RF TEST REPORT

Applicant	GD Midea Air-Conditioning Equipment Co.,Ltd
FCC ID	2ADQO3SB1150Z
Product	Bluetooth&Wi-Fi dual band Communication Module
Brand	Midea
Model	MM3SB1150Z
Marketing	MDIOT7697SD
Report No.	R1901A0047-R2
Issue Date	April 11, 2019

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15E (2018)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Peng Tao

Performed by: Peng Tao

Kai Xu

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	Power spectral density	15.407(a)	PASS
5	Unwanted Emissions	15.407(b)	PASS
6	Conducted Emissions	15.207	PASS
Date of Testing: February 21, 2019 ~ March 12, 2019			

1. Test Laboratory

1.1. Notes of the test report

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

1.2. Test facility

CNAS (accreditation number: L2264)

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

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

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

IC (recognition number is 8510A)

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

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

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

A2LA (Certificate Number: 3857.01)

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

1.3. Testing Location

Company:	TA Technology (Shanghai) Co., Ltd.
Address:	No.145, Jintang Rd, Tangzhen Industry Park, Pudong
City:	Shanghai
Post code:	201201
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E-mail:	xukai@ta-shanghai.com

2. General Description of Equipment under Test

Client Information

Applicant	GD Midea Air-Conditioning Equipment Co.,Ltd
Applicant address	Building #4, Midea Global Innovation Center, Industry Boulevard, Beijiao, Shunde District, Foshan City, Guangdong Province 528311, China
Manufacturer	GD Midea Air-Conditioning Equipment Co.,Ltd
Manufacturer address	Building #4, Midea Global Innovation Center, Industry Boulevard, Beijiao, Shunde District, Foshan City, Guangdong Province 528311, China

General information

EUT Description	
Model	MM3SB1150Z
IMEI	/
Hardware Version	V4
Software Version	1.050806041847-000004
Power Supply	External Power Supply
Antenna Type	PIFA Antenna
Antenna Gain	2.00 dBi
additional beamforming gain	NA
Test Mode(s)	U-NII-1(5150MHz-5250MHz) U-NII-2A(5250MHz-5350MHz) U-NII-2C(5470MHz-5725MHz with 5600MHz -5650MHz) U-NII-3(5725MHz-5850MHz)
Modulation Type	802.11a/n (HT20/HT40) : OFDM
Max. Conducted Power	18.74dBm
Operating Frequency Range(s)	U-NII-1: 5150-5250MHz U-NII-2A:5250-5350MHz U-NII-2C:5470-5725MHz (with 5600MHz -5650MHz) U-NII-3: 5725-5850MHz
Operating temperature range:	-40 ° C to 85° C
Operating voltage range:	4.5 V to 5.5 V
State AC voltage:	5.0V
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 (2018) Unlicensed National Information Infrastructure Devices

ANSI C63.10 (2013)

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

4. Test Configuration

Test Mode

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

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

Wireless Technology and Frequency Range

Wireless Technology		Bandwidth	Channel	Frequency
Wi-Fi	U-NII-1	20 MHz	36	5180MHz
			40	5200MHz
			44	5220MHz
			48	5240MHz
		40 MHz	38	5190MHz
			46	5230MHz
	U-NII-2A	20 MHz	52	5260MHz
			56	5280MHz
			60	5300MHz
			64	5320MHz
		40 MHz	54	5270MHz
			62	5310MHz
	U-NII-2C	20 MHz	100	5500MHz
			104	5520MHz
			108	5540MHz
			112	5560MHz
			116	5580MHz
			120	5600MHz
			124	5620MHz
			128	5640MHz
			132	5660MHz
			136	5680MHz
			140	5700MHz
		40 MHz	102	5510MHz
			110	5550MHz
			118	5590MHz
			126	5630MHz
			134	5670MHz
			142	5710MHz
	U-NII-3	20 MHz	149	5745MHz
			153	5765MHz
			157	5785MHz
			161	5805MHz
			165	5825MHz
		40 MHz	151	5755MHz
			159	5795MHz
Does this device support TPC Function? ☐Yes ☒No				
Does this device support TDWR Band? ☒Yes ☐No				

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.

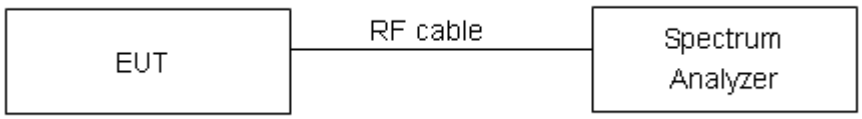
For U-NII-1/U-NII-2A/U-NII-2C, set RBW ≈1% OCB kHz, VBW ≥ 3 × RBW, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the 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)	Conclusion
802.11a	5180	16.718	26.69	PASS
	5200	16.882	28.98	PASS
	5240	17.227	28.51	PASS
802.11n HT20	5180	17.870	29.74	PASS
	5200	17.980	29.38	PASS
	5240	17.923	29.77	PASS
802.11n HT40	5190	36.154	55.68	PASS
	5230	36.233	56.16	PASS

U-NII-2A

Network Standards	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	5260	16.741	27.87	PASS
	5300	16.894	28.08	PASS
	5320	16.860	29.27	PASS
802.11n HT20	5260	17.972	28.87	PASS
	5300	17.998	29.55	PASS
	5320	17.823	29.48	PASS
802.11n HT40	5270	36.692	59.78	PASS
	5310	36.294	58.71	PASS

U-NII-2C

Network Standards	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	5500	17.089	29.43	PASS
	5600	17.320	29.54	PASS
	5700	17.535	29.75	PASS
802.11n HT20	5500	17.830	29.41	PASS
	5600	18.070	29.73	PASS
	5700	18.247	29.96	PASS
802.11n HT40	5510	36.370	58.46	PASS
	5550	36.341	57.74	PASS
	5670	36.638	59.42	PASS

U-NII-3

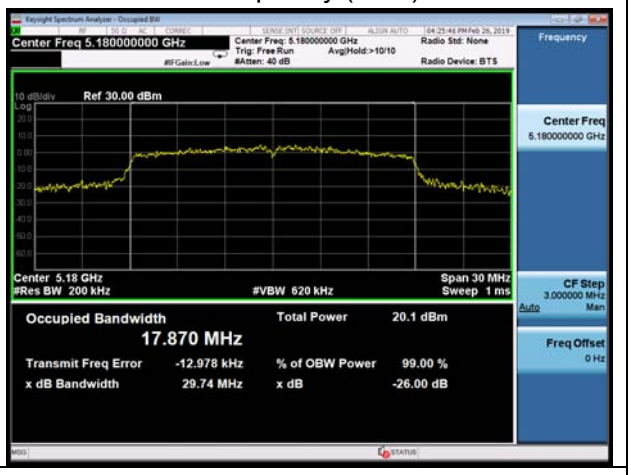
Network Standards	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11a	5745	18.626	16.09	500	PASS
	5785	18.699	16.32	500	PASS
	5825	19.950	16.10	500	PASS
802.11n HT20	5745	17.663	17.58	500	PASS
	5785	17.673	17.58	500	PASS
	5825	17.946	17.34	500	PASS
802.11n HT40	5755	36.109	35.16	500	PASS
	5795	36.735	36.32	500	PASS

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

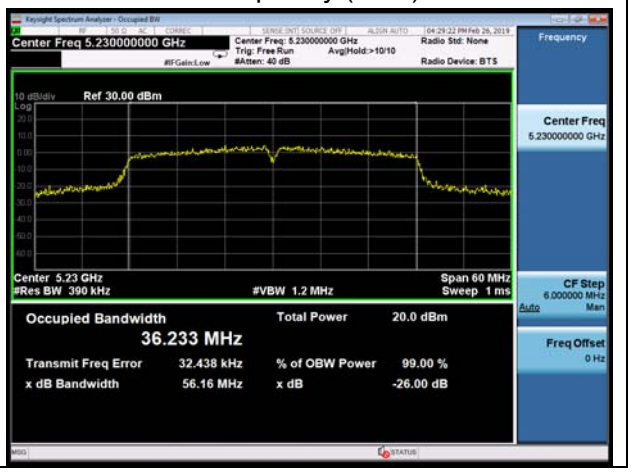
Carrier frequency (MHz): 5200

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

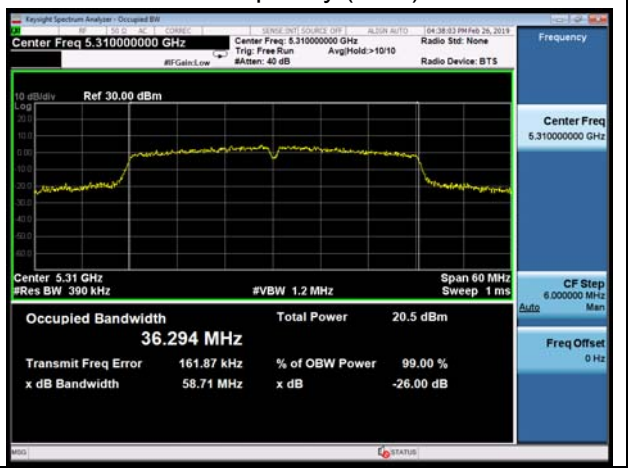
Carrier frequency (MHz): 5300

U-NII-2A, 802.11a

Carrier frequency (MHz):5320

U-NII-2A, 802.11n HT20

Carrier frequency (MHz):5320

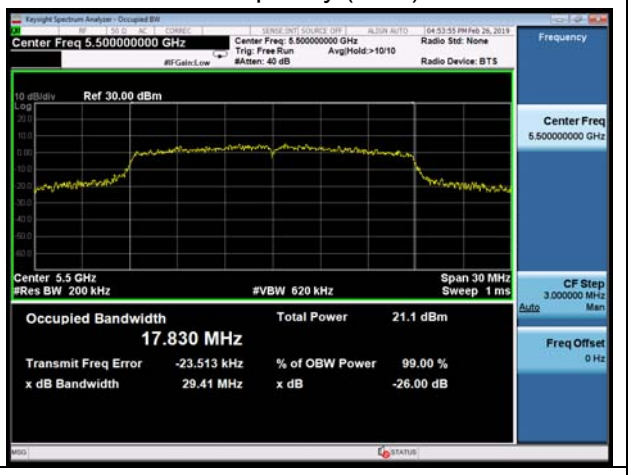
U-NII-2A, 802.11n HT40 Carrier frequency (MHz): 5270	U-NII-2A, 802.11n HT40 Carrier frequency (MHz): 5310
	

U-NII-2C, 802.11a

Carrier frequency (MHz): 5500

U-NII-2C, 802.11n HT20

Carrier frequency (MHz): 5500



U-NII-2C, 802.11a

Carrier frequency (MHz): 5600

U-NII-2C, 802.11n HT20

Carrier frequency (MHz): 5600

U-NII-2C, 802.11a

Carrier frequency (MHz):5700

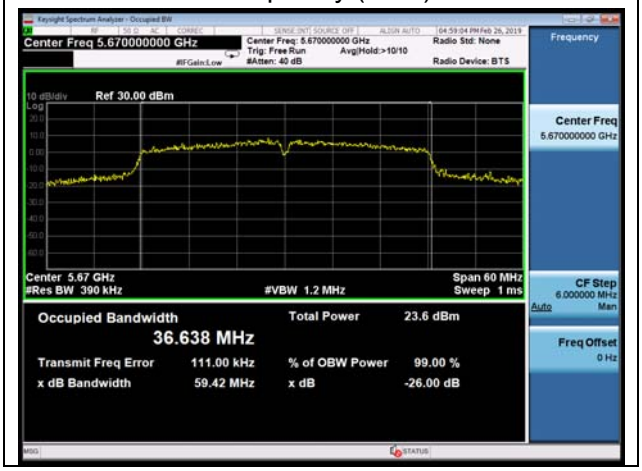
U-NII-2C, 802.11n HT20

Carrier frequency (MHz):5700

U-NII-2C, 802.11n HT40
Carrier frequency (MHz): 5510

U-NII-2C, 802.11n HT40
Carrier frequency (MHz): 5550

U-NII-2C, 802.11n HT40
Carrier frequency (MHz): 5670



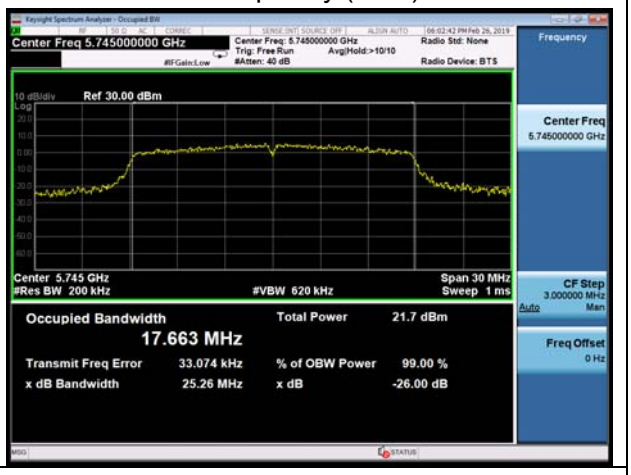
99% bandwidth

U-NII-3, 802.11a

Carrier frequency (MHz): 5745

U-NII-3, 802.11n HT20

Carrier frequency (MHz): 5745

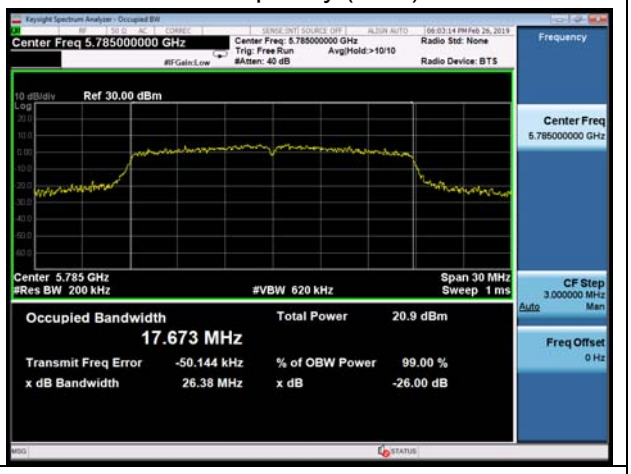


U-NII-3, 802.11a

Carrier frequency (MHz): 5785

U-NII-3, 802.11n HT20

Carrier frequency (MHz): 5785

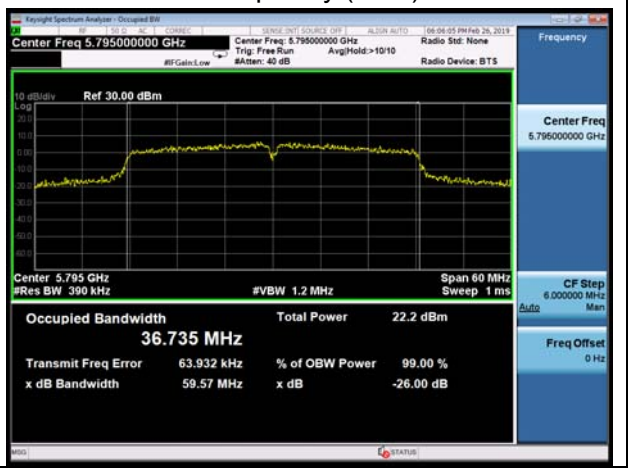


U-NII-3, 802.11a

Carrier frequency (MHz): 5825

U-NII-3, 802.11n HT20

Carrier frequency (MHz): 5825

U-NII-3, 802.11n HT40 Carrier frequency (MHz): 5755	U-NII-3, 802.11n HT40 Carrier frequency (MHz): 5795
	

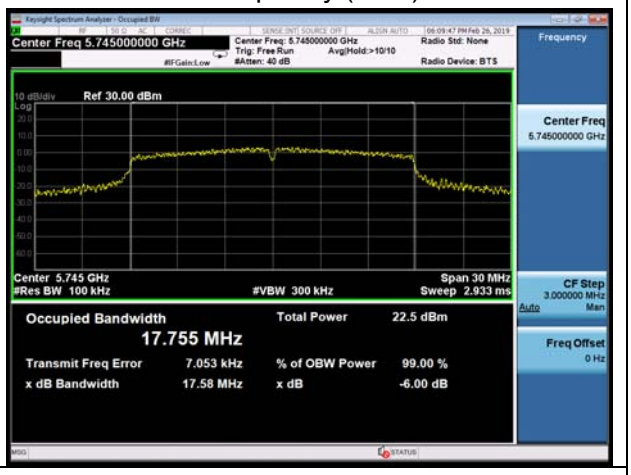
Minimum 6 dB bandwidth

U-NII-3, 802.11a

Carrier frequency (MHz): 5745

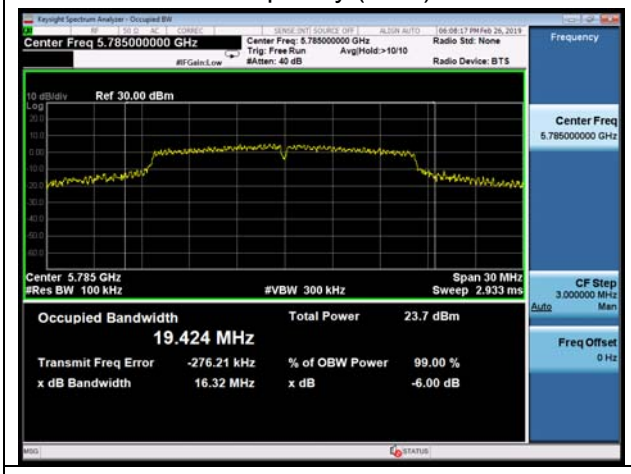
U-NII-3, 802.11n HT20

Carrier frequency (MHz): 5745



U-NII-3, 802.11a

Carrier frequency (MHz): 5785



U-NII-3, 802.11n HT20

Carrier frequency (MHz): 5785

U-NII-3, 802.11a

Carrier frequency (MHz): 5825

U-NII-3, 802.11n HT20

Carrier frequency (MHz): 5825

U-NII-3, 802.11n HT40 Carrier frequency (MHz): 5755	U-NII-3, 802.11n HT40 Carrier frequency (MHz): 5795
	

5.2. Average Power Output –Conducted

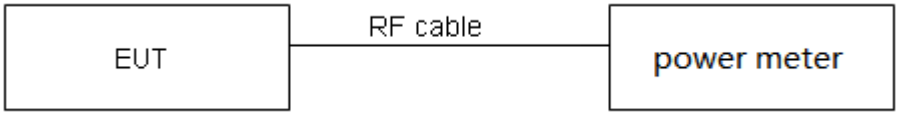
Ambient condition

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)
(1) For the band 5.15-5.25 GHz.
(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, 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.
(iii) For fixed point-to-point access points operating in the band 5.15-5.25 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 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude

the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) 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.

(2) 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.

(3)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

Band	T_{on} (ms)	$T_{(on+off)}$ (ms)	Duty cycle	Duty cycle correction Factor(dB)
802.11a	1.00	1.00	1.00	NA
802.11n HT20	1.00	1.00	1.00	NA
802.11n HT40	1.00	1.00	1.00	NA
Note: when Duty cycle>0.98, Duty cycle correction Factor not required.				

Single Antenna Power Index												
Packet Type	**CH36**	**CH40**	**CH48**	**CH52**	**CH60**	**CH64**	**CH 100**	**CH 120**	**CH 140**	**CH 149**	**CH 157**	**CH 165**
802.11a	28	29	29	2C	2C	2C	36	36	36	30	30	36
802.11n HT20	27	28	28	28	29	29	30	2C	30	29	29	30
Packet Type	**CH38**	**CH46**	**CH54**	**CH62**	**CH102**	**CH118**	**CH 134**	**CH 151**	**CH 159**	/		/
802.11n HT40	28	29	2A	2B	30	30	2F	31	2F	/		/

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	27.87	25.45 >24	24
		60/5300	28.08	25.48 >24	24
		64/5320	29.27	25.66 >24	24
	802.11n HT20	52/5260	28.87	25.60 >24	24
		60/5300	29.55	25.71 >24	24
		64/5320	29.48	25.70 >24	24
	802.11n HT40	54/5270	59.78	28.77 >24	24
		62/5310	58.71	28.69 >24	24
U-NII-2C	802.11a	100/5500	29.43	25.69 >24	24
		120/5600	29.54	25.70 >24	24
		140/5700	29.75	25.73 >24	24
	802.11n HT20	100/5500	29.41	25.68 >24	24
		120/5600	29.73	25.73 >24	24
		140/5700	29.96	25.77 >24	24
	802.11n HT40	102/5510	58.46	28.67 >24	24
		110/5550	57.74	28.61 >24	24
		134/5670	59.42	28.74 >24	24
Note: 250mW=24dBm					

U-NII-1

Network Standards	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	36/5180	18.32	18.32	24	PASS
	40/5200	18.13	18.13	24	PASS
	48/5240	18.21	18.21	24	PASS
802.11n HT20	36/5180	17.81	17.81	24	PASS
	40/5200	17.73	17.73	24	PASS
	48/5240	17.76	17.76	24	PASS
802.11n HT40	38/5190	17.69	17.69	24	PASS
	46/5230	17.73	17.73	24	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

U-NII-2A

Network Standards	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	52/5260	18.29	18.29	24.00	PASS
	60/5300	18.31	18.31	24.00	PASS
	64/5320	18.26	18.26	24.00	PASS
802.11n HT20	52/5260	17.73	17.73	24.00	PASS
	60/5300	17.75	17.75	24.00	PASS
	64/5320	17.67	17.67	24.00	PASS
802.11n HT40	54/5270	17.71	17.71	24.00	PASS
	62/5310	17.75	17.75	24.00	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

U-NII-2C

Network Standards	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	100/5500	18.68	18.68	24.00	PASS
	120/5600	18.37	18.37	24.00	PASS
	140/5700	18.55	18.55	24.00	PASS
802.11n HT20	100/5500	17.78	17.78	24.00	PASS
	120/5600	17.73	17.73	24.00	PASS
	140/5700	17.86	17.86	24.00	PASS
802.11n HT40	102/5510	17.84	17.84	24.00	PASS
	110/5550	17.86	17.86	24.00	PASS
	134/5670	17.91	17.91	24.00	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

U-NII-3

Network Standards	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	149/5745	18.74	18.74	30	PASS
	157/5785	18.67	18.67	30	PASS
	165/5825	18.71	18.71	30	PASS
802.11n HT20	149/5745	17.47	17.47	30	PASS
	157/5785	17.52	17.52	30	PASS
	165/5825	17.56	17.56	30	PASS
802.11n HT40	151/5755	17.47	17.47	30	PASS
	159/5795	17.41	17.41	30	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

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	-20	5199.996	5199.987	5199.978	5199.973
5	-10	5199.993	5199.983	5199.968	5199.969
5	0	5199.991	5199.982	5199.968	5199.968
5	10	5199.989	5199.972	5199.96	5199.965
5	20	5199.981	5199.969	5199.959	5199.959
5	30	5199.977	5199.964	5199.949	5199.955
5	40	5199.967	5199.954	5199.945	5199.946
5	50	5199.967	5199.952	5199.936	5199.936
4.5	20	5199.962	5199.95	5199.931	5199.929
5.5	20	5199.954	5199.94	5199.926	5199.929
MHz		-0.04615	-0.05966	-0.07385	-0.07144
PPM		-8.87541	-11.4739	-14.201	-13.7379

Voltage (V)	Temperature (°C)	U-NII-2A Test Results			
		5300MHz			
		1min	2min	5min	10min
5	-20	5299.992	5299.986	5299.985	5299.979
5	-10	5299.983	5299.985	5299.983	5299.969
5	0	5299.976	5299.977	5299.973	5299.967
5	10	5299.971	5299.97	5299.964	5299.964
5	20	5299.963	5299.97	5299.962	5299.961
5	30	5299.961	5299.963	5299.952	5299.956
5	40	5299.96	5299.958	5299.945	5299.955
5	50	5299.958	5299.958	5299.938	5299.945
4.5	20	5299.949	5299.953	5299.934	5299.938
5.5	20	5299.941	5299.95	5299.93	5299.935
MHz		-0.05871	-0.04985	-0.06983	-0.06529
PPM		-11.0766	-9.40488	-13.1756	-12.3194

Voltage (V)	Temperature (°C)	U-NII-2C Test Results			
		5580MHz			
		1min	2min	5min	10min
5	-20	5580.002	5579.997	5579.993	5579.984
5	-10	5579.993	5579.997	5579.985	5579.974
5	0	5579.99	5579.99	5579.981	5579.971
5	10	5579.983	5579.989	5579.977	5579.966
5	20	5579.978	5579.985	5579.97	5579.958
5	30	5579.978	5579.976	5579.962	5579.95
5	40	5579.972	5579.966	5579.953	5579.947
5	50	5579.967	5579.966	5579.951	5579.942
4.5	20	5579.964	5579.957	5579.942	5579.934
5.5	20	5579.958	5579.955	5579.941	5579.93
MHz		-0.04232	-0.04473	-0.05868	-0.07025
PPM		-7.58491	-8.0165	-10.5169	-12.59

Voltage (V)	Temperature (°C)	U-NII-3 Test Results			
		5785MHz			
		1min	2min	5min	10min
5	-20	5785.006	5785.001	5784.992	5784.99
5	-10	5785.006	5784.995	5784.99	5784.985
5	0	5785.003	5784.992	5784.983	5784.977
5	10	5784.995	5784.986	5784.978	5784.968
5	20	5784.993	5784.984	5784.971	5784.964
5	30	5784.988	5784.98	5784.961	5784.955
5	40	5784.984	5784.975	5784.957	5784.946
5	50	5784.982	5784.971	5784.949	5784.944
4.5	20	5784.974	5784.963	5784.944	5784.937
5.5	20	5784.971	5784.958	5784.942	5784.935
MHz		-0.02931	-0.04174	-0.05775	-0.06513
PPM		-5.06592	-7.21439	-9.98282	-11.2583

5.4. Power Spectral Density

Ambient condition

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

Method of Measurement

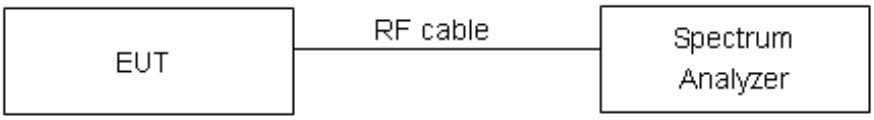
The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.

Set RBW = 500 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.
(iv) 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 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	17/11dBm/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:

Note: Power Spectral Density =Read Value+Duty cycle correction factor

U-NII-1

Network Standards	Channel Number	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	36	5.473	5.473	11	PASS
	40	5.099	5.099	11	PASS
	48	5.454	5.454	11	PASS
802.11n HT20	36	5.045	5.045	11	PASS
	40	4.888	4.888	11	PASS
	48	5.244	5.244	11	PASS
802.11n HT40	38	1.636	1.636	11	PASS
	46	1.940	1.940	11	PASS

U-NII-2A

Network Standards	Channel Number	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	52	5.142	5.142	11	PASS
	60	6.246	6.246	11	PASS
	64	6.072	6.072	11	PASS
802.11n HT20	52	5.310	5.310	11	PASS
	60	5.502	5.502	11	PASS
	64	5.544	5.544	11	PASS
802.11n HT40	54	2.036	2.036	11	PASS
	62	2.602	2.602	11	PASS

U-NII-2C

Network Standards	Channel Number	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	100	6.259	6.259	11	PASS
	120	6.597	6.597	11	PASS
	140	6.665	6.665	11	PASS
802.11n HT20	100	5.527	5.527	11	PASS
	120	6.755	6.755	11	PASS
	140	6.638	6.638	11	PASS
802.11n HT40	102	2.846	2.846	11	PASS
	110	3.695	3.695	11	PASS
	134	4.438	4.438	11	PASS

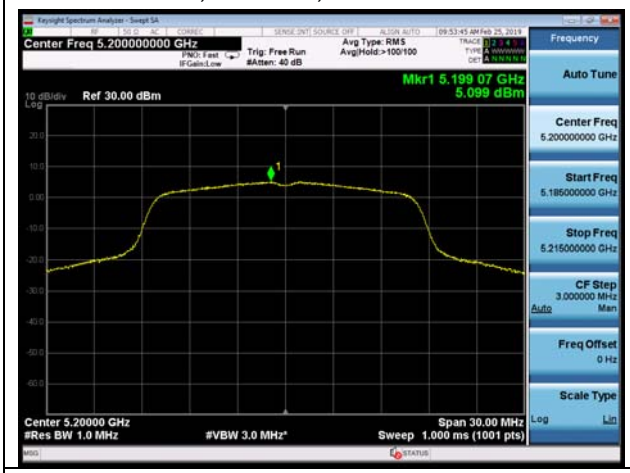
U-NII-3

Network Standards	Channel Number	Read Value (dBm/500kHz)	Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)	Conclusion
802.11a	149	5.675	5.675	30	PASS
	157	4.859	4.859	30	PASS
	165	4.761	4.761	30	PASS
802.11n HT20	149	4.995	4.995	30	PASS
	157	4.313	4.313	30	PASS
	165	4.656	4.656	30	PASS
802.11n HT40	151	2.743	2.743	30	PASS
	159	1.032	1.032	30	PASS

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

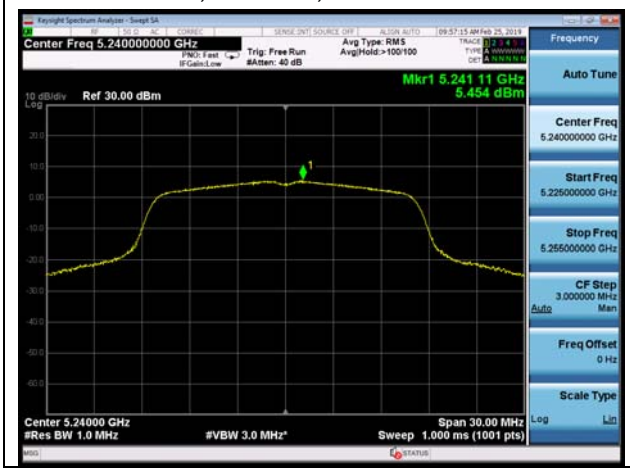
U-NII-1, 802.11n HT20, Channel No.: 36

U-NII-1, 802.11a, Channel No.: 40



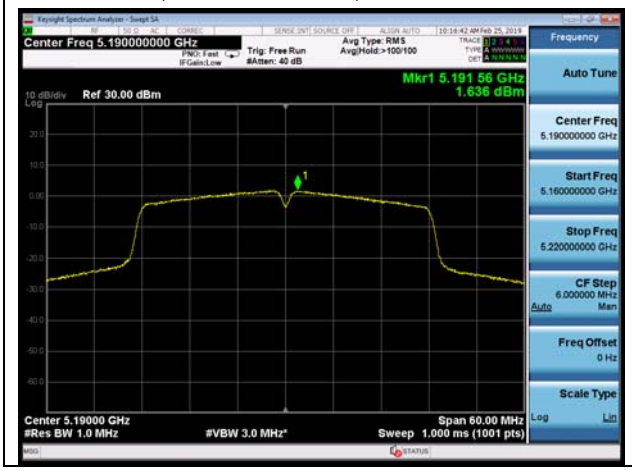
U-NII-1, 802.11n HT20, Channel No.: 40

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



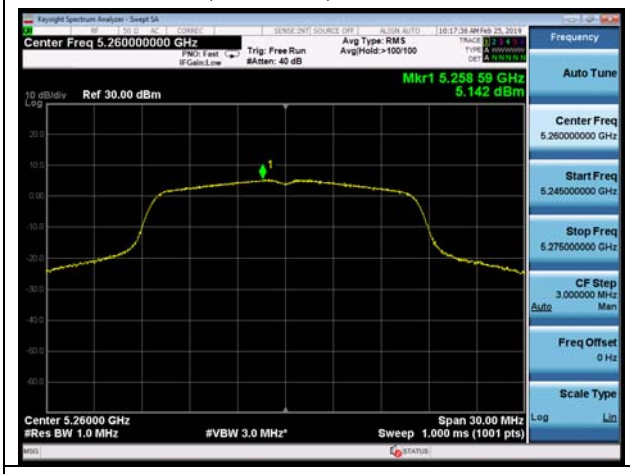
U-NII-1, 802.11n HT20, Channel No.: 48

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



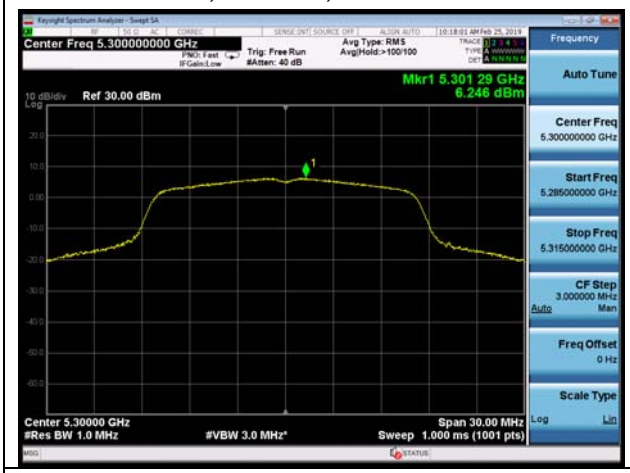
U-NII-1, 802.11n HT40, Channel No.: 46

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



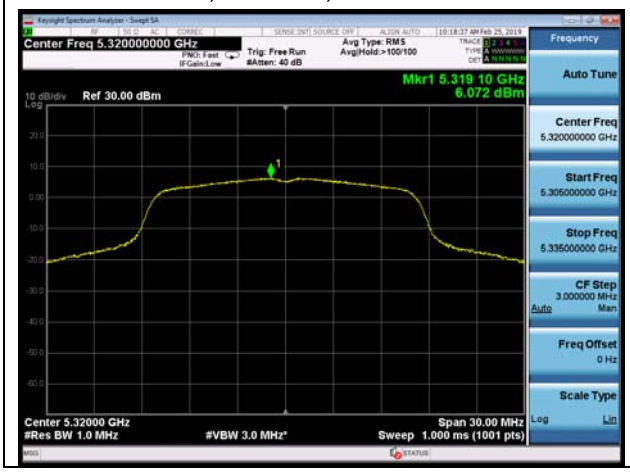
U-NII-2A, 802.11n HT20, Channel No.: 52

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

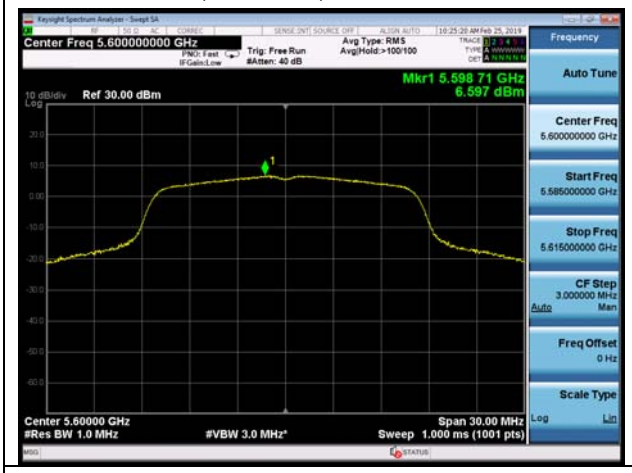
U-NII-2A, 802.11n HT40, Channel No.: 54

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

U-NII-2C, 802.11a, Channel No.: 100

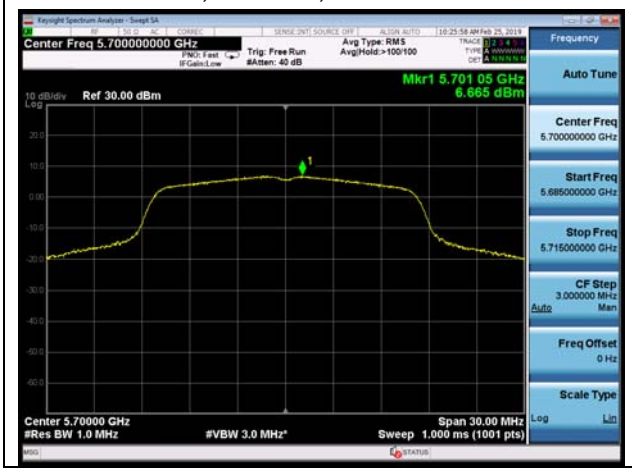
U-NII-2C, 802.11n HT20, Channel No.: 100

U-NII-2C, 802.11a, Channel No.: 120



U-NII-2C, 802.11n HT20, Channel No.: 120

U-NII-2C, 802.11a, Channel No.: 140



U-NII-2C, 802.11n HT20, Channel No.: 140

U-NII-2C, 802.11n HT40, Channel No.: 102

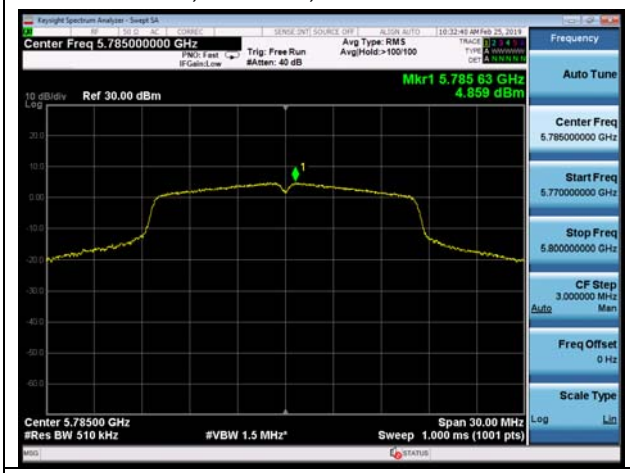
U-NII-2C, 802.11n HT40, Channel No.: 110

U-NII-2C, 802.11n HT40, Channel No.: 134

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

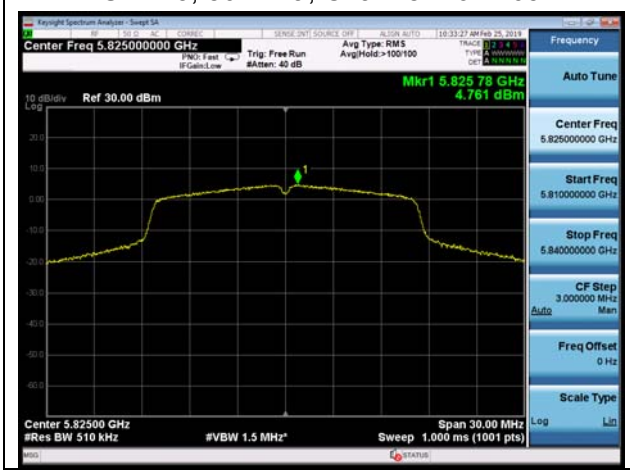
U-NII-3, 802.11n HT20, Channel No.: 149

U-NII-3, 802.11a, Channel No.: 157



U-NII-3, 802.11n HT20, Channel No.: 157

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):
I) Peak emission levels are measured by setting the instrument as follows:
1) RBW = 1 MHz.
2) VBW ≥ [3 × RBW]
3) Detector = peak.
4) Sweep time = auto.
5) Trace mode = max hold.
6) Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, then the time required for the trace to stabilize will increase by a factor of approximately 1 / D, where D is the duty cycle.

II) Average emission levels are measured by setting the instrument as follows:
a) RBW = 1 MHz.
b) VBW ≥ [3 × RBW].
c) Detector = RMS (power averaging), if [span / (# of points in sweep)] ≤ RBW / 2. Satisfying this condition can require increasing the number of points in the sweep or reducing the span. If the condition is not satisfied, then the detector mode shall be set to peak.
d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.)

e) Sweep time = auto.

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

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

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

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

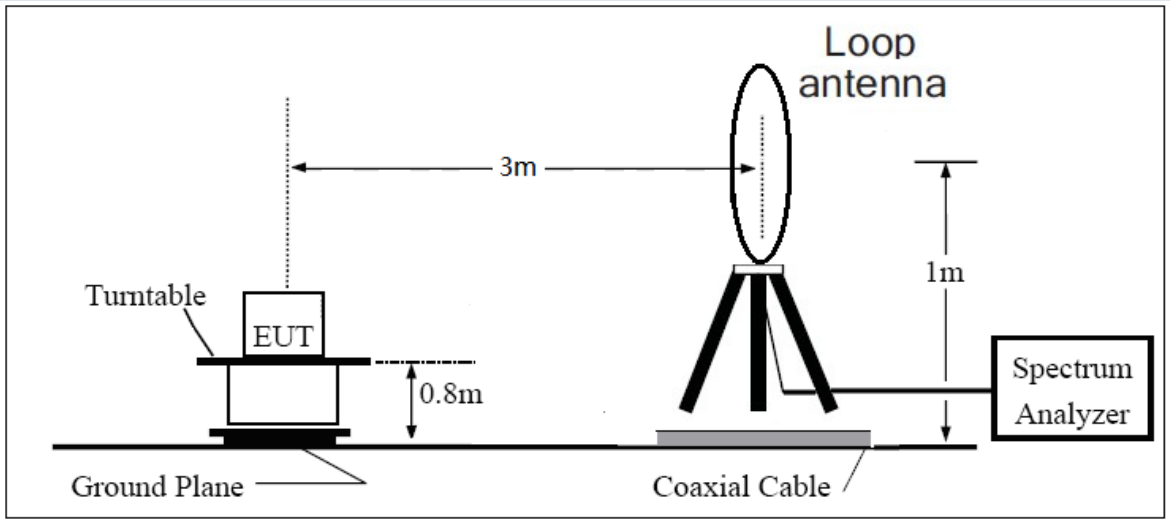
3) If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission.

Reduce the video bandwidth until no significant variations in the displayed signal are observed in subsequent traces, provided the video bandwidth is no less than 1 Hz. For regulatory requirements that specify averaging only over the transmit duration (e.g., digital transmission system [DTS] and Unlicensed National Information Infrastructure [U-NII]), the video bandwidth shall be greater than [1 / (minimum transmitter on time)] and no less than 1 Hz.

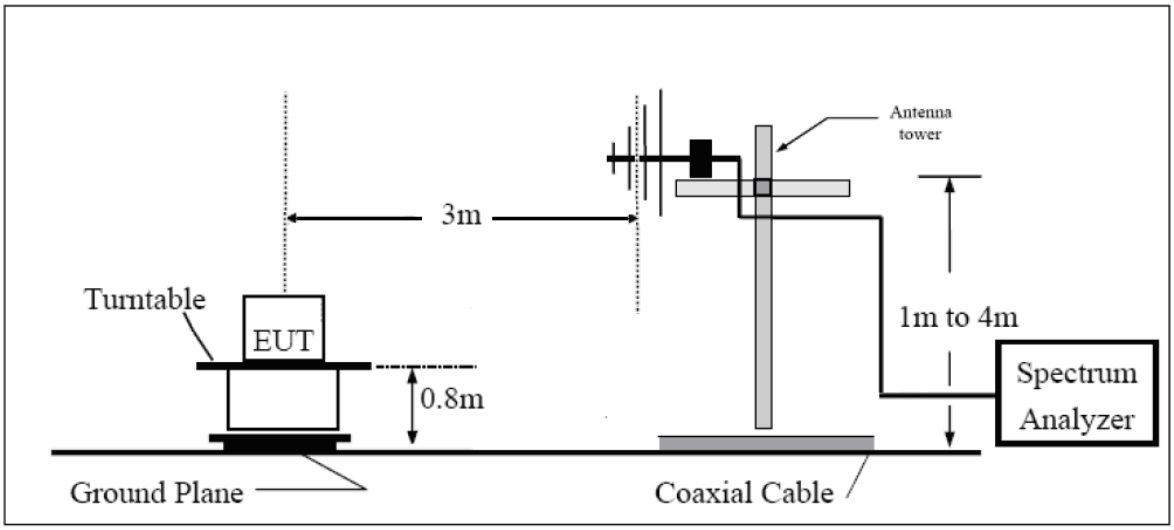
The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the loop antenna is vertical, others antenna are vertical and horizontal.

The test is in transmitting mode.

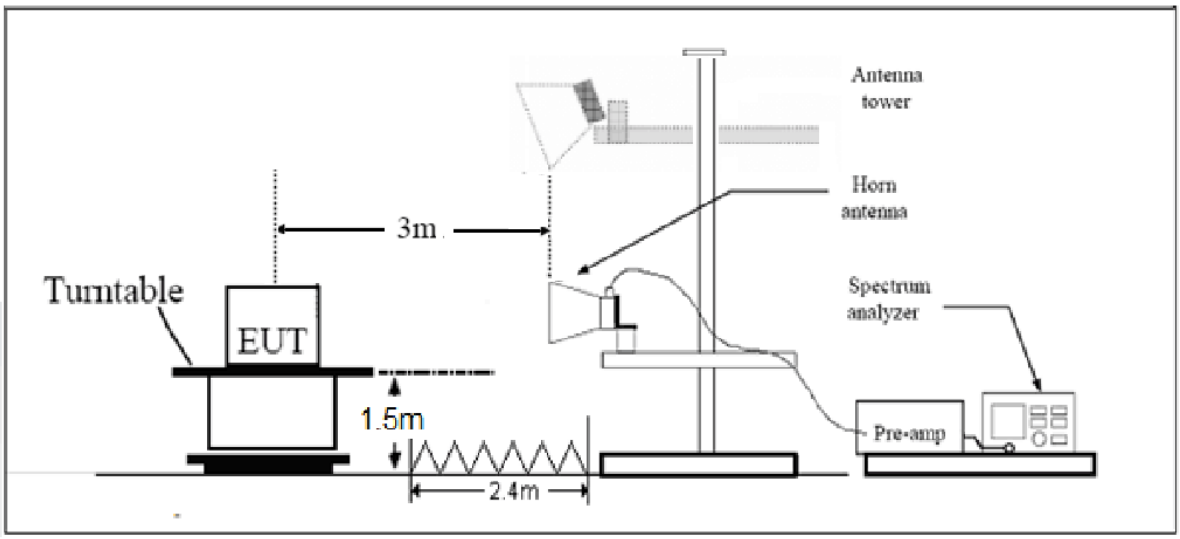
9KHz~~~30MHz



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

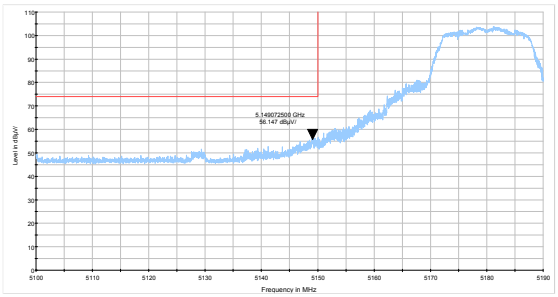
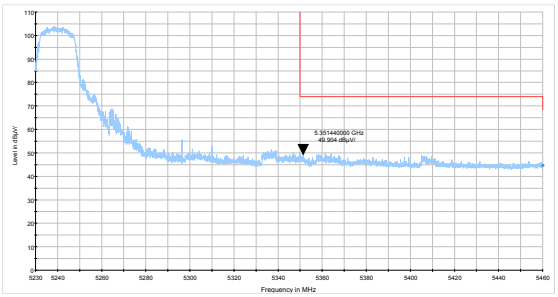
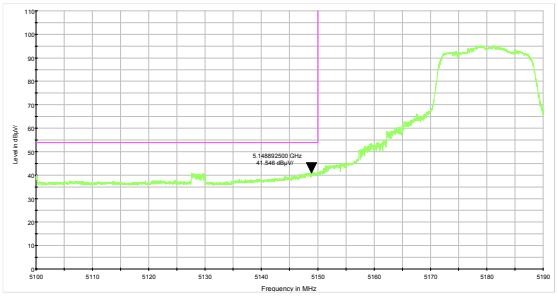
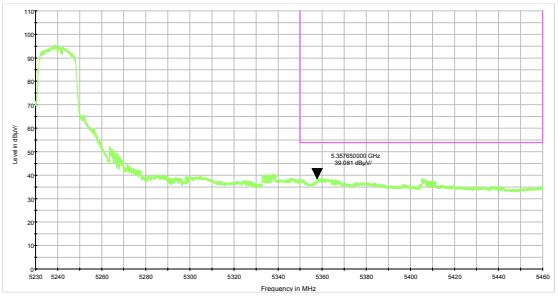
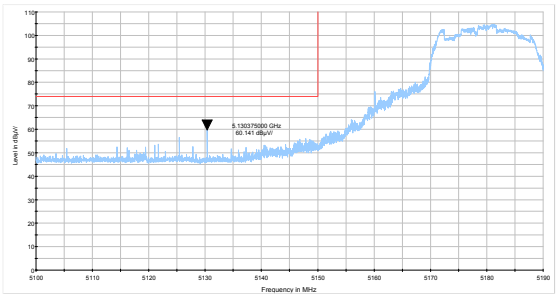
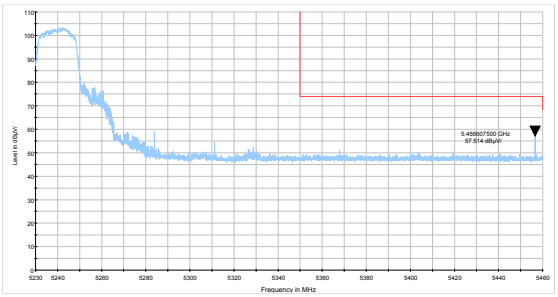
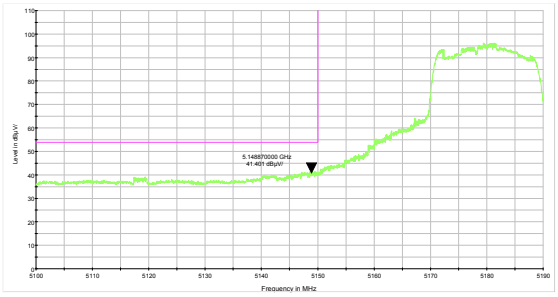
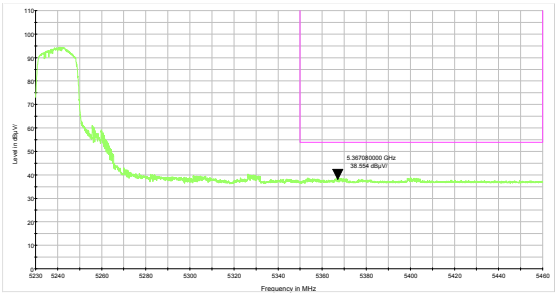
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor *k* = 1.96.

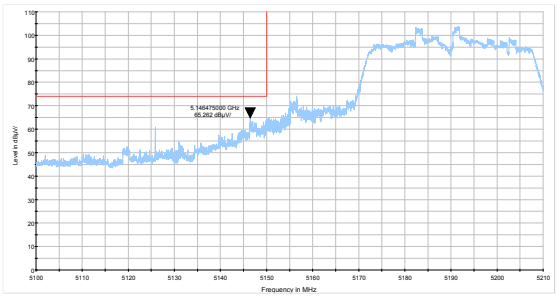
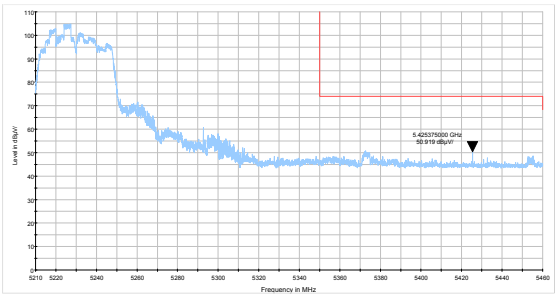
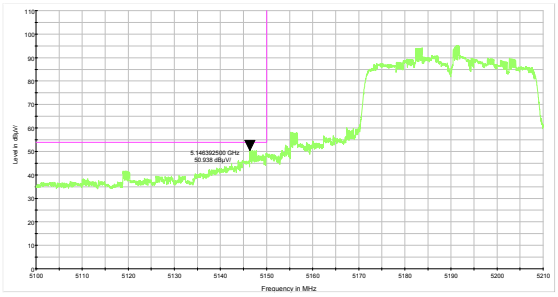
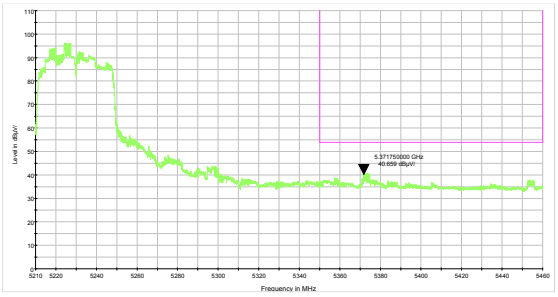
Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.02 dB
200MHz-1GHz	3.28 dB
1GHz-18G	3.70 dB
18GHz-26.5GHz	5.78 dB
26.5G-40GHz	5.82 dB

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**
	

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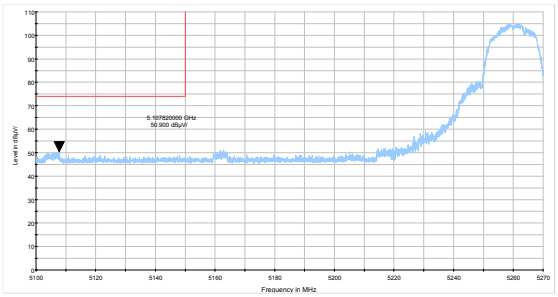
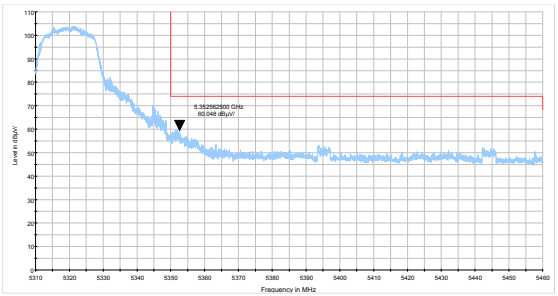
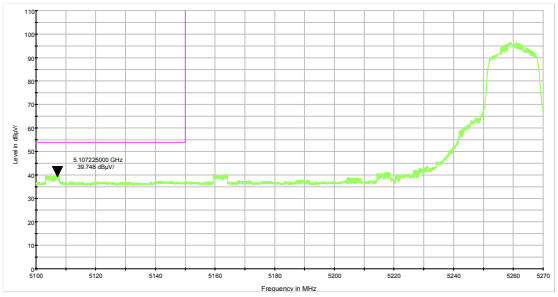
802.11a-Channel 52: Peak



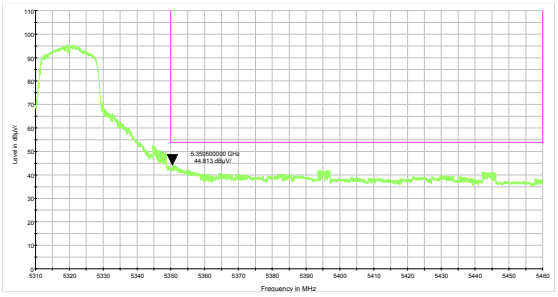
802.11a-Channel 64: Peak



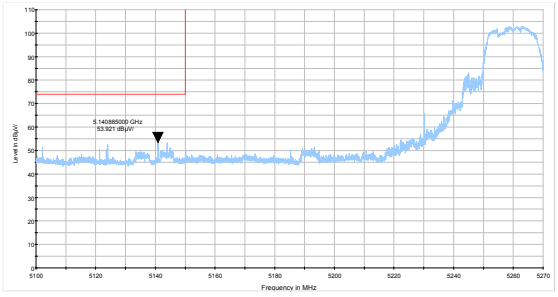
802.11a-Channel 52: Average



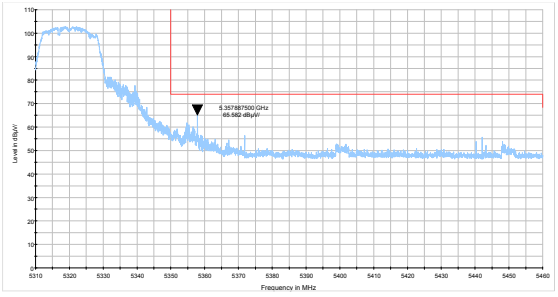
802.11a-Channel 64: Average



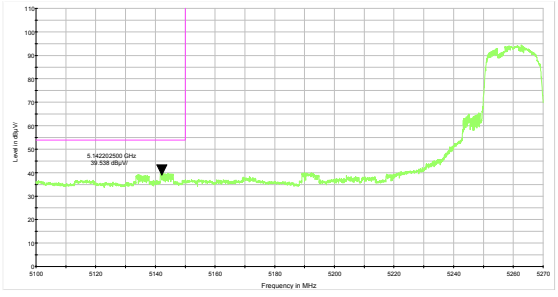
802.11n HT20-Channel 52: Peak



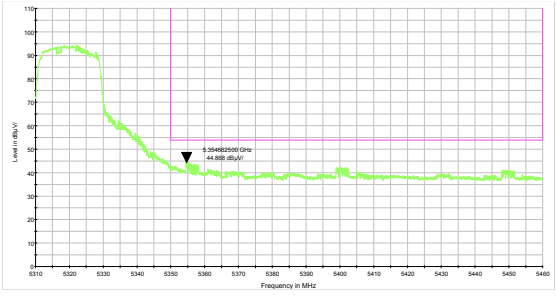
802.11n HT20-Channel 64: Peak

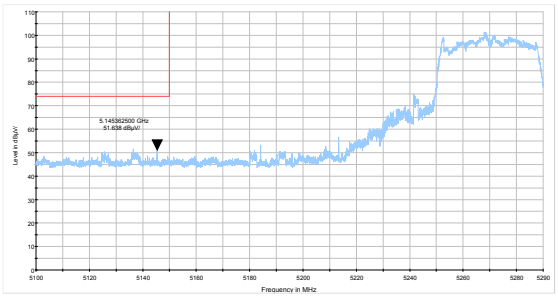
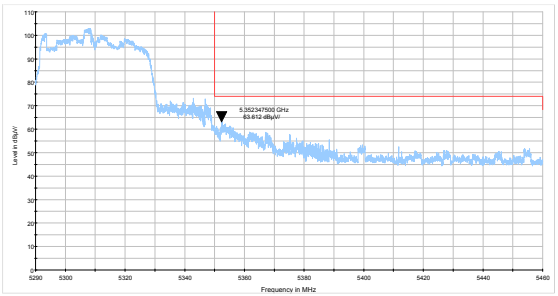
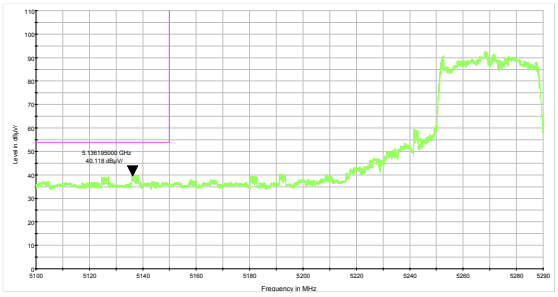
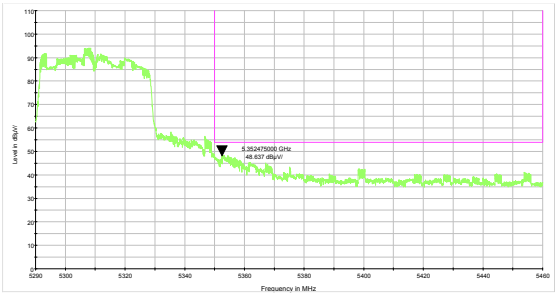


802.11n HT20-Channel 52: Average



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**
	

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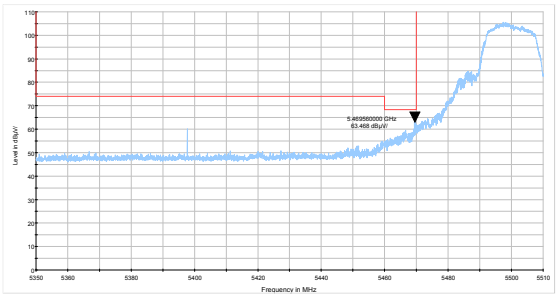
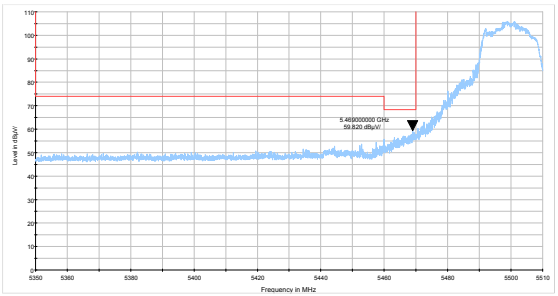
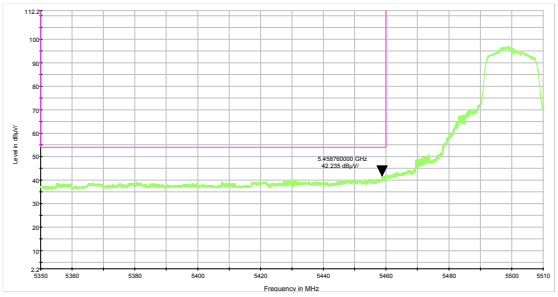
802.11a-Channel 100: Peak



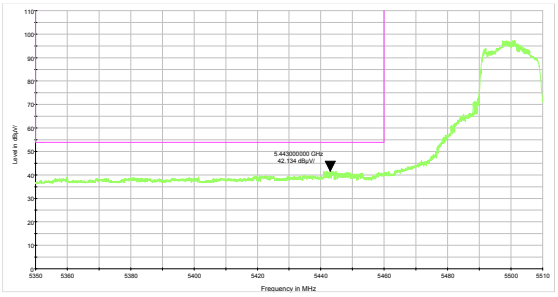
802.11n HT20-Channel 100: Peak



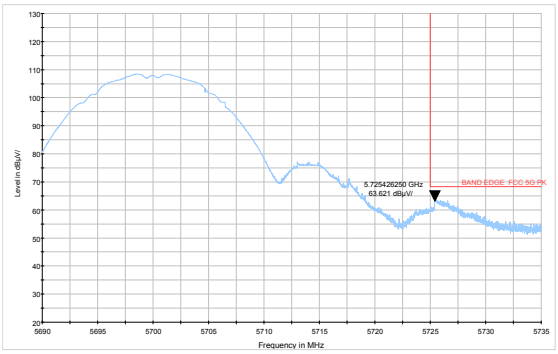
802.11a-Channel 100: Average



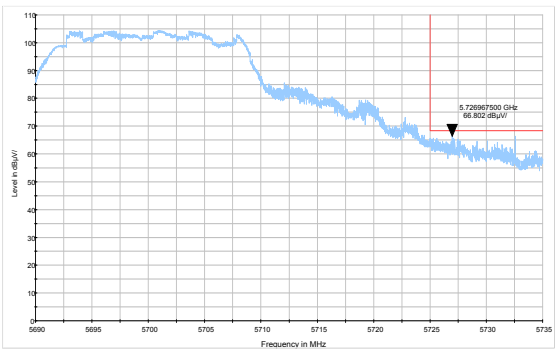
802.11n HT20-Channel 100: Average



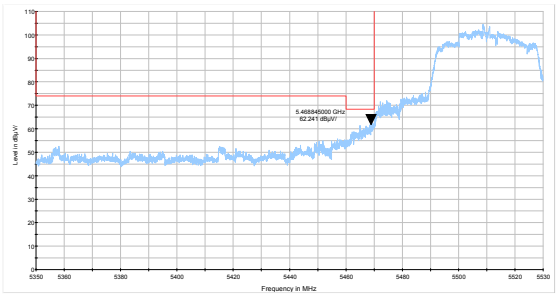
802.11a-Channel 140: Peak



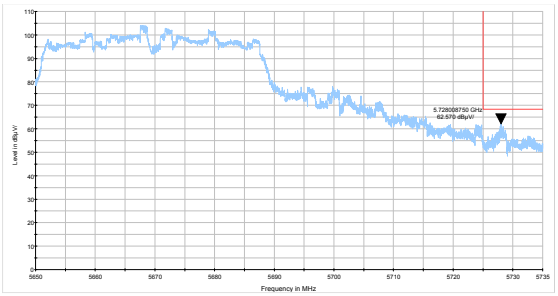
802.11n HT20-Channel 140: Peak



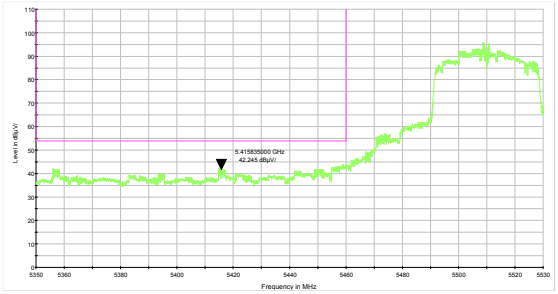
802.11n HT40-Channel 102: Peak



802.11n HT40-Channel 134: Peak



802.11n HT40-Channel 102: Average



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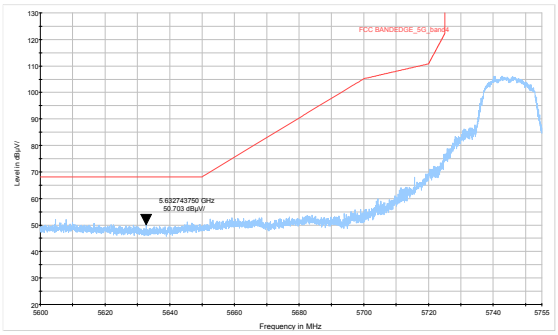
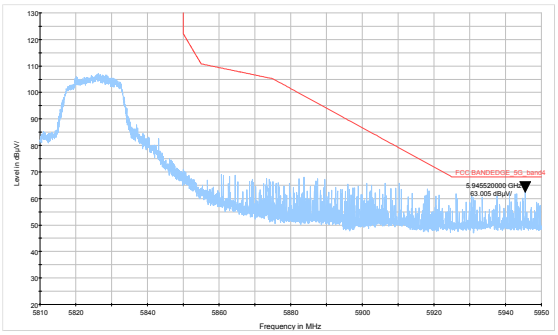
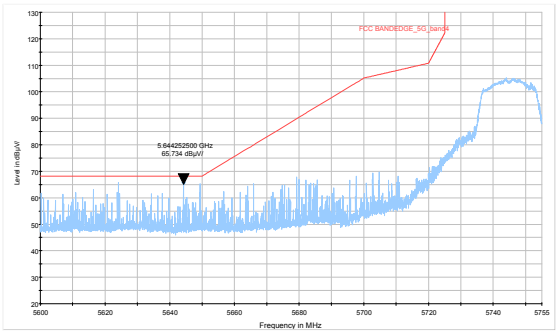
802.11a-Channel 149: Peak



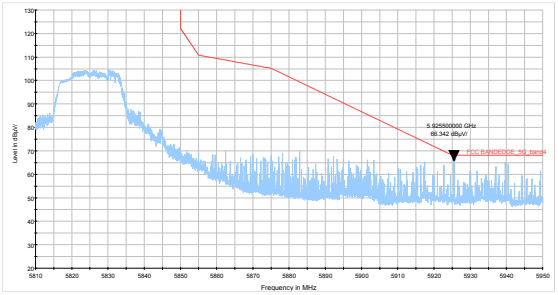
802.11a-Channel 165: Peak



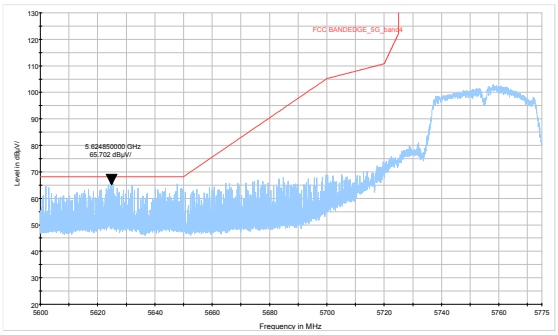
802.11n HT20-Channel 149: Peak



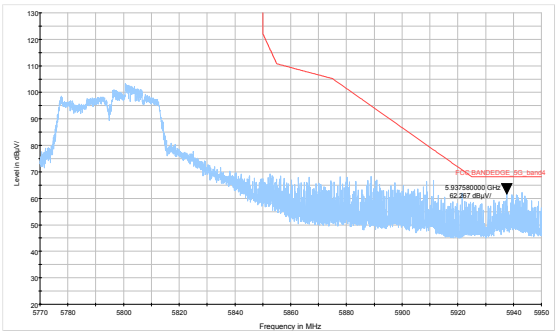
802.11n HT20-Channel 165: Peak



802.11n HT40-Channel 151: Peak



802.11n HT40-Channel 159: Peak



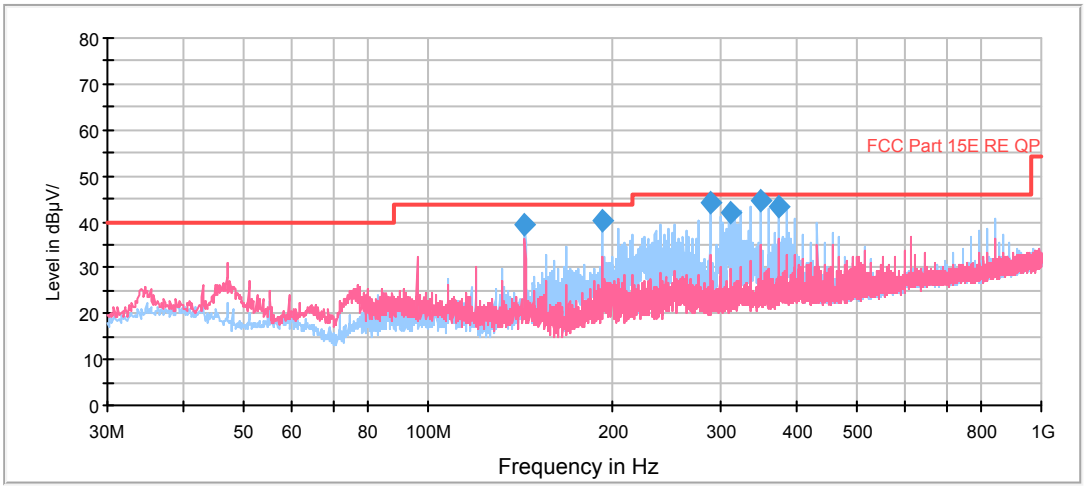
Result of RE

Test result

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the Emissions in the frequency band 9kHz-30MHz and 26.5GHz-40GHz are more than 20dB below the limit are not reported.

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels, 802.11a, Channel 149 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Continuous TX mode:



Radiates Emission from 30MHz to 1GHz

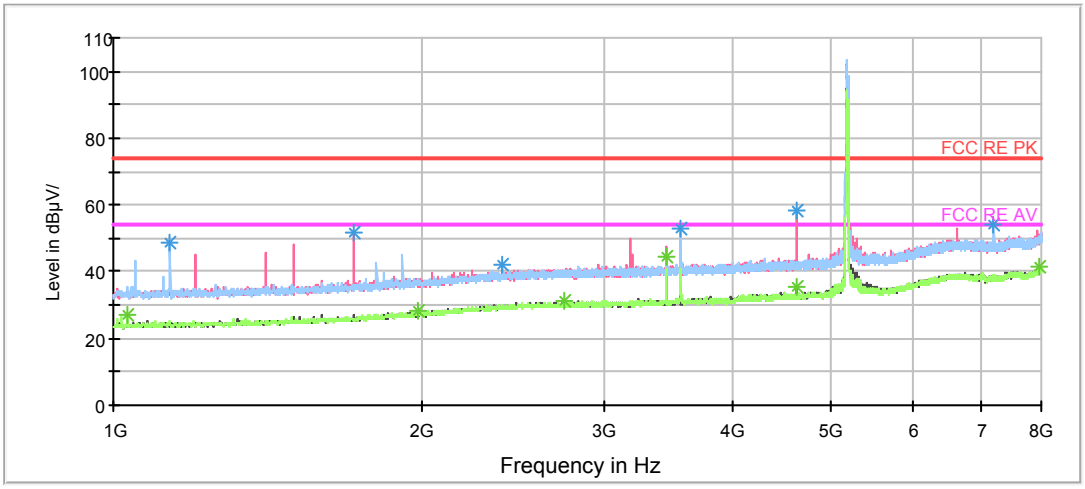
Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
144.015000	39.3	200.0	H	5.0	9.6	4.2	43.5
192.030000	40.0	100.0	H	359.0	11.4	3.5	43.5
288.020000	44.2	100.0	H	163.0	15.0	1.8	46.0
312.027500	42.1	100.0	H	144.0	15.4	3.9	46.0
348.038750	44.5	100.0	H	163.0	17.4	1.5	46.0
372.006250	43.2	100.0	H	46.0	18.3	2.8	46.0

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

2. Margin = Limit – Quasi-Peak

802.11a CH36

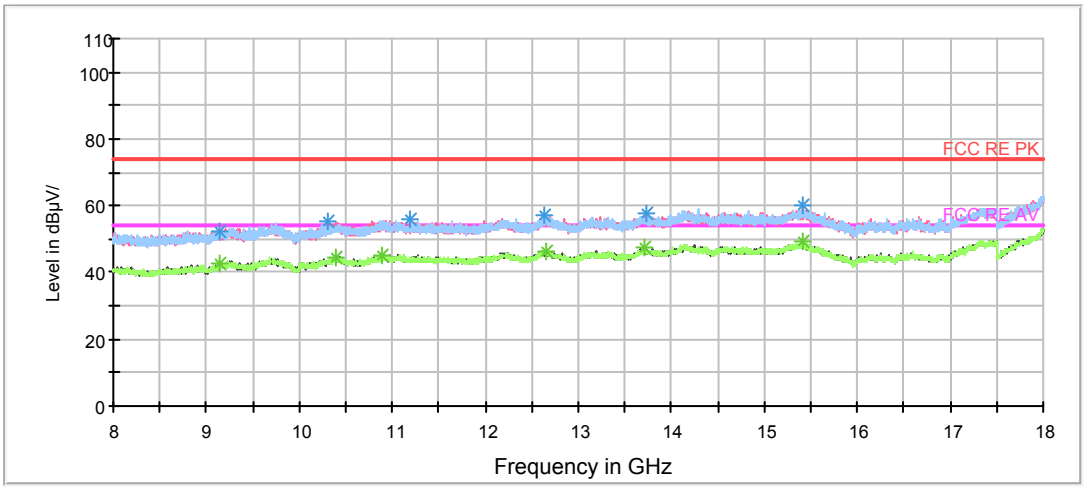
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1135.625000	48.6	200.0	H	213.0	-11.1	25.4	74
1712.250000	52.0	200.0	V	62.0	-8.3	22.0	74
2389.500000	42.0	200.0	V	331.0	-4.6	32.0	74
3566.375000	53.0	100.0	H	27.0	-2.8	21.0	74
4624.250000	58.2	100.0	V	217.0	-0.7	15.8	74
7198.500000	54.3	100.0	H	2.0	5.4	19.7	74

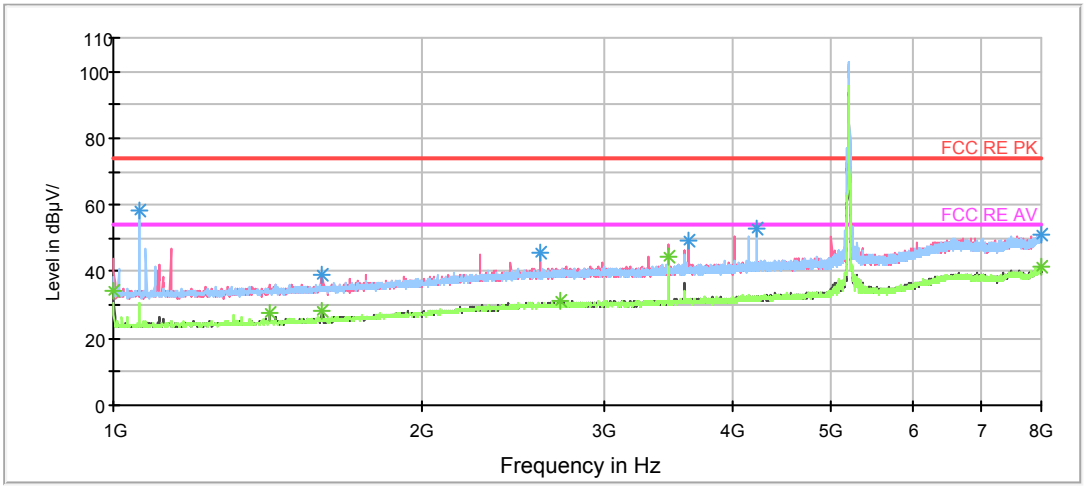
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1031.500000	27.1	200.0	H	199.0	-11.6	26.9	54
1982.625000	28.4	200.0	H	185.0	-7.0	25.6	54
2749.125000	31.1	100.0	V	29.0	-3.9	22.9	54
3453.500000	44.6	200.0	V	116.0	-3.0	9.4	54
4624.250000	35.2	100.0	V	217.0	-0.7	18.8	54
7971.125000	41.3	100.0	V	286.0	7.5	12.7	54

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

802.11a CH40

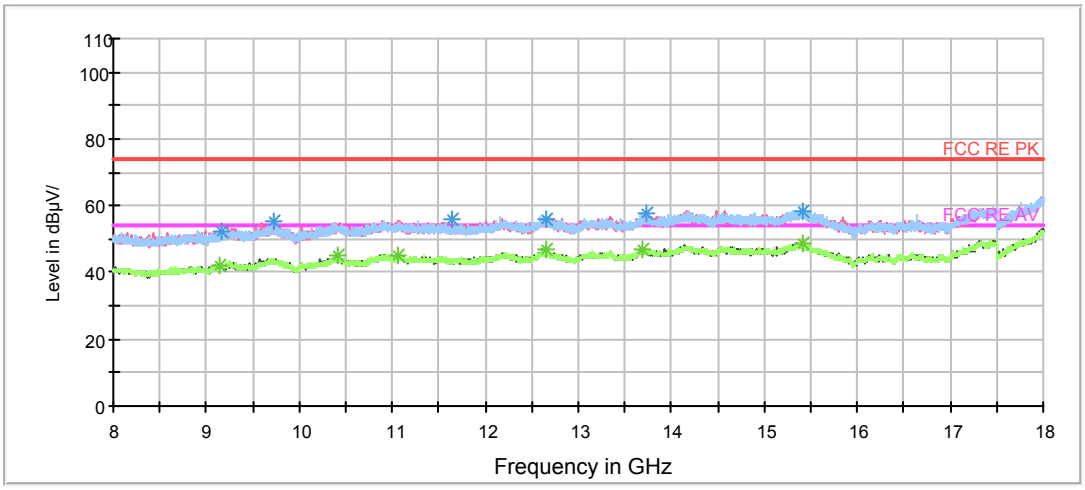
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1061.250000	58.5	200.0	H	233.0	-11.4	15.5	74
1592.375000	39.3	100.0	V	349.0	-9.0	34.7	74
2599.500000	45.5	200.0	V	24.0	-4.1	28.5	74
3630.250000	49.3	100.0	V	356.0	-2.7	24.7	74
4224.375000	52.9	100.0	H	74.0	-1.4	21.1	74
7995.625000	51.4	200.0	H	246.0	7.6	22.6	74

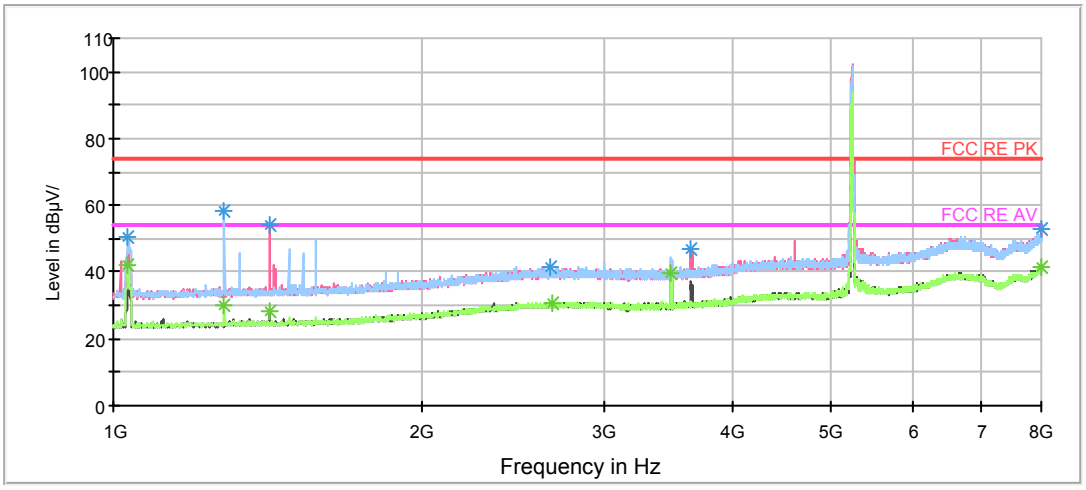
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1000.000000	34.5	100.0	V	238.0	-11.9	19.5	54
1420.000000	27.7	200.0	V	241.0	-9.9	26.3	54
1598.500000	28.3	100.0	V	0.0	-8.9	25.7	54
2728.125000	31.1	200.0	V	116.0	-3.9	22.9	54
3466.625000	44.6	200.0	V	116.0	-3.0	9.4	54
7993.000000	41.4	200.0	H	0.0	7.6	12.6	54

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

802.11a CH48

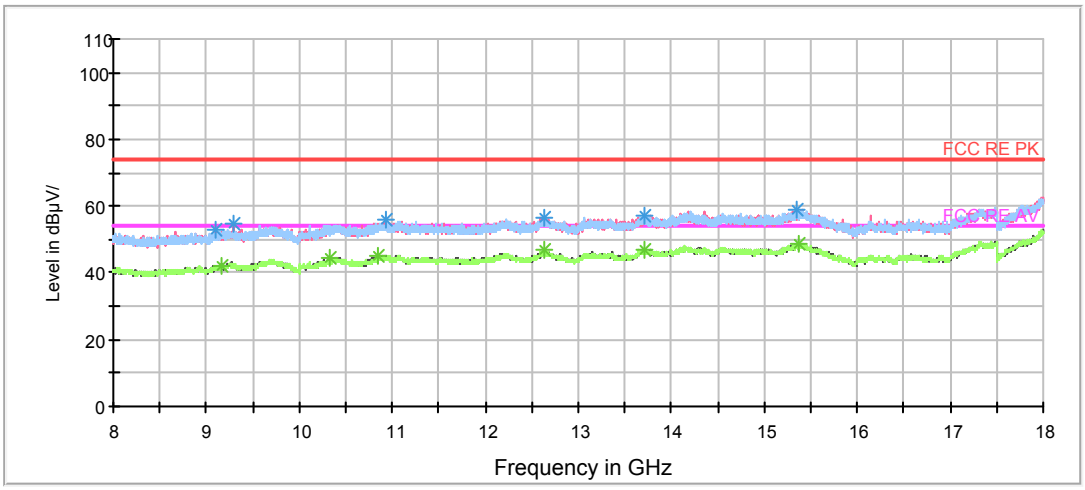
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1034.125000	50.3	100.0	H	314.0	-11.6	23.7	74
1282.625000	58.5	100.0	H	143.0	-10.6	15.5	74
1420.875000	54.1	100.0	V	196.0	-9.9	19.9	74
2665.125000	41.7	200.0	H	355.0	-4.1	32.3	74
3652.125000	46.6	100.0	V	20.0	-2.6	27.4	74
7984.250000	52.7	100.0	V	349.0	7.6	21.3	74

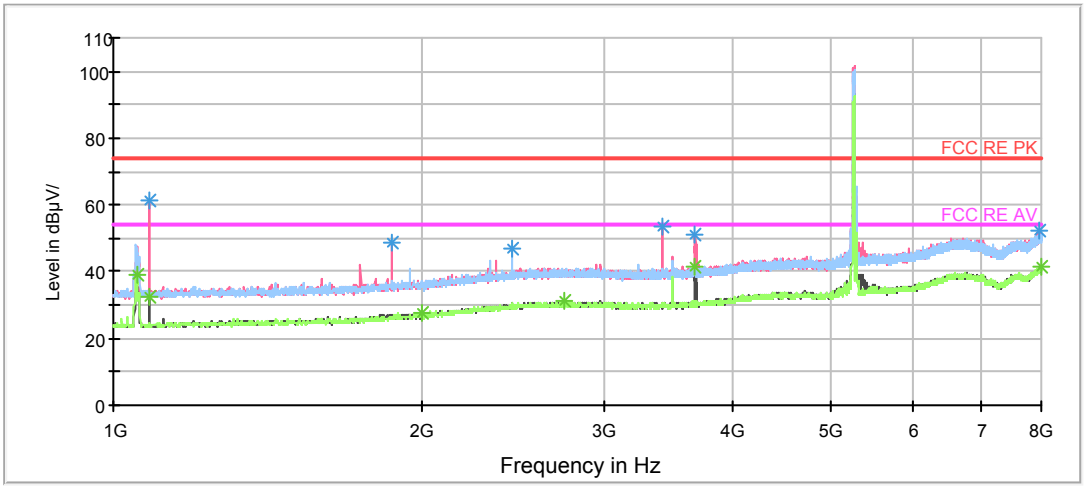
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1034.125000	42.0	100.0	H	314.0	-11.6	12.0	54
1282.625000	29.8	100.0	H	143.0	-10.6	24.2	54
1420.875000	28.5	100.0	V	196.0	-9.9	25.5	54
2678.250000	30.9	200.0	H	62.0	-4.0	23.1	54
3492.875000	39.4	200.0	H	344.0	-3.0	14.6	54
7997.375000	41.6	200.0	V	100.0	7.6	12.4	54

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

802.11a CH52

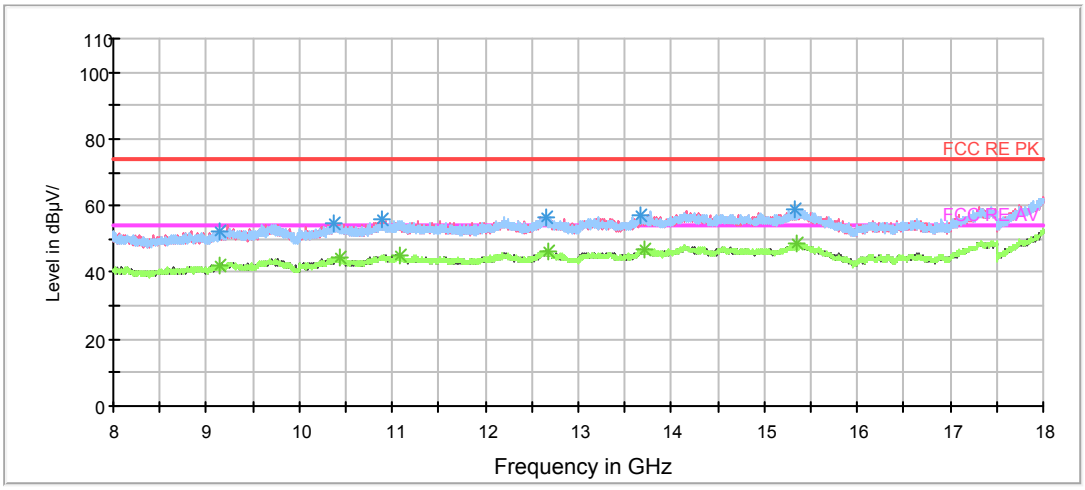
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1084.875000	61.3	200.0	V	128.0	-11.3	12.7	74
1865.375000	49.0	100.0	V	250.0	-7.4	25.0	74
2443.750000	46.8	200.0	H	320.0	-4.4	27.2	74
3429.875000	53.5	100.0	V	224.0	-3.0	20.5	74
3686.250000	51.1	200.0	V	105.0	-2.5	22.9	74
7963.250000	52.0	200.0	V	105.0	7.5	22.0	74

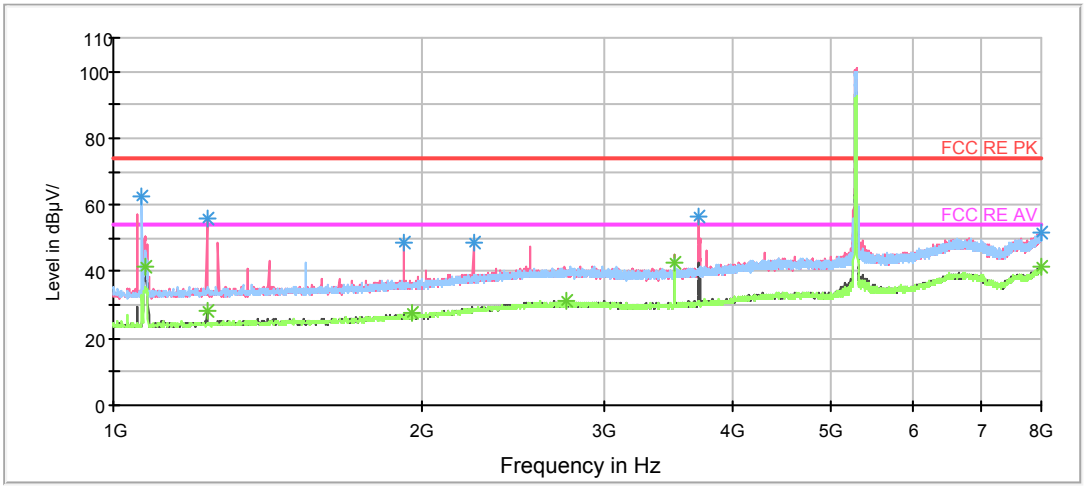
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1053.375000	39.1	100.0	H	23.0	-11.5	14.9	54
1084.875000	32.3	200.0	V	128.0	-11.3	21.7	54
1999.250000	27.6	200.0	H	358.0	-6.9	26.4	54
2742.125000	31.2	100.0	V	348.0	-3.9	22.8	54
3686.250000	41.7	200.0	V	105.0	-2.5	12.3	54
7999.125000	41.4	100.0	V	0.0	7.6	12.6	54

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

802.11a CH56

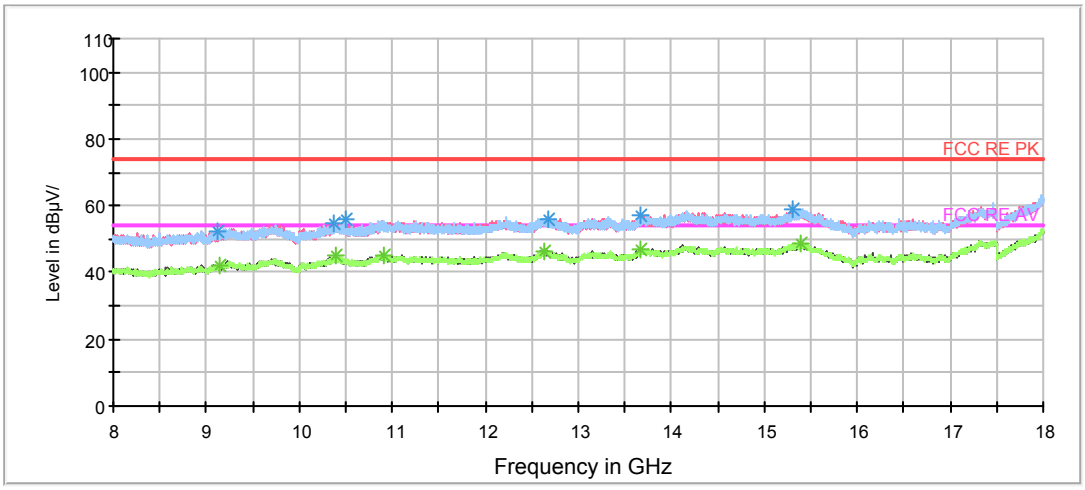
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1066.500000	62.2	200.0	H	230.0	-11.4	11.8	74
1232.750000	55.9	100.0	V	223.0	-10.8	18.1	74
1919.625000	48.7	100.0	V	223.0	-7.2	25.3	74
2239.875000	48.5	100.0	V	277.0	-5.4	25.5	74
3716.000000	56.3	200.0	V	112.0	-2.5	17.7	74
7986.875000	51.6	100.0	V	264.0	7.6	22.4	74

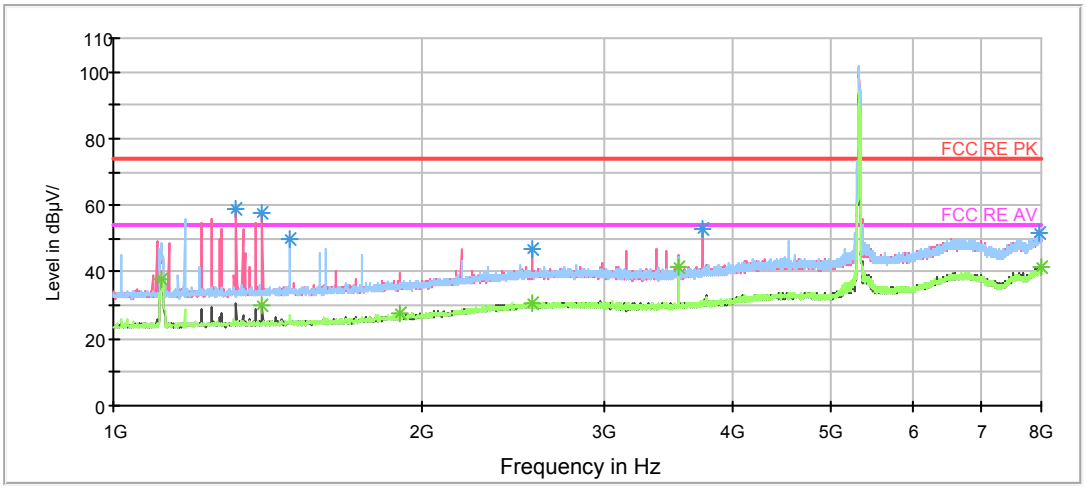
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1073.500000	41.6	100.0	V	250.0	-11.3	12.4	54
1232.750000	28.5	100.0	V	223.0	-10.8	25.5	54
1956.375000	27.6	200.0	H	244.0	-7.1	26.4	54
2754.375000	31.2	100.0	V	340.0	-3.8	22.8	54
3520.000000	42.7	200.0	V	112.0	-2.8	11.3	54
7999.125000	41.3	100.0	V	0.0	7.6	12.7	54

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

802.11a CH64

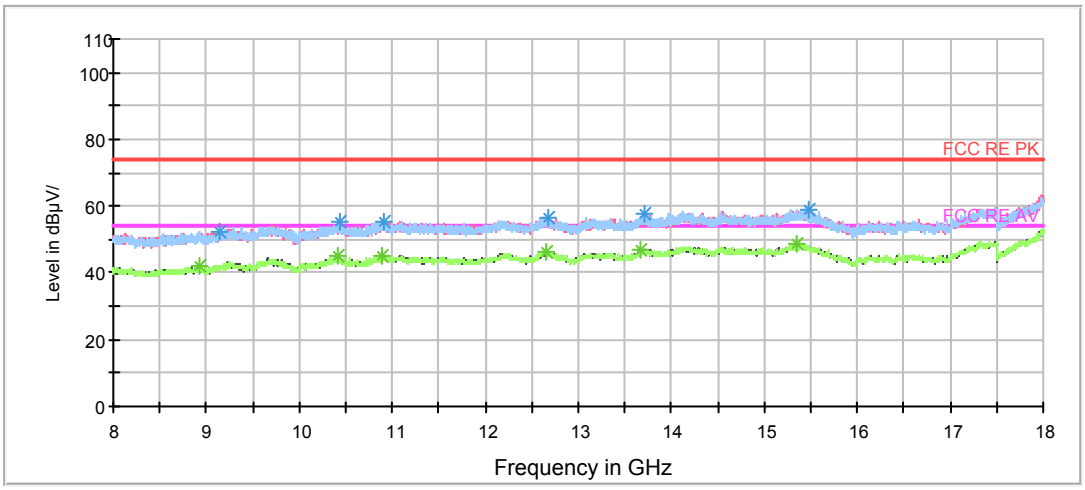
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1317.625000	58.6	100.0	V	233.0	-10.4	15.4	74
1397.250000	57.8	100.0	V	219.0	-10.0	16.2	74
1483.875000	50.0	200.0	H	228.0	-9.6	24.0	74
2561.000000	46.9	100.0	V	352.0	-4.2	27.1	74
3751.000000	53.0	100.0	V	219.0	-2.5	21.0	74
7966.750000	51.6	100.0	V	273.0	7.5	22.4	74

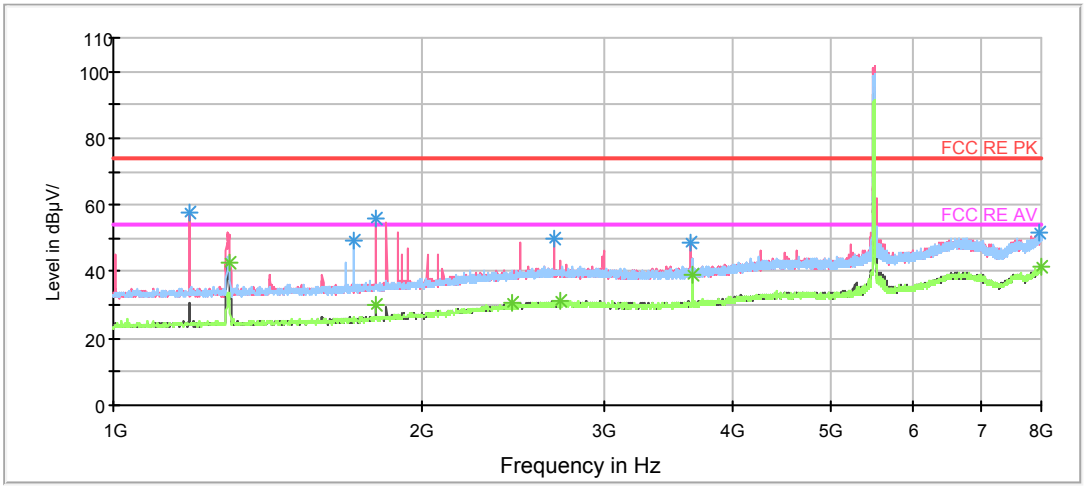
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1112.875000	38.0	200.0	H	308.0	-11.2	16.0	54
1397.250000	30.2	100.0	V	219.0	-10.0	23.8	54
1903.000000	27.6	200.0	H	343.0	-7.3	26.4	54
2555.750000	30.9	100.0	V	358.0	-4.2	23.1	54
3546.250000	41.5	200.0	V	116.0	-2.8	12.5	54
7997.375000	41.4	100.0	H	149.0	7.6	12.6	54

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

802.11a CH100

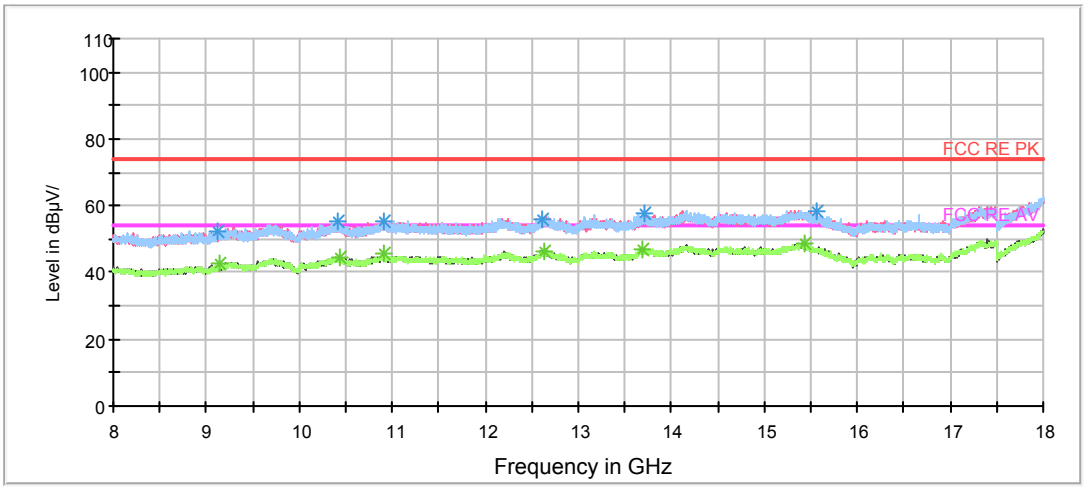
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1186.375000	57.8	100.0	V	179.0	-11.0	16.2	74
1715.750000	49.3	100.0	H	142.0	-8.2	24.7	74
1801.500000	56.1	100.0	V	179.0	-7.7	17.9	74
2685.250000	49.6	100.0	V	179.0	-4.0	24.4	74
3642.500000	48.6	100.0	V	192.0	-2.6	25.4	74
7971.125000	51.6	200.0	H	353.0	7.5	22.4	74

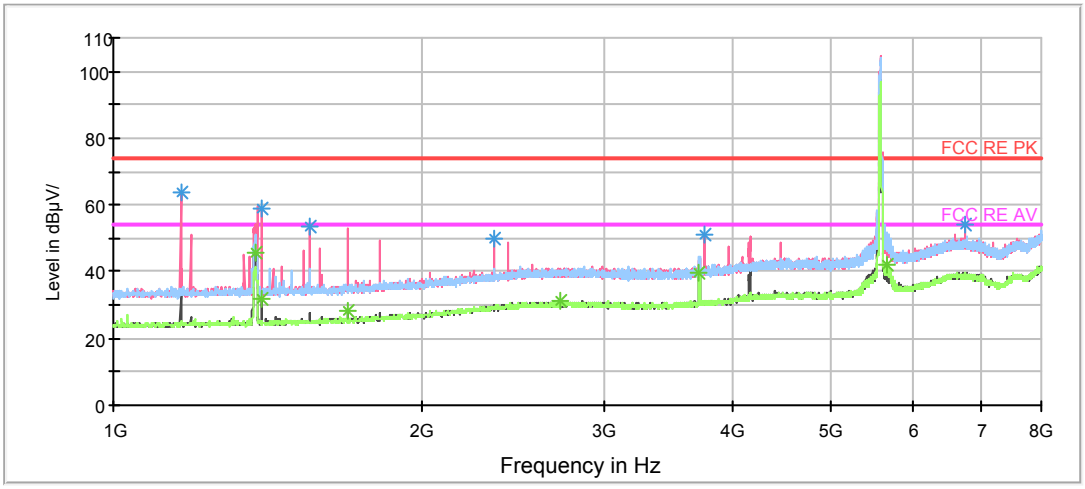
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1294.875000	42.6	100.0	V	248.0	-10.5	11.4	54
1801.500000	30.2	100.0	V	179.0	-7.7	23.8	54
2449.000000	30.7	100.0	V	248.0	-4.4	23.3	54
2728.125000	31.1	100.0	H	0.0	-3.9	22.9	54
3666.125000	38.8	100.0	H	48.0	-2.5	15.2	54
7999.125000	41.7	100.0	V	328.0	7.6	12.3	54

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

802.11a CH116

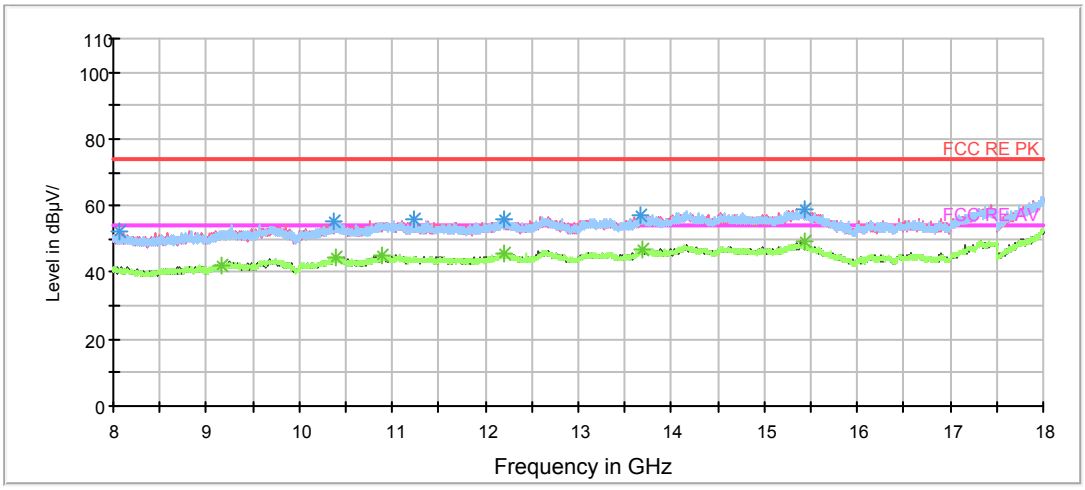
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1162.750000	63.4	100.0	V	231.0	-11.0	10.6	74
1392.875000	59.1	100.0	V	231.0	-10.0	14.9	74
1554.750000	53.4	200.0	V	78.0	-9.2	20.6	74
2344.000000	49.8	100.0	V	217.0	-4.8	24.2	74
3758.000000	51.2	100.0	V	176.0	-2.4	22.8	74
6750.500000	54.1	100.0	V	189.0	5.4	19.9	74

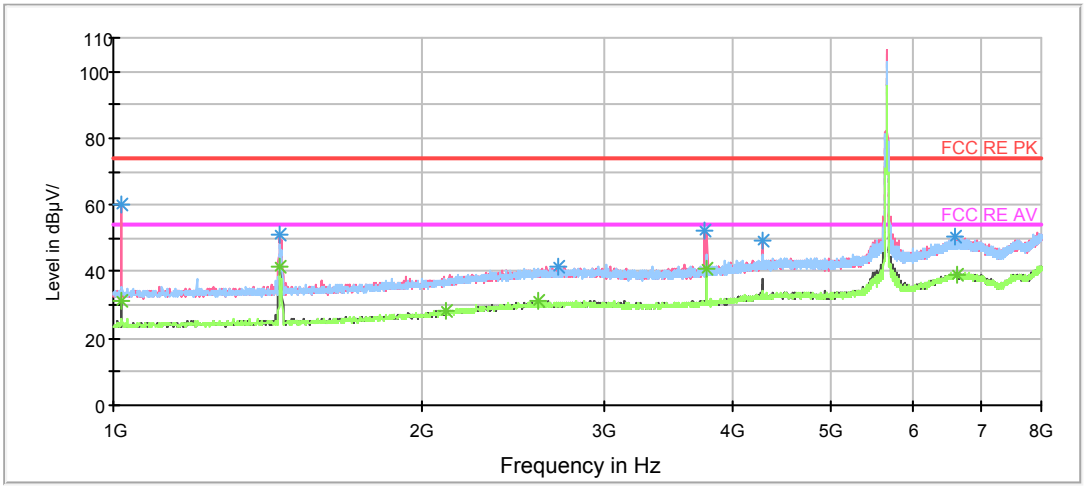
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1373.625000	45.5	100.0	V	217.0	-10.1	8.5	54
1392.875000	31.6	100.0	V	231.0	-10.0	22.4	54
1689.500000	28.0	200.0	V	117.0	-8.4	26.0	54
2723.750000	31.2	200.0	H	293.0	-3.9	22.8	54
3719.500000	39.6	200.0	H	240.0	-2.5	14.4	54
5669.875000	42.2	100.0	H	323.0	1.0	11.8	54

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

802.11a CH132

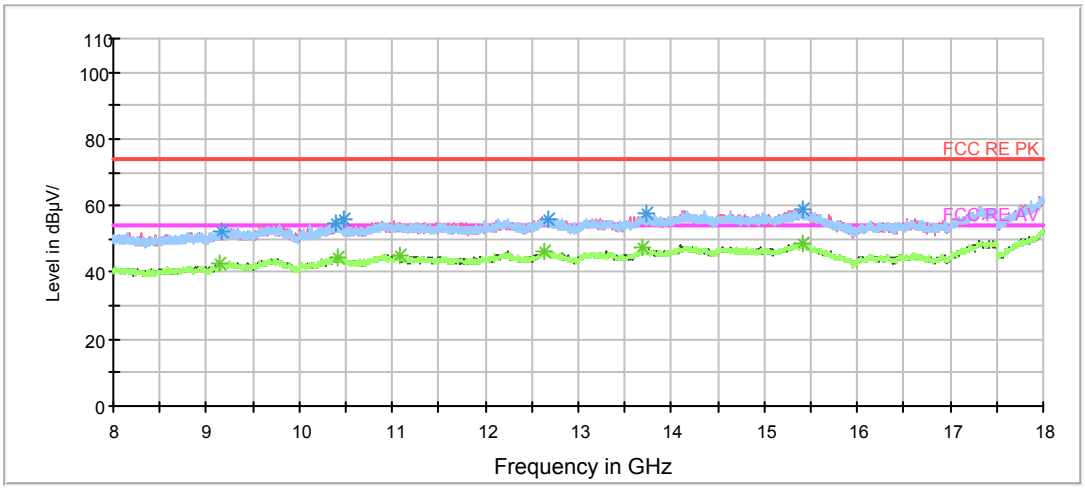
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1018.375000	60.0	200.0	V	121.0	-11.7	14.0	74
1453.250000	51.3	200.0	V	340.0	-9.8	22.7	74
2709.750000	41.4	200.0	H	338.0	-3.9	32.6	74
3754.500000	52.5	200.0	V	121.0	-2.4	21.5	74
4285.625000	49.1	100.0	V	245.0	-1.3	24.9	74
6607.000000	50.5	100.0	V	258.0	5.5	23.5	74

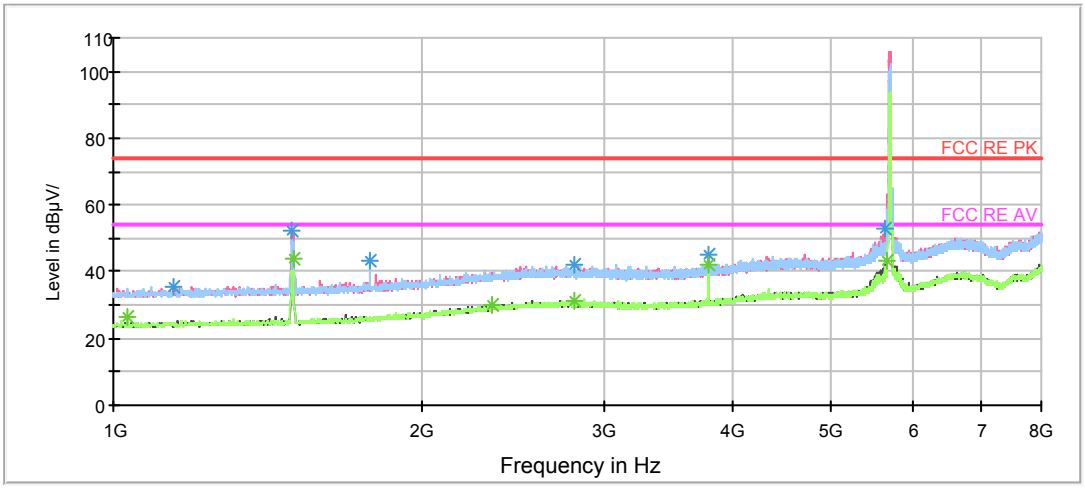
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1018.375000	31.2	200.0	V	121.0	-11.7	22.8	54
1452.375000	41.5	100.0	V	231.0	-9.8	12.5	54
2109.500000	28.2	200.0	H	355.0	-6.1	25.8	54
2592.500000	31.4	200.0	V	13.0	-4.1	22.6	54
3772.875000	41.1	200.0	V	121.0	-2.4	12.9	54
6618.375000	39.3	100.0	V	190.0	5.5	14.7	54

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

802.11a CH140

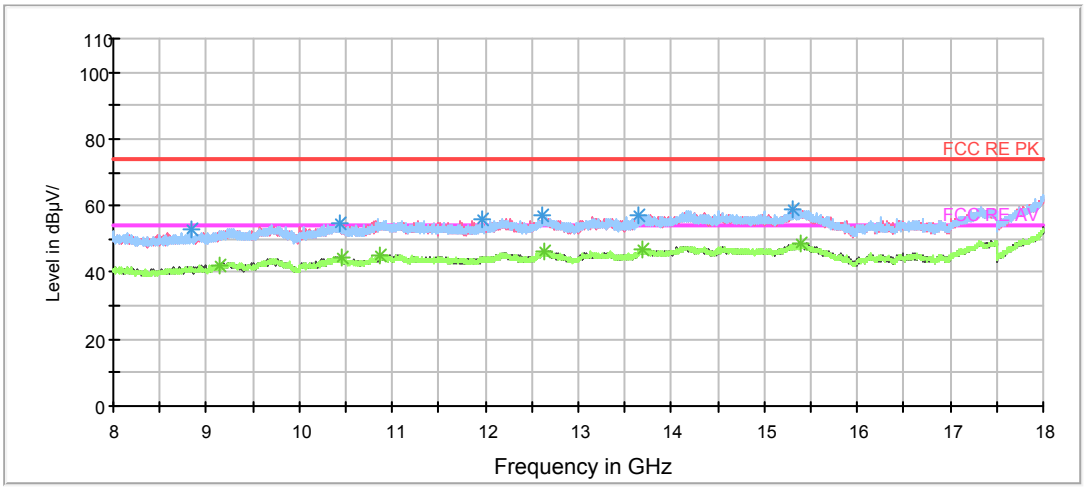
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1143.500000	35.4	100.0	V	275.0	-11.1	38.6	74
1493.500000	52.1	100.0	V	206.0	-9.6	21.9	74
1777.875000	43.4	200.0	H	214.0	-7.9	30.6	74
2808.625000	42.4	100.0	H	0.0	-3.8	31.6	74
3800.000000	45.3	200.0	V	115.0	-2.4	28.7	74
5632.250000	53.0	100.0	V	262.0	1.0	21.0	74

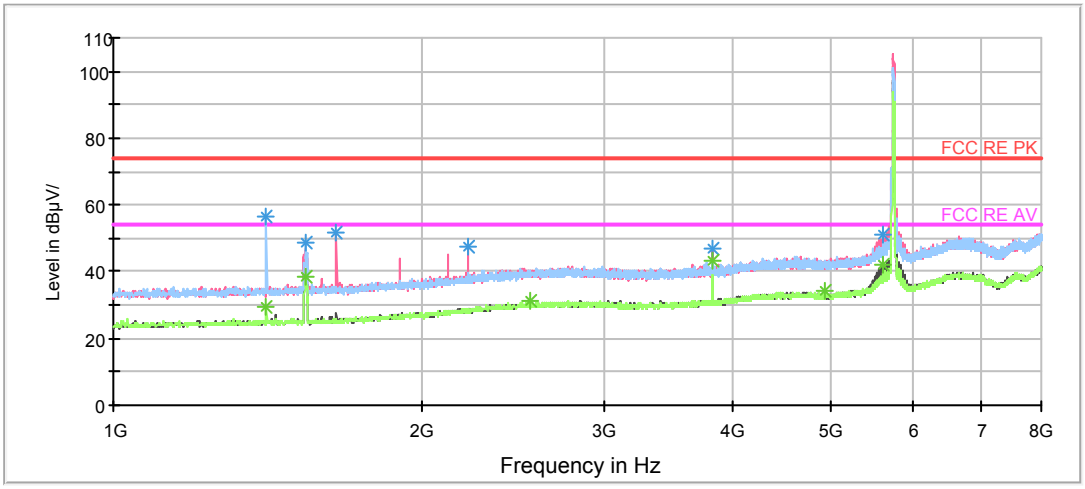
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1031.500000	26.4	200.0	H	191.0	-11.6	27.6	54
1495.250000	44.0	100.0	V	206.0	-9.5	10.0	54
2339.625000	29.9	200.0	H	255.0	-4.8	24.1	54
2813.000000	31.3	200.0	V	197.0	-3.7	22.7	54
3800.000000	42.4	200.0	V	115.0	-2.4	11.6	54
5656.750000	43.0	100.0	V	262.0	1.0	11.0	54

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

802.11a CH149

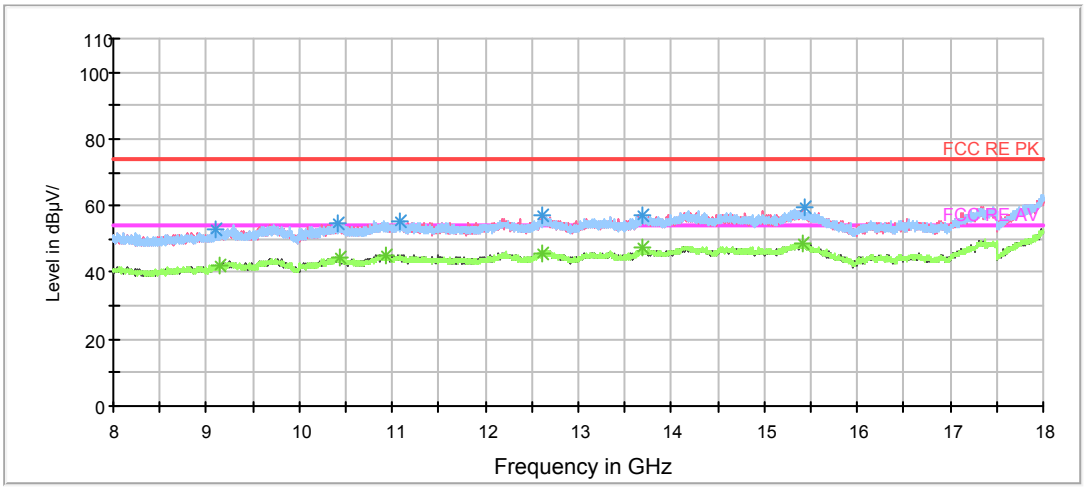
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1409.500000	56.4	200.0	H	248.0	-10.0	17.6	74
1539.000000	48.7	100.0	H	47.0	-9.3	25.3	74
1649.250000	52.0	100.0	V	244.0	-8.6	22.0	74
2218.000000	47.5	100.0	V	244.0	-5.5	26.5	74
3829.750000	46.8	200.0	V	114.0	-2.4	27.2	74
5606.875000	51.2	100.0	V	244.0	0.9	22.8	74

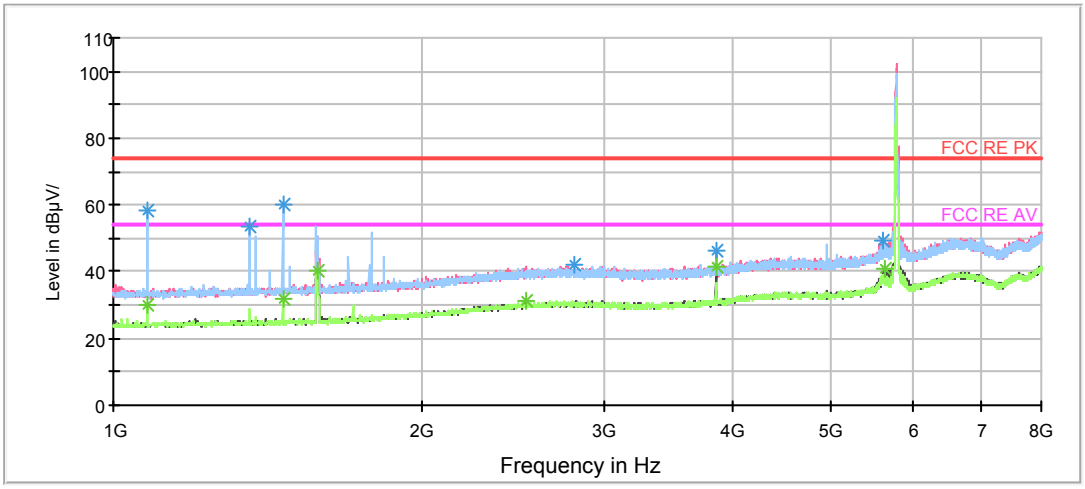
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1409.500000	29.3	200.0	H	248.0	-10.0	24.7	54
1539.000000	38.3	100.0	H	47.0	-9.3	15.7	54
2541.750000	31.2	200.0	V	64.0	-4.2	22.8	54
3829.750000	43.5	200.0	V	114.0	-2.4	10.5	54
4931.375000	34.1	200.0	V	6.0	-0.4	19.9	54
5598.125000	42.0	100.0	V	244.0	0.9	12.0	54

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

802.11a CH157

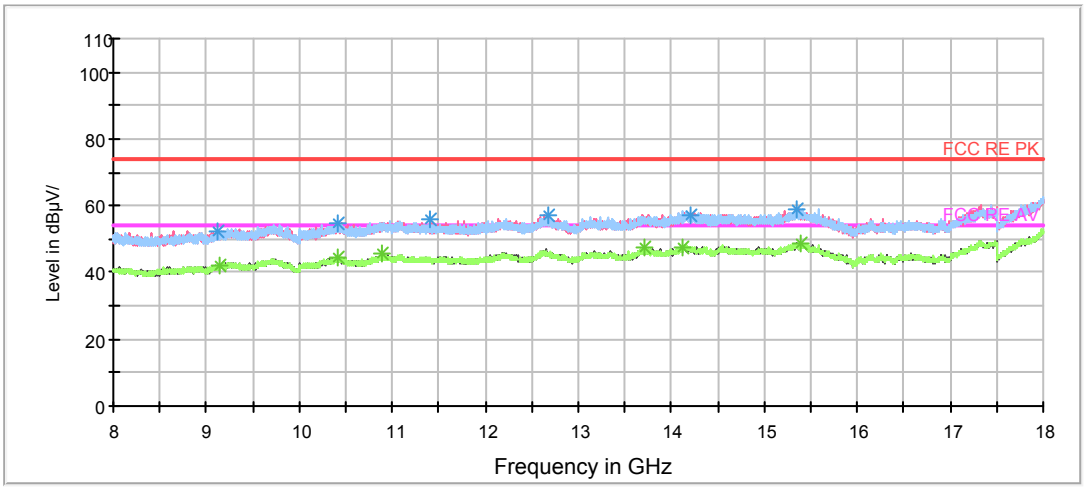
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1080.500000	58.1	100.0	H	64.0	-11.3	15.9	74
1356.125000	53.7	100.0	H	64.0	-10.3	20.3	74
1462.000000	59.9	100.0	H	64.0	-9.7	14.1	74
2808.625000	41.8	100.0	H	0.0	-3.8	32.2	74
3856.875000	46.2	200.0	V	110.0	-2.4	27.8	74
5606.000000	49.5	100.0	V	169.0	0.9	24.5	74

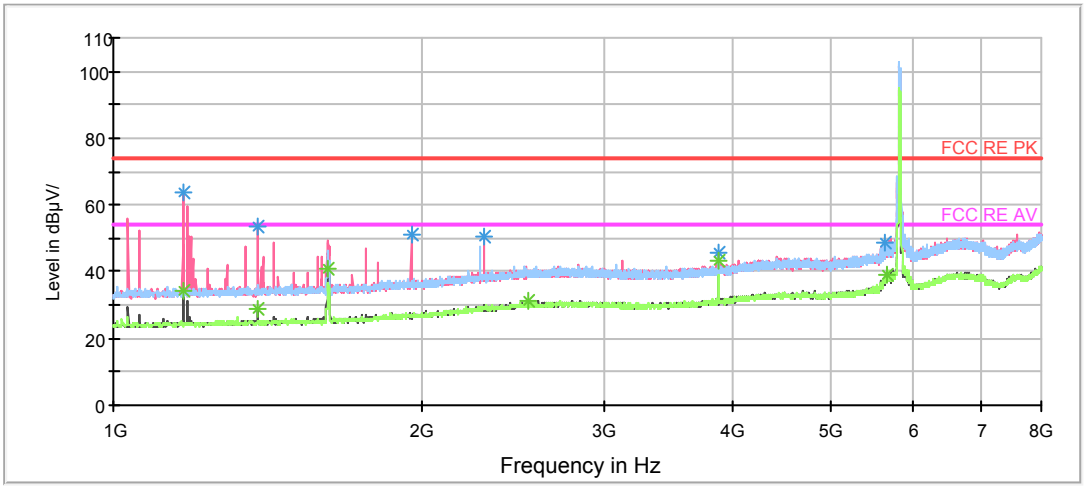
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1080.500000	30.0	100.0	H	64.0	-11.3	24.0	54
1462.000000	31.6	100.0	H	64.0	-9.7	22.4	54
1578.375000	40.2	100.0	V	264.0	-9.0	13.8	54
2518.125000	31.2	200.0	V	151.0	-4.3	22.8	54
3856.875000	41.3	200.0	V	110.0	-2.4	12.7	54
5634.000000	40.7	200.0	V	224.0	1.0	13.3	54

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

802.11a CH165

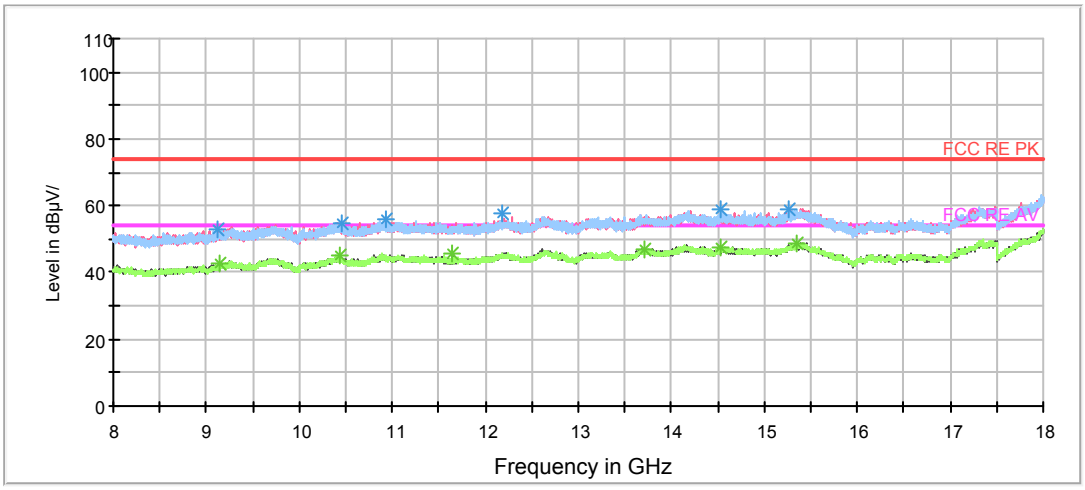
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1170.625000	63.5	100.0	V	228.0	-11.0	10.5	74
1381.500000	53.6	200.0	V	145.0	-10.1	20.4	74
1948.500000	51.3	100.0	V	228.0	-7.1	22.7	74
2294.125000	50.4	100.0	V	228.0	-5.1	23.6	74
3883.125000	45.9	200.0	V	117.0	-2.3	28.1	74
5642.750000	48.5	100.0	V	296.0	1.0	25.5	74

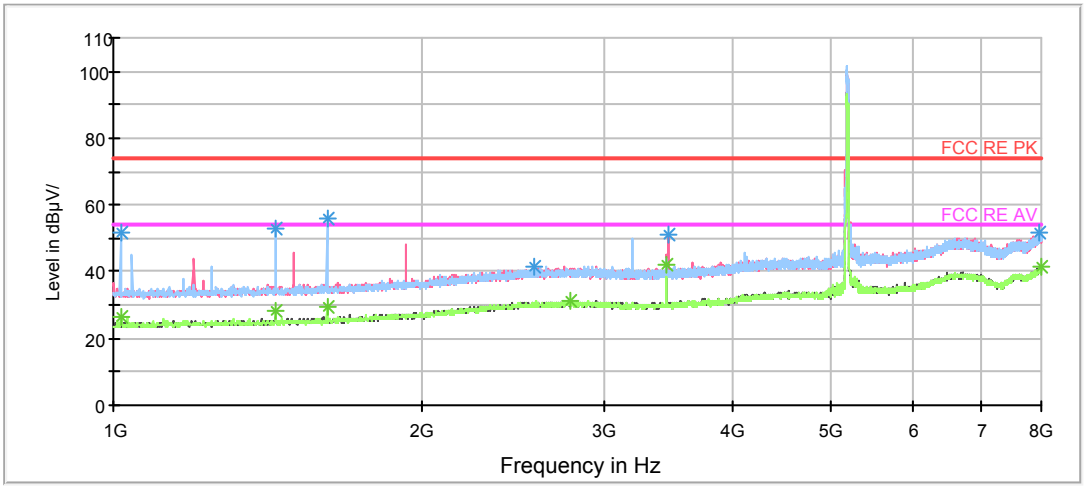
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1170.625000	34.5	100.0	V	228.0	-11.0	19.5	54
1381.500000	28.6	200.0	V	145.0	-10.1	25.4	54
1620.375000	41.1	100.0	V	256.0	-8.8	12.9	54
2537.375000	31.2	200.0	V	10.0	-4.2	22.8	54
3883.125000	43.3	200.0	V	117.0	-2.3	10.7	54
5655.875000	38.8	200.0	V	145.0	1.0	15.2	54

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

802.11n (HT20) CH36

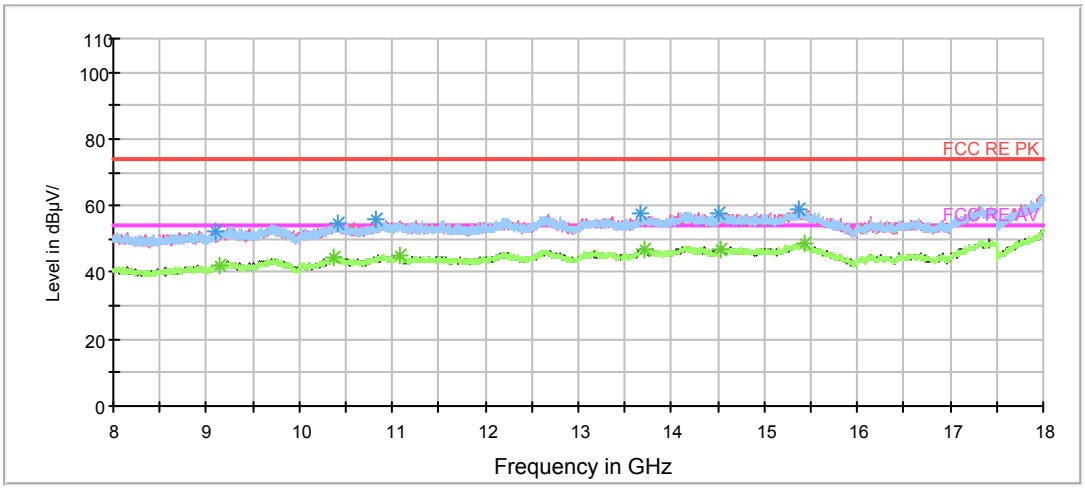
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1016.625000	51.8	200.0	H	151.0	-11.7	22.2	74
1440.125000	52.9	100.0	H	100.0	-9.8	21.1	74
1613.375000	55.7	100.0	H	100.0	-8.8	18.3	74
2572.375000	41.5	200.0	H	359.0	-4.2	32.5	74
3463.125000	51.3	100.0	V	259.0	-3.0	22.7	74
7979.000000	51.7	200.0	H	0.0	7.5	22.3	74

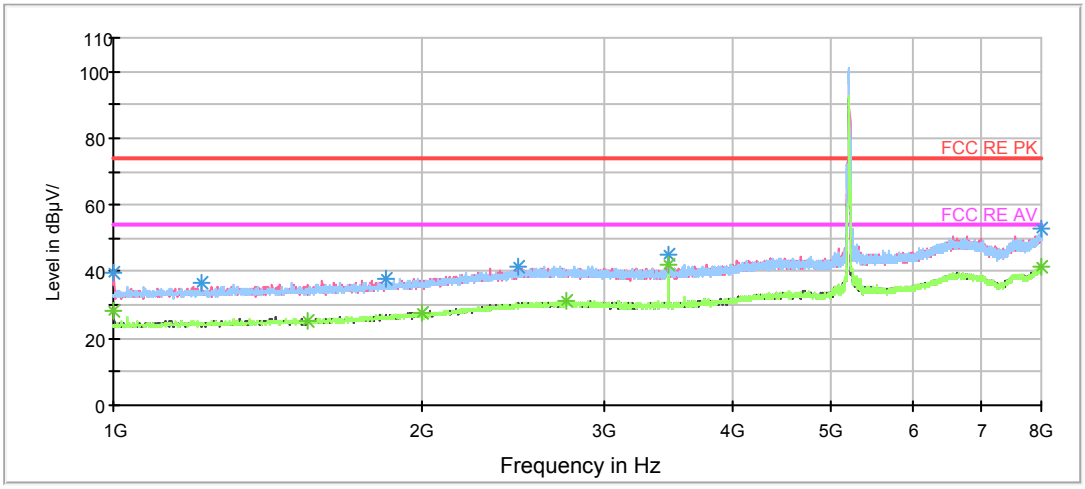
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1016.625000	26.6	200.0	H	151.0	-11.7	27.4	54
1440.125000	28.4	100.0	H	100.0	-9.8	25.6	54
1613.375000	29.3	100.0	H	100.0	-8.8	24.7	54
2778.875000	31.3	200.0	H	122.0	-3.7	22.7	54
3453.500000	42.1	200.0	V	126.0	-3.0	11.9	54
7995.625000	41.3	100.0	H	282.0	7.6	12.7	54

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

802.11n (HT20) CH40

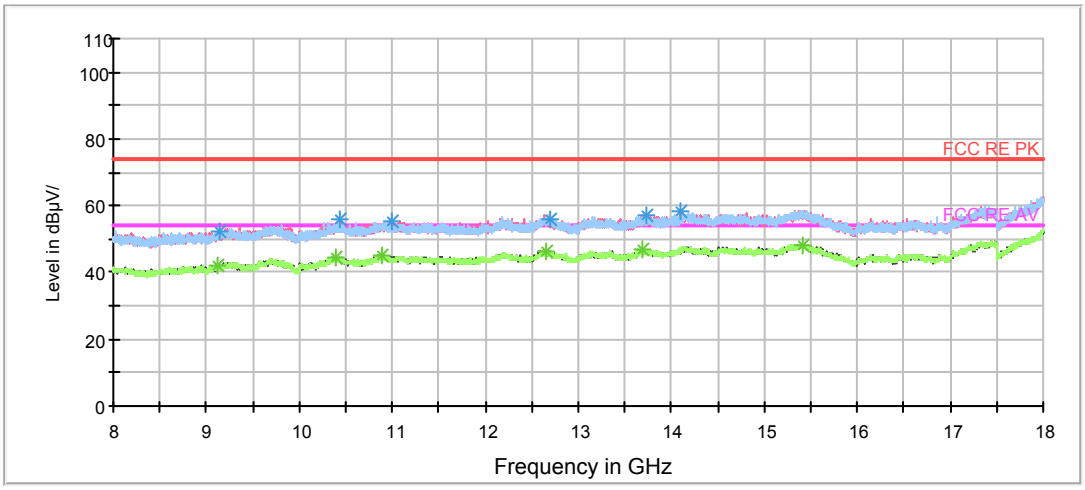
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1001.750000	39.8	100.0	V	270.0	-11.9	34.2	74
1218.750000	36.7	200.0	H	232.0	-10.9	37.3	74
1840.875000	37.9	200.0	H	0.0	-7.6	36.1	74
2482.250000	41.4	100.0	H	0.0	-4.3	32.6	74
3466.625000	45.0	200.0	V	125.0	-3.0	29.0	74
7998.250000	52.6	200.0	H	313.0	7.6	21.4	74

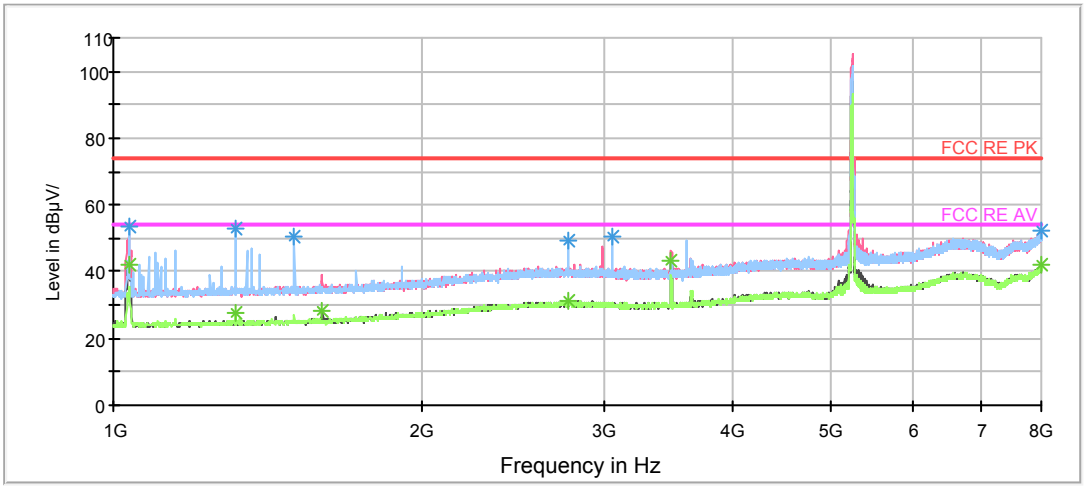
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1000.000000	28.4	100.0	V	270.0	-11.9	25.6	54
1543.375000	25.4	100.0	V	0.0	-9.3	28.6	54
1994.875000	27.6	100.0	V	148.0	-6.9	26.4	54
2757.875000	31.5	100.0	V	354.0	-3.8	22.5	54
3466.625000	42.1	200.0	V	125.0	-3.0	11.9	54
7999.125000	41.5	100.0	V	354.0	7.6	12.5	54

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

802.11n (HT20) CH48

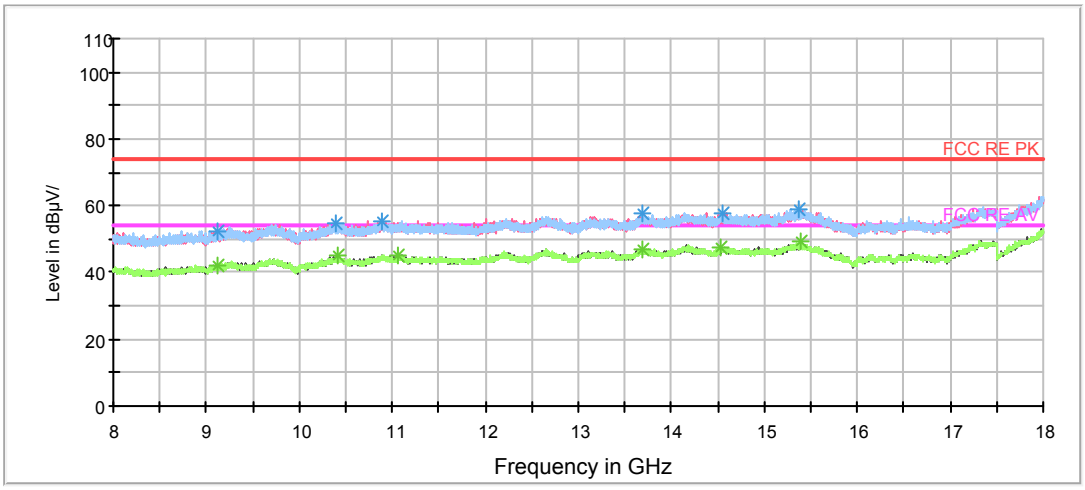
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1036.750000	53.2	200.0	H	192.0	-11.6	20.8	74
1313.250000	52.7	200.0	H	192.0	-10.4	21.3	74
1501.375000	50.3	100.0	H	141.0	-9.5	23.7	74
2774.500000	49.5	200.0	H	192.0	-3.8	24.5	74
3057.125000	50.4	200.0	H	192.0	-3.5	23.6	74
7994.750000	52.0	200.0	V	224.0	7.6	22.0	74

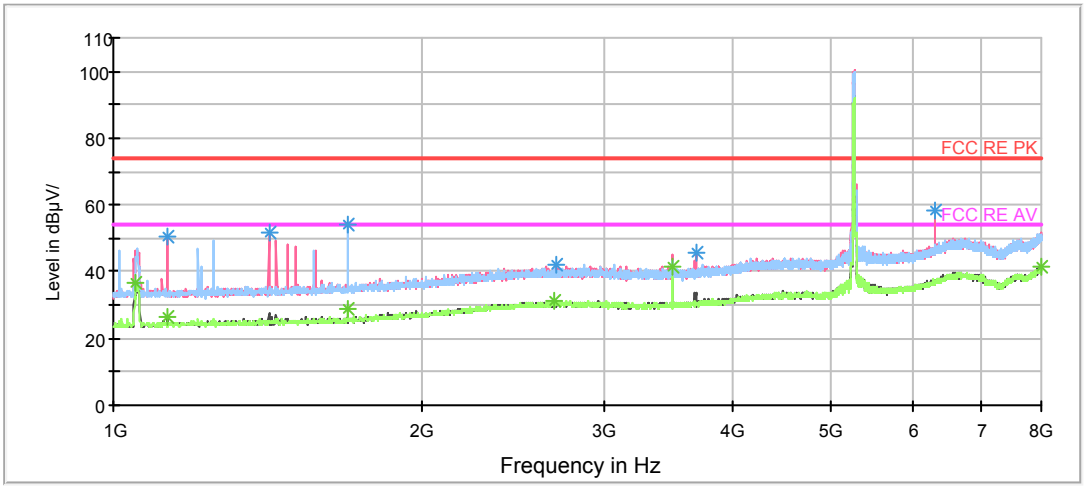
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1035.000000	42.1	100.0	V	233.0	-11.6	11.9	54
1313.250000	27.6	200.0	H	192.0	-10.4	26.4	54
1598.500000	28.3	200.0	V	155.0	-8.9	25.7	54
2775.375000	31.2	200.0	V	282.0	-3.7	22.8	54
3492.875000	43.1	200.0	V	124.0	-3.0	10.9	54
8000.000000	41.9	100.0	V	0.0	7.6	12.1	54

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

802.11n (HT20) CH52

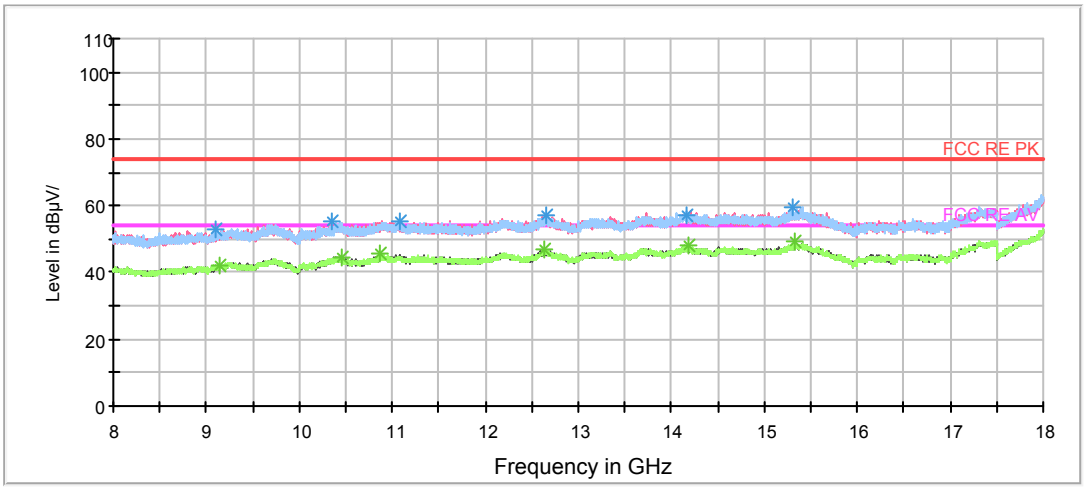
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1130.375000	50.7	100.0	V	191.0	-11.1	23.3	74
1416.500000	51.9	100.0	V	191.0	-9.9	22.1	74
1689.500000	54.3	200.0	H	231.0	-8.4	19.7	74
2693.125000	42.3	200.0	V	4.0	-3.9	31.7	74
3688.000000	45.8	100.0	V	232.0	-2.5	28.2	74
6309.500000	58.5	100.0	V	177.0	4.6	15.5	74

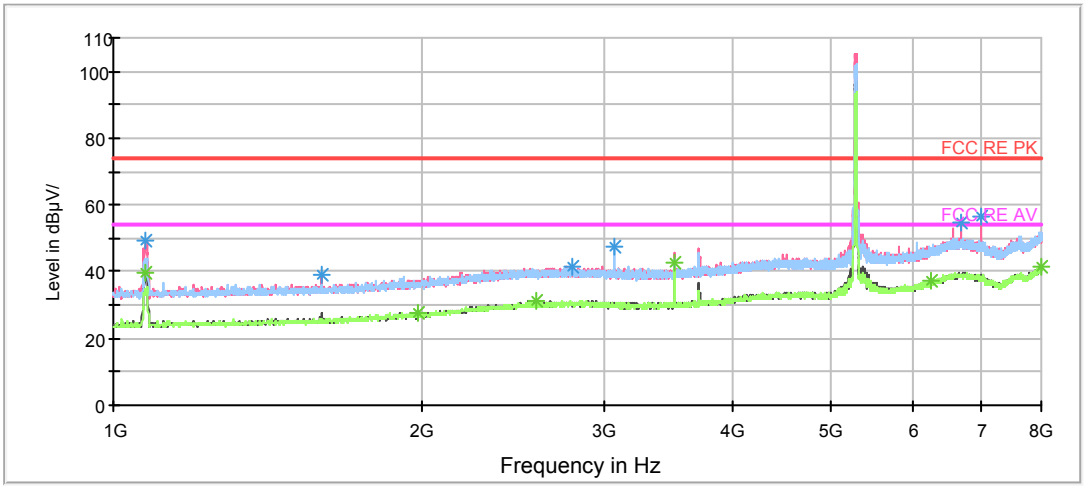
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1052.500000	36.9	100.0	V	219.0	-11.5	17.1	54
1130.375000	26.2	100.0	V	191.0	-11.1	27.8	54
1689.500000	28.8	200.0	H	231.0	-8.4	25.2	54
2687.000000	31.1	200.0	V	13.0	-4.0	22.9	54
3506.875000	41.2	200.0	V	126.0	-2.9	12.8	54
7993.875000	41.6	100.0	V	0.0	7.6	12.4	54

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

802.11n (HT20) CH56

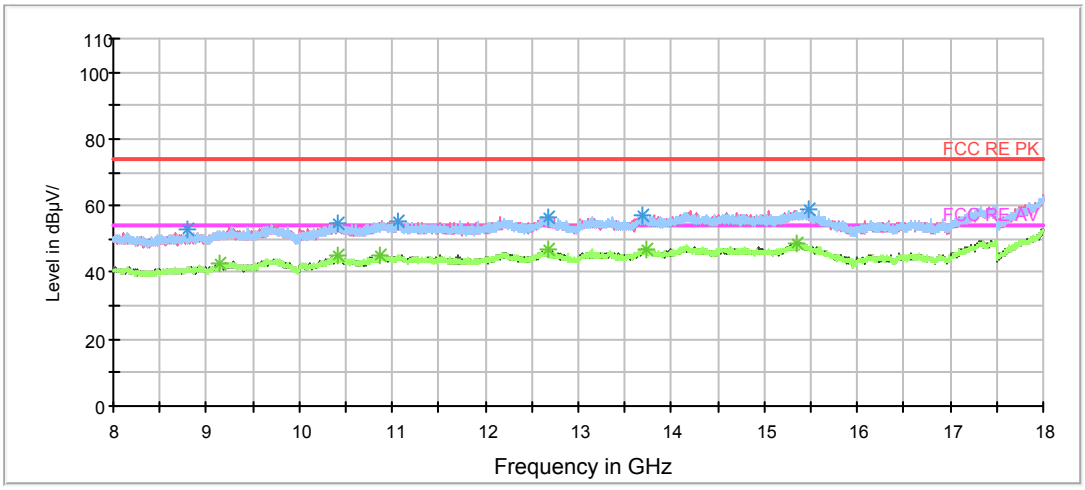
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1076.125000	49.5	100.0	V	233.0	-11.3	24.5	74
1593.250000	39.2	100.0	V	352.0	-9.0	34.8	74
2794.625000	41.5	100.0	H	114.0	-3.8	32.5	74
3075.500000	47.6	200.0	H	191.0	-3.4	26.4	74
6676.125000	55.0	100.0	V	339.0	5.4	19.0	74
6986.750000	56.5	100.0	V	178.0	5.1	17.5	74

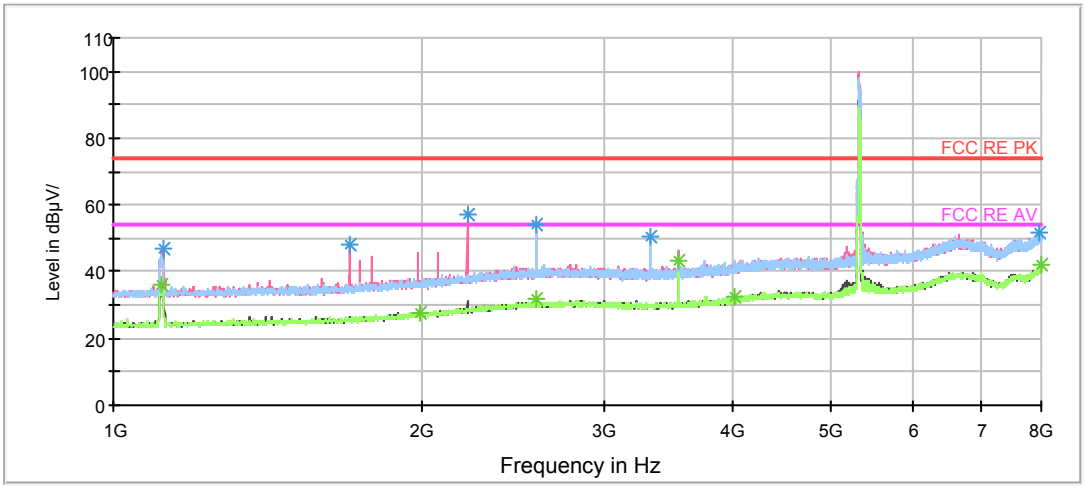
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1076.125000	39.5	100.0	V	233.0	-11.3	14.5	54
1977.375000	27.6	100.0	H	3.0	-7.0	26.4	54
2584.625000	31.2	100.0	V	178.0	-4.1	22.8	54
3520.000000	42.6	200.0	V	112.0	-2.8	11.4	54
6258.750000	37.1	200.0	V	112.0	4.3	16.9	54
7997.375000	41.4	200.0	H	302.0	7.6	12.6	54

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

802.11n (HT20) CH64

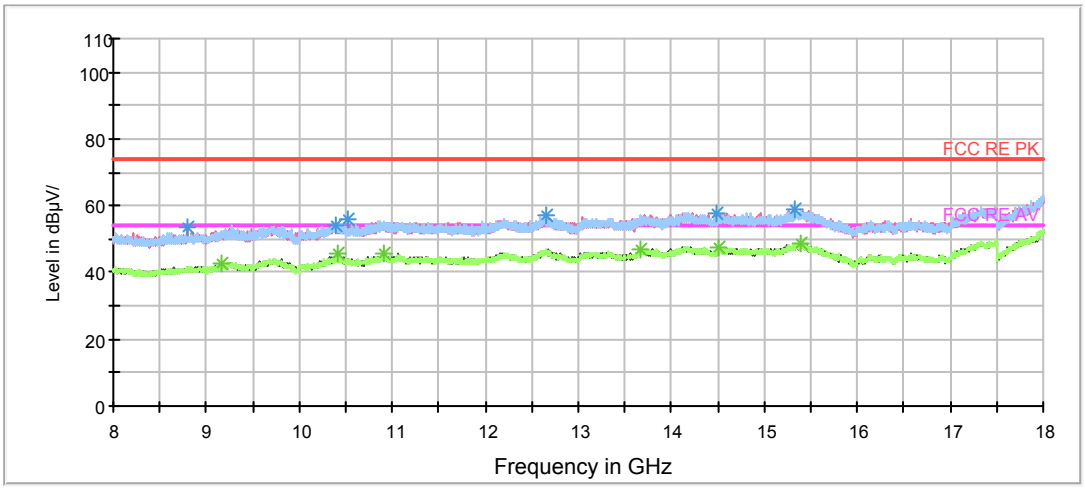
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1118.125000	46.7	100.0	V	216.0	-11.2	27.3	74
1697.375000	48.3	100.0	V	161.0	-8.3	25.7	74
2210.125000	57.4	100.0	V	161.0	-5.6	16.6	74
2580.250000	54.2	200.0	H	187.0	-4.1	19.8	74
3325.750000	50.4	200.0	H	187.0	-3.2	23.6	74
7964.125000	51.9	200.0	V	47.0	7.5	22.1	74

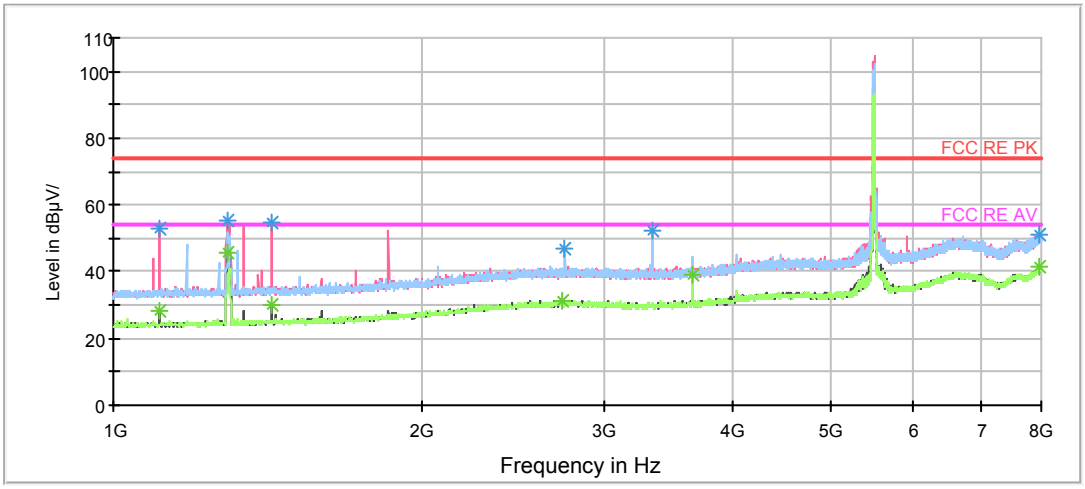
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1115.500000	35.9	100.0	V	216.0	-11.2	18.1	54
1987.000000	27.8	200.0	V	73.0	-6.9	26.2	54
2578.500000	31.9	100.0	V	161.0	-4.1	22.1	54
3546.250000	43.0	200.0	V	114.0	-2.8	11.0	54
4020.500000	32.2	100.0	V	357.0	-2.0	21.8	54
7995.625000	41.8	100.0	V	230.0	7.6	12.2	54

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

802.11n (HT20) CH100

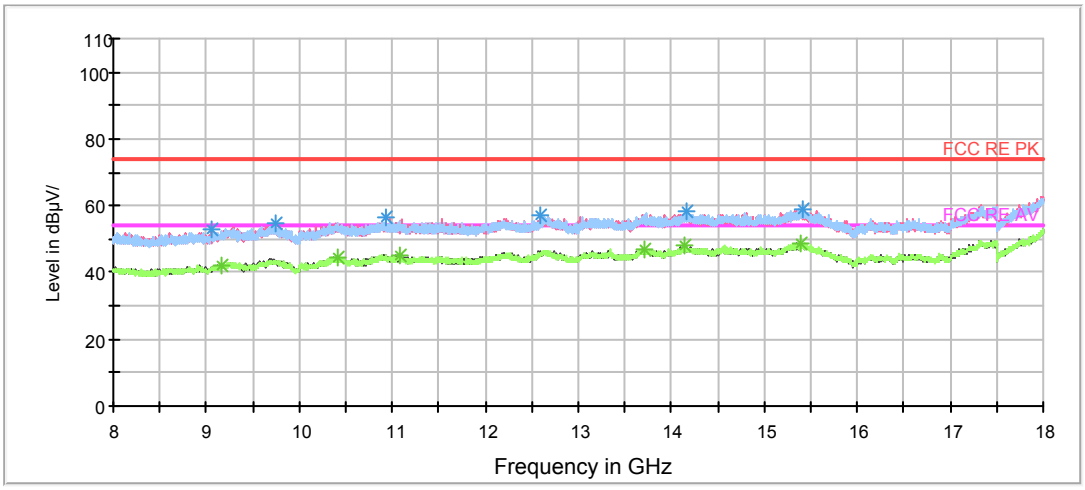
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1110.250000	53.1	100.0	V	178.0	-11.2	20.9	74
1294.000000	55.5	100.0	V	248.0	-10.6	18.5	74
1424.375000	54.8	100.0	V	178.0	-9.9	19.2	74
2752.625000	47.1	200.0	H	177.0	-3.8	26.9	74
3346.750000	52.1	200.0	H	190.0	-3.1	21.9	74
7977.250000	51.3	200.0	H	355.0	7.5	22.7	74

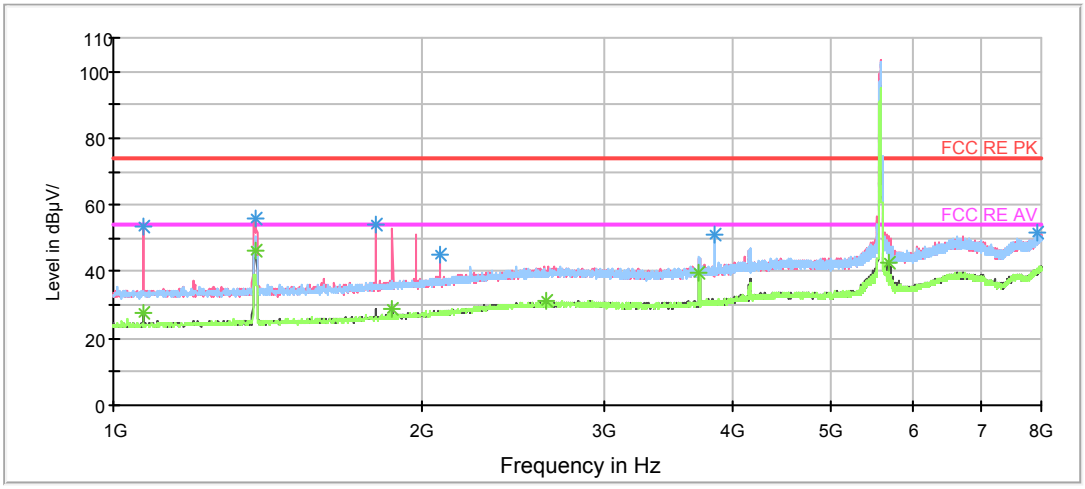
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1110.250000	28.1	100.0	V	178.0	-11.2	25.9	54
1294.000000	45.4	100.0	V	248.0	-10.6	8.6	54
1424.375000	29.8	100.0	V	178.0	-9.9	24.2	54
2731.625000	31.3	100.0	V	317.0	-3.9	22.7	54
3666.125000	38.9	200.0	H	246.0	-2.5	15.1	54
7979.000000	41.4	200.0	H	232.0	7.5	12.6	54

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

802.11n (HT20) CH116

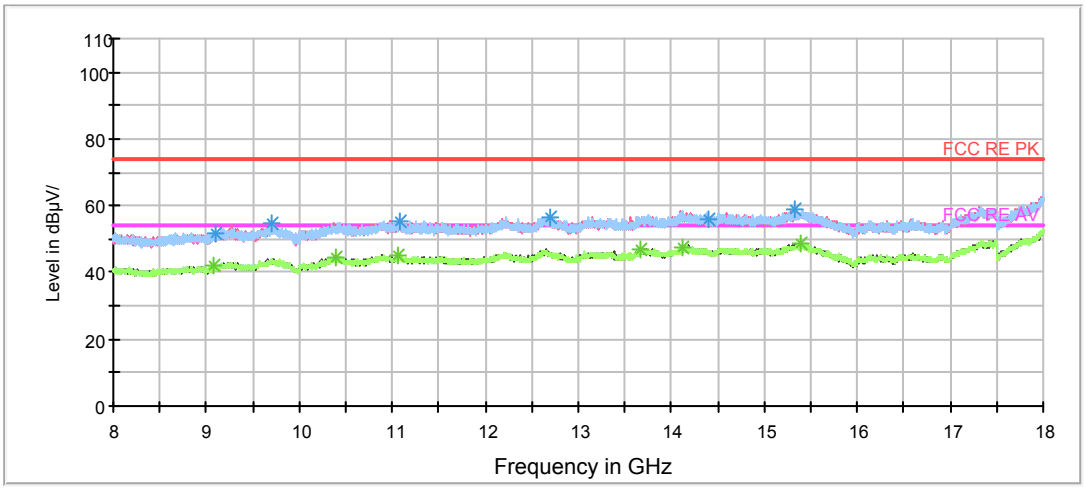
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1069.125000	53.3	100.0	V	225.0	-11.3	20.7	74
1372.750000	56.1	100.0	V	211.0	-10.2	17.9	74
1803.250000	53.9	100.0	V	156.0	-7.7	20.1	74
2078.000000	45.0	100.0	V	156.0	-6.4	29.0	74
3841.125000	51.2	200.0	H	214.0	-2.4	22.8	74
7936.125000	51.5	200.0	V	155.0	7.4	22.5	74

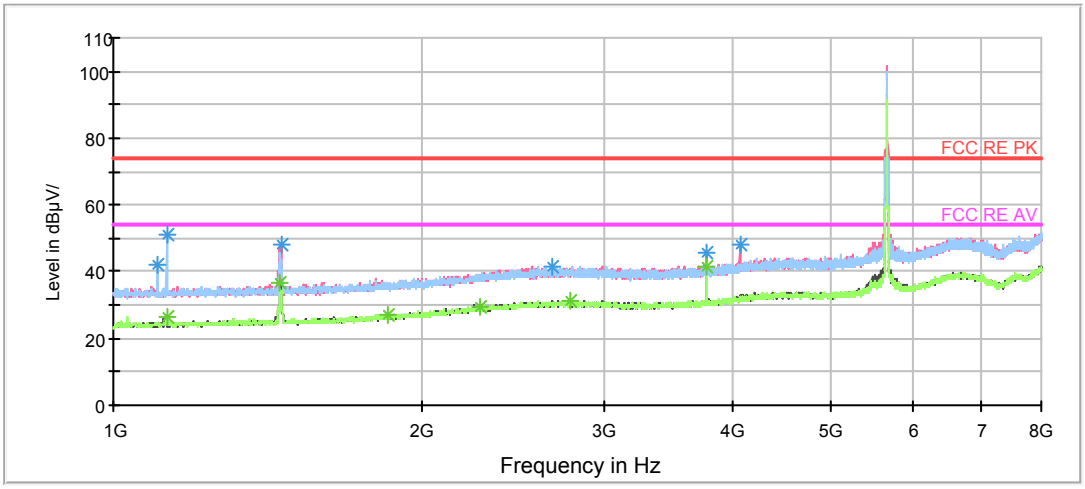
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1069.125000	27.8	100.0	V	225.0	-11.3	26.2	54
1376.250000	46.2	100.0	V	225.0	-10.1	7.8	54
1870.625000	28.9	100.0	V	156.0	-7.4	25.1	54
2642.375000	31.3	100.0	V	349.0	-4.0	22.7	54
3719.500000	39.8	200.0	H	242.0	-2.5	14.2	54
5683.875000	42.5	100.0	V	252.0	1.0	11.5	54

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

802.11n (HT20) CH132

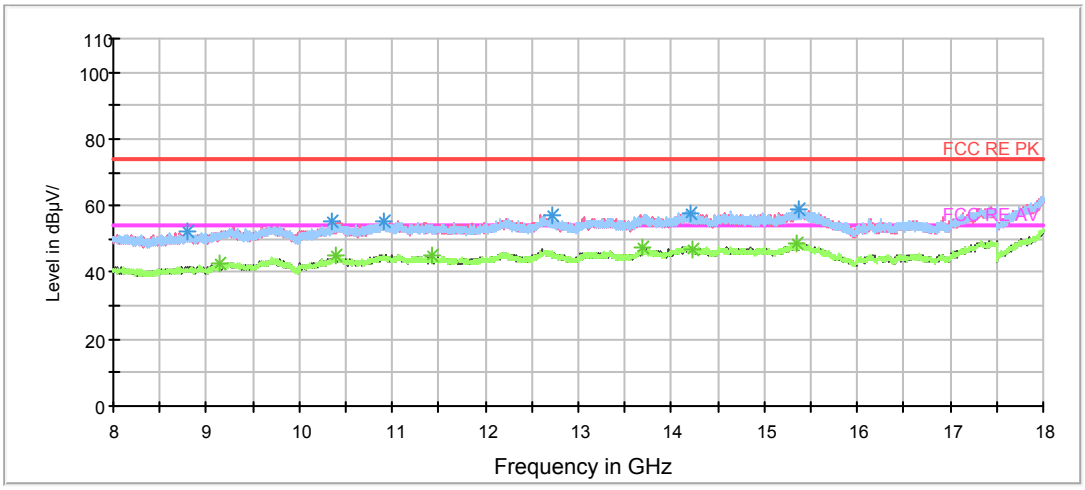
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1105.000000	41.8	200.0	H	296.0	-11.2	32.2	74
1126.875000	51.0	200.0	H	215.0	-11.1	23.0	74
1455.875000	48.1	100.0	V	228.0	-9.7	25.9	74
2668.625000	41.7	200.0	H	150.0	-4.0	32.3	74
3772.875000	45.7	200.0	V	114.0	-2.4	28.3	74
4069.500000	48.1	100.0	V	228.0	-1.8	25.9	74

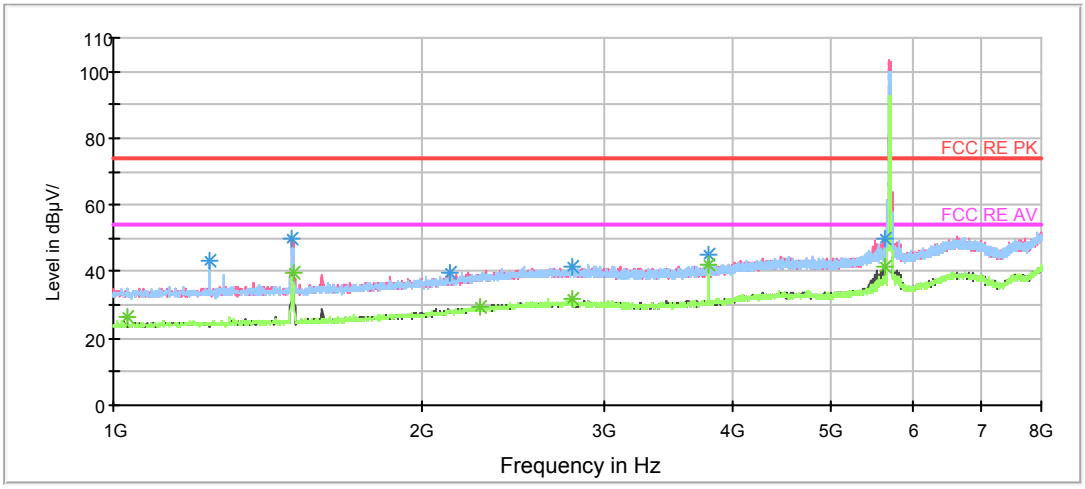
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1126.875000	26.4	200.0	H	215.0	-11.1	27.6	54
1453.250000	36.7	100.0	V	228.0	-9.8	17.3	54
1848.750000	26.8	100.0	V	0.0	-7.5	27.2	54
2277.500000	29.3	100.0	H	13.0	-5.1	24.7	54
2786.750000	31.2	100.0	V	334.0	-3.8	22.8	54
3772.875000	41.2	200.0	V	114.0	-2.4	12.8	54

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

802.11n (HT20) CH140

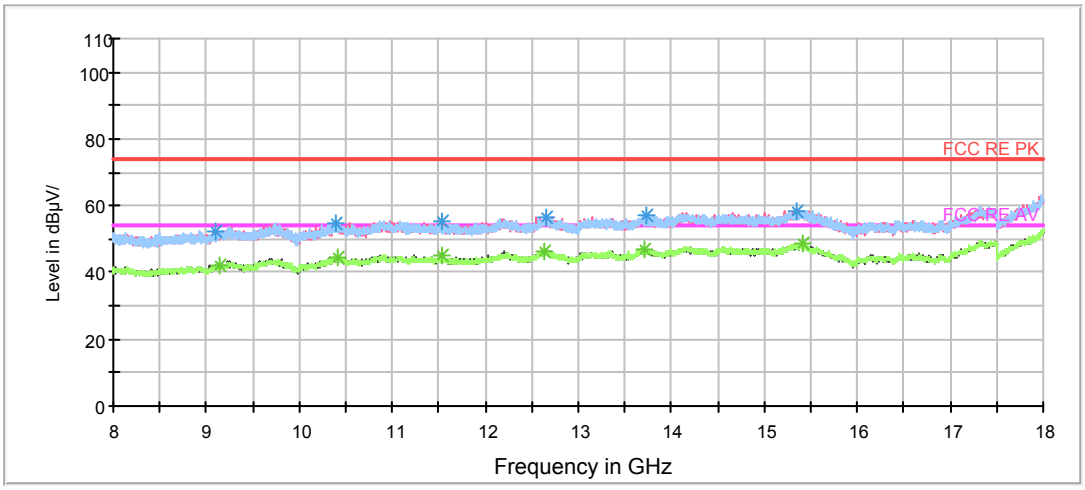
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1240.625000	43.3	200.0	H	309.0	-10.8	30.7	74
1492.625000	49.7	100.0	V	220.0	-9.6	24.3	74
2128.750000	39.7	200.0	V	22.0	-6.0	34.3	74
2802.500000	41.7	200.0	H	335.0	-3.8	32.3	74
3800.000000	45.0	200.0	V	113.0	-2.4	29.0	74
5632.250000	50.2	100.0	V	193.0	1.0	23.8	74

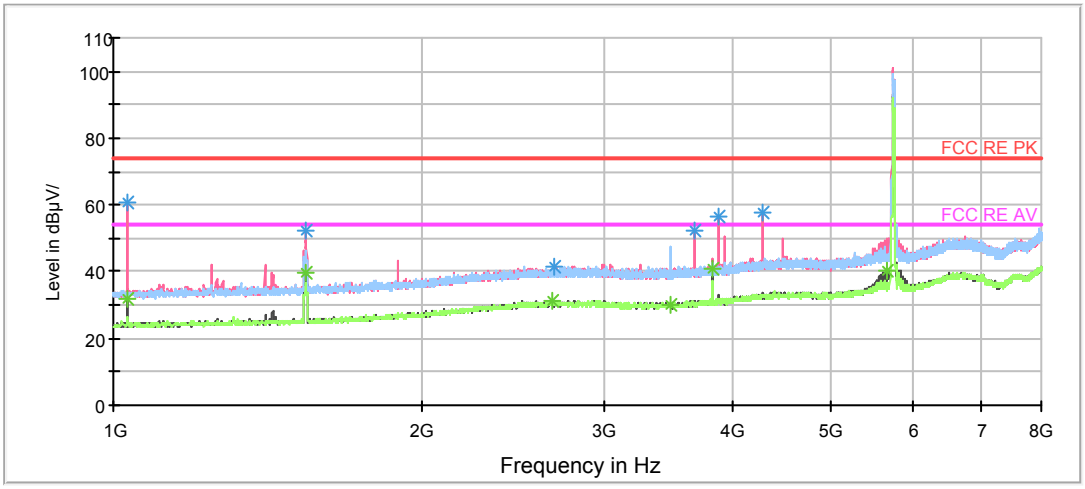
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1031.500000	26.7	200.0	H	201.0	-11.6	27.3	54
1497.000000	39.4	100.0	V	276.0	-9.5	14.6	54
2273.125000	29.5	100.0	H	10.0	-5.2	24.5	54
2793.750000	31.7	100.0	H	38.0	-3.8	22.3	54
3800.000000	42.2	200.0	V	113.0	-2.4	11.8	54
5634.875000	41.2	200.0	V	113.0	1.0	12.8	54

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

802.11n (HT20) CH149

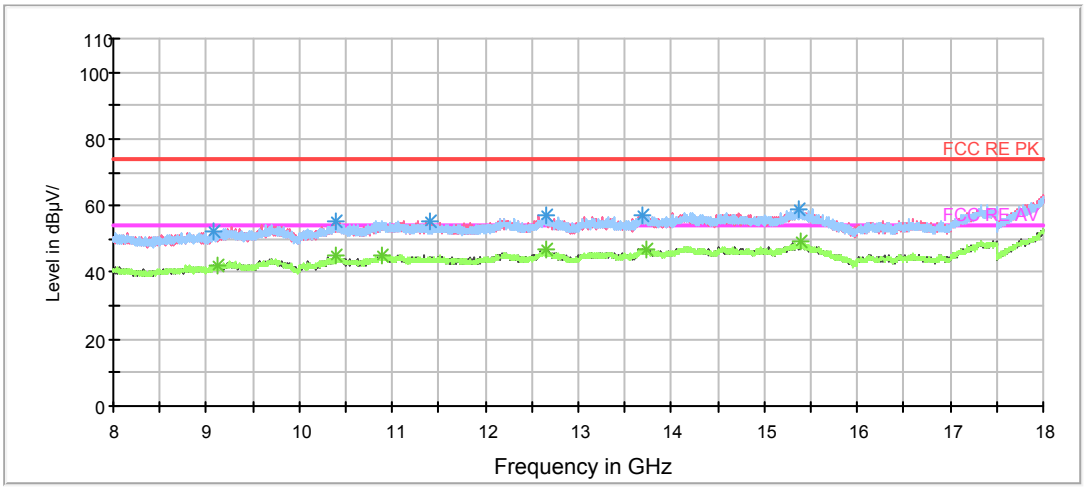
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1031.500000	60.6	100.0	V	176.0	-11.6	13.4	74
1538.125000	52.3	100.0	V	245.0	-9.3	21.7	74
2685.250000	41.6	100.0	V	204.0	-4.0	32.4	74
3685.375000	52.3	100.0	V	149.0	-2.5	21.7	74
3883.125000	56.8	100.0	V	149.0	-2.3	17.2	74
4283.875000	57.4	100.0	V	149.0	-1.3	16.6	74

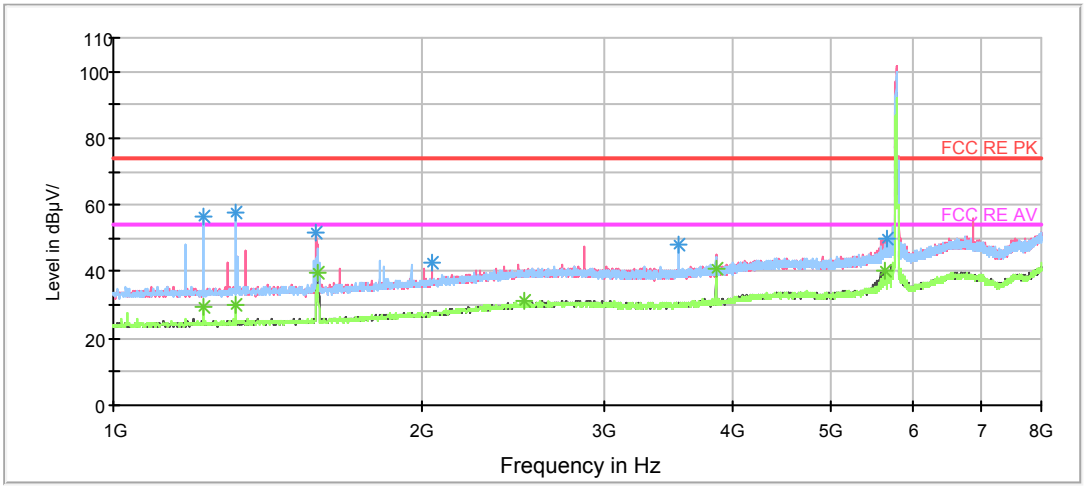
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1031.500000	31.7	100.0	V	176.0	-11.6	22.3	54
1539.000000	39.9	100.0	V	245.0	-9.3	14.1	54
2674.750000	31.1	100.0	H	0.0	-4.0	22.9	54
3478.000000	30.3	100.0	V	357.0	-3.0	23.7	54
3829.750000	41.0	200.0	V	114.0	-2.4	13.0	54
5652.375000	40.0	100.0	V	217.0	1.0	14.0	54

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

802.11n (HT20) CH157

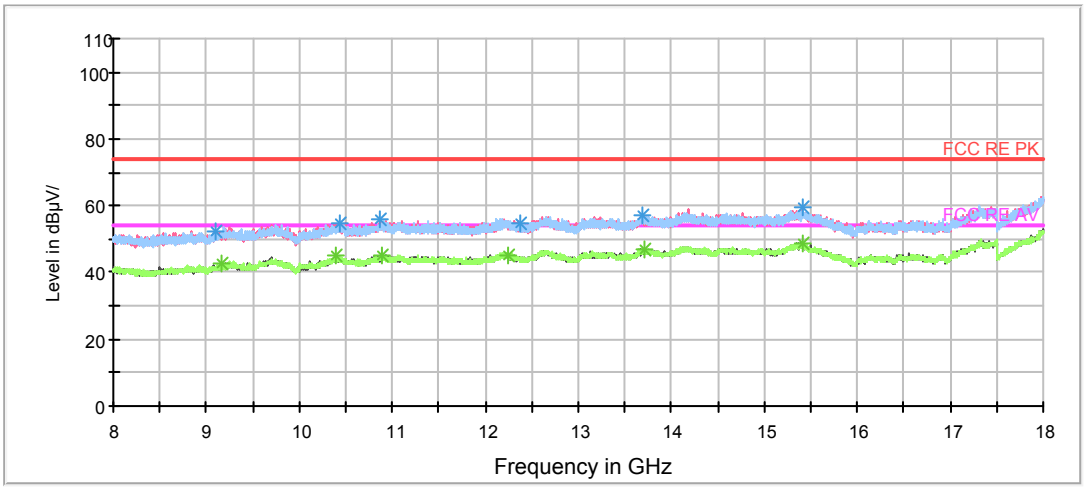
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1225.750000	56.5	200.0	H	178.0	-10.8	17.5	74
1314.125000	57.6	200.0	H	178.0	-10.4	16.4	74
1577.500000	51.5	100.0	V	263.0	-9.0	22.5	74
2040.375000	42.5	100.0	V	263.0	-6.6	31.5	74
3553.250000	47.9	200.0	H	208.0	-2.8	26.1	74
5654.125000	50.0	100.0	H	296.0	1.0	24.0	74

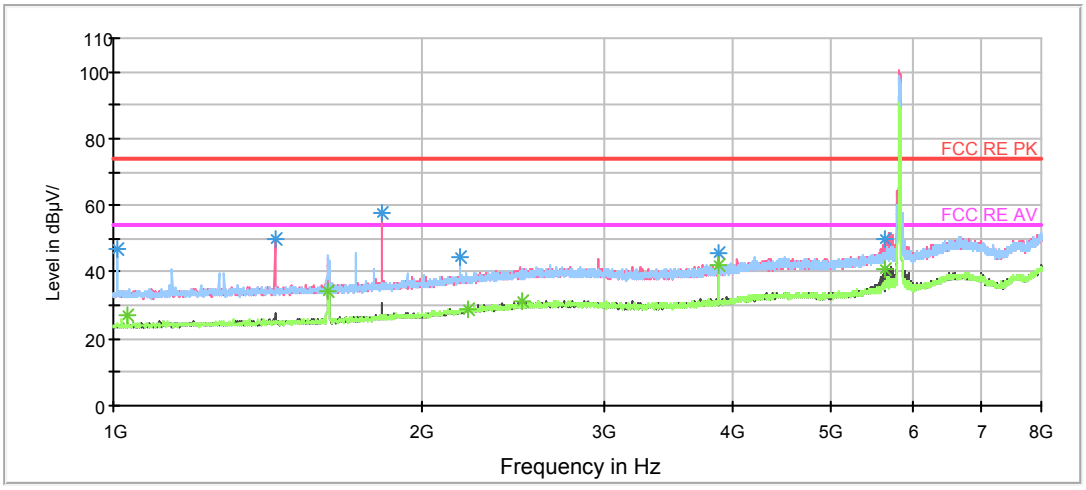
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1225.750000	29.5	200.0	H	178.0	-10.8	24.5	54
1314.125000	30.3	200.0	H	178.0	-10.4	23.7	54
1581.000000	39.4	100.0	V	263.0	-9.0	14.6	54
2512.000000	31.5	200.0	V	22.0	-4.3	22.5	54
3856.875000	40.6	200.0	V	112.0	-2.4	13.4	54
5630.500000	40.4	100.0	V	250.0	1.0	13.6	54

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

802.11n (HT20) CH165

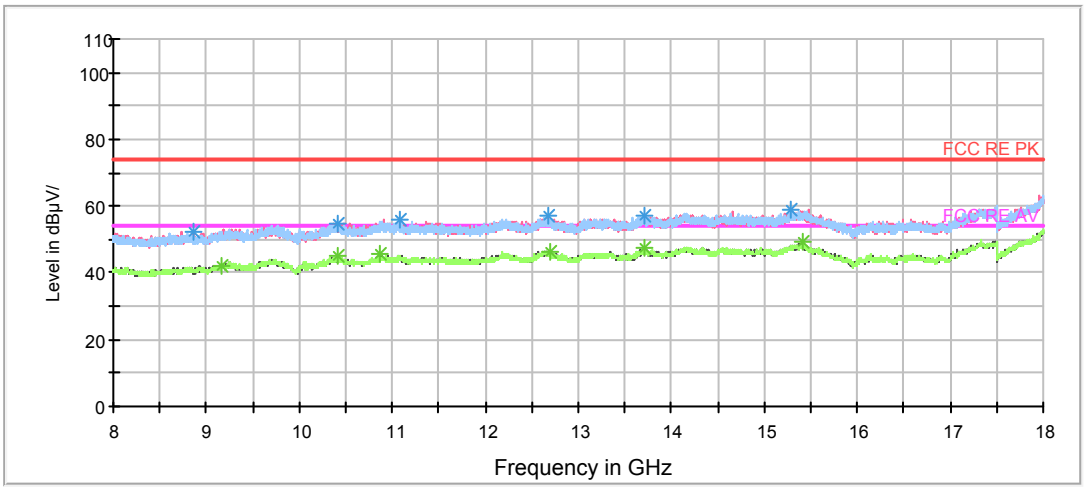
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1009.625000	46.6	200.0	H	202.0	-11.8	27.4	74
1435.750000	50.0	100.0	V	188.0	-9.8	24.0	74
1823.375000	57.7	100.0	V	160.0	-7.7	16.3	74
2174.250000	44.3	200.0	H	344.0	-5.8	29.7	74
3883.125000	45.4	200.0	V	111.0	-2.3	28.6	74
5640.125000	49.8	200.0	V	111.0	1.0	24.2	74

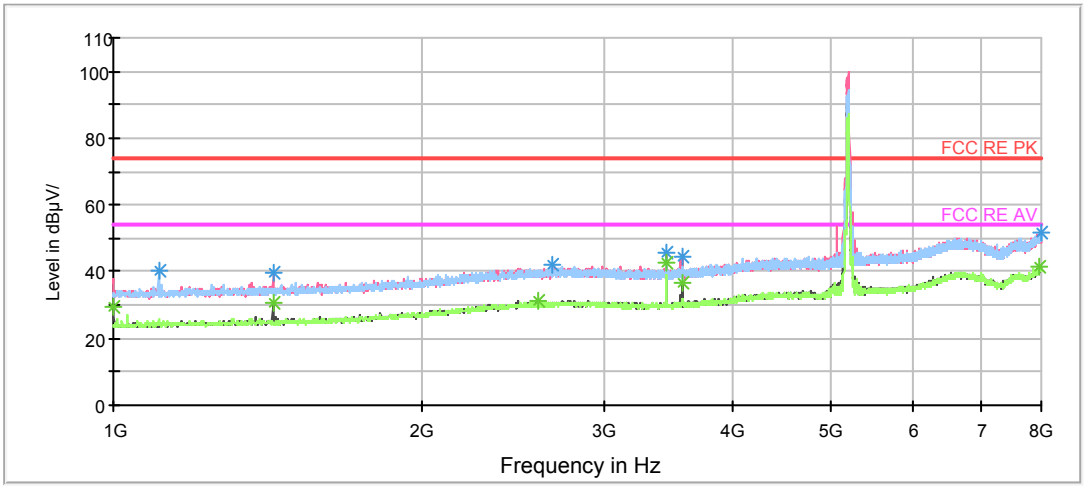
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1031.500000	27.0	200.0	H	202.0	-11.6	27.0	54
1620.375000	34.3	200.0	H	164.0	-8.8	19.7	54
2502.375000	31.5	200.0	V	2.0	-4.3	22.5	54
3883.125000	41.9	200.0	V	111.0	-2.3	12.1	54
5634.875000	40.9	200.0	V	111.0	1.0	13.1	54
2218.875000	29.0	100.0	V	336.0	-5.5	25.0	54

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

802.11n (HT40) CH38

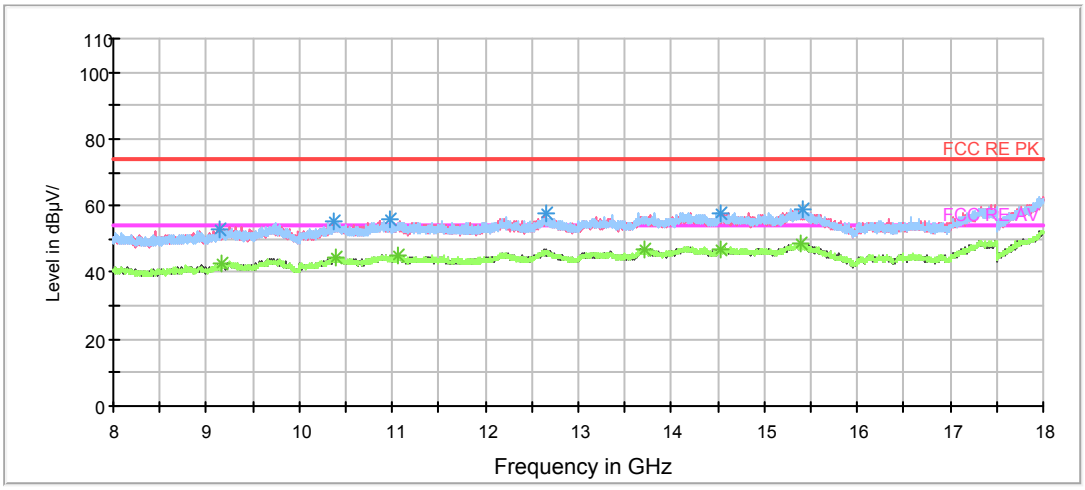
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1106.750000	40.1	100.0	H	59.0	-11.2	33.9	74
1430.500000	39.5	100.0	V	72.0	-9.9	34.5	74
2672.125000	41.8	200.0	H	340.0	-4.0	32.2	74
3459.625000	45.7	200.0	V	120.0	-3.0	28.3	74
3583.875000	44.8	200.0	V	106.0	-2.8	29.2	74
7999.125000	51.5	200.0	H	0.0	7.6	22.5	74

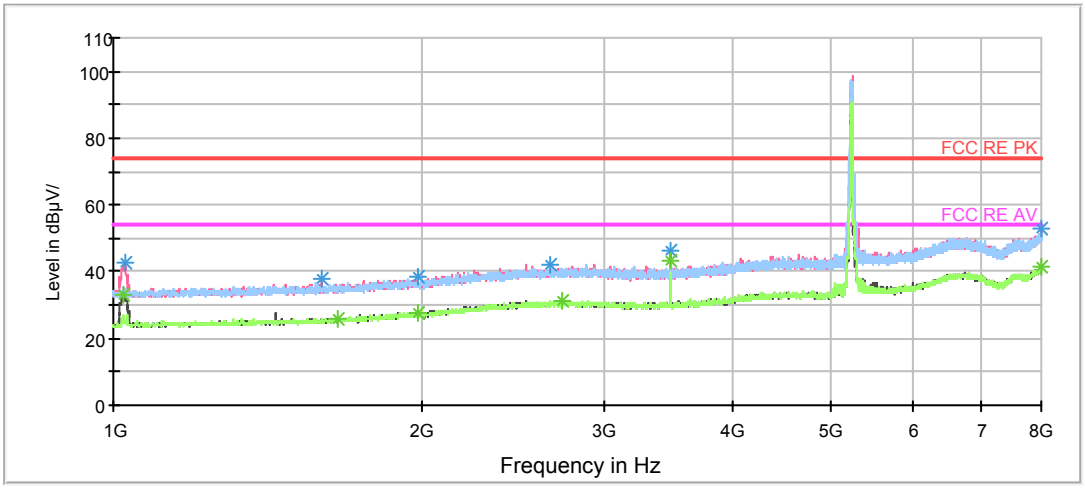
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1000.000000	29.7	200.0	V	120.0	-11.9	24.3	54
1429.625000	30.5	100.0	V	72.0	-9.9	23.5	54
2587.250000	31.1	100.0	V	282.0	-4.1	22.9	54
3459.625000	42.4	200.0	V	120.0	-3.0	11.6	54
3574.250000	36.4	200.0	V	106.0	-2.8	17.6	54
7973.750000	41.2	100.0	V	354.0	7.5	12.8	54

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

802.11n (HT40) CH46

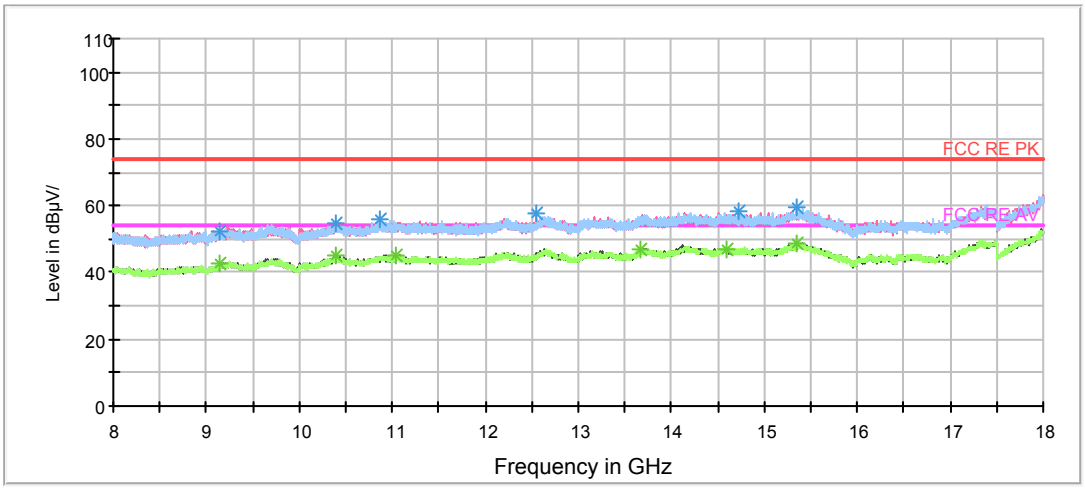
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1025.375000	42.5	100.0	V	36.0	-11.7	31.5	74
1595.000000	37.9	200.0	V	4.0	-9.0	36.1	74
1976.500000	38.5	200.0	H	0.0	-7.0	35.5	74
2658.125000	42.1	200.0	H	319.0	-4.0	31.9	74
3486.750000	46.4	200.0	V	121.0	-3.0	27.6	74
7995.625000	52.7	100.0	V	68.0	7.6	21.3	74

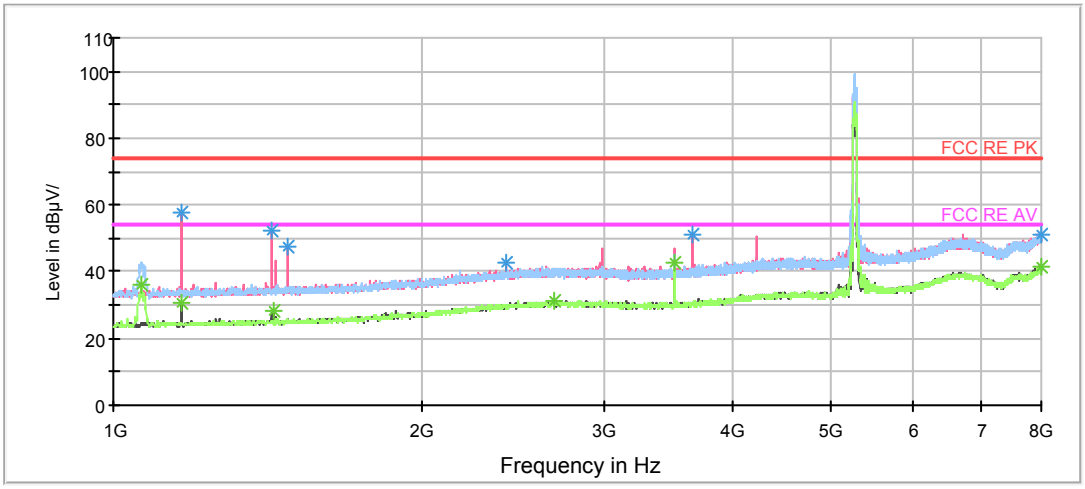
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1024.500000	33.2	100.0	V	182.0	-11.7	20.8	54
1657.125000	25.8	200.0	H	36.0	-8.6	28.2	54
1980.000000	27.9	100.0	H	18.0	-7.0	26.1	54
2738.625000	31.1	200.0	H	354.0	-3.9	22.9	54
3486.750000	43.2	200.0	V	121.0	-3.0	10.8	54
7989.500000	41.7	200.0	H	263.0	7.6	12.3	54

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

802.11n (HT40) CH54

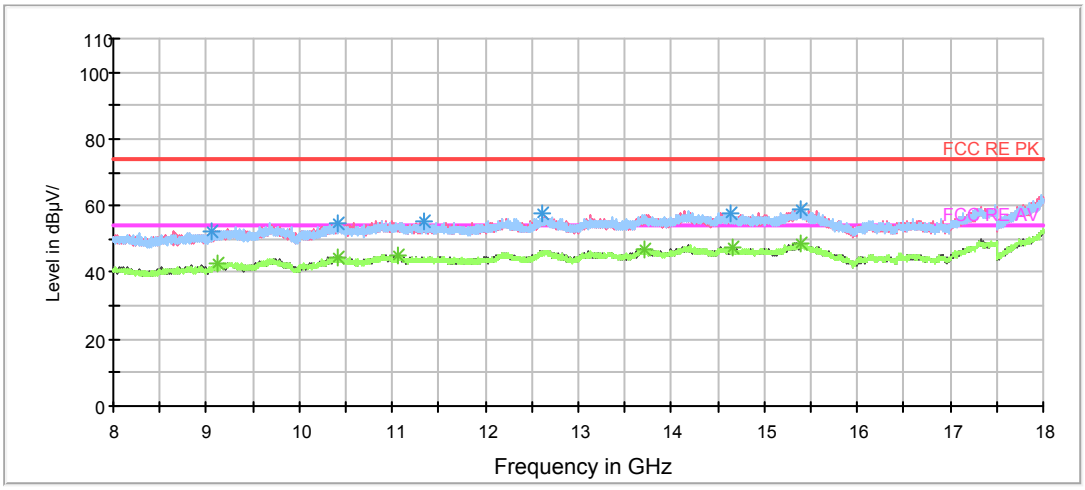
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1166.250000	57.5	100.0	V	142.0	-11.0	16.5	74
1425.250000	52.6	100.0	V	142.0	-9.9	21.4	74
1479.500000	47.7	100.0	V	142.0	-9.6	26.3	74
2413.125000	42.8	100.0	V	183.0	-4.6	31.2	74
3667.000000	51.4	100.0	V	197.0	-2.5	22.6	74
7999.125000	51.1	200.0	H	0.0	7.6	22.9	74

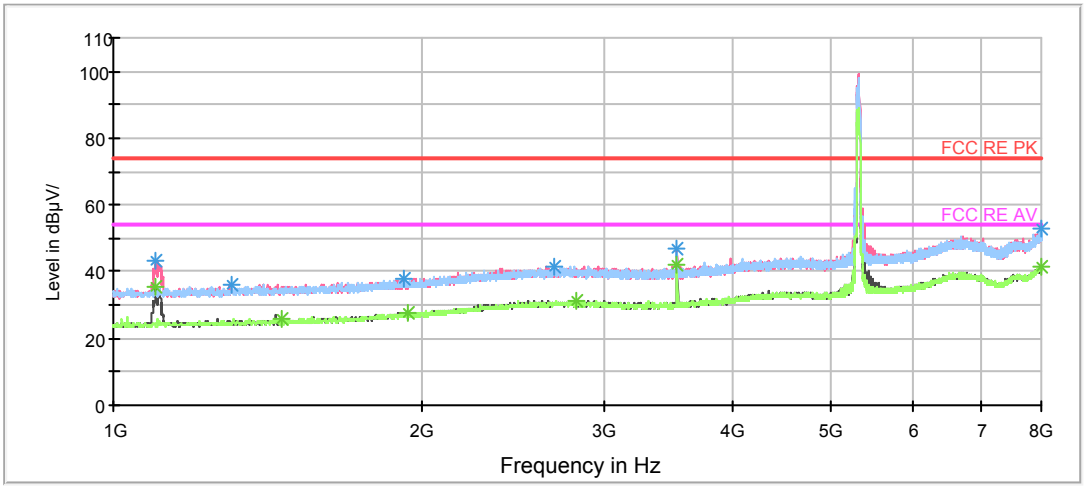
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1064.750000	36.3	100.0	H	314.0	-11.4	17.7	54
1166.250000	30.4	100.0	V	142.0	-11.0	23.6	54
1431.375000	28.4	100.0	V	10.0	-9.9	25.6	54
2684.375000	31.2	100.0	H	198.0	-4.0	22.8	54
3513.000000	43.0	200.0	V	116.0	-2.8	11.0	54
7996.500000	41.6	200.0	H	119.0	7.6	12.4	54

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

802.11n (HT40) CH62

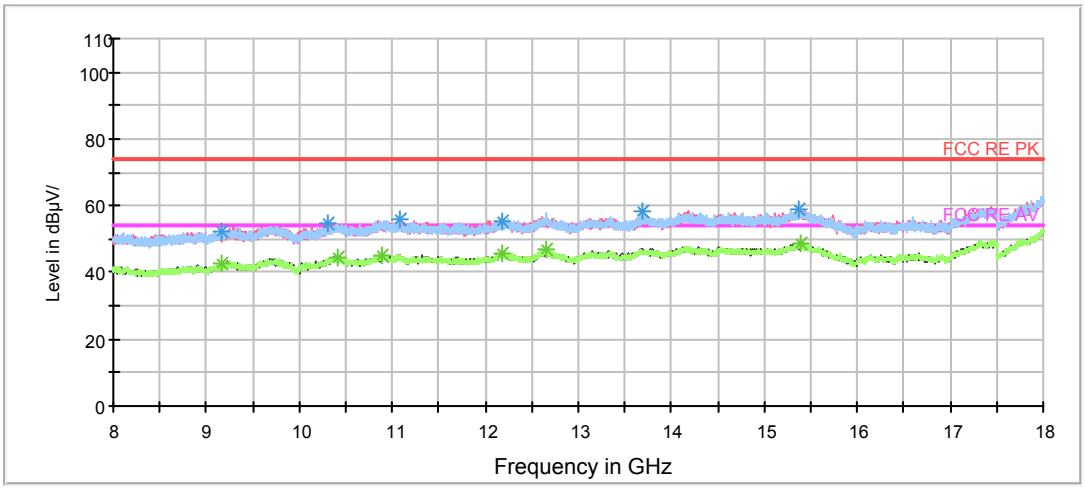
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1099.750000	43.5	200.0	V	341.0	-11.2	30.5	74
1301.000000	36.1	200.0	V	36.0	-10.5	37.9	74
1921.375000	38.2	200.0	H	333.0	-7.2	35.8	74
2687.000000	41.7	100.0	H	129.0	-4.0	32.3	74
3539.250000	46.7	200.0	V	117.0	-2.8	27.3	74
7982.500000	52.8	200.0	H	293.0	7.5	21.2	74

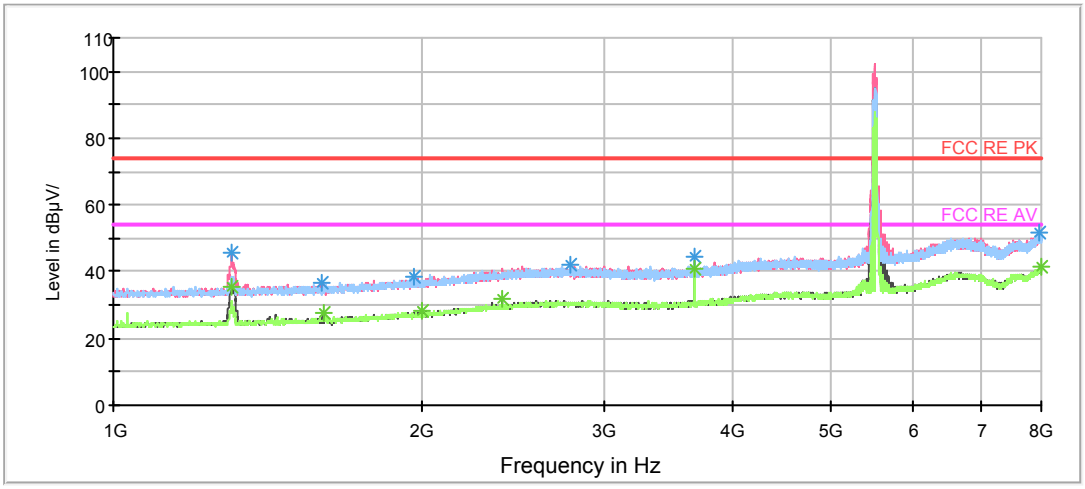
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1100.625000	35.4	200.0	V	341.0	-11.2	18.6	54
1458.500000	25.8	200.0	V	90.0	-9.7	28.2	54
1936.250000	27.8	200.0	H	358.0	-7.1	26.2	54
2821.750000	31.2	100.0	V	198.0	-3.7	22.8	54
3540.125000	42.2	200.0	V	117.0	-2.8	11.8	54
7996.500000	41.5	200.0	V	50.0	7.6	12.5	54

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

802.11n (HT40) CH102

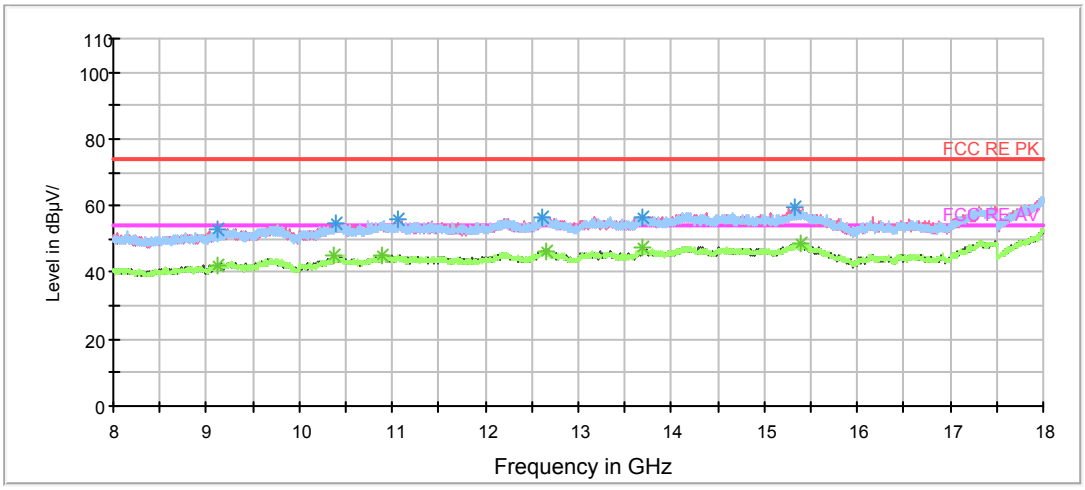
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1303.625000	45.4	100.0	V	226.0	-10.5	28.6	74
1593.250000	37.0	100.0	V	226.0	-9.0	37.0	74
1964.250000	38.4	100.0	V	171.0	-7.0	35.6	74
2785.875000	41.8	100.0	H	26.0	-3.8	32.2	74
3673.125000	44.3	100.0	H	245.0	-2.5	29.7	74
7970.250000	51.6	200.0	V	56.0	7.5	22.4	74

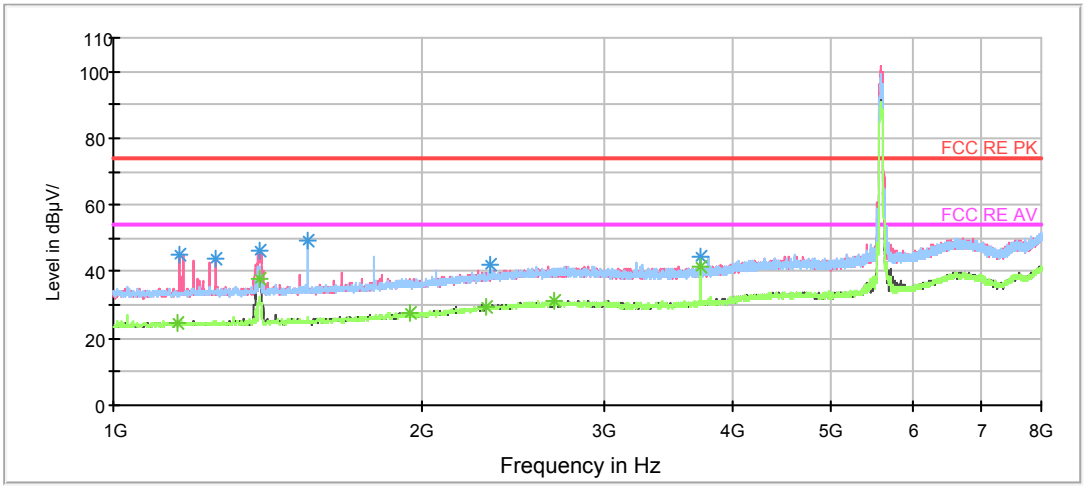
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1304.500000	35.7	100.0	V	226.0	-10.5	18.3	54
1599.375000	27.4	200.0	V	0.0	-8.9	26.6	54
1999.250000	28.0	200.0	H	76.0	-6.9	26.0	54
2389.500000	31.8	200.0	V	110.0	-4.6	22.2	54
3673.125000	41.0	100.0	H	245.0	-2.5	13.0	54
7999.125000	41.8	100.0	H	107.0	7.6	12.2	54

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

802.11n (HT40) CH118

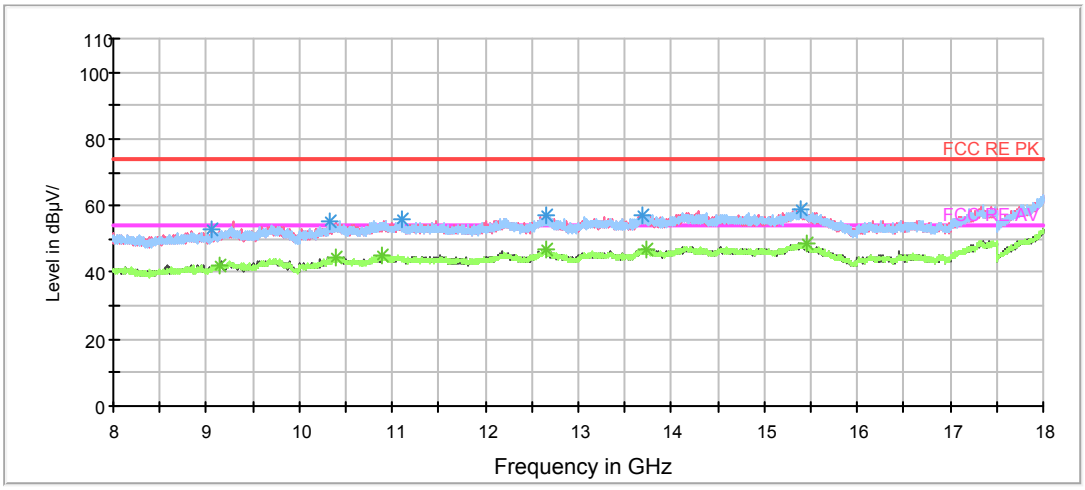
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1159.250000	44.9	100.0	V	358.0	-11.0	29.1	74
1258.125000	44.1	100.0	V	134.0	-10.7	29.9	74
1385.875000	46.4	100.0	V	343.0	-10.0	27.6	74
1546.875000	49.2	200.0	H	204.0	-9.2	24.8	74
2324.750000	42.1	200.0	H	204.0	-4.9	31.9	74
3726.500000	44.8	100.0	H	247.0	-2.5	29.2	74

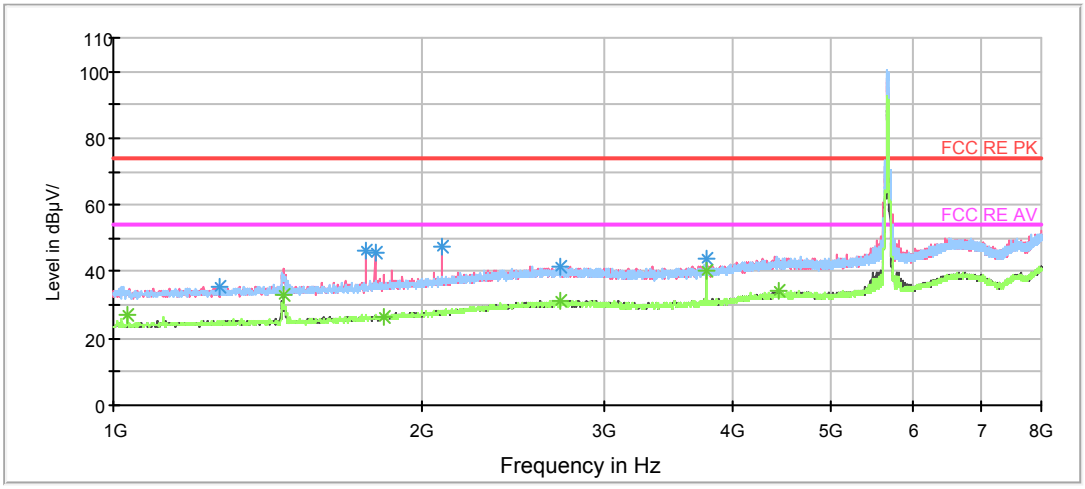
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1153.125000	24.6	200.0	V	4.0	-11.1	29.4	54
1385.875000	37.9	200.0	V	188.0	-10.0	16.1	54
1941.500000	27.8	100.0	V	45.0	-7.1	26.2	54
2304.625000	29.4	200.0	V	6.0	-5.0	24.6	54
2685.250000	31.3	200.0	V	270.0	-4.0	22.7	54
3726.500000	41.5	200.0	H	245.0	-2.5	12.5	54

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

802.11n (HT40) CH134

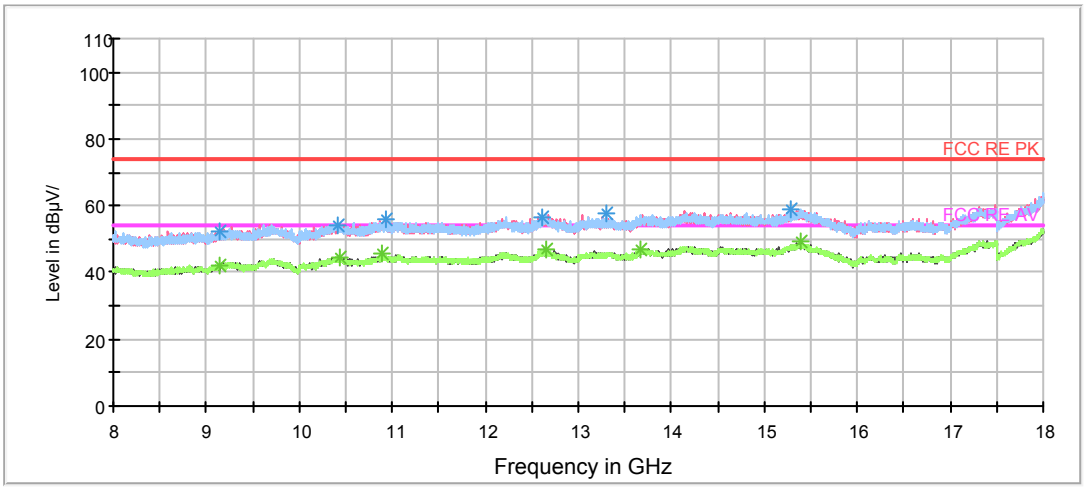
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1266.875000	35.7	100.0	H	314.0	-10.7	38.3	74
1759.500000	46.1	100.0	V	213.0	-8.0	27.9	74
1797.125000	45.8	100.0	V	213.0	-7.8	28.2	74
2090.250000	47.6	100.0	V	213.0	-6.3	26.4	74
2727.250000	41.8	100.0	V	0.0	-3.9	32.2	74
3779.875000	44.1	200.0	V	120.0	-2.4	29.9	74

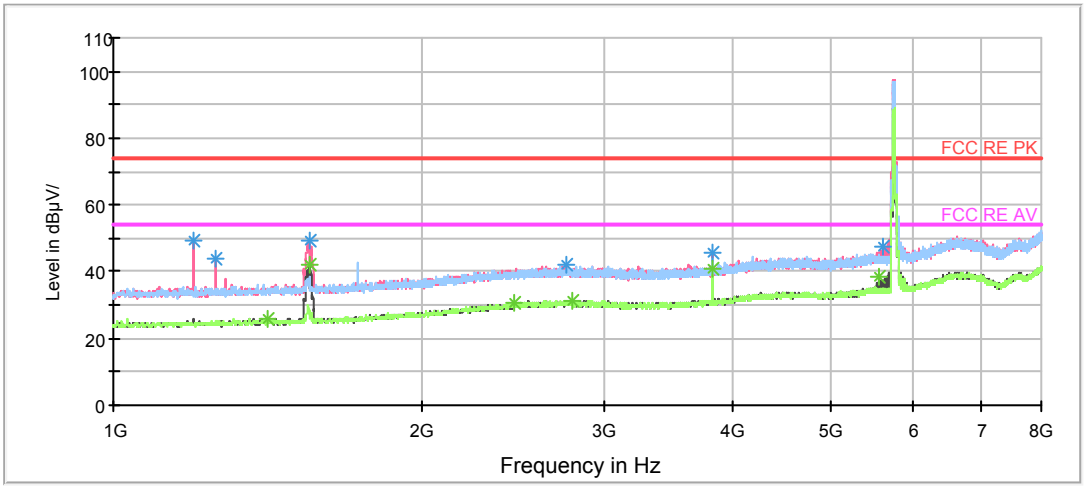
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1031.500000	27.3	200.0	H	229.0	-11.6	26.7	54
1464.625000	32.8	100.0	V	3.0	-9.7	21.2	54
1833.000000	26.6	200.0	V	0.0	-7.6	27.4	54
2728.125000	31.5	200.0	V	147.0	-3.9	22.5	54
3779.875000	40.6	200.0	V	120.0	-2.4	13.4	54
4446.625000	34.2	200.0	V	2.0	-0.9	19.8	54

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

802.11n (HT40) CH151

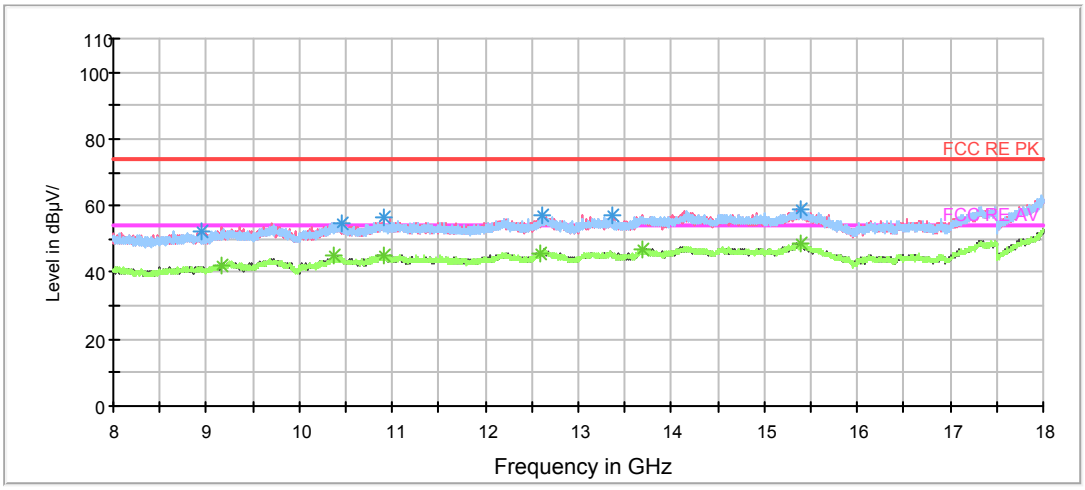
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1195.125000	49.2	100.0	V	240.0	-10.9	24.8	74
1256.375000	44.2	100.0	V	227.0	-10.7	29.8	74
1549.500000	49.1	200.0	V	114.0	-9.2	24.9	74
2758.750000	42.0	100.0	V	356.0	-3.8	32.0	74
3836.750000	45.4	200.0	V	114.0	-2.4	28.6	74
5619.125000	47.2	100.0	V	358.0	0.9	26.8	74

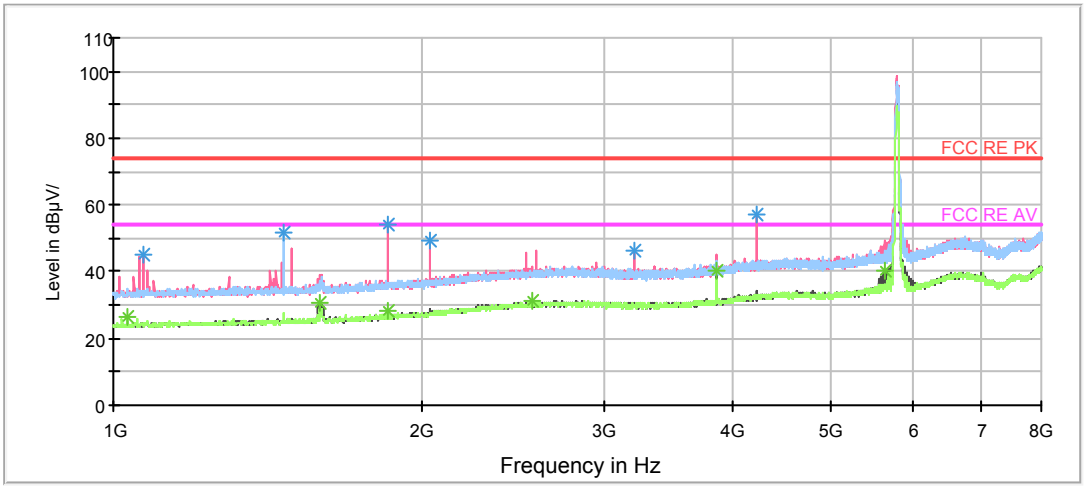
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1413.000000	25.9	100.0	V	356.0	-10.0	28.1	54
1549.500000	42.2	200.0	V	114.0	-9.2	11.8	54
2456.000000	30.5	200.0	V	14.0	-4.4	23.5	54
2796.375000	31.3	200.0	V	2.0	-3.8	22.7	54
3836.750000	41.1	200.0	V	114.0	-2.4	12.9	54
5563.125000	38.3	200.0	V	252.0	0.9	15.7	54

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

802.11n (HT40) CH159

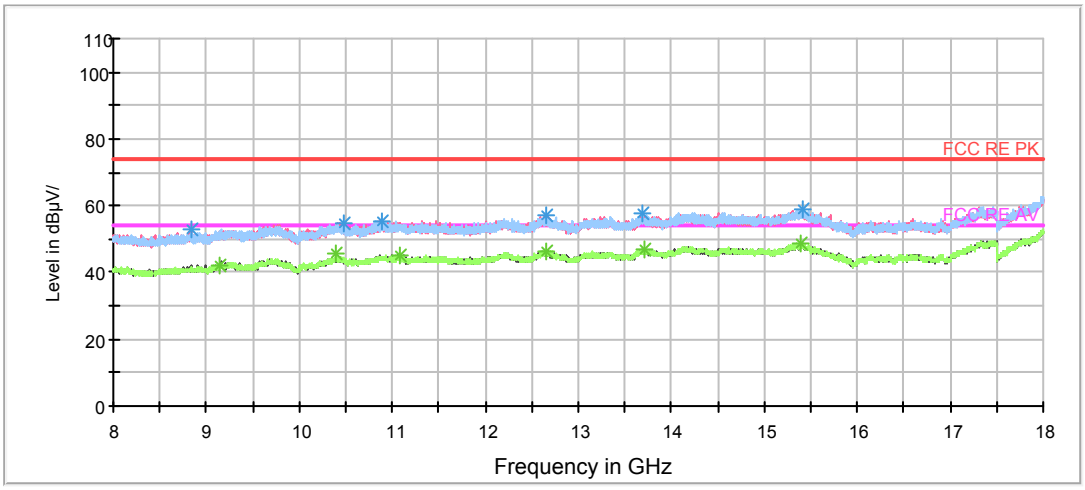
RE 1G-18GHz PK+AV Class B



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

RE 1G-18GHz PK+AV Class B



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1070.875000	45.1	100.0	V	218.0	-11.3	28.9	74
1467.250000	51.9	200.0	H	150.0	-9.7	22.1	74
1847.875000	53.8	100.0	V	218.0	-7.5	20.2	74
2034.250000	49.0	100.0	V	218.0	-6.7	25.0	74
3213.750000	46.2	100.0	V	218.0	-3.4	27.8	74
4220.875000	57.1	100.0	V	148.0	-1.5	16.9	74

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

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1031.500000	26.7	200.0	H	232.0	-11.6	27.3	54
1590.625000	30.7	100.0	V	357.0	-9.0	23.3	54
1847.875000	28.5	100.0	V	218.0	-7.5	25.5	54
2555.750000	31.3	100.0	V	357.0	-4.2	22.7	54
3863.000000	40.4	200.0	V	116.0	-2.4	13.6	54
5634.875000	40.4	100.0	V	258.0	1.0	13.6	54

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

5.6. Conducted Emission

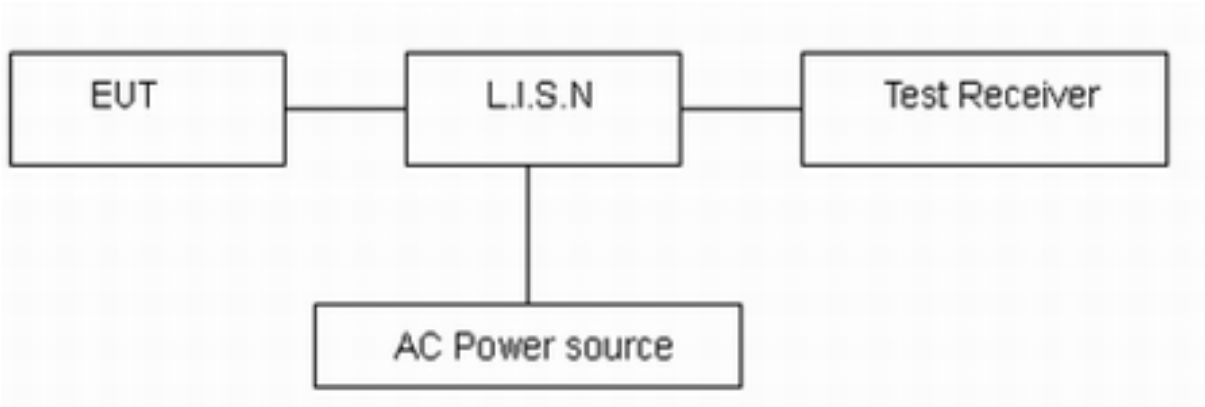
Ambient condition

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

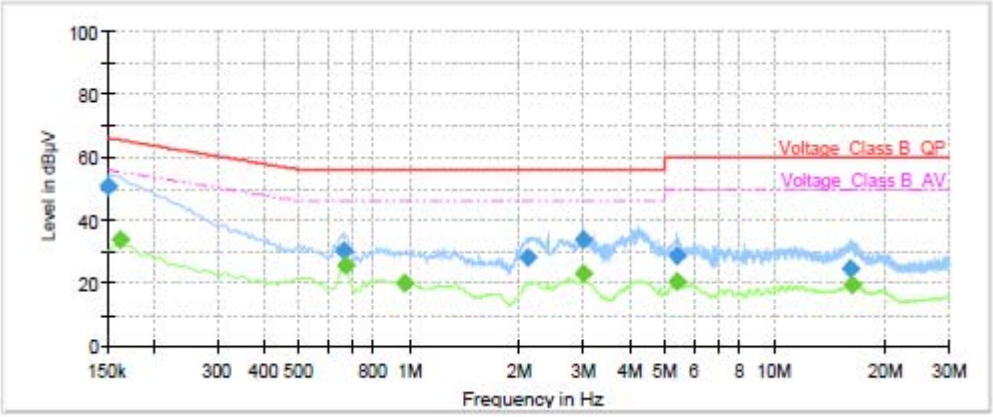
Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46*
0.5 - 5	56	46
5 - 30	60	50
*: Decreases with the logarithm of the frequency.		

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.

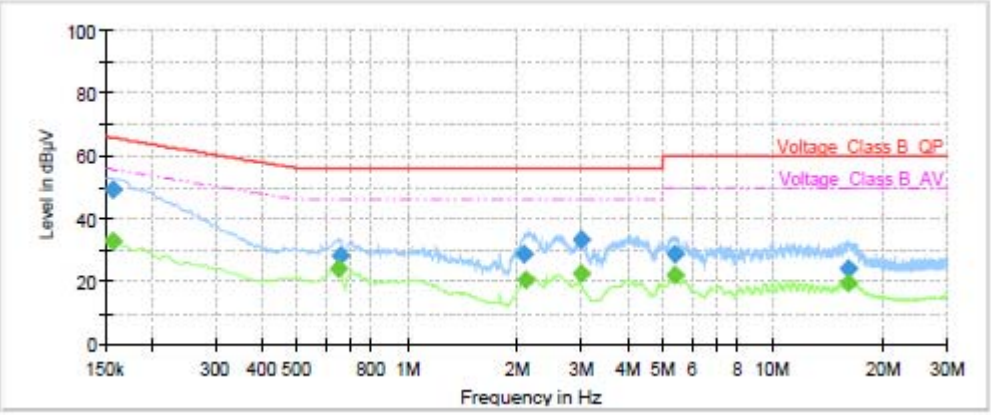
Test Results:

Following plots, Blue trace uses the peak detection and Green trace uses the average detection. During the test, the Conducted Emission was performed in all modes with all channels, 802.11a, Channel 149 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.15	50.67	---	66.00	15.33	1000.0	9.000	L1	ON	19.06
0.16	---	33.72	55.40	21.68	1000.0	9.000	L1	ON	19.13
0.66	30.47	---	56.00	25.53	1000.0	9.000	L1	ON	19.28
0.67	---	25.49	46.00	20.51	1000.0	9.000	L1	ON	19.28
0.97	---	19.99	46.00	26.01	1000.0	9.000	L1	ON	19.24
2.11	28.40	---	56.00	27.60	1000.0	9.000	L1	ON	19.08
2.99	33.99	---	56.00	22.01	1000.0	9.000	L1	ON	19.11
2.99	---	23.18	46.00	22.82	1000.0	9.000	L1	ON	19.11
5.39	28.66	---	60.00	31.34	1000.0	9.000	L1	ON	19.10
5.39	---	20.76	50.00	29.24	1000.0	9.000	L1	ON	19.10
16.11	24.65	---	60.00	35.35	1000.0	9.000	L1	ON	19.46
16.19	---	19.36	50.00	30.64	1000.0	9.000	L1	ON	19.47

L line Conducted Emission from 150 KHz to 30 MHz



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.16	---	32.80	55.63	22.83	1000.0	9.000	N	ON	19.11
0.16	49.34	---	65.63	16.29	1000.0	9.000	N	ON	19.11
0.65	---	24.27	46.00	21.73	1000.0	9.000	N	ON	19.28
0.66	28.29	---	56.00	27.71	1000.0	9.000	N	ON	19.28
2.09	28.48	---	56.00	27.52	1000.0	9.000	N	ON	19.09
2.11	---	20.69	46.00	25.31	1000.0	9.000	N	ON	19.08
2.99	33.21	---	56.00	22.79	1000.0	9.000	N	ON	19.11
2.99	---	22.51	46.00	23.49	1000.0	9.000	N	ON	19.11
5.38	28.48	---	60.00	31.52	1000.0	9.000	N	ON	19.10
5.39	---	21.80	50.00	28.20	1000.0	9.000	N	ON	19.10
16.11	24.19	---	60.00	35.81	1000.0	9.000	N	ON	19.41
16.15	---	19.59	50.00	30.41	1000.0	9.000	N	ON	19.41

N line Conducted Emission from 150 KHz to 30 MHz

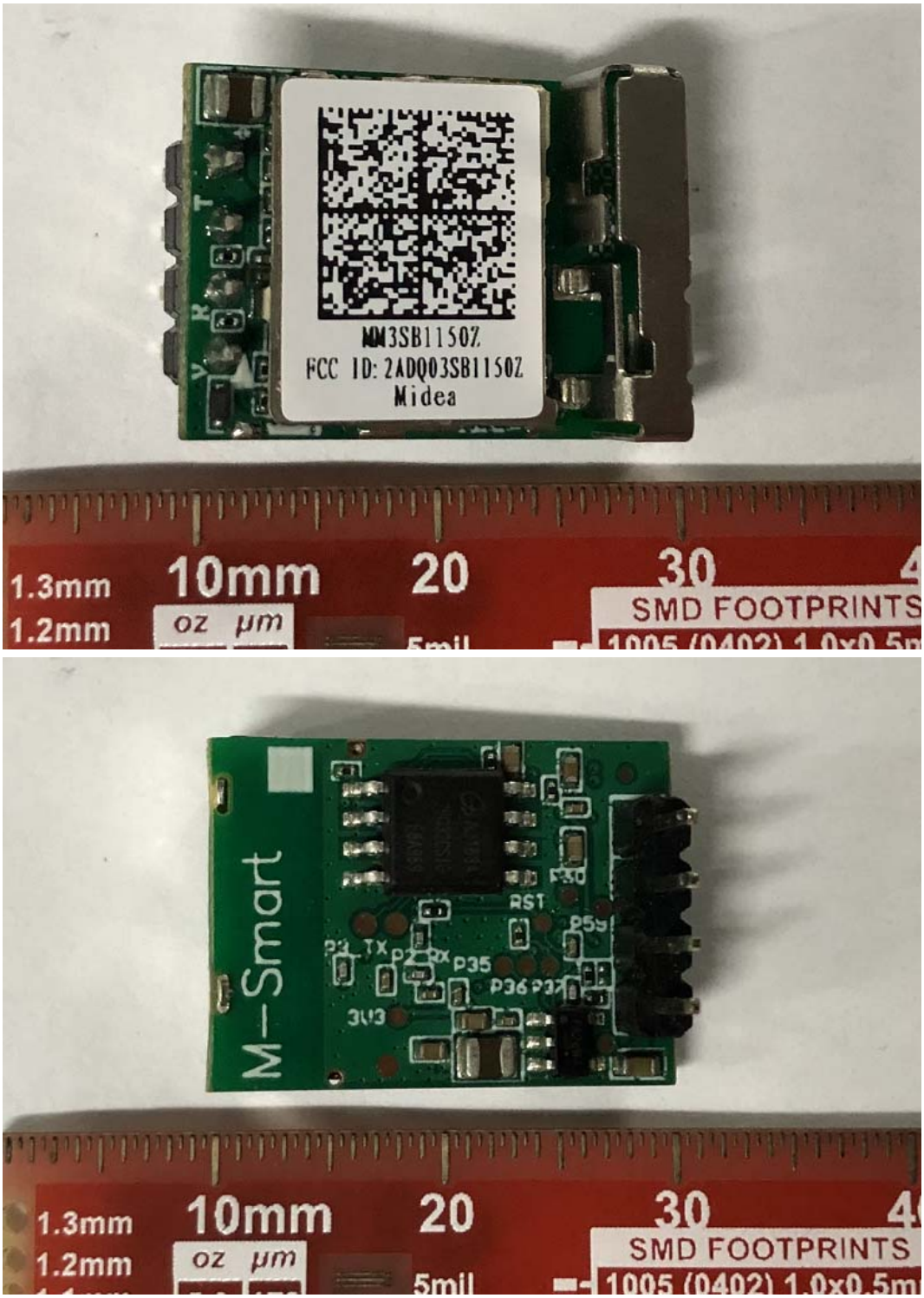
6. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Spectrum Analyzer	R&S	FSV40	15195-01-00	2018-05-20	2019-05-19
EMI Test Receiver	R&S	ESCI	100948	2018-05-20	2019-05-19
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2017-09-26	2019-09-25
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	9163-201	2017-11-18	2019-11-17
Double Ridged Waveguide Horn Antenna	R&S	HF907	100126	2018-07-07	2020-07-06
Standard Gain Horn	ETS-Lindgren	3160-09	00102643	2018-06-20	2020-06-19
Standard Gain Horn	STEATITE	QSH-SL-26-40 -K-15	16779	2017-07-20	2019-07-19
EMI Test Receiver	R&S	ESR	101667	2018-05-20	2019-05-19
LISN	R&S	ENV216	101171	2016-12-16	2019-12-15
Spectrum Analyzer	KEYSIGHT	N9020A	MY54420163	2018-12-16	2019-12-15
RF Cable	Agilent	SMA 15cm	0001	2018-12-16	2019-03-15
TEMPERATURE CHAMBER	WEISS	VT4002	582261194500 10	2018-12-16	2019-12-15
AV Power Meter	R&S	NRP	104306	2018-05-20	2019-05-19
Power Probe	R&S	NRP-Z21	104799	2018-05-20	2019-05-19
DC Power Supply	GWINSTEK	GPS-3030D	GEP882653	2018-05-20	2020-05-19
Software	R&S	EMC32	9.26.0	/	/

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

ANNEX A: EUT Appearance and Test Setup

A.1 EUT Appearance

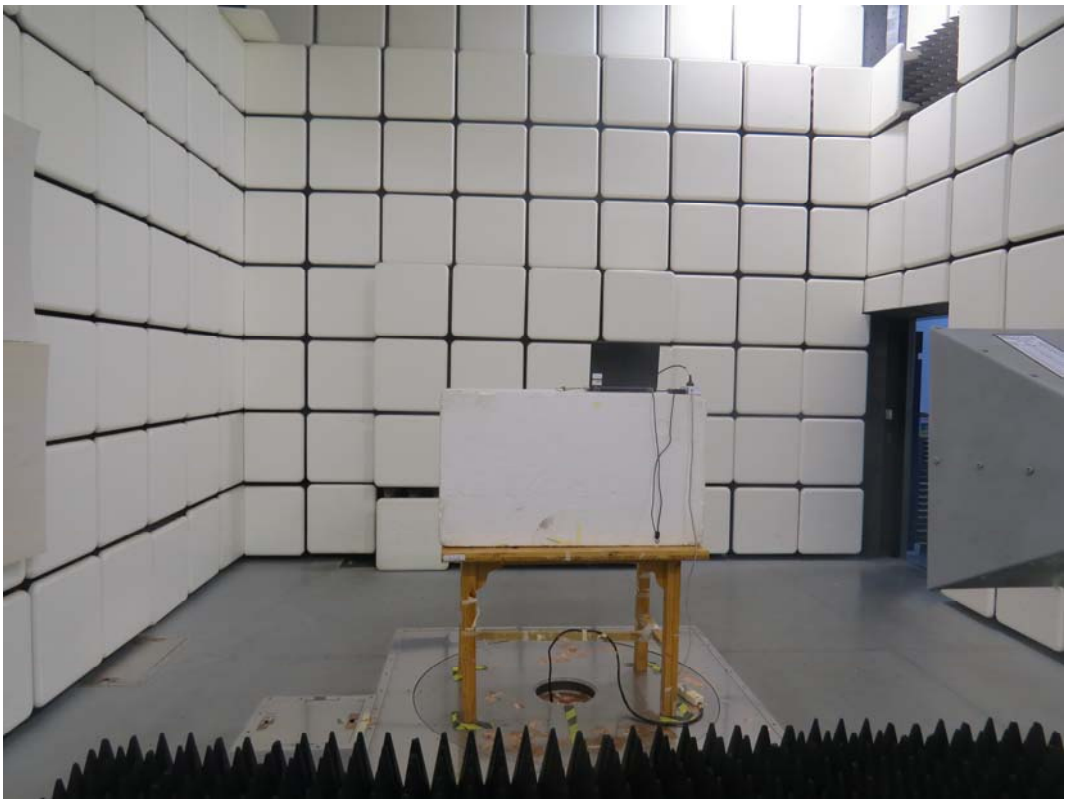


a: EUT

Picture 1 EUT

A.2 Test Setup

30MHz-1GHz



Above 1GHz

Picture 2 Radiated Emission Test Setup

Picture 3 Conducted Emission Test Setup