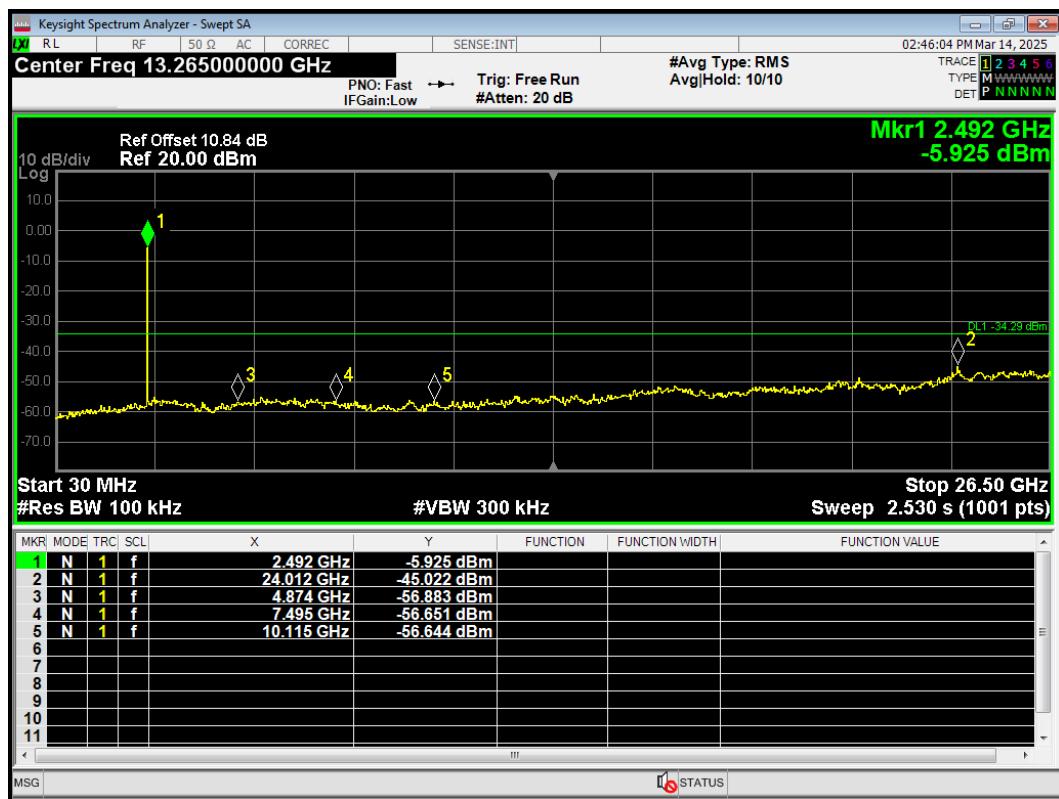


Tx. Spurious BLE (1M)2480MHz Ref



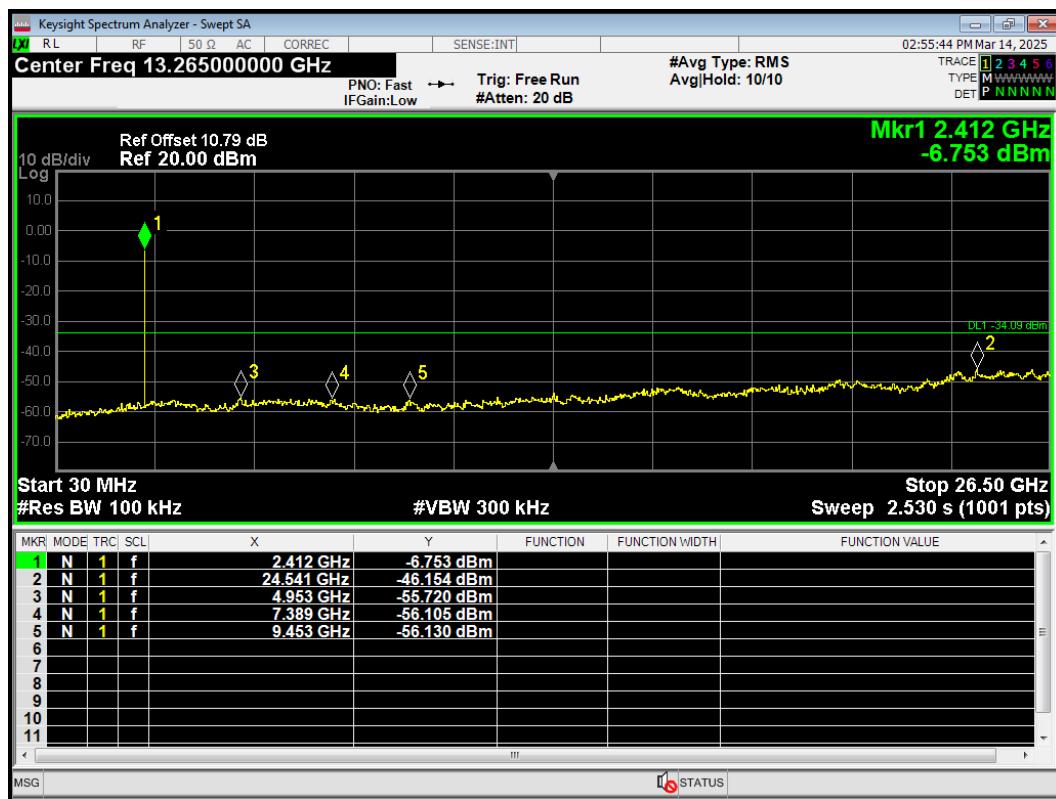
Tx. Spurious BLE (1M)2480MHz Emission



Tx. Spurious BLE (2M) 2404MHz Ref



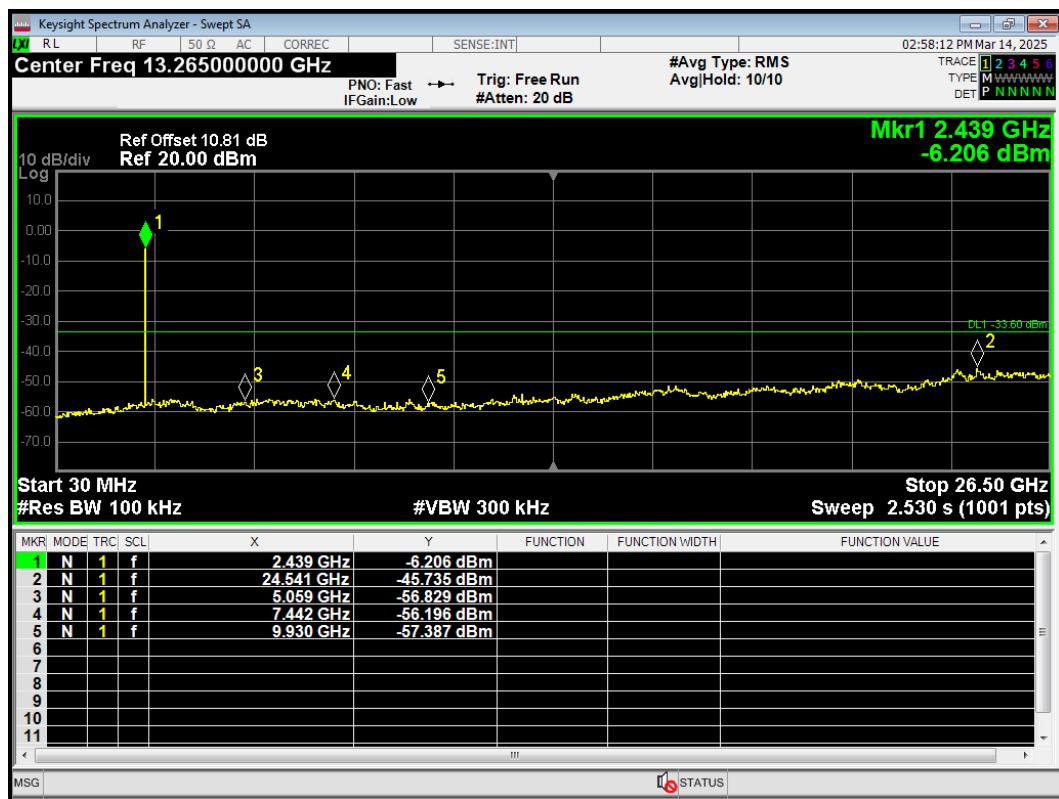
Tx. Spurious BLE (2M) 2404MHz Emission



Tx. Spurious BLE (2M) 2440MHz Ref



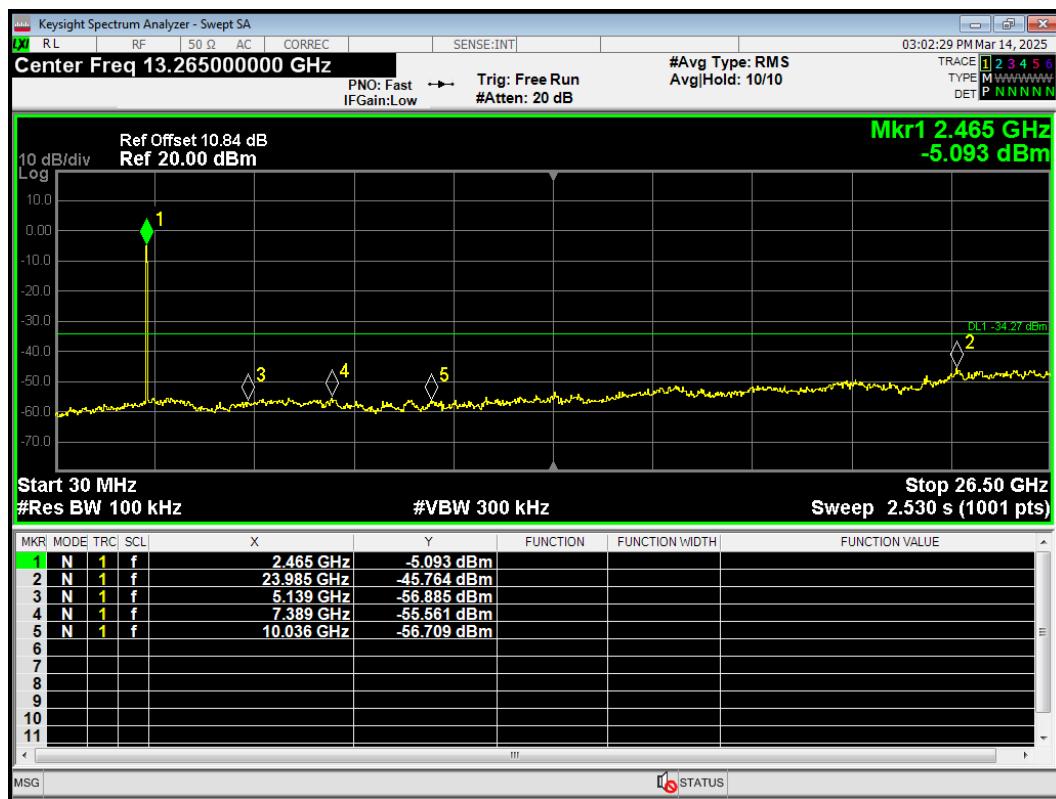
Tx. Spurious BLE (2M) 2440MHz Emission



Tx. Spurious BLE (2M) 2478MHz Ref



Tx. Spurious BLE (2M) 2478MHz Emission



5.6. Unwanted Emission

Ambient Condition

Temperature	Relative humidity
15°C ~ 35°C	20% ~ 80%

Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.10.

The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna.

The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing. Sweep the Restricted Band and the emissions less than 20 dB below the permissible value are reported.

The radiated emissions measurements were made in a typical installation configuration.

Sweep the whole frequency band through the range from 9 kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

This method refer to ANSI C63.10.

The procedure for peak unwanted emissions measurements above 1000 MHz is as follows:

Set the spectrum analyzer in the following:

9kHz~150 kHz

RBW=200Hz, VBW=1kHz/ Sweep=AUTO

150 kHz~30MHz

RBW=9kHz, VBW=30kHz,/ Sweep=AUTO

Below 1GHz

RBW=100kHz / VBW=300kHz / Sweep=AUTO

a) Peak emission levels are measured by setting the instrument as follows:

Above 1GHz

PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO

b) Average emission levels are measured by setting the instrument as follows:

Above 1GHz

AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO

c) Detector: The measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode to use linear voltage

averaging. Log or dB averaging shall not be used.)

e) Sweep time = auto.

f) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, then the number of traces shall be increased by a factor of $1 / D$, where D is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and OFF with the transmit cycle, at least 100 traces shall be averaged.)

g) If tests are performed with the EUT transmitting at a duty cycle less than 98%, then a correction factor shall be added to the measurement results prior to comparing with the emission limit, to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:

1) If power averaging (rms) mode was used in the preceding step e), then the correction factor is $[10 \log (1 / D)]$, where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB shall be added to the measured emission levels.

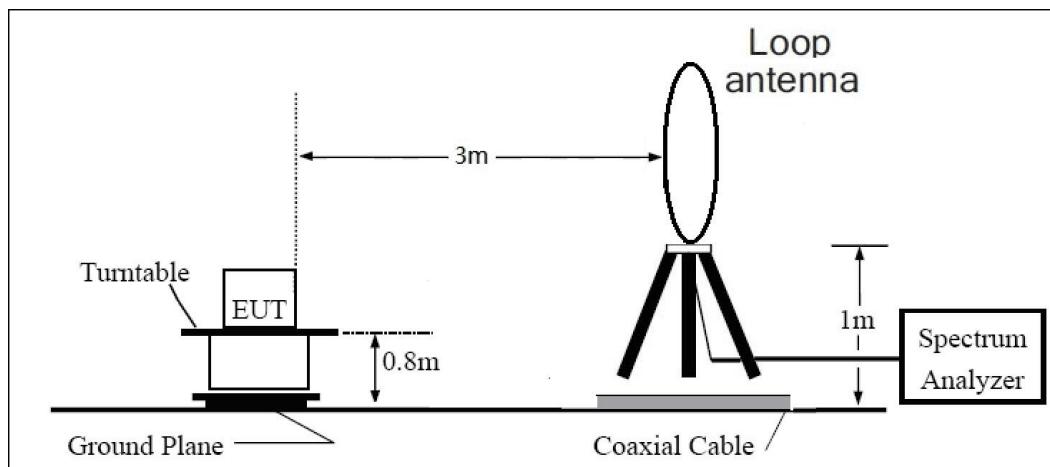
2) If linear voltage averaging mode was used in the preceding step e), then the correction factor is $[20 \log (1 / D)]$, where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB shall be added to the measured emission levels.

3) If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission.

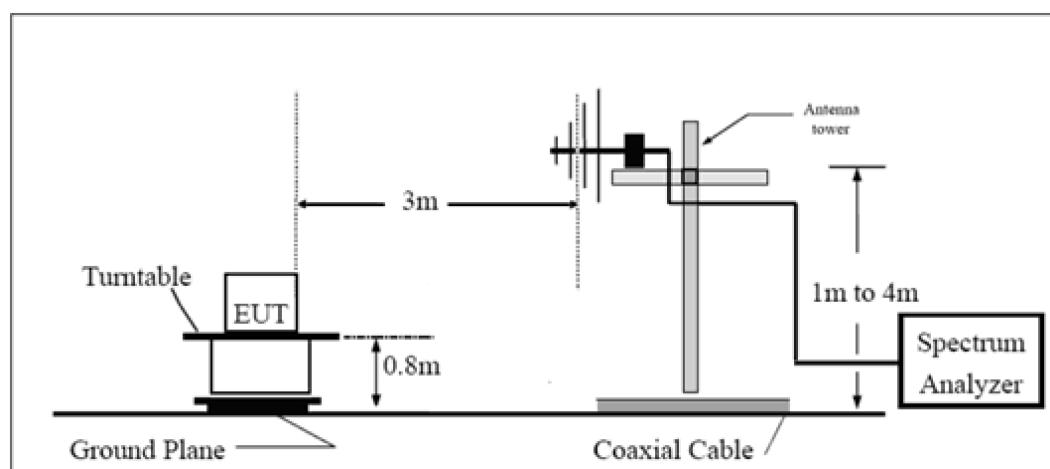
The test is in transmitting mode.

Test Setup

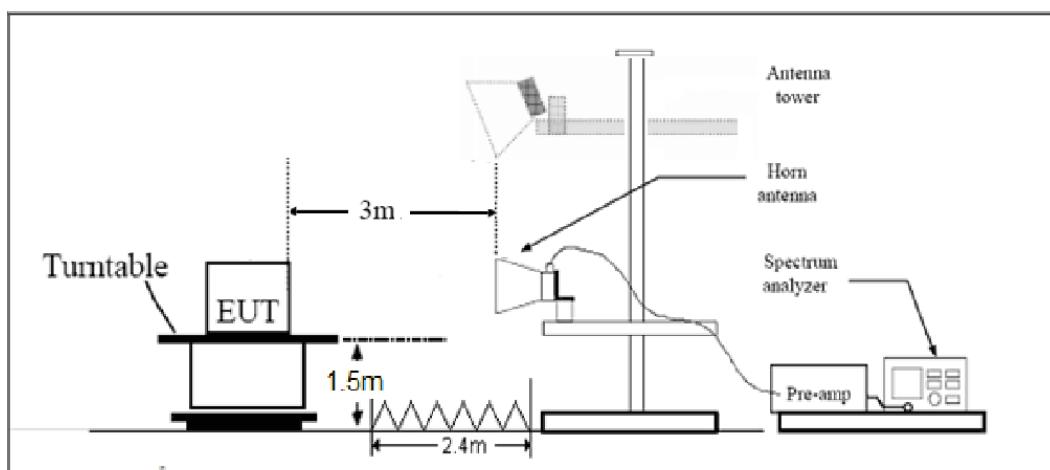
9kHz~ 30MHz



30MHz~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

Limits

Rule Part 15.247(d) specifies that “In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).”

Limit in restricted band

Frequency of emission (MHz)	Field strength(μ V/m)	Field strength(dB μ V/m)
0.009–0.490	2400/F(kHz)	/
0.490–1.705	24000/F(kHz)	/
1.705–30.0	30	/
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

§15.35(b)

There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

Peak Limit=74 dB μ V/m

Average Limit=54 dB μ V/m

Spurious Radiated Emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

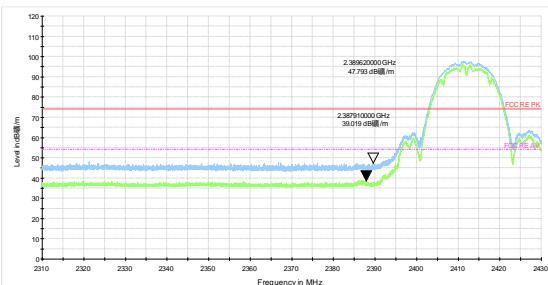
Frequency	Uncertainty
9kHz-30MHz	3.55 dB
30MHz-200MHz	4.17 dB
200MHz-1GHz	4.84 dB
1-18GHz	4.35 dB
18-26.5GHz	5.90 dB
26.5GHz~40GHz	5.92 dB

Test Results:

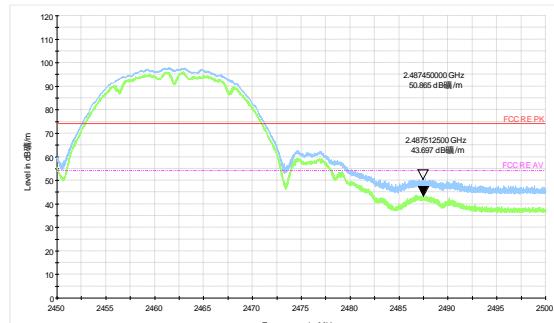
The following graphs display the maximum values of horizontal and vertical by software.

Blue trace uses the peak detection, Green trace uses the average detection.

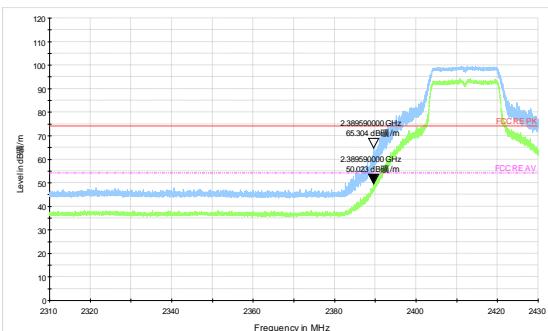
A symbol ($\text{dB}\mu\text{V}/\text{m}$) in the test plot below means ($\text{dB}\mu\text{V}/\text{m}$)



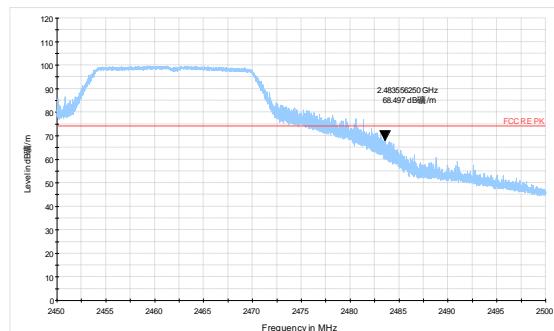
802.11b-Channel 1 Peak+ Average



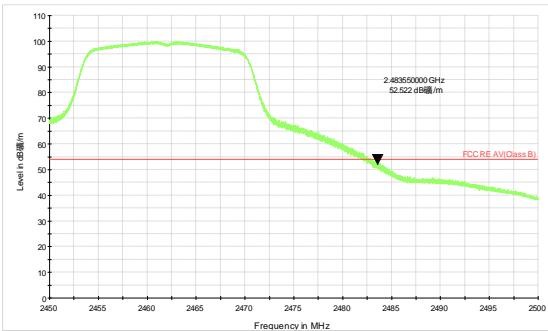
802.11b-Channel 11 Peak+ Average



802.11g-Channel 1 Peak+ Average

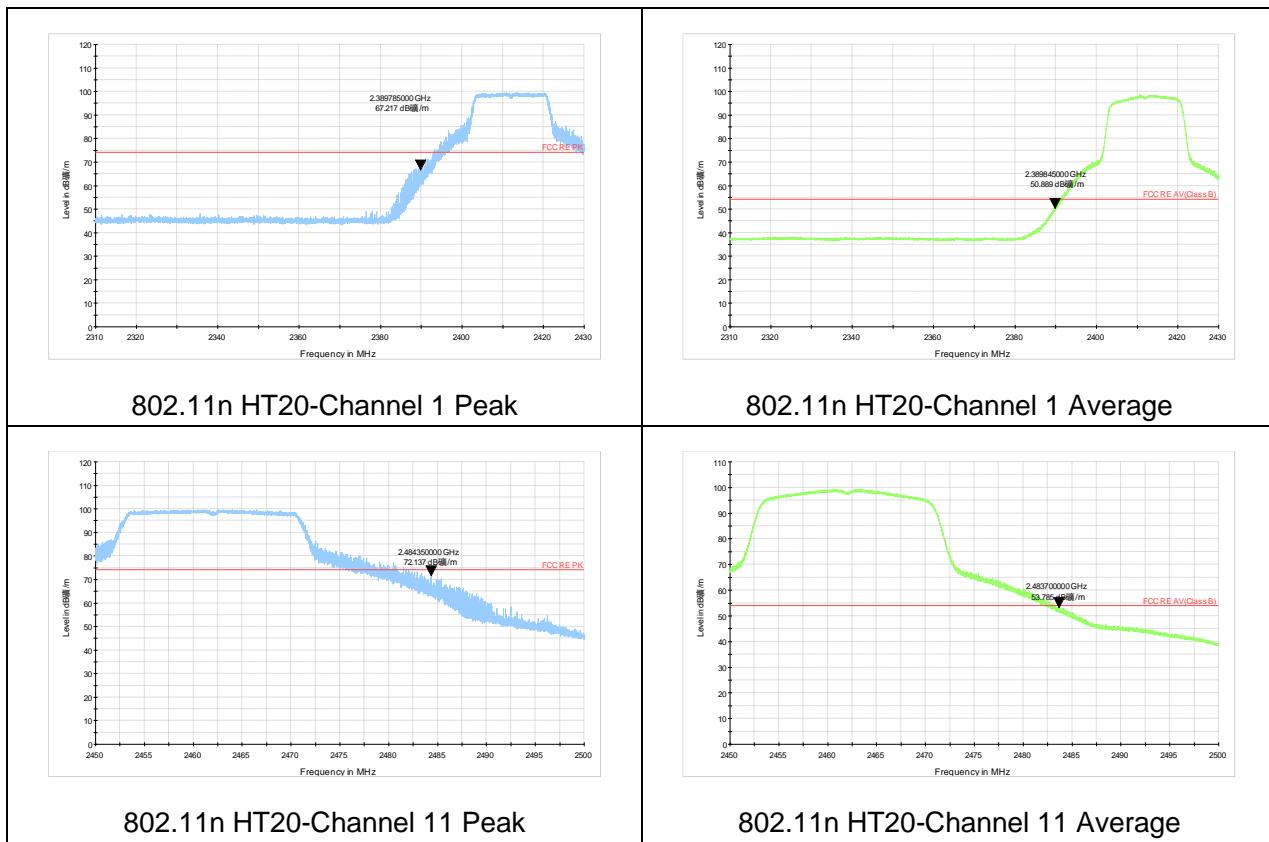


802.11g-Channel 11 Peak

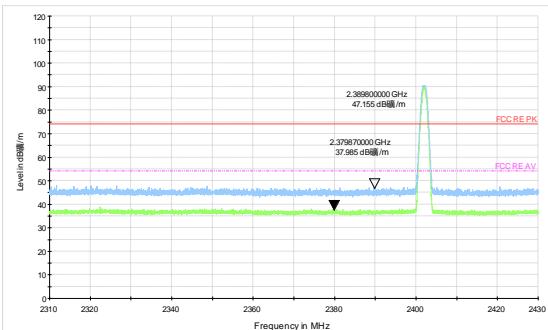


802.11g-Channel 11 Average

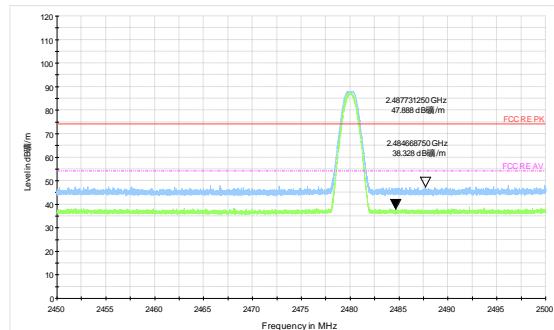
/



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

Test result

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier.

The following graphs display the maximum values of horizontal and vertical by software.

For above 1GHz, Blue trace uses the peak detection, Green trace uses the average detection.

Continuous TX mode:

Remark:

1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)
2. Margin = Limit – Quasi-Peak/ MAX Peak/ Average
3. A symbol ($\text{dB}\mu\text{V}/\text{V}$) in the test plot below means ($\text{dB}\mu\text{V}/\text{m}$)
4. For below 1GHz

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

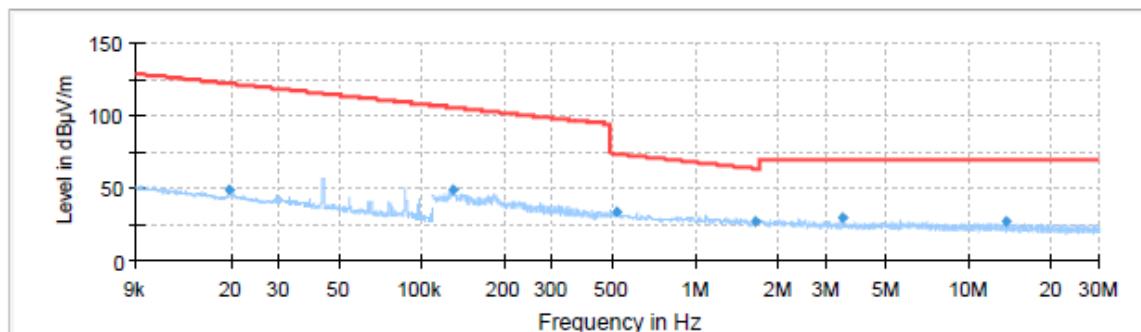
For above 1GHz

 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

Wi-Fi 2.4GHz

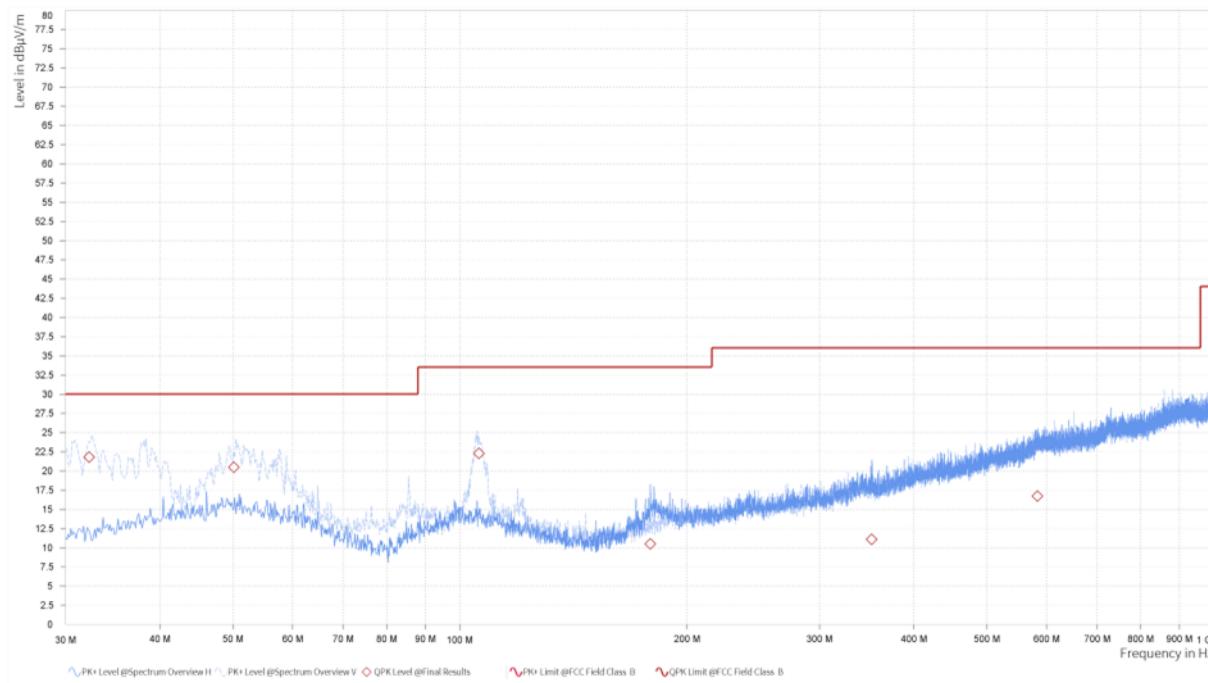
During the test, the Radiates Emission from 9kHz to 1GHz was performed in all modes, are selected as the worst condition. The test data of the worst-case condition was recorded in this report.



Final Result

Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.02	49.35	121.70	72.35	500.00	0.200	V	140.00	17
0.13	48.74	105.31	56.57	150.00	9.000	V	127.00	17
0.52	32.82	73.35	40.54	150.00	9.000	V	98.00	17
1.65	27.36	63.25	35.89	150.00	9.000	V	0.00	17
3.45	29.18	69.50	40.32	150.00	9.000	V	358.00	17
13.68	26.45	69.50	43.05	150.00	9.000	V	278.00	17

Radiates Emission from 9kHz to 30MHz

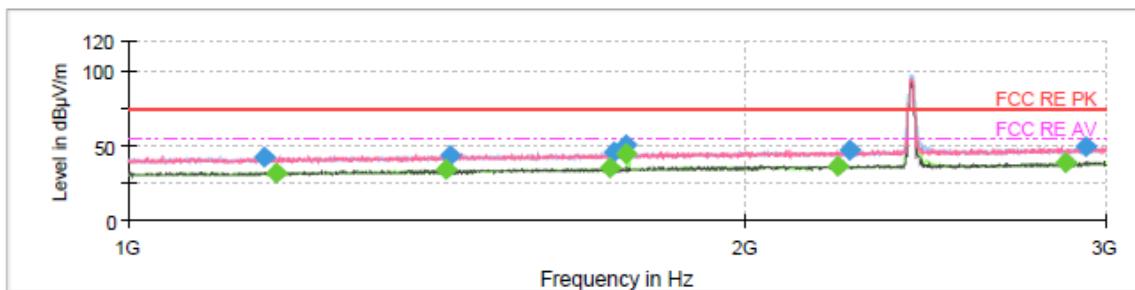


EMI Final Results

Rg	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]	Time of Meas.	Source
1	32.230	21.79	30.00	8.21	-11.96	V	148	1.00	120.000	1.000	23:59:39	Critical Points
1	50.133	20.45	30.00	9.55	-8.33	V	298.1	1.00	120.000	1.000	0:02:53	Critical Points
1	105.982	22.28	33.50	11.22	-10.16	V	269.5	1.11	120.000	1.000	0:01:22	Critical Points
1	178.944	10.47	33.50	23.03	-11.72	H	249.1	2.11	120.000	1.000	23:56:16	Critical Points
1	351.514	11.05	36.00	24.95	-6.01	H	257.1	1.25	120.000	1.000	23:57:50	Critical Points
1	583.458	16.68	36.00	19.32	-1.20	H	134.4	2.05	120.000	1.000	23:54:11	Critical Points

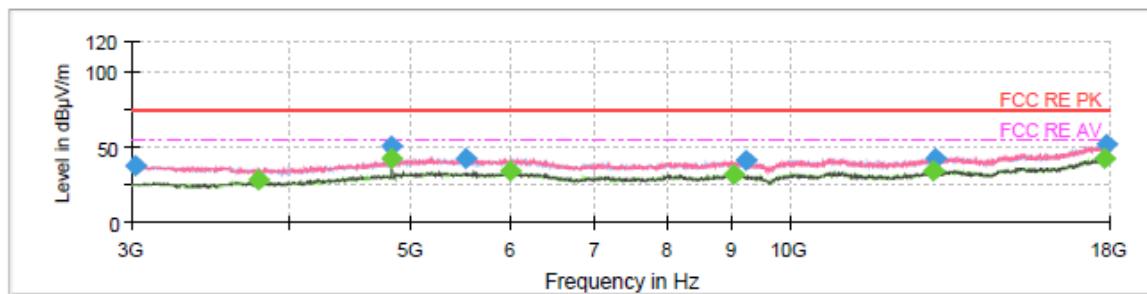
Radiates Emission from 30MHz to 1GHz

802.11b CH1



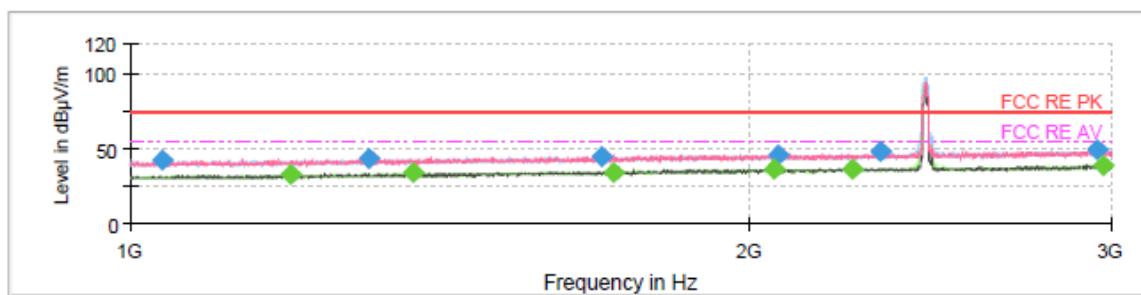
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1164.250000	42.47	---	74.00	31.53	150.0	100.0	V	90.0	-3.8
1182.000000	---	32.19	54.00	21.81	150.0	100.0	V	270.0	-3.7
1428.750000	---	34.26	54.00	19.74	150.0	200.0	V	306.0	-2.0
1435.750000	43.86	---	74.00	30.14	150.0	200.0	H	0.0	-2.0
1719.500000	---	34.97	54.00	19.03	150.0	100.0	V	239.0	-0.1
1726.500000	45.80	---	74.00	28.20	150.0	200.0	V	189.0	-0.1
1749.250000	50.06	---	74.00	23.94	150.0	100.0	H	56.0	0.0
1749.250000	---	44.41	54.00	9.59	150.0	200.0	H	56.0	0.0
2222.500000	---	36.70	54.00	17.30	150.0	200.0	V	244.0	2.7
2250.500000	46.98	---	74.00	27.02	150.0	100.0	V	212.0	2.7
2870.000000	---	38.90	54.00	15.10	150.0	200.0	V	252.0	6.1
2935.250000	49.10	---	74.00	24.90	150.0	200.0	V	226.0	6.6



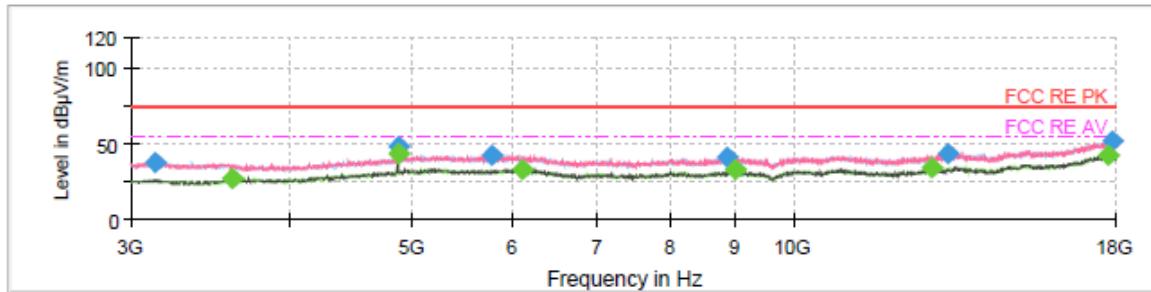
Final Result

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)
3022.500000	37.56	---	74.00	36.44	150.0	200.0	V	344.0	-5.0
3787.500000	---	27.83	54.00	26.17	150.0	100.0	V	73.0	-3.9
4822.500000	---	42.23	54.00	11.77	150.0	200.0	H	32.0	1.0
4822.500000	50.00	---	74.00	24.00	150.0	100.0	H	32.0	1.0
5531.250000	42.20	---	74.00	31.80	150.0	100.0	V	111.0	3.0
5988.750000	---	33.56	54.00	20.44	150.0	200.0	H	202.0	3.9
9041.250000	---	31.84	54.00	22.16	150.0	200.0	V	192.0	5.0
9234.375000	41.05	---	74.00	32.95	150.0	100.0	V	0.0	5.2
13033.125000	---	34.04	54.00	19.96	150.0	200.0	H	240.0	11.0
13044.375000	42.86	---	74.00	31.14	150.0	200.0	H	341.0	10.9
17831.250000	---	42.07	54.00	11.93	150.0	200.0	H	359.0	20.5
17900.625000	51.21	---	74.00	22.79	150.0	200.0	H	224.0	20.6



Final Result

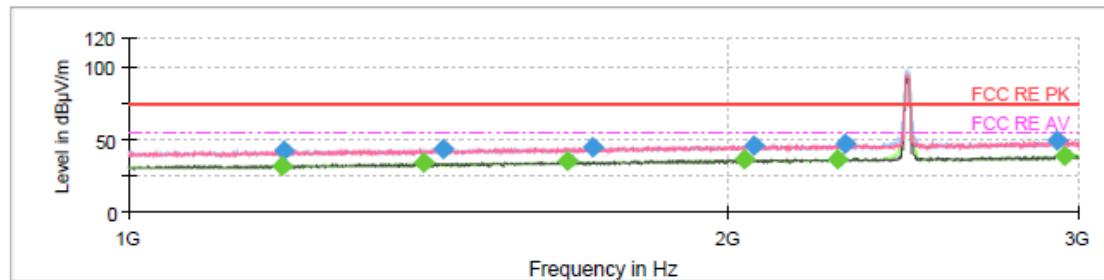
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1037.250000	42.47	---	74.00	31.53	150.0	100.0	V	94.0	-4.8
1197.500000	---	32.61	54.00	21.39	150.0	200.0	H	326.0	-3.6
1306.250000	43.78	---	74.00	30.22	150.0	100.0	V	3.0	-2.8
1372.000000	---	33.76	54.00	20.24	150.0	100.0	V	138.0	-2.4
1696.000000	44.94	---	74.00	29.06	150.0	200.0	H	257.0	-0.3
1720.250000	---	34.65	54.00	19.35	150.0	200.0	H	330.0	-0.1
2058.500000	---	36.34	54.00	17.66	150.0	200.0	V	19.0	1.9
2067.750000	46.17	---	74.00	27.83	150.0	100.0	V	156.0	1.8
2244.000000	---	36.87	54.00	17.13	150.0	200.0	V	125.0	2.6
2317.250000	47.96	---	74.00	26.04	150.0	200.0	V	121.0	3.1
2951.250000	49.05	---	74.00	24.95	150.0	200.0	H	94.0	6.6
2974.250000	---	38.89	54.00	15.11	150.0	200.0	H	291.0	6.8



Final Result

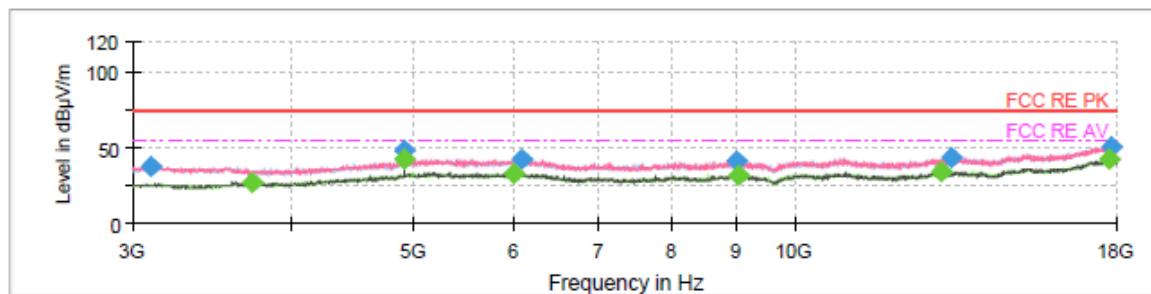
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3136.875000	37.39	---	74.00	36.61	150.0	100.0	H	190.0	-4.6
3601.875000	---	27.37	54.00	26.63	150.0	200.0	V	105.0	-4.1
4873.125000	48.65	---	74.00	25.35	150.0	100.0	H	49.0	1.4
4873.125000	---	43.75	54.00	10.25	150.0	100.0	H	49.0	1.4
5782.500000	42.71	---	74.00	31.29	150.0	200.0	V	252.0	3.8
6101.250000	---	33.25	54.00	20.75	150.0	200.0	H	82.0	3.7
8870.625000	41.06	---	74.00	32.94	150.0	200.0	V	116.0	5.0
9009.375000	---	32.62	54.00	21.38	150.0	100.0	H	359.0	5.0
12849.375000	---	33.91	54.00	20.09	150.0	200.0	V	40.0	10.4
13243.125000	43.27	---	74.00	30.73	150.0	200.0	H	98.0	10.6
17748.750000	---	41.90	54.00	12.10	150.0	200.0	H	169.0	20.4
17836.875000	51.24	---	74.00	22.76	150.0	200.0	V	262.0	20.5

802.11b CH11



Final Result

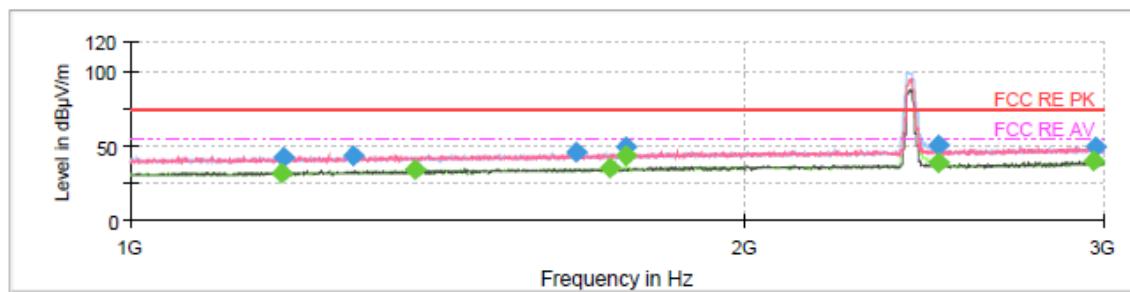
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1193.250000	—	32.26	54.00	21.74	150.0	100.0	V	300.0	-3.6
1196.750000	42.16	—	74.00	31.84	150.0	200.0	V	95.0	-3.6
1407.250000	—	33.72	54.00	20.28	150.0	100.0	H	347.0	-2.1
1439.000000	43.99	—	74.00	30.01	150.0	100.0	H	266.0	-2.0
1662.000000	—	34.73	54.00	19.27	150.0	200.0	V	68.0	-0.4
1712.250000	44.79	—	74.00	29.21	150.0	200.0	V	0.0	-0.1
2037.000000	—	36.44	54.00	17.56	150.0	100.0	V	194.0	1.9
2062.750000	46.17	—	74.00	27.83	150.0	200.0	H	342.0	1.9
2268.750000	—	36.67	54.00	17.33	150.0	200.0	V	64.0	2.8
2289.000000	46.62	—	74.00	27.38	150.0	200.0	V	233.0	3.0
2926.500000	49.58	—	74.00	24.42	150.0	200.0	H	230.0	6.5
2954.250000	—	38.93	54.00	15.07	150.0	100.0	V	300.0	6.7



Final Result

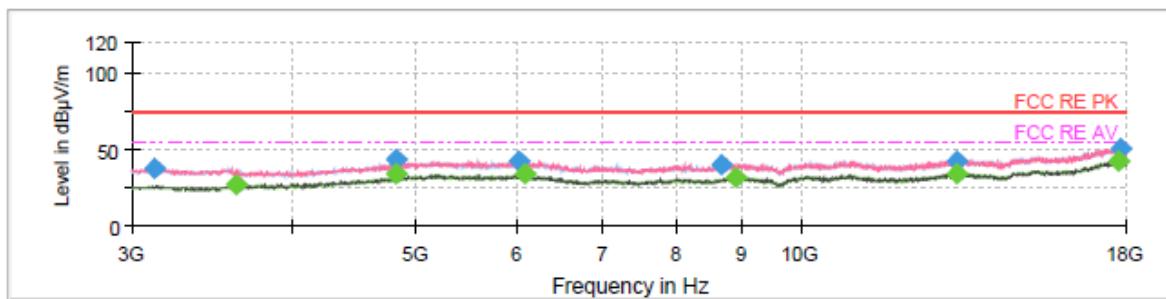
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3106.875000	37.38	---	74.00	36.62	150.0	100.0	V	21.0	-4.9
3723.750000	---	27.23	54.00	26.77	150.0	200.0	V	48.0	-4.2
4923.750000	---	42.14	54.00	11.86	150.0	100.0	H	173.0	1.8
4923.750000	48.52	---	74.00	25.48	150.0	100.0	H	173.0	1.8
5990.625000	---	33.14	54.00	20.86	150.0	200.0	V	37.0	3.9
6088.125000	42.22	---	74.00	31.78	150.0	200.0	H	325.0	3.7
9000.000000	40.96	---	74.00	33.04	150.0	200.0	H	147.0	5.0
9035.625000	---	32.02	54.00	21.98	150.0	200.0	V	193.0	5.0
13040.625000	---	33.82	54.00	20.18	150.0	100.0	V	118.0	10.9
13295.625000	43.03	---	74.00	30.97	150.0	200.0	V	64.0	10.8
17713.125000	---	41.91	54.00	12.09	150.0	200.0	V	101.0	20.4
17771.250000	50.91	---	74.00	23.09	150.0	200.0	H	309.0	20.4

802.11g CH1



Final Result

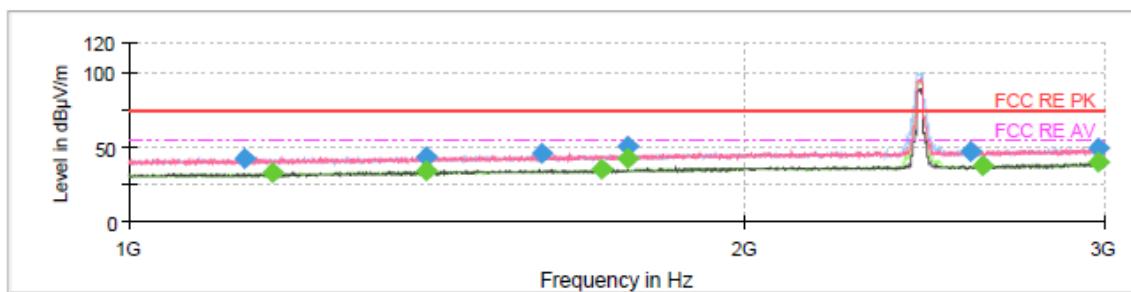
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1185.250000	—	32.32	54.00	21.68	150.0	100.0	H	274.0	-3.7
1188.500000	42.66	—	74.00	31.34	150.0	200.0	V	2.0	-3.7
1285.000000	43.83	—	74.00	30.17	150.0	100.0	H	331.0	-2.9
1379.250000	—	33.90	54.00	20.10	150.0	100.0	H	335.0	-2.3
1653.000000	45.54	—	74.00	28.46	150.0	200.0	H	131.0	-0.5
1718.000000	—	35.16	54.00	18.84	150.0	200.0	V	289.0	-0.1
1748.250000	49.69	—	74.00	24.31	150.0	100.0	H	322.0	0.0
1748.250000	—	43.62	54.00	10.38	150.0	200.0	H	322.0	0.0
2489.500000	—	38.97	54.00	15.03	150.0	200.0	H	269.0	3.8
2490.500000	50.10	—	74.00	23.90	150.0	200.0	H	278.0	3.8
2969.750000	—	39.51	54.00	14.49	150.0	200.0	V	335.0	6.8
2975.500000	49.28	—	74.00	24.72	150.0	200.0	H	193.0	6.8



Final Result

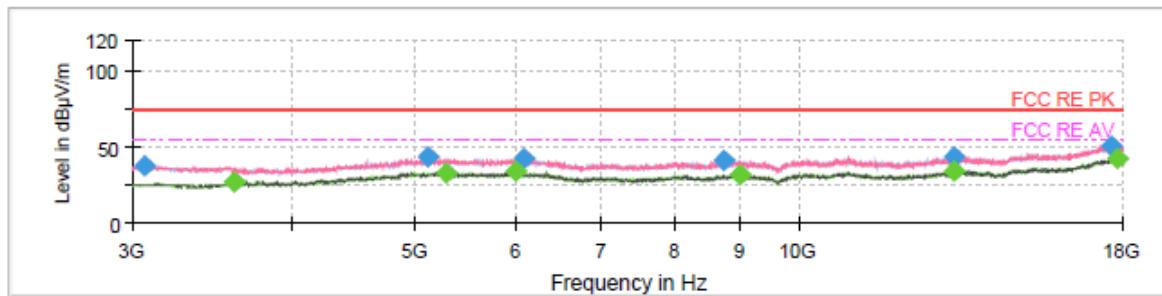
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3129.375000	37.65	---	74.00	36.35	150.0	100.0	V	74.0	-4.7
3624.375000	---	27.41	54.00	26.59	150.0	200.0	V	224.0	-4.1
4822.500000	44.10	---	74.00	29.90	150.0	100.0	H	178.0	1.0
4822.500000	---	34.43	54.00	19.57	150.0	100.0	H	178.0	1.0
6024.375000	42.10	---	74.00	31.90	150.0	200.0	V	58.0	3.9
6078.750000	---	33.58	54.00	20.42	150.0	200.0	V	63.0	3.8
8681.250000	40.54	---	74.00	33.46	150.0	200.0	H	27.0	4.9
8896.875000	---	31.75	54.00	22.25	150.0	100.0	V	150.0	5.1
13245.000000	42.63	---	74.00	31.37	150.0	200.0	H	33.0	10.6
13263.750000	---	34.32	54.00	19.68	150.0	200.0	V	20.0	10.7
17758.125000	---	41.87	54.00	12.13	150.0	200.0	V	9.0	20.4
17769.375000	50.85	---	74.00	23.15	150.0	200.0	H	97.0	20.4

802.11g CH6



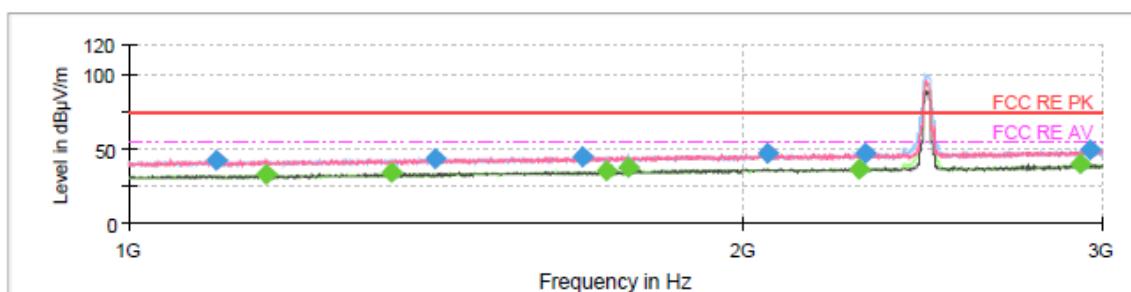
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1139.000000	42.73	---	74.00	31.27	150.0	100.0	V	181.0	-4.0
1176.250000	---	32.53	54.00	21.47	150.0	200.0	V	30.0	-3.7
1397.750000	---	33.81	54.00	20.19	150.0	100.0	V	238.0	-2.2
1399.000000	43.62	---	74.00	30.38	150.0	100.0	V	83.0	-2.2
1591.000000	45.79	---	74.00	28.21	150.0	200.0	V	48.0	-0.9
1704.750000	---	35.00	54.00	19.00	150.0	200.0	V	228.0	-0.2
1753.750000	50.10	---	74.00	23.90	150.0	200.0	H	359.0	0.1
1753.750000	---	42.55	54.00	11.45	150.0	100.0	H	359.0	0.1
2579.500000	47.63	---	74.00	26.37	150.0	200.0	H	242.0	4.2
2614.500000	---	37.86	54.00	16.14	150.0	200.0	V	110.0	4.4
2980.250000	49.22	---	74.00	24.78	150.0	100.0	H	130.0	6.8
2981.000000	---	39.67	54.00	14.33	150.0	200.0	H	356.0	6.8



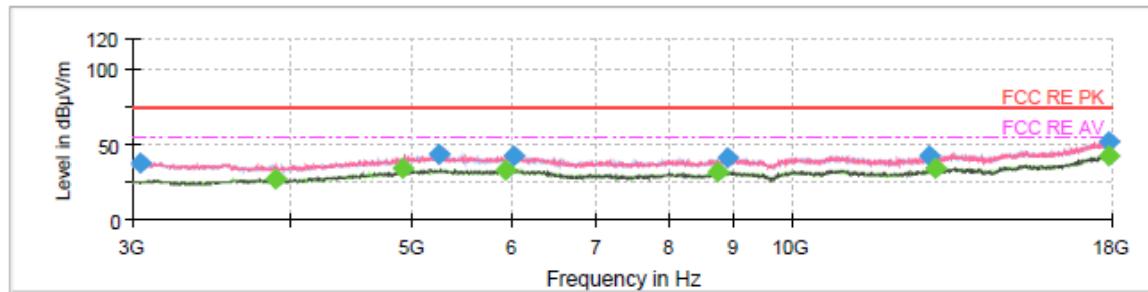
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3065.625000	37.29	---	74.00	36.71	150.0	100.0	H	99.0	-4.9
3605.625000	---	27.12	54.00	26.88	150.0	200.0	V	304.0	-4.2
5124.375000	42.99	---	74.00	31.01	150.0	200.0	V	134.0	2.5
5287.500000	---	33.53	54.00	20.47	150.0	100.0	V	144.0	2.5
6009.375000	---	33.74	54.00	20.26	150.0	200.0	V	183.0	3.9
6091.875000	42.29	---	74.00	31.71	150.0	200.0	V	69.0	3.7
8746.875000	40.89	---	74.00	33.11	150.0	100.0	V	134.0	5.0
9011.250000	---	31.64	54.00	22.36	150.0	200.0	H	298.0	5.0
13271.250000	---	34.07	54.00	19.93	150.0	200.0	H	268.0	10.7
13273.125000	42.98	---	74.00	31.02	150.0	200.0	H	246.0	10.7
17608.125000	50.97	---	74.00	23.03	150.0	200.0	V	161.0	20.1
17808.750000	---	41.80	54.00	12.20	150.0	200.0	V	42.0	20.5



Final Result

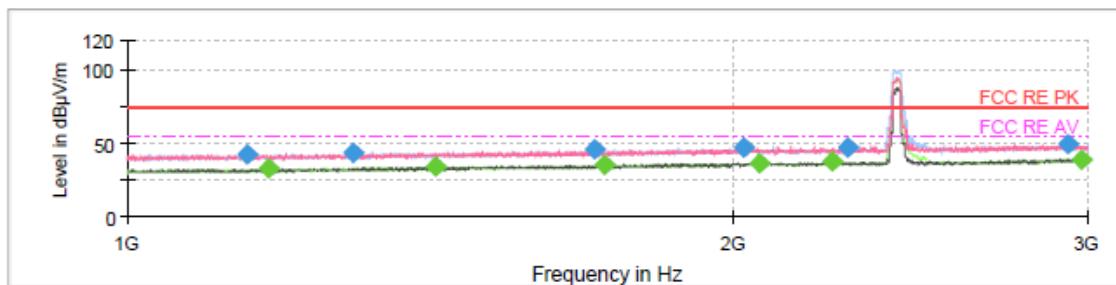
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1103.500000	42.50	--	74.00	31.50	150.0	100.0	H	268.0	-4.2
1168.250000	---	32.54	54.00	21.46	150.0	200.0	V	104.0	-3.8
1345.500000	---	33.82	54.00	20.18	150.0	100.0	V	344.0	-2.5
1412.750000	43.89	--	74.00	30.11	150.0	200.0	V	125.0	-2.1
1667.500000	45.25	--	74.00	28.75	150.0	200.0	V	108.0	-0.4
1715.000000	---	34.84	54.00	19.16	150.0	100.0	H	339.0	-0.1
1755.750000	---	37.79	54.00	16.21	150.0	200.0	H	161.0	0.1
2056.250000	46.90	--	74.00	27.10	150.0	200.0	V	197.0	2.0
2283.000000	---	36.83	54.00	17.17	150.0	100.0	H	183.0	3.0
2293.750000	47.23	--	74.00	26.77	150.0	200.0	V	72.0	2.9
2929.750000	---	39.67	54.00	14.33	150.0	200.0	V	280.0	6.5
2961.500000	49.10	--	74.00	24.90	150.0	200.0	V	10.0	6.7



Final Result

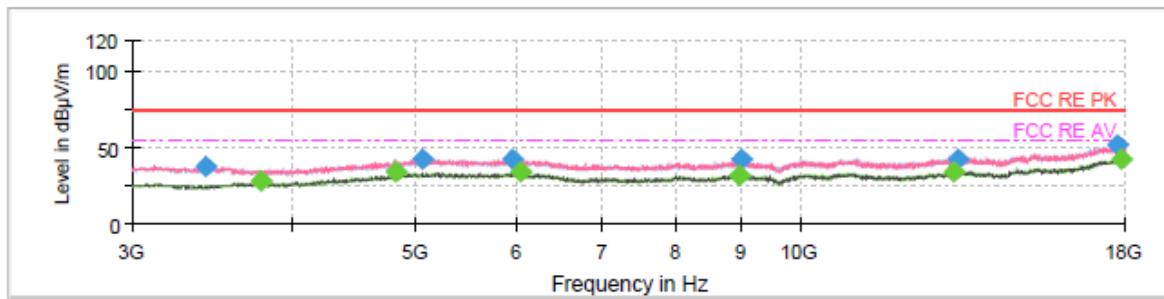
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3048.750000	37.78	—	74.00	36.22	150.0	100.0	V	78.0	-5.1
3900.000000	—	26.91	54.00	27.09	150.0	200.0	H	139.0	-3.9
4925.625000	—	33.66	54.00	20.34	150.0	100.0	H	202.0	1.9
5259.375000	43.10	—	74.00	30.90	150.0	200.0	V	162.0	2.5
5926.875000	—	33.17	54.00	20.83	150.0	100.0	V	50.0	3.8
6022.500000	42.28	—	74.00	31.72	150.0	200.0	H	50.0	3.9
8730.000000	—	31.77	54.00	22.23	150.0	200.0	H	343.0	5.0
8904.375000	40.95	—	74.00	33.05	150.0	100.0	V	83.0	5.1
12856.875000	42.77	—	74.00	31.23	150.0	200.0	V	88.0	10.4
13021.875000	—	34.25	54.00	19.75	150.0	200.0	H	272.0	11.0
17855.625000	—	42.60	54.00	11.40	150.0	200.0	V	6.0	20.5
17855.625000	51.39	—	74.00	22.61	150.0	200.0	H	337.0	20.5

802.11n (HT20) CH1



Final Result

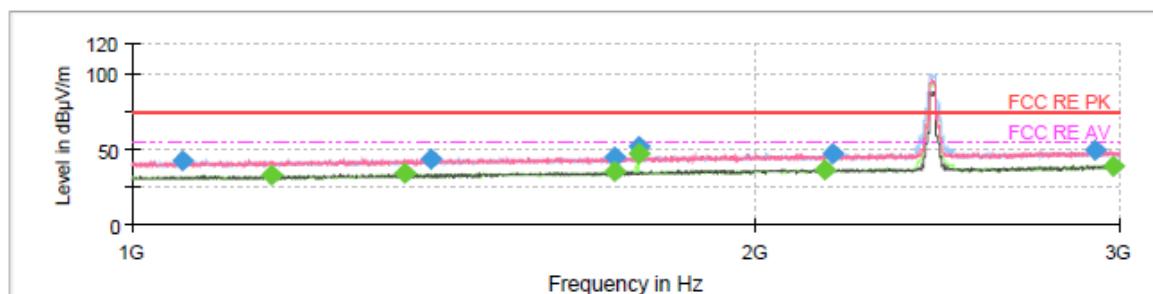
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1145.750000	42.17	--	74.00	31.83	150.0	100.0	H	132.0	-3.9
1176.250000	--	33.31	54.00	20.69	150.0	200.0	H	350.0	-3.7
1295.000000	43.64	--	74.00	30.36	150.0	100.0	H	301.0	-2.9
1422.250000	--	33.99	54.00	20.01	150.0	100.0	H	155.0	-2.1
1706.750000	45.78	--	74.00	28.22	150.0	200.0	V	91.0	-0.2
1727.500000	--	34.81	54.00	19.19	150.0	200.0	V	34.0	-0.1
2027.000000	46.85	--	74.00	27.15	150.0	100.0	V	226.0	1.7
2060.250000	--	36.77	54.00	17.23	150.0	200.0	V	25.0	1.9
2239.000000	--	37.87	54.00	16.13	150.0	200.0	V	321.0	2.6
2280.500000	46.94	--	74.00	27.06	150.0	200.0	V	326.0	2.9
2934.500000	48.97	--	74.00	25.03	150.0	200.0	V	56.0	6.6
2977.750000	--	39.35	54.00	14.65	150.0	200.0	V	12.0	6.8



Final Result

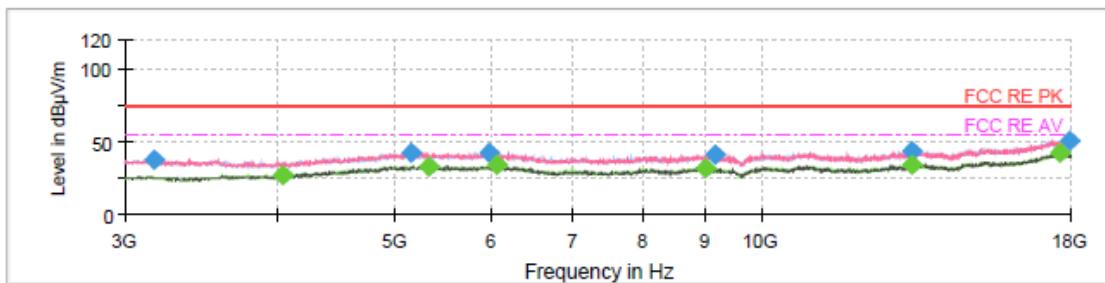
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3431.250000	37.58	---	74.00	36.42	150.0	200.0	V	112.0	-4.3
3781.875000	---	27.77	54.00	26.23	150.0	100.0	H	168.0	-4.0
4822.500000	---	33.62	54.00	20.38	150.0	100.0	V	74.0	1.0
5064.375000	42.64	---	74.00	31.36	150.0	200.0	H	282.0	2.5
5956.875000	42.21	---	74.00	31.79	150.0	200.0	H	320.0	3.9
6039.375000	---	33.67	54.00	20.34	150.0	100.0	H	184.0	3.9
8983.125000	---	32.22	54.00	21.78	150.0	200.0	V	323.0	5.0
9005.625000	42.36	---	74.00	31.64	150.0	200.0	H	228.0	5.0
13213.125000	---	34.52	54.00	19.48	150.0	200.0	H	0.0	10.4
13325.625000	42.88	---	74.00	31.12	150.0	100.0	H	346.0	10.9
17763.750000	51.48	---	74.00	22.52	150.0	200.0	H	265.0	20.4
17896.875000	---	42.19	54.00	11.81	150.0	200.0	V	31.0	20.6

802.11n (HT20) CH6



Final Result

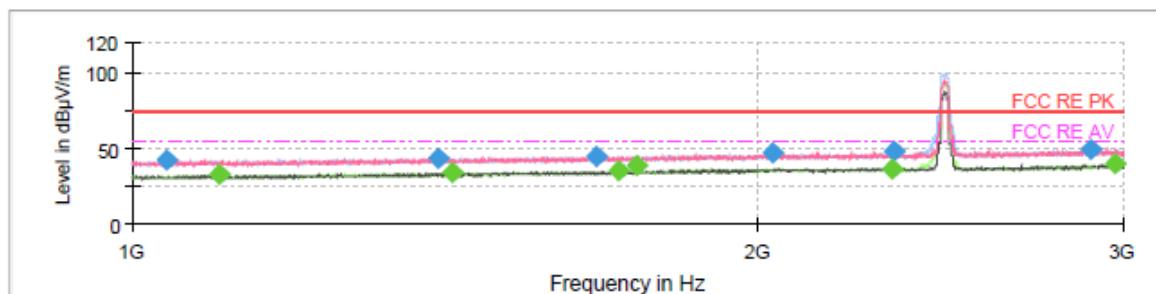
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1057.000000	42.57	---	74.00	31.43	150.0	100.0	V	62.0	-4.6
1168.750000	---	32.90	54.00	21.10	150.0	100.0	V	31.0	-3.8
1355.000000	---	33.76	54.00	20.24	150.0	200.0	V	118.0	-2.5
1393.000000	44.02	---	74.00	29.98	150.0	200.0	V	197.0	-2.2
1710.000000	45.20	---	74.00	28.80	150.0	200.0	H	293.0	-0.1
1711.750000	---	34.80	54.00	19.20	150.0	200.0	H	227.0	-0.1
1757.500000	---	47.11	54.00	6.89	150.0	100.0	H	358.0	0.1
1757.750000	51.73	---	74.00	22.27	150.0	200.0	H	358.0	0.1
2163.250000	---	36.48	54.00	17.52	150.0	100.0	H	0.0	2.4
2179.500000	47.14	---	74.00	26.86	150.0	200.0	H	67.0	2.4
2919.000000	49.75	---	74.00	24.25	150.0	200.0	H	293.0	6.5
2982.250000	---	39.31	54.00	14.69	150.0	200.0	V	97.0	6.8



Final Result

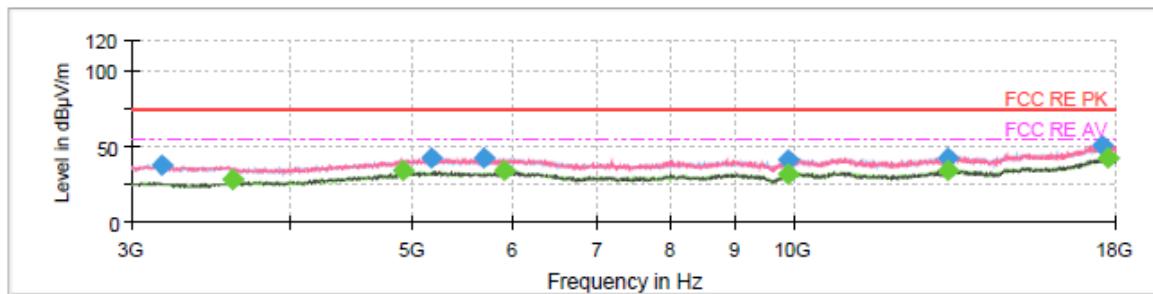
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3166.875000	37.52	--	74.00	36.48	150.0	200.0	V	39.0	-4.7
4040.625000	--	27.13	54.00	26.87	150.0	100.0	V	108.0	-3.6
5158.125000	42.18	--	74.00	31.82	150.0	200.0	V	285.0	2.5
5325.000000	--	33.32	54.00	20.68	150.0	200.0	V	318.0	2.5
5971.875000	42.01	--	74.00	31.99	150.0	100.0	H	0.0	3.9
6063.750000	--	33.71	54.00	20.29	150.0	200.0	H	270.0	3.8
9005.625000	--	32.03	54.00	21.97	150.0	100.0	V	192.0	5.0
9165.000000	41.57	--	74.00	32.43	150.0	100.0	V	44.0	5.1
13299.375000	43.54	--	74.00	30.46	150.0	200.0	H	346.0	10.8
13321.875000	--	33.81	54.00	20.19	150.0	200.0	H	167.0	10.9
17638.125000	--	41.82	54.00	12.18	150.0	100.0	H	286.0	20.2
17910.000000	50.91	--	74.00	23.09	150.0	200.0	H	248.0	20.6

802.11n (HT20) CH11



Final Result

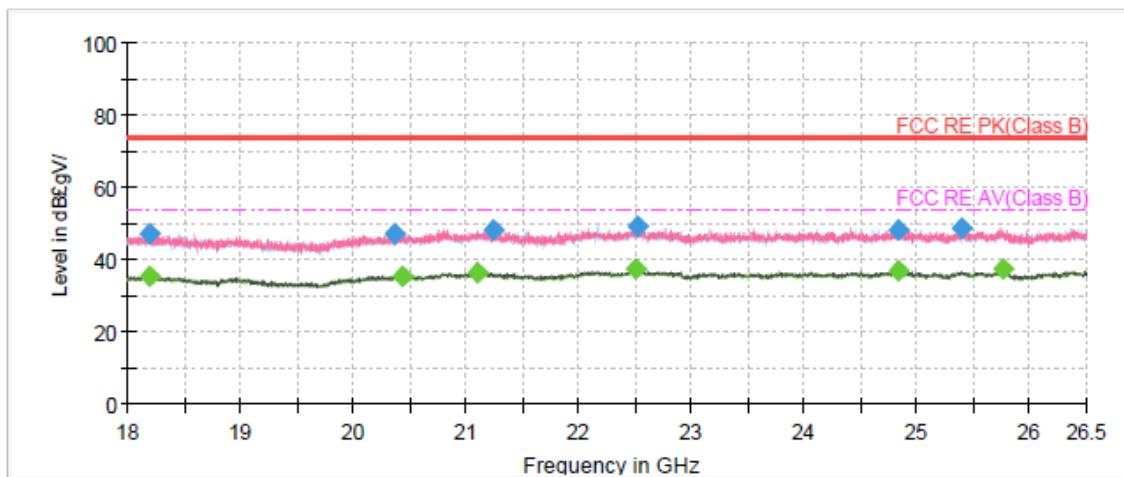
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1039.500000	42.55	---	74.00	31.45	150.0	100.0	V	287.0	-4.8
1101.750000	---	32.83	54.00	21.17	150.0	200.0	V	31.0	-4.2
1402.750000	43.91	---	74.00	30.09	150.0	100.0	V	22.0	-2.2
1425.250000	---	34.27	54.00	19.73	150.0	200.0	V	53.0	-2.0
1671.000000	44.52	---	74.00	29.48	150.0	200.0	V	101.0	-0.4
1714.750000	---	34.91	54.00	19.09	150.0	100.0	V	136.0	-0.1
1751.500000	---	38.53	54.00	15.47	150.0	100.0	H	127.0	0.0
2033.500000	47.24	---	74.00	26.76	150.0	200.0	V	0.0	1.8
2322.000000	---	37.06	54.00	16.94	150.0	200.0	V	57.0	3.1
2329.500000	47.96	---	74.00	26.04	150.0	100.0	V	141.0	3.3
2893.250000	49.19	---	74.00	24.81	150.0	200.0	V	31.0	6.3
2973.750000	---	39.44	54.00	14.56	150.0	200.0	V	26.0	6.8



Final Result

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)
3170.625000	37.43	---	74.00	36.57	150.0	200.0	V	114.0	-4.7
3611.250000	---	27.80	54.00	26.20	150.0	100.0	H	281.0	-4.2
4921.875000	---	33.79	54.00	20.21	150.0	200.0	H	287.0	1.8
5176.875000	42.33	---	74.00	31.67	150.0	100.0	H	248.0	2.5
5688.750000	42.09	---	74.00	31.91	150.0	200.0	H	183.0	3.5
5921.250000	---	33.88	54.00	20.12	150.0	100.0	H	194.0	3.8
9892.500000	41.14	---	74.00	32.86	150.0	200.0	H	357.0	5.7
9898.125000	---	31.71	54.00	22.29	150.0	100.0	H	260.0	5.8
13260.000000	---	33.81	54.00	20.19	150.0	200.0	H	292.0	10.6
13273.125000	42.72	---	74.00	31.28	150.0	200.0	V	22.0	10.7
17565.000000	51.06	---	74.00	22.94	150.0	200.0	V	150.0	20.0
17767.500000	---	42.39	54.00	11.61	150.0	200.0	H	216.0	20.4

During the test, the Radiates Emission from 18GHz to 26.5GHz was performed in all modes, are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

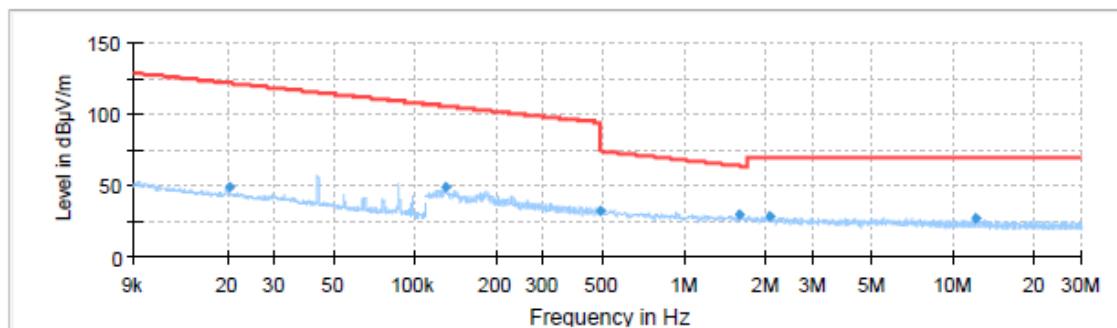


Final Result

Frequency (MHz)	MaxPeak (dBµgV/m)	Average (dBµgV/m)	Limit (dBµgV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18190.187500	---	35.61	54.00	18.39	500.0	200.0	V	26.0	-5.8
18191.250000	47.33	---	74.00	26.67	500.0	100.0	V	0.0	-5.8
20368.312500	47.23	---	74.00	26.77	500.0	200.0	H	341.0	-5.3
20443.750000	---	35.62	54.00	18.38	500.0	200.0	V	3.0	-5.0
21095.062500	---	36.66	54.00	17.34	500.0	200.0	V	169.0	-4.1
21247.000000	48.21	---	74.00	25.79	500.0	200.0	V	35.0	-4.4
22508.187500	---	37.34	54.00	16.66	500.0	200.0	V	44.0	-3.4
22515.625000	49.45	---	74.00	24.55	500.0	200.0	V	30.0	-3.4
24826.562500	48.07	---	74.00	25.93	500.0	200.0	V	58.0	-2.8
24838.250000	---	36.77	54.00	17.23	500.0	200.0	H	270.0	-2.8
25390.750000	48.94	---	74.00	25.06	500.0	100.0	V	335.0	-2.6
25757.312500	---	37.36	54.00	16.64	500.0	100.0	V	241.0	-2.4

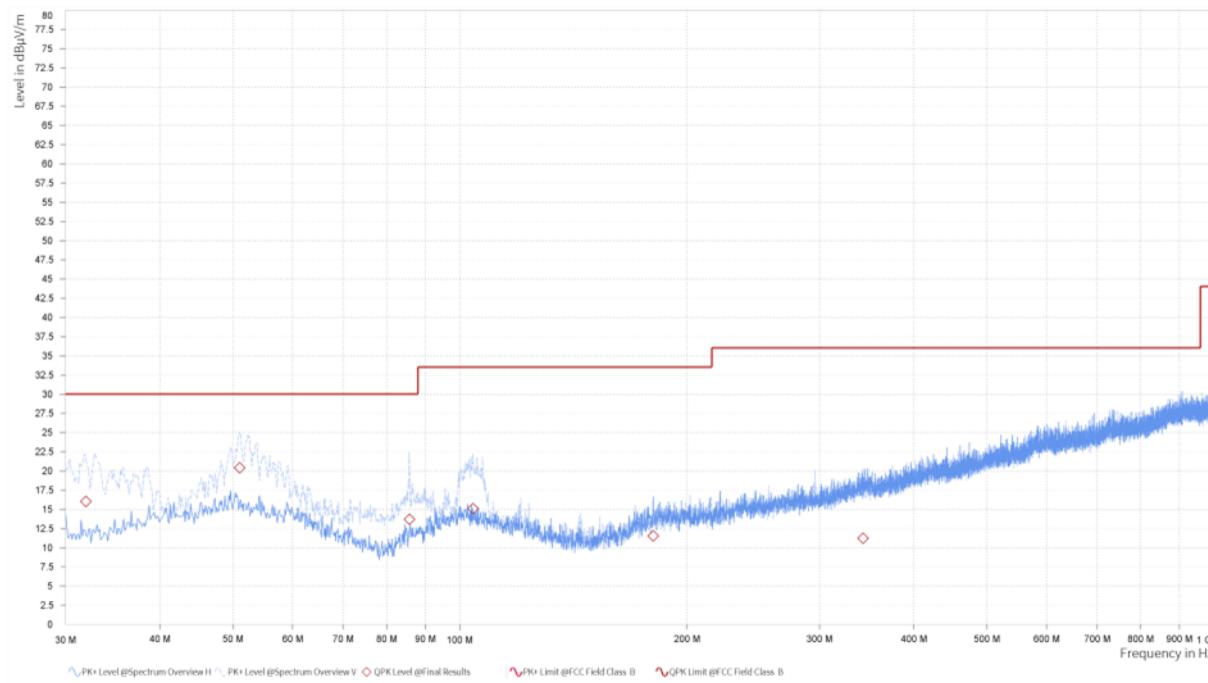
Bluetooth LE

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

**Final Result**

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)
0.02	49.03	121.45	72.41	500.00	0.200	V	222.00	17
0.13	48.45	105.32	56.87	150.00	9.000	V	94.00	17
0.49	31.42	73.80	42.38	150.00	9.000	V	123.00	17
1.61	29.05	63.47	34.42	150.00	9.000	V	61.00	17
2.09	27.63	69.50	41.87	150.00	9.000	V	196.00	17
12.11	26.95	69.50	42.55	150.00	9.000	V	355.00	17

Radiates Emission from 9kHz to 30MHz

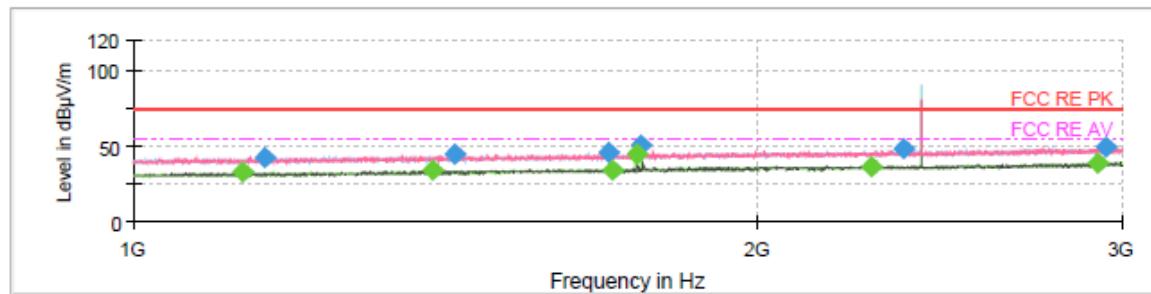


EMI Final Results

Rg	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]	Time of Meas.	Source
1	31.909	15.99	30.00	14.01	-12.07	V	115.2	1.14	120.000	1.000	0:44:08	Critical Points
1	51.059	20.38	30.00	9.62	-8.45	V	338.5	1.25	120.000	1.000	0:47:33	Critical Points
1	85.753	13.65	30.00	16.35	-12.76	V	253	1.95	120.000	1.000	0:42:19	Critical Points
1	104.117	15.05	33.50	18.45	-9.98	V	212.2	1.89	120.000	1.000	0:36:18	Critical Points
1	180.432	11.50	33.50	22.00	-11.63	H	260.8	2.21	120.000	1.000	0:34:17	Critical Points
1	342.547	11.20	36.00	24.80	-5.87	V	274.4	1.11	120.000	1.000	0:45:58	Critical Points

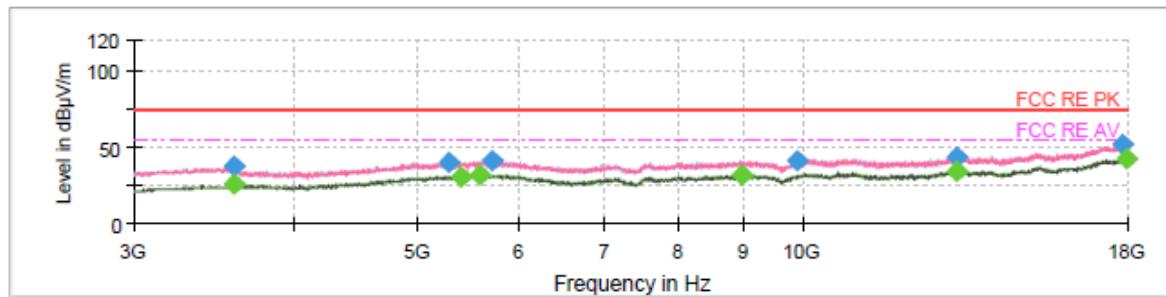
Radiates Emission from 30MHz to 1GHz

Bluetooth LE-Channel 0



Final Result

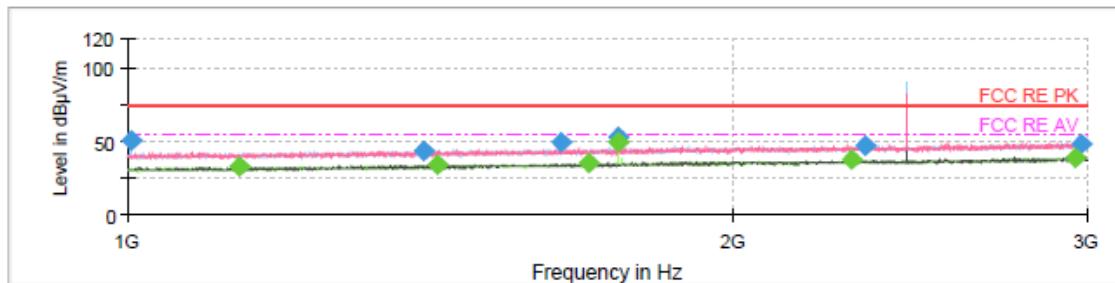
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1128.750000	--	32.69	54.00	21.31	150.0	100.0	V	215.0	-4.1
1158.000000	42.26	--	74.00	31.74	150.0	200.0	V	20.0	-3.8
1395.250000	--	33.54	54.00	20.46	150.0	100.0	H	180.0	-2.2
1430.250000	44.68	--	74.00	29.32	150.0	100.0	H	359.0	-2.0
1695.750000	45.63	--	74.00	28.37	150.0	200.0	H	352.0	-0.3
1703.000000	--	34.70	54.00	19.30	150.0	200.0	V	157.0	-0.2
1747.750000	--	44.95	54.00	9.05	150.0	200.0	H	347.0	0.0
1756.000000	50.58	--	74.00	23.42	150.0	100.0	H	316.0	0.1
2271.500000	--	36.93	54.00	17.07	150.0	200.0	V	3.0	2.9
2351.500000	47.69	--	74.00	26.31	150.0	200.0	V	25.0	3.1
2923.250000	--	39.33	54.00	14.67	150.0	200.0	H	329.0	6.5
2947.750000	49.10	--	74.00	24.90	150.0	200.0	V	3.0	6.6



Final Result

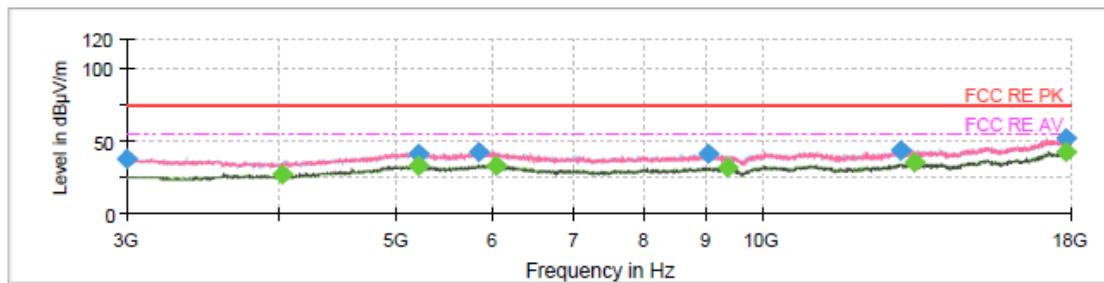
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3590.625000	---	26.00	54.00	28.00	150.0	200.0	V	288.0	-4.1
3590.625000	37.53	---	74.00	36.47	150.0	100.0	V	288.0	-4.1
5296.875000	40.26	---	74.00	33.74	150.0	200.0	H	0.0	2.5
5418.750000	---	30.95	54.00	23.05	150.0	100.0	H	1.0	2.7
5600.625000	---	32.04	54.00	21.96	150.0	200.0	V	169.0	3.2
5715.000000	40.79	---	74.00	33.21	150.0	100.0	H	274.0	3.6
8983.125000	---	31.93	54.00	22.07	150.0	100.0	V	359.0	5.0
9903.750000	41.33	---	74.00	32.67	150.0	200.0	V	142.0	5.8
13211.250000	---	34.27	54.00	19.73	150.0	200.0	V	87.0	10.4
13215.000000	43.20	---	74.00	30.80	150.0	200.0	V	76.0	10.4
17780.625000	51.57	---	74.00	22.43	150.0	100.0	H	104.0	20.4
17926.875000	---	42.15	54.00	11.85	150.0	200.0	V	21.0	20.4

Bluetooth LE-Channel 19



Final Result

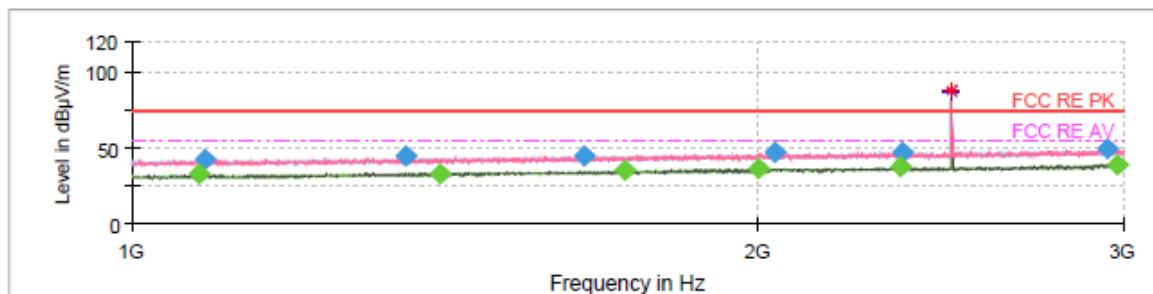
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1003.500000	50.57	---	74.00	23.43	150.0	200.0	H	312.0	-5.0
1135.500000	---	32.47	54.00	21.53	150.0	100.0	V	37.0	-4.1
1404.250000	43.71	---	74.00	30.29	150.0	100.0	V	274.0	-2.2
1427.000000	---	33.62	54.00	20.38	150.0	200.0	V	326.0	-2.0
1644.250000	49.94	---	74.00	24.06	150.0	200.0	H	308.0	-0.6
1694.500000	---	34.72	54.00	19.28	150.0	100.0	H	169.0	-0.4
1753.750000	53.45	---	74.00	20.55	150.0	200.0	H	23.0	0.1
1753.750000	---	48.85	54.00	5.15	150.0	200.0	H	23.0	0.1
2292.250000	---	37.32	54.00	16.68	150.0	100.0	V	317.0	2.9
2326.750000	47.27	---	74.00	26.73	150.0	200.0	V	353.0	3.2
2960.250000	---	39.28	54.00	14.72	150.0	200.0	H	50.0	6.7
2983.000000	48.82	---	74.00	25.18	150.0	200.0	V	247.0	6.8



Final Result

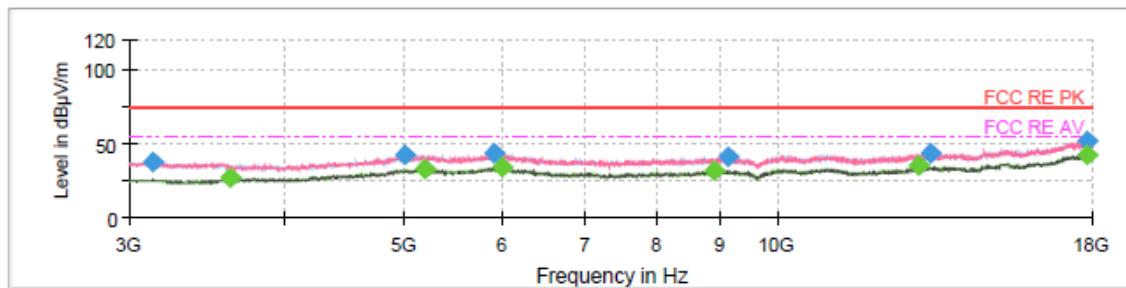
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3000.000000	37.69	—	74.00	36.31	150.0	200.0	V	71.0	-5.0
4033.125000	—	27.17	54.00	26.83	150.0	100.0	V	251.0	-3.7
5206.875000	41.70	—	74.00	32.30	150.0	100.0	H	165.0	2.5
5206.875000	—	33.10	54.00	20.90	150.0	200.0	H	165.0	2.5
5857.500000	42.20	—	74.00	31.80	150.0	200.0	V	87.0	3.9
6043.125000	—	33.45	54.00	20.55	150.0	100.0	H	310.0	3.9
9026.250000	41.06	—	74.00	32.94	150.0	200.0	V	8.0	5.0
9388.125000	—	31.71	54.00	22.29	150.0	200.0	H	261.0	5.4
13023.750000	43.07	—	74.00	30.93	150.0	100.0	V	0.0	11.0
13329.375000	—	35.11	54.00	18.89	150.0	200.0	H	0.0	10.9
17786.250000	—	42.16	54.00	11.84	150.0	200.0	H	0.0	20.4
17790.000000	51.49	—	74.00	22.51	150.0	200.0	H	203.0	20.4

Bluetooth LE-Channel 39



Final Result

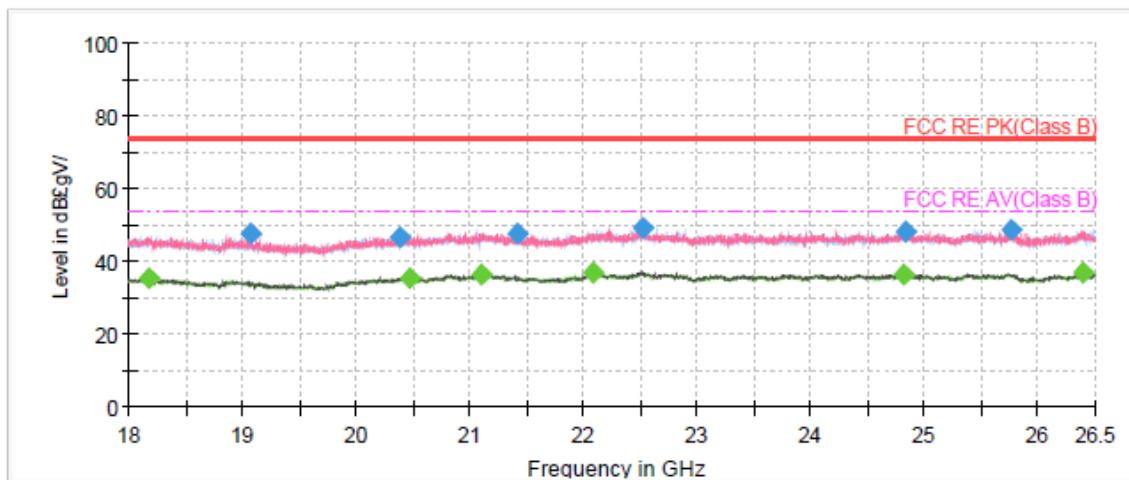
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1076.750000	---	32.42	54.00	21.58	150.0	100.0	H	112.0	-4.5
1083.500000	42.49	---	74.00	31.51	150.0	100.0	V	355.0	-4.5
1353.500000	44.39	---	74.00	29.61	150.0	200.0	H	51.0	-2.5
1407.500000	---	33.50	54.00	20.50	150.0	200.0	V	1.0	-2.1
1651.250000	45.03	---	74.00	28.97	150.0	200.0	V	266.0	-0.5
1726.250000	---	34.94	54.00	19.06	150.0	100.0	V	214.0	-0.1
2002.000000	---	36.28	54.00	17.72	150.0	200.0	H	134.0	1.7
2039.750000	46.51	---	74.00	27.49	150.0	200.0	H	232.0	1.9
2345.500000	---	37.25	54.00	16.75	150.0	200.0	H	26.0	3.2
2348.000000	46.72	---	74.00	27.28	150.0	200.0	H	21.0	3.2
2947.000000	48.95	---	74.00	25.05	150.0	100.0	H	39.0	6.6
2981.000000	---	39.40	54.00	14.60	150.0	200.0	H	241.0	6.8



Final Result

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)
3140.625000	37.97	---	74.00	36.03	150.0	100.0	H	301.0	-4.6
3624.375000	---	26.83	54.00	27.17	150.0	200.0	H	132.0	-4.1
5013.750000	42.13	---	74.00	31.87	150.0	100.0	V	193.0	2.4
5203.125000	---	33.40	54.00	20.60	150.0	200.0	V	2.0	2.5
5906.250000	43.33	---	74.00	30.67	150.0	100.0	H	16.0	3.8
5994.375000	---	33.57	54.00	20.43	150.0	200.0	V	116.0	3.9
8902.500000	---	31.72	54.00	22.28	150.0	200.0	H	252.0	5.1
9125.625000	40.60	---	74.00	33.40	150.0	100.0	H	149.0	5.1
13012.500000	---	34.74	54.00	19.26	150.0	200.0	V	67.0	10.9
13284.375000	43.24	---	74.00	30.76	150.0	200.0	H	170.0	10.8
17773.125000	---	42.11	54.00	11.89	150.0	100.0	V	182.0	20.4
17790.000000	51.87	---	74.00	22.13	150.0	200.0	V	188.0	20.4

During the test, the Radiates Emission from 18GHz to 26.5GHz was performed in all modes, are selected as the worst condition. The test data of the worst-case condition was recorded in this report.



Final Result

Frequency (MHz)	MaxPeak (dB EgV/m)	Average (dB EgV/m)	Limit (dB EgV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18181.687500	---	35.41	54.00	18.59	500.0	100.0	H	224.0	-5.8
19065.687500	47.45	---	74.00	26.55	500.0	200.0	V	208.0	-7.4
20380.000000	46.89	---	74.00	27.11	500.0	100.0	V	338.0	-5.2
20467.125000	---	35.63	54.00	18.37	500.0	200.0	V	0.0	-4.9
21108.875000	---	36.53	54.00	17.47	500.0	100.0	V	6.0	-4.1
21410.625000	47.85	---	74.00	26.15	500.0	200.0	V	0.0	-4.5
22091.687500	---	37.06	54.00	16.94	500.0	100.0	V	207.0	-3.8
22515.625000	48.98	---	74.00	25.02	500.0	100.0	V	240.0	-3.4
24814.875000	---	36.65	54.00	17.35	500.0	200.0	H	226.0	-2.7
24827.625000	48.29	---	74.00	25.71	500.0	100.0	H	0.0	-2.8
25765.812500	48.62	---	74.00	25.38	500.0	200.0	V	184.0	-2.4
26401.187500	---	37.02	54.00	16.98	500.0	100.0	V	333.0	-2.2

5.7. Conducted Emission

Ambient Condition

Temperature	Relative humidity
15°C ~ 35°C	20% ~ 80%

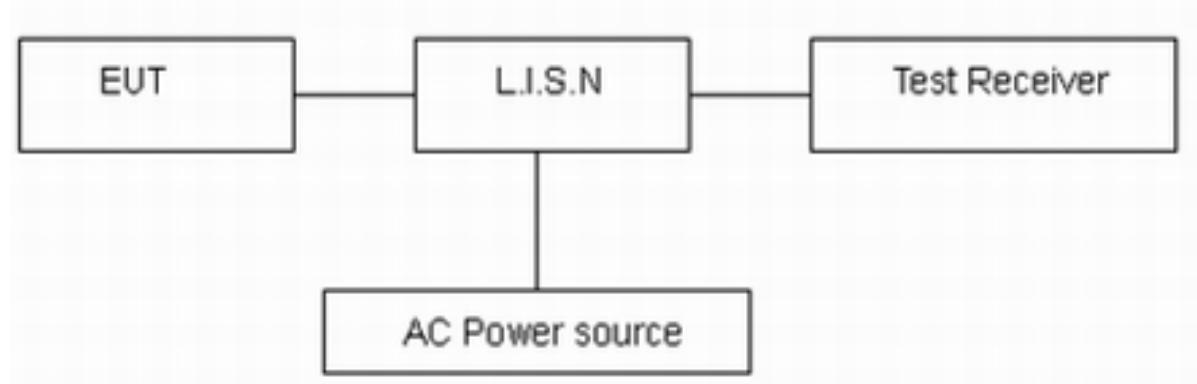
Methods of Measurement

The EUT is placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.10. Connect the AC power line of the EUT to the L.I.S.N. Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9 kHz, VBW is set to 30kHz.

The measurement result should include both L line and N line.

The test is in transmitting mode.

Test Setup



Note: AC Power source is used to change the voltage 120V/60Hz.

Limits

Frequency (MHz)	Conducted Limits(dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46*
0.5 - 5	56	46
5 - 30	60	50

*: Decreases with the logarithm of the frequency.

Measurement Uncertainty

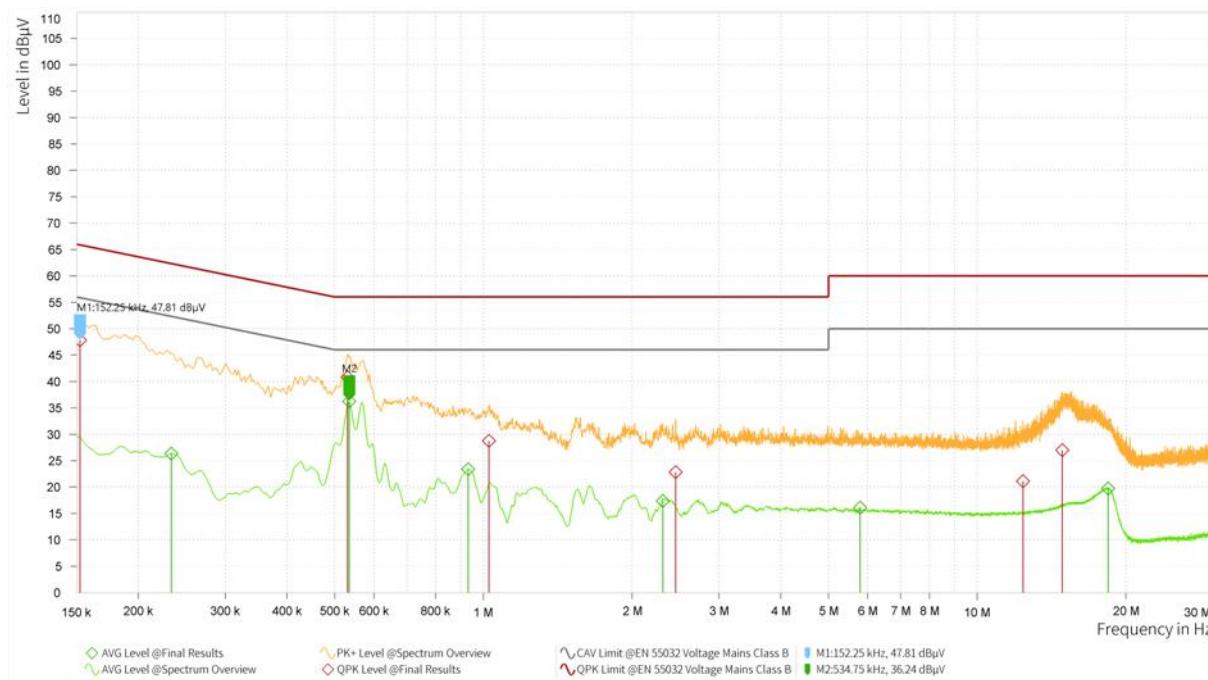
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U = 2.69$ dB.

Test Results:

Following plots, Blue trace uses the peak detection and Green trace uses the average detection.

Wi-Fi 2.4GHz

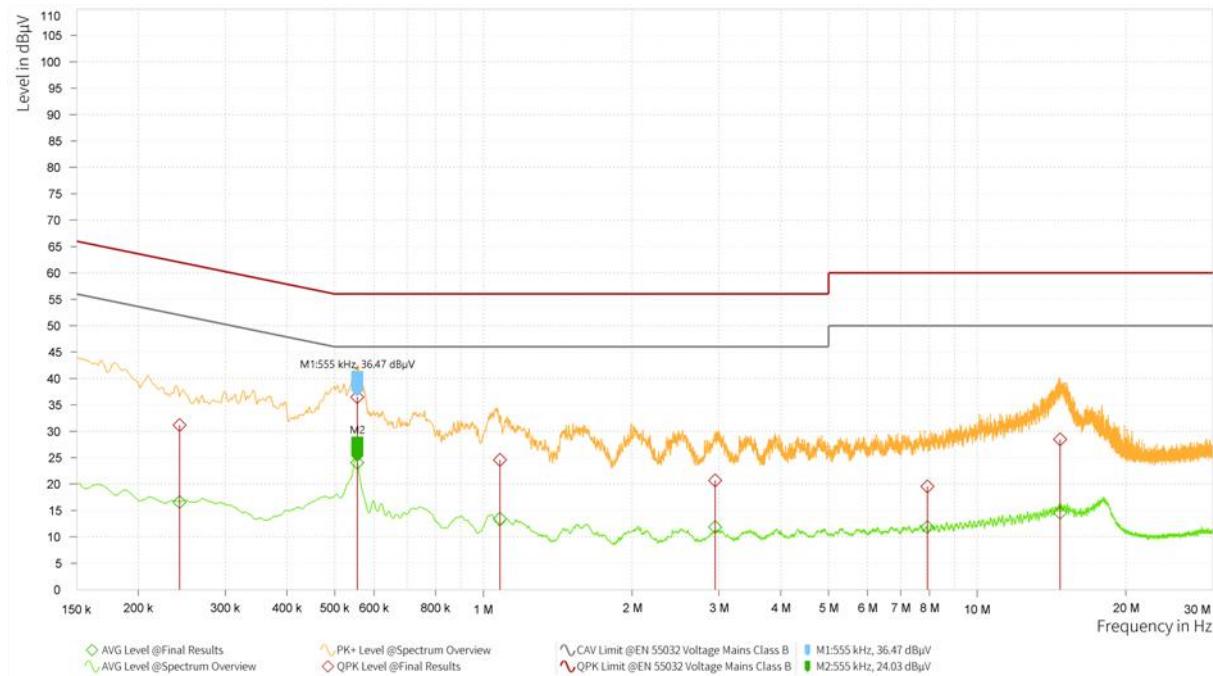
During the test, the Conducted Emission was performed in all modes with all channels. The test data of the worst-case condition was recorded in this report.



Frequency (MHz)	QuasiPeak (dB μ V)	Limit (dB μ V)	Margin (dB)	Average (dB μ V)	Limit (dB μ V)	Margin (dB)	Corr. (dB/m)	Line	Meas. Time (s)
0.152	47.81	65.88	18.07	--	--	--	20.90	L1	1.000
0.233	--	--	--	26.31	52.33	26.03	20.99	L1	1.000
0.530	40.82	56.00	15.18	--	--	--	20.75	L1	1.000
0.535	--	--	--	36.24	46.00	9.76	20.74	L1	1.000
0.931	--	--	--	23.40	46.00	22.60	20.22	L1	1.000
1.025	28.76	56.00	27.24	--	--	--	20.14	L1	1.000
2.308	--	--	--	17.35	46.00	28.65	19.58	L1	1.000
2.450	22.82	56.00	33.18	--	--	--	19.55	L1	1.000
5.795	--	--	--	16.10	50.00	33.90	19.40	L1	1.000
12.381	21.12	60.00	38.88	--	--	--	19.43	L1	1.000
14.883	26.98	60.00	33.02	--	--	--	19.50	L1	1.000
18.427	--	--	--	19.74	50.00	30.26	19.61	L1	1.000

Remark: Correct factor=cable loss + LISN factor

L line Conducted Emission from 150 kHz to 30 MHz



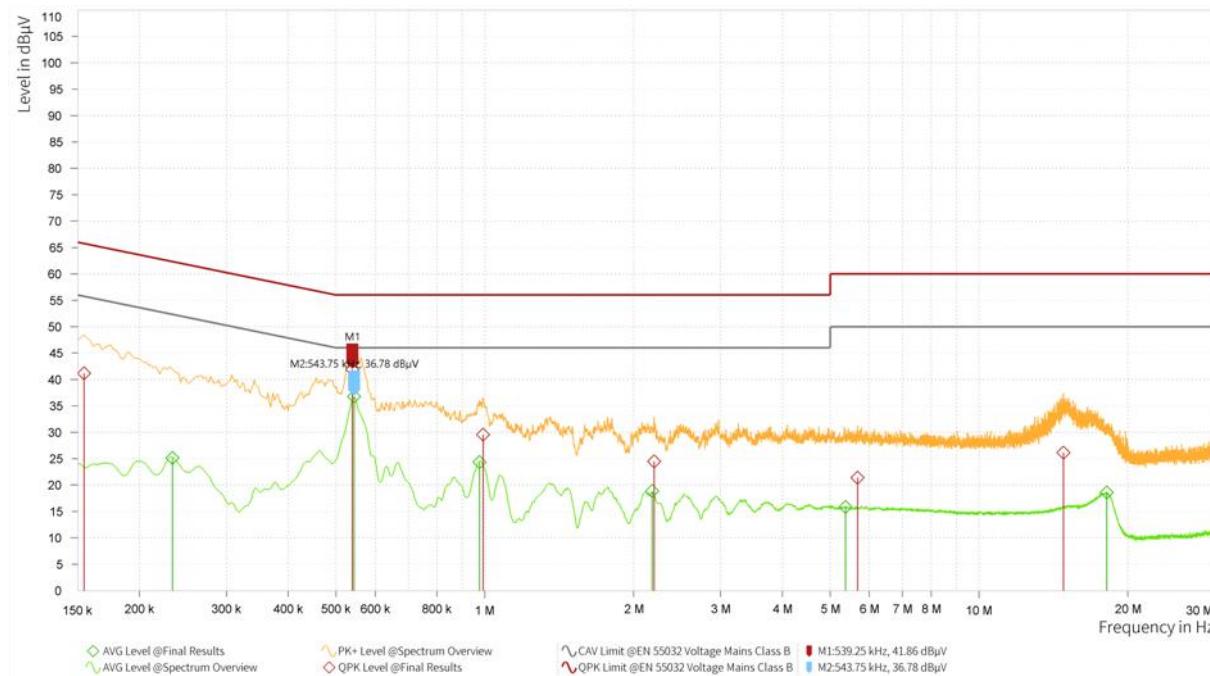
Frequency (MHz)	QuasiPeak (dB μ V)	Limit (dB μ V)	Margin (dB)	Average (dB μ V)	Limit (dB μ V)	Margin (dB)	Corr. (dB/m)	Line	Meas. Time (s)
0.242	31.18	62.02	30.84	--	--	--	20.99	N	1.000
0.555	36.47	56.00	19.53	--	--	--	20.73	N	1.000
1.079	24.58	56.00	31.42	--	--	--	20.11	N	1.000
2.947	20.68	56.00	35.32	--	--	--	19.50	N	1.000
7.926	19.57	60.00	40.43	--	--	--	19.41	N	1.000
14.721	28.46	60.00	31.54	--	--	--	19.52	N	1.000
0.242	--	--	--	16.60	52.02	35.42	20.99	N	1.000
0.555	--	--	--	24.03	46.00	21.97	20.73	N	1.000
1.079	--	--	--	13.44	46.00	32.56	20.11	N	1.000
2.947	--	--	--	11.85	46.00	34.15	19.50	N	1.000
7.926	--	--	--	11.87	50.00	38.13	19.41	N	1.000
14.721	--	--	--	14.57	50.00	35.43	19.52	N	1.000

Remark: Correct factor=cable loss + LISN factor

N line Conducted Emission from 150 kHz to 30 MHz

Bluetooth LE

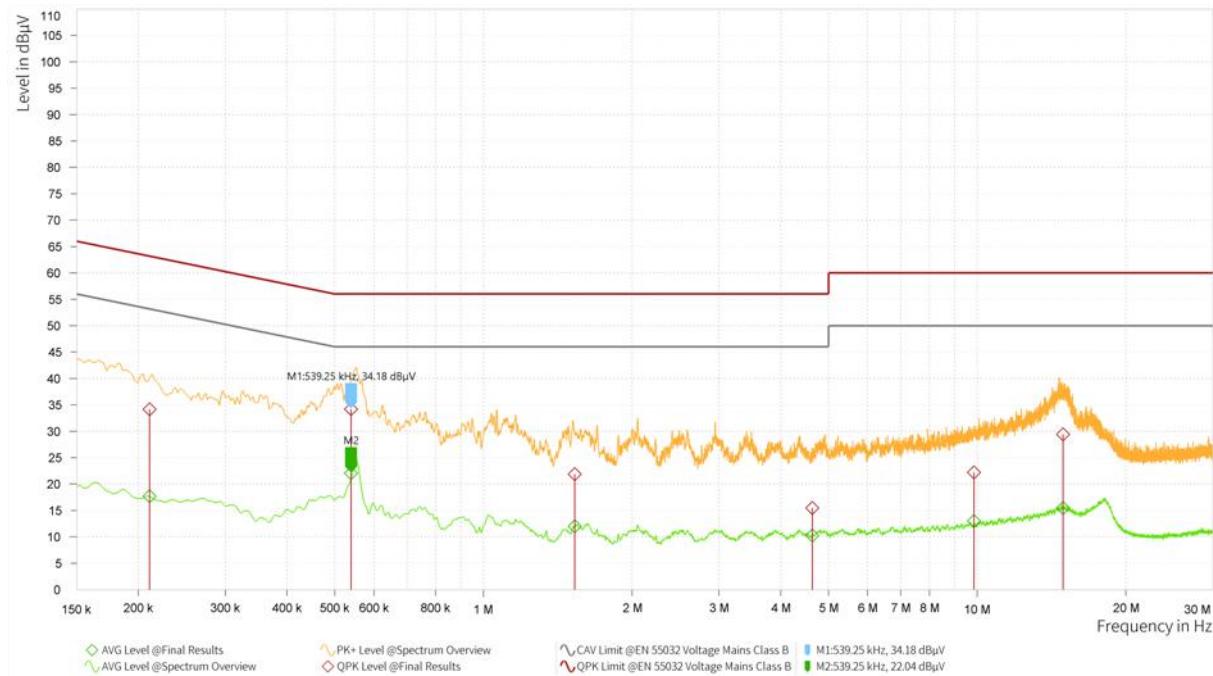
During the test, the Conducted Emission was performed in all modes with all channels. The test data of the worst-case condition was recorded in this report.



Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Corr. (dB/m)	Line	Meas. Time (s)
0.155	41.17	65.75	24.58	--	--	--	20.90	L1	1.000
0.233	--	--	--	25.13	52.33	27.21	20.99	L1	1.000
0.539	41.86	56.00	14.14	--	--	--	20.74	L1	1.000
0.544	--	--	--	36.78	46.00	9.22	20.73	L1	1.000
0.976	--	--	--	24.36	46.00	21.64	20.18	L1	1.000
0.992	29.57	56.00	26.43	--	--	--	20.17	L1	1.000
2.180	--	--	--	18.88	46.00	27.12	19.60	L1	1.000
2.200	24.46	56.00	31.54	--	--	--	19.60	L1	1.000
5.370	--	--	--	15.84	50.00	34.16	19.40	L1	1.000
5.678	21.42	60.00	38.58	--	--	--	19.40	L1	1.000
14.816	26.13	60.00	33.87	--	--	--	19.50	L1	1.000
18.139	--	--	--	18.57	50.00	31.43	19.60	L1	1.000

Remark: Correct factor=cable loss + LISN factor

L line Conducted Emission from 150 kHz to 30 MHz



Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Corr. (dB/m)	Line	Meas. Time (s)
0.211	34.16	63.18	29.02	--	--	--	21.02	N	1.000
0.539	34.18	56.00	21.82	--	--	--	20.75	N	1.000
1.532	21.86	56.00	34.14	--	--	--	19.84	N	1.000
4.632	15.46	56.00	40.54	--	--	--	19.42	N	1.000
9.850	22.19	60.00	37.81	--	--	--	19.43	N	1.000
14.928	29.40	60.00	30.60	--	--	--	19.53	N	1.000
0.211	--	--	--	17.69	53.18	35.49	21.02	N	1.000
0.539	--	--	--	22.04	46.00	23.96	20.75	N	1.000
1.532	--	--	--	12.00	46.00	34.00	19.84	N	1.000
4.632	--	--	--	10.25	46.00	35.75	19.42	N	1.000
9.850	--	--	--	12.99	50.00	37.01	19.43	N	1.000
14.928	--	--	--	15.47	50.00	34.53	19.53	N	1.000

Remark: Correct factor=cable loss + LISN factor

N line Conducted Emission from 150 kHz to 30 MHz

6. Main Test Instruments

Name of Equipment	Manufacturer	Type/Model	Serial Number	Calibration Date	Expiration Time
Power sensor	R&S	NRP18S	101954	2024-05-07	2025-05-06
Spectrum Analyzer	KEYSIGHT	N9020A	MY51330870	2024-05-07	2025-05-06
Radiated Emission					
EMI Test Receiver	R&S	ESCI3	100948	2024-05-07	2025-05-06
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2023-04-16	2026-04-15
EMI Test Receiver	R&S	ESR	102389	2024-05-07	2025-05-06
Signal Analyzer	R&S	FSV40	101298	2024-05-07	2025-05-06
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	01111	2022-10-25	2025-10-24
Horn Antenna	R&S	HF 907	102723	2023-11-24	2026-11-23
Amplifier	R&S	SCU18	10034	2024-05-08	2025-05-07
Horn Antenna	ETS-Lindgren	3160-09	00102643	2024-09-24	2027-09-23
Amplifier	MicroWave	KLNA-18040050	220826001	2024-05-08	2025-05-07
Software	R&S	EMC32	9.26.01	/	/
Conducted Emission					
Artificial main network	R&S	ENV216	102191	2024-12-02	2026-12-01
EMI Test Receiver	R&S	ESR	101667	2024-05-07	2025-05-06
Software	R&S	EMC32	10.35.10	/	/

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.

***** END OF REPORT *****