RF TEST REPORT

Applicant	Mobiwire SAS
FCC ID	QPN-WANETAPLUS
Product	4G Smartphone
Brand	Mobiwire SAS
Model	MobiWire Waneta+, ALTICE S70
Report No.	RXA1707-0218RF01R2
Issue Date	September 5, 2017

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15E (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*

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Summary of measurement results

Number	Summary of measurements of results	Clause in FCC rules	Verdict
1	Average conducted output power	15.407(a)	PASS
2	Occupied bandwidth	15.407(e)	PASS
3	Frequency stability	15.407(g)	PASS
4	Maximum power spectral density	15.407(a)	PASS
5	Unwanted Emissions	15.407(b)	PASS
6	Conducted Emissions	15.207	PASS
Date of Testing: July10, 2017~ July18, 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 (recognition number is 428261)

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.
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E-mail:	xukai@ta-shanghai.com

2. General Description of Equipment under Test

Client Information

Applicant	Mobiwire SAS
Applicant address	79 AVENUE FRANCOIS ARAGO 92017 NANTERRE CEDEX France.
Manufacturer	Mobiwire SAS
Manufacturer address	79 AVENUE FRANCOIS ARAGO 92017 NANTERRE CEDEX France.

General information

EUT Description	
Model:	MobiWire Waneta+, ALTICE S70
IMEI:	357581080005489
Hardware Version:	V01
Software Version:	WE552_ALTICE_S70
Power Supply:	Battery/AC adapter
Antenna Type:	Internal Antenna
Antenna Gain:	0 dBi
additional beamforming gain:	0 dB
Test Mode:	U-NII-1(5150MHz-5250MHz) U-NII-2A(5250MHz-5350MHz) U-NII-3(5725MHz-5850MHz)
Modulation Type:	QPSK/16QAM/64QAM
Max. Conducted Power	16.48dBm
Operating Frequency Range(s)	U-NII-1: 5150-5250MHz U-NII-2A:5250-5350MHz U-NII-3: 5725-5850MHz
EUT Accessory	
Adapter	Manufacture: AoHai Model : A88-502000
Battery	Manufacture: NINGBO WEKEN Battery CO,. LTD. Model : 178122246
Earphone	Manufacturer: JuWei Model: JWEP0752-M01
USB cable	100cm Cable, Shielded
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:

FCC CFR47 Part 15E (2017) Unlicensed National Information Infrastructure Devices

ANSI C63.10 (2013)

KDB 789033 D02 General UNII Test Procedures New Rules v01r04

4. Test Configuration

Test Mode

The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

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**
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0

5. Test Case Results

5.1. Occupied 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.

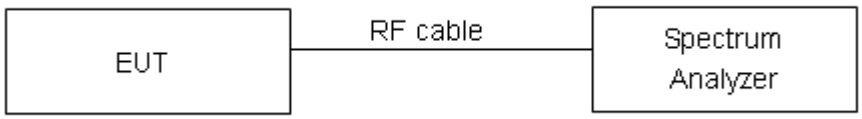
For U-NII-1, set RBW ≈1% OCB kHz, VBW ≥ 3 × RBW, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the fundamental emission.

For U-NII-3, Set RBW = 100 kHz, VBW ≥ 3 × RBW, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.

Use the 99 % power bandwidth function of the instrument

Test Setup



Limits

Rule FCC Part §15.407(e)

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 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:

U-NII-1

Network Standards	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11a	5180	16.713	23.09	500	PASS
	5200	16.620	22.88	500	PASS
	5240	16.623	21.59	500	PASS
802.11n HT20	5180	17.633	25.40	500	PASS
	5200	17.621	23.66	500	PASS
	5240	17.642	21.69	500	PASS
802.11n HT40	5190	35.953	53.73	500	PASS
	5230	35.926	53.74	500	PASS

U-NII-2A

Network Standards	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11a	5260	16.605	22.40	500	PASS
	5300	16.625	21.59	500	PASS
	5320	16.586	22.57	500	PASS
802.11n HT20	5260	17.603	22.26	500	PASS
	5300	17.620	21.23	500	PASS
	5320	17.624	23.3	500	PASS
802.11n HT40	5270	35.922	55.60	500	PASS
	5310	35.920	53.74	500	PASS

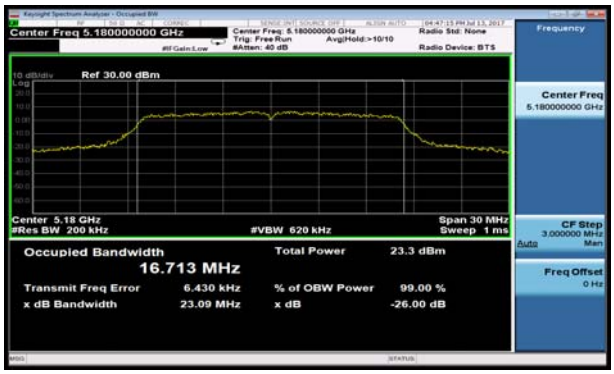
U-NII-3

Network Standards	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11a	5745	17.433	15.13	500	PASS
	5805	17.270	15.70	500	PASS
	5825	17.199	16.06	500	PASS
802.11n HT20	5745	18.016	15.11	500	PASS
	5805	18.002	16.10	500	PASS
	5825	18.060	15.97	500	PASS
802.11n HT40	5755	36.565	35.13	500	PASS
	5795	36.708	35.21	500	PASS

Antenna 1

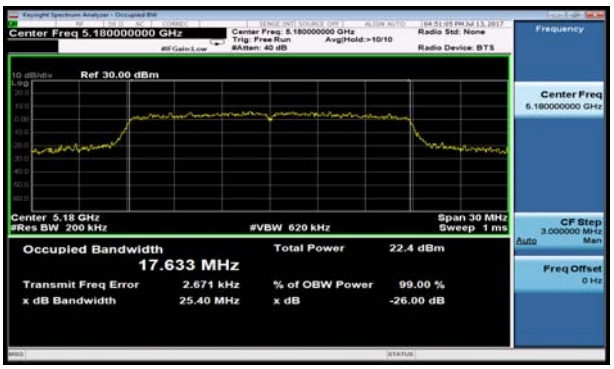
U-NII-1, 802.11a

Carrier frequency (MHz): 5180



U-NII-1, 802.11n HT20

Carrier frequency (MHz): 5180

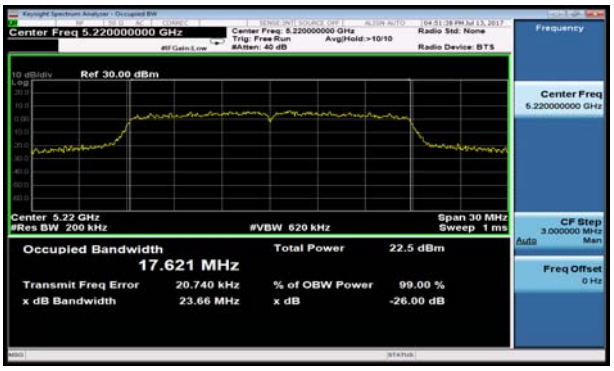


U-NII-1, 802.11a

Carrier frequency (MHz): 5200

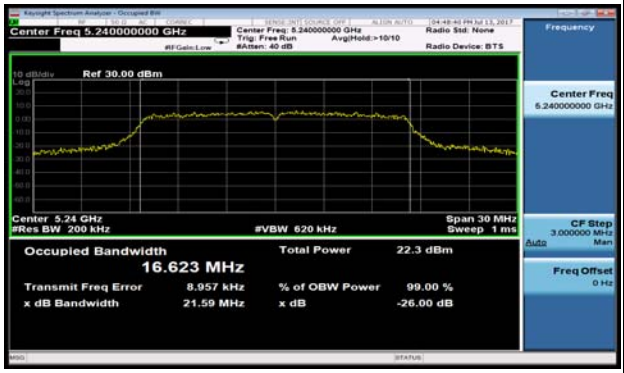
U-NII-1, 802.11n HT20

Carrier frequency (MHz): 5200



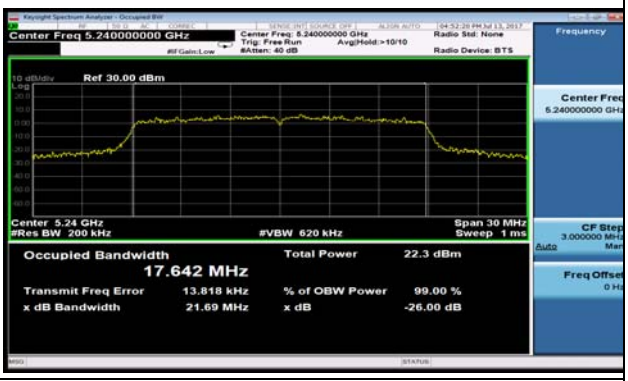
U-NII-1, 802.11a

Carrier frequency (MHz):5240



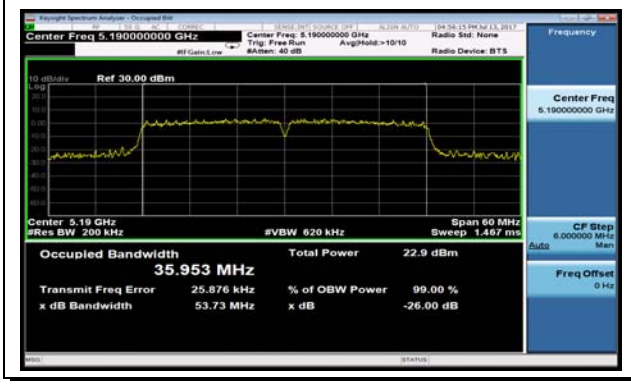
U-NII-1, 802.11n HT20

Carrier frequency (MHz):5240



U-NII-1, 802.11n HT40

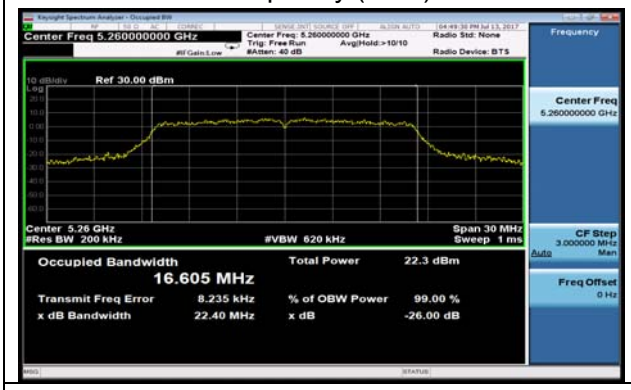
Carrier frequency (MHz): 5190



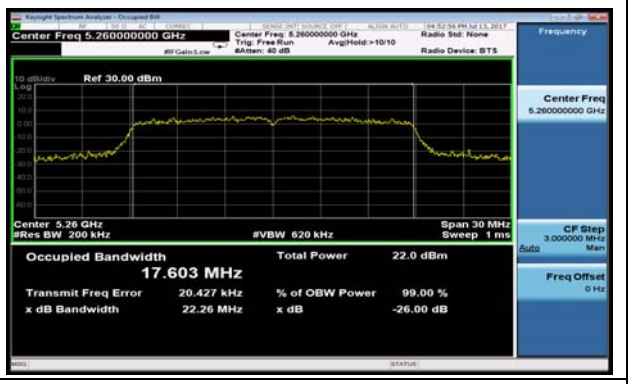
U-NII-1, 802.11n HT40

Carrier frequency (MHz): 5230

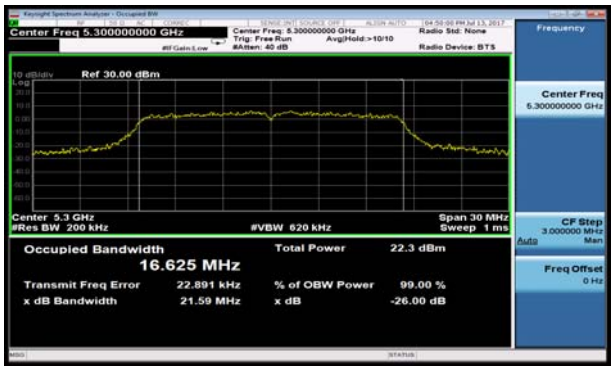
U-NII-2A, 802.11a
Carrier frequency (MHz): 5260



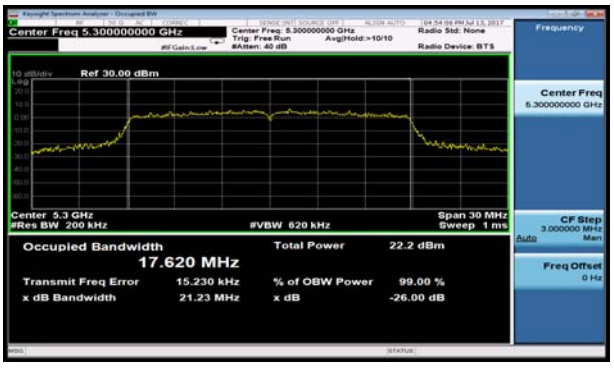
U-NII-2A, 802.11n HT20
Carrier frequency (MHz): 5260



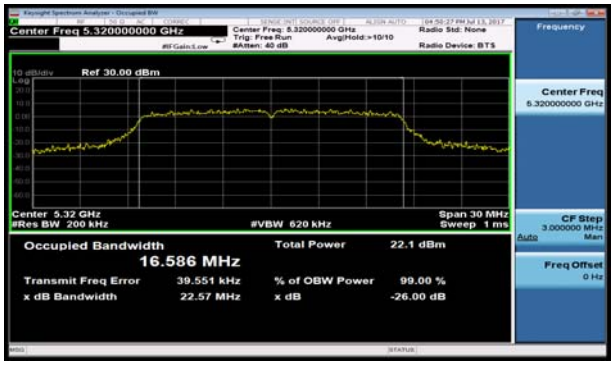
U-NII-2A, 802.11a
Carrier frequency (MHz): 5300



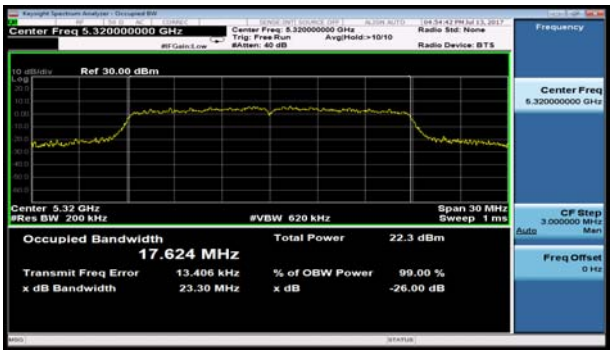
U-NII-2A, 802.11n HT20
Carrier frequency (MHz): 5300



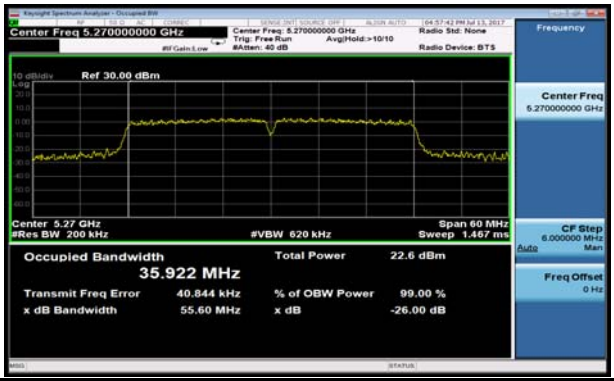
U-NII-2A, 802.11a
Carrier frequency (MHz):5320



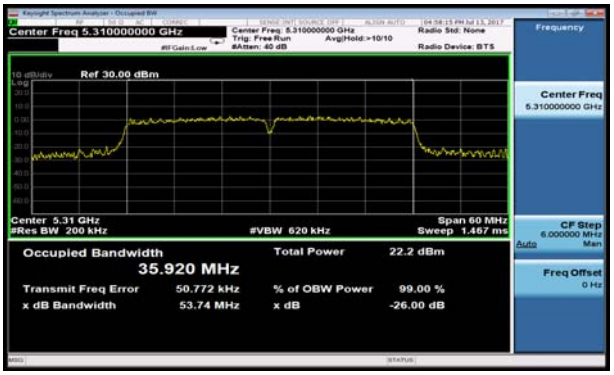
U-NII-2A, 802.11n HT20
Carrier frequency (MHz):5320



U-NII-2A, 802.11n HT40
Carrier frequency (MHz): 5270



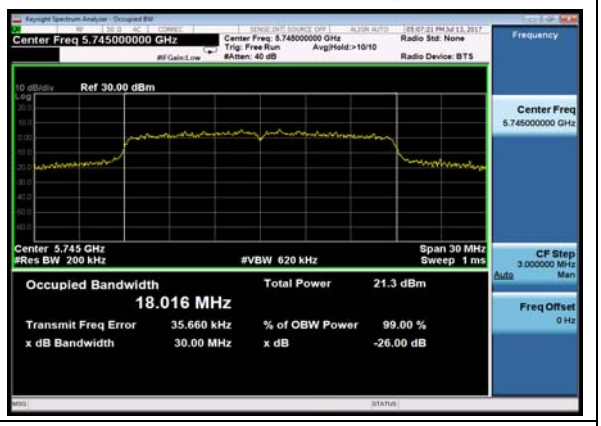
U-NII-2A, 802.11n HT40
Carrier frequency (MHz): 5310



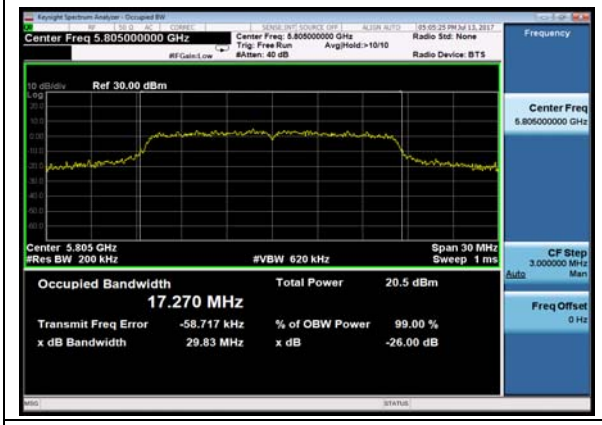
U-NII-3 (99%dB)

802.11a Carrier frequency (MHz): 5745

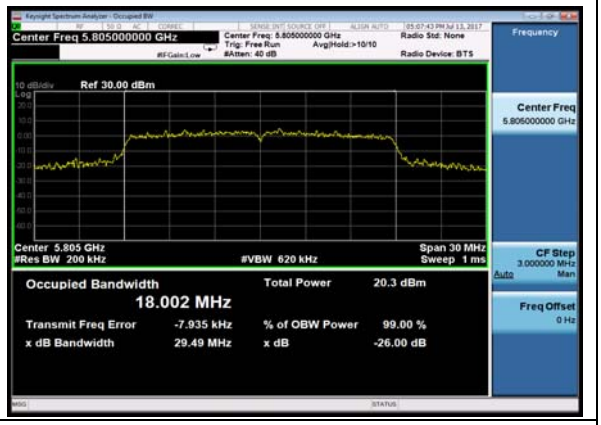
802.11n HT20 Carrier frequency (MHz): 5745



802.11a Carrier frequency (MHz): 5785



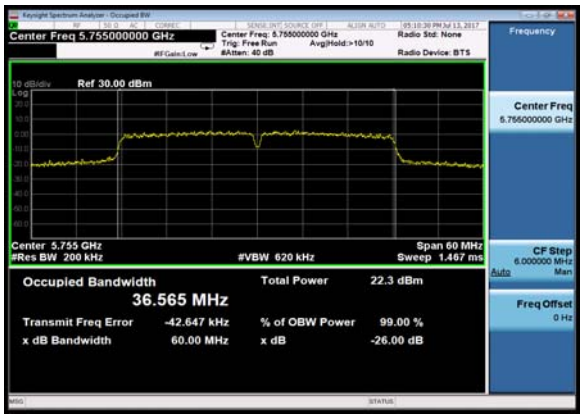
802.11n HT20 Carrier frequency (MHz): 5785



802.11a Carrier frequency (MHz): 5825

802.11n HT20 Carrier frequency (MHz): 5825

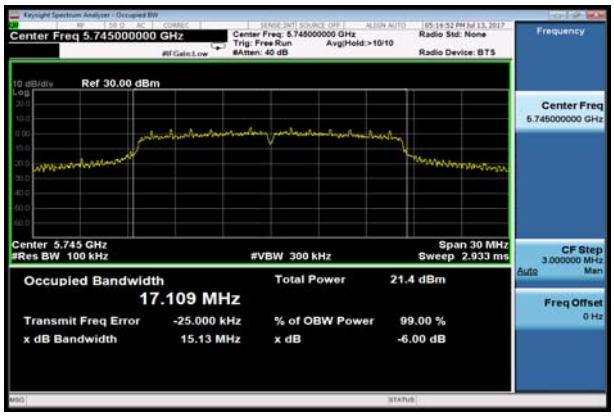
802.11n HT40 Carrier frequency (MHz): 5755



802.11n HT40 Carrier frequency (MHz): 5795

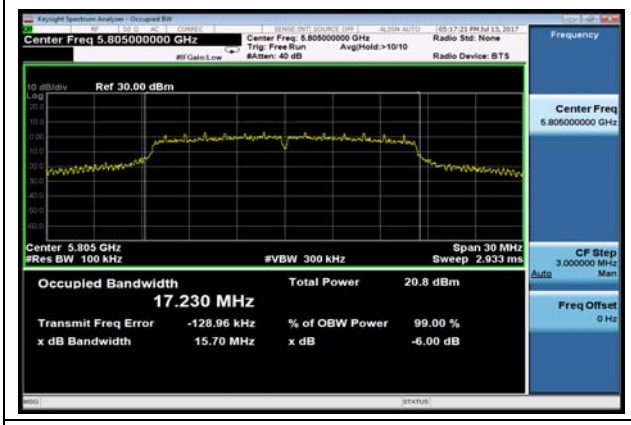
U-NII-3 (-6dB)

802.11a Carrier frequency (MHz): 5745

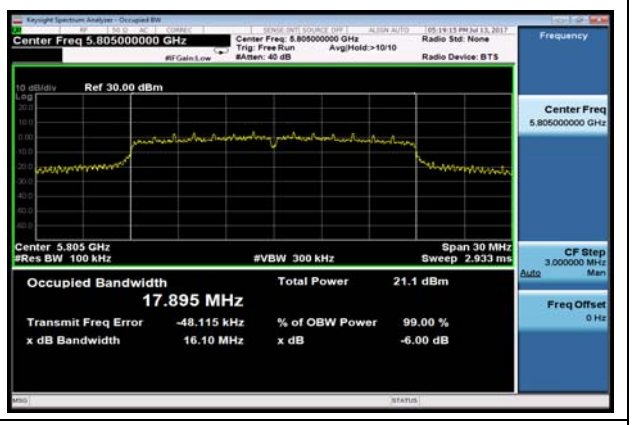


802.11n HT20 Carrier frequency (MHz): 5745

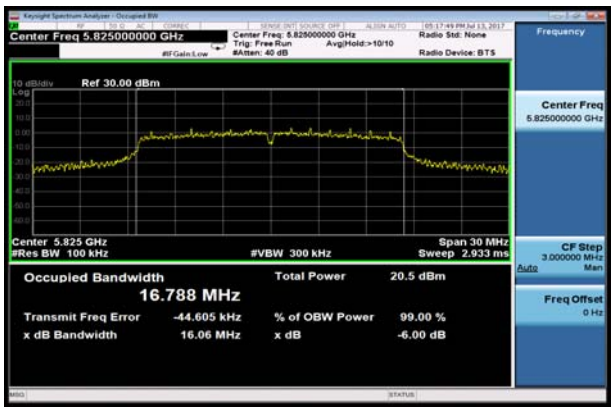
802.11a Carrier frequency (MHz): 5785



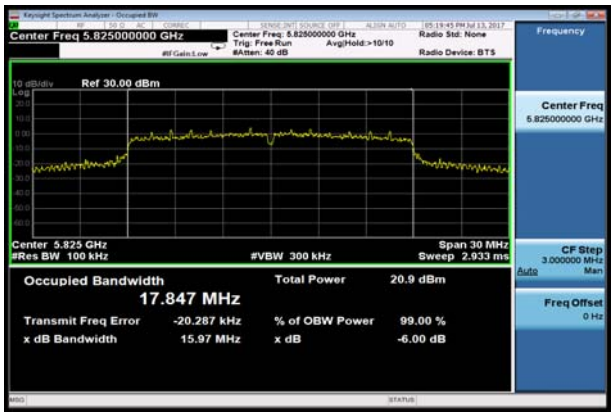
802.11n HT20 Carrier frequency (MHz): 5785



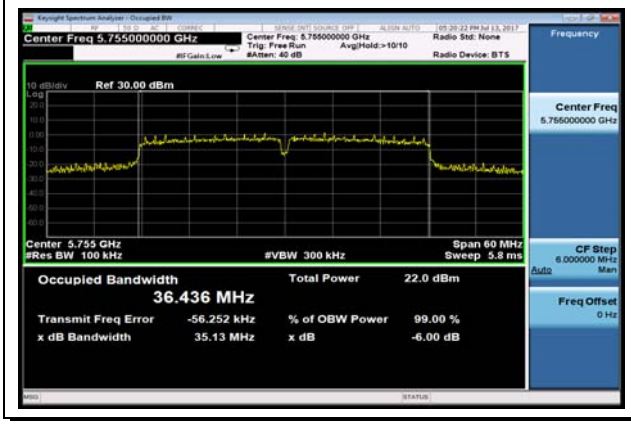
802.11a Carrier frequency (MHz): 5825



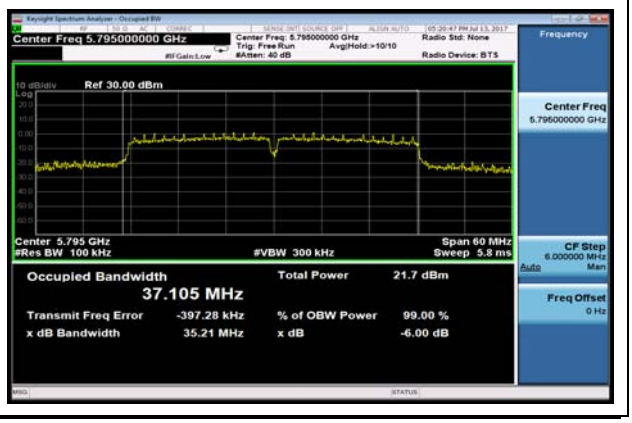
802.11n HT20 Carrier frequency (MHz): 5825



802.11n HT40 Carrier frequency (MHz): 5755



802.11n HT40 Carrier frequency (MHz): 5795



5.2. Average Power Output –Conducted

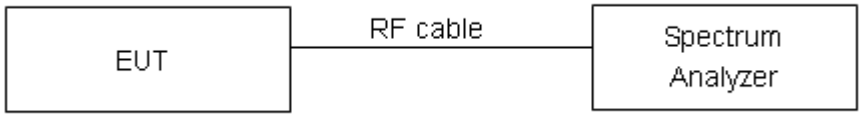
Ambient condition

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 the average power meter through an external attenuator and a known loss cable. The EUT is max power transmission with proper modulation. We use Maximum average Conducted Output Power Level Method in KDB789033 for this test

Test Setup



Limits

Rule FCC Part 15.407(a)(1)(2)(3)

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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		Channel/Frequency (MHz)	B=26 dB bandwidth (MHz)	Limit 11 dBm + 10 log B (dBm)	Final Limit(dBm)
U-NII-2A	802.11a	52/5260	22.40	24.50>24	24
		60/5300	21.59	24.34>24	24
		64/5320	22.57	24.54>24	24
	802.11n HT20	52/5260	22.26	24.48>24	24
		60/5300	21.23	25.27>24	24
		64/5320	23.3	24.67>24	24
	802.11n HT40	54/5270	55.60	28.45>24	24
		62/5310	53.74	28.30>24	24
Note: 250mW=24dBm					

Test results

U-NII-1

Network Standards	Channel/ Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Conclusion
802.11a	36/5180	15.85	24	PASS
	40/5200	15.60	24	PASS
	44/5220	15.60	24	PASS
	48/5240	15.70	24	PASS
802.11n HT20	36/5180	16.27	24	PASS
	40/5200	15.58	24	PASS
	44/5220	15.76	24	PASS
	48/5240	15.98	24	PASS
802.11n HT40	38/5190	16.48	24	PASS
	46/5230	15.97	24	PASS

U-NII-2A

Network Standards	Channel/ Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Conclusion
802.11a	52/5260	15.45	24	PASS
	56/5280	15.47	24	PASS
	60/5300	15.34	24	PASS
	64/5320	15.54	24	PASS
802.11n HT20	52/5260	15.39	24	PASS
	56/5280	15.52	24	PASS
	60/5300	15.63	24	PASS
	64/5320	15.59	24	PASS
802.11n HT40	54/5270	15.63	24	PASS
	62/5310	16.39	24	PASS

U-NII-3

Network Standards	Channel/ Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Conclusion
802.11a	149/5745	12.98	30	PASS
	157/5785	12.03	30	PASS
	165/5825	9.60	30	PASS
802.11n HT20	149/5745	10.83	30	PASS
	157/5785	11.74	30	PASS
	165/5825	10.64	30	PASS
802.11n HT40	151/5755	12.98	30	PASS
	159/5795	11.75	30	PASS

5.3. Frequency Stability

Ambient condition

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

Method of Measurement

1. Frequency stability with respect to ambient temperature

a) Supply the EUT with a nominal ac voltage or install a new or fully charged battery in the EUT. If possible, a dummy load shall be connected to the EUT because an antenna near the metallic walls of an environmental test chamber could affect the output frequency of the EUT. If the EUT is equipped with a permanently attached, adjustable-length antenna, then the EUT shall be placed in the center of the chamber with the antenna adjusted to the shortest length possible. Turn ON the EUT and tune it to one of the number of frequencies shown in 5.6.

b) Couple the unlicensed wireless device output to the measuring instrument by connecting an antenna to the measuring instrument with a suitable length of coaxial cable and placing the measuring antenna near the EUT (e.g., 15 cm away), or by connecting a dummy load to the measuring instrument, through an attenuator if necessary.

c) Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).

d) Turn the EUT OFF and place it inside the environmental temperature chamber. For devices that have oscillator heaters, energize only the heater circuit.

e) Set the temperature control on the chamber to the highest specified in the regulatory requirements for the type of device and allow the oscillator heater and the chamber temperature to stabilize.

f) While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.

g) Measure the frequency at each of frequencies specified in 5.6.

h) Switch OFF the EUT but do not switch OFF the oscillator heater.

i) Lower the chamber temperature by not more that 10 C, and allow the temperature inside the chamber to stabilize.

j) Repeat step f) through step i) down to the lowest specified temperature.

2. Frequency stability when varying supply voltage

Unless otherwise specified, these tests shall be made at ambient room temperature (+15 C to +25 C). An antenna shall be connected to the antenna output terminals of the EUT if possible. If the EUT is equipped with or uses an adjustable-length antenna, then it shall be fully extended.

a) Supply the EUT with nominal voltage or install a new or fully charged battery in the EUT. Turn ON the EUT and couple its output to a frequency counter or other frequency-measuring instrument.

b) Tune the EUT to one of the number of frequencies required in 5.6. Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).
c) Measure the frequency at each of the frequencies specified in 5.6.
d) Repeat the above procedure at 85% and 115% of the nominal supply voltage.

Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

Measurement Uncertainty

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

Test Results

Voltage (V)	Temperature (°C)	U-NII-1 Test Results			
		5200MHz			
		1min	2min	5min	10min
5.00	-20	5200.002104	5199.995243	5199.989264	5199.980133
5.00	-10	5199.993126	5199.992952	5199.980718	5199.973472
5.00	0	5199.985480	5199.988647	5199.976948	5199.970402
5.00	10	5199.984527	5199.985089	5199.976420	5199.969164
5.00	20	5199.980435	5199.980000	5199.972055	5199.966329
5.00	30	5199.974041	5199.979773	5199.963432	5199.958664
5.00	40	5199.964981	5199.975156	5199.961788	5199.958469
5.00	50	5199.963055	5199.968151	5199.961307	5199.950904
4.75	20	5199.958068	5199.961412	5199.951479	5199.949451
5.25	20	5199.956070	5199.953320	5199.942511	5199.941848
MHz		-0.043930	-0.046680	-0.057489	-0.058152
PPM		-8.448089	-8.976845	-11.055647	-11.183027

Voltage (V)	Temperature (°C)	U-NII-2A Test Results			
		5300MHz			
		1min	2min	5min	10min
5.00	-20	5300.000305	5299.992625	5299.985756	5299.984258
5.00	-10	5299.992168	5299.991527	5299.980838	5299.976731
5.00	0	5299.985455	5299.987922	5299.978352	5299.970689
5.00	10	5299.983332	5299.981560	5299.972140	5299.961041
5.00	20	5299.975804	5299.972122	5299.964072	5299.959650
5.00	30	5299.966460	5299.967476	5299.957407	5299.957866
5.00	40	5299.960644	5299.966836	5299.952748	5299.950075
5.00	50	5299.954585	5299.966109	5299.944399	5299.941395
4.75	20	5299.947371	5299.959799	5299.938006	5299.933723
5.25	20	5299.942345	5299.956089	5299.929371	5299.928223
MHz		-0.057655	-0.043911	-0.070629	-0.071777
PPM		-10.878231	-8.285024	-13.326249	-13.542829

Voltage (V)	Temperature (°C)	U-NII-3 Test Results			
		5785MHz			
		1min	2min	5min	10min
5.00	-20	5784.990754	5784.989821	5784.986869	5784.982878
5.00	-10	5784.988635	5784.989139	5784.983918	5784.978043
5.00	0	5784.983782	5784.987090	5784.983308	5784.974489
5.00	10	5784.976514	5784.985087	5784.978237	5784.966003
5.00	20	5784.974582	5784.980259	5784.973213	5784.956407
5.00	30	5784.972366	5784.973929	5784.965544	5784.948936
5.00	40	5784.967289	5784.971341	5784.955812	5784.939056
5.00	50	5784.965192	5784.966871	5784.948323	5784.933309
4.75	20	5784.957275	5784.957454	5784.939543	5784.930808
5.25	20	5784.949877	5784.956487	5784.934348	5784.922805
MHz		-0.050123	-0.043513	-0.065652	-0.077195
PPM		-8.664300	-7.521747	-11.348728	-13.343964

5.4. Power Spectral Density

Ambient condition

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

Method of Measurement

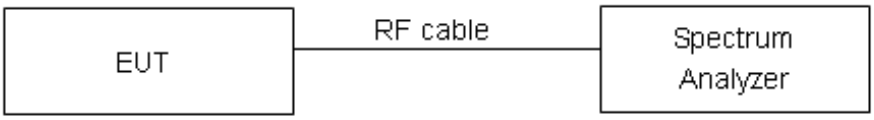
The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.

Set RBW = 510 kHz, VBW =1.5MHz for the band 5.725-5.85 GHz

Set RBW = 1 MHz, VBW =3MHz for the band 5.150-5.250 GHz

The conducted PSD is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically.

Test setup



Limits

Rule FCC Part 15.407(a)(1)/ Part 15.407(a)(2) / Part 15.407(a)(3)
For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmittingantennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Frequency Bands/MHz	Limits
5150-5250	17dBm/MHz
5.25-5.35 GHz and 5.47-5.725 GHz	11dBm/MHz
5725-5850	30dBm/500kHz

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:

U-NII-1

Network Standards	Channel Number	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	36	5.286	17	PASS
	40	4.644	17	PASS
	48	4.760	17	PASS
802.11n HT20	36	5.076	17	PASS
	40	4.704	17	PASS
	48	4.750	17	PASS
802.11n HT40	38	1.108	17	PASS
	46	0.864	17	PASS

U-NII-2A

Network Standards	Channel Number	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	52	4.378	11	PASS
	60	4.743	11	PASS
	64	4.522	11	PASS
802.11n HT20	52	4.357	11	PASS
	60	4.714	11	PASS
	64	4.753	11	PASS
802.11n HT40	54	1.019	11	PASS
	62	1.048	11	PASS

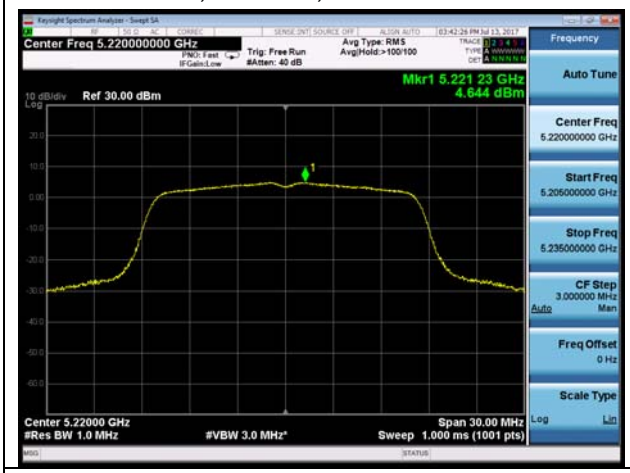
U-NII-3

Network Standards	Channel Number	Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)	Conclusion
802.11a	149	-0.318	30	PASS
	157	-1.249	30	PASS
	165	-4.518	30	PASS
802.11n HT20	149	-2.047	30	PASS
	157	-1.556	30	PASS
	165	-2.684	30	PASS
802.11n HT40	151	-3.966	30	PASS
	159	-4.969	30	PASS

U-NII-1, 802.11a, Channel No.: 36

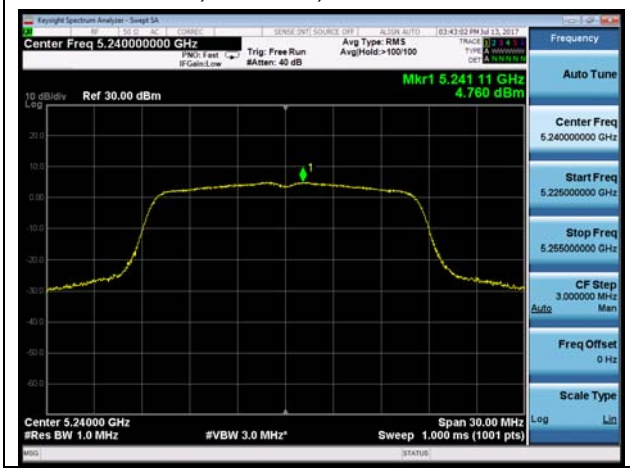
U-NII-1, 802.11n HT20, Channel No.: 36

U-NII-1, 802.11a, Channel No.: 44



U-NII-1, 802.11n HT20, Channel No.: 44

U-NII-1, 802.11a, Channel No.: 48

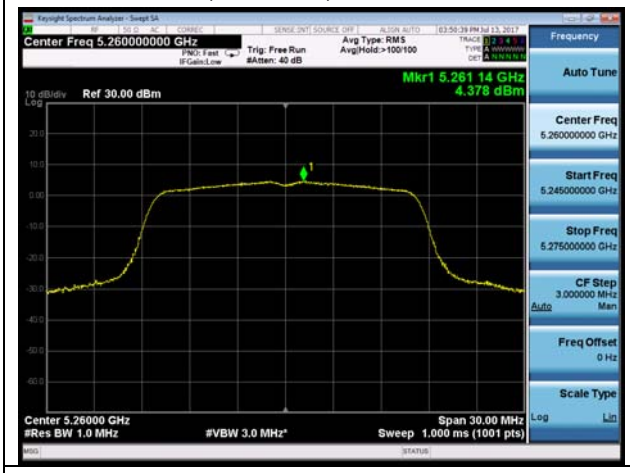


U-NII-1, 802.11n HT20, Channel No.: 48

U-NII-1, 802.11n HT40, Channel No.: 38

U-NII-1, 802.11n HT40, Channel No.: 46

U-NII-2A, 802.11a, Channel No.: 52



U-NII-2A, 802.11n HT20, Channel No.: 52

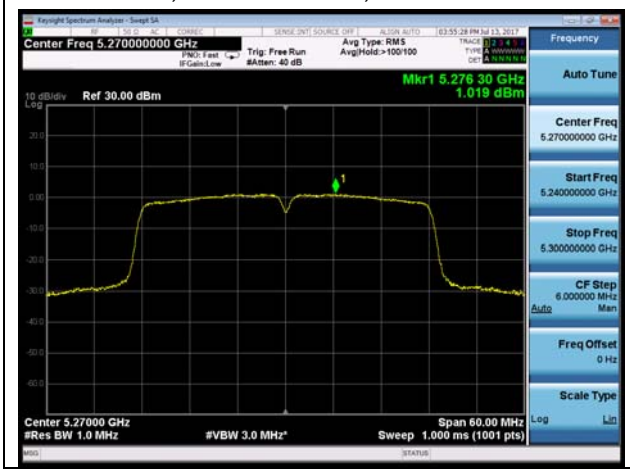
U-NII-2A, 802.11a, Channel No.: 60

U-NII-2A, 802.11n HT20, Channel No.: 60

U-NII-2A, 802.11a, Channel No.: 64

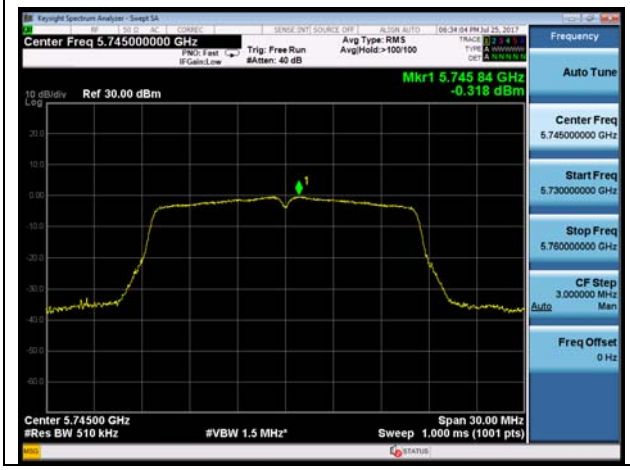
U-NII-2A, 802.11n HT20, Channel No.: 64

U-NII-2A, 802.11n HT40, Channel No.: 54



U-NII-2A, 802.11n HT40, Channel No.: 62

U-NII-3, 802.11a, Channel No.: 149

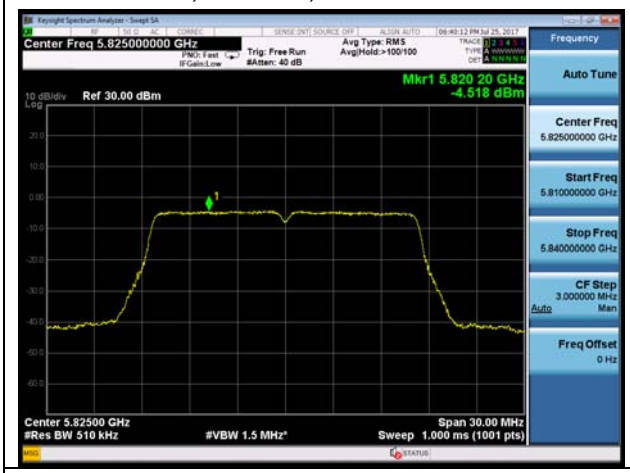


U-NII-3, 802.11n HT20, Channel No.: 149

U-NII-3, 802.11a, Channel No.:161

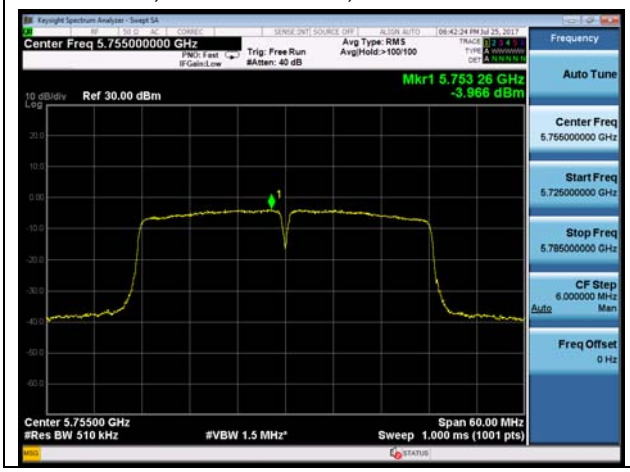
U-NII-3, 802.11n HT20, Channel No.: 161

U-NII-3, 802.11a, Channel No.: 165



U-NII-3, 802.11n HT20, Channel No.: 165

U-NII-3, 802.11n HT40, Channel No.: 151



U-NII-3, 802.11n HT40, Channel No.: 159

5.5. Unwanted Emission

Ambient condition

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

Method of Measurement

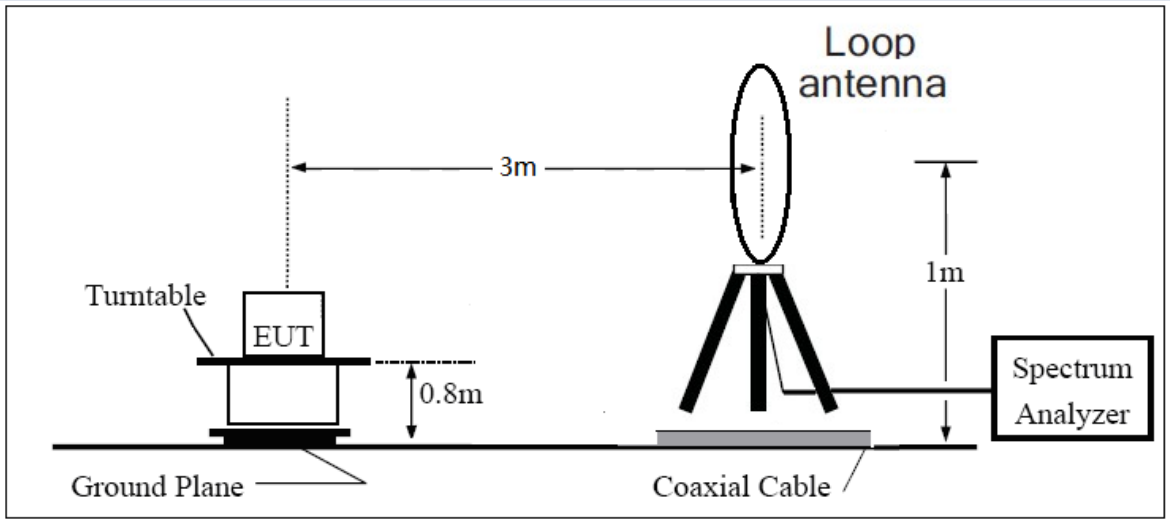
The test set-up was made in accordance to the general provisions of ANSI C63.10-2013. The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration.
Sweep the whole frequency band range from 9kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

During the test, 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=100kHz / VBW=300kHz / Sweep=AUTO
Above 1GHz (detector: Peak):
(a) PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO

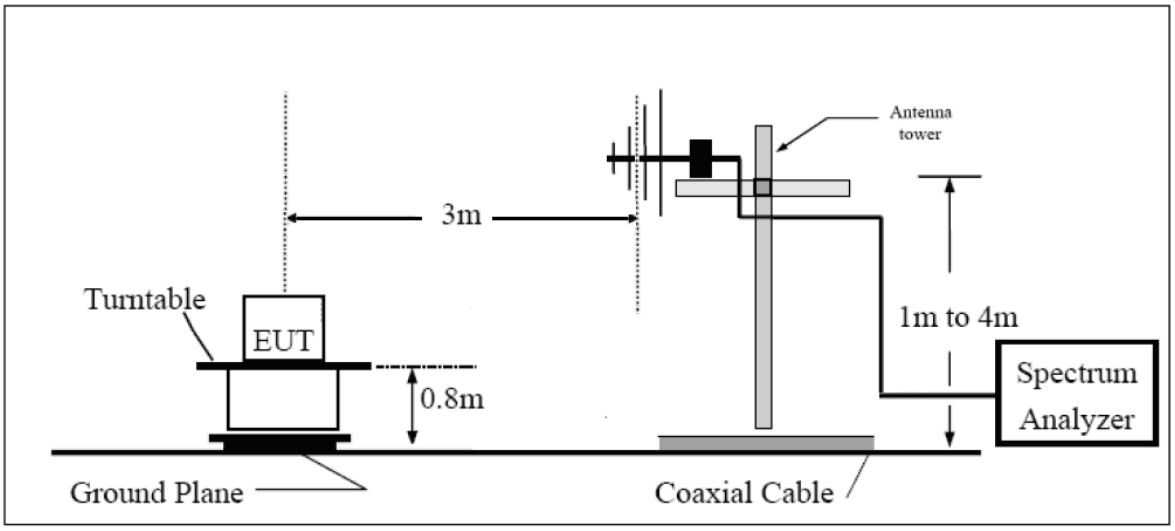
The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

The test is in transmitting mode.

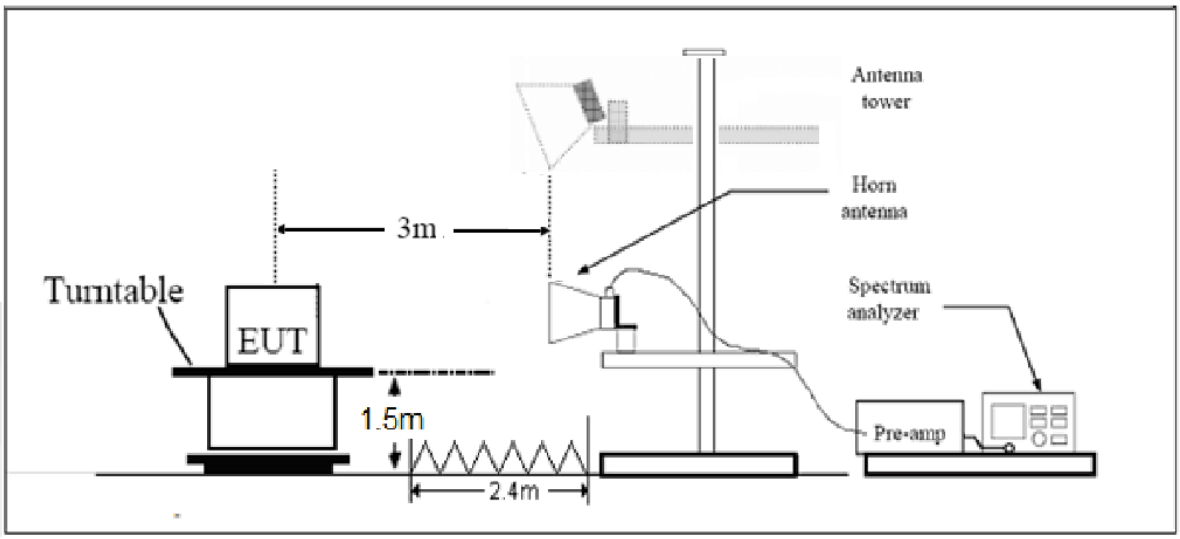
9KHz~~~30MHz



30MHz~~~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

Limits

(1) For transmitters operating in the 5725-5850 MHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(2) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz(68.2dBμV/m).

(3) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz(68.2dBμV/m).

(4) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz(68.2dBμV/m).

Note: the following formula is used to convert the EIRP to field strength

§1、E[dBμV/m] = EIRP[dBm] - 20 log(d[meters]) + 104.77, where E = field strength and

d = distance at which field strength limit is specified in the rules;

§2、E[dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters

(5) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table.

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

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.

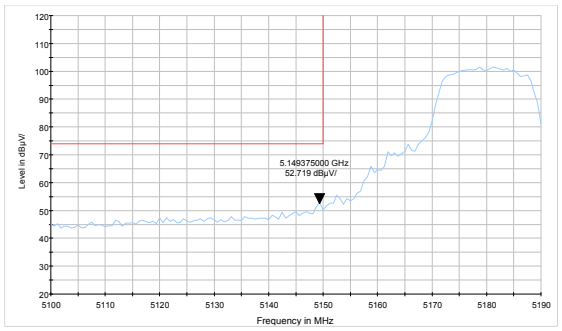
Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.19 dB
200MHz-1GHz	3.63 dB
1GHz-26.5G	3.68 dB
26.5G-40GHz	4.76dB

Test Results:

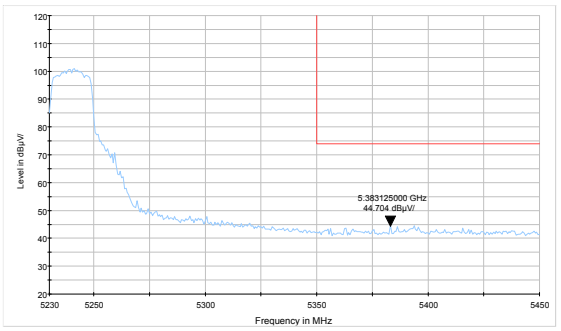
The signal beyond the limit is carrier.

U-NII-1

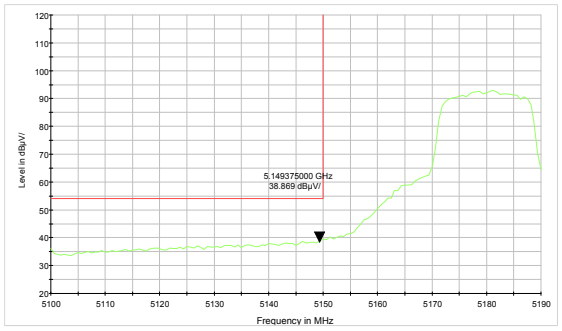
802.11a-Channel 36: Peak



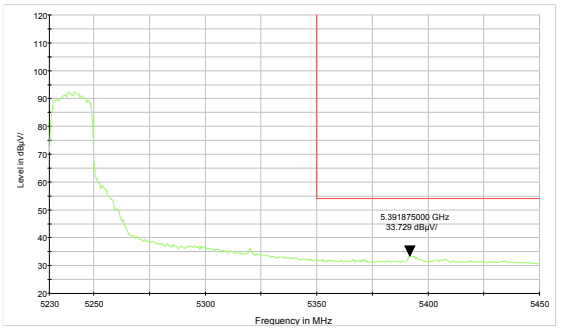
802.11a-Channel 48: Peak



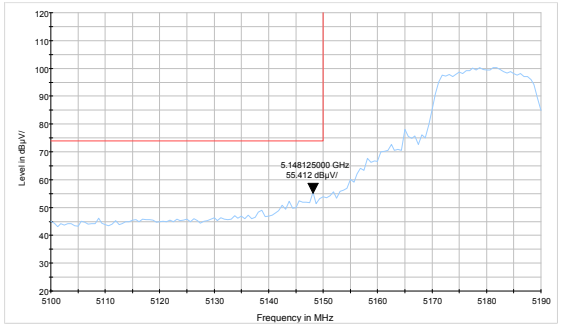
802.11a-Channel 36: Average



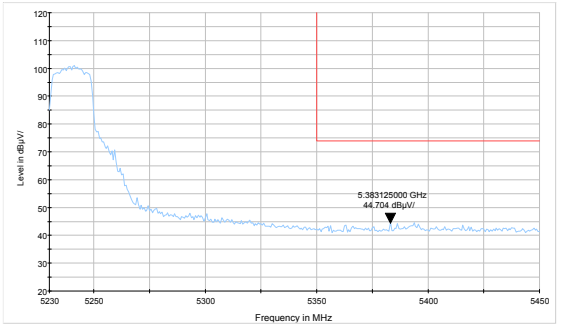
802.11a-Channel 48: Average



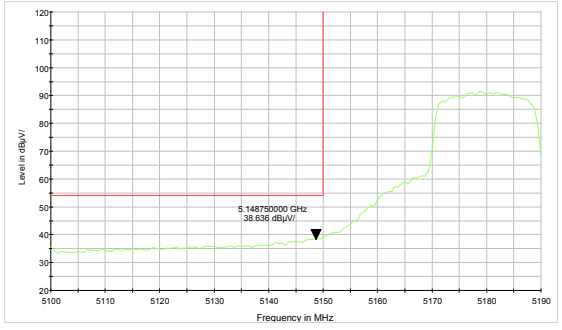
802.11n HT20-Channel 36: Peak



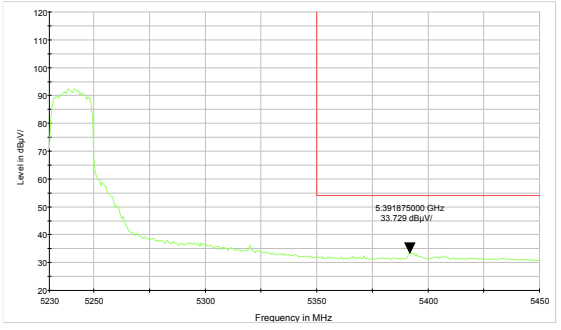
802.11n HT20-Channel 48: Peak



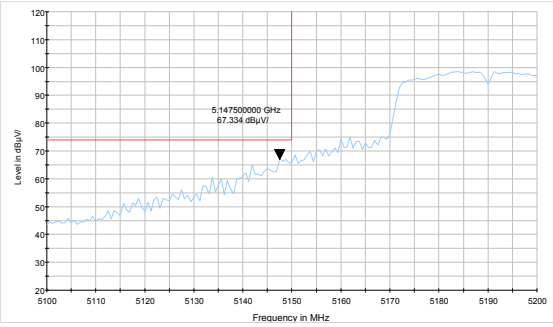
802.11n HT20-Channel 36: Average



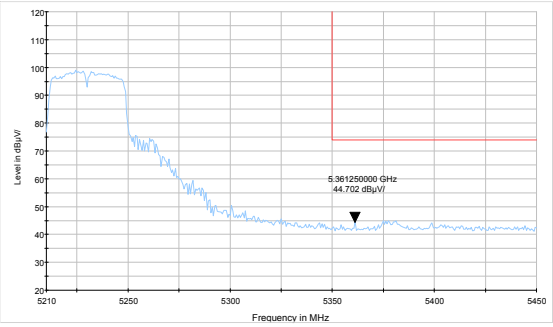
802.11n HT20-Channel 48: Average



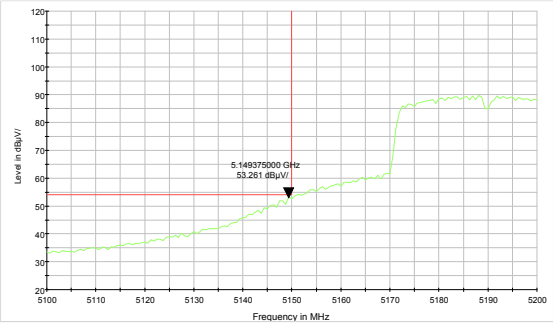
802.11n HT40-Channel 38: Peak



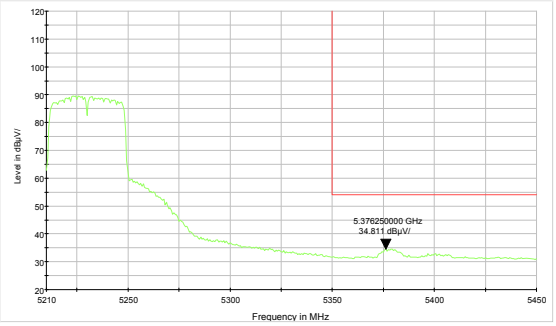
802.11n HT40-Channel 46: Peak



802.11n HT40-Channel 38: Average

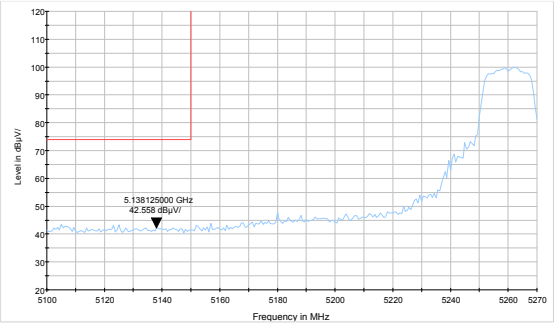


802.11n HT40-Channel 46: Average

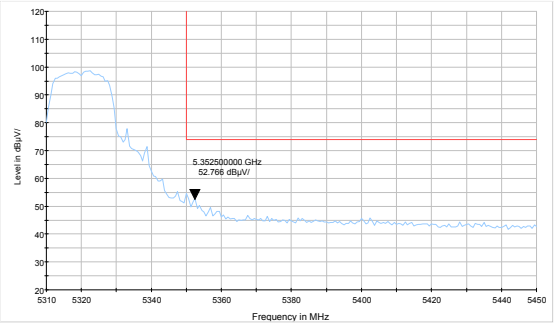


U-NII-2A

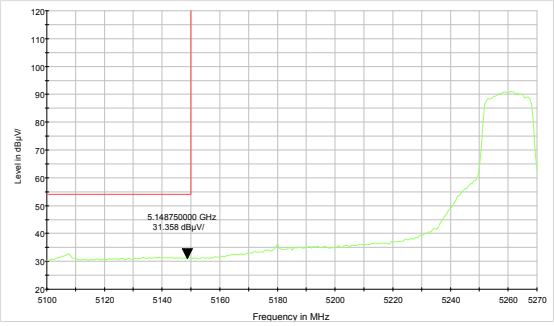
802.11a-Channel 52: Peak



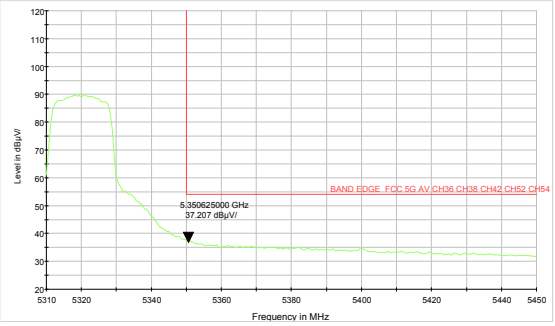
802.11a-Channel 64: Peak



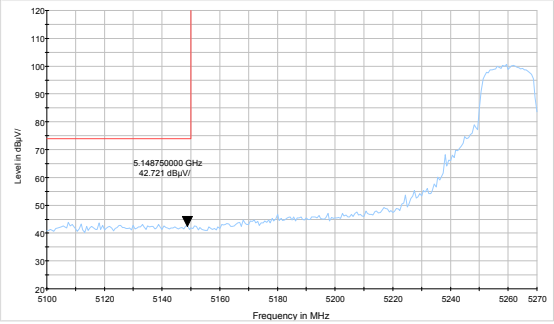
802.11a-Channel 52: Average



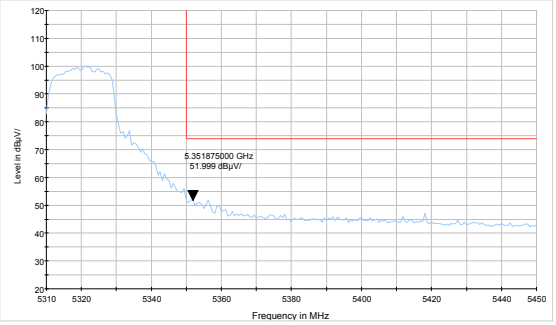
802.11a-Channel 64: Average



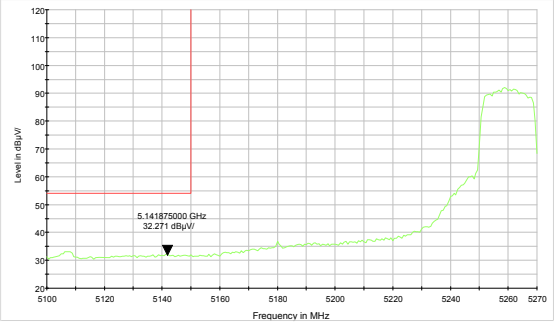
802.11n HT20-Channel 52: Peak



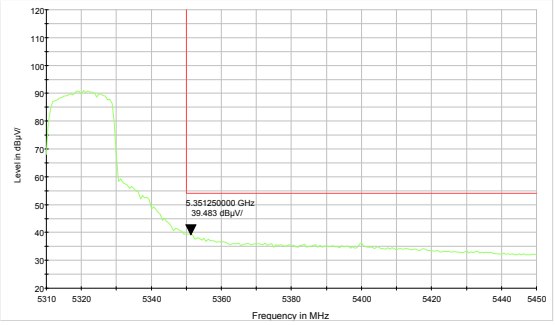
802.11n HT20-Channel 64: Peak



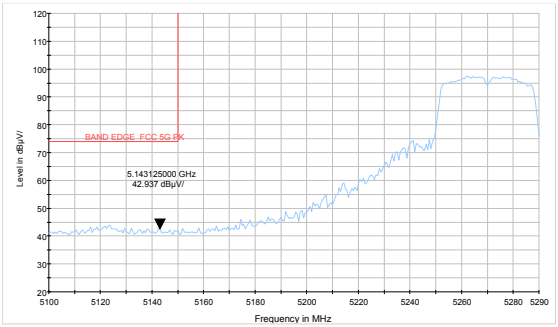
802.11n HT20-Channel 52: Average



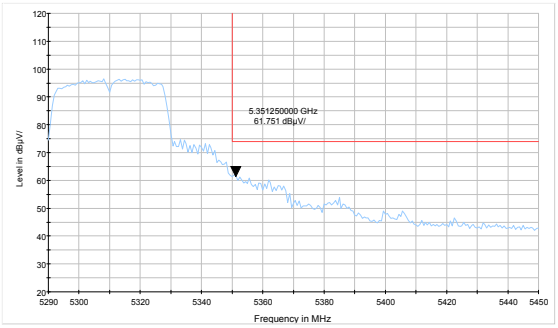
802.11n HT20-Channel 64: Average



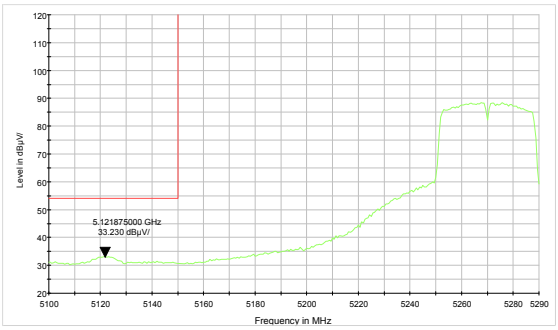
802.11n HT40-Channel 54: Peak



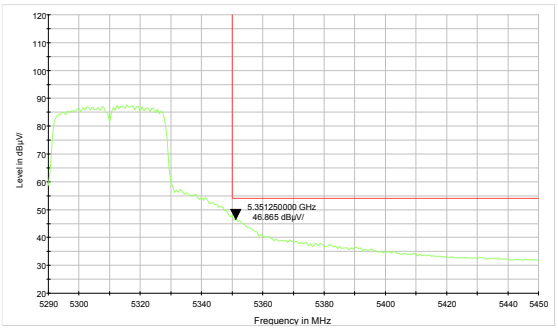
802.11n HT40-Channel 62: Peak



802.11n HT40-Channel 54: Average

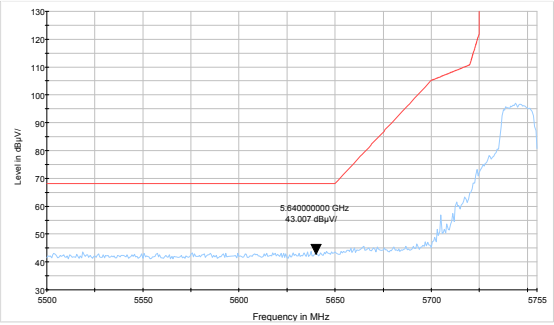


802.11n HT40-Channel 62: Average

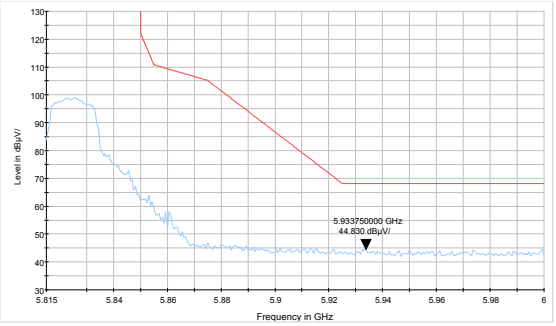


U-NII-3

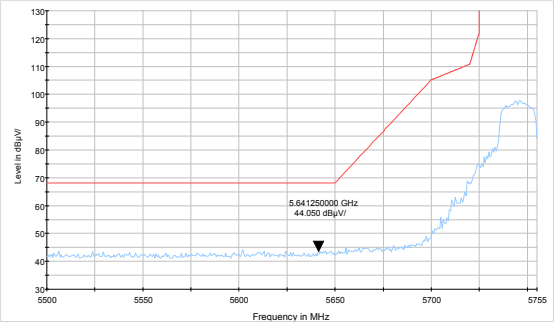
802.11a-Channel 149: Peak



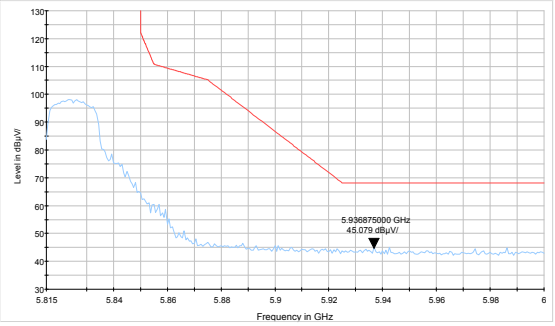
802.11a-Channel 165: Peak



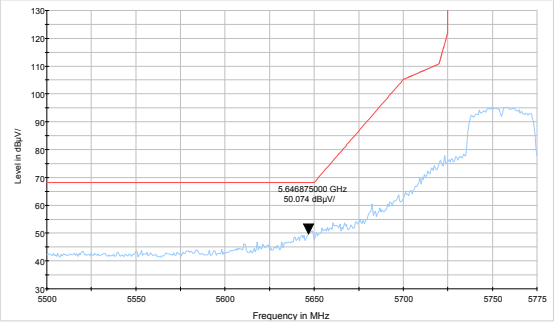
802.11n HT20-Channel 149: Peak



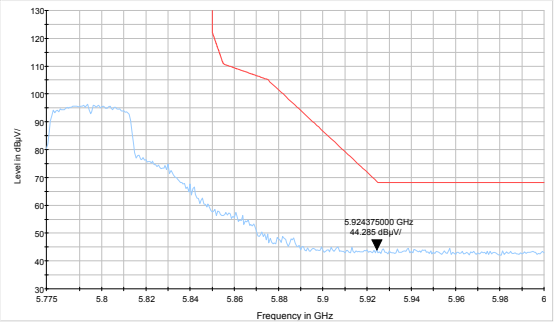
802.11n HT20-Channel 165: Peak



802.11n HT40-Channel 151: Peak



802.11n HT40-Channel 159: Peak



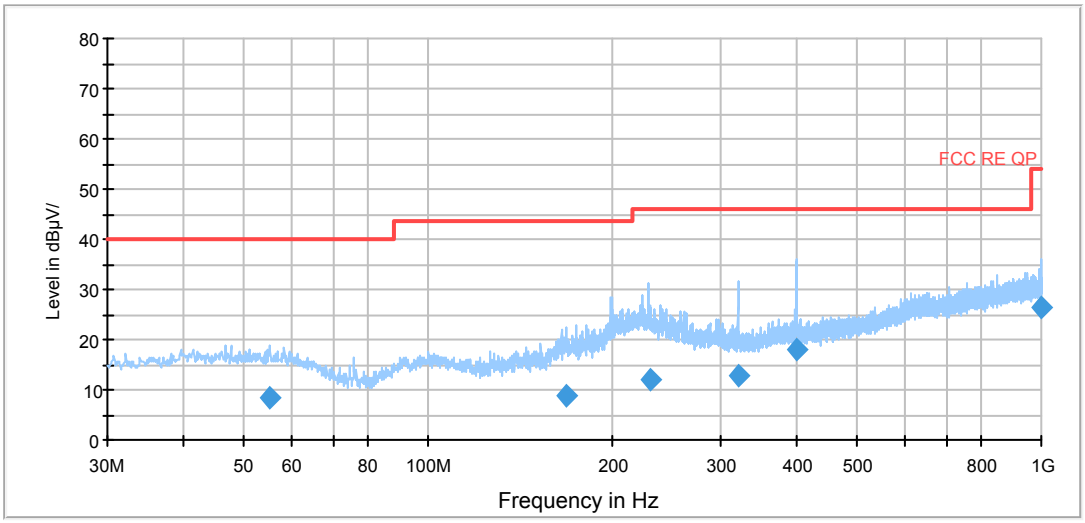
Result of RE

Test result

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, and 9KHz-30MHz, the emissions more than 20 dB below the permissible value are not reported.

Continuous TX mode:

FCC RE 0.03-1GHz QP Class B



Radiates Emission from 30MHz to 1GHz

802.11a CH36

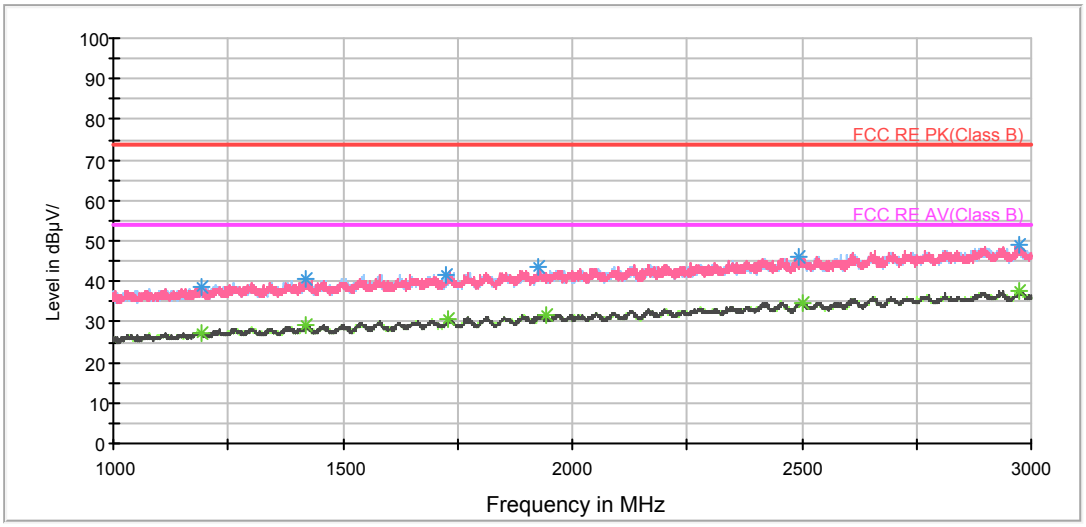
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3521.250000	39.7	102.0	V	0.0	41.7	-2.0	34.3	74
4074.375000	41.3	202.0	H	42.0	42.2	-0.9	32.7	74
4770.000000	42.2	102.0	H	275.0	41.1	1.1	31.8	74
6075.000000	45.8	102.0	H	0.0	40.6	5.2	28.2	74
6590.000000	45.9	102.0	V	44.0	40.3	5.6	28.1	74
6915.000000	47.1	202.0	V	0.0	40.9	6.2	26.9	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)
3564.375000	28.0	202.0	H	167.0	30.1	-2.1	26.0	54
4086.250000	27.7	202.0	H	84.0	28.6	-0.9	26.3	54
4765.000000	29.5	102.0	H	0.0	28.4	1.1	24.5	54
6090.625000	33.0	102.0	V	105.0	27.9	5.1	21.0	54
6641.875000	33.1	102.0	H	316.0	27.6	5.5	20.9	54
6948.125000	34.0	202.0	H	21.0	27.8	6.2	20.0	54

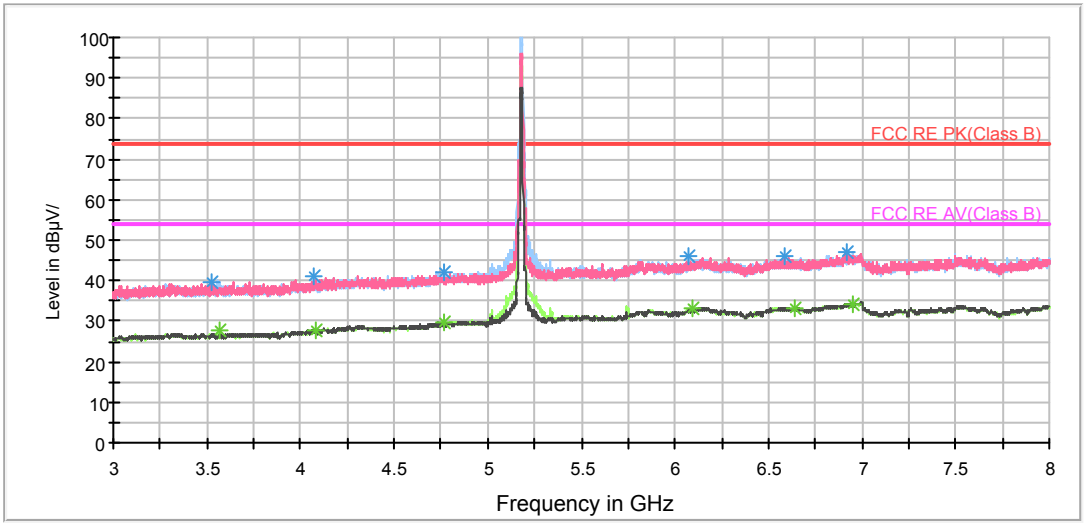
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

RE 1G-3GHz PK+AV



Radiates Emission from 1GHz to 3GHz

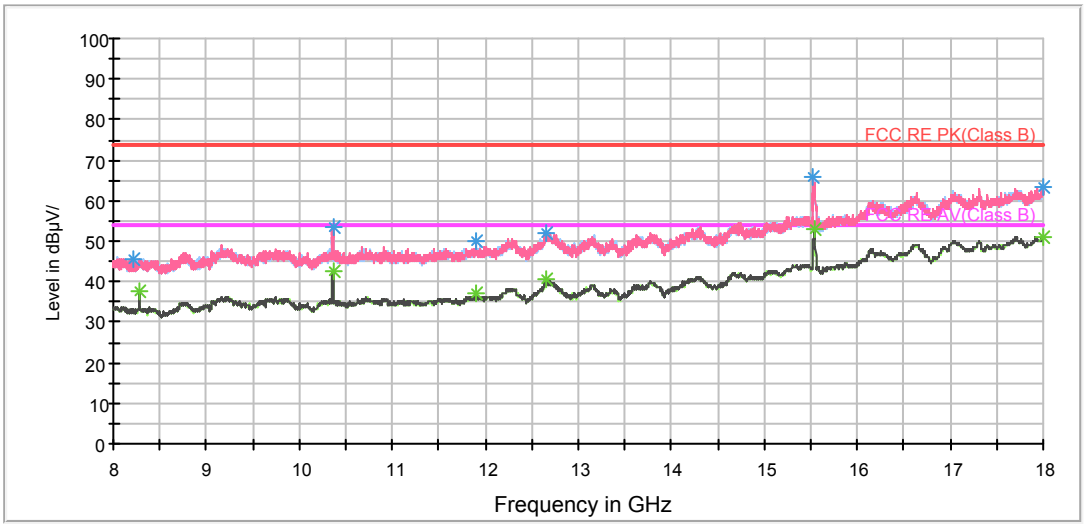
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

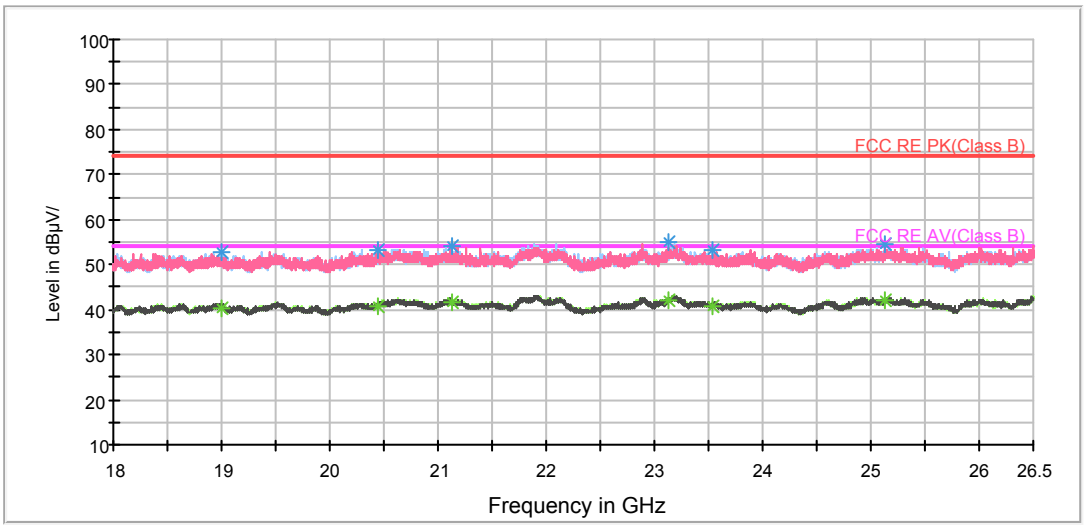
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



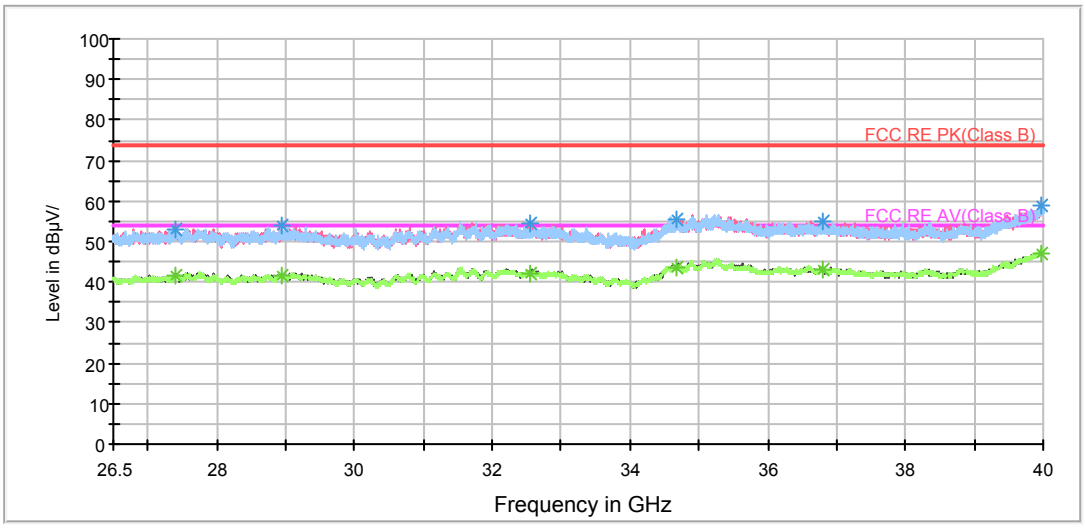
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

802.11a CH40

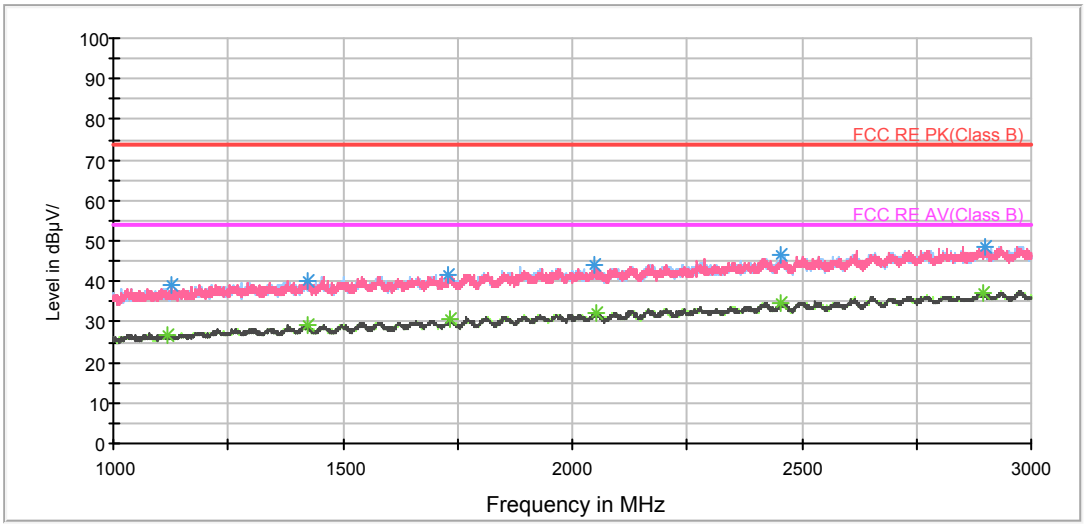
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3293.125000	39.0	102.0	V	0.0	41.2	-2.2	35.0	74
4056.875000	40.4	202.0	H	1.0	41.5	-1.1	33.6	74
4853.125000	42.2	202.0	H	0.0	40.6	1.6	31.8	74
5744.375000	46.7	102.0	H	169.0	43.1	3.6	27.3	74
6634.375000	45.9	102.0	V	191.0	40.4	5.5	28.1	74
6993.750000	46.6	102.0	V	65.0	40.1	6.5	27.4	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)
3286.875000	26.8	202.0	V	150.0	29.0	-2.2	27.2	54
4063.125000	27.6	102.0	V	0.0	28.7	-1.1	26.4	54
4863.125000	29.6	202.0	H	1.0	27.9	1.7	24.4	54
5745.000000	35.9	102.0	H	169.0	32.3	3.6	18.1	54
6658.125000	33.0	202.0	H	233.0	27.5	5.5	21.0	54
6993.125000	34.6	202.0	H	85.0	28.1	6.5	19.4	54

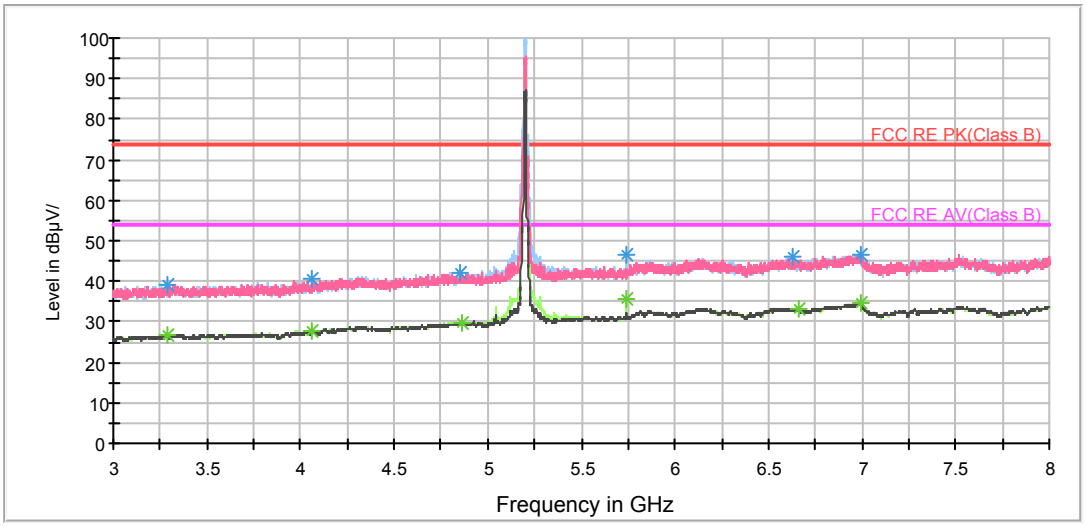
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

RE 1G-3GHz PK+AV



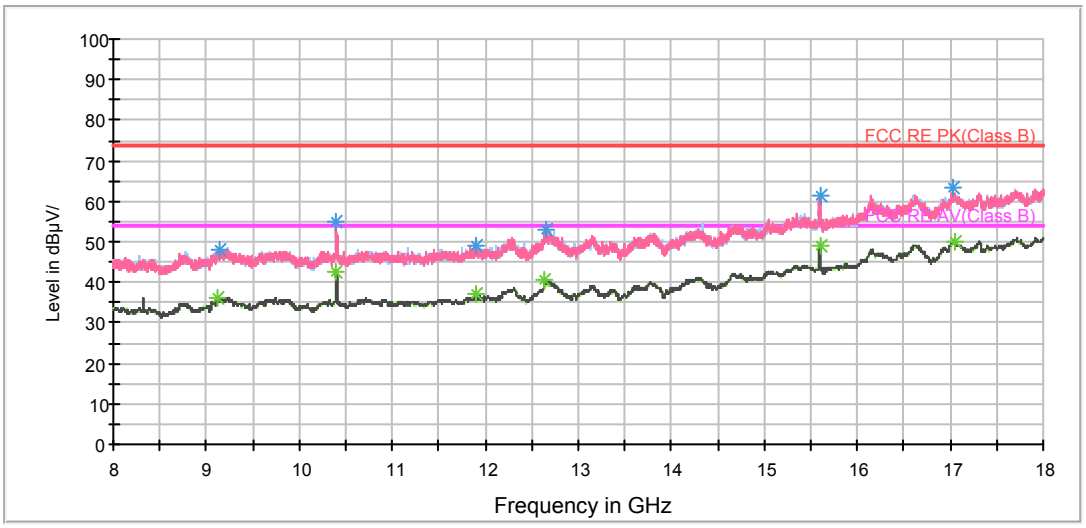
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



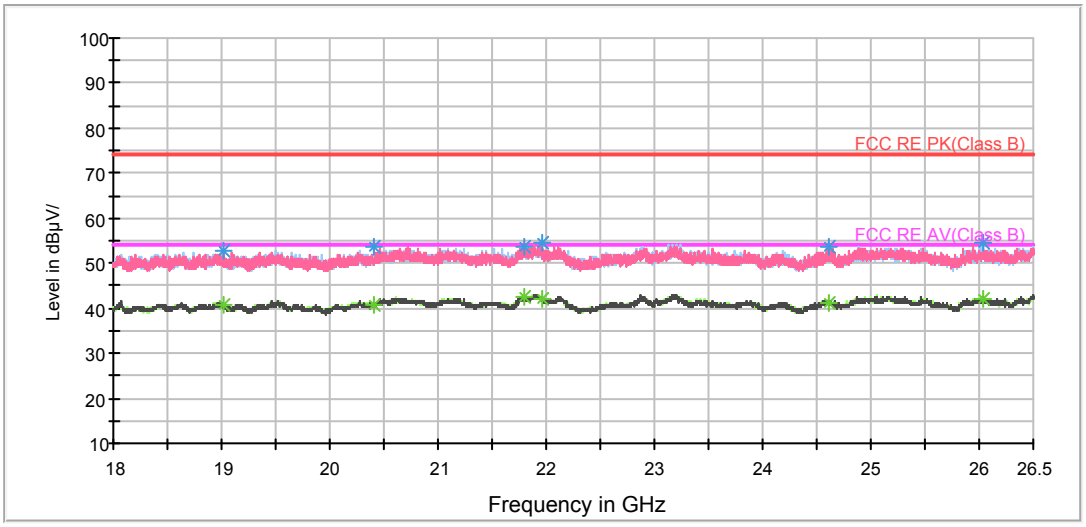
Note: The signal beyond the limit is carrier.
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



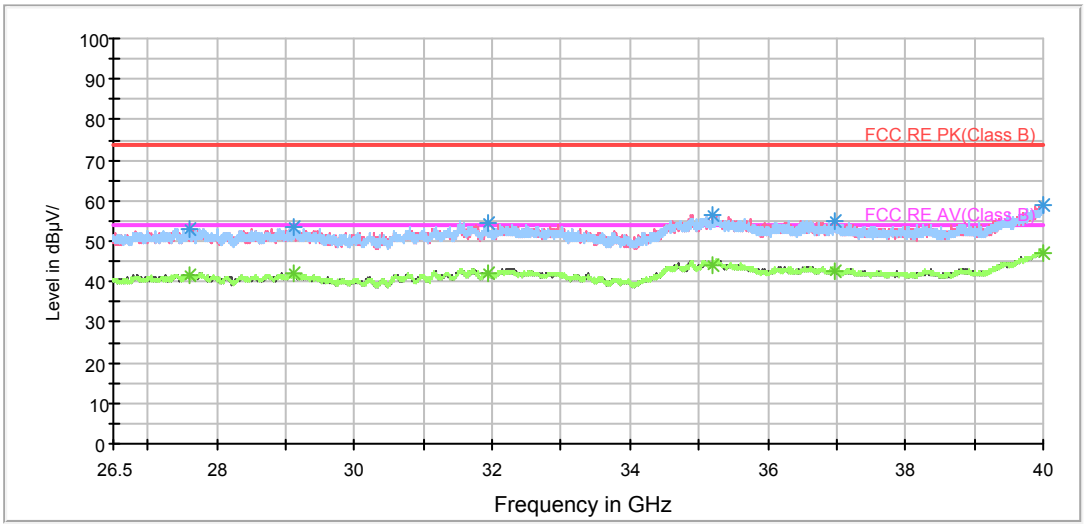
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

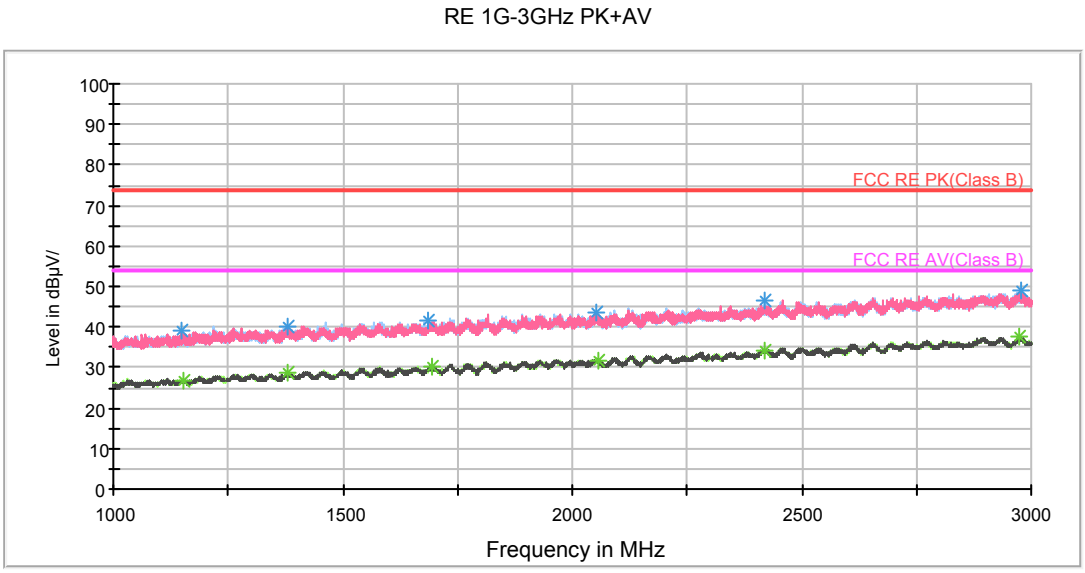
802.11a CH48

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3448.750000	39.4	202.0	H	0.0	41.6	-2.2	34.6	74
4075.000000	40.2	102.0	V	46.0	41.1	-0.9	33.8	74
4828.750000	42.5	102.0	V	0.0	41.1	1.4	31.5	74
5774.375000	44.2	202.0	H	0.0	40.4	3.8	29.8	74
6630.000000	46.1	202.0	H	170.0	40.6	5.5	27.9	74
6936.250000	47.0	102.0	V	0.0	40.9	6.1	27.0	74

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

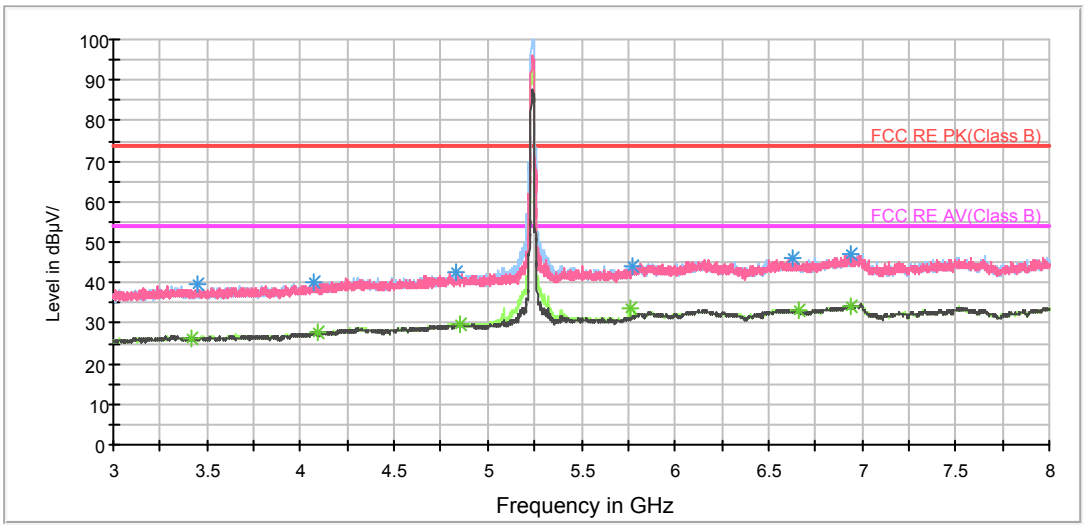
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3418.125000	26.1	102.0	H	169.0	28.7	-2.6	27.9	54
4090.000000	27.8	202.0	H	0.0	28.7	-0.9	26.2	54
4855.625000	29.7	102.0	H	336.0	28.1	1.6	24.3	54
5758.750000	33.6	102.0	H	357.0	30.1	3.5	20.4	54
6665.625000	33.3	202.0	H	0.0	27.8	5.5	20.7	54
6941.250000	34.1	202.0	H	0.0	28.0	6.1	19.9	54

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



Radiates Emission from 1GHz to 3GHz

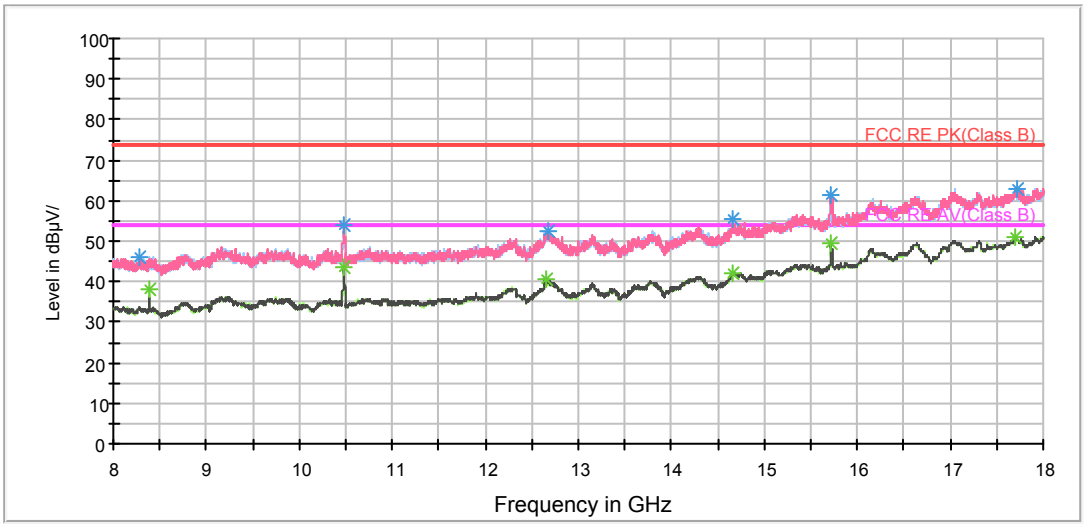
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

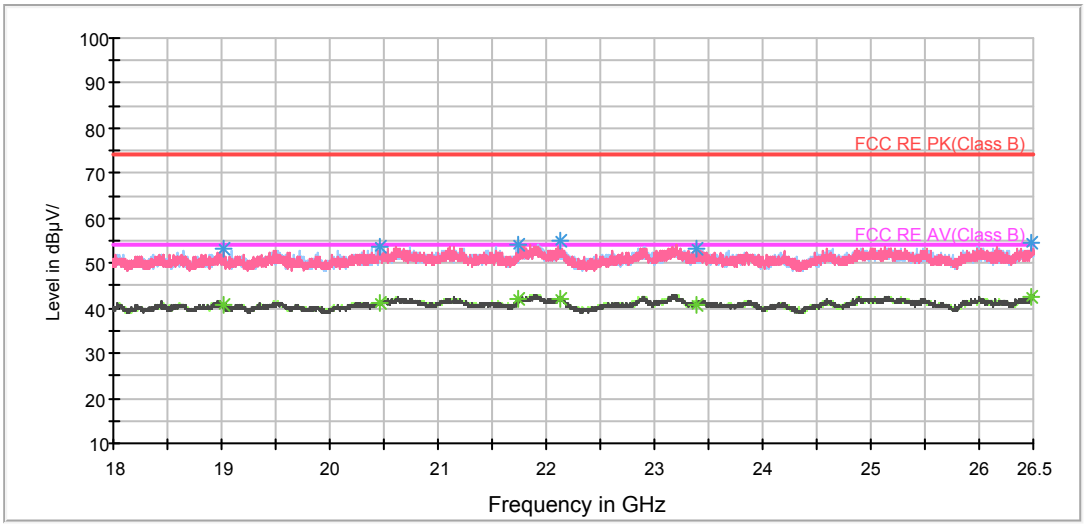
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



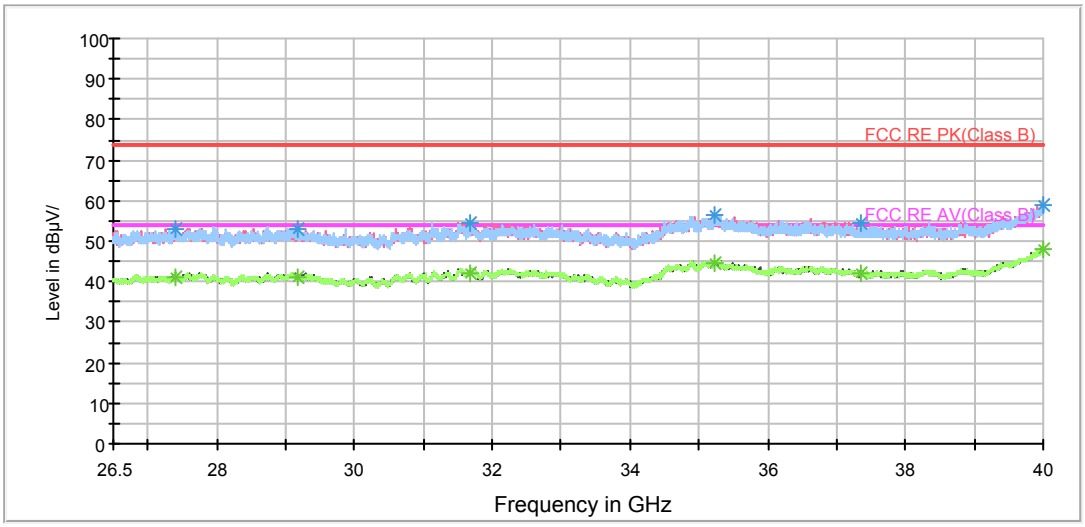
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

802.11a CH52

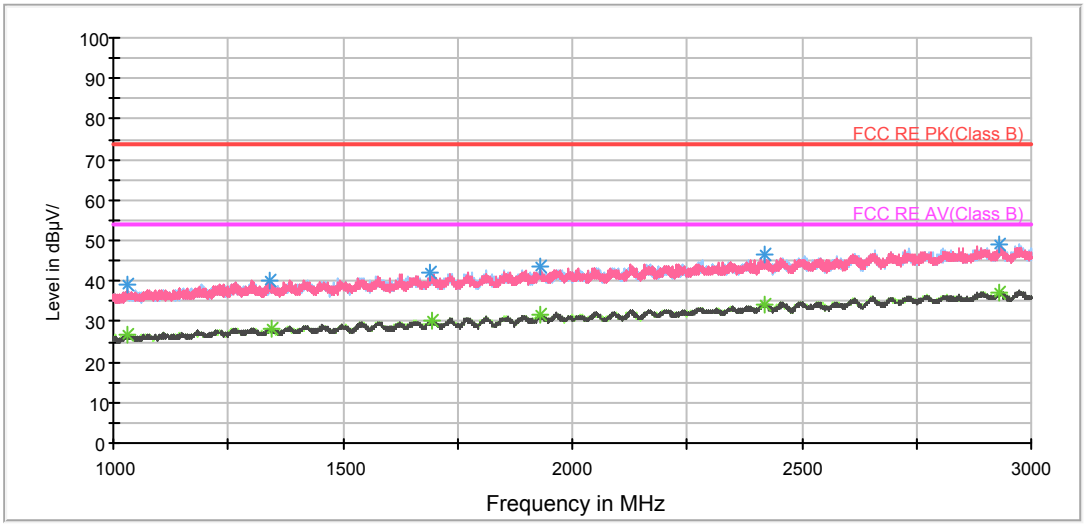
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3316.875000	39.6	202.0	H	85.0	41.7	-2.1	34.4	74
4125.625000	40.6	202.0	V	0.0	41.0	-0.4	33.4	74
4667.500000	42.4	102.0	V	104.0	41.6	0.8	31.6	74
5918.125000	45.8	202.0	V	106.0	40.9	4.9	28.2	74
7000.000000	47.6	202.0	H	0.0	41.0	6.6	26.4	74
7554.375000	46.3	102.0	V	62.0	39.3	7.0	27.7	74

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

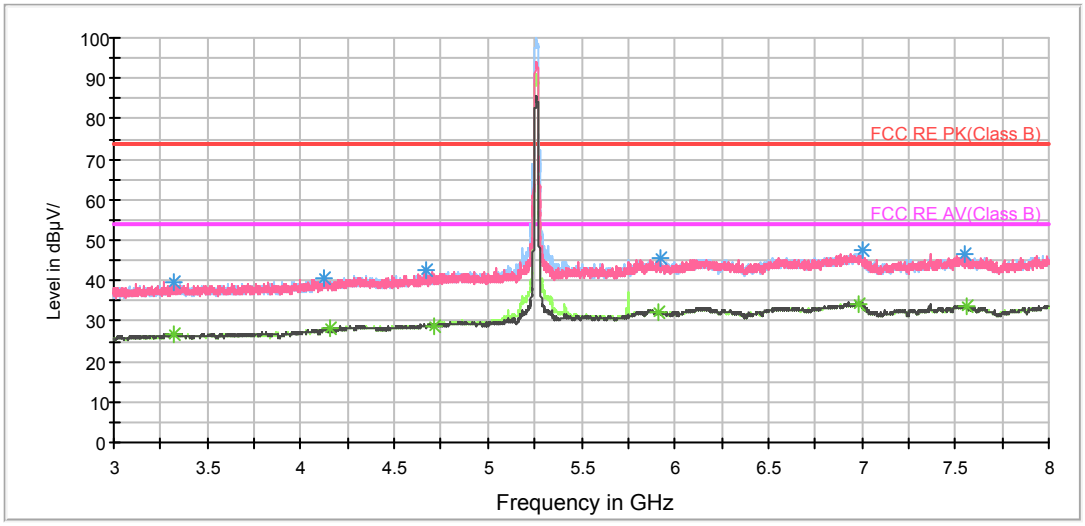
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3320.625000	26.8	202.0	H	3.0	28.9	-2.1	27.2	54
4160.000000	28.1	102.0	V	83.0	28.1	0.0	25.9	54
4713.125000	28.9	202.0	H	0.0	28.1	0.8	25.1	54
5912.500000	32.3	202.0	V	233.0	27.5	4.8	21.7	54
6981.250000	34.4	202.0	V	0.0	28.0	6.4	19.6	54
7557.500000	33.5	202.0	V	106.0	26.5	7.0	20.5	54

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

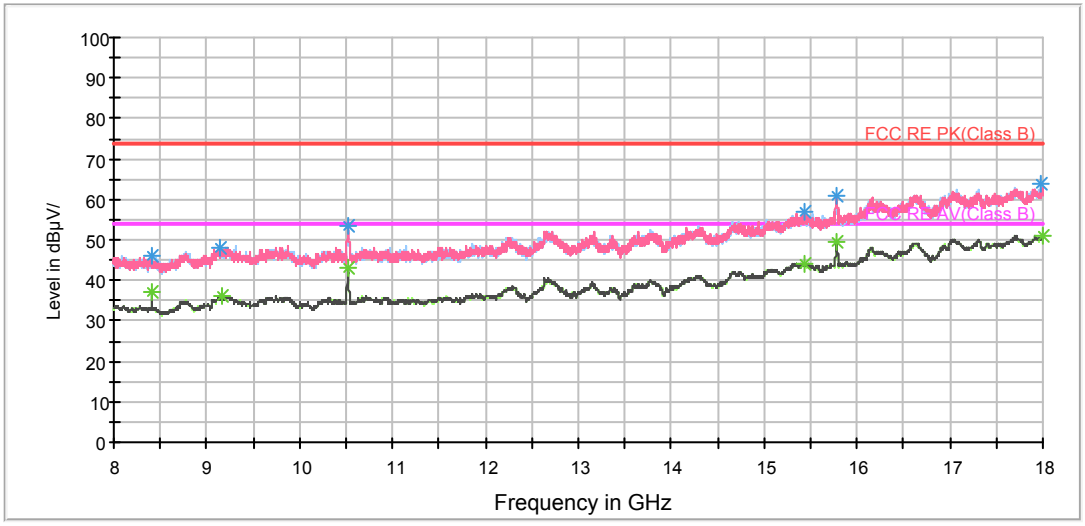
RE 1G-3GHz PK+AV



Radiates Emission from 1GHz to 3GHz

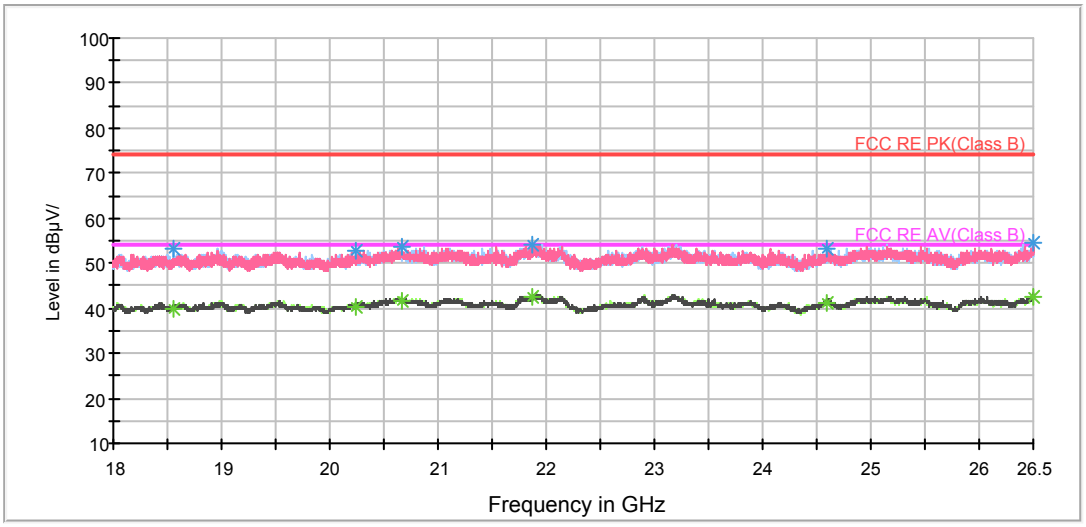


Note: The signal beyond the limit is carrier.
Radiates Emission from 3GHz to 8GHz



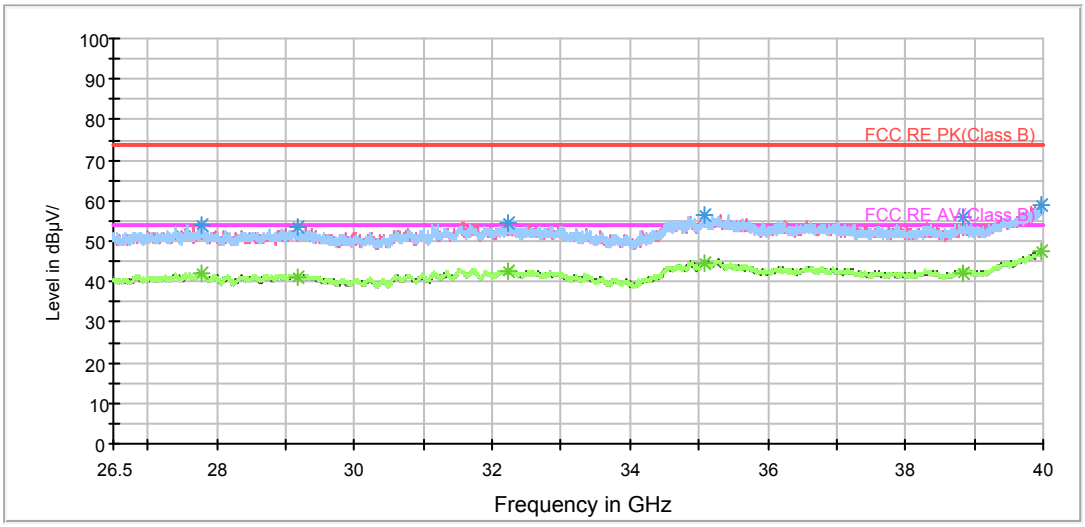
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

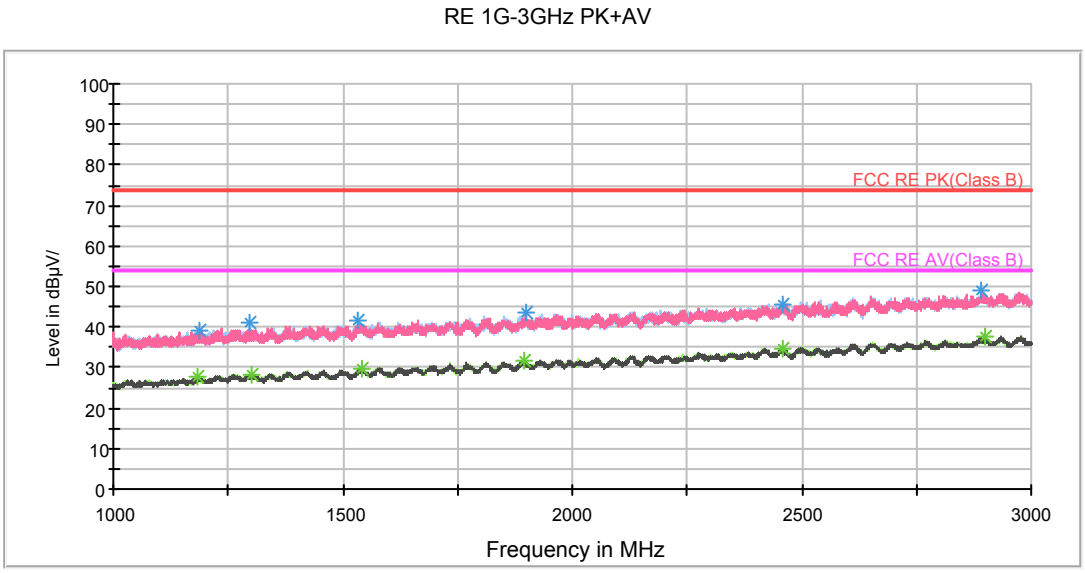
802.11a CH60

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3311.250000	40.2	102.0	V	102.0	42.3	-2.1	33.8	74
4132.500000	41.4	202.0	H	210.0	41.7	-0.3	32.6	74
4680.000000	42.6	202.0	H	0.0	41.8	0.8	31.4	74
6230.625000	46.0	202.0	H	147.0	40.7	5.3	28.0	74
6602.500000	46.0	202.0	V	85.0	40.3	5.7	28.0	74
6995.000000	46.7	202.0	H	3.0	40.2	6.5	27.3	74

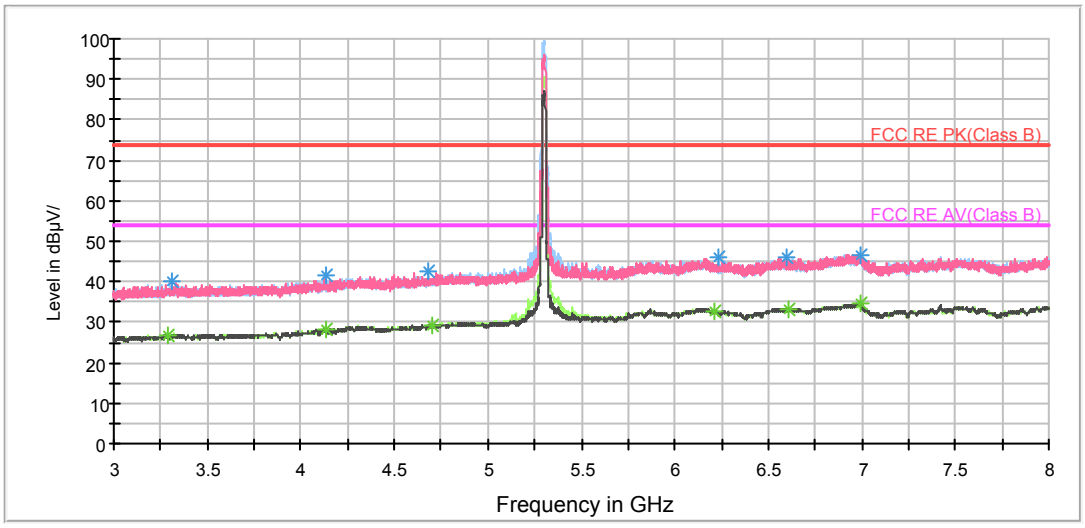
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3293.125000	26.7	202.0	H	23.0	28.9	-2.2	27.3	54
4137.500000	28.0	202.0	H	253.0	28.3	-0.3	26.0	54
4702.500000	29.3	102.0	V	20.0	28.5	0.8	24.7	54
6213.125000	32.6	202.0	H	0.0	27.2	5.4	21.4	54
6606.875000	33.1	202.0	H	0.0	27.5	5.6	20.9	54
6995.000000	34.6	202.0	V	149.0	28.1	6.5	19.4	54

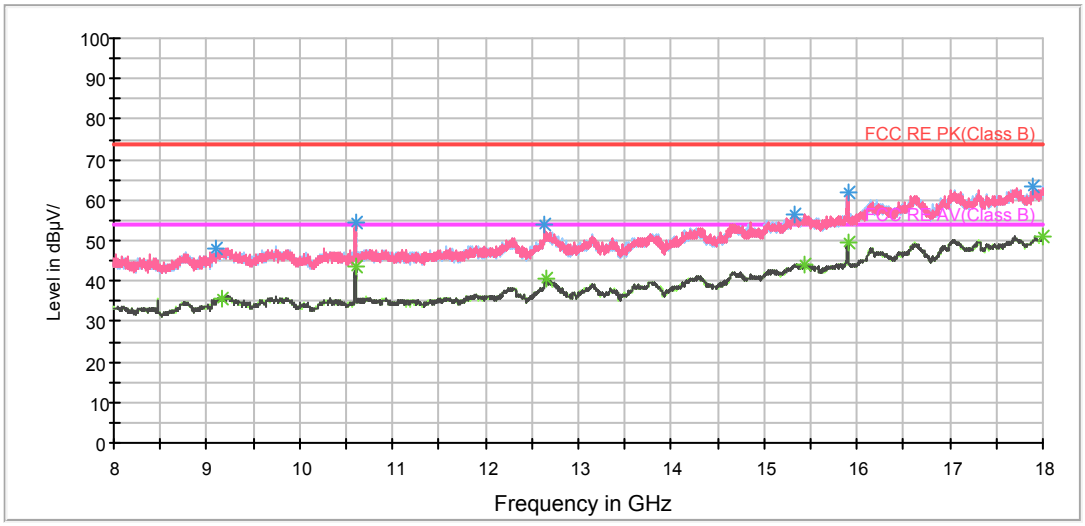
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 1GHz to 3GHz

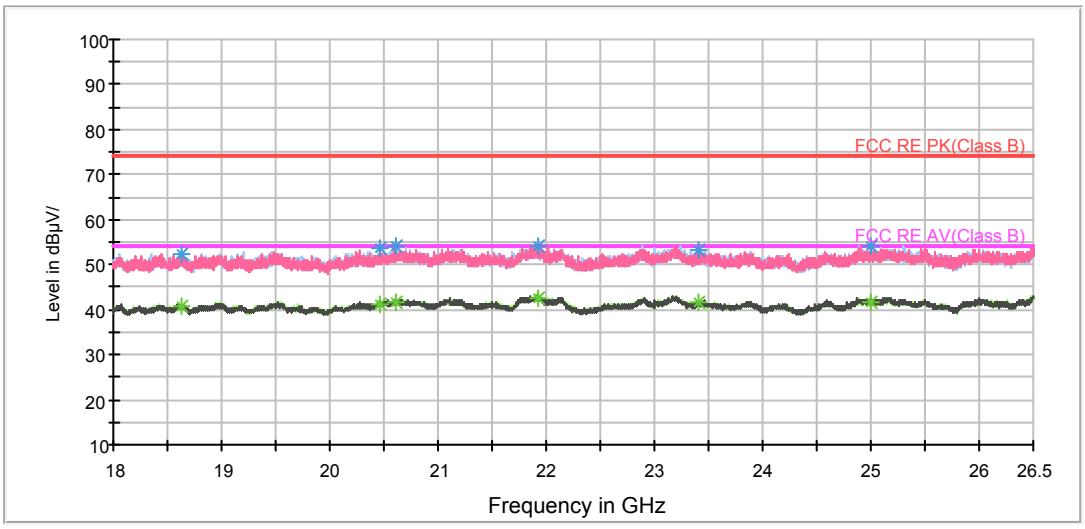


Note: The signal beyond the limit is carrier.
Radiates Emission from 3GHz to 8GHz



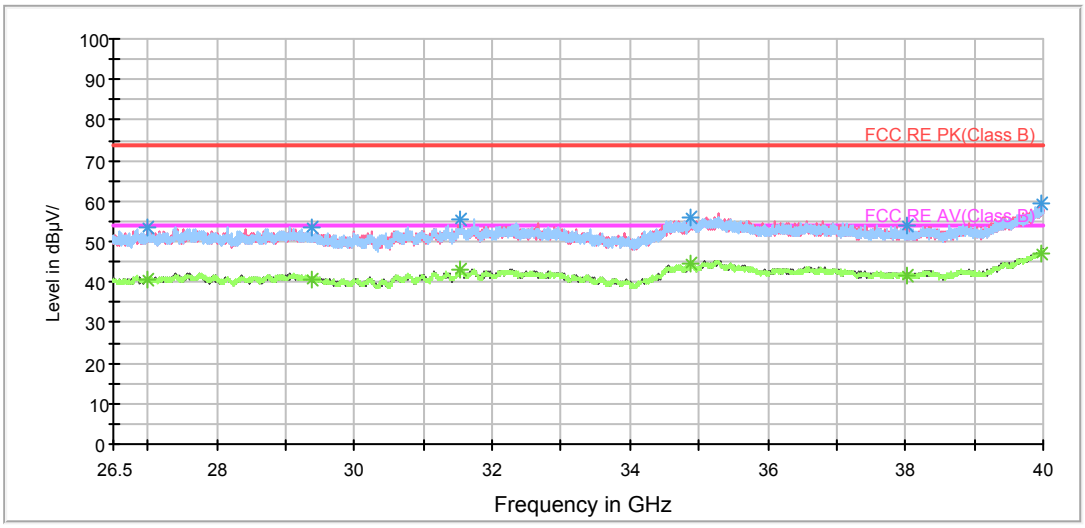
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

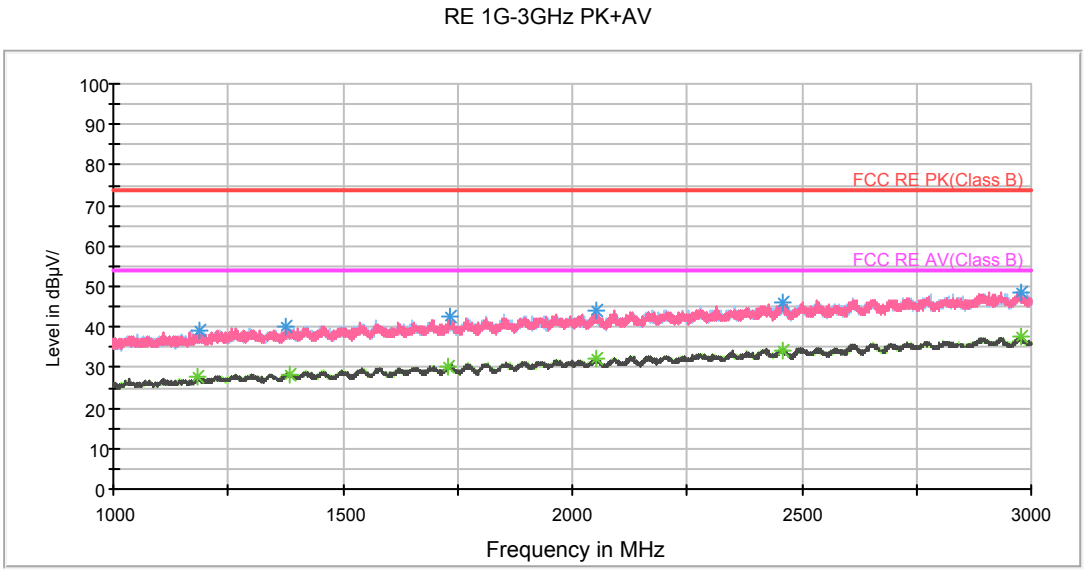
802.11a CH64

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3275.000000	39.5	102.0	V	0.0	41.7	-2.2	34.5	74
4130.625000	40.4	102.0	H	213.0	40.8	-0.4	33.6	74
4866.875000	42.6	102.0	V	0.0	40.9	1.7	31.4	74
5826.875000	44.8	202.0	H	0.0	40.3	4.5	29.2	74
6560.000000	46.0	102.0	V	297.0	40.2	5.8	28.0	74
6932.500000	47.6	202.0	V	0.0	41.4	6.2	26.4	74

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

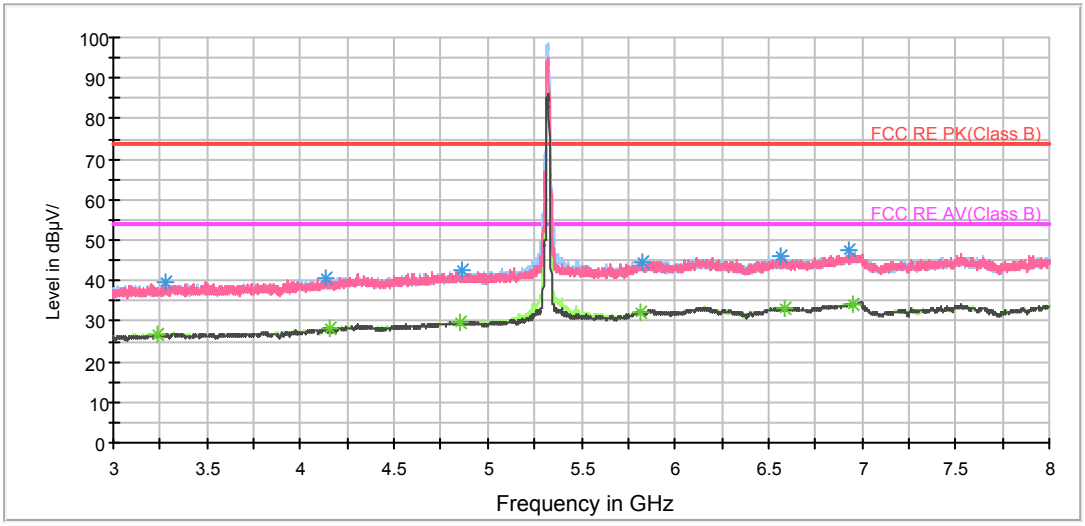
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3237.500000	26.5	102.0	V	86.0	29.1	-2.6	27.5	54
4156.875000	28.0	102.0	H	340.0	28.1	-0.1	26.0	54
4850.625000	29.6	202.0	H	0.0	28.0	1.6	24.4	54
5816.875000	32.4	202.0	H	5.0	27.9	4.5	21.6	54
6586.875000	33.4	202.0	H	0.0	27.8	5.6	20.6	54
6954.375000	34.3	202.0	H	0.0	28.1	6.2	19.7	54

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



Radiates Emission from 1GHz to 3GHz

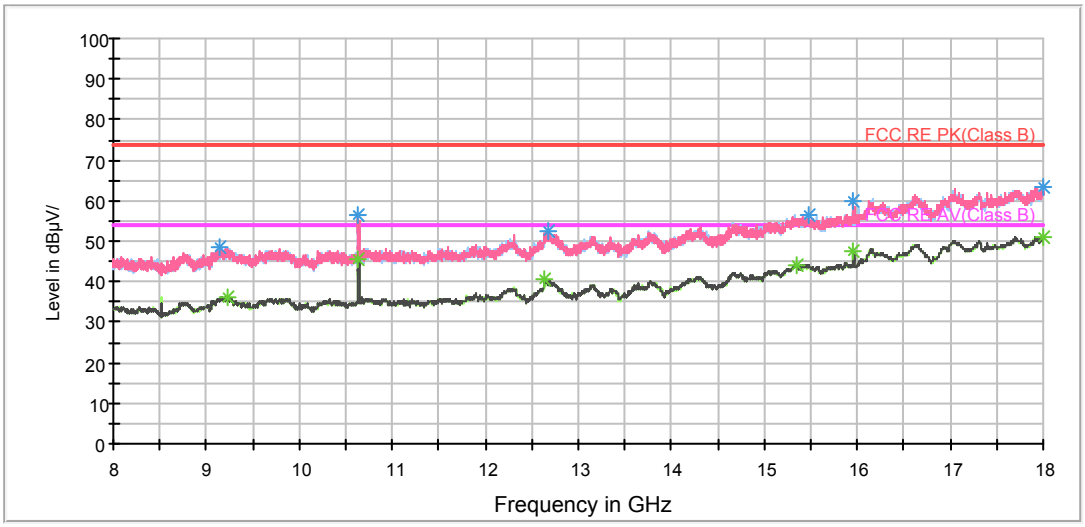
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

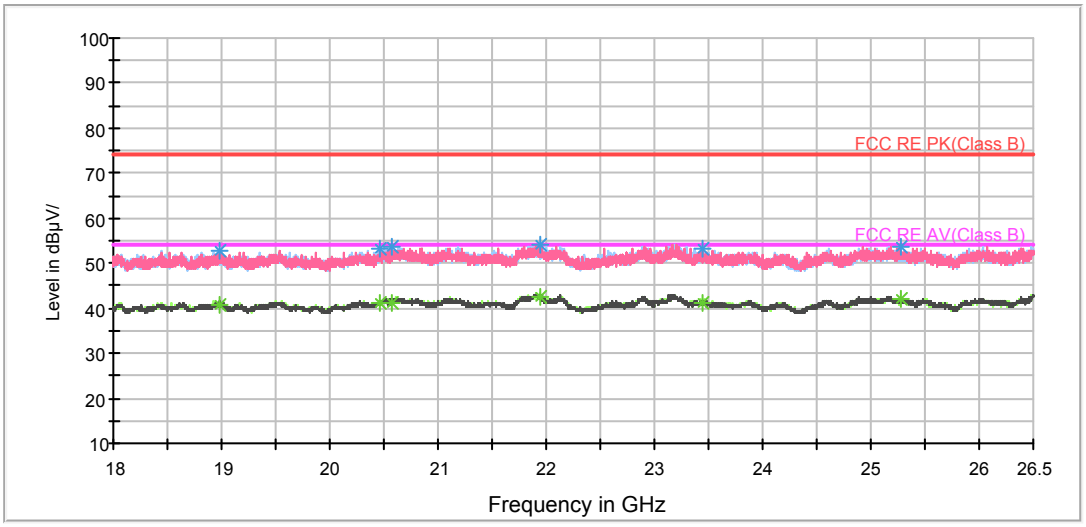
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



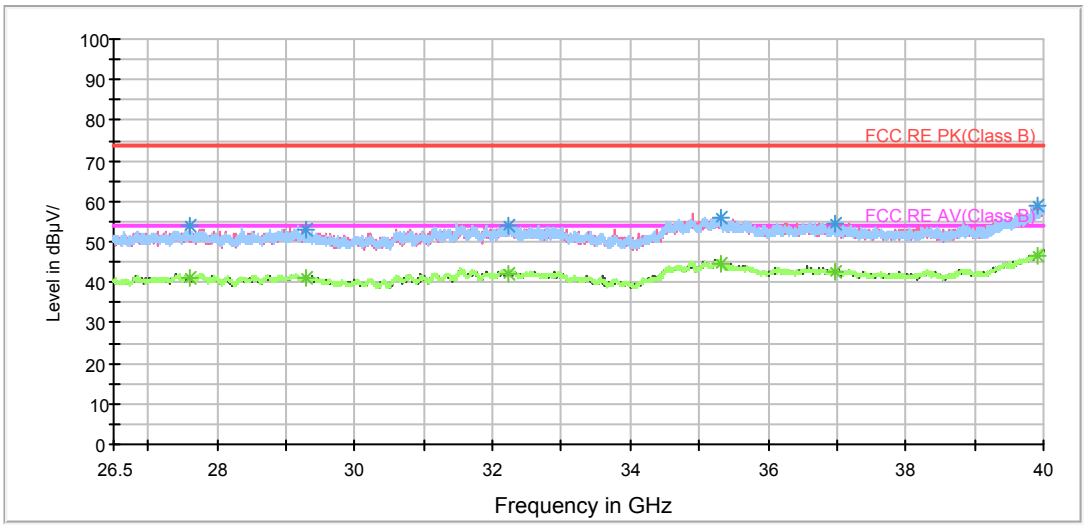
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

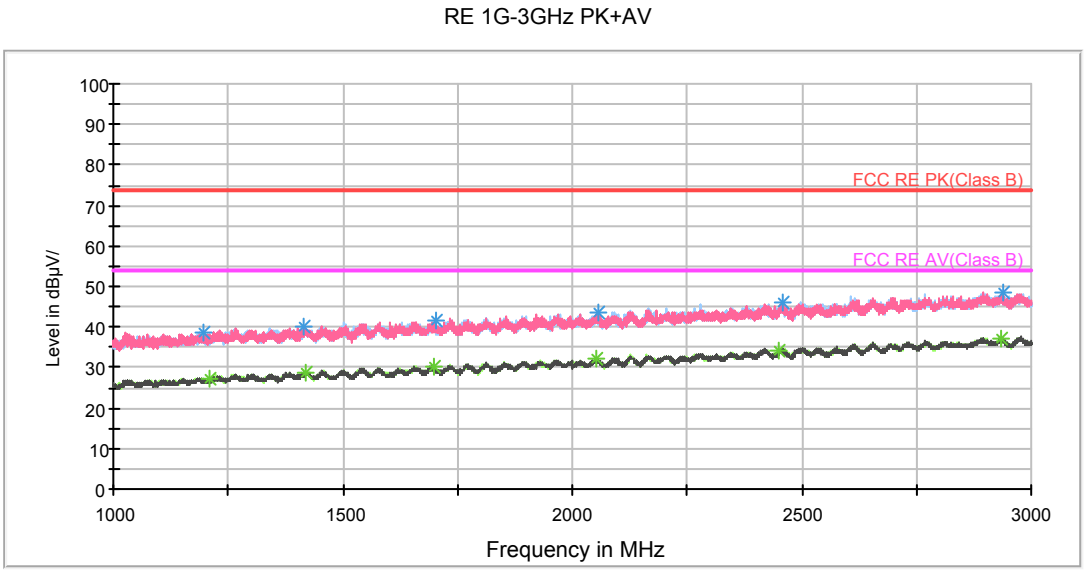
802.11a CH149

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3452.500000	40.3	202.0	H	169.0	42.5	-2.2	33.7	74
4092.500000	40.7	102.0	H	149.0	41.6	-0.9	33.3	74
4596.250000	42.5	202.0	H	65.0	41.6	0.9	31.5	74
5181.250000	42.8	102.0	H	0.0	40.6	2.2	31.2	74
6493.750000	46.2	102.0	V	0.0	41.0	5.2	27.8	74
6981.250000	46.9	102.0	H	316.0	40.5	6.4	27.1	74

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

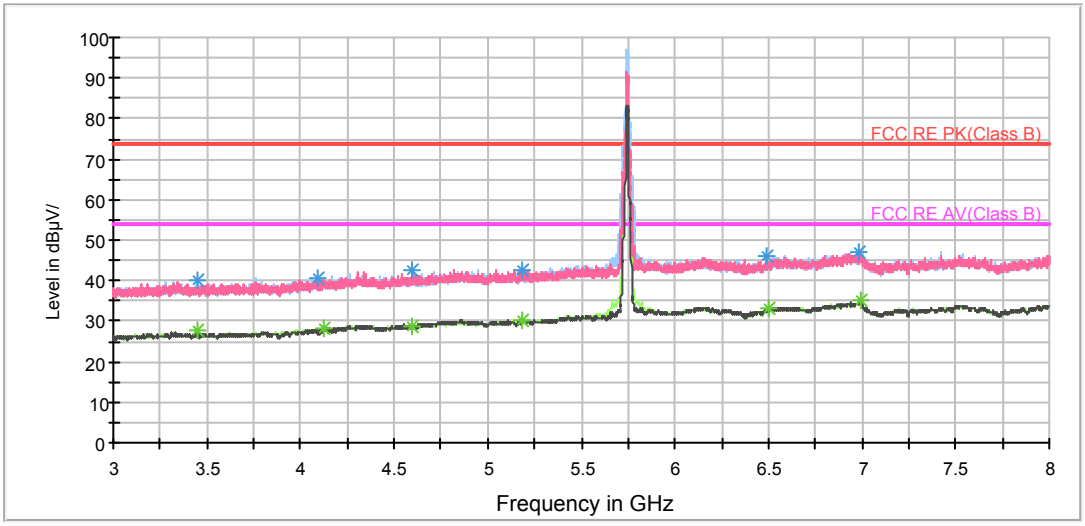
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3445.625000	28.0	202.0	H	169.0	30.3	-2.3	26.0	54
4125.625000	28.3	202.0	H	45.0	28.7	-0.4	25.7	54
4596.875000	28.8	202.0	H	3.0	27.9	0.9	25.2	54
5180.000000	30.0	102.0	H	357.0	27.8	2.2	24.0	54
6505.625000	33.0	202.0	V	356.0	27.6	5.4	21.0	54
6996.250000	34.9	102.0	V	234.0	28.4	6.5	19.1	54

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



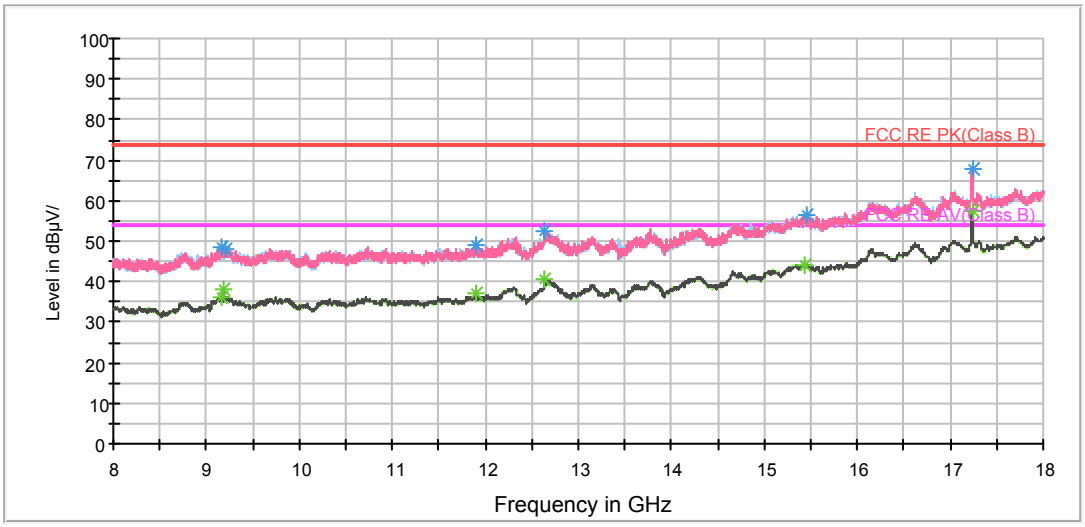
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



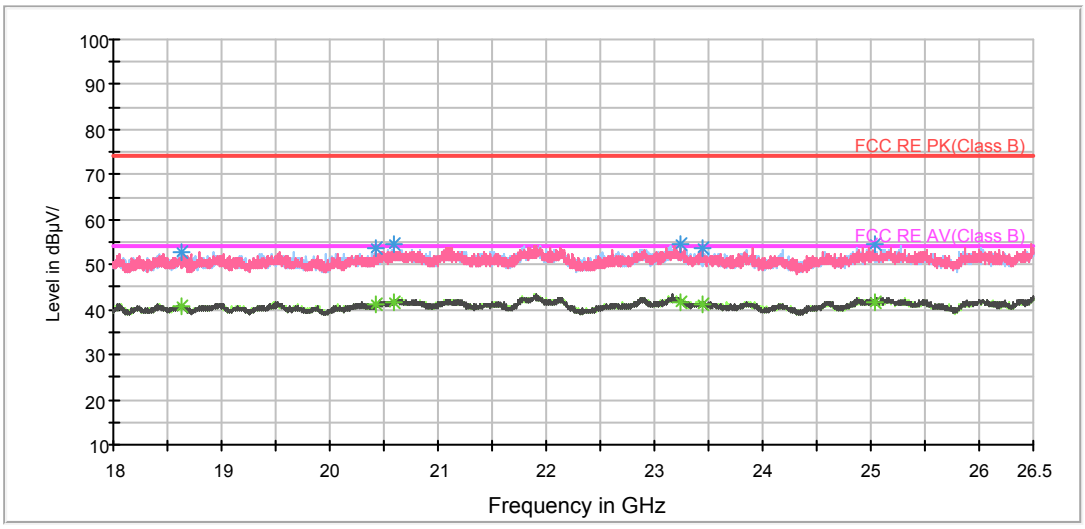
Note: The signal beyond the limit is carrier.
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



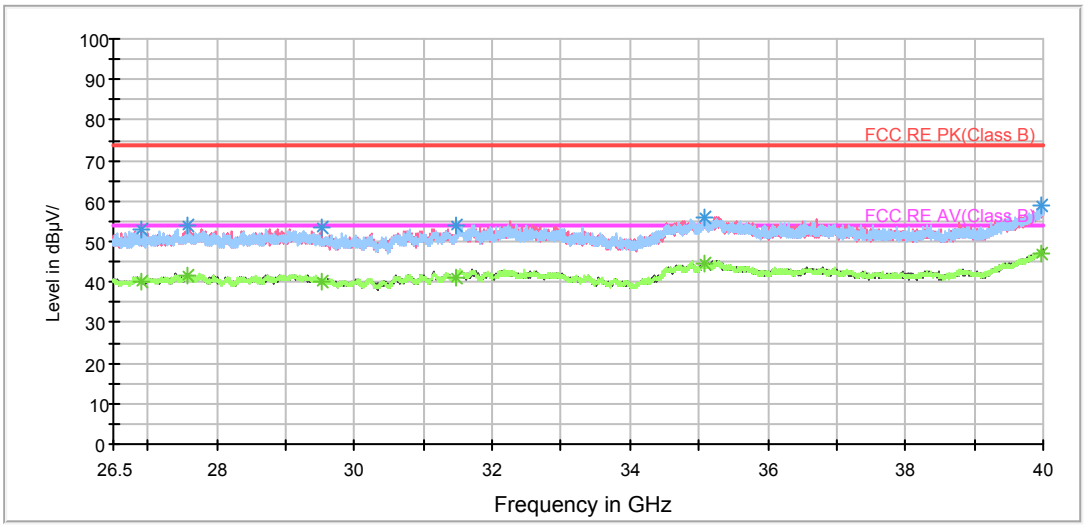
Note: The signal beyond the limit is harmonic.
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

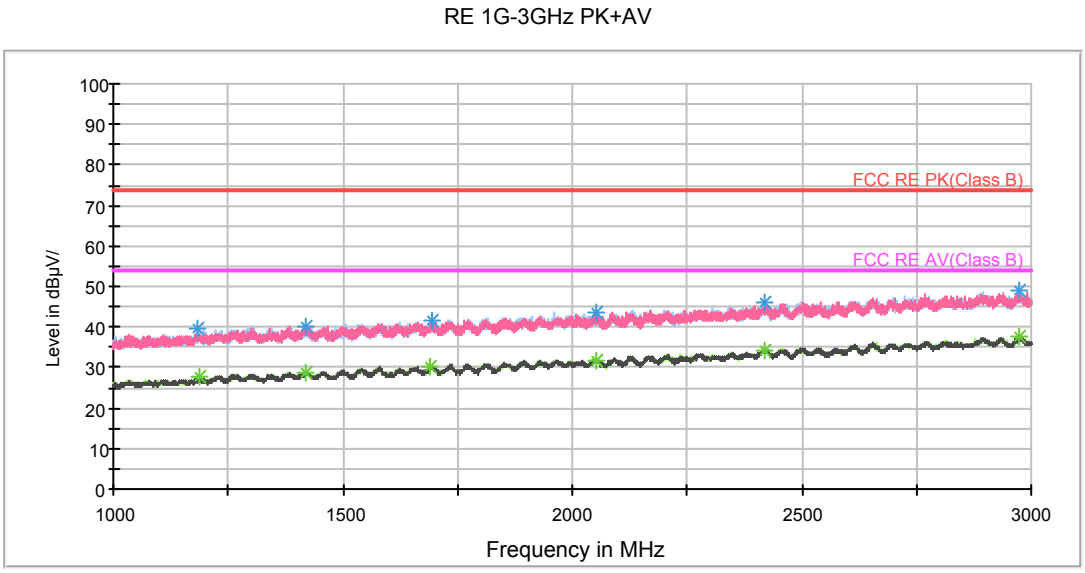
802.11a CH157

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3469.375000	39.6	202.0	H	168.0	41.7	-2.1	34.4	74
4005.000000	40.6	202.0	V	0.0	41.7	-1.1	33.4	74
4813.125000	42.2	202.0	V	0.0	40.9	1.3	31.8	74
6990.625000	47.3	102.0	H	334.0	40.8	6.5	26.7	74
6150.000000	46.4	102.0	V	0.0	40.9	5.5	27.6	74
7506.250000	46.5	102.0	V	0.0	39.6	6.9	27.5	74

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

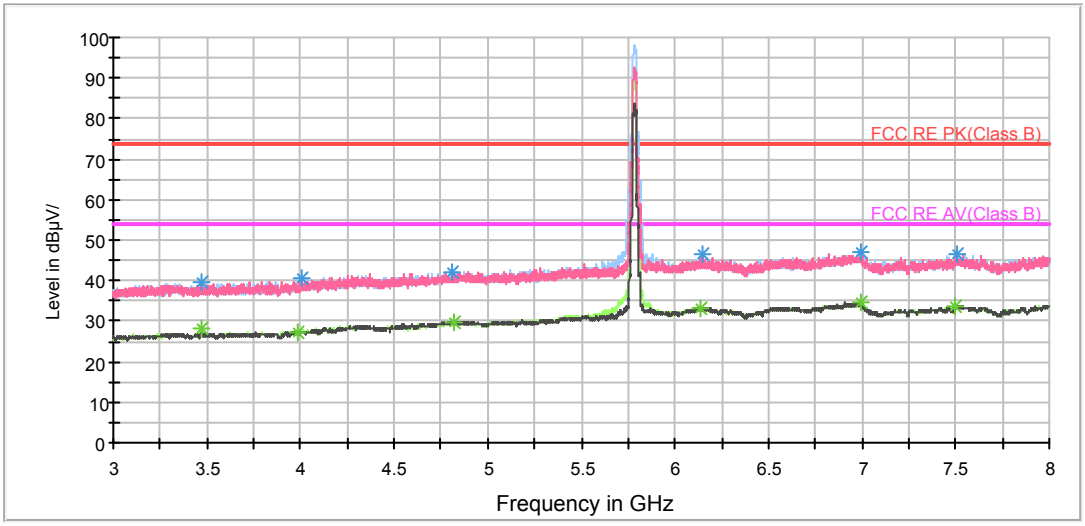
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3472.500000	28.0	202.0	H	168.0	30.1	-2.1	26.0	54
3988.125000	27.4	102.0	H	272.0	28.4	-1.0	26.6	54
4820.000000	29.6	102.0	V	0.0	28.3	1.3	24.4	54
6132.500000	33.3	202.0	H	61.0	27.9	5.4	20.7	54
6997.500000	34.6	102.0	V	104.0	28.1	6.5	19.4	54
7498.125000	33.5	202.0	H	211.0	26.7	6.8	20.5	54

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



Radiates Emission from 1GHz to 3GHz

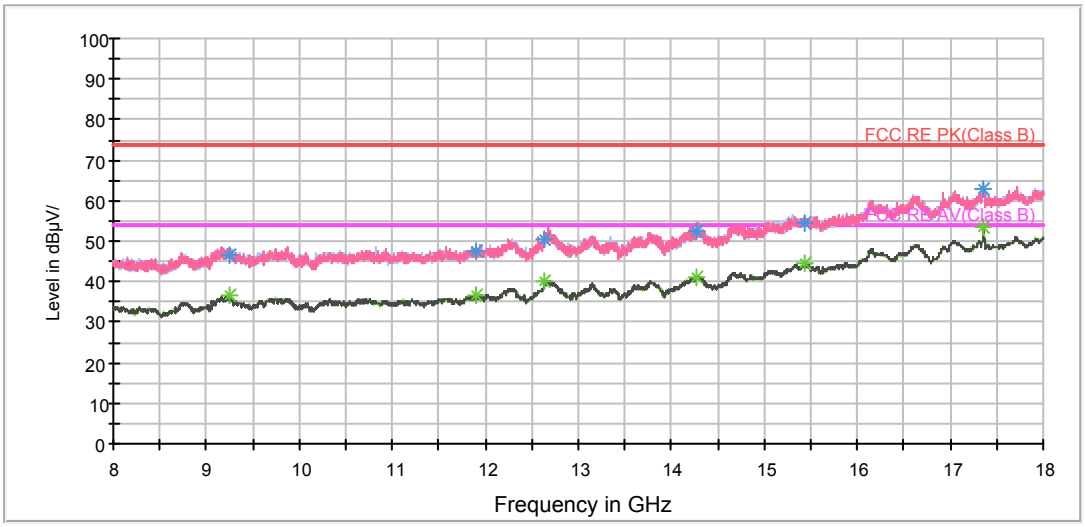
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

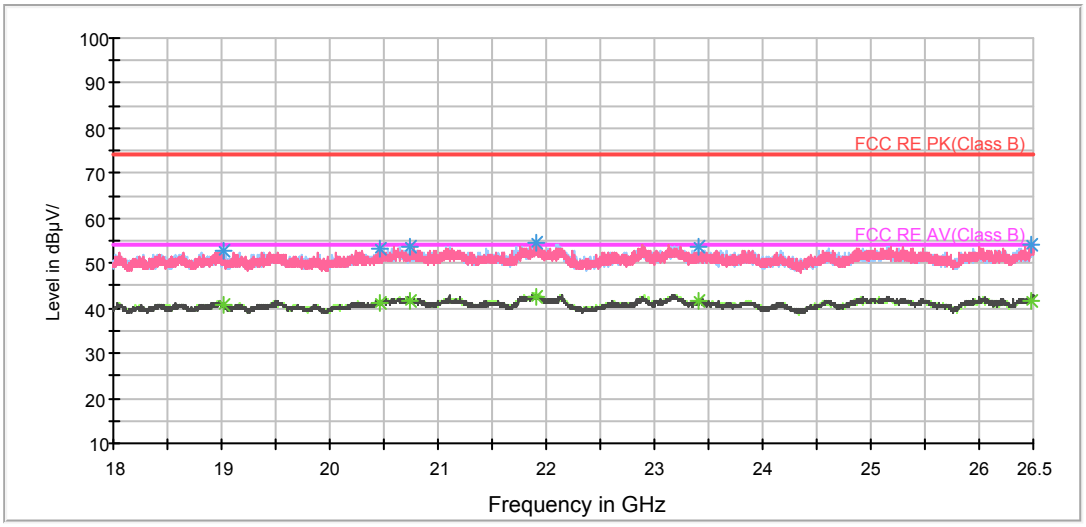
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



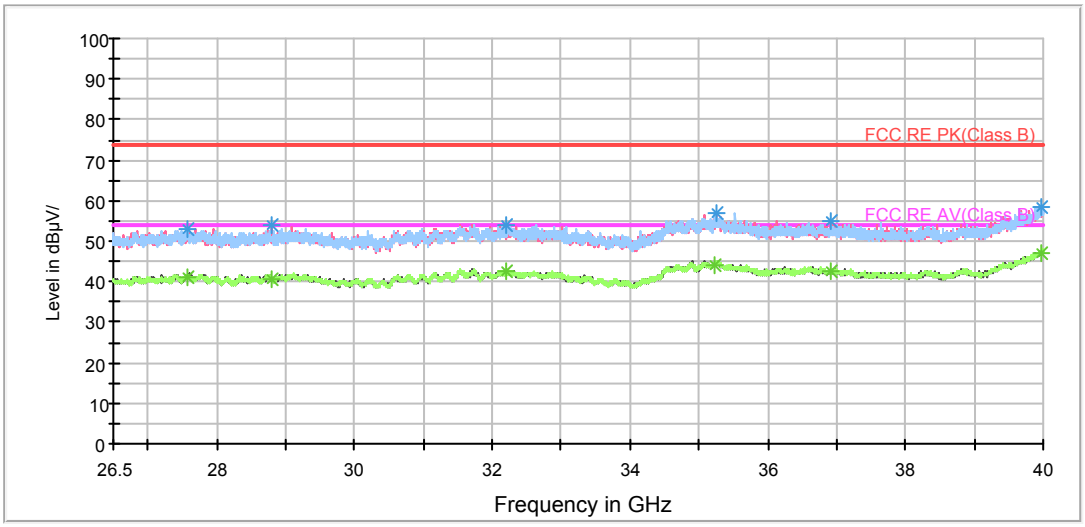
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

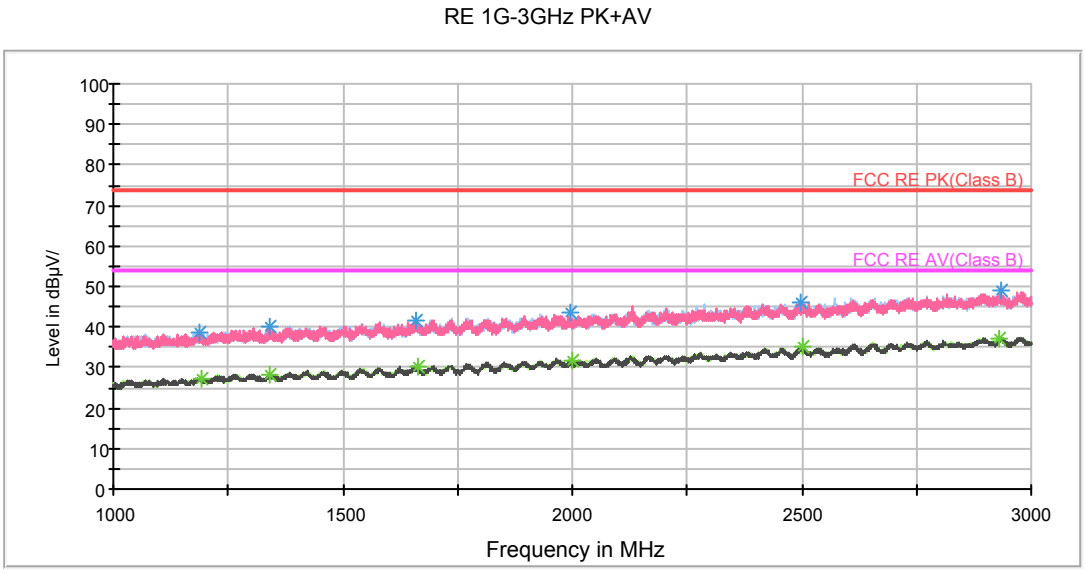
802.11a CH165

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3508.125000	39.7	202.0	V	0.0	41.7	-2.0	34.3	74
4121.250000	40.2	102.0	H	213.0	40.7	-0.5	33.8	74
4660.000000	42.3	202.0	H	171.0	41.6	0.7	31.7	74
6510.000000	45.1	102.0	H	297.0	39.7	5.4	28.9	74
6915.625000	47.4	102.0	V	213.0	41.2	6.2	26.6	74
7593.125000	46.4	202.0	V	341.0	39.4	7.0	27.6	74

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

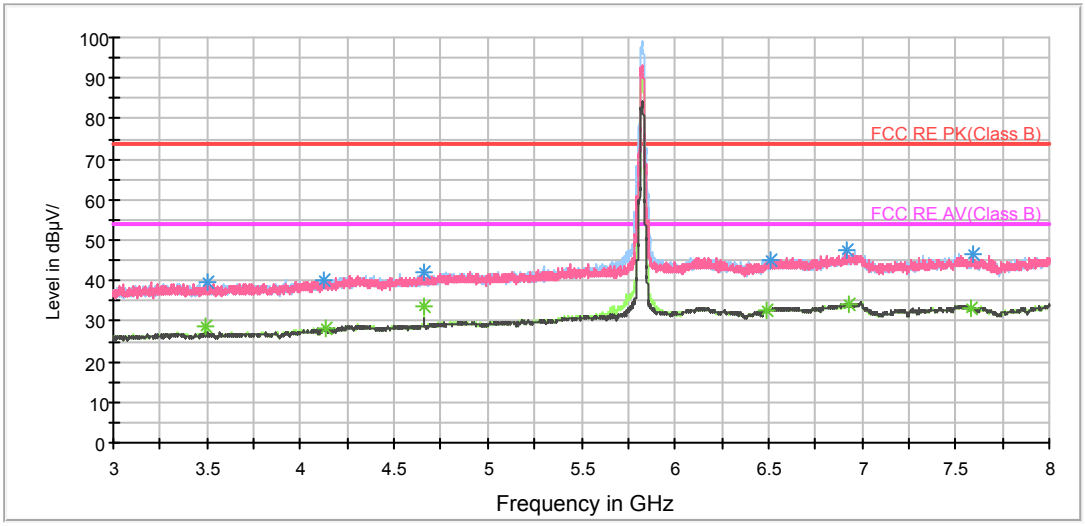
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3491.875000	28.6	202.0	H	171.0	30.7	-2.1	25.4	54
4130.625000	28.1	202.0	H	0.0	28.5	-0.4	25.9	54
4660.000000	33.5	102.0	H	359.0	32.8	0.7	20.5	54
6493.750000	32.8	202.0	H	192.0	27.6	5.2	21.2	54
6929.375000	34.2	102.0	H	64.0	28.0	6.2	19.8	54
7577.500000	33.2	102.0	H	254.0	26.1	7.1	20.8	54

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



Radiates Emission from 1GHz to 3GHz

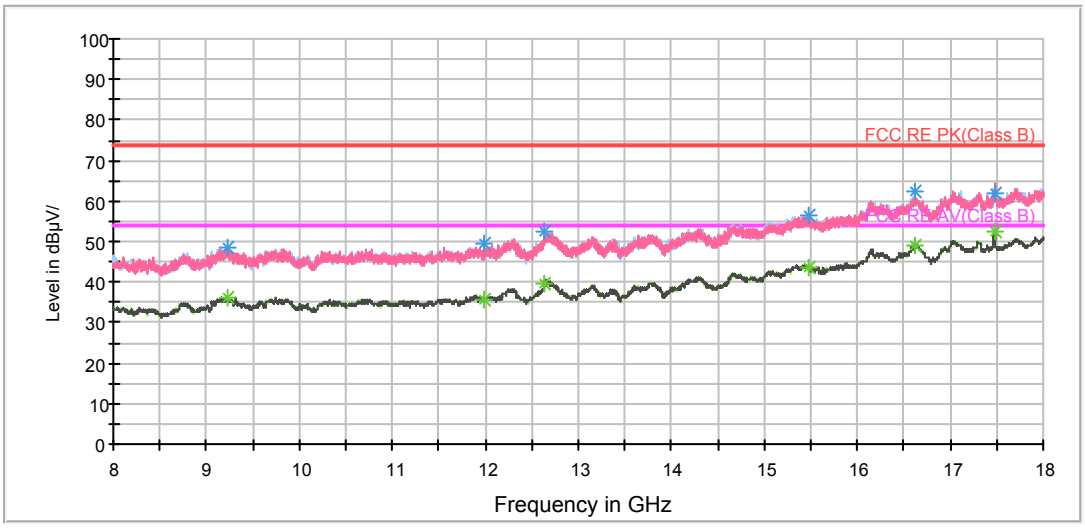
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

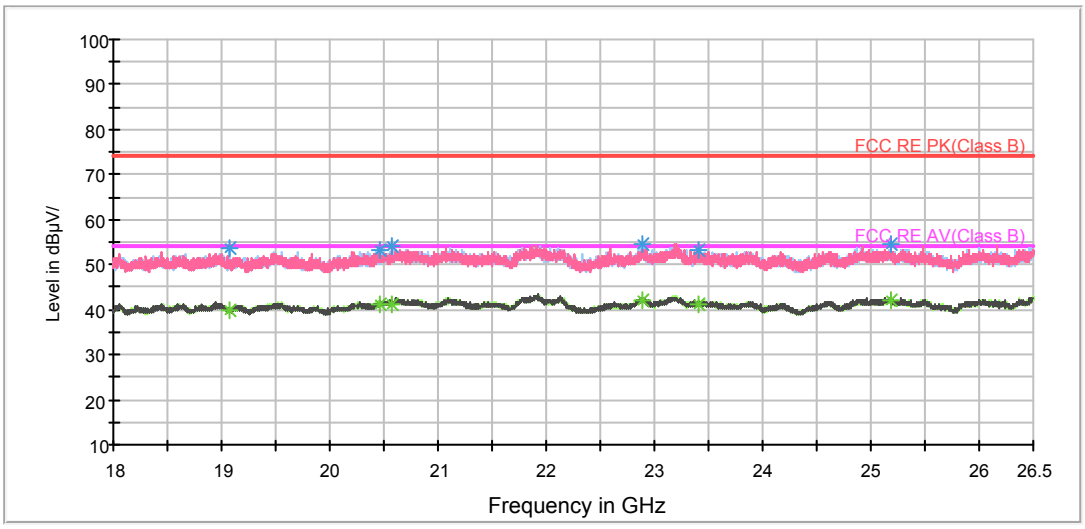
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



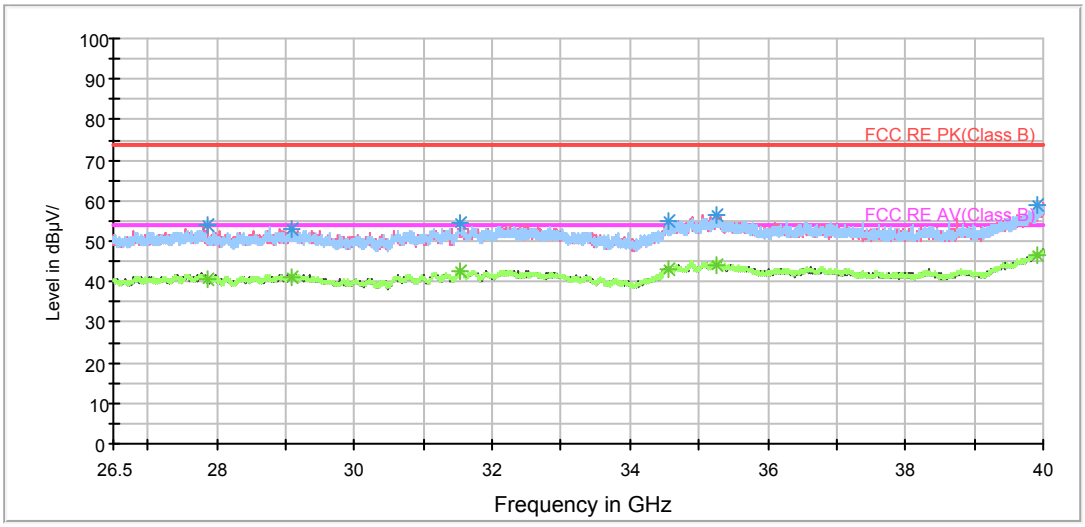
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

802.11n (HT20) CH36

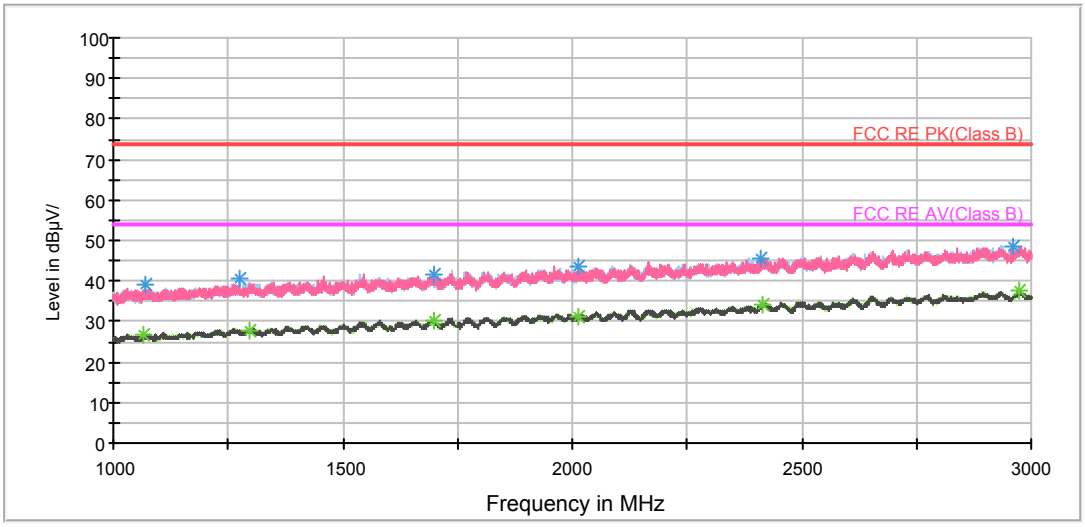
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3348.750000	39.5	102.0	H	149.0	41.8	-2.3	34.5	74
3565.625000	41.1	202.0	H	170.0	43.2	-2.1	32.9	74
4251.250000	41.6	202.0	H	1.0	41.0	0.6	32.4	74
4849.375000	43.4	102.0	V	169.0	41.8	1.6	30.6	74
6175.000000	45.7	102.0	H	0.0	40.3	5.4	28.3	74
7514.375000	46.7	202.0	V	298.0	39.7	7.0	27.3	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)
3345.000000	26.9	202.0	H	41.0	29.3	-2.4	27.1	54
3563.125000	27.7	202.0	H	170.0	29.8	-2.1	26.3	54
4249.375000	28.8	202.0	H	0.0	28.2	0.6	25.2	54
4863.750000	29.9	102.0	H	273.0	28.2	1.7	24.1	54
6164.375000	33.2	102.0	V	128.0	27.6	5.6	20.8	54
7505.000000	34.0	102.0	V	0.0	27.1	6.9	20.0	54

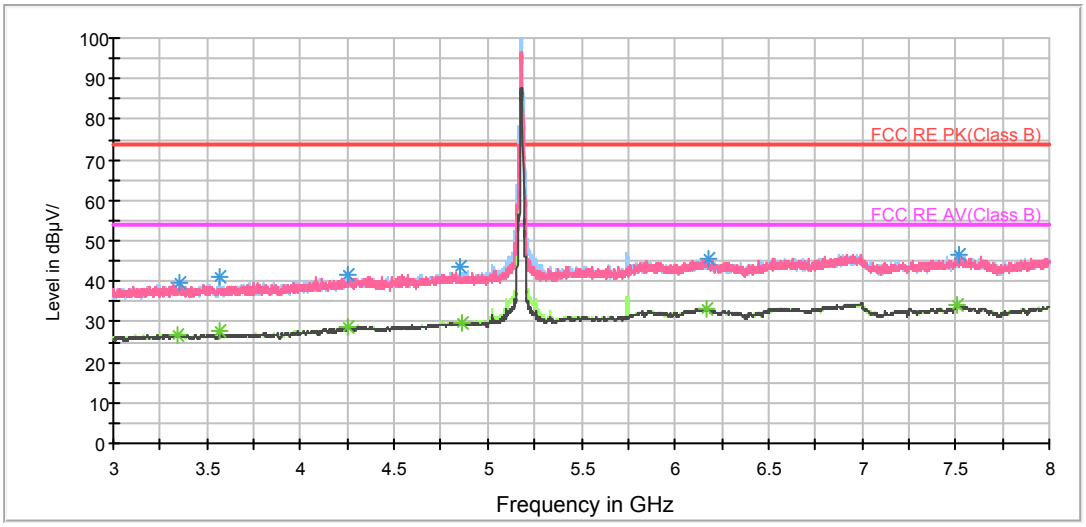
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

RE 1G-3GHz PK+AV



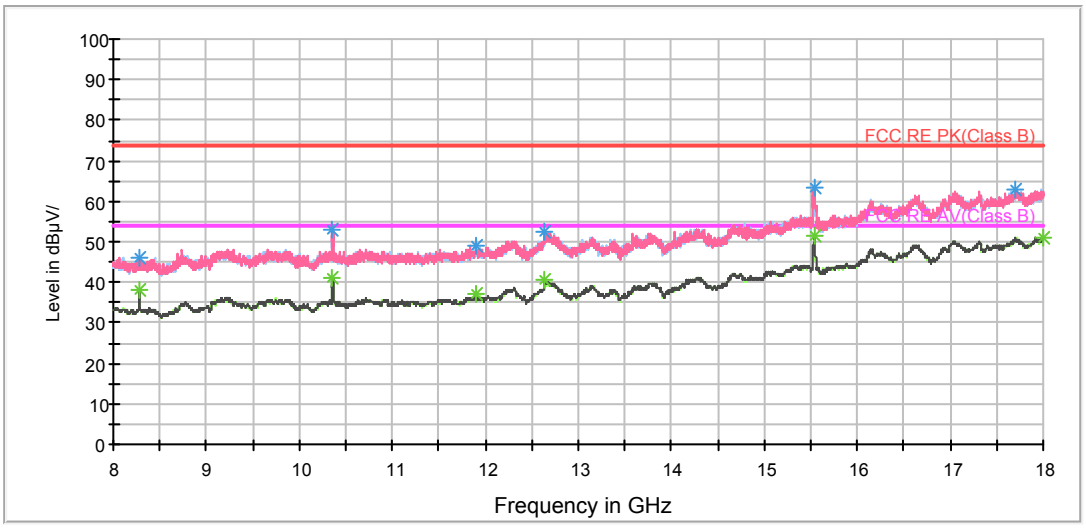
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



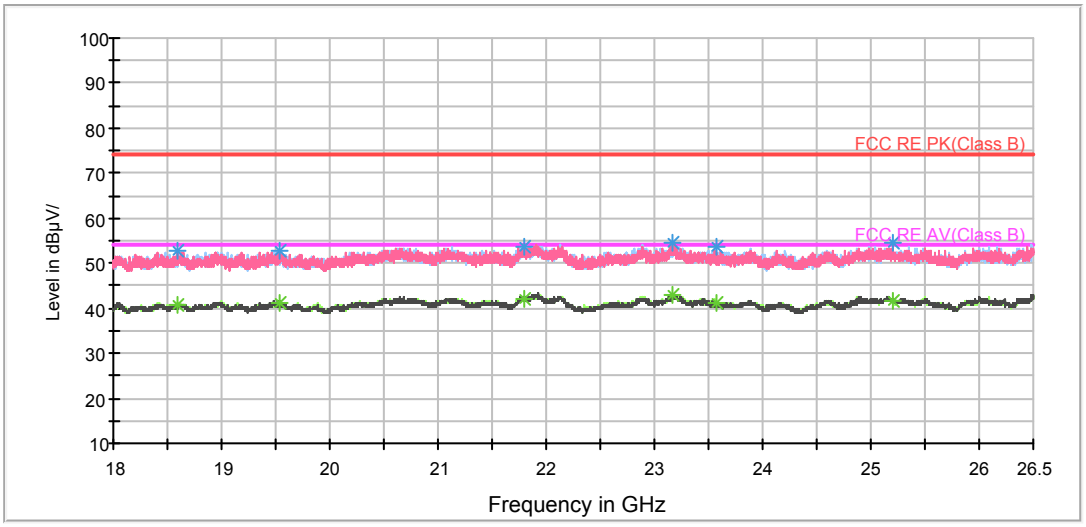
Note: The signal beyond the limit is carrier.
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



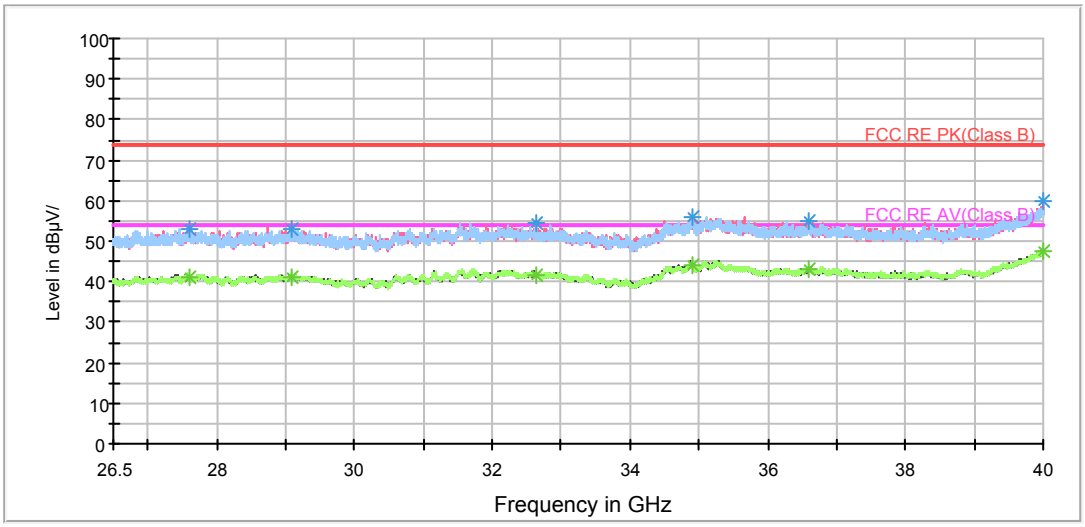
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

802.11n (HT20) CH40

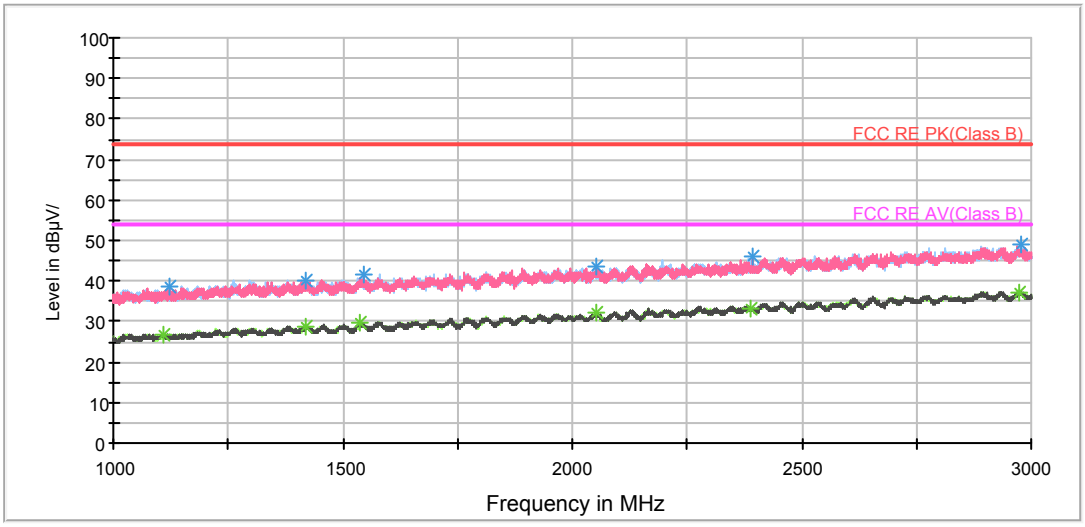
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3451.875000	39.4	202.0	V	0.0	41.6	-2.2	34.6	74
4130.000000	41.0	102.0	V	63.0	41.4	-0.4	33.0	74
4896.875000	42.6	202.0	H	190.0	40.7	1.9	31.4	74
5738.750000	45.9	202.0	H	44.0	42.3	3.6	28.1	74
6643.750000	46.2	102.0	V	0.0	40.7	5.5	27.8	74
6874.375000	47.1	202.0	H	274.0	41.2	5.9	26.9	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)
3441.250000	26.5	202.0	H	0.0	28.8	-2.3	27.5	54
4141.875000	28.0	202.0	H	0.0	28.2	-0.2	26.0	54
4907.500000	29.6	202.0	H	190.0	27.7	1.9	24.4	54
5738.750000	36.1	202.0	H	44.0	32.5	3.6	17.9	54
6667.500000	33.0	102.0	V	319.0	27.5	5.5	21.0	54
6891.250000	33.9	202.0	V	234.0	27.8	6.1	20.1	54

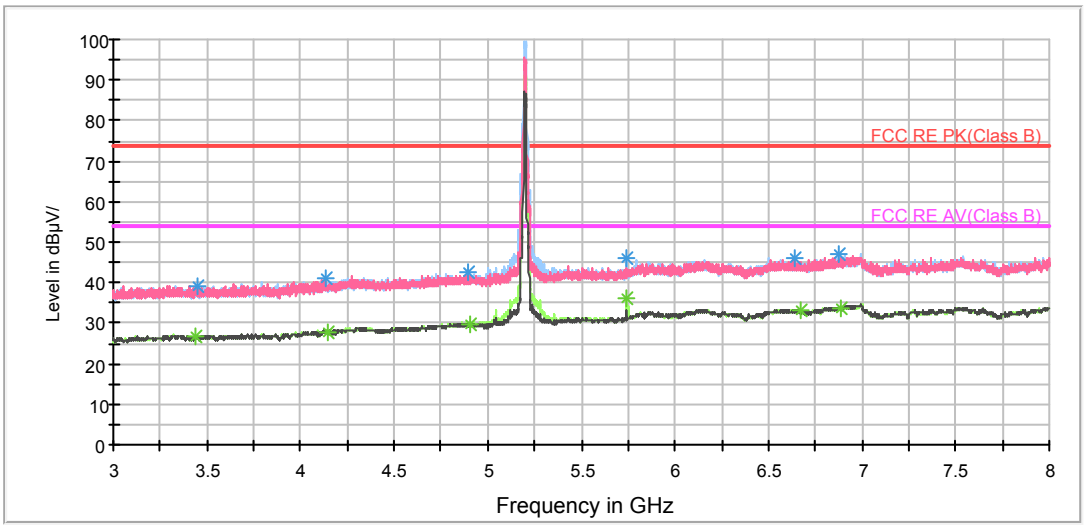
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

RE 1G-3GHz PK+AV



Radiates Emission from 1GHz to 3GHz

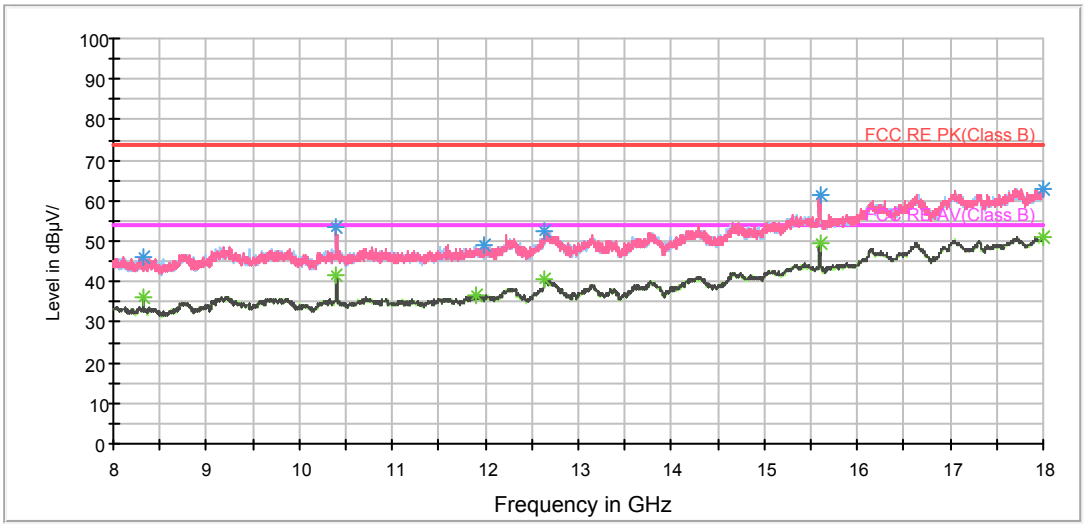
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

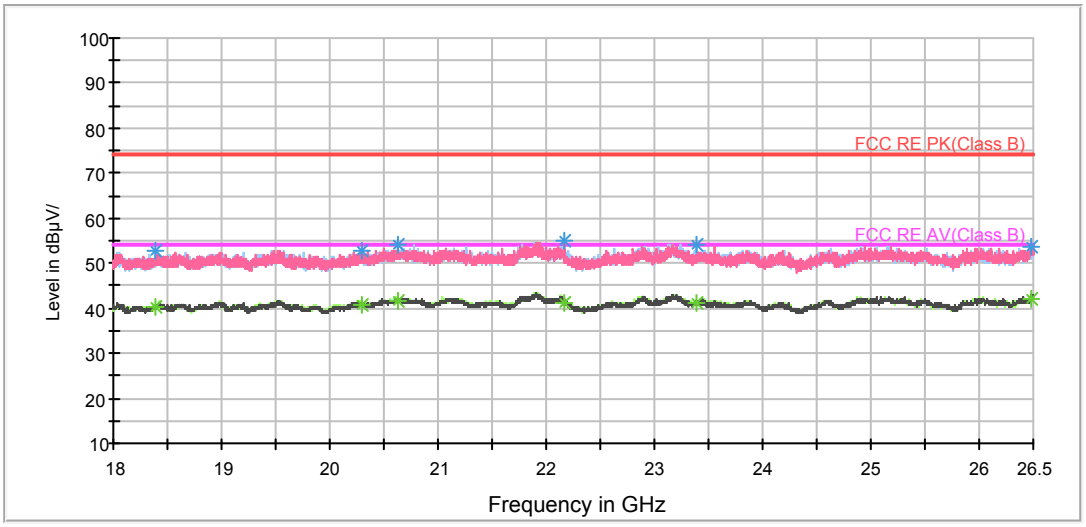
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



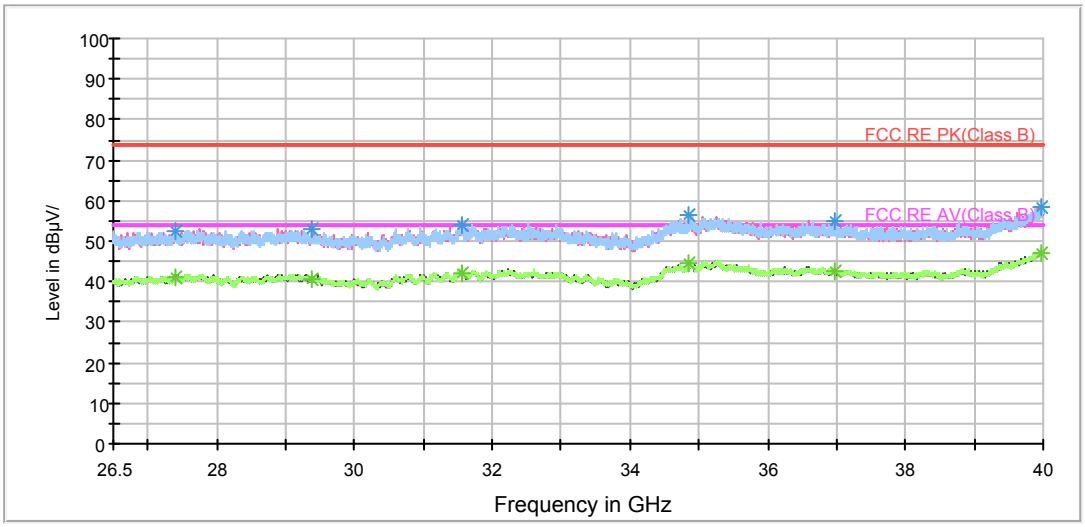
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

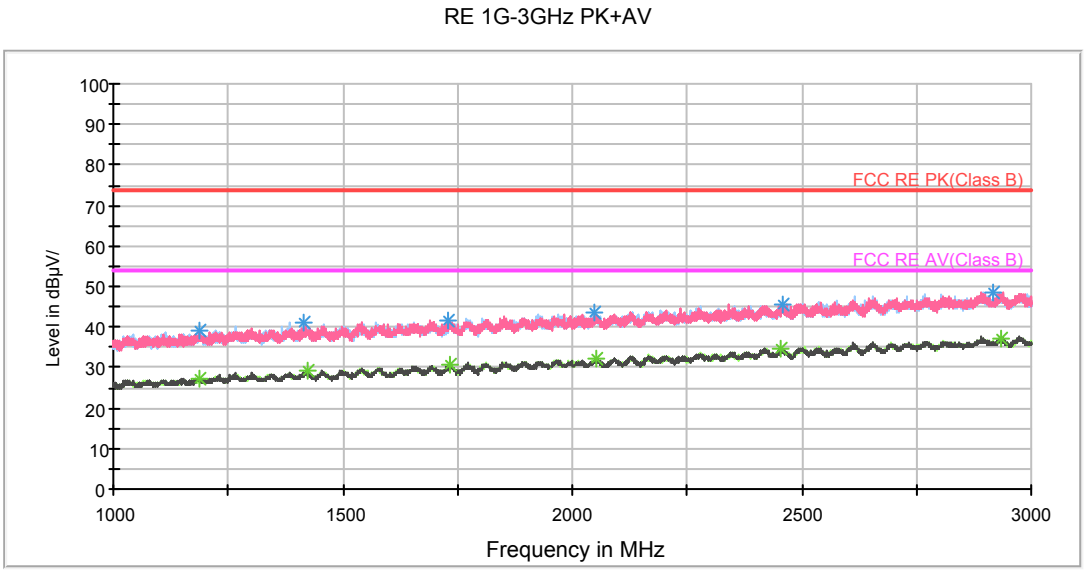
802.11n (HT20) CH48

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3368.125000	39.6	102.0	H	0.0	42.0	-2.4	34.4	74
4012.500000	40.3	202.0	H	0.0	41.4	-1.1	33.7	74
4843.125000	42.6	102.0	H	0.0	41.0	1.6	31.4	74
5950.625000	45.3	202.0	V	128.0	40.6	4.7	28.7	74
6569.375000	46.0	102.0	V	2.0	40.3	5.7	28.0	74
6908.750000	46.8	102.0	V	85.0	40.6	6.2	27.2	74

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

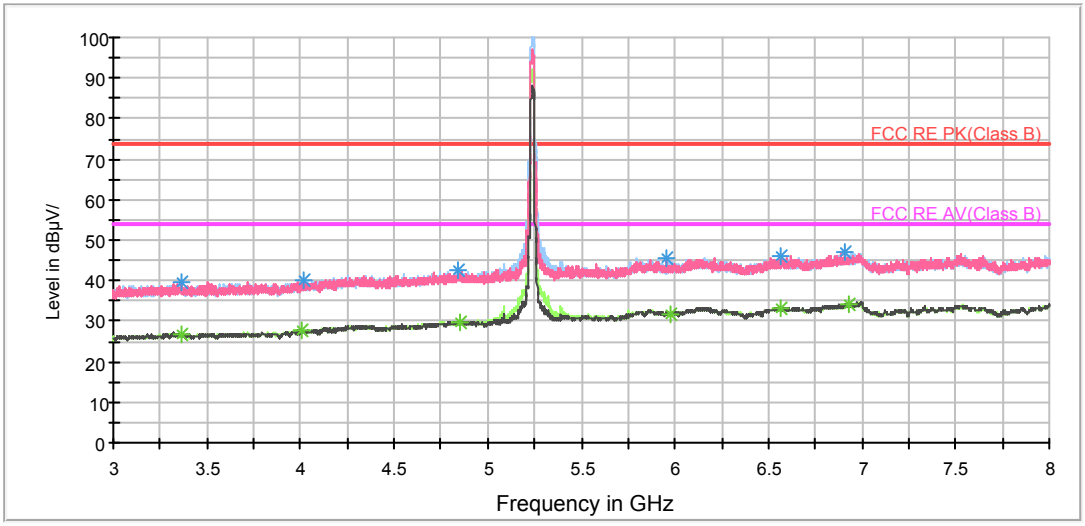
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3361.250000	26.9	202.0	H	297.0	29.2	-2.3	27.1	54
4008.750000	27.5	202.0	H	275.0	28.6	-1.1	26.5	54
4850.625000	29.8	202.0	H	0.0	28.2	1.6	24.2	54
5973.750000	31.9	202.0	H	44.0	27.2	4.7	22.1	54
6567.500000	33.2	202.0	V	338.0	27.5	5.7	20.8	54
6928.125000	34.3	202.0	H	2.0	28.1	6.2	19.7	54

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



Radiates Emission from 1GHz to 3GHz

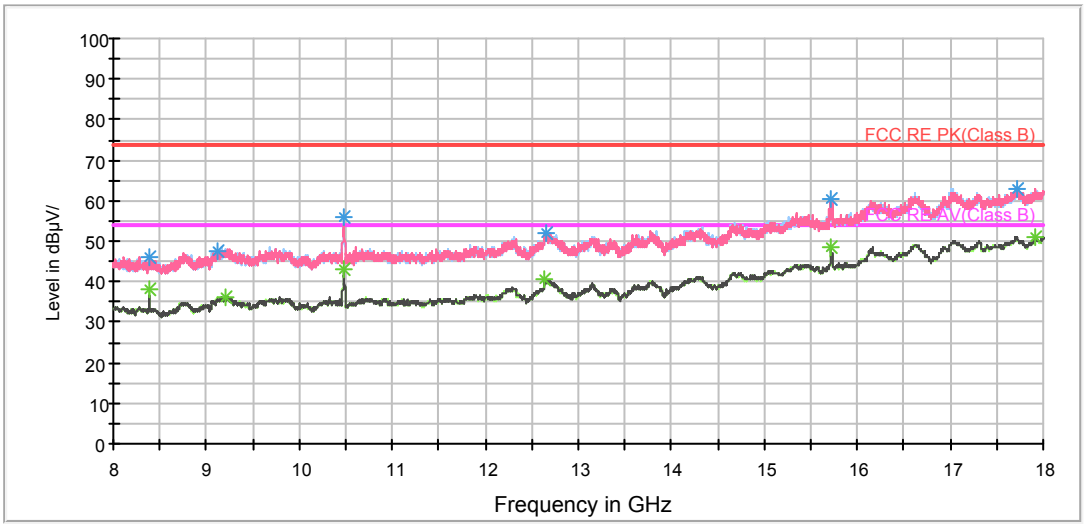
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

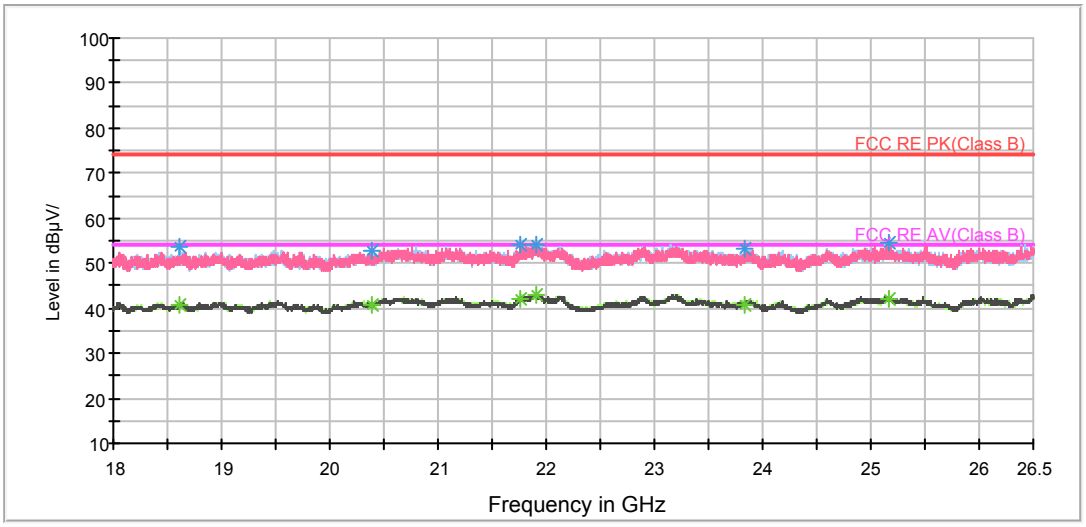
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



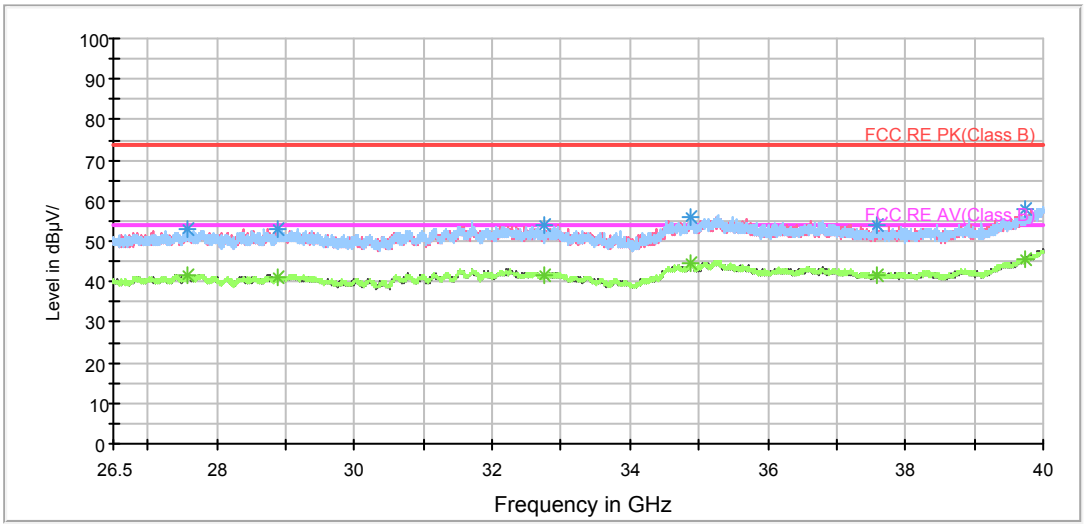
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

802.11n (HT20) CH52

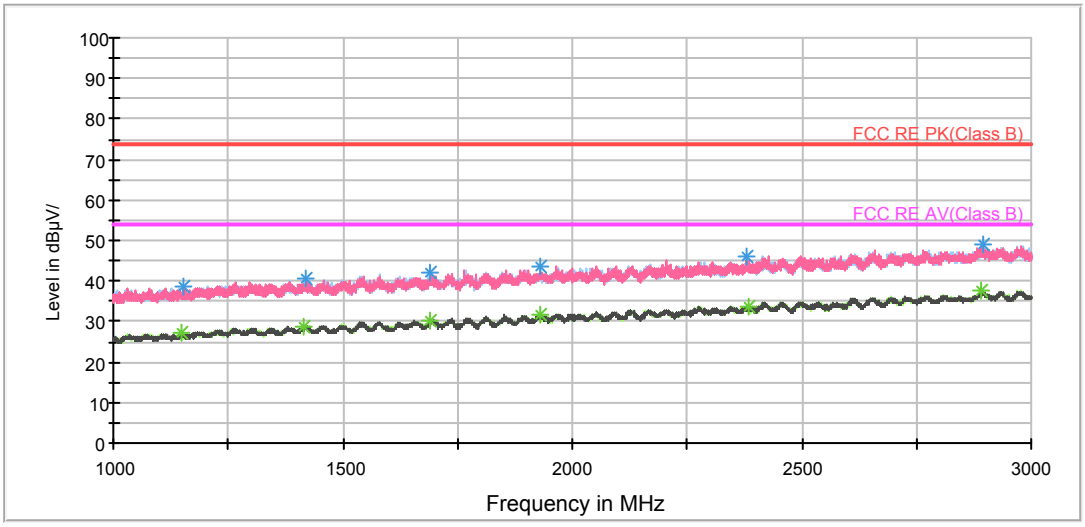
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3173.125000	39.6	102.0	H	214.0	42.5	-2.9	34.4	74
4088.125000	40.3	202.0	V	255.0	41.2	-0.9	33.7	74
4880.625000	42.5	202.0	H	0.0	40.7	1.8	31.5	74
5745.000000	46.1	102.0	H	0.0	42.5	3.6	27.9	74
6655.625000	46.0	102.0	V	62.0	40.5	5.5	28.0	74
6927.500000	47.7	202.0	V	0.0	41.5	6.2	26.3	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)
3161.250000	26.5	202.0	H	24.0	29.4	-2.9	27.5	54
4120.625000	28.1	202.0	H	3.0	28.6	-0.5	25.9	54
4888.750000	29.7	102.0	H	214.0	27.8	1.9	24.3	54
5744.375000	36.3	102.0	H	0.0	32.7	3.6	17.7	54
6663.125000	33.2	202.0	H	3.0	27.7	5.5	20.8	54
6968.125000	34.5	202.0	H	0.0	28.2	6.3	19.5	54

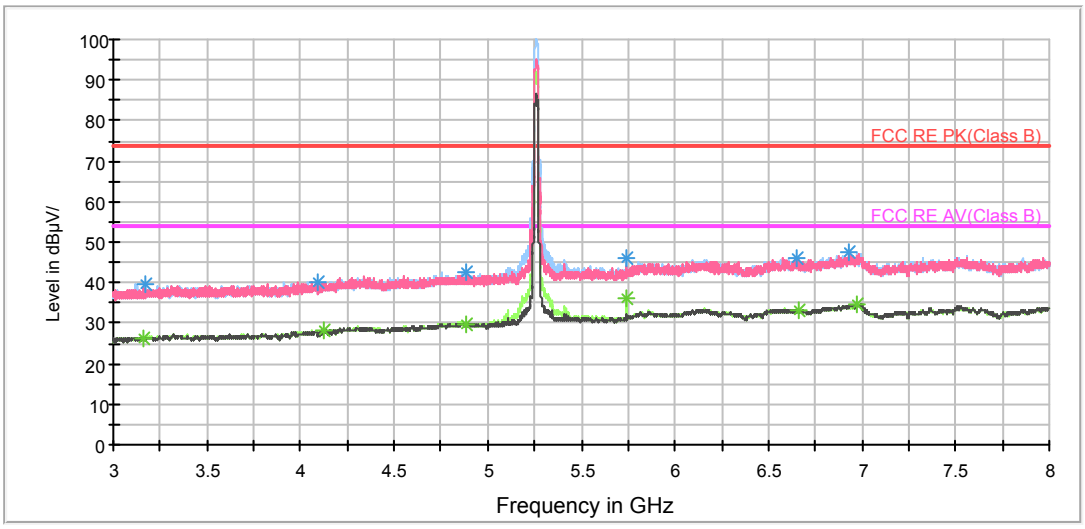
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

RE 1G-3GHz PK+AV



Radiates Emission from 1GHz to 3GHz

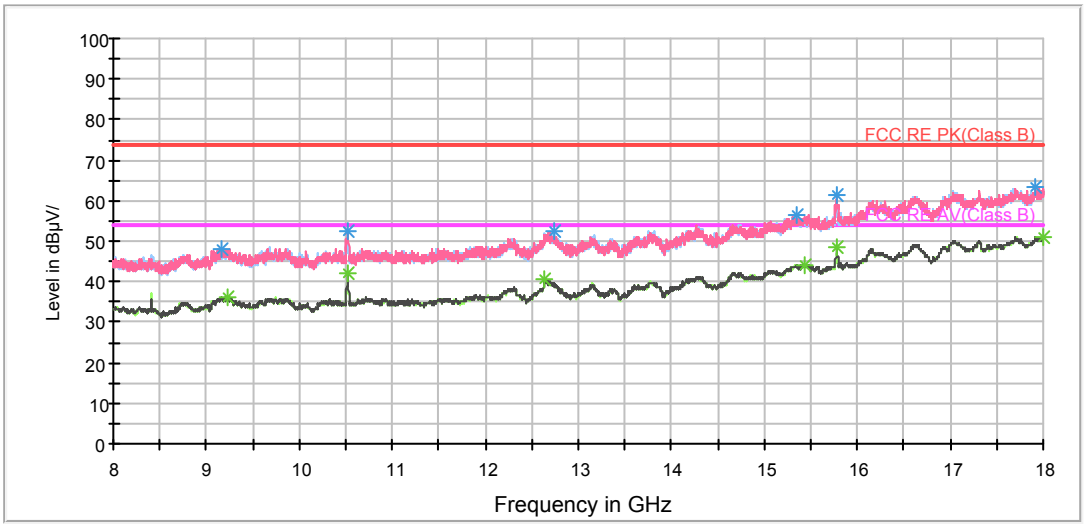
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

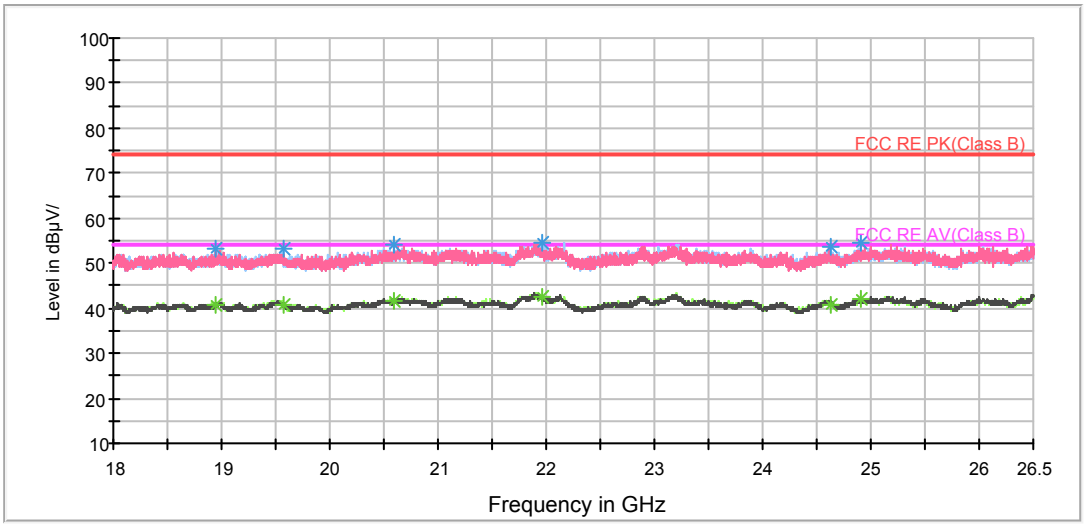
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



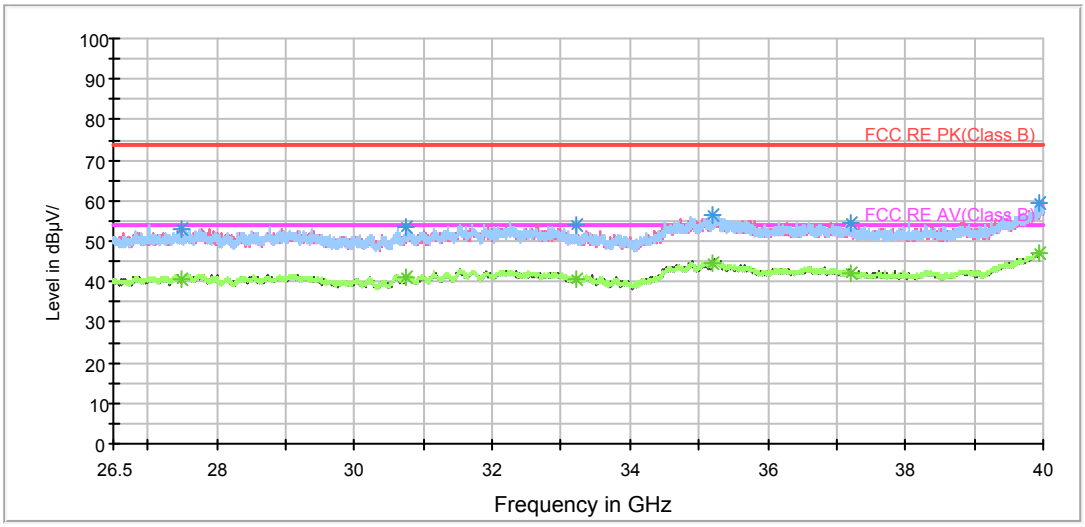
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

802.11n (HT20) CH60

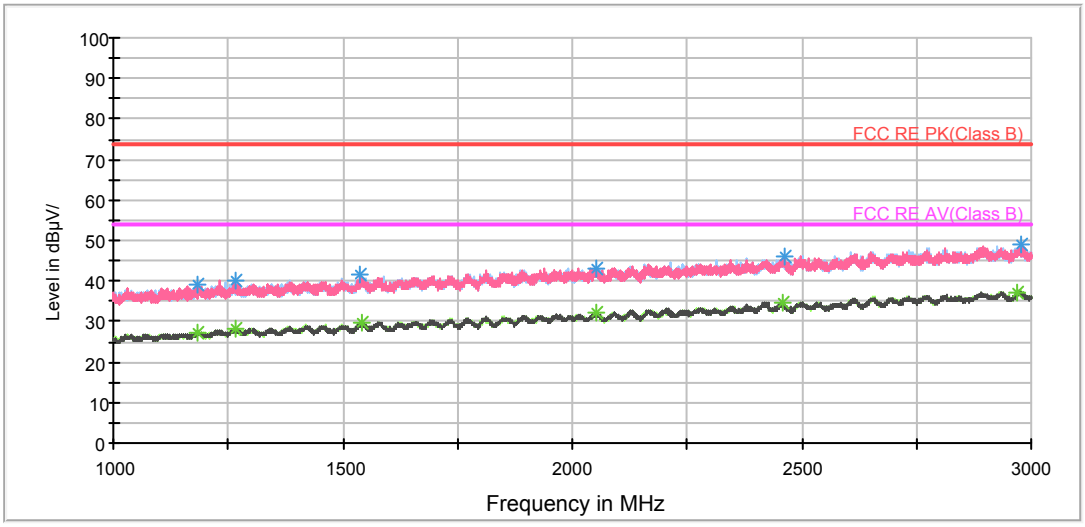
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3403.125000	40.1	102.0	H	0.0	42.6	-2.5	33.9	74
3723.125000	40.6	102.0	V	44.0	42.2	-1.6	33.4	74
4809.375000	42.5	102.0	V	23.0	41.2	1.3	31.5	74
6128.125000	46.6	102.0	V	211.0	41.2	5.4	27.4	74
6979.375000	46.8	102.0	H	318.0	40.5	6.3	27.2	74
7632.500000	45.9	102.0	H	254.0	39.0	6.9	28.1	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)
3381.875000	26.7	202.0	H	0.0	29.3	-2.6	27.3	54
3742.500000	27.4	202.0	H	64.0	29.1	-1.7	26.6	54
4825.000000	29.7	102.0	H	0.0	28.3	1.4	24.3	54
6158.125000	33.2	202.0	H	22.0	27.6	5.6	20.8	54
6973.750000	34.3	202.0	H	42.0	28.0	6.3	19.7	54
7611.875000	33.0	202.0	H	0.0	26.1	6.9	21.0	54

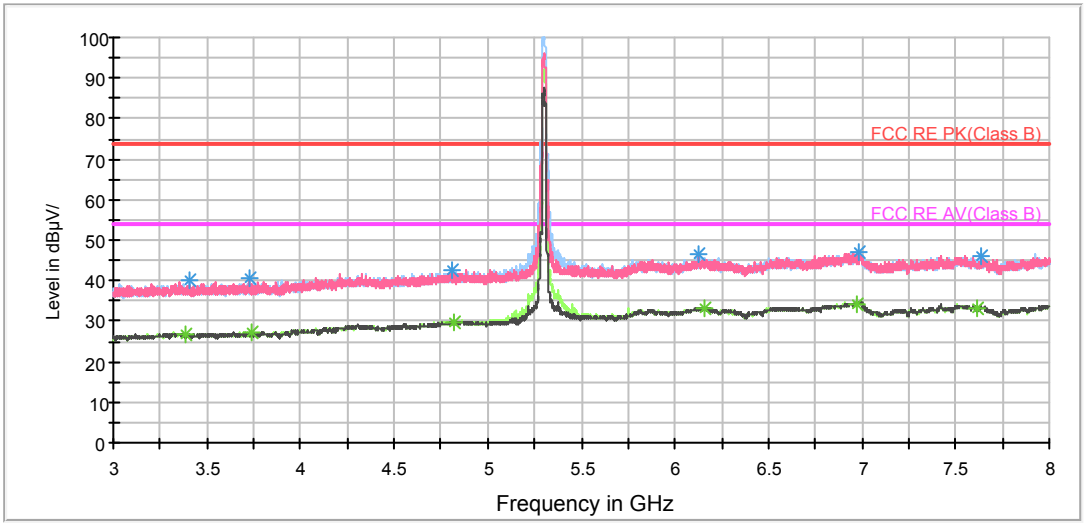
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

RE 1G-3GHz PK+AV



Radiates Emission from 1GHz to 3GHz

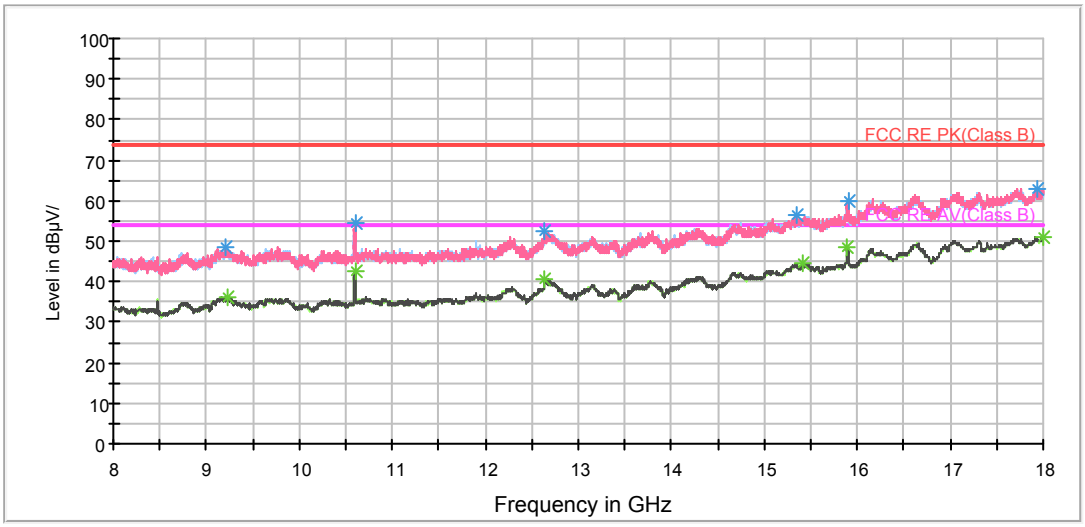
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

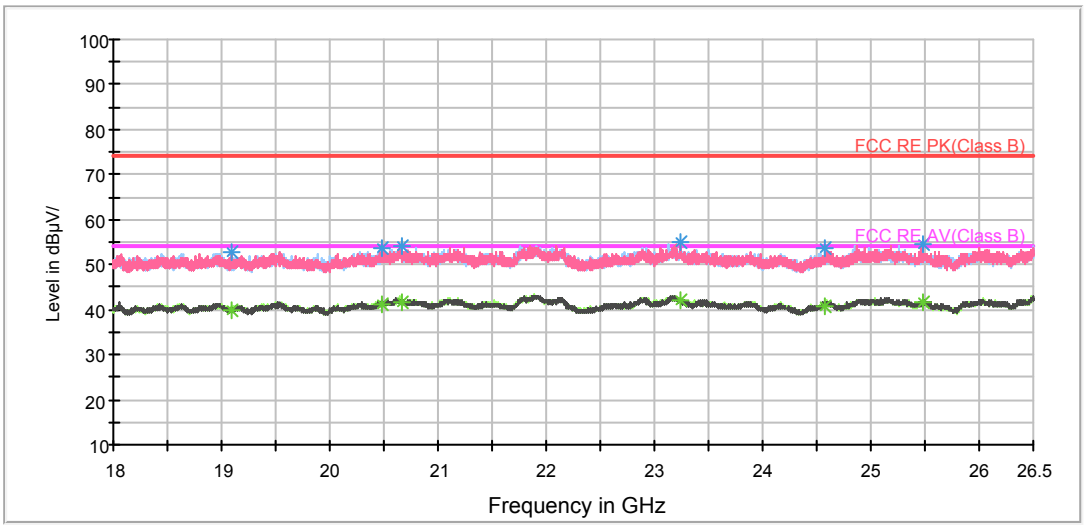
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



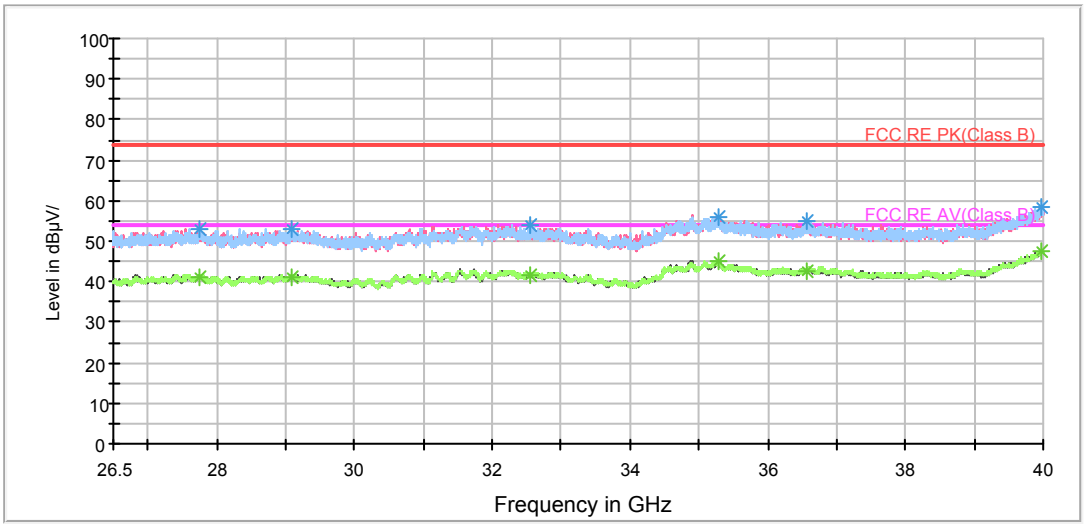
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

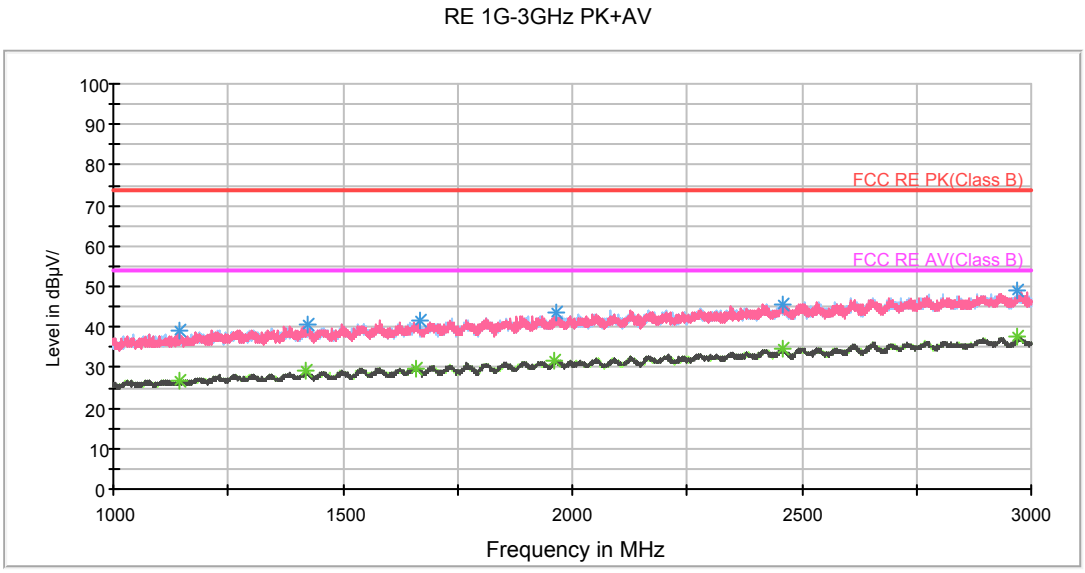
802.11n (HT20) CH64

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3325.625000	40.5	202.0	H	0.0	42.6	-2.1	33.5	74
4120.625000	40.9	102.0	V	3.0	41.4	-0.5	33.1	74
4766.875000	42.4	202.0	H	297.0	41.3	1.1	31.6	74
5745.625000	45.3	102.0	H	41.0	41.7	3.6	28.7	74
6570.625000	46.1	102.0	H	0.0	40.5	5.6	27.9	74
6939.375000	47.3	202.0	V	41.0	41.2	6.1	26.7	74

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

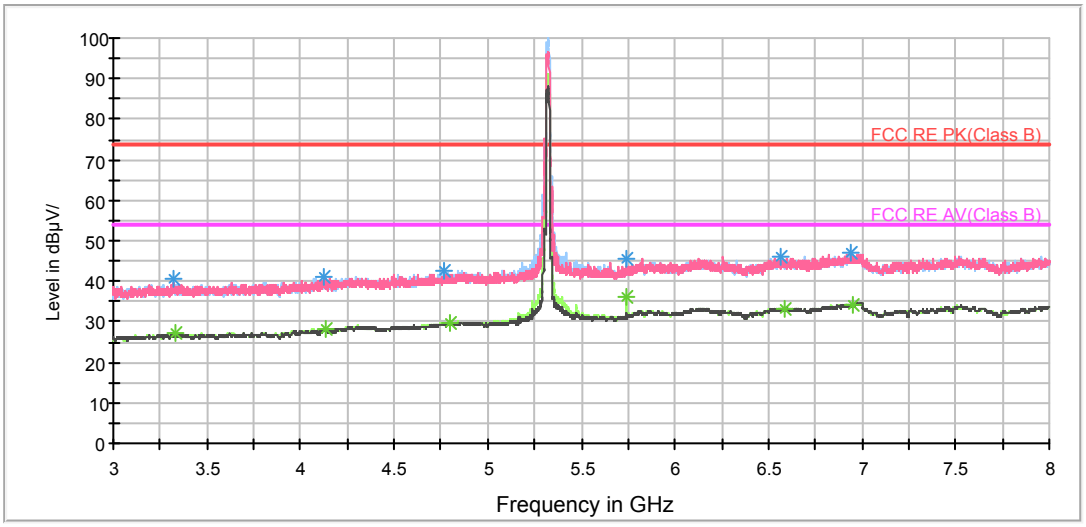
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3327.500000	27.1	202.0	H	0.0	29.3	-2.2	26.9	54
4131.250000	28.2	202.0	H	0.0	28.6	-0.4	25.8	54
4794.375000	29.6	102.0	H	340.0	28.4	1.2	24.4	54
5745.625000	35.9	102.0	H	41.0	32.3	3.6	18.1	54
6583.750000	33.3	202.0	H	82.0	27.8	5.5	20.7	54
6953.125000	34.1	202.0	H	104.0	27.9	6.2	19.9	54

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



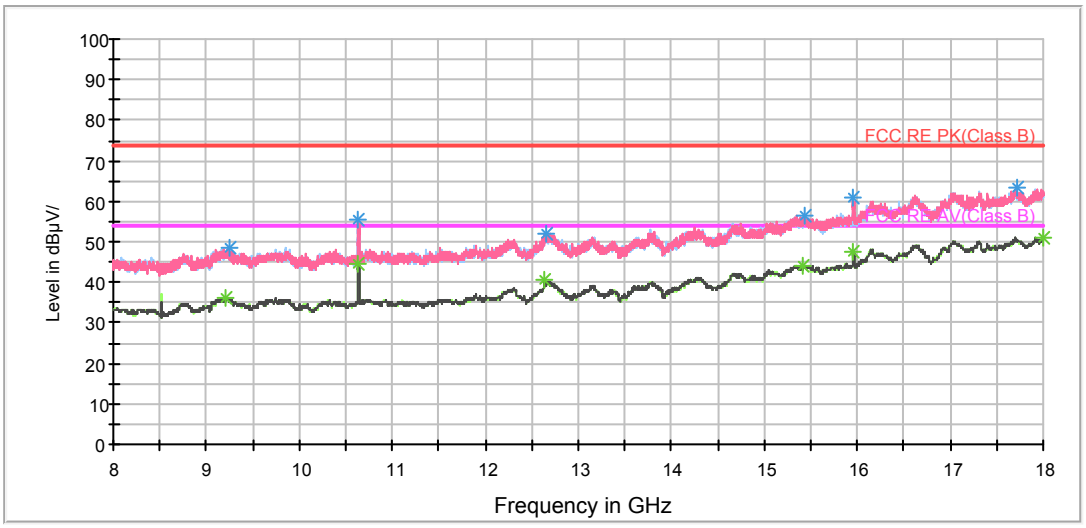
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



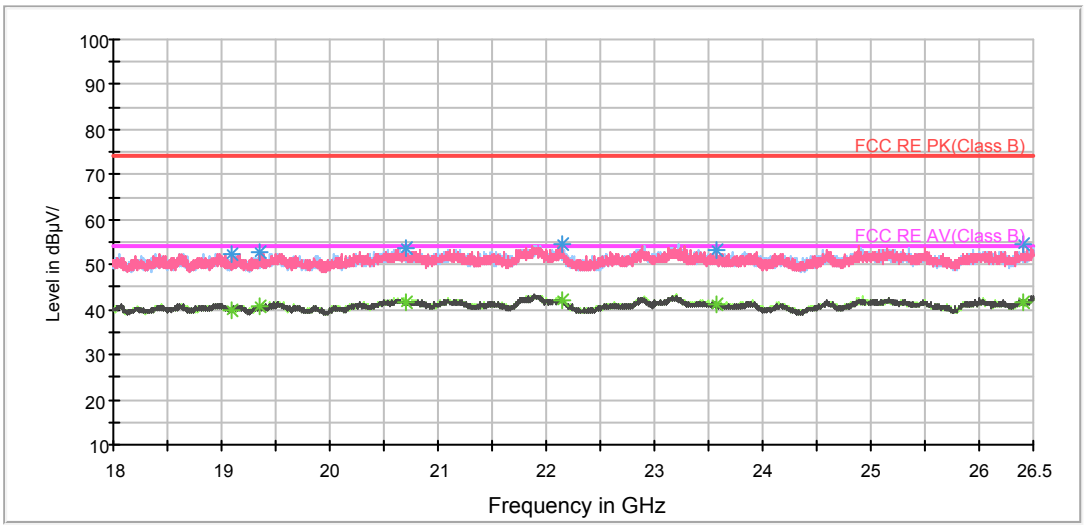
Note: The signal beyond the limit is carrier.
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



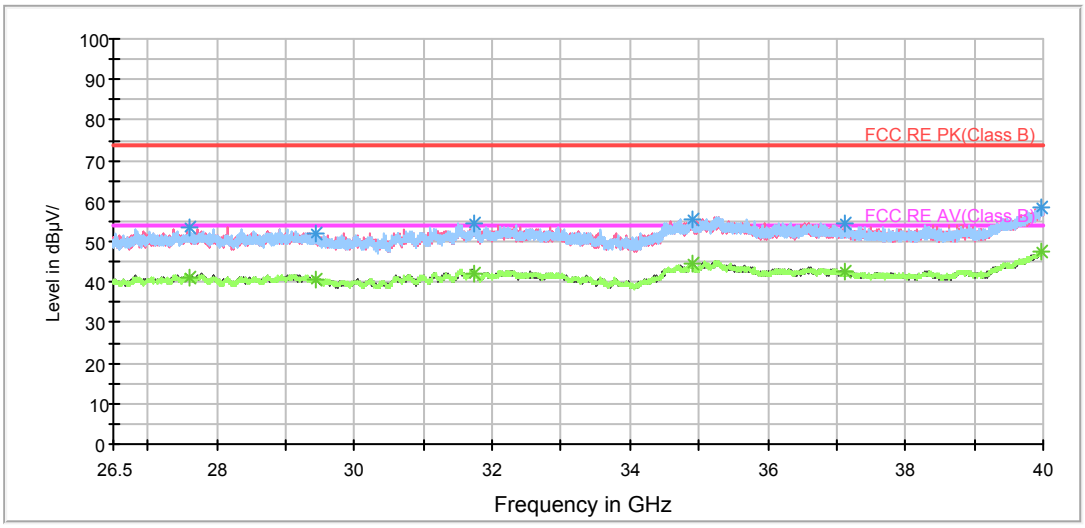
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

802.11n (HT20) CH149

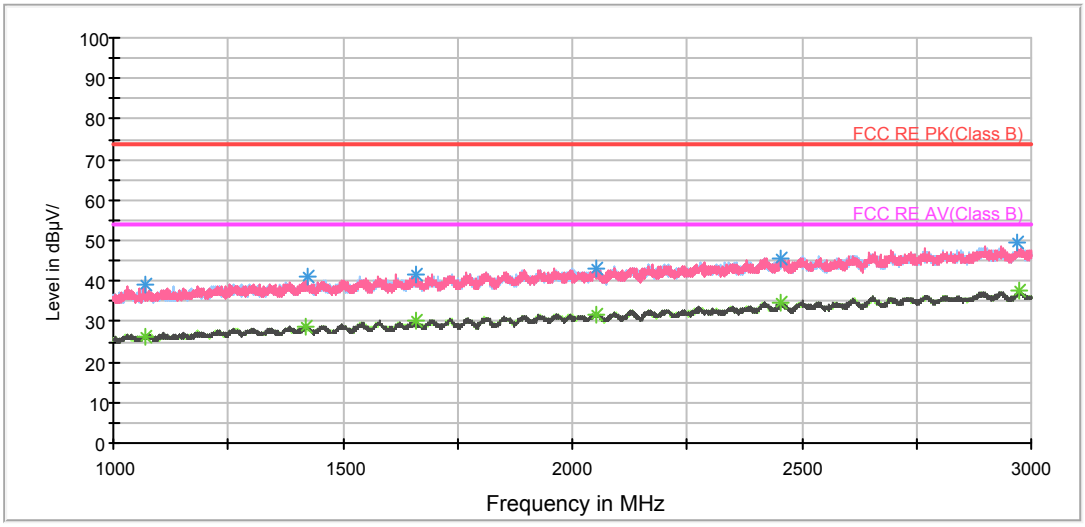
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3046.875000	39.6	202.0	H	254.0	42.8	-3.2	34.4	74
3485.000000	39.1	202.0	H	0.0	41.1	-2.0	34.9	74
4076.875000	40.9	202.0	H	0.0	41.8	-0.9	33.1	74
4329.375000	42.2	202.0	V	149.0	41.7	0.5	31.8	74
4865.000000	41.8	102.0	H	358.0	40.1	1.7	32.2	74
6996.875000	47.1	202.0	V	275.0	40.6	6.5	26.9	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)
3068.750000	26.0	202.0	H	0.0	29.1	-3.1	28.0	54
3445.625000	28.1	202.0	H	169.0	30.4	-2.3	25.9	54
4123.750000	28.3	202.0	H	65.0	28.7	-0.4	25.7	54
4350.625000	28.7	202.0	H	190.0	28.2	0.5	25.3	54
4865.000000	29.9	202.0	H	233.0	28.2	1.7	24.1	54
6999.375000	34.7	202.0	V	0.0	28.2	6.5	19.3	54

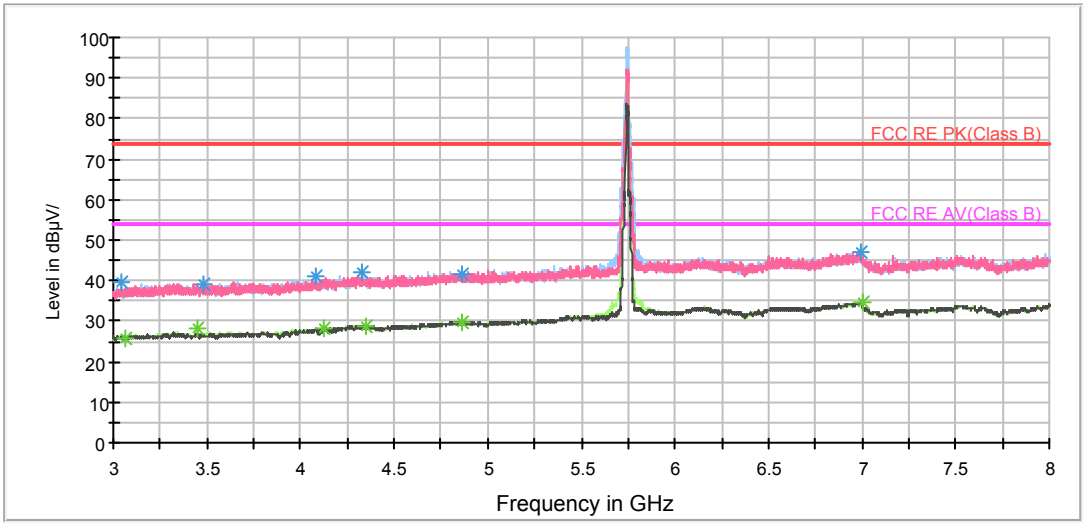
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

RE 1G-3GHz PK+AV



Radiates Emission from 1GHz to 3GHz

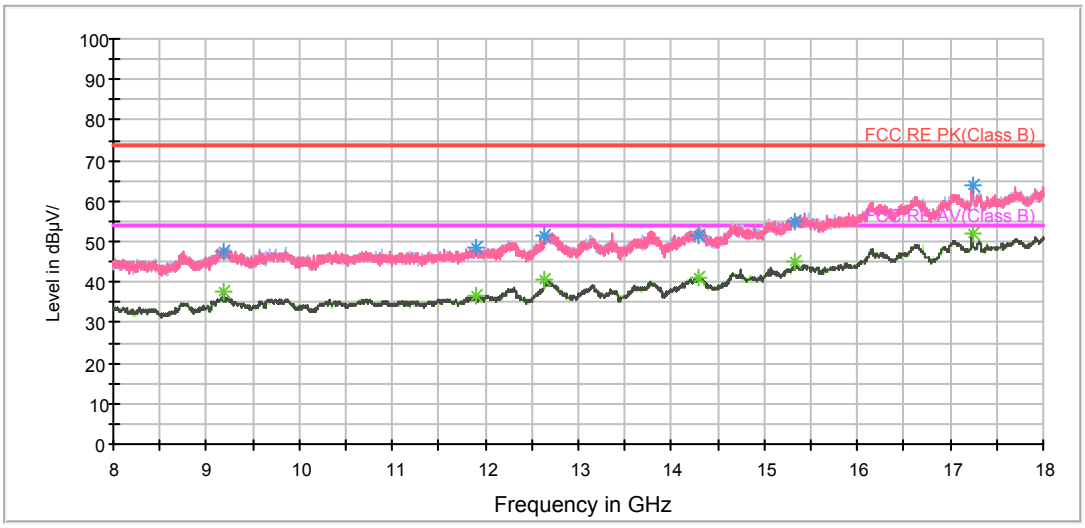
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

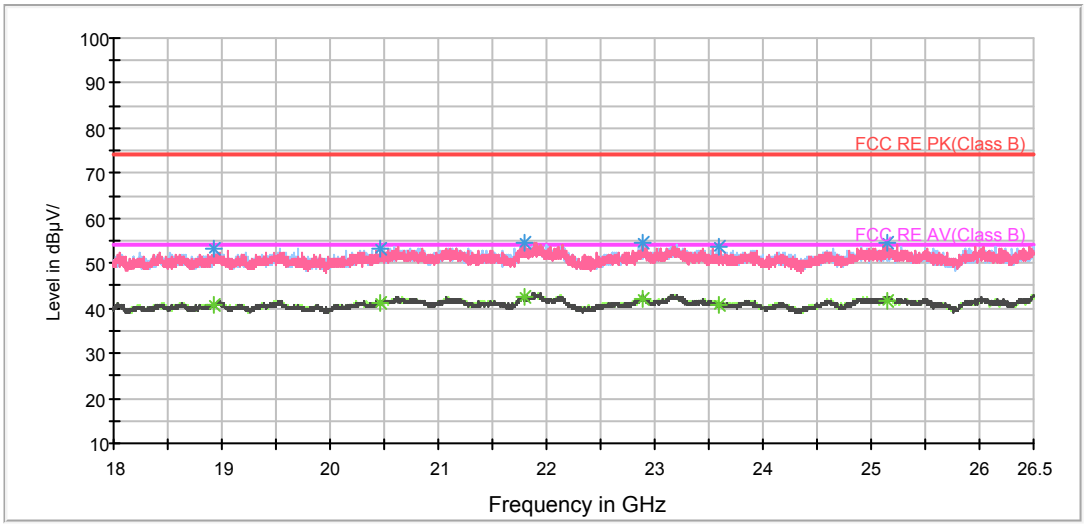
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



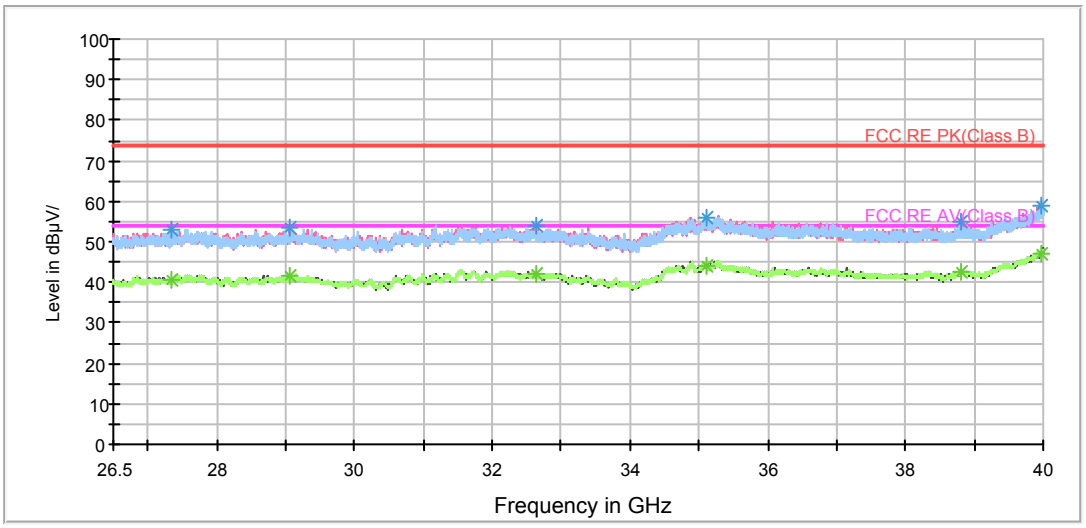
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

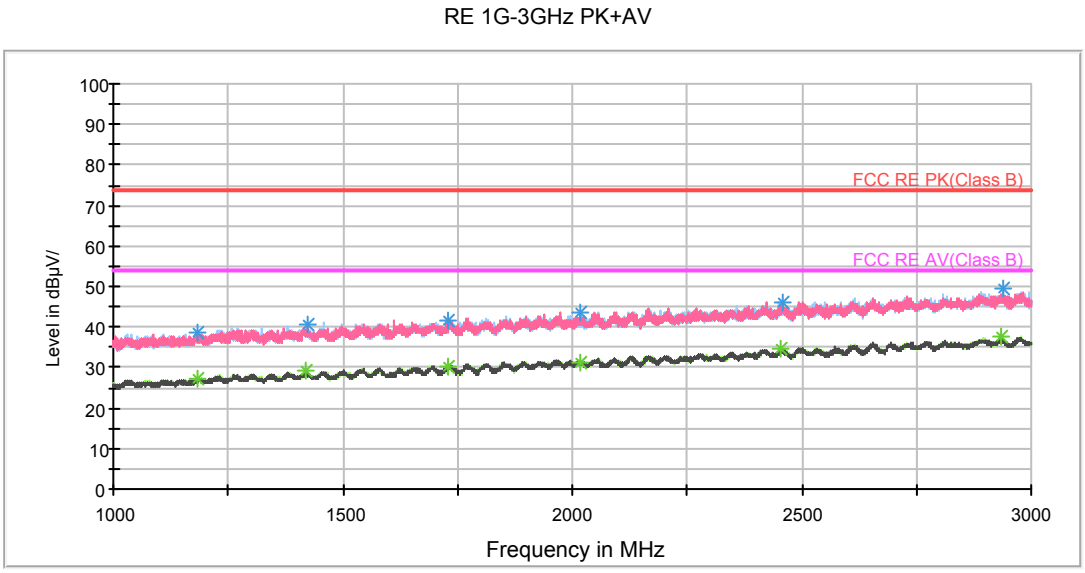
802.11n (HT20) CH157

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3472.500000	39.7	202.0	H	190.0	41.8	-2.1	34.3	74
4127.500000	40.6	102.0	V	1.0	41.0	-0.4	33.4	74
4823.125000	42.1	202.0	V	336.0	40.7	1.4	31.9	74
5213.125000	42.6	202.0	V	0.0	40.5	2.1	31.4	74
6128.750000	45.8	102.0	V	275.0	40.4	5.4	28.2	74
6998.750000	47.7	102.0	V	0.0	41.2	6.5	26.3	74

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

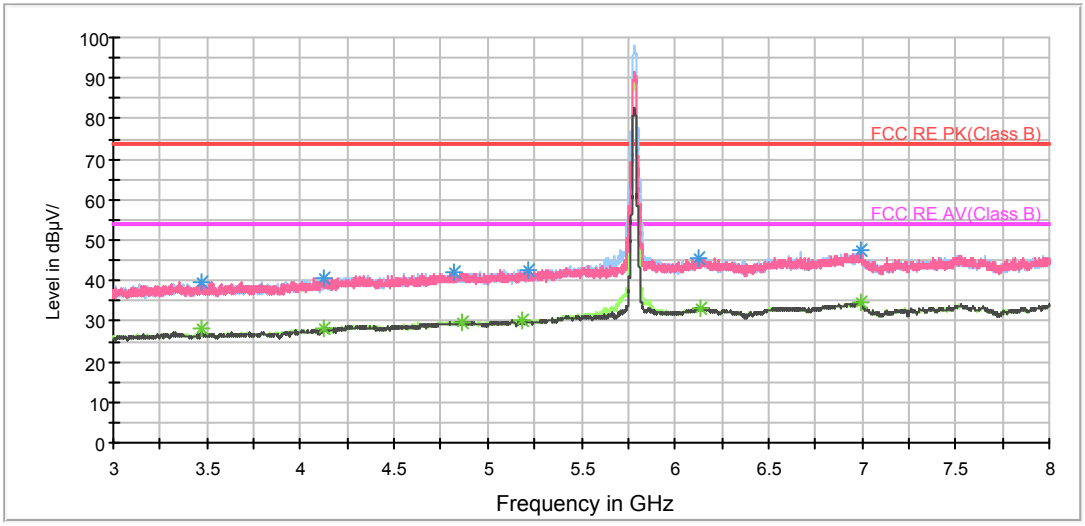
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3468.125000	28.1	202.0	H	190.0	30.2	-2.1	25.9	54
4121.875000	28.2	102.0	V	146.0	28.7	-0.5	25.8	54
4867.500000	29.9	202.0	H	148.0	28.2	1.7	24.1	54
5188.750000	30.1	202.0	H	211.0	28.0	2.1	23.9	54
6133.750000	33.3	202.0	H	0.0	27.9	5.4	20.7	54
6996.875000	34.8	202.0	V	0.0	28.3	6.5	19.2	54

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



Radiates Emission from 1GHz to 3GHz

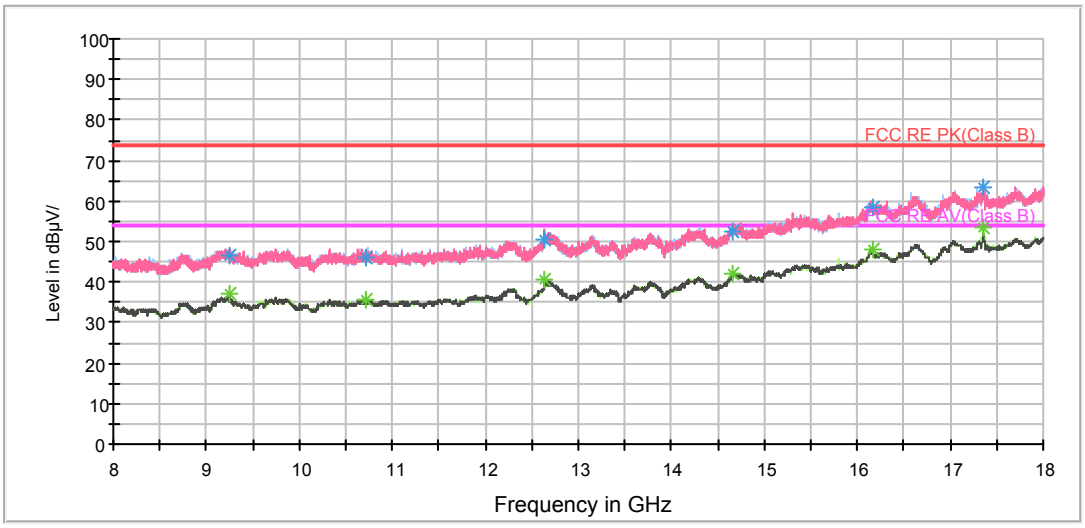
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

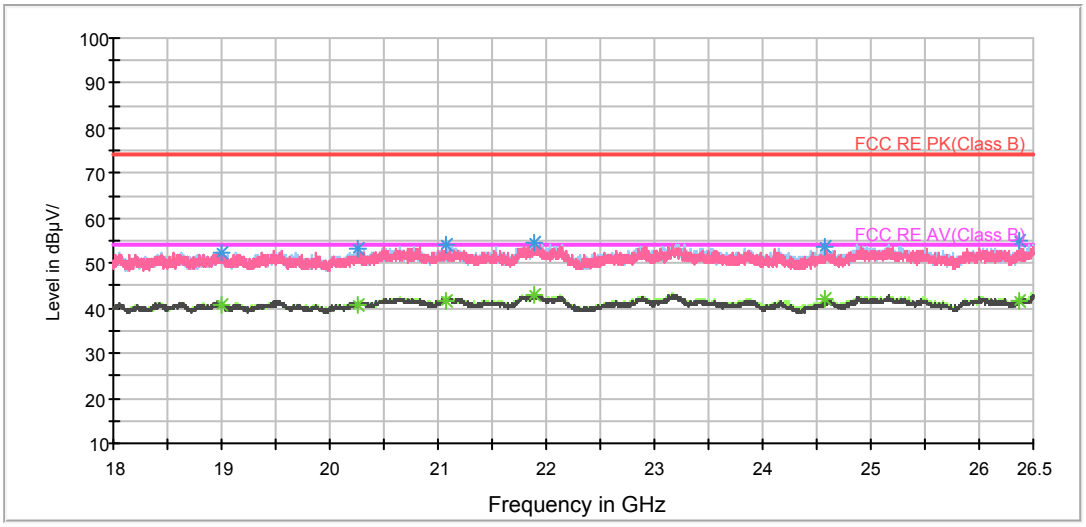
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



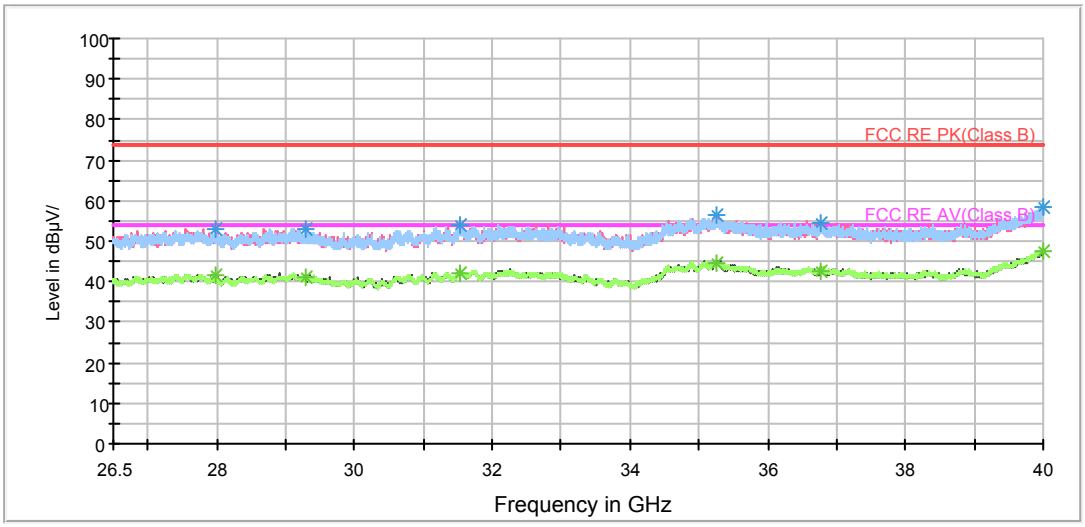
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

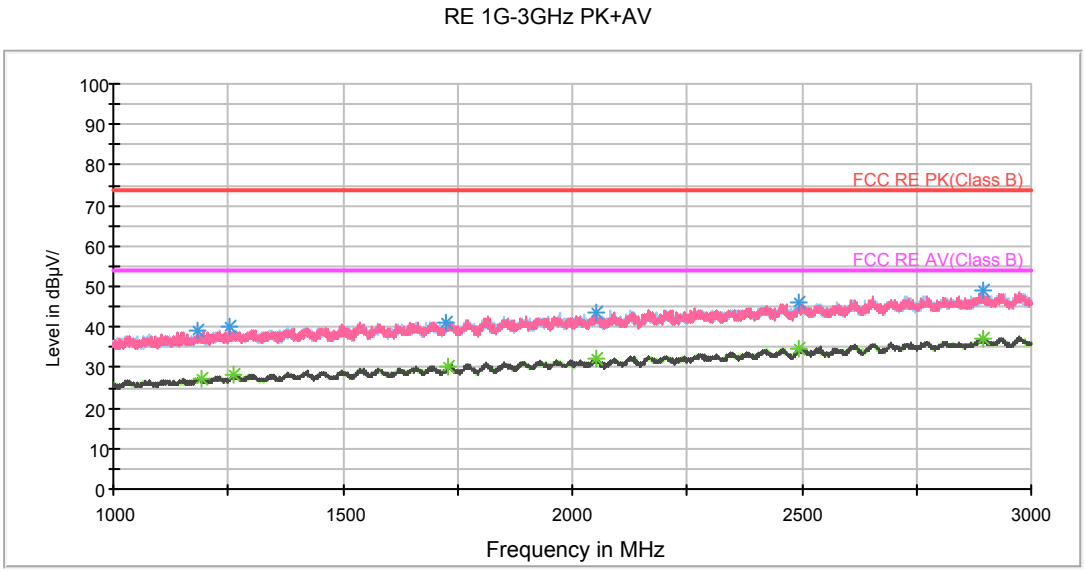
802.11n (HT20) CH165

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3354.375000	39.9	102.0	V	3.0	42.2	-2.3	34.1	74
3490.625000	39.6	202.0	H	171.0	41.7	-2.1	34.4	74
4120.625000	41.3	202.0	H	0.0	41.8	-0.5	32.7	74
4701.875000	42.3	202.0	H	44.0	41.5	0.8	31.7	74
6911.250000	47.2	102.0	H	294.0	41.0	6.2	26.8	74
7500.625000	46.7	102.0	V	148.0	39.8	6.9	27.3	74

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

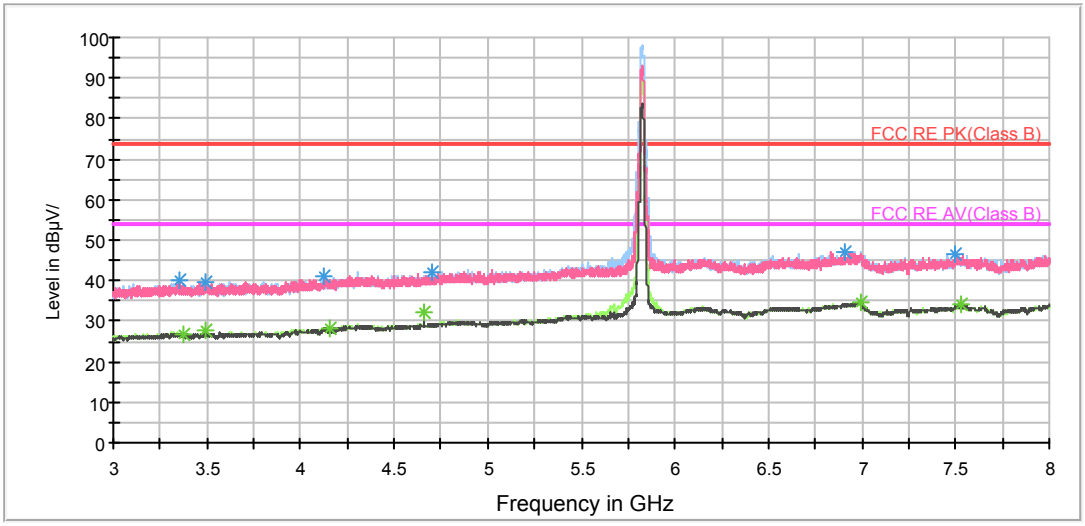
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3376.875000	26.6	202.0	H	0.0	29.2	-2.6	27.4	54
3496.250000	27.8	202.0	H	171.0	29.9	-2.1	26.2	54
4155.000000	28.3	102.0	V	212.0	28.4	-0.1	25.7	54
4660.000000	32.4	102.0	H	0.0	31.7	0.7	21.6	54
6997.500000	34.8	102.0	V	3.0	28.3	6.5	19.2	54
7527.500000	33.9	102.0	V	23.0	26.8	7.1	20.1	54

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



Radiates Emission from 1GHz to 3GHz

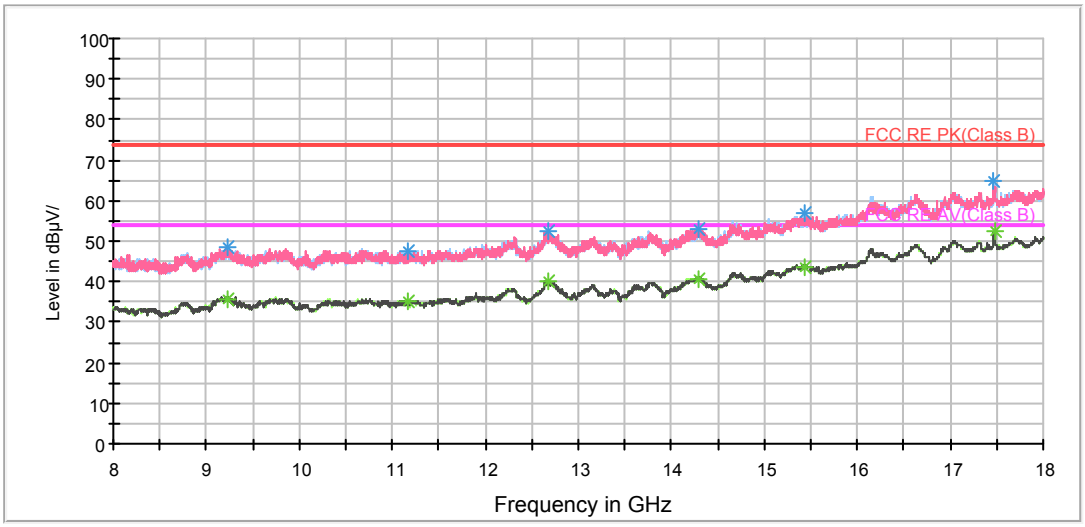
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

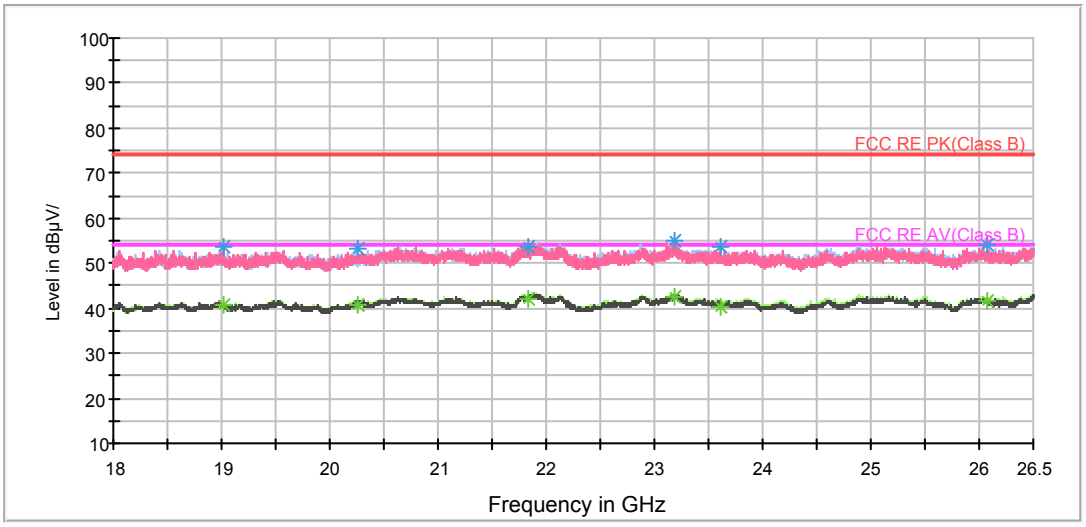
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



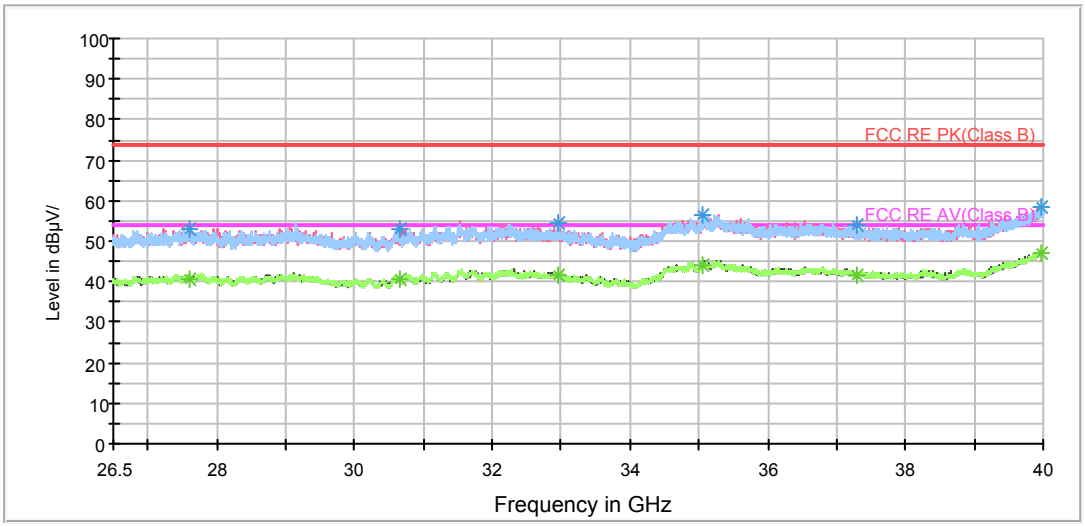
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

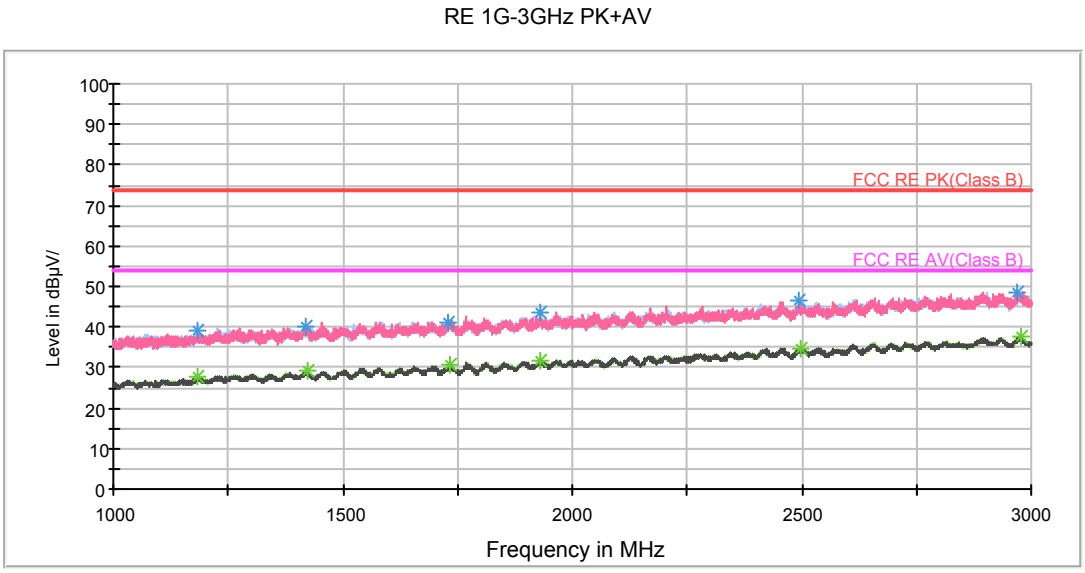
802.11n (HT40) CH38

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1184.000000	38.9	202.0	H	56.0	47.0	-8.1	35.1	74
1420.750000	39.9	102.0	V	127.0	46.8	-6.9	34.1	74
1731.000000	41.3	102.0	V	41.0	46.2	-4.9	32.7	74
1930.750000	43.7	102.0	V	161.0	47.4	-3.7	30.3	74
2492.250000	46.3	202.0	H	30.0	46.0	0.3	27.7	74
2969.750000	48.4	102.0	V	270.0	46.2	2.2	25.6	74

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

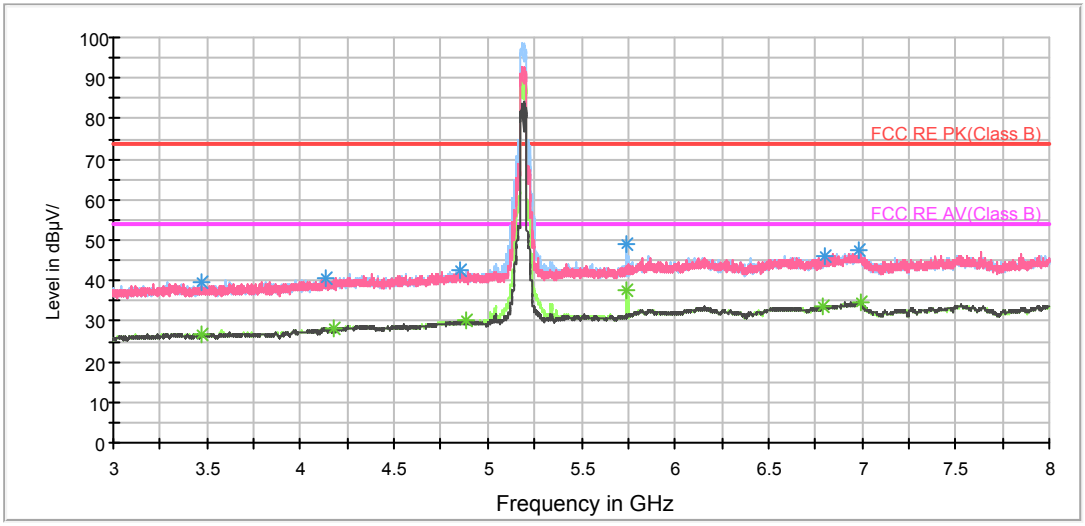
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1183.750000	27.8	202.0	H	30.0	35.9	-8.1	26.2	54
1423.000000	29.0	102.0	V	161.0	35.9	-6.9	25.0	54
1732.250000	30.8	202.0	V	299.0	35.6	-4.8	23.2	54
1929.250000	31.6	202.0	V	343.0	35.2	-3.6	22.4	54
2495.750000	34.6	202.0	H	233.0	34.6	0.0	19.4	54
2977.000000	37.6	202.0	V	194.0	35.4	2.2	16.4	54

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



Radiates Emission from 1GHz to 3GHz

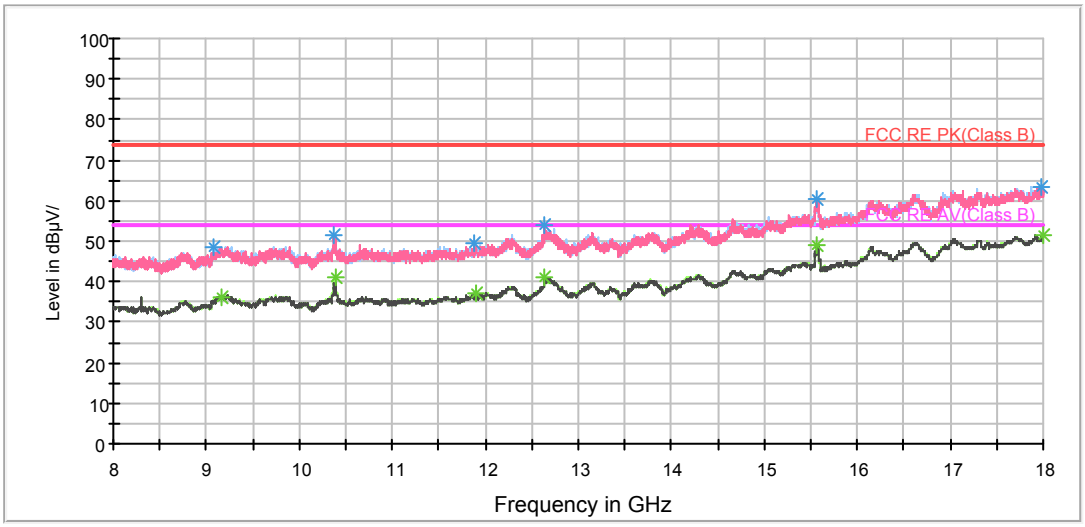
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

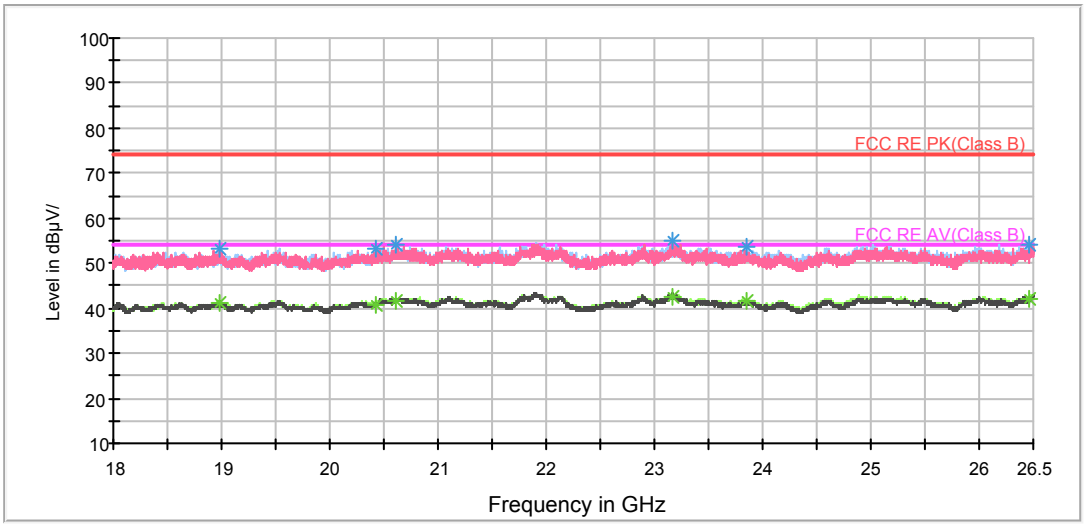
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



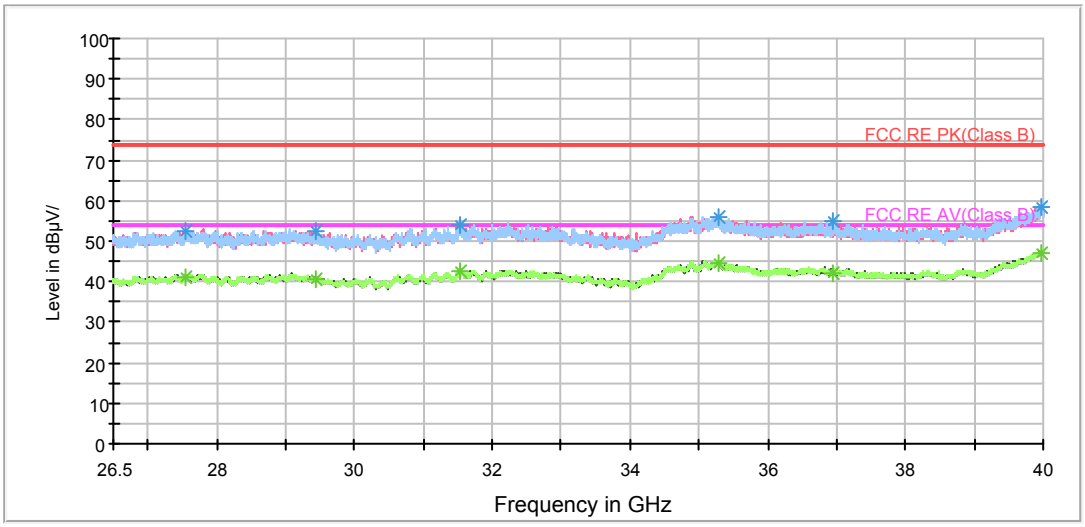
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

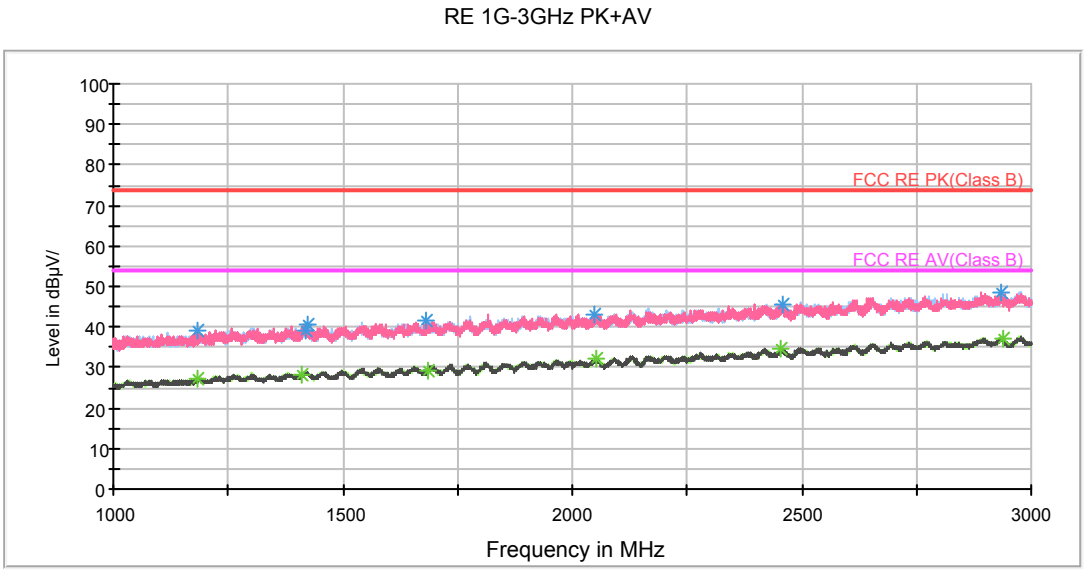
802.11n (HT40) CH46

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3419.375000	39.4	102.0	V	42.0	42.0	-2.6	34.6	74
4132.500000	40.5	202.0	H	38.0	40.8	-0.3	33.5	74
4841.250000	42.4	202.0	H	320.0	40.8	1.6	31.6	74
5744.375000	44.2	202.0	H	0.0	40.6	3.6	29.8	74
6671.250000	45.6	102.0	H	169.0	40.1	5.5	28.4	74
6923.125000	47.3	102.0	H	315.0	41.1	6.2	26.7	74

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

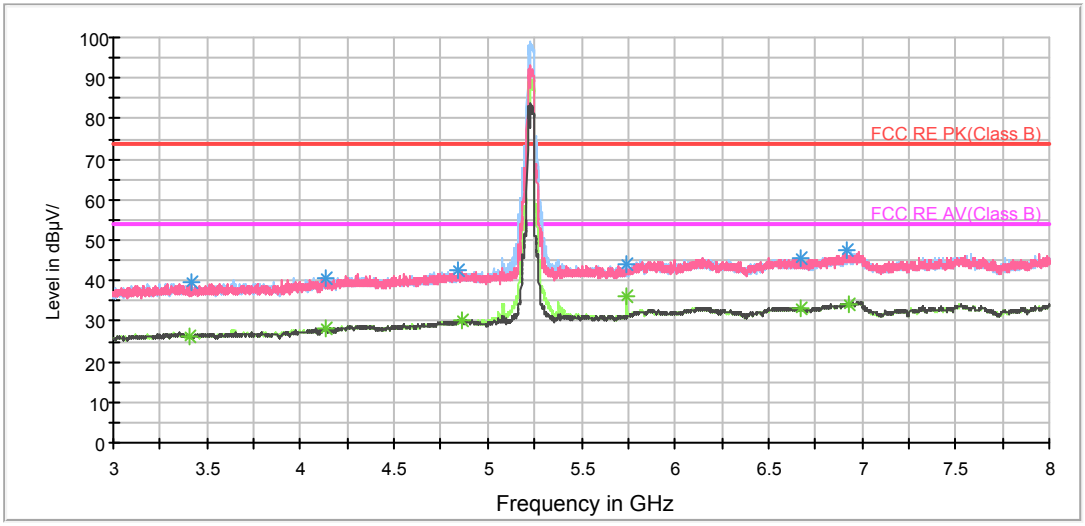
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3411.250000	26.3	102.0	H	0.0	28.9	-2.6	27.7	54
4130.625000	28.3	202.0	H	184.0	28.7	-0.4	25.7	54
4865.000000	30.1	202.0	V	281.0	28.4	1.7	23.9	54
5744.375000	36.1	202.0	H	0.0	32.5	3.6	17.9	54
6674.375000	33.0	102.0	V	20.0	27.5	5.5	21.0	54
6930.000000	34.3	102.0	V	0.0	28.1	6.2	19.7	54

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



Radiates Emission from 1GHz to 3GHz

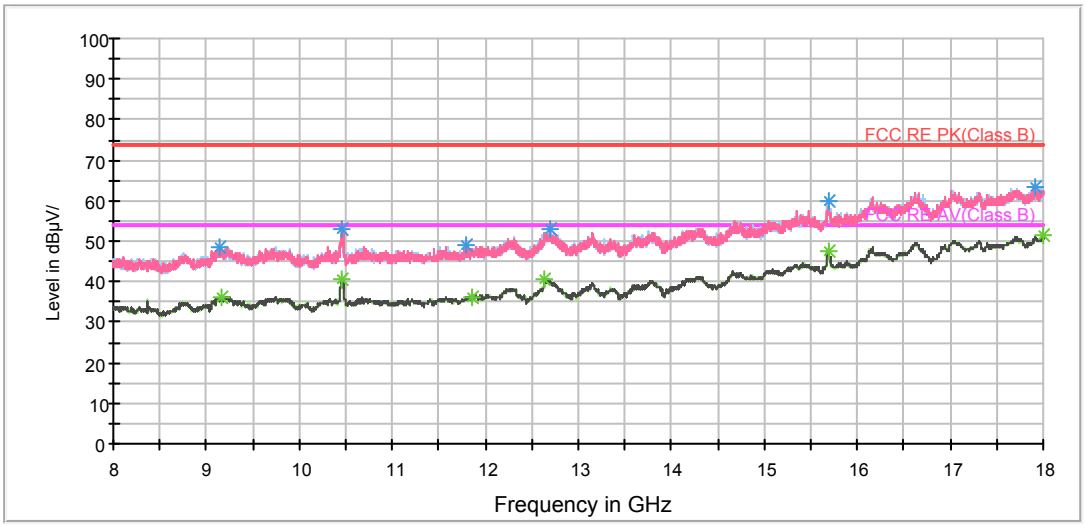
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

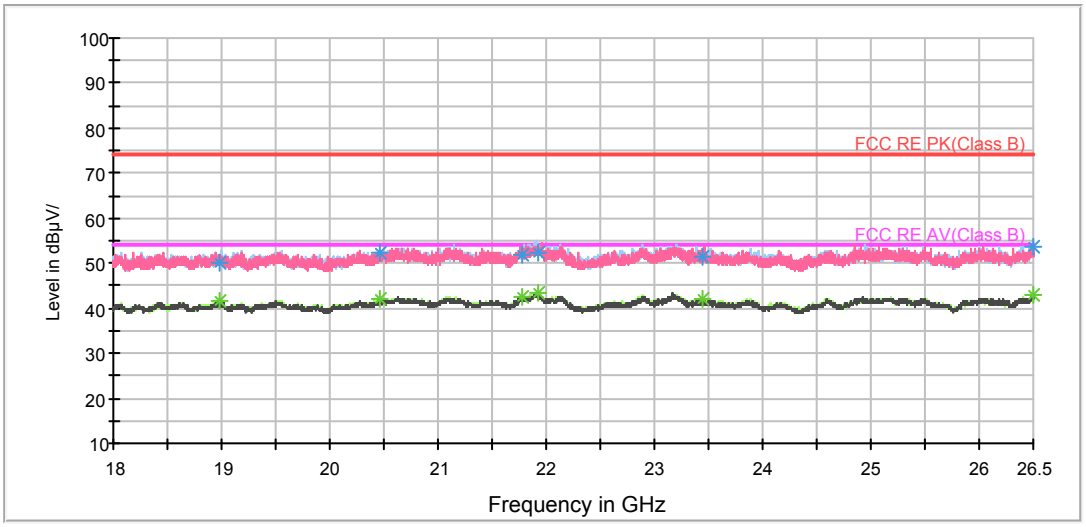
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



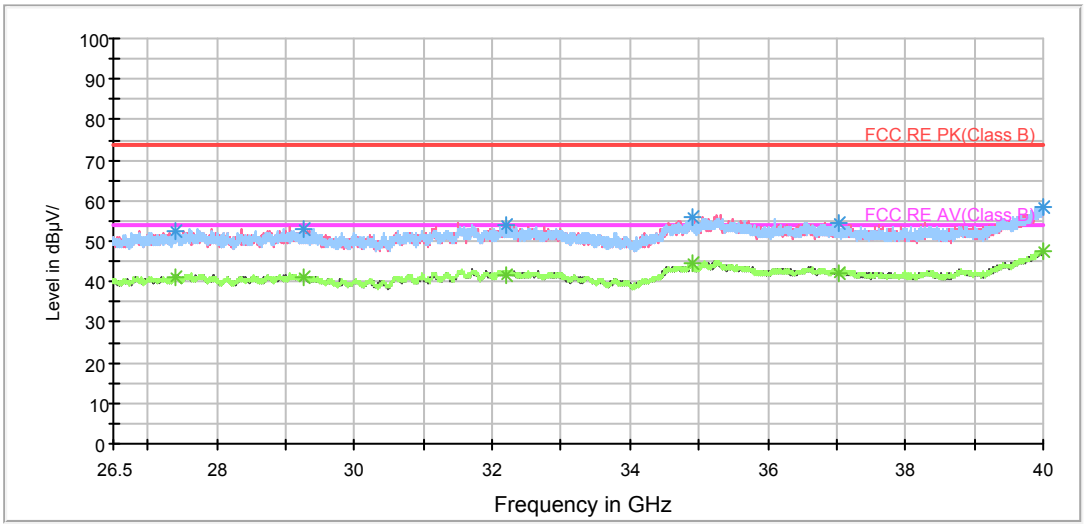
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

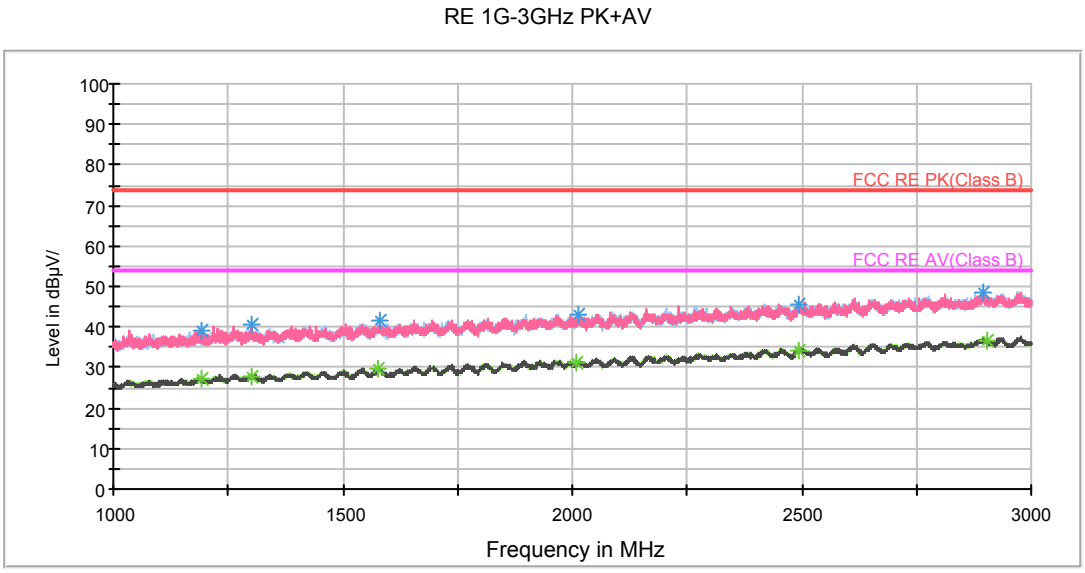
802.11n (HT40) CH54

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3518.750000	39.3	102.0	H	339.0	41.3	-2.0	34.7	74
3966.875000	40.6	202.0	H	170.0	41.5	-0.9	33.4	74
4853.125000	42.2	102.0	H	212.0	40.6	1.6	31.8	74
5748.750000	43.7	202.0	H	233.0	40.1	3.6	30.3	74
6103.750000	45.6	202.0	V	0.0	40.5	5.1	28.4	74
6905.000000	46.5	202.0	V	314.0	40.2	6.3	27.5	74

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

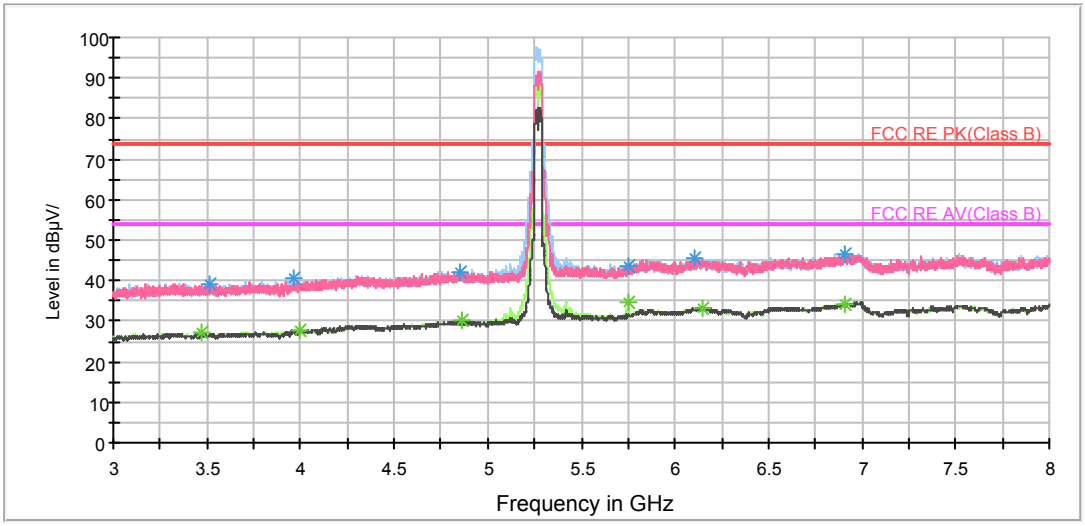
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3468.125000	27.1	202.0	H	0.0	29.2	-2.1	26.9	54
3991.250000	27.6	202.0	H	276.0	28.6	-1.0	26.4	54
4862.500000	30.0	202.0	H	191.0	28.3	1.7	24.0	54
5748.750000	34.5	202.0	H	233.0	30.9	3.6	19.5	54
6145.000000	33.3	202.0	H	129.0	27.9	5.4	20.7	54
6906.875000	34.4	202.0	V	293.0	28.1	6.3	19.6	54

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



Radiates Emission from 1GHz to 3GHz

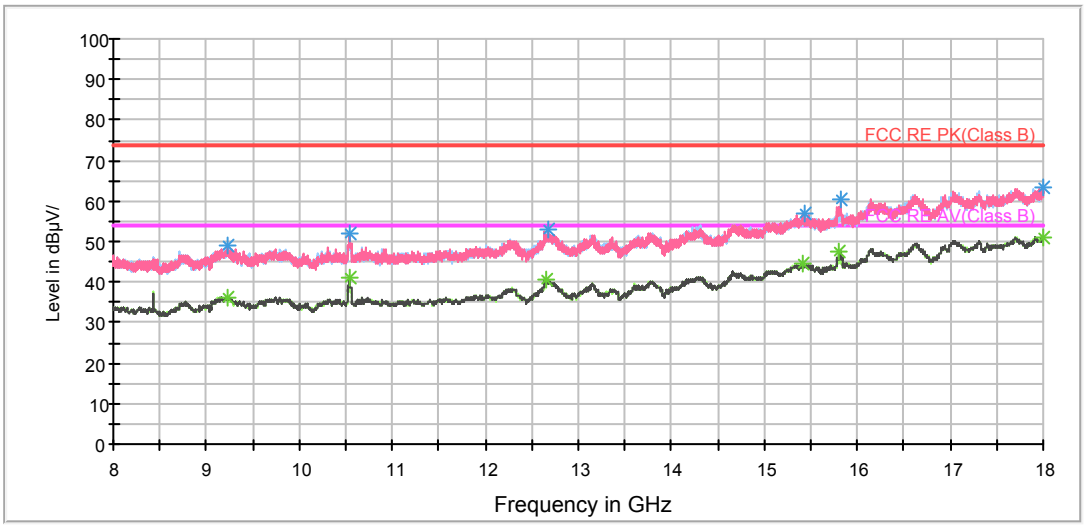
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

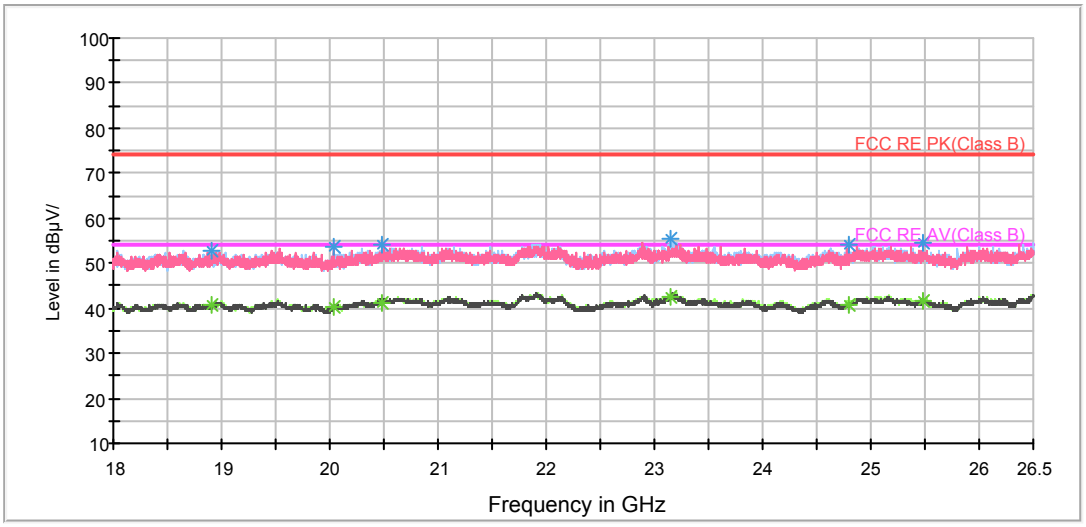
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



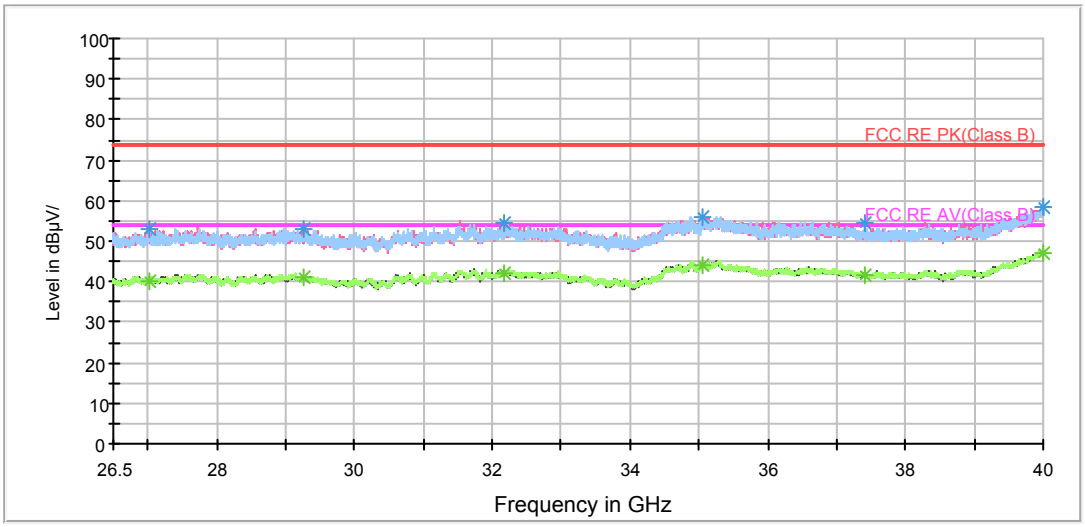
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

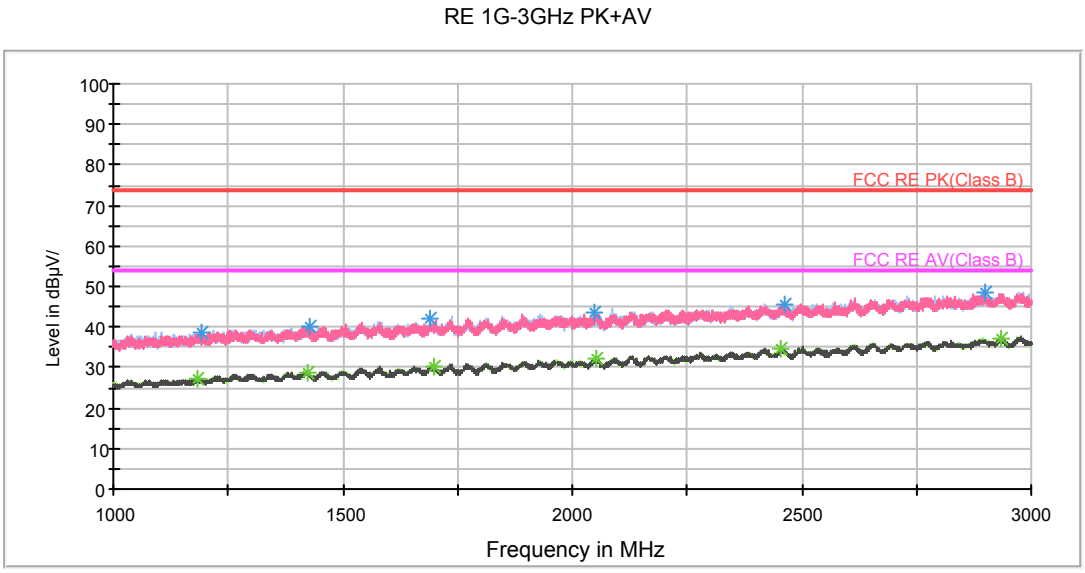
802.11n (HT40) CH62

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3339.375000	39.2	202.0	H	0.0	41.6	-2.4	34.8	74
4154.375000	41.1	202.0	H	63.0	41.2	-0.1	32.9	74
4843.750000	42.8	202.0	H	211.0	41.2	1.6	31.2	74
6143.125000	45.8	102.0	V	19.0	40.4	5.4	28.2	74
6990.000000	46.2	102.0	H	252.0	39.7	6.5	27.8	74
7269.375000	47.0	102.0	V	0.0	40.0	7.0	27.0	74

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

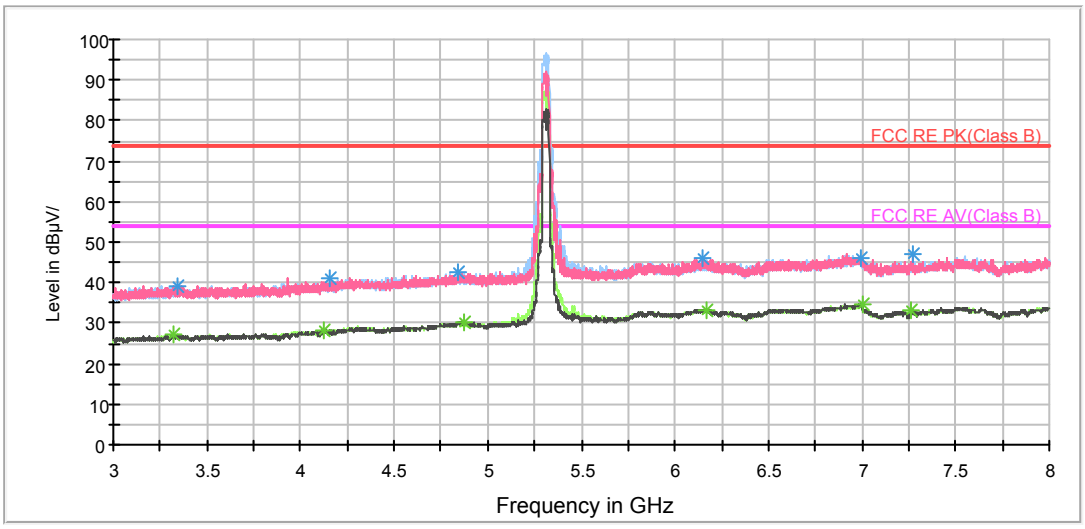
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3323.750000	27.2	202.0	H	126.0	29.3	-2.1	26.8	54
4126.875000	28.2	202.0	H	0.0	28.6	-0.4	25.8	54
4868.750000	30.0	202.0	V	0.0	28.3	1.7	24.0	54
6171.250000	33.1	202.0	V	232.0	27.6	5.5	20.9	54
6999.375000	34.7	202.0	V	232.0	28.2	6.5	19.3	54
7265.625000	33.0	102.0	V	82.0	26.0	7.0	21.0	54

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



Radiates Emission from 1GHz to 3GHz

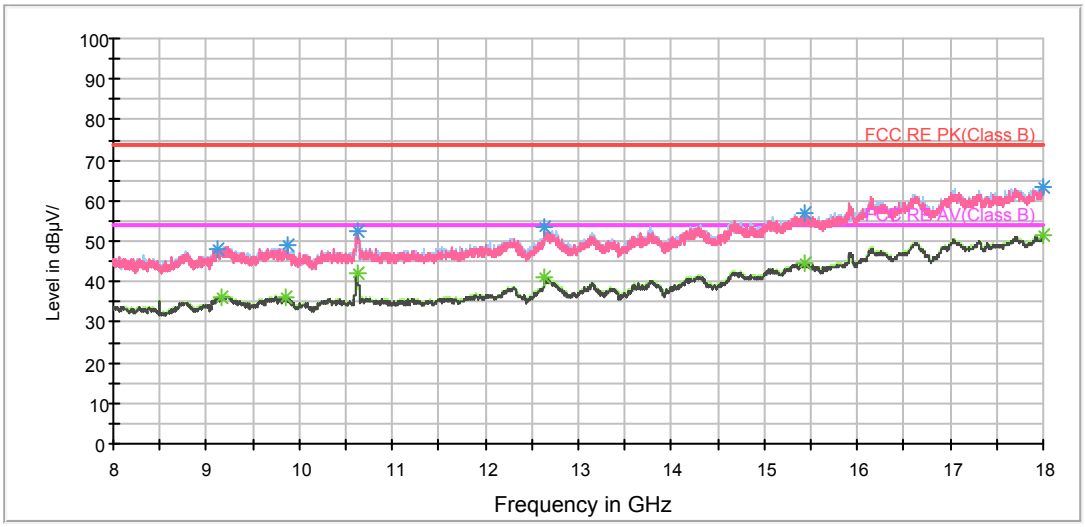
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

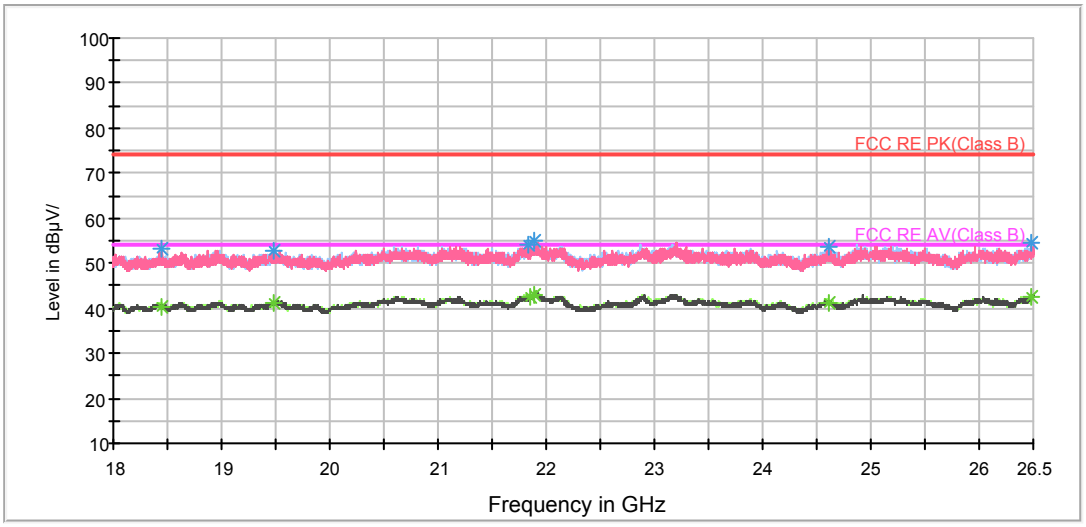
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



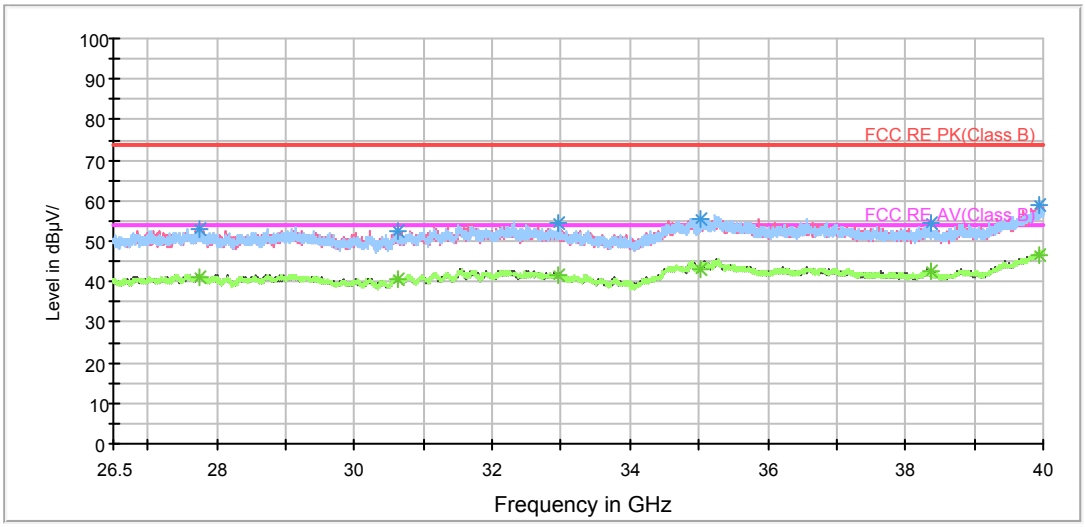
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

802.11n (HT40) CH151

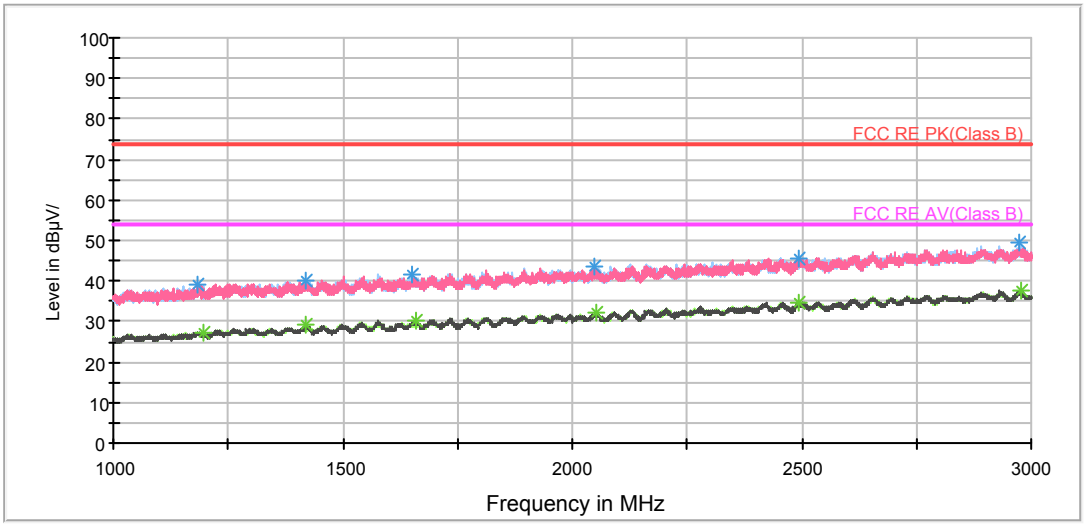
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3478.750000	40.0	202.0	V	335.0	42.0	-2.0	34.0	74
4151.250000	40.6	202.0	H	107.0	40.7	-0.1	33.4	74
4798.125000	42.6	202.0	H	0.0	41.3	1.3	31.4	74
5992.500000	46.2	102.0	V	0.0	41.3	4.9	27.8	74
6820.000000	46.9	202.0	H	211.0	41.2	5.7	27.1	74
6980.625000	46.8	202.0	H	254.0	40.4	6.4	27.2	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)
3325.625000	27.2	202.0	H	107.0	29.3	-2.1	26.8	54
4121.250000	28.3	202.0	H	65.0	28.8	-0.5	25.7	54
4861.875000	29.9	202.0	H	0.0	28.2	1.7	24.1	54
5999.375000	32.3	102.0	V	46.0	27.4	4.9	21.7	54
6842.500000	33.9	202.0	H	0.0	28.0	5.9	20.1	54
6996.875000	34.8	102.0	V	128.0	28.3	6.5	19.2	54

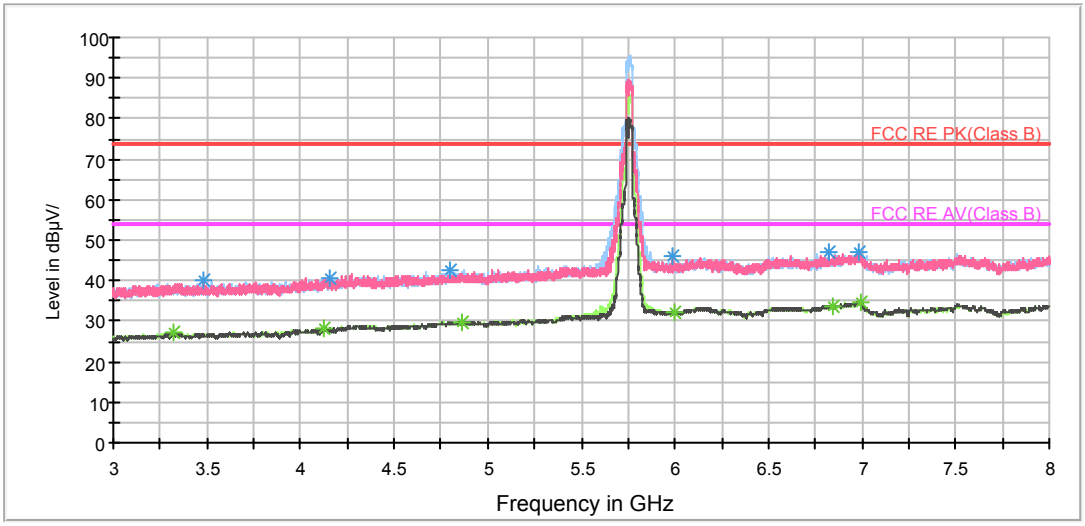
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

RE 1G-3GHz PK+AV



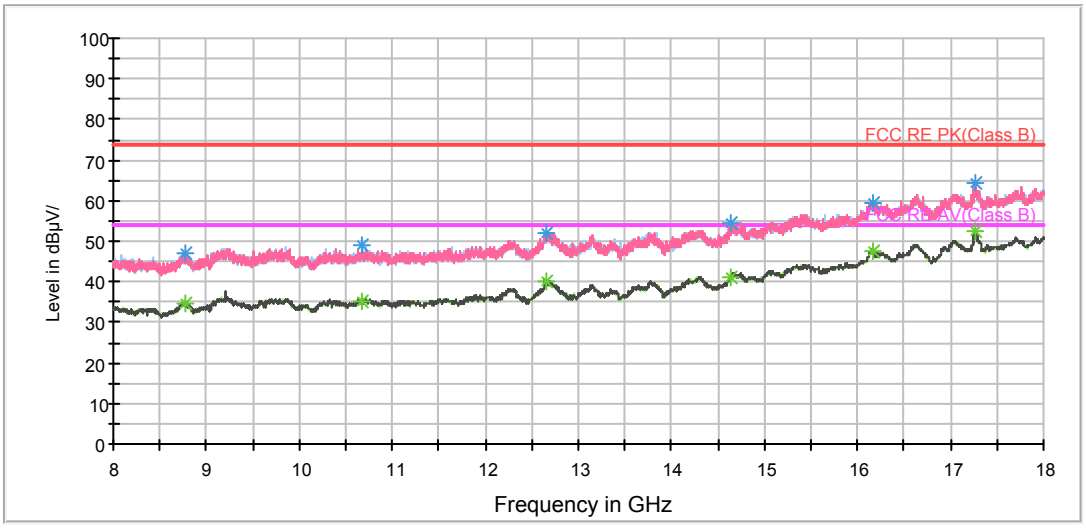
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



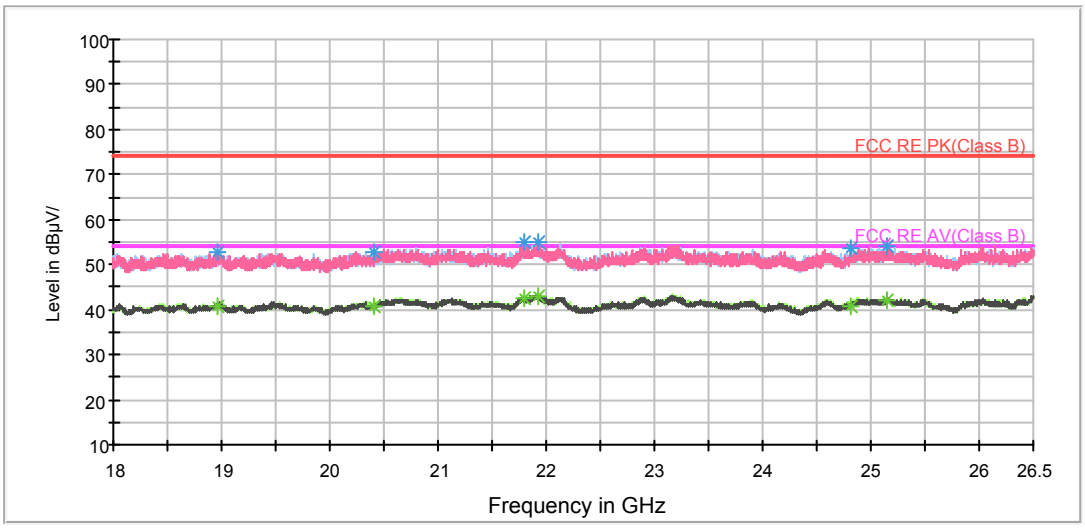
Note: The signal beyond the limit is carrier.
Radiates Emission from 3GHz to8GHz

RE 3-18GHz PK+AV



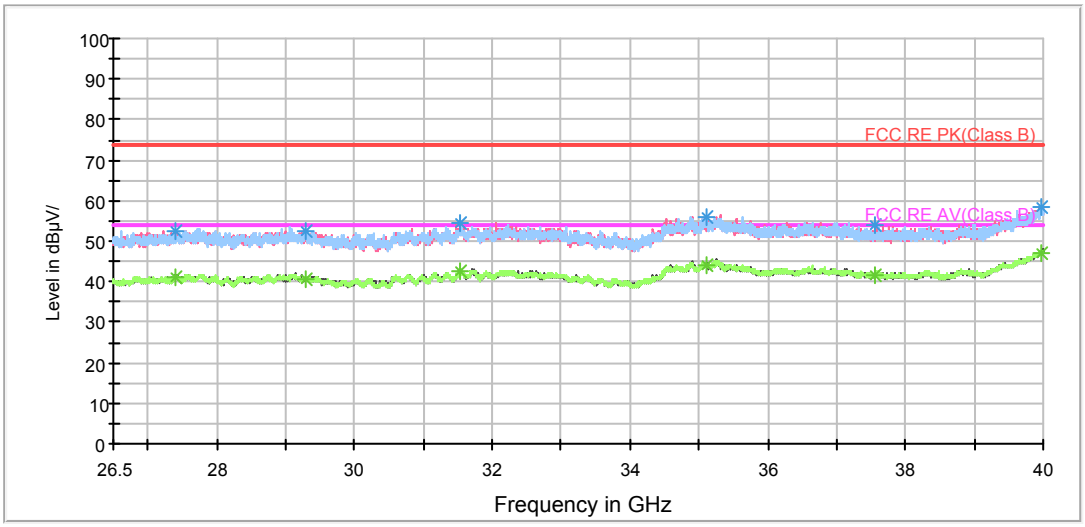
Radiates Emission from 8GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

802.11n (HT40) CH159

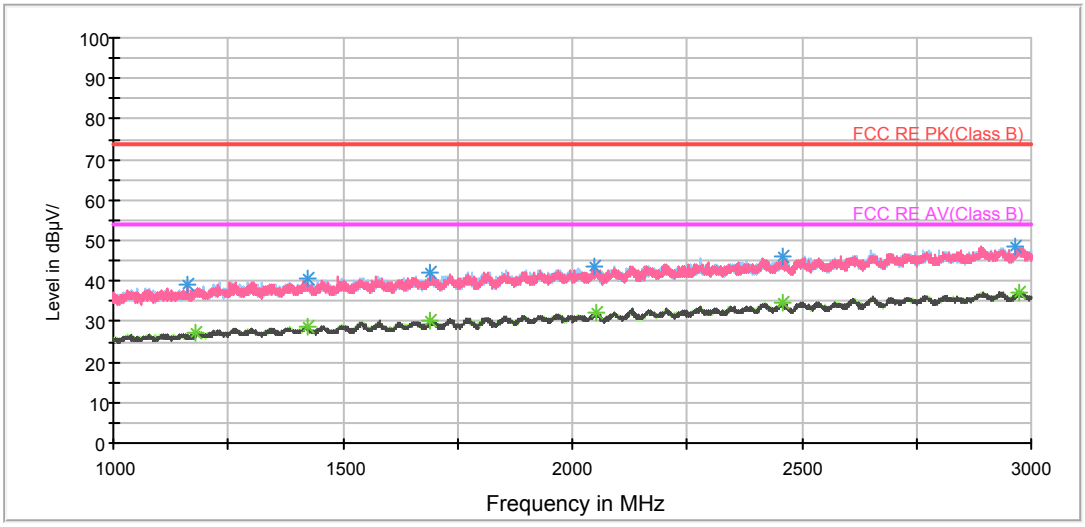
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3470.000000	39.7	202.0	H	168.0	41.8	-2.1	34.3	74
4156.875000	41.1	202.0	H	3.0	41.2	-0.1	32.9	74
4829.375000	42.9	102.0	H	294.0	41.5	1.4	31.1	74
6116.250000	46.1	202.0	V	195.0	40.7	5.4	27.9	74
6958.125000	47.2	102.0	V	86.0	41.0	6.2	26.8	74
7508.125000	46.2	202.0	V	236.0	39.2	7.0	27.8	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)
3325.000000	27.2	202.0	H	106.0	29.3	-2.1	26.8	54
4125.625000	28.1	202.0	H	0.0	28.5	-0.4	25.9	54
4867.500000	30.2	202.0	V	318.0	28.5	1.7	23.8	54
6113.125000	33.3	202.0	V	174.0	28.0	5.3	20.7	54
6998.750000	34.7	102.0	V	86.0	28.2	6.5	19.3	54
7528.125000	33.9	202.0	H	23.0	26.8	7.1	20.1	54

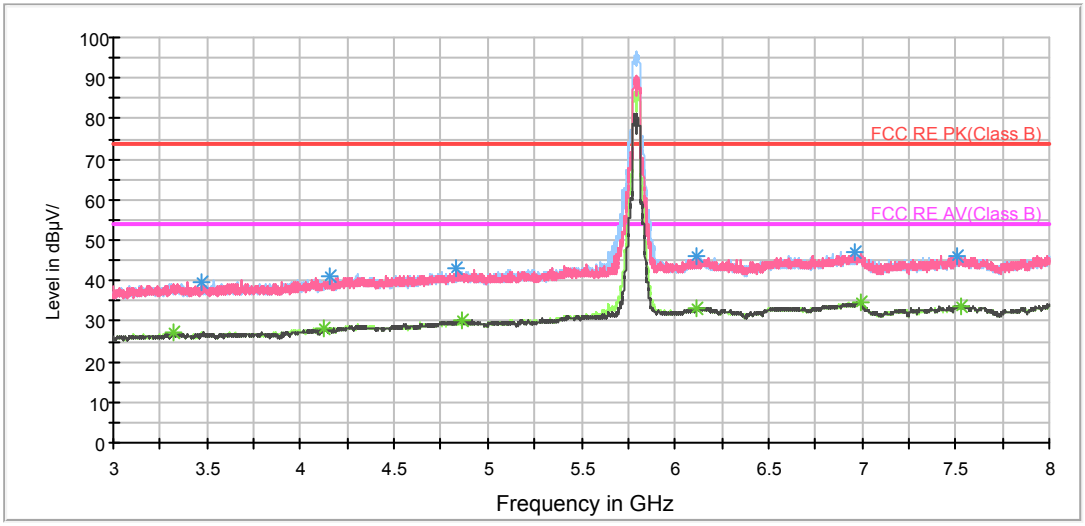
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

RE 1G-3GHz PK+AV



Radiates Emission from 1GHz to 3GHz

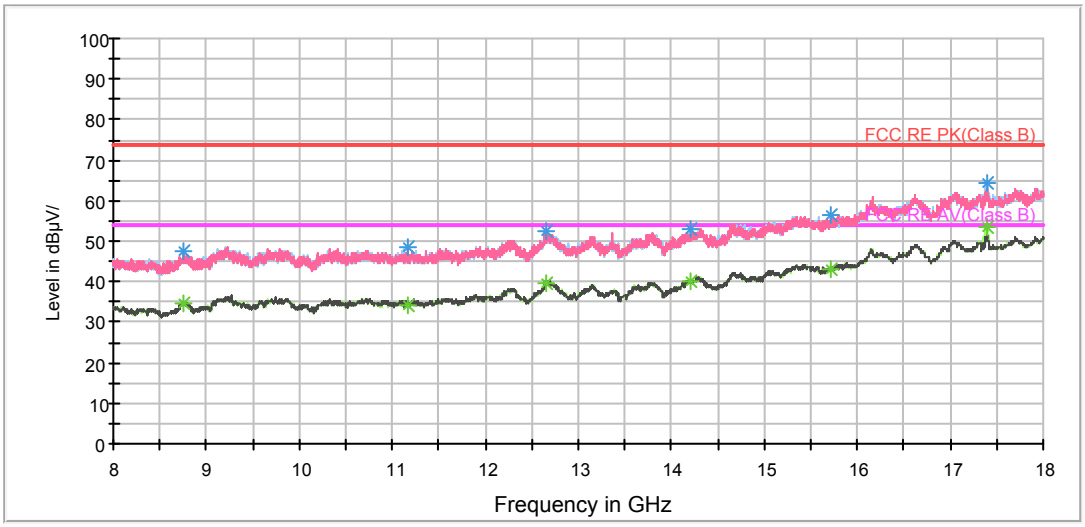
RE 3-18GHz PK+AV



Note: The signal beyond the limit is carrier.

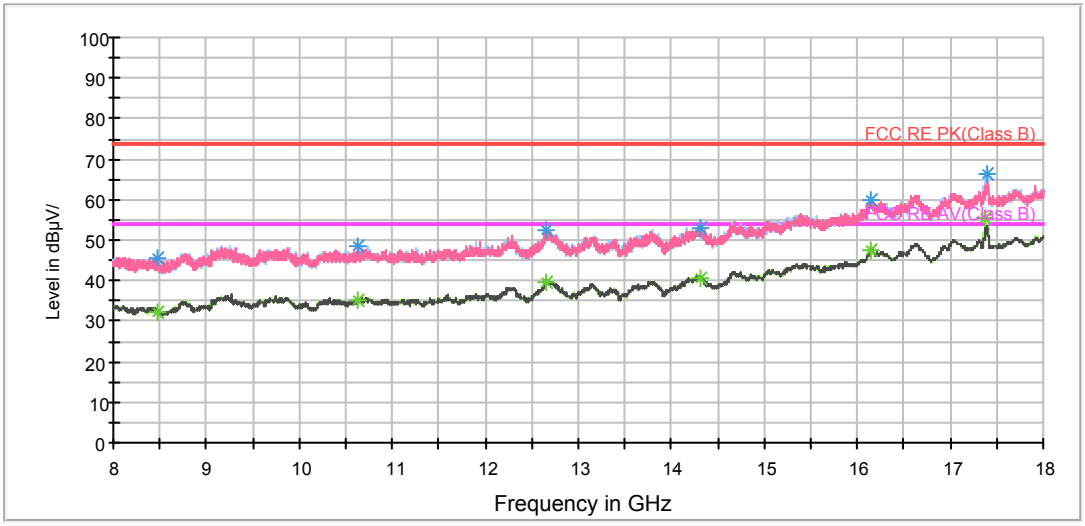
Radiates Emission from 3GHz to 8GHz

RE 3-18GHz PK+AV



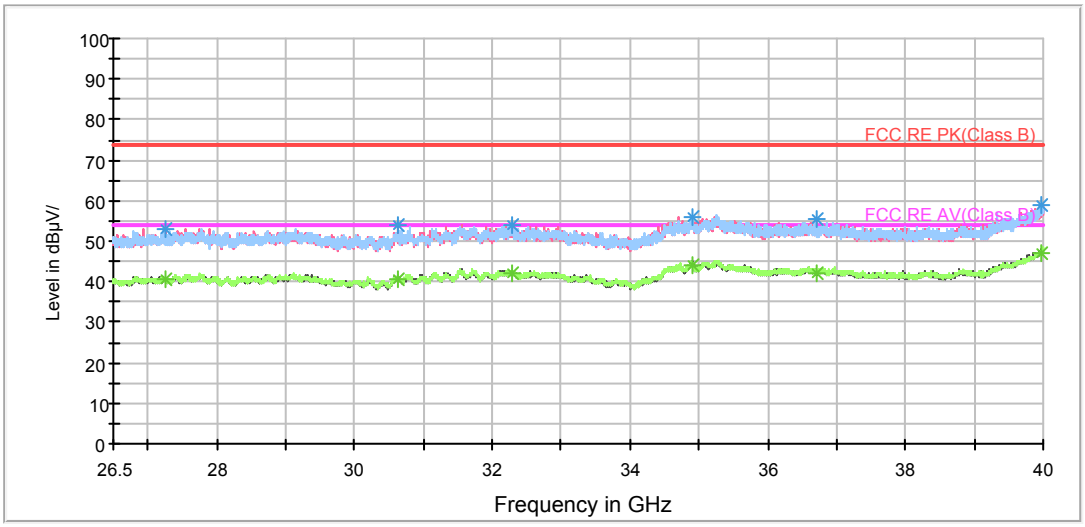
Radiates Emission from 8GHz to 18GHz

RE 3-18GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

BELL RE 26.5-40GHz PK+AV



Radiates Emission from 26.5GHz to 40GHz

5.6. Conducted Emission

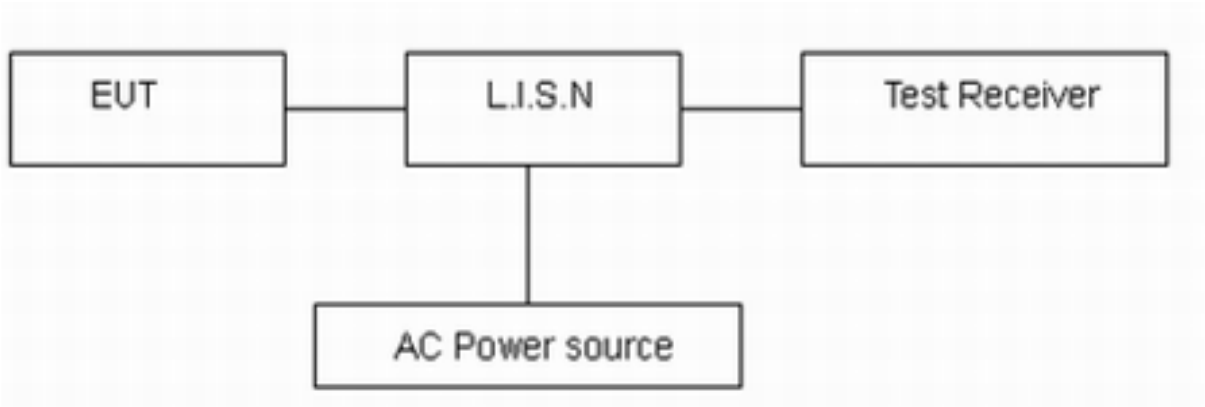
Ambient condition

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 LISN Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9kHz, 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.		

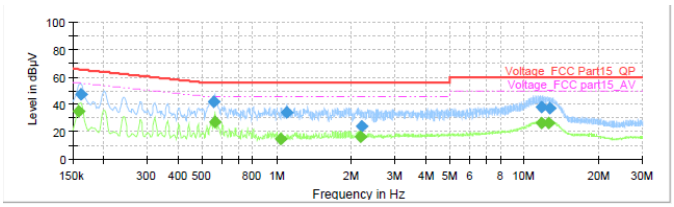
Measurement Uncertainty

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:

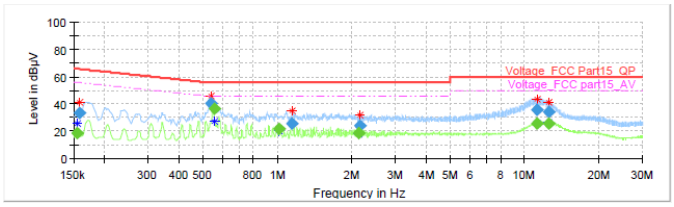
Following plots, Blue trace uses the peak detection and Green trace uses the average detection.

0.15-30MHz, L Line



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.159000	---	35.17	55.52	20.35	1000.0	9.000	L1	ON	19.1
0.161250	47.50	---	65.40	17.90	1000.0	9.000	L1	ON	19.1
0.557250	42.07	---	56.00	13.93	1000.0	9.000	L1	ON	19.3
0.559500	---	27.44	46.00	18.56	1000.0	9.000	L1	ON	19.3
1.036500	---	14.51	46.00	31.49	1000.0	9.000	L1	ON	19.2
1.092750	33.91	---	56.00	22.09	1000.0	9.000	L1	ON	19.2
2.188500	---	16.26	46.00	29.74	1000.0	9.000	L1	ON	19.1
2.206500	24.29	---	56.00	31.71	1000.0	9.000	L1	ON	19.1
11.706000	---	26.44	50.00	23.56	1000.0	9.000	L1	ON	19.4
11.712750	37.83	---	60.00	22.17	1000.0	9.000	L1	ON	19.4
12.585750	---	26.41	50.00	23.59	1000.0	9.000	L1	ON	19.5
12.664500	37.33	---	60.00	22.67	1000.0	9.000	L1	ON	19.5

0.15-30MHz, L Line



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.154500	---	18.81	55.75	36.94	1000.0	9.000	N	ON	19.1
0.159000	33.29	---	65.52	32.22	1000.0	9.000	N	ON	19.1
0.539250	40.00	---	56.00	16.00	1000.0	9.000	N	ON	19.2
0.557250	---	36.67	46.00	9.33	1000.0	9.000	N	ON	19.3
1.018500	---	21.41	46.00	24.59	1000.0	9.000	N	ON	19.2
1.146750	25.66	---	56.00	30.34	1000.0	9.000	N	ON	19.2
2.125500	---	18.41	46.00	27.59	1000.0	9.000	N	ON	19.1
2.152500	23.72	---	56.00	32.28	1000.0	9.000	N	ON	19.1
11.195250	---	25.88	50.00	24.12	1000.0	9.000	N	ON	19.4
11.222250	35.77	---	60.00	24.23	1000.0	9.000	N	ON	19.4
12.567750	---	25.63	50.00	24.37	1000.0	9.000	N	ON	19.4
12.567750	34.16	---	60.00	25.84	1000.0	9.000	N	ON	19.4

6. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Time
Spectrum Analyzer	R&S	FSV40	15195-01-00	2017-05-14	2018-05-13
EMI Test Receiver	R&S	ESCI	100948	2017-05-20	2018-05-19
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2017-02-18	2020-02-17
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
Standard Gain Horn	ETS-Lindgren	3160-09	00102644	2015-01-30	2018-01-29
Standard Gain Horn	STEATITE	QSH-SL-26-40 -K-15	16779	2016-03-21	2019-03-20
Broadband Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06024	2016-11-24	2019-11-23
EMI Test Receiver	R&S	ESCS30	100138	2016-12-16	2017-12-15
LISN	R&S	ENV216	101171	2016-12-16	2017-12-15
Spectrum Analyzer	Agilent	N9010A	MY47191109	2017-05-20	2018-05-19
RF Cable	Agilent	SMA 15cm	0001	2017-07-02	2017-10-01
TEMPERATURE CHAMBER	ESPEC	SU-242	93000506	2016-12-27	2017-12-26

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

ANNEX A: EUT Appearance and Test Setup

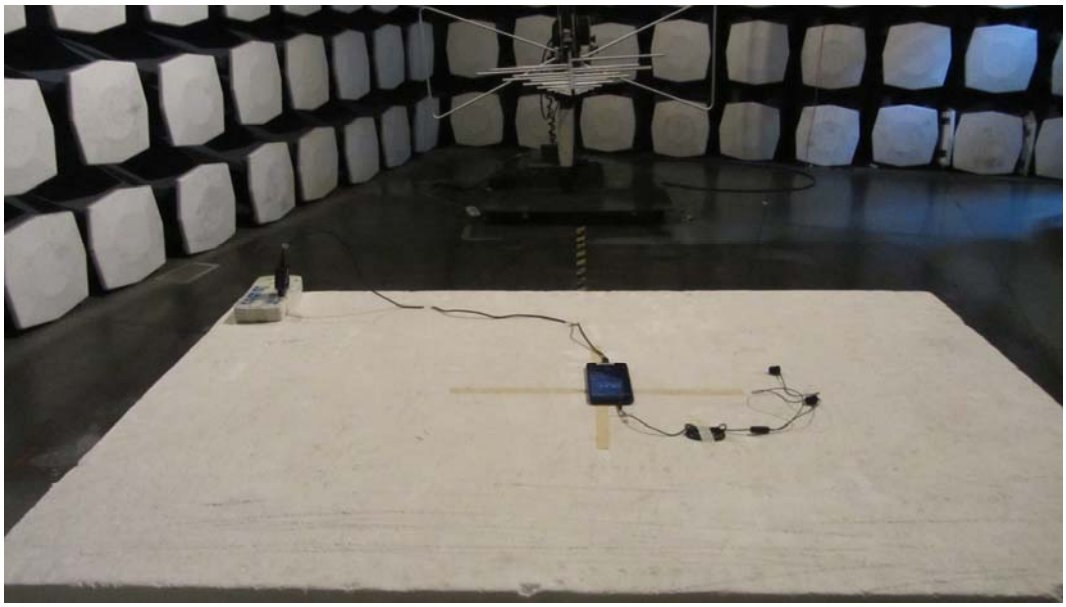
A.1 EUT Appearance

Picture 1-1: EUT

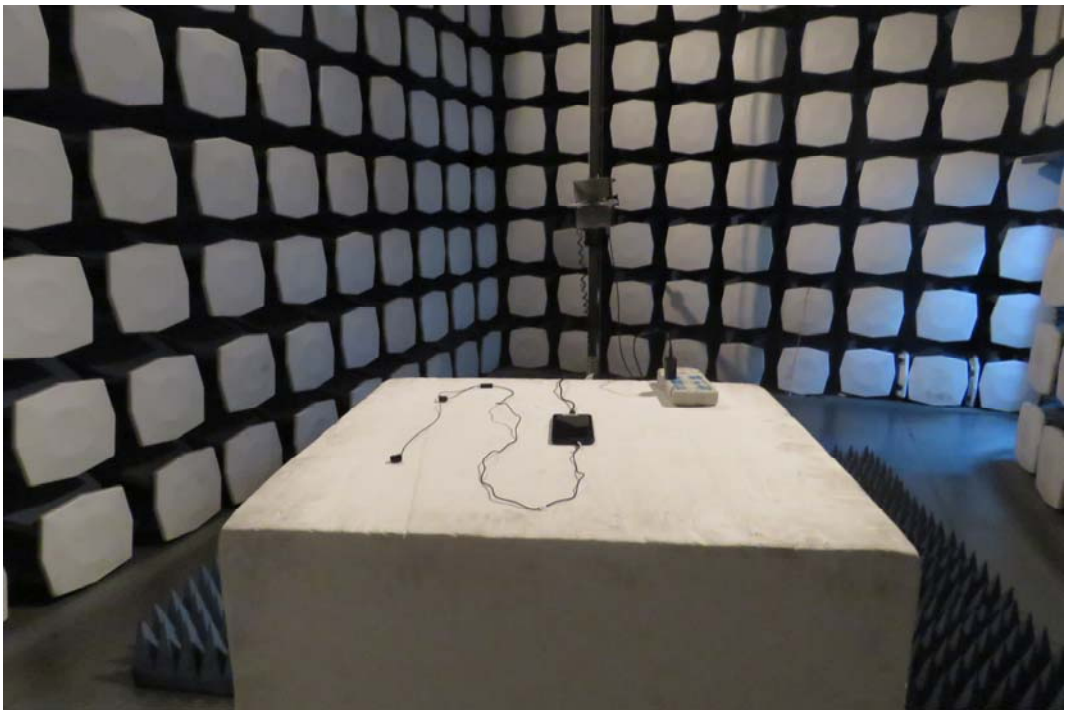
a: EUT

Picture 1 EUT and Accessory

A.2 Test Setup



30MHz-1GHz



Above 1GHz

Picture 2 Radiated Emission Test Setup

Picture 3 Conducted Emission Test Setup