RF TEST REPORT

Applicant	Alliedstar Medical Equipment Co., Ltd.
FCC ID	2A8SG-AS200E
Product	Intraoral Scanner
Brand	AlliedStar
Model	AS 200E
Report No.	R2203A0251-R1V1
Issue Date	November 8, 2022

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15E (2021)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Prepared by: Xu Ying

Approved by: Xu Kai

TA Technology (Shanghai) Co., Ltd.

Building 3, No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China

TEL: +86-021-50791141/2/3

FAX: +86-021-50791141/2/3-8000

TABLE OF CONTENT

Version	Revision description	Issue Date
Rev.0	Initial issue of report.	October 13, 2022
Rev.1	Update FCC ID.	November 8, 2022
Note: This revised report (Report No. R2203A0251-R1V1) supersedes and replaces the previously issued report (Report No. R2203A0251-R1). Please discard or destroy the previously issued report and dispose of it accordingly.		

Summary of measurement results

Number	Test Case	Clause in FCC rules	Verdict
1	Average 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	NA
Date of Testing: (Conducted) January 11, 2022 and October 12, 2022 (Radiated) July 23, 2022~ July 28, 2022 Date of Sample Received: December 6, 2021			
Note: PASS: The EUT complies with the essential requirements in the standard. FAIL: The EUT does not comply with the essential requirements in the standard. All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

1. Test Laboratory

1.1. Notes of the test report

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

1.2. Test facility

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

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

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

2. General Description of Equipment under Test

2.1. Applicant and Manufacturer Information

Applicant	Alliedstar Medical Equipment Co., Ltd.
Applicant address	No.1-4, Floor 3, Unit 2, Building 3, No.222, West third section,Waihuan Road, Yanjiang District, Ziyang, 641300, Sichuan, P.R. China
Manufacturer	Alliedstar Medical Equipment Co., Ltd.
Manufacturer address	No.1-4, Floor 3, Unit 2, Building 3, No.222, West third section,Waihuan Road, Yanjiang District, Ziyang, 641300, Sichuan, P.R. China

2.2. General information

EUT Description	
Model	AS 200E
Lab Internal SN	R2203A0251/S01
Hardware Version	E
Software Version	1.0.22.1
Power Supply	Battery
Antenna Type	Internal Antenna
Antenna Gain	3.3 dBi
Operating Frequency Range(s)	U-NII-1: 5150MHz-5250MHz U-NII-3: 5725MHz -5850MHz
Modulation Type	802.11a/n (HT20/HT40) : OFDM 802.11ac (VHT20/VHT40/VHT80): OFDM
Max. Conducted Power	14.57 dBm
Testing temperature range:	-20 ° C to 50° C
Operating temperature range:	15 ° C to 30° C
Operating voltage range:	3.0 V to 4.2V
State DC voltage:	DC 3.6 V
EUT Accessory	
Battery	Manufacturer: SHENZHEN RYDER ELECTRONICS CO., LTD. Model: Li-18650-3.6V 3500mAh-PCM-Cap
Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant. 2. This device support automatically discontinue transmission, while the device is not transmitting any information, the device can automatically discontinue transmission and become standby mode for power saving. The device can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.	

3. Applied Standards

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

Test standards:

FCC CFR47 Part 15E (2021) Unlicensed National Information Infrastructure Devices

ANSI C63.10-2013

Reference standard:

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 stand-up 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.

Mode	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	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
		80 MHz	42	5210MHz
	U-NII-3	20 MHz	149	5745MHz
			153	5765MHz
			157	5785MHz
			161	5805MHz
			165	5825MHz
		40 MHz	151	5755MHz
			159	5795MHz
		80 MHz	155	5775MHz
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.

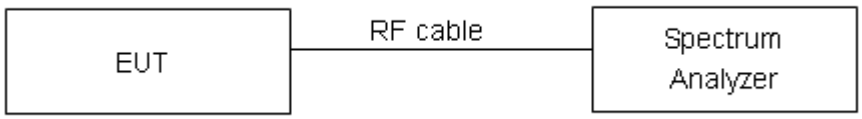
For U-NII-1/U-NII-2A/U-NII-2C, set RBW ≈1% OCB kHz, VBW ≥ 3 × RBW, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the 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

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	5180	17.658	21.020	PASS
	5200	16.423	20.270	PASS
	5240	16.409	20.410	PASS
802.11n HT20	5180	17.680	21.050	PASS
	5200	17.661	20.940	PASS
	5240	17.641	20.970	PASS
802.11n HT40	5190	36.190	38.990	PASS
	5230	36.114	36.114	PASS
802.11ac VHT20	5180	17.656	20.860	PASS
	5200	17.661	21.070	PASS
	5240	17.652	20.770	PASS
802.11ac VHT40	5190	36.214	39.460	PASS
	5230	36.164	39.140	PASS
802.11ac VHT80	5210	75.411	80.380	PASS

U-NII-3

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11a	5745	16.427	16.257	500	PASS
	5785	16.422	16.263	500	PASS
	5825	16.422	16.273	500	PASS
802.11n HT20	5745	17.647	17.545	500	PASS
	5785	17.707	17.689	500	PASS
	5825	17.657	17.536	500	PASS
802.11n HT40	5755	36.129	35.969	500	PASS
	5795	36.165	36.250	500	PASS
802.11ac VHT20	5745	17.646	17.615	500	PASS
	5785	17.660	17.576	500	PASS
	5825	17.658	17.536	500	PASS
802.11ac VHT40	5755	36.175	35.651	500	PASS
	5795	36.200	36.084	500	PASS
802.11ac VHT80	5775	75.434	75.100	500	PASS

U-NII-1, 802.11a

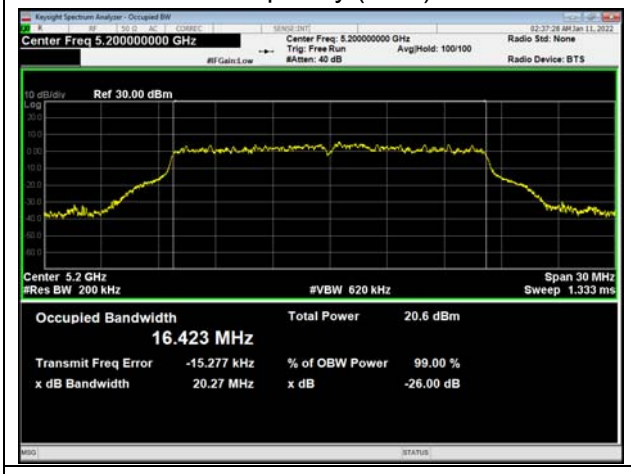
Carrier frequency (MHz): 5180

U-NII-1, 802.11n HT20

Carrier frequency (MHz): 5180

U-NII-1, 802.11a

Carrier frequency (MHz): 5200

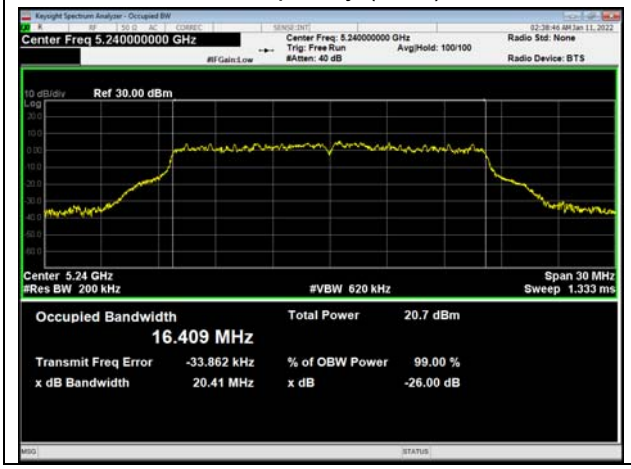


U-NII-1, 802.11n HT20

Carrier frequency (MHz): 5200

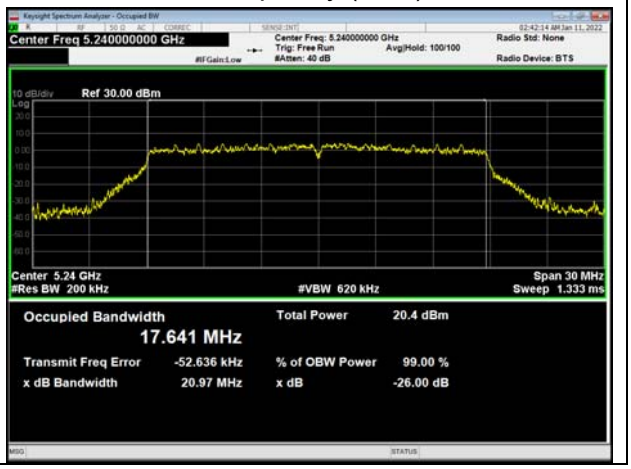
U-NII-1, 802.11a

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, 802.11ac VHT20

Carrier frequency (MHz): 5180

U-NII-1, 802.11n HT40

Carrier frequency (MHz): 5230

U-NII-1, 802.11ac VHT20

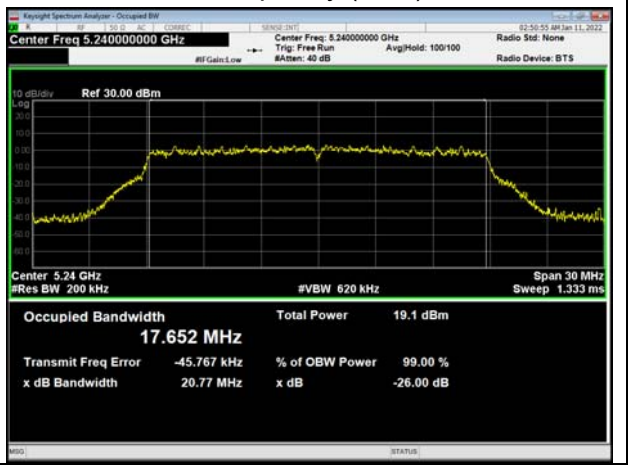
Carrier frequency (MHz): 5200

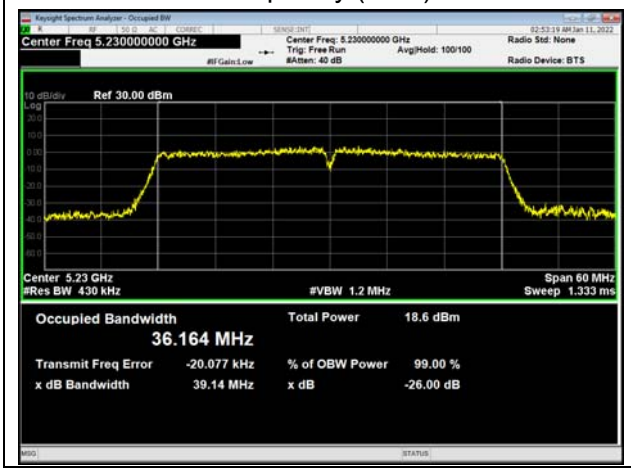
U-NII-1, 802.11ac VHT40

Carrier frequency (MHz): 5190

U-NII-1, 802.11ac VHT20

Carrier frequency (MHz):5240



U-NII-1, 802.11ac VHT40 Carrier frequency (MHz): 5230	U-NII-1, 802.11ac VHT80 Carrier frequency (MHz): 5210
	

99% bandwidth

U-NII-3, 802.11a

Carrier frequency (MHz): 5745

U-NII-3, 802.11n HT20

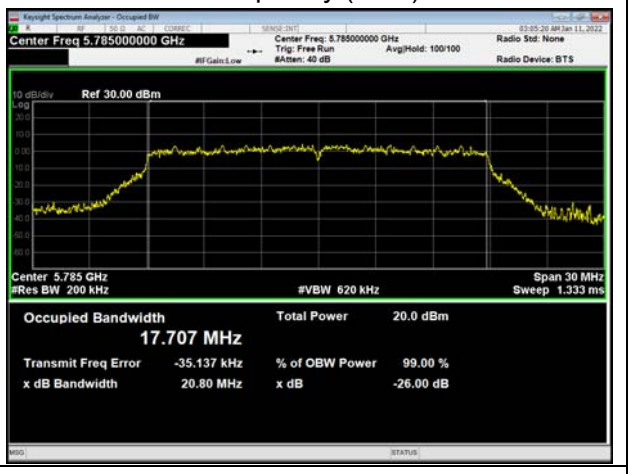
Carrier frequency (MHz): 5745

U-NII-3, 802.11a

Carrier frequency (MHz): 5785

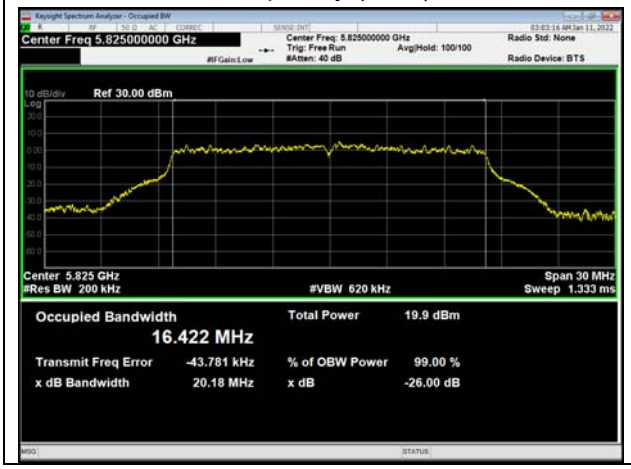
U-NII-3, 802.11n HT20

Carrier frequency (MHz): 5785



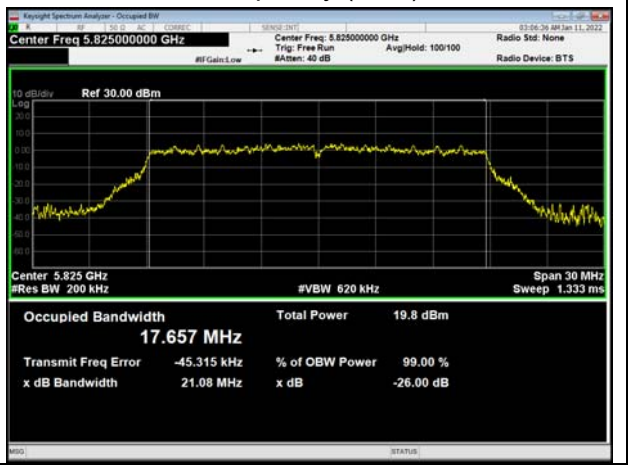
U-NII-3, 802.11a

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, 802.11ac VHT20

Carrier frequency (MHz): 5745

U-NII-3, 802.11n HT40

Carrier frequency (MHz): 5795

U-NII-3, 802.11ac VHT20

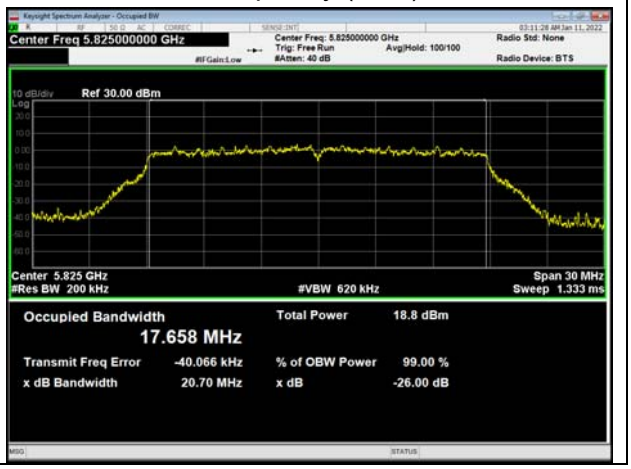
Carrier frequency (MHz): 5785

U-NII-3, 802.11ac VHT40

Carrier frequency (MHz): 5755

U-NII-3, 802.11ac VHT20

Carrier frequency (MHz): 5825

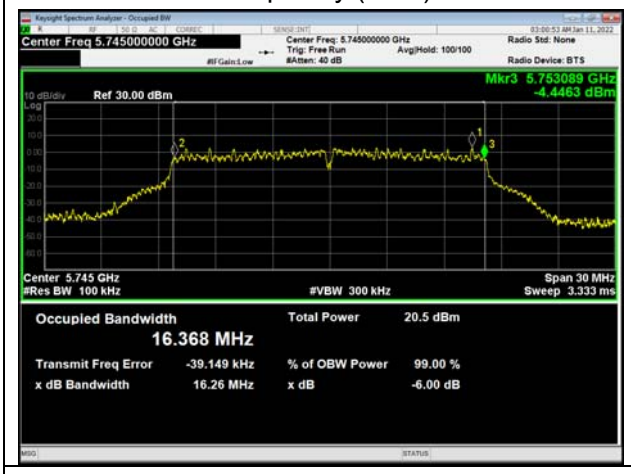


U-NII-3, 802.11ac VHT40 Carrier frequency (MHz): 5795	U-NII-3, 802.11ac VHT80 Carrier frequency (MHz): 5775
	

Minimum 6 dB bandwidth

U-NII-3, 802.11a

Carrier frequency (MHz): 5745

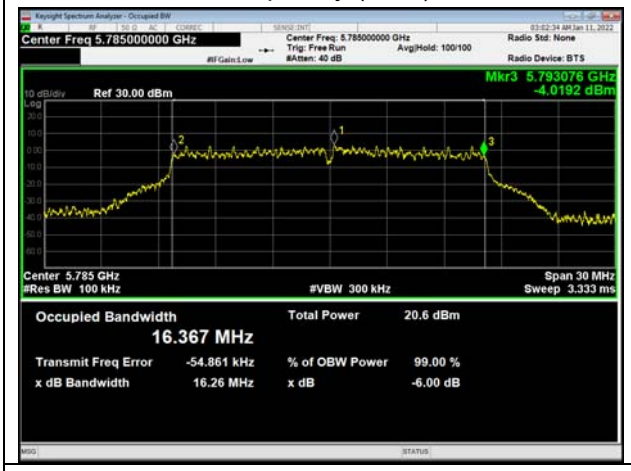


U-NII-3, 802.11n HT20

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, 802.11ac VHT20

Carrier frequency (MHz): 5745

U-NII-3, 802.11n HT40

Carrier frequency (MHz): 5795

U-NII-3, 802.11ac VHT20

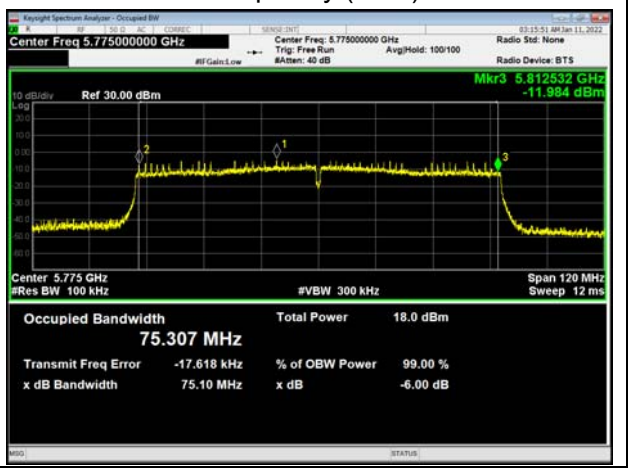
Carrier frequency (MHz): 5785

U-NII-3, 802.11ac VHT40

Carrier frequency (MHz): 5755

U-NII-3, 802.11ac VHT20

Carrier frequency (MHz): 5825

U-NII-3, 802.11ac VHT40 Carrier frequency (MHz): 5795	U-NII-3, 802.11ac VHT80 Carrier frequency (MHz): 5775
	

5.2. Average Power Output

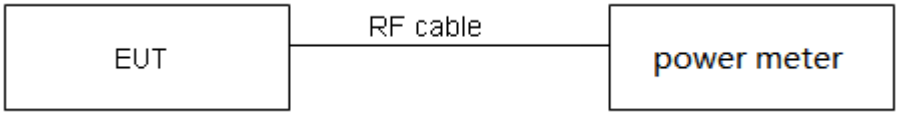
Ambient condition

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

Mode	T_{on} (ms)	$T_{(on+off)}$ (ms)	Duty cycle	Duty cycle correction Factor(dB)
802.11a	0.248	0.270	0.919	0.369
802.11n HT20	0.168	0.220	0.764	1.171
802.11n HT40	0.128	0.230	0.557	2.545
802.11ac VHT20	0.200	0.302	0.662	1.790
802.11ac VHT40	0.200	0.300	0.667	1.761
802.11ac VHT80	0.460	0.562	0.819	0.870
Note: when Duty cycle≥0.98, Duty cycle correction Factor not required.				

U-NII-1

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	36/5180	11.15	11.52	24	PASS
	40/5200	14.17	14.54	24	PASS
	48/5240	14.20	14.57	24	PASS
802.11n HT20	36/5180	12.60	13.77	24	PASS
	40/5200	13.08	14.25	24	PASS
	48/5240	13.09	14.26	24	PASS
802.11n HT40	38/5190	10.17	12.72	24	PASS
	46/5230	10.27	12.82	24	PASS
802.11ac VHT20	36/5180	11.19	12.98	24	PASS
	40/5200	11.61	13.40	24	PASS
	48/5240	11.36	13.15	24	PASS
802.11ac VHT40	38/5190	9.94	11.70	24	PASS
	46/5230	10.07	11.83	24	PASS
802.11ac VHT80	42/5210	10.98	11.85	24	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

U-NII-3

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	149/5745	13.80	14.17	30	PASS
	157/5785	13.86	14.23	30	PASS
	165/5825	13.57	13.94	30	PASS
802.11n HT20	149/5745	12.87	14.04	30	PASS
	157/5785	12.71	13.88	30	PASS
	165/5825	12.39	13.56	30	PASS
802.11n HT40	151/5755	10.15	12.70	30	PASS
	159/5795	10.03	12.58	30	PASS
802.11ac VHT20	149/5745	11.21	13.00	30	PASS
	157/5785	11.11	12.90	30	PASS
	165/5825	10.95	12.74	30	PASS
802.11ac VHT40	151/5755	10.03	11.79	30	PASS
	159/5795	9.68	11.44	30	PASS
802.11ac VHT80	155/5775	10.51	11.38	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
3.6	-20	5199.982000	5200.006000	5200.010000	5199.994000
3.6	-10	5200.008000	5199.956000	5200.005000	5199.992000
3.6	0	5200.012000	5199.988000	5199.976000	5199.966000
3.6	10	5200.000000	5199.988000	5199.976000	5199.946000
3.6	20	5199.978000	5199.962000	5199.976000	5199.954000
3.6	30	5199.976000	5199.968000	5199.968000	5199.940000
3.6	40	5199.964000	5199.934000	5199.962000	5199.960000
3.6	50	5199.948000	5199.936000	5199.946000	5199.986000
3	20	5199.940000	5199.938000	5199.954000	5199.934000
4.2	20	5199.941000	5200.008000	5199.946000	5199.982000
Max. ΔMHz		-0.060000	-0.066000	-0.054000	-0.066000
PPM		-11.538462	-12.692308	-10.384615	-12.692308

Voltage (V)	Temperature (°C)	U-NII-3 Test Results			
		5785MHz			
		1min	2min	5min	10min
3.6	-20	5784.980000	5784.968000	5785.002000	5784.996000
3.6	-10	5784.981000	5784.956000	5785.001000	5784.992000
3.6	0	5784.988000	5784.974000	5784.990000	5784.994000
3.6	10	5784.966000	5784.944000	5784.978000	5784.952000
3.6	20	5784.956000	5784.968000	5784.968000	5784.966000
3.6	30	5784.946000	5784.936000	5784.956000	5784.960000
3.6	40	5784.948000	5784.992000	5784.934000	5784.948000
3.6	50	5784.968000	5784.938000	5784.934000	5784.934000
3	20	5784.990000	5784.982000	5784.942000	5784.938000
4.2	20	5784.960000	5784.958000	5784.918000	5784.914000
Max. ΔMHz		-0.054000	-0.064000	-0.082000	-0.086000
PPM		-9.334486	-11.063094	-14.174589	-14.866033

5.4. Power Spectral Density

Ambient condition

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

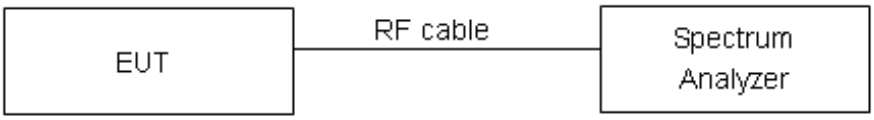
Method of Measurement

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

Set RBW = 1MHz, VBW =3MHz for the band 5.150-5.250GHz.
Set RBW = 470kHz, VBW =1.5MHz for the band 5.725-5.850GHz

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

Test setup



Limits

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

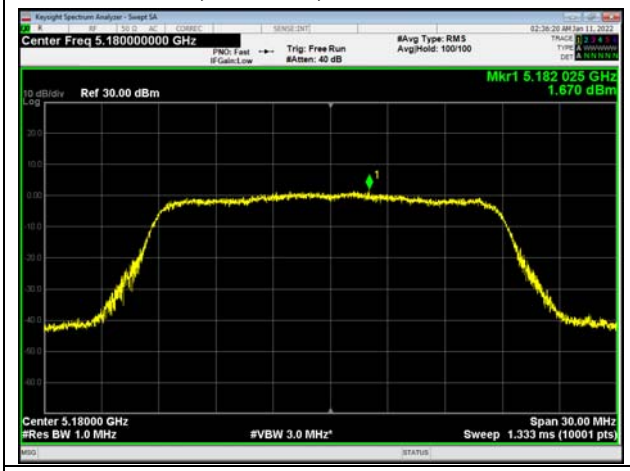
U-NII-1

Mode	Channel Number	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	36	1.67	2.04	11	PASS
	40	4.98	5.35	11	PASS
	48	4.66	5.03	11	PASS
802.11n HT20	36	2.87	4.04	11	PASS
	40	3.64	4.81	11	PASS
	48	3.33	4.50	11	PASS
802.11n HT40	38	-2.39	0.16	11	PASS
	46	-2.10	0.45	11	PASS
802.11ac VHT20	36	2.04	3.83	11	PASS
	40	1.98	3.77	11	PASS
	48	1.70	3.49	11	PASS
802.11ac VHT40	38	-2.73	-0.97	11	PASS
	46	-1.76	0.00	11	PASS
802.11ac VHT80	42	-4.36	-3.49	11	PASS

U-NII-3

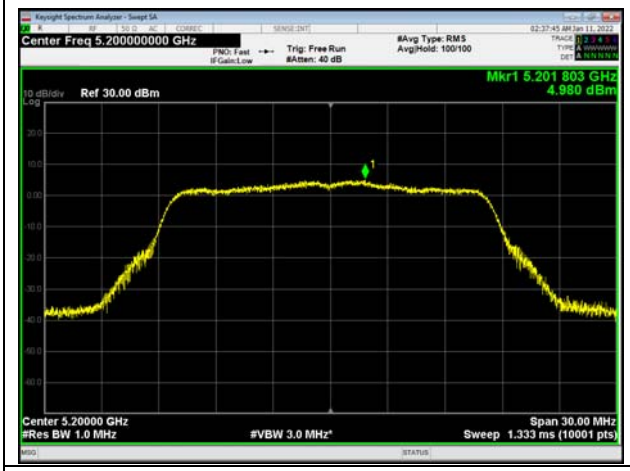
Mode	Channel Number	Read Value (dBm/470kHz)	Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)	Conclusion
802.11a	149	1.38	2.02	30	PASS
	157	1.07	1.71	30	PASS
	165	1.21	1.85	30	PASS
802.11n HT20	149	0.33	1.77	30	PASS
	157	0.30	1.74	30	PASS
	165	0.10	1.54	30	PASS
802.11n HT40	151	-5.78	-2.96	30	PASS
	159	-5.67	-2.85	30	PASS
802.11ac VHT20	149	-1.41	0.65	30	PASS
	157	-1.77	0.29	30	PASS
	165	-1.55	0.51	30	PASS
802.11ac VHT40	151	-5.46	-3.43	30	PASS
	159	-5.25	-3.22	30	PASS
802.11ac VHT80	155	-8.80	-7.66	30	PASS
Note: PSD=Read Value+ Duty cycle correction factor +10*LOG(500/470) correction factor					

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

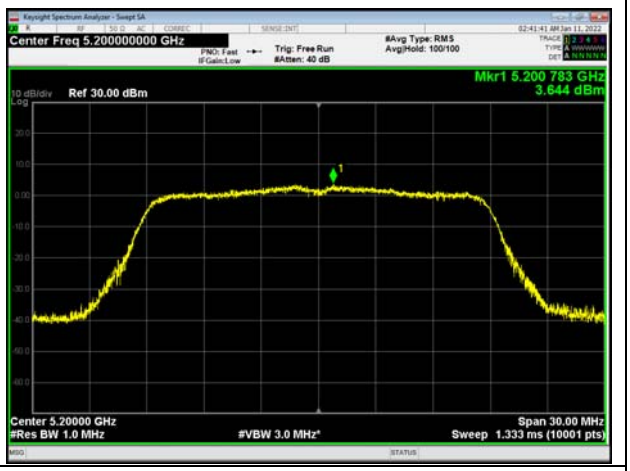


U-NII-1, 802.11n HT20, Channel No.: 36

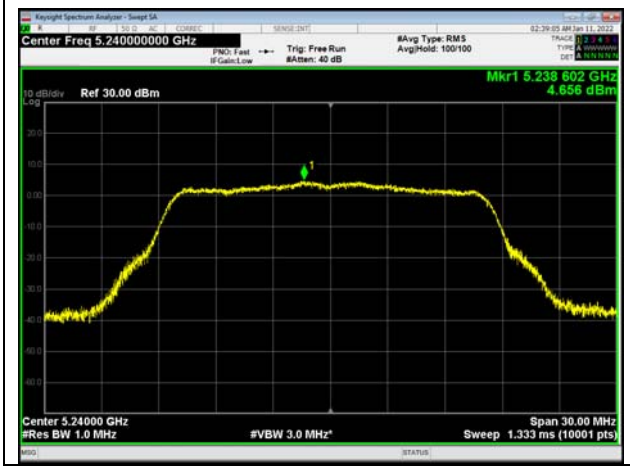
U-NII-1, 802.11a, Channel No.: 40



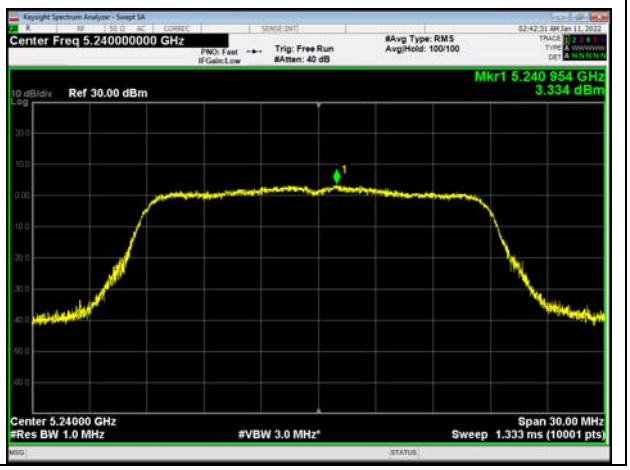
U-NII-1, 802.11n HT20, Channel No.: 40



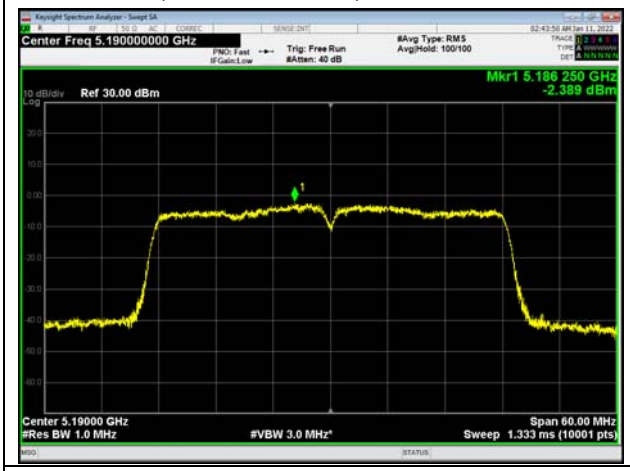
U-NII-1, 802.11a, Channel No.: 48



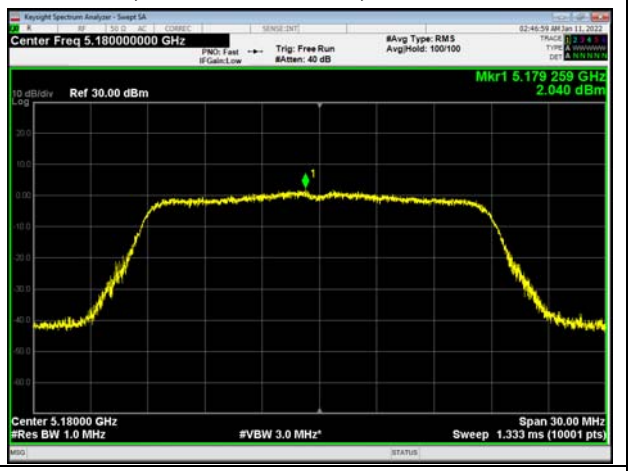
U-NII-1, 802.11n HT20, Channel No.: 48



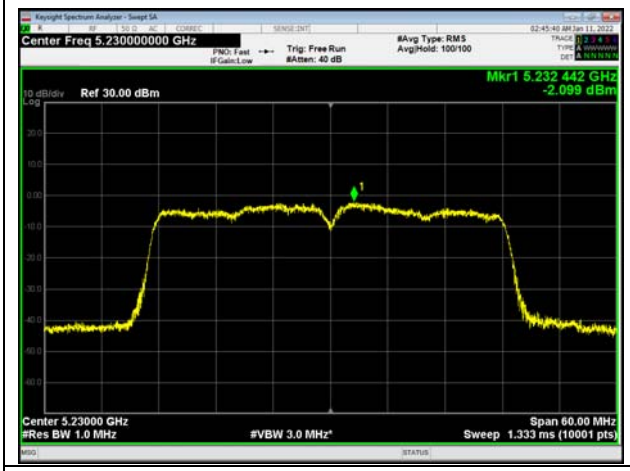
U-NII-1, 802.11n HT40, Channel No.: 38



U-NII-1, 802.11ac VHT20, Channel No.: 36

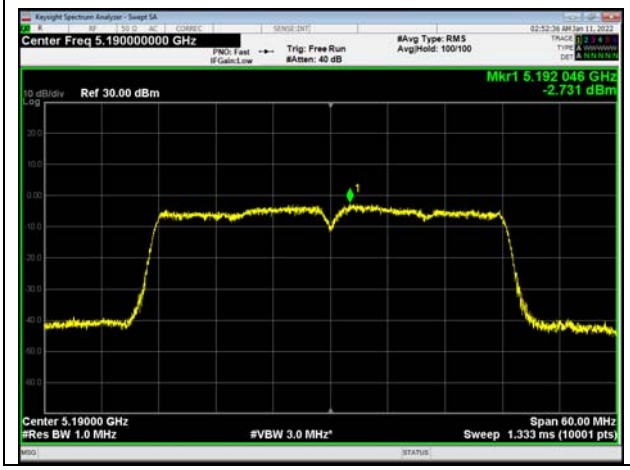


U-NII-1, 802.11n HT40, Channel No.: 46

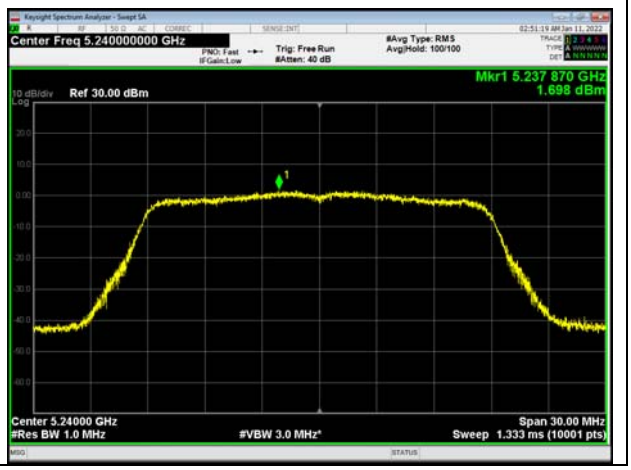


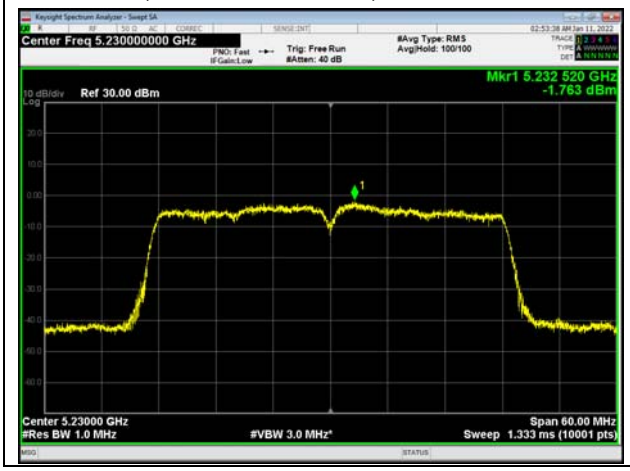
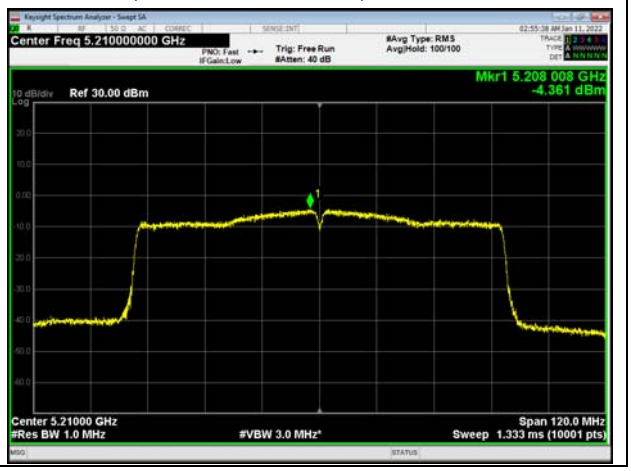
U-NII-1, 802.11ac VHT20, Channel No.: 40

U-NII-1, 802.11ac VHT40, Channel No.: 38



U-NII-1, 802.11ac VHT20, Channel No.: 48



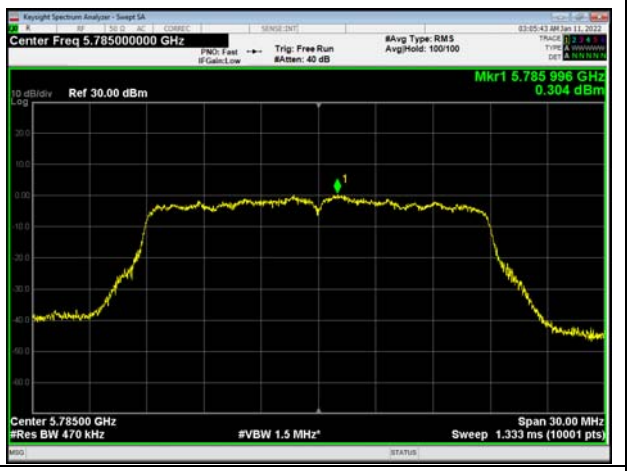
U-NII-1, 802.11ac VHT40, Channel No.: 46	U-NII-1, 802.11ac VHT80, Channel No.: 42
	

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

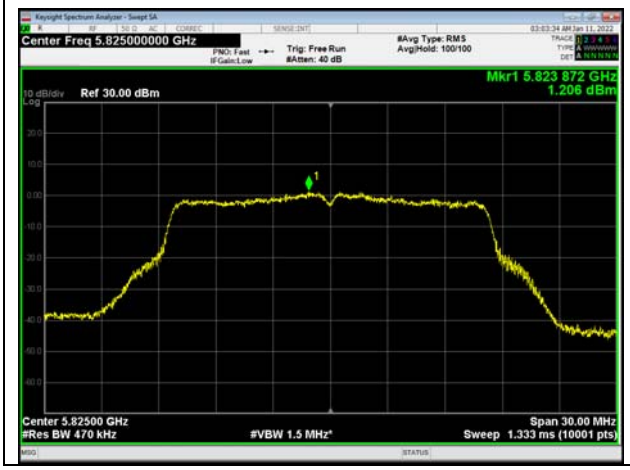
U-NII-3, 802.11n HT20, Channel No.: 149

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

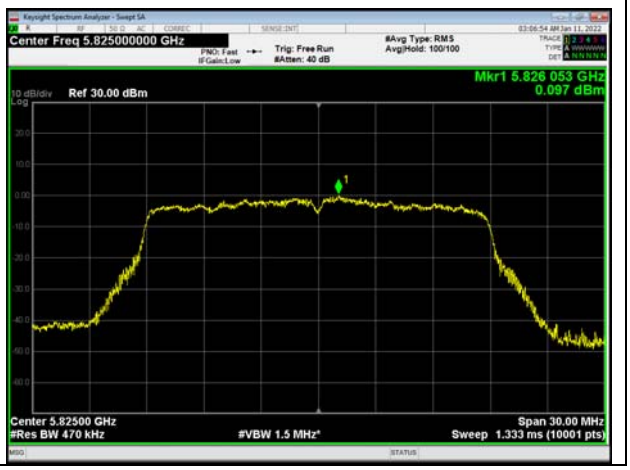
U-NII-3, 802.11n HT20, Channel No.: 157



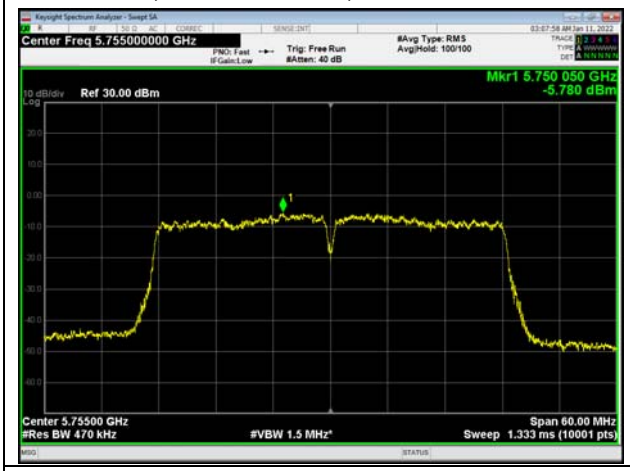
U-NII-3, 802.11a, Channel No.: 165



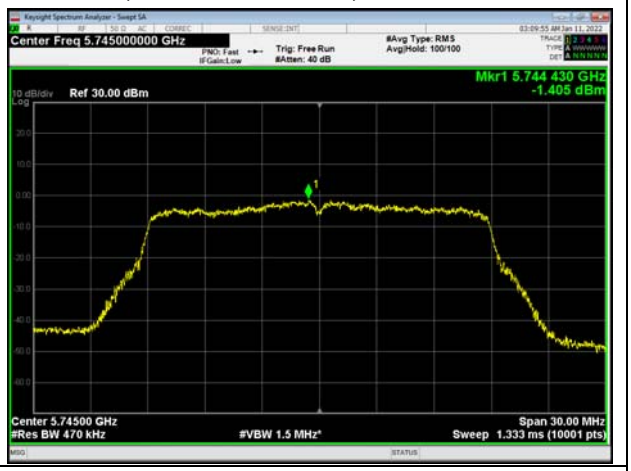
U-NII-3, 802.11n HT20, Channel No.: 165



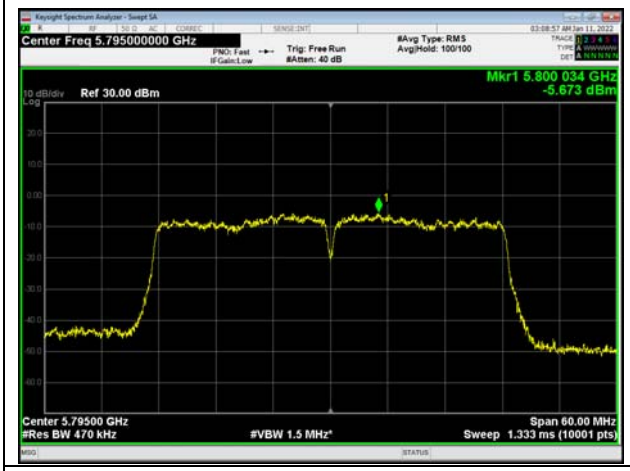
U-NII-3, 802.11n HT40, Channel No.: 151



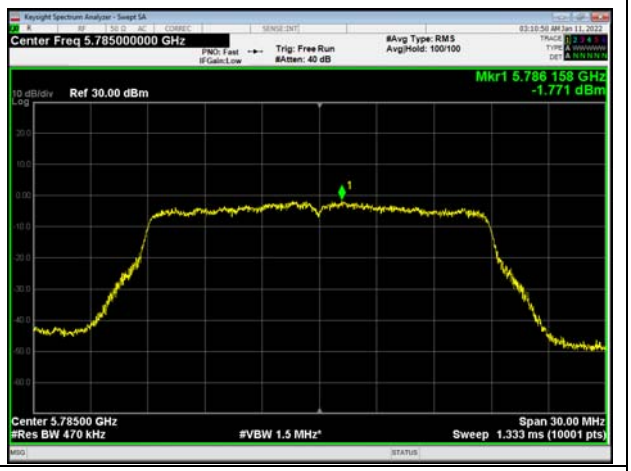
U-NII-3, 802.11ac VHT20, Channel No.: 149



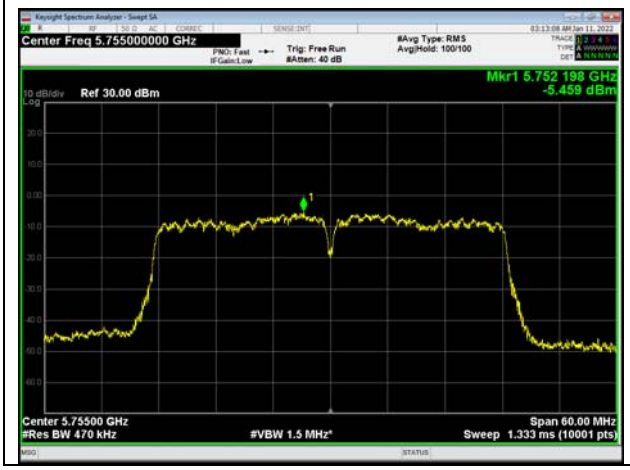
U-NII-3, 802.11n HT40, Channel No.: 159



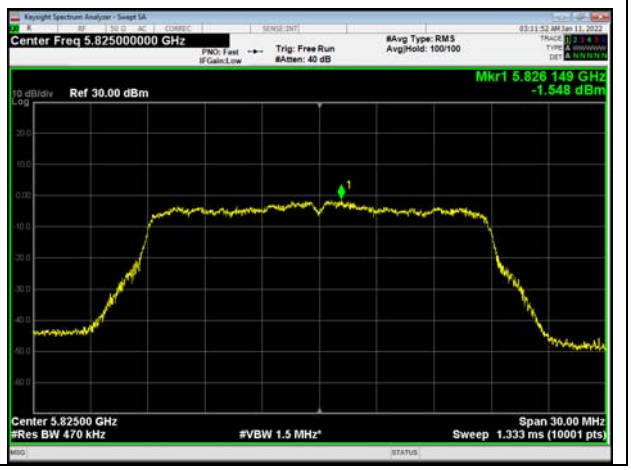
U-NII-3, 802.11ac VHT20, Channel No.: 157



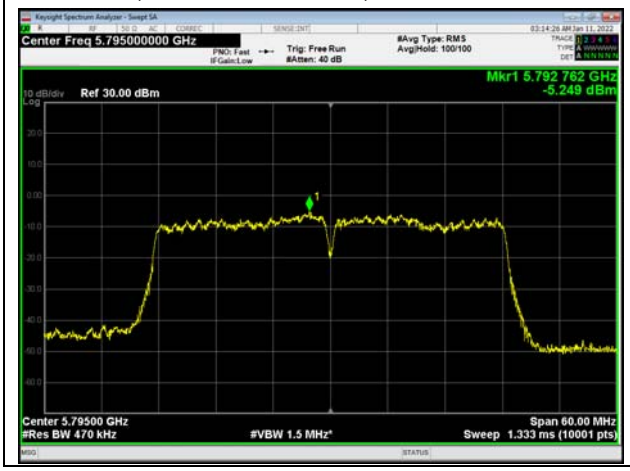
U-NII-3, 802.11ac VHT40, Channel No.: 151



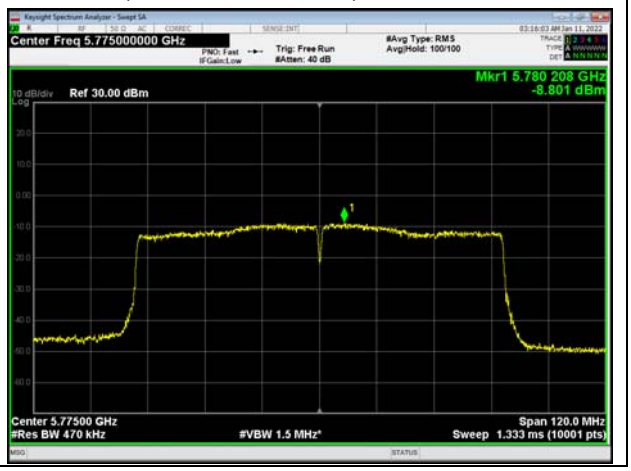
U-NII-3, 802.11ac VHT20, Channel No.: 165



U-NII-3, 802.11ac VHT40, Channel No.: 159



U-NII-3, 802.11ac VHT80, Channel No.: 155



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. 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:
9kHz~150 kHz
RBW=200Hz, VBW=1kHz/ Sweep=AUTO
150 kHz~30MHz
RBW=9KHz, VBW=30KHz,/ Sweep=AUTO
Below 1GHz
RBW=100kHz / VBW=300kHz / Sweep=AUTO
a) Peak emission levels are measured by setting the instrument as follows:
Above 1GHz
PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO
b) Average emission levels are measured by setting the instrument as follows:
Above 1GHz
AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO
c) Detector: The measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.)
e) Sweep time = auto.
f) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, then the number of traces shall be increased by a factor of 1 / D, where D is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific

emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and OFF with the transmit cycle, at least 100 traces shall be averaged.)

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

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

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

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

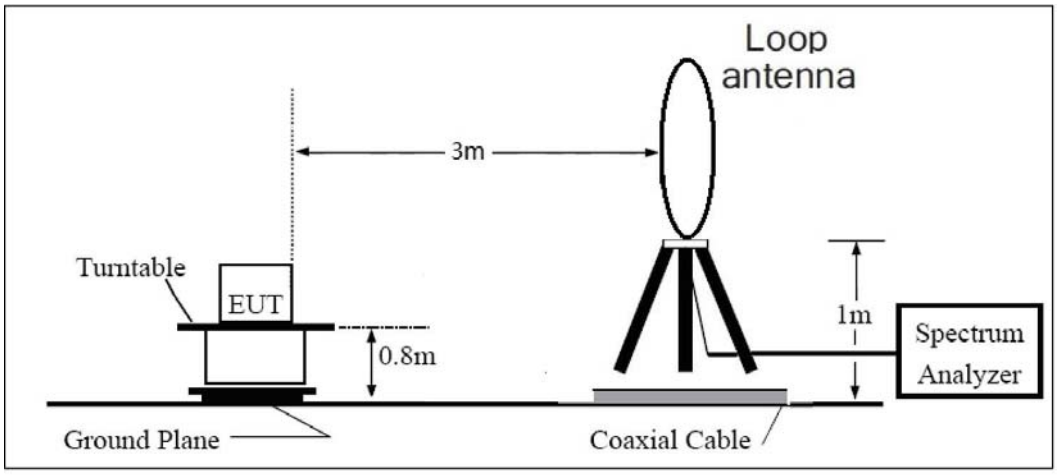
Reduce the video bandwidth until no significant variations in the displayed signal are observed in subsequent traces, provided the video bandwidth is no less than 1 Hz. For regulatory requirements that specify averaging only over the transmit duration (e.g., digital transmission system [DTS] and Unlicensed 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.

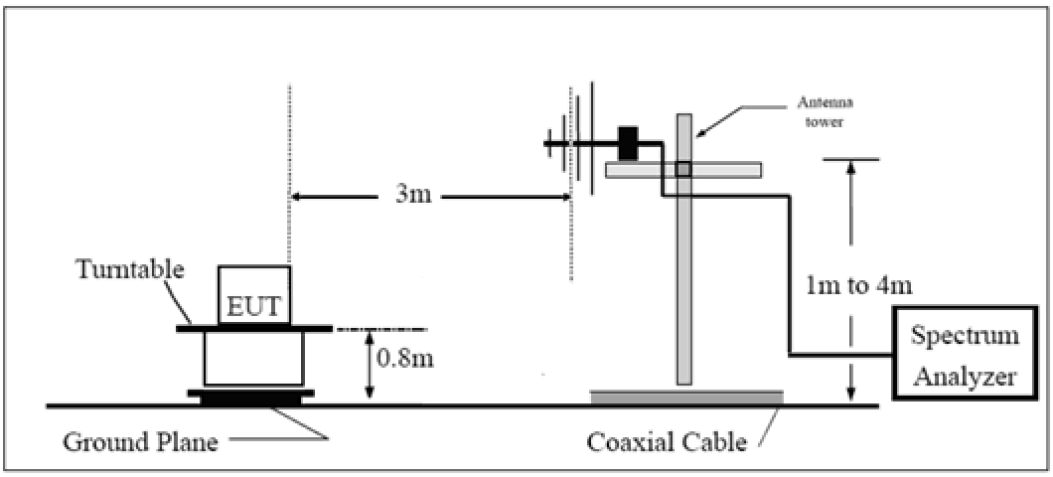
The test is in transmitting mode.

Test setup

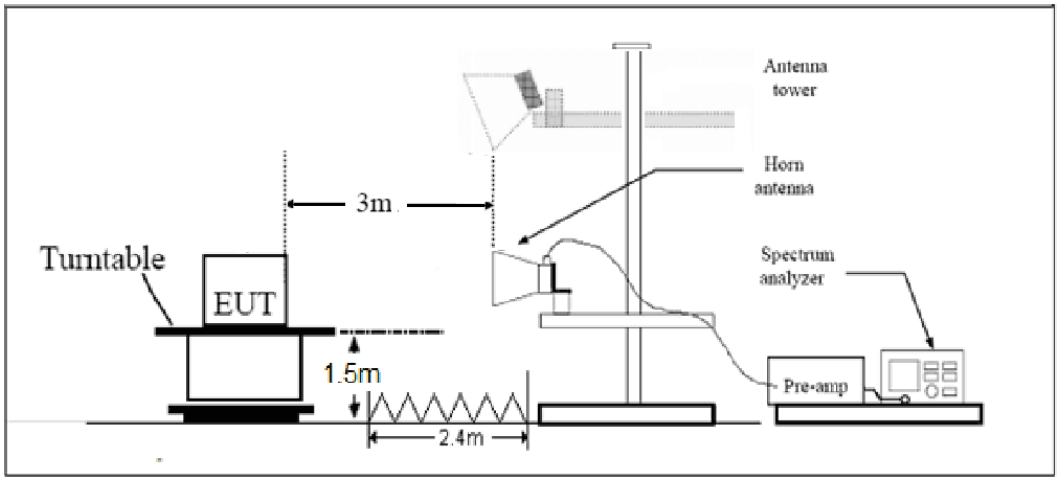
9KHz~ 30MHz



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.

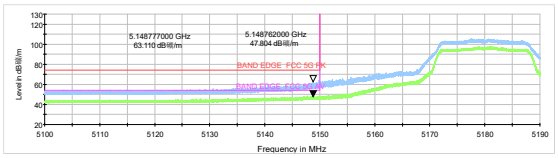
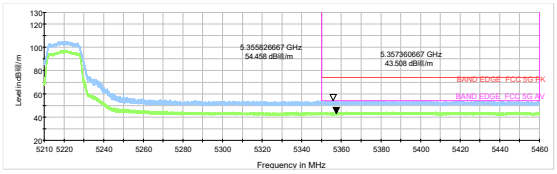
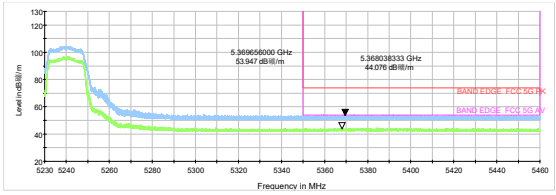
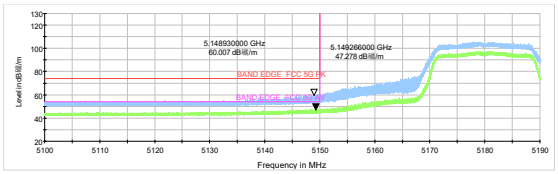
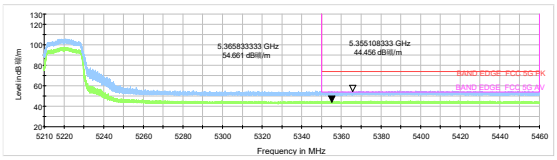
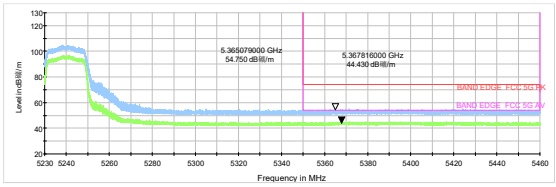
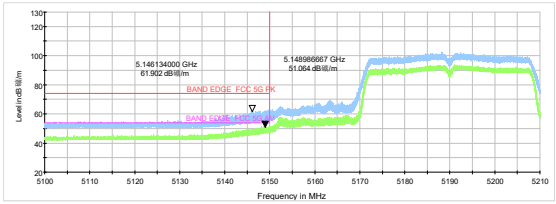
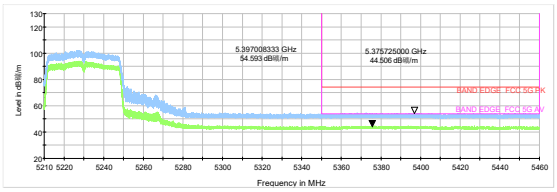
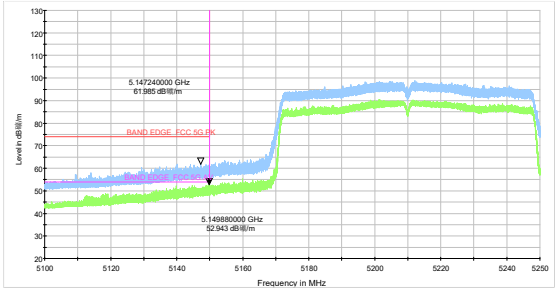
Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.17 dB
200MHz-1GHz	4.84 dB
1-18GHz	4.35 dB
18-26.5GHz	5.90 dB
26.5GHz~40GHz	5.92 dB

Test Results:

A symbol (dB㎷/m) in the test plot below means (dBuV/m)

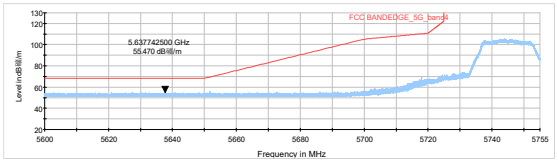
The signal beyond the limit is carrier.

U-NII-1

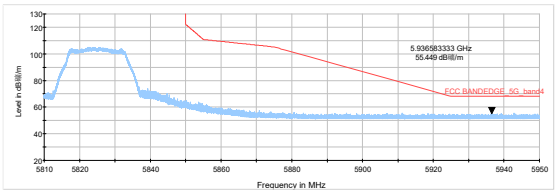
802.11a-Channel 36: Peak & Average 	**802.11a-Channel 44: Peak & Average** 
802.11a-Channel 48: Peak & Average 	/
802.11n HT20-Channel 36: Peak & Average 	**802.11n HT20-Channel 44: Peak & Average** 
802.11n HT20-Channel 48: Peak & Average 	/
802.11n HT40-Channel 38: Peak & Average 	**802.11n HT40-Channel 46: Peak & Average** 
802.11ac VHT80 -Channel 42: Peak & Average 	/

U-NII-3

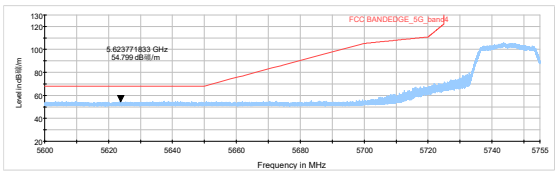
802.11a-Channel 149: Peak



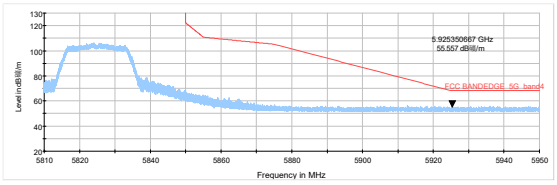
802.11a-Channel 165: Peak



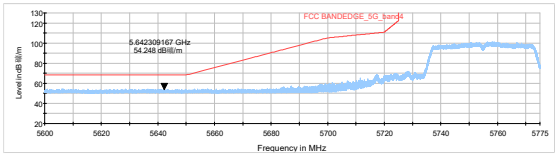
802.11n HT20 -Channel 149: Peak



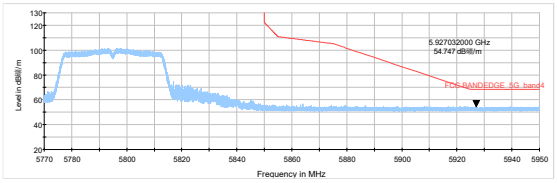
802.11n HT20 -Channel 165: Peak



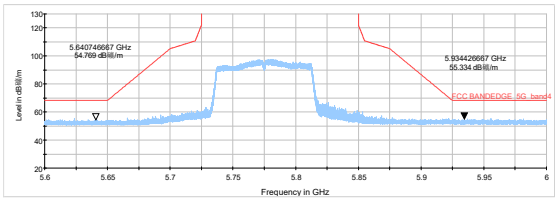
802.11n HT40-Channel 151: Peak



802.11n HT40-Channel 159: Peak



802.11ac VHT80- Channel 155: Peak



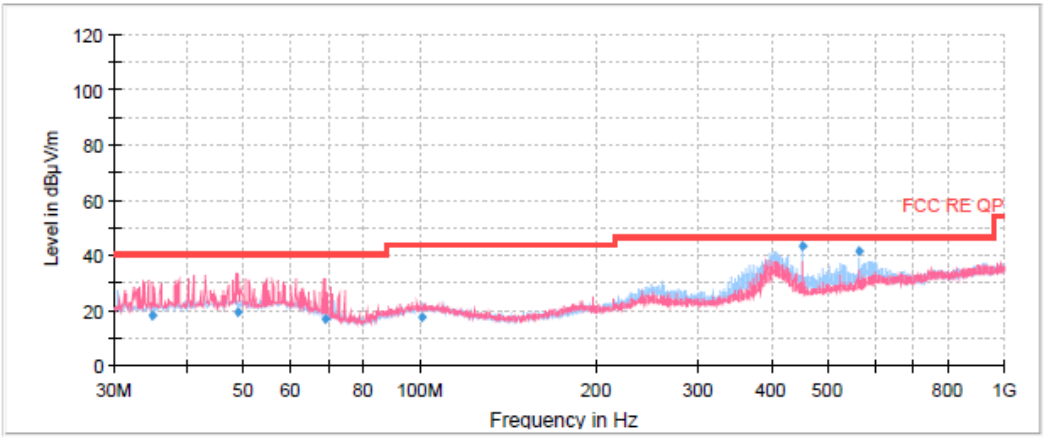
Result of RE

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 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, 802.11n(HT20), Channel 157 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Continuous TX mode:



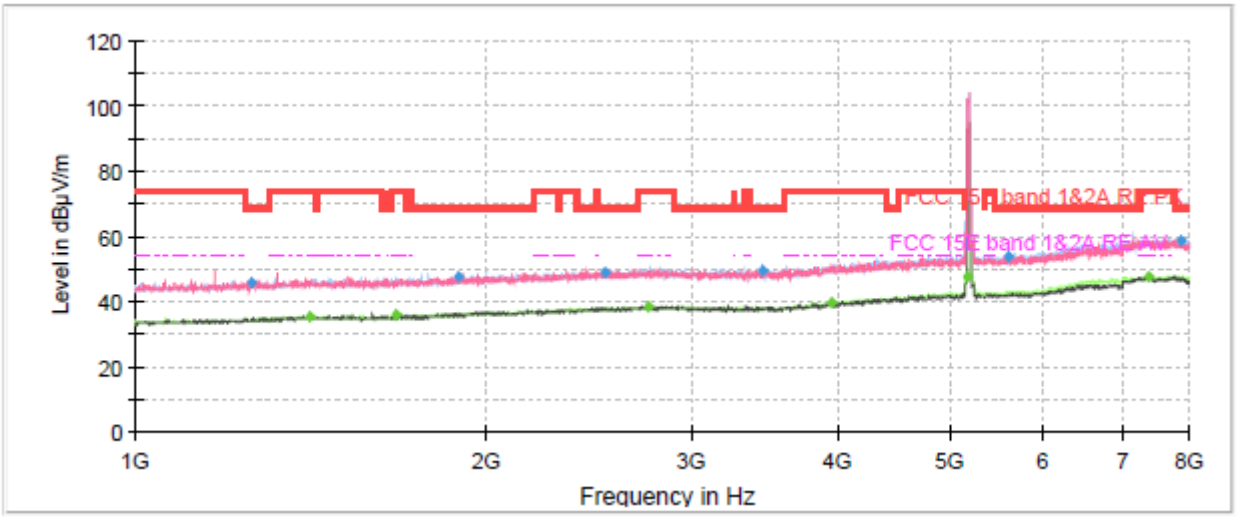
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
34.97	17.81	279.0	V	270.00	14	22.19	40.00
48.99	19.26	212.0	V	172.00	15	20.74	40.00
68.68	16.63	325.0	V	286.00	12	23.37	40.00
101.13	17.48	400.0	H	322.00	14	26.02	43.50
450.01	43.38	213.0	H	274.00	20	2.62	46.00
562.49	41.12	175.0	H	262.00	22	4.88	46.00

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

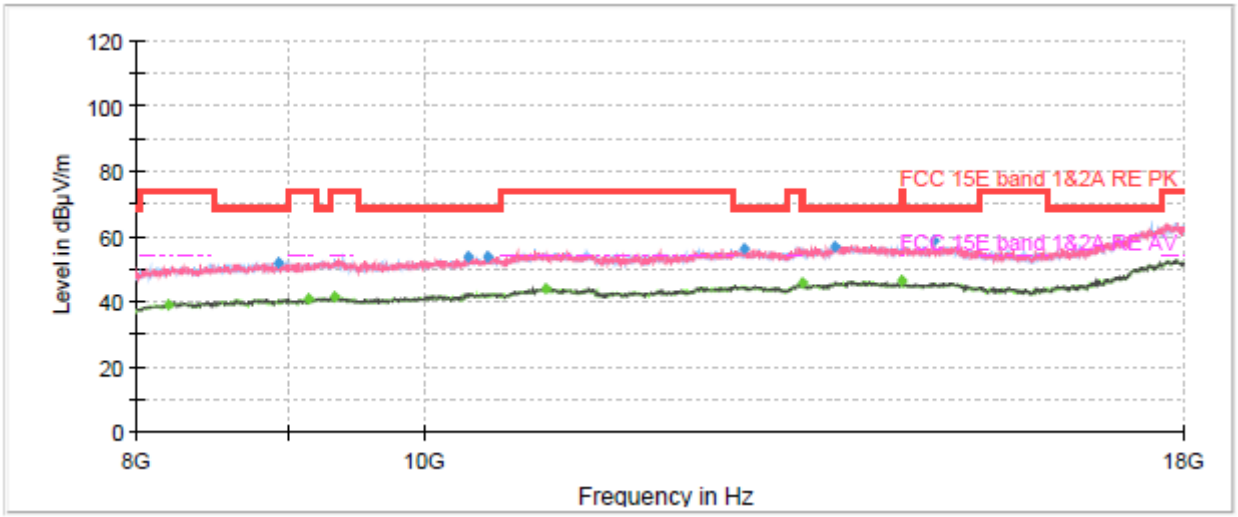
2. Margin = Limit – Quasi-Peak

802.11a CH36



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

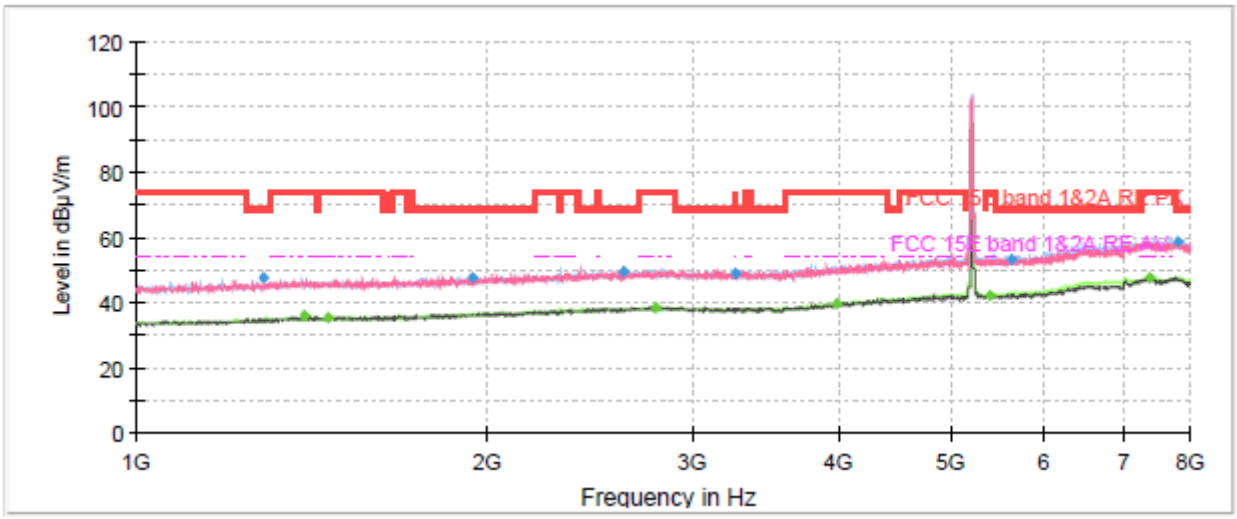


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1256.51	45.71	---	68.20	22.49	200.0	H	40.00	-8
1410.29	---	35.19	54.00	18.81	200.0	H	175.00	-7
1675.72	---	35.50	54.00	18.50	300.0	H	67.00	-6
1893.00	47.56	---	68.20	20.64	300.0	V	21.00	-6
2532.33	48.69	---	68.20	19.51	200.0	H	148.00	-4
2748.35	---	38.15	54.00	15.85	200.0	H	264.00	-4
3453.23	49.16	---	68.20	19.04	100.0	H	239.00	-3
3955.39	---	39.33	54.00	14.67	200.0	H	195.00	-1
5151.73	---	47.55	54.00	6.45	200.0	H	0.00	3
5606.84	53.69	---	68.20	14.51	200.0	H	6.00	4
7371.31	---	47.34	54.00	6.66	200.0	H	4.00	9
7877.56	58.46	---	68.20	9.74	200.0	H	114.00	9

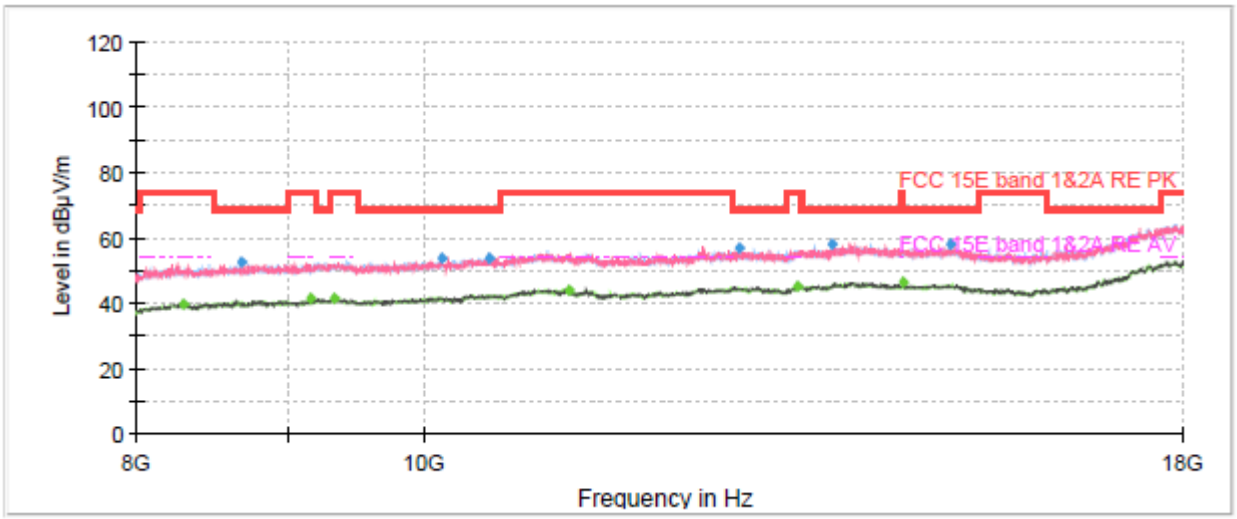
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11a CH40



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

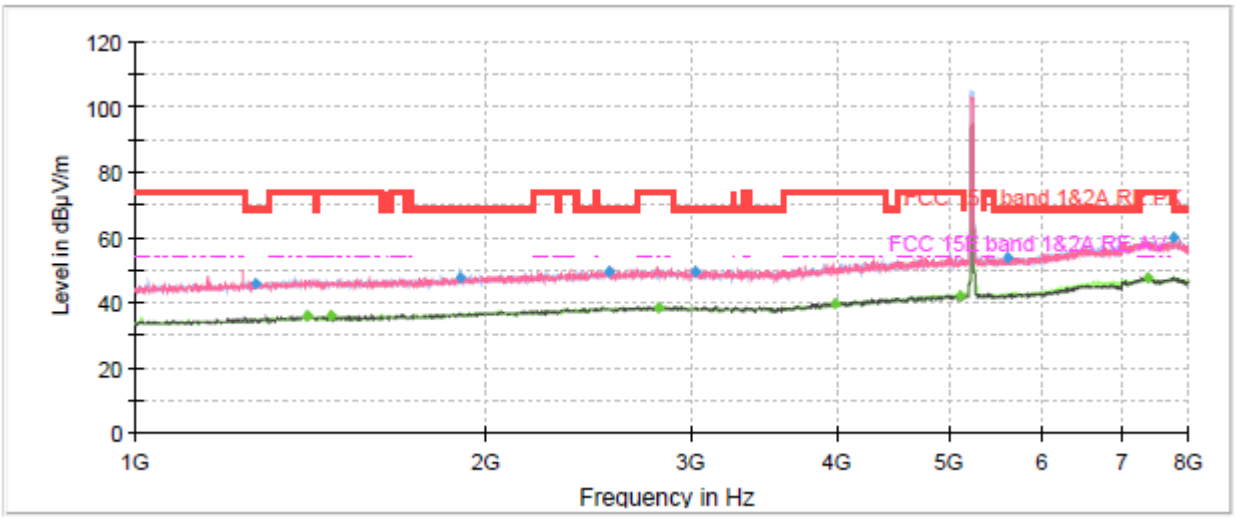


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1286.70	47.09	---	68.20	21.11	100.0	V	346.00	-8
1392.58	---	35.46	54.00	18.54	300.0	H	0.00	-7
1461.15	---	35.16	54.00	18.84	100.0	H	238.00	-7
1942.04	47.27	---	68.20	20.93	300.0	V	264.00	-5
2618.15	49.20	---	68.20	19.00	100.0	V	244.00	-4
2783.45	---	38.17	54.00	15.83	300.0	H	2.00	-3
3266.39	48.86	---	74.00	25.14	100.0	H	10.00	-3
3985.79	---	39.33	54.00	14.67	200.0	H	355.00	-1
5376.08	---	42.09	54.00	11.91	100.0	H	108.00	4
5631.66	53.21	---	68.20	14.99	100.0	H	33.00	4
7367.39	---	47.50	54.00	6.50	100.0	H	115.00	9
7783.62	58.34	---	68.20	9.86	200.0	H	358.00	9

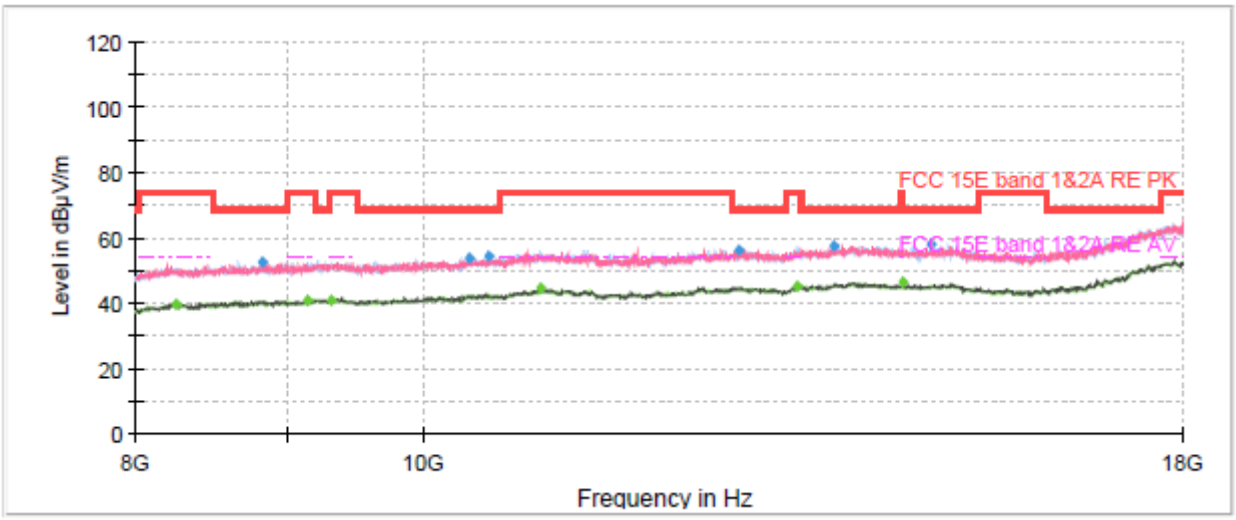
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11a CH44



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

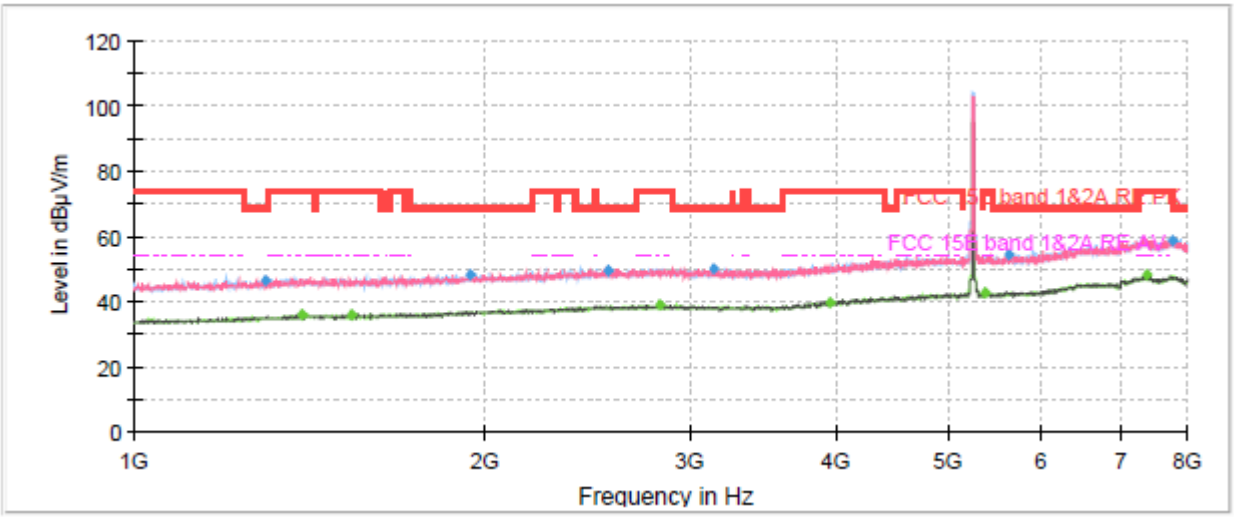


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1269.22	45.52	---	68.20	22.68	200.0	V	272.00	-8
1405.21	---	35.56	54.00	18.44	300.0	V	344.00	-7
1474.24	---	35.57	54.00	18.43	100.0	H	71.00	-7
1904.24	47.39	---	68.20	20.81	300.0	H	0.00	-5
2545.72	49.27	---	68.20	18.93	200.0	H	196.00	-4
2812.46	---	38.35	54.00	15.65	100.0	H	0.00	-3
3017.28	49.24	---	68.20	18.96	100.0	V	228.00	-3
3984.49	---	39.65	54.00	14.35	200.0	H	175.00	-1
5106.37	---	41.83	54.00	12.17	200.0	H	357.00	3
5594.35	53.55	---	68.20	14.65	200.0	H	0.00	4
7364.96	---	47.58	54.00	6.42	200.0	H	0.00	9
7772.23	59.44	---	68.20	8.76	300.0	V	277.00	9

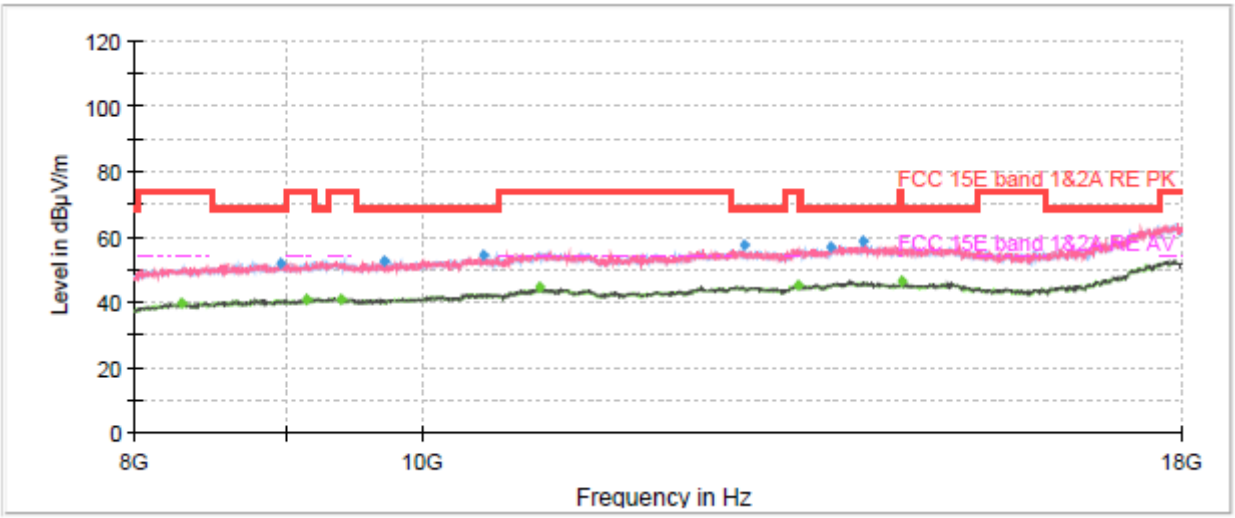
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11a CH48



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

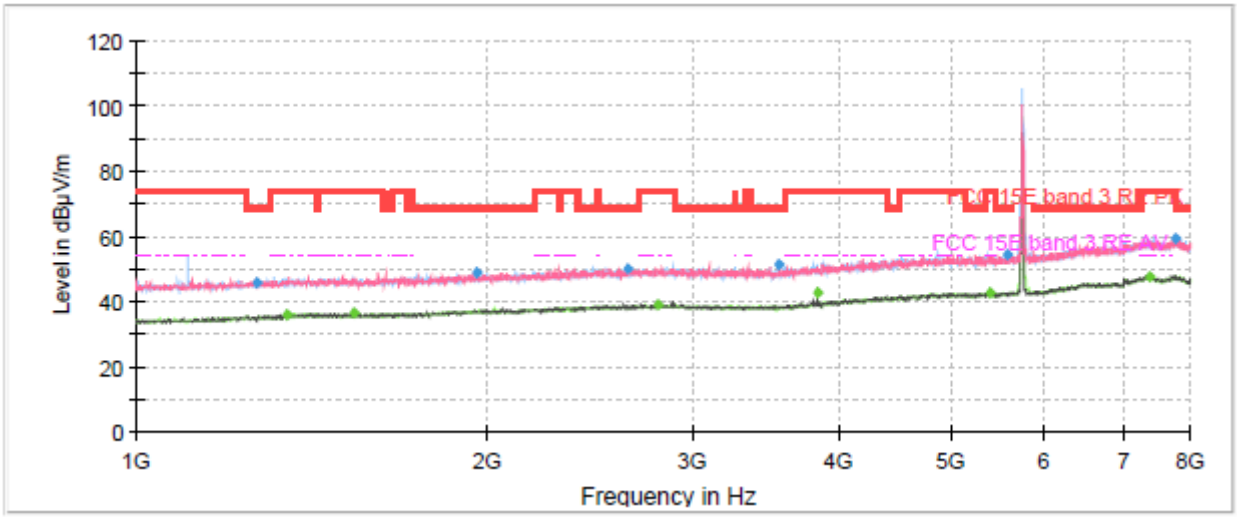


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1298.41	46.08	---	68.20	22.12	500.00	200.0	V	235.00
1391.75	---	35.42	54.00	18.58	500.00	300.0	V	190.00
1537.86	---	35.72	54.00	18.28	500.00	200.0	H	193.00
1939.25	47.85	---	68.20	20.35	500.00	200.0	H	213.00
2545.68	48.97	---	68.20	19.23	500.00	200.0	V	181.00
2824.21	---	38.51	54.00	15.49	500.00	100.0	V	144.00
3141.54	49.79	---	68.20	18.41	500.00	300.0	H	9.00
3951.03	---	39.54	54.00	14.46	500.00	200.0	V	16.00
5374.34	---	42.39	54.00	11.61	500.00	100.0	V	328.00
5620.95	54.20	---	68.20	14.00	500.00	100.0	V	321.00
7367.74	---	47.79	54.00	6.21	500.00	200.0	H	124.00
7775.32	58.74	---	68.20	9.46	500.00	300.0	H	98.00

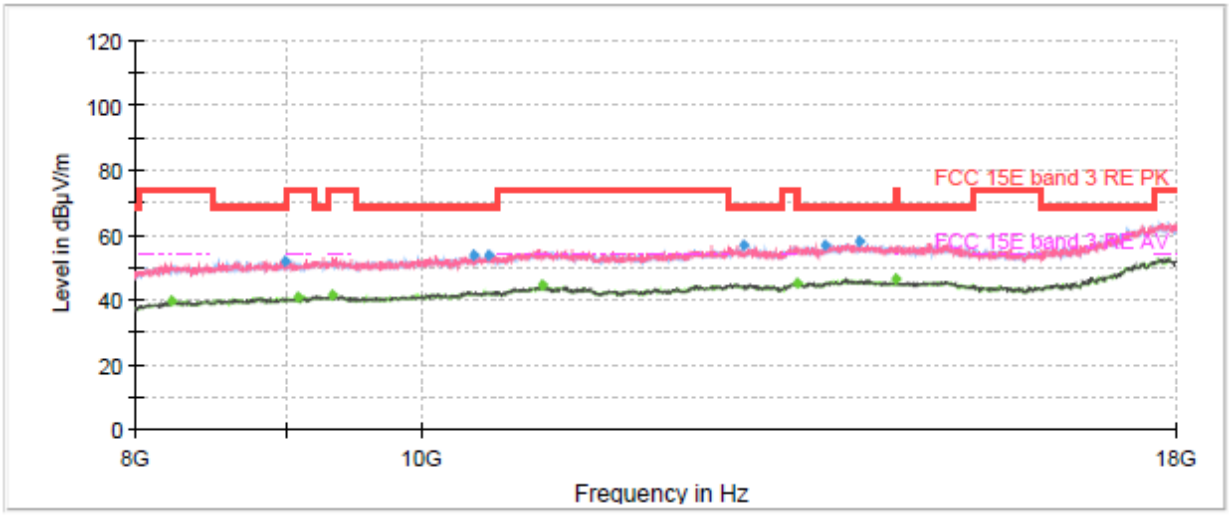
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11a CH149



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

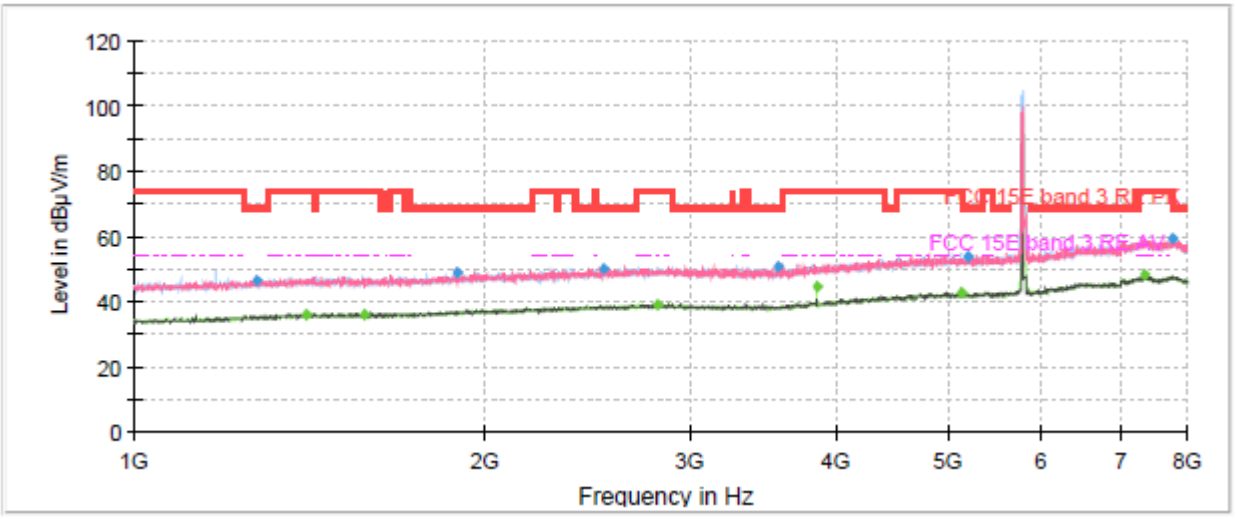


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1267.75	45.78	---	68.20	22.42	200.0	H	203.00	-8
1348.25	---	35.89	54.00	18.11	200.0	H	142.00	-7
1537.25	---	36.46	54.00	17.54	100.0	H	288.00	-6
1957.25	48.51	---	68.20	19.69	200.0	H	183.00	-5
2639.75	50.07	---	68.20	18.13	200.0	H	217.00	-4
2797.25	---	38.81	54.00	15.19	100.0	V	224.00	-3
3549.75	50.85	---	68.20	17.35	200.0	H	286.00	-3
3829.75	---	42.41	54.00	11.59	100.0	H	49.00	-1
5375.88	---	42.67	54.00	11.33	100.0	V	22.00	4
5571.88	54.15	---	68.20	14.05	200.0	V	359.00	4
7365.63	---	47.53	54.00	6.47	100.0	V	82.00	9
7768.13	59.28	---	68.20	8.92	200.0	V	306.00	9

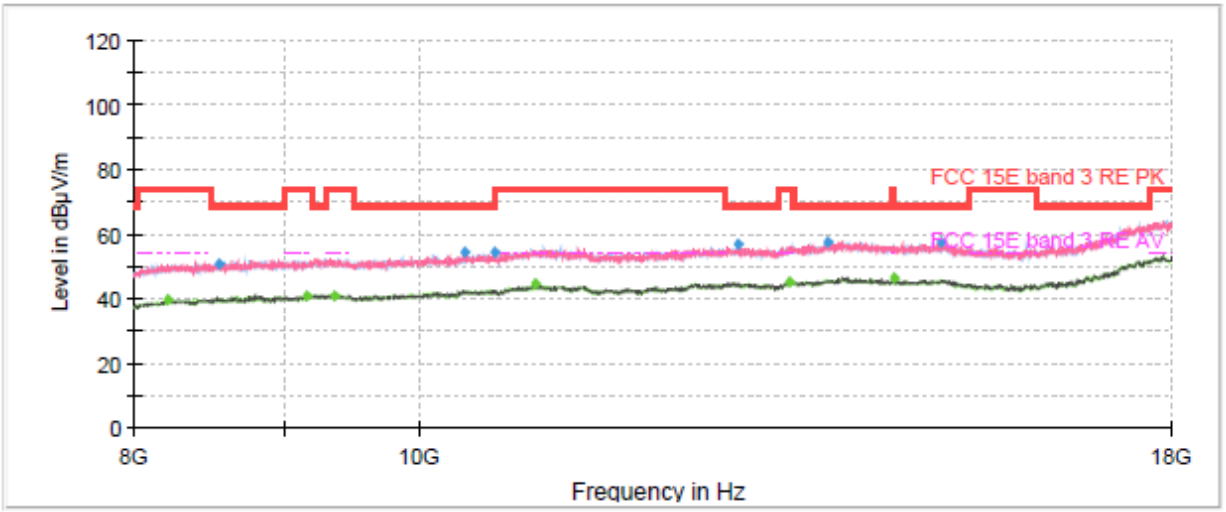
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11a CH157



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

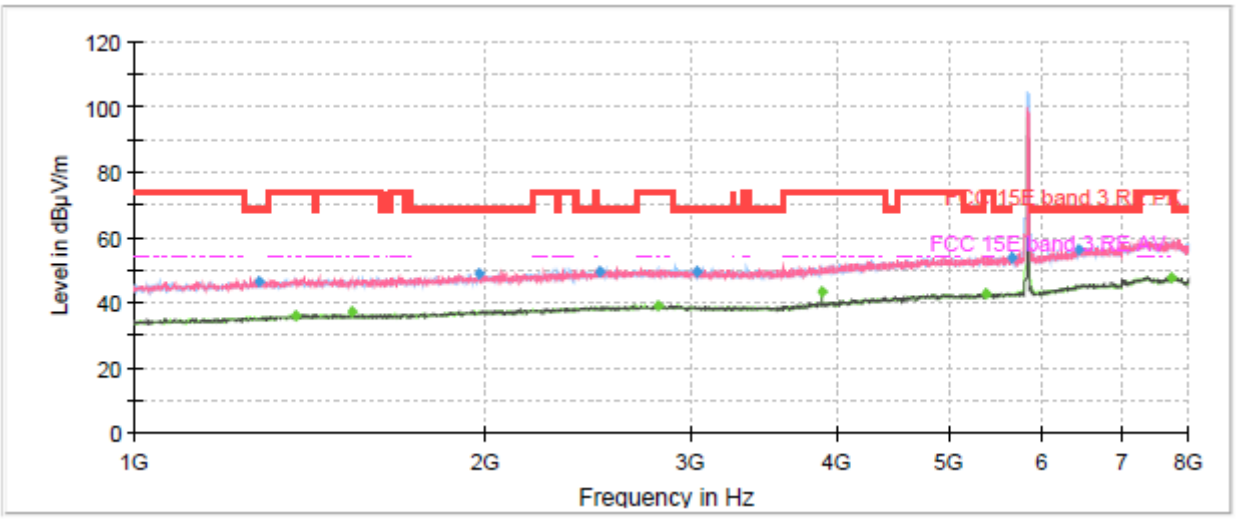


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1276.08	45.93	---	68.20	22.27	200.0	V	331.00	-8
1404.72	---	35.95	54.00	18.05	100.0	H	206.00	-7
1572.86	---	35.67	54.00	18.33	200.0	V	0.00	-6
1892.07	48.64	---	68.20	19.56	200.0	H	128.00	-6
2531.22	49.76	---	68.20	18.44	100.0	V	3.00	-4
2810.14	---	38.79	54.00	15.21	200.0	H	74.00	-3
3561.24	50.27	---	68.20	17.93	100.0	V	58.00	-3
3856.69	---	44.35	54.00	9.65	100.0	H	48.00	-1
5109.18	---	42.36	54.00	11.64	100.0	H	287.00	3
5188.25	53.33	---	68.20	14.87	200.0	H	216.00	3
7363.32	---	47.78	54.00	6.22	200.0	V	0.00	9
7769.85	58.87	---	68.20	9.33	200.0	H	168.00	9

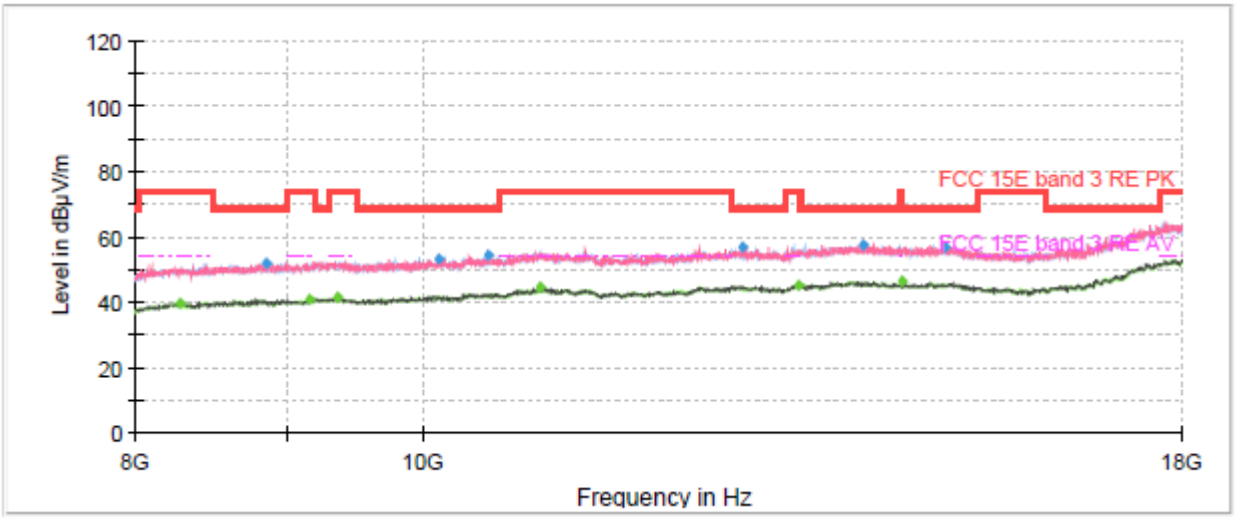
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11a CH165



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

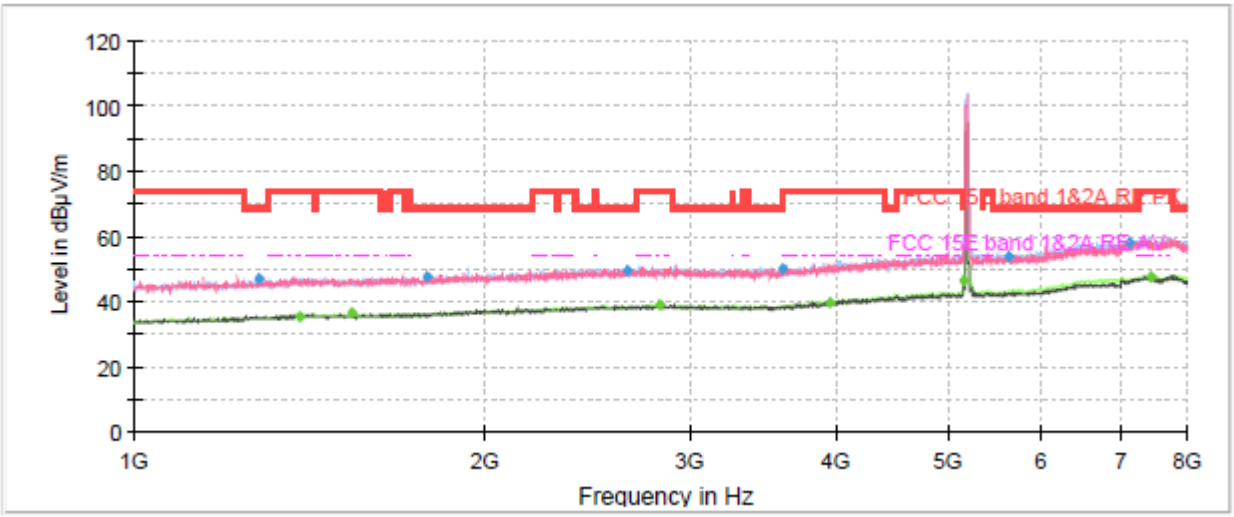


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1281.32	46.24	---	68.20	21.96	100.0	H	2.00	-8
1374.10	---	35.71	54.00	18.29	200.0	V	167.00	-7
1537.56	---	36.69	54.00	17.31	100.0	H	305.00	-6
1972.48	48.39	---	68.20	19.81	200.0	H	354.00	-5
2510.40	49.31	---	68.20	18.89	100.0	H	171.00	-4
2812.37	---	38.77	54.00	15.23	200.0	H	286.00	-3
3035.08	49.33	---	68.20	18.87	100.0	H	178.00	-3
3883.35	---	43.10	54.00	10.90	200.0	H	359.00	-1
5373.67	---	42.51	54.00	11.49	200.0	H	192.00	4
5640.06	53.75	---	68.20	14.45	100.0	V	278.00	4
6453.00	56.20	---	68.20	12.00	100.0	H	305.00	5
7740.55	---	47.64	54.00	6.36	200.0	V	106.00	9

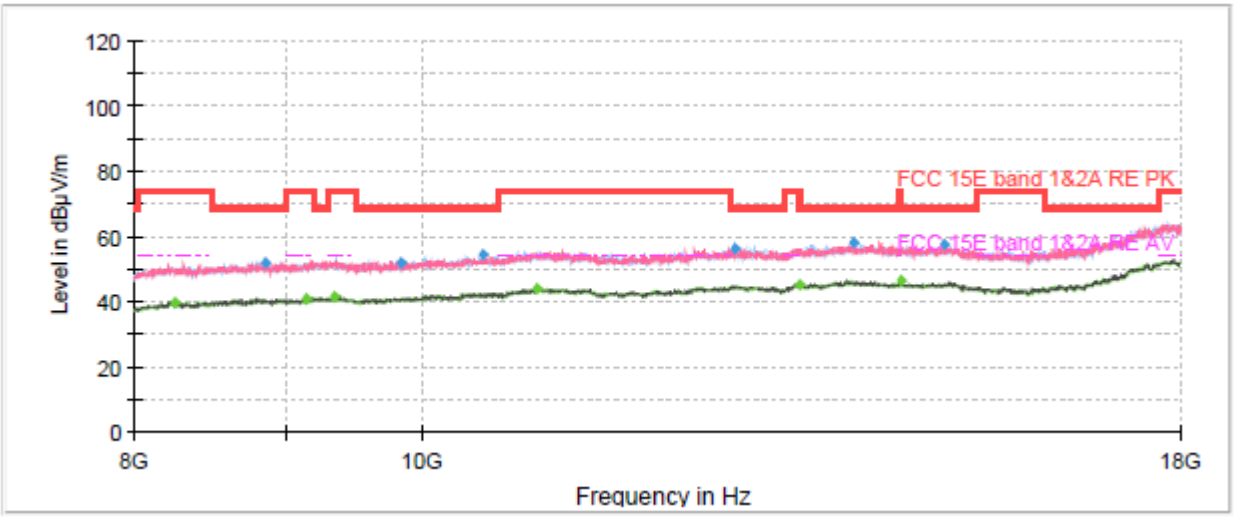
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH36



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

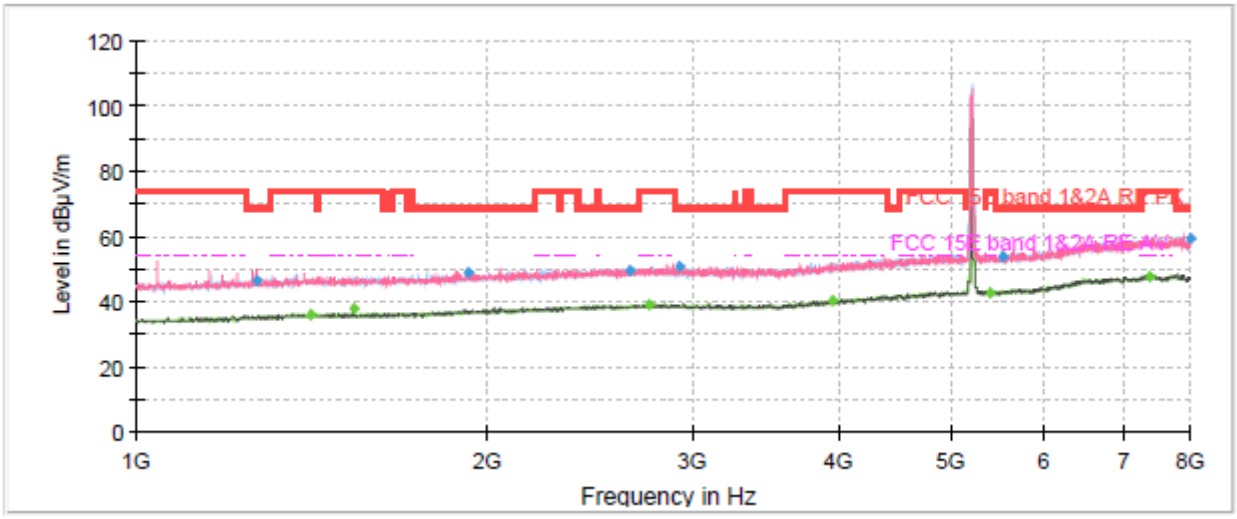


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1277.70	46.50	---	68.20	21.70	500.00	200.0	H	105.00
1387.53	---	35.36	54.00	18.64	500.00	100.0	H	359.00
1537.59	---	36.21	54.00	17.79	500.00	100.0	H	355.00
1781.16	47.28	---	68.20	20.92	500.00	300.0	H	212.00
2651.07	49.06	---	68.20	19.14	500.00	100.0	H	355.00
2818.61	---	38.61	54.00	15.39	500.00	200.0	V	58.00
3596.09	49.64	---	68.20	18.56	500.00	200.0	H	38.00
3948.13	---	39.50	54.00	14.50	500.00	200.0	H	13.00
5144.24	---	46.01	54.00	7.99	500.00	200.0	H	0.00
5621.41	53.73	---	68.20	14.47	500.00	100.0	H	287.00
7129.18	57.76	---	68.20	10.44	500.00	300.0	H	206.00
7433.49	---	47.13	54.00	6.87	500.00	100.0	H	301.00

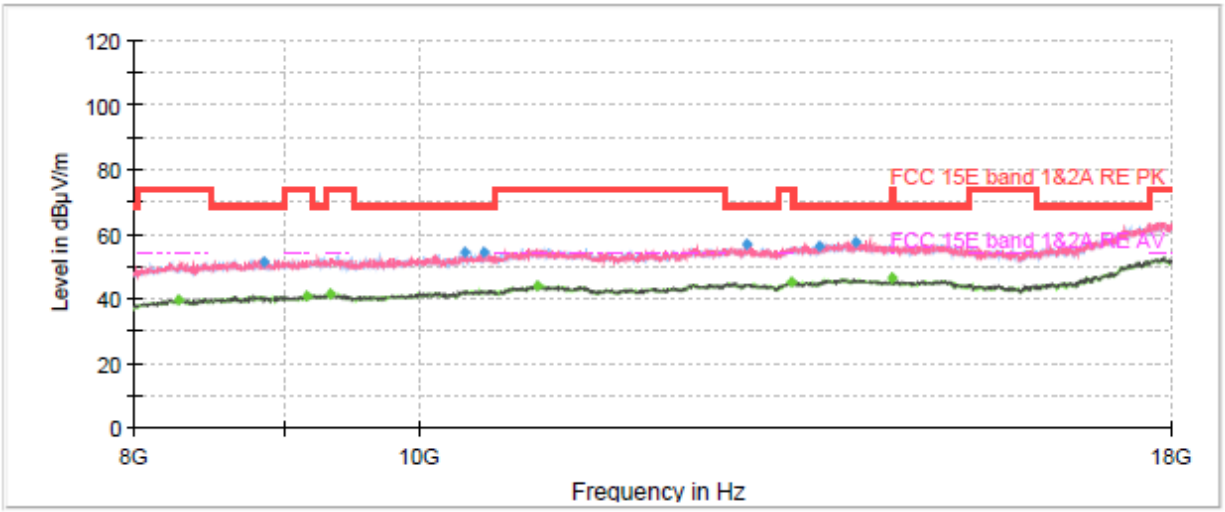
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH40



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

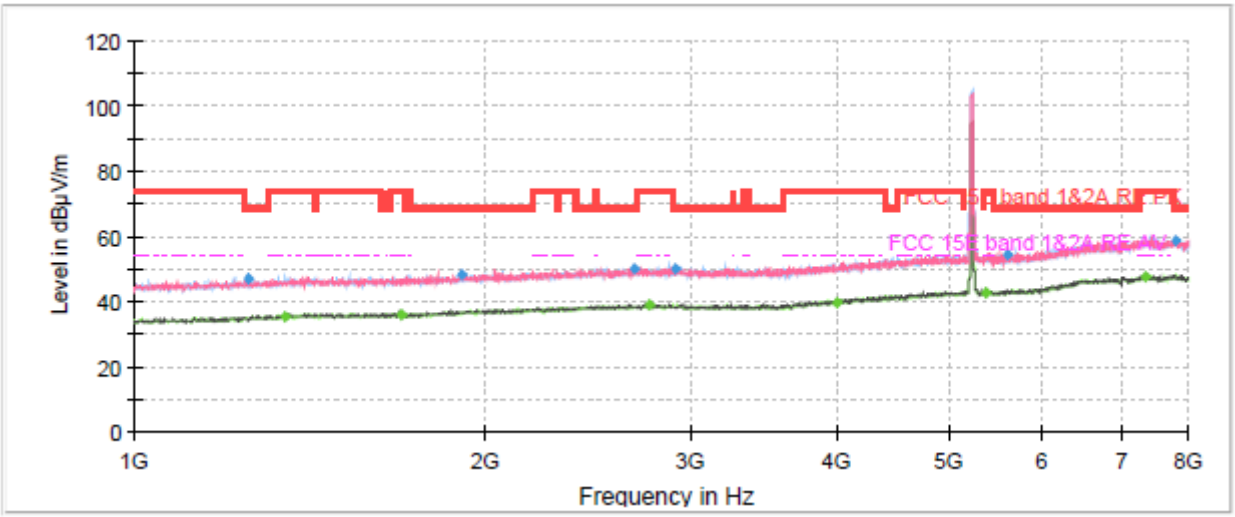


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1267.17	45.98	---	68.20	22.22	200.0	V	340.00	-8
1411.92	---	35.59	54.00	18.41	100.0	V	332.00	-7
1537.44	---	37.66	54.00	16.34	200.0	H	314.00	-6
1921.89	48.47	---	68.20	19.73	100.0	V	162.00	-5
2644.90	49.50	---	68.20	18.70	100.0	V	298.00	-4
2752.23	---	38.64	54.00	15.36	100.0	V	332.00	-4
2917.41	50.20	---	68.20	18.00	100.0	H	110.00	-3
3955.11	---	39.86	54.00	14.14	100.0	H	150.00	-1
5388.83	---	42.34	54.00	11.66	100.0	H	150.00	4
5528.08	53.23	---	68.20	14.97	100.0	H	0.00	4
7364.79	---	47.67	54.00	6.33	100.0	H	27.00	9
7984.92	58.81	---	68.20	9.39	200.0	H	0.00	9

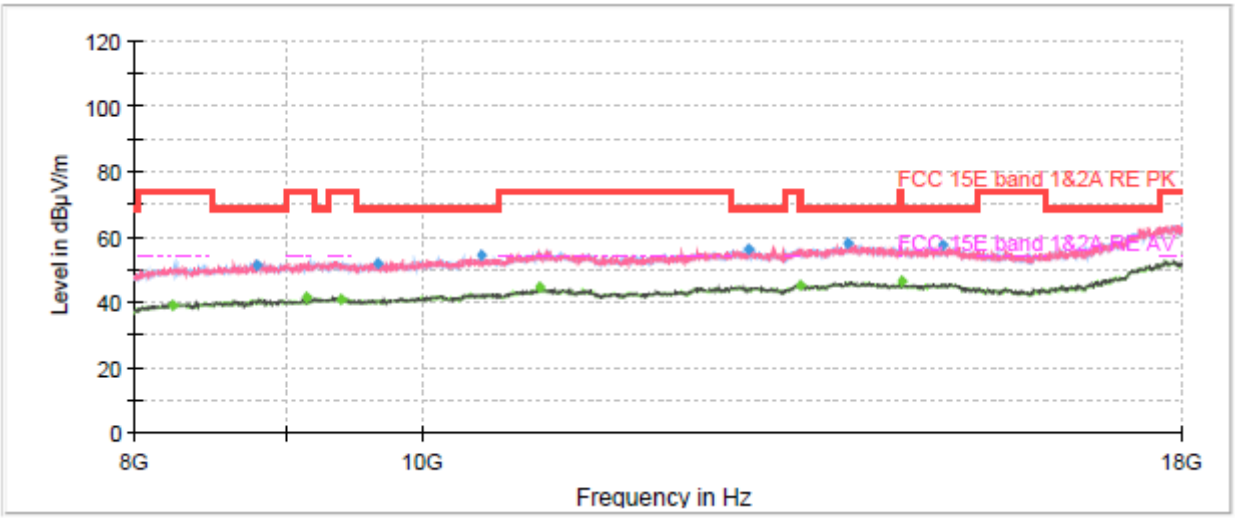
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH44



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

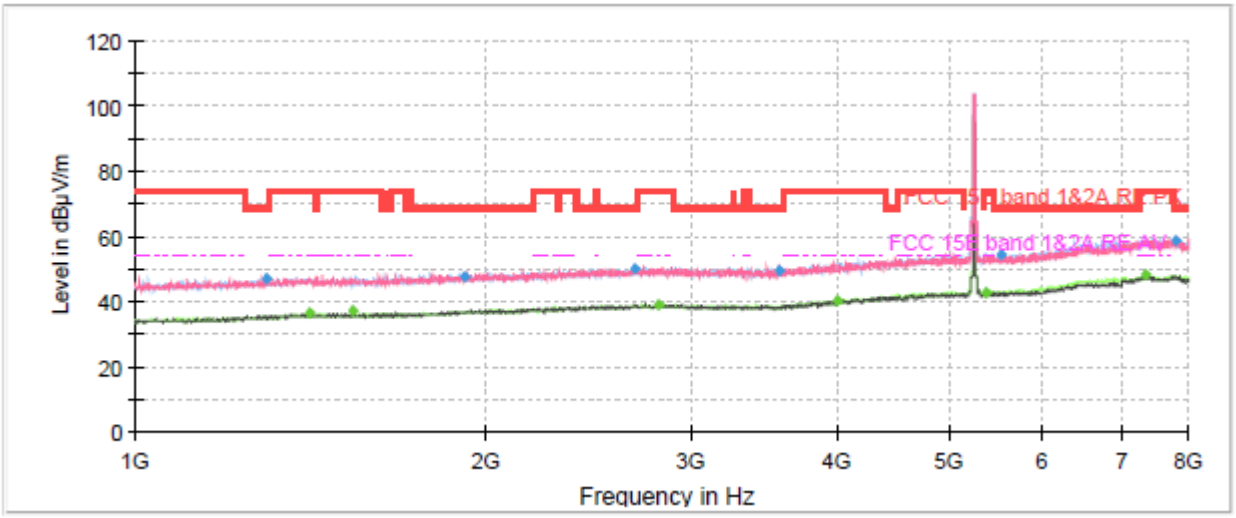


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1254.00	46.48	---	68.20	21.72	200.0	V	161.00	-8
1343.90	---	35.37	54.00	18.63	300.0	V	0.00	-7
1692.71	---	35.95	54.00	18.05	200.0	V	95.00	-6
1906.17	47.70	---	68.20	20.50	200.0	H	98.00	-5
2683.29	50.10	---	68.20	18.10	100.0	V	0.00	-4
2768.44	---	38.92	54.00	15.08	100.0	H	284.00	-4
2912.48	49.99	---	68.20	18.21	300.0	H	359.00	-3
3994.27	---	39.67	54.00	14.33	100.0	V	22.00	-1
5367.44	---	42.53	54.00	11.47	100.0	V	69.00	4
5605.53	54.06	---	68.20	14.14	100.0	H	344.00	4
7333.99	---	47.49	54.00	6.51	100.0	V	12.00	9
7795.04	58.62	---	68.20	9.58	100.0	V	28.00	9

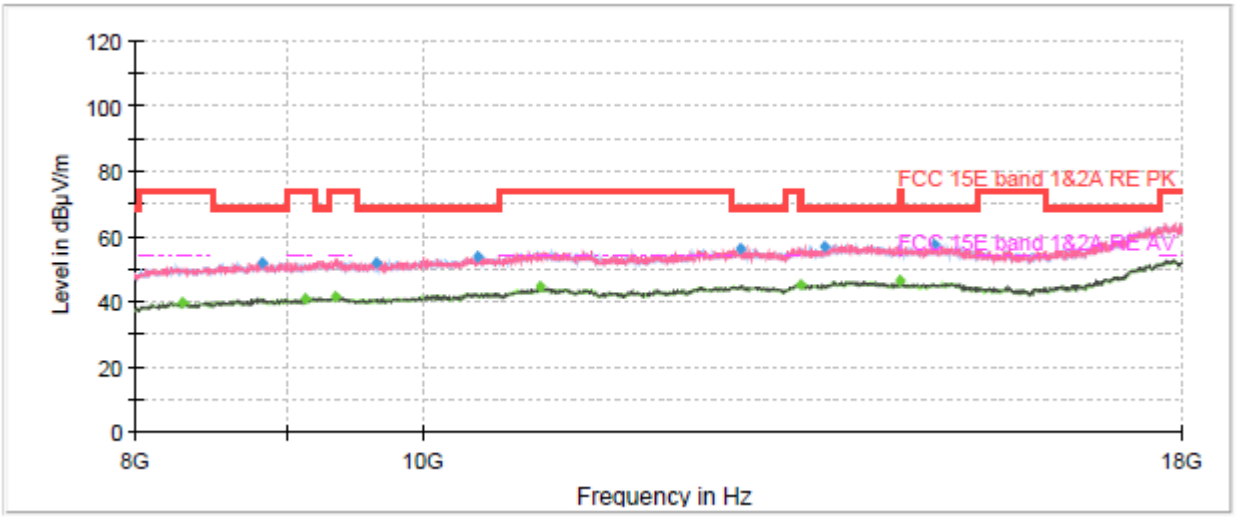
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH48



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

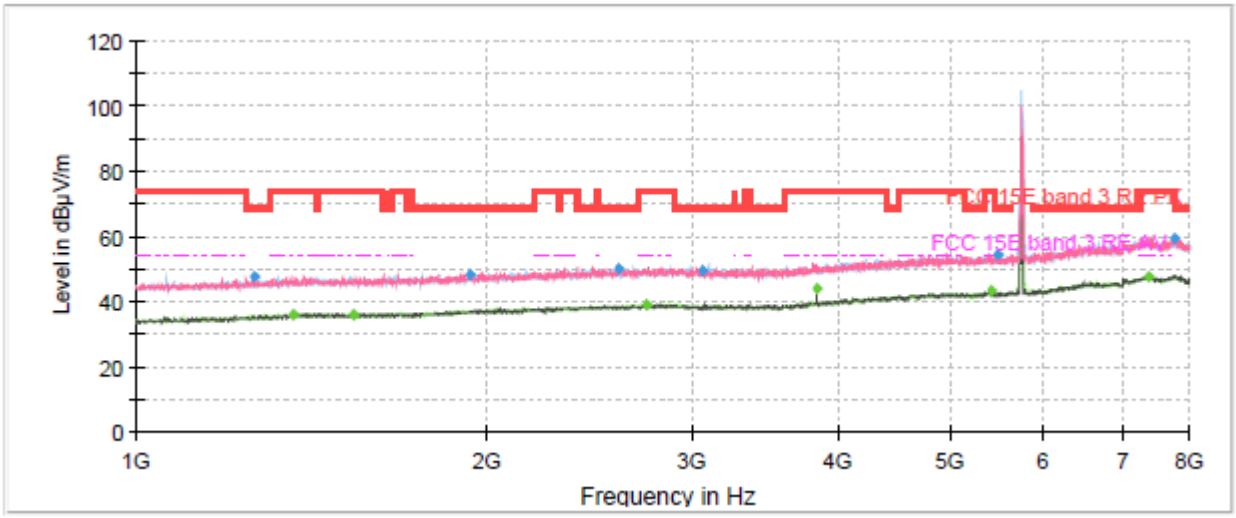


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1297.87	46.49	---	68.20	21.71	200.0	H	350.00	-7
1412.93	---	36.05	54.00	17.95	200.0	H	308.00	-7
1537.67	---	37.16	54.00	16.84	200.0	H	328.00	-6
1919.43	47.48	---	68.20	20.72	200.0	H	353.00	-5
2681.63	49.93	---	68.20	18.27	100.0	V	359.00	-4
2810.13	---	38.77	54.00	15.23	100.0	H	0.00	-3
3566.83	49.42	---	68.20	18.78	200.0	V	188.00	-3
4001.05	---	40.28	54.00	13.72	100.0	V	267.00	-1
5370.94	---	42.59	54.00	11.41	100.0	H	136.00	4
5532.83	53.99	---	68.20	14.21	100.0	H	122.00	4
7357.13	---	47.78	54.00	6.22	100.0	H	68.00	9
7795.62	58.59	---	68.20	9.61	100.0	V	357.00	9

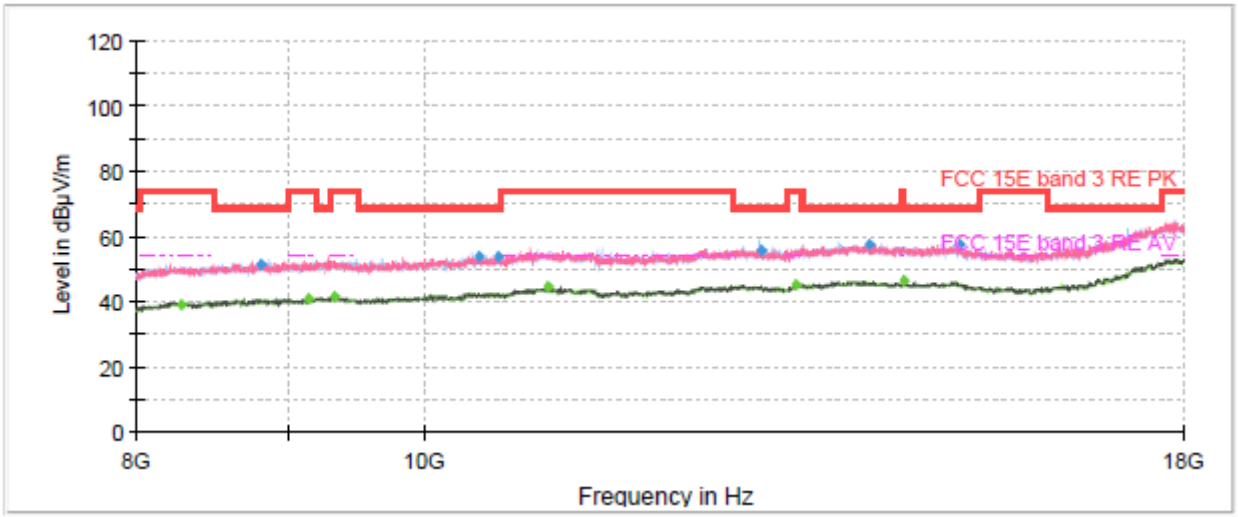
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH149



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

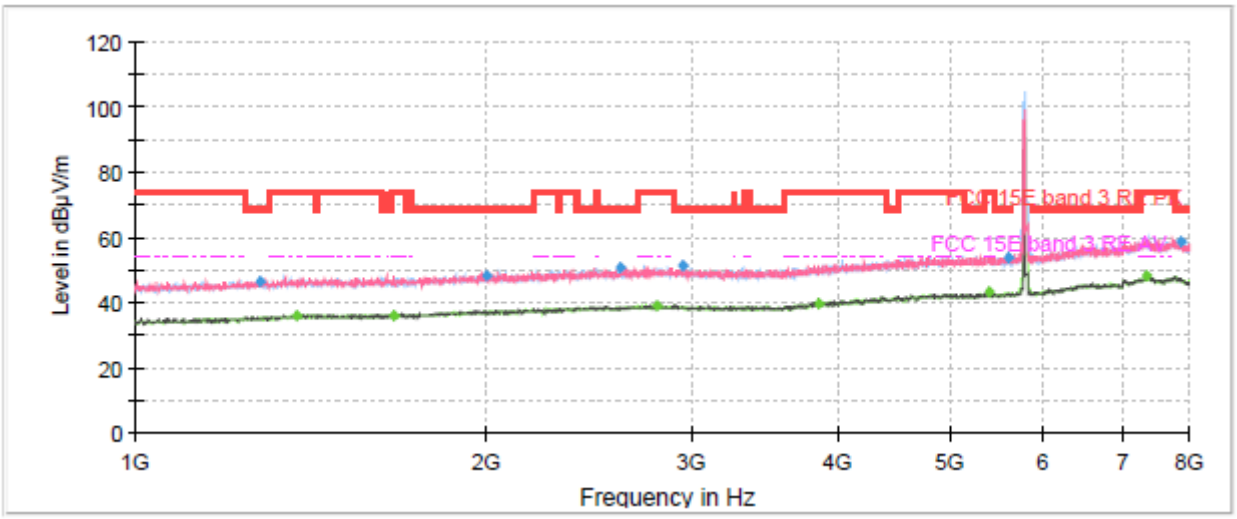


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1261.90	47.09	---	68.20	21.11	200.0	V	245.00	-8
1363.35	---	35.74	54.00	18.26	100.0	V	137.00	-7
1539.22	---	35.92	54.00	18.08	200.0	V	0.00	-6
1936.23	47.98	---	68.20	20.22	100.0	H	3.00	-5
2589.73	50.04	---	68.20	18.16	100.0	H	18.00	-4
2736.59	---	38.90	54.00	15.10	100.0	V	348.00	-4
3061.99	49.28	---	68.20	18.92	100.0	H	204.00	-3
3829.85	---	43.83	54.00	10.17	100.0	H	60.00	-1
5399.00	---	42.81	54.00	11.19	200.0	V	7.00	4
5487.49	53.97	---	68.20	14.23	200.0	H	286.00	4
7374.52	---	47.52	54.00	6.48	200.0	V	1.00	9
7758.10	59.21	---	68.20	8.99	200.0	V	204.00	9

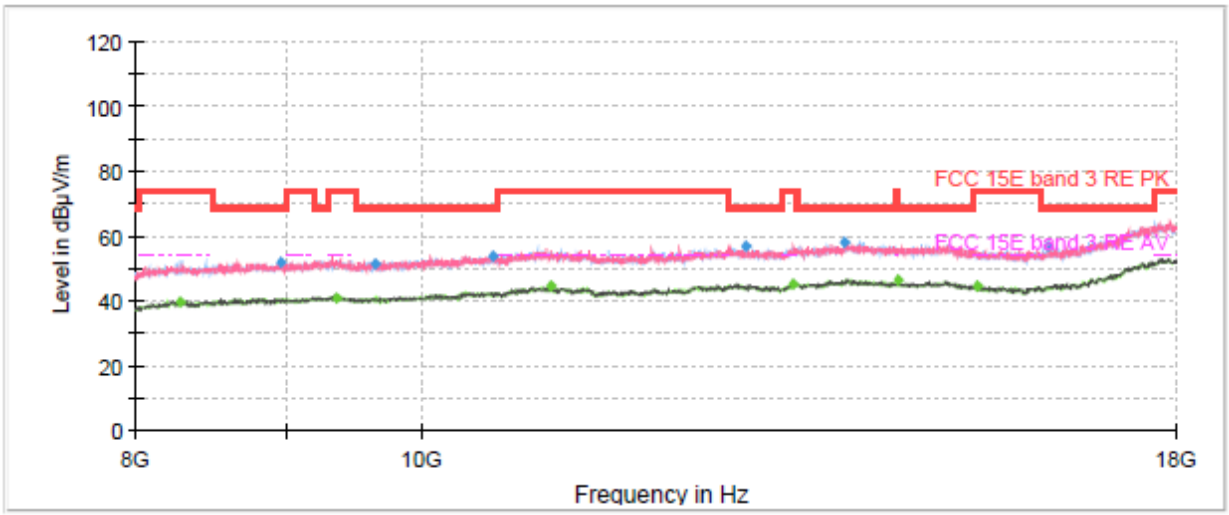
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH157



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

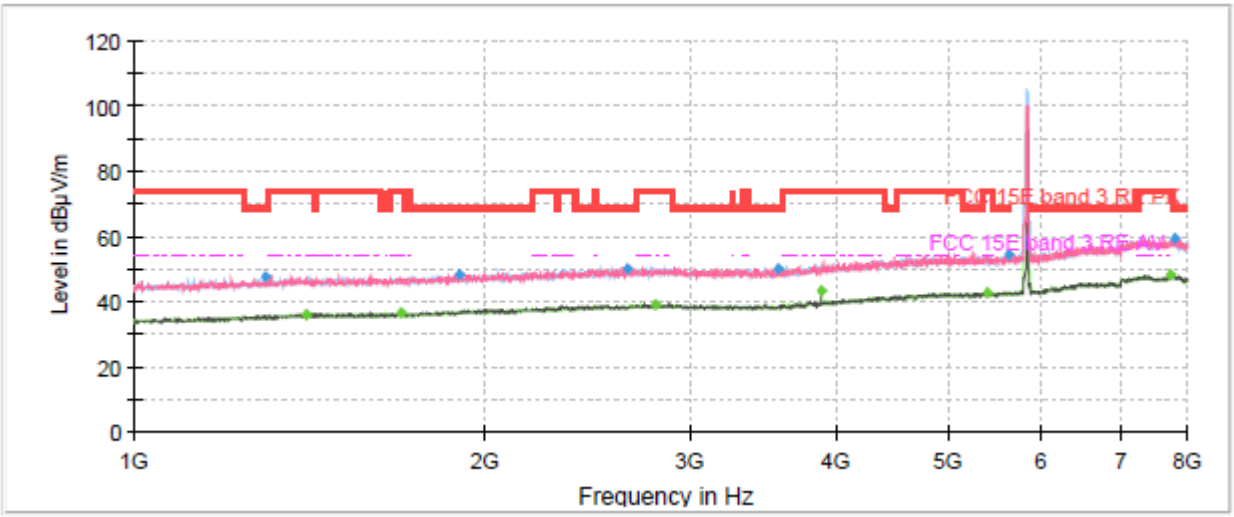


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1277.27	46.14	---	68.20	22.06	100.0	V	79.00	-8
1378.19	---	35.90	54.00	18.10	200.0	V	0.00	-7
1664.10	---	35.75	54.00	18.25	200.0	H	333.00	-6
1999.68	48.13	---	68.20	20.07	100.0	H	359.00	-5
2600.52	50.52	---	68.20	17.68	100.0	H	329.00	-4
2799.02	---	39.04	54.00	14.96	100.0	H	194.00	-3
2944.70	51.04	---	68.20	17.16	100.0	V	45.00	-3
3856.83	---	39.09	54.00	14.91	100.0	H	60.00	-1
5397.64	---	42.87	54.00	11.13	100.0	V	0.00	4
5598.16	53.62	---	68.20	14.58	100.0	V	232.00	4
7362.17	---	47.85	54.00	6.15	200.0	H	83.00	9
7866.62	58.74	---	68.20	9.46	200.0	V	357.00	9

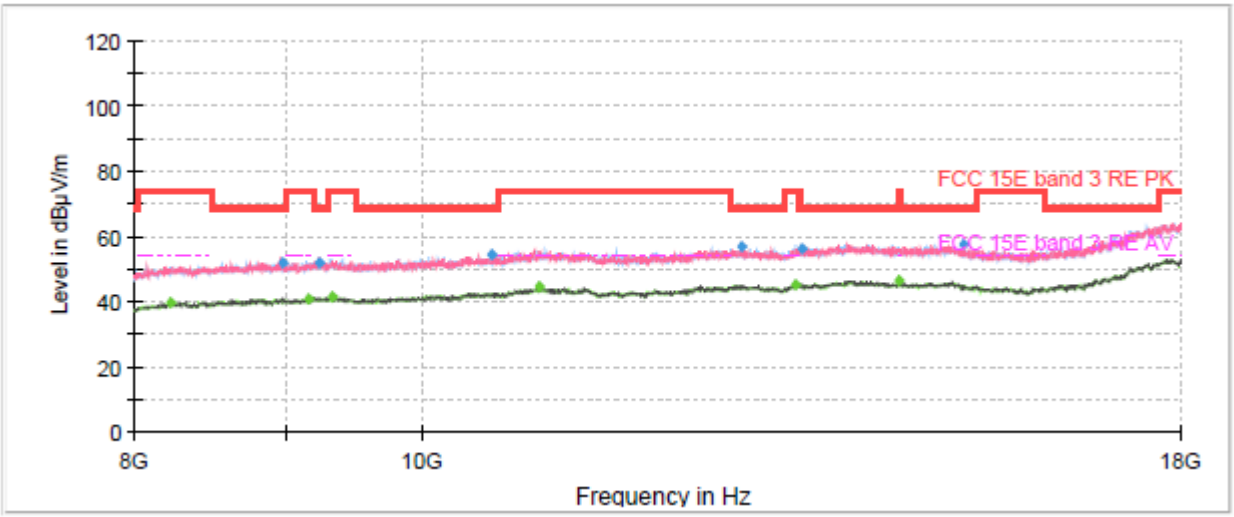
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT20) CH100



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

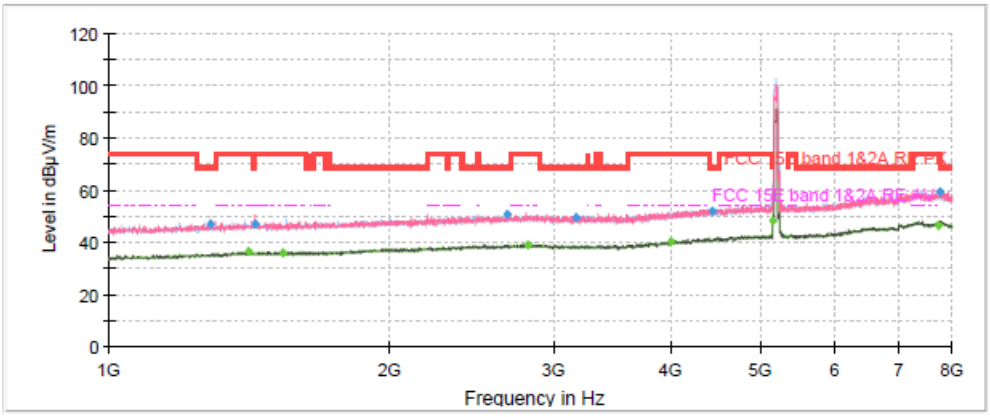


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1294.25	47.08	---	68.20	21.12	100.0	V	92.00	-7
1402.91	---	35.82	54.00	18.18	200.0	H	355.00	-7
1696.25	---	36.24	54.00	17.76	200.0	V	83.00	-6
1897.25	47.89	---	68.20	20.31	200.0	H	75.00	-6
2649.85	49.76	---	68.20	18.44	100.0	V	4.00	-4
2795.79	---	38.97	54.00	15.03	200.0	H	22.00	-3
3568.47	49.75	---	68.20	18.45	200.0	V	0.00	-3
3883.26	---	43.02	54.00	10.98	200.0	H	6.00	-1
5375.48	---	42.54	54.00	11.46	200.0	V	351.00	4
5632.80	54.14	---	68.20	14.06	200.0	H	184.00	4
7747.04	---	47.81	54.00	6.19	100.0	V	22.00	9
7798.49	58.84	---	68.20	9.36	100.0	V	92.00	9

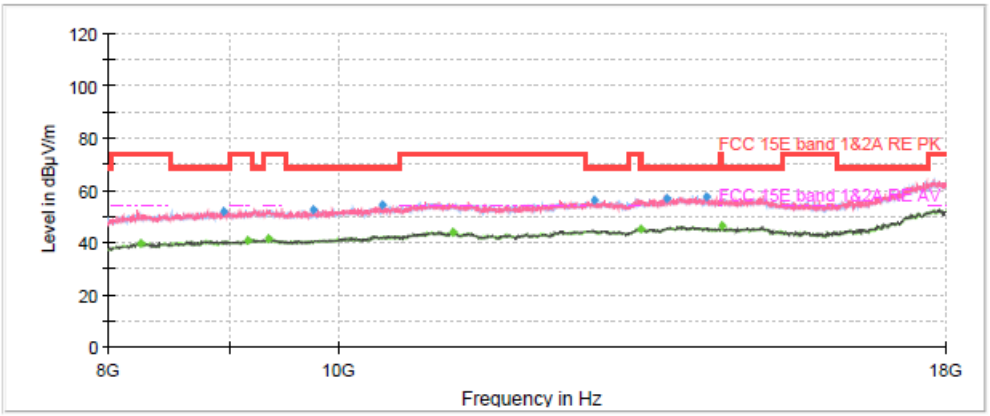
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT40) CH38



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

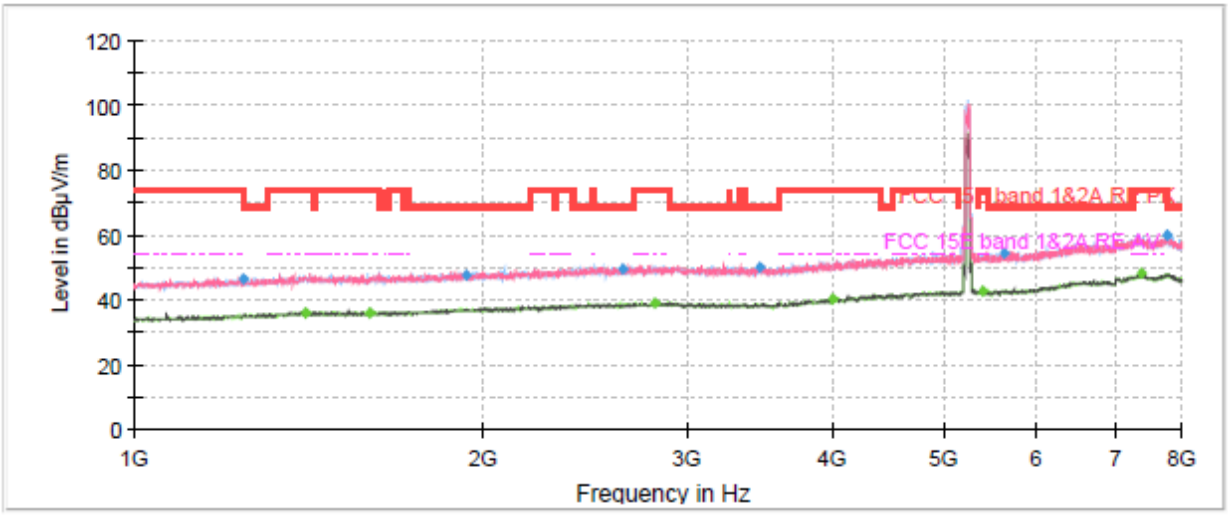


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1282.53	47.04	---	68.20	21.16	100.0	H	297.00	-8
1412.14	---	36.02	54.00	17.98	200.0	V	190.00	-7
1435.30	46.83	---	74.00	27.17	100.0	V	216.00	-7
1537.62	---	35.71	54.00	18.29	200.0	H	10.00	-6
2667.00	50.26	---	68.20	17.94	200.0	H	86.00	-4
2807.50	---	38.69	54.00	15.31	200.0	V	0.00	-3
3164.92	49.38	---	68.20	18.82	100.0	H	129.00	-3
3999.97	---	39.93	54.00	14.07	300.0	V	0.00	-1
4426.92	51.55	---	68.20	16.65	100.0	H	284.00	1
5149.20	---	47.82	54.00	6.18	100.0	H	344.00	3
7741.28	---	46.10	54.00	7.90	100.0	H	53.00	9
7764.39	58.92	---	68.20	9.28	300.0	V	22.00	9

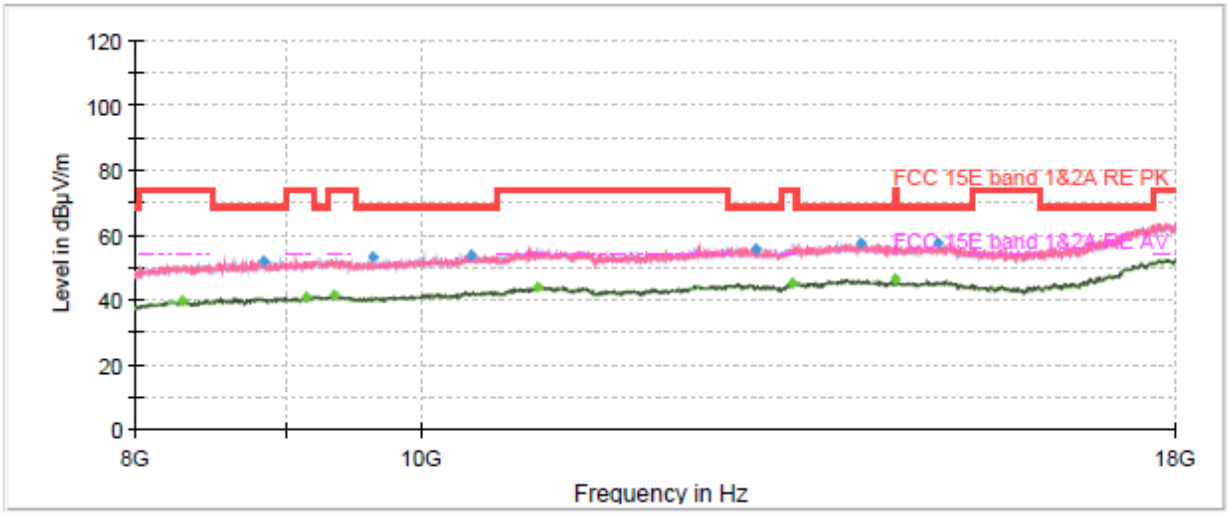
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT40) CH46



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

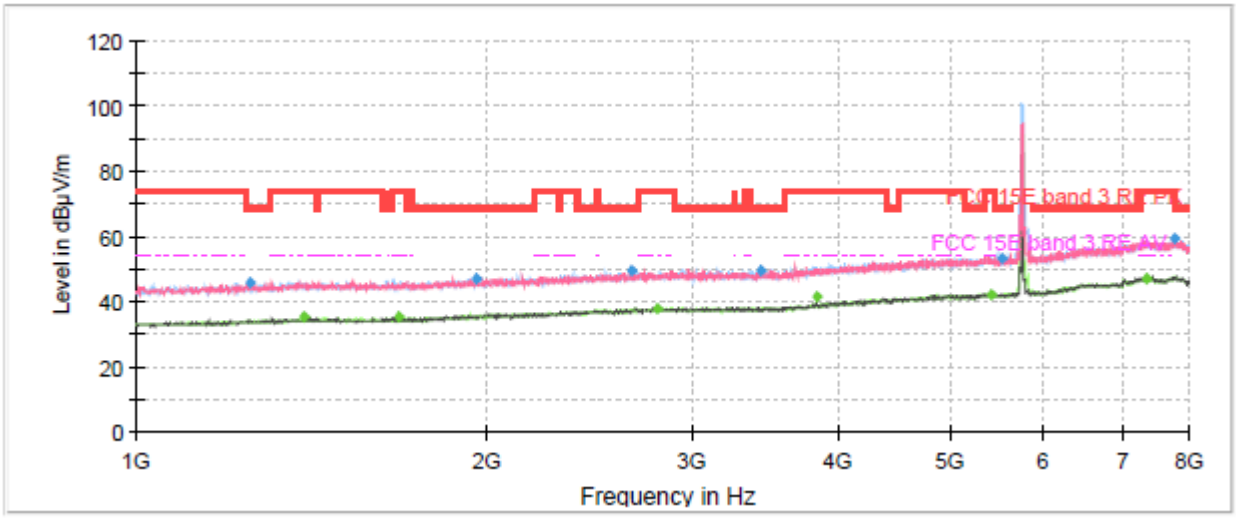


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1243.68	46.19	---	68.20	22.01	100.0	H	40.00	-8
1406.48	---	35.94	54.00	18.06	100.0	H	20.00	-7
1597.38	---	35.90	54.00	18.10	100.0	V	356.00	-6
1932.22	47.66	---	68.20	20.54	300.0	H	19.00	-5
2636.57	49.32	---	68.20	18.88	200.0	H	307.00	-4
2807.75	---	38.72	54.00	15.28	300.0	V	358.00	-3
3467.86	49.77	---	68.20	18.43	200.0	V	6.00	-3
3998.51	---	40.02	54.00	13.98	200.0	H	76.00	-1
5379.99	---	42.54	54.00	11.46	200.0	V	135.00	4
5625.63	54.10	---	68.20	14.10	100.0	V	359.00	4
7368.08	---	47.84	54.00	6.16	100.0	V	356.00	9
7759.18	59.79	---	68.20	8.41	300.0	H	122.00	9

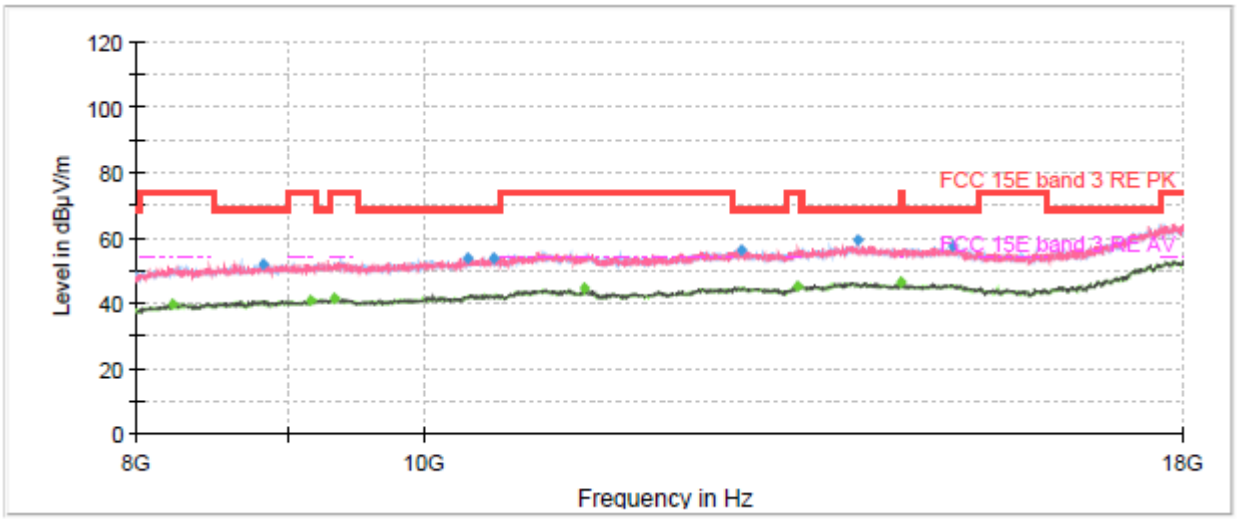
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT40) CH151



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.

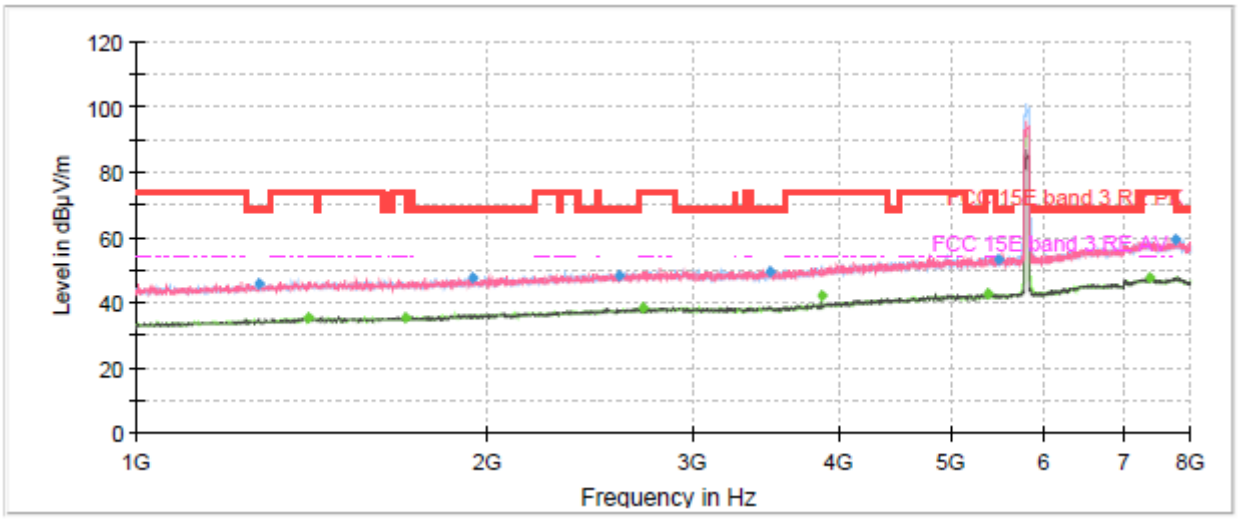


Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1250.27	45.52	---	68.20	22.68	100.0	V	343.00	-8
1393.81	---	34.79	54.00	19.21	200.0	H	265.00	-7
1680.05	---	34.92	54.00	19.08	200.0	H	355.00	-6
1958.99	46.66	---	68.20	21.54	200.0	H	339.00	-5
2661.15	49.22	---	68.20	18.98	200.0	H	259.00	-4
2796.23	---	37.73	54.00	16.27	200.0	V	243.00	-3
3429.62	49.38	---	68.20	18.82	100.0	V	300.00	-3
3836.60	---	41.34	54.00	12.66	100.0	H	278.00	-1
5401.92	---	42.13	54.00	11.87	200.0	H	339.00	4
5521.35	53.19	---	68.20	15.01	200.0	H	333.00	4
7346.24	---	47.08	54.00	6.92	200.0	H	272.00	9
7763.90	59.33	---	68.20	8.87	200.0	V	7.00	9

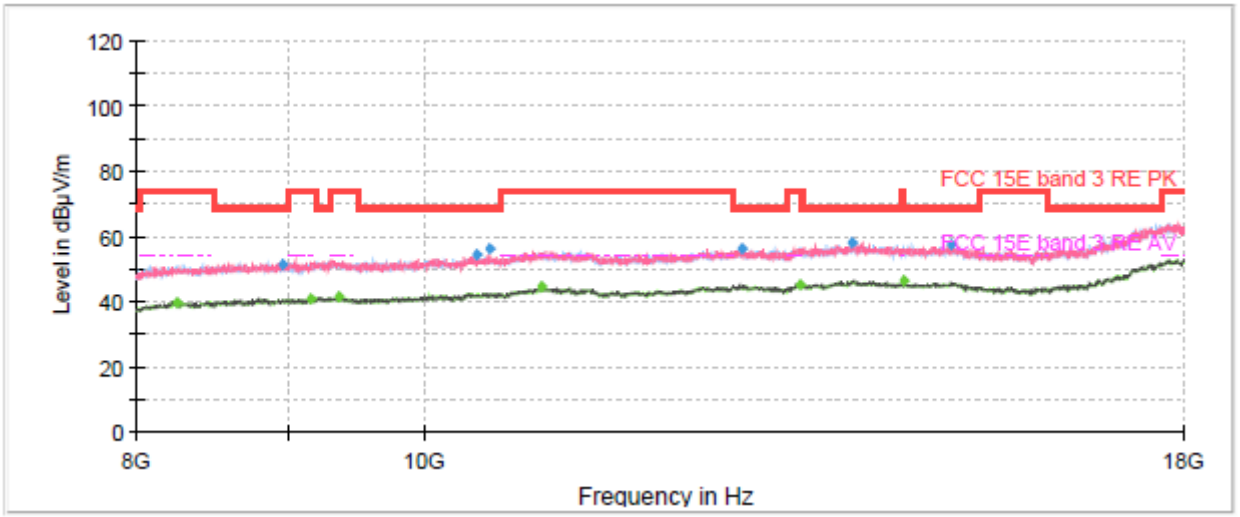
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11n (HT40) CH159



Radiates Emission from 1GHz to 8GHz

Note: The signal beyond the limit is carrier.



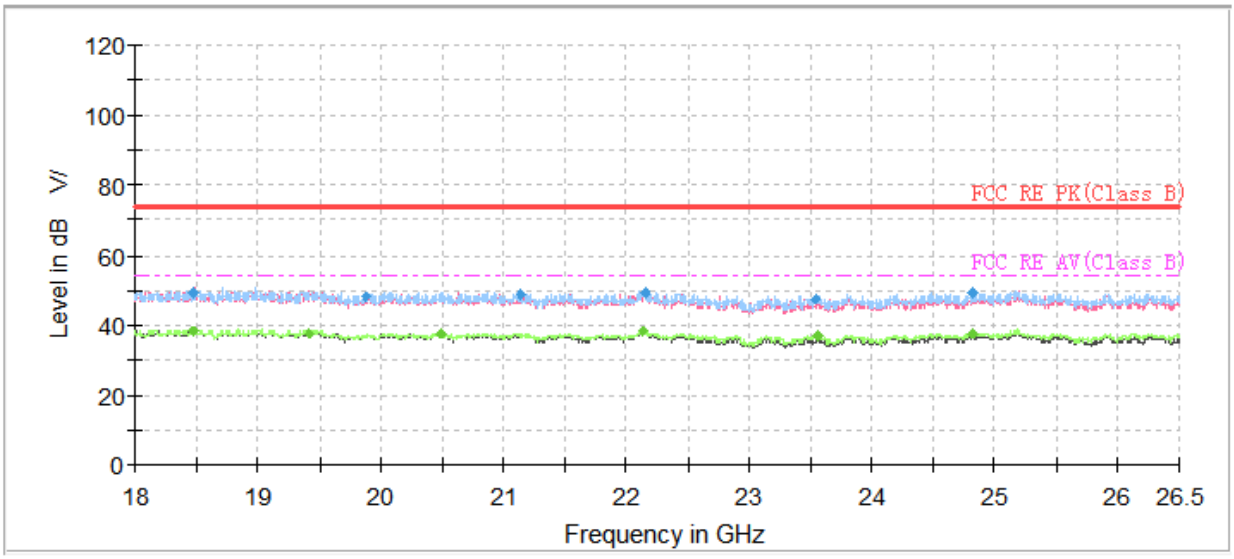
Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1275.50	45.75	---	68.20	22.45	200.0	H	353.00	-8
1407.08	---	34.97	54.00	19.03	100.0	H	21.00	-7
1704.20	---	35.34	54.00	18.66	200.0	H	136.00	-6
1939.50	47.47	---	68.20	20.73	100.0	H	68.00	-5
2594.68	48.20	---	68.20	20.00	200.0	H	0.00	-4
2721.53	---	37.95	54.00	16.05	100.0	V	298.00	-4
3489.04	49.53	---	68.20	18.67	200.0	H	288.00	-3
3863.08	---	42.08	54.00	11.92	100.0	H	34.00	-1
5370.06	---	42.42	54.00	11.58	200.0	V	3.00	4
5484.49	52.77	---	68.20	15.43	200.0	H	357.00	4
7380.05	---	47.38	54.00	6.62	100.0	V	352.00	9
7768.94	58.88	---	68.20	9.32	100.0	H	0.00	9

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

During the test, the Radiates Emission from 18GHz to 40GHz was performed in all modes with all channels, 802.11n (HT20) Channel 157 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

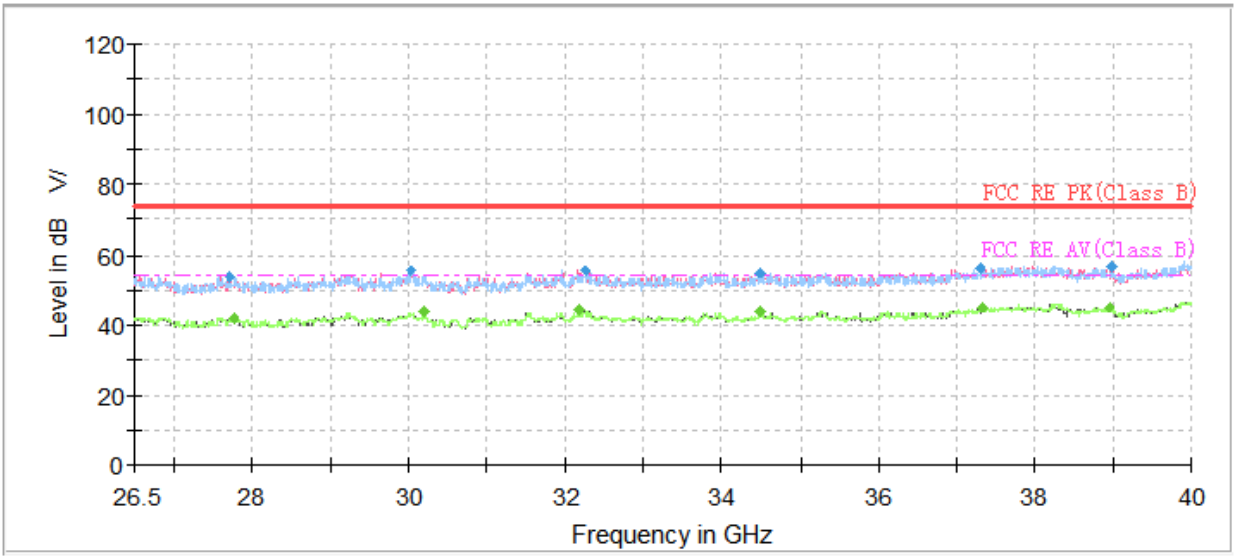
A symbol (dB V/) in the test plot below means (dBuV/m)



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
18466.46	---	37.87	54.00	16.13	200.0	V	54.00	-2
18467.39	49.23	---	74.00	24.77	200.0	H	278.00	-2
19416.53	---	37.75	54.00	16.25	200.0	V	68.00	-1
19872.74	48.30	---	74.00	25.70	200.0	V	144.00	-1
20496.45	---	37.29	54.00	16.71	200.0	H	355.00	0
21140.11	48.84	---	74.00	25.16	200.0	H	0.00	0
22138.75	---	38.13	54.00	15.87	200.0	H	288.00	1
22150.37	49.18	---	74.00	24.82	200.0	H	185.00	1
23534.68	47.48	---	74.00	26.52	100.0	H	208.00	2
23555.20	---	36.71	54.00	17.29	100.0	H	60.00	2
24813.21	---	37.82	54.00	16.18	100.0	H	354.00	3
24818.23	49.47	---	74.00	24.53	200.0	H	283.00	3

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



Radiates Emission from 26.5GHz to 40GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
27713.63	53.50	---	74.00	20.50	200.0	H	0.00	6
27760.46	---	42.00	54.00	12.00	200.0	V	0.00	6
30039.43	55.15	---	74.00	18.85	200.0	H	267.00	7
30201.42	---	43.98	54.00	10.02	200.0	H	341.00	7
32171.44	---	44.12	54.00	9.88	200.0	H	337.00	8
32245.93	55.22	---	74.00	18.78	200.0	H	132.00	8
34501.52	54.55	---	74.00	19.45	200.0	V	187.00	8
34503.12	---	43.65	54.00	10.35	200.0	V	102.00	8
37300.19	56.03	---	74.00	17.97	200.0	H	0.00	11
37328.43	---	45.20	54.00	8.80	200.0	H	307.00	11
38960.42	---	44.63	54.00	9.37	200.0	V	107.00	10
38987.15	56.44	---	74.00	17.56	200.0	V	255.00	10

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

5.6. Conducted Emission

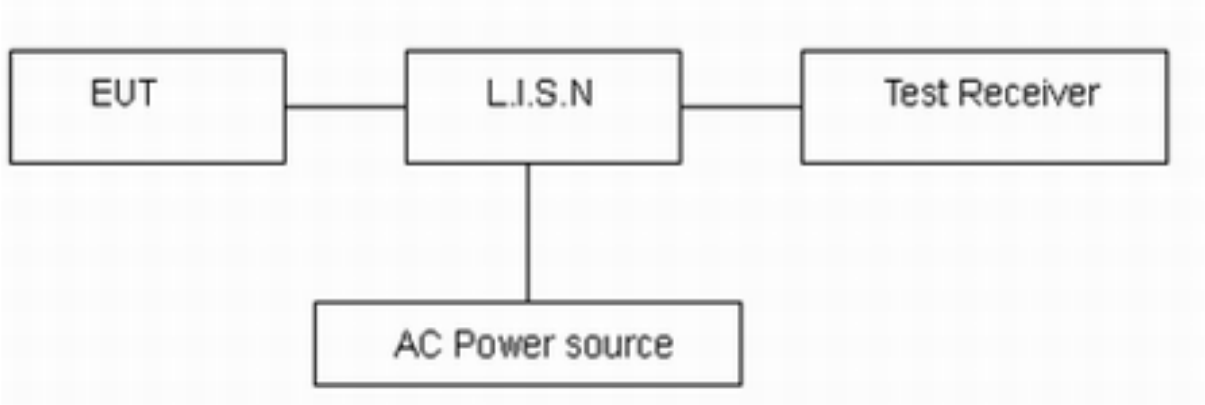
Ambient condition

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.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:

The equipment doesn't connected to public network, therefore this requirement do not apply.

6. Main Test Instruments

Date of Testing: January 11, 2022

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Power sensor	R&S	NRP18S	101954	2021-05-15	2022-05-14
Spectrum Analyzer	KEYSIGHT	N9020A	MY54420163	2021-12-12	2022-12-11
Climate Chamber	ESPEC	SU-242	93000506	2021-12-12	2022-12-11

Date of Testing: October 12, 2022

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Power sensor	R&S	OSP-B157W8	100924	2021-12-12	2022-12-11
Spectrum Analyzer	KEYSIGHT	N9020A	MY54420163	2021-12-12	2022-12-11
DC Power Supply	GWINSTEK	GPS-3030D	GEQ875952	2022-05-14	2023-05-13
Climate Chamber	ESPEC	SU-242	93000506	2021-12-12	2022-12-11

Date of Testing: July 23, 2022 ~ July 28, 2022

Name of Equipment	Manufacturer	Type/Model	Serial Number	Calibration Date	Expiration Time
Radiated Emission					
EMI Test Receiver	R&S	ESR	102389	2022-05-25	2023-05-24
Spectrum Analyzer	R&S	FSV40	100816	2021-12-12	2022-12-11
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	1023	2020-05-05	2023-05-04
Horn Antenna	R&S	HF907	102723	2020-08-11	2023-08-10
Horn Antenna	ETS-Lindgren	3160-09	00102643	2021-10-10	2024-10-09
Horn Antenna	STEATITE	QSH-SL-26-40-K-15	16779	2019-12-24	2022-12-23
Software	R&S	EMC32	9.26.01	/	/

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

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.