RF TEST REPORT

Applicant	Xiaomi Communications Co, Ltd
FCC ID	2AFZZ-RMSG6S
Product	Mobile Phone
Brand	MI
Model	MDG6S
Report No.	RXA1708-0290RF10R1
Issue Date	September 27, 2017

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15C (2017)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Performed by: Xianqing Li *Approved by: Kai Xu*

TA Technology (Shanghai) Co., Ltd.

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Summary of measurement results

Number	Summary of measurements of results	Clause in FCC rules	Verdict
1	Maximum Average conducted output power	15.247(b)(3)	PASS
2	6 dB bandwidth	15.247(a)(2)	PASS
3	Power spectral density	15.247(e)	PASS
4	Band Edge	15.247(d)	PASS
5	Spurious RF Conducted Emissions	15.247(d)	PASS
6	Radiated Emissions in restricted frequency bands	15.247(d),15.205,15.209	PASS
7	Radiated Emissions	15.247(d),15.205,15.209	PASS
8	Conducted Emissions	15.207	PASS
Date of Testing: August 21, 2017~ September 12, 2017			

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. This report must not be used by the client to claim product certification, approval, or endorsement by any government agencies.

1.2. Test facility

CNAS (accreditation number: L2264)

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS).

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 electromagnetic emissions measurements.

IC (recognition number is 8510A)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Canada to perform electromagnetic emission measurement.

VCCI (recognition number is C-4595, T-2154, R-4113, G-10766)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Japan to perform electromagnetic emission measurement.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission 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
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E-mail:	xukai@ta-shanghai.com

2. General Description of Equipment under Test

Client Information

Applicant	Xiaomi Communications Co., Ltd.
Applicant address	The Rainbow City of China Resources,NO.68,Qinghe Middle Street,Haidian District,Beijing,China
Manufacturer	Xiaomi Communications Co., Ltd.
Manufacturer address	The Rainbow City of China Resources,NO.68,Qinghe Middle Street,Haidian District,Beijing,China

General information

EUT Description	
Model:	MDG6S
IMEI:	SIM 1: 865396030037523 SIM 2: 865396030037531
Hardware Version:	P2
Software Version:	MIUI9
Power Supply:	Battery/AC adapter
Antenna Type:	Internal Antenna
Antenna Connector:	A permanently attached antenna
Antenna Gain:	-0.98 dBi
Test Mode:	Bluetooth(Low Energy) 802.11b 802.11g, 802.11n(HT20);
Modulation Type:	BLE: GFSK 802.11b: DSSS; 802.11g/n(HT20): OFDM
Max. Conducted Power	Wi-Fi 2.4G : 14.06dBm BLE : -1.56 dBm
Operating Frequency Range(s)	802.11b/g/n(HT20): 2412 ~ 2462 MHz BLE: 2402 ~2480 MHz
EUT Accessory	
Adapter 1	Manufacturer: Jiangsu Chenyang Electron Co., Ltd. Model: MDY-08-EZ
Adapter 2	Manufacturer: DONGGUAN AOHAI POWER TECHNOLOGY CO., LTD. Model: MDY-08-EZ
USB Cable	Manufacturer:BOLUDE Model:A TO Micro-B Length: 1m
Note: The information of the EUT is declared by the manufacturer.	

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 (2017) Radio Frequency Devices**
- **ANSI C63.10 (2013)**
- **KDB 558074 D01 DTS Meas Guidance v04**

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 stand-up position (Z axis) 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.

Band	**Data Rate**
Bluetooth(Low Energy)	1Mbps
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0

Band	**T_{on} (ms)**	**$T_{(on+off)}$ (ms)**	**Duty cycle**	**Duty cycle correction Factor(dB)**
802.11b	8.224	8.416	0.977	0.100
802.11g	1.328	1.528	0.869	0.609
802.11n HT20	1.264	1.480	0.854	0.685
BLE	0.388	0.624	0.622	2.064
Note: when Duty cycle>0.98, Duty cycle correction Factor not required.				

5. Test Case Results

5.1. Average Power Output –Conducted

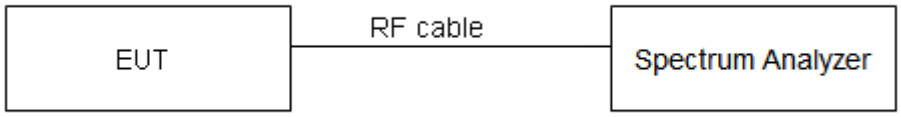
Ambient condition

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

Methods of Measurement

During the process of the testing, The EUT was connected to Spectrum Analyzer with a known loss. The EUT is max power transmission with proper modulation. The Average detector is used. We use Maximum Average Conducted Output Power Level Method in KDB 558074 D01 for this test.

Test Setup



Limits

Rule Part 15.247 (b) (3) specifies that " For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz: 1 Watt."

Average Output Power	≤ 1W (30dBm)

Measurement Uncertainty

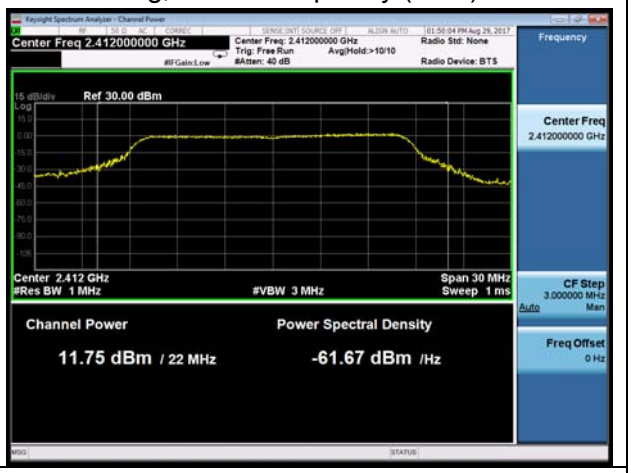
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.44 dB.

Test Results

Network Standards	Carrier frequency (MHz)	Average Output Power (dBm)	Limit (dBm)	Conclusion
802.11b	2412	13.86	30	PASS
	2437	13.71	30	PASS
	2462	14.06	30	PASS
802.11g	2412	12.36	30	PASS
	2437	12.98	30	PASS
	2462	12.77	30	PASS
802.11n HT20	2412	9.61	30	PASS
	2437	11.03	30	PASS
	2462	10.07	30	PASS
Bluetooth (Low Energy)	2402	-2.12	30	PASS
	2440	-1.56	30	PASS
	2480	-1.63	30	PASS
Note:Output Power=Read Value+Duty cycle correction factor				

802.11b, Carrier frequency (MHz): 2412

802.11g, Carrier frequency (MHz): 2412

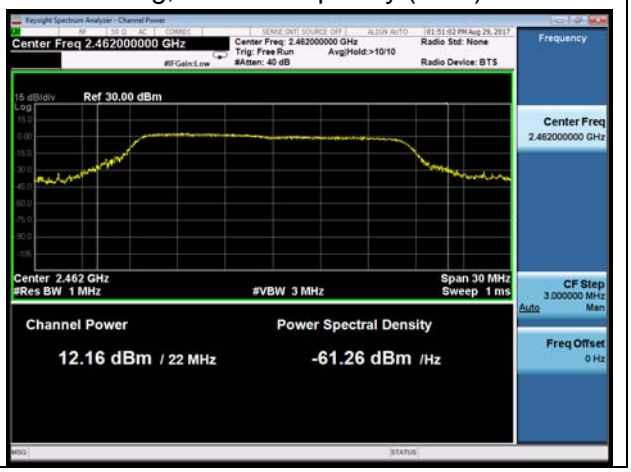


802.11b, Carrier frequency (MHz): 2437

802.11g, Carrier frequency (MHz): 2437

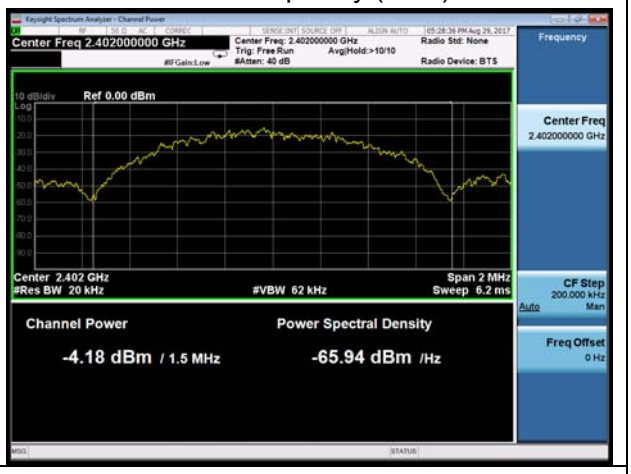
802.11b, Carrier frequency (MHz):2462

802.11g, Carrier frequency (MHz):2462



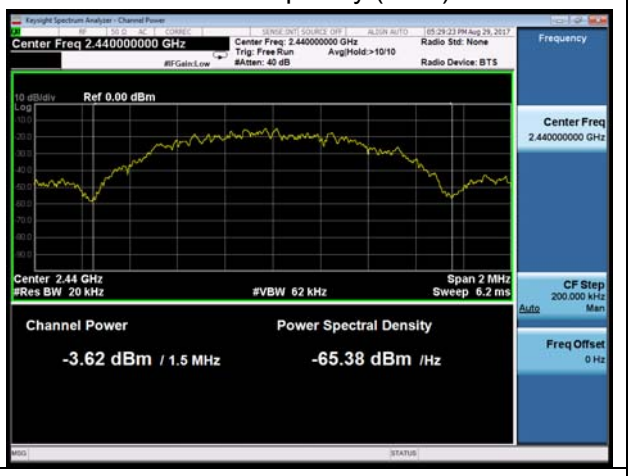
802.11n(HT20), Carrier frequency (MHz): 2412

BLE Carrier frequency (MHz): 2402

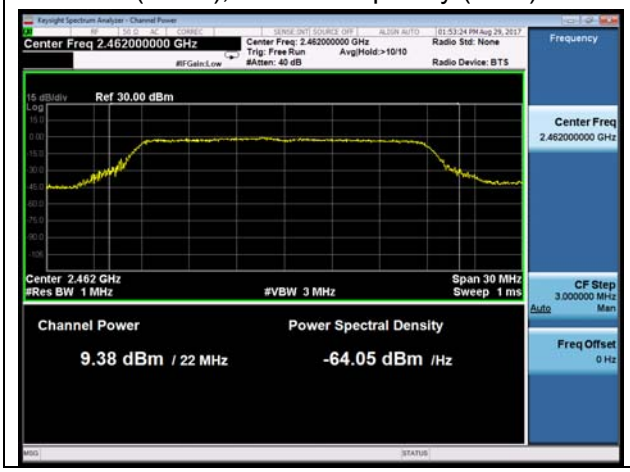


802.11n(HT20), Carrier frequency (MHz): 2437

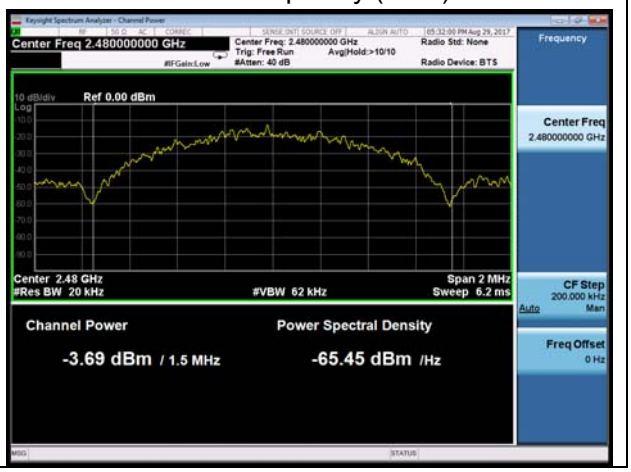
BLE Carrier frequency (MHz): 2440



802.11n(HT20), Carrier frequency (MHz):2462



BLE Carrier frequency (MHz): 2480



5.2. 6dB Bandwidth

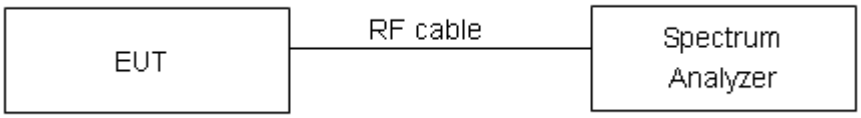
Ambient condition

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

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable. RBW is set to 100 kHz; VBW is set to 300 kHz on spectrum analyzer.

Test Setup



Limits

Rule Part 15.247 (a) (2) specifies that “Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.”

minimum 6 dB bandwidth	≥ 500 kHz

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 936 Hz.

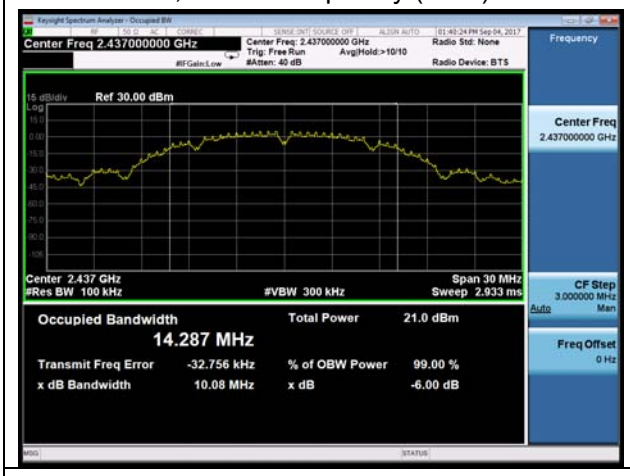
Test Results:

Network Standards	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11b	2412	14.196	9.583	500	PASS
	2437	14.287	10.08	500	PASS
	2462	13.933	9.090	500	PASS
802.11g	2412	16.594	16.11	500	PASS
	2437	16.652	16.38	500	PASS
	2462	16.484	15.76	500	PASS
802.11n HT20	2412	17.769	17.35	500	PASS
	2437	17.799	17.61	500	PASS
	2462	17.621	16.36	500	PASS
Bluetooth (Low Energy)	2402	1.0858	0.6775	500	PASS
	2440	1.0886	0.6784	500	PASS
	2480	1.0861	0.6719	500	PASS

802.11b, Carrier frequency (MHz): 2412

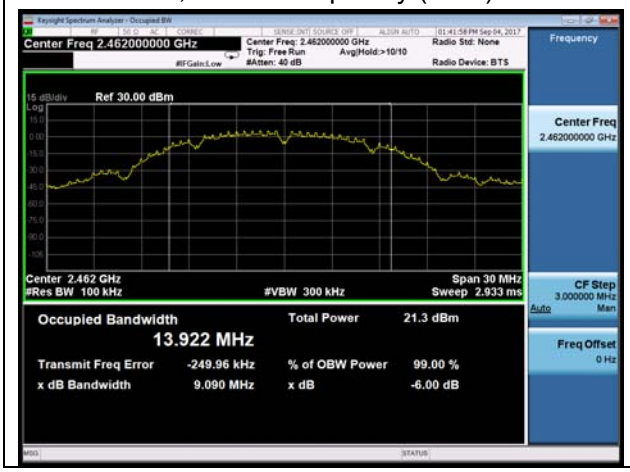
802.11g, Carrier frequency (MHz): 2412

802.11b, Carrier frequency (MHz): 2437



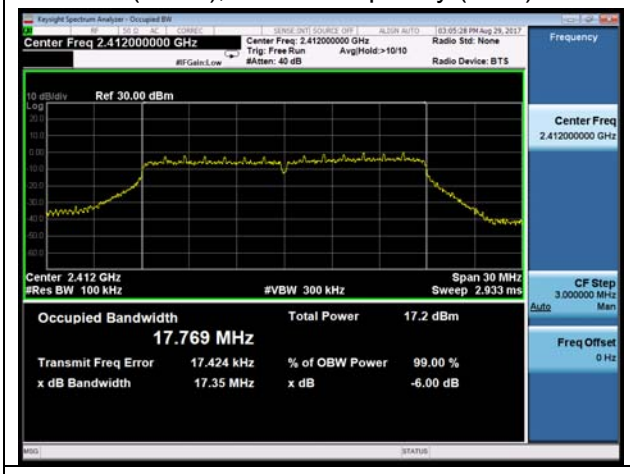
802.11g, Carrier frequency (MHz): 2437

802.11b, Carrier frequency (MHz):2462



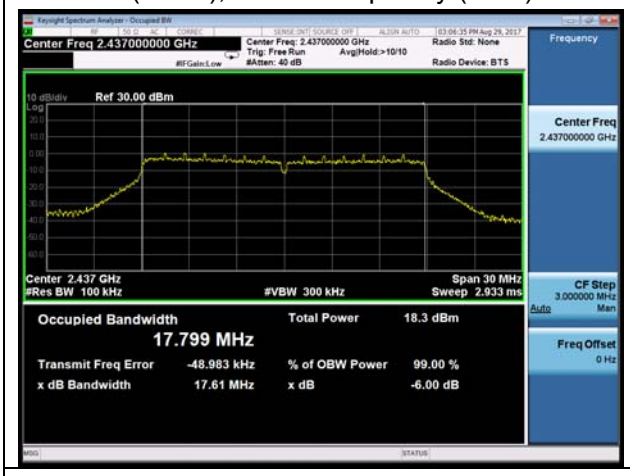
802.11g, Carrier frequency (MHz):2462

802.11n(HT20), Carrier frequency (MHz): 2412



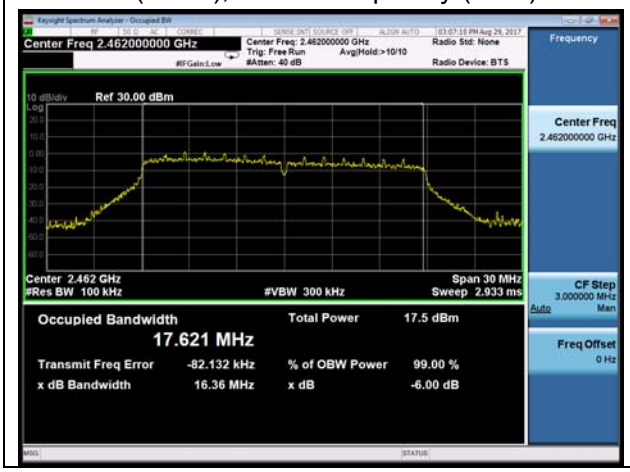
BLE Carrier frequency (MHz): 2402

802.11n(HT20), Carrier frequency (MHz): 2437



BLE Carrier frequency (MHz): 2440

802.11n(HT20), Carrier frequency (MHz):2462



BLE Carrier frequency (MHz): 2480

5.3. Band Edge

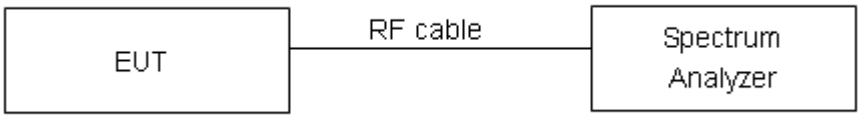
Ambient condition

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

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable the band edge of the lowest and highest channels were measured. The peak detector is used and RBW is set to 100 kHz and VBW is set to 300 kHz on spectrum analyzer. Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

Rule Part 15.247(d) specifies that “In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.”

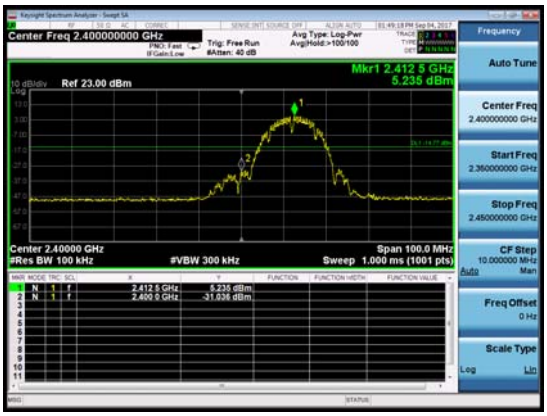
Measurement Uncertainty

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

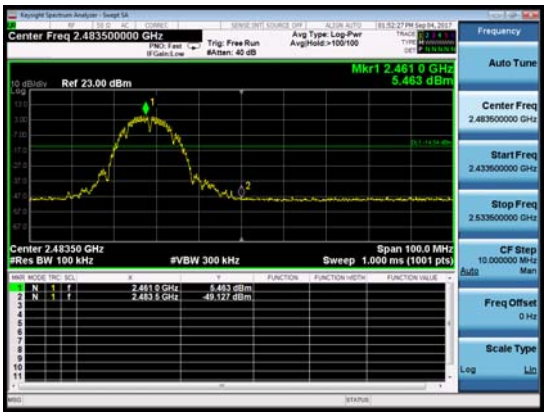
Frequency	Uncertainty
2GHz-3GHz	1.407 dB

Test Results: PASS

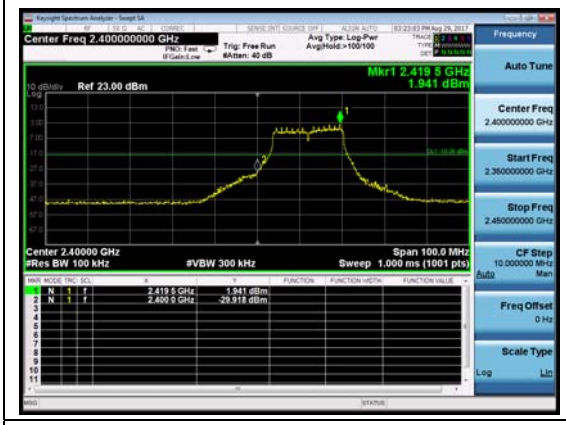
802.11b, Channel No.: 1



802.11b, Channel No.: 11

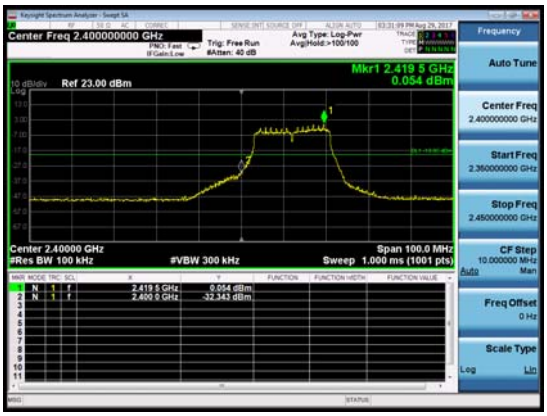


802.11g, Channel No.: 1



802.11g, Channel No.: 11

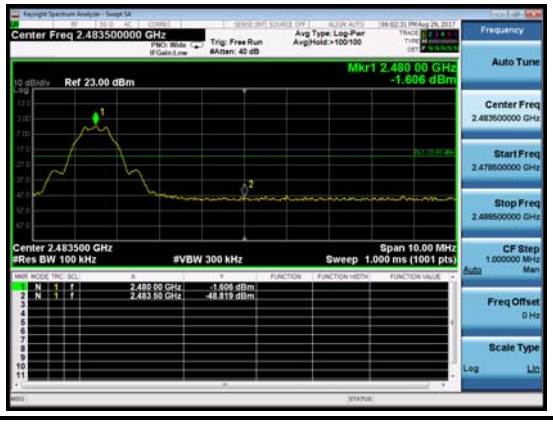
802.11n(HT20), Channel No.: 1



802.11n(HT20), Channel No.: 11

BLE, Channel No.: 0

BLE, Channel No.: 39



5.4. Power Spectral Density

Ambient condition

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

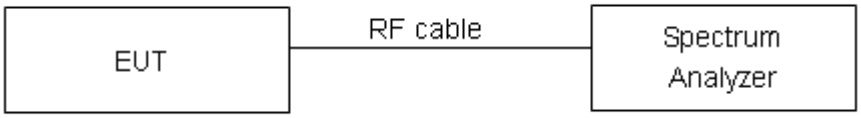
Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.

RBW is set to 3 kHz and VBW is set to 10 kHz for BLE/ Wi-Fi 2.4G on spectrum analyzer.

Set the span to 1.5 times the DTS channel bandwidth. Sweep time = auto couple. Trace mode = max hold. The Average power spectral density is recorded.

Test setup



Limits

Rule Part 15.247(e) specifies that" For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. ''

Limits	≤ 8 dBm / 3kHz

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.75dB.

Test Results:

Network Standards	Channel Number	Power Spectral Density (dBm / 3kHz)	Limit (dBm / 3kHz)	Conclusion
802.11b	1	-20.179	8	PASS
	6	-20.129	8	PASS
	11	-19.540	8	PASS
802.11g	1	-22.572	8	PASS
	6	-21.961	8	PASS
	11	-21.533	8	PASS
802.11n HT20	1	-24.743	8	PASS
	6	-24.190	8	PASS
	11	-23.684	8	PASS
Bluetooth (Low Energy)	0	-21.589	8	PASS
	19	-20.532	8	PASS
	39	-21.072	8	PASS
Note: Power Spectral Density =Read Value+Duty cycle correction factor				

802.11b, Channel No.: 1

802.11g, Channel No.: 1

802.11b, Channel No.: 6

802.11g, Channel No.: 6

802.11b, Channel No.: 11

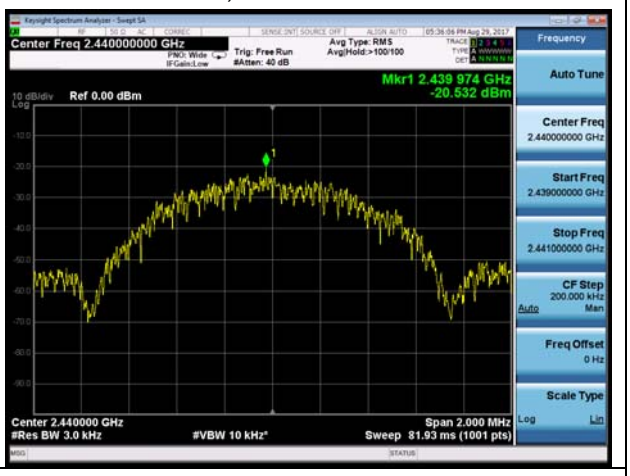
802.11g, Channel No.: 11

802.11n(HT20), Channel No. 1

BLE, Channel No.: 0

802.11n(HT20), Channel No. 6

BLE, Channel No.: 19



802.11n(HT20), Channel No. 11

BLE, Channel No.: 39

5.5. Spurious RF Conducted Emissions

Ambient condition

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

Method of Measurement

The EUT was connected to the spectrum analyzer with a known loss. The spectrum analyzer scans from 30MHz to the 10th harmonic of the carrier. The peak detector is used. Set RBW to100kHz and VBW to 300 kHz, Sweep is set to ATUO.

The test is in transmitting mode.

Test setup

Limits

Rule Part 15.247(d) pacifies that “In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.”

Network Standards	Carrier frequency (MHz)	Reference value (dBm)	Limit
802.11b	2412	11.687	-8.313
	2437	12.014	-7.986
	2462	10.342	-9.658
802.11g	2412	10.465	-9.535
	2437	11.213	-8.787
	2462	8.822	-11.178
802.11n HT20	2412	11.024	-8.976
	2437	11.221	-8.779
	2462	8.482	-11.518
Bluetooth (Low Energy)	2402	-4.196	-24.196
	2440	-2.581	-22.581
	2480	-2.831	-22.831

Measurement Uncertainty

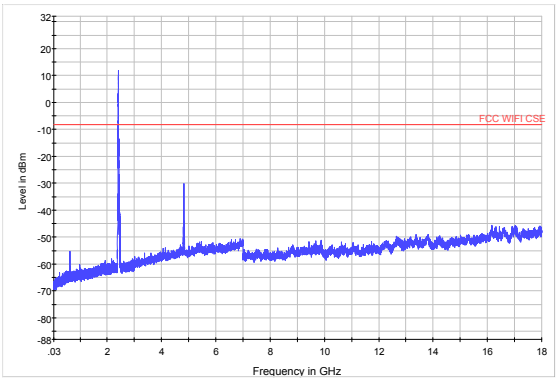
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96.

Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-26GHz	1.407 dB

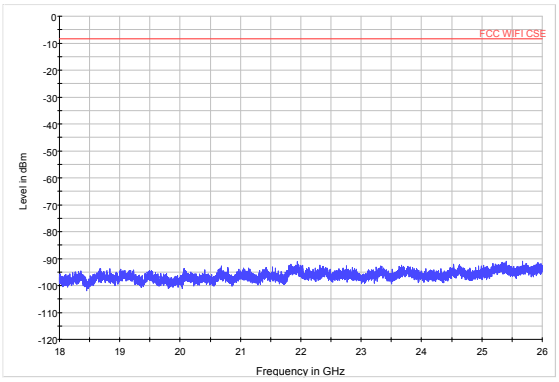
Test Results:

If disturbances were found more than 20dB below limit line, the mark is not required for the EUT.

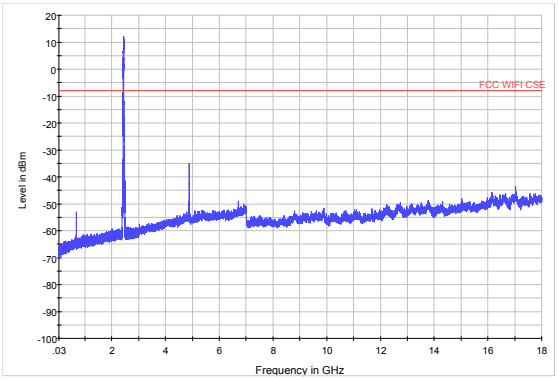
The signal beyond the limit is carrier.



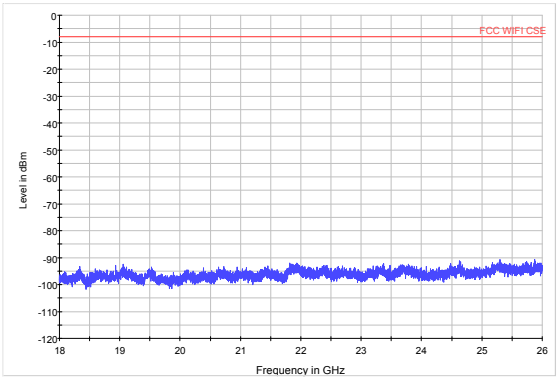
802.11b CH1 30MHz to 18GHz



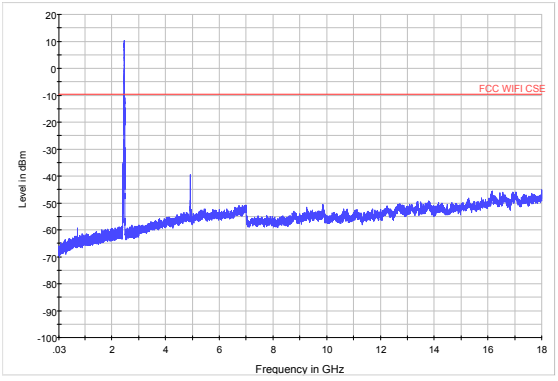
802.11b CH1 18GHz to 26.5GHz



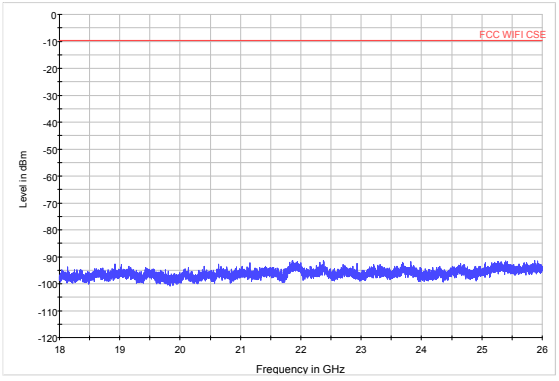
802.11b CH6 30MHz to 18GHz



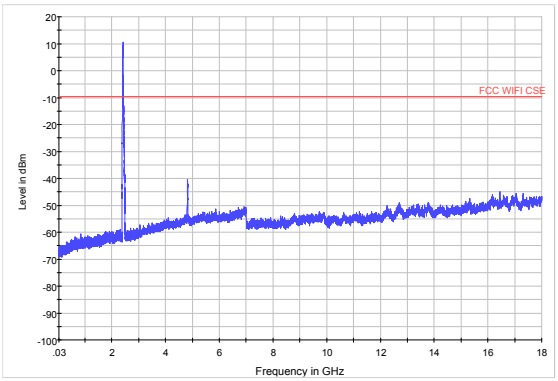
802.11b CH6 18GHz to 26.5GHz



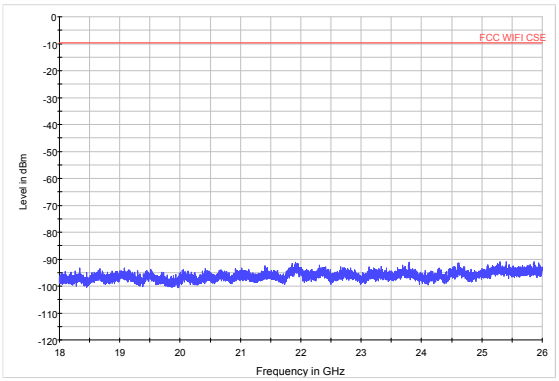
802.11b CH11 30MHz to 18GHz



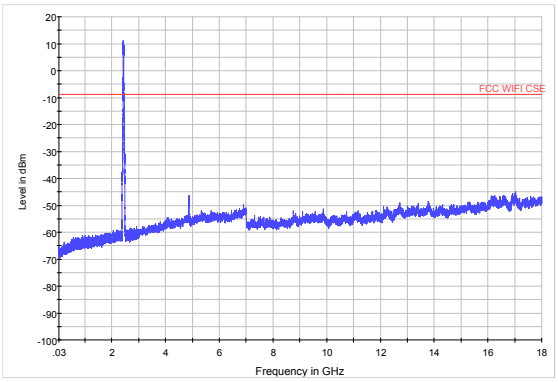
802.11b CH11 18GHz to 26.5GHz



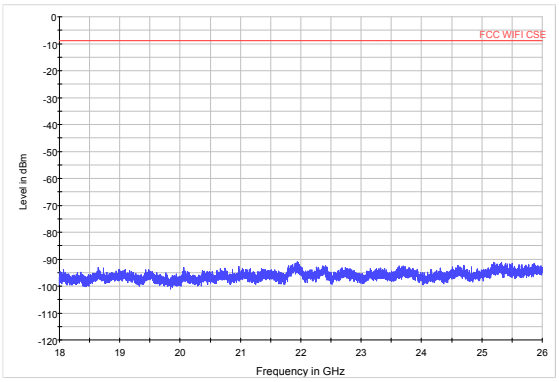
802.11g CH1 30MHz to 18GHz



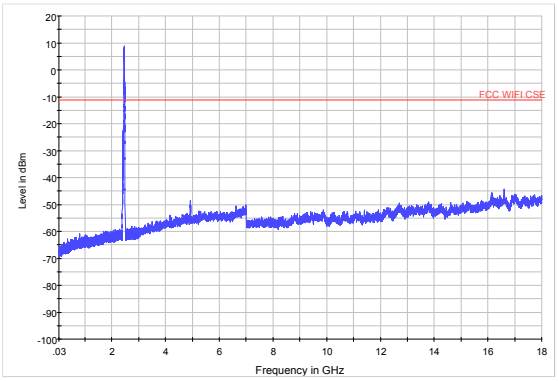
802.11b CH1 18GHz to 26.5GHz



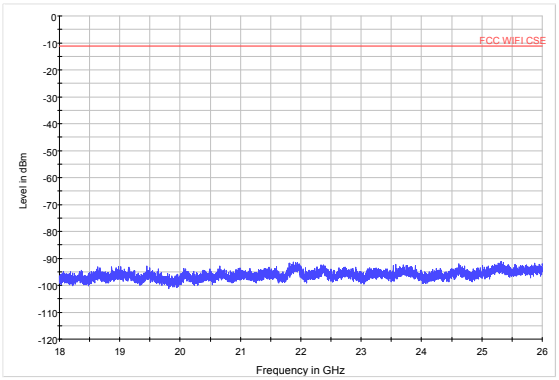
802.11g CH6 30MHz to 18GHz



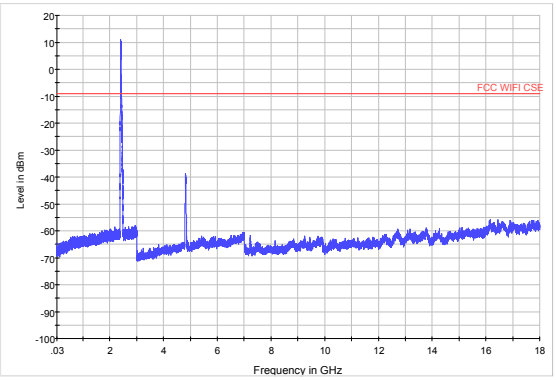
802.11b CH6 18GHz to 26.5GHz



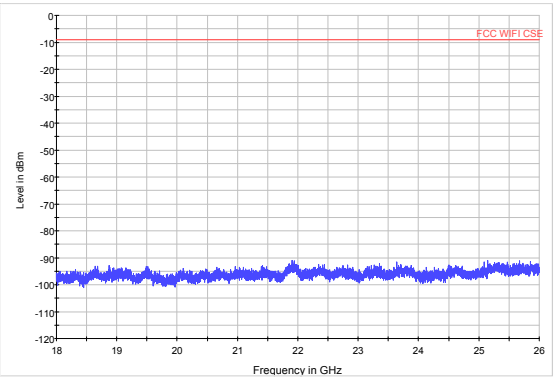
802.11g CH11 30MHz to 18GHz



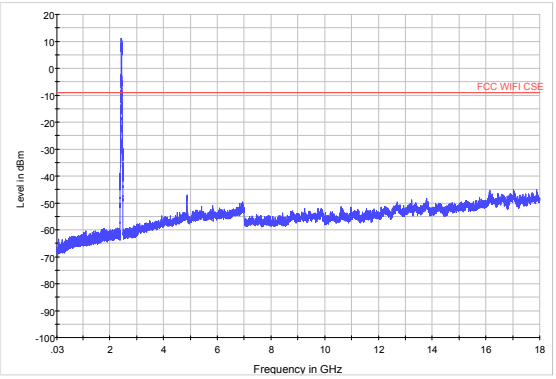
802.11b CH11 18GHz to 26.5GHz



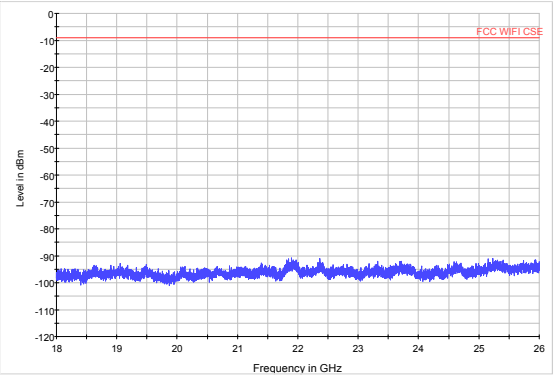
802.11n (HT20) CH1 30MHz to 18GHz



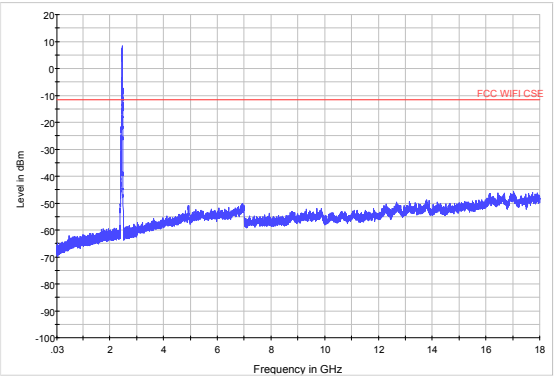
802.11n (HT20) CH1 18GHz to 26.5GHz



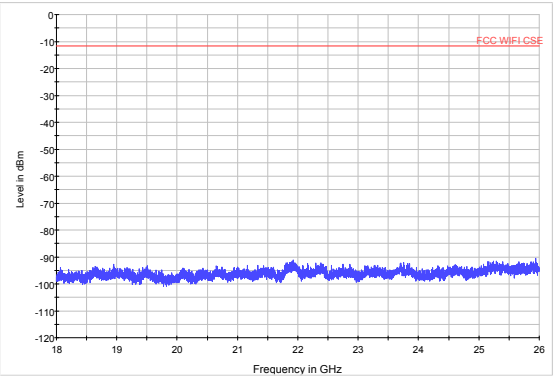
802.11n (HT20) CH6 30MHz to 18GHz



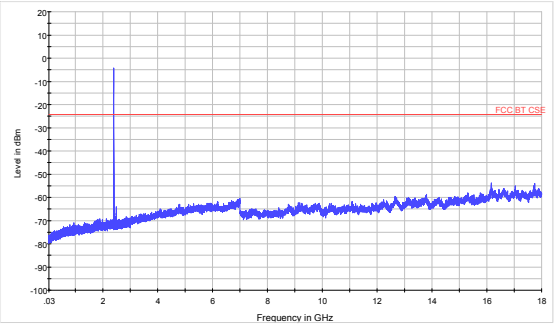
802.11n (HT20) CH6 18GHz to 26.5GHz



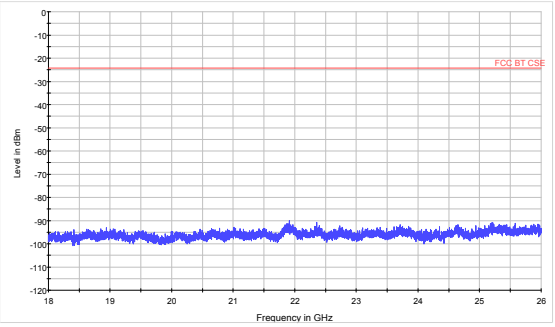
802.11n (HT20) CH11 30MHz to 18GHz



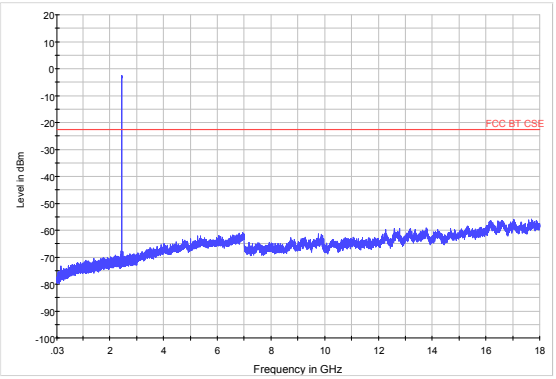
802.11n (HT20) CH11 18GHz to 26.5GHz



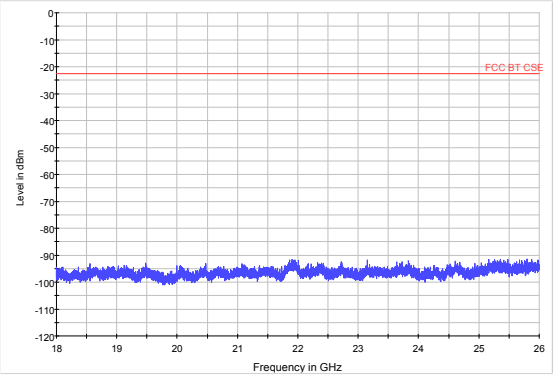
BLE CH0 30MHz to 18GHz



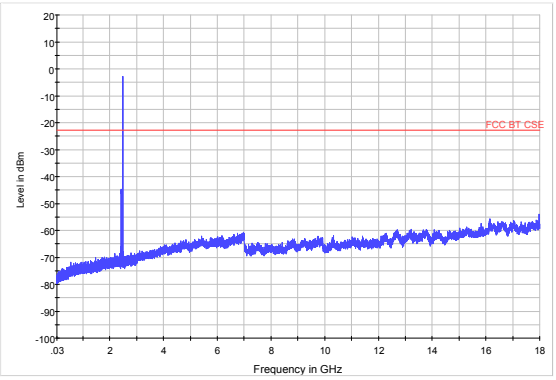
BLE CH0 18GHz to 26.5GHz



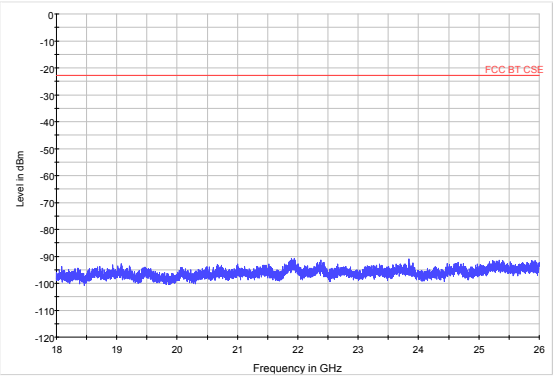
BLE CH19 30MHz to 18GHz



BLE CH19 18GHz to 26.5GHz



BLE CH39 30MHz to 18GHz



BLE CH39 18GHz to 26.5GHz

5.6. Radiated Emissions in the Restricted Band

Ambient condition

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

Method of Measurement

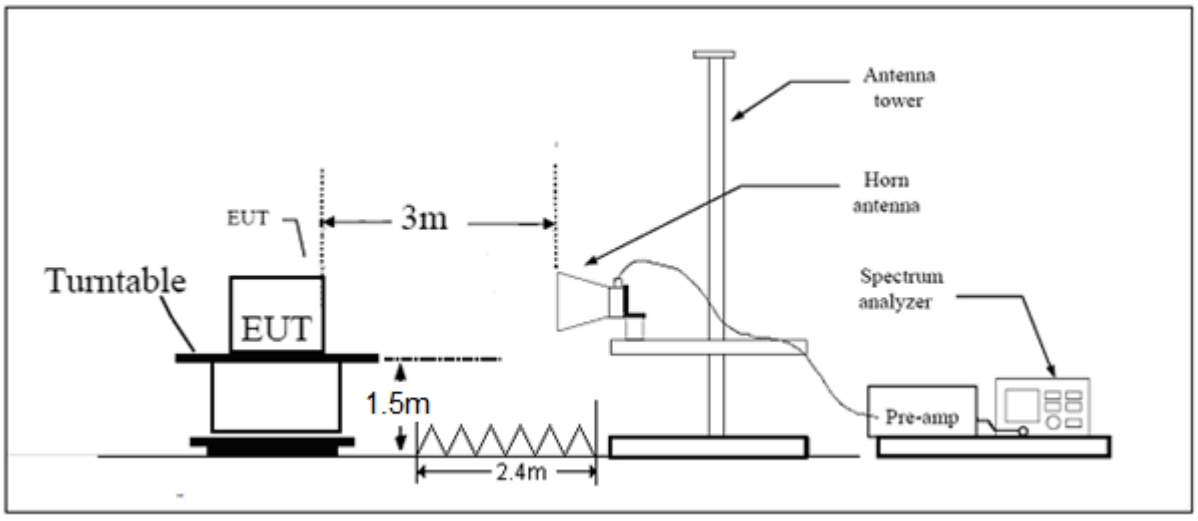
The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. RBW is set to 100kHz.The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing. Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

Set the spectrum analyzer in the following:
(a) PEAK: RBW=1MHz /VBW=3MHz / Sweep=AUTO
(b) AVERAGE: RBW=1MHz /VBW=3MHz / Sweep=AUTO
This setting method can refer to **KDB 558074.**

The field strength of spurious 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 stand-up position (Y axis) and the antenna is vertical.

The test is in transmitting mode.

Test setup



Note: Area side: 2.4mX3.6m

Limits

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			

Limit in restricted band

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
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

Measurement Uncertainty

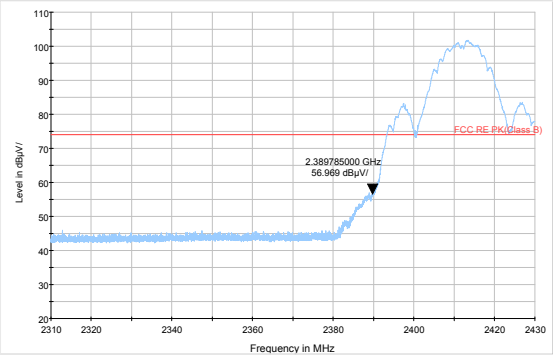
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96, U= 3.55 dB.

Test Results:

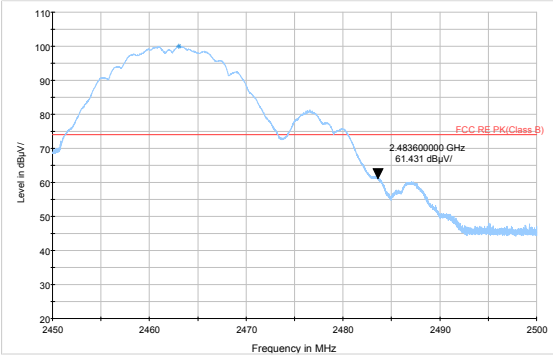
PASS

The signal beyond the limit is carrier.

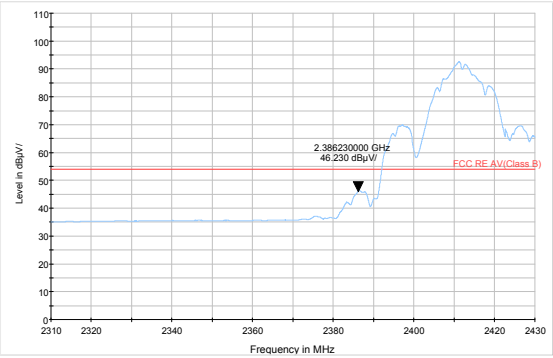
802.11b-Channel 1: Peak



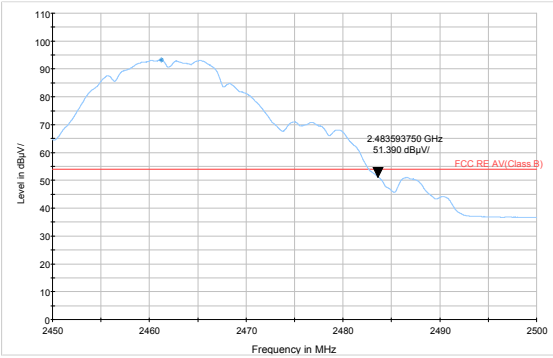
802.11b-Channel 11: Peak



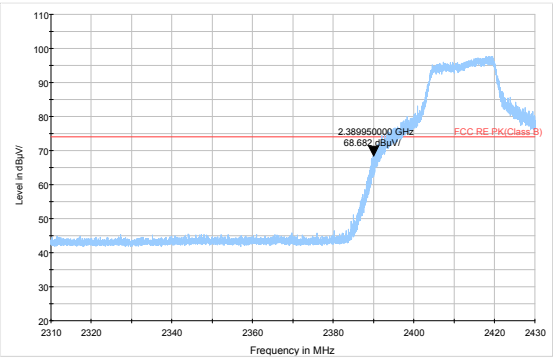
802.11b-Channel 1: Average



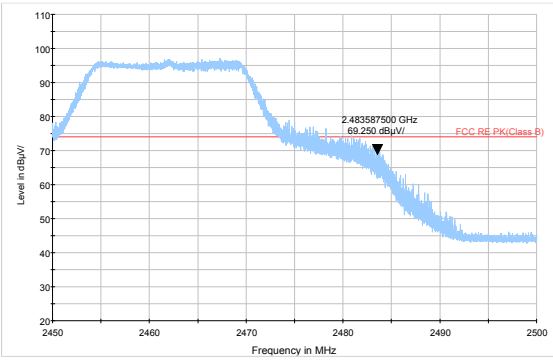
802.11b-Channel 11: Average



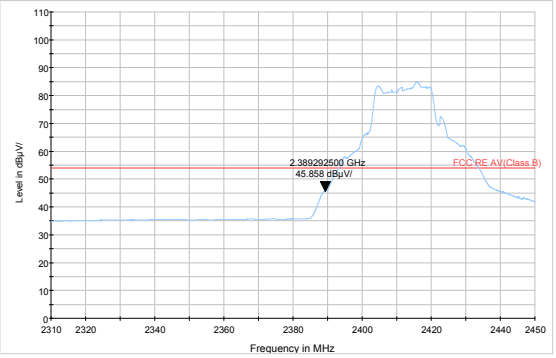
802.11g-Channel 1: Peak



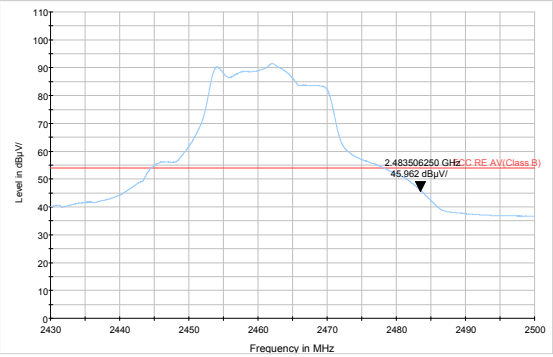
802.11g-Channel 11: Peak



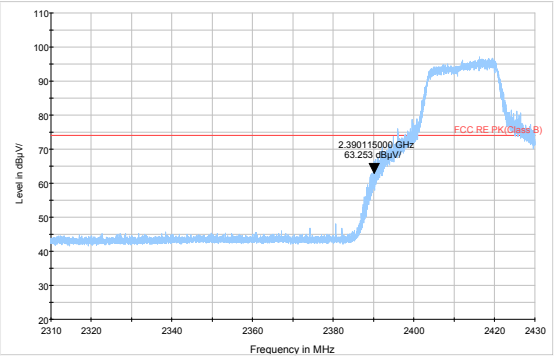
802.11g-Channel 1: Average



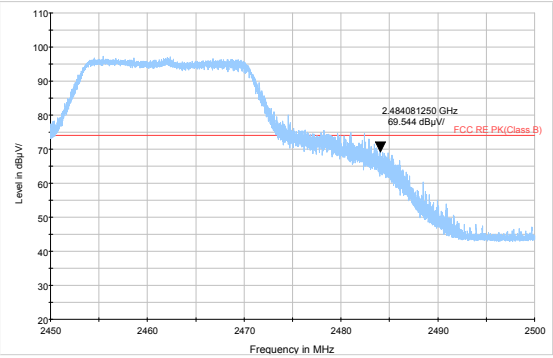
802.11g-Channel 11: Average



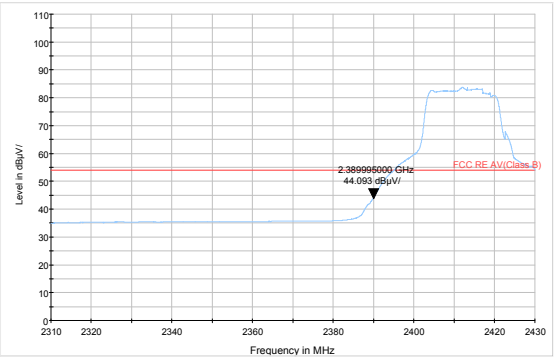
802.11n HT20 -Channel 1: Peak



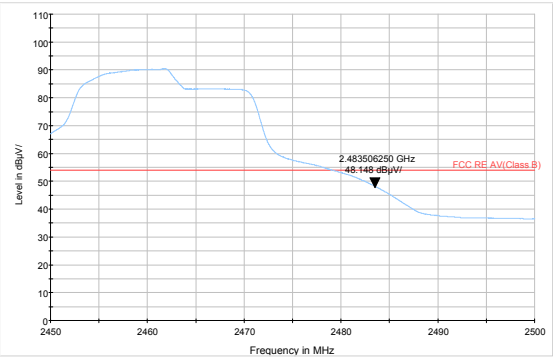
802.11n HT20-Channel 11: Peak



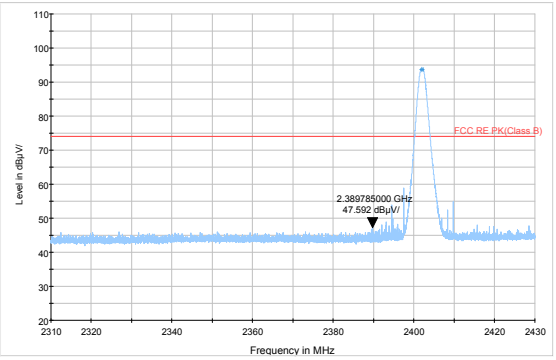
802.11n HT20-Channel 1: Average



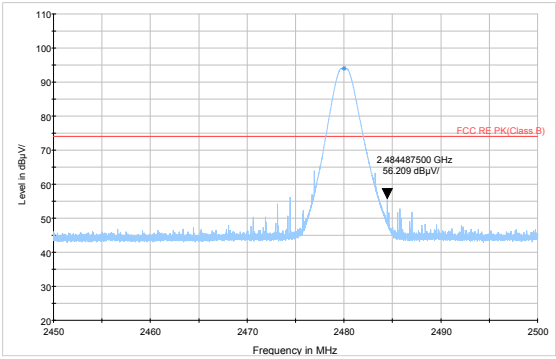
802.11n HT20-Channel 11: Average



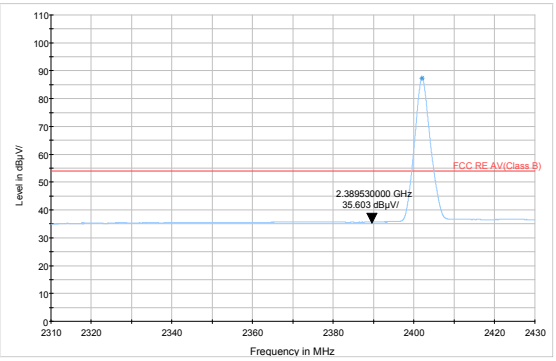
BLE -Channel 0: Peak



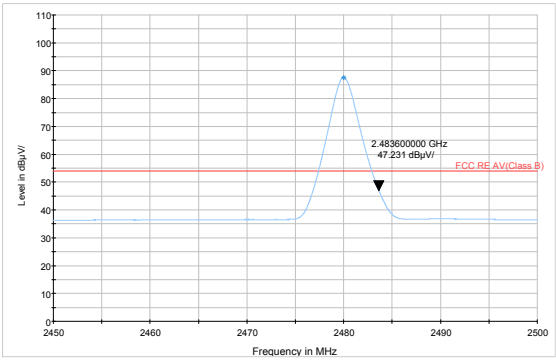
BLE -Channel 39: Peak



BLE -Channel 0: Average



BLE -Channel 39: Average



5.7. Radiates 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 C63.10-2013.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 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.

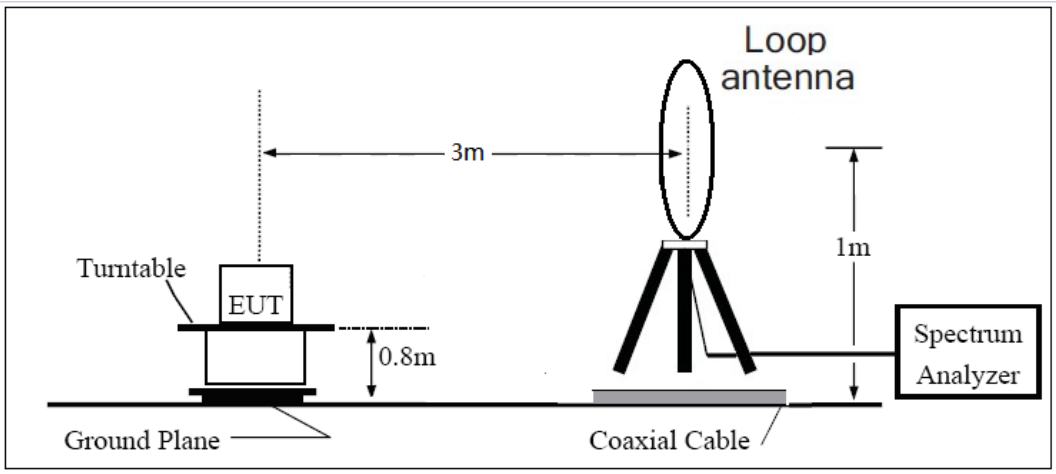
During the test, below 30MHz, the center of the loop shall be 1 meters; above 30MHz, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum 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.
Set the spectrum analyzer in the following:
Below 1GHz (detector: Peak and Quasi-Peak)
RBW=100 kHz / VBW=300 kHz / Sweep=AUTO
Above 1GHz (detector: Peak):
(a) PEAK: RBW=1MHz / VBW=3MHz/ Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO

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 stand-up position (Z axis) and the worst case was recorded.

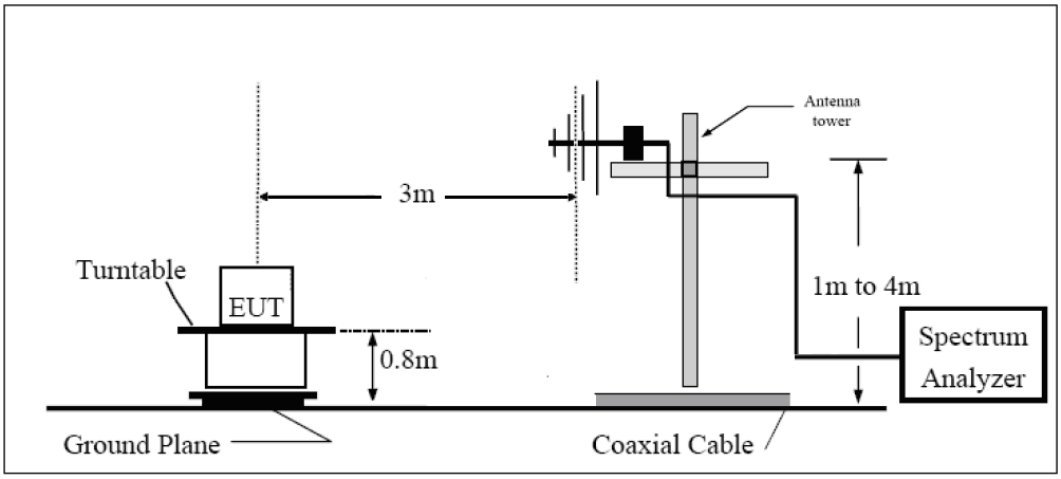
The test is in transmitting mode.

Test setup

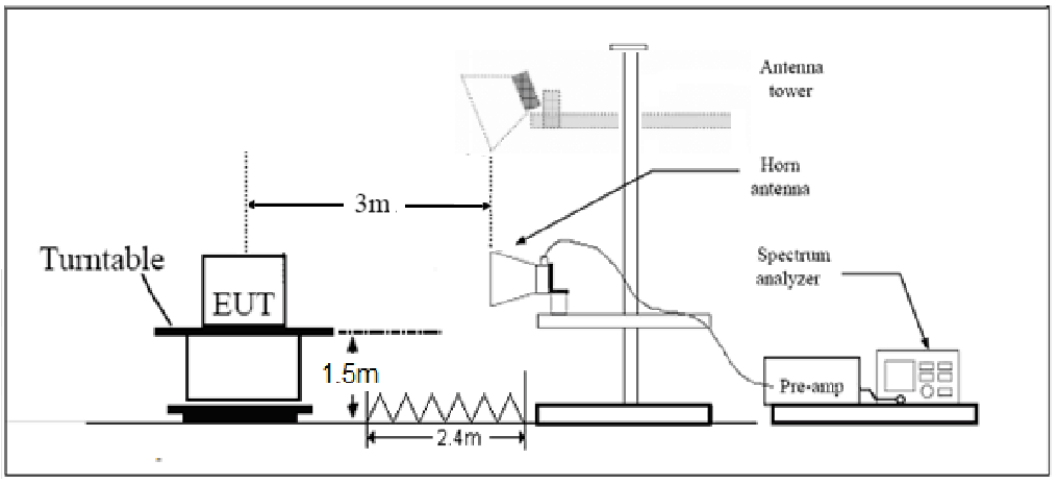
9KHz ~ 30MHz



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.

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	4.19 dB
200MHz-1GHz	3.63 dB
Above 1GHz	3.68 dB

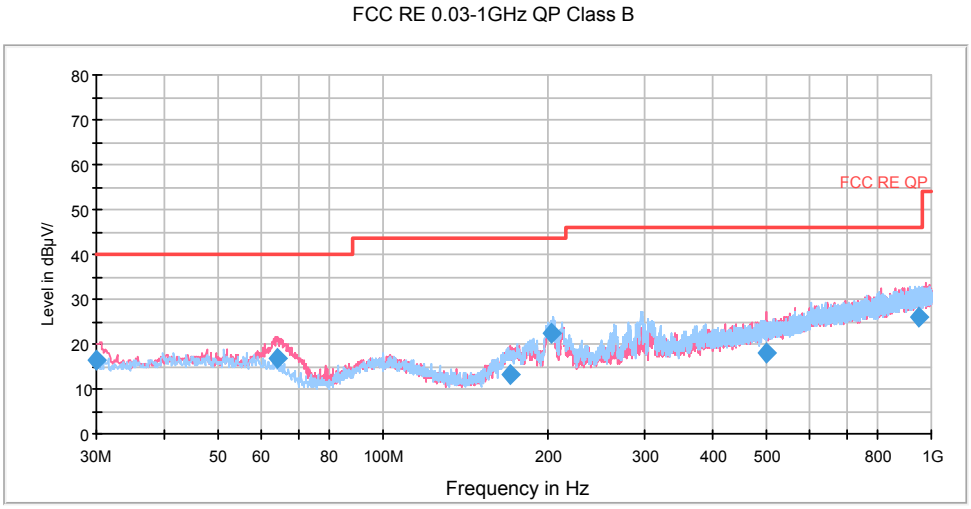
Test result

Sweep from 9 kHz to 30MHz, and the emissions more than 20 dB below the permissible value 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.

Continuous TX mode:



WIFI Radiates Emission from 30MHz to 1GHz

802.11b CH1

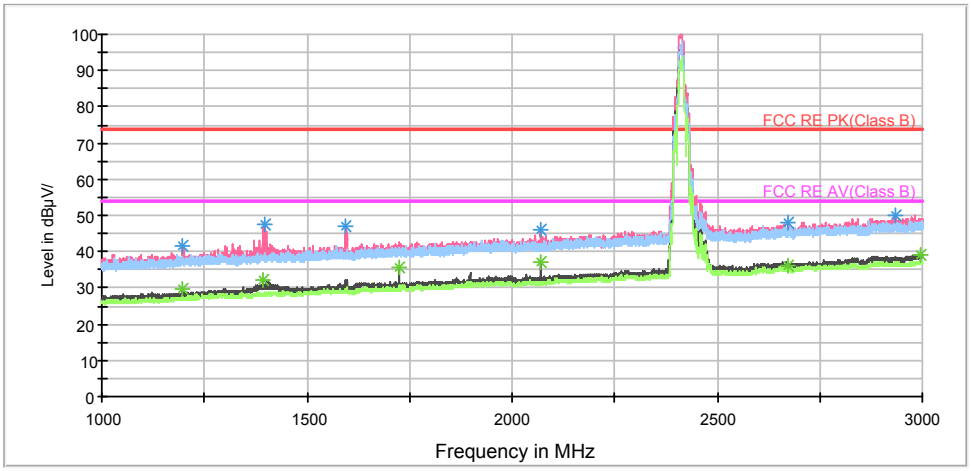
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1198.250000	41.5	102.0	V	354.0	49.7	-8.2	32.5	74
1395.750000	47.5	102.0	V	354.0	54.6	-7.1	26.5	74
1596.000000	47.0	102.0	V	344.0	53.4	-6.4	27.0	74
2070.250000	46.1	102.0	V	333.0	49.2	-3.1	27.9	74
2674.500000	47.8	102.0	V	333.0	47.6	0.2	26.2	74
2936.000000	50.1	102.0	V	322.0	48.3	1.8	23.9	74

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

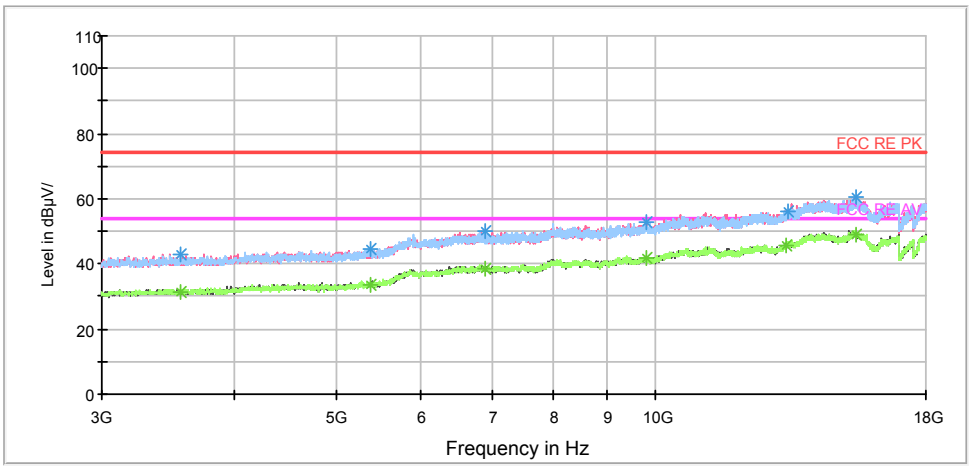
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1197.250000	29.6	102.0	V	256.0	37.8	-8.2	24.4	54
1394.750000	32.3	102.0	V	193.0	39.4	-7.1	21.7	54
1725.000000	35.5	102.0	V	333.0	40.5	-5.0	18.5	54
2070.000000	36.9	102.0	V	333.0	40.0	-3.1	17.1	54
2674.500000	35.9	102.0	V	333.0	35.7	0.2	18.1	54
2997.500000	39.3	102.0	V	322.0	37.0	2.3	14.7	54

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

RE 1G-3GHz PK+AV

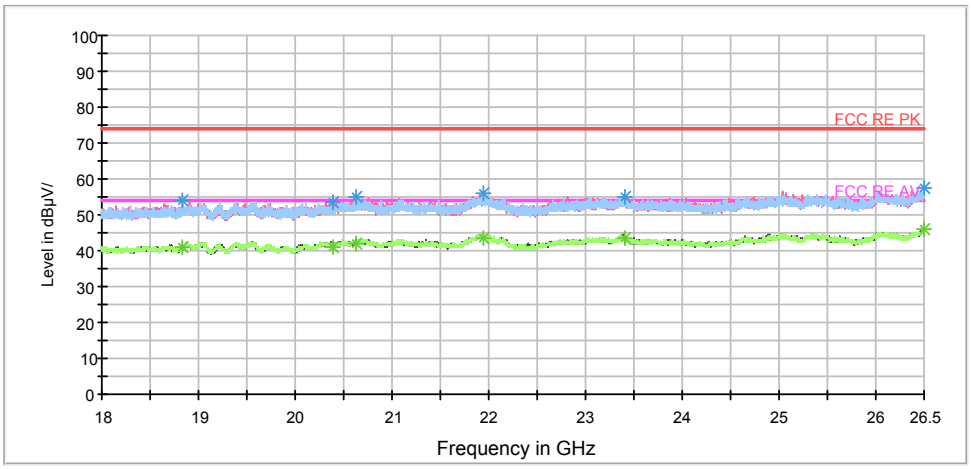


Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

802.11b CH6

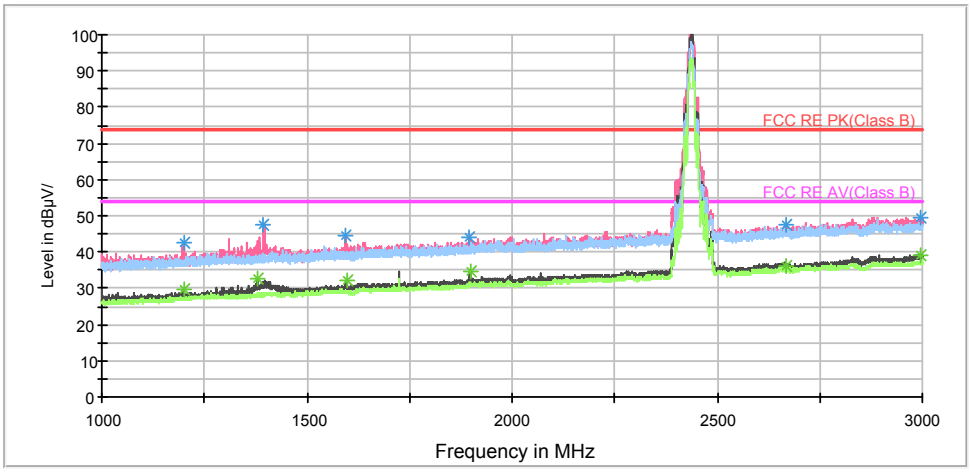
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1199.500000	42.5	102.0	V	240.0	50.7	-8.2	31.5	74
1395.000000	47.7	102.0	V	342.0	54.8	-7.1	26.3	74
1594.000000	44.5	102.0	V	342.0	50.9	-6.4	29.5	74
1896.250000	43.8	102.0	V	332.0	47.7	-3.9	30.2	74
2667.000000	47.3	102.0	V	321.0	47.0	0.3	26.7	74
2996.500000	49.7	102.0	V	353.0	47.4	2.3	24.3	74

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

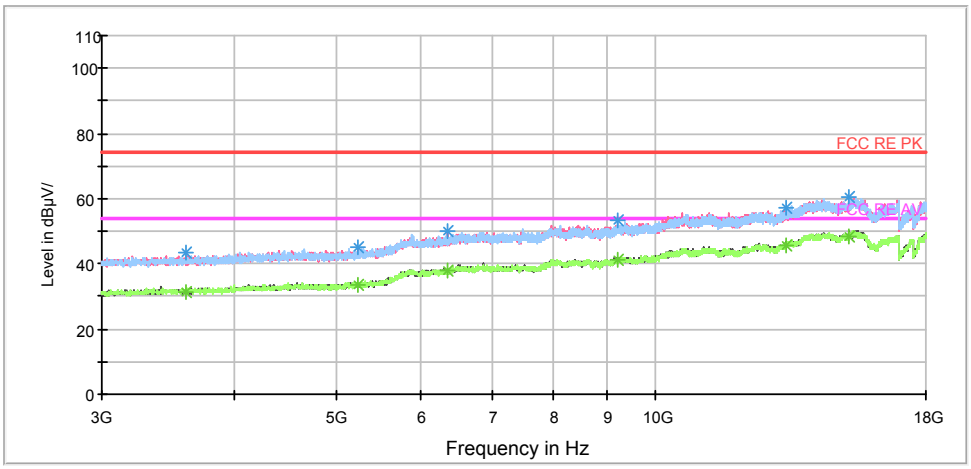
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1198.750000	29.5	102.0	V	0.0	37.7	-8.2	24.5	54
1379.750000	32.7	102.0	V	342.0	39.7	-7.0	21.3	54
1598.750000	32.2	102.0	V	0.0	38.6	-6.4	21.8	54
1897.500000	34.5	102.0	V	353.0	38.4	-3.9	19.5	54
2667.000000	36.0	102.0	V	321.0	35.7	0.3	18.0	54
2996.000000	39.2	102.0	V	332.0	36.9	2.3	14.8	54

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

RE 1G-3GHz PK+AV

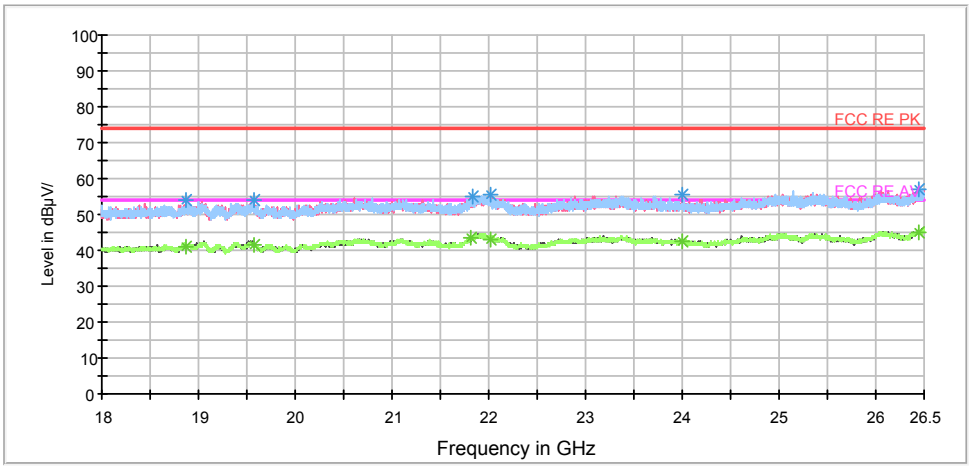


Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

802.11b CH11

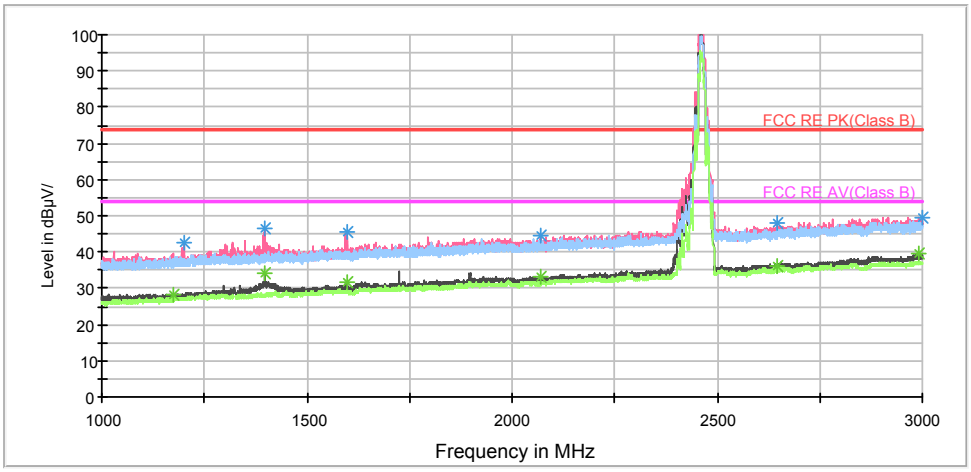
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1199.500000	42.4	102.0	V	331.0	50.6	-8.2	31.6	74
1395.750000	46.6	102.0	V	184.0	53.7	-7.1	27.4	74
1596.250000	45.3	102.0	V	0.0	51.7	-6.4	28.7	74
2070.250000	44.7	102.0	V	320.0	47.8	-3.1	29.3	74
2646.000000	48.1	102.0	V	0.0	47.8	0.3	25.9	74
2999.750000	49.6	102.0	V	341.0	47.3	2.3	24.4	74

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

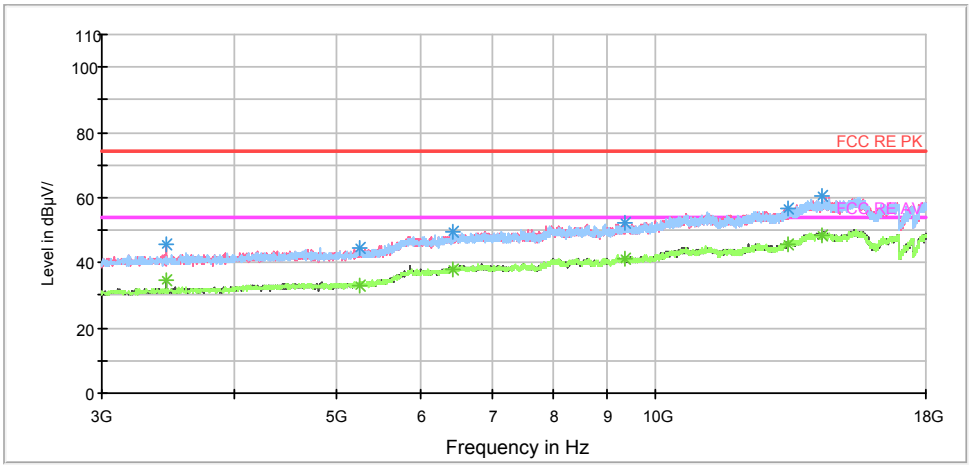
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1173.500000	28.5	102.0	V	0.0	36.6	-8.1	25.5	54
1396.000000	34.2	102.0	V	184.0	41.3	-7.1	19.8	54
1596.250000	31.5	102.0	V	0.0	37.9	-6.4	22.5	54
2070.000000	33.3	102.0	V	320.0	36.4	-3.1	20.7	54
2646.000000	36.1	102.0	V	0.0	35.8	0.3	17.9	54
2992.750000	39.4	102.0	V	320.0	37.2	2.2	14.6	54

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

RE 1G-3GHz PK+AV

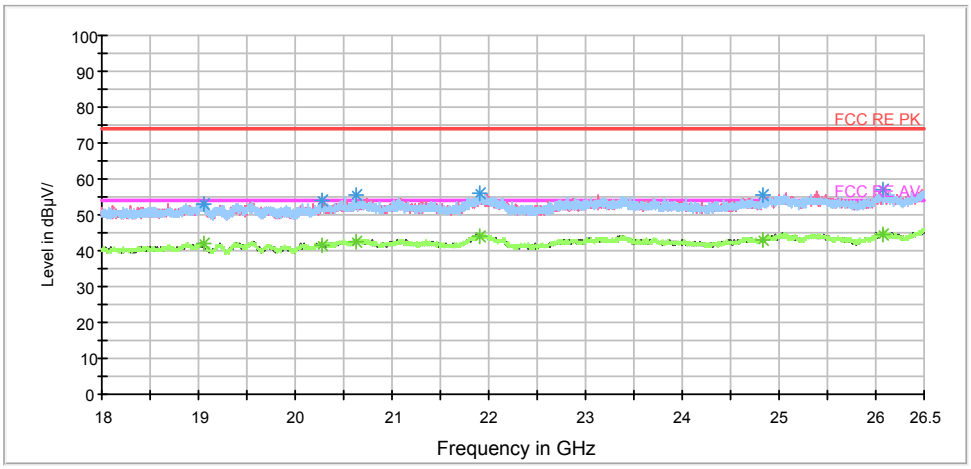


Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

802.11g CH1

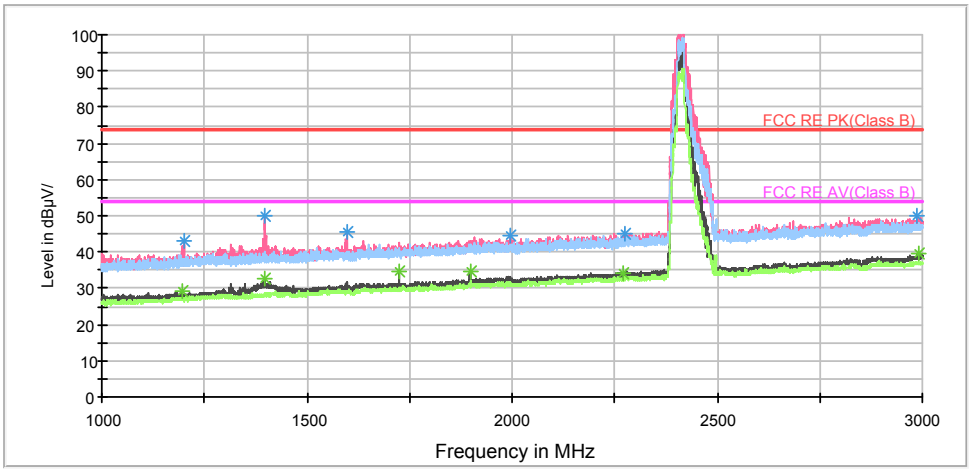
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1199.500000	43.0	102.0	V	259.0	51.2	-8.2	31.0	74
1397.500000	50.2	102.0	V	340.0	57.3	-7.1	23.8	74
1597.750000	45.4	102.0	V	349.0	51.8	-6.4	28.6	74
1995.500000	44.5	102.0	V	0.0	47.7	-3.2	29.5	74
2275.500000	45.2	102.0	V	0.0	46.7	-1.5	28.8	74
2987.750000	49.9	102.0	V	349.0	47.7	2.2	24.1	74

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

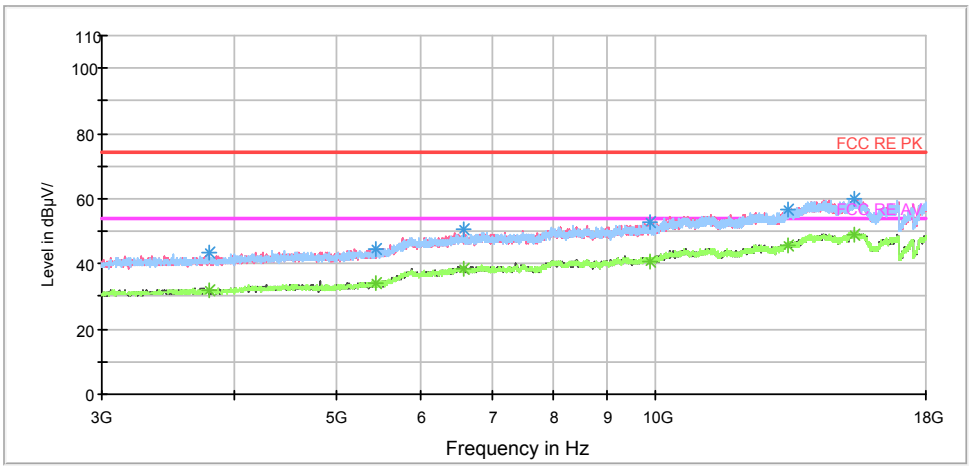
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1194.500000	29.1	102.0	V	358.0	37.3	-8.2	24.9	54
1395.500000	32.8	102.0	V	349.0	39.9	-7.1	21.2	54
1725.000000	34.9	102.0	V	272.0	39.9	-5.0	19.1	54
1897.750000	34.7	102.0	V	340.0	38.5	-3.8	19.3	54
2271.750000	34.0	102.0	V	0.0	35.6	-1.6	20.0	54
2992.500000	39.4	102.0	V	0.0	37.2	2.2	14.6	54

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

RE 1G-3GHz PK+AV

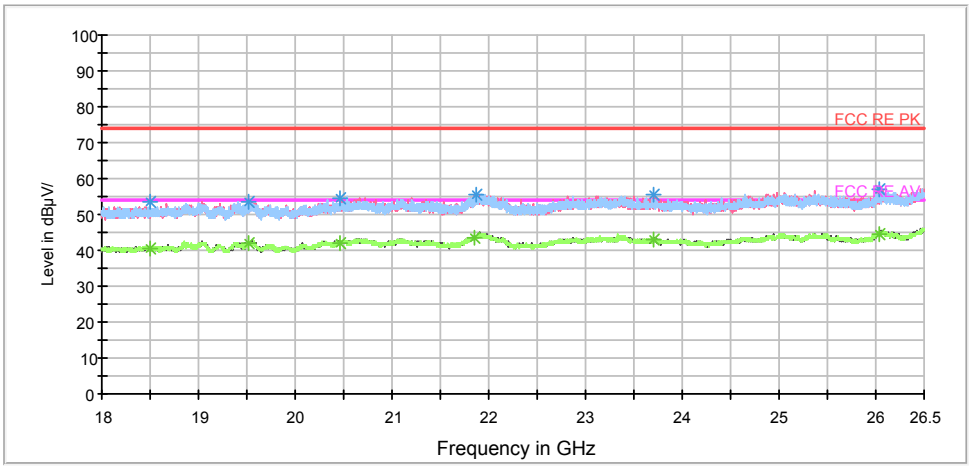


Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

802.11g CH6

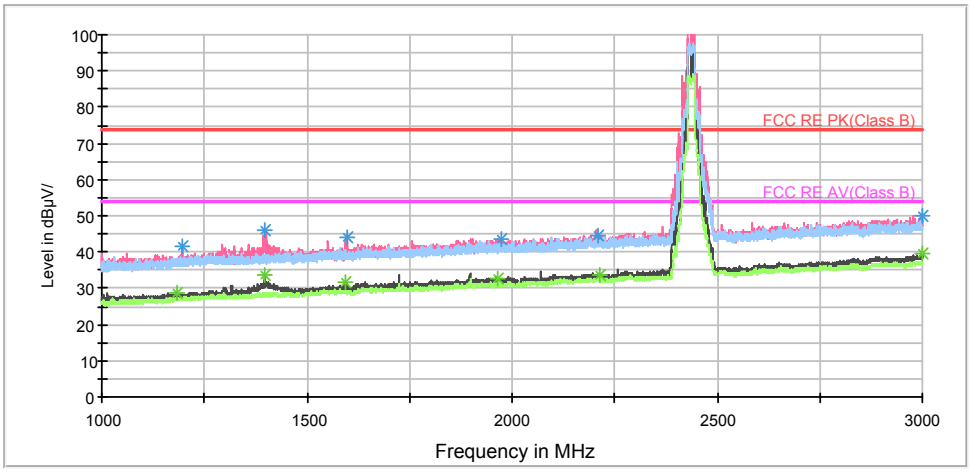
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1196.000000	41.8	102.0	V	0.0	50.0	-8.2	32.2	74
1395.500000	45.8	102.0	V	212.0	52.9	-7.1	28.2	74
1596.750000	44.1	102.0	V	193.0	50.5	-6.4	29.9	74
1972.250000	43.8	102.0	V	0.0	47.4	-3.6	30.2	74
2211.500000	44.8	102.0	V	342.0	47.0	-2.2	29.2	74
2999.750000	50.0	102.0	V	331.0	47.7	2.3	24.0	74

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

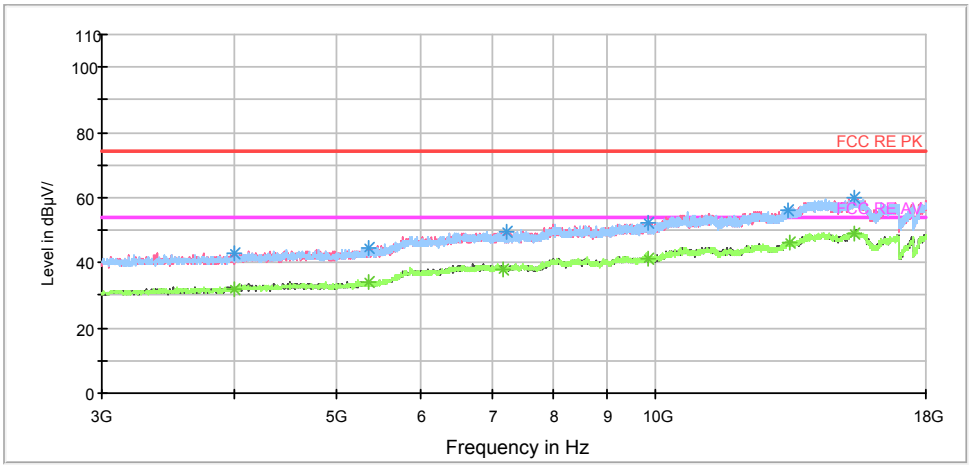
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1184.000000	28.6	102.0	V	320.0	36.7	-8.1	25.4	54
1395.500000	33.7	102.0	V	212.0	40.8	-7.1	20.3	54
1594.500000	31.6	102.0	V	175.0	38.0	-6.4	22.4	54
1967.000000	32.6	102.0	V	0.0	36.1	-3.5	21.4	54
2215.250000	33.6	102.0	V	352.0	35.9	-2.3	20.4	54
2999.250000	39.4	102.0	V	0.0	37.1	2.3	14.6	54

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

RE 1G-3GHz PK+AV

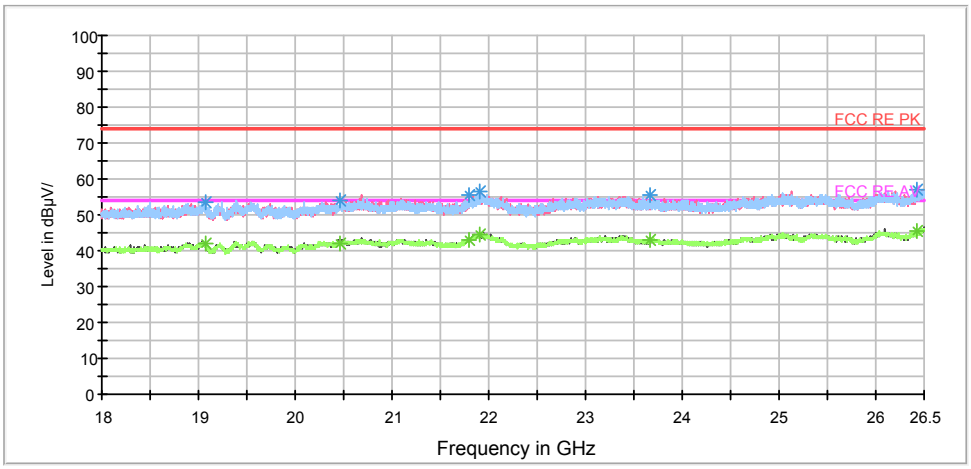


Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

802.11g CH11

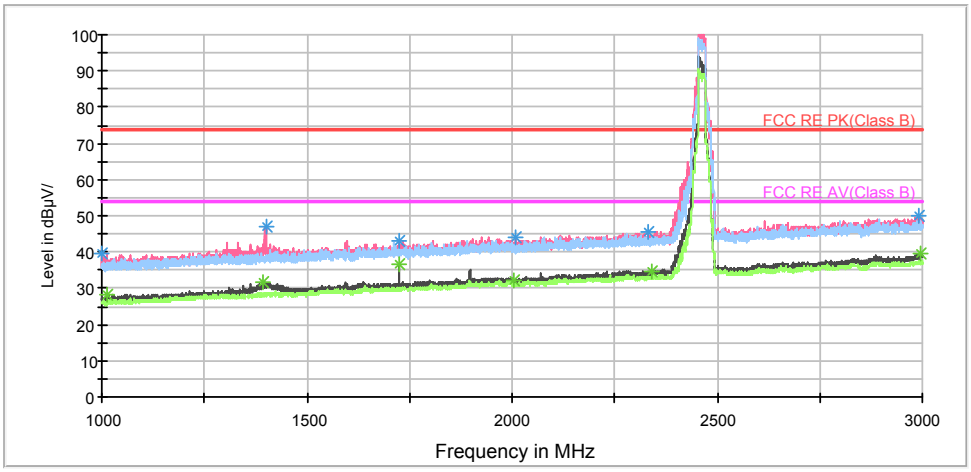
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1000.500000	39.8	102.0	V	332.0	49.0	-9.2	34.2	74
1400.000000	47.3	102.0	V	332.0	54.4	-7.1	26.7	74
1725.000000	42.9	102.0	V	277.0	47.9	-5.0	31.1	74
2008.000000	44.3	102.0	V	0.0	47.8	-3.5	29.7	74
2332.500000	45.6	102.0	V	343.0	47.0	-1.4	28.4	74
2989.250000	49.9	102.0	V	343.0	47.7	2.2	24.1	74

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

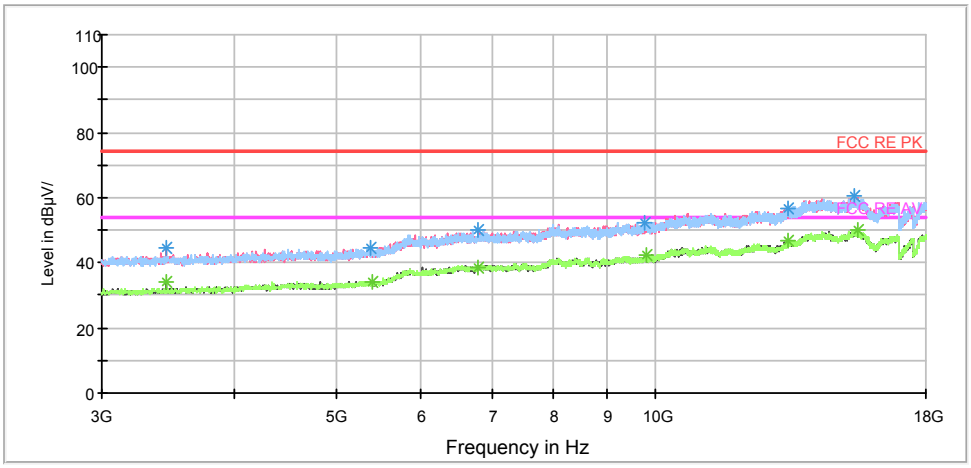
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1012.250000	28.0	102.0	V	322.0	37.3	-9.3	26.0	54
1391.250000	31.9	102.0	V	0.0	38.9	-7.0	22.1	54
1725.000000	36.6	102.0	V	277.0	41.6	-5.0	17.4	54
2004.750000	32.2	102.0	V	0.0	35.7	-3.5	21.8	54
2340.750000	34.8	102.0	V	332.0	36.1	-1.3	19.2	54
2997.500000	39.5	102.0	V	0.0	37.2	2.3	14.5	54

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

RE 1G-3GHz PK+AV

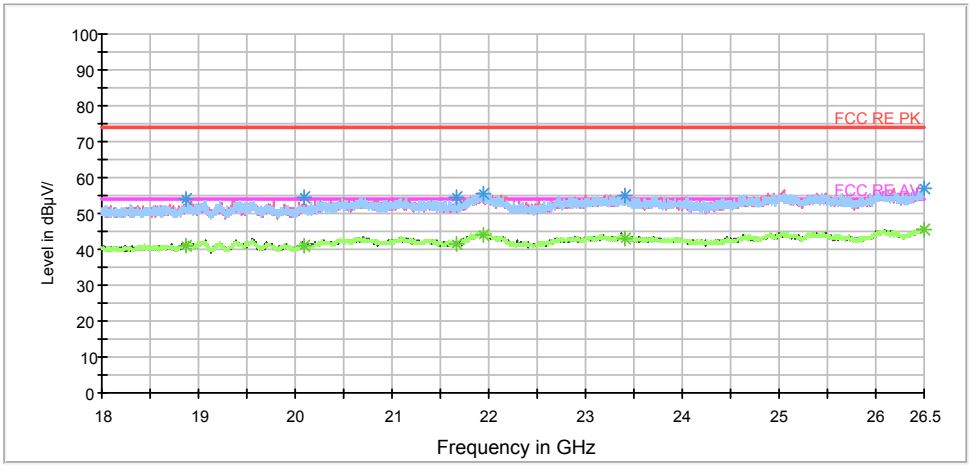


Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

802.11n (HT20) CH1

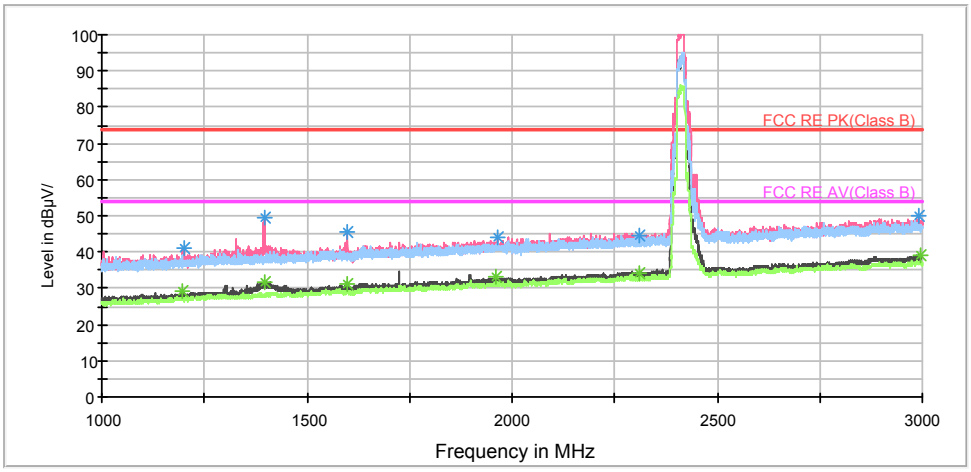
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1199.500000	41.2	102.0	V	353.0	49.4	-8.2	32.8	74
1397.750000	49.5	102.0	V	189.0	56.6	-7.1	24.5	74
1599.750000	45.6	102.0	V	189.0	52.0	-6.4	28.4	74
1964.500000	44.1	102.0	V	353.0	47.4	-3.3	29.9	74
2310.000000	44.7	102.0	V	353.0	46.7	-2.0	29.3	74
2990.250000	50.1	102.0	V	342.0	47.9	2.2	23.9	74

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

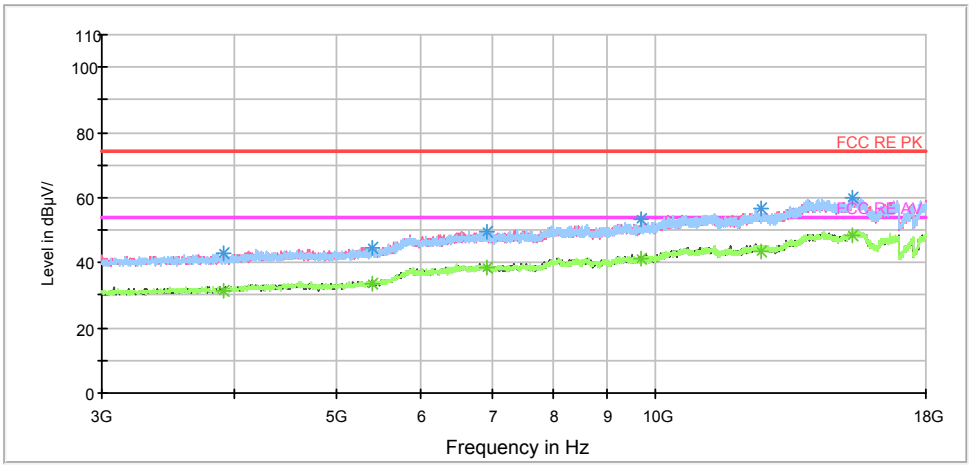
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1196.250000	29.0	102.0	V	261.0	37.2	-8.2	25.0	54
1398.250000	31.7	102.0	V	0.0	38.8	-7.1	22.3	54
1599.750000	31.3	102.0	V	189.0	37.7	-6.4	22.7	54
1960.500000	33.0	102.0	V	0.0	36.2	-3.2	21.0	54
2311.750000	34.1	102.0	V	0.0	36.0	-1.9	19.9	54
2994.500000	39.0	102.0	V	330.0	36.7	2.3	15.0	54

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

RE 1G-3GHz PK+AV

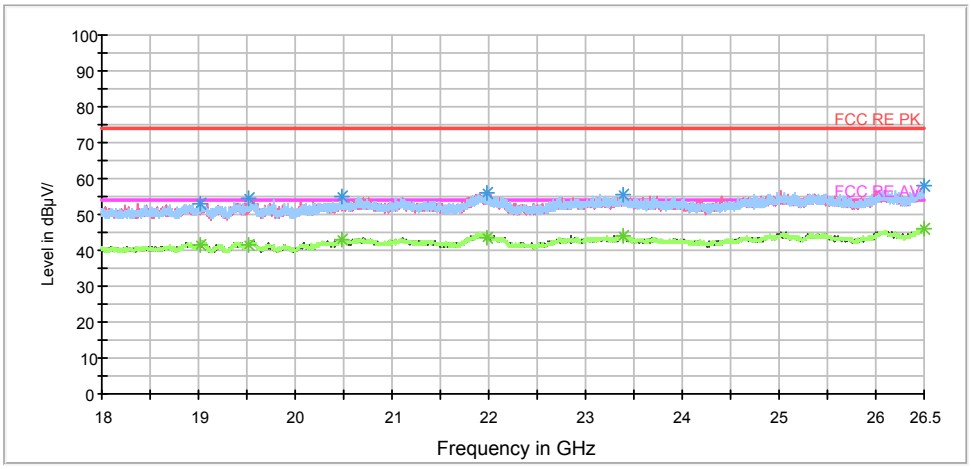


Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

802.11n (HT20) CH6

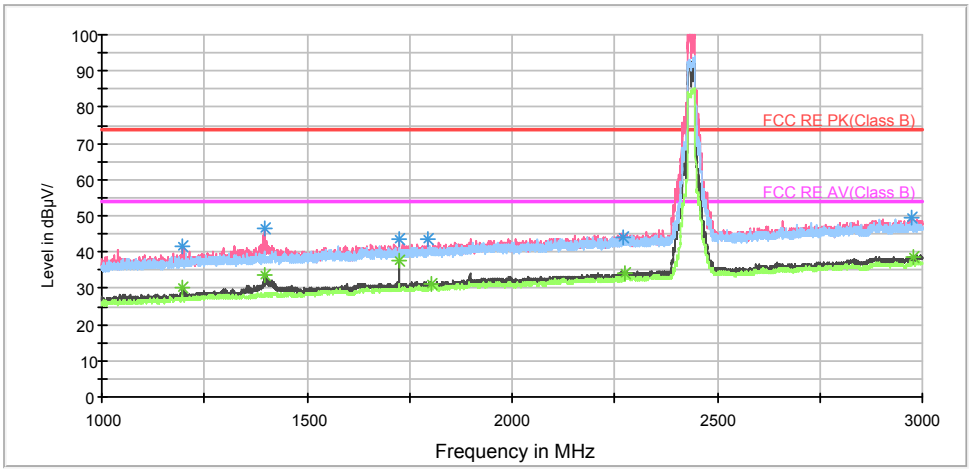
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1198.250000	41.3	102.0	V	0.0	49.5	-8.2	32.7	74
1397.250000	46.5	102.0	V	0.0	53.6	-7.1	27.5	74
1724.750000	43.4	102.0	V	263.0	48.4	-5.0	30.6	74
1796.000000	43.8	102.0	V	343.0	48.0	-4.2	30.2	74
2270.500000	44.2	102.0	V	0.0	45.9	-1.7	29.8	74
2972.750000	49.3	102.0	V	355.0	47.1	2.2	24.7	74

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

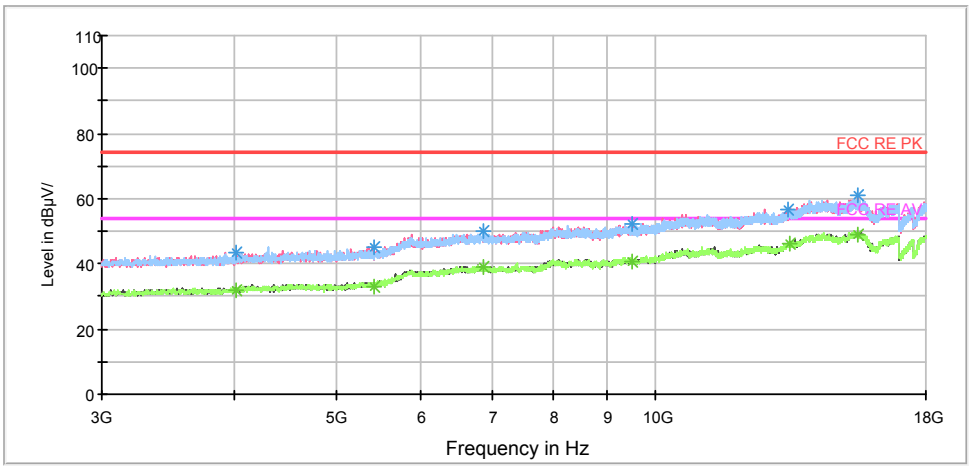
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1197.750000	30.4	102.0	V	0.0	38.6	-8.2	23.6	54
1396.250000	33.8	102.0	V	0.0	40.9	-7.1	20.2	54
1725.000000	37.5	102.0	V	263.0	42.5	-5.0	16.5	54
1804.000000	31.4	102.0	V	0.0	35.4	-4.0	22.6	54
2273.000000	34.2	102.0	V	0.0	35.8	-1.6	19.8	54
2980.250000	38.8	102.0	V	0.0	36.6	2.2	15.2	54

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

RE 1G-3GHz PK+AV

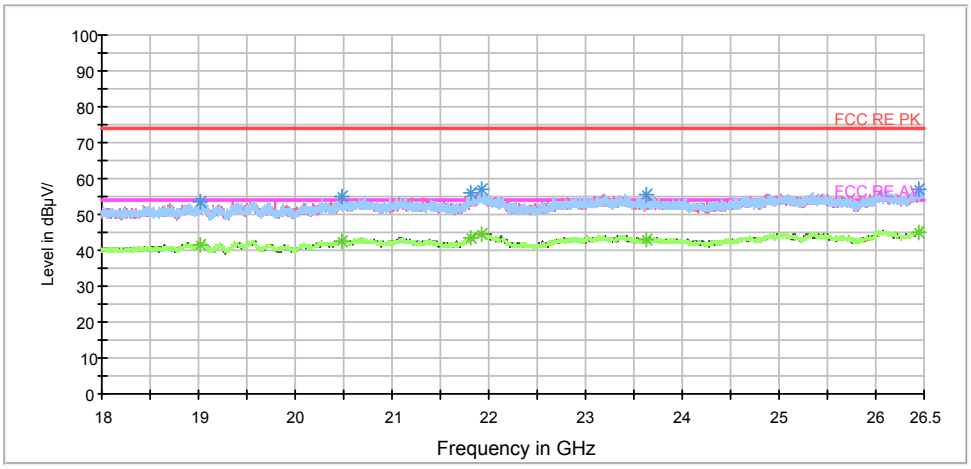


Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

802.11n (HT20) CH11

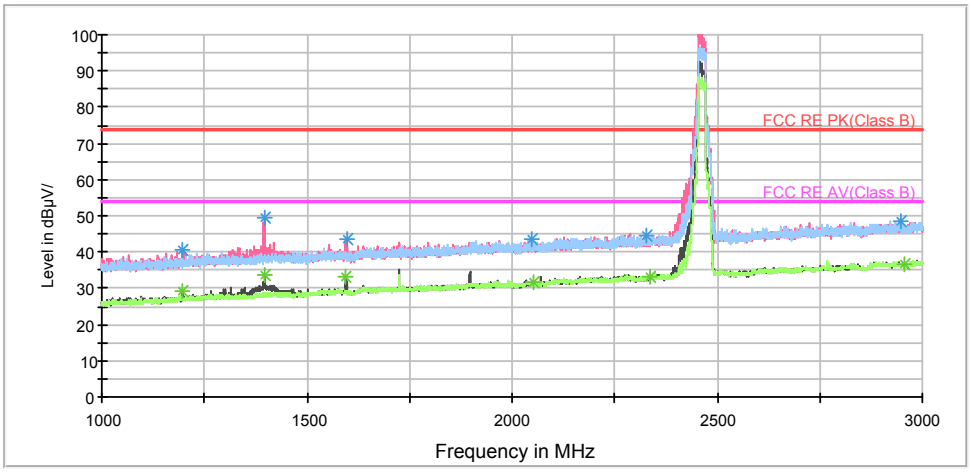
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1198.000000	40.7	102.0	V	231.0	48.9	-8.2	33.3	74
1396.250000	49.3	102.0	V	257.0	56.4	-7.1	24.7	74
1596.750000	43.4	102.0	V	196.0	49.8	-6.4	30.6	74
2050.000000	43.4	102.0	H	162.0	46.6	-3.2	30.6	74
2326.750000	44.3	102.0	V	257.0	45.9	-1.6	29.7	74
2947.750000	48.8	102.0	H	208.0	46.8	2.0	25.2	74

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

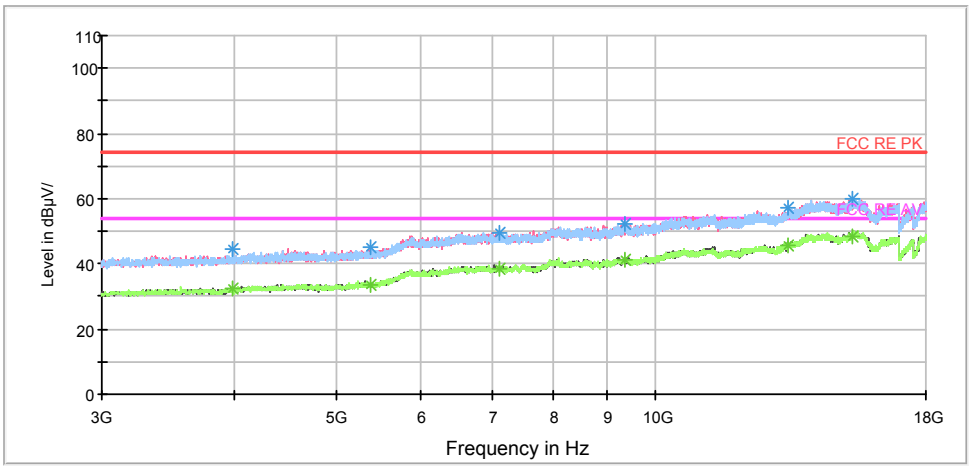
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1195.500000	29.0	102.0	V	196.0	37.2	-8.2	25.0	54
1399.250000	33.7	102.0	V	196.0	40.8	-7.1	20.3	54
1596.000000	33.1	102.0	V	196.0	39.5	-6.4	20.9	54
2051.750000	31.9	102.0	V	0.0	35.1	-3.2	22.1	54
2334.250000	33.3	102.0	H	154.0	34.7	-1.4	20.7	54
2957.500000	36.8	102.0	V	116.0	34.7	2.1	17.2	54

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

RE 1G-3GHz PK+AV

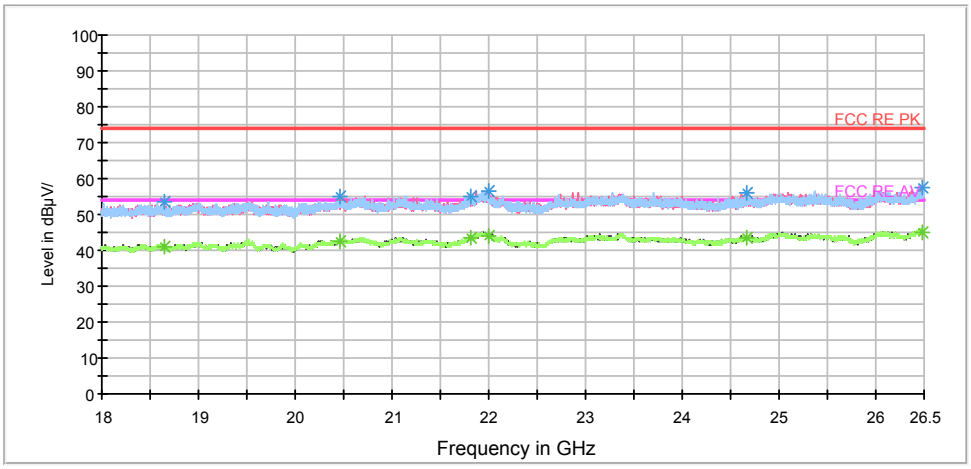


Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BLE-Channel 0

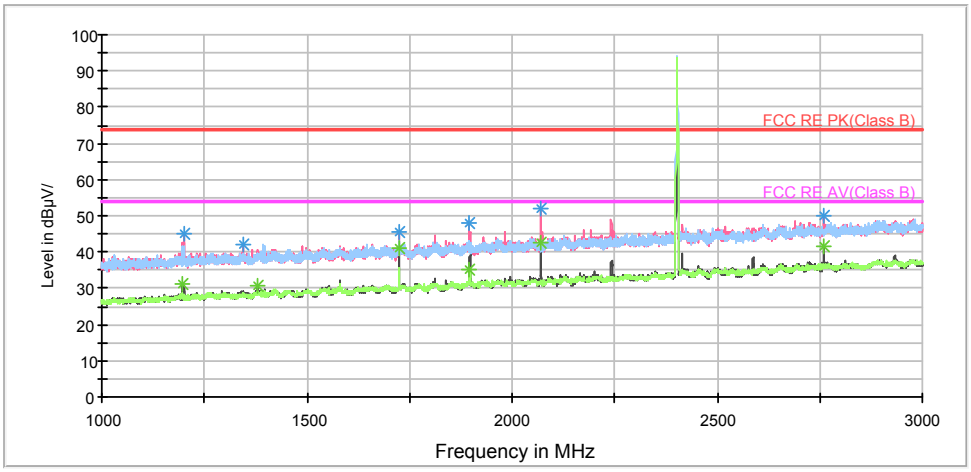
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1199.500000	44.9	200.0	V	359.0	53.1	-8.2	29.1	74
1344.000000	42.1	200.0	V	199.0	49.6	-7.5	31.9	74
1725.250000	45.5	200.0	V	283.0	50.5	-5.0	28.5	74
1896.750000	47.8	200.0	V	95.0	51.7	-3.9	26.2	74
2069.750000	52.0	200.0	V	95.0	55.1	-3.1	22.0	74
2760.000000	50.1	200.0	V	0.0	49.2	0.9	23.9	74

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

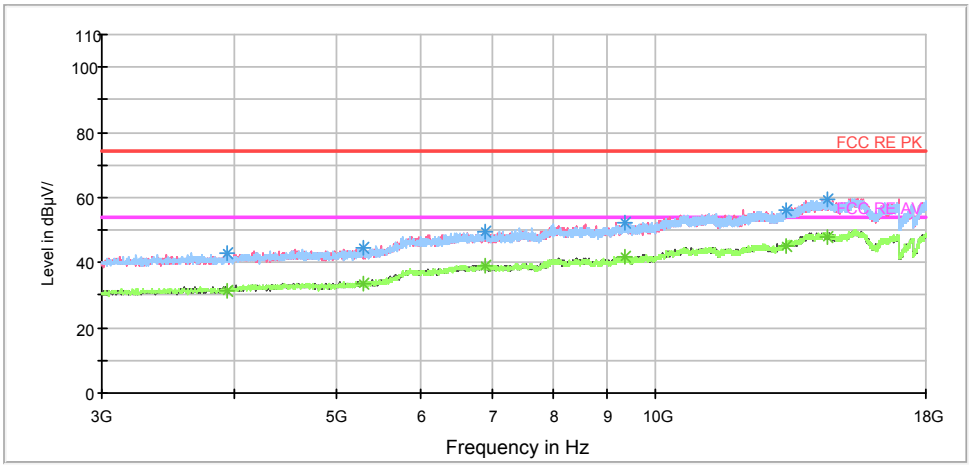
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1197.250000	31.1	200.0	V	0.0	39.3	-8.2	22.9	54
1380.000000	30.9	200.0	V	0.0	37.9	-7.0	23.1	54
1725.000000	40.9	200.0	V	335.0	45.9	-5.0	13.1	54
1896.750000	35.2	200.0	V	95.0	39.1	-3.9	18.8	54
2070.000000	42.6	200.0	V	95.0	45.7	-3.1	11.4	54
2760.000000	41.3	200.0	V	0.0	40.4	0.9	12.7	54

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

RE 1G-3GHz PK+AV

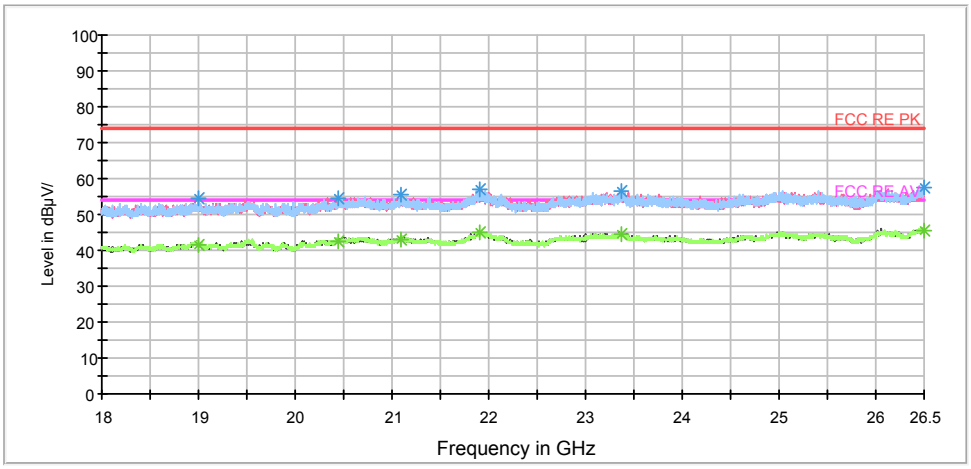


Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

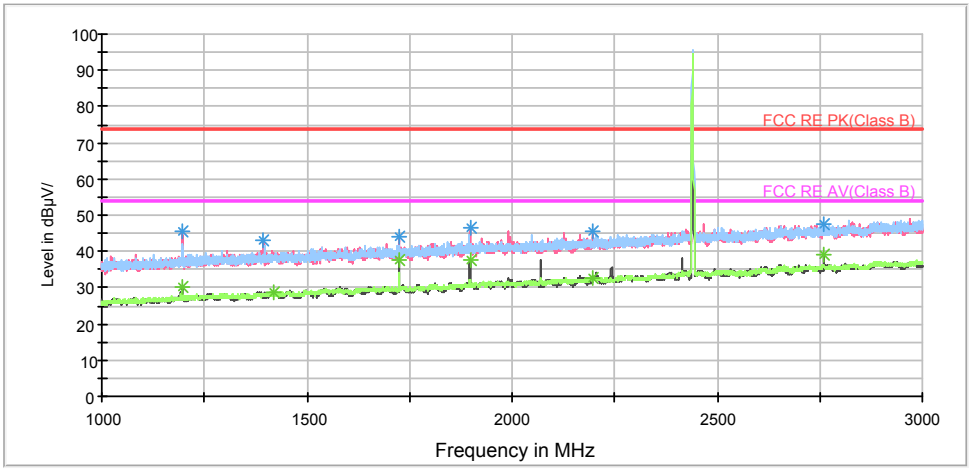
BLE-Channel 19

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1196.250000	45.5	200.0	V	0.0	53.7	-8.2	28.5	74
1395.000000	43.1	200.0	V	330.0	50.2	-7.1	30.9	74
1725.500000	43.9	200.0	V	330.0	49.0	-5.1	30.1	74
1897.500000	46.7	200.0	V	303.0	50.6	-3.9	27.3	74
2195.250000	45.6	200.0	V	71.0	47.7	-2.1	28.4	74
2760.750000	47.4	200.0	H	180.0	46.5	0.9	26.6	74

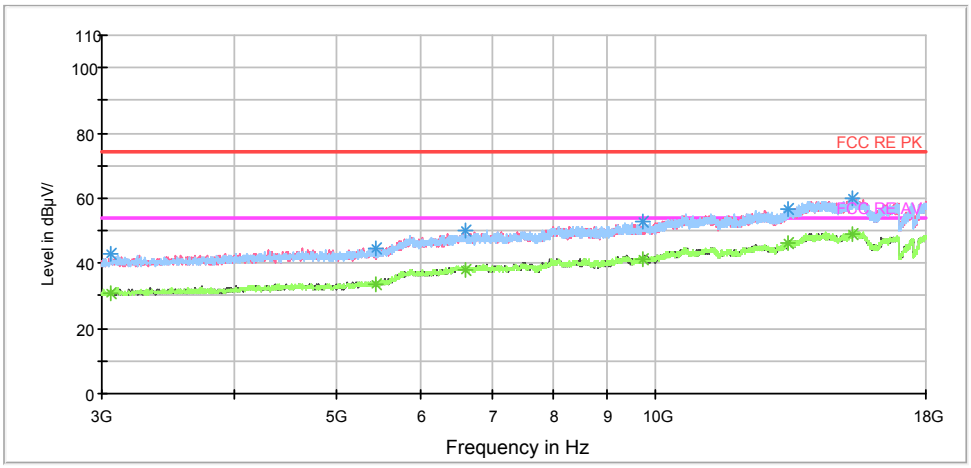
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1197.250000	30.0	200.0	V	0.0	38.2	-8.2	24.0	54
1419.500000	28.9	200.0	V	163.0	35.8	-6.9	25.1	54
1725.000000	37.7	200.0	V	330.0	42.7	-5.0	16.3	54
1897.500000	37.8	200.0	V	303.0	41.7	-3.9	16.2	54
2195.250000	32.5	200.0	V	71.0	34.6	-2.1	21.5	54
2760.250000	39.2	200.0	V	0.0	38.3	0.9	14.8	54

RE 1G-3GHz PK+AV

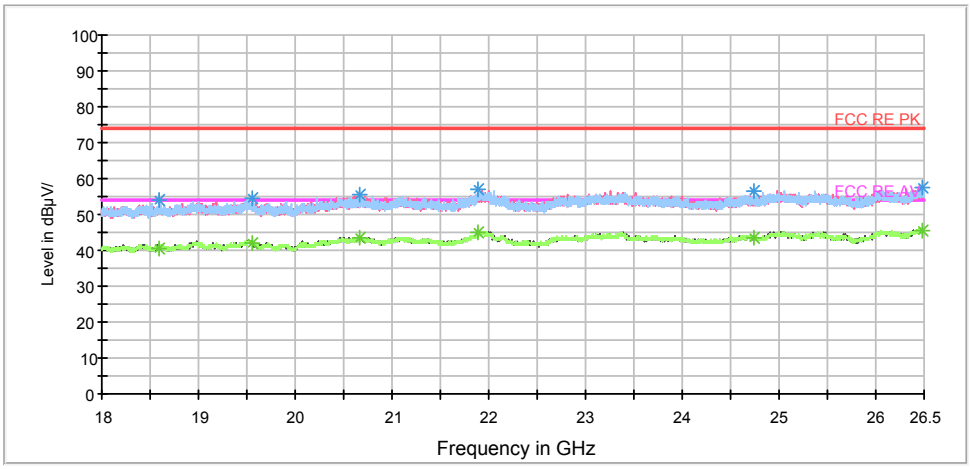


Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

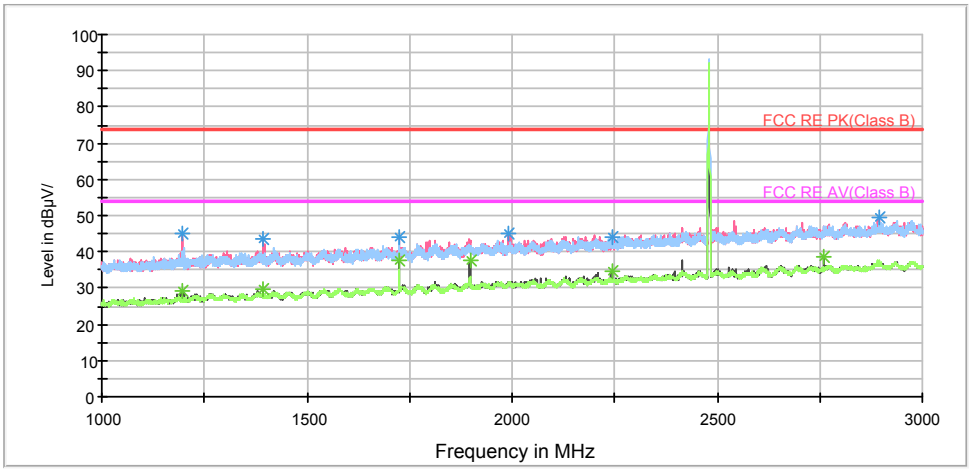
BLE-Channel 39

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1196.750000	45.2	200.0	V	0.0	53.4	-8.2	28.8	74
1394.500000	43.6	200.0	V	329.0	50.7	-7.1	30.4	74
1725.000000	44.2	200.0	V	319.0	49.2	-5.0	29.8	74
1990.750000	45.2	200.0	V	0.0	48.5	-3.3	28.8	74
2242.750000	43.8	200.0	V	51.0	46.3	-2.5	30.2	74
2896.000000	49.5	200.0	V	169.0	47.4	2.1	24.5	74

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

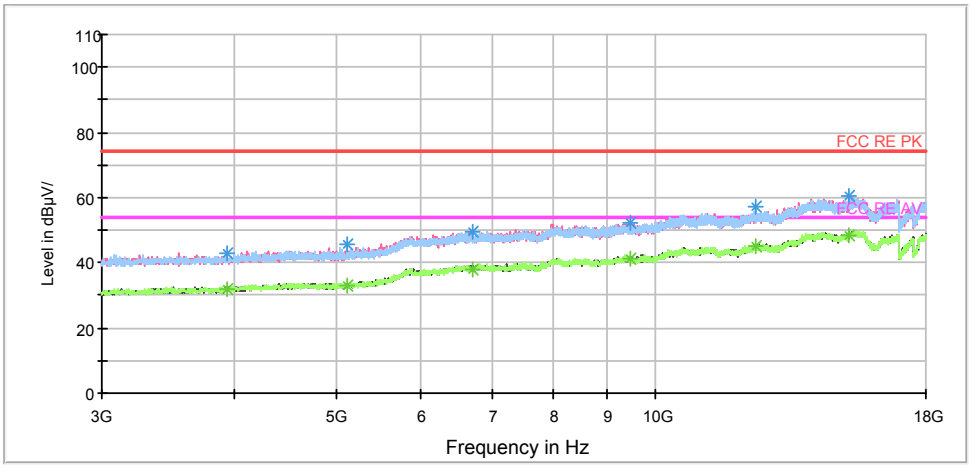
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1195.250000	29.2	200.0	V	0.0	37.4	-8.2	24.8	54
1394.500000	29.6	200.0	V	329.0	36.7	-7.1	24.4	54
1725.000000	37.6	200.0	V	319.0	42.6	-5.0	16.4	54
1897.500000	37.5	200.0	V	303.0	41.4	-3.9	16.5	54
2242.750000	34.8	200.0	V	51.0	37.3	-2.5	19.2	54
2760.250000	38.6	200.0	V	0.0	37.7	0.9	15.4	54

RE 1G-3GHz PK+AV



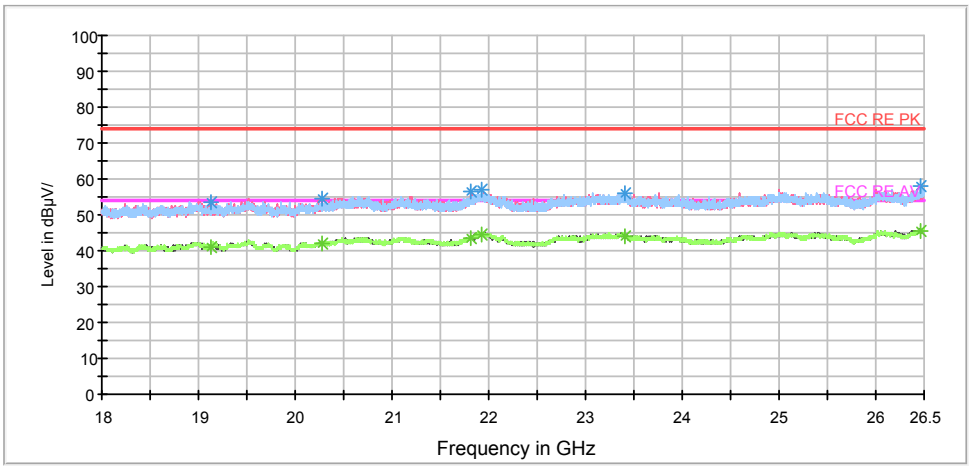
Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

5.8. Conducted Emission

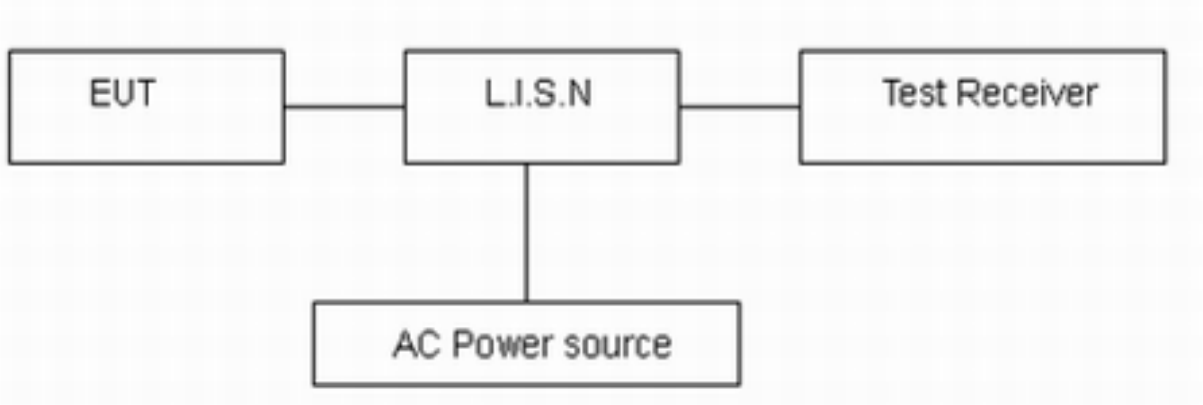
Ambient condition

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 C63.10-2013. 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

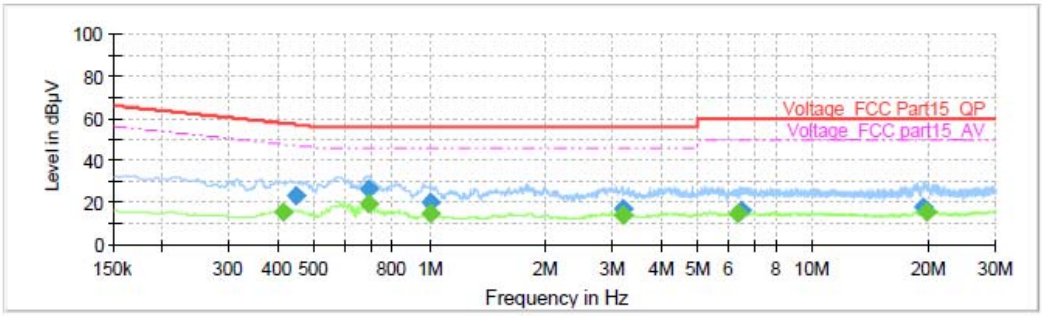
Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46*
0.5 - 5	56	46
5 - 30	60	50
*: Decreases with the logarithm of the frequency.		

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:

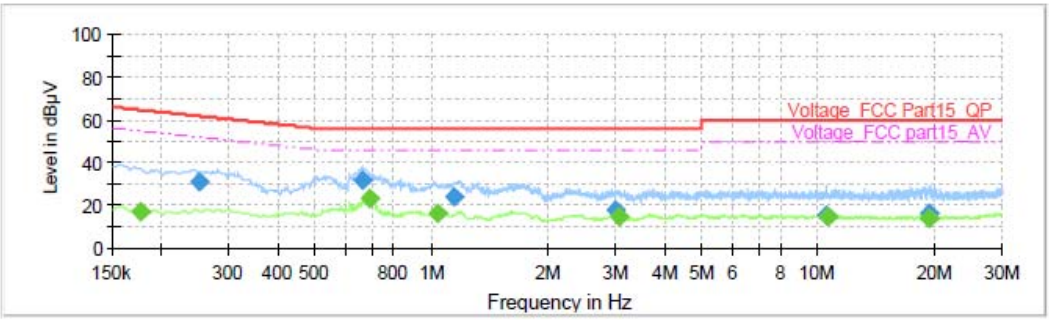
Following plots, Blue trace uses the peak detection and Green trace uses the average detection.



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.415500	---	15.84	47.54	31.70	1000.0	9.000	L1	ON	19.2
0.447000	23.23	---	56.93	33.70	1000.0	9.000	L1	ON	19.2
0.690000	26.72	---	56.00	29.28	1000.0	9.000	L1	ON	19.3
0.692250	---	19.38	46.00	26.62	1000.0	9.000	L1	ON	19.3
1.000500	20.50	---	56.00	35.50	1000.0	9.000	L1	ON	19.2
1.005000	---	14.47	46.00	31.53	1000.0	9.000	L1	ON	19.2
3.178500	16.99	---	56.00	39.01	1000.0	9.000	L1	ON	19.1
3.185250	---	13.78	46.00	32.22	1000.0	9.000	L1	ON	19.1
6.389250	---	14.39	50.00	35.61	1000.0	9.000	L1	ON	19.1
6.533250	16.32	---	60.00	43.68	1000.0	9.000	L1	ON	19.1
19.421250	18.17	---	60.00	41.83	1000.0	9.000	L1	ON	19.6
19.718250	---	15.50	50.00	34.50	1000.0	9.000	L1	ON	19.7

L Line



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.177000	---	16.97	54.63	37.66	1000.0	9.000	N	ON	19.2
0.251250	31.28	---	61.72	30.43	1000.0	9.000	N	ON	19.1
0.663000	31.88	---	56.00	24.12	1000.0	9.000	N	ON	19.3
0.692250	---	23.59	46.00	22.41	1000.0	9.000	N	ON	19.3
1.034250	---	16.52	46.00	29.48	1000.0	9.000	N	ON	19.2
1.149000	23.88	---	56.00	32.12	1000.0	9.000	N	ON	19.2
2.982750	17.53	---	56.00	38.47	1000.0	9.000	N	ON	19.1
3.057000	---	15.05	46.00	30.95	1000.0	9.000	N	ON	19.1
10.524750	15.81	---	60.00	44.19	1000.0	9.000	N	ON	19.4
10.596750	---	14.51	50.00	35.49	1000.0	9.000	N	ON	19.4
19.410000	15.94	---	60.00	44.06	1000.0	9.000	N	ON	19.5
19.419000	---	13.67	50.00	36.33	1000.0	9.000	N	ON	19.5

N Line

6. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Time
BT Base Station Simulator	R&S	CBT	100271	2017-05-14	2018-05-13
Spectrum Analyzer	R&S	FSV30	100815	2016-12-16	2017-12-15
EMI Test Receiver	R&S	ESCI	100948	2017-05-20	2018-05-19
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-201	2014-12-06	2017-12-05
Double Ridged Waveguide Horn Antenna	R&S	HF907	100126	2014-12-06	2017-12-05
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2017-02-18	2020-02-17
Standard Gain Horn	ETS-Lindgren	3160-09	00102644	2015-01-30	2018-01-29
EMI Test Receiver	R&S	ESCS30	100138	2016-12-16	2017-12-15
LISN	R&S	ENV216	101171	2016-12-16	2019-12-15
Spectrum Analyzer	Agilent	N9010A	MY47191109	2017-05-20	2018-05-19
RF Cable	Agilent	SMA 15cm	0001	2017-08-04	2018-02-03

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

ANNEX A: EUT Appearance and Test Setup

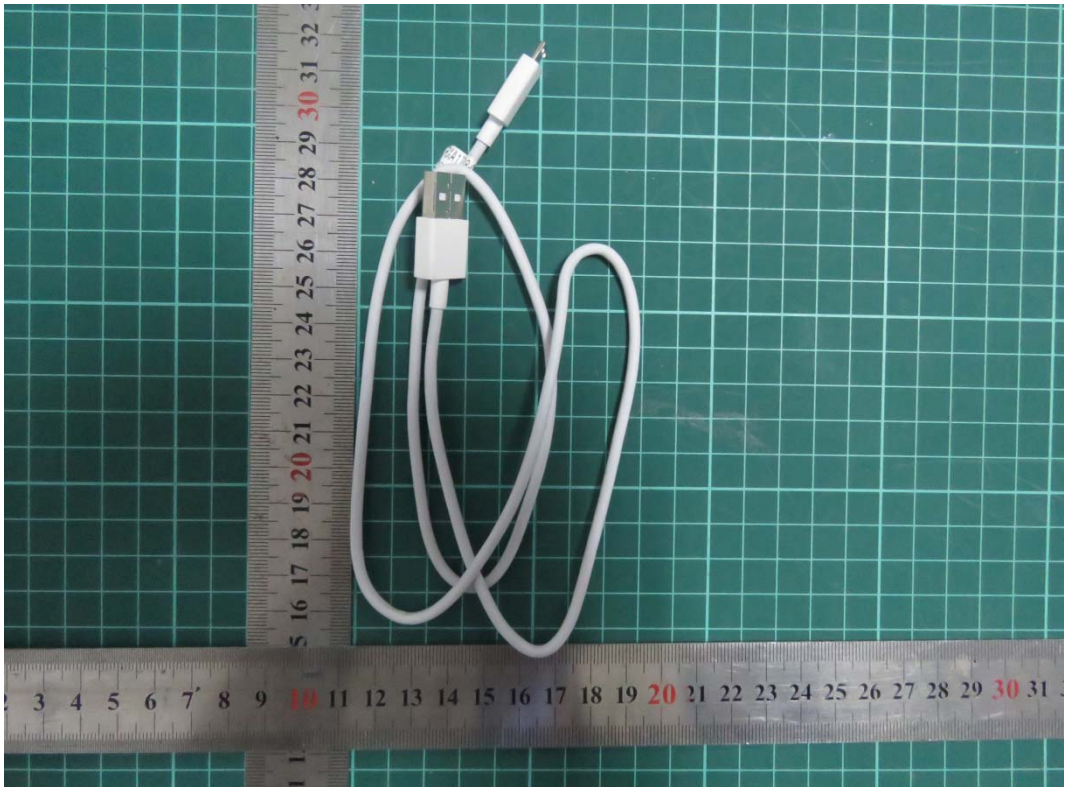
A.1 EUT Appearance

a: EUT

Adapter 1

Adapter 2

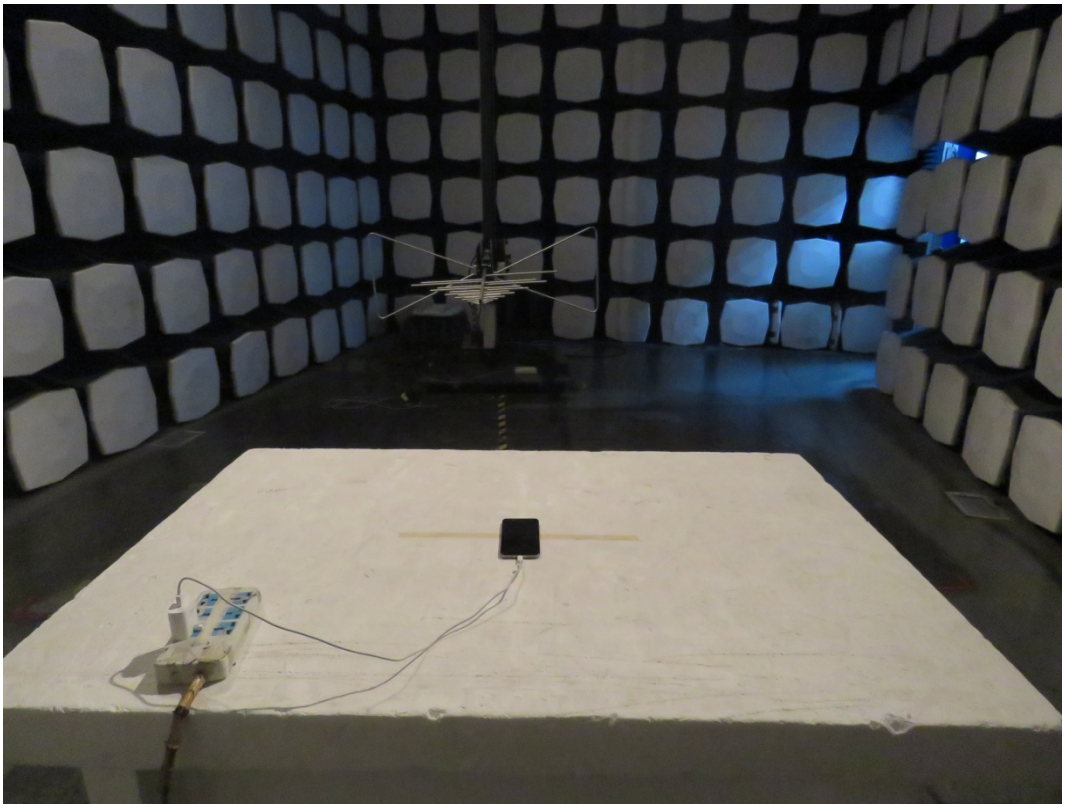
b: Adapter



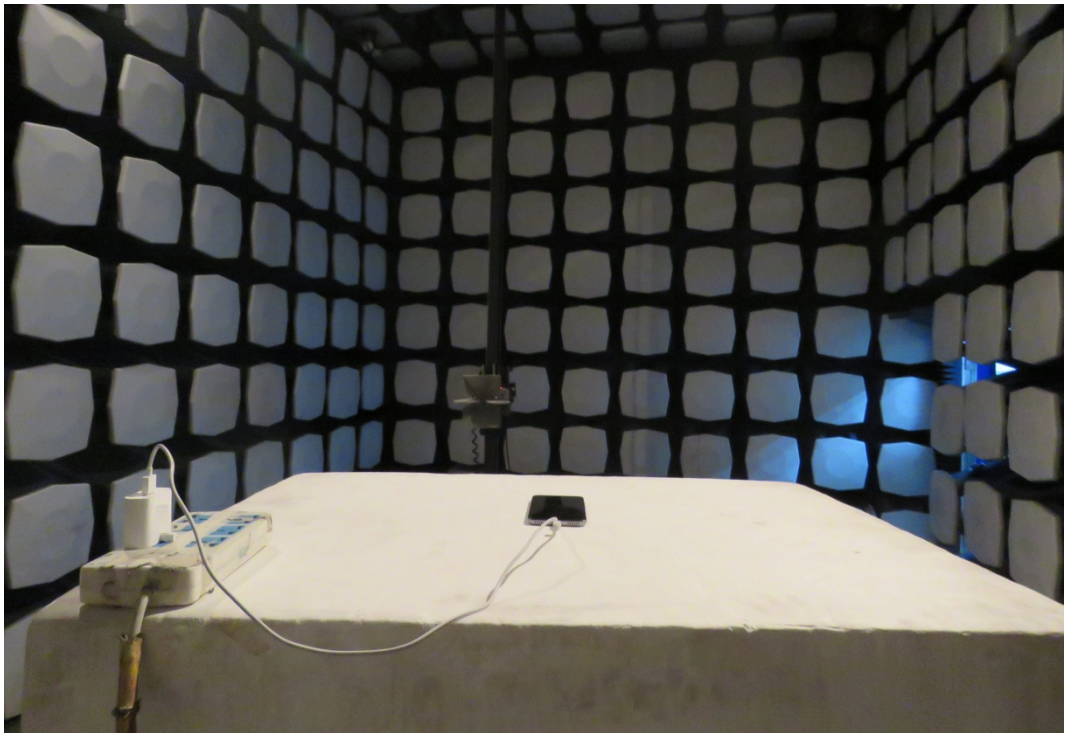
c : USB Cable

Picture 1 EUT and Accessory

A.2 Test Setup



30M Hz-1GHz



Above 1GHz

Picture 2 Radiated Emission Test Setup

Picture 3 Conducted Emission Test Setup