

ANNEX A: Test Result

The radiated emission was measured in the following position: EUT stand-up position (vertical), lie-down position (horizontal). The worst emission was found in lie-down position (horizontal) and the loop antenna is coplanar, the others are vertical and horizontal. and the worst case was recorded.

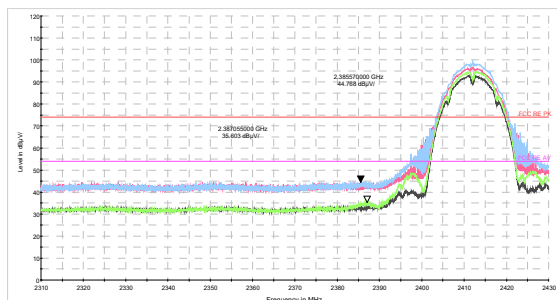
1. Unwanted Emission

1.1. Wi-Fi 2.4GHz

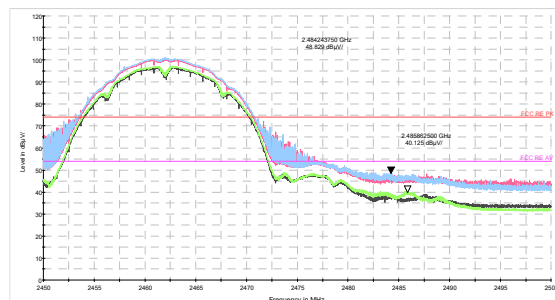
The following graphs display the maximum values of horizontal and vertical by software. Blue trace uses the peak detection, Green trace uses the average detection.

A symbol ($\text{dB}\mu\text{V}/\text{m}$) in the test plot below means ($\text{dB}\mu\text{V}/\text{m}$)

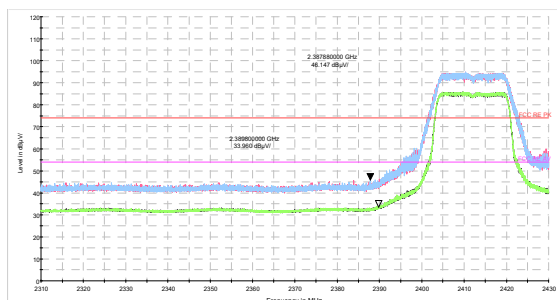
The signal beyond the limit is carrier.



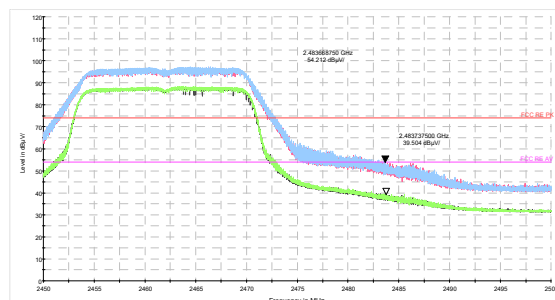
802.11b-Channel 1 Peak+ Average



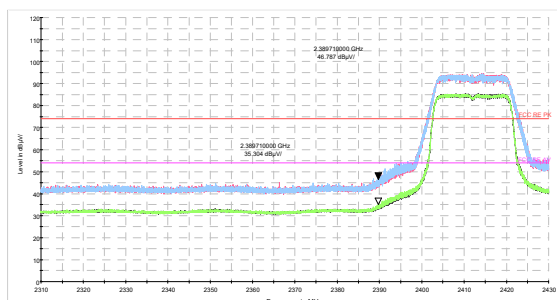
802.11b-Channel 11 Peak+ Average



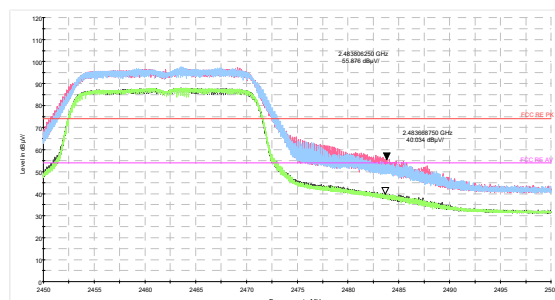
802.11g-Channel 1 Peak+ Average



802.11g-Channel 11 Peak+ Average



802.11n HT20-Channel 1 Peak+ Average



802.11n HT20-Channel 11 Peak+ Average

Result of RE

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier. The Radiates Emission from 9kHz to 30MHz and 18GHz to 26.5GHz are more than 20dB below the limit are not reported.

Remark:

1. **Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)**
2. **Margin = Limit – Quasi-Peak/ MAX Peak/ Average**
3. **A symbol ($\text{dB}\mu\text{V}/\text{m}$) in the test plot below means (dB $\mu\text{V}/\text{m}$)**
4. **The following graphs display the maximum values of coaxial and coplanar for 9k-30MHz; horizontal and vertical for above 30MHz by software.**
5. **For below 1GHz**

 QP Level @Spectrum Overview H
  QP Level @Spectrum Overview V
  QP Level @Final Results
  QP Limit

For above 1GHz

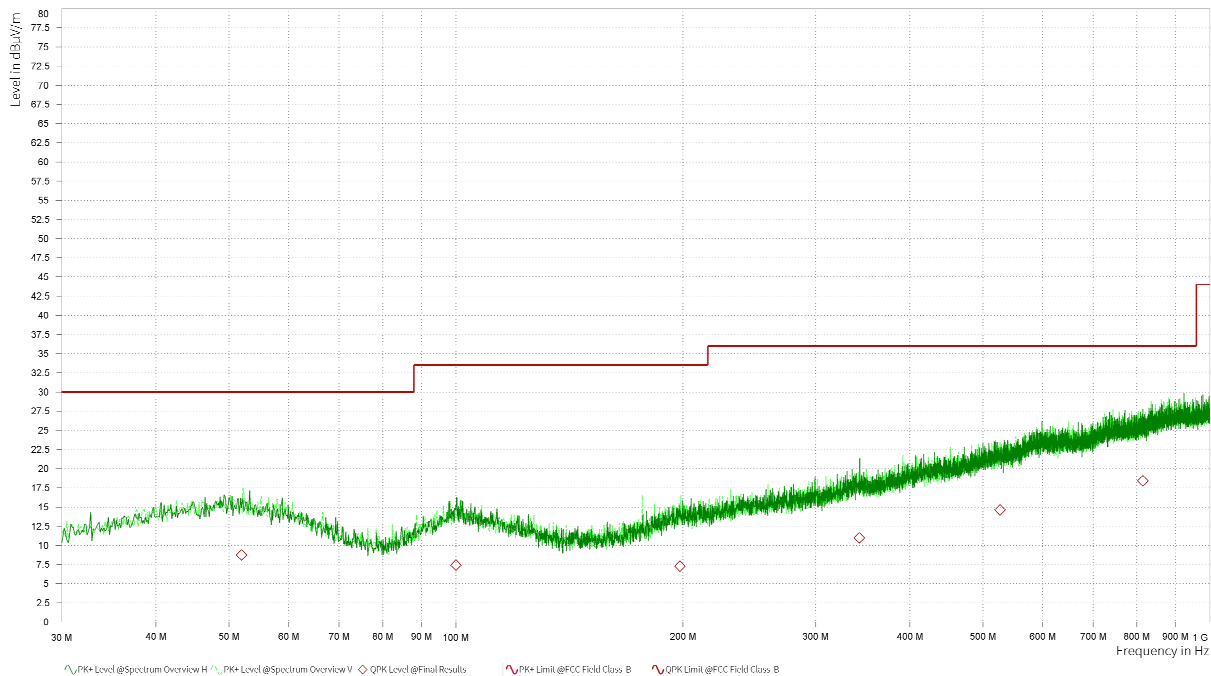
 PK Level @Spectrum Overview H
  PK Level @Spectrum Overview V
  PK Level @Final Results
  PK Limit

 AVG Level @Spectrum Overview H
  AVG Level @Spectrum Overview V
  AVG Level @Final Results
  AVG Limit

Continuous TX mode:

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels, the test data of the worst-case condition (**802.11b CH11**) was recorded in this report.

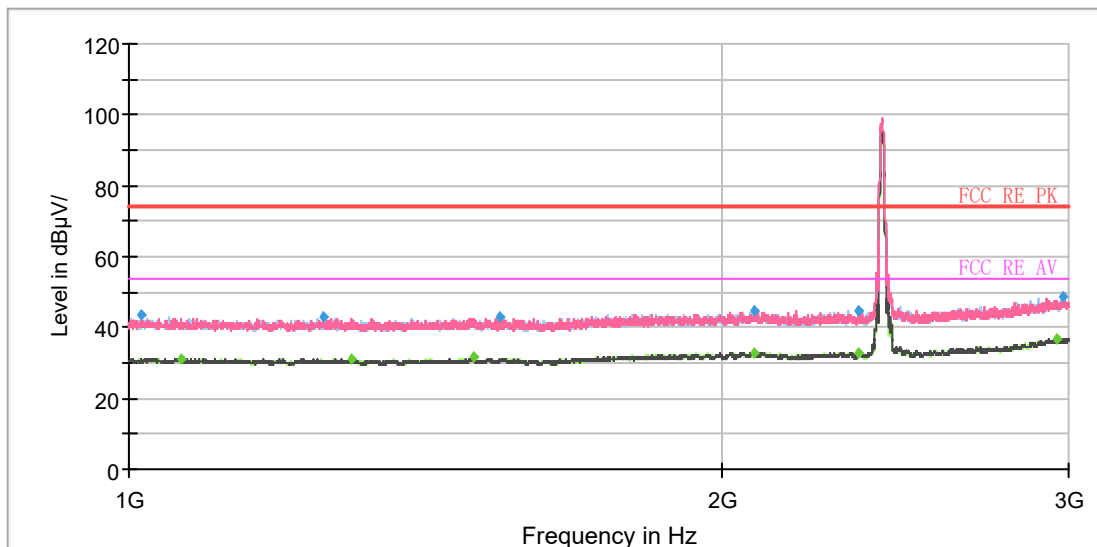
Spectrum Overview H/V



Radiates Emission from 30MHz to 1GHz

Frequency [MHz]	QPK Level [dBμV/m]	QPK Limit [dBμV/m]	QPK Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Meas. Time [s]
51.967	8.74	30.00	21.26	-8.24	V	321.9	1.98	120.000	1.000
99.985	7.42	33.50	26.08	-9.64	H	218	1.23	120.000	1.000
198.200	7.27	33.50	26.23	-9.89	V	282.4	1.00	120.000	1.000
342.868	10.94	36.00	25.06	-5.92	H	278	1.04	120.000	1.000
527.025	14.60	36.00	21.40	-2.65	V	241	2.07	120.000	1.000
815.020	18.40	36.00	17.60	0.71	H	162.2	2.23	120.000	1.000

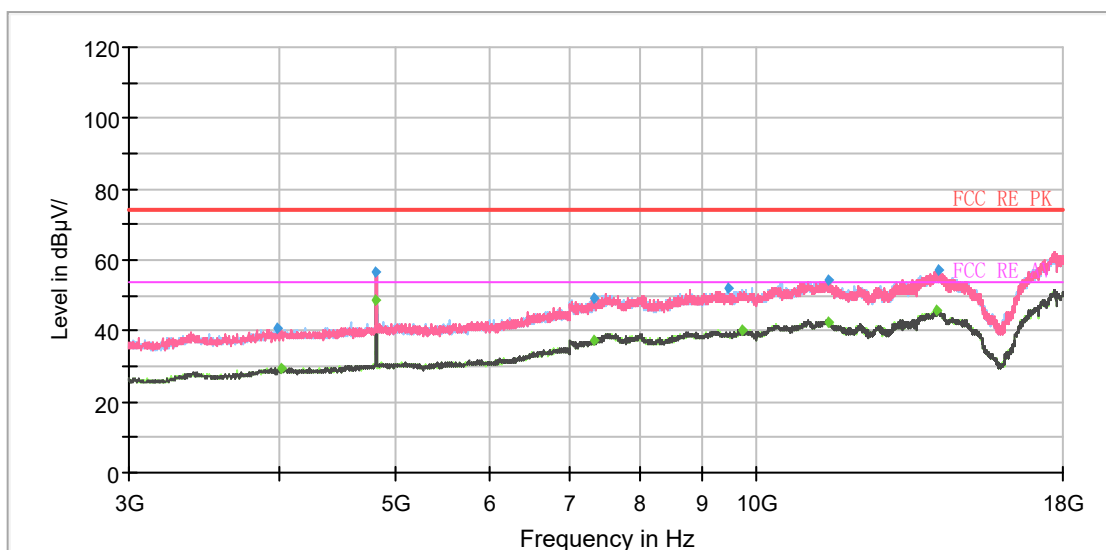
802.11b CH1



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

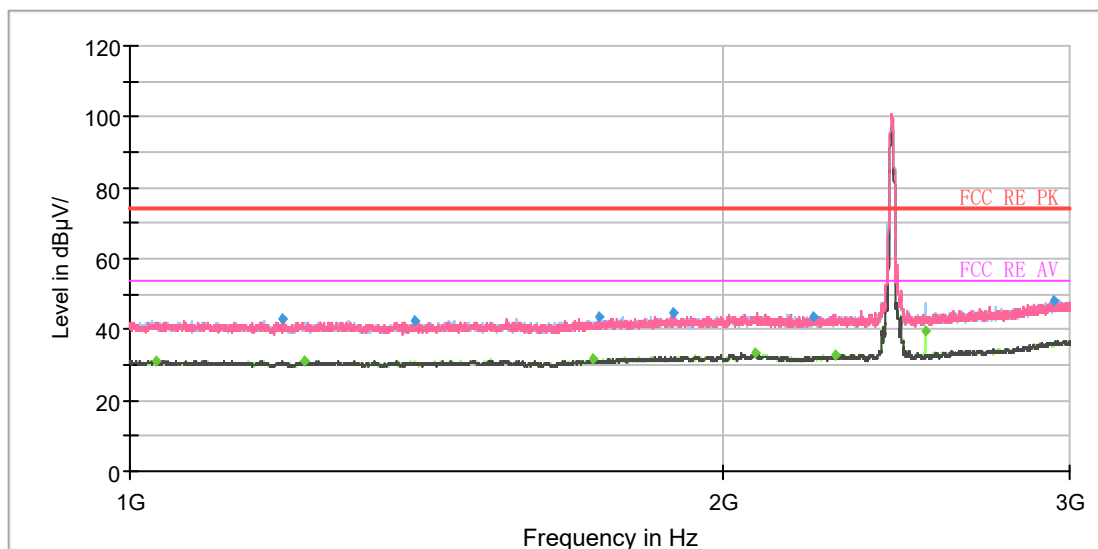
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1013.75	43.44	---	74.00	30.56	500.00	200.0	H	196.00	-6
1062.50	---	31.40	54.00	22.60	500.00	200.0	H	112.00	-6
1256.25	43.01	---	74.00	30.99	500.00	100.0	H	27.00	-5
1298.00	---	31.27	54.00	22.73	500.00	100.0	V	234.00	-5
1495.25	---	31.58	54.00	22.42	500.00	100.0	V	54.00	-5
1541.50	43.14	---	74.00	30.86	500.00	100.0	H	0.00	-5
2075.00	44.81	---	74.00	29.19	500.00	200.0	H	292.00	-4
2078.00	---	33.10	54.00	20.90	500.00	100.0	H	338.00	-4
2347.25	---	32.57	54.00	21.43	500.00	200.0	V	122.00	-2
2347.50	44.70	---	74.00	29.30	500.00	200.0	H	359.00	-2
2958.00	---	36.88	54.00	17.12	500.00	200.0	H	112.00	1
2982.00	48.56	---	74.00	25.44	500.00	200.0	H	89.00	1



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3991.88	40.69	---	74.00	33.31	500.00	100.0	V	23.00	-7
4023.75	---	29.48	54.00	24.52	500.00	200.0	H	237.00	-7
4822.50	---	48.73	54.00	5.27	500.00	200.0	V	179.00	-6
4822.50	56.78	---	74.00	17.22	500.00	200.0	V	179.00	-6
7310.63	49.18	---	74.00	24.82	500.00	100.0	H	0.00	1
7331.25	---	37.42	54.00	16.58	500.00	100.0	V	153.00	1
9453.75	51.87	---	74.00	22.13	500.00	100.0	H	291.00	3
9742.50	---	40.33	54.00	13.67	500.00	200.0	H	2.00	3
11480.63	---	42.68	54.00	11.32	500.00	200.0	V	0.00	7
11482.50	54.18	---	74.00	19.82	500.00	200.0	H	22.00	7
14150.63	---	45.60	54.00	8.40	500.00	200.0	H	130.00	9
14163.75	57.40	---	74.00	16.60	500.00	100.0	H	0.00	9

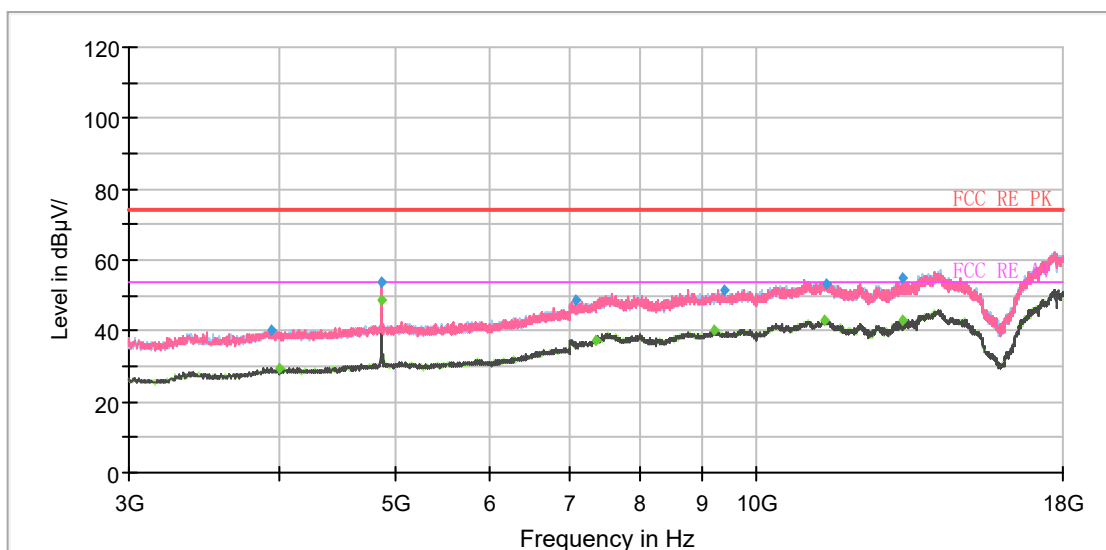
802.11b CH6



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

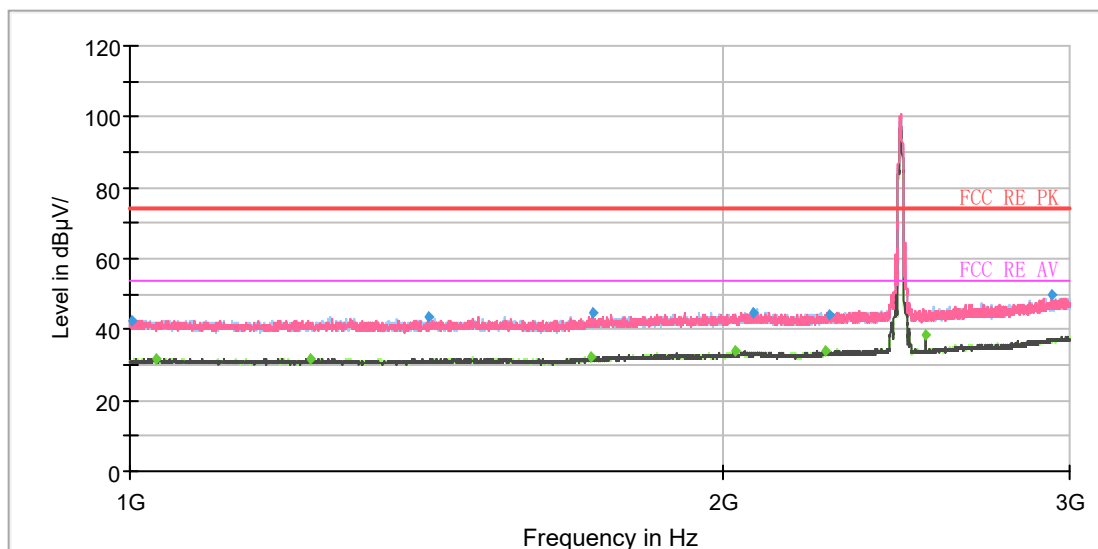
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1030.00	---	31.29	54.00	22.71	500.00	100.0	H	356.00	-6
1196.00	42.93	---	74.00	31.07	500.00	100.0	V	345.00	-6
1226.50	---	31.17	54.00	22.83	500.00	100.0	V	345.00	-5
1394.50	42.33	---	74.00	31.67	500.00	100.0	V	358.00	-5
1717.75	---	31.45	54.00	22.56	500.00	100.0	H	223.00	-5
1729.00	43.68	---	74.00	30.32	500.00	200.0	V	16.00	-5
1885.50	44.44	---	74.00	29.56	500.00	200.0	V	2.00	-5
2076.25	---	33.37	54.00	20.63	500.00	200.0	V	222.00	-4
2224.75	43.63	---	74.00	30.37	500.00	200.0	V	124.00	-3
2278.75	---	32.81	54.00	21.19	500.00	200.0	V	271.00	-3
2532.50	---	39.64	54.00	14.36	500.00	200.0	H	54.00	-1
2945.25	48.09	---	74.00	25.91	500.00	200.0	H	358.00	1



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3948.75	40.02	---	74.00	33.98	500.00	200.0	H	27.00	-7
3997.50	---	29.38	54.00	24.62	500.00	100.0	V	0.00	-7
4873.13	---	48.84	54.00	5.16	500.00	100.0	V	234.00	-6
4873.13	53.97	---	74.00	20.03	500.00	100.0	V	234.00	-6
7059.38	48.67	---	74.00	25.33	500.00	100.0	H	0.00	0
7335.00	---	37.40	54.00	16.60	500.00	200.0	V	159.00	1
9236.25	---	40.26	54.00	13.74	500.00	200.0	V	97.00	3
9384.38	51.55	---	74.00	22.45	500.00	100.0	V	0.00	3
11394.38	---	42.74	54.00	11.26	500.00	200.0	H	185.00	7
11446.88	53.33	---	74.00	20.67	500.00	200.0	H	131.00	7
13233.75	---	43.26	54.00	10.74	500.00	100.0	V	0.00	8
13258.13	54.93	---	74.00	19.07	500.00	200.0	V	159.00	8

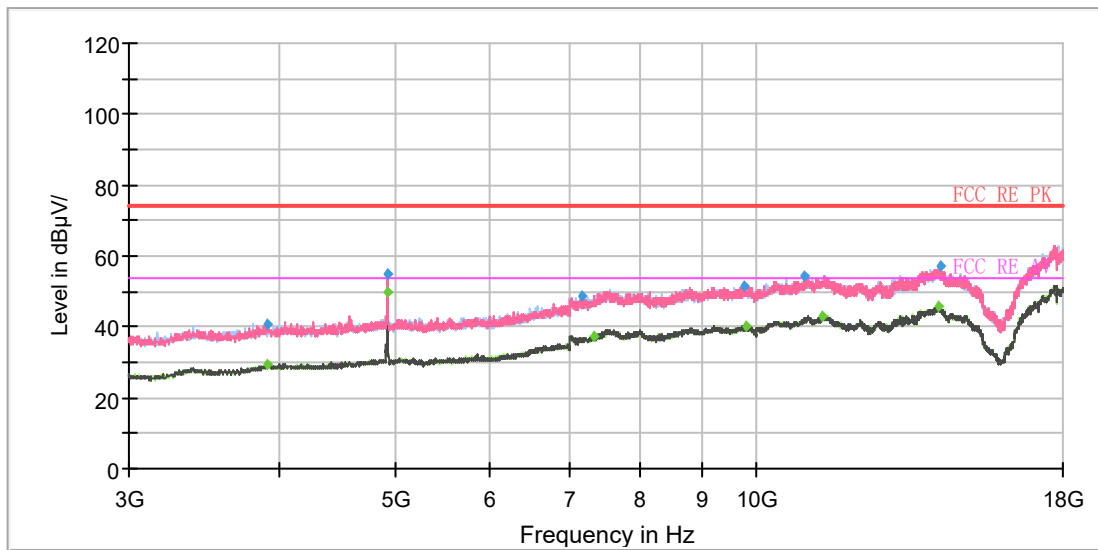
802.11b CH11



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

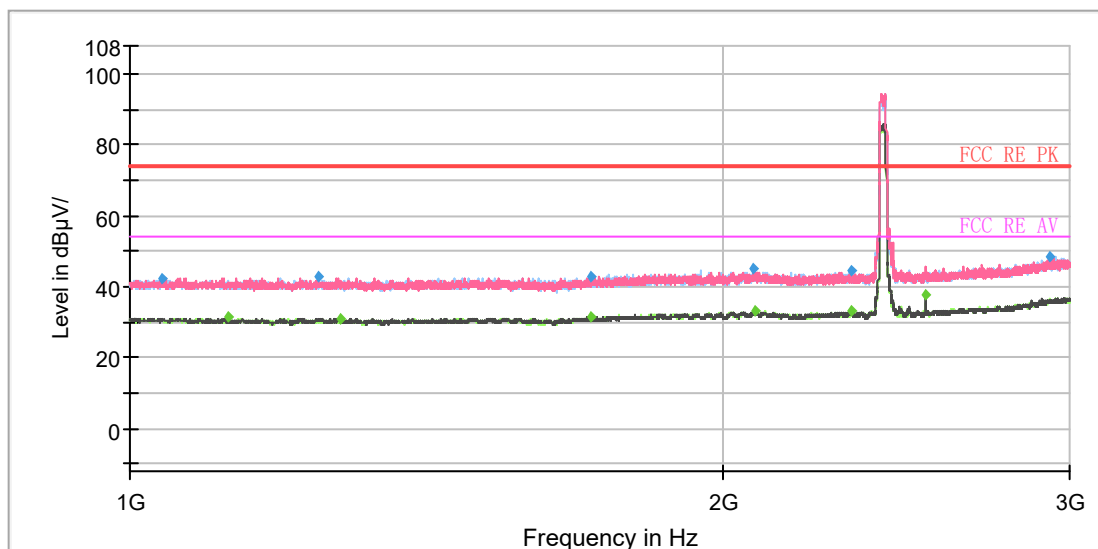
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1002.25	42.71	---	74.00	31.29	500.00	100.0	H	347.00	-5
1032.00	---	31.94	54.00	22.06	500.00	100.0	V	128.00	-6
1233.25	---	31.89	54.00	22.11	500.00	100.0	V	93.00	-5
1417.25	43.46	---	74.00	30.54	500.00	100.0	V	1.00	-5
1714.00	---	32.38	54.00	21.62	500.00	100.0	H	0.00	-5
1719.50	44.76	---	74.00	29.24	500.00	100.0	V	0.00	-5
2030.75	---	33.81	54.00	20.19	500.00	100.0	H	201.00	-4
2073.25	44.96	---	74.00	29.04	500.00	100.0	H	307.00	-4
2256.75	---	33.71	54.00	20.29	500.00	100.0	H	289.00	-3
2264.75	44.03	---	74.00	29.97	500.00	100.0	H	289.00	-3
2534.50	---	38.55	54.00	15.45	500.00	100.0	V	271.00	-1
2935.25	50.02	---	74.00	23.98	500.00	100.0	H	307.00	1



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3907.50	40.87	---	74.00	33.13	500.00	200.0	V	353.00	-7
3915.00	---	29.66	54.00	24.34	500.00	100.0	V	8.00	-7
4923.75	---	49.81	54.00	4.19	500.00	200.0	H	237.00	-6
4923.75	55.02	---	74.00	18.98	500.00	200.0	H	237.00	-6
7147.50	48.80	---	74.00	25.20	500.00	200.0	H	210.00	0
7310.63	---	37.44	54.00	16.56	500.00	200.0	V	153.00	1
9780.00	51.52	---	74.00	22.48	500.00	200.0	H	0.00	3
9806.25	---	40.22	54.00	13.78	500.00	100.0	H	311.00	3
10980.00	54.48	---	74.00	19.52	500.00	100.0	H	0.00	6
11334.38	---	42.80	54.00	11.20	500.00	200.0	V	180.00	7
14167.50	---	45.80	54.00	8.20	500.00	200.0	V	290.00	9
14210.63	57.36	---	74.00	16.64	500.00	100.0	V	73.00	9

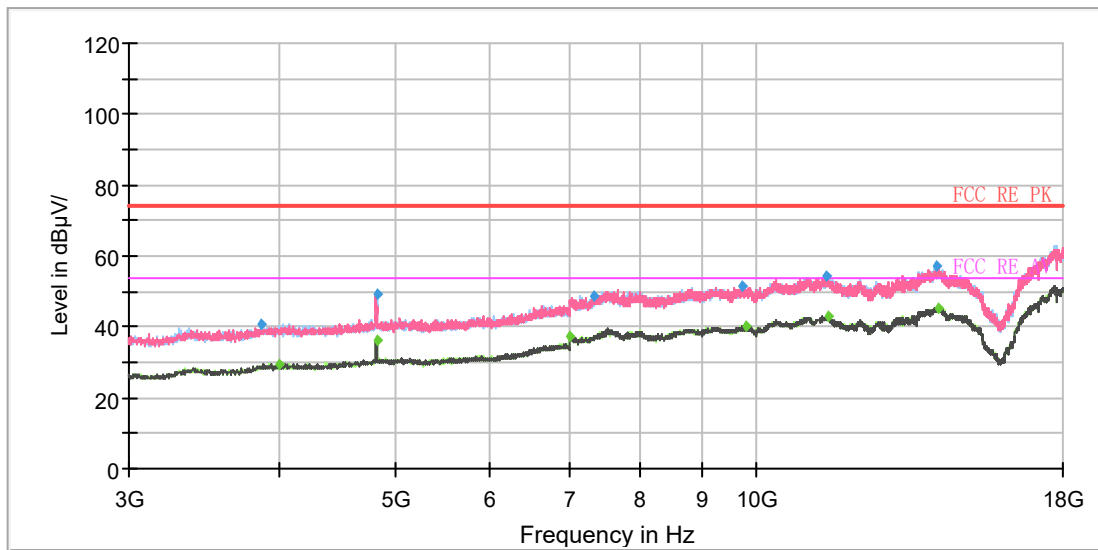
802.11g CH1



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

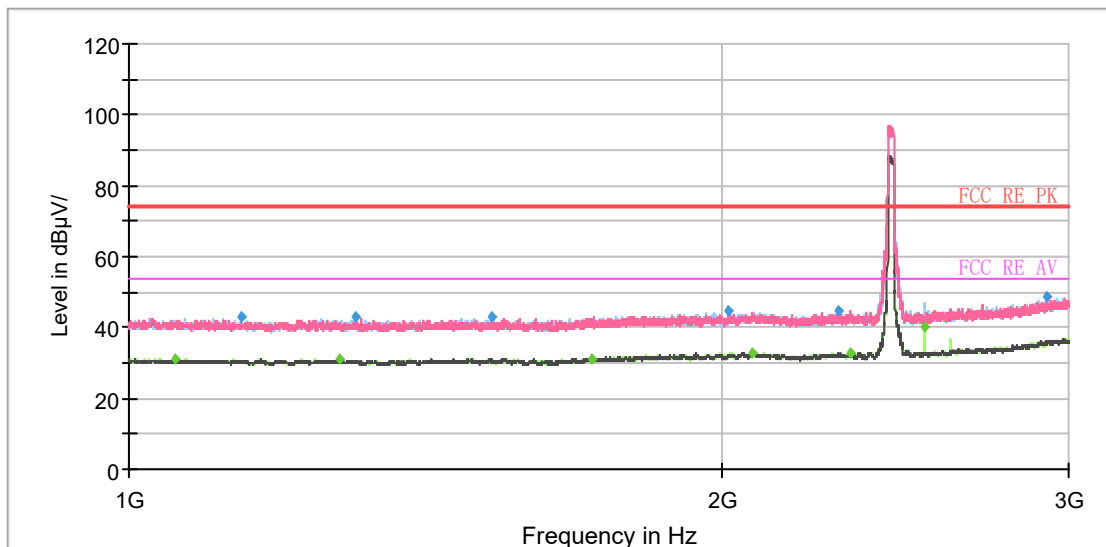
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1037.00	42.48	---	74.00	31.52	500.00	100.0	V	2.00	-6
1121.25	---	31.33	54.00	22.67	500.00	100.0	V	272.00	-6
1245.50	42.83	---	74.00	31.17	500.00	100.0	H	104.00	-5
1277.75	---	31.13	54.00	22.87	500.00	200.0	V	343.00	-5
1712.00	43.04	---	74.00	30.96	500.00	100.0	V	0.00	-5
1715.50	---	31.38	54.00	22.62	500.00	100.0	V	106.00	-5
2071.50	45.01	---	74.00	28.99	500.00	200.0	H	58.00	-4
2076.25	---	33.47	54.00	20.53	500.00	200.0	H	257.00	-4
2322.50	---	33.05	54.00	20.95	500.00	200.0	V	251.00	-2
2323.50	44.43	---	74.00	29.57	500.00	100.0	H	354.00	-2
2533.25	---	37.88	54.00	16.12	500.00	200.0	V	203.00	-1
2928.75	48.36	---	74.00	25.64	500.00	200.0	H	124.00	1



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3868.13	40.70	---	74.00	33.30	500.00	200.0	H	236.00	-7
3997.50	---	29.49	54.00	24.51	500.00	200.0	V	258.00	-7
4828.13	---	36.39	54.00	17.61	500.00	200.0	V	178.00	-6
4830.00	49.03	---	74.00	24.97	500.00	100.0	H	178.00	-6
7001.25	---	37.39	54.00	16.61	500.00	100.0	V	94.00	0
7306.88	48.69	---	74.00	25.31	500.00	100.0	V	67.00	1
9736.88	51.25	---	74.00	22.75	500.00	200.0	H	236.00	3
9810.00	---	40.36	54.00	13.64	500.00	200.0	H	9.00	3
11435.63	54.51	---	74.00	19.49	500.00	200.0	V	0.00	7
11463.75	---	42.95	54.00	11.05	500.00	100.0	H	258.00	7
14145.00	57.26	---	74.00	16.74	500.00	100.0	V	0.00	8
14163.75	---	45.56	54.00	8.44	500.00	200.0	H	101.00	9

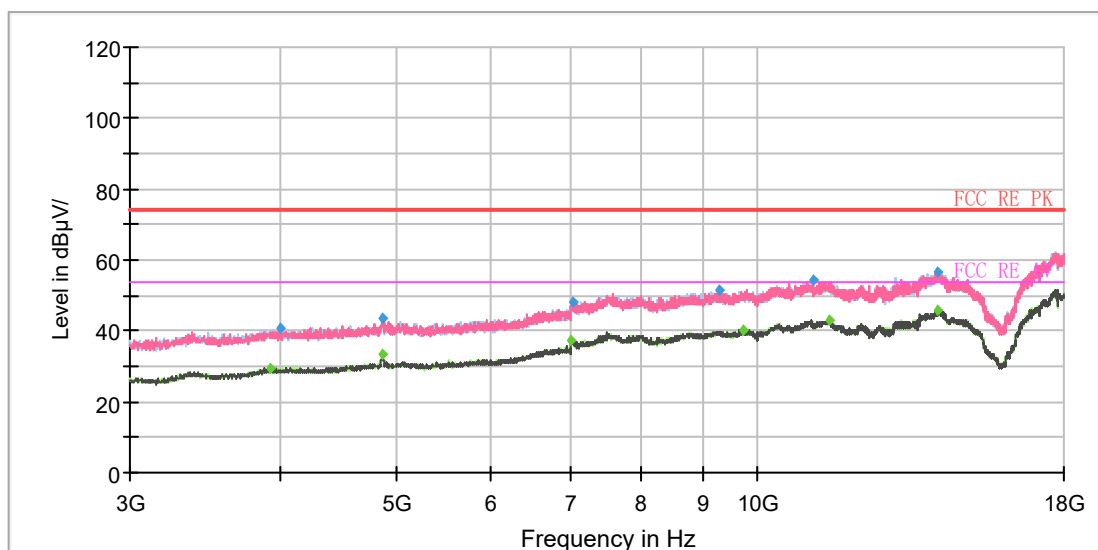
802.11g CH6



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

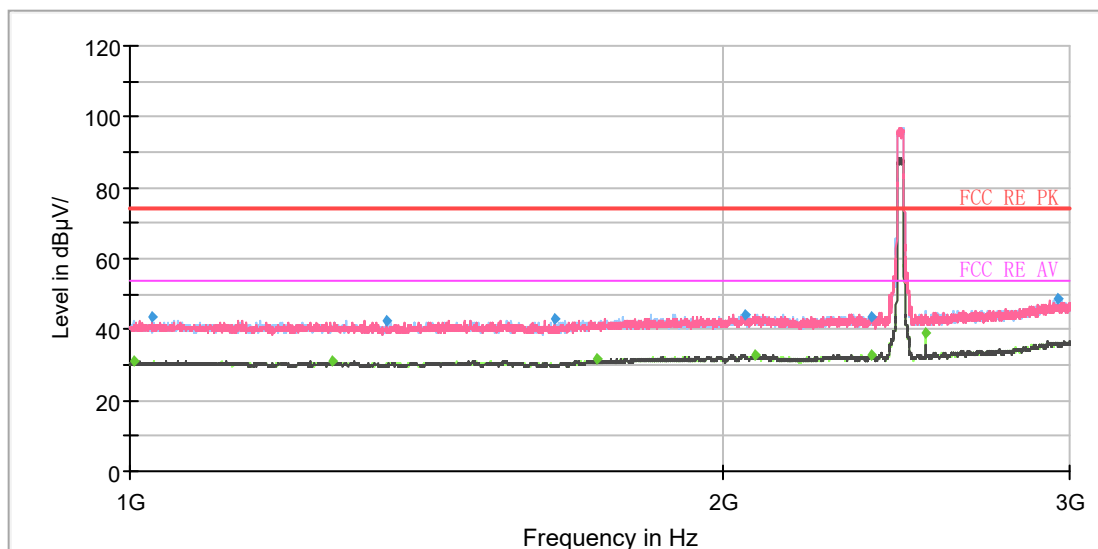
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1055.50	---	31.30	54.00	22.70	500.00	100.0	H	136.00	-6
1141.25	42.74	---	74.00	31.26	500.00	100.0	H	0.00	-6
1278.25	---	31.02	54.00	22.98	500.00	200.0	V	303.00	-5
1304.50	43.25	---	74.00	30.75	500.00	200.0	V	352.00	-5
1526.25	43.16	---	74.00	30.84	500.00	200.0	H	140.00	-5
1717.50	---	31.40	54.00	22.60	500.00	100.0	H	356.00	-5
2016.75	44.80	---	74.00	29.20	500.00	100.0	V	136.00	-4
2073.25	---	33.00	54.00	21.00	500.00	200.0	H	25.00	-4
2289.75	44.67	---	74.00	29.33	500.00	100.0	V	12.00	-2
2326.50	---	33.04	54.00	20.96	500.00	200.0	V	358.00	-2
2533.25	---	40.14	54.00	13.86	500.00	100.0	H	120.00	-1
2925.50	48.41	---	74.00	25.59	500.00	100.0	V	0.00	1



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3931.88	---	29.48	54.00	24.52	500.00	100.0	H	265.00	-7
3995.63	40.49	---	74.00	33.51	500.00	200.0	H	21.00	-7
4867.50	43.45	---	74.00	30.55	500.00	200.0	H	152.00	-6
4871.25	---	33.36	54.00	20.64	500.00	200.0	V	232.00	-6
7001.25	---	37.59	54.00	16.41	500.00	100.0	H	210.00	0
7025.63	48.25	---	74.00	25.75	500.00	100.0	H	292.00	0
9283.13	51.66	---	74.00	22.34	500.00	100.0	H	319.00	3
9748.13	---	40.24	54.00	13.76	500.00	200.0	V	182.00	3
11113.13	54.25	---	74.00	19.75	500.00	100.0	V	97.00	7
11478.75	---	42.90	54.00	11.10	500.00	200.0	H	0.00	7
14113.13	---	45.66	54.00	8.34	500.00	100.0	H	319.00	8
14141.25	56.61	---	74.00	17.39	500.00	200.0	V	316.00	8

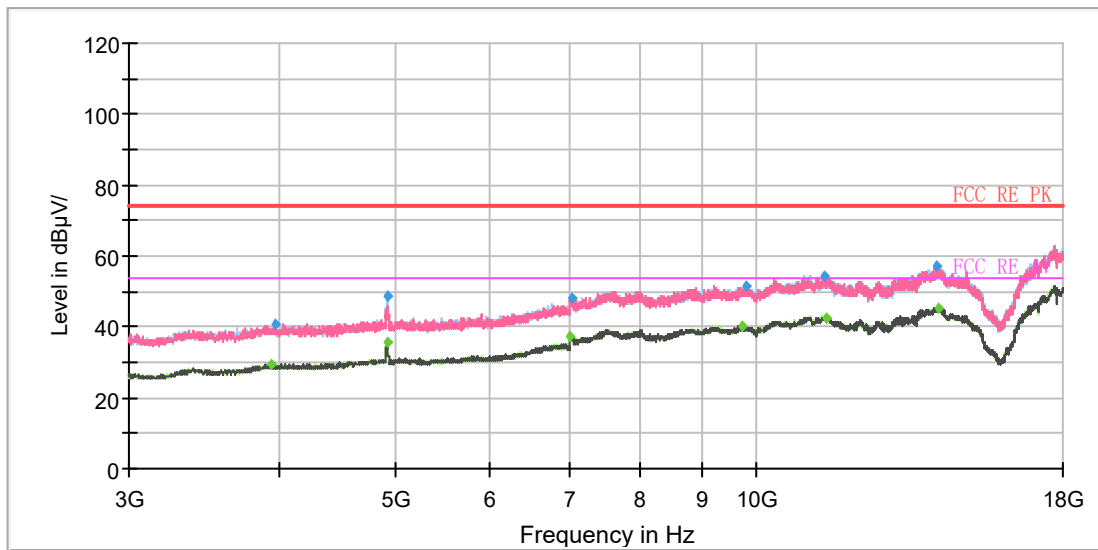
802.11g CH11



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

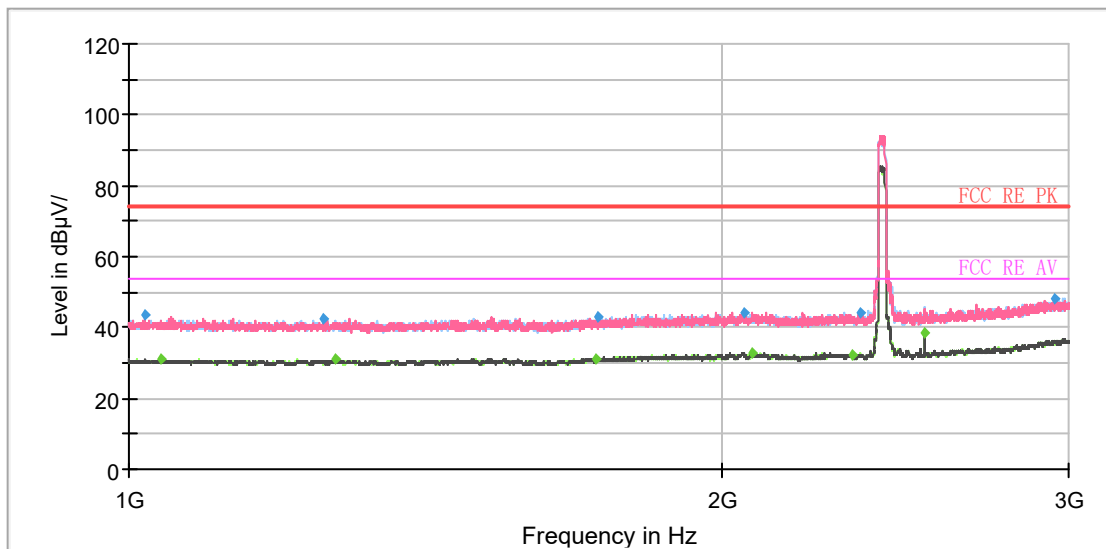
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1005.25	---	31.14	54.00	22.86	500.00	200.0	V	172.00	-6
1025.25	43.37	---	74.00	30.63	500.00	200.0	H	138.00	-6
1268.25	---	31.08	54.00	22.92	500.00	100.0	H	350.00	-5
1349.25	42.68	---	74.00	31.32	500.00	100.0	V	3.00	-5
1644.00	42.77	---	74.00	31.23	500.00	100.0	H	0.00	-6
1724.50	---	31.46	54.00	22.54	500.00	100.0	H	61.00	-5
2054.00	44.35	---	74.00	29.65	500.00	100.0	V	271.00	-4
2077.75	---	32.97	54.00	21.03	500.00	200.0	H	73.00	-4
2377.50	---	33.06	54.00	20.94	500.00	200.0	V	356.00	-2
2378.00	43.75	---	74.00	30.25	500.00	100.0	V	0.00	-2
2533.50	---	39.16	54.00	14.84	500.00	100.0	H	355.00	-1
2957.25	48.44	---	74.00	25.56	500.00	100.0	H	216.00	1



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3939.38	---	29.62	54.00	24.38	500.00	100.0	H	206.00	-7
3971.25	40.74	---	74.00	33.26	500.00	100.0	H	151.00	-7
4921.88	---	35.79	54.00	18.21	500.00	100.0	H	151.00	-6
4921.88	48.71	---	74.00	25.29	500.00	100.0	H	151.00	-6
7003.13	---	37.41	54.00	16.59	500.00	200.0	V	0.00	0
7018.13	48.22	---	74.00	25.78	500.00	200.0	H	7.00	0
9736.88	---	40.36	54.00	13.64	500.00	100.0	V	58.00	3
9811.88	51.62	---	74.00	22.38	500.00	100.0	H	352.00	3
11371.88	54.31	---	74.00	19.69	500.00	100.0	H	318.00	7
11443.13	---	42.65	54.00	11.35	500.00	200.0	V	338.00	7
14109.38	57.10	---	74.00	16.90	500.00	200.0	H	0.00	8
14206.88	---	45.26	54.00	8.74	500.00	100.0	H	41.00	9

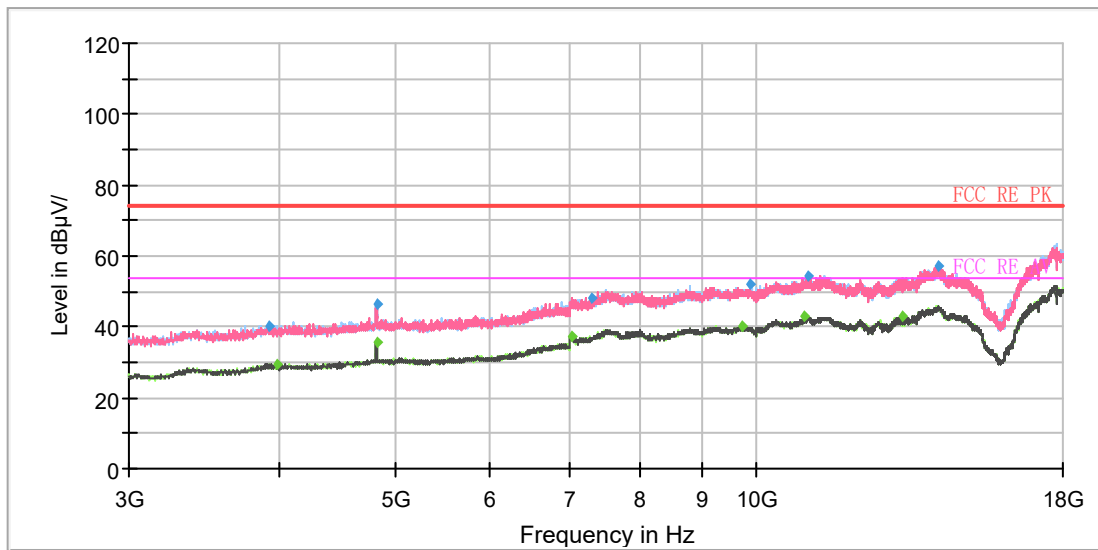
802.11n (HT20) CH1



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

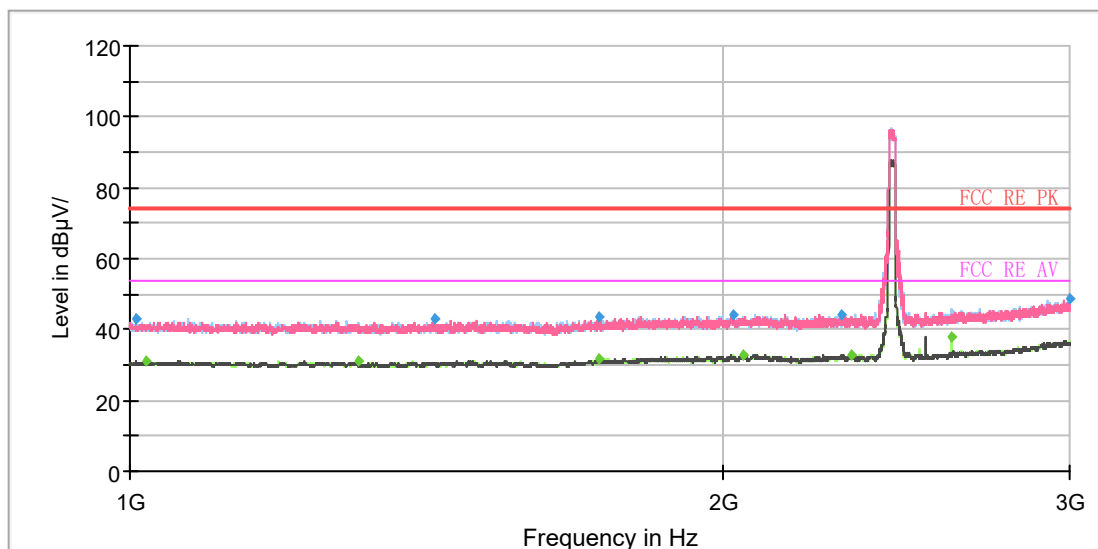
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1018.00	43.48	---	74.00	30.52	500.00	200.0	V	303.00	-6
1037.25	---	30.99	54.00	23.01	500.00	100.0	H	274.00	-6
1256.25	42.45	---	74.00	31.55	500.00	200.0	H	71.00	-5
1271.75	---	30.92	54.00	23.08	500.00	100.0	V	188.00	-5
1725.75	---	31.35	54.00	22.65	500.00	100.0	H	356.00	-5
1729.25	43.23	---	74.00	30.77	500.00	200.0	V	221.00	-5
2051.00	44.05	---	74.00	29.95	500.00	100.0	V	26.00	-4
2074.25	---	32.87	54.00	21.13	500.00	100.0	V	4.00	-4
2326.75	---	32.51	54.00	21.49	500.00	200.0	V	286.00	-2
2349.50	44.27	---	74.00	29.73	500.00	200.0	V	188.00	-2
2533.75	---	38.41	54.00	15.59	500.00	100.0	H	207.00	-1
2953.75	48.09	---	74.00	25.91	500.00	100.0	H	37.00	1



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3933.75	40.29	---	74.00	33.71	500.00	100.0	H	3.00	-7
3993.75	---	29.36	54.00	24.64	500.00	200.0	V	72.00	-7
4826.25	---	35.85	54.00	18.15	500.00	100.0	H	184.00	-6
4826.25	46.59	---	74.00	27.41	500.00	100.0	H	184.00	-6
7005.00	---	37.50	54.00	16.50	500.00	100.0	H	0.00	0
7290.00	48.16	---	74.00	25.84	500.00	100.0	V	0.00	1
9744.38	---	40.27	54.00	13.73	500.00	200.0	H	202.00	3
9883.13	52.12	---	74.00	21.88	500.00	100.0	H	9.00	3
10978.13	---	42.75	54.00	11.25	500.00	100.0	V	257.00	6
11034.38	54.28	---	74.00	19.72	500.00	100.0	V	313.00	7
13230.00	---	43.02	54.00	10.98	500.00	100.0	H	320.00	8
14169.38	57.19	---	74.00	16.81	500.00	100.0	V	230.00	9

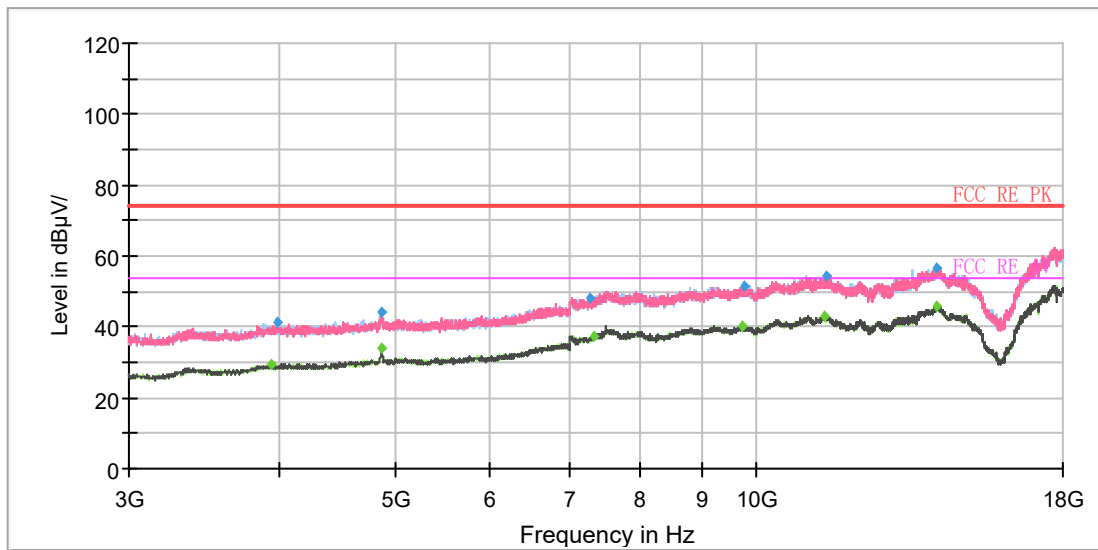
802.11n (HT20) CH6



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

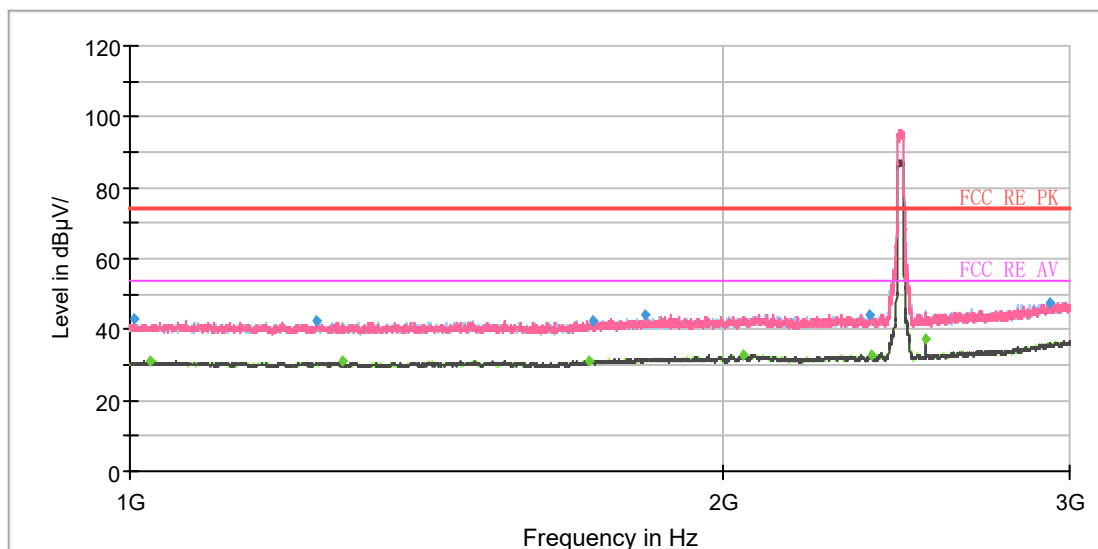
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1006.50	42.75	---	74.00	31.25	500.00	100.0	V	356.00	-6
1017.75	---	31.23	54.00	22.77	500.00	200.0	V	193.00	-6
1305.00	---	30.99	54.00	23.01	500.00	100.0	V	0.00	-5
1427.25	43.12	---	74.00	30.88	500.00	200.0	H	327.00	-5
1728.00	---	31.64	54.00	22.36	500.00	100.0	V	222.00	-5
1728.00	43.30	---	74.00	30.70	500.00	200.0	V	0.00	-5
2021.75	44.15	---	74.00	29.85	500.00	200.0	H	359.00	-4
2047.00	---	32.98	54.00	21.02	500.00	200.0	V	20.00	-4
2298.25	44.39	---	74.00	29.61	500.00	200.0	H	339.00	-2
2322.00	---	32.77	54.00	21.23	500.00	100.0	V	108.00	-2
2612.50	---	37.83	54.00	16.17	500.00	100.0	H	305.00	-1
2998.25	48.41	---	74.00	25.59	500.00	200.0	H	358.00	1



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3935.63	---	29.70	54.00	24.30	500.00	100.0	H	0.00	-7
3986.25	41.59	---	74.00	32.41	500.00	200.0	V	234.00	-7
4871.25	---	33.69	54.00	20.31	500.00	100.0	H	231.00	-6
4876.88	44.02	---	74.00	29.98	500.00	100.0	H	260.00	-6
7263.75	48.18	---	74.00	25.82	500.00	100.0	H	357.00	1
7333.13	---	37.50	54.00	16.50	500.00	200.0	H	127.00	1
9742.50	---	40.31	54.00	13.69	500.00	100.0	H	336.00	3
9766.88	51.75	---	74.00	22.25	500.00	100.0	V	49.00	3
11383.13	---	42.87	54.00	11.13	500.00	200.0	V	2.00	7
11422.50	54.12	---	74.00	19.88	500.00	100.0	V	25.00	7
14145.00	---	45.62	54.00	8.38	500.00	100.0	V	0.00	8
14150.63	56.63	---	74.00	17.37	500.00	200.0	H	0.00	9

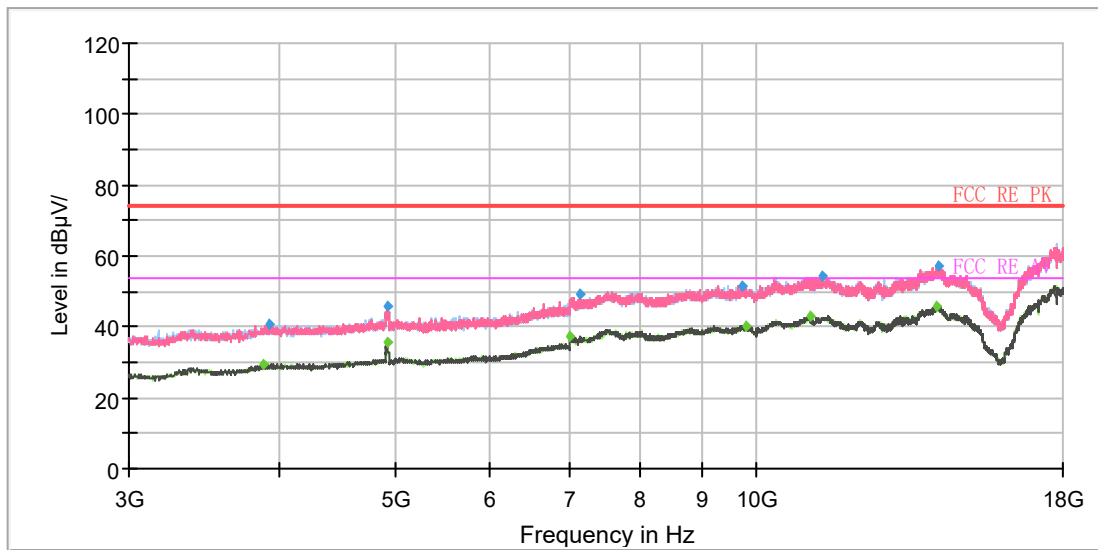
802.11n (HT20) CH11



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

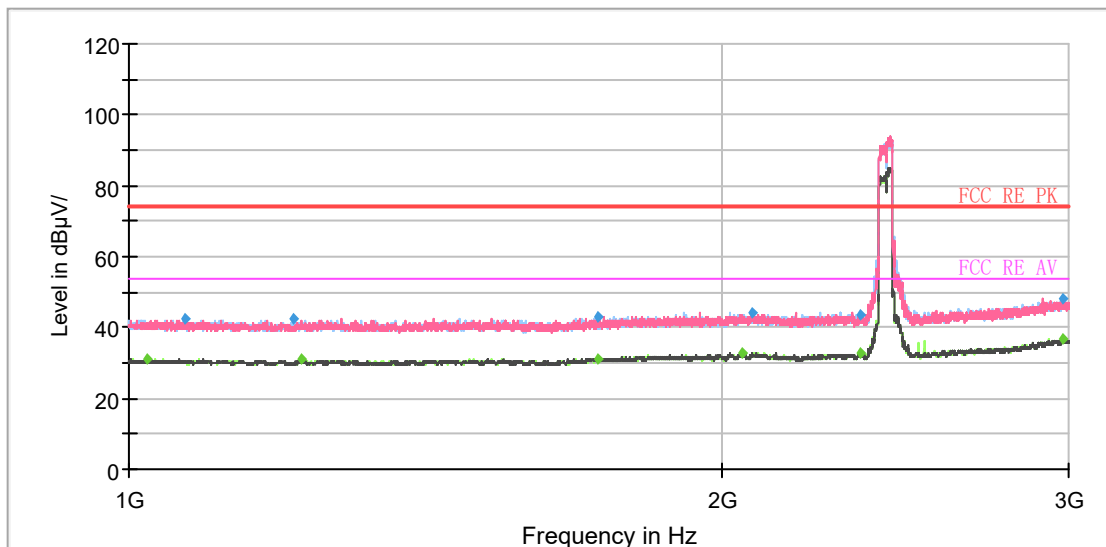
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1005.50	42.81	---	74.00	31.19	500.00	100.0	H	52.00	-6
1023.00	---	31.03	54.00	22.97	500.00	100.0	H	270.00	-6
1244.50	42.44	---	74.00	31.56	500.00	100.0	H	4.00	-5
1281.50	---	30.95	54.00	23.05	500.00	100.0	H	270.00	-5
1708.25	---	31.25	54.00	22.75	500.00	100.0	H	340.00	-5
1716.00	42.55	---	74.00	31.45	500.00	100.0	V	292.00	-5
1824.50	44.26	---	74.00	29.74	500.00	100.0	H	0.00	-5
2046.00	---	32.94	54.00	21.06	500.00	200.0	H	336.00	-4
2374.75	43.99	---	74.00	30.01	500.00	200.0	H	159.00	-2
2380.00	---	32.66	54.00	21.34	500.00	200.0	V	254.00	-2
2533.50	---	37.57	54.00	16.43	500.00	200.0	V	306.00	-1
2927.50	47.70	---	74.00	26.30	500.00	200.0	H	0.00	1



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3883.13	---	29.61	54.00	24.39	500.00	200.0	V	342.00	-7
3920.63	40.76	---	74.00	33.24	500.00	200.0	H	358.00	-7
4923.75	---	35.69	54.00	18.31	500.00	100.0	V	175.00	-6
4931.25	45.93	---	74.00	28.07	500.00	100.0	V	204.00	-6
7001.25	---	37.61	54.00	16.39	500.00	200.0	H	179.00	0
7125.00	49.05	---	74.00	24.95	500.00	100.0	V	96.00	0
9712.50	51.77	---	74.00	22.23	500.00	100.0	H	231.00	3
9796.88	---	40.19	54.00	13.81	500.00	100.0	H	0.00	3
11068.13	---	43.02	54.00	10.98	500.00	100.0	V	20.00	7
11347.50	54.17	---	74.00	19.83	500.00	200.0	H	6.00	7
14118.75	---	45.74	54.00	8.26	500.00	100.0	H	0.00	8
14165.63	57.04	---	74.00	16.96	500.00	200.0	V	206.00	9

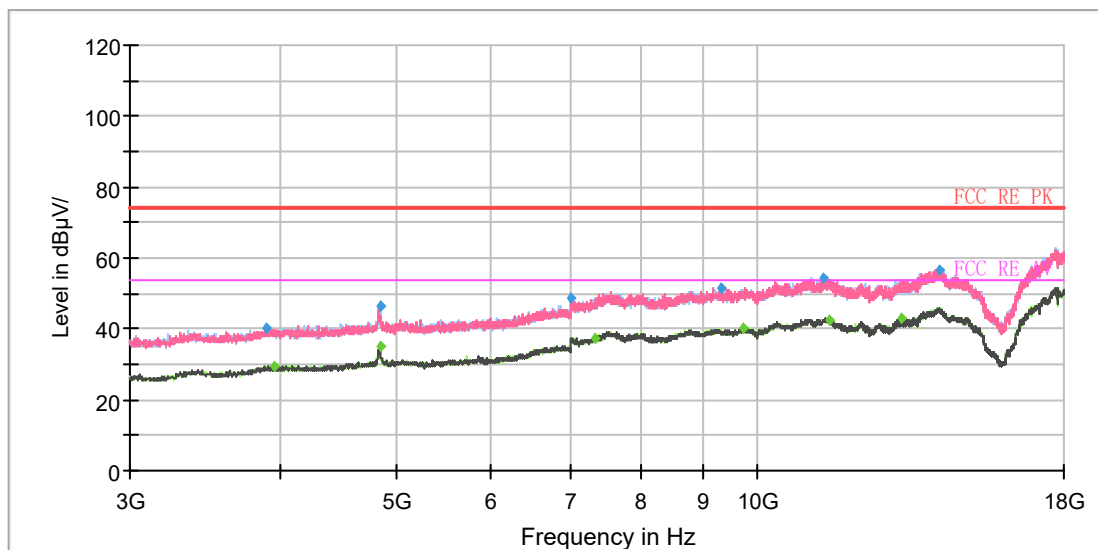
802.11n (HT40) CH3



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

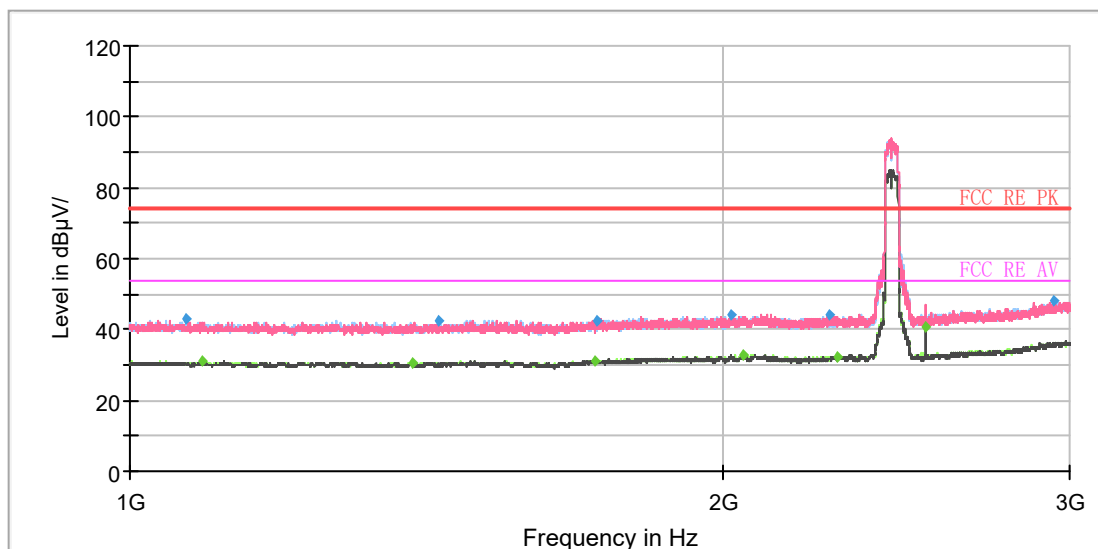
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1020.50	---	31.10	54.00	22.90	500.00	100.0	V	56.00	-6
1068.50	42.41	---	74.00	31.59	500.00	200.0	V	3.00	-6
1212.00	42.61	---	74.00	31.39	500.00	200.0	H	276.00	-5
1223.50	---	31.08	54.00	22.92	500.00	100.0	H	26.00	-5
1729.25	---	31.29	54.00	22.71	500.00	100.0	V	238.00	-5
1730.50	43.19	---	74.00	30.81	500.00	100.0	H	0.00	-5
2048.25	---	33.11	54.00	20.89	500.00	100.0	H	2.00	-4
2073.50	44.21	---	74.00	29.79	500.00	100.0	H	4.00	-4
2351.00	43.52	---	74.00	30.48	500.00	200.0	H	325.00	-2
2352.00	---	32.64	54.00	21.36	500.00	100.0	H	236.00	-2
2979.75	---	36.55	54.00	17.45	500.00	100.0	H	269.00	1
2980.75	48.33	---	74.00	25.67	500.00	100.0	V	322.00	1



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3900.00	40.39	---	74.00	33.61	500.00	200.0	H	124.00	-7
3961.88	---	29.61	54.00	24.39	500.00	100.0	V	0.00	-7
4843.13	---	35.07	54.00	18.93	500.00	100.0	H	156.00	-6
4845.00	46.68	---	74.00	27.32	500.00	100.0	H	185.00	-6
7001.25	48.81	---	74.00	25.19	500.00	200.0	V	207.00	0
7327.50	---	37.40	54.00	16.60	500.00	200.0	V	8.00	1
9311.25	51.45	---	74.00	22.55	500.00	200.0	V	22.00	3
9736.88	---	40.32	54.00	13.68	500.00	100.0	V	333.00	3
11343.75	54.32	---	74.00	19.68	500.00	100.0	H	3.00	7
11467.50	---	42.69	54.00	11.31	500.00	100.0	H	49.00	7
13173.75	---	42.95	54.00	11.05	500.00	100.0	H	0.00	8
14197.50	56.65	---	74.00	17.35	500.00	200.0	H	0.00	9

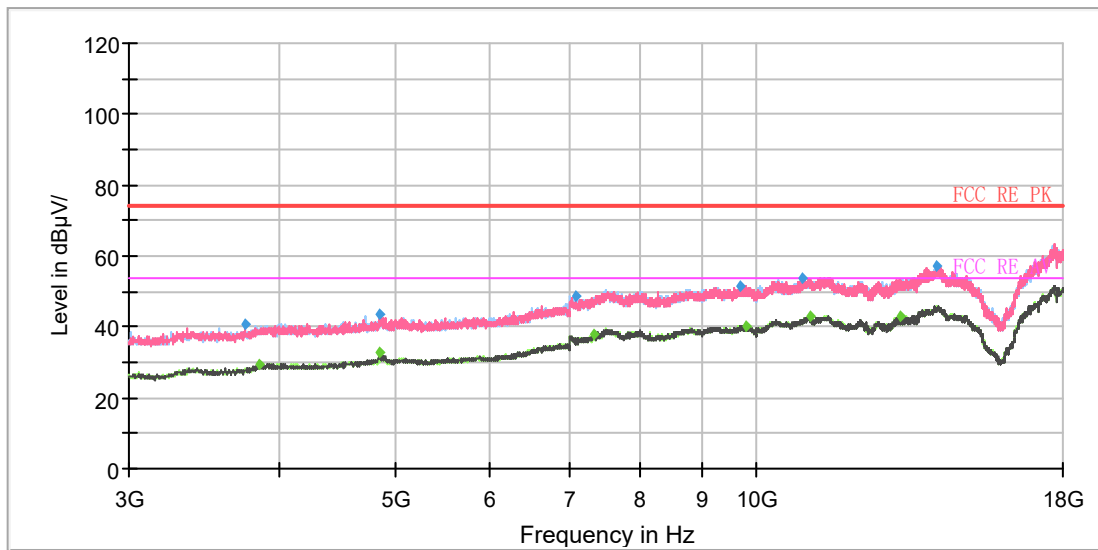
802.11n (HT40) CH6



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

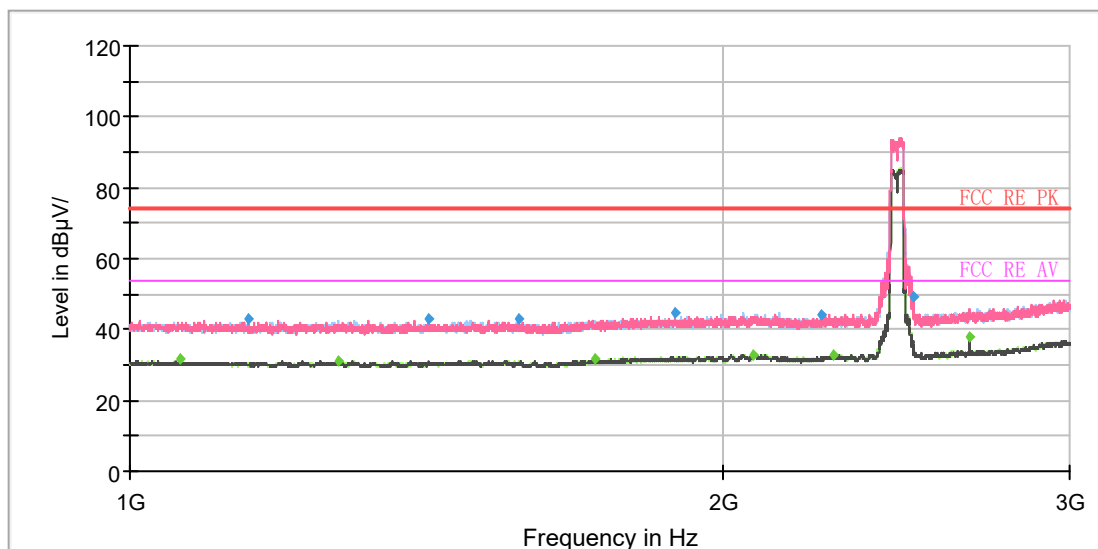
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1069.00	42.80	---	74.00	31.20	500.00	200.0	H	359.00	-6
1087.00	---	31.37	54.00	22.63	500.00	200.0	V	154.00	-6
1390.75	---	30.82	54.00	23.18	500.00	100.0	H	44.00	-5
1435.25	42.37	---	74.00	31.63	500.00	100.0	V	0.00	-5
1723.50	---	31.28	54.00	22.72	500.00	100.0	H	194.00	-5
1726.75	42.66	---	74.00	31.34	500.00	200.0	H	348.00	-5
2018.50	44.15	---	74.00	29.85	500.00	100.0	H	0.00	-4
2050.00	---	32.87	54.00	21.13	500.00	200.0	V	4.00	-4
2265.75	43.90	---	74.00	30.10	500.00	200.0	V	4.00	-3
2284.50	---	32.20	54.00	21.80	500.00	200.0	V	2.00	-2
2533.25	---	41.01	54.00	12.99	500.00	100.0	V	2.00	-1
2945.25	47.95	---	74.00	26.05	500.00	200.0	V	321.00	1



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3750.00	40.88	---	74.00	33.12	500.00	100.0	V	41.00	-8
3858.75	---	29.49	54.00	24.51	500.00	200.0	H	0.00	-7
4850.63	---	32.58	54.00	21.42	500.00	100.0	V	177.00	-6
4860.00	43.44	---	74.00	30.56	500.00	200.0	V	158.00	-6
7063.13	48.78	---	74.00	25.22	500.00	100.0	H	7.00	0
7333.13	---	37.89	54.00	16.11	500.00	100.0	V	68.00	1
9688.13	51.52	---	74.00	22.48	500.00	100.0	V	0.00	3
9806.25	---	40.23	54.00	13.77	500.00	100.0	H	148.00	3
10936.88	53.89	---	74.00	20.11	500.00	100.0	H	7.00	6
11071.88	---	42.83	54.00	11.17	500.00	100.0	H	0.00	7
13173.75	---	43.13	54.00	10.87	500.00	100.0	H	122.00	8
14120.63	57.12	---	74.00	16.88	500.00	200.0	V	103.00	8

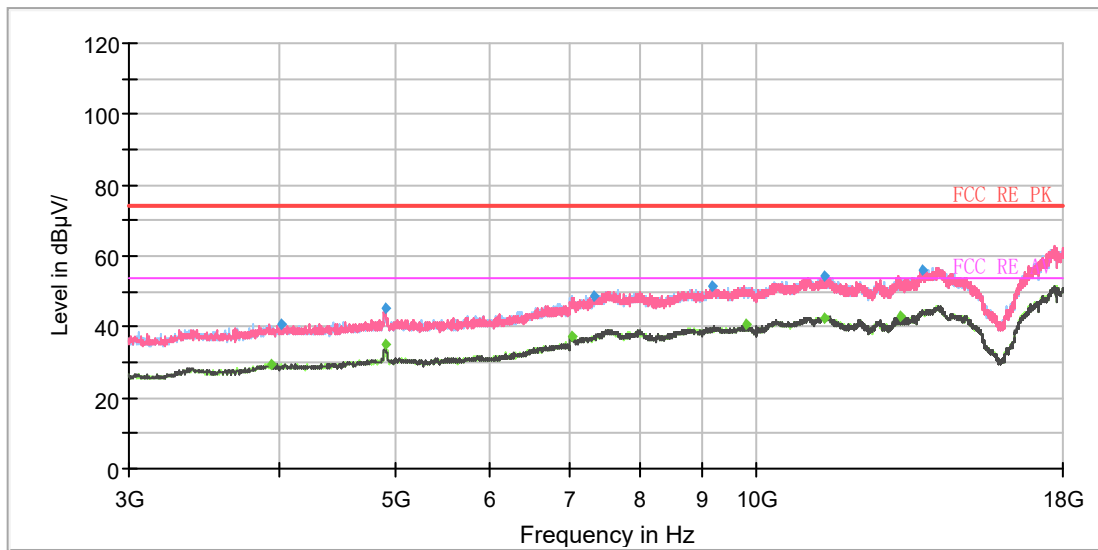
802.11n (HT40) CH9



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1060.75	---	31.51	54.00	22.49	500.00	200.0	H	138.00	-6
1148.50	42.77	---	74.00	31.23	500.00	200.0	V	1.00	-6
1277.00	---	31.14	54.00	22.86	500.00	200.0	H	352.00	-5
1416.50	42.77	---	74.00	31.23	500.00	200.0	V	0.00	-5
1573.50	42.89	---	74.00	31.11	500.00	100.0	H	137.00	-5
1721.00	---	31.42	54.00	22.58	500.00	100.0	H	170.00	-5
1890.75	44.79	---	74.00	29.21	500.00	100.0	H	0.00	-5
2072.75	---	32.90	54.00	21.10	500.00	200.0	V	138.00	-4
2241.75	43.90	---	74.00	30.10	500.00	200.0	V	13.00	-3
2273.25	---	32.61	54.00	21.39	500.00	100.0	V	288.00	-3
2498.25	49.43	---	74.00	24.57	500.00	200.0	H	206.00	-1
2670.50	---	38.19	54.00	15.81	500.00	100.0	V	0.00	0



Radiates Emission from 3GHz to 18GHz

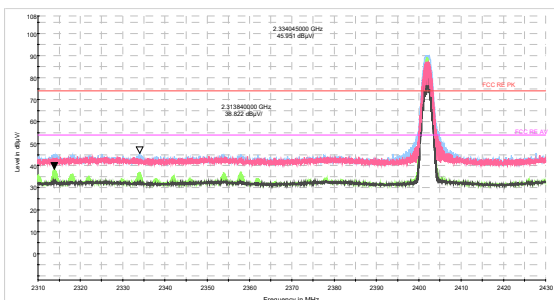
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3937.50	---	29.56	54.00	24.44	500.00	200.0	H	0.00	-7
4018.13	40.95	---	74.00	33.05	500.00	200.0	H	178.00	-7
4905.00	45.31	---	74.00	28.69	500.00	200.0	V	181.00	-6
4906.88	---	34.86	54.00	19.14	500.00	200.0	V	181.00	-6
7029.38	---	37.61	54.00	16.39	500.00	100.0	H	2.00	0
7333.13	48.89	---	74.00	25.11	500.00	100.0	H	0.00	1
9198.75	51.75	---	74.00	22.25	500.00	100.0	H	211.00	3
9810.00	---	40.47	54.00	13.53	500.00	100.0	H	129.00	3
11373.75	---	42.64	54.00	11.36	500.00	100.0	H	129.00	7
11388.75	54.47	---	74.00	19.53	500.00	200.0	H	150.00	7
13171.88	---	43.16	54.00	10.84	500.00	100.0	H	22.00	8
13756.88	56.26	---	74.00	17.74	500.00	200.0	V	0.00	8

1.2. Bluetooth LE

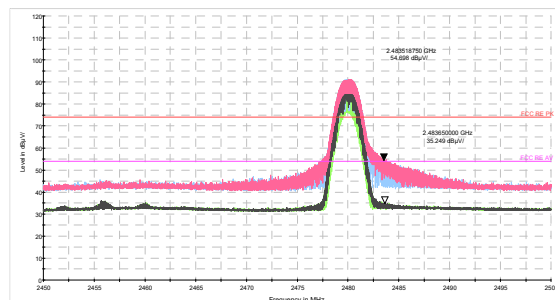
The following graphs display the maximum values of horizontal and vertical by software. Blue trace uses the peak detection, Green trace uses the average detection.

A symbol ($\text{dB}\mu\text{V}/\text{m}$) in the test plot below means ($\text{dB}\mu\text{V}/\text{m}$)

After the pretest, Bluetooth LE (1M) was selected as the worst Mode for Bluetooth LE.



Bluetooth LE (1M) Channel 0 Peak+ Average



Bluetooth LE (1M) Channel 39 Peak+Average

Result of RE

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier. The Radiates Emission from 9kHz to 30MHz and 18GHz to 26.5GHz are more than 20dB below the limit are not reported.

Remark:

1. **Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)**
2. **Margin = Limit – Quasi-Peak/ MAX Peak/ Average**
3. **A symbol ($\text{dB}\mu\text{V/}$) in the test plot below means ($\text{dB}\mu\text{V/m}$)**
4. **The following graphs display the maximum values of coaxial and coplanar for 9k-30MHz; horizontal and vertical for above 30MHz by software.**
5. **For below 1GHz**

 QP Level @Spectrum Overview H
  QP Level @Spectrum Overview V
  QP Level @Final Results
  QP Limit

For above 1GHz

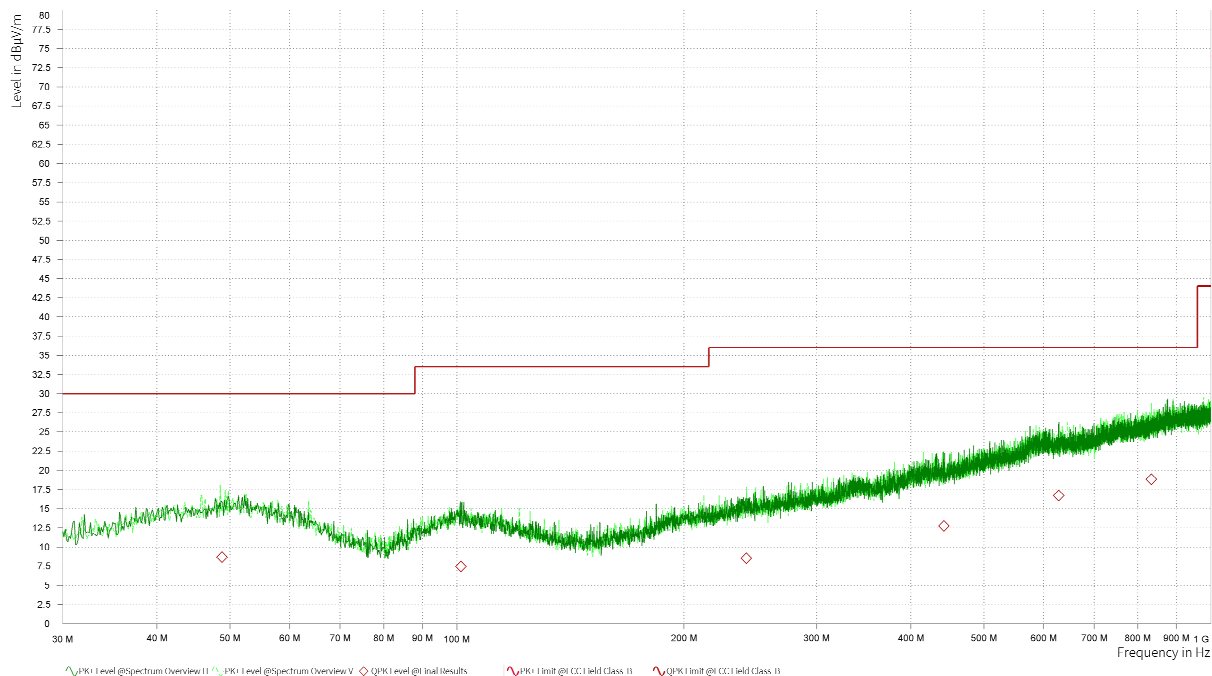
 PK Level @Spectrum Overview H
  PK Level @Spectrum Overview V
  PK Level @Final Results
  PK Limit

 AVG Level @Spectrum Overview H
  AVG Level @Spectrum Overview V
  AVG Level @Final Results
  AVG Limit

Continuous TX mode:

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels. The test data of the worst-case condition (**Bluetooth LE-Channel 0**) was recorded in this report.

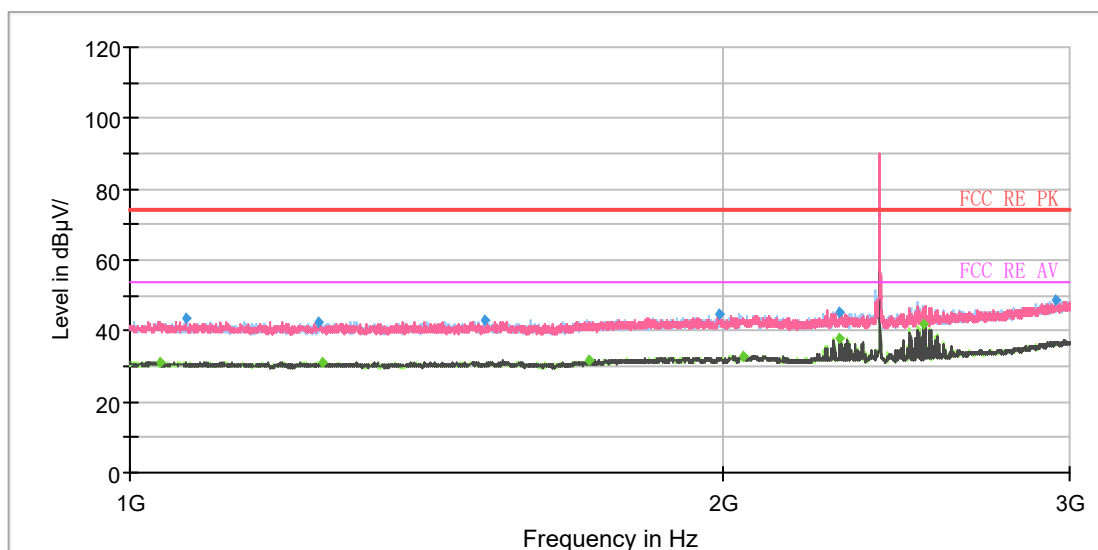
Spectrum Overview H/V



Radiates Emission from 30MHz to 1GHz

Frequency [MHz]	QPK Level [dBμV/m]	QPK Limit [dBμV/m]	QPK Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Meas. Time [s]
48.811	8.67	30.00	21.33	-8.10	V	327.6	2.04	120.000	1.000
101.235	7.43	33.50	26.07	-9.76	H	51.4	1.20	120.000	1.000
242.062	8.51	36.00	27.49	-8.56	V	53.7	1.13	120.000	1.000
442.572	12.71	36.00	23.29	-4.34	H	140.9	1.92	120.000	1.000
628.229	16.69	36.00	19.31	-0.95	H	141.9	2.04	120.000	1.000
833.966	18.81	36.00	17.19	0.88	V	205.4	1.25	120.000	1.000

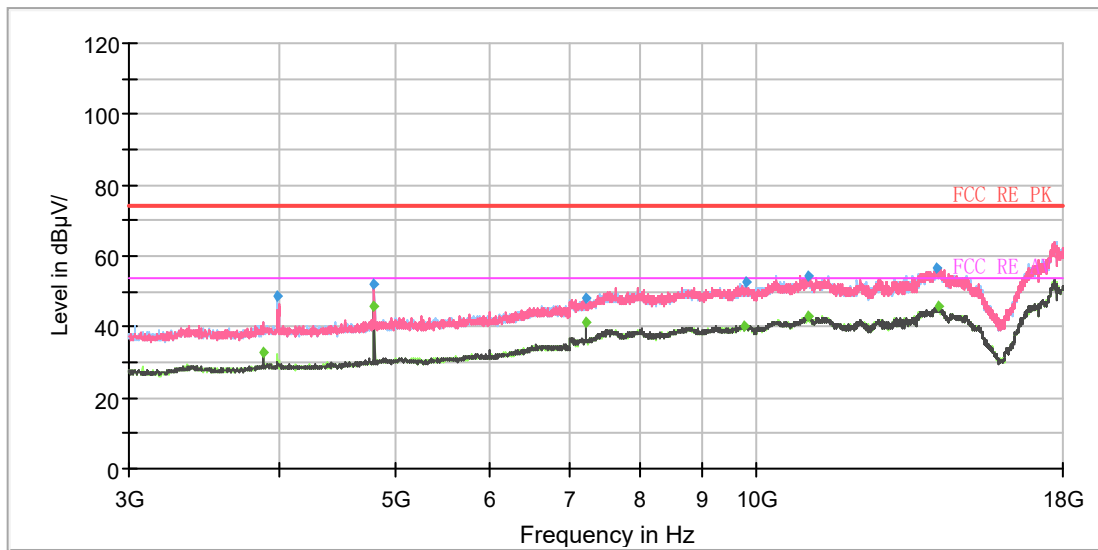
Bluetooth LE-Channel 0



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

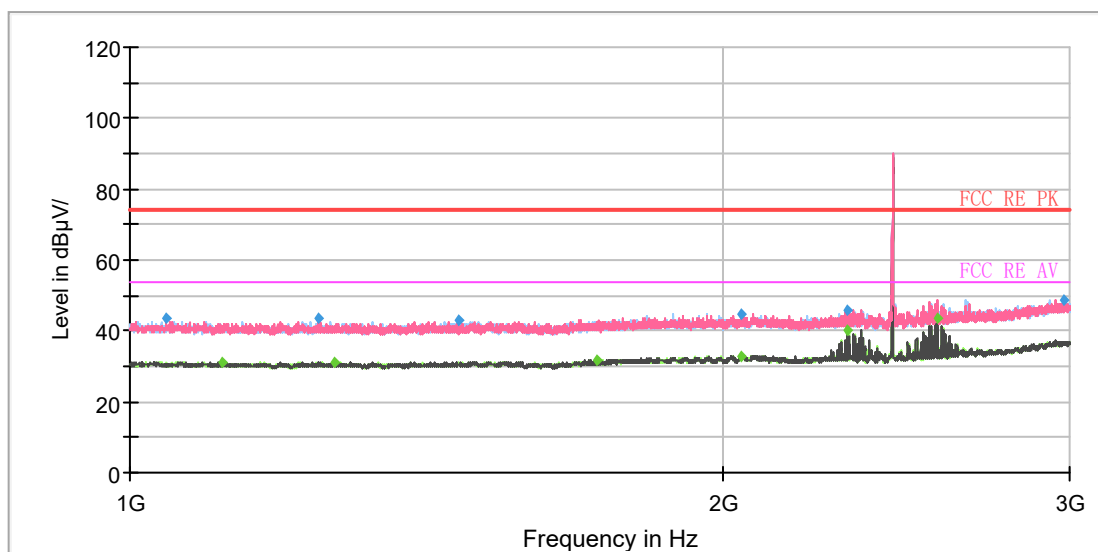
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1036.50	---	31.31	54.00	22.69	500.00	200.0	H	152.00	-6
1069.00	43.48	---	74.00	30.52	500.00	100.0	H	218.00	-6
1246.75	42.53	---	74.00	31.47	500.00	200.0	V	242.00	-5
1251.25	---	31.40	54.00	22.60	500.00	100.0	H	132.00	-5
1512.50	42.81	---	74.00	31.19	500.00	200.0	H	0.00	-5
1708.75	---	31.65	54.00	22.35	500.00	200.0	H	152.00	-5
1993.00	44.74	---	74.00	29.26	500.00	100.0	V	338.00	-5
2046.50	---	33.07	54.00	20.93	500.00	200.0	H	253.00	-4
2293.75	45.49	---	74.00	28.51	500.00	200.0	V	1.00	-2
2294.00	---	38.12	54.00	15.88	500.00	100.0	V	359.00	-2
2530.00	---	41.87	54.00	12.13	500.00	200.0	H	0.00	-1
2951.75	48.55	---	74.00	25.45	500.00	100.0	H	116.00	1



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3881.25	---	33.06	54.00	20.94	500.00	200.0	V	151.00	-7
3984.38	48.54	---	74.00	25.46	500.00	200.0	H	16.00	-7
4803.75	---	45.98	54.00	8.02	500.00	100.0	H	228.00	-6
4803.75	52.34	---	74.00	21.66	500.00	100.0	V	205.00	-6
7205.63	48.14	---	74.00	25.86	500.00	200.0	H	114.00	1
7205.63	---	41.27	54.00	12.73	500.00	100.0	V	149.00	1
9763.13	---	40.43	54.00	13.57	500.00	100.0	H	228.00	3
9813.75	52.46	---	74.00	21.54	500.00	200.0	H	0.00	3
11062.50	---	42.88	54.00	11.12	500.00	200.0	H	0.00	7
11066.25	54.50	---	74.00	19.50	500.00	200.0	V	232.00	7
14146.88	56.36	---	74.00	17.64	500.00	100.0	V	19.00	9
14165.63	---	46.12	54.00	7.88	500.00	200.0	V	124.00	9

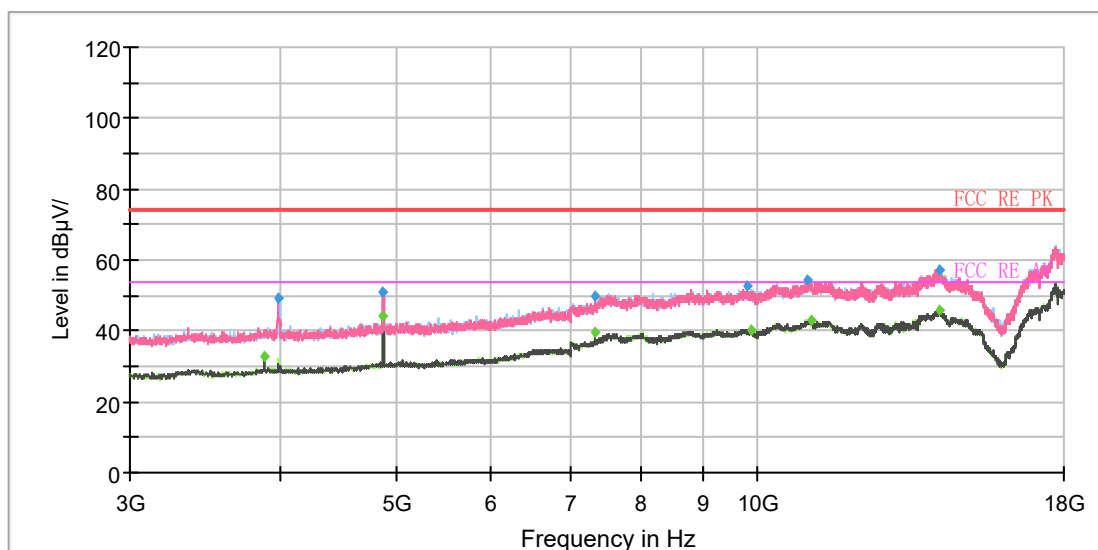
Bluetooth LE-Channel 19



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

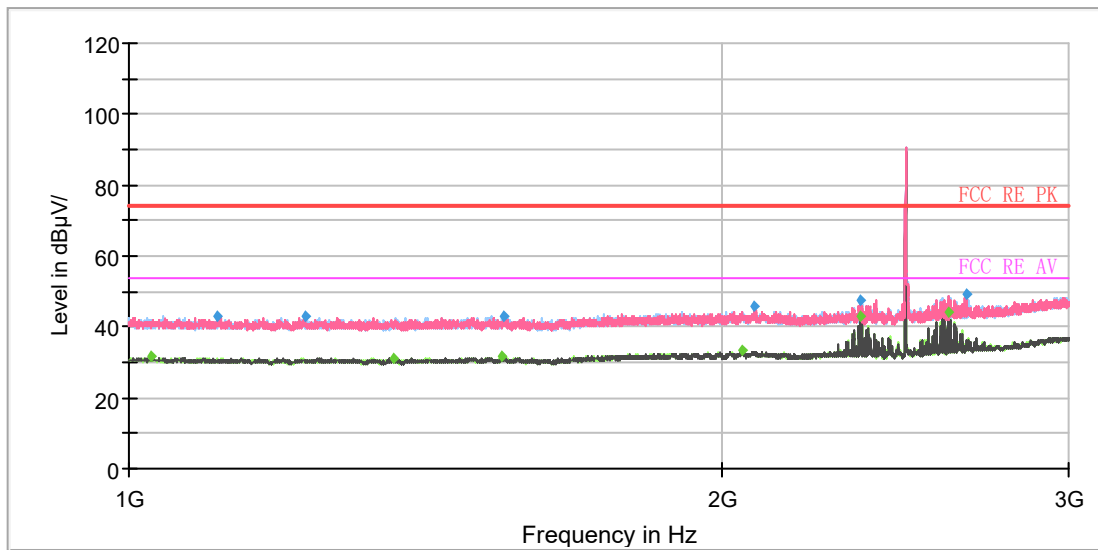
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1042.75	43.32	---	74.00	30.68	500.00	100.0	V	1.00	-6
1114.00	---	31.31	54.00	22.69	500.00	100.0	V	254.00	-6
1247.50	43.48	---	74.00	30.52	500.00	200.0	V	173.00	-5
1271.25	---	31.13	54.00	22.87	500.00	200.0	H	16.00	-5
1469.25	43.27	---	74.00	30.73	500.00	100.0	H	203.00	-5
1726.50	---	31.79	54.00	22.21	500.00	200.0	V	0.00	-5
2044.25	44.52	---	74.00	29.48	500.00	100.0	V	50.00	-4
2044.25	---	33.11	54.00	20.89	500.00	200.0	H	2.00	-4
2312.00	---	39.93	54.00	14.07	500.00	100.0	H	0.00	-2
2312.25	46.08	---	74.00	27.92	500.00	100.0	V	0.00	-2
2567.75	---	43.60	54.00	10.40	500.00	100.0	V	321.00	-1
2982.25	48.64	---	74.00	25.36	500.00	100.0	H	328.00	1



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3881.25	---	32.88	54.00	21.12	500.00	100.0	H	153.00	-7
3986.25	49.10	---	74.00	24.90	500.00	200.0	H	29.00	-7
4878.75	---	44.04	54.00	9.96	500.00	200.0	V	200.00	-6
4878.75	50.98	---	74.00	23.02	500.00	200.0	V	200.00	-6
7318.13	49.84	---	74.00	24.16	500.00	100.0	V	266.00	1
7320.00	---	39.86	54.00	14.14	500.00	100.0	V	266.00	1
9796.88	52.41	---	74.00	21.59	500.00	100.0	H	0.00	3
9881.25	---	40.39	54.00	13.61	500.00	200.0	V	93.00	3
11010.00	54.40	---	74.00	19.60	500.00	100.0	V	11.00	7
11070.00	---	43.01	54.00	10.99	500.00	100.0	V	78.00	7
14165.63	---	45.64	54.00	8.36	500.00	100.0	H	72.00	9
14203.13	57.15	---	74.00	16.85	500.00	100.0	V	158.00	9

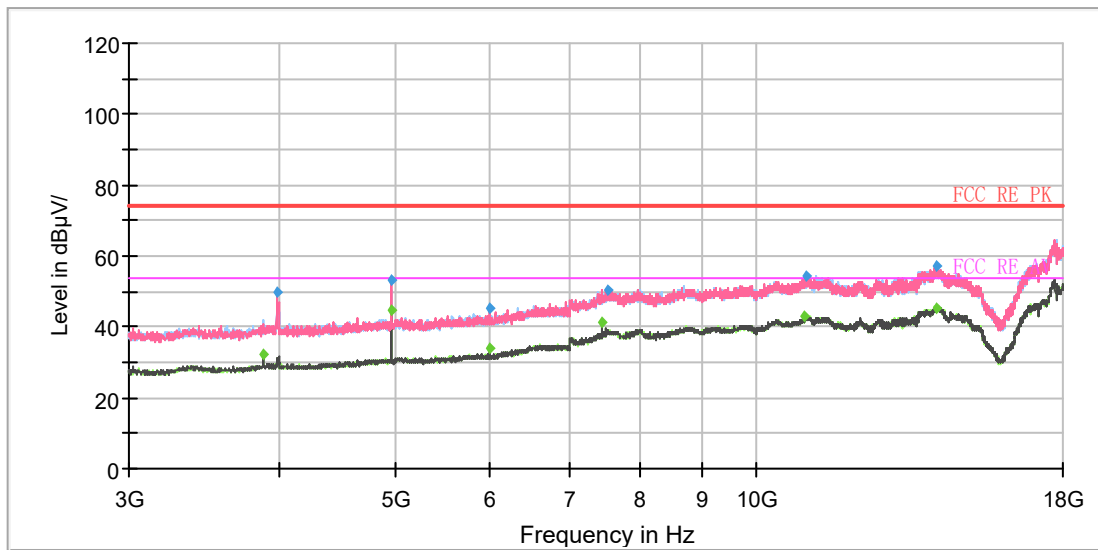
Bluetooth LE-Channel 39



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1026.25	---	31.55	54.00	22.45	500.00	100.0	V	38.00	-6
1108.25	42.93	---	74.00	31.07	500.00	100.0	H	256.00	-6
1230.00	42.75	---	74.00	31.25	500.00	200.0	V	258.00	-5
1360.75	---	31.14	54.00	22.86	500.00	200.0	H	169.00	-5
1547.75	---	31.72	54.00	22.28	500.00	100.0	H	256.00	-5
1550.75	43.02	---	74.00	30.98	500.00	200.0	V	0.00	-5
2046.75	---	33.17	54.00	20.83	500.00	100.0	V	119.00	-4
2075.25	45.64	---	74.00	28.36	500.00	200.0	V	209.00	-4
2352.00	47.49	---	74.00	26.51	500.00	200.0	H	0.00	-2
2352.00	---	42.79	54.00	11.21	500.00	200.0	V	0.00	-2
2608.00	---	44.35	54.00	9.65	500.00	100.0	V	7.00	-1
2664.50	49.02	---	74.00	24.98	500.00	200.0	V	37.00	0



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3881.25	---	32.20	54.00	21.80	500.00	100.0	H	189.00	-7
3991.88	50.00	---	74.00	24.00	500.00	200.0	V	15.00	-7
4959.38	---	44.44	54.00	9.56	500.00	100.0	H	241.00	-6
4959.38	53.48	---	74.00	20.52	500.00	200.0	V	195.00	-6
5994.38	---	34.15	54.00	19.85	500.00	200.0	V	93.00	-4
5998.13	45.28	---	74.00	28.72	500.00	200.0	V	93.00	-4
7440.00	---	41.15	54.00	12.85	500.00	200.0	V	276.00	2
7505.63	50.63	---	74.00	23.37	500.00	200.0	V	0.00	2
10981.88	---	42.87	54.00	11.13	500.00	200.0	V	355.00	6
11013.75	54.29	---	74.00	19.71	500.00	100.0	V	0.00	7
14103.75	56.92	---	74.00	17.08	500.00	200.0	V	0.00	8
14148.75	---	45.51	54.00	8.49	500.00	100.0	H	358.00	9