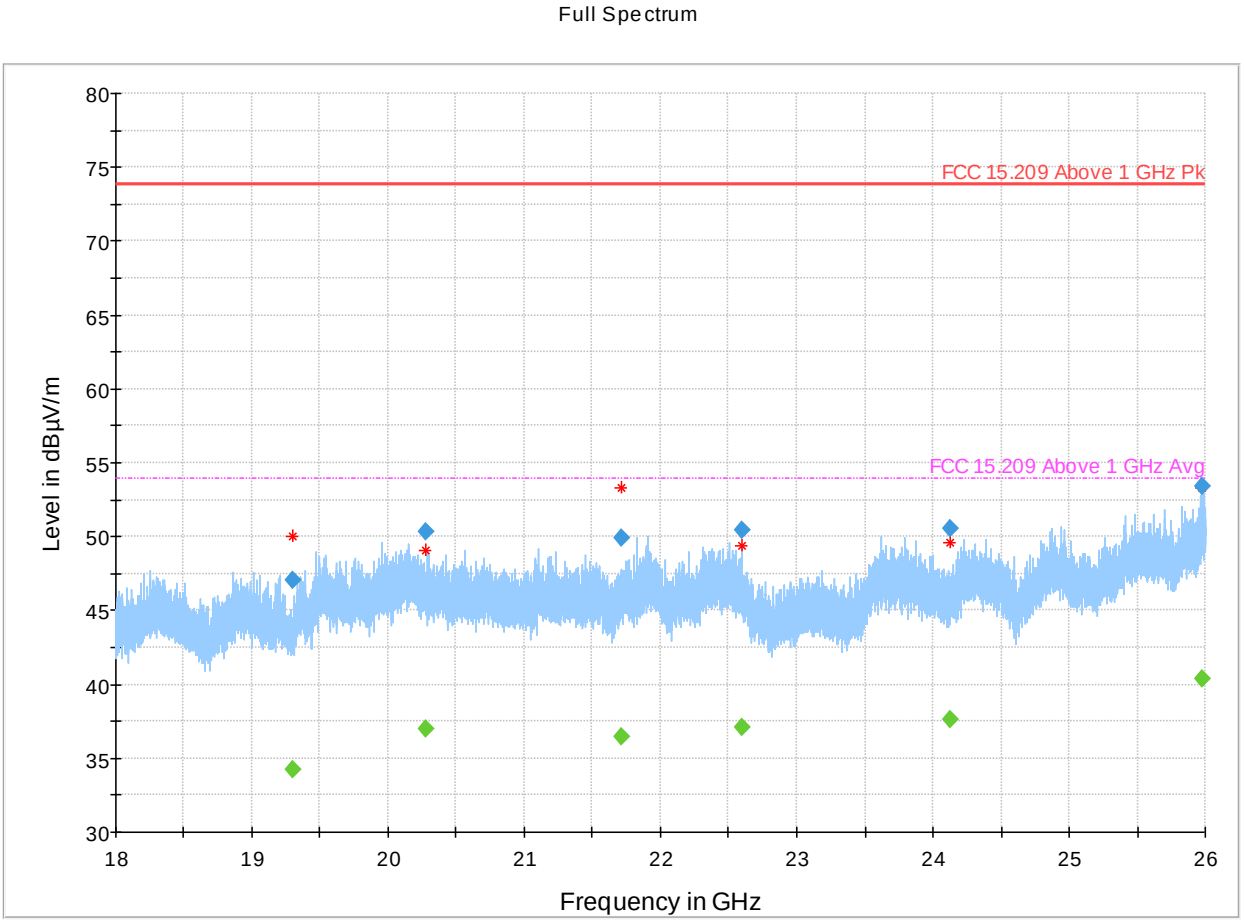
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-38: *Radiated emissions, 2412 MHz channel with 802.11g modulation, 18 – 26 GHz spectral plot*

Table 8.3-15: *Radiated emissions, 2412 MHz channel with 802.11g modulation, 18 – 26 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
19295.500000	---	34.28	53.90	19.62	5000.0	1000.000	106.4	V	323.0	10.2
19295.500000	47.68	---	73.90	26.22	5000.0	1000.000	106.4	V	323.0	10.2
20239.100000	---	37.05	53.90	16.85	5000.0	1000.000	119.2	V	153.0	12.3
20239.100000	50.34	---	73.90	23.56	5000.0	1000.000	119.2	V	153.0	12.3
21707.900000	---	37.07	53.90	16.83	5000.0	1000.000	125.0	V	322.0	11.6
21707.900000	51.61	---	73.90	22.29	5000.0	1000.000	125.0	V	322.0	11.6
23538.033333	---	37.18	53.90	16.72	5000.0	1000.000	106.5	V	248.0	11.9
23538.033333	50.16	---	73.90	23.74	5000.0	1000.000	106.5	V	248.0	11.9
24122.500000	50.72	---	73.90	23.18	5000.0	1000.000	125.1	V	178.0	11.3
24122.500000	---	37.45	53.90	16.45	5000.0	1000.000	125.1	V	178.0	11.3
25402.566667	51.85	---	73.90	22.05	5000.0	1000.000	115.7	H	139.0	13.6
25402.566667	---	38.85	53.90	15.05	5000.0	1000.000	115.7	H	139.0	13.6

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.



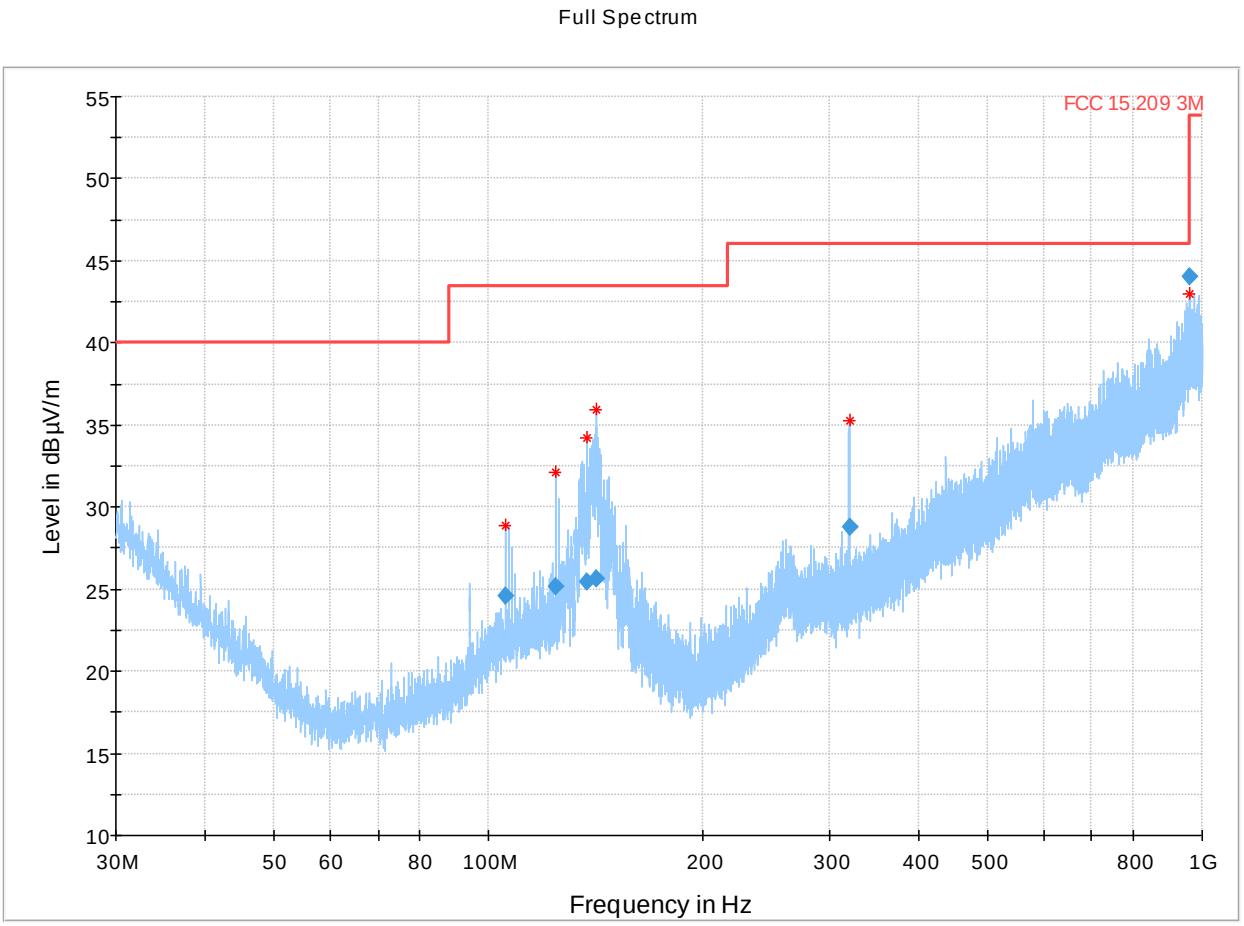
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-39: *Radiated emissions, 2412 MHz channel with 802.11n modulation, 18 – 26 GHz spectral plot*

Table 8.3-16: *Radiated emissions, 2412 MHz channel with 802.11n modulation, 18 – 26 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
19298.300000	47.08	---	73.90	26.82	5000.0	1000.000	125.0	H	150.0	10.3
19298.300000	---	34.20	53.90	19.70	5000.0	1000.000	125.0	H	150.0	10.3
20281.500000	50.29	---	73.90	23.61	5000.0	1000.000	125.0	H	205.0	12.3
20281.500000	---	36.96	53.90	16.94	5000.0	1000.000	125.0	H	205.0	12.3
21710.300000	---	36.45	53.90	17.45	5000.0	1000.000	220.2	H	163.0	11.4
21710.300000	49.90	---	73.90	24.00	5000.0	1000.000	220.2	H	163.0	11.4
22596.966667	50.41	---	73.90	23.49	5000.0	1000.000	108.3	V	204.0	11.9
22596.966667	---	37.14	53.90	16.76	5000.0	1000.000	108.3	V	204.0	11.9
24122.500000	---	37.60	53.90	16.30	5000.0	1000.000	111.8	H	294.0	11.4
24122.500000	50.58	---	73.90	23.32	5000.0	1000.000	111.8	H	294.0	11.4
25978.300000	53.41	---	73.90	20.49	5000.0	1000.000	175.1	H	308.0	15.2
25978.300000	---	40.40	53.90	13.50	5000.0	1000.000	175.1	H	308.0	15.2

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.



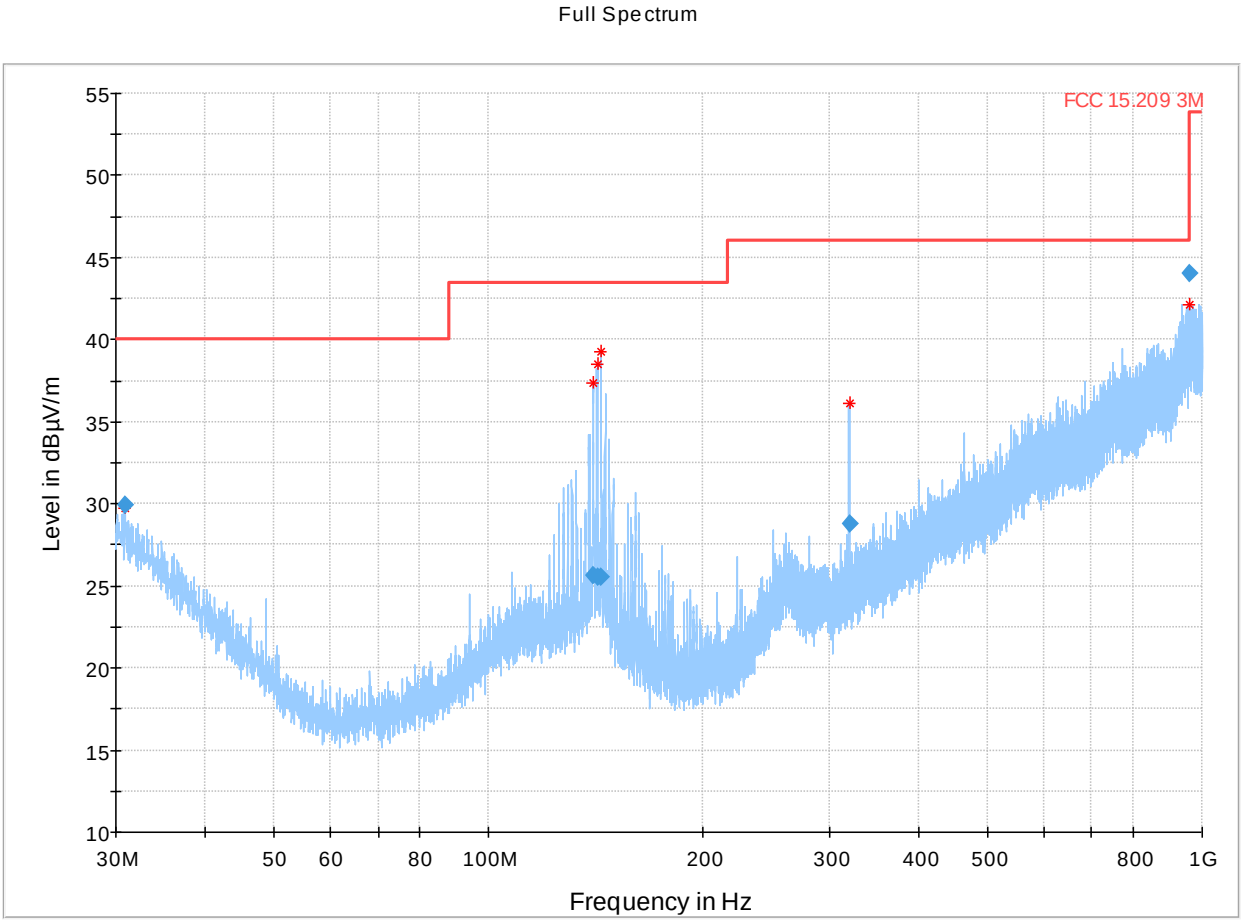
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-40: *Radiated emissions, 2442 MHz channel with 802.11b modulation, 30 – 1000 MHz spectral plot*

Table 8.3-17: *Radiated emissions, 2442 MHz channel with 802.11b modulation, 30 – 1000 MHz results*

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
105.792333	24.61	43.50	18.89	5000.0	120.000	147.8	H	201.0	17.7
124.108333	25.13	43.50	18.37	5000.0	120.000	135.6	V	136.0	18.1
137.559000	25.47	43.50	18.03	5000.0	120.000	225.3	H	0.0	18.5
141.463667	25.64	43.50	17.86	5000.0	120.000	122.9	H	17.0	18.5
320.090000	28.74	46.00	17.26	5000.0	120.000	318.3	H	150.0	21.3
959.280000	44.08	46.00	1.92	5000.0	120.000	114.2	V	-1.0	35.4

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
[4] Limits converted to dBµV/m and an inverse proportionality factor of 20 dB per decade has been used to normalize the specification limit to a measurement distance of 3 meters to determine compliance.



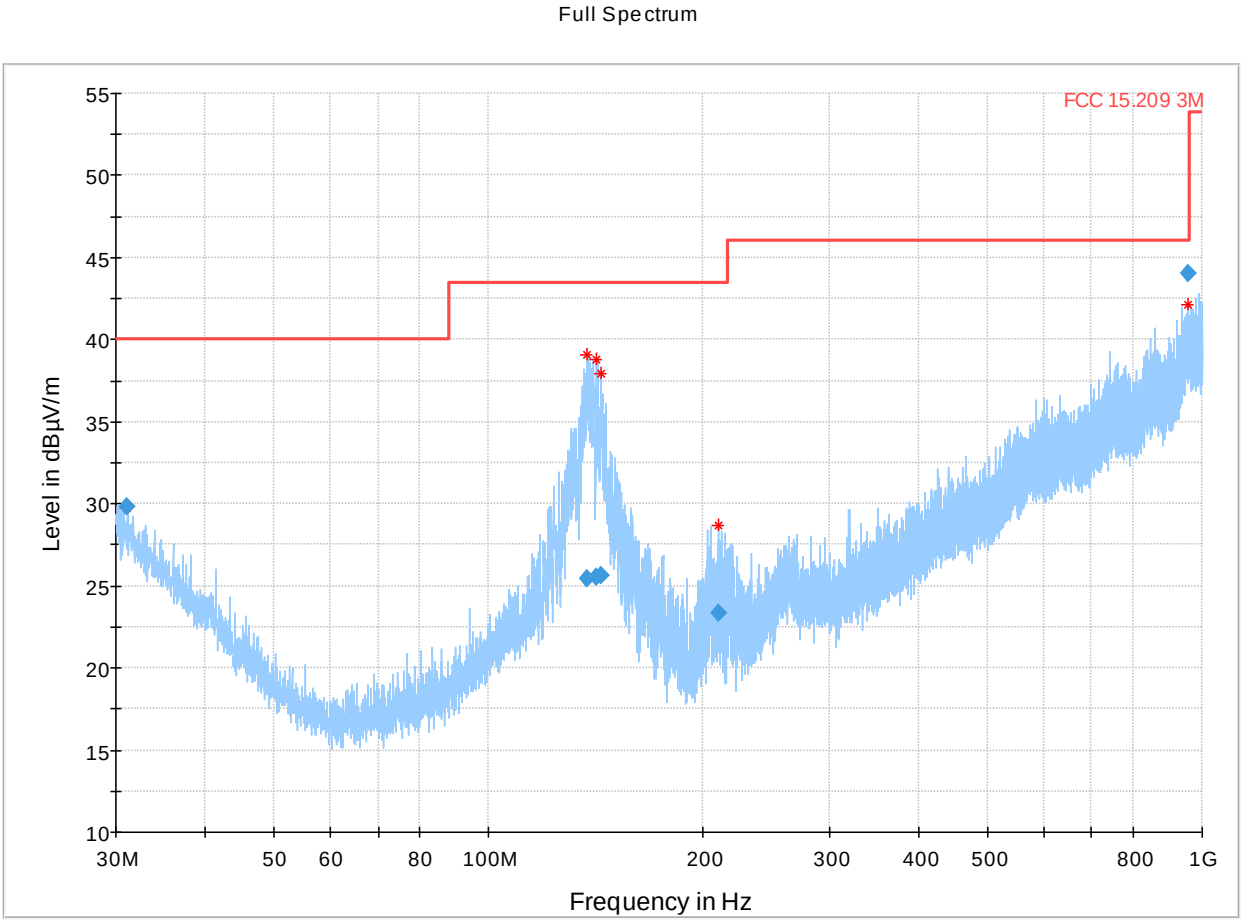
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-41: *Radiated emissions, 2442 MHz channel with 802.11g modulation, 30 – 1000 MHz spectral plot*

Table 8.3-18: *Radiated emissions, 2442 MHz channel with 802.11g modulation, 30 – 1000 MHz results*

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.876000	29.96	40.00	10.04	5000.0	120.000	151.7	V	211.0	24.4
140.025667	25.64	43.50	17.86	5000.0	120.000	344.4	H	325.0	18.6
142.085667	25.55	43.50	17.95	5000.0	120.000	137.7	H	27.0	18.5
143.665667	25.53	43.50	17.97	5000.0	120.000	379.7	H	136.0	18.5
320.137667	28.76	46.00	17.24	5000.0	120.000	252.0	H	110.0	21.3
958.424000	44.07	46.00	1.93	5000.0	120.000	109.4	V	261.0	35.4

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
[4] Limits converted to dBµV/m and an inverse proportionality factor of 20 dB per decade has been used to normalize the specification limit to a measurement distance of 3 meters to determine compliance.



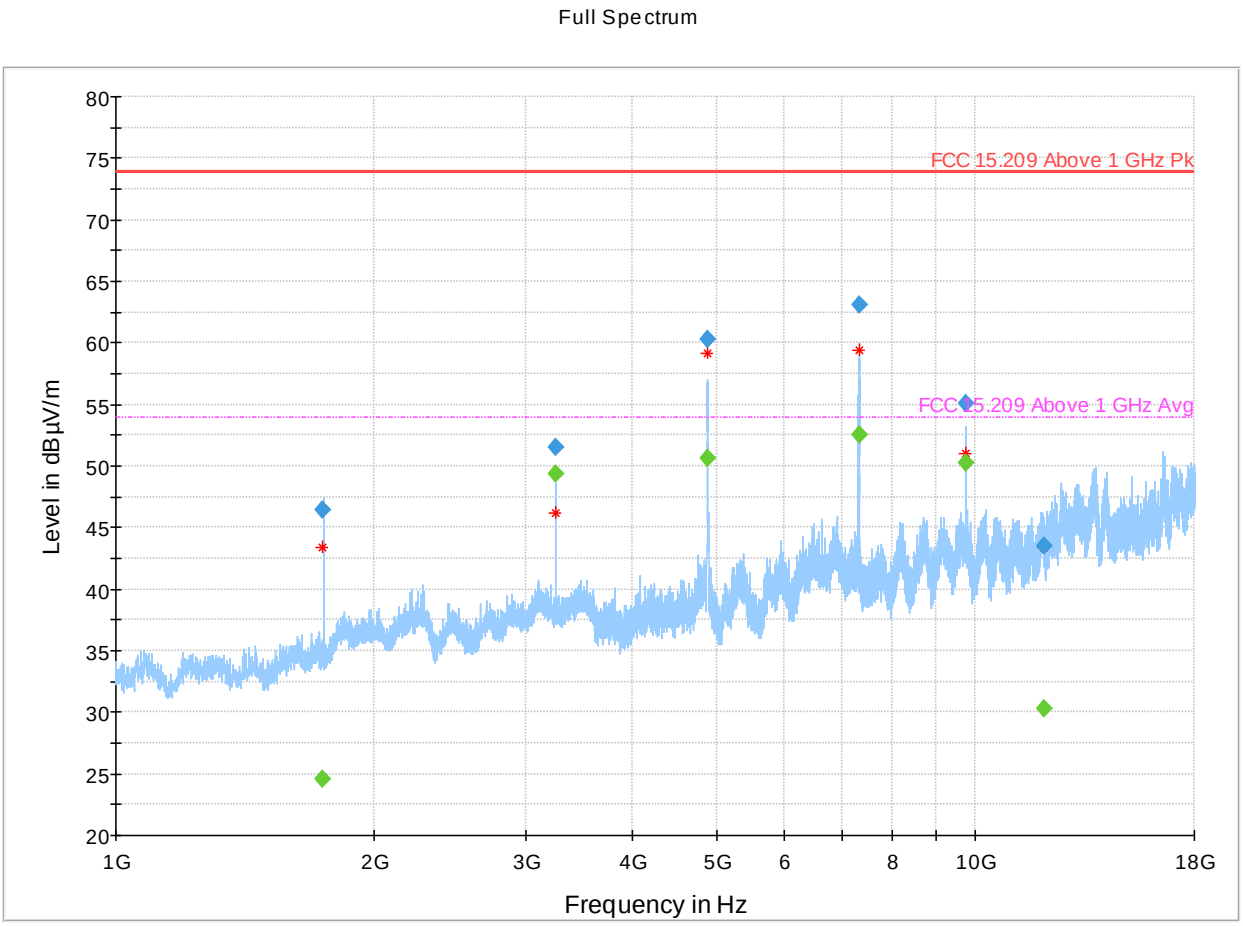
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-42: *Radiated emissions, 2442 MHz channel with 802.11n modulation, 30 – 1000 MHz spectral plot*

Table 8.3-19: *Radiated emissions, 2442 MHz channel with 802.11n modulation, 30 – 1000 MHz results*

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.104000	29.83	40.00	10.17	5000.0	120.000	237.6	H	0.0	24.3
137.530000	25.47	43.50	18.03	5000.0	120.000	271.2	H	186.0	18.5
141.813333	25.58	43.50	17.92	5000.0	120.000	390.3	H	157.0	18.5
143.993333	25.62	43.50	17.88	5000.0	120.000	374.8	H	0.0	18.5
209.768667	23.30	43.50	20.20	5000.0	120.000	187.6	H	0.0	16.4
956.725667	44.03	46.00	1.97	5000.0	120.000	379.5	H	136.0	35.4

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
[4] Limits converted to dBµV/m and an inverse proportionality factor of 20 dB per decade has been used to normalize the specification limit to a measurement distance of 3 meters to determine compliance.



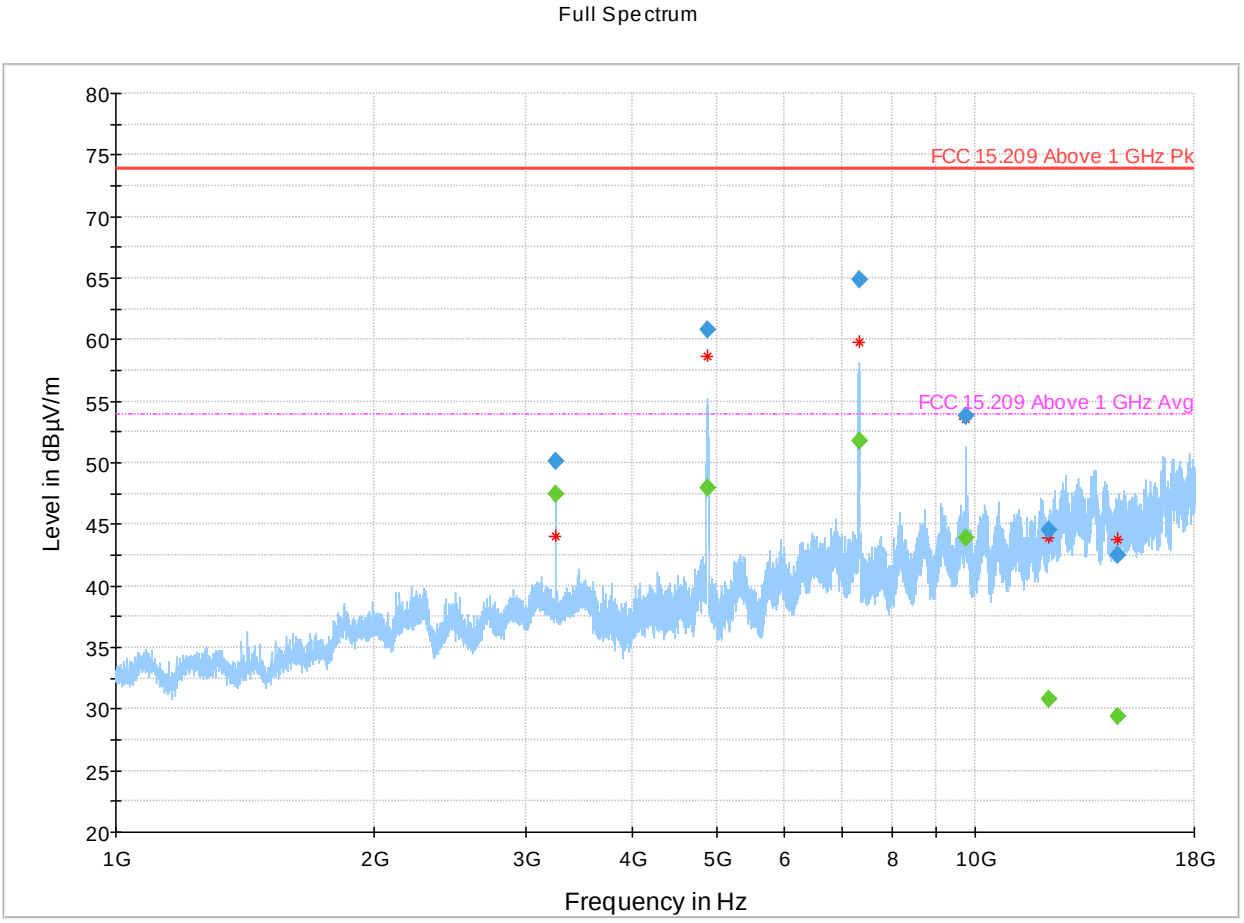
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-43: *Radiated emissions, 2442 MHz channel with 802.11b modulation, 1 – 18 GHz spectral plot*

Table 8.3-20: *Radiated emissions, 2442 MHz channel with 802.11b modulation, 1 – 18 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1740.766667	46.44	---	73.90	27.46	5000.0	1000.000	119.2	V	86.0	-13.3
1740.766667	---	24.54	53.90	29.36	5000.0	1000.000	119.2	V	86.0	-13.3
3256.100000	---	49.34	53.90	4.56	5000.0	1000.000	130.2	H	345.0	-7.5
3256.100000	51.58	---	73.90	22.32	5000.0	1000.000	130.2	H	345.0	-7.5
4884.433333	---	50.64	53.90	3.26	5000.0	1000.000	124.9	H	65.0	-1.7
4884.433333	60.24	---	73.90	13.66	5000.0	1000.000	124.9	H	65.0	-1.7
7325.733333	---	52.55	53.90	1.35	5000.0	1000.000	98.0	V	289.0	1.7
7325.733333	63.13	---	73.90	10.77	5000.0	1000.000	98.0	V	289.0	1.7
9768.633333	55.02	---	73.90	18.88	5000.0	1000.000	191.4	V	318.0	4.6
9768.633333	---	50.23	53.90	3.67	5000.0	1000.000	191.4	V	318.0	4.6
12052.600000	---	30.29	53.90	23.61	5000.0	1000.000	141.3	H	104.0	5.1
12052.600000	43.50	---	73.90	30.40	5000.0	1000.000	141.3	H	104.0	5.1

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
A notch filter at 2.4 GHz was used to reduce the level of the intentional transmitter



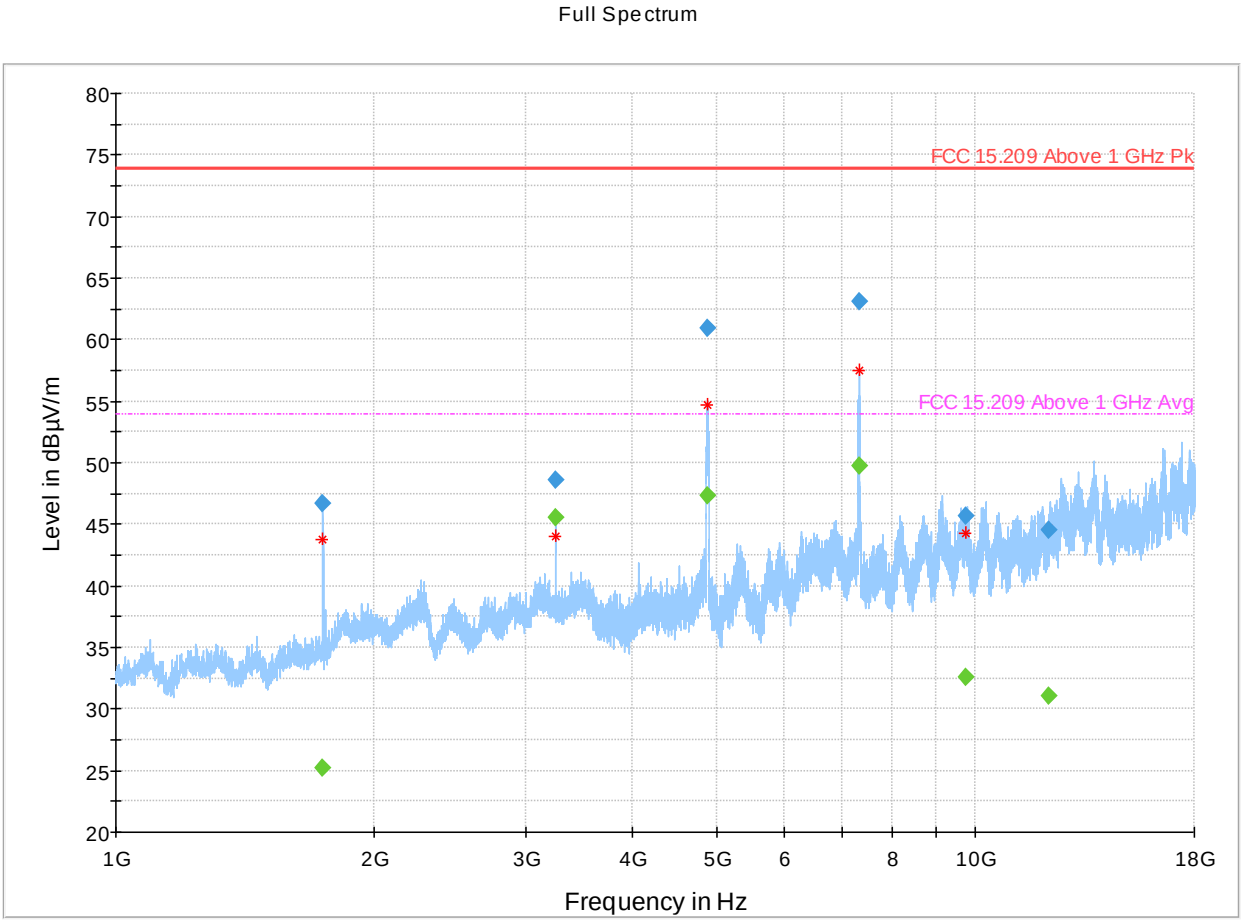
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-44: *Radiated emissions, 2442 MHz channel with 802.11g modulation, 1 – 18 GHz spectral plot*

Table 8.3-21: *Radiated emissions, 2442 MHz channel with 802.11g modulation, 1 – 18 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3256.100000	---	47.40	53.90	6.50	5000.0	1000.000	131.2	H	349.0	-7.5
3256.100000	50.09	---	73.90	23.81	5000.0	1000.000	131.2	H	349.0	-7.5
4884.800000	60.86	---	73.90	13.04	5000.0	1000.000	119.1	V	289.0	-1.7
4884.800000	---	48.01	53.90	5.89	5000.0	1000.000	119.1	V	289.0	-1.7
7328.733333	64.89	---	73.90	9.01	5000.0	1000.000	98.0	V	286.0	1.7
7328.733333	---	51.81	53.90	2.09	5000.0	1000.000	98.0	V	286.0	1.7
9768.800000	---	43.92	53.90	9.98	5000.0	1000.000	168.7	V	342.0	4.6
9768.800000	53.86	---	73.90	20.04	5000.0	1000.000	168.7	V	342.0	4.6
12209.000000	44.57	---	73.90	29.33	5000.0	1000.000	190.2	V	87.0	6.9
12209.000000	---	30.80	53.90	23.10	5000.0	1000.000	190.2	V	87.0	6.9
14653.400000	42.51	---	73.90	31.39	5000.0	1000.000	271.8	H	104.0	7.6
14653.400000	---	29.41	53.90	24.49	5000.0	1000.000	271.8	H	104.0	7.6

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
A notch filter at 2.4 GHz was used to reduce the level of the intentional transmitter



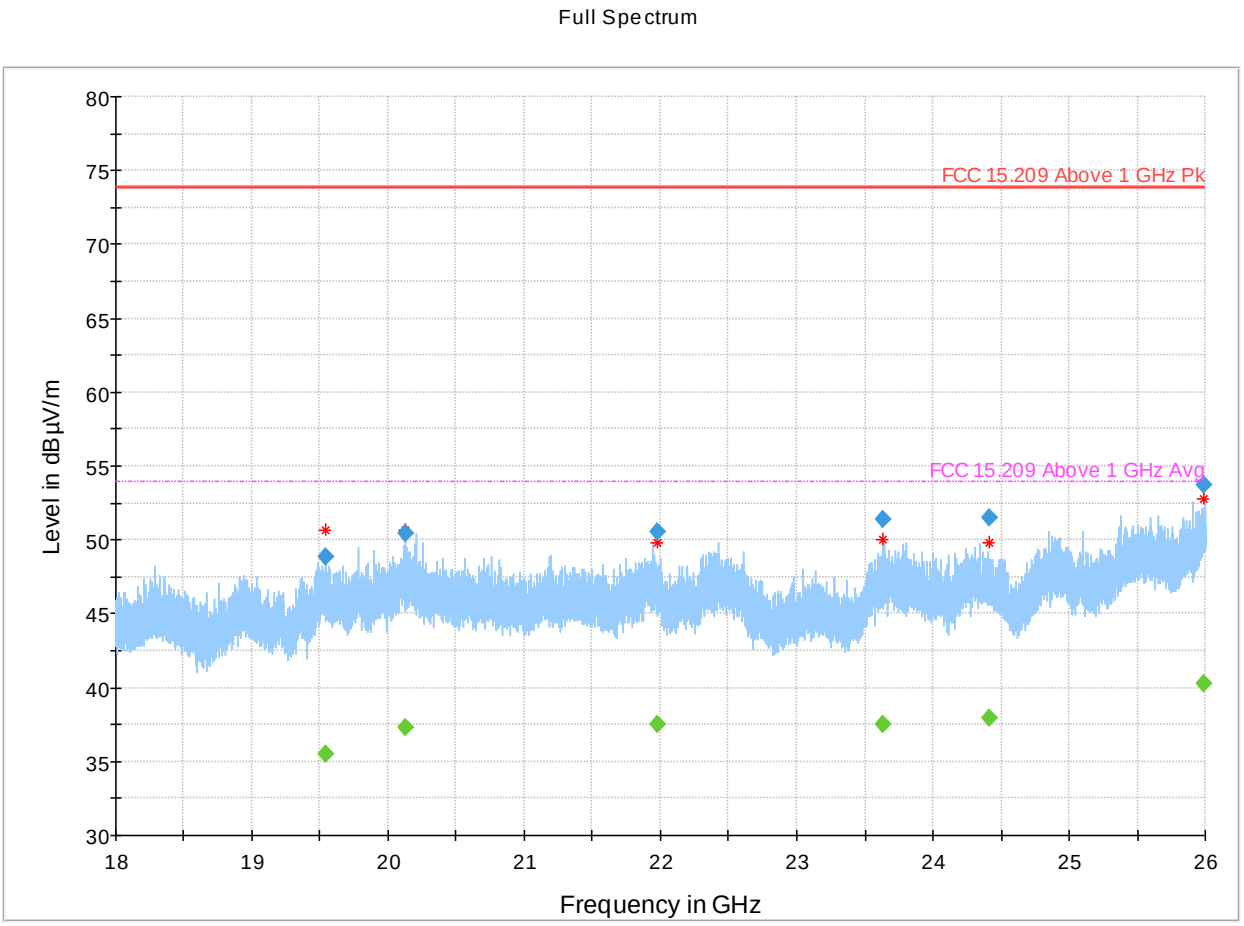
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-45: *Radiated emissions, 2442 MHz channel with 802.11n modulation, 1 – 18 GHz spectral plot*

Table 8.3-22: *Radiated emissions, 2442 MHz channel with 802.11n modulation, 1 – 18 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1741.100000	---	25.17	53.90	28.73	5000.0	1000.000	110.6	V	56.0	-13.3
1741.100000	46.67	---	73.90	27.23	5000.0	1000.000	110.6	V	56.0	-13.3
3256.100000	48.64	---	73.90	25.26	5000.0	1000.000	122.1	H	343.0	-7.5
3256.100000	---	45.53	53.90	8.37	5000.0	1000.000	122.1	H	343.0	-7.5
4887.066667	---	47.37	53.90	6.53	5000.0	1000.000	125.0	V	280.0	-1.7
4887.066667	60.99	---	73.90	12.91	5000.0	1000.000	125.0	V	280.0	-1.7
7327.000000	63.11	---	73.90	10.79	5000.0	1000.000	168.3	V	299.0	1.7
7327.000000	---	49.79	53.90	4.11	5000.0	1000.000	168.3	V	299.0	1.7
9757.000000	45.65	---	73.90	28.25	5000.0	1000.000	225.1	H	180.0	4.6
9757.000000	---	32.53	53.90	21.37	5000.0	1000.000	225.1	H	180.0	4.6
12205.800000	44.52	---	73.90	29.38	5000.0	1000.000	146.7	V	179.0	6.9
12205.800000	---	31.04	53.90	22.86	5000.0	1000.000	146.7	V	179.0	6.9

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
A notch filter at 2.4 GHz was used to reduce the level of the intentional transmitter



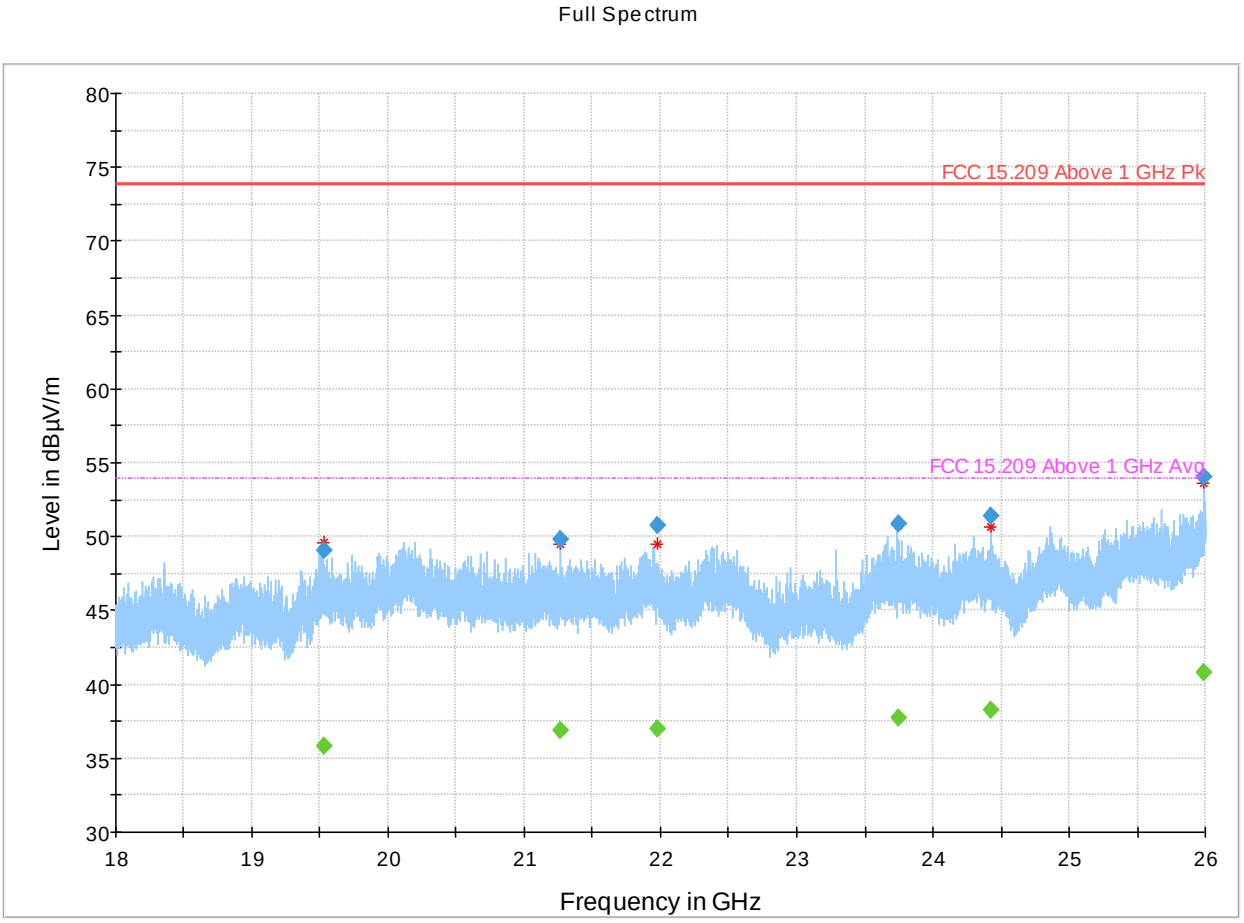
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-46: *Radiated emissions, 2442 MHz channel with 802.11b modulation, 18 – 26 GHz spectral plot*

Table 8.3-23: *Radiated emissions, 2442 MHz channel with 802.11b modulation, 18 – 26 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
19535.100000	---	35.47	53.90	18.43	5000.0	1000.000	115.0	H	104.0	11.2
19535.100000	48.88	---	73.90	25.02	5000.0	1000.000	115.0	H	104.0	11.2
20124.833333	---	37.30	53.90	16.60	5000.0	1000.000	115.8	H	127.0	12.0
20124.833333	50.43	---	73.90	23.47	5000.0	1000.000	115.8	H	127.0	12.0
21975.900000	---	37.49	53.90	16.41	5000.0	1000.000	115.7	H	179.0	11.3
21975.900000	50.52	---	73.90	23.38	5000.0	1000.000	115.7	H	179.0	11.3
23627.366667	---	37.50	53.90	16.40	5000.0	1000.000	119.8	V	292.0	11.6
23627.366667	51.41	---	73.90	22.49	5000.0	1000.000	119.8	V	292.0	11.6
24419.500000	51.51	---	73.90	22.39	5000.0	1000.000	175.0	H	348.0	11.4
24419.500000	---	37.95	53.90	15.95	5000.0	1000.000	175.0	H	348.0	11.4
25994.166667	53.74	---	73.90	20.16	5000.0	1000.000	223.2	V	260.0	15.3
25994.166667	---	40.27	53.90	13.63	5000.0	1000.000	223.2	V	260.0	15.3

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.



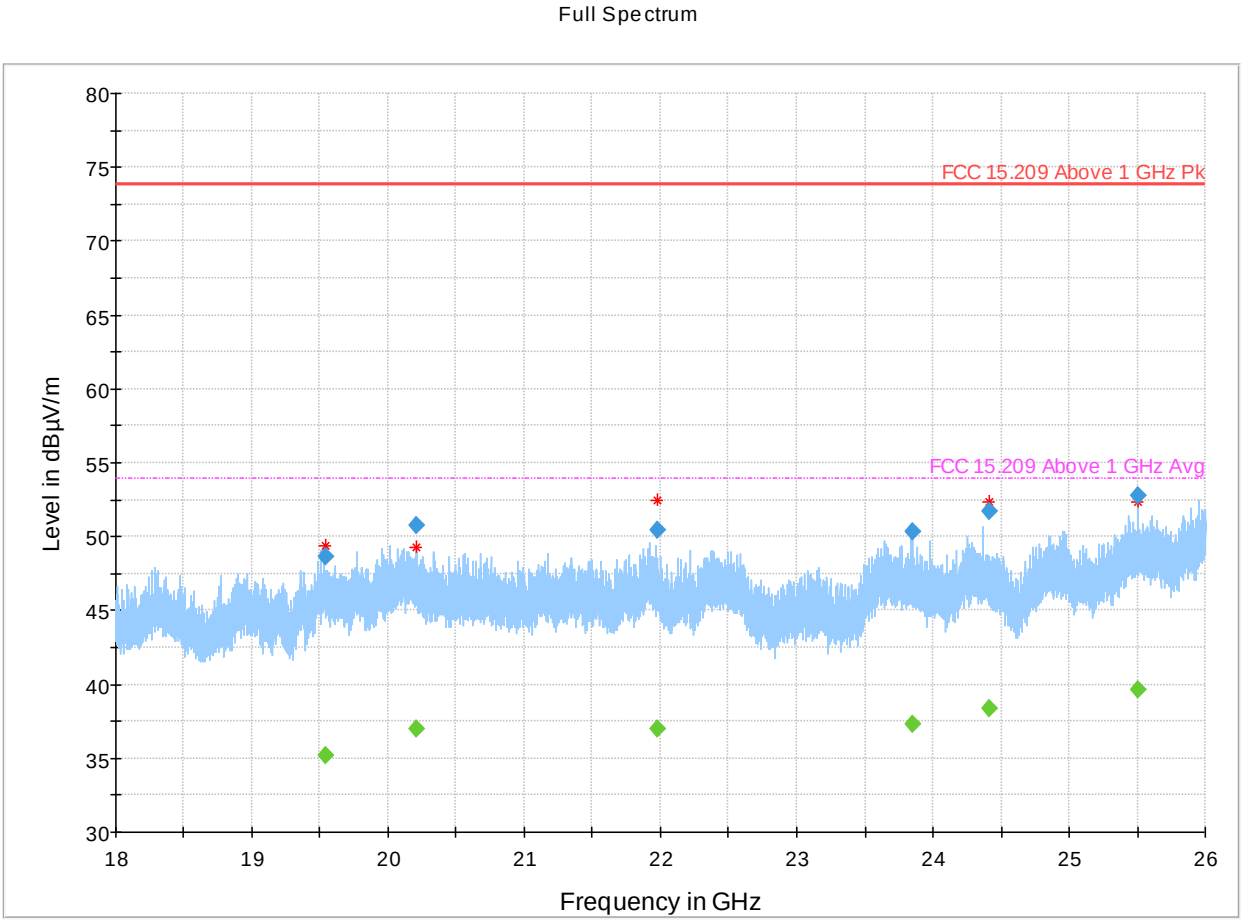
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-47: *Radiated emissions, 2442 MHz channel with 802.11g modulation, 18 – 26 GHz spectral plot*

Table 8.3-24: *Radiated emissions, 2442 MHz channel with 802.11g modulation, 18 – 26 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
19533.900000	---	35.82	53.90	18.08	5000.0	1000.000	117.9	H	41.0	11.2
19533.900000	49.04	---	73.90	24.86	5000.0	1000.000	117.9	H	41.0	11.2
21262.166667	---	36.84	53.90	17.06	5000.0	1000.000	192.8	H	191.0	11.8
21262.166667	49.84	---	73.90	24.06	5000.0	1000.000	192.8	H	191.0	11.8
21976.700000	---	37.03	53.90	16.87	5000.0	1000.000	201.9	H	214.0	11.3
21976.700000	50.79	---	73.90	23.11	5000.0	1000.000	201.9	H	214.0	11.3
23742.300000	---	37.78	53.90	16.12	5000.0	1000.000	106.5	V	87.0	11.3
23742.300000	50.89	---	73.90	23.01	5000.0	1000.000	106.5	V	87.0	11.3
24420.300000	51.38	---	73.90	22.52	5000.0	1000.000	125.0	H	9.0	11.4
24420.300000	---	38.28	53.90	15.62	5000.0	1000.000	125.0	H	9.0	11.4
25986.566667	54.04	---	73.90	19.86	5000.0	1000.000	122.9	V	181.0	15.3
25986.566667	---	40.76	53.90	13.14	5000.0	1000.000	122.9	V	181.0	15.3

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.



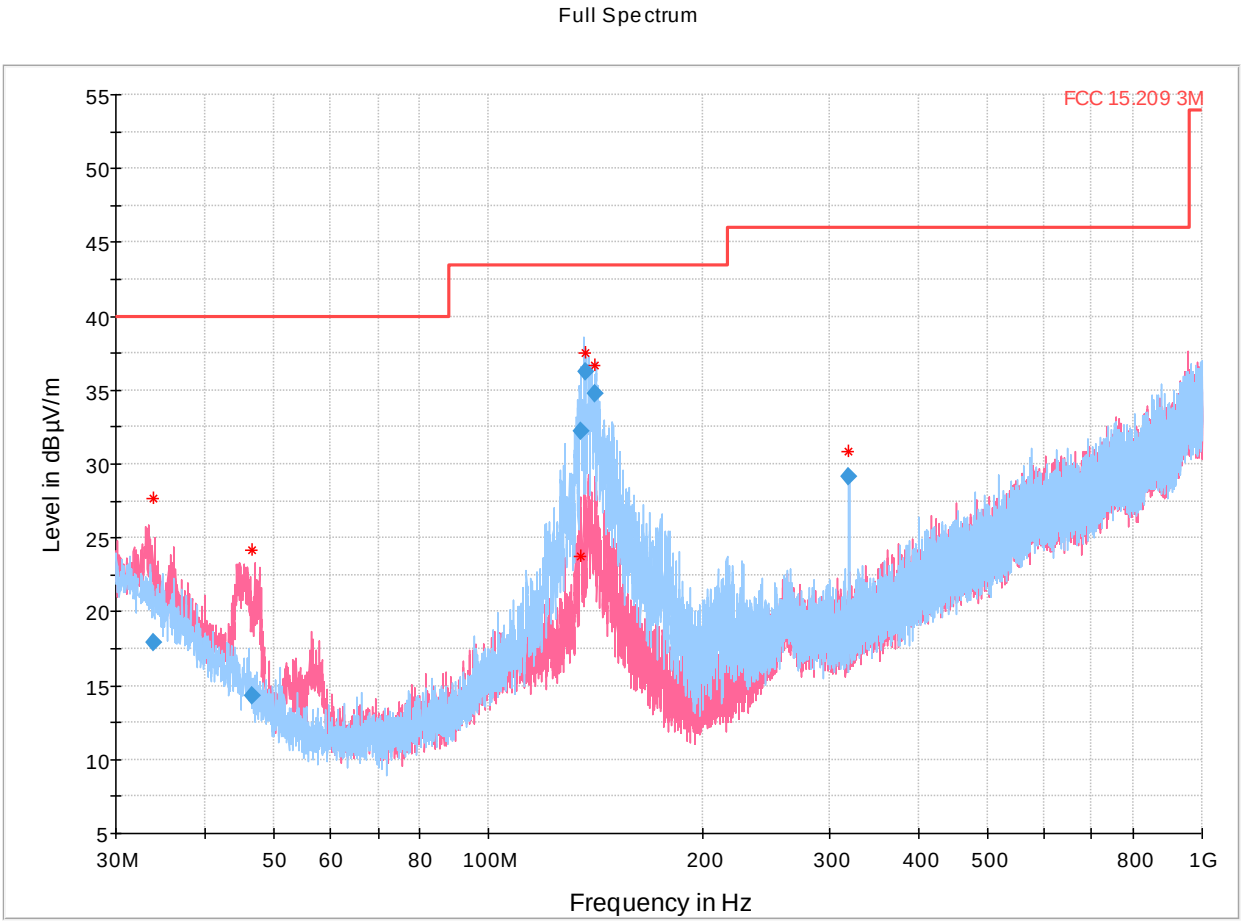
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-48: *Radiated emissions, 2442 MHz channel with 802.11n modulation, 18 – 26 GHz spectral plot*

Table 8.3-25: *Radiated emissions, 2442 MHz channel with 802.11n modulation, 18 – 26 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
19538.500000	---	35.20	53.90	18.70	5000.0	1000.000	199.3	H	24.0	11.2
19538.500000	48.68	---	73.90	25.22	5000.0	1000.000	199.3	H	24.0	11.2
20202.700000	---	37.00	53.90	16.90	5000.0	1000.000	125.0	V	212.0	12.2
20202.700000	50.80	---	73.90	23.10	5000.0	1000.000	125.0	V	212.0	12.2
21975.500000	---	37.04	53.90	16.86	5000.0	1000.000	225.0	H	127.0	11.3
21975.500000	50.44	---	73.90	23.46	5000.0	1000.000	225.0	H	127.0	11.3
23848.166667	---	37.29	53.90	16.61	5000.0	1000.000	214.9	V	236.0	11.3
23848.166667	50.31	---	73.90	23.59	5000.0	1000.000	214.9	V	236.0	11.3
24418.300000	---	38.39	53.90	15.51	5000.0	1000.000	117.6	H	275.0	11.4
24418.300000	51.67	---	73.90	22.23	5000.0	1000.000	117.6	H	275.0	11.4
25508.300000	---	39.69	53.90	14.21	5000.0	1000.000	108.3	H	6.0	13.7
25508.300000	52.76	---	73.90	21.14	5000.0	1000.000	108.3	H	6.0	13.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.



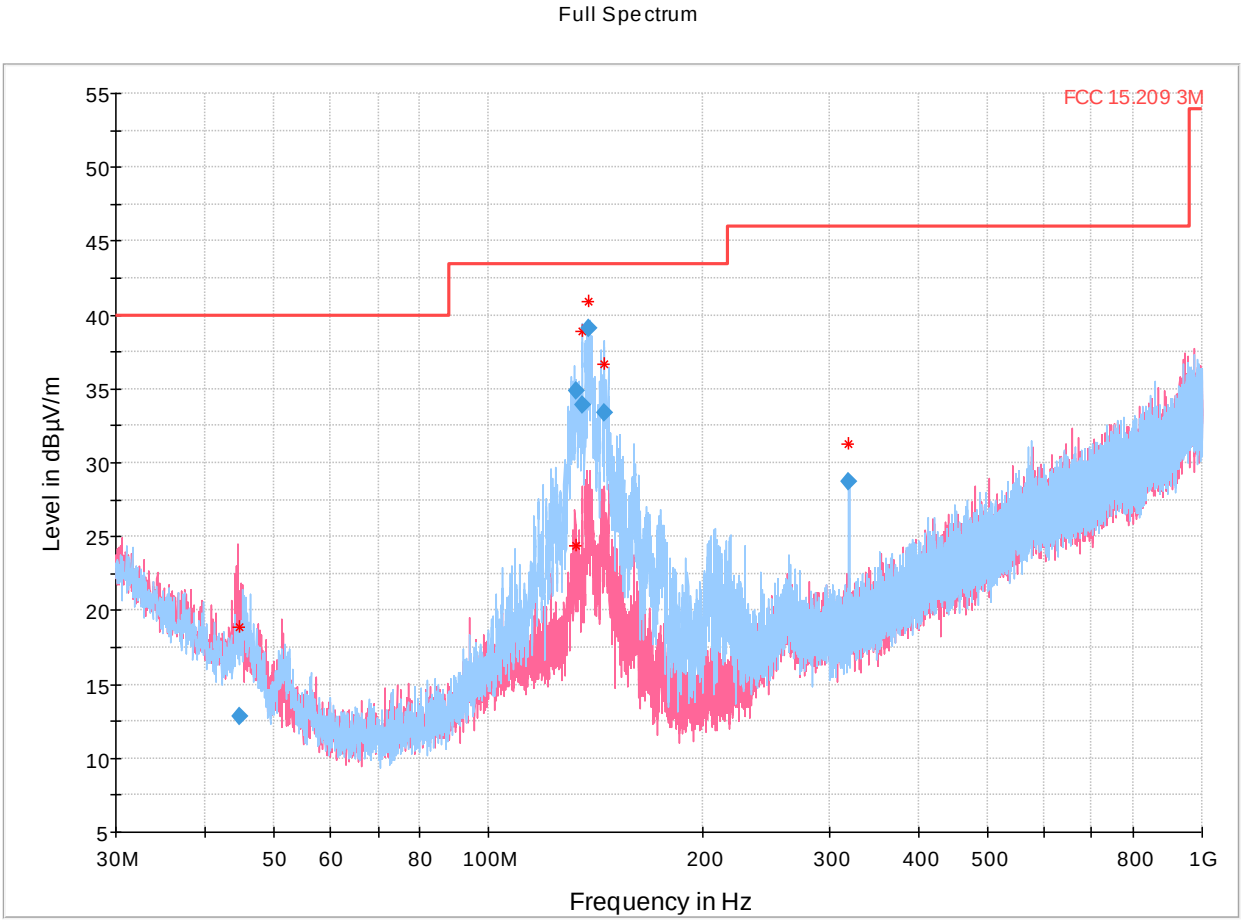
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-49: *Radiated emissions, 2462 MHz channel with 802.11b modulation, 30 – 1000 MHz spectral plot*

Table 8.3-26: *Radiated emissions, 2462 MHz channel with 802.11b modulation, 30 – 1000 MHz results*

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
33.830333	17.90	40.00	22.10	5000.0	120.000	269.8	V	271.0	22.7
46.602667	14.28	40.00	25.72	5000.0	120.000	111.2	V	79.0	15.8
134.342667	32.24	43.50	11.26	5000.0	120.000	189.8	H	176.0	18.4
136.258000	36.27	43.50	7.23	5000.0	120.000	161.7	H	190.0	18.4
140.886667	34.81	43.50	8.69	5000.0	120.000	152.9	H	166.0	18.6
320.017667	29.21	46.00	16.79	5000.0	120.000	109.2	H	190.0	21.3

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
[4] Limits converted to dBµV/m and an inverse proportionality factor of 20 dB per decade has been used to normalize the specification limit to a measurement distance of 3 meters to determine compliance.



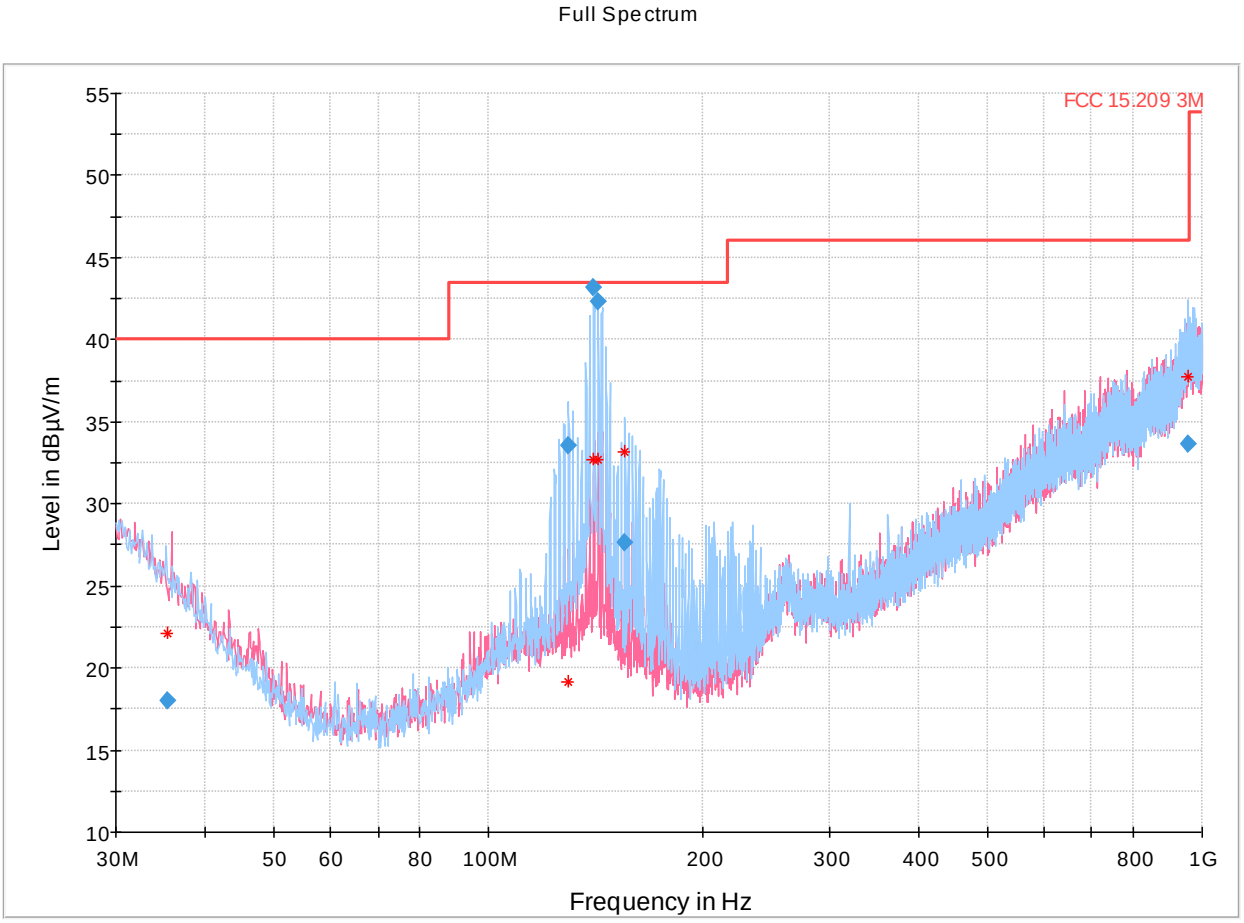
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-50: *Radiated emissions, 2462 MHz channel with 802.11g modulation, 30 – 1000 MHz spectral plot*

Table 8.3-27: *Radiated emissions, 2462 MHz channel with 802.11g modulation, 30 – 1000 MHz results*

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
44.785333	12.82	40.00	27.18	5000.0	120.000	174.0	V	252.0	16.6
132.576333	34.87	43.50	8.63	5000.0	120.000	202.9	H	179.0	18.3
134.912667	33.96	43.50	9.54	5000.0	120.000	204.8	H	153.0	18.4
138.043000	39.06	43.50	4.44	5000.0	120.000	216.8	H	179.0	18.5
145.433000	33.44	43.50	10.06	5000.0	120.000	214.7	H	170.0	18.3
320.017667	28.76	46.00	17.24	5000.0	120.000	109.3	H	177.0	21.3

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
[4] Limits converted to dBµV/m and an inverse proportionality factor of 20 dB per decade has been used to normalize the specification limit to a measurement distance of 3 meters to determine compliance.



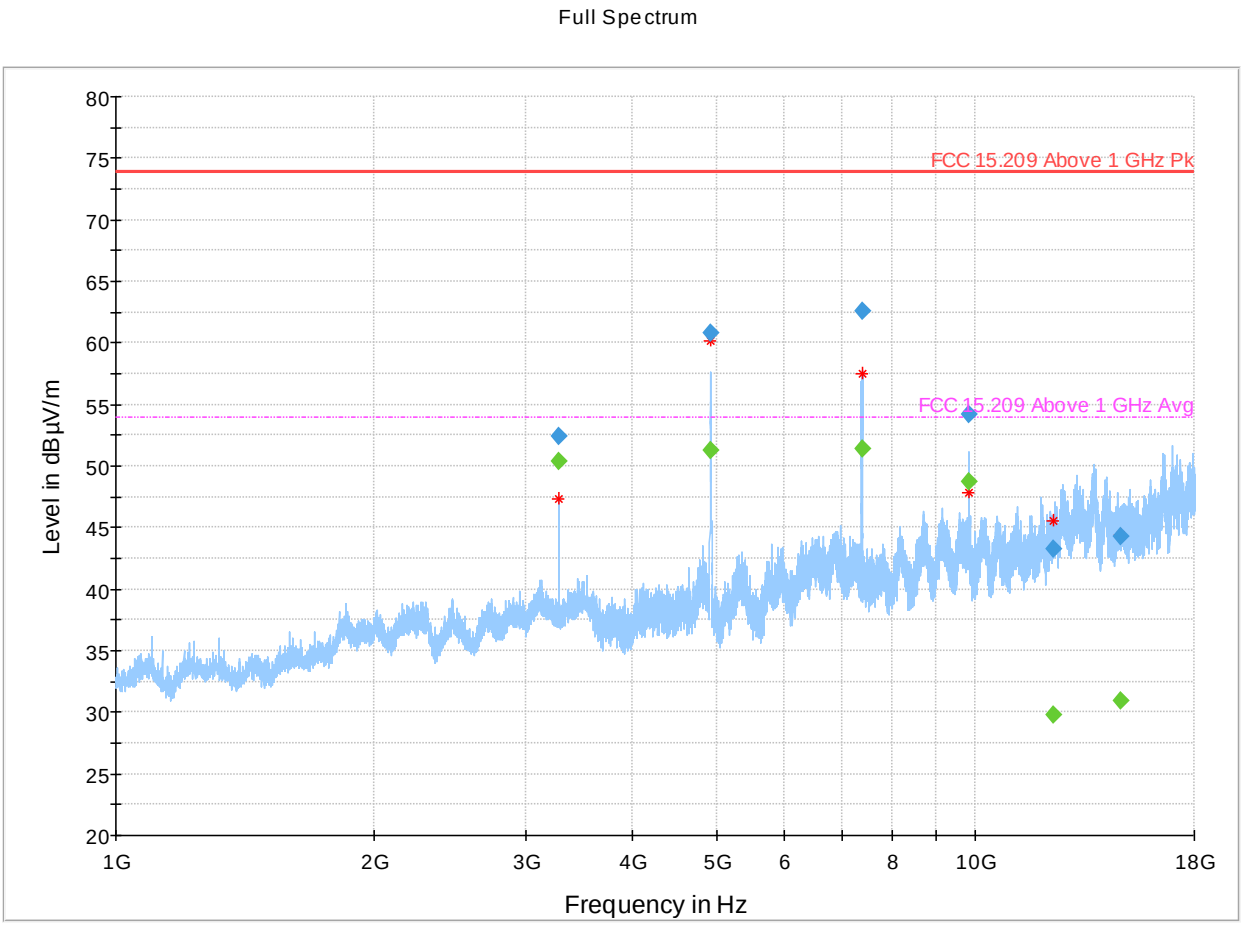
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-51: *Radiated emissions, 2462 MHz channel with 802.11n modulation, 30 – 1000 MHz spectral plot*

Table 8.3-28: *Radiated emissions, 2462 MHz channel with 802.11n modulation, 30 – 1000 MHz results*

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
35.521250	18.04	40.00	21.96	5000.0	120.000	122.2	V	58.0	21.6
129.243750	33.52	43.50	9.98	5000.0	120.000	121.7	H	211.0	18.2
140.440000	43.18	43.50	0.32	5000.0	120.000	185.9	H	182.0	18.6
142.178750	42.28	43.50	1.22	5000.0	120.000	188.7	H	184.0	18.5
155.072500	27.61	43.50	15.89	5000.0	120.000	144.1	H	184.0	17.5
957.621250	33.65	46.00	12.35	5000.0	120.000	361.2	H	213.0	35.4

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
[4] Limits converted to dBµV/m and an inverse proportionality factor of 20 dB per decade has been used to normalize the specification limit to a measurement distance of 3 meters to determine compliance.



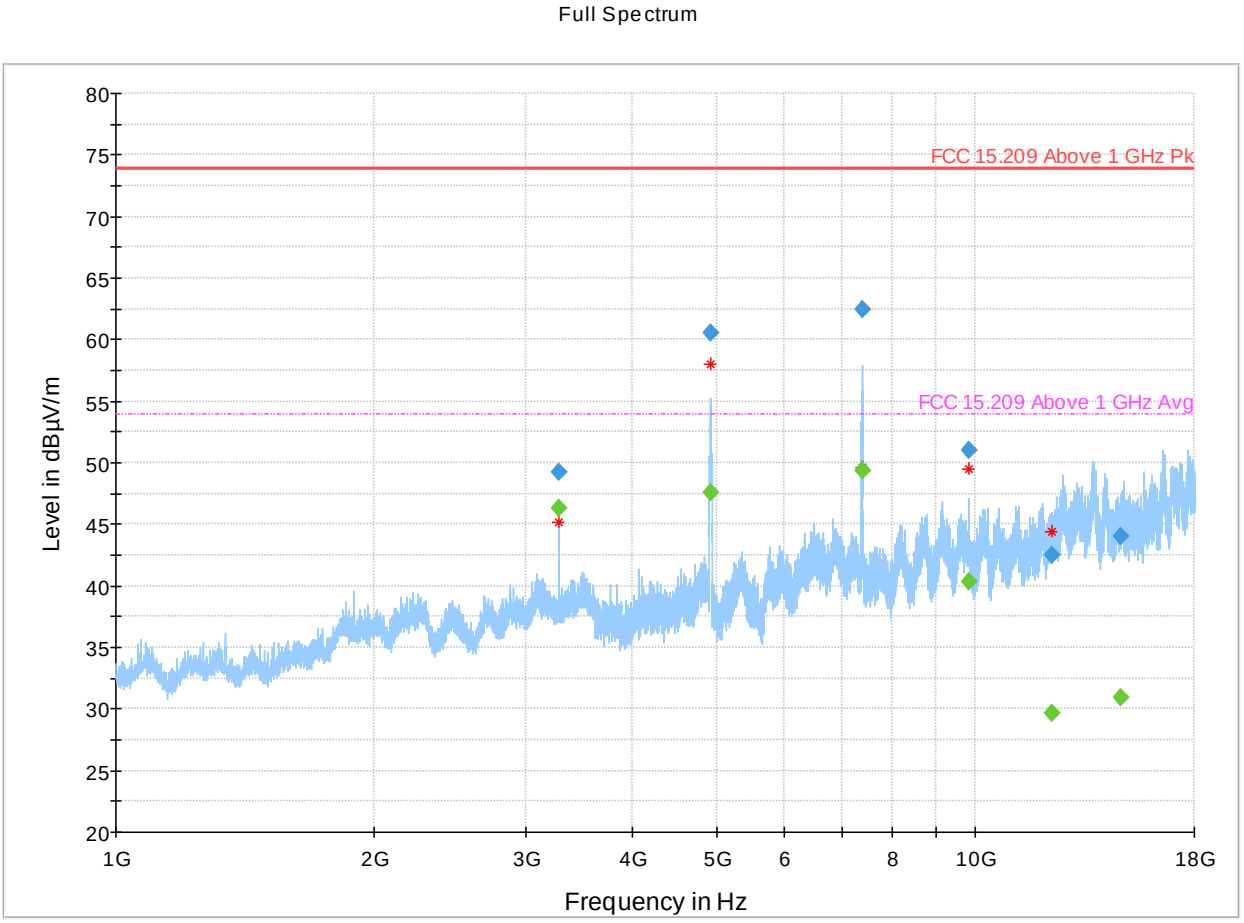
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-52: *Radiated emissions, 2462 MHz channel with 802.11b modulation, 1 – 18 GHz spectral plot*

Table 8.3-29: *Radiated emissions, 2462 MHz channel with 802.11b modulation, 1 – 18 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3282.733333	---	50.42	53.90	3.48	5000.0	1000.000	130.4	H	348.0	-7.4
3282.733333	52.42	---	73.90	21.48	5000.0	1000.000	130.4	H	348.0	-7.4
4924.366667	60.86	---	73.90	13.04	5000.0	1000.000	109.0	V	341.0	-1.9
4924.366667	---	51.22	53.90	2.68	5000.0	1000.000	109.0	V	341.0	-1.9
7386.066667	---	51.39	53.90	2.51	5000.0	1000.000	109.0	V	280.0	1.0
7386.066667	62.63	---	73.90	11.27	5000.0	1000.000	109.0	V	280.0	1.0
9848.700000	---	48.76	53.90	5.14	5000.0	1000.000	200.7	V	333.0	3.8
9848.700000	54.15	---	73.90	19.75	5000.0	1000.000	200.7	V	333.0	3.8
12318.600000	---	29.76	53.90	24.14	5000.0	1000.000	401.0	V	303.0	5.9
12318.600000	43.28	---	73.90	30.62	5000.0	1000.000	401.0	V	303.0	5.9
14772.200000	44.24	---	73.90	29.66	5000.0	1000.000	321.0	V	208.0	8.1
14772.200000	---	30.93	53.90	22.97	5000.0	1000.000	321.0	V	208.0	8.1

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
A notch filter at 2.4 GHz was used to reduce the level of the intentional transmitter



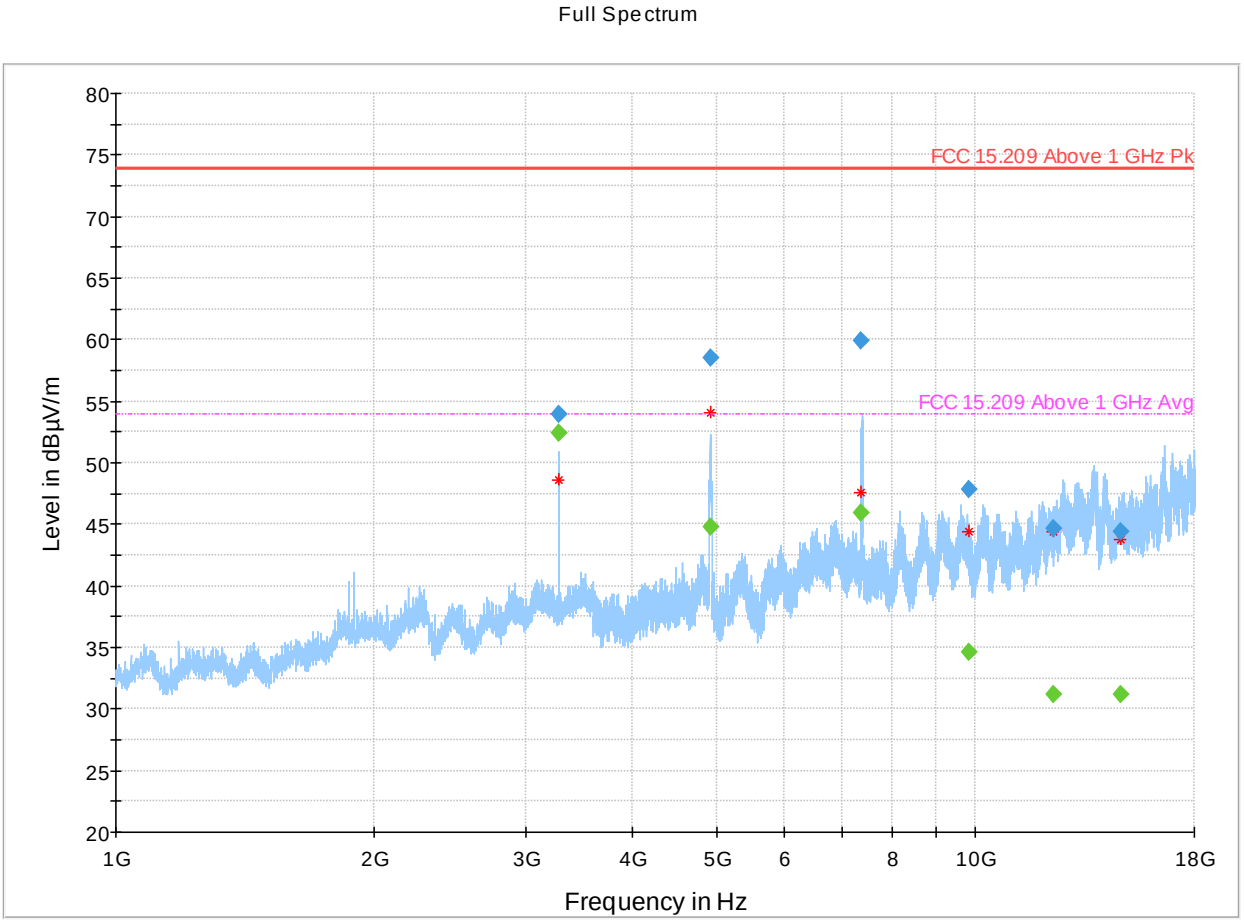
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-53: *Radiated emissions, 2462 MHz channel with 802.11g modulation, 1 – 18 GHz spectral plot*

Table 8.3-30: *Radiated emissions, 2462 MHz channel with 802.11g modulation, 1 – 18 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3282.733333	49.25	---	73.90	24.65	5000.0	1000.000	128.7	H	341.0	-7.4
3282.733333	---	46.32	53.90	7.58	5000.0	1000.000	128.7	H	341.0	-7.4
4925.033333	---	47.53	53.90	6.37	5000.0	1000.000	122.2	V	343.0	-1.9
4925.033333	60.55	---	73.90	13.35	5000.0	1000.000	122.2	V	343.0	-1.9
7388.666667	---	49.40	53.90	4.50	5000.0	1000.000	113.6	V	286.0	1.0
7388.666667	62.47	---	73.90	11.43	5000.0	1000.000	113.6	V	286.0	1.0
9848.533333	---	40.34	53.90	13.56	5000.0	1000.000	160.6	V	332.0	3.8
9848.533333	51.04	---	73.90	22.86	5000.0	1000.000	160.6	V	332.0	3.8
12305.400000	---	29.65	53.90	24.25	5000.0	1000.000	293.1	H	240.0	6.0
12305.400000	42.55	---	73.90	31.35	5000.0	1000.000	293.1	H	240.0	6.0
14769.000000	44.08	---	73.90	29.82	5000.0	1000.000	156.3	V	312.0	8.1
14769.000000	---	30.97	53.90	22.93	5000.0	1000.000	156.3	V	312.0	8.1

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
A notch filter at 2.4 GHz was used to reduce the level of the intentional transmitter



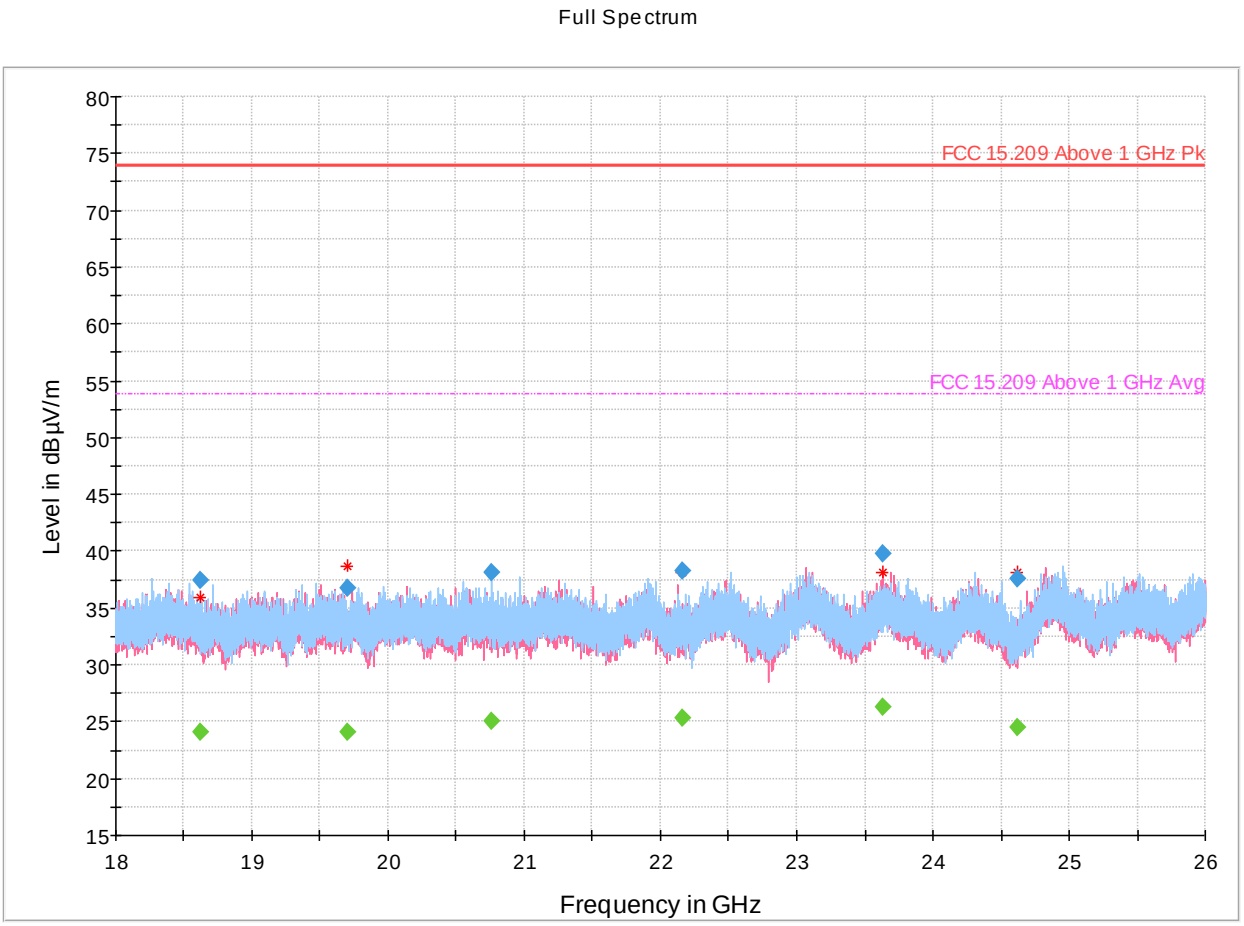
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-54: *Radiated emissions, 2462 MHz channel with 802.11n modulation, 1 – 18 GHz spectral plot*

Table 8.3-31: *Radiated emissions, 2462 MHz channel with 802.11n modulation, 1 – 18 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3282.733333	---	52.45	53.90	1.45	5000.0	1000.000	143.8	H	349.0	-7.4
3282.733333	53.98	---	73.90	19.92	5000.0	1000.000	143.8	H	349.0	-7.4
4927.000000	58.46	---	73.90	15.44	5000.0	1000.000	110.7	V	290.0	-1.9
4927.000000	---	44.75	53.90	9.15	5000.0	1000.000	110.7	V	290.0	-1.9
7379.300000	---	45.95	53.90	7.95	5000.0	1000.000	136.3	V	34.0	1.0
7379.300000	59.91	---	73.90	13.99	5000.0	1000.000	136.3	V	34.0	1.0
9847.400000	---	34.57	53.90	19.33	5000.0	1000.000	171.9	V	350.0	3.8
9847.400000	47.83	---	73.90	26.07	5000.0	1000.000	171.9	V	350.0	3.8
12318.600000	44.60	---	73.90	29.30	5000.0	1000.000	275.7	V	355.0	5.9
12318.600000	---	31.22	53.90	22.68	5000.0	1000.000	275.7	V	355.0	5.9
14764.200000	---	31.13	53.90	22.77	5000.0	1000.000	113.7	V	136.0	8.1
14764.200000	44.36	---	73.90	29.54	5000.0	1000.000	113.7	V	136.0	8.1

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.
A notch filter at 2.4 GHz was used to reduce the level of the intentional transmitter



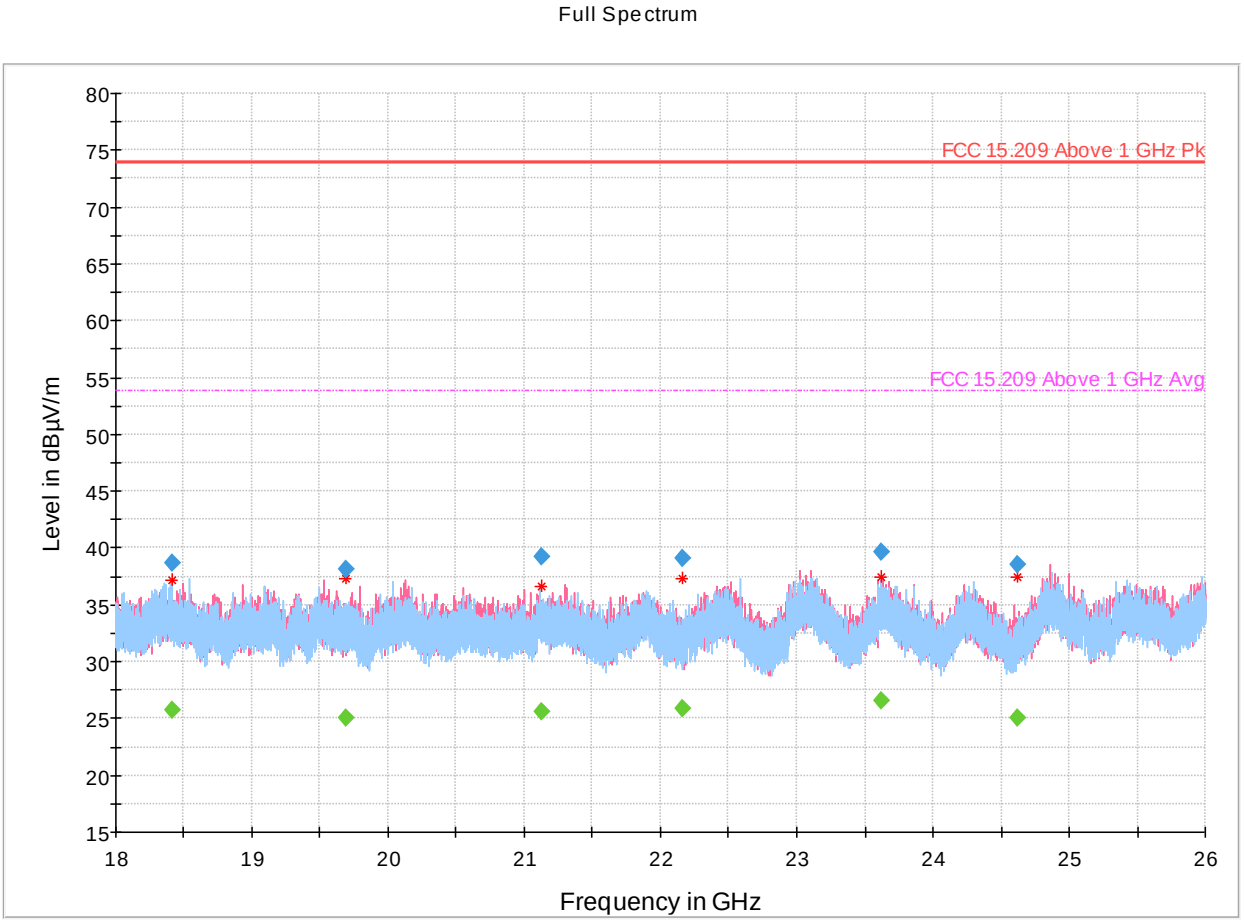
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-55: *Radiated emissions, 2462 MHz channel with 802.11b modulation, 18 – 26 GHz spectral plot*

Table 8.3-32: *Radiated emissions, 2462 MHz channel with 802.11b modulation, 18 – 26 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
18624.566667	37.43	---	73.90	36.47	5000.0	1000.000	108.3	H	120.0	2.7
18624.566667	---	24.09	53.90	29.81	5000.0	1000.000	108.3	H	120.0	2.7
19696.300000	36.80	---	73.90	37.10	5000.0	1000.000	117.8	H	151.0	2.1
19696.300000	---	24.09	53.90	29.81	5000.0	1000.000	117.8	H	151.0	2.1
20756.166667	38.14	---	73.90	35.76	5000.0	1000.000	117.6	H	331.0	2.6
20756.166667	---	25.00	53.90	28.90	5000.0	1000.000	117.6	H	331.0	2.6
22159.900000	38.22	---	73.90	35.68	5000.0	1000.000	202.0	H	351.0	2.0
22159.900000	---	25.27	53.90	28.63	5000.0	1000.000	202.0	H	351.0	2.0
23630.033333	39.81	---	73.90	34.09	5000.0	1000.000	192.6	V	154.0	1.6
23630.033333	---	26.32	53.90	27.58	5000.0	1000.000	192.6	V	154.0	1.6
24619.500000	37.57	---	73.90	36.33	5000.0	1000.000	115.7	H	242.0	2.5
24619.500000	---	24.54	53.90	29.36	5000.0	1000.000	115.7	H	242.0	2.5

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.



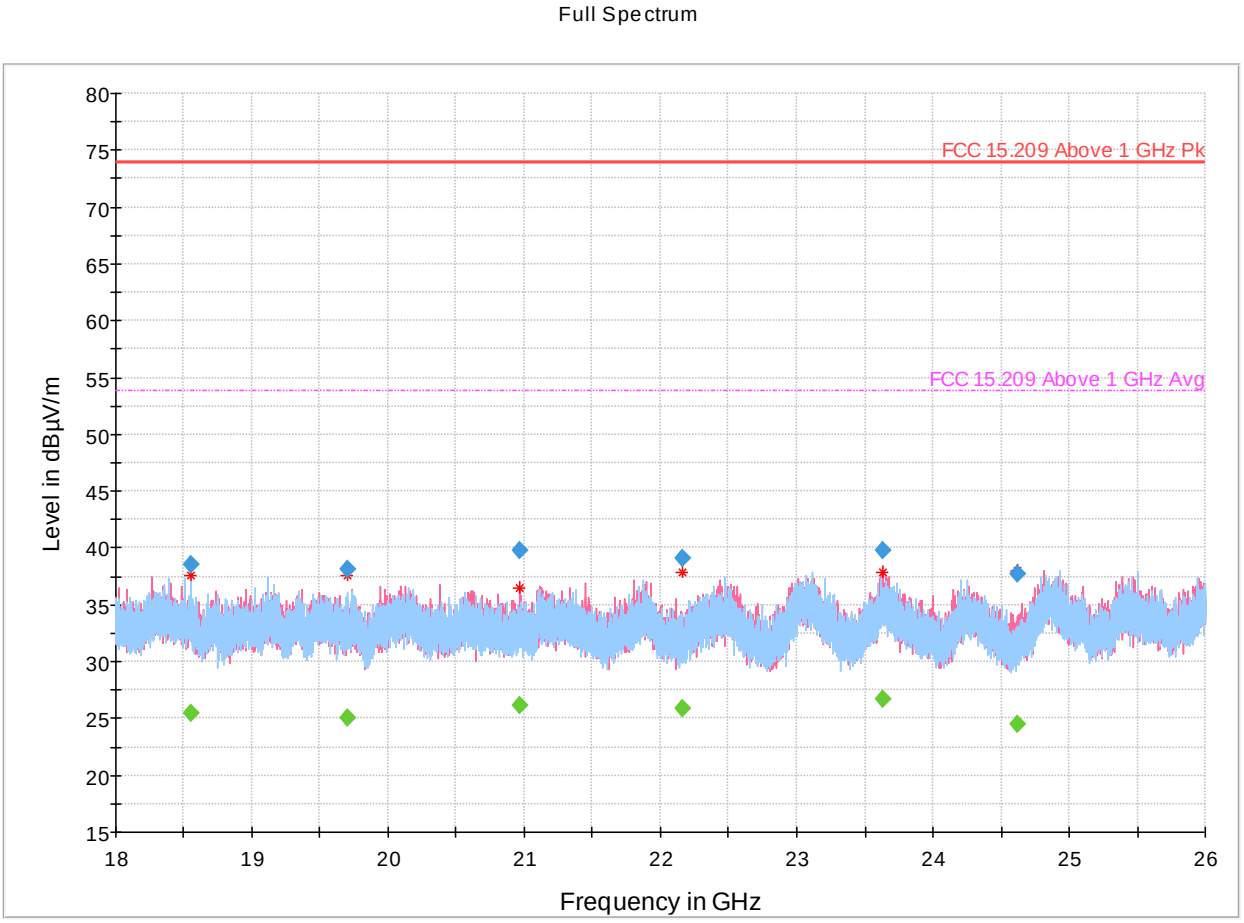
The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-56: *Radiated emissions, 2462 MHz channel with 802.11g modulation, 18 – 26 GHz spectral plot*

Table 8.3-33: *Radiated emissions, 2462 MHz channel with 802.11g modulation, 18 – 26 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
18411.233333	---	25.71	53.90	28.19	5000.0	1000.000	197.8	H	180.0	2.4
18411.233333	38.68	---	73.90	35.22	5000.0	1000.000	197.8	H	180.0	2.4
19693.500000	---	24.99	53.90	28.91	5000.0	1000.000	193.6	H	93.0	2.1
19693.500000	38.09	---	73.90	35.81	5000.0	1000.000	193.6	H	93.0	2.1
21121.366667	39.20	---	73.90	34.70	5000.0	1000.000	125.0	V	201.0	2.8
21121.366667	---	25.56	53.90	28.34	5000.0	1000.000	125.0	V	201.0	2.8
22160.500000	---	25.87	53.90	28.03	5000.0	1000.000	195.4	H	173.0	2.0
22160.500000	39.06	---	73.90	34.84	5000.0	1000.000	195.4	H	173.0	2.0
23620.300000	---	26.54	53.90	27.36	5000.0	1000.000	199.2	H	315.0	1.6
23620.300000	39.63	---	73.90	34.27	5000.0	1000.000	199.2	H	315.0	1.6
24621.100000	38.56	---	73.90	35.34	5000.0	1000.000	225.0	H	227.0	2.5
24621.100000	---	25.10	53.90	28.80	5000.0	1000.000	225.0	H	227.0	2.5

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.



The spectral plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e. antenna factors, cable loss, amplifier gains, and attenuators).

Figure 8.3-57: *Radiated emissions, 2462 MHz channel with 802.11n modulation, 18 – 26 GHz spectral plot*

Table 8.3-34: *Radiated emissions, 2462 MHz channel with 802.11n modulation, 18 – 26 GHz results*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
18550.033333	---	25.47	53.90	28.43	5000.0	1000.000	204.7	H	181.0	2.9
18550.033333	38.48	---	73.90	35.42	5000.0	1000.000	204.7	H	181.0	2.9
19696.700000	---	25.00	53.90	28.90	5000.0	1000.000	191.3	H	182.0	2.1
19696.700000	38.09	---	73.90	35.81	5000.0	1000.000	191.3	H	182.0	2.1
20968.566667	39.77	---	73.90	34.13	5000.0	1000.000	225.0	V	97.0	2.8
20968.566667	---	26.21	53.90	27.69	5000.0	1000.000	225.0	V	97.0	2.8
22160.500000	---	25.86	53.90	28.04	5000.0	1000.000	196.0	H	196.0	2.0
22160.500000	39.04	---	73.90	34.86	5000.0	1000.000	196.0	H	196.0	2.0
23633.766667	39.84	---	73.90	34.06	5000.0	1000.000	220.8	V	199.0	1.6
23633.766667	---	26.66	53.90	27.24	5000.0	1000.000	220.8	V	199.0	1.6
24621.500000	---	24.55	53.90	29.35	5000.0	1000.000	125.0	H	12.0	2.5
24621.500000	37.67	---	73.90	36.23	5000.0	1000.000	125.0	H	12.0	2.5

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB) - pre amp (dB)
[3] The maximum measured value observed over a period of 5 seconds was recorded.

8.4 FCC 15.247(e) and RSS-247 5.2(b) Power spectral density of digital transmission system

8.4.1 References

Title 47 → Chapter I → Subchapter A → Part 15 → Subpart C → §15.247(e) / ANSI C63.10: 2013

(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.

RSS-247 → §5.2(b)

(a) 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(4), (i.e. the power spectral density shall be determined using the same method as is used to determine the conducted output power).

8.4.2 Test summary

Verdict	Pass		
Test date	November 24, 2020	Temperature	21 °C
Test engineer	James Cunningham, EMC/MIL/WL Supervisor	Air pressure	1009 mbar
Test location	Wireless bench	Relative humidity	28 %

8.4.3 Notes

Testing was performed in WiFi mode and the EUT transmitting on a fixed channel at full power.

The EUT antenna port was connected to the spectrum analyzer via low loss cable and a suitable attenuator. The loss of this assembly was corrected for via a transducer factor in the spectrum analyzer.

8.4.4 Setup details

EUT setup configuration	Table top
Test facility	Nemko San Diego
Measurement details	Measurement performed as per C63.10 §11.10.2 Method – PKPSD (peak PSD)

Receiver/spectrum analyzer settings:

Resolution bandwidth	3 kHz
Video bandwidth	10 kHz (≥ 3 x RBW)
Frequency span	1.5 x DTS bandwidth
Detector mode	Peak
Trace mode	Max Hold
Sweep time	Auto

8.4.5 Test data

Table 8.4-1: *Power spectral density of DTS*

Transmitter Frequency (MHz)	Modulation Scheme	Data Rate	Measured Level (dBm/3 kHz)	Limit (dBm/3 kHz)
2412	802.11b	1 Mbps	-14.01	8.00
2412	802.11g	6 Mbps	-17.91	8.00
2412	802.11n	MCS0	-17.56	8.00
2442	802.11b	1 Mbps	-13.54	8.00
2442	802.11g	6 Mbps	-17.58	8.00
2442	802.11n	MCS0	-17.33	8.00
2462	802.11b	1 Mbps	-13.69	8.00
2462	802.11g	6 Mbps	-17.18	8.00
2462	802.11n	MCS0	-17.18	8.00

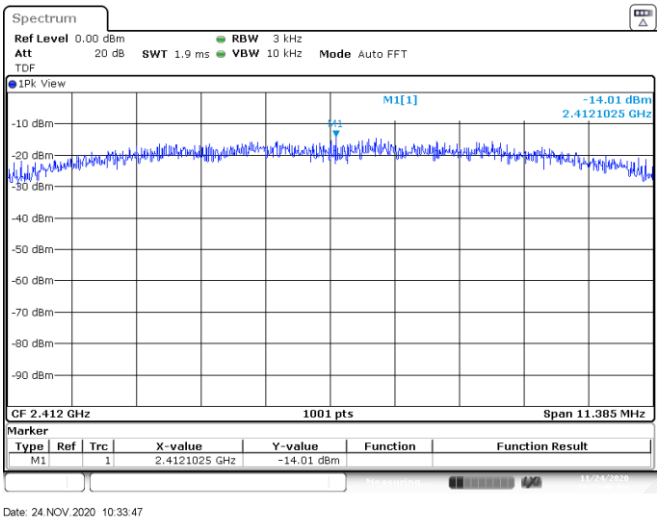


Figure 8.4-1: *Peak PSD, 2412 MHz with 802.11b modulation*

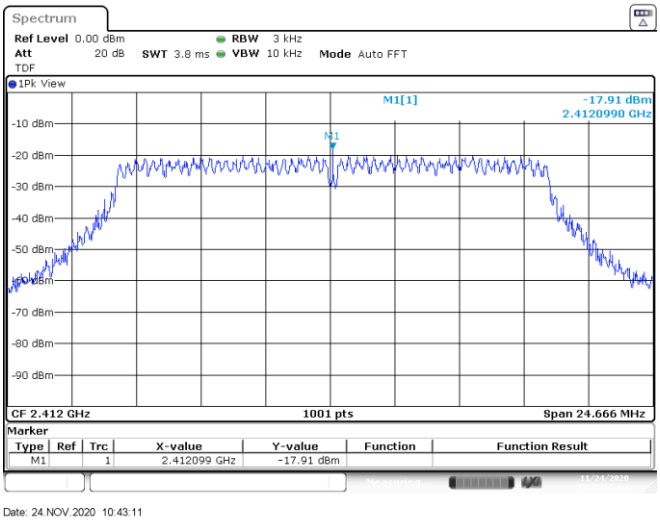


Figure 8.4-2: Peak PSD, 2412 MHz with 802.11g modulation

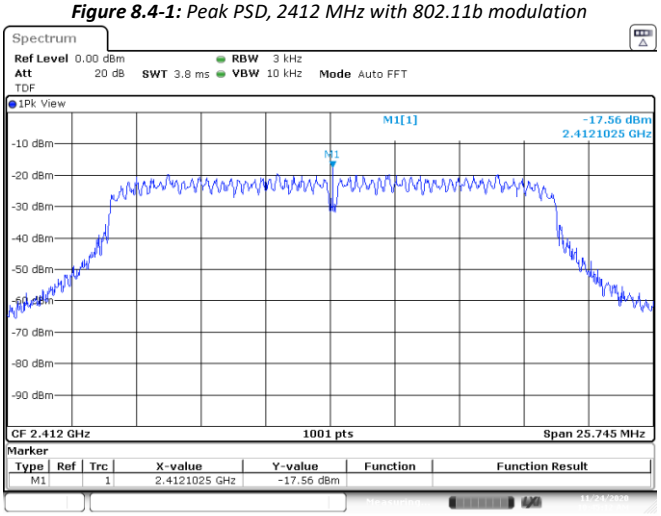


Figure 8.4-3: Peak PSD, 2412 MHz with 802.11n modulation

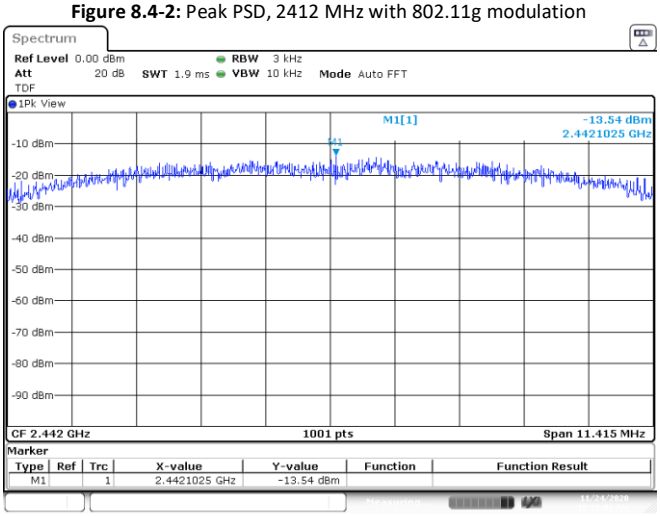


Figure 8.4-4: Peak PSD, 2442 MHz with 802.11b modulation

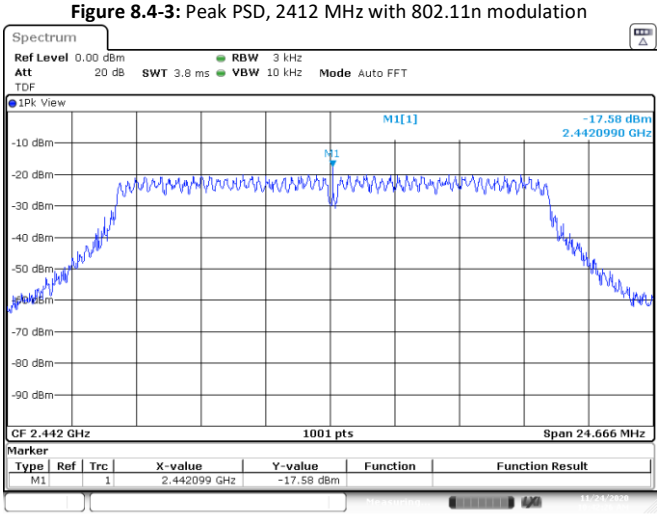


Figure 8.4-5: Peak PSD, 2442 MHz with 802.11g modulation

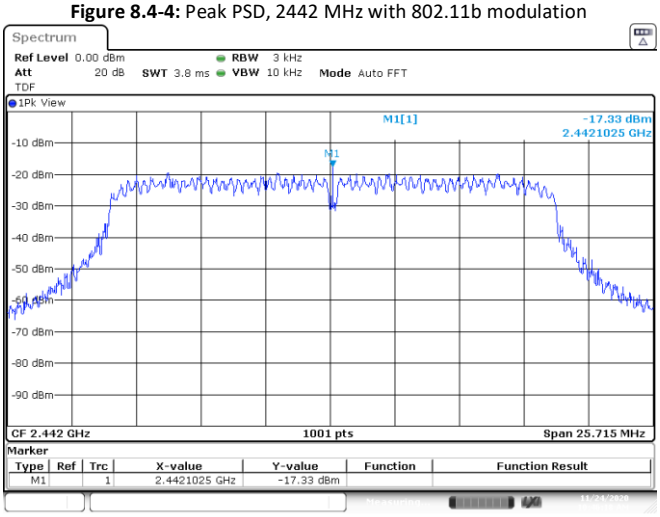


Figure 8.4-6: Peak PSD, 2442 MHz with 802.11n modulation

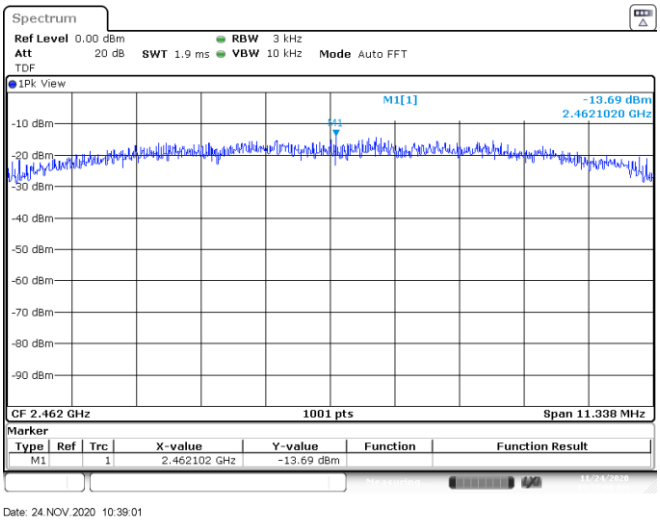


Figure 8.4-7: Peak PSD, 2462 MHz with 802.11b modulation

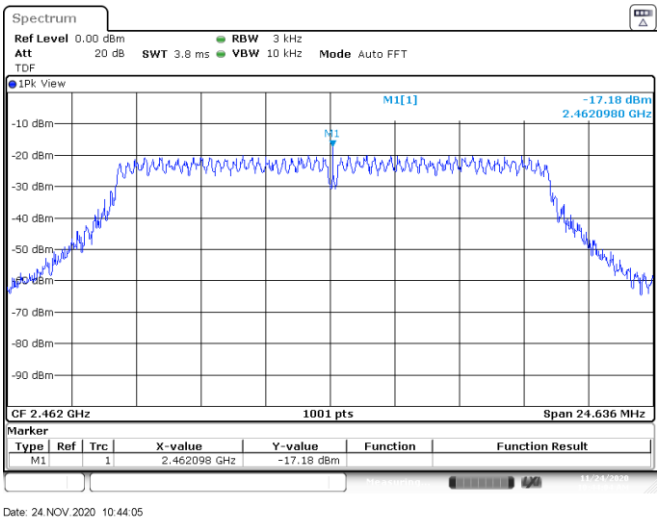


Figure 8.4-8: Peak PSD, 2462 MHz with 802.11g modulation

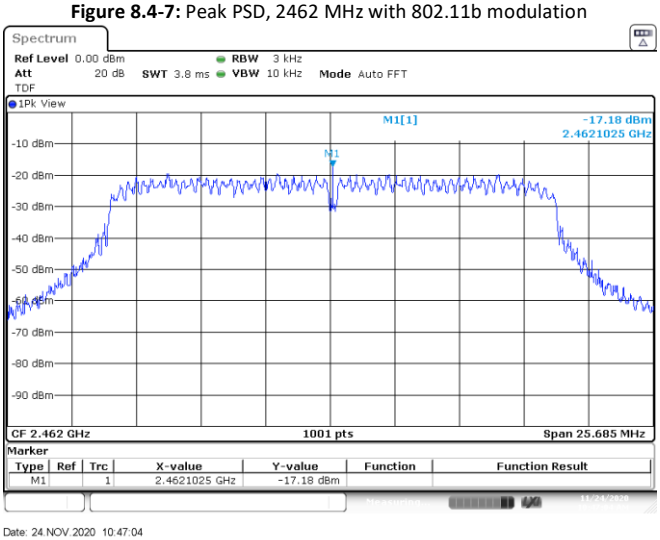


Figure 8.4-9: Peak PSD, 2462 MHz with 802.11n modulation

8.5 RSS-GEN 6.7 Occupied bandwidth (or 99% emission bandwidth)

8.5.1 References

RSS-Gen → §6.7

The occupied bandwidth or the "99% emission bandwidth" is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

8.5.2 Test summary

Test date	November 11, 2020	Temperature	22 °C
Test engineer	David Hewitt, EMC Specialist	Air pressure	1007 mbar
Test location	Wireless bench	Relative humidity	31 %
Test date	November 24, 2020	Temperature	21 °C
Test engineer	James Cunningham, EMC/MIL/WL Supervisor	Air pressure	1009 mbar
Test location	Wireless bench	Relative humidity	28 %

8.5.3 Notes

Testing was performed in WiFi mode and the EUT transmitting on a fixed channel at full power. For the 2462 MHz channel with 802.11g and 802.11n modulations, the delta marker function was used to find the occupied bandwidth.

8.5.4 Setup details

EUT setup configuration	Tabletop
Test facility	Nemko San Diego
Measurement details	Measurement performed as per C63.10 §6.9.3 using the built-in function of the spectrum analyzer

Receiver/spectrum analyzer settings:

Resolution bandwidth	500 kHz; (100 kHz later testing)
Video bandwidth	2 MHz; (300 kHz later testing)
Detector mode	Peak
Trace mode	Max Hold
Measurement time	Long enough for trace to stabilize

8.5.5 Test data

Table 8.5-1: *99% Occupied bandwidth*

Test Frequency (MHz)	Modulation	Data rate	99%Bandwidth (MHz)
2412	802.11b	1 Mbps	13.006
2412	802.11g	6 Mbps	16.748
2412	802.11n	MCS0	17.446
2442	802.11b	1 Mbps	13.014
2442	802.11g	6 Mbps	16.758
2442	802.11n	MCS0	17.457
2462	802.11b	1 Mbps	12.967
2462	802.11g	6 Mbps	16.404
2462	802.11n	MCS0	17.403

8.5.5 Test data, continued

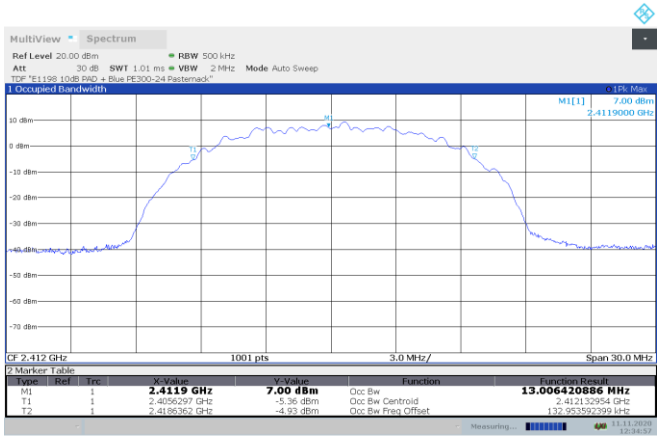


Figure 8.5-1: 99% bandwidth, 2412 MHz, 802.11b

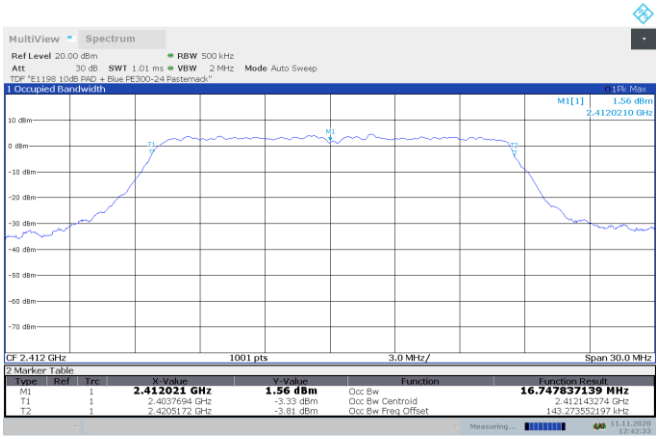


Figure 8.5-2: 99% bandwidth, 2412 MHz, 802.11g

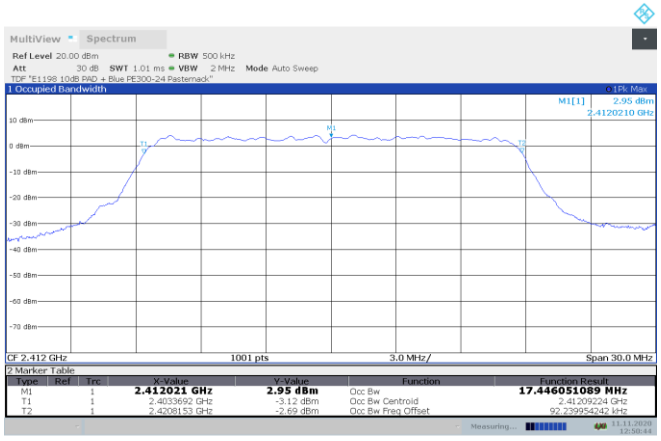


Figure 8.5-3: 99% bandwidth, 2412 MHz, 802.11n

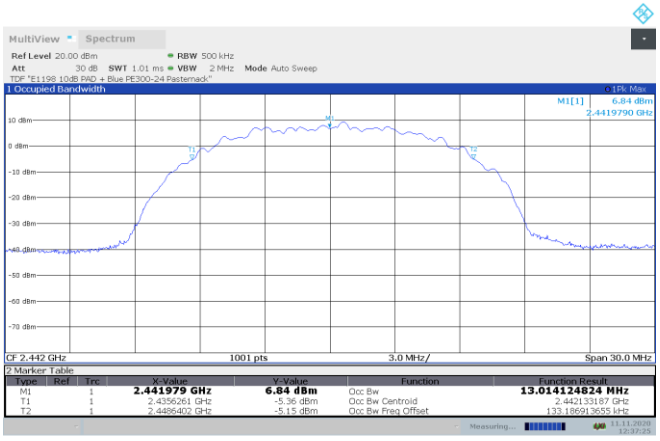


Figure 8.5-4: 99% bandwidth, 2442 MHz, 802.11b

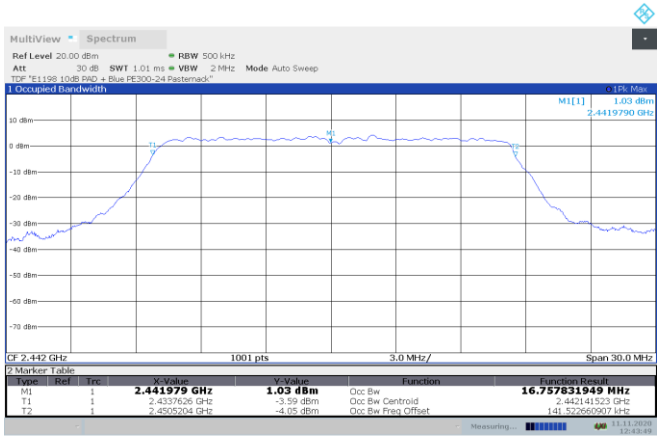


Figure 8.5-5: 99% bandwidth, 2442 MHz, 802.11g

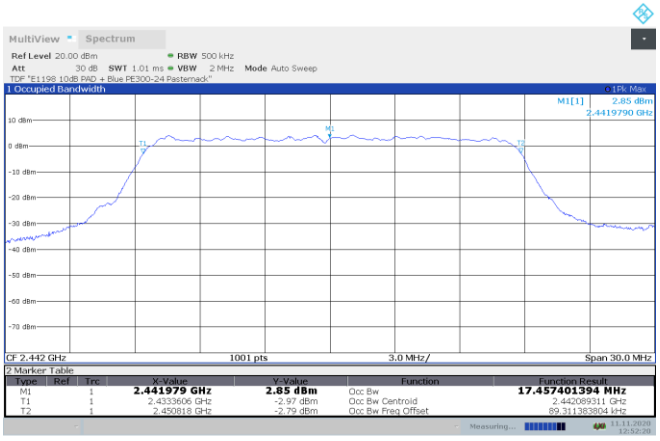


Figure 8.5-6: 99% bandwidth, 2442 MHz, 802.11n

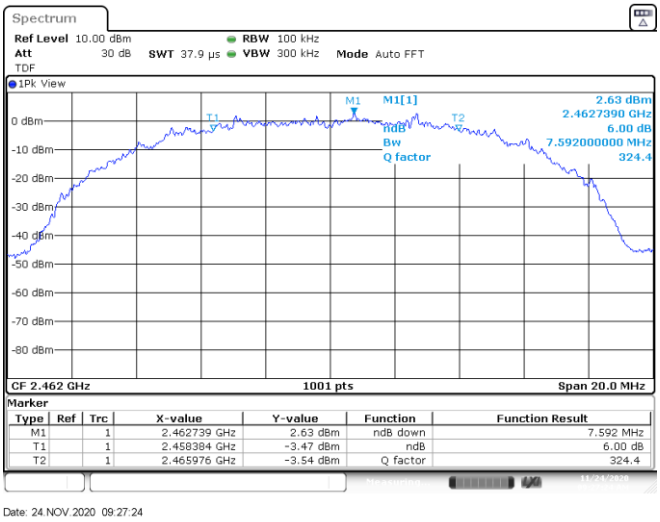


Figure 8.5-7: 99% bandwidth, 2462 MHz, 802.11b

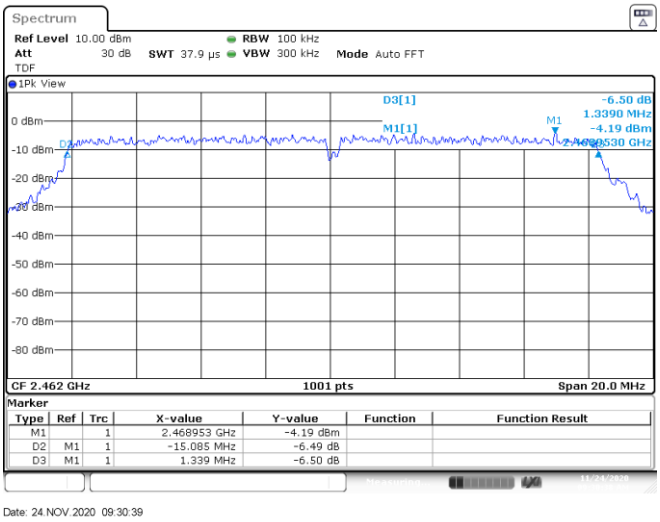


Figure 8.5-8: 99% bandwidth, 2462 MHz, 802.11g

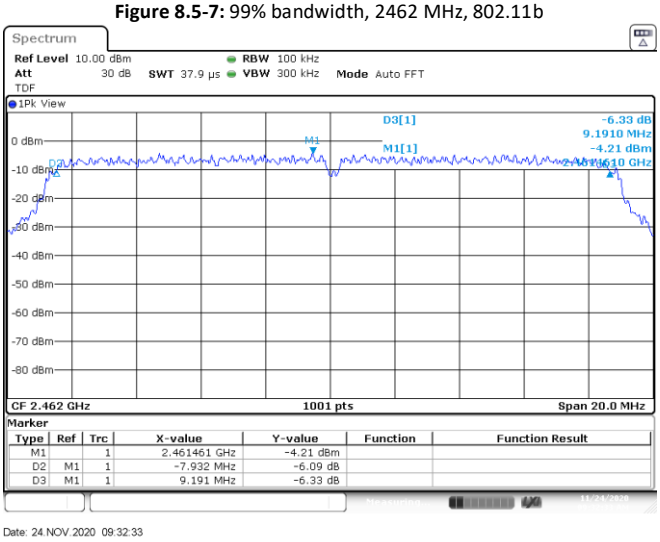


Figure 8.5-9: 99% bandwidth, 2462 MHz, 802.11n

Section 9 Block diagrams of test set-ups

9.1 Radiated emissions set-up

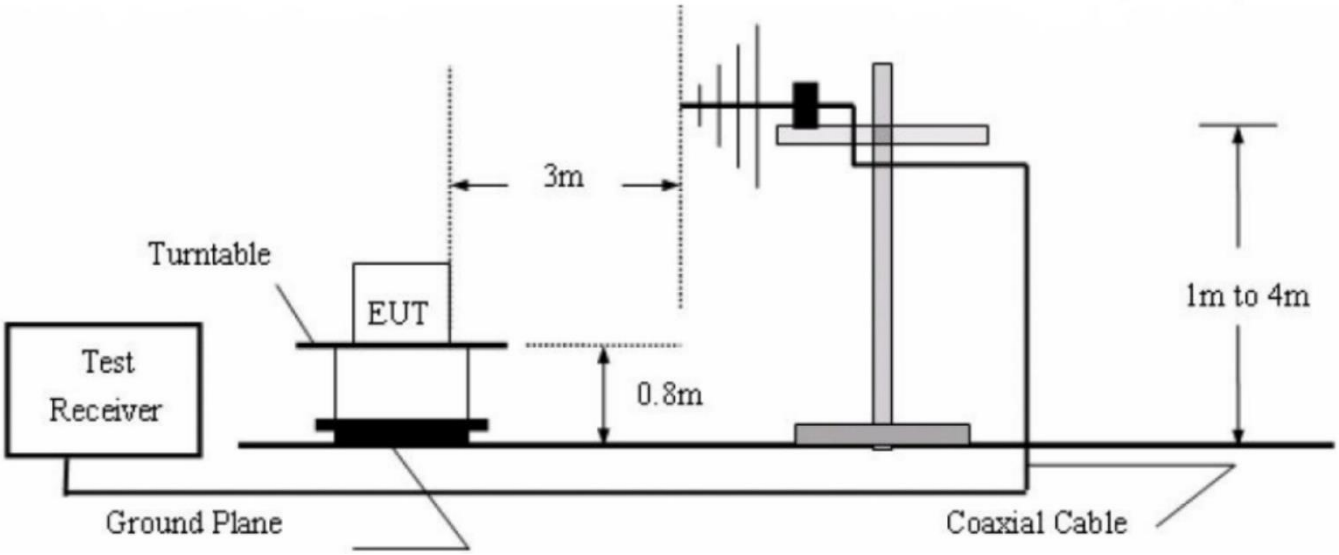


Figure 9.1-1: *30 MHz - 1000 MHz Setup*

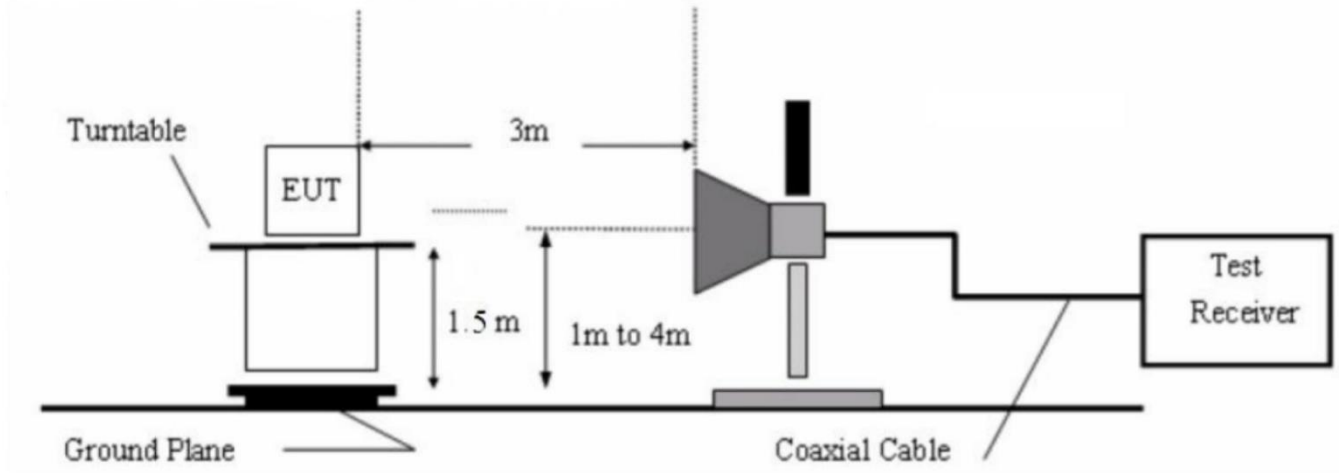


Figure 9.1-2: 1 GHz - 26 GHz Setup