

ANNEX A: Test Result

1. Unwanted Emission

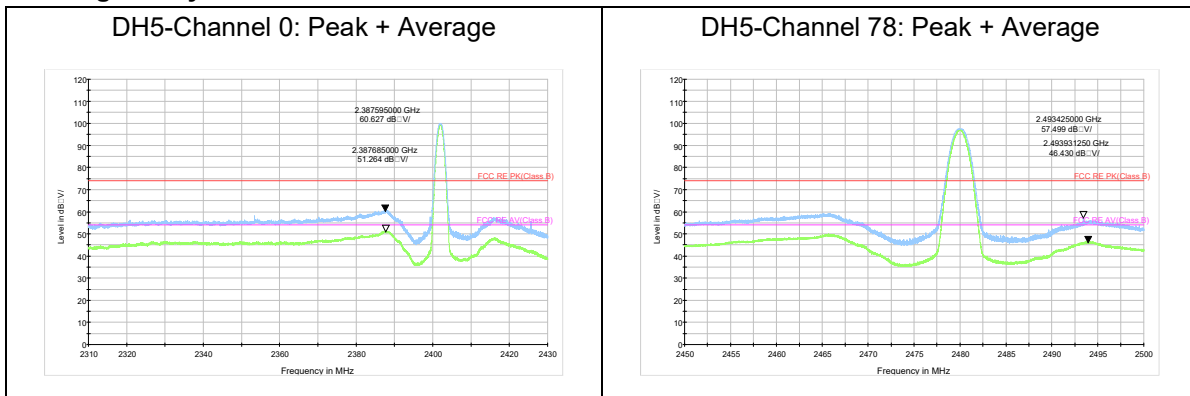
The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (Z axis) and the loop antenna is vertical, the others are vertical and horizontal. and the worst case was recorded.

1.1. Bluetooth

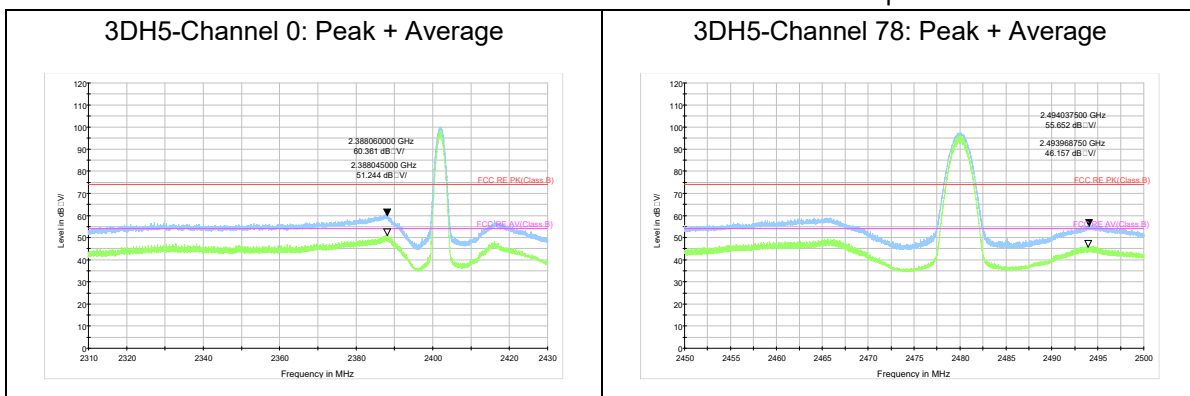
The following graphs display the maximum values of horizontal and vertical by software. Blue trace uses the peak detection, Green trace uses the average detection.

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.



The bandage was performed in all EDR mode (2DH5 and 3DH5), 3DH5 was selected as the worse condition. The test data of the worst-case condition was recorded in this report.



Result of RE

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier. The Radiates Emission from 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 ($\text{dB } \mu\text{V/m}$) 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 below 1GHz

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

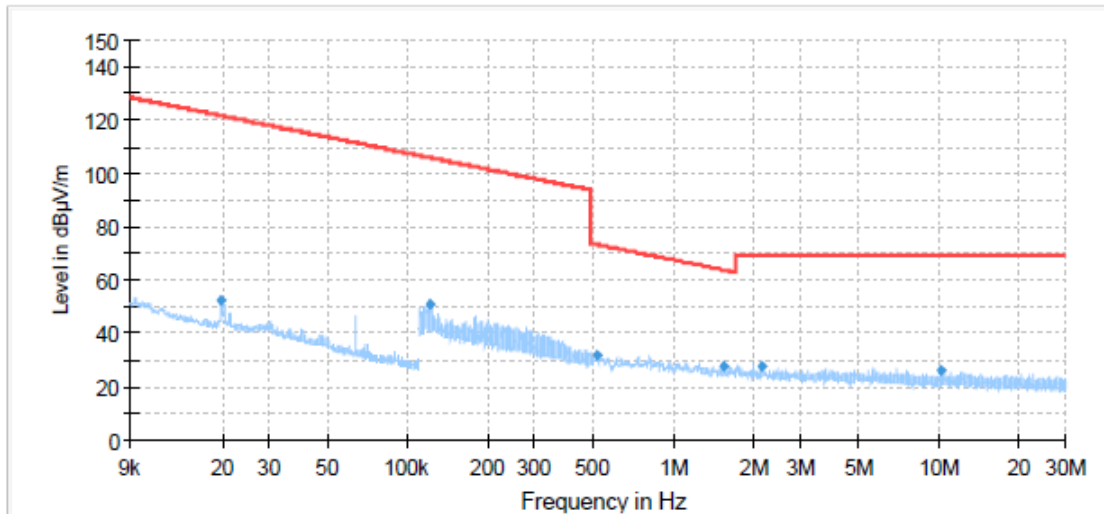
For above 1GHz

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

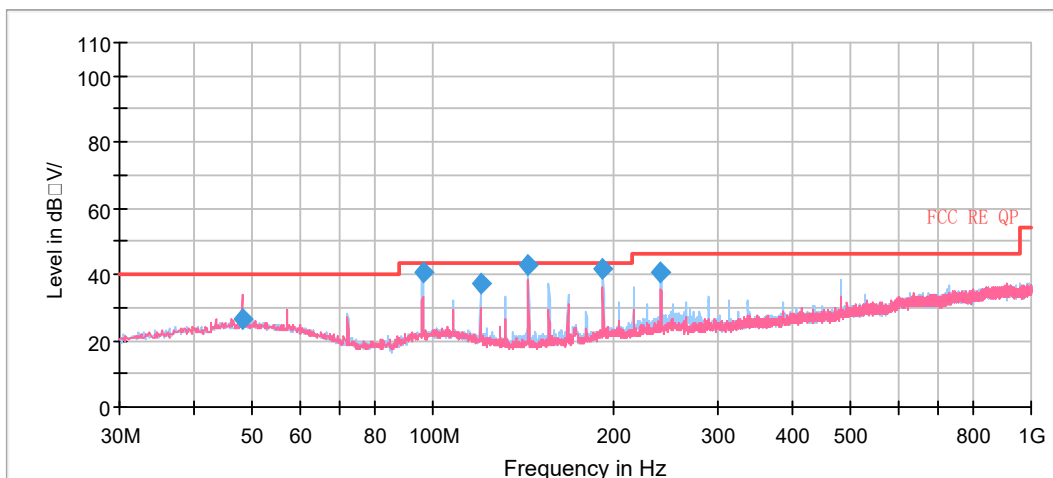
 AVG Level @Spectrum Overview H
  AVG Level @Spectrum Overview V
  AVG Level @Final Results
  AVG Limit

Continuous TX mode:

During the test, the Radiates Emission from 9kHz to 1GHz was performed in all modes with all channels. The test data of the worst-case condition was recorded in this report.



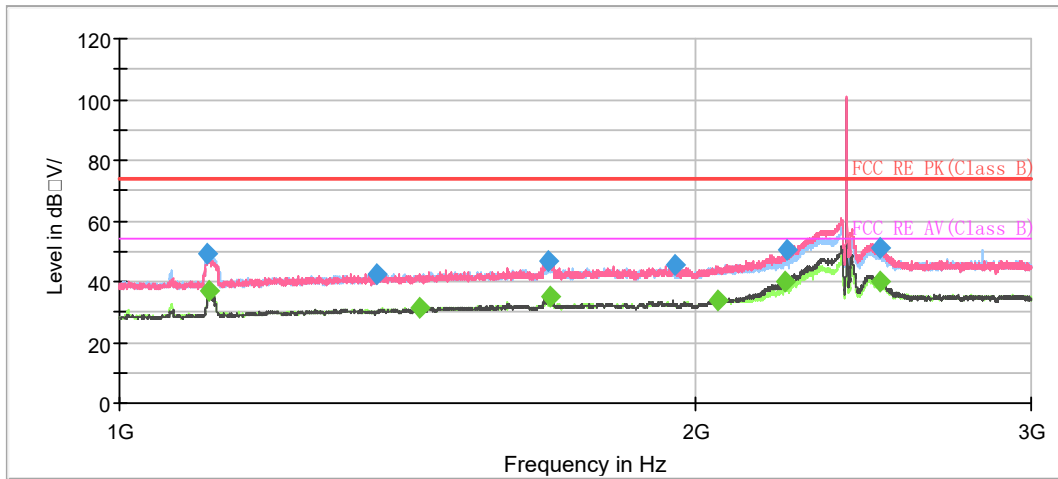
Radiates Emission from 9kHz to 30MHz



Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
48.066250	26.39	40.00	13.61	125.0	V	232.0	21.2
96.323750	40.59	43.50	2.91	225.0	H	178.0	18.7
120.452500	37.41	43.50	6.09	225.0	H	144.0	17.1
144.460000	42.99	43.50	0.51	199.0	H	159.0	15.6
192.596250	41.73	43.50	1.77	125.0	H	336.0	18.8
240.611250	40.50	46.00	5.50	110.0	H	313.0	20.1

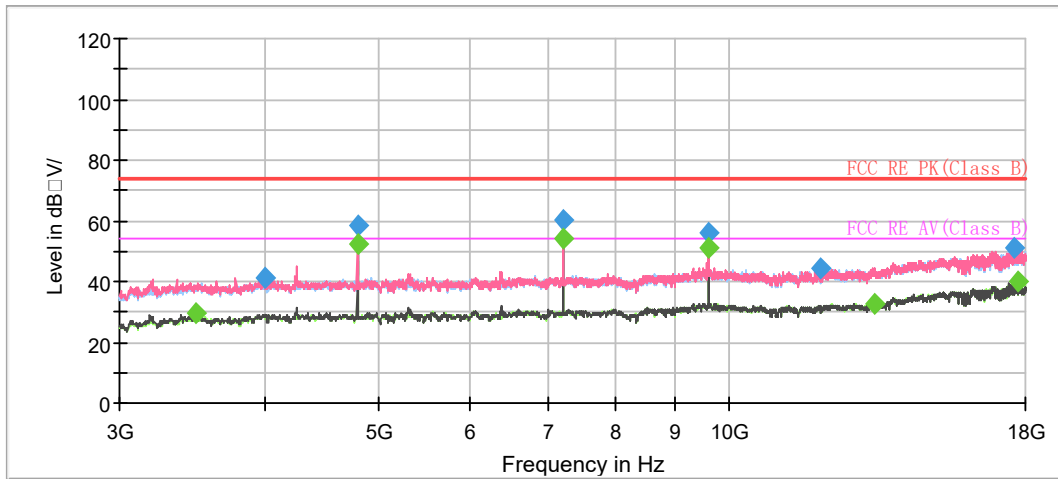
DH5-Channel 0



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

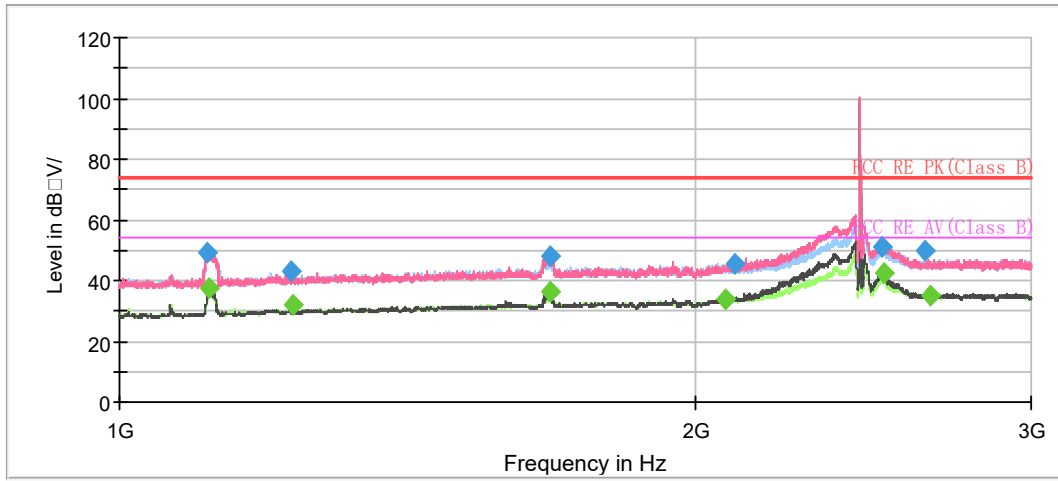
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1112.000000	49.15	---	74.00	24.85	500.0	100.0	H	152.0	-10.0
1113.750000	---	36.76	54.00	17.24	500.0	100.0	H	152.0	-10.0
1362.000000	42.69	---	74.00	31.31	500.0	100.0	V	307.0	-7.8
1436.000000	---	31.47	54.00	22.53	500.0	200.0	H	276.0	-7.4
1678.000000	46.91	---	74.00	27.09	500.0	200.0	V	96.0	-6.1
1680.000000	---	35.03	54.00	18.97	500.0	200.0	V	88.0	-6.0
1952.750000	45.49	---	74.00	28.51	500.0	200.0	V	227.0	-4.7
2054.750000	---	33.92	54.00	20.08	500.0	200.0	V	36.0	-4.2
2229.750000	---	39.79	54.00	14.21	500.0	200.0	V	120.0	-3.2
2236.500000	50.16	---	74.00	23.84	500.0	100.0	V	36.0	-3.2
2498.750000	50.82	---	74.00	23.18	500.0	200.0	V	193.0	-2.1
2501.500000	---	40.02	54.00	13.98	500.0	200.0	V	310.0	-2.1



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)
3495.000000	---	29.23	54.00	24.77	500.0	100.0	V	263.0	-8.2
3997.500000	41.39	---	74.00	32.61	500.0	100.0	V	18.0	-6.8
4803.750000	---	52.37	54.00	1.63	500.0	100.0	V	68.0	-6.1
4803.750000	58.44	---	74.00	15.56	500.0	100.0	V	68.0	-6.1
7205.625000	---	53.89	54.00	0.11	500.0	100.0	V	0.0	-3.0
7205.625000	60.42	---	74.00	13.58	500.0	100.0	V	0.0	-3.0
9607.500000	55.81	---	74.00	18.19	500.0	200.0	H	139.0	-0.7
9607.500000	---	50.94	54.00	3.06	500.0	200.0	H	139.0	-0.7
12009.375000	44.29	---	74.00	29.71	500.0	200.0	V	5.0	-0.1
13336.875000	---	32.84	54.00	21.16	500.0	200.0	H	311.0	2.3
17621.250000	51.02	---	74.00	22.98	500.0	200.0	V	116.0	10.2
17724.375000	---	39.80	54.00	14.20	500.0	100.0	V	54.0	10.3

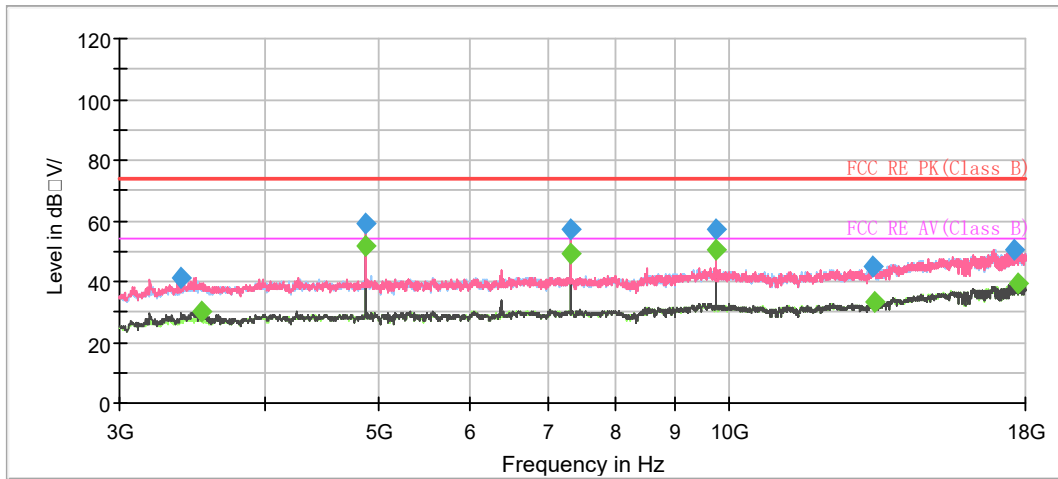
DH5-Channel 39



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

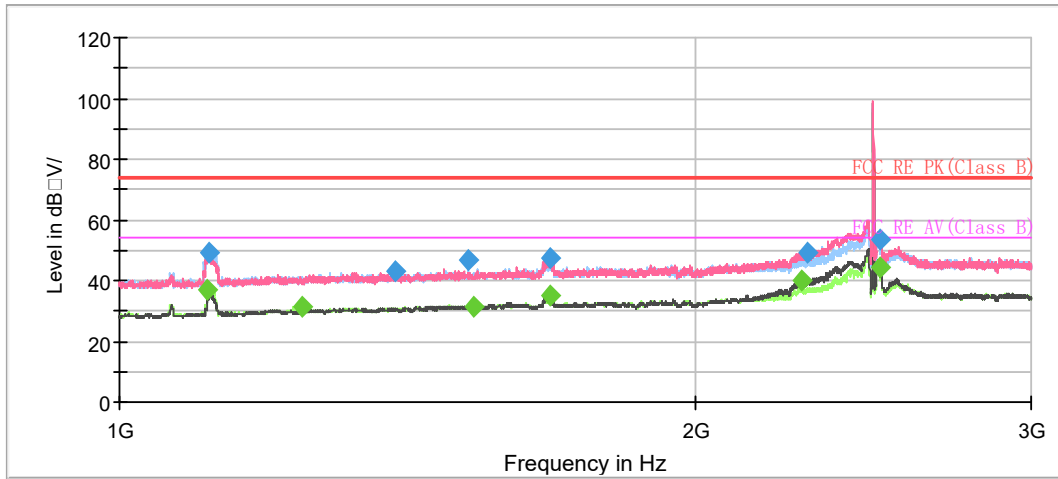
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1110.500000	49.44	---	74.00	24.56	500.0	200.0	H	234.0	-10.0
1114.250000	---	37.83	54.00	16.17	500.0	200.0	H	234.0	-10.0
1230.000000	43.05	---	74.00	30.95	500.0	100.0	H	160.0	-8.7
1233.250000	---	32.09	54.00	21.91	500.0	100.0	H	160.0	-8.7
1678.500000	---	36.34	54.00	17.66	500.0	200.0	V	79.0	-6.1
1681.750000	48.22	---	74.00	25.78	500.0	200.0	V	87.0	-6.0
2077.250000	---	33.96	54.00	20.04	500.0	200.0	V	155.0	-3.9
2099.750000	45.73	---	74.00	28.27	500.0	100.0	H	340.0	-3.7
2506.500000	51.01	---	74.00	22.99	500.0	200.0	V	38.0	-2.1
2513.000000	---	42.36	54.00	11.64	500.0	200.0	V	38.0	-2.1
2640.500000	49.86	---	74.00	24.14	500.0	100.0	H	15.0	-2.0
2658.000000	---	34.91	54.00	19.09	500.0	200.0	V	54.0	-1.9



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)
3391.875000	41.46	---	74.00	32.54	500.0	100.0	V	273.0	-8.7
3526.875000	---	30.07	54.00	23.93	500.0	100.0	V	273.0	-8.3
4880.625000	---	51.98	54.00	2.02	500.0	100.0	V	70.0	-5.7
4880.625000	58.92	---	74.00	15.08	500.0	100.0	V	70.0	-5.7
7321.875000	---	49.52	54.00	4.48	500.0	200.0	V	35.0	-3.0
7321.875000	57.02	---	74.00	16.98	500.0	200.0	V	35.0	-3.0
9763.125000	57.17	---	74.00	16.83	500.0	200.0	H	139.0	-0.5
9763.125000	---	50.32	54.00	3.68	500.0	200.0	H	139.0	-0.5
13327.500000	44.77	---	74.00	29.23	500.0	200.0	V	191.0	2.3
13346.250000	---	33.43	54.00	20.57	500.0	100.0	H	0.0	2.4
17625.000000	50.63	---	74.00	23.37	500.0	100.0	H	0.0	10.2
17718.750000	---	39.54	54.00	14.46	500.0	100.0	V	312.0	10.3

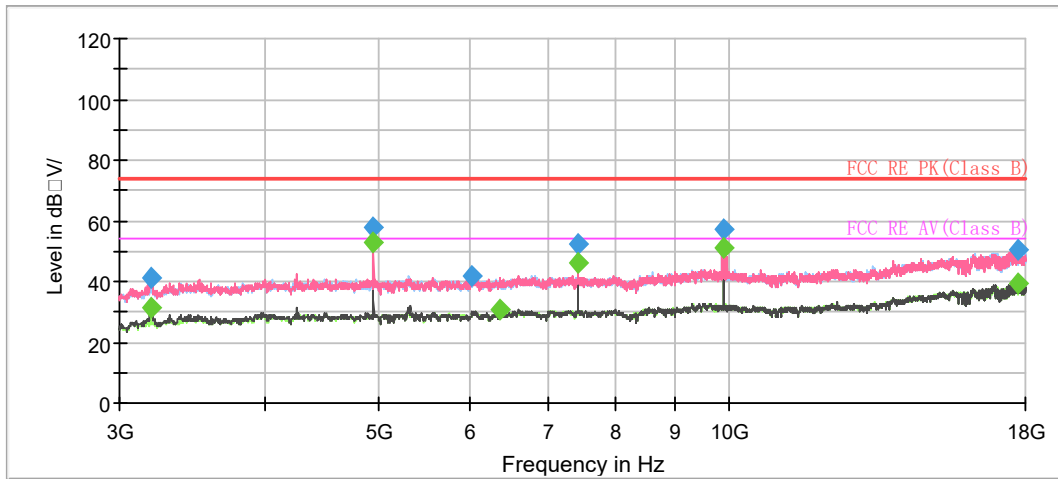
DH5-Channel 78



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)
1112.000000	---	37.03	54.00	16.97	500.0	200.0	H	228.0	-10.0
1114.500000	49.37	---	74.00	24.63	500.0	200.0	H	228.0	-10.0
1246.000000	---	31.67	54.00	22.33	500.0	200.0	H	162.0	-8.6
1393.500000	42.80	---	74.00	31.20	500.0	200.0	V	327.0	-7.6
1523.250000	46.72	---	74.00	27.28	500.0	100.0	H	279.0	-6.9
1532.000000	---	31.18	54.00	22.82	500.0	100.0	H	0.0	-6.8
1680.500000	47.33	---	74.00	26.67	500.0	200.0	V	91.0	-6.0
1681.000000	---	35.33	54.00	18.67	500.0	200.0	V	91.0	-6.0
2275.750000	---	39.92	54.00	14.08	500.0	200.0	V	41.0	-3.0
2289.500000	49.34	---	74.00	24.66	500.0	200.0	V	131.0	-2.9
2498.500000	---	44.36	54.00	9.64	500.0	200.0	V	131.0	-2.1
2499.250000	53.35	---	74.00	20.65	500.0	200.0	V	32.0	-2.1

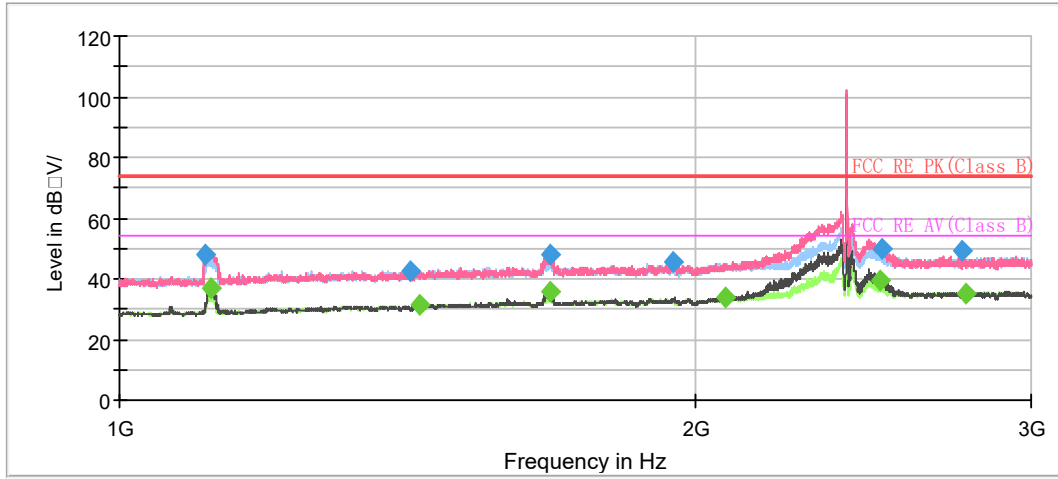


Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3189.375000	---	31.50	54.00	22.50	500.0	100.0	V	206.0	-10.0
3189.375000	41.06	---	74.00	32.94	500.0	100.0	V	206.0	-10.0
4959.375000	---	52.71	54.00	1.29	500.0	100.0	V	73.0	-5.4
4959.375000	57.73	---	74.00	16.27	500.0	100.0	V	73.0	-5.4
6018.750000	42.00	---	74.00	32.00	500.0	100.0	H	9.0	-4.3
6375.000000	---	30.48	54.00	23.52	500.0	100.0	V	46.0	-4.3
7440.000000	52.47	---	74.00	21.53	500.0	200.0	V	21.0	-2.9
7440.000000	---	46.12	54.00	7.88	500.0	200.0	V	21.0	-2.9
9920.625000	57.52	---	74.00	16.48	500.0	200.0	H	232.0	-0.9
9920.625000	---	51.02	54.00	2.98	500.0	200.0	H	232.0	-0.9
17718.750000	---	39.67	54.00	14.33	500.0	100.0	V	167.0	10.3
17720.625000	50.66	---	74.00	23.34	500.0	100.0	V	253.0	10.3

The Radiates Emission was performed in all EDR mode (2DH5 and 3DH5), 3DH5 was selected as the worse condition. The test data of the worst-case condition was recorded in this report.

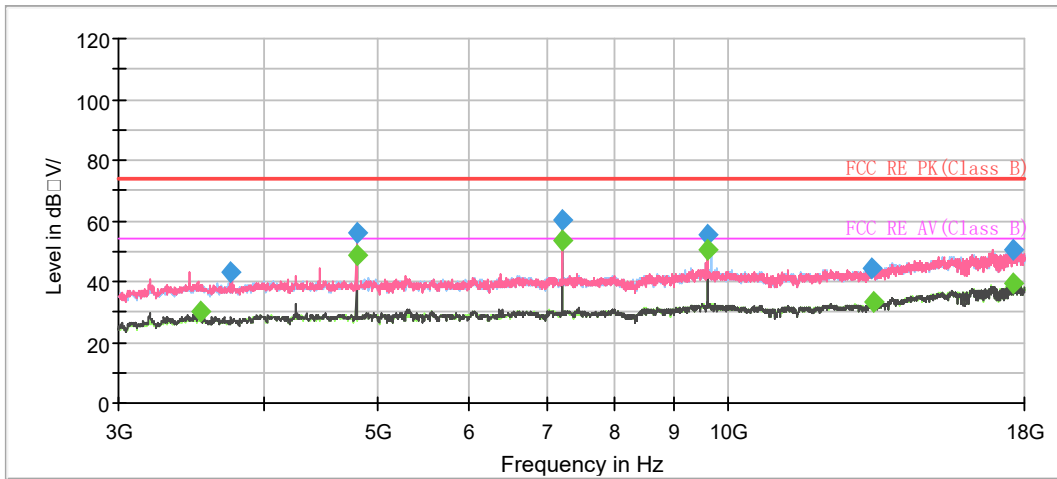
3DH5-Channel 0



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

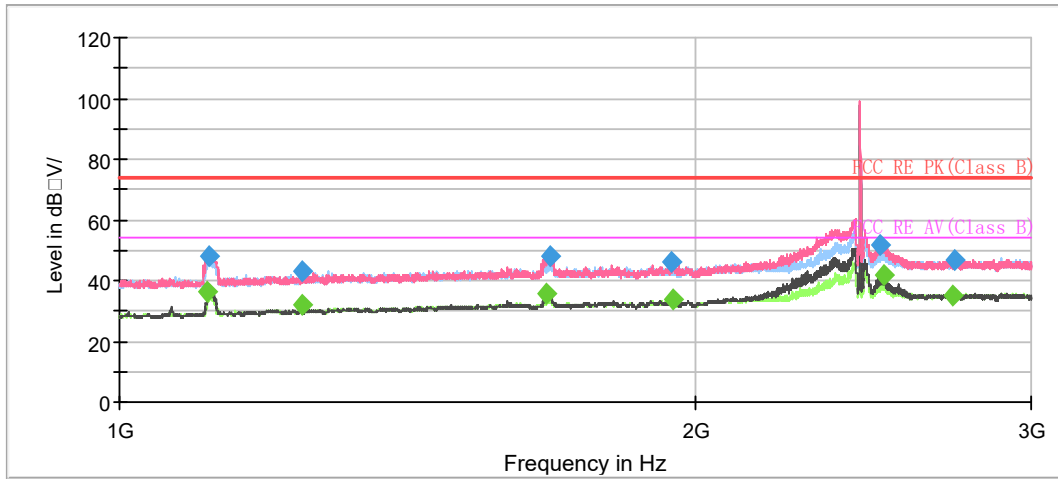
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1109.500000	48.12	---	74.00	25.88	500.0	200.0	V	11.0	-10.0
1115.750000	---	36.73	54.00	17.27	500.0	200.0	V	0.0	-10.0
1419.000000	42.66	---	74.00	31.34	500.0	200.0	V	327.0	-7.4
1435.750000	---	31.31	54.00	22.69	500.0	100.0	H	0.0	-7.4
1680.000000	---	35.90	54.00	18.10	500.0	200.0	V	91.0	-6.0
1681.500000	47.83	---	74.00	26.17	500.0	200.0	V	91.0	-6.0
1949.500000	45.63	---	74.00	28.37	500.0	200.0	V	149.0	-4.7
2077.250000	---	33.70	54.00	20.30	500.0	100.0	V	342.0	-3.9
2502.000000	---	39.59	54.00	14.41	500.0	200.0	V	124.0	-2.1
2506.250000	49.76	---	74.00	24.24	500.0	200.0	V	124.0	-2.1
2759.000000	49.08	---	74.00	24.92	500.0	200.0	V	166.0	-1.5
2773.250000	---	35.02	54.00	18.98	500.0	200.0	H	328.0	-1.4



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)
3525.000000	---	30.45	54.00	23.55	500.0	100.0	V	269.0	-8.3
3748.125000	43.23	---	74.00	30.77	500.0	100.0	V	289.0	-7.8
4803.750000	---	48.67	54.00	5.33	500.0	100.0	V	73.0	-6.1
4803.750000	55.83	---	74.00	18.17	500.0	100.0	V	73.0	-6.1
7205.625000	---	53.26	54.00	0.74	500.0	100.0	V	0.0	-3.0
7205.625000	60.48	---	74.00	13.52	500.0	100.0	V	0.0	-3.0
9607.500000	55.29	---	74.00	18.71	500.0	200.0	H	137.0	-0.7
9607.500000	---	50.74	54.00	3.26	500.0	200.0	H	137.0	-0.7
13301.250000	44.26	---	74.00	29.74	500.0	100.0	H	269.0	2.3
13351.875000	---	32.99	54.00	21.01	500.0	100.0	V	0.0	2.4
17617.500000	50.48	---	74.00	23.52	500.0	100.0	H	119.0	10.1
17619.375000	---	39.58	54.00	14.42	500.0	100.0	V	106.0	10.2

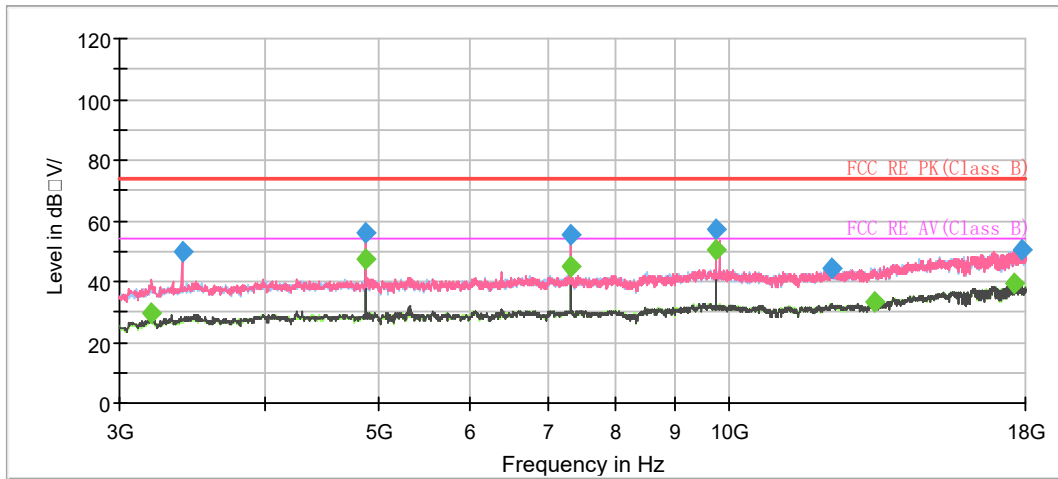
3DH5-Channel 39



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

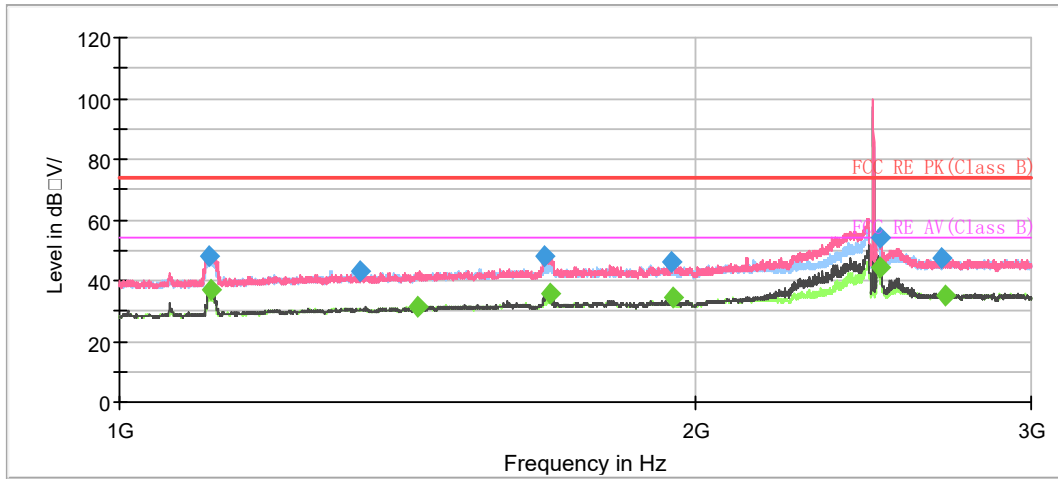
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1112.000000	---	36.35	54.00	17.65	500.0	200.0	V	0.0	-10.0
1114.250000	47.95	---	74.00	26.05	500.0	200.0	V	0.0	-10.0
1247.250000	---	31.95	54.00	22.05	500.0	200.0	H	301.0	-8.6
1247.250000	43.21	---	74.00	30.79	500.0	200.0	H	301.0	-8.6
1671.250000	---	36.00	54.00	18.00	500.0	200.0	V	88.0	-6.1
1680.250000	48.30	---	74.00	25.70	500.0	200.0	V	95.0	-6.0
1945.500000	46.41	---	74.00	27.59	500.0	200.0	V	138.0	-4.7
1950.500000	---	33.78	54.00	20.22	500.0	200.0	V	147.0	-4.7
2499.750000	51.81	---	74.00	22.19	500.0	200.0	V	37.0	-2.1
2512.750000	---	41.61	54.00	12.39	500.0	200.0	V	37.0	-2.1
2728.250000	---	35.18	54.00	18.82	500.0	100.0	H	237.0	-1.5
2737.250000	46.65	---	74.00	27.35	500.0	100.0	H	0.0	-1.5



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)
3198.750000	---	29.56	54.00	24.44	500.0	100.0	V	85.0	-9.9
3395.625000	49.65	---	74.00	24.35	500.0	200.0	V	332.0	-8.7
4880.625000	---	47.56	54.00	6.44	500.0	200.0	V	353.0	-5.7
4880.625000	55.98	---	74.00	18.02	500.0	100.0	V	78.0	-5.7
7321.875000	---	45.10	54.00	8.90	500.0	200.0	H	72.0	-3.0
7321.875000	55.47	---	74.00	18.53	500.0	200.0	V	16.0	-3.0
9763.125000	57.09	---	74.00	16.91	500.0	200.0	H	139.0	-0.5
9763.125000	---	50.62	54.00	3.38	500.0	200.0	H	139.0	-0.5
12251.250000	44.32	---	74.00	29.68	500.0	200.0	V	53.0	0.2
13342.500000	---	33.24	54.00	20.76	500.0	100.0	H	47.0	2.3
17617.500000	---	39.61	54.00	14.39	500.0	200.0	H	339.0	10.1
17835.000000	50.68	---	74.00	23.32	500.0	200.0	H	230.0	10.2

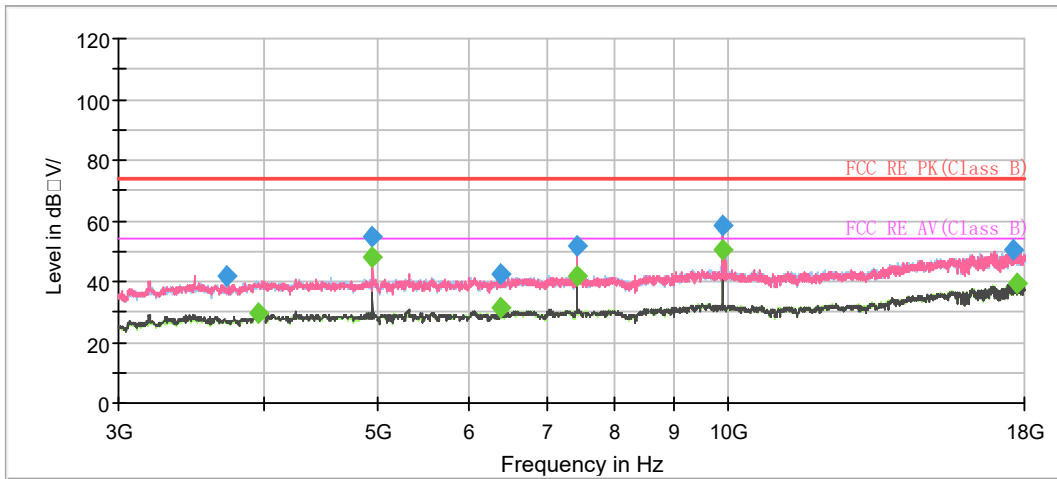
3DH5-Channel 78



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)
1113.750000	48.29	---	74.00	25.71	500.0	200.0	V	353.0	-10.0
1116.500000	---	36.98	54.00	17.02	500.0	200.0	V	0.0	-10.0
1336.750000	43.32	---	74.00	30.68	500.0	100.0	V	143.0	-8.0
1433.000000	---	31.27	54.00	22.73	500.0	100.0	H	66.0	-7.4
1669.750000	47.99	---	74.00	26.01	500.0	200.0	V	81.0	-6.1
1679.500000	---	36.00	54.00	18.00	500.0	200.0	V	75.0	-6.0
1946.500000	46.07	---	74.00	27.93	500.0	200.0	V	135.0	-4.7
1949.250000	---	34.47	54.00	19.53	500.0	200.0	V	135.0	-4.7
2498.250000	54.20	---	74.00	19.80	500.0	200.0	V	118.0	-2.1
2499.250000	---	44.01	54.00	9.99	500.0	200.0	V	194.0	-2.1
2695.500000	47.21	---	74.00	26.79	500.0	200.0	H	81.0	-1.6
2706.000000	---	34.83	54.00	19.17	500.0	100.0	H	107.0	-1.6



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)
3708.750000	41.68	---	74.00	32.32	500.0	100.0	H	353.0	-7.9
3954.375000	---	29.64	54.00	24.36	500.0	200.0	V	179.0	-7.2
4959.375000	---	47.79	54.00	6.21	500.0	100.0	V	71.0	-5.4
4959.375000	54.50	---	74.00	19.50	500.0	100.0	V	71.0	-5.4
6382.500000	---	31.65	54.00	22.35	500.0	100.0	V	278.0	-4.2
6382.500000	42.73	---	74.00	31.27	500.0	100.0	V	278.0	-4.2
7440.000000	---	41.94	54.00	12.06	500.0	200.0	V	18.0	-2.9
7440.000000	51.42	---	74.00	22.58	500.0	200.0	V	18.0	-2.9
9920.625000	58.18	---	74.00	15.82	500.0	200.0	H	329.0	-0.9
9920.625000	---	50.35	54.00	3.65	500.0	200.0	H	329.0	-0.9
17613.750000	50.37	---	74.00	23.63	500.0	200.0	V	350.0	10.1
17722.500000	---	39.58	54.00	14.42	500.0	100.0	V	138.0	10.3

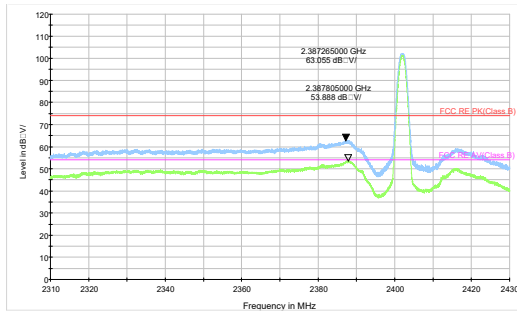
1.2. Bluetooth LE

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.

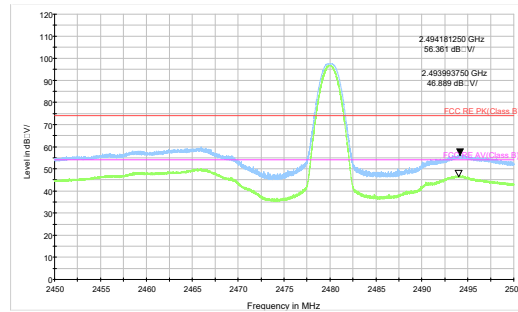
A symbol ($\text{dB } \mu\text{V/m}$) in the test plot below means ($\text{dB}\mu\text{V/m}$)

The signal beyond the limit is carrier.

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 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 (dB μ V/m) in the test plot below means (dB μ V/m)**
4. **The following graphs display the maximum values of horizontal and vertical by software.**
5. **For below 1GHz**

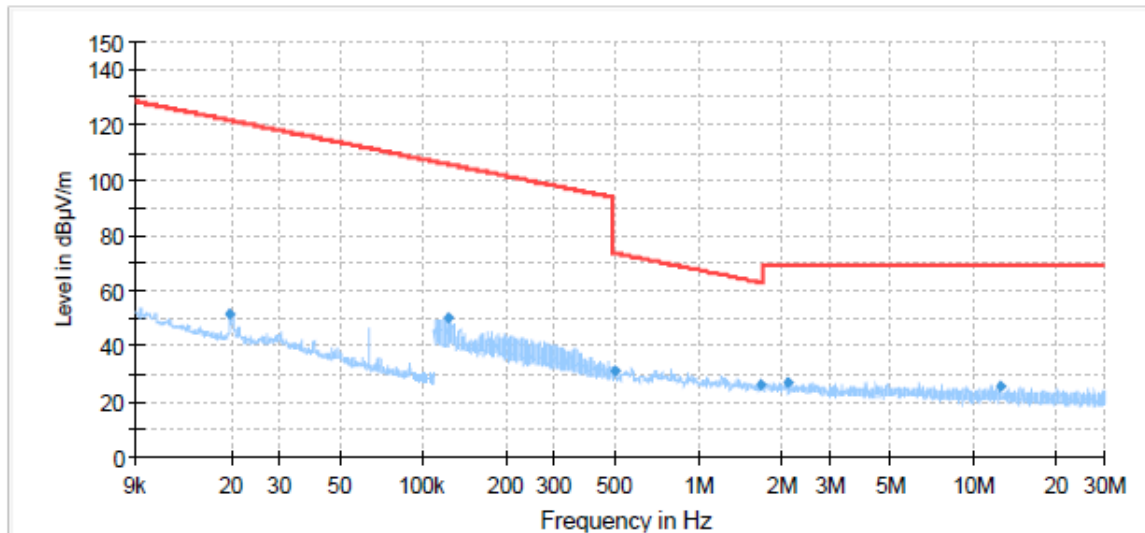
 QP Level @Spectrum Overview H
  QP Level @Spectrum Overview V
  QP Level @Final Results
  QP Limit

For above 1GHz

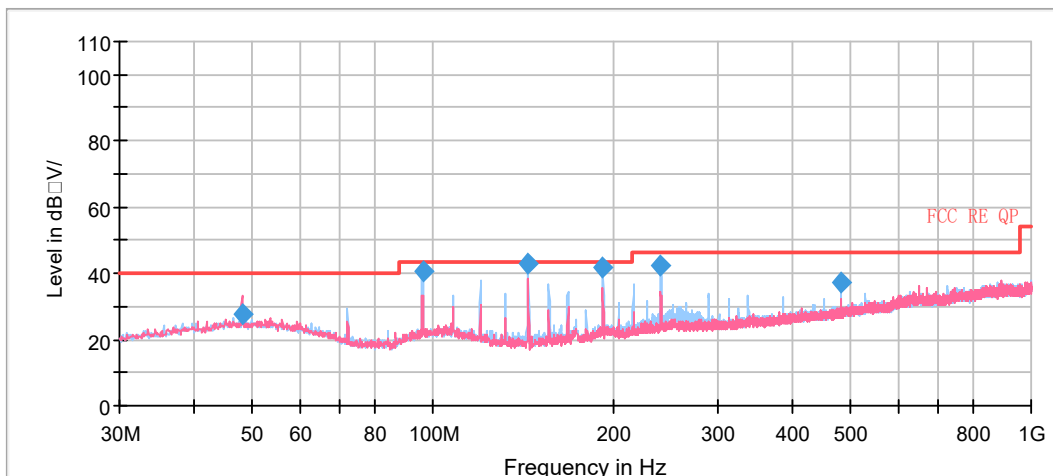
 PK Level @Spectrum Overview H
  PK Level @Spectrum Overview V
  PK Level @Final Results
  PK Limit
 AVG Level @Spectrum Overview H
  AVG Level @Spectrum Overview V
  AVG Level @Final Results
  AVG Limit

Continuous TX mode:

During the test, the Radiates Emission from 9kHz to 1GHz was performed in all modes with all channels. The test data of the worst-case condition was recorded in this report.



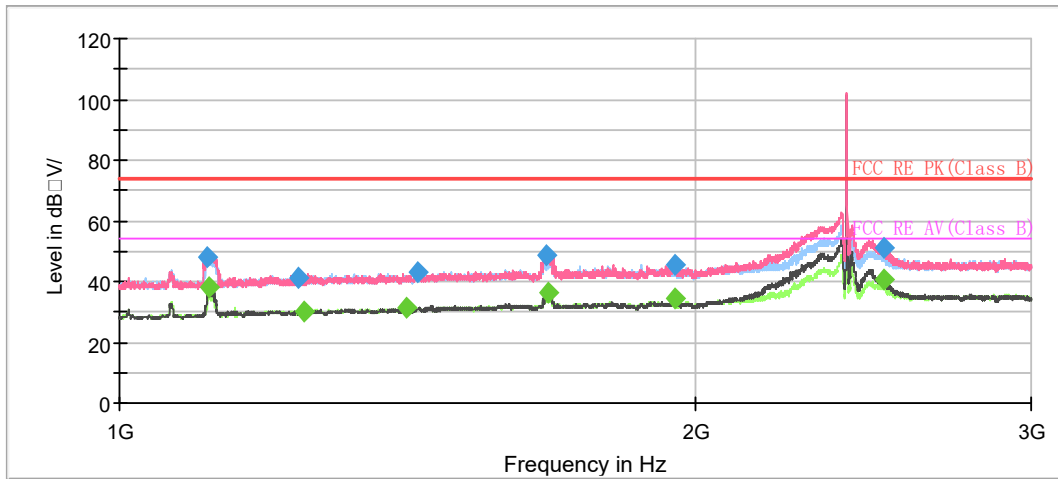
Radiates Emission from 9kHz to 30MHz



Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
48.066250	27.86	12.14	1000.0	125.0	V	228.0	21.2
96.323750	40.49	3.01	1000.0	225.0	H	179.0	18.7
144.338750	43.01	0.49	1000.0	184.0	H	148.0	15.6
192.475000	41.56	1.94	1000.0	125.0	H	340.0	18.8
240.732500	42.54	3.46	1000.0	109.0	H	312.0	20.1
481.292500	37.25	8.75	1000.0	175.0	H	150.0	24.8

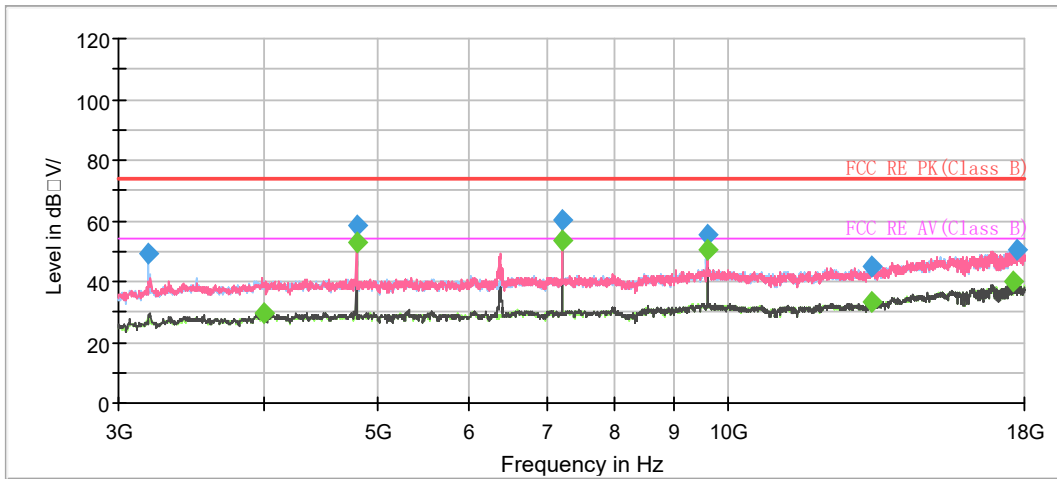
Bluetooth LE-Channel 0



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

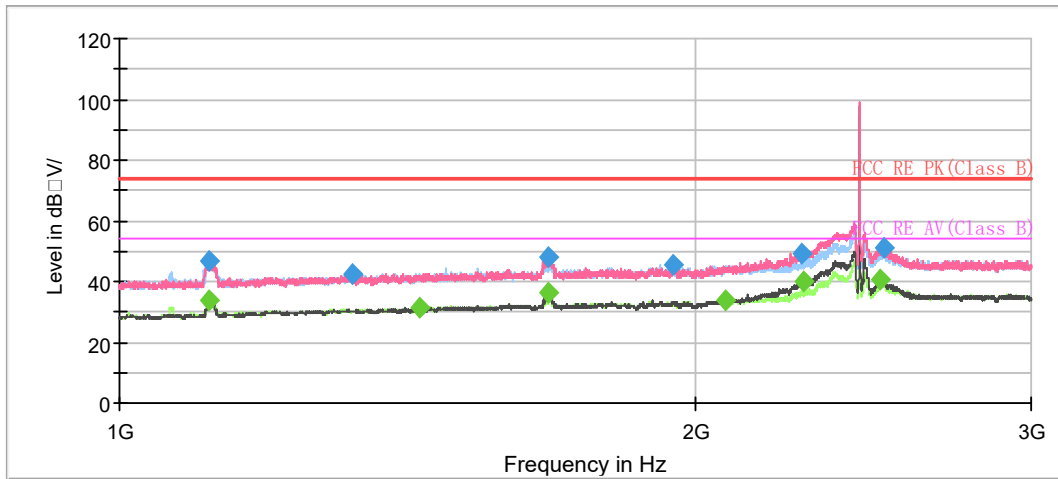
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1111.500000	47.80	---	74.00	26.20	500.0	100.0	H	48.0	-10.0
1114.250000	---	38.07	54.00	15.93	500.0	200.0	V	0.0	-10.0
1240.500000	41.00	---	74.00	33.00	500.0	200.0	V	16.0	-8.6
1247.750000	---	29.97	54.00	24.03	500.0	100.0	H	187.0	-8.6
1412.500000	---	31.31	54.00	22.69	500.0	200.0	H	17.0	-7.5
1434.000000	43.04	---	74.00	30.96	500.0	100.0	V	251.0	-7.4
1671.750000	48.73	---	74.00	25.27	500.0	200.0	V	92.0	-6.1
1678.000000	---	36.37	54.00	17.63	500.0	200.0	V	92.0	-6.1
1952.250000	45.80	---	74.00	28.20	500.0	200.0	V	142.0	-4.7
1955.250000	---	34.31	54.00	19.69	500.0	200.0	V	142.0	-4.7
2510.500000	51.11	---	74.00	22.89	500.0	200.0	V	134.0	-2.1
2511.250000	---	40.70	54.00	13.30	500.0	200.0	V	134.0	-2.1



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)
3181.875000	49.35	---	74.00	24.65	500.0	100.0	H	354.0	-10.1
3995.625000	---	29.55	54.00	24.45	500.0	100.0	V	287.0	-6.8
4803.750000	---	52.66	54.00	1.34	500.0	100.0	V	68.0	-6.1
4803.750000	58.20	---	74.00	15.80	500.0	100.0	V	68.0	-6.1
7205.625000	---	53.74	54.00	0.26	500.0	100.0	V	0.0	-3.0
7205.625000	60.10	---	74.00	13.90	500.0	100.0	V	0.0	-3.0
9607.500000	55.38	---	74.00	18.62	500.0	200.0	H	145.0	-0.7
9607.500000	---	50.38	54.00	3.62	500.0	200.0	H	145.0	-0.7
13312.500000	45.18	---	74.00	28.82	500.0	200.0	H	270.0	2.3
13314.375000	---	33.11	54.00	20.89	500.0	100.0	V	105.0	2.3
17617.500000	---	39.77	54.00	14.23	500.0	200.0	H	92.0	10.1
17718.750000	50.72	---	74.00	23.28	500.0	100.0	H	95.0	10.3

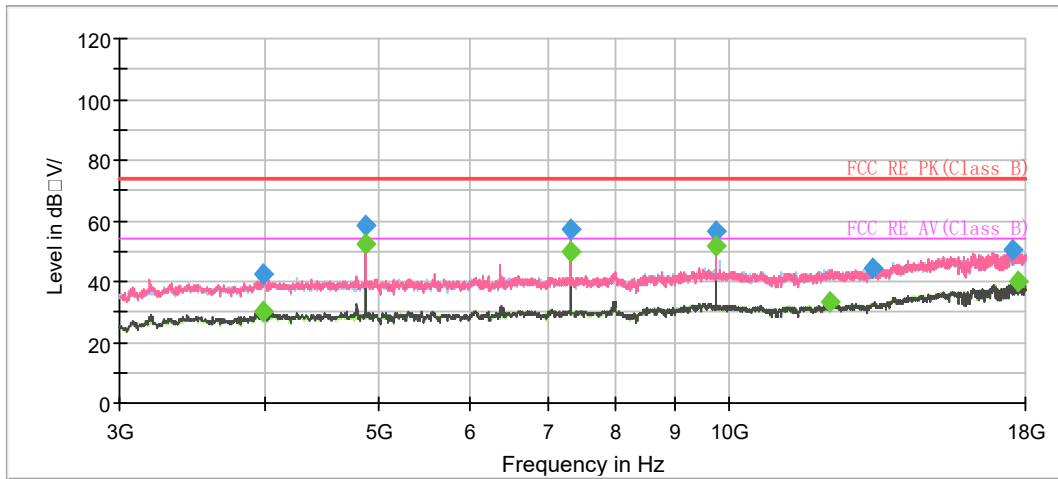
Bluetooth LE-Channel 19



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

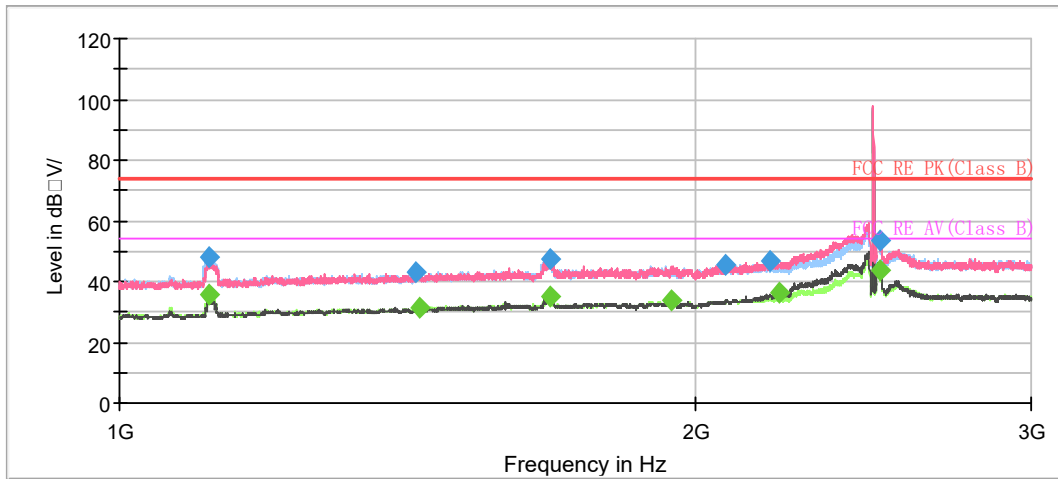
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1113.000000	46.85	---	74.00	27.15	500.0	200.0	H	238.0	-10.0
1113.500000	---	33.92	54.00	20.08	500.0	200.0	H	238.0	-10.0
1324.500000	42.63	---	74.00	31.37	500.0	100.0	V	116.0	-8.0
1436.000000	---	31.21	54.00	22.79	500.0	200.0	V	200.0	-7.4
1677.250000	47.95	---	74.00	26.05	500.0	200.0	V	78.0	-6.1
1678.000000	---	36.03	54.00	17.97	500.0	200.0	V	85.0	-6.1
1950.750000	45.71	---	74.00	28.29	500.0	200.0	V	142.0	-4.7
2077.250000	---	33.70	54.00	20.30	500.0	200.0	V	256.0	-3.9
2277.250000	49.08	---	74.00	24.92	500.0	100.0	V	37.0	-3.0
2281.500000	---	39.81	54.00	14.19	500.0	100.0	V	47.0	-3.0
2503.250000	---	40.76	54.00	13.24	500.0	100.0	V	116.0	-2.1
2510.750000	50.96	---	74.00	23.04	500.0	200.0	V	256.0	-2.1



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)
3982.500000	42.43	---	74.00	31.57	500.0	200.0	V	171.0	-6.8
3984.375000	---	30.35	54.00	23.65	500.0	200.0	V	171.0	-6.8
4878.750000	---	52.60	54.00	1.40	500.0	100.0	V	71.0	-5.7
4880.625000	58.65	---	74.00	15.35	500.0	100.0	V	71.0	-5.7
7320.000000	57.21	---	74.00	16.79	500.0	200.0	V	15.0	-3.0
7320.000000	---	50.10	54.00	3.91	500.0	200.0	V	15.0	-3.0
9759.375000	56.63	---	74.00	17.37	500.0	200.0	H	145.0	-0.5
9759.375000	---	51.54	54.00	2.46	500.0	200.0	H	145.0	-0.5
12200.625000	---	33.13	54.00	20.87	500.0	200.0	V	0.0	0.4
13314.375000	44.58	---	74.00	29.42	500.0	100.0	V	1.0	2.3
17531.250000	50.40	---	74.00	23.60	500.0	100.0	H	81.0	9.9
17720.625000	---	39.93	54.00	14.07	500.0	100.0	V	166.0	10.3

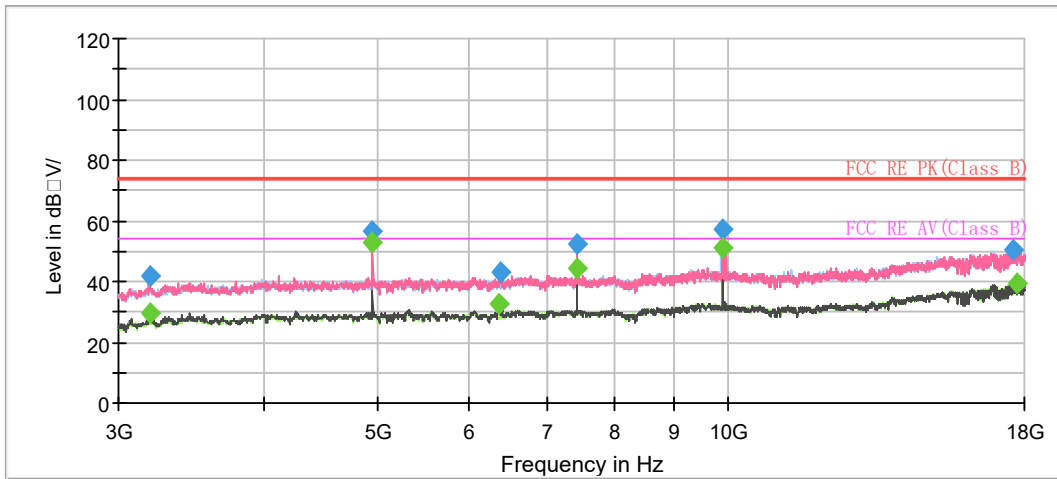
Bluetooth LE-Channel 39



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)
1114.500000	---	35.68	54.00	18.32	500.0	200.0	H	231.0	-10.0
1114.500000	47.93	---	74.00	26.07	500.0	200.0	H	231.0	-10.0
1430.250000	42.97	---	74.00	31.03	500.0	100.0	V	118.0	-7.4
1435.250000	---	31.28	54.00	22.72	500.0	100.0	H	342.0	-7.4
1680.250000	47.66	---	74.00	26.34	500.0	200.0	V	89.0	-6.0
1681.250000	---	35.05	54.00	18.95	500.0	200.0	V	82.0	-6.0
1946.500000	---	34.13	54.00	19.87	500.0	200.0	V	289.0	-4.7
2075.000000	45.80	---	74.00	28.20	500.0	200.0	V	218.0	-4.0
2191.250000	46.87	---	74.00	27.13	500.0	100.0	V	42.0	-3.4
2217.000000	---	36.46	54.00	17.54	500.0	200.0	V	273.0	-3.2
2498.250000	---	43.59	54.00	10.41	500.0	200.0	V	127.0	-2.1
2498.500000	53.32	---	74.00	20.68	500.0	200.0	V	340.0	-2.1



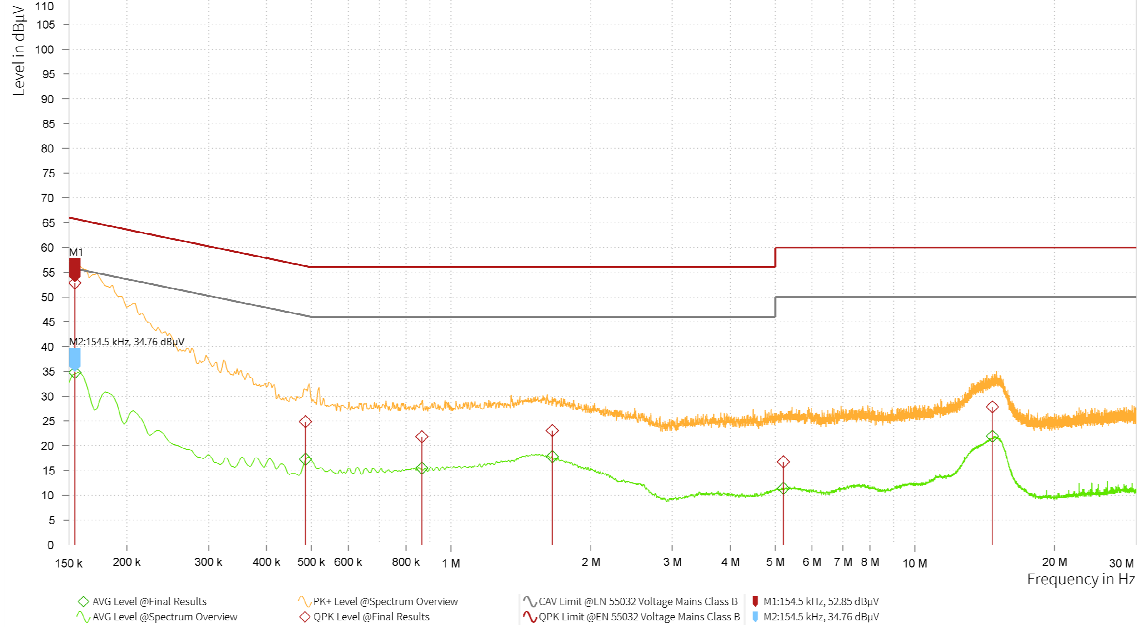
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3189.375000	41.87	---	74.00	32.13	500.0	200.0	V	219.0	-10.0
3196.875000	---	29.36	54.00	24.64	500.0	100.0	V	208.0	-9.9
4959.375000	---	52.64	54.00	1.36	500.0	100.0	V	75.0	-5.4
4959.375000	56.91	---	74.00	17.09	500.0	100.0	V	75.0	-5.4
6363.750000	---	32.39	54.00	21.61	500.0	100.0	V	274.0	-4.3
6384.375000	43.25	---	74.00	30.75	500.0	100.0	V	274.0	-4.2
7440.000000	52.51	---	74.00	21.49	500.0	200.0	V	23.0	-2.9
7440.000000	---	44.42	54.00	9.58	500.0	200.0	V	23.0	-2.9
9920.625000	57.50	---	74.00	16.50	500.0	200.0	V	5.0	-0.9
9920.625000	---	51.13	54.00	2.87	500.0	200.0	H	214.0	-0.9
17621.250000	50.36	---	74.00	23.64	500.0	200.0	H	287.0	10.2
17715.000000	---	39.63	54.00	14.37	500.0	100.0	V	274.0	10.3

2. Conducted Emission

2.1. Bluetooth

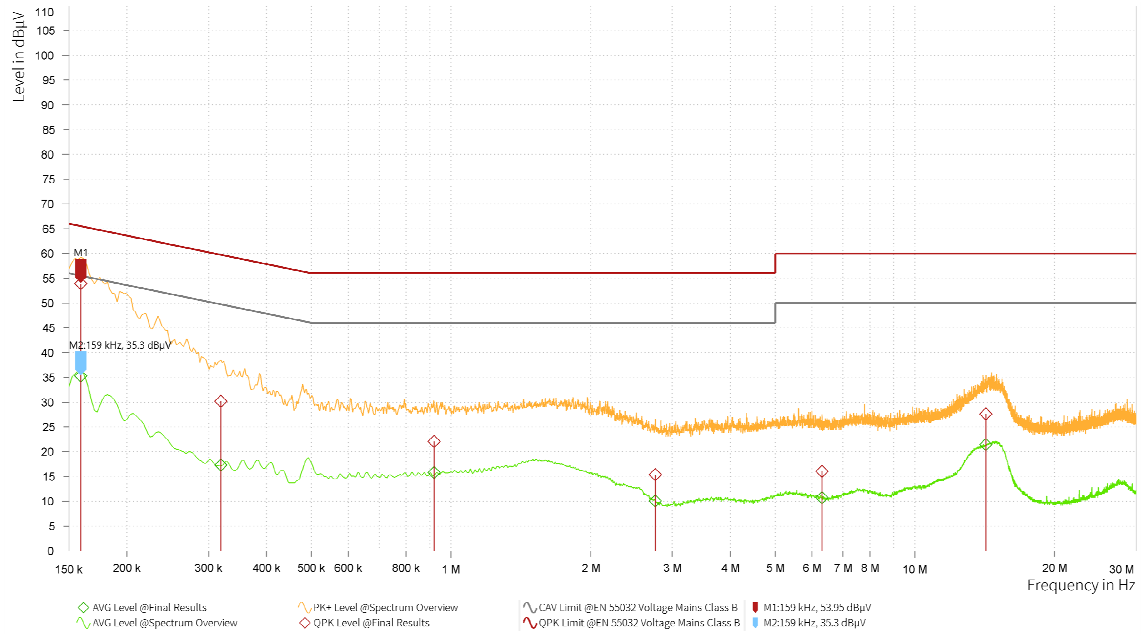
During the test, the Conducted Emission was performed in all modes with all channels. The test data of the worst-case condition was recorded in this report.



Frequency [MHz]	QPK Level [dBµV]	QPK Limit [dBµV]	QPK Margin [dB]	AVG Level [dBµV]	AVG: CAV Limit [dBµV]	AVG Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]	Meas. Time [s]
0.155	52.85	65.75	12.91	34.76	55.75	21.00	20.90	L1	9.000	1.000
0.485	24.88	56.25	31.37	17.25	46.25	29.00	20.79	L1	9.000	1.000
0.866	21.82	56.00	34.18	15.48	46.00	30.52	20.27	L1	9.000	1.000
1.653	23.06	56.00	32.94	17.78	46.00	28.22	19.77	L1	9.000	1.000
5.210	16.73	60.00	43.27	11.40	50.00	38.60	19.40	L1	9.000	1.000
14.701	27.83	60.00	32.17	21.92	50.00	28.08	19.49	L1	9.000	1.000

Remark: Correct factor=cable loss + LISN factor

L line Conducted Emission from 150 kHz to 30 MHz



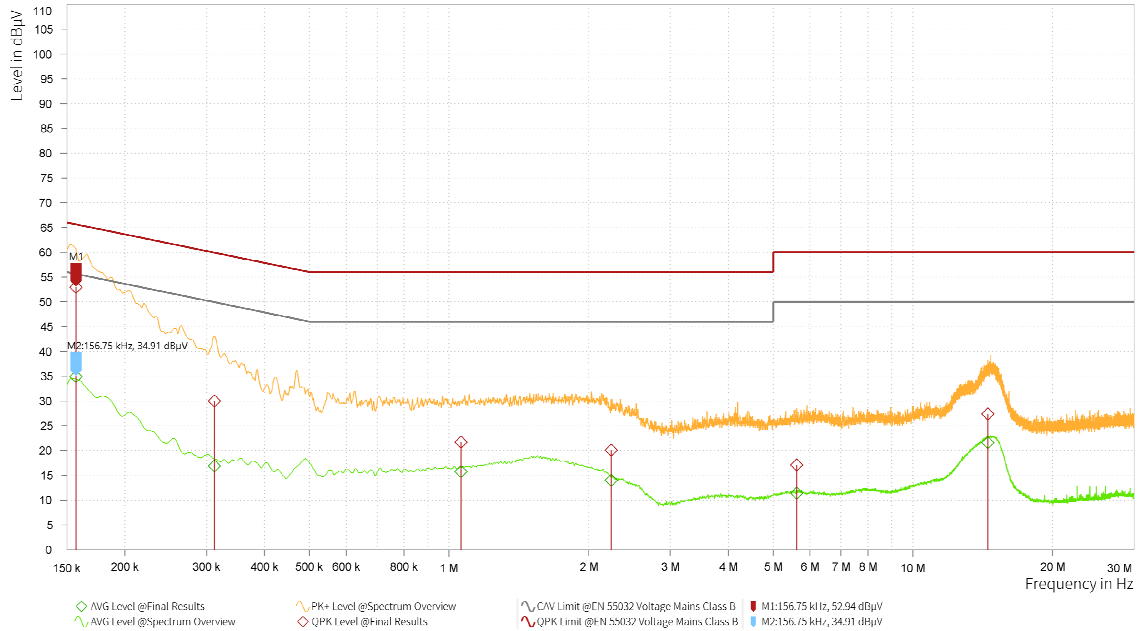
Frequency [MHz]	QPK Level [dBµV]	QPK Limit [dBµV]	QPK Margin [dB]	AVG Level [dBµV]	AVG: CAV Limit [dBµV]	AVG Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]	Meas. Time [s]
0.159	53.95	65.52	11.57	35.30	55.52	20.21	20.91	N	9.000	1.000
0.319	30.18	59.74	29.56	17.29	49.74	32.45	20.93	N	9.000	1.000
0.920	22.04	56.00	33.96	15.78	46.00	30.22	20.23	N	9.000	1.000
2.758	15.35	56.00	40.65	10.08	46.00	35.92	19.52	N	9.000	1.000
6.308	16.03	60.00	43.97	10.74	50.00	39.26	19.41	N	9.000	1.000
14.233	27.62	60.00	32.38	21.42	50.00	28.58	19.51	N	9.000	1.000

Remark: Correct factor=cable loss + LISN factor

N line Conducted Emission from 150 kHz to 30 MHz

2.2. Bluetooth LE

During the test, the Conducted Emission was performed in all modes with all channels. The test data of the worst-case condition was recorded in this report.



Frequency [MHz]	QPK Level [dBµV]	QPK Limit [dBµV]	QPK Margin [dB]	AVG Level [dBµV]	AVG: CAV Limit [dBµV]	AVG Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]	Meas. Time [s]
0.157	52.94	65.63	12.70	34.91	55.63	20.72	20.90	L1	9.000	1.000
0.312	29.96	59.92	29.96	16.90	49.92	33.02	20.93	L1	9.000	1.000
1.061	21.66	56.00	34.34	15.75	46.00	30.25	20.11	L1	9.000	1.000
2.236	20.08	56.00	35.92	13.97	46.00	32.03	19.59	L1	9.000	1.000
5.622	17.09	60.00	42.91	11.36	50.00	38.64	19.40	L1	9.000	1.000
14.521	27.36	60.00	32.64	21.57	50.00	28.43	19.49	L1	9.000	1.000

Remark: Correct factor=cable loss + LISN factor

L line Conducted Emission from 150 kHz to 30 MHz



Frequency [MHz]	QPK Level [dBµV]	QPK Limit [dBµV]	QPK Margin [dB]	AVG Level [dBµV]	AVG: CAV Limit [dBµV]	AVG Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]	Meas. Time [s]
0.150	50.58	66.00	15.42	30.02	56.00	25.98	20.91	N	9.000	1.000
0.461	23.89	56.68	32.80	16.81	46.68	29.87	20.83	N	9.000	1.000
1.453	22.90	56.00	33.10	17.73	46.00	28.27	19.88	N	9.000	1.000
3.892	15.24	56.00	40.76	9.86	46.00	36.14	19.44	N	9.000	1.000
7.746	16.24	60.00	43.76	11.08	50.00	38.92	19.41	N	9.000	1.000
14.863	26.09	60.00	33.91	19.48	50.00	30.52	19.53	N	9.000	1.000

Remark: Correct factor=cable loss + LISN factor

N line Conducted Emission from 150 kHz to 30 MHz