

ANNEX A: Test Result

1. Unwanted Emission

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

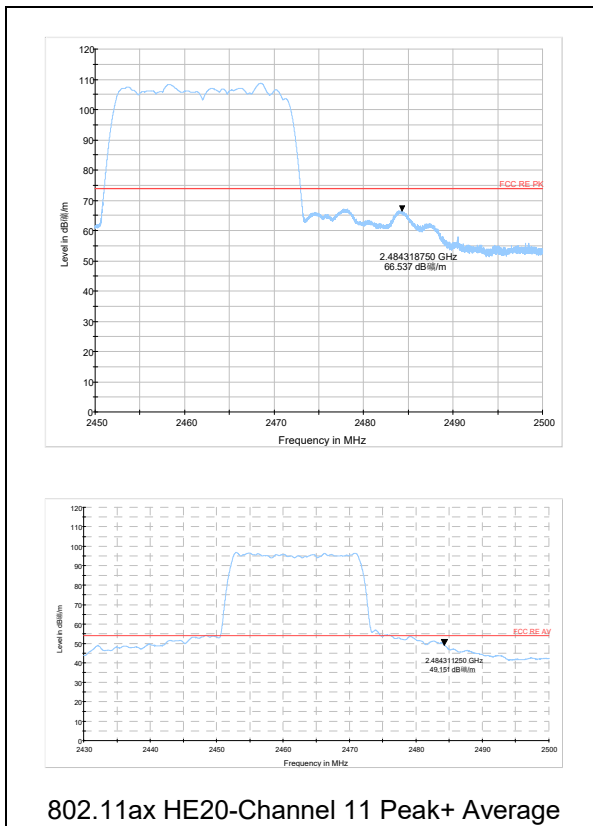
1.1. Wi-Fi 2.4GHz

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

The signal beyond the limit is carrier.

F154C



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:

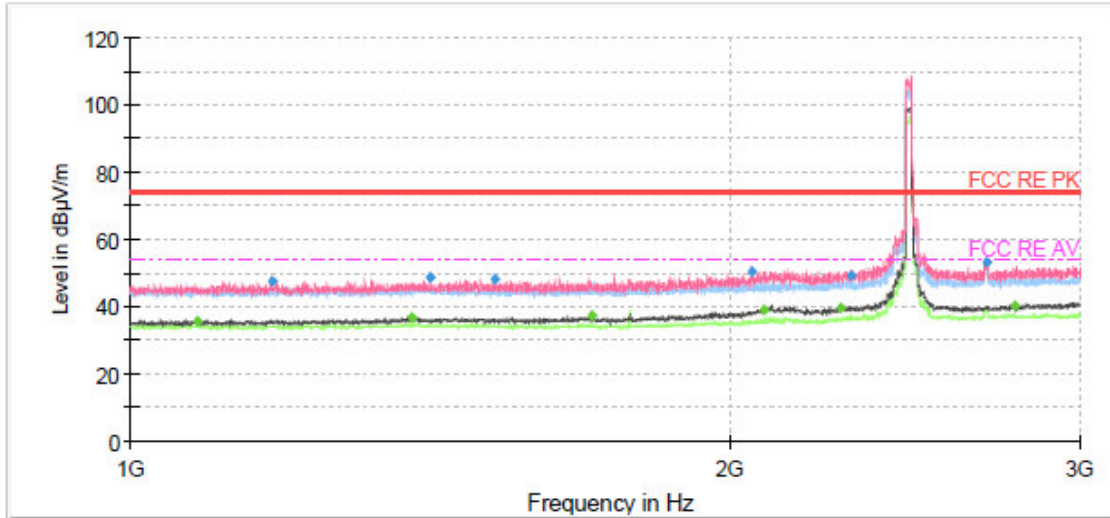
1. **Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)**
2. **Margin = Limit –MAX Peak/ Average**
3. **A symbol ($\text{dB } \mu\text{V/m}$) in the test plot below means ($\text{dB}\mu\text{V/m}$)**
4. **The following graphs display the maximum values of horizontal and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

F154C

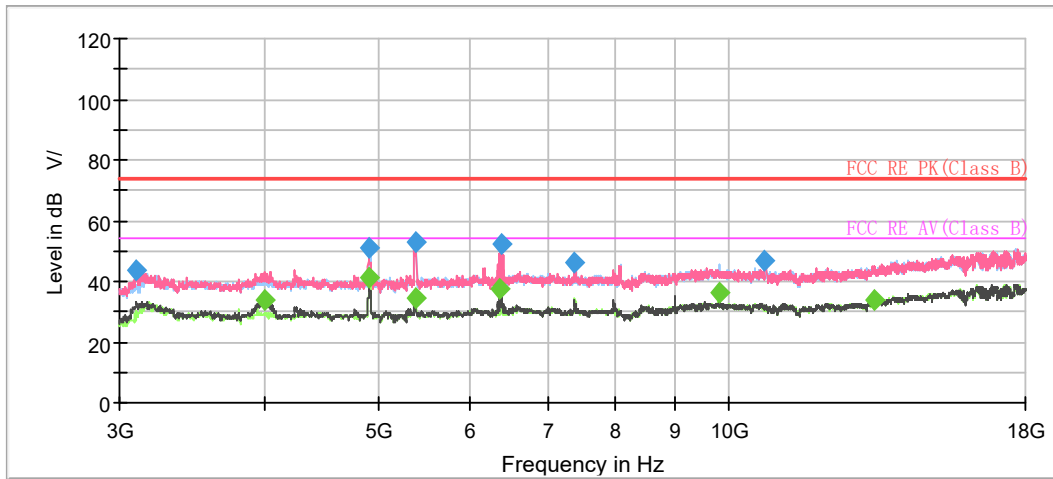
802.11ax HE20 CH11



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)
1080.25	---	35.90	54.00	18.10	500.00	200.0	V	3.00	3
1178.75	47.56	---	74.00	26.44	500.00	200.0	V	12.00	4
1386.00	---	36.97	54.00	17.03	500.00	200.0	H	301.00	4
1415.00	48.57	---	74.00	25.43	500.00	200.0	V	9.00	4
1524.50	48.36	---	74.00	25.64	500.00	200.0	V	9.00	4
1706.00	---	37.14	54.00	16.86	500.00	200.0	V	9.00	5
2055.00	50.65	---	74.00	23.35	500.00	200.0	V	12.00	6
2079.75	---	39.26	54.00	14.74	500.00	200.0	V	17.00	6
2274.50	---	39.56	54.00	14.44	500.00	200.0	V	0.00	7
2304.25	49.26	---	74.00	24.74	500.00	200.0	V	7.00	7
2695.00	53.31	---	74.00	20.69	500.00	200.0	H	261.00	8
2784.50	---	40.18	54.00	13.82	500.00	200.0	V	7.00	8



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)
3106.875000	43.43	---	74.00	30.57	500.0	200.0	V	206.0	-10.2
3995.625000	---	33.65	54.00	20.35	500.0	200.0	V	285.0	-6.8
4918.125000	---	41.45	54.00	12.55	500.0	200.0	V	114.0	-5.3
4918.125000	51.10	---	74.00	22.90	500.0	200.0	V	114.0	-5.3
5392.500000	52.83	---	74.00	21.17	500.0	100.0	H	336.0	-4.9
5392.500000	---	34.69	54.00	19.31	500.0	100.0	H	336.0	-4.9
6371.250000	---	37.32	54.00	16.68	500.0	100.0	V	252.0	-4.3
6380.625000	52.38	---	74.00	21.62	500.0	100.0	V	252.0	-4.2
7383.750000	46.28	---	74.00	27.72	500.0	200.0	H	277.0	-2.8
9847.500000	---	36.30	54.00	17.70	500.0	100.0	H	294.0	-0.4
10749.375000	46.95	---	74.00	27.05	500.0	100.0	V	126.0	-0.9
13346.250000	---	33.80	54.00	20.20	500.0	100.0	H	352.0	2.4

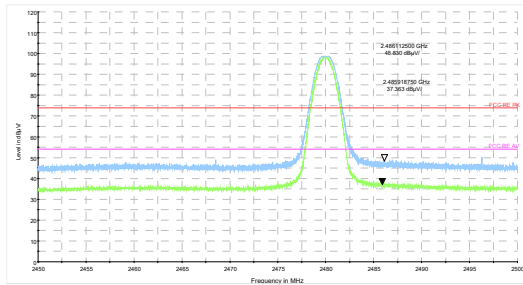
1.2. Bluetooth LE

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

The signal beyond the limit is carrier.

F154C



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:

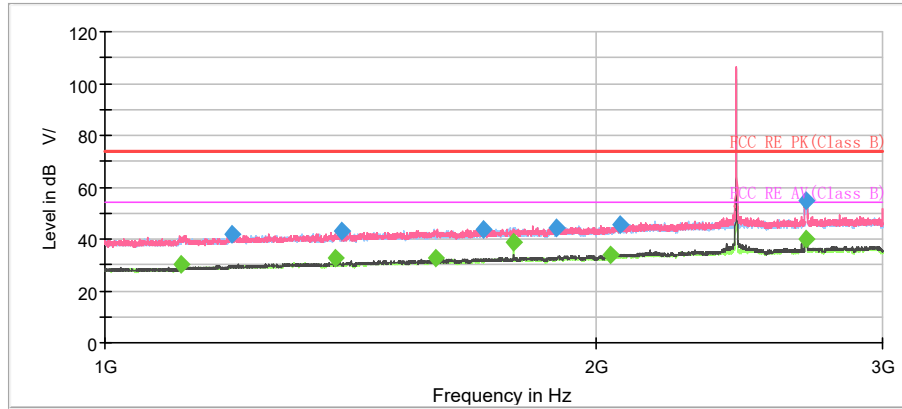
1. **Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)**
2. **Margin = Limit –MAX Peak/ Average**
3. **A symbol ($\text{dB } \mu\text{V/m}$) in the test plot below means ($\text{dB}\mu\text{V/m}$)**
4. **The following graphs display the maximum values of horizontal and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

F154C

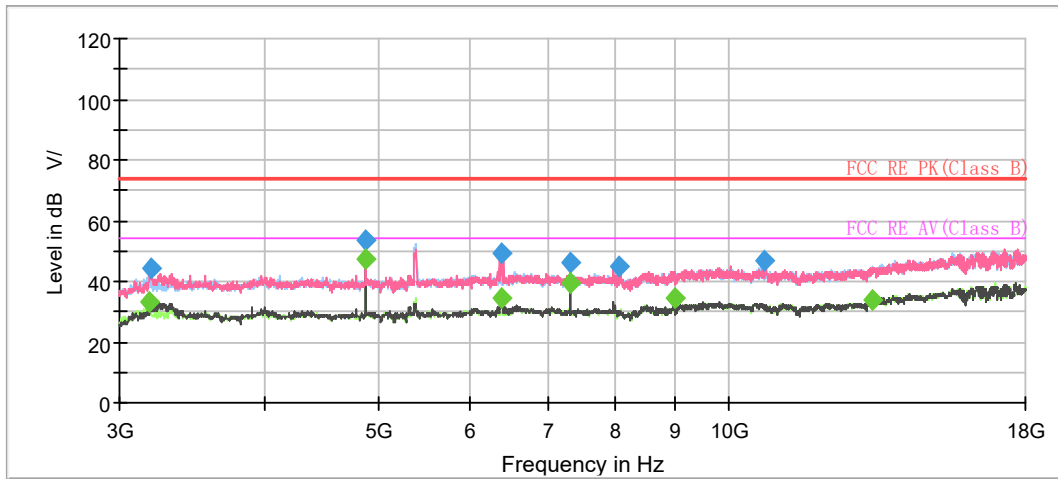
Bluetooth LE-Channel 19



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)
1113.000000	---	30.17	54.00	23.83	500.0	200.0	H	101.0	-10.0
1196.500000	41.56	---	74.00	32.44	500.0	200.0	V	300.0	-8.9
1386.000000	---	32.92	54.00	21.08	500.0	100.0	H	241.0	-7.7
1398.000000	42.92	---	74.00	31.08	500.0	200.0	H	93.0	-7.6
1594.000000	---	32.48	54.00	21.52	500.0	200.0	V	183.0	-6.4
1707.250000	43.95	---	74.00	30.05	500.0	200.0	V	291.0	-5.9
1782.000000	---	38.51	54.00	15.49	500.0	200.0	H	172.0	-5.6
1892.500000	44.25	---	74.00	29.75	500.0	100.0	H	144.0	-5.0
2042.500000	---	33.62	54.00	20.38	500.0	100.0	V	224.0	-4.3
2069.500000	45.48	---	74.00	28.52	500.0	200.0	V	108.0	-4.0
2693.750000	---	39.88	54.00	14.12	500.0	100.0	V	247.0	-1.6
2695.250000	54.85	---	74.00	19.15	500.0	100.0	V	247.0	-1.6



Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3187.500000	---	33.24	54.00	20.76	500.0	100.0	V	288.0	-10.0
3195.000000	44.35	---	74.00	29.65	500.0	100.0	V	273.0	-10.0
4878.750000	---	47.20	54.00	6.80	500.0	100.0	H	234.0	-5.7
4878.750000	53.49	---	74.00	20.51	500.0	100.0	H	234.0	-5.7
6376.875000	49.52	---	74.00	24.48	500.0	100.0	V	263.0	-4.2
6376.875000	---	34.69	54.00	19.31	500.0	100.0	V	263.0	-4.2
7320.000000	---	39.34	54.00	14.66	500.0	100.0	H	234.0	-3.0
7320.000000	46.30	---	74.00	27.70	500.0	100.0	H	234.0	-3.0
8068.125000	44.98	---	74.00	29.02	500.0	200.0	V	271.0	-2.4
9000.000000	---	34.64	54.00	19.36	500.0	100.0	V	255.0	-1.3
10756.875000	46.87	---	74.00	27.13	500.0	200.0	V	59.0	-0.9
13312.500000	---	33.86	54.00	20.14	500.0	100.0	V	11.0	2.3