



RF TEST REPORT

Applicant Quectel Wireless Solutions Co., Ltd
FCC ID XMR201703FC20
Product Wi-Fi&BT module
Brand Quectel
Model FC20
Report No. R2108A0710-R1V1
Issue Date September 18, 2021

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15C (2020)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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Version	Revision description	Issue Date
Rev.0	Initial issue of report.	September 7, 2021
Rev.1	Update information in Page 8.	September 18, 2021
Note: This revised report (Report No. R2108A0710-R1V1) supersedes and replaces the previously issued report (Report No. R2108A0710-R1). Please discard or destroy the previously issued report and dispose of it accordingly.		

Summary of measurement results

Number	Test Case	Clause in FCC rules	Verdict
1	Unwanted Emissions	15.247(d),15.205,15.209	PASS
2	Conducted Emissions	15.207	PASS
Date of Testing: June 2, 2021 ~ July 22, 2021			
Date of Sample Received: March 20, 2021			
Note: All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

FC20 (Report No.: R2108A0710-R1V1) is a variant model of FC20 (Report No.: R2105A0465-R1V1).

The differences between the two products are shown below.

Product Change Description		
Item	Original	Variant
Chip	QCA1023-0	QCA9377-3
MCN	QCA-1023-0-115WLNSP-TR/SR/HR-03-0	QCA-9377-3-115WLNSP-TR/SR/HR-03-0
MU-MIMO and TxBF client mode	Disable	Support
HW Version	R1.0	R1.1
SW Version	FC20TEA-Q73	FC20-Q93
Others	The same	The same

There is only verified Maximum output power and tested Unwanted Emissions, and did not worsen, so they were not recorded in the report. The detailed product change description please refers to the Difference Declaration Letter.



1. Test Laboratory

1.1. Notes of the test report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2. Test facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3. Testing Location

Company: TA Technology (Shanghai) Co., Ltd.
Address: No.145, Jintang Rd, Tangzhen Industry Park, Pudong
City: Shanghai
Post code: 201201
Country: P. R. China
Contact: Xu Kai
Telephone: +86-021-50791141/2/3
Fax: +86-021-50791141/2/3-8000
Website: <http://www.ta-shanghai.com>
E-mail: xukai@ta-shanghai.com

2. General Description of Equipment under Test

2.1. Applicant and Manufacturer Information

Applicant	Quectel Wireless Solutions Co., Ltd
Applicant address	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233
Manufacturer	Quectel Wireless Solutions Co., Ltd
Manufacturer address	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233

2.2. General information

EUT Description	
Model	FC20
SN	MO820KK1D000044
Hardware Version	R1.1
Software Version	FC20-Q93
Power Supply	External power supply
Power Supply	PCB Antenna /External power supply
Antenna Connector	A permanently attached antenna (meet with the standard FCC Part 15.203 requirement)
Antenna Gain	Antenna 2: 5 dBi Antenna 3: 4 dBi Antenna 4: 2 dBi
additional beamforming gain	NA
Test Mode	802.11b, 802.11g, 802.11n(HT20/HT40) Bluetooth LE V5.0
Modulation Type	802.11b: DSSS 802.11g/n(HT20/HT40): OFDM Bluetooth LE: GFSK
Operating Frequency Range(s)	802.11b/g/n(HT20): 2412 ~ 2462 MHz 802.11n(HT40): 2422 ~ 2452 MHz Bluetooth LE: 2402 ~2480 MHz
Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.	



3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards:

FCC CFR47 Part 15C (2020) Radio Frequency Devices

ANSI C63.10 (2013)

Reference standard:

KDB 558074 D01 15.247 Meas Guidance v05r02

4. Test Configuration

Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

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 vertical, the others are vertical and horizontal. and the worst case was recorded.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Preliminary tests have been done on all the configuration for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates are shown as following table.

Test Mode	Data Rate
Bluetooth(Low Energy)	1Mbps
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0

5. Test Case Results

5.1. Unwanted Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	102.5kPa

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.

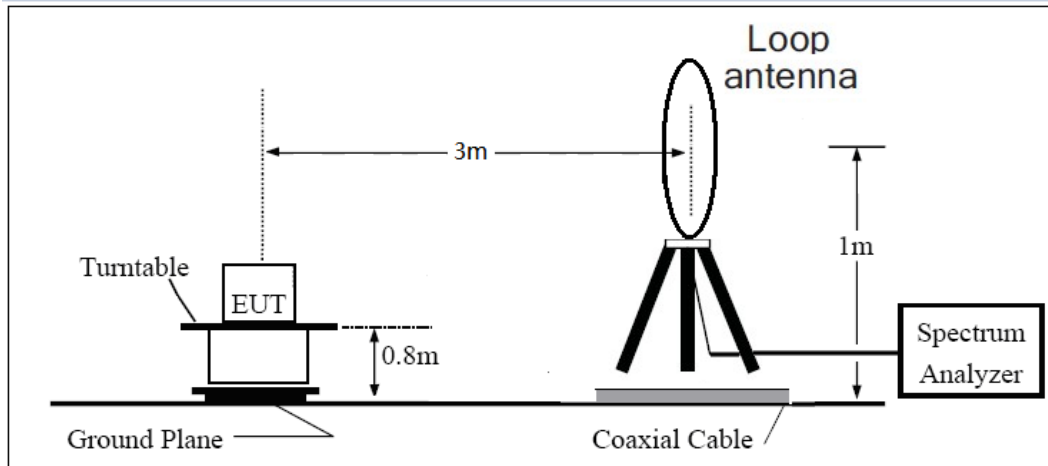


- d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.)
- e) Sweep time = auto.
- f) Perform a trace average 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.

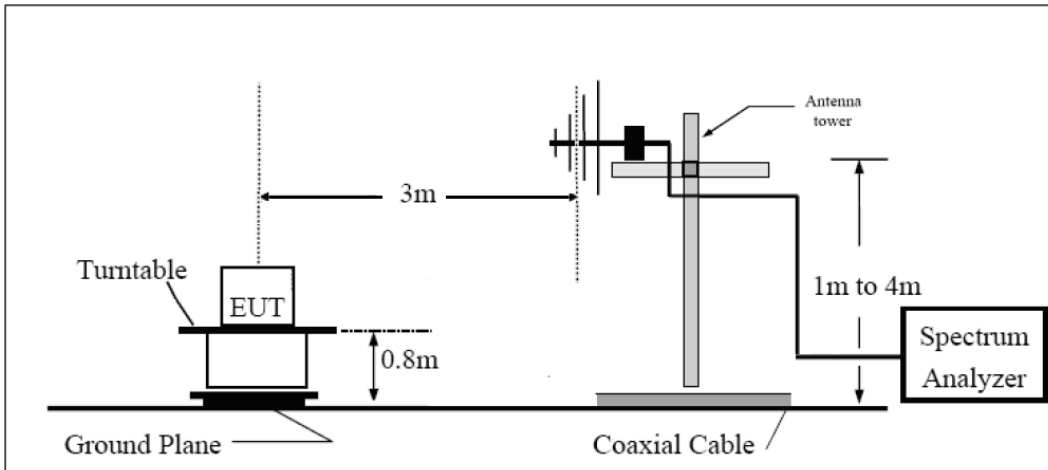
The test is in transmitting mode.

Test setup

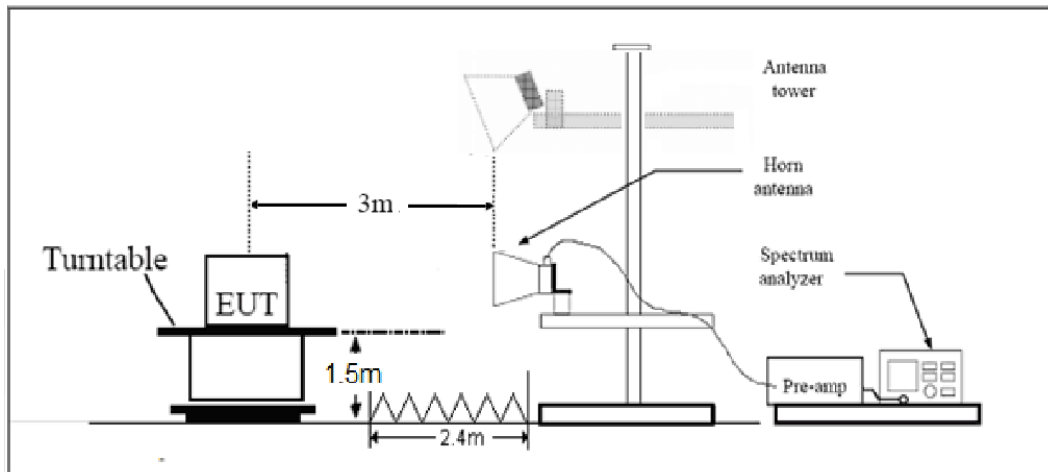
9KHz ~ 30MHz



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(uV/m)	Field strength(dBuV/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 dBuV/m

Average Limit=54 dBuV/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**

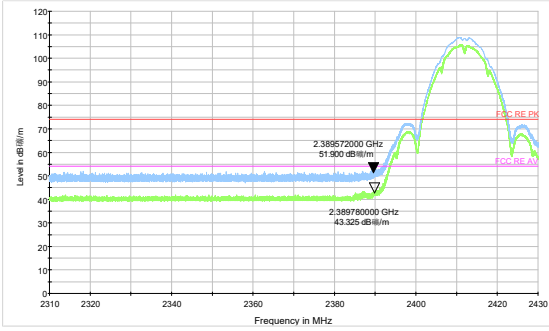
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

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

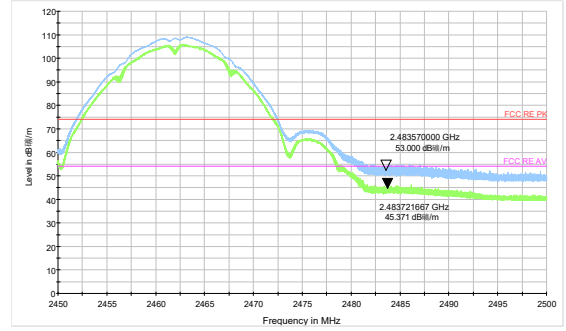


Test Results:

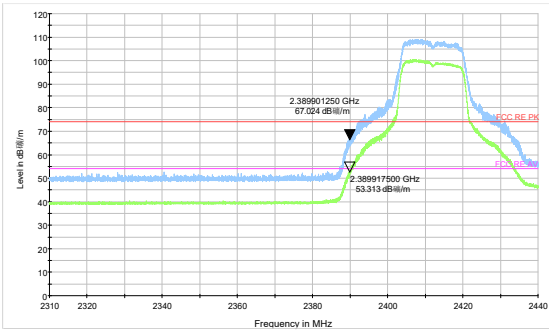
Antenna 2



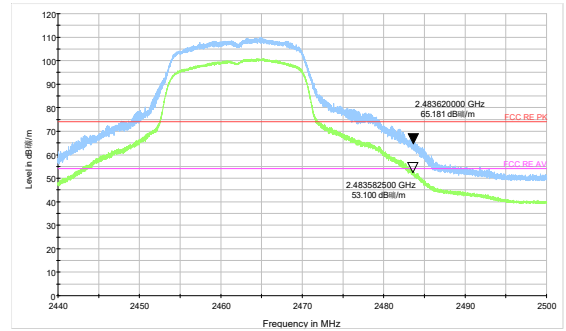
802.11b-Channel 1 Peak & Average



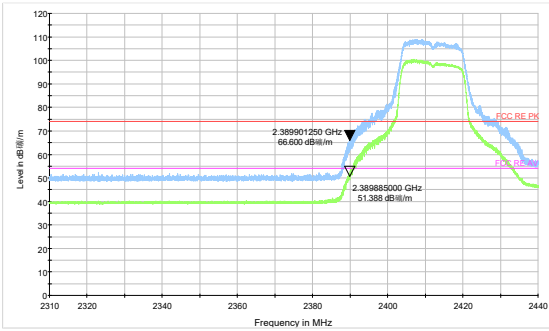
802.11b-Channel 11 Peak & Average



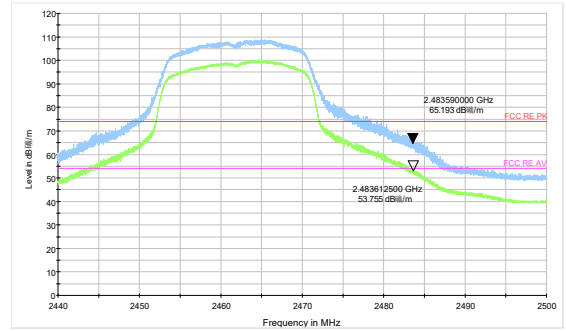
802.11g-Channel 1 Peak & Average



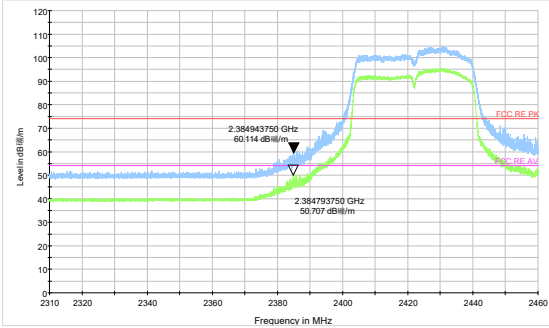
802.11g-Channel 11 Peak & Average



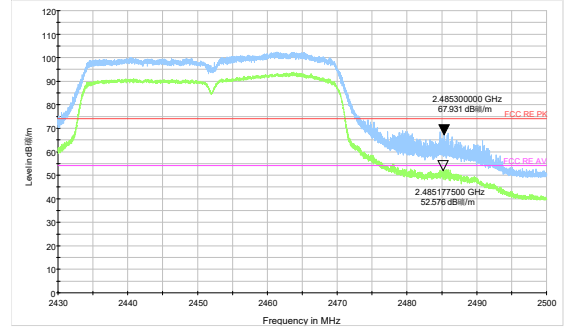
802.11n HT20 -Channel 1 Peak & Average



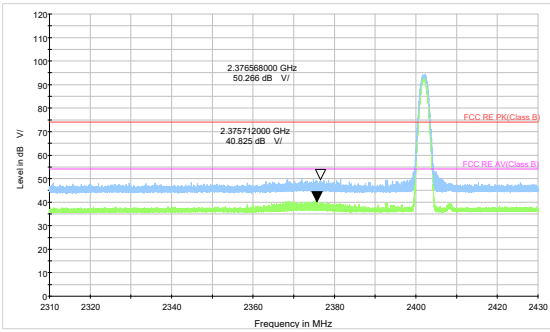
802.11n HT20 -Channel 11 Peak & Average



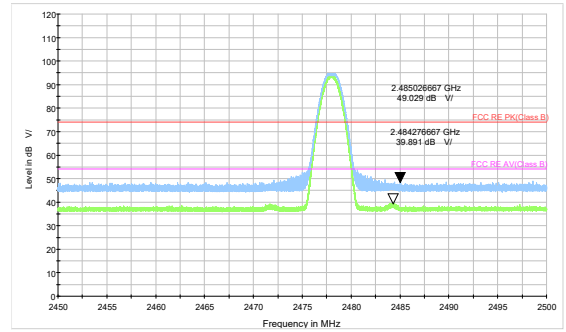
802.11n HT40 -Channel 3 Peak & Average



802.11n HT40 -Channel 9 Peak & Average

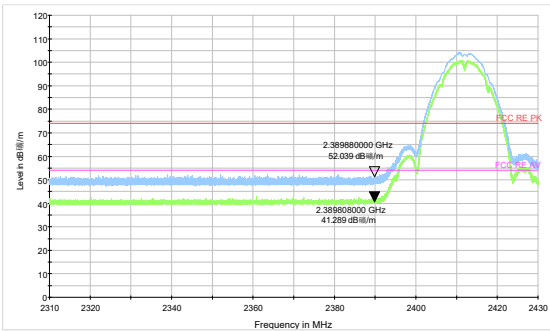


Bluetooth LE Channel 0 Peak & Average

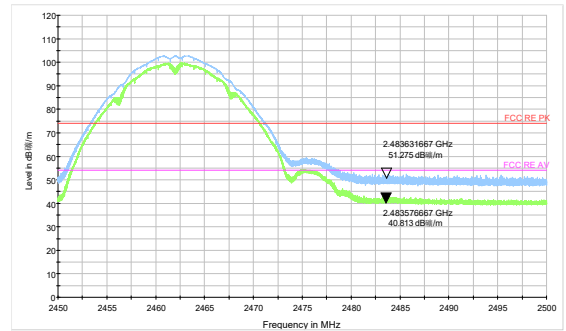


Bluetooth LE Channel 39 Peak & Average

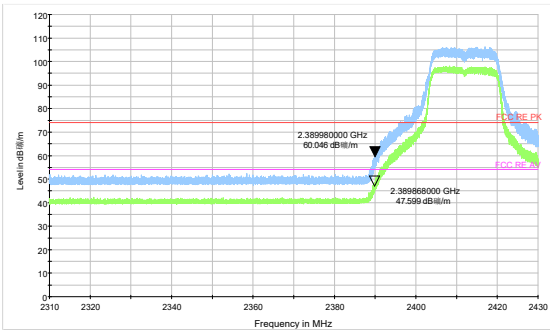
Antenna 3



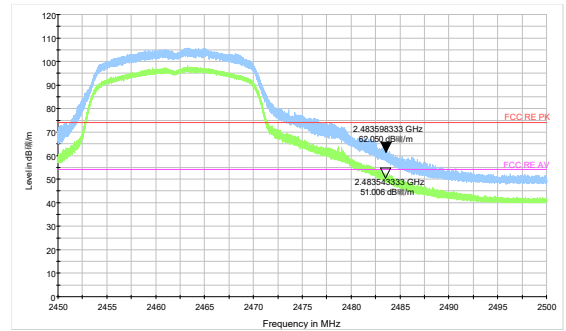
802.11b-Channel 1 Peak & Average



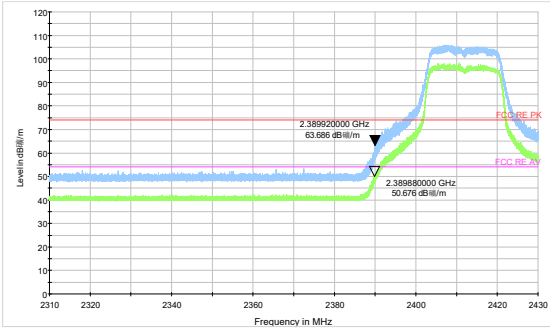
802.11b-Channel 11 Peak & Average



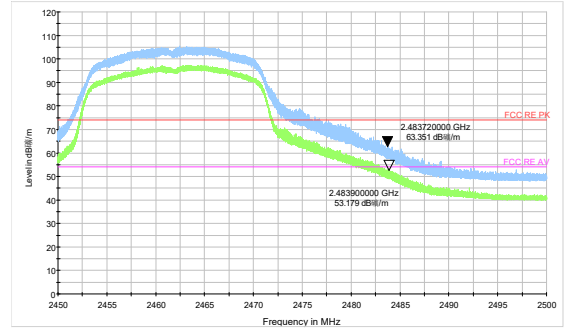
802.11g-Channel 1 Peak & Average



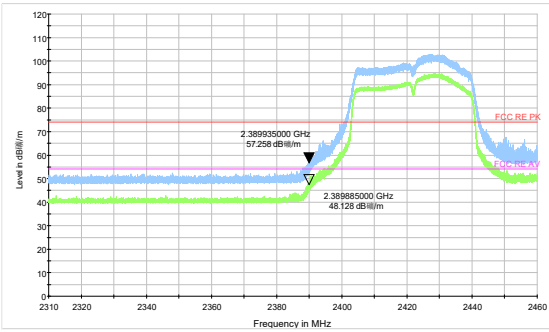
802.11g-Channel 11 Peak & Average e



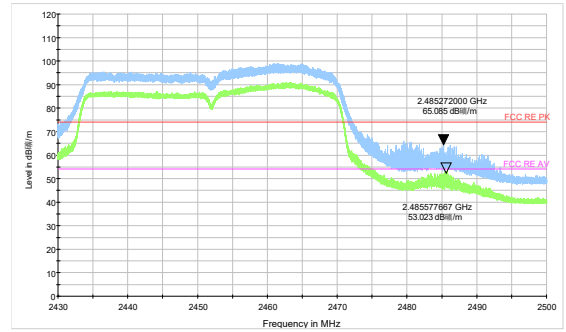
802.11n HT20 -Channel 1 Peak & Average



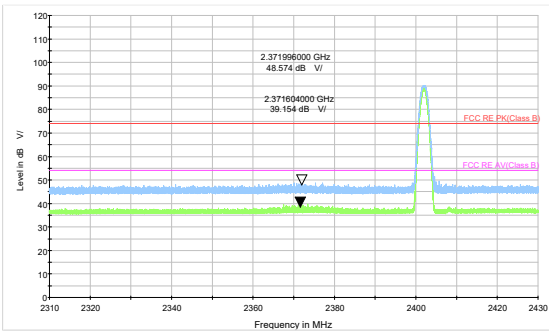
802.11n HT20 -Channel 11 Peak & Average



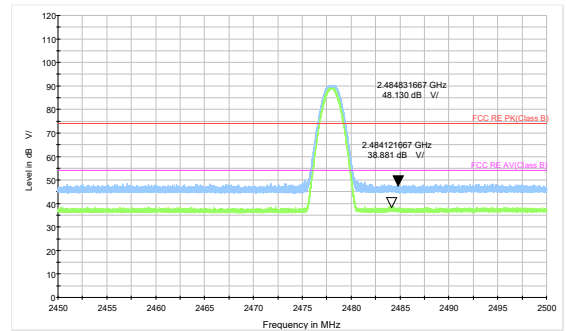
802.11n HT40 -Channel 3 Peak & Average



802.11n HT40 -Channel 9 Peak & Average

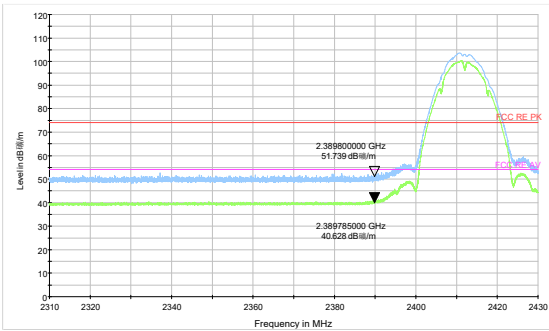


Bluetooth LE Channel 0 Peak & Average

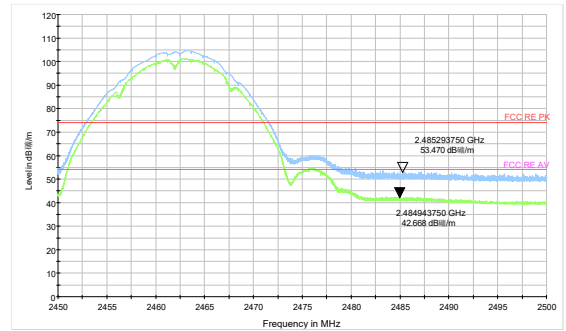


Bluetooth LE Channel 39 Peak & Average

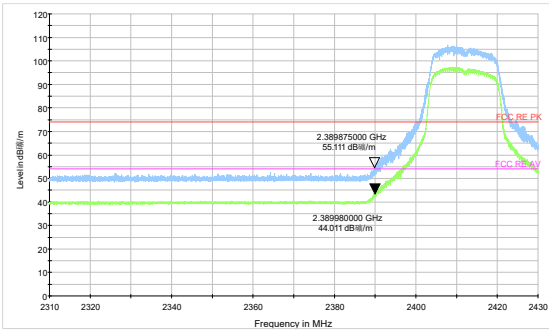
Antenna 4



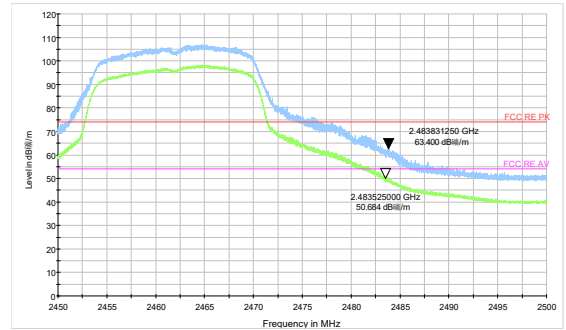
802.11b-Channel 1 Peak & Average



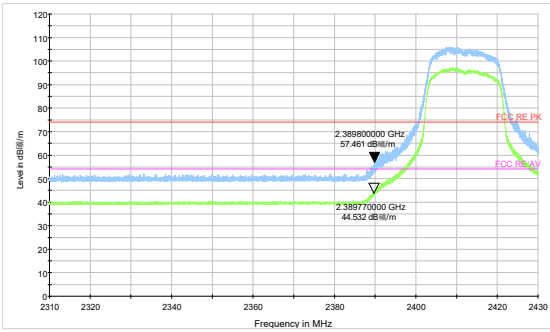
802.11b-Channel 11 Peak & Average



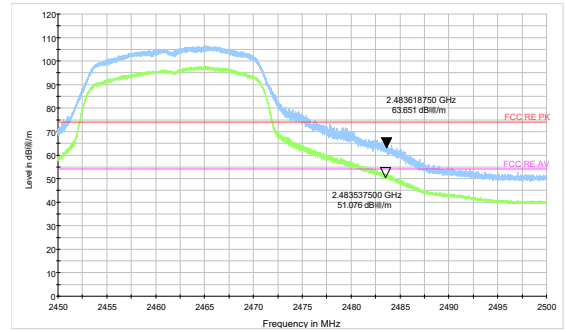
802.11g-Channel 1 Peak & Average



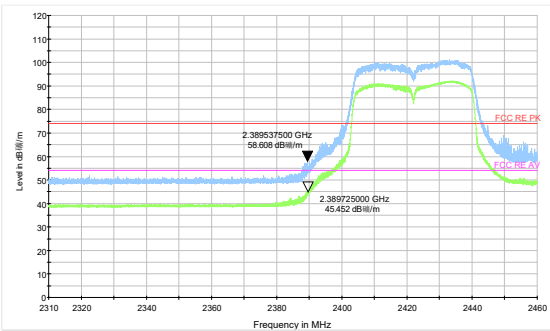
802.11g-Channel 11 Peak & Average e



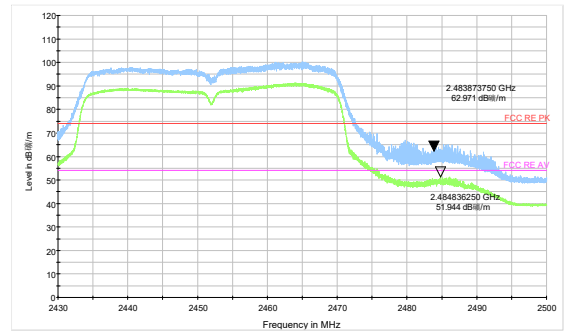
802.11n HT20 -Channel 1 Peak & Average



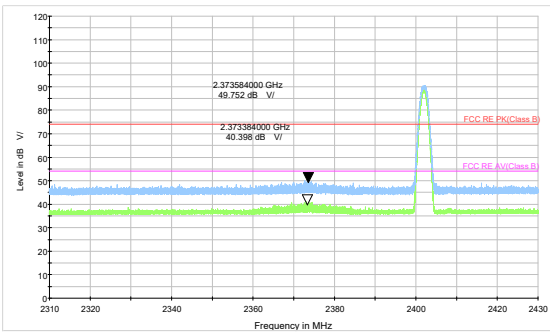
802.11n HT20 -Channel 11 Peak & Average



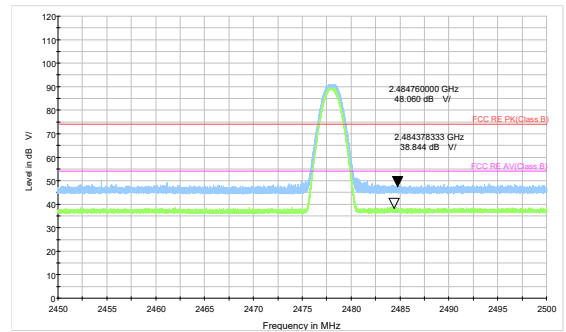
802.11n HT40 -Channel 3 Peak & Average



802.11n HT40 -Channel 9 Peak & Average



Bluetooth LE Channel 0 Peak & Average



Bluetooth LE Channel 39 Peak & Average



Result of RE

Test result

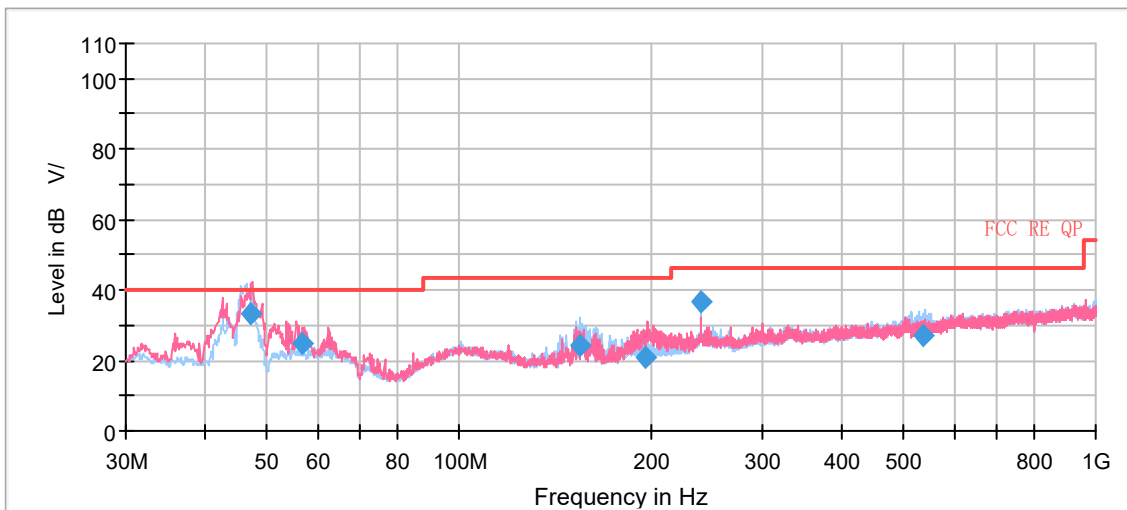
Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the Emissions in the frequency band 9kHz-30MHz and 18GHz-26.5GHz are more than 20dB below the limit are not reported.

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.

Antenna 2

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels, 802.11g, Channel 1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Continuous TX mode:



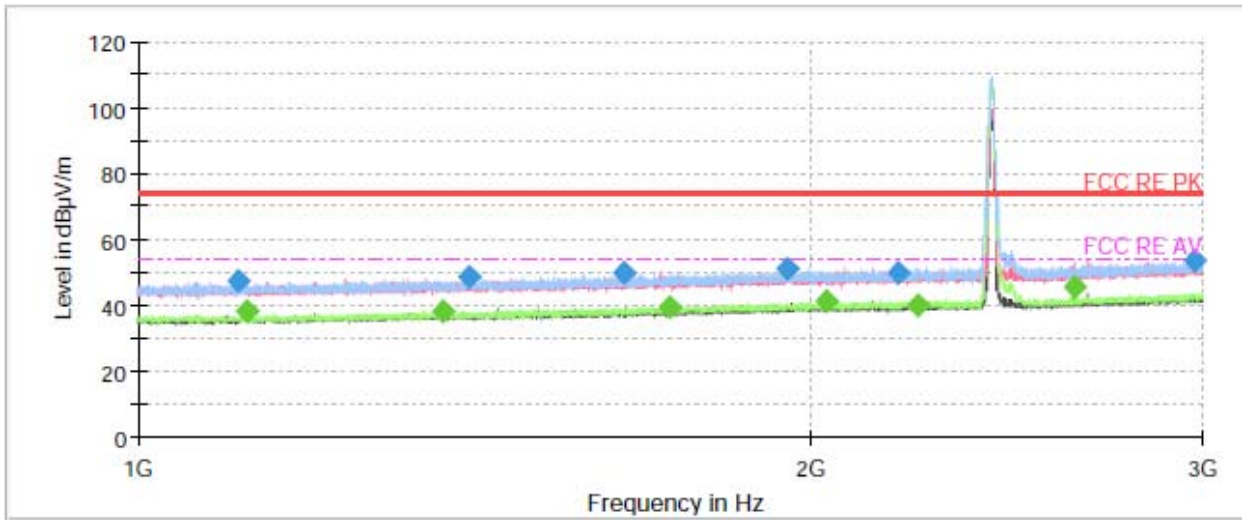
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
46.978750	33.33	100.0	V	276.0	-5.0	6.67	40.00
56.783750	25.03	100.0	V	327.0	-4.8	14.97	40.00
155.087000	24.53	184.0	H	262.0	-9.5	18.97	43.50
196.605500	20.94	175.0	V	240.0	-5.1	22.56	43.50
240.005000	36.67	125.0	H	289.0	-4.6	9.33	46.00
537.398750	27.01	175.0	H	103.0	1.2	18.99	46.00

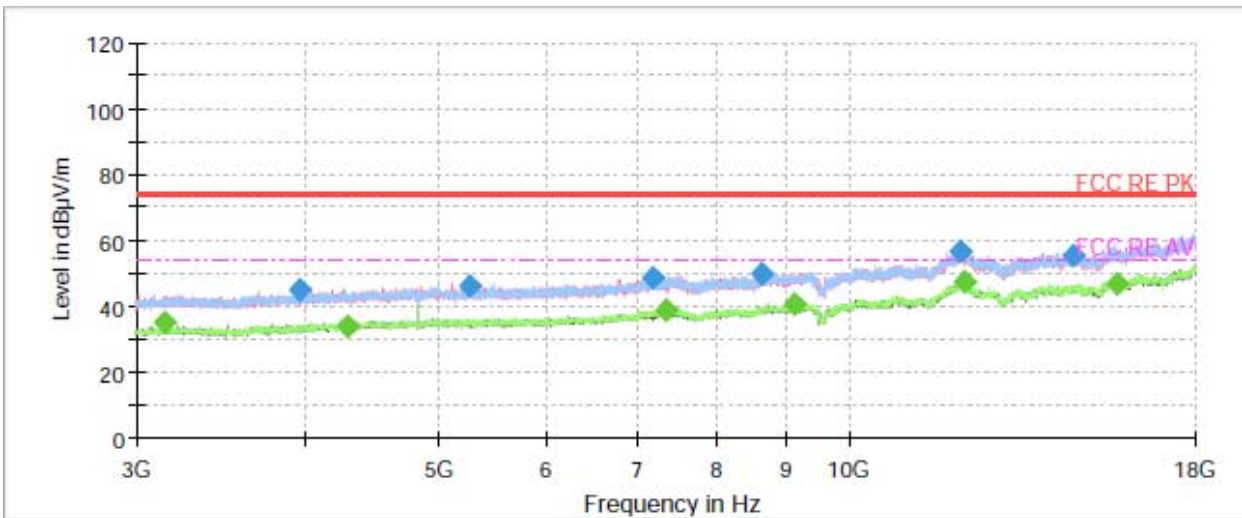
Remark: 1. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)

2. Margin = Limit – Quasi-Peak

802.11b CH1



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



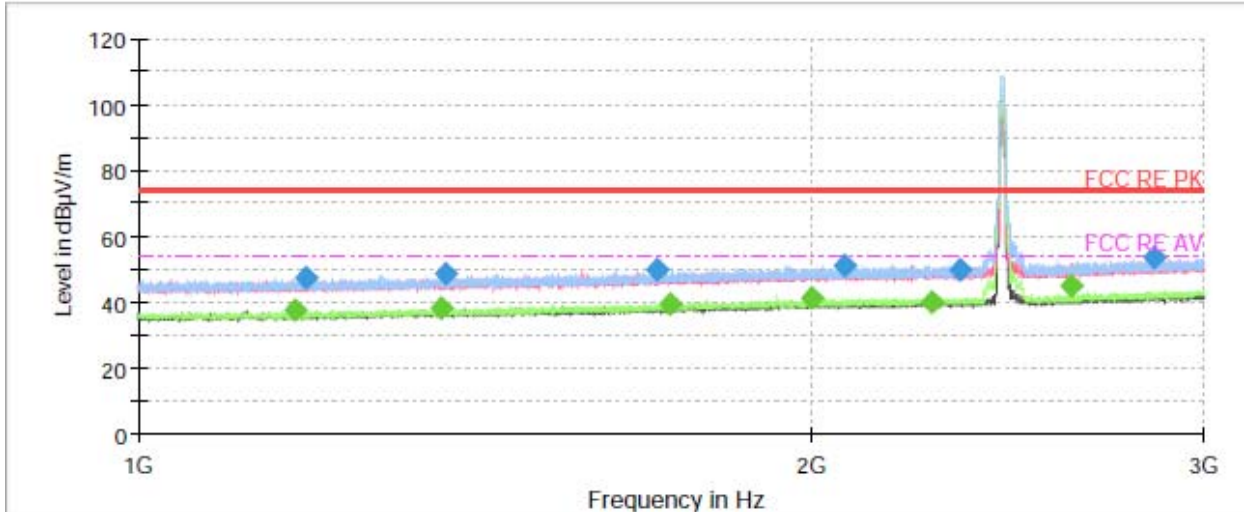
Radiates Emission from 3GHz to 18GHz



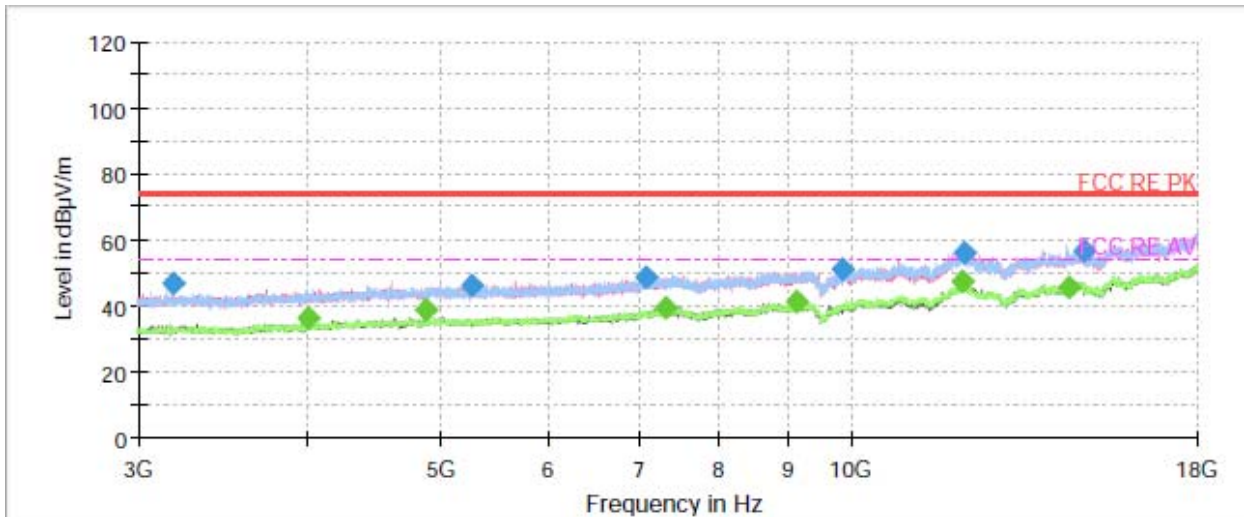
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1110.000000	47.38	---	74.00	26.62	100.0	V	240.0	-10.6
1118.600000	---	38.03	54.00	15.97	200.0	V	51.0	-10.6
1368.533333	---	38.19	54.00	15.81	200.0	H	213.0	-9.1
1407.600000	48.49	---	74.00	25.51	200.0	H	322.0	-8.8
1650.266667	49.73	---	74.00	24.27	200.0	H	157.0	-7.5
1730.933333	---	39.48	54.00	14.52	100.0	H	118.0	-7.0
1951.133333	51.10	---	74.00	22.90	200.0	H	188.0	-5.8
2031.933333	---	40.98	54.00	13.02	100.0	H	118.0	-5.5
2191.866667	49.71	---	74.00	24.29	100.0	V	301.0	-5.2
2237.266667	---	40.12	54.00	13.88	100.0	V	289.0	-5.0
2626.000000	---	45.67	54.00	8.33	200.0	V	278.0	-4.0
2976.266667	53.67	---	74.00	20.33	100.0	H	82.0	-2.7

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11b CH6



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



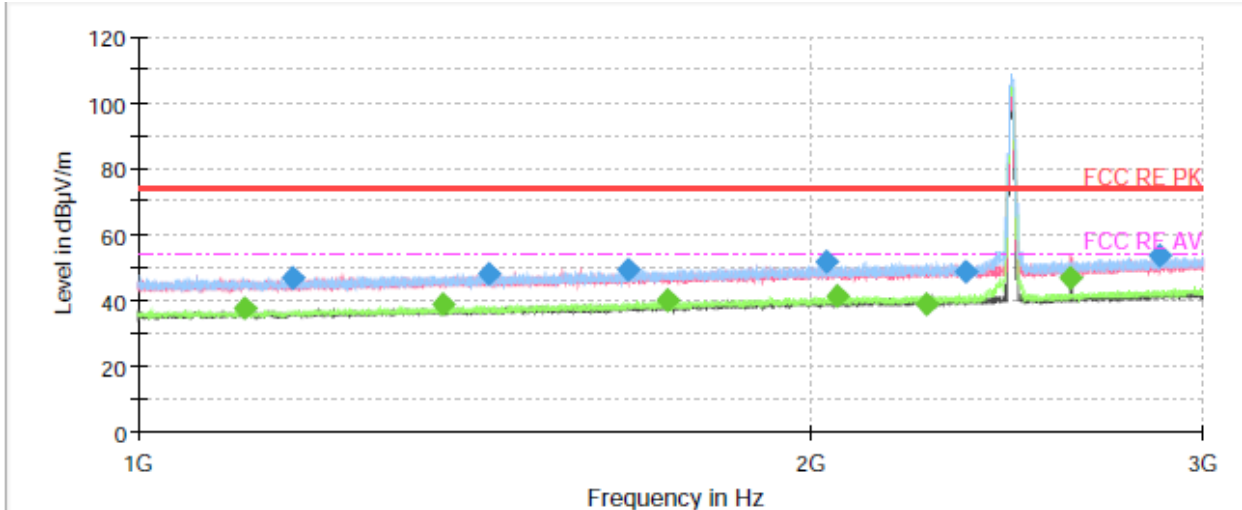
Radiates Emission from 3GHz to 18GHz



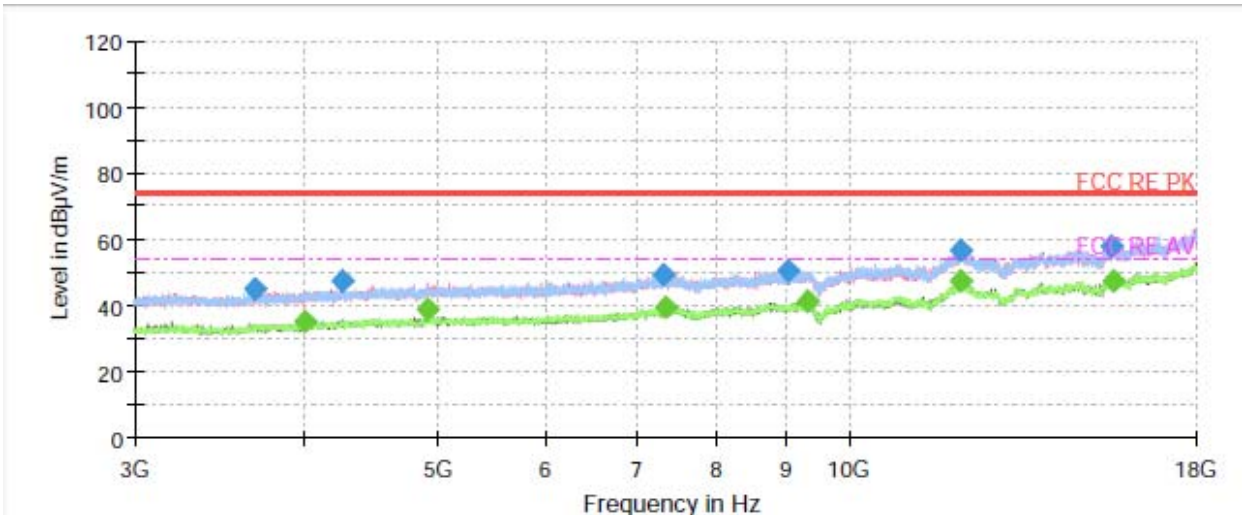
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1175.933333	---	37.28	54.00	16.72	200.0	H	194.0	-10.3
1188.133333	47.29	---	74.00	26.71	100.0	H	17.0	-10.2
1367.000000	---	38.42	54.00	15.58	100.0	H	158.0	-9.1
1371.600000	48.48	---	74.00	25.52	200.0	H	237.0	-9.1
1707.200000	49.85	---	74.00	24.15	200.0	H	336.0	-7.1
1731.333333	---	39.29	54.00	14.71	100.0	H	139.0	-7.0
2004.200000	---	41.19	54.00	12.81	200.0	H	213.0	-5.6
2072.066667	51.12	---	74.00	22.88	100.0	H	139.0	-5.4
2265.333333	---	40.25	54.00	13.75	100.0	V	0.0	-4.9
2334.733333	49.98	---	74.00	24.02	100.0	H	102.0	-4.8
2618.266667	---	44.84	54.00	9.16	200.0	V	208.0	-4.1
2846.533333	53.25	---	74.00	20.75	200.0	V	0.0	-3.2

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11b CH11



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



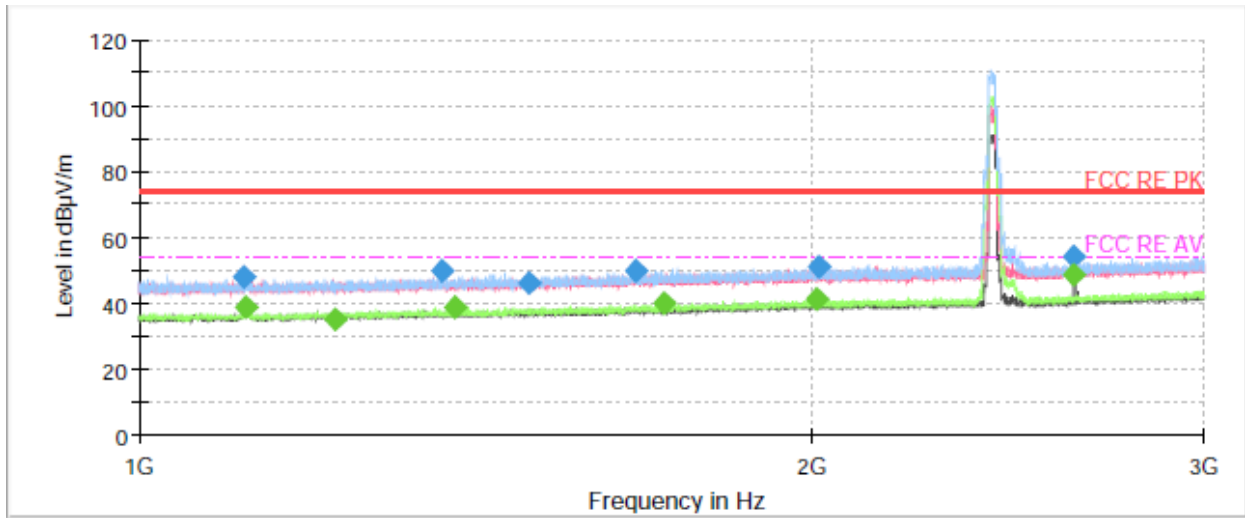
Radiates Emission from 3GHz to 18GHz



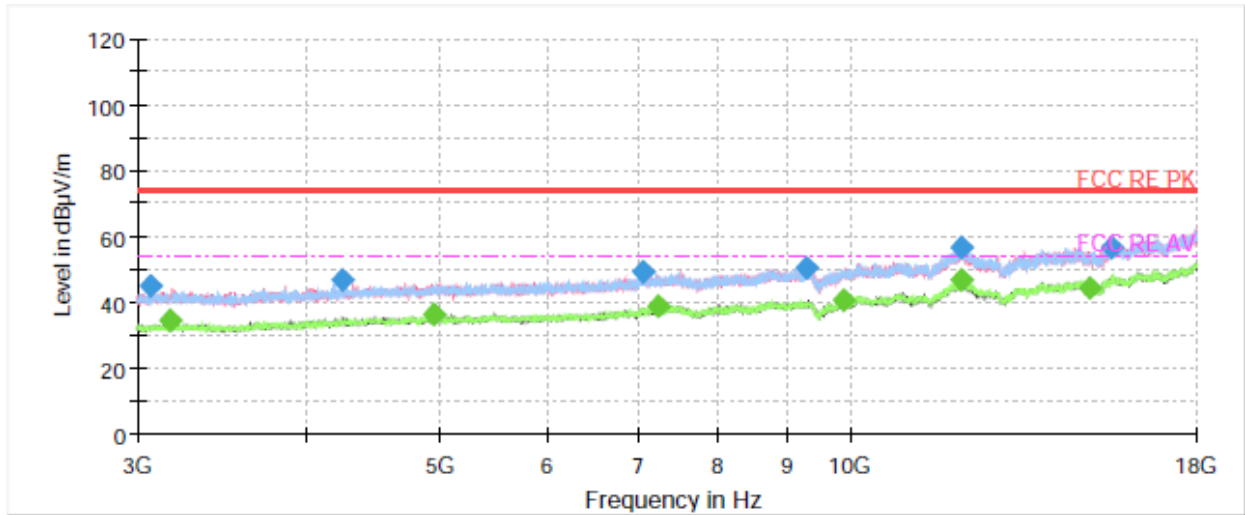
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1116.266667	---	37.59	54.00	16.41	200.0	V	120.0	-10.6
1173.600000	47.08	---	74.00	26.92	200.0	H	298.0	-10.3
1371.000000	---	38.52	54.00	15.48	200.0	H	359.0	-9.1
1436.866667	48.06	---	74.00	25.94	100.0	H	31.0	-8.7
1657.666667	49.41	---	74.00	24.59	200.0	H	353.0	-7.4
1727.133333	---	40.04	54.00	13.96	200.0	H	124.0	-7.0
2035.466667	51.75	---	74.00	22.25	200.0	H	347.0	-5.5
2057.133333	---	41.26	54.00	12.74	200.0	H	111.0	-5.5
2255.466667	---	38.95	54.00	15.05	200.0	V	180.0	-4.9
2350.000000	48.81	---	74.00	25.19	200.0	V	71.0	-4.7
2618.400000	---	47.07	54.00	6.93	200.0	V	12.0	-4.0
2865.866667	53.54	---	74.00	20.46	100.0	H	7.0	-3.1

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11g CH1



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



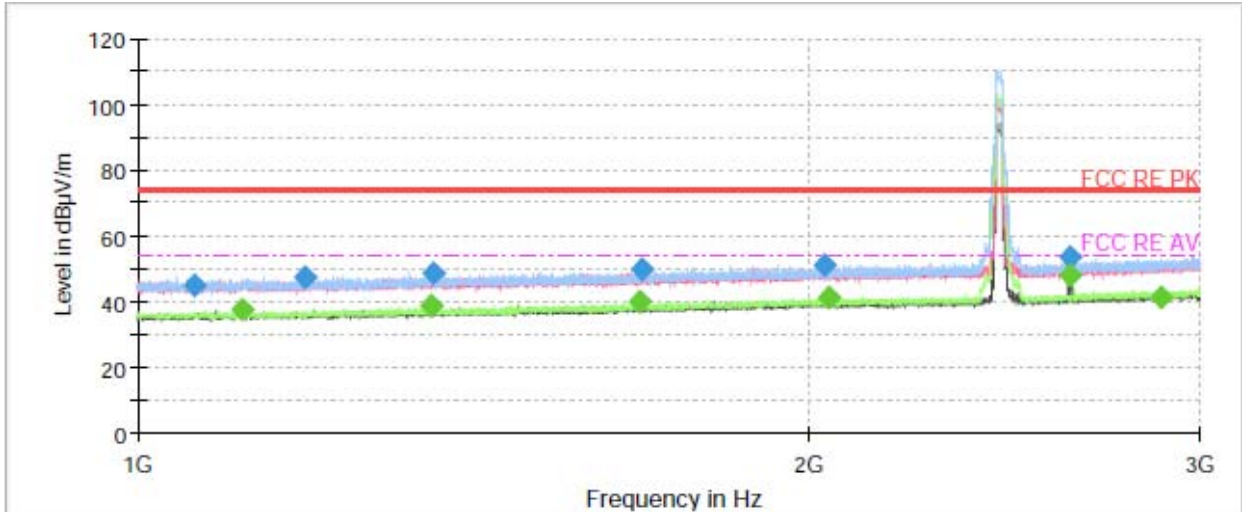
Radiates Emission from 3GHz to 18GHz



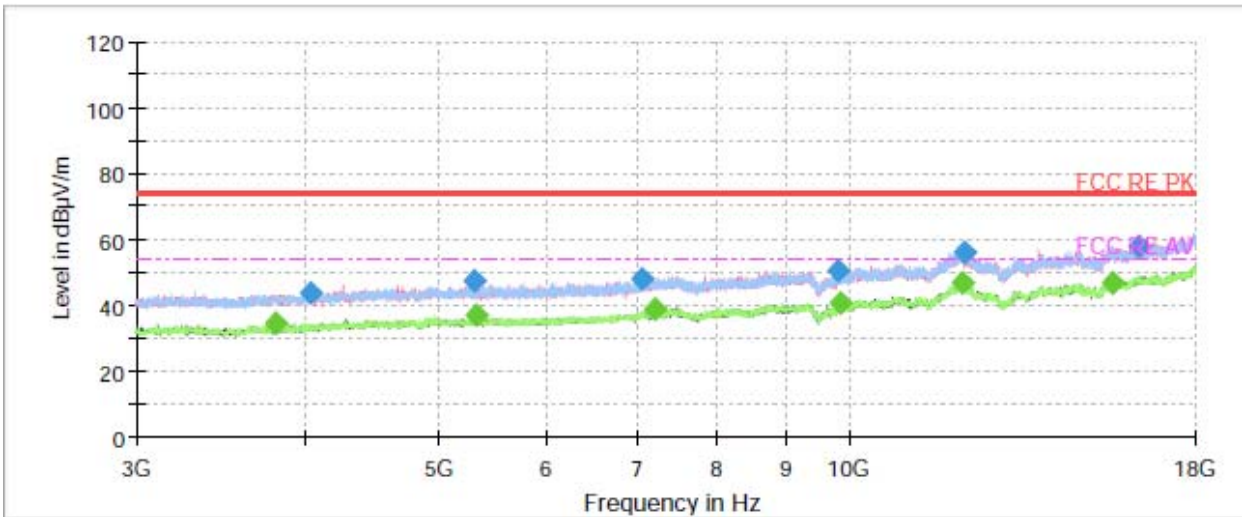
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1114.466667	48.12	---	74.00	25.88	200.0	V	132.0	-10.6
1116.400000	---	38.75	54.00	15.25	200.0	V	101.0	-10.6
1225.000000	---	35.06	54.00	18.94	100.0	V	357.0	-10.1
1366.866667	49.66	---	74.00	24.34	200.0	H	335.0	-9.1
1386.200000	---	38.57	54.00	15.43	200.0	H	202.0	-9.0
1494.200000	46.23	---	74.00	27.77	200.0	V	113.0	-8.4
1667.533333	49.83	---	74.00	24.17	100.0	H	186.0	-7.3
1719.933333	---	39.70	54.00	14.30	100.0	H	24.0	-7.0
2009.266667	---	40.95	54.00	13.05	200.0	H	287.0	-5.6
2016.333333	50.88	---	74.00	23.12	100.0	H	167.0	-5.5
2620.466667	54.24	---	74.00	19.76	200.0	V	132.0	-4.0
2622.066667	---	48.61	54.00	5.39	200.0	V	17.0	-4.0

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11g CH6



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



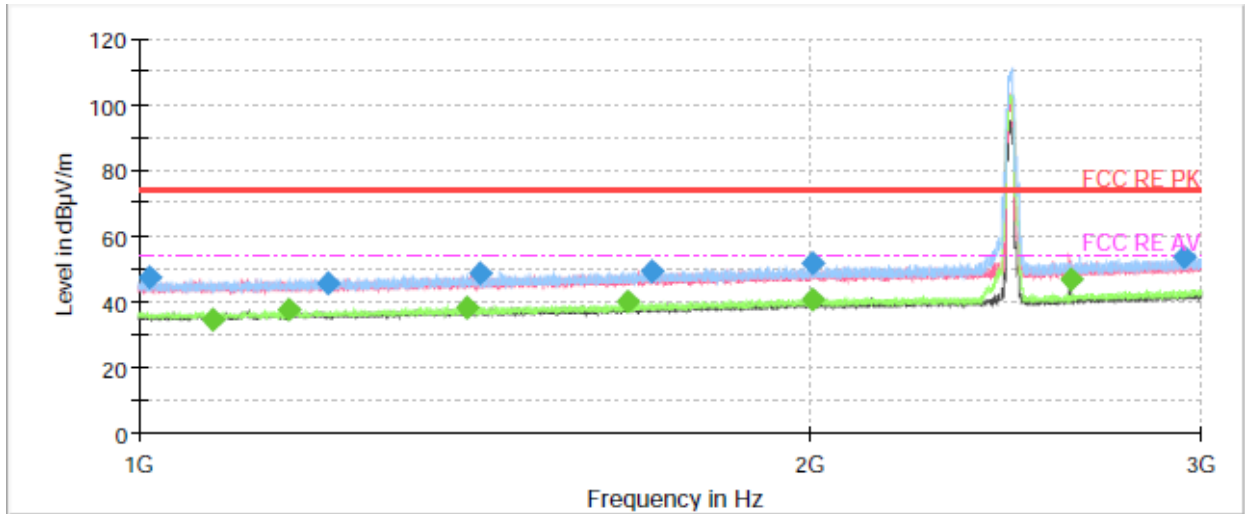
Radiates Emission from 3GHz to 18GHz



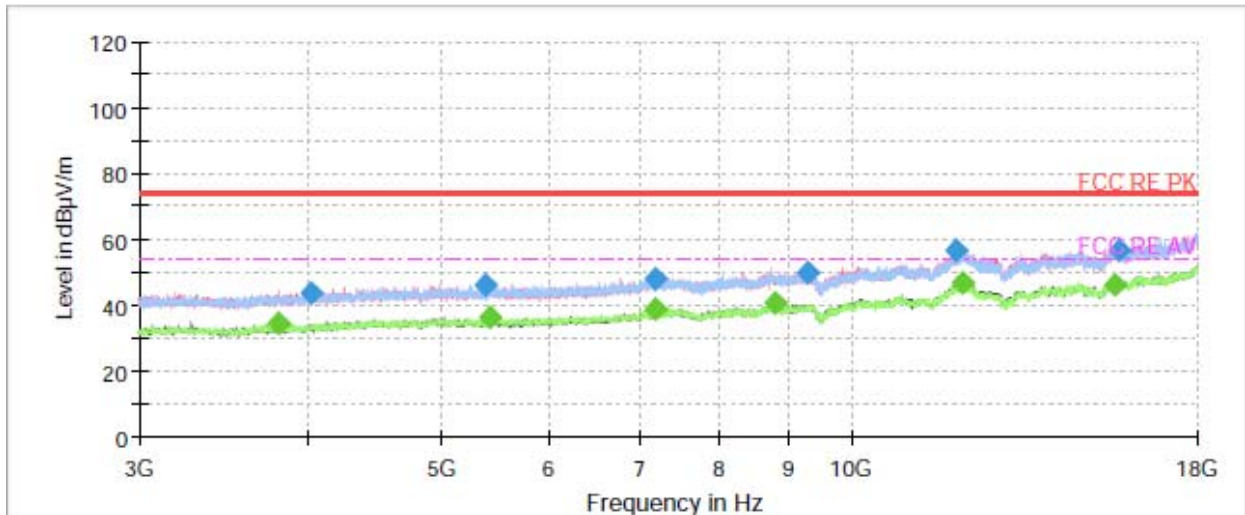
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1060.600000	45.21	---	74.00	28.79	100.0	V	346.0	-10.7
1113.533333	---	37.69	54.00	16.31	100.0	V	125.0	-10.6
1188.600000	47.42	---	74.00	26.58	200.0	V	66.0	-10.2
1352.933333	---	38.69	54.00	15.31	100.0	H	210.0	-9.2
1356.266667	48.88	---	74.00	25.12	100.0	H	210.0	-9.1
1680.400000	---	39.77	54.00	14.23	200.0	H	214.0	-7.3
1683.733333	49.93	---	74.00	24.07	100.0	H	122.0	-7.2
2034.466667	51.15	---	74.00	22.85	100.0	H	74.0	-5.5
2044.933333	---	41.14	54.00	12.86	200.0	H	196.0	-5.5
2622.666667	53.75	---	74.00	20.25	200.0	V	208.0	-4.0
2622.933333	---	48.12	54.00	5.88	200.0	V	245.0	-4.0
2881.400000	---	41.48	54.00	12.52	200.0	V	8.0	-3.1

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11g CH11



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



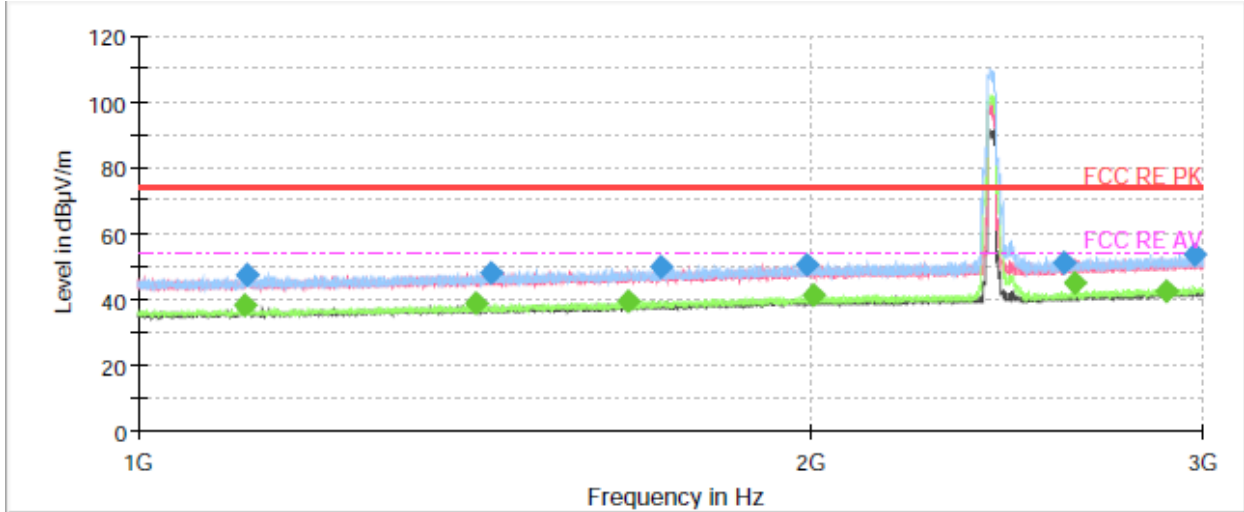
Radiates Emission from 3GHz to 18GHz



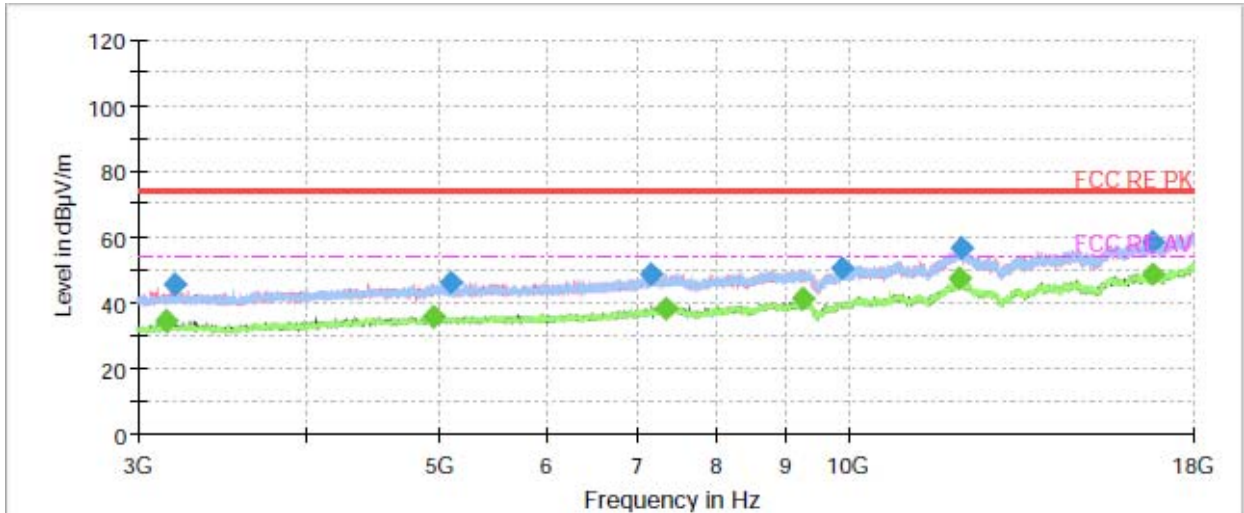
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1011.133333	47.10	---	74.00	26.90	200.0	H	207.0	-10.7
1080.400000	---	34.76	54.00	19.24	200.0	V	145.0	-10.7
1168.466667	---	37.50	54.00	16.50	100.0	H	98.0	-10.4
1215.000000	45.41	---	74.00	28.59	100.0	V	320.0	-10.1
1404.266667	---	38.32	54.00	15.68	200.0	H	312.0	-8.8
1422.200000	48.87	---	74.00	25.13	200.0	H	113.0	-8.8
1657.533333	---	40.16	54.00	13.84	100.0	H	166.0	-7.4
1699.466667	49.11	---	74.00	24.89	100.0	H	0.0	-7.2
2005.466667	51.59	---	74.00	22.41	200.0	H	353.0	-5.6
2007.066667	---	40.83	54.00	13.17	100.0	H	110.0	-5.6
2622.600000	---	46.48	54.00	7.52	200.0	V	320.0	-4.0
2948.666667	53.50	---	74.00	20.50	200.0	H	189.0	-2.9

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH1



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



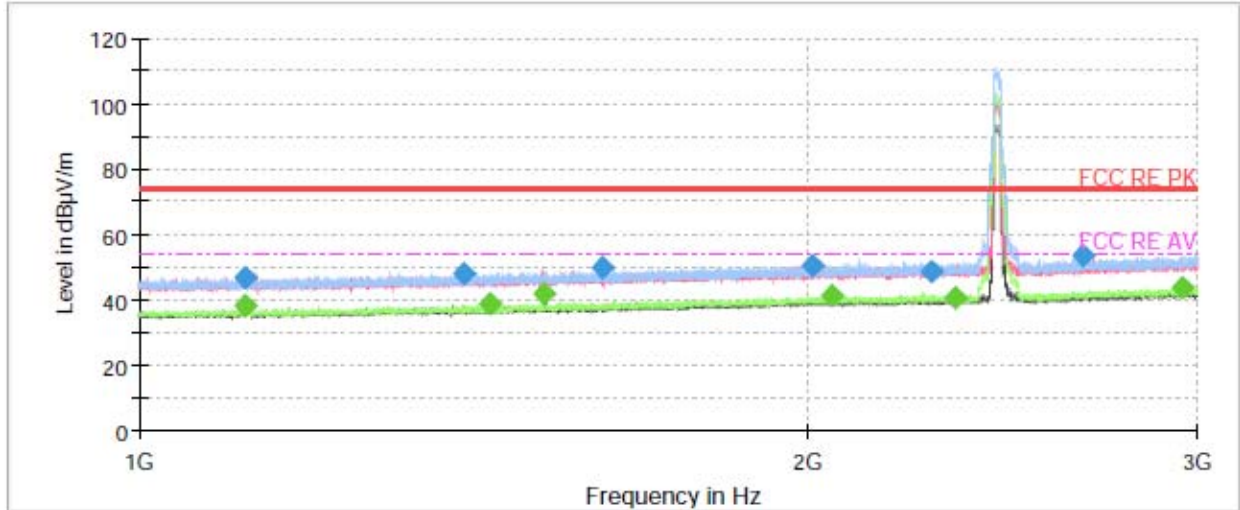
Radiates Emission from 3GHz to 18GHz



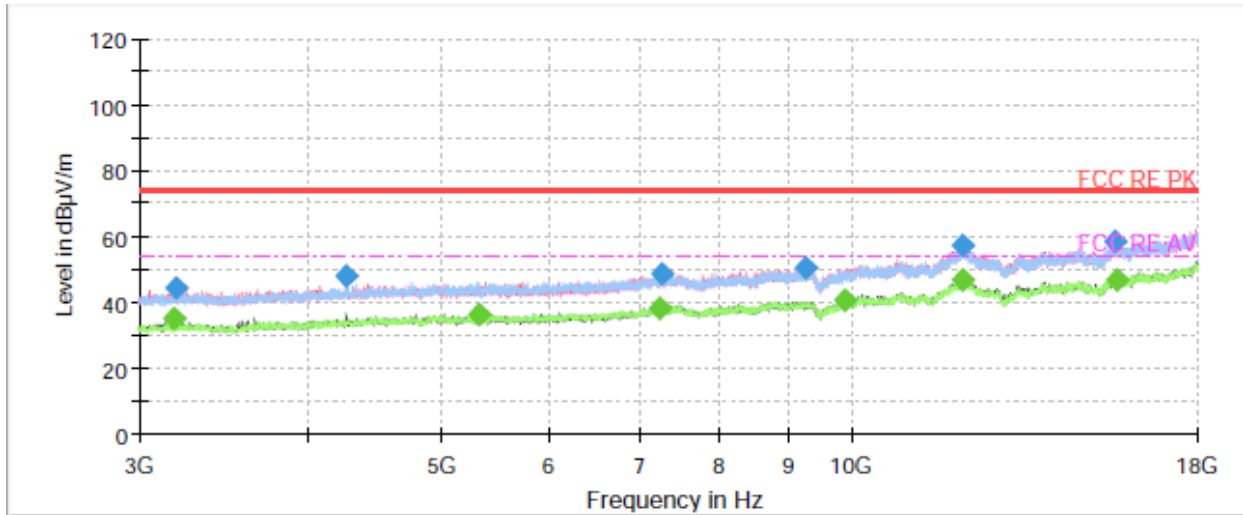
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1115.600000	---	38.17	54.00	15.83	200.0	V	143.0	-10.6
1119.733333	47.55	---	74.00	26.45	200.0	V	107.0	-10.6
1416.133333	---	38.90	54.00	15.10	100.0	H	118.0	-8.8
1437.800000	48.13	---	74.00	25.87	200.0	H	175.0	-8.7
1659.266667	---	39.57	54.00	14.43	200.0	H	340.0	-7.4
1714.533333	50.12	---	74.00	23.88	100.0	V	314.0	-7.1
1994.066667	50.56	---	74.00	23.44	100.0	H	136.0	-5.6
2004.800000	---	41.21	54.00	12.79	100.0	H	51.0	-5.6
2597.333333	50.98	---	74.00	23.02	100.0	H	33.0	-4.2
2627.933333	---	44.66	54.00	9.34	200.0	V	75.0	-4.0
2884.733333	---	42.35	54.00	11.65	200.0	V	0.0	-3.1
2971.466667	53.83	---	74.00	20.17	200.0	H	334.0	-2.7
16759.500000	---	48.38	54.00	5.62	100.0	V	96.0	9.7
16796.500000	58.43	---	74.00	15.57	200.0	H	121.0	9.2

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH6



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



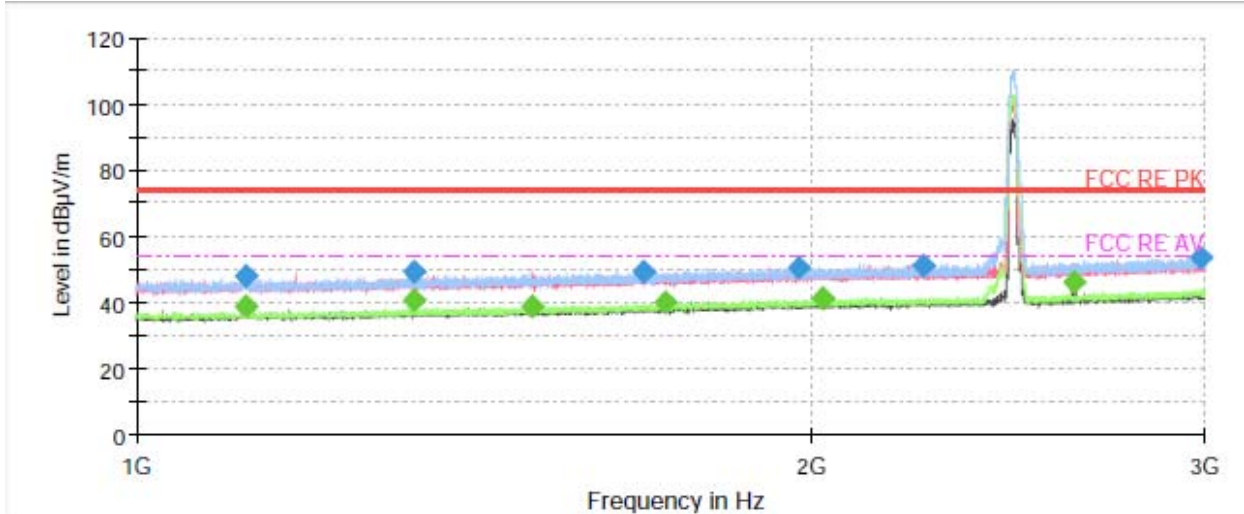
Radiates Emission from 3GHz to 18GHz



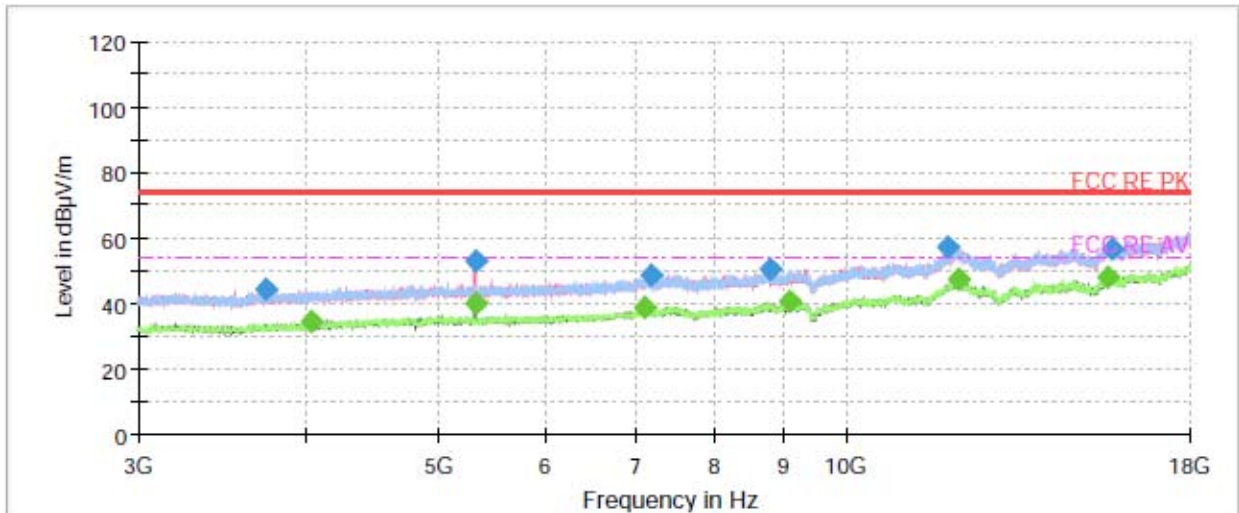
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1116.133333	46.99	---	74.00	27.01	200.0	V	131.0	-10.6
1117.266667	---	38.41	54.00	15.59	200.0	V	149.0	-10.6
1401.000000	48.06	---	74.00	25.94	100.0	H	162.0	-8.9
1438.733333	---	38.52	54.00	15.48	200.0	H	345.0	-8.7
1522.333333	---	41.87	54.00	12.13	200.0	V	17.0	-8.2
1617.466667	49.88	---	74.00	24.12	100.0	H	150.0	-7.7
2009.600000	50.41	---	74.00	23.59	100.0	H	144.0	-5.6
2053.266667	---	41.02	54.00	12.98	100.0	H	83.0	-5.5
2278.000000	48.79	---	74.00	25.21	200.0	V	41.0	-4.9
2330.800000	---	40.68	54.00	13.32	100.0	H	41.0	-4.8
2664.133333	53.73	---	74.00	20.27	200.0	V	223.0	-3.8
2956.200000	---	43.78	54.00	10.22	100.0	H	213.0	-2.8

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH11



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



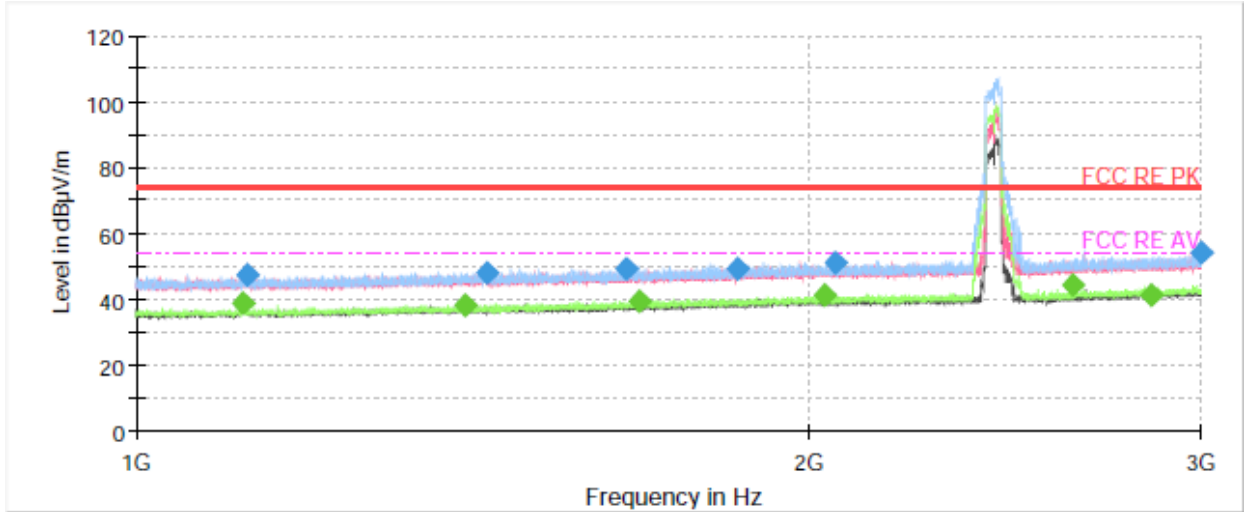
Radiates Emission from 3GHz to 18GHz



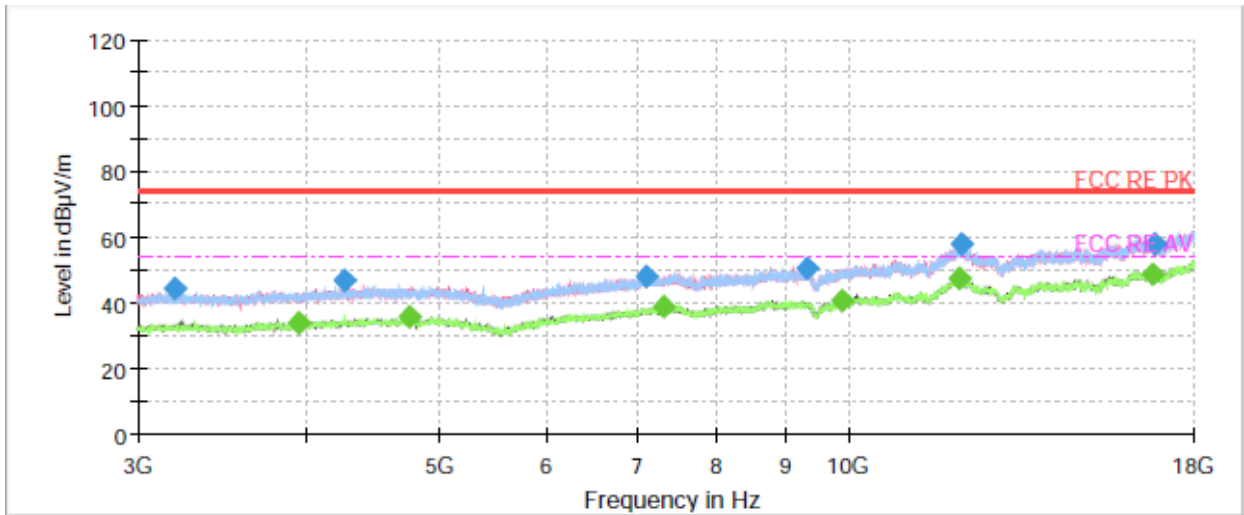
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1119.266667	---	38.49	54.00	15.51	100.0	V	342.0	-10.6
1119.333333	47.97	---	74.00	26.03	100.0	H	196.0	-10.6
1331.333333	---	40.32	54.00	13.68	200.0	H	349.0	-9.3
1331.333333	49.45	---	74.00	24.55	200.0	H	349.0	-9.3
1501.666667	---	38.89	54.00	15.11	100.0	H	122.0	-8.3
1684.733333	49.32	---	74.00	24.68	200.0	H	343.0	-7.2
1722.666667	---	39.78	54.00	14.22	200.0	H	140.0	-7.0
1975.466667	50.74	---	74.00	23.26	200.0	H	244.0	-5.7
2025.866667	---	41.24	54.00	12.76	100.0	H	159.0	-5.5
2244.133333	50.84	---	74.00	23.16	100.0	H	146.0	-5.0
2619.400000	---	46.23	54.00	7.77	200.0	V	146.0	-4.0
2988.800000	53.70	---	74.00	20.30	200.0	H	319.0	-2.7

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT40) CH3



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



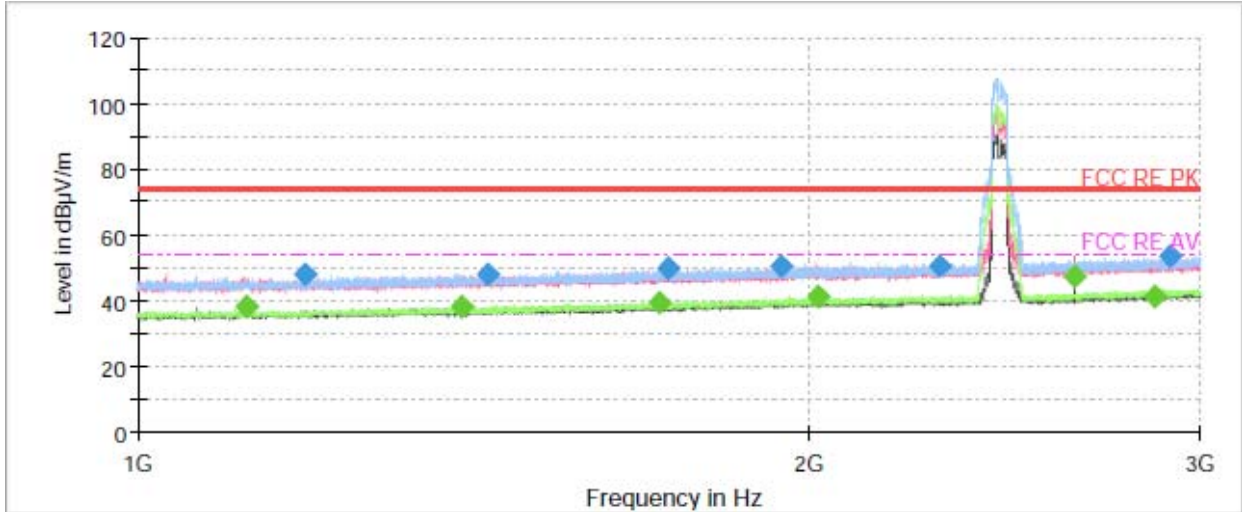
Radiates Emission from 3GHz to 18GHz



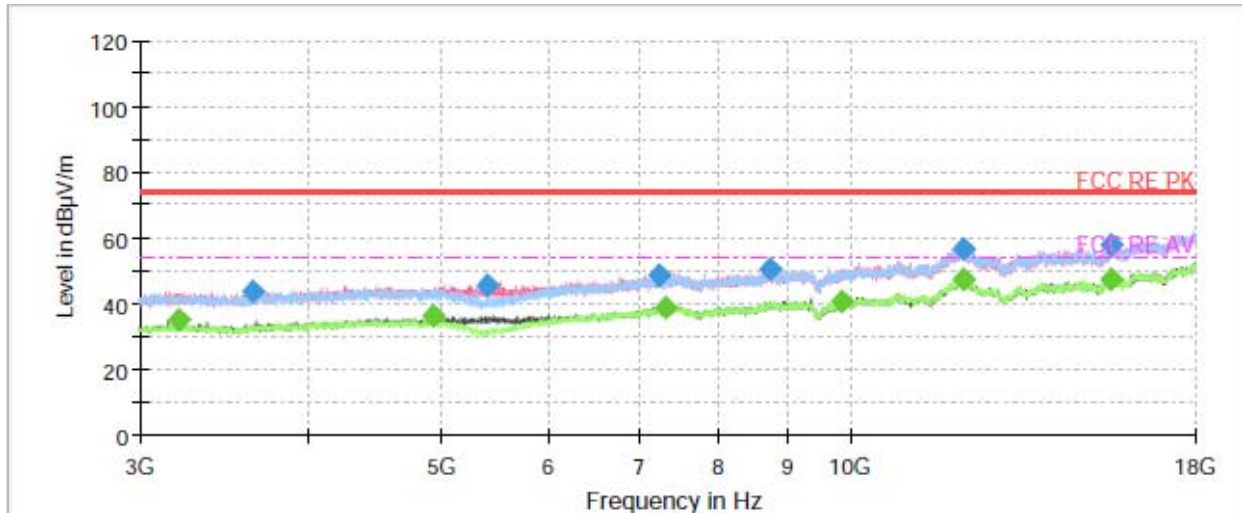
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1115.333333	---	39.06	54.00	14.94	200.0	V	119.0	-10.6
1120.666667	47.38	---	74.00	26.62	200.0	V	131.0	-10.6
1404.866667	---	38.36	54.00	15.64	100.0	H	17.0	-8.8
1436.466667	48.06	---	74.00	25.94	200.0	H	285.0	-8.7
1657.733333	49.37	---	74.00	24.63	100.0	H	23.0	-7.4
1681.400000	---	39.66	54.00	14.34	100.0	H	0.0	-7.2
1858.533333	49.27	---	74.00	24.73	100.0	H	78.0	-6.3
2034.400000	---	41.23	54.00	12.77	200.0	H	243.0	-5.5
2059.066667	51.02	---	74.00	22.98	200.0	H	92.0	-5.5
2629.466667	---	44.50	54.00	9.50	200.0	V	113.0	-4.0
2846.333333	---	41.36	54.00	12.64	200.0	V	131.0	-3.2
2999.800000	53.89	---	74.00	20.11	200.0	H	315.0	-2.7
16755.500000	---	48.55	54.00	5.45	100.0	V	324.0	9.7
16850.000000	58.04	---	74.00	15.96	100.0	H	107.0	8.4

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT40) CH6



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



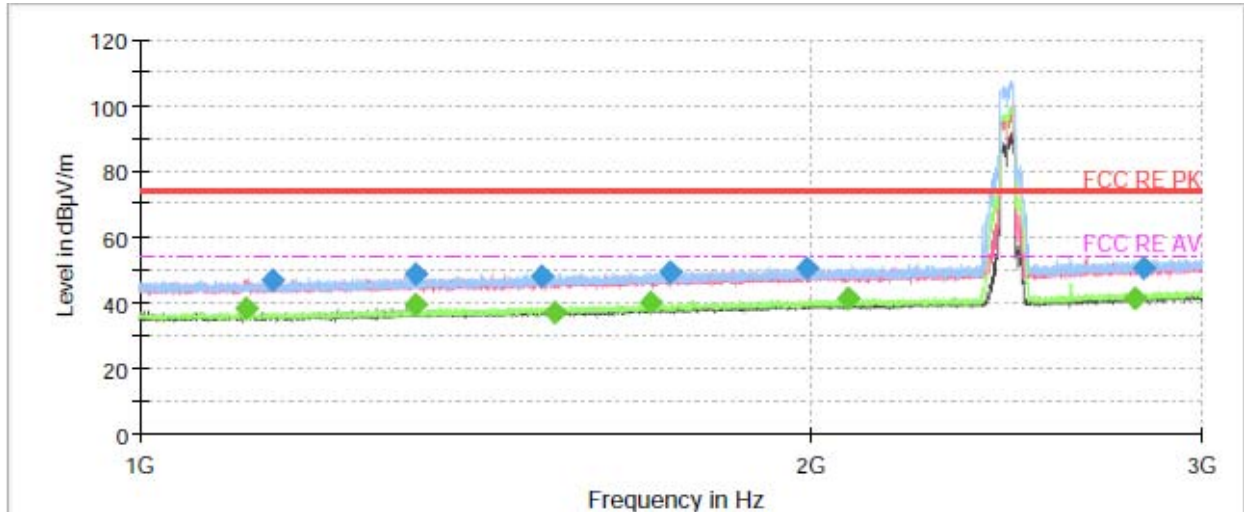
Radiates Emission from 3GHz to 18GHz



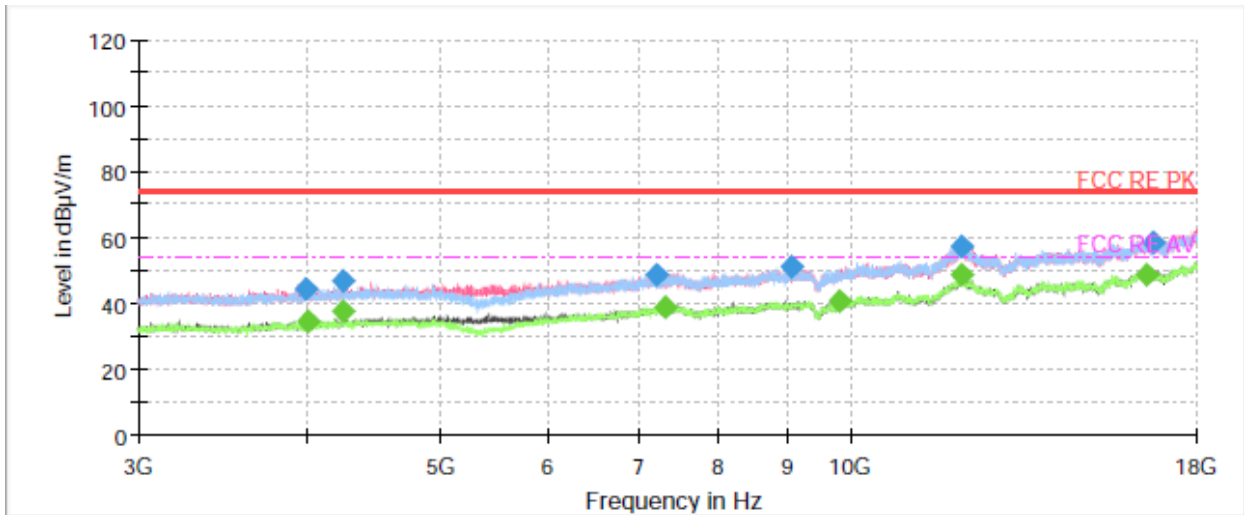
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1118.466667	---	38.11	54.00	15.89	200.0	V	116.0	-10.6
1188.333333	47.86	---	74.00	26.14	200.0	H	336.0	-10.2
1398.866667	---	38.24	54.00	15.76	200.0	H	294.0	-8.9
1435.400000	47.82	---	74.00	26.18	100.0	H	121.0	-8.7
1713.933333	---	39.41	54.00	14.59	200.0	H	238.0	-7.1
1730.066667	49.69	---	74.00	24.31	100.0	H	24.0	-7.0
1946.600000	50.62	---	74.00	23.38	100.0	H	115.0	-5.9
2019.800000	---	40.99	54.00	13.01	200.0	H	0.0	-5.5
2292.866667	50.23	---	74.00	23.77	200.0	H	282.0	-4.9
2631.000000	---	47.67	54.00	6.33	200.0	V	44.0	-4.0
2861.800000	---	41.40	54.00	12.60	100.0	V	320.0	-3.2
2905.533333	53.39	---	74.00	20.61	200.0	H	177.0	-3.0

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT40) CH9



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz

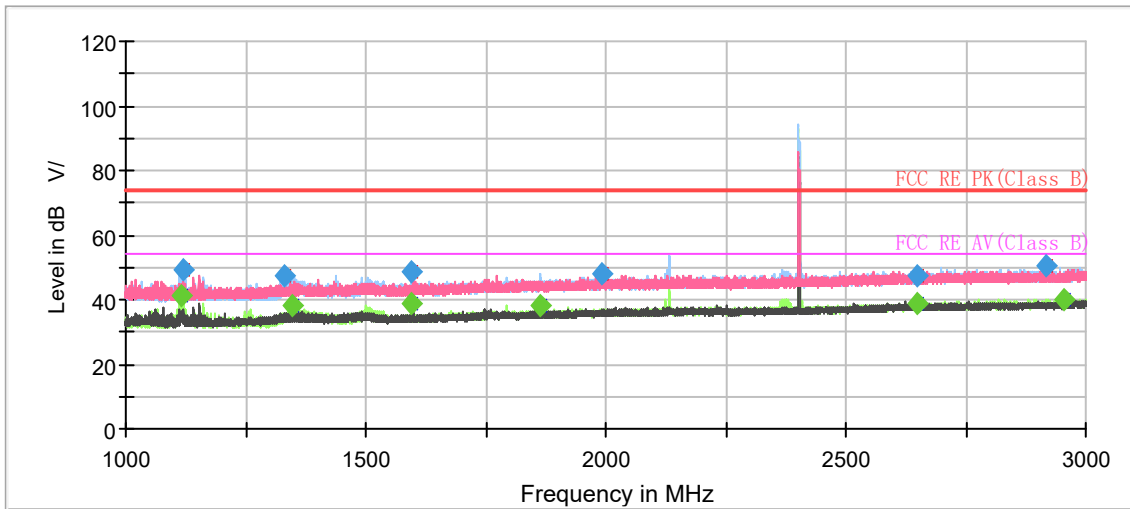


Radiates Emission from 3GHz to 18GHz

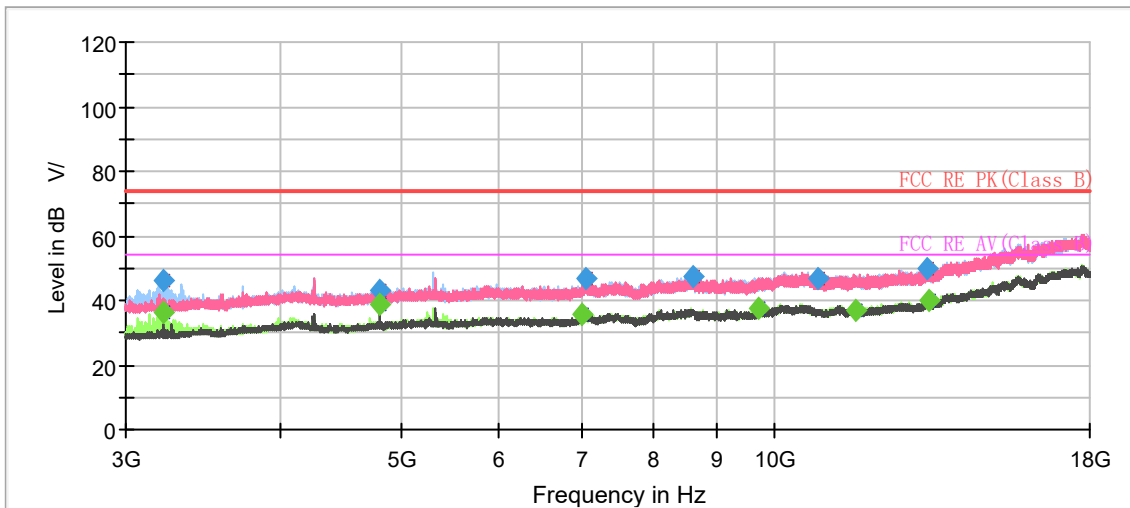


Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1117.333333	---	38.00	54.00	16.00	200.0	V	121.0	-10.6
1146.466667	47.06	---	74.00	26.94	100.0	H	132.0	-10.4
1328.800000	---	39.45	54.00	14.55	100.0	V	136.0	-9.4
1330.866667	48.35	---	74.00	25.65	100.0	V	129.0	-9.3
1515.133333	47.99	---	74.00	26.01	100.0	H	30.0	-8.2
1535.666667	---	36.66	54.00	17.34	200.0	V	67.0	-8.2
1693.800000	---	39.90	54.00	14.10	200.0	H	311.0	-7.2
1730.000000	49.38	---	74.00	24.62	200.0	H	355.0	-7.0
1991.933333	50.71	---	74.00	23.29	200.0	H	203.0	-5.7
2080.066667	---	41.15	54.00	12.85	200.0	H	311.0	-5.4
2795.600000	---	41.50	54.00	12.50	200.0	H	134.0	-3.4
2823.066667	50.55	---	74.00	23.45	100.0	V	354.0	-3.2
16513.000000	---	48.34	54.00	5.66	200.0	H	73.0	11.2
16749.000000	58.34	---	74.00	15.66	200.0	V	0.0	9.8

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Bluetooth LE-Channel 0

Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



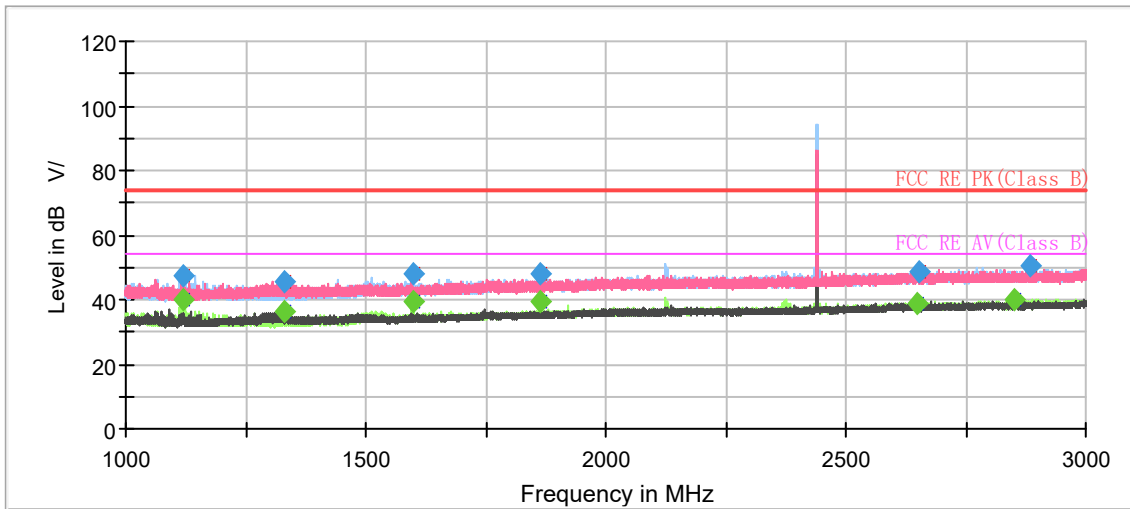
Radiates Emission from 3GHz to 18GHz



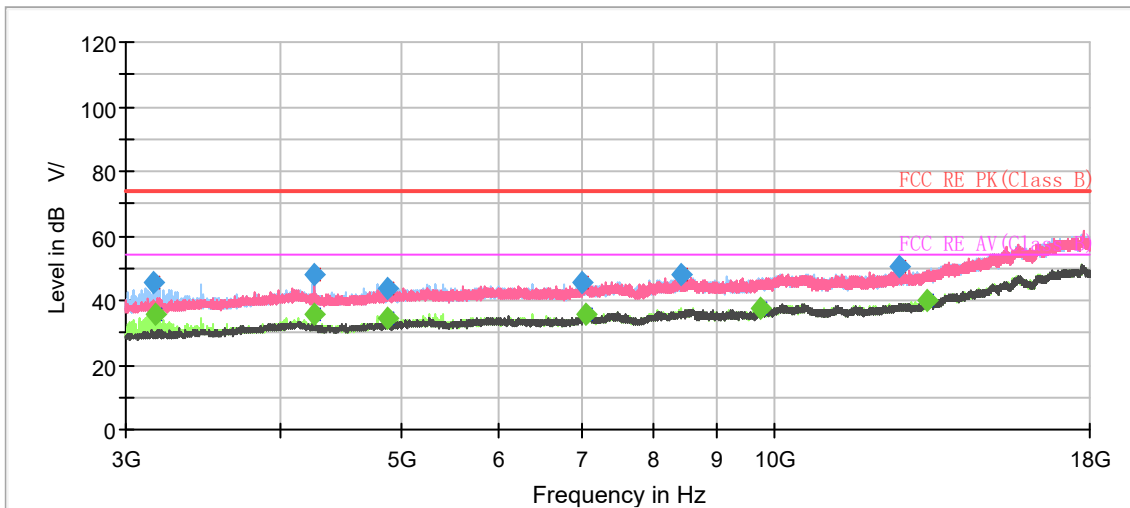
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1116.600000	---	41.12	54.00	12.88	100.0	H	104.0	-7.7
1118.066667	48.98	---	74.00	25.02	100.0	H	118.0	-7.7
1330.866667	47.17	---	74.00	26.83	200.0	H	118.0	-6.6
1347.466667	---	38.36	54.00	15.64	100.0	H	97.0	-6.5
1595.866667	---	38.91	54.00	15.09	100.0	H	23.0	-5.1
1595.866667	48.88	---	74.00	25.12	100.0	H	23.0	-5.1
1863.266667	---	37.99	54.00	16.01	100.0	H	52.0	-3.5
1991.133333	47.85	---	74.00	26.15	100.0	H	61.0	-2.7
2646.800000	---	38.76	54.00	15.24	100.0	H	0.0	0.3
2647.000000	47.39	---	74.00	26.61	100.0	V	19.0	0.3
2916.200000	50.40	---	74.00	23.60	100.0	H	61.0	1.3
2954.400000	---	40.17	54.00	13.83	100.0	H	111.0	1.6

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Bluetooth LE-Channel 19



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



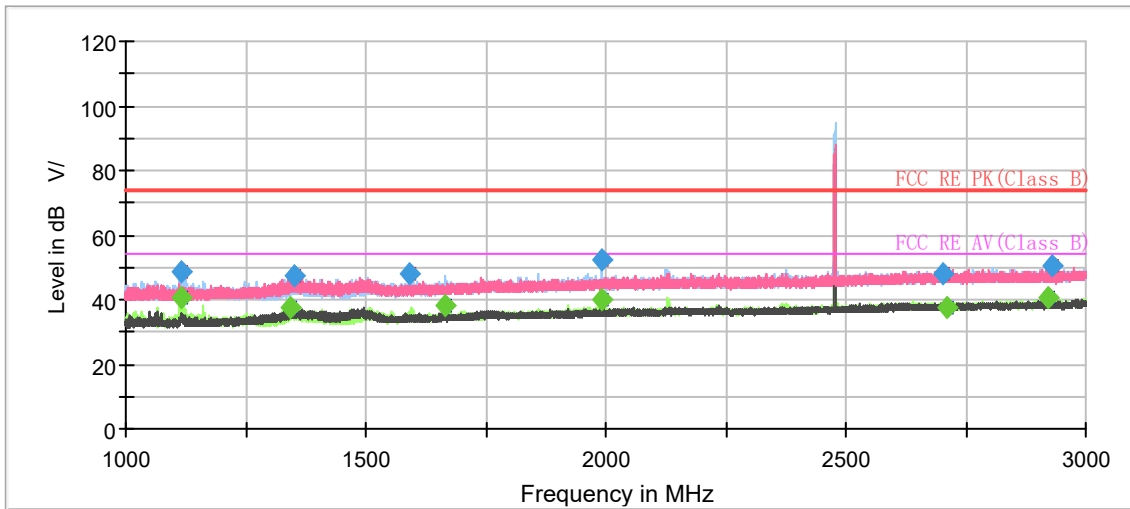
Radiates Emission from 3GHz to 18GHz



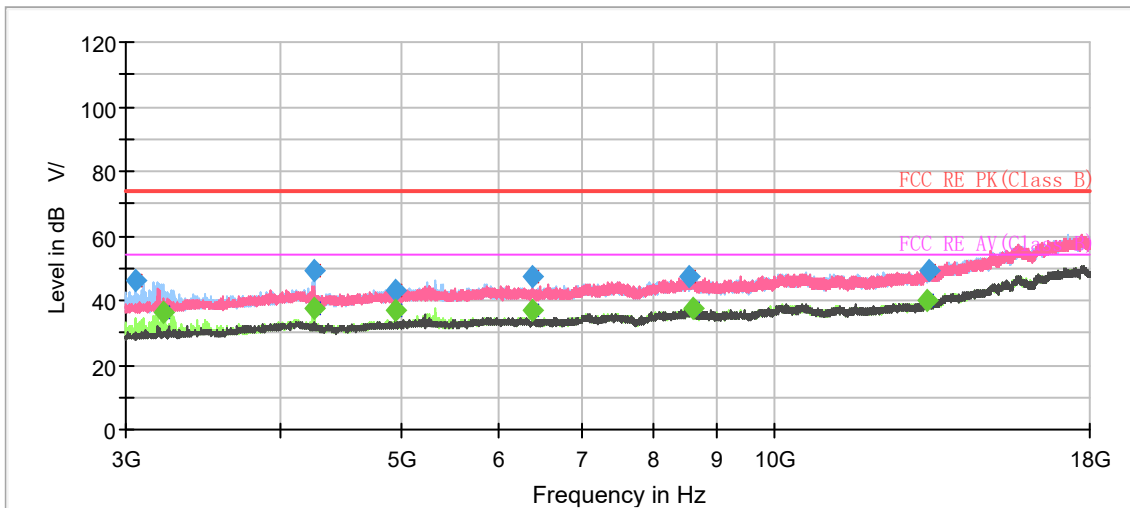
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1120.200000	---	40.11	54.00	13.89	100.0	H	111.0	-7.7
1121.266667	47.46	---	74.00	26.54	100.0	H	111.0	-7.7
1331.533333	45.84	---	74.00	28.16	100.0	H	111.0	-6.6
1331.600000	---	36.57	54.00	17.43	100.0	H	111.0	-6.6
1598.200000	---	39.32	54.00	14.68	100.0	H	17.0	-5.1
1598.200000	48.29	---	74.00	25.71	100.0	H	17.0	-5.1
1863.933333	---	39.62	54.00	14.38	100.0	H	51.0	-3.5
1863.933333	47.84	---	74.00	26.16	100.0	H	51.0	-3.5
2647.933333	---	38.93	54.00	15.07	200.0	H	2.0	0.3
2651.466667	48.33	---	74.00	25.67	200.0	V	203.0	0.4
2851.133333	---	40.16	54.00	13.84	100.0	H	44.0	1.1
2883.333333	50.40	---	74.00	23.60	100.0	H	318.0	1.2

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Bluetooth LE-Channel 39



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

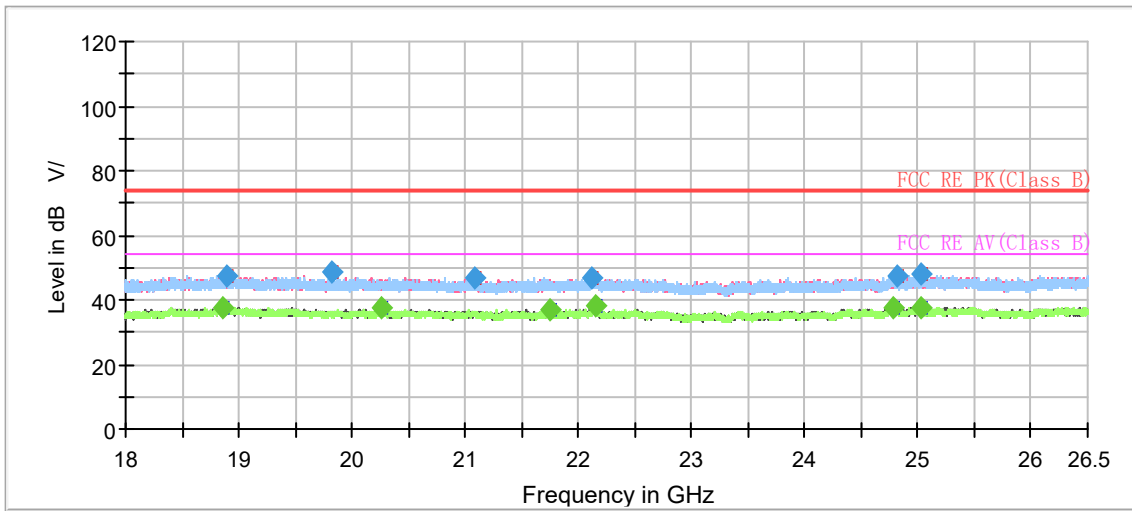


Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1115.933333	48.68	---	74.00	25.32	100.0	H	94.0	-7.7
1117.600000	---	40.40	54.00	13.60	100.0	H	116.0	-7.7
1342.733333	---	37.51	54.00	16.49	100.0	H	101.0	-6.6
1350.266667	47.51	---	74.00	26.49	100.0	H	108.0	-6.5
1592.933333	48.14	---	74.00	25.86	100.0	H	87.0	-5.1
1663.800000	---	38.12	54.00	15.88	100.0	H	143.0	-4.7
1993.666667	---	39.76	54.00	14.24	100.0	H	332.0	-2.7
1993.666667	52.22	---	74.00	21.78	100.0	H	332.0	-2.7
2702.866667	47.95	---	74.00	26.05	200.0	H	91.0	0.6
2710.266667	---	37.48	54.00	16.52	100.0	H	196.0	0.6
2921.533333	---	40.80	54.00	13.20	100.0	H	23.0	1.3
2928.600000	50.16	---	74.00	23.84	200.0	H	118.0	1.4

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



During the test, the Radiates Emission from 18GHz to 26.5GHz was performed in all modes with all channels, 802.11g, Channel 1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

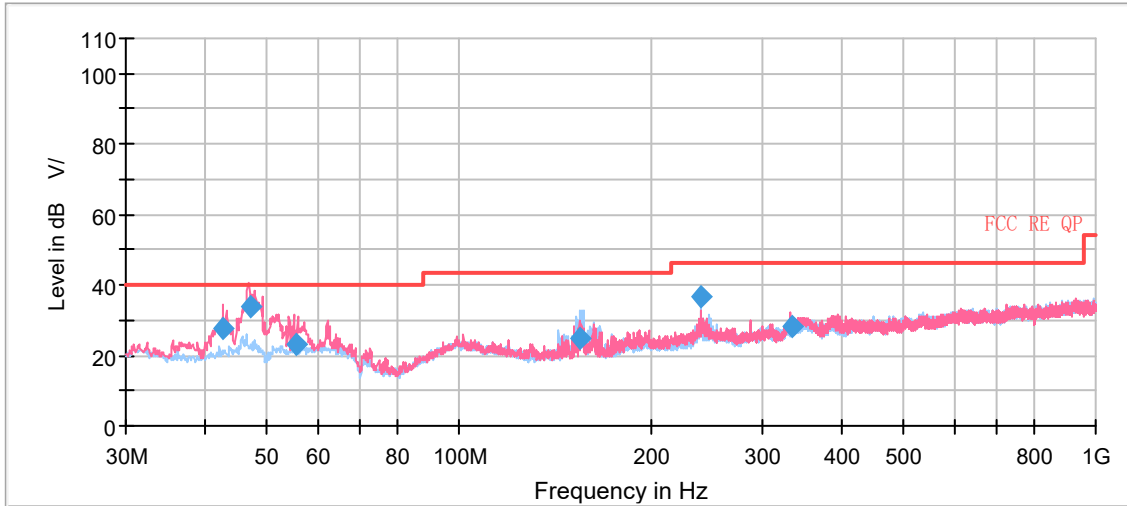


Radiates Emission from 18GHz to 26.5GHz

Antenna 3

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels, 802.11g, Channel 6 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Continuous TX mode:



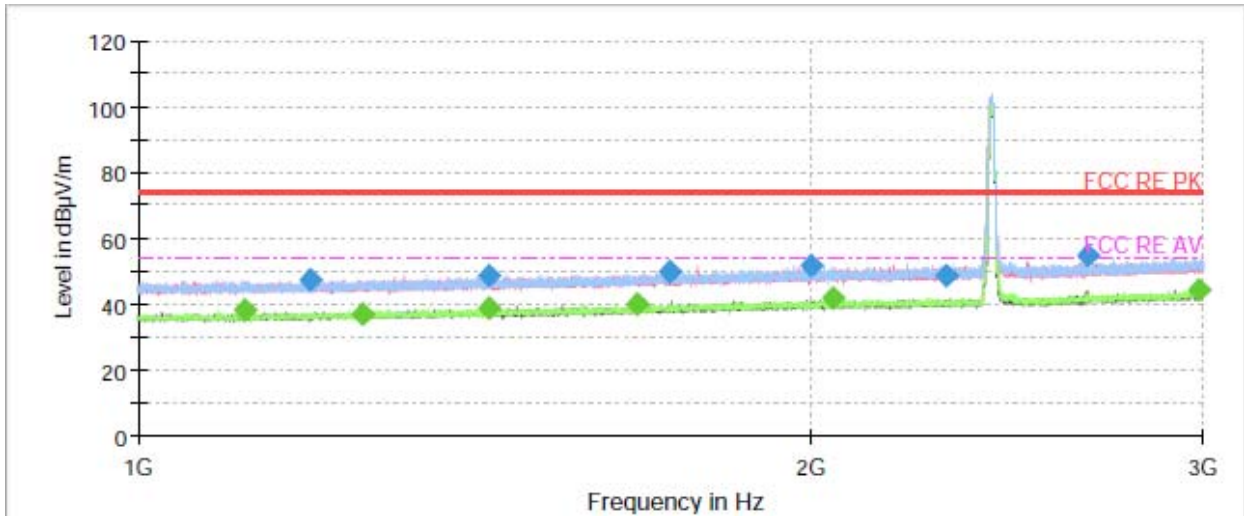
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
42.690000	27.40	100.0	V	347.0	-5.4	12.60	40.00
47.292500	33.88	100.0	V	9.0	-5.0	6.12	40.00
55.778750	23.19	100.0	V	101.0	-4.9	16.81	40.00
155.091250	24.73	225.0	H	266.0	-9.5	18.77	43.50
240.005000	36.54	125.0	H	275.0	-4.6	9.46	46.00
332.871750	28.41	100.0	V	231.0	-2.6	17.59	46.00

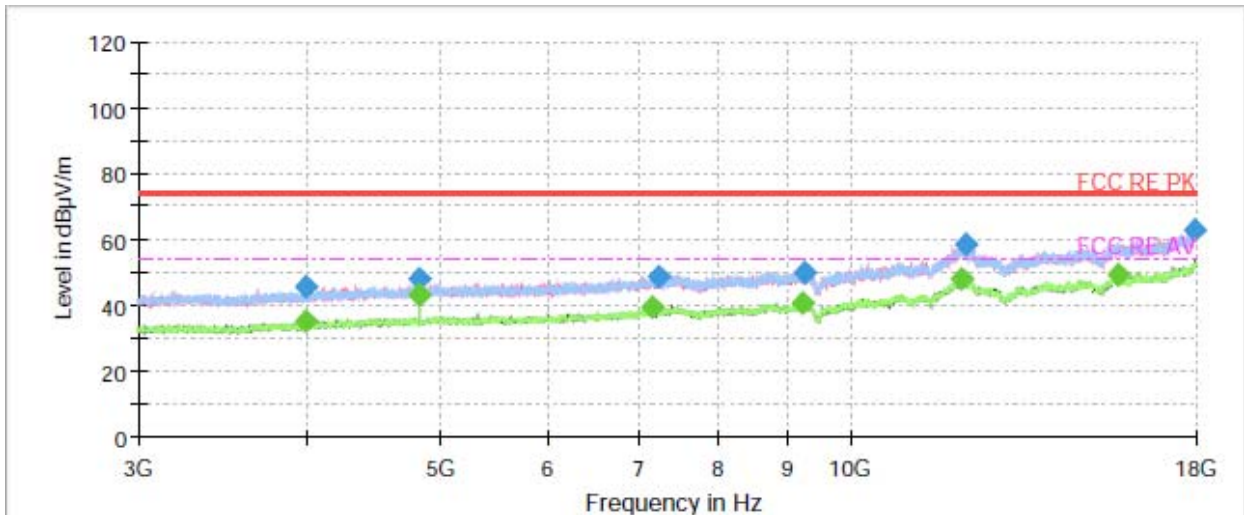
Remark: 1. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)

2. Margin = Limit – Quasi-Peak

802.11b CH1



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



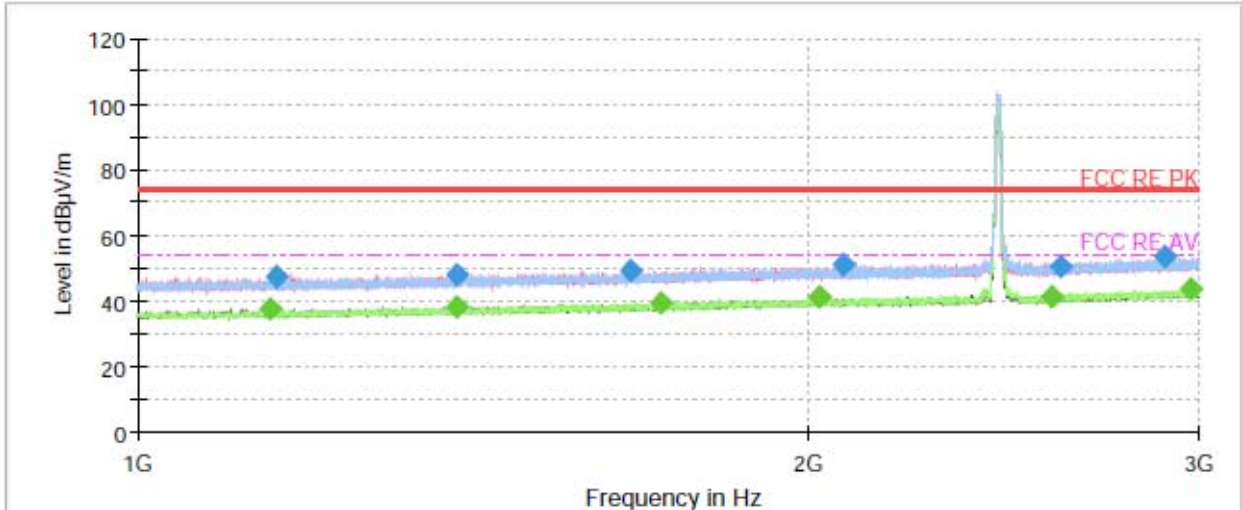
Radiates Emission from 3GHz to 18GHz



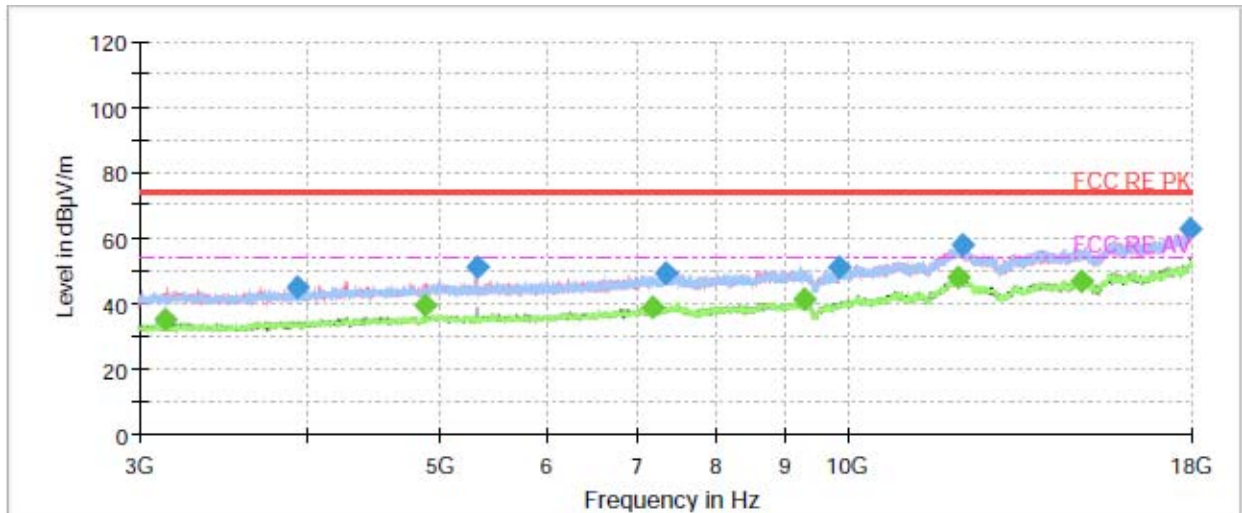
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1115.400000	---	38.04	54.00	15.96	200.0	V	151.0	-10.6
1195.466667	47.42	---	74.00	26.58	200.0	H	217.0	-10.2
1259.733333	---	36.66	54.00	17.34	200.0	V	82.0	-9.8
1434.400000	48.35	---	74.00	25.65	200.0	H	313.0	-8.7
1435.933333	---	38.65	54.00	15.35	200.0	H	53.0	-8.7
1671.733333	---	39.91	54.00	14.09	200.0	H	319.0	-7.3
1730.200000	49.83	---	74.00	24.17	200.0	V	63.0	-7.0
2000.000000	51.48	---	74.00	22.52	200.0	V	24.0	-5.6
2046.600000	---	41.55	54.00	12.45	200.0	H	235.0	-5.5
2302.266667	48.36	---	74.00	25.64	100.0	V	350.0	-4.9
2664.533333	54.54	---	74.00	19.46	100.0	V	81.0	-3.8
2989.133333	---	44.14	54.00	9.86	200.0	H	60.0	-2.7
15742.000000	---	48.95	54.00	5.05	100.0	V	106.0	6.3
17919.500000	62.67	---	74.00	11.33	200.0	H	77.0	7.1

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11b CH6



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



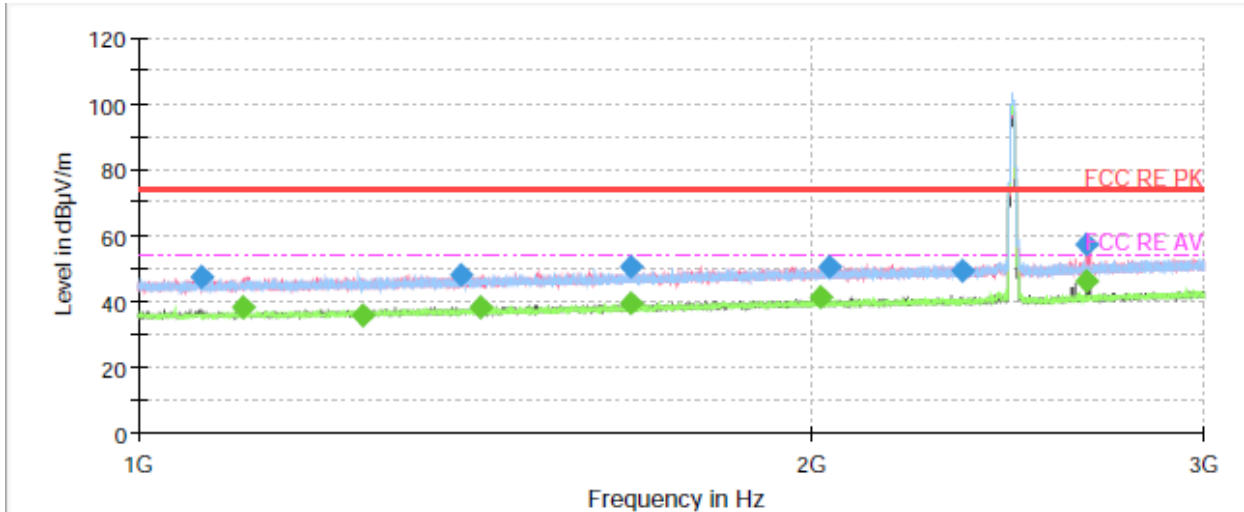
Radiates Emission from 3GHz to 18GHz



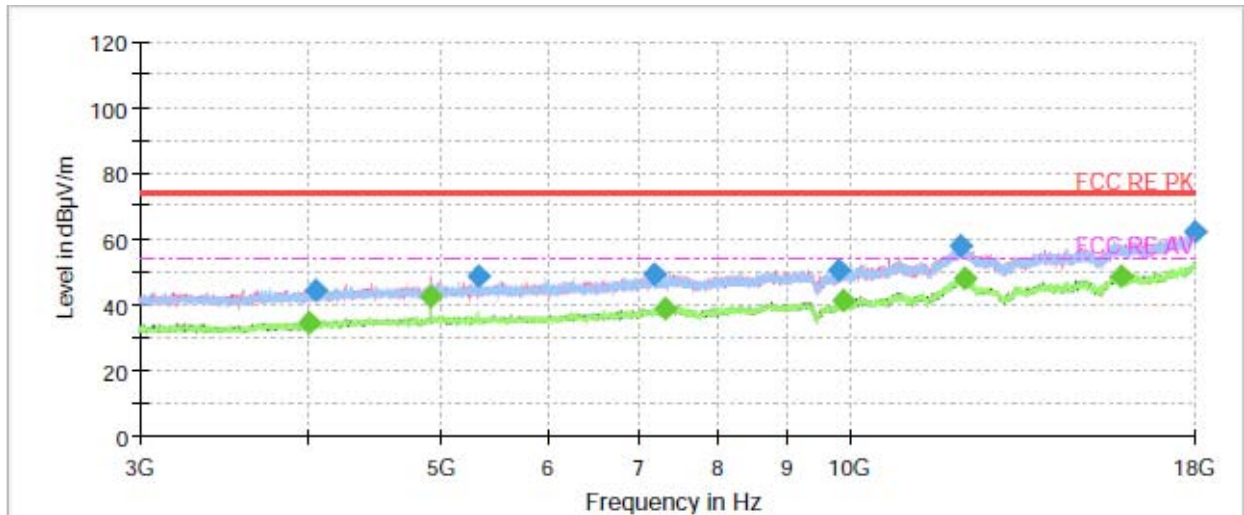
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1147.800000	---	37.38	54.00	16.62	100.0	H	33.0	-10.4
1155.600000	47.24	---	74.00	26.76	100.0	V	169.0	-10.4
1390.000000	48.14	---	74.00	25.86	200.0	H	218.0	-8.9
1390.066667	---	38.07	54.00	15.93	100.0	H	8.0	-8.9
1664.266667	49.29	---	74.00	24.71	200.0	V	236.0	-7.4
1717.533333	---	39.50	54.00	14.50	100.0	H	14.0	-7.0
2023.266667	---	41.08	54.00	12.92	100.0	H	58.0	-5.5
2075.266667	50.93	---	74.00	23.07	100.0	H	14.0	-5.4
2576.533333	---	41.23	54.00	12.77	100.0	H	2.0	-4.3
2597.066667	50.57	---	74.00	23.43	100.0	V	0.0	-4.2
2891.600000	53.49	---	74.00	20.51	200.0	V	32.0	-3.1
2970.000000	---	43.69	54.00	10.31	100.0	H	0.0	-2.7

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11b CH11



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



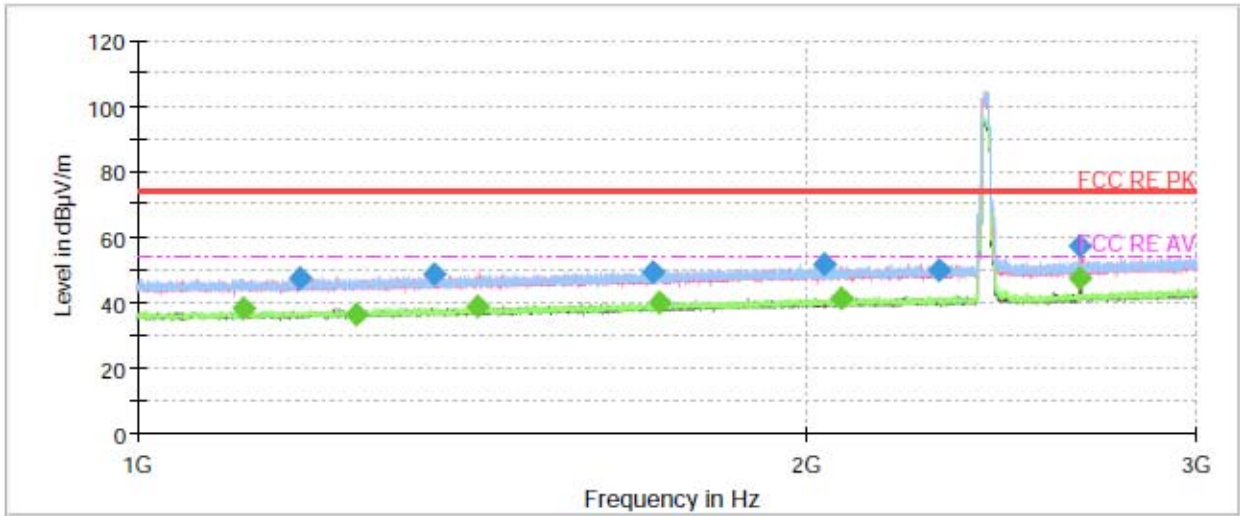
Radiates Emission from 3GHz to 18GHz



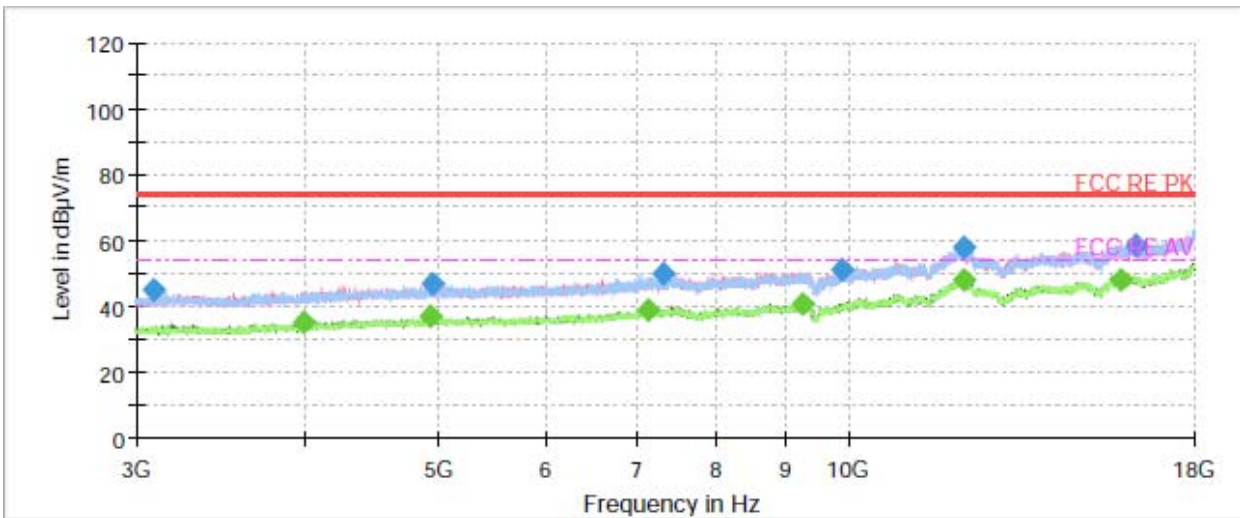
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1066.400000	47.44	---	74.00	26.56	200.0	V	181.0	-10.7
1114.600000	---	38.29	54.00	15.71	200.0	V	163.0	-10.6
1259.933333	---	35.95	54.00	18.05	200.0	V	127.0	-9.8
1395.066667	48.21	---	74.00	25.79	100.0	V	317.0	-8.9
1424.000000	---	38.20	54.00	15.80	200.0	H	147.0	-8.8
1661.466667	---	39.48	54.00	14.52	200.0	V	54.0	-7.4
1662.533333	50.39	---	74.00	23.61	200.0	V	151.0	-7.4
2020.133333	---	40.92	54.00	13.08	200.0	H	305.0	-5.5
2036.466667	50.50	---	74.00	23.50	200.0	V	151.0	-5.5
2337.400000	49.26	---	74.00	24.74	200.0	V	151.0	-4.8
2655.400000	57.36	---	74.00	16.64	200.0	V	78.0	-3.9
2656.466667	---	46.09	54.00	7.91	200.0	V	78.0	-3.9
12084.000000	58.00	---	74.00	16.00	100.0	H	186.0	6.2
12168.000000	---	48.27	54.00	5.73	100.0	H	277.0	6.0
15889.000000	---	48.43	54.00	5.57	200.0	V	342.0	6.6
17973.500000	62.15	---	74.00	11.85	100.0	V	137.0	7.5

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11g CH1



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



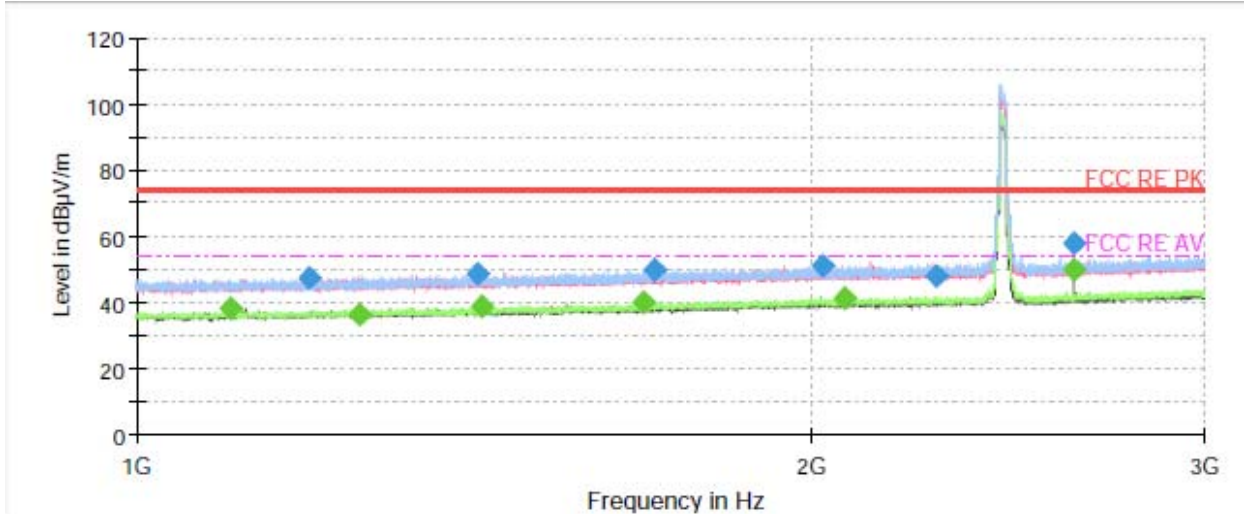
Radiates Emission from 3GHz to 18GHz



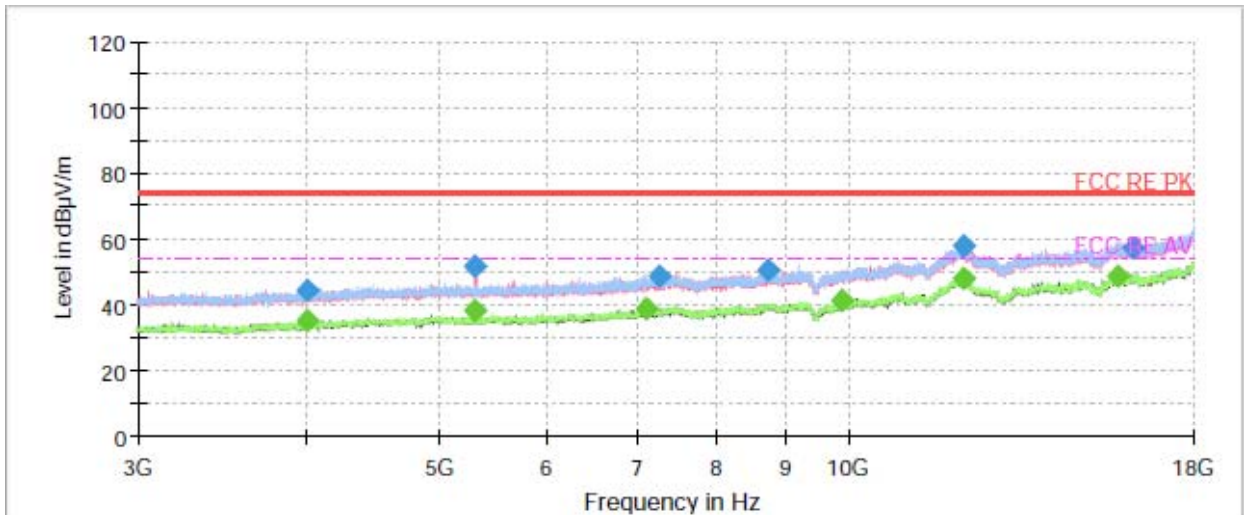
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1116.400000	---	38.16	54.00	15.84	200.0	V	26.0	-10.6
1183.066667	47.61	---	74.00	26.39	200.0	V	51.0	-10.3
1255.866667	---	36.09	54.00	17.91	200.0	V	83.0	-9.8
1360.933333	48.34	---	74.00	25.66	100.0	H	221.0	-9.1
1422.933333	---	38.77	54.00	15.23	200.0	H	278.0	-8.8
1707.600000	49.48	---	74.00	24.52	200.0	H	260.0	-7.1
1716.600000	---	39.88	54.00	14.12	200.0	H	236.0	-7.1
2037.000000	51.77	---	74.00	22.23	200.0	V	0.0	-5.5
2076.733333	---	41.32	54.00	12.68	100.0	H	175.0	-5.4
2296.800000	50.12	---	74.00	23.88	200.0	H	290.0	-4.9
2657.333333	---	47.58	54.00	6.42	200.0	V	83.0	-3.9
2657.466667	57.43	---	74.00	16.57	200.0	V	83.0	-3.9
12177.500000	58.06	---	74.00	15.94	200.0	H	206.0	5.9
12190.500000	---	48.16	54.00	5.84	200.0	V	346.0	5.9

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11g CH6



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



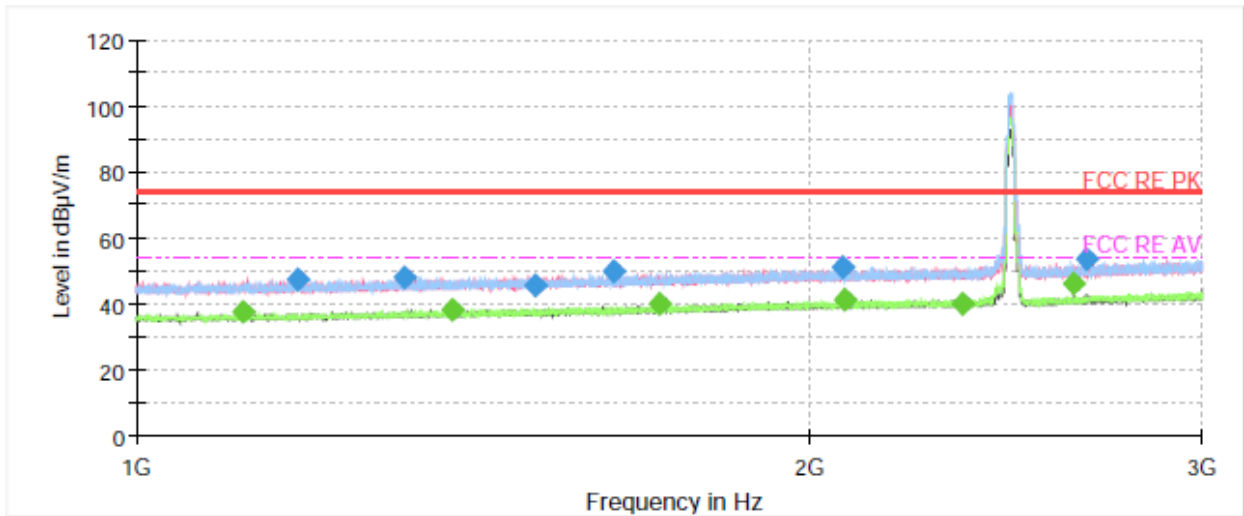
Radiates Emission from 3GHz to 18GHz



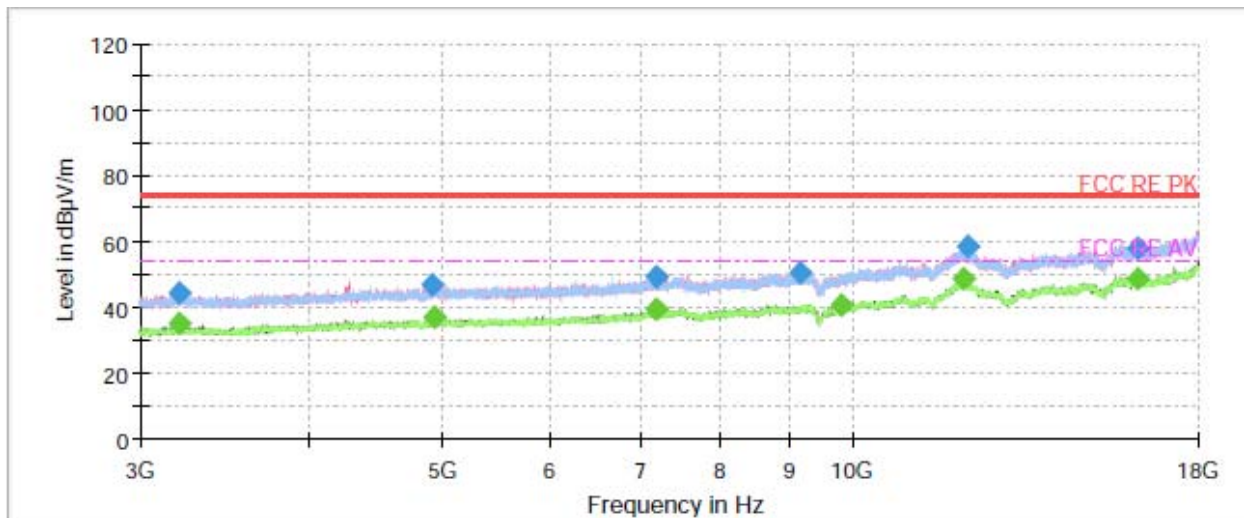
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1102.000000	---	37.96	54.00	16.04	100.0	H	113.0	-10.6
1195.333333	47.43	---	74.00	26.57	100.0	H	144.0	-10.2
1257.600000	---	36.53	54.00	17.47	100.0	V	161.0	-9.8
1419.600000	48.53	---	74.00	25.47	100.0	V	161.0	-8.8
1427.733333	---	38.87	54.00	15.13	200.0	H	358.0	-8.7
1685.600000	---	39.96	54.00	14.04	100.0	H	113.0	-7.2
1701.466667	50.10	---	74.00	23.90	100.0	H	107.0	-7.2
2025.933333	51.29	---	74.00	22.71	100.0	H	4.0	-5.5
2071.133333	---	41.36	54.00	12.64	200.0	H	224.0	-5.5
2277.200000	47.80	---	74.00	26.20	100.0	V	319.0	-4.9
2624.400000	57.61	---	74.00	16.39	200.0	V	216.0	-4.0
2624.466667	---	49.88	54.00	4.12	200.0	V	216.0	-4.0
15841.500000	---	48.55	54.00	5.45	200.0	H	93.0	6.4
16239.500000	57.20	---	74.00	16.80	200.0	V	310.0	10.8

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11g CH11



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



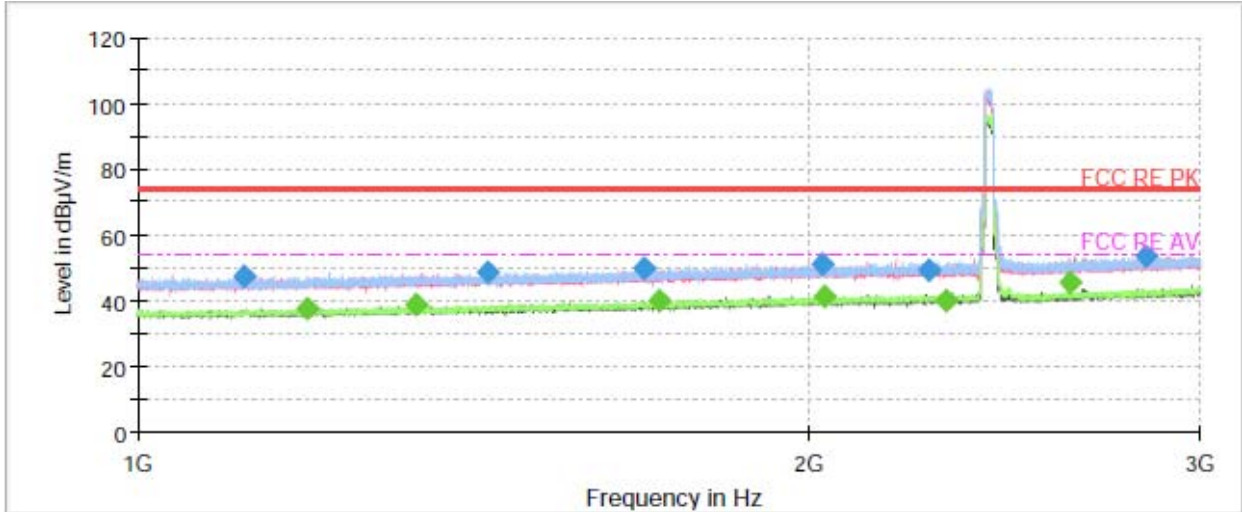
Radiates Emission from 3GHz to 18GHz



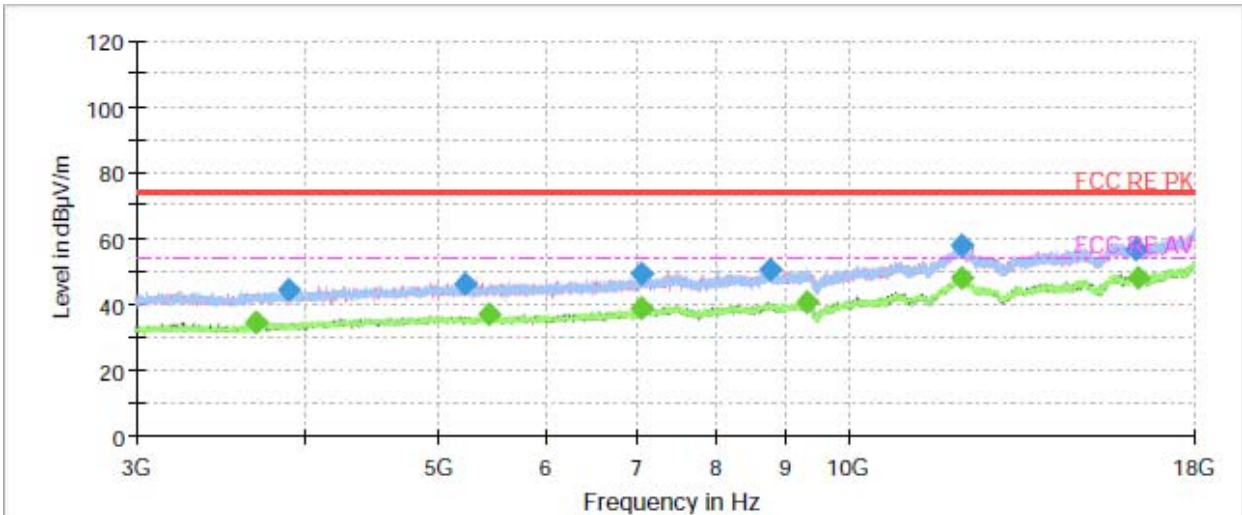
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1117.133333	---	37.82	54.00	16.18	200.0	V	115.0	-10.6
1181.733333	47.31	---	74.00	26.69	100.0	V	229.0	-10.3
1318.400000	48.22	---	74.00	25.78	100.0	H	218.0	-9.4
1383.666667	---	38.36	54.00	15.64	100.0	H	2.0	-9.0
1508.600000	45.67	---	74.00	28.33	100.0	V	265.0	-8.3
1637.266667	49.56	---	74.00	24.44	100.0	H	33.0	-7.6
1715.066667	---	39.72	54.00	14.28	200.0	V	20.0	-7.1
2073.066667	50.83	---	74.00	23.17	200.0	V	200.0	-5.4
2075.333333	---	41.12	54.00	12.88	100.0	H	26.0	-5.4
2341.000000	---	40.23	54.00	13.77	200.0	V	85.0	-4.8
2628.000000	---	46.02	54.00	7.98	200.0	V	182.0	-4.0
2665.866667	53.30	---	74.00	20.70	100.0	V	235.0	-3.8
16235.500000	---	48.64	54.00	5.36	100.0	V	330.0	10.8
16247.000000	58.10	---	74.00	15.90	100.0	V	231.0	10.9

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH1



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



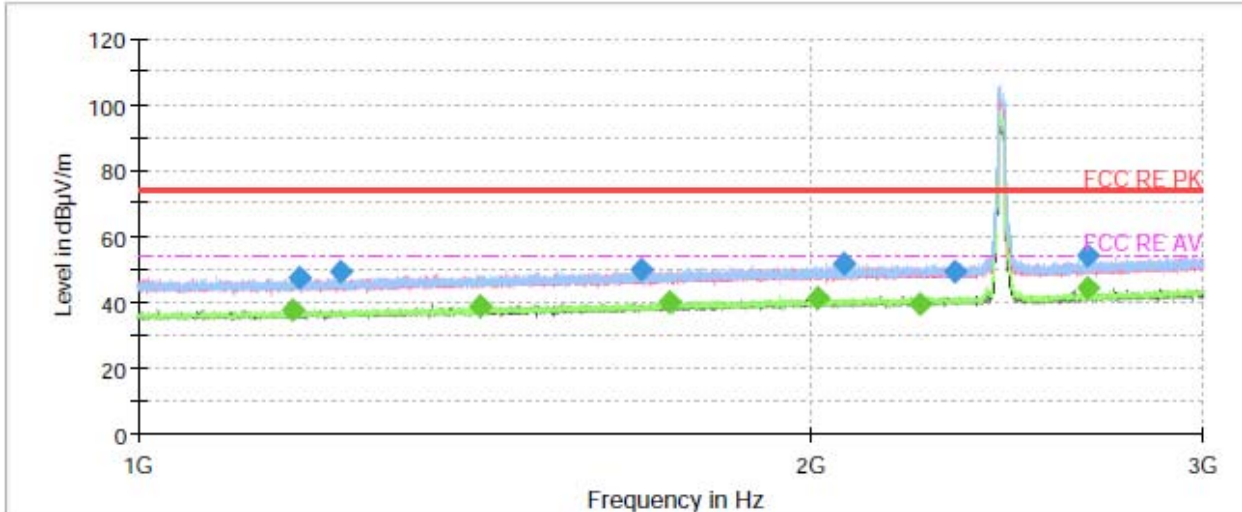
Radiates Emission from 3GHz to 18GHz



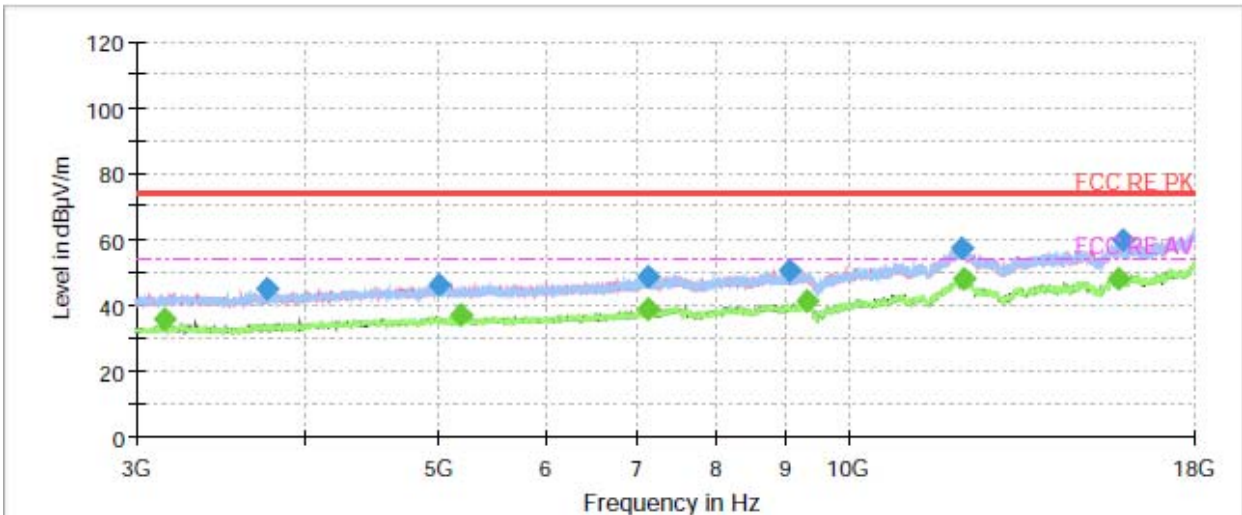
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1116.200000	47.40	---	74.00	26.60	200.0	V	150.0	-10.6
1192.333333	---	37.51	54.00	16.49	200.0	H	0.0	-10.2
1331.800000	---	38.68	54.00	15.32	100.0	V	306.0	-9.3
1436.266667	48.59	---	74.00	25.41	100.0	V	228.0	-8.7
1688.066667	49.74	---	74.00	24.26	100.0	V	210.0	-7.2
1714.800000	---	40.02	54.00	13.98	200.0	V	94.0	-7.1
2030.533333	51.13	---	74.00	22.87	100.0	H	126.0	-5.5
2035.600000	---	41.20	54.00	12.80	100.0	H	308.0	-5.5
2267.866667	49.03	---	74.00	24.97	200.0	V	88.0	-4.9
2305.400000	---	39.82	54.00	14.18	100.0	V	75.0	-4.9
2623.800000	---	45.55	54.00	8.45	200.0	V	223.0	-4.0
2835.133333	53.72	---	74.00	20.28	100.0	H	71.0	-3.2
12110.500000	---	48.22	54.00	5.78	100.0	H	352.0	6.2
12152.500000	57.68	---	74.00	16.32	100.0	V	207.0	6.0
16323.000000	56.76	---	74.00	17.24	100.0	V	213.0	11.6
16342.500000	---	48.12	54.00	5.88	100.0	V	246.0	11.6

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH6



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



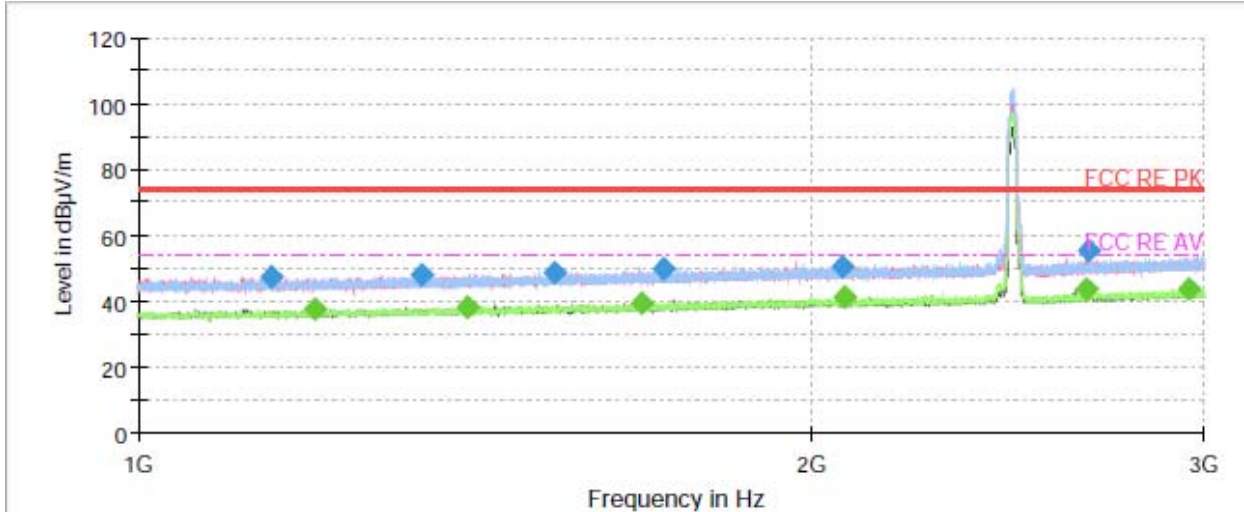
Radiates Emission from 3GHz to 18GHz



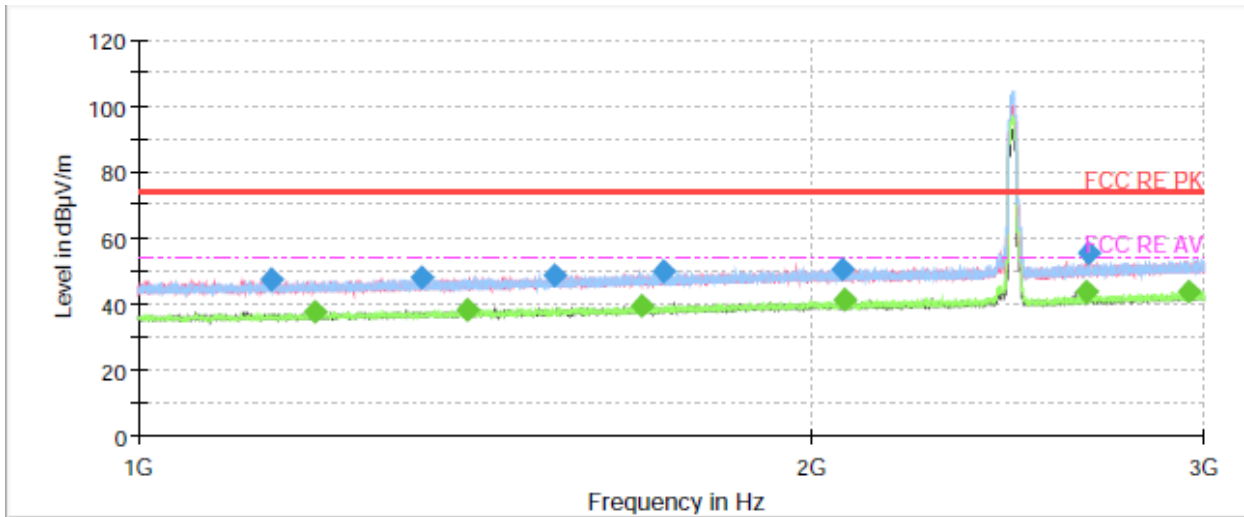
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1172.533333	---	37.59	54.00	16.41	200.0	H	130.0	-10.3
1181.800000	47.55	---	74.00	26.45	100.0	H	239.0	-10.3
1232.266667	48.93	---	74.00	25.07	200.0	H	210.0	-10.0
1423.466667	---	38.93	54.00	15.07	200.0	H	273.0	-8.8
1680.333333	49.88	---	74.00	24.12	200.0	H	112.0	-7.3
1731.533333	---	39.96	54.00	14.04	200.0	H	350.0	-7.0
2016.000000	---	41.47	54.00	12.53	200.0	H	236.0	-5.5
2072.133333	51.51	---	74.00	22.49	200.0	H	309.0	-5.4
2240.266667	---	39.24	54.00	14.76	100.0	V	221.0	-5.0
2321.666667	49.24	---	74.00	24.76	200.0	V	13.0	-4.8
2663.800000	---	44.34	54.00	9.66	100.0	V	161.0	-3.8
2664.466667	54.43	---	74.00	19.57	100.0	V	161.0	-3.8
15850.000000	---	48.15	54.00	5.85	200.0	V	170.0	6.4
15912.000000	59.96	---	74.00	14.04	100.0	H	30.0	6.8

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH11



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



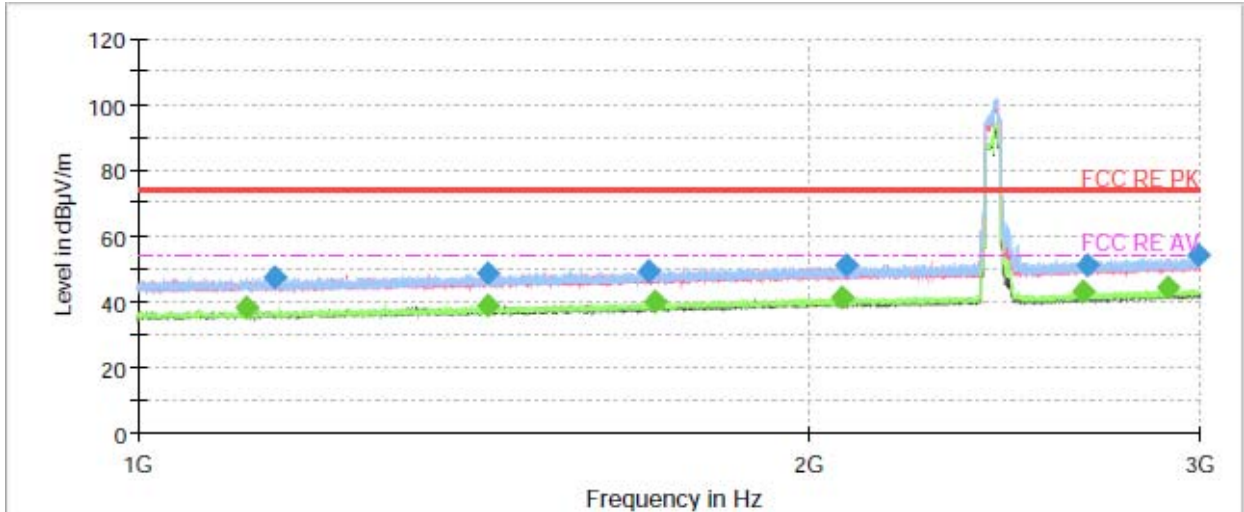
Radiates Emission from 3GHz to 18GHz



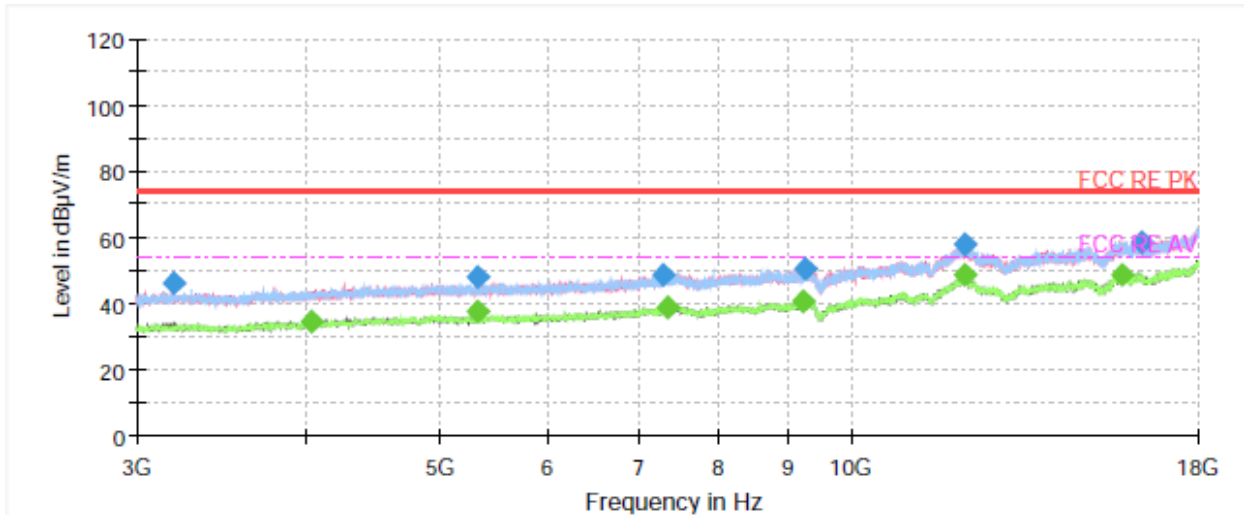
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1147.666667	47.20	---	74.00	26.80	200.0	V	76.0	-10.4
1200.533333	---	37.84	54.00	16.16	100.0	H	46.0	-10.2
1340.066667	48.22	---	74.00	25.78	100.0	H	60.0	-9.3
1402.466667	---	38.27	54.00	15.73	200.0	V	304.0	-8.8
1535.933333	48.55	---	74.00	25.45	100.0	H	40.0	-8.2
1681.600000	---	39.58	54.00	14.42	100.0	H	40.0	-7.2
1716.600000	50.01	---	74.00	23.99	100.0	H	22.0	-7.1
2067.066667	50.58	---	74.00	23.42	100.0	H	66.0	-5.5
2069.333333	---	41.22	54.00	12.78	100.0	H	22.0	-5.5
2656.733333	---	43.85	54.00	10.15	100.0	V	49.0	-3.9
2664.533333	55.39	---	74.00	18.61	100.0	V	49.0	-3.8
2951.933333	---	43.93	54.00	10.07	100.0	H	22.0	-2.8
12081.000000	57.37	---	74.00	16.63	200.0	V	38.0	6.2
12106.000000	---	48.14	54.00	5.86	100.0	V	265.0	6.3
15754.500000	---	48.65	54.00	5.35	100.0	V	99.0	6.3
15829.000000	58.87	---	74.00	15.13	200.0	V	103.0	6.3

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT40) CH3



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



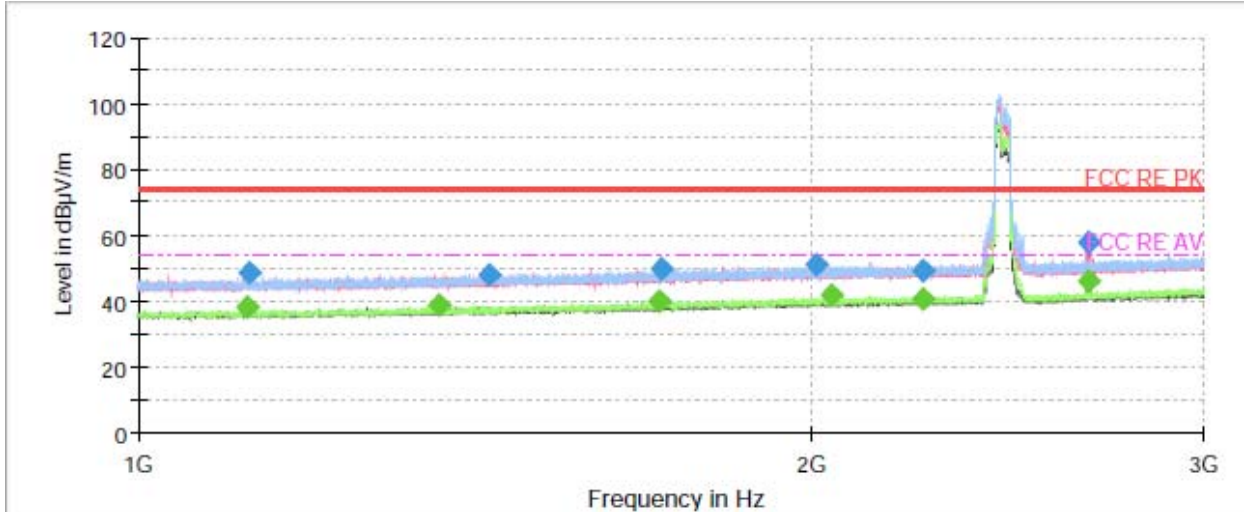
Radiates Emission from 3GHz to 18GHz



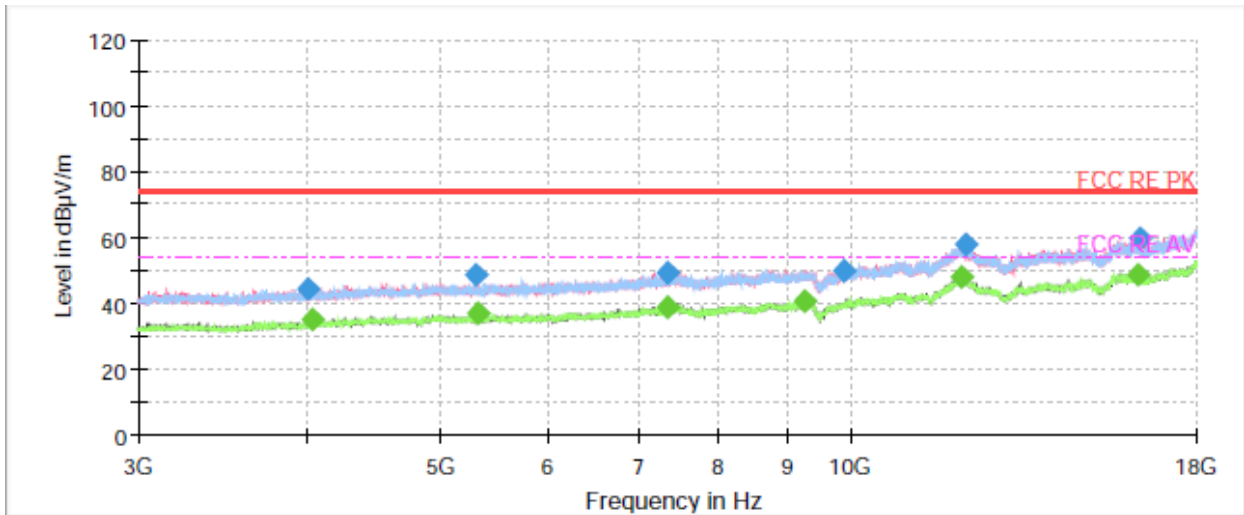
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1118.933333	---	37.91	54.00	16.09	100.0	V	157.0	-10.6
1151.933333	47.61	---	74.00	26.39	200.0	H	114.0	-10.4
1434.866667	---	38.70	54.00	15.30	200.0	H	236.0	-8.7
1437.133333	48.43	---	74.00	25.57	200.0	H	236.0	-8.7
1696.533333	49.40	---	74.00	24.60	200.0	H	262.0	-7.2
1706.466667	---	39.89	54.00	14.11	200.0	H	126.0	-7.1
2069.466667	---	41.29	54.00	12.71	200.0	H	286.0	-5.5
2078.400000	50.91	---	74.00	23.09	200.0	H	322.0	-5.4
2657.466667	---	42.77	54.00	11.23	200.0	V	114.0	-3.9
2667.666667	50.94	---	74.00	23.06	100.0	V	242.0	-3.8
2897.800000	---	44.04	54.00	9.96	200.0	H	304.0	-3.0
2995.066667	53.89	---	74.00	20.11	200.0	H	268.0	-2.7
12117.000000	57.90	---	74.00	16.10	200.0	H	276.0	6.2
12118.000000	---	48.46	54.00	5.54	100.0	V	238.0	6.2
15811.500000	---	48.75	54.00	5.25	200.0	V	63.0	6.3
16344.500000	58.50	---	74.00	15.50	100.0	V	121.0	11.6

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT40) CH6



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



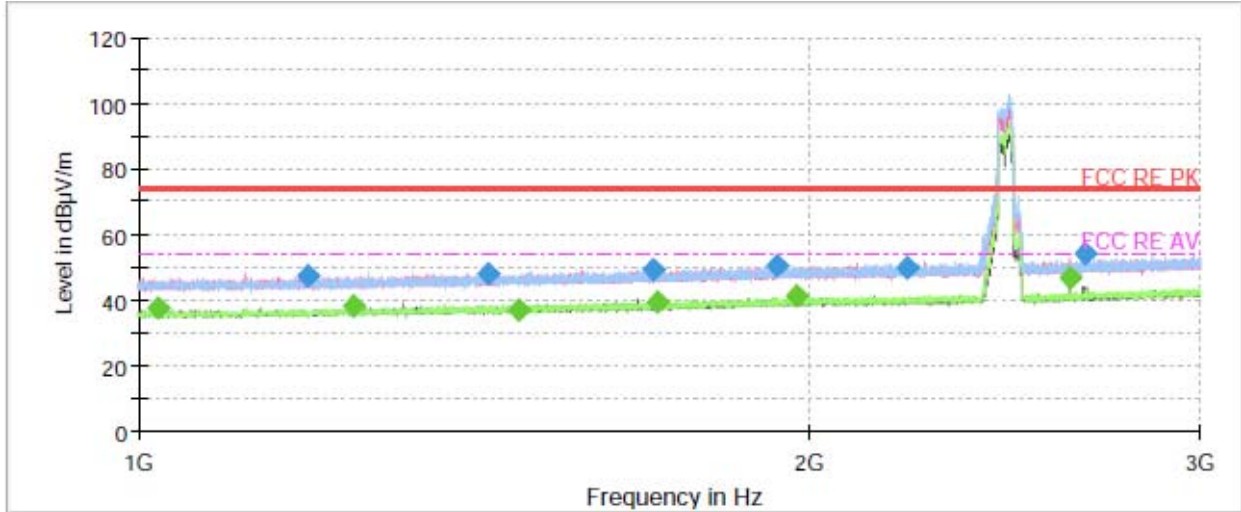
Radiates Emission from 3GHz to 18GHz



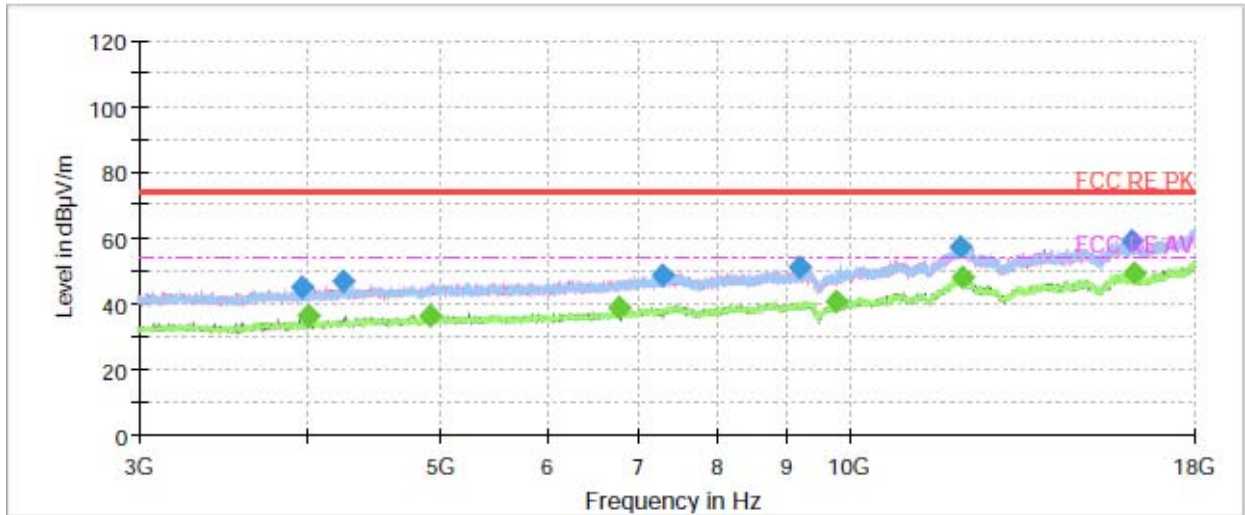
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1117.933333	---	37.99	54.00	16.01	200.0	V	158.0	-10.6
1120.533333	48.35	---	74.00	25.65	200.0	H	60.0	-10.6
1362.666667	---	38.69	54.00	15.31	200.0	H	174.0	-9.1
1434.666667	48.16	---	74.00	25.84	200.0	H	138.0	-8.7
1711.533333	---	39.81	54.00	14.19	200.0	H	270.0	-7.1
1715.600000	49.90	---	74.00	24.10	200.0	H	0.0	-7.1
2011.266667	51.34	---	74.00	22.66	200.0	H	343.0	-5.5
2040.933333	---	41.64	54.00	12.36	200.0	H	67.0	-5.5
2246.400000	49.42	---	74.00	24.58	100.0	V	250.0	-5.0
2247.200000	---	40.85	54.00	13.15	200.0	H	228.0	-5.0
2665.800000	57.59	---	74.00	16.41	200.0	V	91.0	-3.8
2665.866667	---	46.31	54.00	7.69	200.0	V	91.0	-3.8
16323.000000	---	48.47	54.00	5.53	100.0	V	212.0	11.6
16337.500000	59.44	---	74.00	14.56	200.0	H	0.0	11.6

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT40) CH9



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



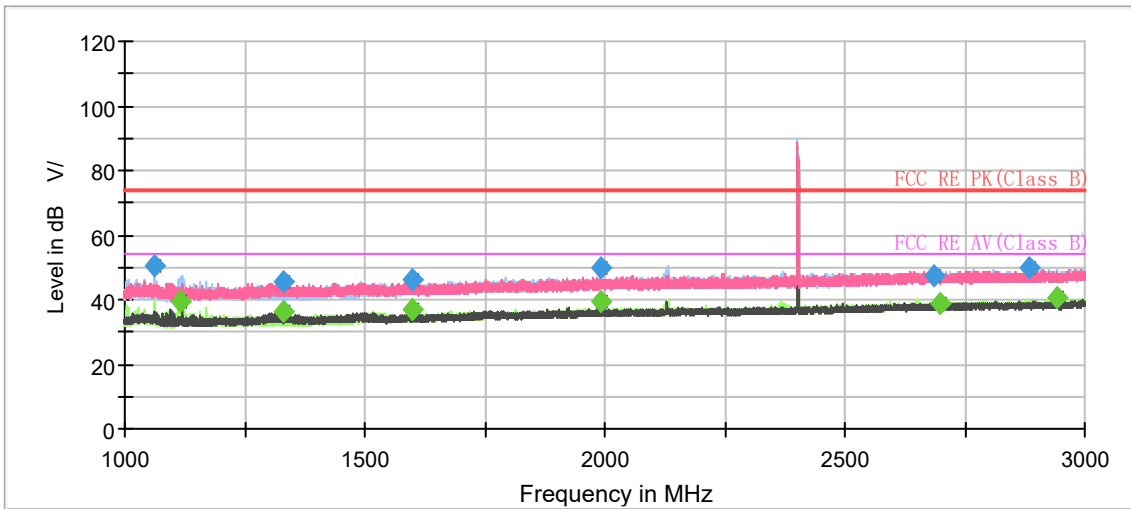
Radiates Emission from 3GHz to 18GHz



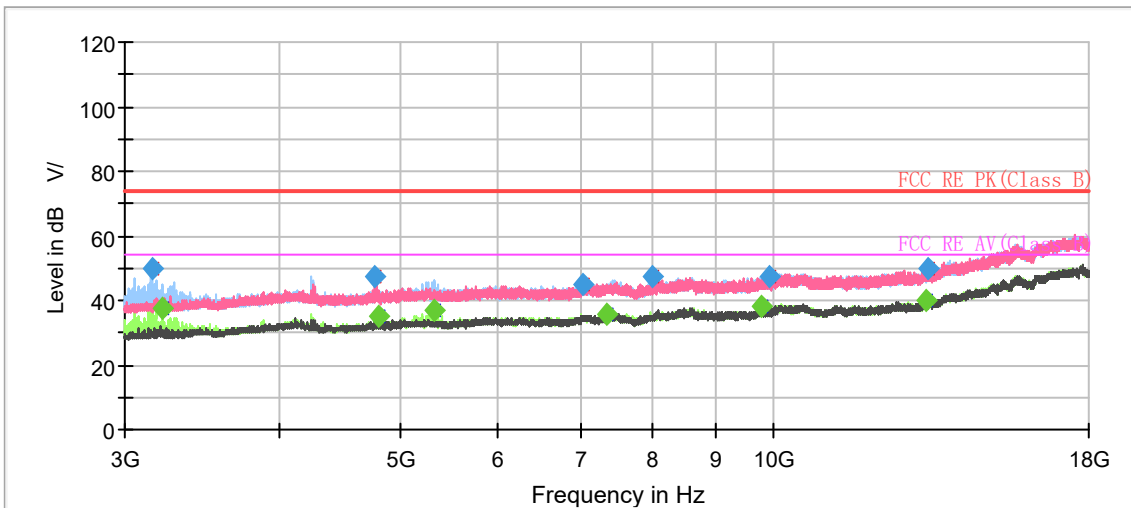
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1021.400000	---	37.61	54.00	16.39	200.0	H	72.0	-10.8
1192.066667	47.33	---	74.00	26.67	100.0	H	192.0	-10.2
1248.800000	---	38.35	54.00	15.65	100.0	H	33.0	-9.9
1436.933333	48.16	---	74.00	25.84	100.0	H	20.0	-8.7
1480.000000	---	37.15	54.00	16.85	100.0	V	155.0	-8.4
1704.133333	49.17	---	74.00	24.83	100.0	H	33.0	-7.2
1710.600000	---	39.67	54.00	14.33	100.0	H	63.0	-7.1
1934.200000	50.52	---	74.00	23.48	100.0	H	0.0	-5.9
1974.466667	---	41.10	54.00	12.90	100.0	H	12.0	-5.7
2214.000000	49.62	---	74.00	24.38	100.0	V	266.0	-5.1
2623.266667	---	47.01	54.00	6.99	200.0	V	298.0	-4.0
2661.866667	54.39	---	74.00	19.61	200.0	V	145.0	-3.8
16174.000000	59.33	---	74.00	14.67	200.0	V	262.0	10.0
16262.000000	---	49.18	54.00	4.82	100.0	H	249.0	11.1

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Bluetooth LE-Channel 0



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



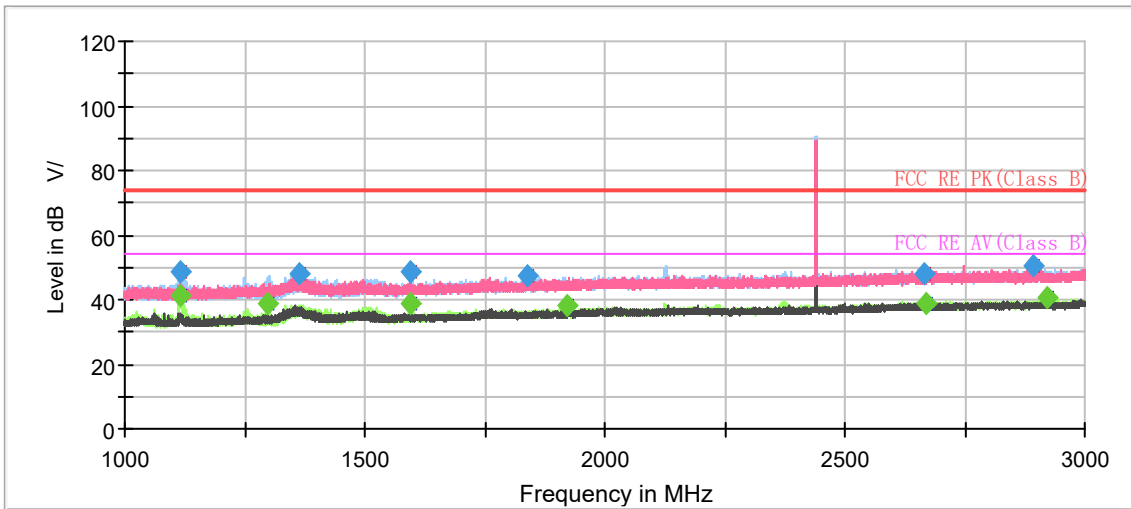
Radiates Emission from 3GHz to 18GHz



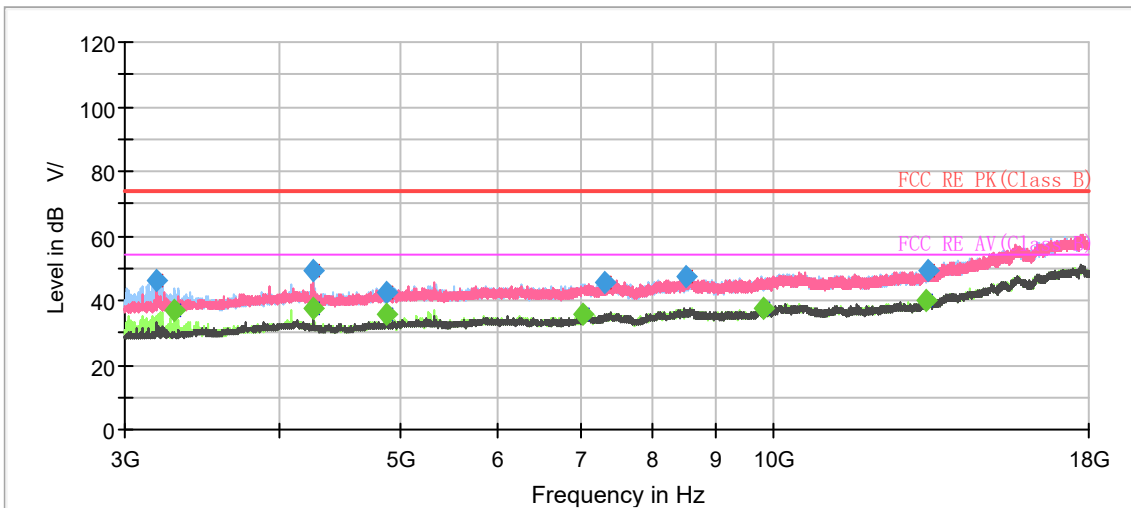
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1062.933333	50.16	---	74.00	23.84	100.0	H	76.0	-8.0
1115.800000	---	39.58	54.00	14.42	100.0	H	83.0	-7.7
1331.800000	45.62	---	74.00	28.38	100.0	H	97.0	-6.6
1331.800000	---	36.22	54.00	17.78	100.0	H	97.0	-6.6
1597.466667	---	37.07	54.00	16.93	200.0	H	5.0	-5.1
1599.000000	46.43	---	74.00	27.57	100.0	H	145.0	-5.0
1992.400000	49.65	---	74.00	24.35	100.0	H	111.0	-2.7
1993.000000	---	39.19	54.00	14.81	100.0	H	111.0	-2.7
2687.200000	47.69	---	74.00	26.31	100.0	H	251.0	0.5
2698.066667	---	38.71	54.00	15.29	200.0	H	118.0	0.5
2884.066667	49.72	---	74.00	24.28	200.0	V	89.0	1.2
2940.333333	---	40.68	54.00	13.32	100.0	H	54.0	1.4

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Bluetooth LE-Channel 19



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



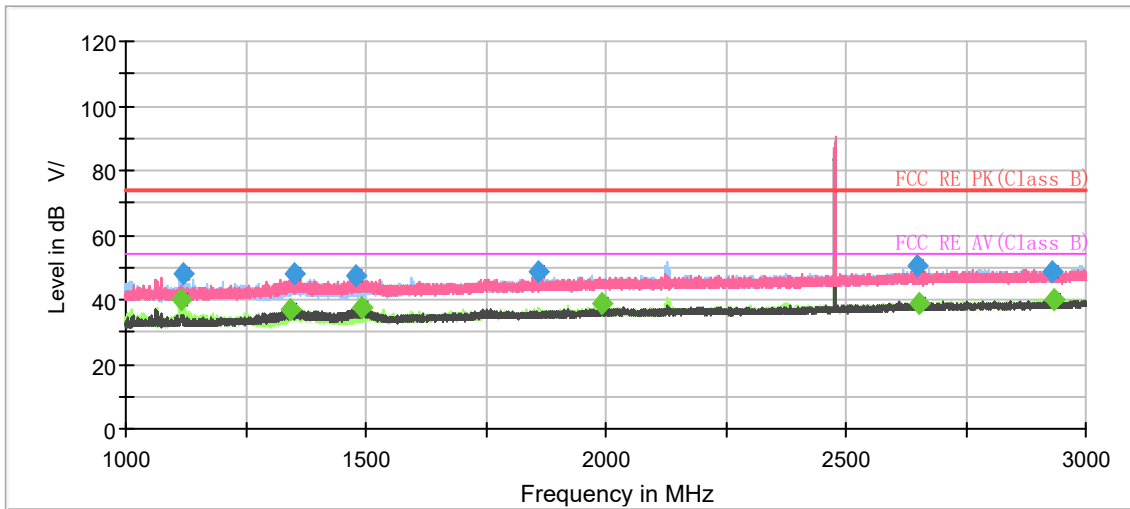
Radiates Emission from 3GHz to 18GHz



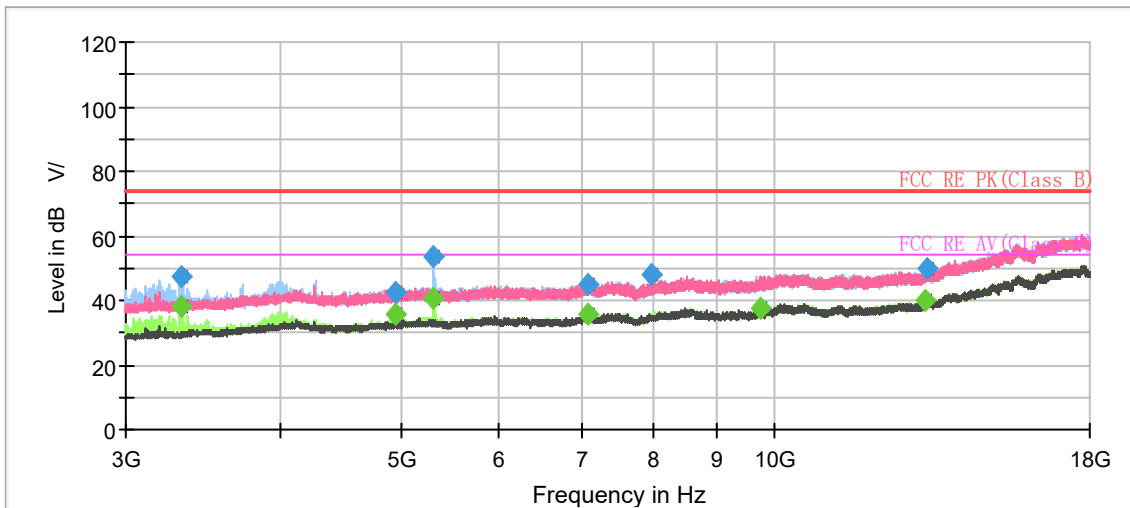
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1115.133333	48.82	---	74.00	25.18	100.0	H	90.0	-7.7
1116.800000	---	41.24	54.00	12.76	100.0	H	83.0	-7.7
1296.666667	---	38.66	54.00	15.34	100.0	H	90.0	-6.8
1363.866667	48.10	---	74.00	25.90	100.0	H	90.0	-6.4
1593.600000	48.78	---	74.00	25.22	100.0	H	75.0	-5.1
1593.800000	---	38.58	54.00	15.42	100.0	H	145.0	-5.1
1839.466667	47.20	---	74.00	26.80	100.0	H	105.0	-3.6
1920.000000	---	37.87	54.00	16.13	100.0	H	249.0	-3.2
2665.266667	47.77	---	74.00	26.23	200.0	H	93.0	0.4
2669.666667	---	38.49	54.00	15.51	200.0	H	172.0	0.4
2892.666667	50.40	---	74.00	23.60	100.0	H	316.0	1.2
2922.466667	---	40.32	54.00	13.68	100.0	H	19.0	1.3

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Bluetooth LE-Channel 39



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

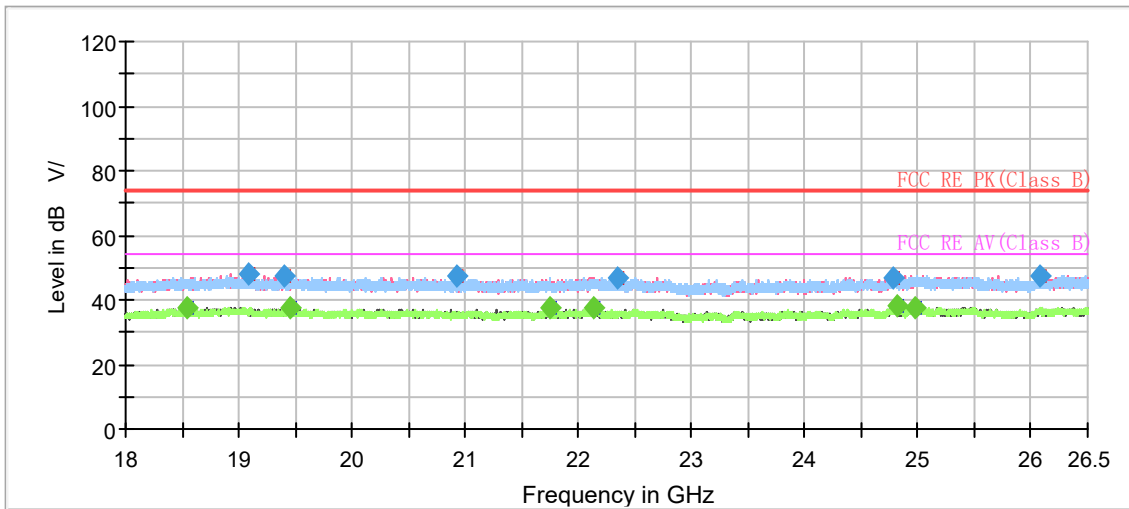


Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1117.000000	---	40.19	54.00	13.81	100.0	H	109.0	-7.7
1117.933333	48.14	---	74.00	25.86	100.0	H	95.0	-7.7
1344.466667	---	37.12	54.00	16.88	100.0	H	102.0	-6.5
1349.800000	47.85	---	74.00	26.15	100.0	H	109.0	-6.5
1480.533333	47.64	---	74.00	26.36	100.0	V	347.0	-5.7
1490.400000	---	37.29	54.00	16.71	100.0	V	0.0	-5.6
1857.866667	48.83	---	74.00	25.17	100.0	H	59.0	-3.5
1992.333333	---	38.47	54.00	15.53	100.0	H	44.0	-2.7
2650.133333	50.29	---	74.00	23.71	100.0	H	124.0	0.3
2653.000000	---	38.81	54.00	15.19	100.0	H	124.0	0.4
2931.666667	48.34	---	74.00	25.66	200.0	H	218.0	1.4
2933.933333	---	40.28	54.00	13.72	100.0	H	290.0	1.4

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



During the test, the Radiates Emission from 18GHz to 26.5GHz was performed in all modes with all channels, 802.11g, Channel 6 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

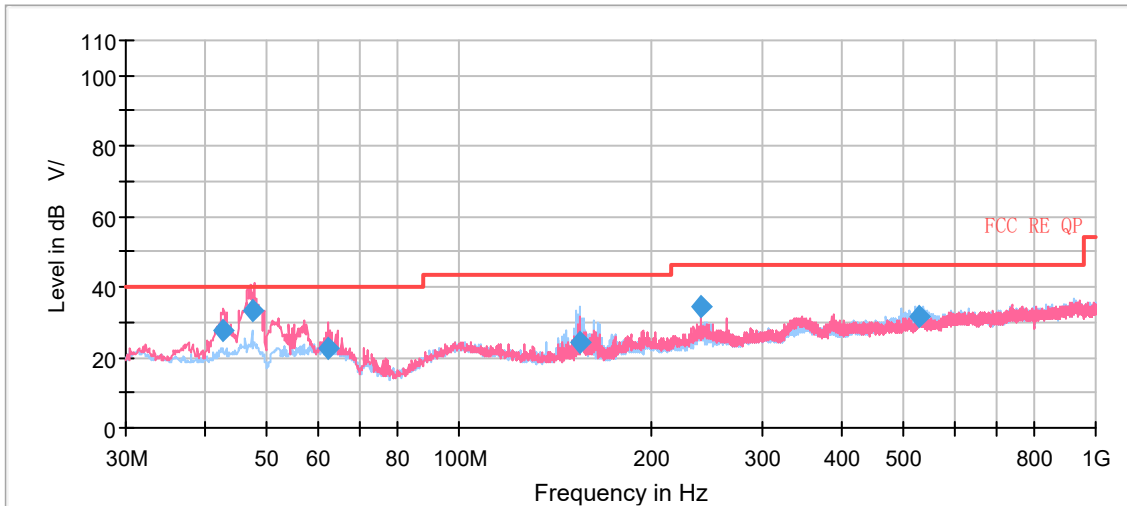


Radiates Emission from 18GHz to 26.5GHz

Antenna 4

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels, 802.11g, Channel 6 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Continuous TX mode:



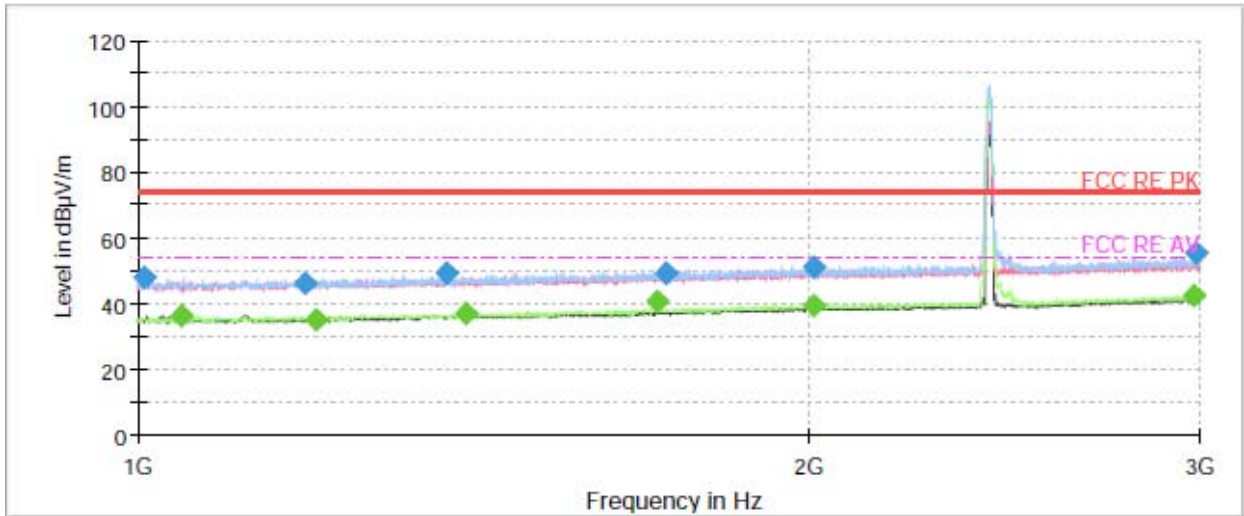
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
42.730000	27.52	100.0	V	345.0	-5.4	12.48	40.00
47.462500	33.37	100.0	V	0.0	-5.0	6.63	40.00
62.372500	22.40	100.0	V	1.0	-6.1	17.60	40.00
155.207000	24.48	184.0	H	261.0	-9.5	19.02	43.50
240.005000	34.48	110.0	H	291.0	-4.6	11.52	46.00
528.246000	31.33	109.0	H	89.0	0.8	14.67	46.00

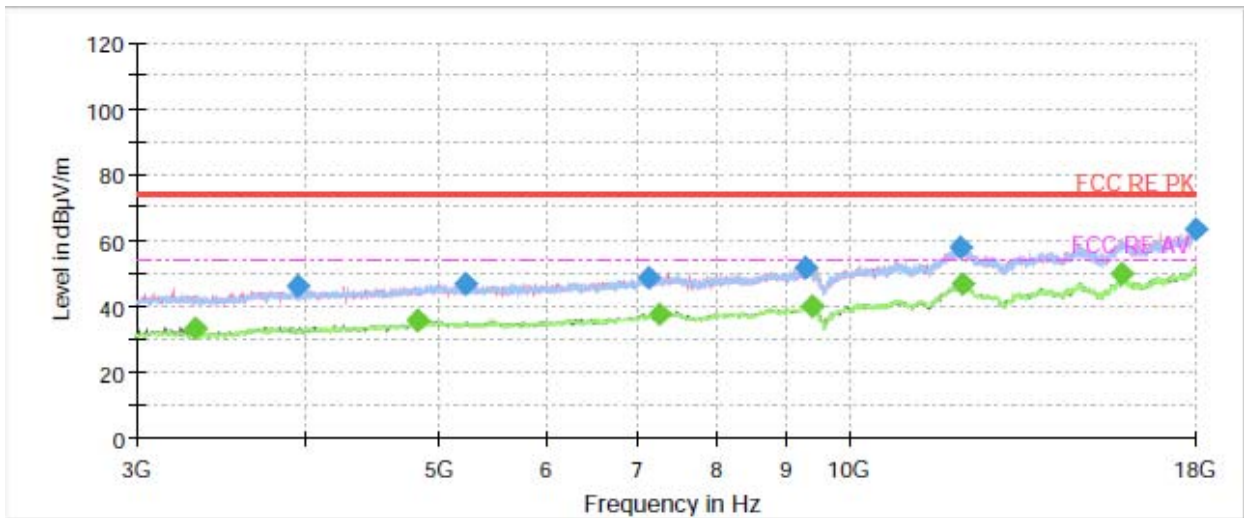
Remark: 1. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)

2. Margin = Limit – Quasi-Peak

802.11b CH1



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



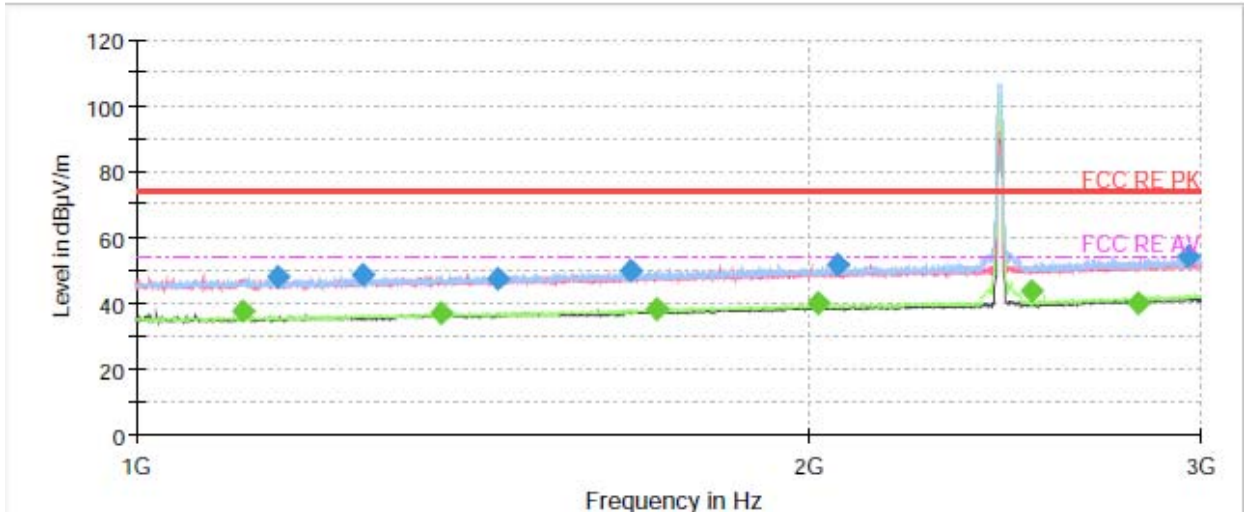
Radiates Emission from 3GHz to 18GHz



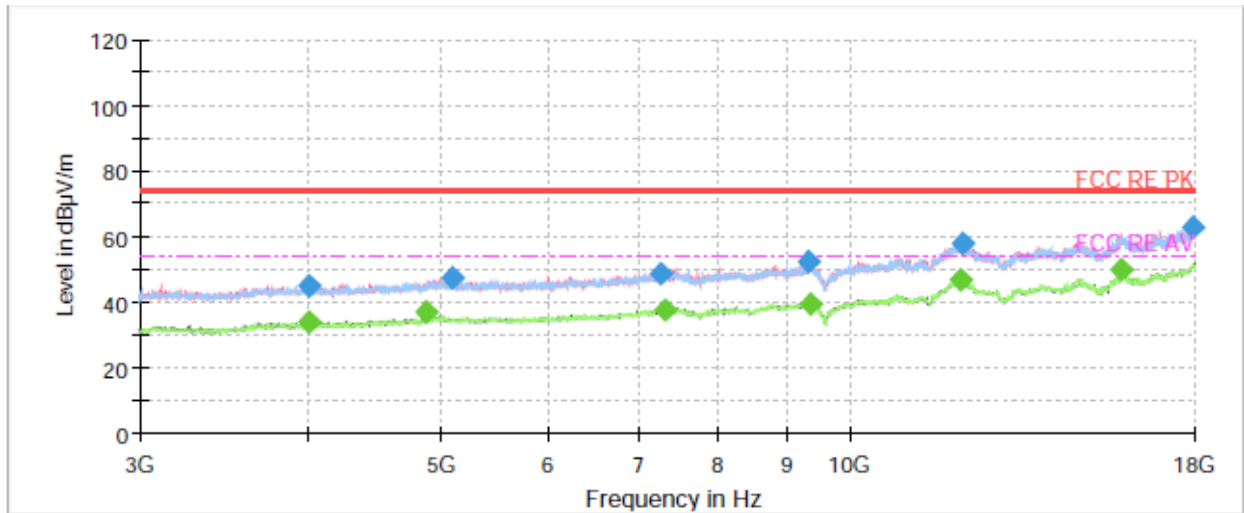
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1007.500000	48.30	---	74.00	25.70	100.0	V	188.0	-10.7
1045.500000	---	36.40	54.00	17.60	100.0	V	184.0	-10.8
1190.000000	46.39	---	74.00	27.61	200.0	V	105.0	-10.2
1201.250000	---	35.21	54.00	18.79	100.0	V	307.0	-10.2
1376.000000	49.02	---	74.00	24.98	200.0	H	175.0	-9.1
1403.750000	---	37.09	54.00	16.91	100.0	H	41.0	-8.8
1711.750000	---	40.64	54.00	13.36	200.0	V	356.0	-7.1
1725.750000	49.25	---	74.00	24.75	100.0	V	338.0	-7.0
2012.500000	---	39.40	54.00	14.60	100.0	H	88.0	-5.5
2013.250000	51.31	---	74.00	22.69	100.0	H	84.0	-5.5
2979.250000	---	42.54	54.00	11.46	200.0	H	282.0	-2.7
2989.500000	55.50	---	74.00	18.50	200.0	H	298.0	-2.7
15896.250000	---	49.55	54.00	4.45	200.0	V	66.0	7.4
17968.125000	63.37	---	74.00	10.63	100.0	H	307.0	7.4

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11b CH6



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



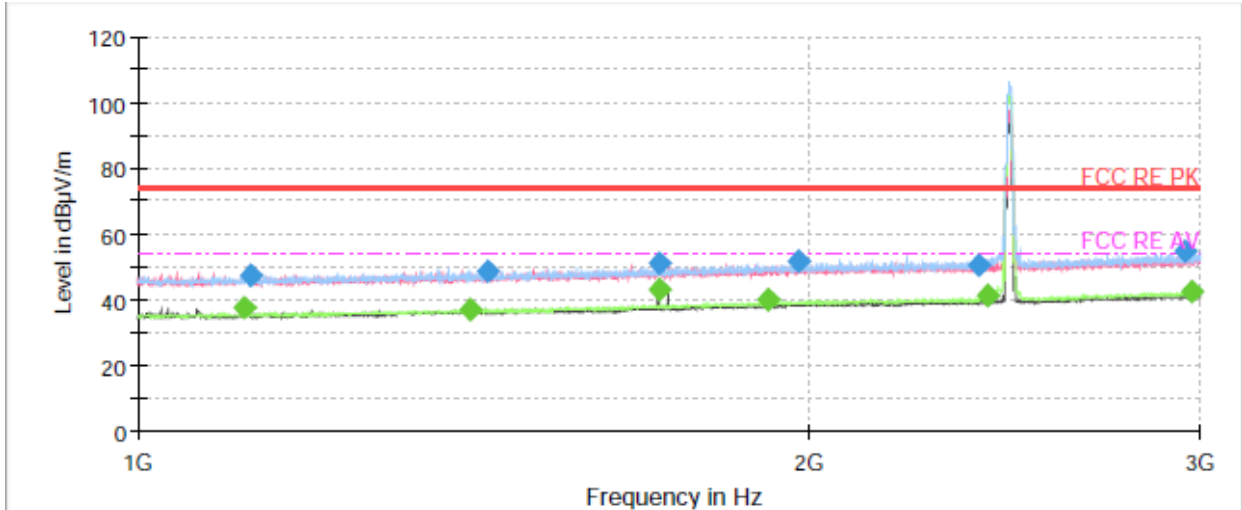
Radiates Emission from 3GHz to 18GHz



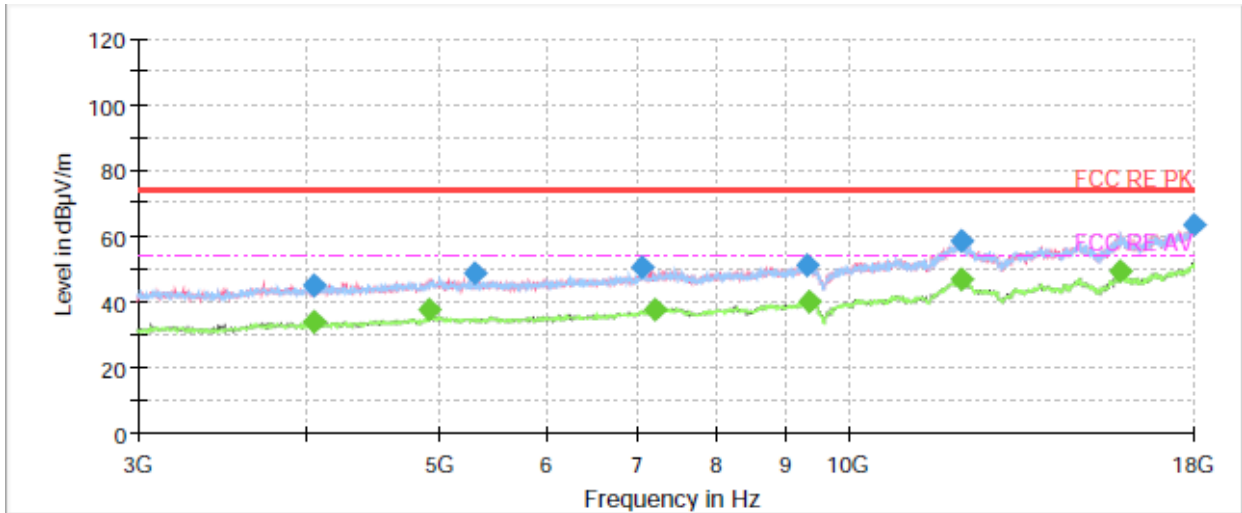
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1116.500000	---	37.51	54.00	16.49	100.0	V	163.0	-10.6
1158.000000	47.96	---	74.00	26.04	200.0	H	352.0	-10.4
1263.000000	48.50	---	74.00	25.50	100.0	H	84.0	-9.8
1370.500000	---	36.90	54.00	17.10	200.0	H	109.0	-9.1
1452.750000	47.31	---	74.00	26.69	100.0	V	250.0	-8.6
1665.250000	49.79	---	74.00	24.21	200.0	H	184.0	-7.3
1711.250000	---	38.16	54.00	15.84	100.0	H	112.0	-7.1
2019.000000	---	39.76	54.00	14.24	100.0	H	100.0	-5.5
2059.500000	51.41	---	74.00	22.59	100.0	H	116.0	-5.5
2519.250000	---	43.42	54.00	10.58	100.0	H	335.0	-4.4
2808.500000	---	40.26	54.00	13.74	100.0	V	333.0	-3.3
2962.500000	54.06	---	74.00	19.94	200.0	H	348.0	-2.7
15896.250000	---	49.67	54.00	4.33	100.0	V	343.0	6.7
17923.125000	62.66	---	74.00	11.34	100.0	H	57.0	7.1

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11b CH11



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



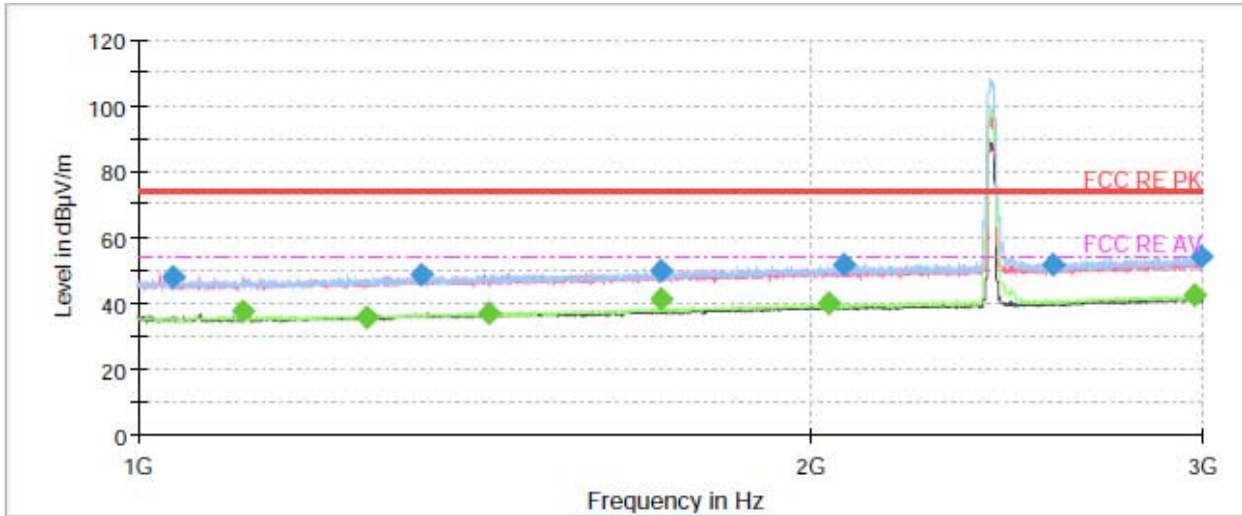
Radiates Emission from 3GHz to 18GHz



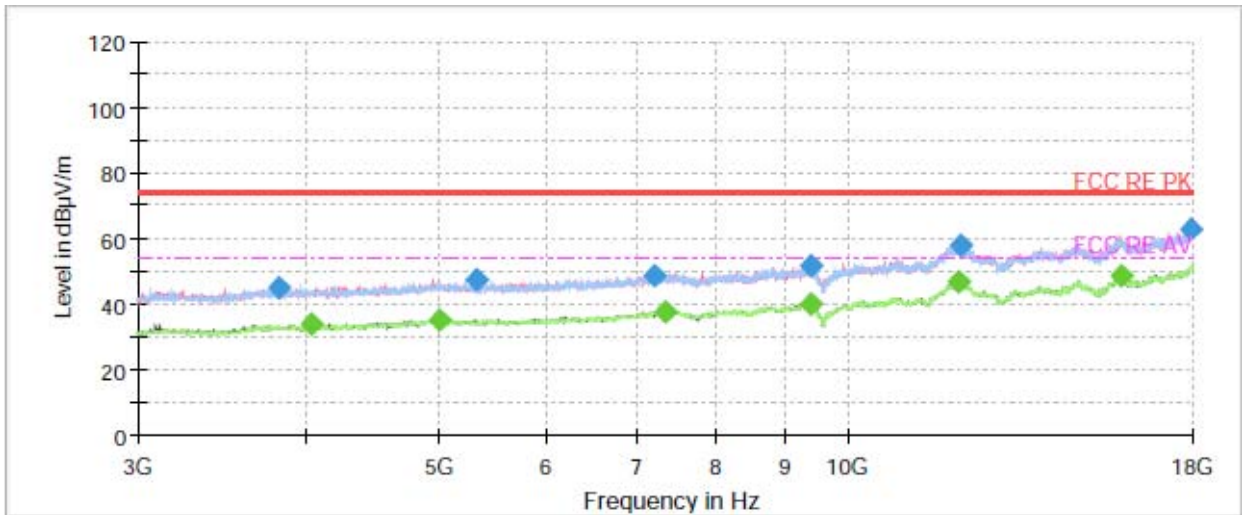
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1117.000000	---	37.37	54.00	16.63	100.0	V	174.0	-10.6
1123.000000	47.59	---	74.00	26.41	100.0	V	276.0	-10.6
1411.500000	---	37.11	54.00	16.89	200.0	H	67.0	-8.8
1434.750000	48.79	---	74.00	25.21	200.0	H	285.0	-8.7
1713.250000	51.09	---	74.00	22.91	200.0	V	194.0	-7.1
1714.000000	---	43.05	54.00	10.95	200.0	V	194.0	-7.1
1920.000000	---	39.86	54.00	14.14	100.0	H	134.0	-6.0
1980.750000	51.74	---	74.00	22.26	200.0	H	357.0	-5.7
2386.750000	50.17	---	74.00	23.83	200.0	H	245.0	-4.6
2408.750000	---	41.05	54.00	12.95	100.0	H	71.0	-4.7
2956.250000	54.67	---	74.00	19.33	200.0	H	79.0	-2.8
2972.750000	---	42.44	54.00	11.56	200.0	H	345.0	-2.7
15892.500000	---	49.34	54.00	4.66	100.0	V	318.0	6.7
17968.125000	63.26	---	74.00	10.74	200.0	V	188.0	7.4

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11g CH1



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



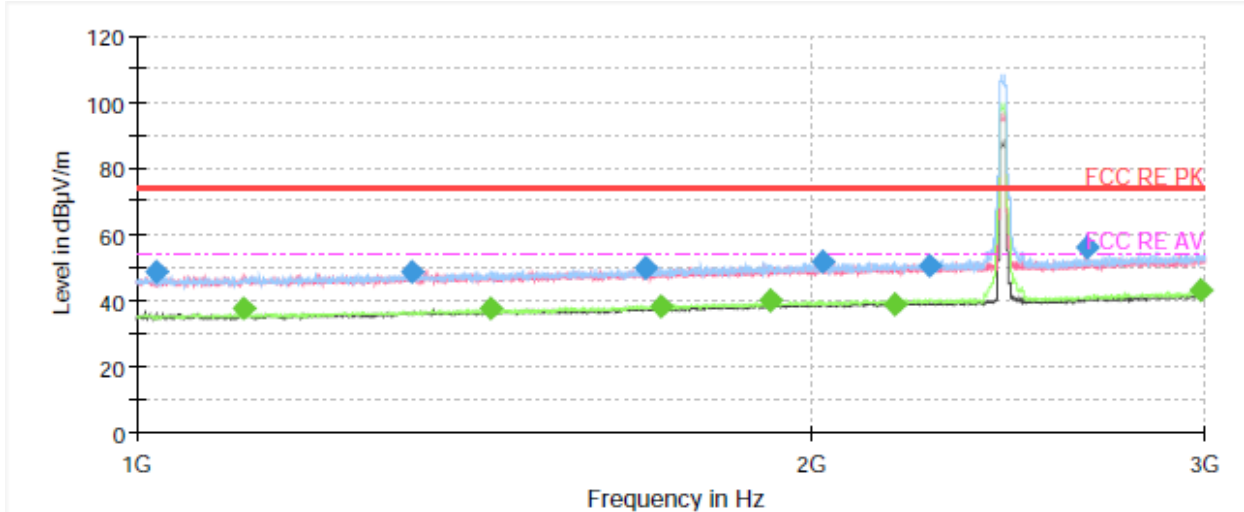
Radiates Emission from 3GHz to 18GHz



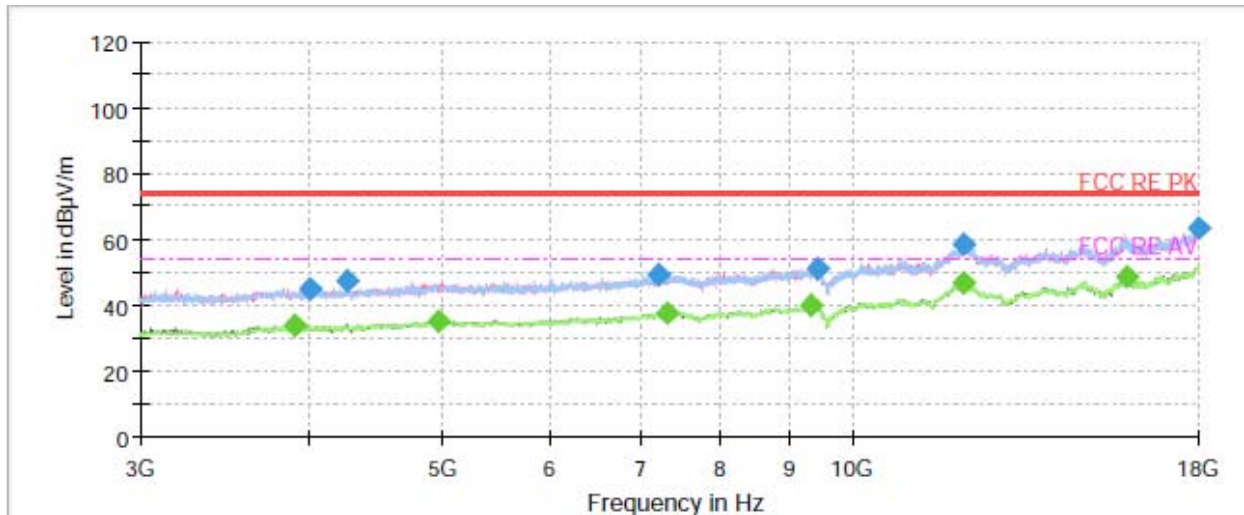
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1037.500000	48.25	---	74.00	25.75	100.0	V	222.0	-10.8
1114.750000	---	37.27	54.00	16.73	100.0	V	166.0	-10.6
1267.000000	---	35.93	54.00	18.07	200.0	H	284.0	-9.8
1339.250000	48.58	---	74.00	25.42	100.0	H	166.0	-9.3
1436.250000	---	37.16	54.00	16.84	100.0	H	76.0	-8.7
1713.500000	---	41.52	54.00	12.48	100.0	H	326.0	-7.1
1713.750000	49.79	---	74.00	24.21	100.0	H	326.0	-7.1
2037.000000	---	39.96	54.00	14.04	100.0	H	158.0	-5.5
2072.500000	51.75	---	74.00	22.25	200.0	H	170.0	-5.4
2569.250000	51.51	---	74.00	22.49	100.0	H	178.0	-4.3
2976.250000	---	42.49	54.00	11.51	200.0	H	327.0	-2.7
2990.750000	54.36	---	74.00	19.64	100.0	H	150.0	-2.7
15920.625000	---	48.44	54.00	5.56	100.0	H	324.0	6.8
17949.375000	63.05	---	74.00	10.95	100.0	V	139.0	7.4

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11g CH6



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



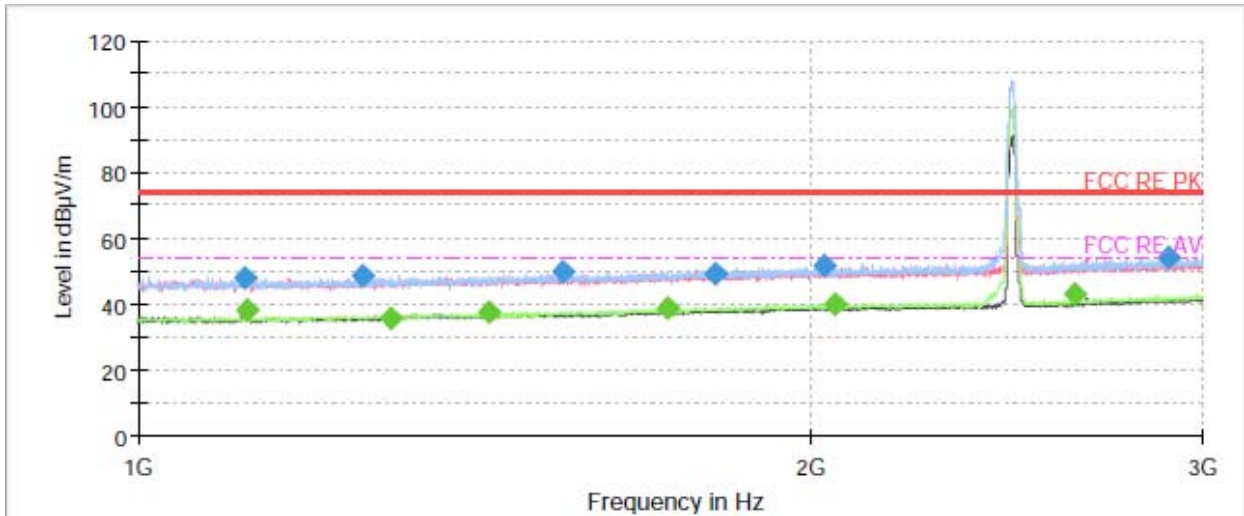
Radiates Emission from 3GHz to 18GHz



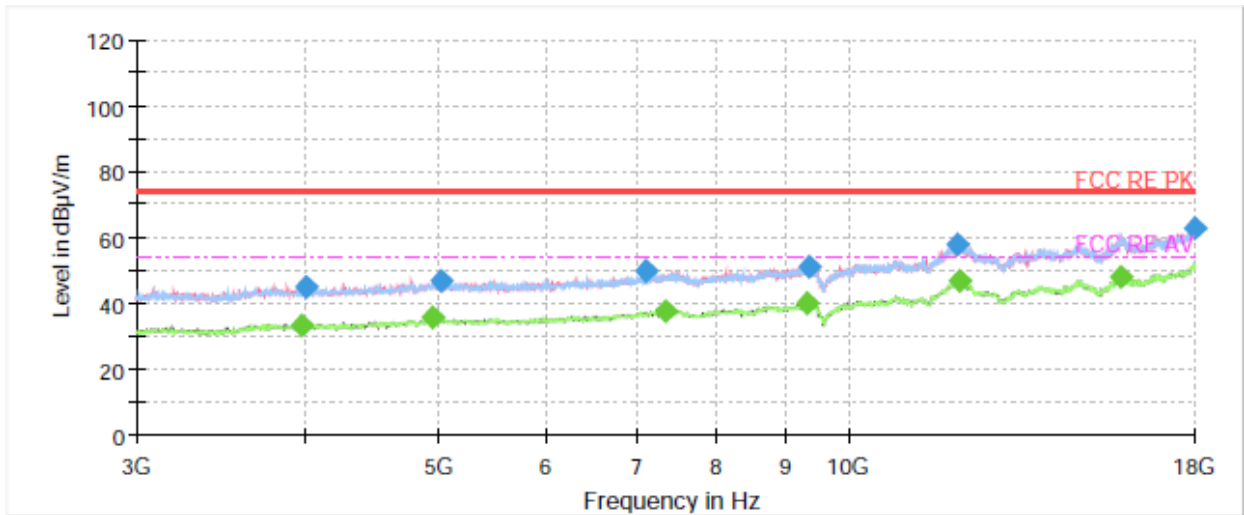
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1020.500000	48.32	---	74.00	25.68	100.0	V	192.0	-10.8
1115.250000	---	37.32	54.00	16.68	100.0	V	172.0	-10.6
1328.000000	48.83	---	74.00	25.17	200.0	H	318.0	-9.4
1437.500000	---	37.33	54.00	16.67	100.0	H	158.0	-8.7
1688.750000	49.82	---	74.00	24.18	200.0	H	138.0	-7.2
1714.500000	---	38.38	54.00	15.62	100.0	H	142.0	-7.1
1920.500000	---	39.73	54.00	14.27	100.0	H	10.0	-6.0
2023.250000	51.49	---	74.00	22.51	200.0	V	115.0	-5.5
2179.750000	---	38.63	54.00	15.37	100.0	V	283.0	-5.2
2259.750000	50.36	---	74.00	23.64	200.0	V	166.0	-4.9
2655.250000	56.22	---	74.00	17.78	200.0	V	95.0	-3.9
2985.000000	---	42.79	54.00	11.21	200.0	H	295.0	-2.7
15909.375000	---	48.81	54.00	5.19	100.0	H	218.0	6.8
17970.000000	63.20	---	74.00	10.80	100.0	V	233.0	7.5

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11g CH11



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



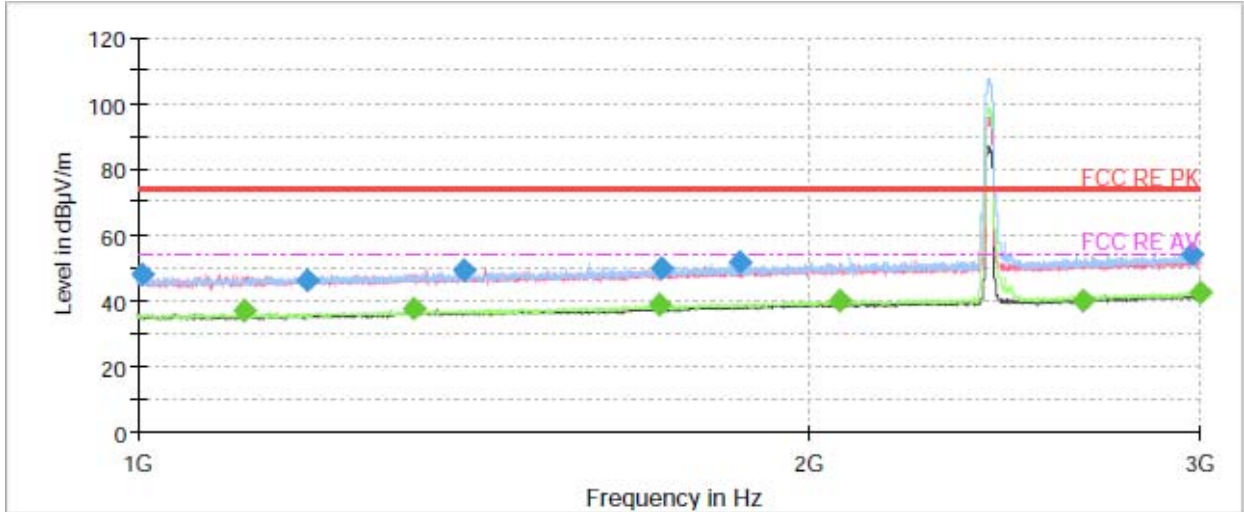
Radiates Emission from 3GHz to 18GHz



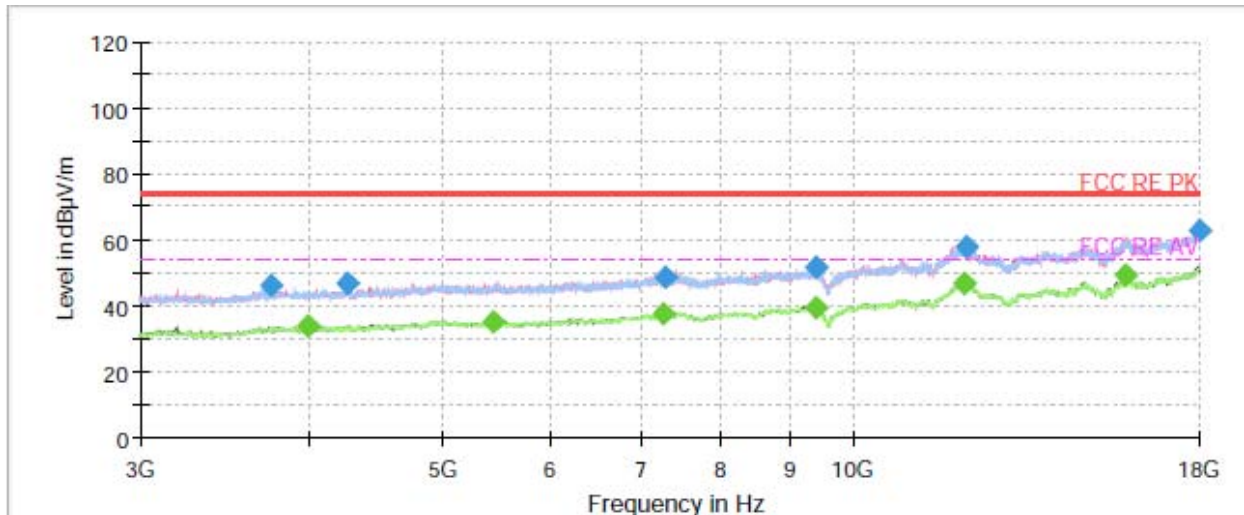
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1116.750000	47.95	---	74.00	26.05	100.0	V	176.0	-10.6
1118.250000	---	38.16	54.00	15.84	100.0	V	168.0	-10.6
1260.000000	48.66	---	74.00	25.34	100.0	H	148.0	-9.8
1297.750000	---	35.96	54.00	18.04	100.0	H	144.0	-9.6
1434.500000	---	37.26	54.00	16.74	200.0	H	302.0	-8.7
1549.750000	50.03	---	74.00	23.97	100.0	H	204.0	-8.1
1726.000000	---	38.58	54.00	15.42	200.0	H	325.0	-7.0
1812.500000	49.28	---	74.00	24.72	100.0	H	12.0	-6.5
2028.250000	51.61	---	74.00	22.39	200.0	H	120.0	-5.5
2050.000000	---	40.09	54.00	13.91	200.0	H	337.0	-5.5
2629.750000	---	43.09	54.00	10.91	100.0	H	12.0	-4.0
2895.000000	54.29	---	74.00	19.71	200.0	H	171.0	-3.0
15881.250000	---	48.24	54.00	5.76	100.0	V	239.0	6.6
17977.500000	62.86	---	74.00	11.14	100.0	H	285.0	7.5

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH1



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



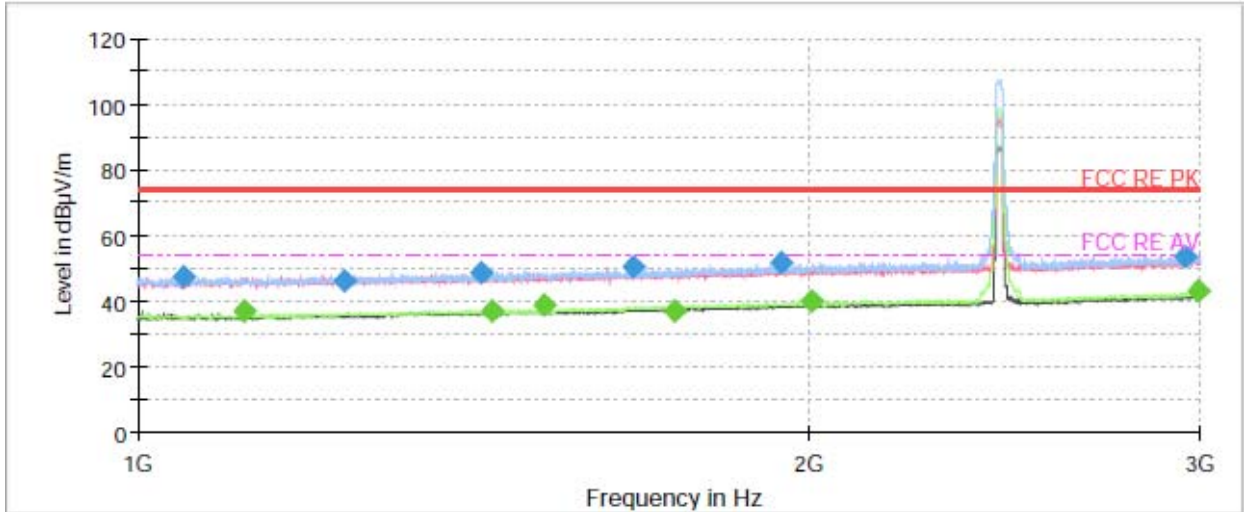
Radiates Emission from 3GHz to 18GHz



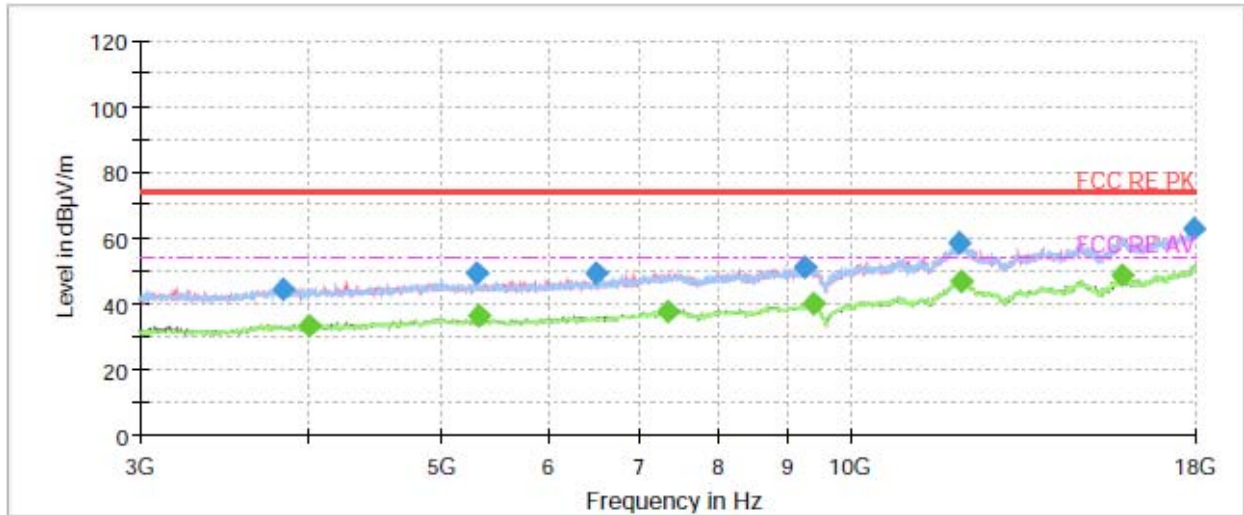
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1005.500000	48.21	---	74.00	25.79	100.0	V	228.0	-10.8
1115.500000	---	36.95	54.00	17.05	100.0	V	180.0	-10.6
1190.750000	46.11	---	74.00	27.89	200.0	V	152.0	-10.2
1328.750000	---	37.31	54.00	16.69	100.0	V	149.0	-9.4
1399.750000	48.95	---	74.00	25.05	100.0	H	3.0	-8.9
1715.750000	---	38.54	54.00	15.46	200.0	H	349.0	-7.1
1719.750000	49.88	---	74.00	24.12	100.0	H	71.0	-7.0
1861.500000	51.39	---	74.00	22.61	200.0	H	349.0	-6.3
2064.000000	---	39.80	54.00	14.20	200.0	H	297.0	-5.5
2654.750000	---	39.74	54.00	14.26	100.0	V	176.0	-3.9
2976.500000	54.29	---	74.00	19.71	100.0	H	158.0	-2.7
3000.000000	---	42.57	54.00	11.43	200.0	H	62.0	-2.7
15903.750000	---	49.49	54.00	4.51	100.0	H	81.0	6.7
17986.875000	62.72	---	74.00	11.28	200.0	V	45.0	7.5

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH6



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



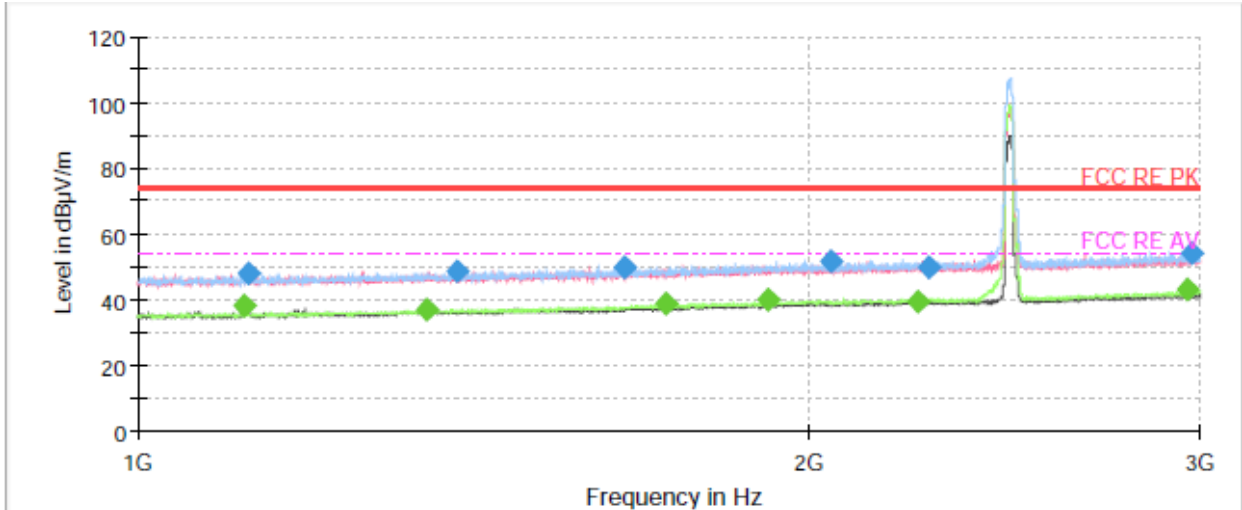
Radiates Emission from 3GHz to 18GHz



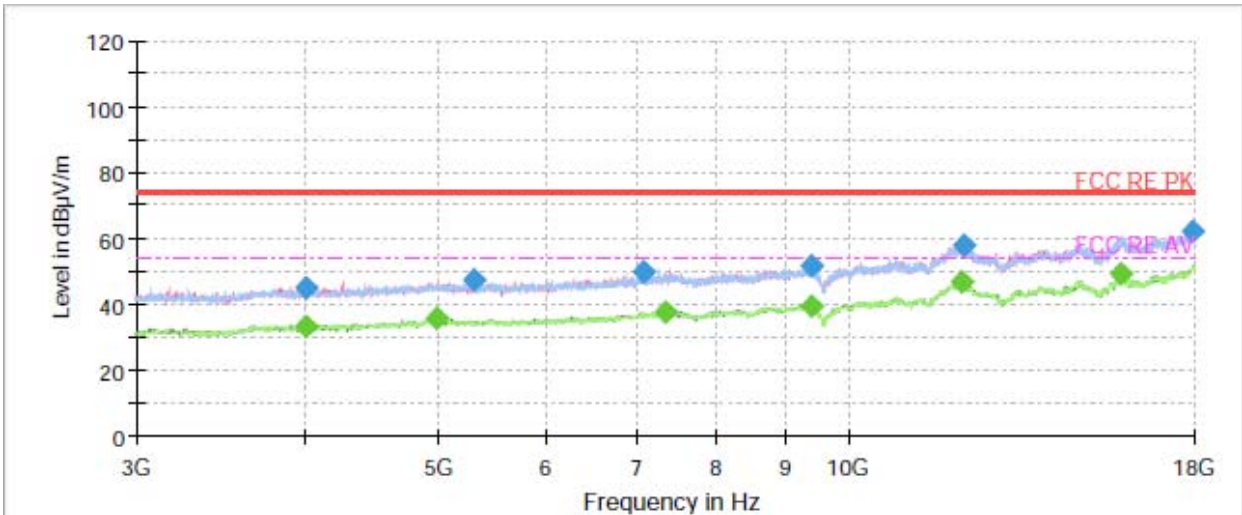
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1047.500000	47.65	---	74.00	26.35	200.0	V	111.0	-10.8
1117.000000	---	37.08	54.00	16.92	100.0	V	171.0	-10.6
1238.750000	46.15	---	74.00	27.85	200.0	V	232.0	-9.9
1425.000000	48.46	---	74.00	25.54	200.0	H	0.0	-8.8
1441.750000	---	37.21	54.00	16.79	100.0	H	124.0	-8.7
1522.000000	---	38.91	54.00	15.09	100.0	V	52.0	-8.2
1670.000000	50.71	---	74.00	23.29	100.0	H	1.0	-7.3
1741.750000	---	37.16	54.00	16.84	100.0	V	0.0	-7.0
1943.000000	51.73	---	74.00	22.27	100.0	H	59.0	-5.9
2005.000000	---	39.74	54.00	14.26	200.0	H	277.0	-5.6
2955.000000	53.73	---	74.00	20.27	200.0	H	157.0	-2.8
2995.750000	---	42.84	54.00	11.16	200.0	H	359.0	-2.7
15905.625000	---	48.88	54.00	5.12	200.0	V	0.0	6.7
17956.875000	63.03	---	74.00	10.97	100.0	V	85.0	7.4

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH11



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



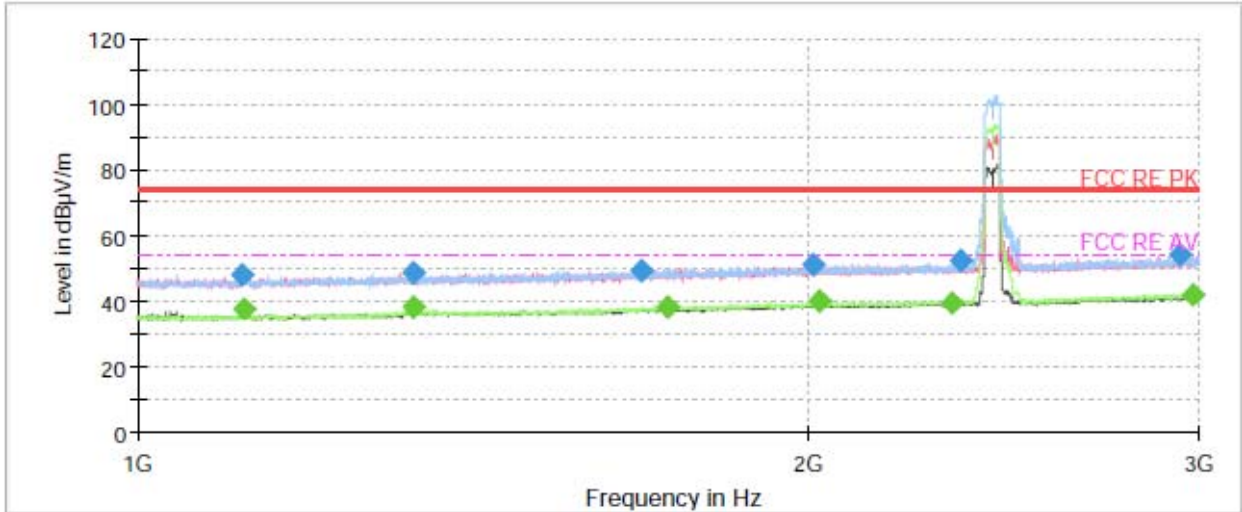
Radiates Emission from 3GHz to 18GHz



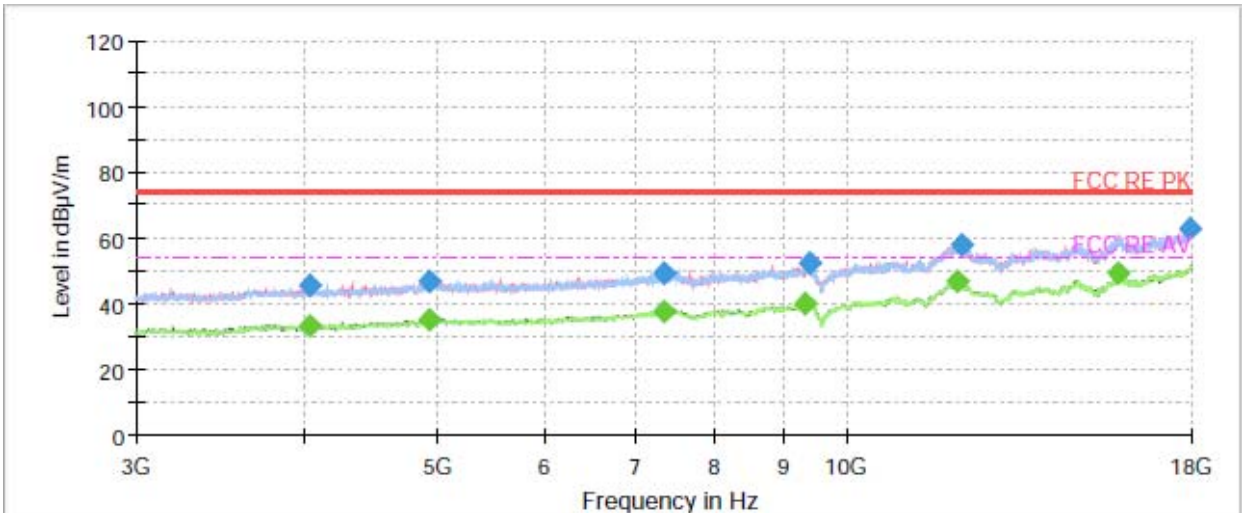
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1116.500000	---	37.99	54.00	16.01	100.0	V	175.0	-10.6
1121.500000	47.74	---	74.00	26.26	200.0	H	345.0	-10.6
1349.250000	---	37.00	54.00	17.00	200.0	H	255.0	-9.2
1392.500000	48.48	---	74.00	25.52	200.0	H	188.0	-8.9
1653.250000	49.77	---	74.00	24.23	200.0	H	282.0	-7.5
1725.000000	---	38.57	54.00	15.43	200.0	H	341.0	-7.0
1919.750000	---	40.13	54.00	13.87	100.0	H	119.0	-6.0
2048.250000	51.66	---	74.00	22.34	200.0	H	220.0	-5.5
2240.250000	---	39.56	54.00	14.44	200.0	H	180.0	-5.0
2265.250000	49.99	---	74.00	24.01	100.0	V	253.0	-4.9
2962.000000	---	42.95	54.00	11.05	200.0	H	298.0	-2.7
2970.000000	53.97	---	74.00	20.03	100.0	H	13.0	-2.7
15896.250000	---	49.10	54.00	4.90	100.0	V	280.0	6.7
17934.375000	62.38	---	74.00	11.62	100.0	V	0.0	7.2

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT40) CH3



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



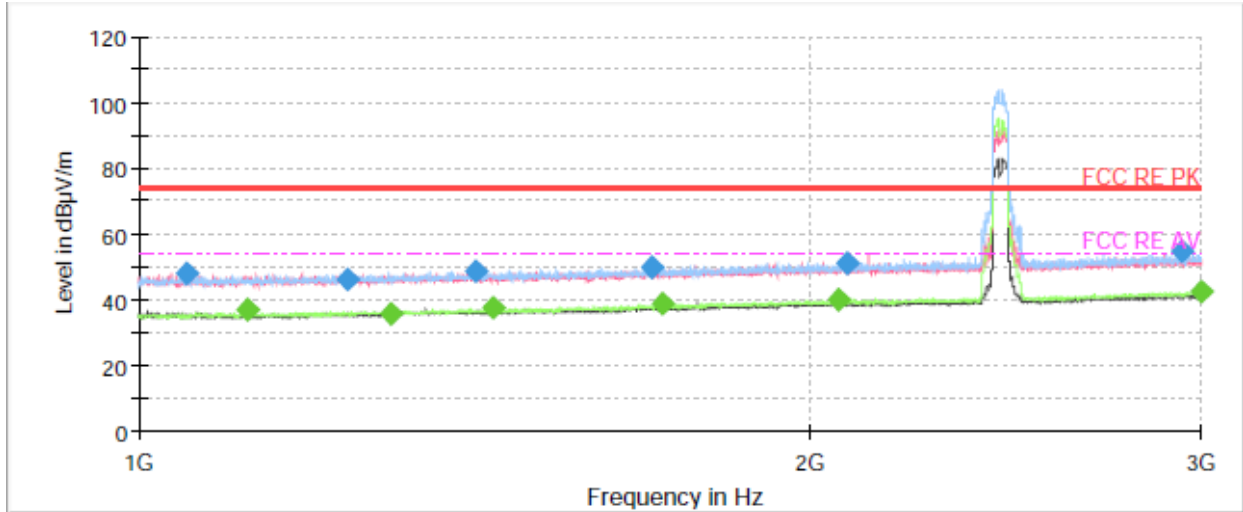
Radiates Emission from 3GHz to 18GHz



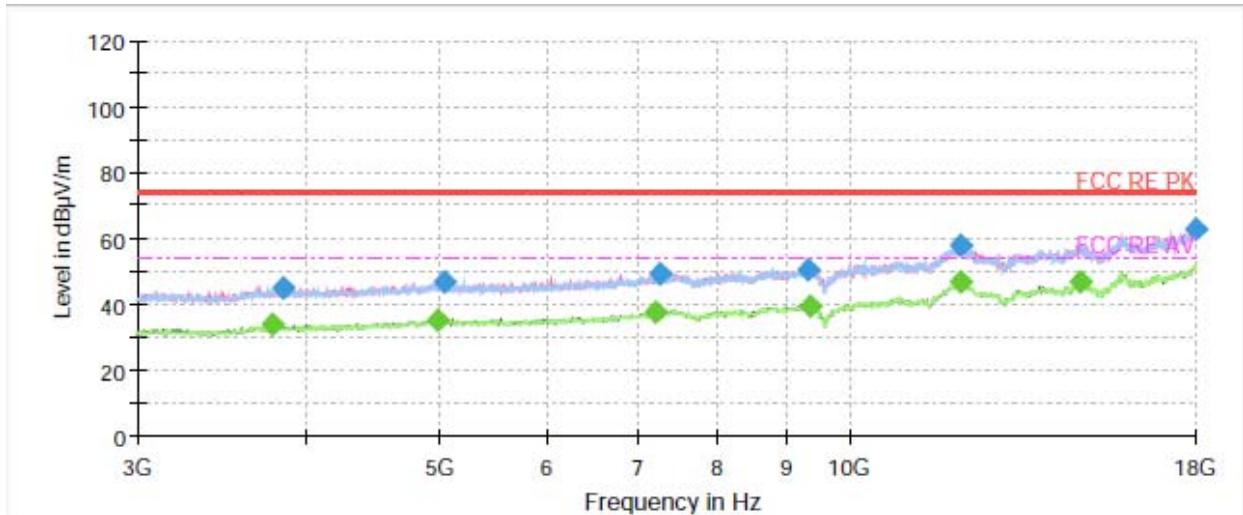
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1113.750000	48.26	---	74.00	25.74	100.0	V	175.0	-10.6
1115.750000	---	37.48	54.00	16.52	100.0	V	166.0	-10.6
1329.500000	48.61	---	74.00	25.39	100.0	H	37.0	-9.3
1331.500000	---	37.95	54.00	16.05	100.0	H	57.0	-9.3
1685.250000	49.34	---	74.00	24.66	100.0	H	0.0	-7.2
1728.250000	---	38.12	54.00	15.88	100.0	H	0.0	-7.0
2009.750000	51.12	---	74.00	22.88	200.0	H	318.0	-5.6
2025.500000	---	39.71	54.00	14.29	100.0	H	25.0	-5.5
2320.500000	---	39.35	54.00	14.65	200.0	V	11.0	-4.8
2344.250000	52.45	---	74.00	21.55	100.0	H	2.0	-4.7
2938.500000	53.90	---	74.00	20.10	100.0	H	13.0	-3.0
2981.000000	---	42.15	54.00	11.85	100.0	H	0.0	-2.7
15894.375000	---	49.48	54.00	4.52	100.0	V	77.0	6.7
17943.750000	62.91	---	74.00	11.09	200.0	V	216.0	7.3

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT40) CH6



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



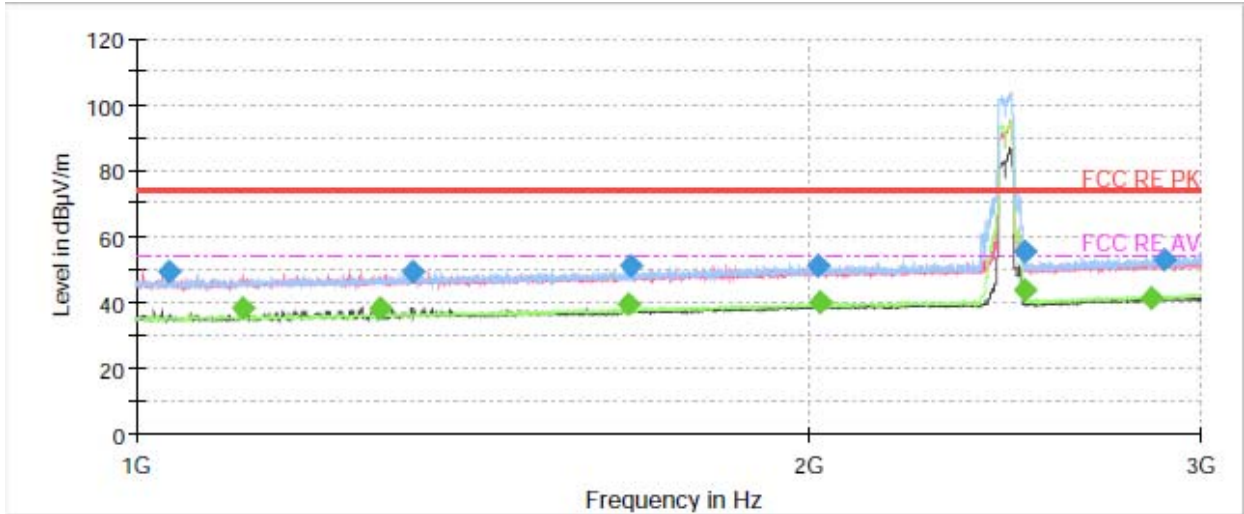
Radiates Emission from 3GHz to 18GHz



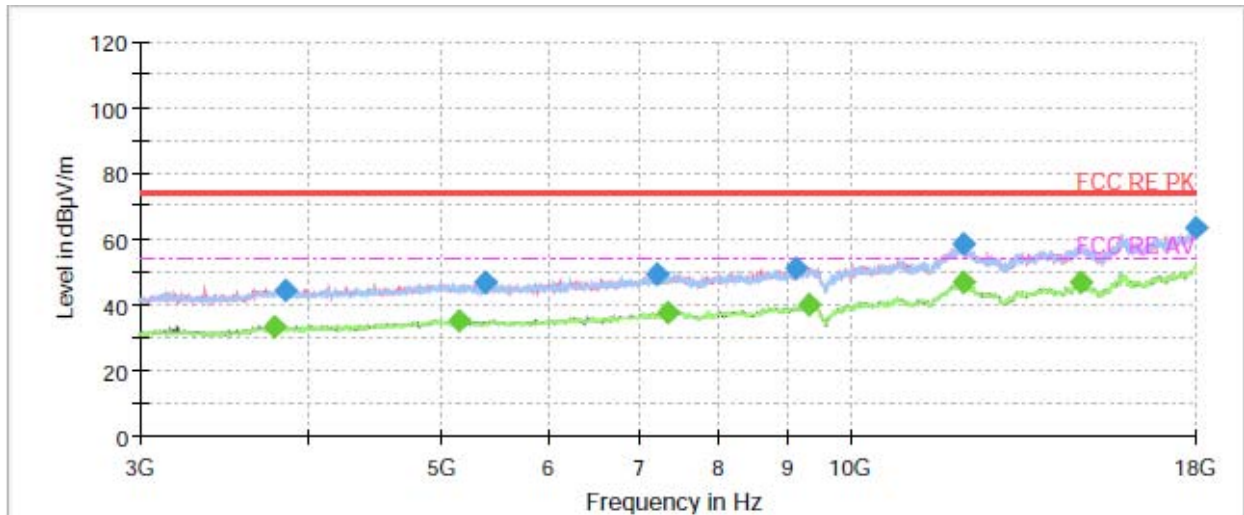
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1050.250000	47.98	---	74.00	26.02	200.0	V	224.0	-10.8
1117.750000	---	37.05	54.00	16.95	100.0	V	179.0	-10.6
1240.250000	46.44	---	74.00	27.56	200.0	H	324.0	-9.9
1298.750000	---	35.42	54.00	18.58	100.0	V	356.0	-9.6
1415.500000	48.68	---	74.00	25.32	100.0	H	65.0	-8.8
1441.750000	---	37.44	54.00	16.56	200.0	H	285.0	-8.7
1700.500000	49.98	---	74.00	24.02	200.0	H	352.0	-7.2
1720.250000	---	38.53	54.00	15.47	200.0	H	309.0	-7.0
2062.750000	---	39.88	54.00	14.12	200.0	H	336.0	-5.5
2078.500000	51.23	---	74.00	22.77	200.0	H	252.0	-5.4
2943.000000	54.55	---	74.00	19.45	200.0	H	348.0	-2.9
2998.000000	---	42.55	54.00	11.45	200.0	H	340.0	-2.7

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT40) CH9



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz

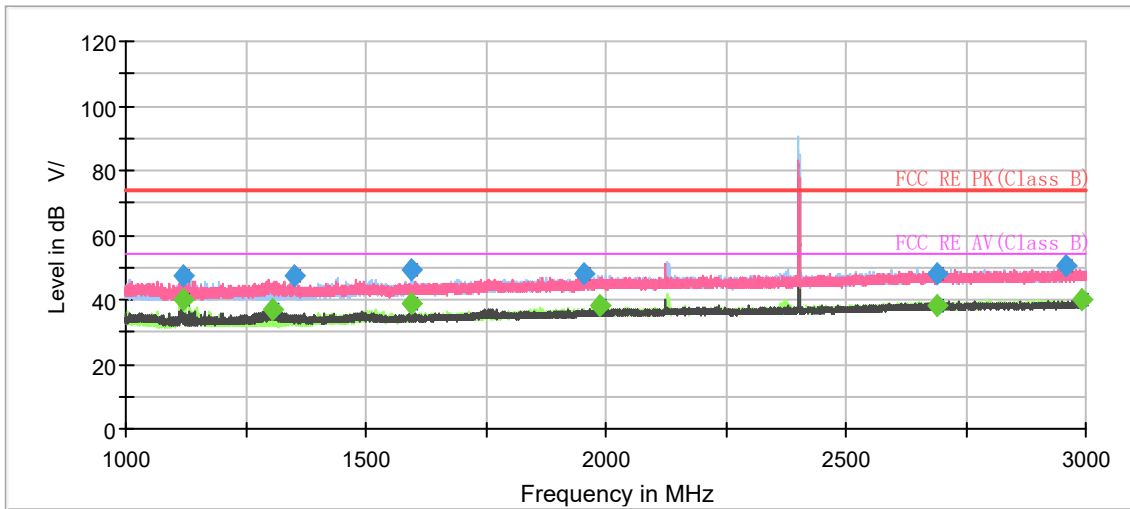


Radiates Emission from 3GHz to 18GHz

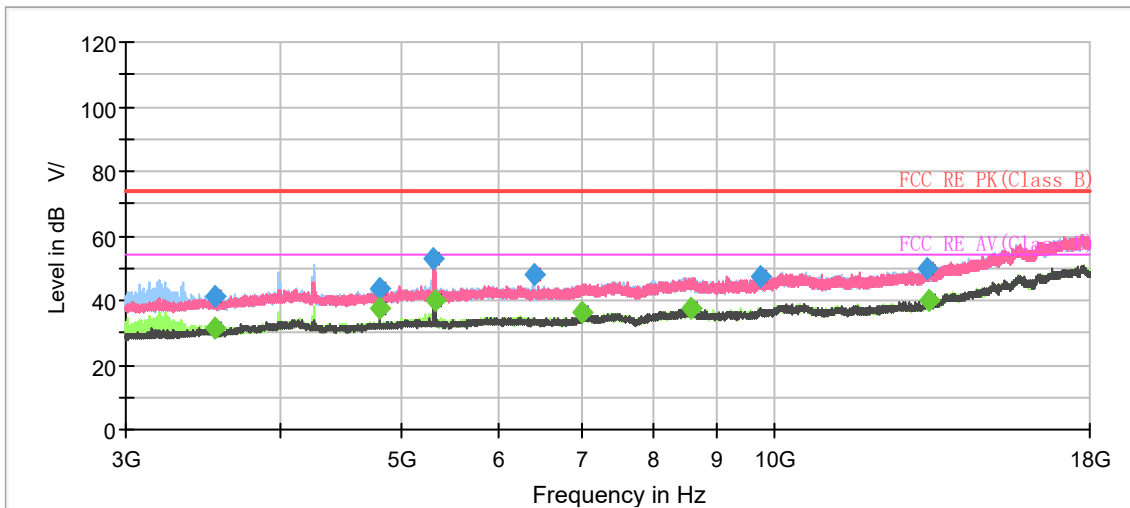


Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1035.250000	49.00	---	74.00	25.00	100.0	V	205.0	-10.8
1116.250000	---	37.98	54.00	16.02	100.0	V	170.0	-10.6
1287.000000	---	38.19	54.00	15.81	100.0	V	150.0	-9.7
1330.250000	49.19	---	74.00	24.81	100.0	V	150.0	-9.3
1662.250000	---	39.21	54.00	14.79	100.0	V	150.0	-7.4
1663.500000	51.19	---	74.00	22.81	100.0	V	150.0	-7.4
2019.250000	51.08	---	74.00	22.92	200.0	H	0.0	-5.5
2023.250000	---	39.71	54.00	14.29	200.0	H	290.0	-5.5
2498.750000	55.11	---	74.00	18.89	100.0	H	36.0	-4.5
2499.500000	---	43.57	54.00	10.43	100.0	H	36.0	-4.5
2851.000000	---	41.04	54.00	12.96	200.0	V	321.0	-3.2
2886.500000	52.63	---	74.00	21.37	200.0	H	294.0	-3.1

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Bluetooth LE-Channel 0

Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



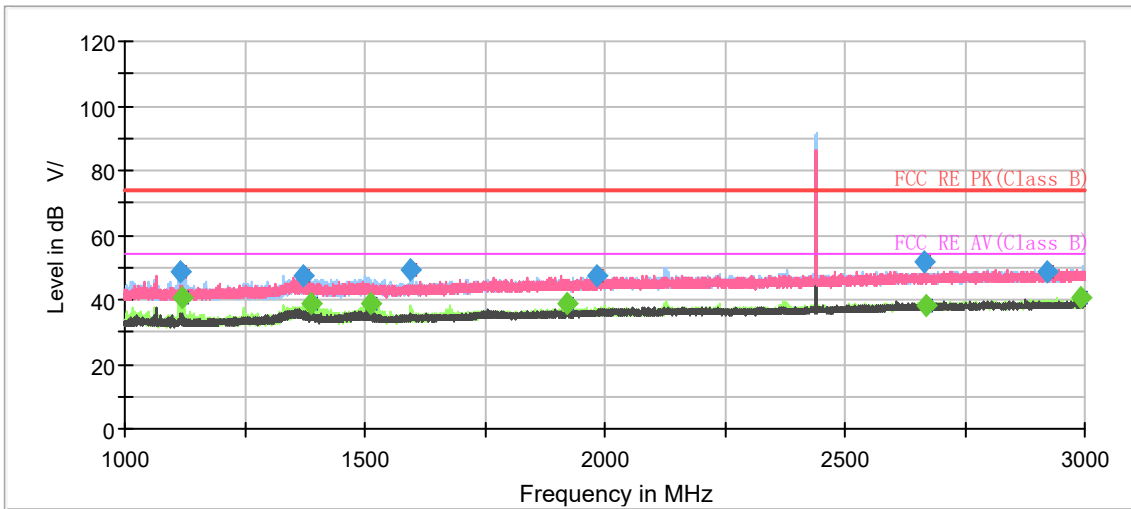
Radiates Emission from 3GHz to 18GHz



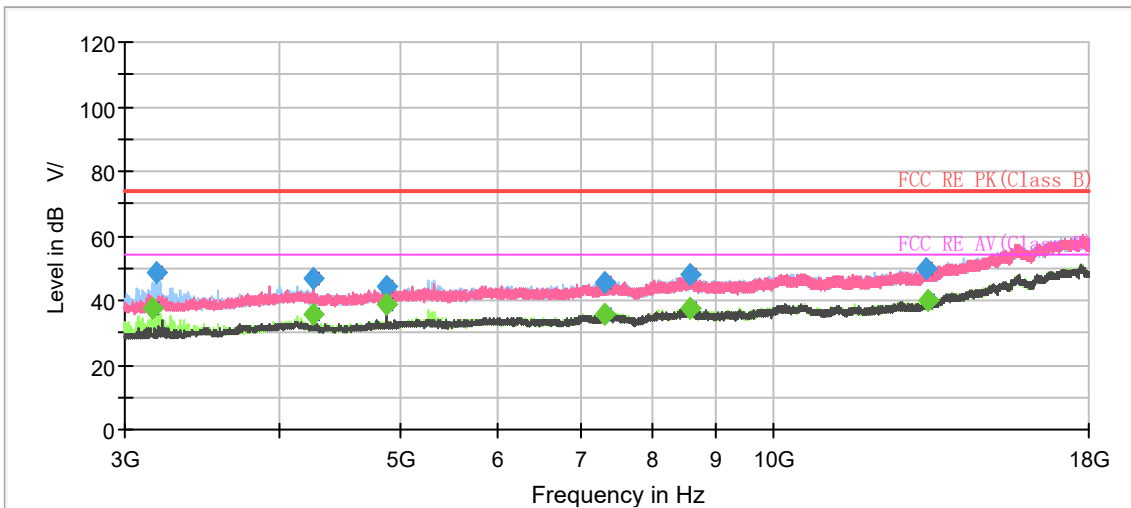
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1119.333333	47.57	---	74.00	26.43	100.0	H	116.0	-7.7
1119.800000	---	40.17	54.00	13.83	100.0	H	123.0	-7.7
1306.533333	---	36.97	54.00	17.03	100.0	V	134.0	-6.7
1349.533333	47.31	---	74.00	26.69	100.0	V	32.0	-6.5
1593.533333	---	38.50	54.00	15.50	100.0	H	23.0	-5.1
1596.600000	48.93	---	74.00	25.07	100.0	H	11.0	-5.1
1956.133333	48.06	---	74.00	25.94	100.0	H	49.0	-2.9
1989.066667	---	37.91	54.00	16.09	100.0	H	336.0	-2.7
2689.400000	47.90	---	74.00	26.10	200.0	H	167.0	0.5
2689.800000	---	38.19	54.00	15.81	100.0	H	129.0	0.5
2957.866667	50.16	---	74.00	23.84	100.0	V	254.0	1.6
2993.533333	---	40.10	54.00	13.90	100.0	H	4.0	1.9

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Bluetooth LE-Channel 19



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



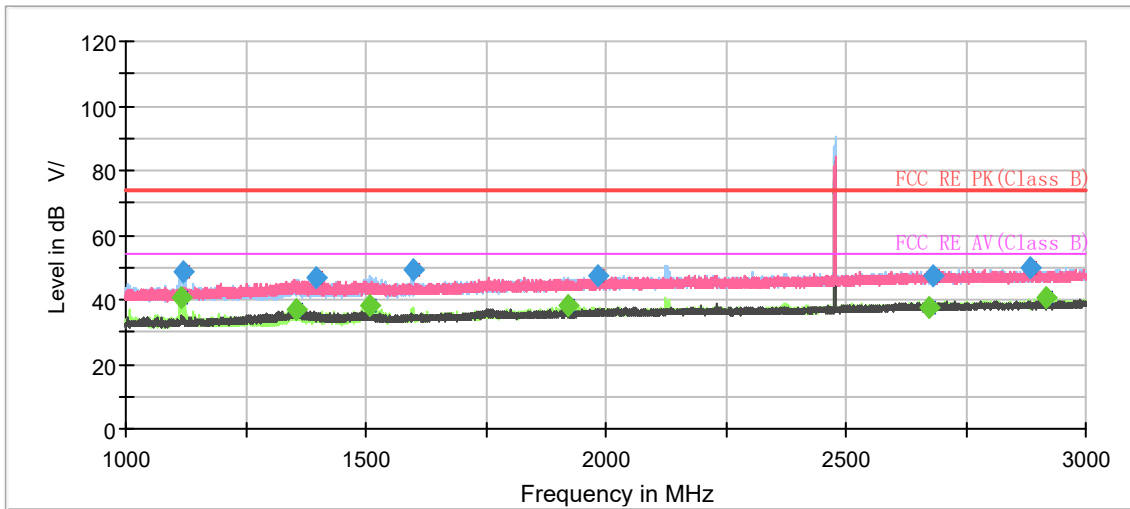
Radiates Emission from 3GHz to 18GHz



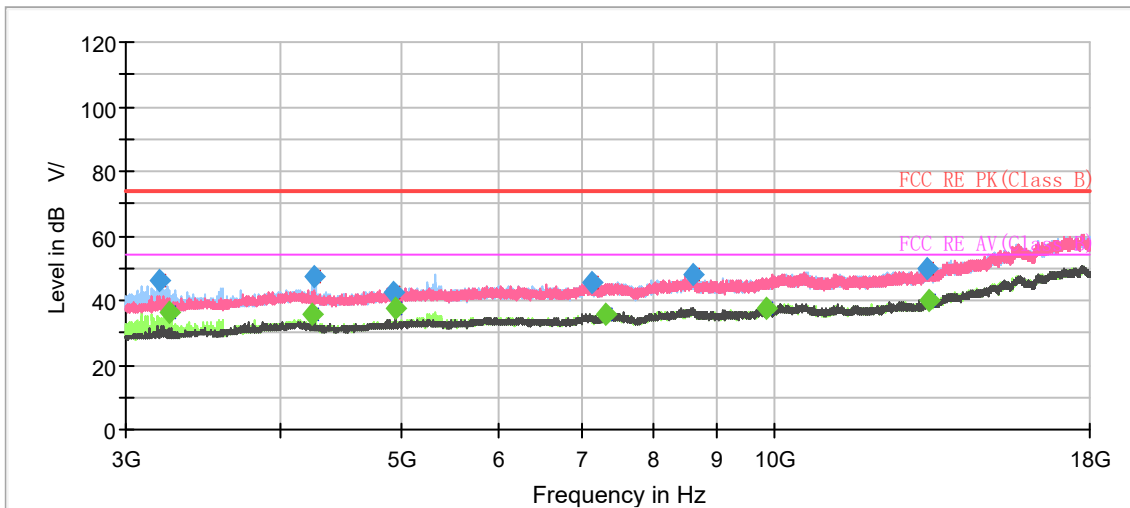
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1116.533333	48.71	---	74.00	25.29	100.0	H	83.0	-7.7
1117.800000	---	40.76	54.00	13.24	100.0	H	83.0	-7.7
1372.466667	47.42	---	74.00	26.58	100.0	H	90.0	-6.4
1390.466667	---	38.80	54.00	15.20	100.0	H	90.0	-6.2
1514.400000	---	38.63	54.00	15.37	100.0	H	99.0	-5.5
1596.466667	48.97	---	74.00	25.03	100.0	H	10.0	-5.1
1920.000000	---	38.74	54.00	15.26	100.0	H	246.0	-3.2
1983.533333	47.53	---	74.00	26.47	100.0	H	99.0	-2.8
2666.066667	51.77	---	74.00	22.23	200.0	H	0.0	0.4
2669.733333	---	38.20	54.00	15.80	100.0	H	99.0	0.4
2921.266667	48.65	---	74.00	25.35	100.0	H	10.0	1.3
2991.666667	---	40.46	54.00	13.54	200.0	V	284.0	1.9

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Bluetooth LE-Channel 39



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

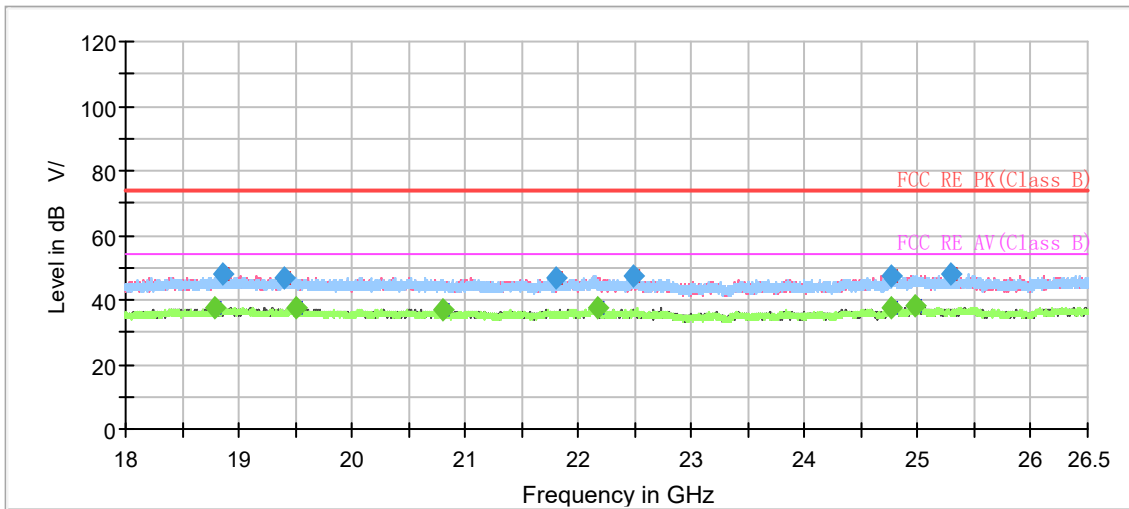


Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1116.333333	---	40.86	54.00	13.14	100.0	H	109.0	-7.7
1118.933333	48.40	---	74.00	25.60	100.0	H	95.0	-7.7
1354.133333	---	37.01	54.00	16.99	100.0	V	340.0	-6.5
1394.733333	46.50	---	74.00	27.50	100.0	V	0.0	-6.2
1508.800000	---	38.05	54.00	15.95	100.0	H	109.0	-5.5
1599.800000	49.24	---	74.00	24.76	100.0	H	95.0	-5.0
1920.066667	---	38.06	54.00	15.94	100.0	H	109.0	-3.2
1983.466667	47.45	---	74.00	26.55	100.0	H	47.0	-2.8
2672.133333	---	37.72	54.00	16.28	100.0	H	59.0	0.4
2680.133333	47.18	---	74.00	26.82	200.0	H	329.0	0.5
2885.400000	49.69	---	74.00	24.31	200.0	H	25.0	1.2
2915.600000	---	40.63	54.00	13.37	100.0	H	0.0	1.3

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



During the test, the Radiates Emission from 18GHz to 26.5GHz was performed in all modes with all channels, 802.11g, Channel 6 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.



Radiates Emission from 18GHz to 26.5GHz

5.2. Conducted Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

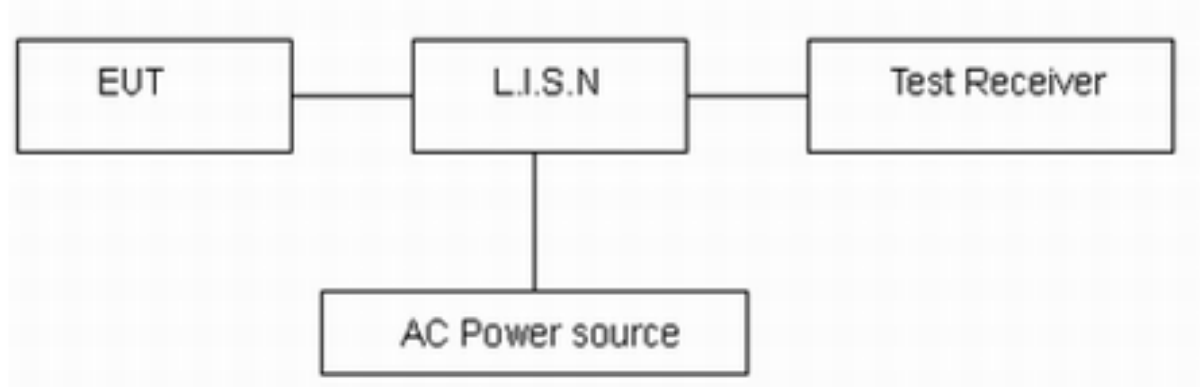
Methods of Measurement

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 110V/60Hz.

Limits

Frequency (MHz)	Conducted Limits(dBμV)	
	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.

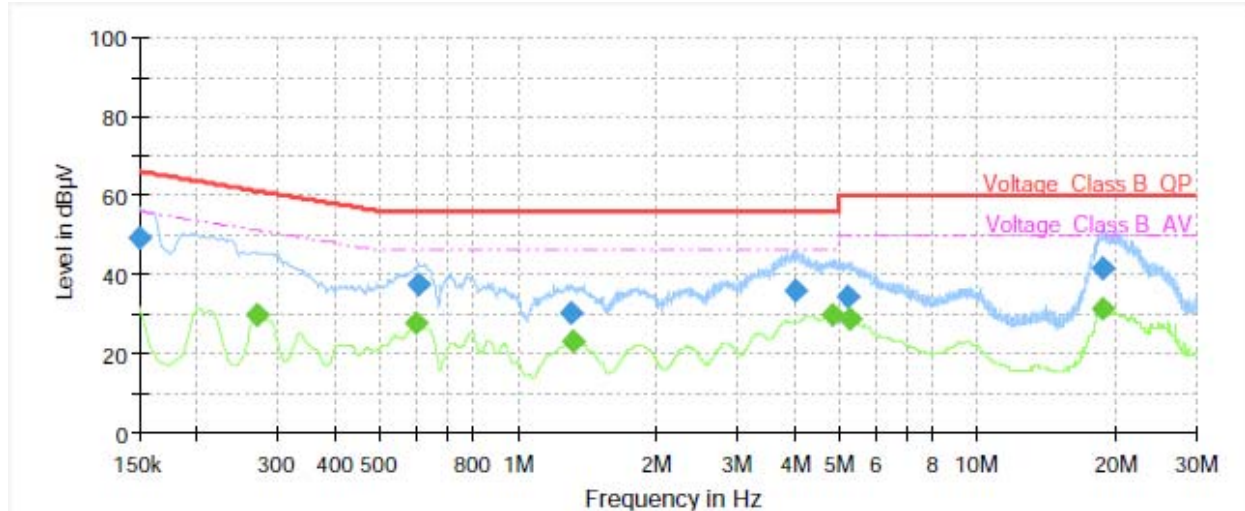
Measurement Uncertainty

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:

Antenna 2

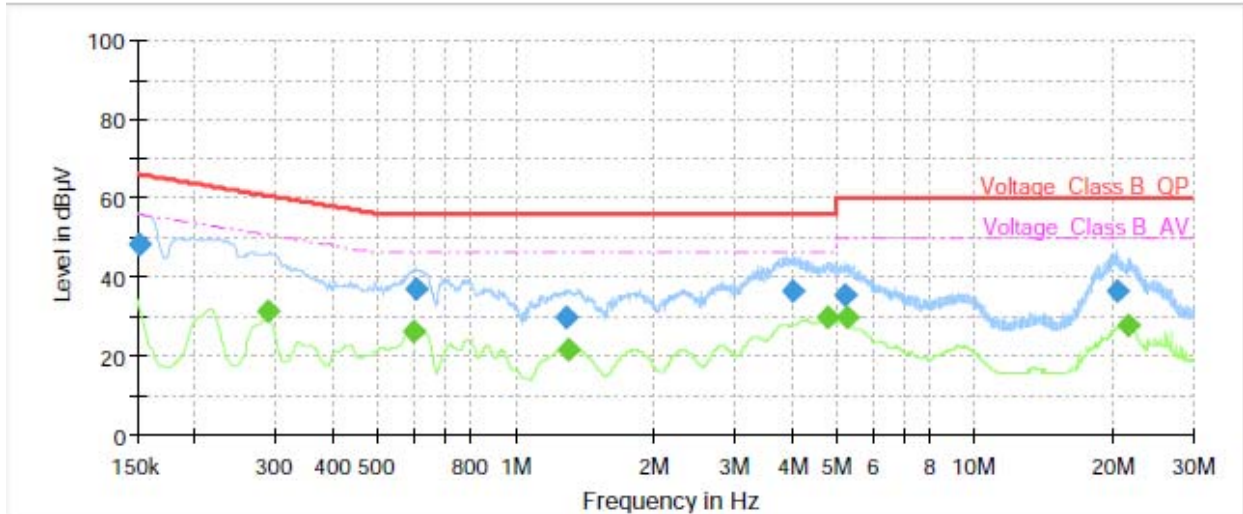
Following plots, Blue trace uses the peak detection and Green trace uses the average detection. During the test, the Conducted Emission was performed in all modes (WIFI 2.4G /Bluetooth LE) with all channels, 802.11g, Channel 1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.15	49.02	---	66.00	16.98	70.0	9.000	L1	ON	21
0.27	---	29.87	51.14	21.27	70.0	9.000	L1	ON	21
0.60	---	27.86	46.00	18.14	70.0	9.000	L1	ON	20
0.61	37.42	---	56.00	18.58	70.0	9.000	L1	ON	20
1.31	30.11	---	56.00	25.89	70.0	9.000	L1	ON	20
1.32	---	23.17	46.00	22.83	70.0	9.000	L1	ON	20
4.01	35.71	---	56.00	20.29	70.0	9.000	L1	ON	19
4.83	---	29.84	46.00	16.16	70.0	9.000	L1	ON	19
5.21	34.61	---	60.00	25.39	70.0	9.000	L1	ON	19
5.27	---	28.73	50.00	21.27	70.0	9.000	L1	ON	19
18.67	41.39	---	60.00	18.61	70.0	9.000	L1	ON	20
18.76	---	31.28	50.00	18.72	70.0	9.000	L1	ON	20

Remark: Correct factor=cable loss + LISN factor

L line Conducted Emission from 150 KHz to 30 MHz



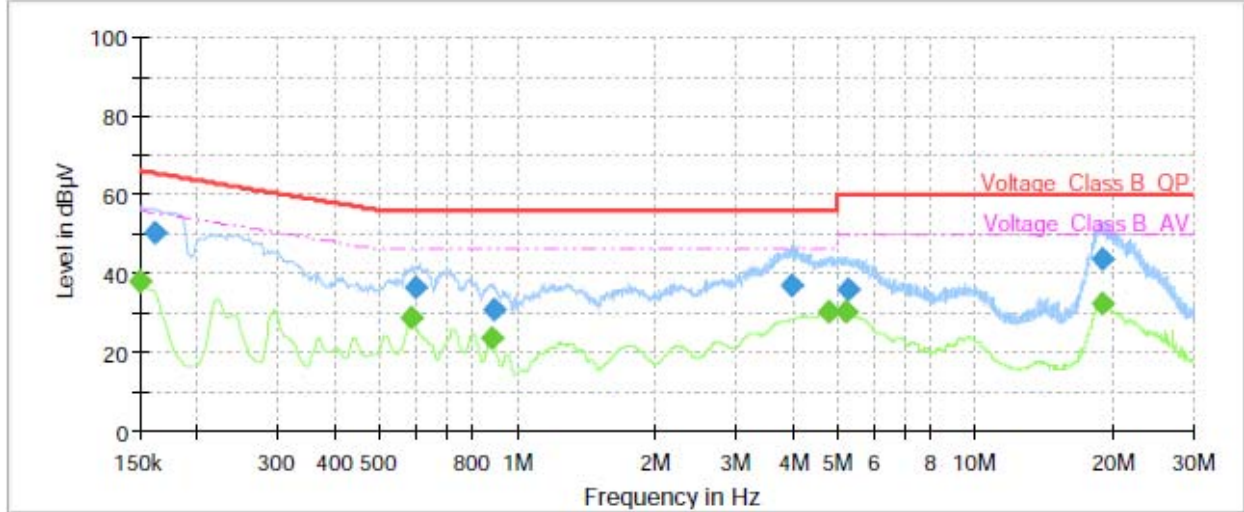
Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.15	48.42	---	65.88	17.46	70.0	9.000	N	ON	21
0.29	---	31.25	50.54	19.29	70.0	9.000	N	ON	21
0.60	---	26.02	46.00	19.98	70.0	9.000	N	ON	20
0.60	36.75	---	56.00	19.25	70.0	9.000	N	ON	20
1.29	29.96	---	56.00	26.04	70.0	9.000	N	ON	20
1.31	---	21.69	46.00	24.31	70.0	9.000	N	ON	20
4.02	36.36	---	56.00	19.64	70.0	9.000	N	ON	19
4.76	---	29.65	46.00	16.35	70.0	9.000	N	ON	19
5.20	35.18	---	60.00	24.82	70.0	9.000	N	ON	19
5.26	---	29.63	50.00	20.37	70.0	9.000	N	ON	19
20.41	36.36	---	60.00	23.64	70.0	9.000	N	ON	20
21.71	---	27.71	50.00	22.29	70.0	9.000	N	ON	20

Remark: Correct factor=cable loss + LISN factor

N line Conducted Emission from 150 KHz to 30 MHz

Antenna 3

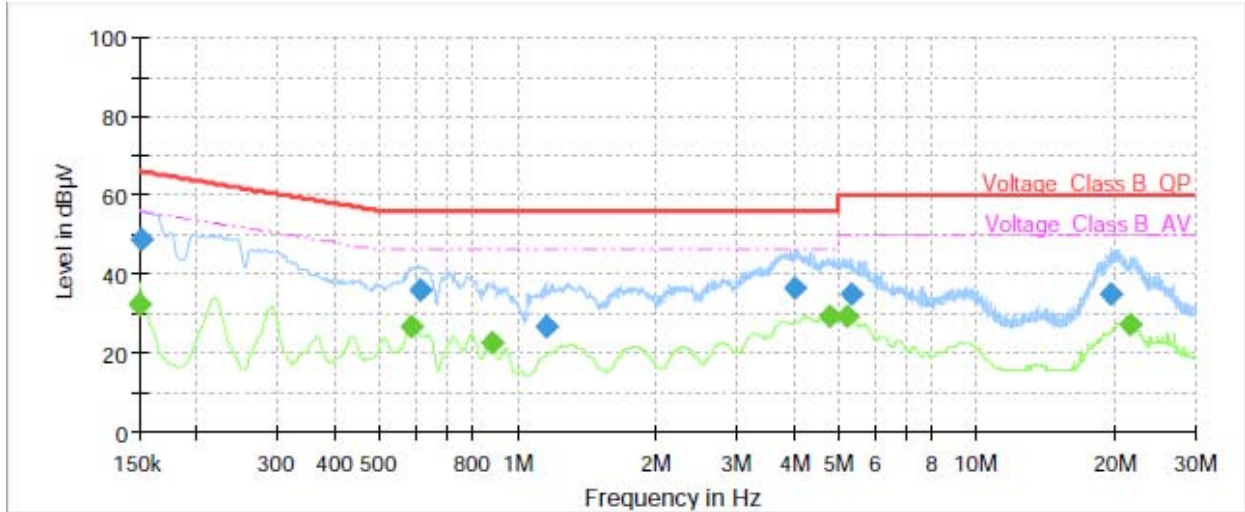
Following plots, Blue trace uses the peak detection and Green trace uses the average detection. During the test, the Conducted Emission was performed in all modes (WIFI 2.4G /Bluetooth LE) with all channels, 802.11b, Channel 6 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.15	---	38.17	56.00	17.83	70.0	9.000	L1	ON	21
0.16	50.34	---	65.40	15.06	70.0	9.000	L1	ON	21
0.59	---	28.85	46.00	17.15	70.0	9.000	L1	ON	20
0.60	36.52	---	56.00	19.48	70.0	9.000	L1	ON	20
0.88	---	23.74	46.00	22.26	70.0	9.000	L1	ON	20
0.89	30.53	---	56.00	25.47	70.0	9.000	L1	ON	20
3.98	36.79	---	56.00	19.21	70.0	9.000	L1	ON	19
4.79	---	30.35	46.00	15.65	70.0	9.000	L1	ON	19
5.21	---	30.19	50.00	19.81	70.0	9.000	L1	ON	19
5.26	36.08	---	60.00	23.92	70.0	9.000	L1	ON	19
18.93	---	32.18	50.00	17.82	70.0	9.000	L1	ON	20
18.96	43.54	---	60.00	16.46	70.0	9.000	L1	ON	20

Remark: Correct factor=cable loss + LISN factor

L line Conducted Emission from 150 KHz to 30 MHz



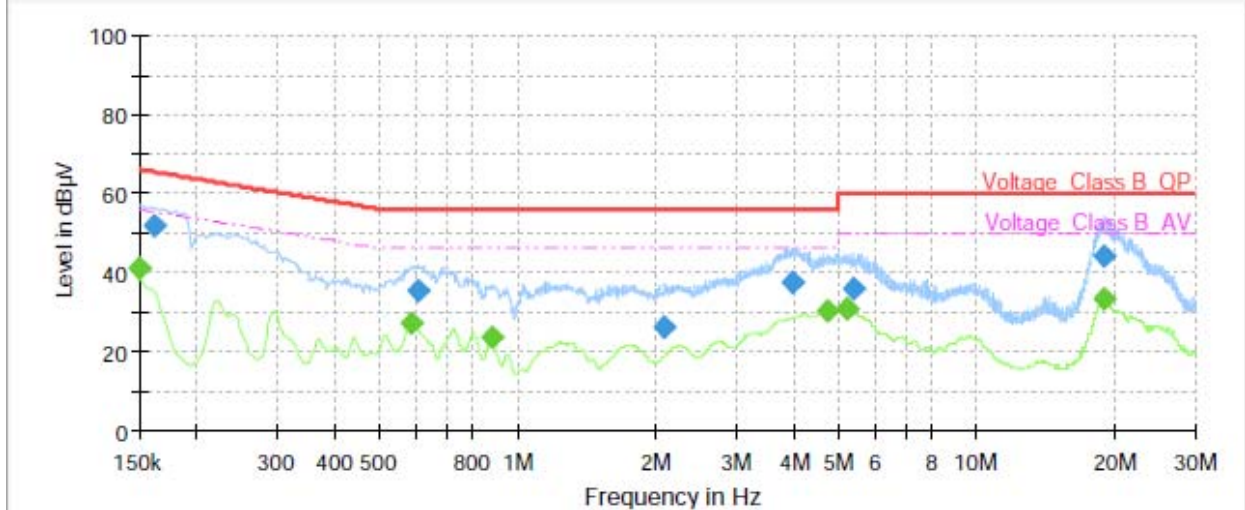
Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.15	---	32.32	56.00	23.68	70.0	9.000	N	ON	21
0.15	48.67	---	65.88	17.21	70.0	9.000	N	ON	21
0.59	---	26.78	46.00	19.22	70.0	9.000	N	ON	20
0.61	36.14	---	56.00	19.86	70.0	9.000	N	ON	20
0.88	---	22.33	46.00	23.67	70.0	9.000	N	ON	20
1.15	26.92	---	56.00	29.08	70.0	9.000	N	ON	20
4.03	36.27	---	56.00	19.73	70.0	9.000	N	ON	19
4.77	---	29.14	46.00	16.86	70.0	9.000	N	ON	19
5.22	---	29.06	50.00	20.94	70.0	9.000	N	ON	19
5.32	34.67	---	60.00	25.33	70.0	9.000	N	ON	19
19.69	35.06	---	60.00	24.94	70.0	9.000	N	ON	20
21.63	---	27.22	50.00	22.78	70.0	9.000	N	ON	20

Remark: Correct factor=cable loss + LISN factor

N line Conducted Emission from 150 KHz to 30 MHz

Antenna 4

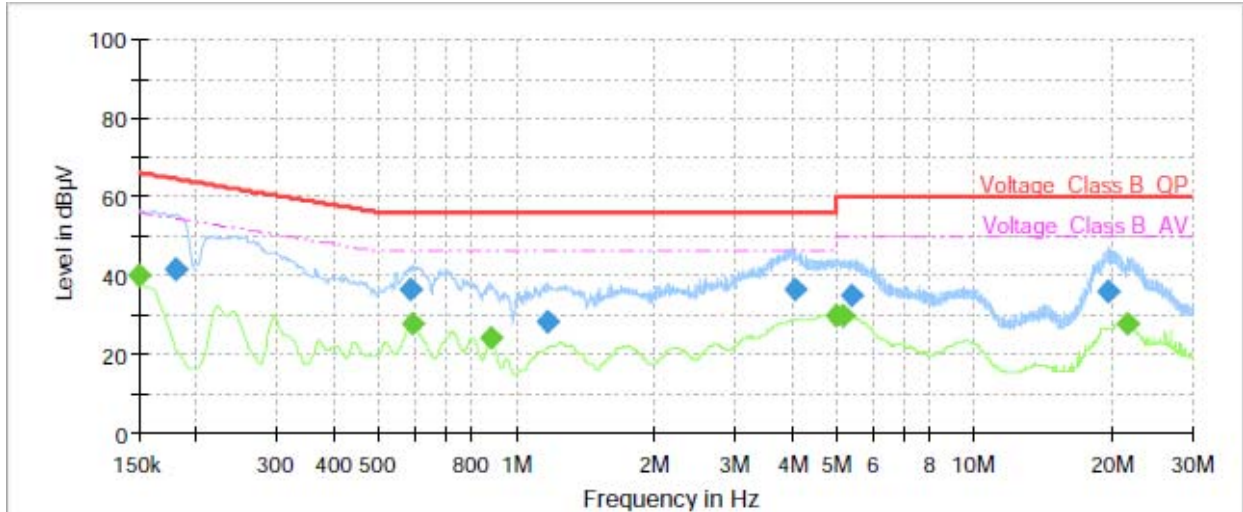
Following plots, Blue trace uses the peak detection and Green trace uses the average detection. During the test, the Conducted Emission was performed in all modes (WIFI 2.4G /Bluetooth LE) with all channels, 802.11b, Channel 6 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.15	---	40.94	56.00	15.06	70.0	9.000	L1	ON	21
0.16	51.91	---	65.40	13.49	70.0	9.000	L1	ON	21
0.59	---	27.20	46.00	18.80	70.0	9.000	L1	ON	20
0.61	35.53	---	56.00	20.47	70.0	9.000	L1	ON	20
0.88	---	23.45	46.00	22.55	70.0	9.000	L1	ON	20
2.08	25.95	---	56.00	30.05	70.0	9.000	L1	ON	20
3.98	37.52	---	56.00	18.48	70.0	9.000	L1	ON	19
4.74	---	30.17	46.00	15.83	70.0	9.000	L1	ON	19
5.21	---	30.89	50.00	19.11	70.0	9.000	L1	ON	19
5.39	36.00	---	60.00	24.00	70.0	9.000	L1	ON	19
19.00	---	33.25	50.00	16.75	70.0	9.000	L1	ON	20
19.05	43.94	---	60.00	16.06	70.0	9.000	L1	ON	20

Remark: Correct factor=cable loss + LISN factor

L line Conducted Emission from 150 KHz to 30 MHz



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.15	---	39.86	56.00	16.14	70.0	9.000	N	ON	21
0.18	41.55	---	64.42	22.87	70.0	9.000	N	ON	21
0.59	36.38	---	56.00	19.62	70.0	9.000	N	ON	20
0.59	---	27.62	46.00	18.38	70.0	9.000	N	ON	20
0.88	---	24.05	46.00	21.95	70.0	9.000	N	ON	20
1.16	28.22	---	56.00	27.78	70.0	9.000	N	ON	20
4.07	36.63	---	56.00	19.37	70.0	9.000	N	ON	19
5.00	---	29.55	46.00	16.45	70.0	9.000	N	ON	19
5.17	---	29.83	50.00	20.17	70.0	9.000	N	ON	19
5.40	35.04	---	60.00	24.96	70.0	9.000	N	ON	19
19.67	35.64	---	60.00	24.36	70.0	9.000	N	ON	20
21.67	---	27.60	50.00	22.40	70.0	9.000	N	ON	20

Remark: Correct factor=cable loss + LISN factor

N line Conducted Emission from 150 KHz to 30 MHz



6. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Spectrum Analyzer	R&S	FSV30	100815	2020-12-13	2021-12-12
EMI Test Receiver	R&S	ESCI	100948	2021-05-15	2022-05-14
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2020-04-02	2023-04-01
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	391	2019-12-16	2022-12-15
Horn Antenna	R&S	HF907	102723	2018-08-11	2021-08-10
Horn Antenna	ETS-Lindgren	3160-09	00102644	2018-06-20	2023-06-19
EMI Test Receiver	R&S	ESR	101667	2021-05-16	2022-05-15
LISN	R&S	ENV216	101171	2018-12-15	2021-12-14
Spectrum Analyzer	Agilent	N9010A	MY47191109	2021-05-15	2022-05-14
Power Meter	R&S	NRP2	104306	2021-05-15	2022-05-14
Power Sensor	R&S	NRP-Z21	104799	2021-05-15	2022-05-14
20dB Attenuator	Star River Highlight	UCL-TS2S-20	18013001	2020-12-14	2021-12-13
RF Cable	Agilent	SMA 15cm	0001	2021-06-12	2021-12-13
Software	R&S	EMC32	9.26.0	/	/

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



ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.



ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.



ANNEX C: Product Change Description

The Product Change Description are submitted separately.