RF TEST REPORT

Applicant	ZTE Corporation
FCC ID	SRQ-ZTE7540NMX
Product	5G NR Multi model smart phone
Model	ZTE 7540N
Report No.	R2206A0499-R7
Issue Date	July 18, 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*

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TABLE OF CONTENT

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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	PASS
Date of Testing: June 13, 2022 ~ July 8, 2022 Date of Sample Received: June 10, 2022			
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.			

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1. Test Laboratory

1.1. Notes of the test report

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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
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2. General Description of Equipment under Test

2.1. Applicant and Manufacturer Information

Applicant	ZTE Corporation
Applicant address	ZTE Plaza, #55 Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, China
Manufacturer	ZTE Corporation
Manufacturer address	ZTE Plaza, #55 Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, China

2.2. General information

EUT Description	
Model	ZTE 7540N
IMEI	860703060001938
Hardware Version	zs9A
Software Version	MyOS11.0.0_7540N_TEL
Power Supply	Battery / AC adapter
Antenna Type	Internal Antenna
Antenna Gain	-1.3dBi
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	17.48dBm
Testing temperature range:	-20 ° C to 50° C
Operating temperature range:	-10 ° C to 55° C
Operating voltage range:	3.5V to 4.45V
State DC voltage:	3.87V
EUT Accessory	
Adapter 1	Manufacturer: Jiangsu Chenyang Electron Co., Ltd. Model: STC-A520A-Z
Adapter 2	Manufacturer: Shenzhen Ruijing Industrial Co Ltd Model: STC-A520A-Z
Battery	Manufacturer: ZHONGSHAN TIANMAO BATTERY CO.LTD. Model: Li3839T44P8h866445
USB Cable1	Manufacturer: Shenzhen Luxshare Precision Industry Co.,Ltd. Model: USB-TC20-W-70-M-L

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USB Cable 2	Manufacturer: Dongguan Guojun Plastic Electronic Co.,Ltd Model: USB-TC20-W-70-M-L

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. There are more than one Adapter and USB Cable, each one should be applied throughout the compliance test respectively, however, only the worst case (Adapter 1, and USB Cable 2) will be recorded in this report.

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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

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4. Test Configuration

Test Mode

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

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

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

Worst-case data rates are shown as following table.

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

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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

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5. Test Case Results

5.1. Occupied Bandwidth

Ambient condition

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

Method of Measurement

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

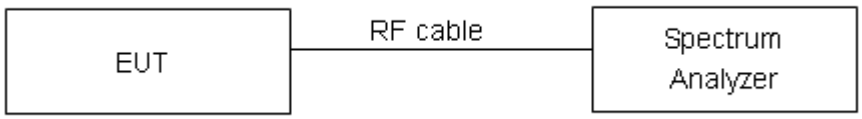
For U-NII-1, set RBW ≈1% OCB kHz, VBW ≥ 3 × RBW, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the fundamental emission.

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

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

Use the 99 % power bandwidth function of the instrument

Test Setup



Limits

Rule FCC Part §15.407(e)

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Measurement Uncertainty

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

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Test Results:

U-NII-1

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	36/5180	16.91	28.75	PASS
	40/5200	16.86	29.94	PASS
	48/5240	16.91	29.10	PASS
802.11n HT20	36/5180	17.91	29.99	PASS
	40/5200	17.94	29.88	PASS
	48/5240	17.89	29.66	PASS
802.11n HT40	38/5190	36.51	60.00	PASS
	46/5230	36.50	59.93	PASS
802.11ac VHT20	36/5180	17.62	20.20	PASS
	40/5200	17.60	20.27	PASS
	48/5240	17.61	20.36	PASS
802.11ac VHT40	38/5190	36.02	43.94	PASS
	46/5230	35.95	40.93	PASS
802.11ac VHT80	42/5210	75.20	80.91	PASS

U-NII-3

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11a	149/5745	17.04	15.10	500	PASS
	157/5785	16.94	15.64	500	PASS
	165/5825	17.06	14.95	500	PASS
802.11n HT20	149/5745	17.82	15.04	500	PASS
	157/5785	17.93	15.00	500	PASS
	165/5825	18.00	15.03	500	PASS
802.11n HT40	151/5755	36.50	35.01	500	PASS
	159/5795	36.47	35.07	500	PASS
802.11ac VHT20	149/5745	17.60	13.84	500	PASS
	157/5785	17.62	16.30	500	PASS
	165/5825	17.58	15.06	500	PASS
802.11ac VHT40	151/5755	36.00	35.12	500	PASS
	159/5795	35.97	34.99	500	PASS
802.11ac VHT80	155/5775	75.18	75.08	500	PASS

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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

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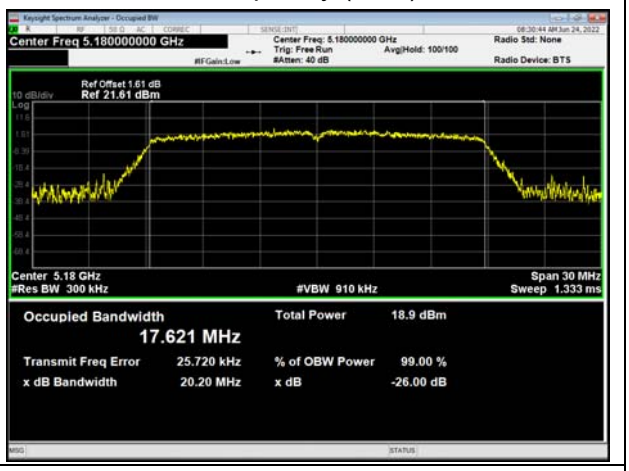
U-NII-1, 802.11n HT40

Carrier frequency (MHz): 5190

U-NII-1, 802.11ac VHT20

Carrier frequency (MHz): 5180

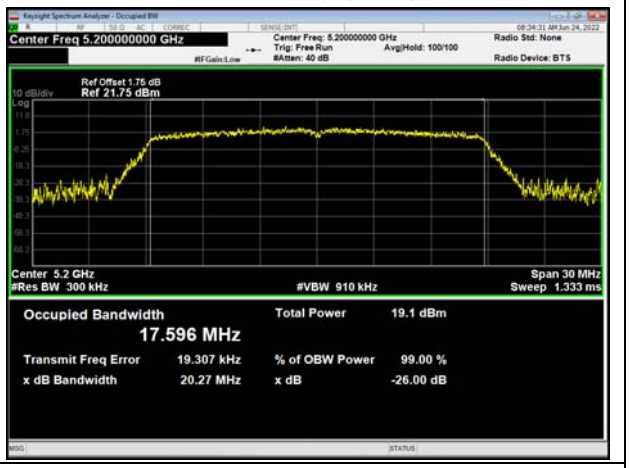


U-NII-1, 802.11n HT40

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

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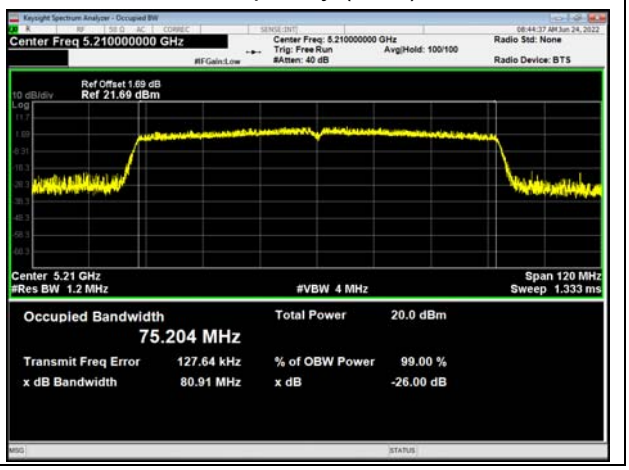
U-NII-1, 802.11ac VHT40 Carrier frequency (MHz): 5230	U-NII-1, 802.11ac VHT80 Carrier frequency (MHz): 5210
	

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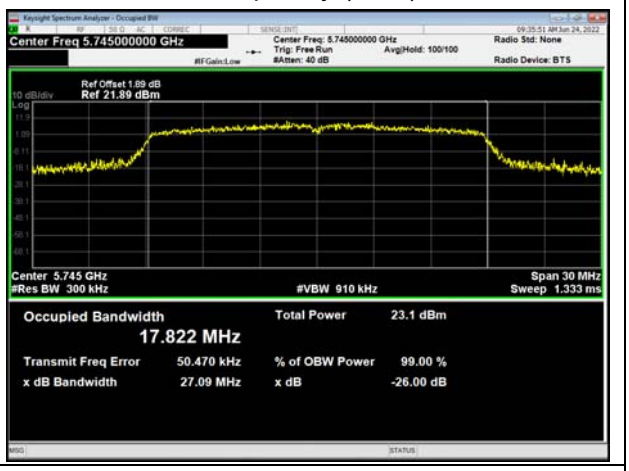
99% bandwidth

U-NII-3, 802.11a

Carrier frequency (MHz): 5745

U-NII-3, 802.11n HT20

Carrier frequency (MHz): 5745

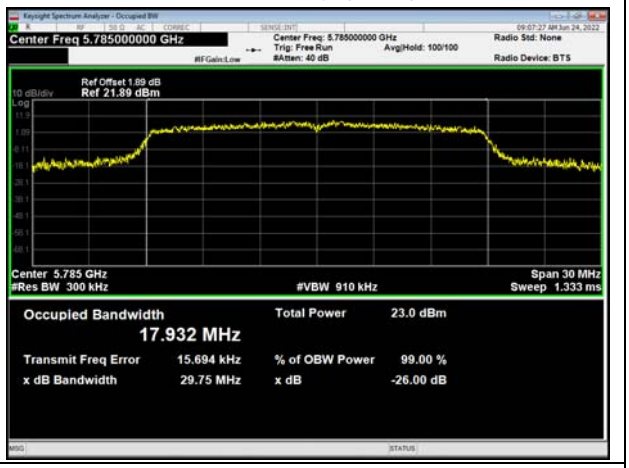


U-NII-3, 802.11a

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

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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

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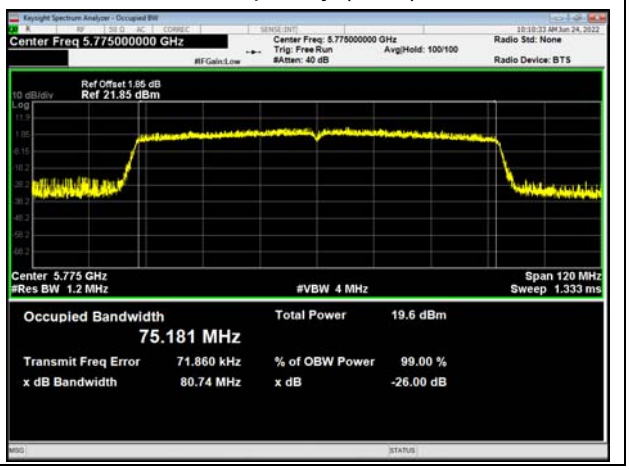
U-NII-3, 802.11ac VHT40 Carrier frequency (MHz): 5795	U-NII-3, 802.11ac VHT80 Carrier frequency (MHz): 5775
	

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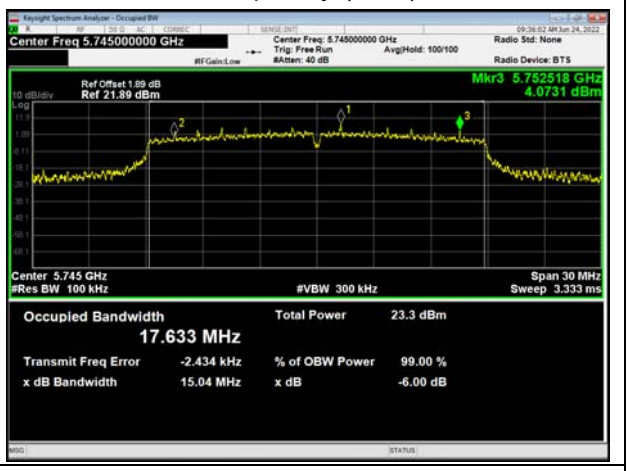
Minimum 6 dB bandwidth

U-NII-3, 802.11a

Carrier frequency (MHz): 5745

U-NII-3, 802.11n HT20

Carrier frequency (MHz): 5745

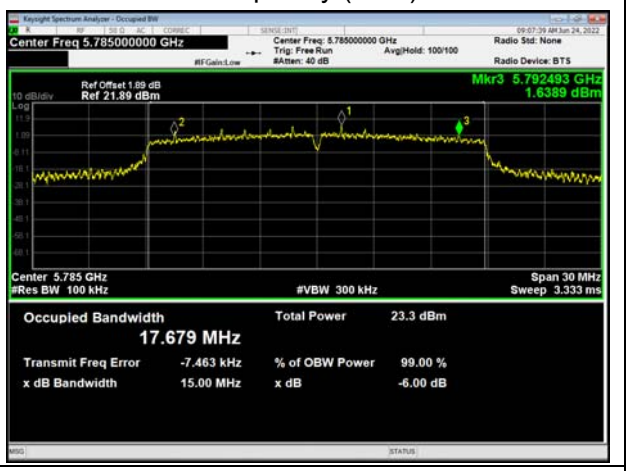


U-NII-3, 802.11a

Carrier frequency (MHz): 5785

U-NII-3, 802.11n HT20

Carrier frequency (MHz): 5785

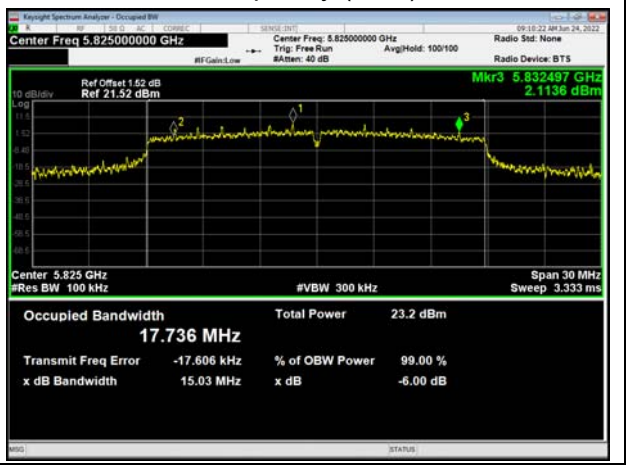


U-NII-3, 802.11a

Carrier frequency (MHz): 5825

U-NII-3, 802.11n HT20

Carrier frequency (MHz): 5825



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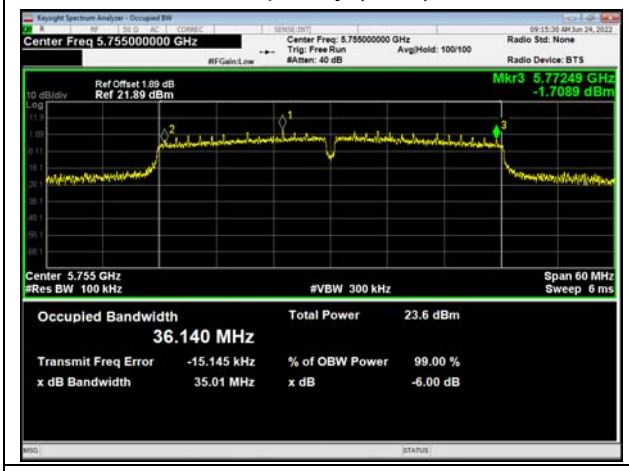
U-NII-3, 802.11n HT40

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

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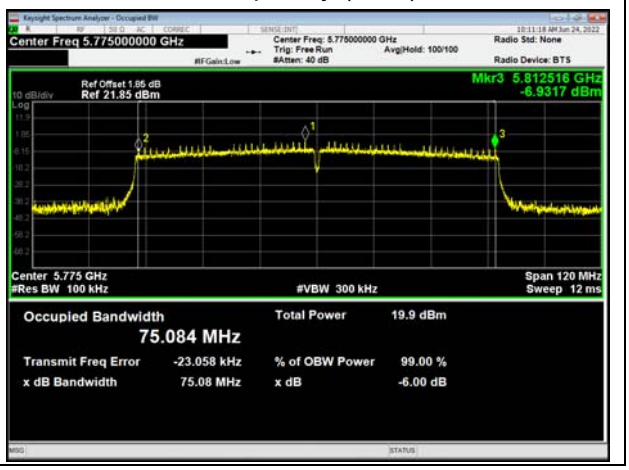
U-NII-3, 802.11ac VHT40 Carrier frequency (MHz): 5795	U-NII-3, 802.11ac VHT80 Carrier frequency (MHz): 5775
	

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5.2. Average Power Output

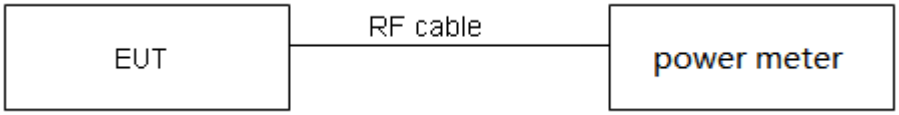
Ambient condition

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)(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

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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.

(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.

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Test Results

Mode	Channel/ Frequency (MHz)	Duty cycle	Duty cycle correction Factor(dB)
802.11a	36/5180	97.69	0.10
	40/5200	97.69	0.10
	48/5240	97.62	0.10
802.11n HT20	36/5180	97.53	0.11
	40/5200	97.53	0.11
	48/5240	97.46	0.11
802.11n HT40	38/5190	95.17	0.22
	46/5230	95.02	0.22
802.11ac VHT20	36/5180	97.48	0.11
	40/5200	97.48	0.11
	48/5240	97.48	0.11
802.11ac VHT40	38/5190	95.20	0.21
	46/5230	95.20	0.21
802.11ac VHT80	42/5210	90.78	0.42

Mode	Channel/ Frequency (MHz)	Duty cycle	Duty cycle correction Factor(dB)
802.11a	149/5745	97.62	0.10
	157/5785	97.69	0.10
	165/5825	97.62	0.10
802.11n HT20	149/5745	97.53	0.11
	157/5785	97.46	0.11
	165/5825	97.46	0.11
802.11n HT40	151/5755	95.17	0.22
	159/5795	95.03	0.22
802.11ac VHT20	149/5745	97.48	0.11
	157/5785	97.55	0.11
	165/5825	97.55	0.11
802.11ac VHT40	151/5755	95.20	0.21
	159/5795	95.20	0.21
802.11ac VHT80	155/5775	90.81	0.42

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Power Index								
Channel	802.11a	802.11n HT20	802.11ac VHT20	Channel	802.11n HT40	802.11ac VHT40	Channel	802.11ac VHT80
CH36	20.50	20.50	16.50	CH38	20.50	16.50	CH42	16.50
CH40	20.50	20.50	16.50	CH46	20.50	16.50	/	/
CH48	20.50	20.50	16.50	/	/	/	/	/
CH149	20.00	20.50	16.00	CH151	20.00	16.00	CH155	16.50
CH157	20.00	20.50	16.00	CH159	20.00	16.00	/	/
CH165	20.50	20.50	16.50	/	/	/	/	/

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U-NII-1

Test Mode	Channel/ Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Conclusion
802.11a	36/5180	17.12	24	PASS
	40/5200	17.48	24	PASS
	48/5240	17.36	24	PASS
802.11n HT20	36/5180	17.08	24	PASS
	40/5200	17.40	24	PASS
	48/5240	17.35	24	PASS
802.11n HT40	38/5190	17.42	24	PASS
	46/5230	17.48	24	PASS
802.11ac VHT20	36/5180	13.26	24	PASS
	40/5200	13.33	24	PASS
	48/5240	13.35	24	PASS
802.11ac VHT40	38/5190	13.25	24	PASS
	46/5230	13.47	24	PASS
802.11ac VHT80	42/5210	13.34	24	PASS
Note: Output Power=Read Value + Duty cycle correction factor				

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U-NII-3

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Limit (dBm)	Conclusion
802.11a	149/5745	17.12	30	PASS
	157/5785	17.10	30	PASS
	165/5825	17.23	30	PASS
802.11n HT20	149/5745	17.31	30	PASS
	157/5785	17.36	30	PASS
	165/5825	17.14	30	PASS
802.11n HT40	151/5755	17.32	30	PASS
	159/5795	17.44	30	PASS
802.11ac VHT20	149/5745	13.06	30	PASS
	157/5785	13.18	30	PASS
	165/5825	13.13	30	PASS
802.11ac VHT40	151/5755	13.17	30	PASS
	159/5795	13.08	30	PASS
802.11ac VHT80	155/5775	13.40	30	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor				

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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.

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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

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Test Results

Voltage (V)	Temperature (°C)	U-NII-1 Test Results			
		5200MHz			
		1min	2min	5min	10min
3.87	-20	5200.004452	5200.002216	5199.995343	5199.988579
3.87	-10	5200.01386	5199.995146	5199.994828	5199.978736
3.87	0	5200.005589	5199.99047	5199.985233	5199.977272
3.87	10	5200.000503	5199.986894	5199.975551	5199.970542
3.87	20	5199.998132	5199.983142	5199.967657	5199.968482
3.87	30	5199.995877	5199.97988	5199.957948	5199.964487
3.87	40	5199.986999	5199.979031	5199.953055	5199.957332
3.87	50	5199.984846	5199.978681	5199.952405	5199.95573
3.5	20	5199.984841	5199.973797	5199.946468	5199.951812
4.45	20	5199.979888	5199.970795	5199.941417	5199.944855
Max. ΔMHz		-0.020112327	-0.029205303	-0.058582862	-0.055145052
PPM		-3.8677552	-5.616404448	-11.265935	-10.6048177

Voltage (V)	Temperature (°C)	U-NII-3 Test Results			
		5785MHz			
		1min	2min	5min	10min
3.87	-20	5785.00817	5785.003411	5785.002545	5785.00133
3.87	-10	5785.004673	5785.001767	5784.997687	5784.997092
3.87	0	5784.994712	5784.997176	5784.996102	5784.989335
3.87	10	5784.991789	5784.994946	5784.987629	5784.984314
3.87	20	5784.984562	5784.991741	5784.982898	5784.98243
3.87	30	5784.978019	5784.990177	5784.981841	5784.974562
3.87	40	5784.969136	5784.987731	5784.974951	5784.970286
3.87	50	5784.961191	5784.986204	5784.970616	5784.962543
3.5	20	5784.955463	5784.980686	5784.965908	5784.961139
4.45	20	5784.948055	5784.975988	5784.958971	5784.958055
3.87	-20	5785.00817	5785.003411	5785.002545	5785.00133
Max. ΔMHz		-0.051944872	-0.024012029	-0.041029054	-0.041945099
PPM		-8.979234504	-4.150739713	-7.09231707	-7.250665317

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5.4. Power Spectral Density

Ambient condition

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

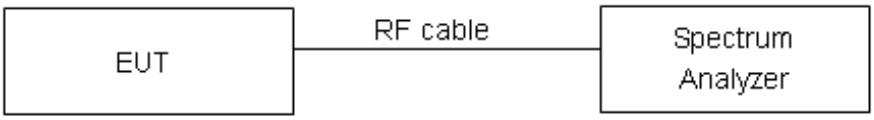
Method of Measurement

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)(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 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	11dBm/MHz
5725-5850	30dBm/500kHz

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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.

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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	36/5180	7.45	7.55	11	PASS
	40/5200	7.87	7.97	11	PASS
	48/5240	7.52	7.62	11	PASS
802.11n HT20	36/5180	7.47	7.58	11	PASS
	40/5200	7.66	7.77	11	PASS
	48/5240	7.77	7.88	11	PASS
802.11n HT40	38/5190	4.33	4.55	11	PASS
	46/5230	4.84	5.06	11	PASS
802.11ac VHT20	36/5180	3.22	3.33	11	PASS
	40/5200	3.68	3.79	11	PASS
	48/5240	3.38	3.49	11	PASS
802.11ac VHT40	38/5190	0.53	0.75	11	PASS
	46/5230	0.52	0.74	11	PASS
802.11ac VHT80	42/5210	-2.78	-2.36	11	PASS

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U-NII-3

Mode	Channel Number	Read Value (dBm/470kHz)	Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)	Conclusion
802.11a	149/5745	4.04	4.41	30	PASS
	157/5785	4.56	4.93	30	PASS
	165/5825	5.08	5.45	30	PASS
802.11n HT20	149/5745	4.29	4.67	30	PASS
	157/5785	4.83	5.21	30	PASS
	165/5825	5.25	5.63	30	PASS
802.11n HT40	151/5755	1.69	2.18	30	PASS
	159/5795	1.71	2.20	30	PASS
802.11ac VHT20	149/5745	0.75	1.13	30	PASS
	157/5785	0.44	0.82	30	PASS
	165/5825	1.10	1.48	30	PASS
802.11ac VHT40	151/5755	-2.38	-1.89	30	PASS
	159/5795	-2.51	-2.01	30	PASS
802.11ac VHT80	155/5775	-5.21	-4.52	30	PASS
Note: PSD=Read Value+Duty cycle correction factor +10*log(500/470) correction factor					

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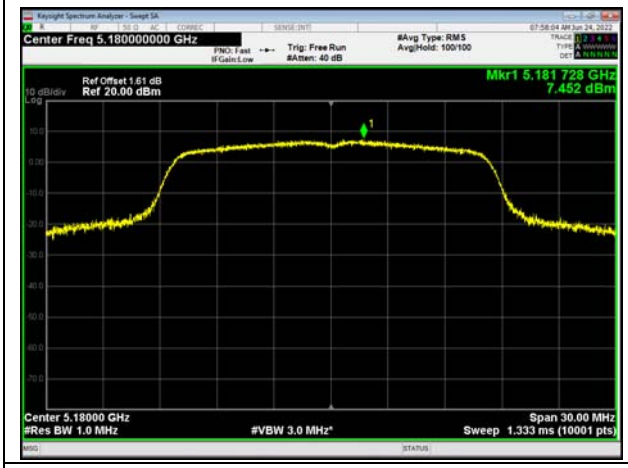
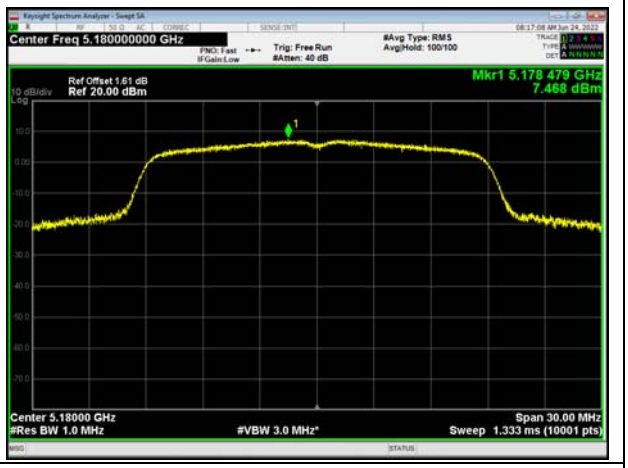
U-NII-1, 802.11a, Channel No.: 36



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



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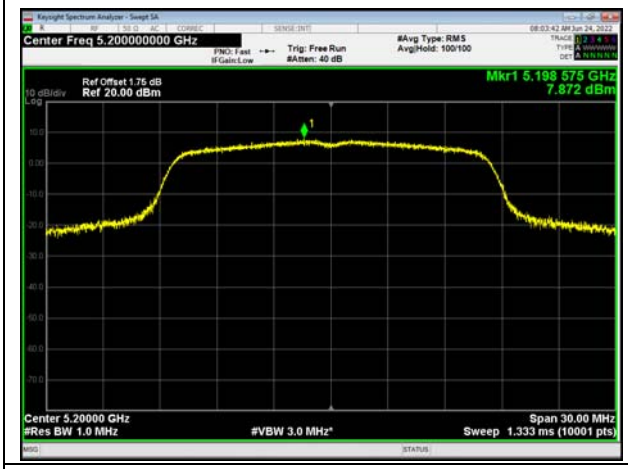

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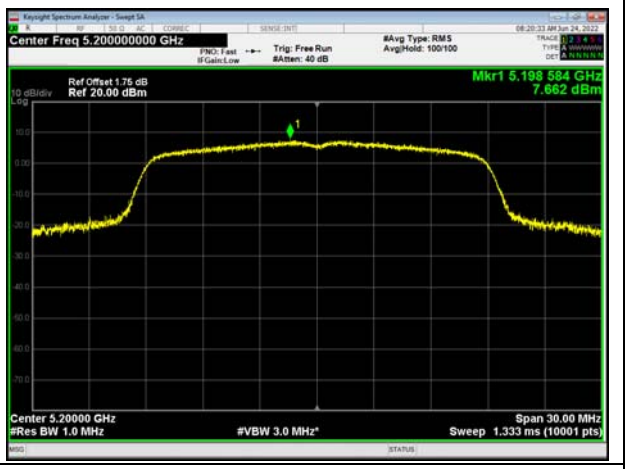

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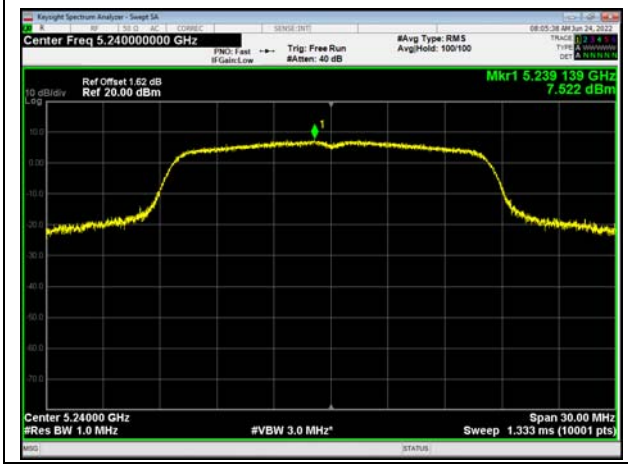

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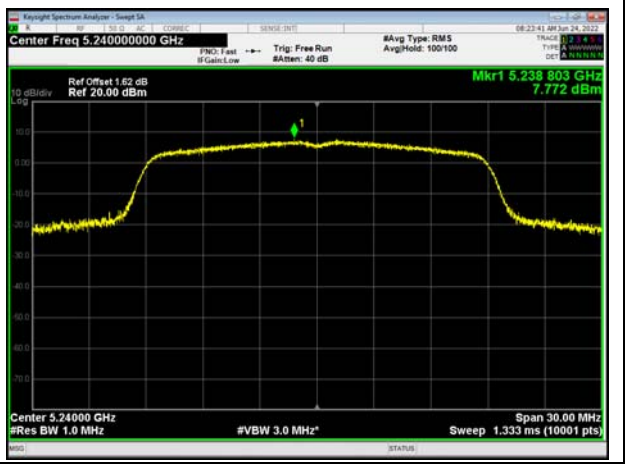

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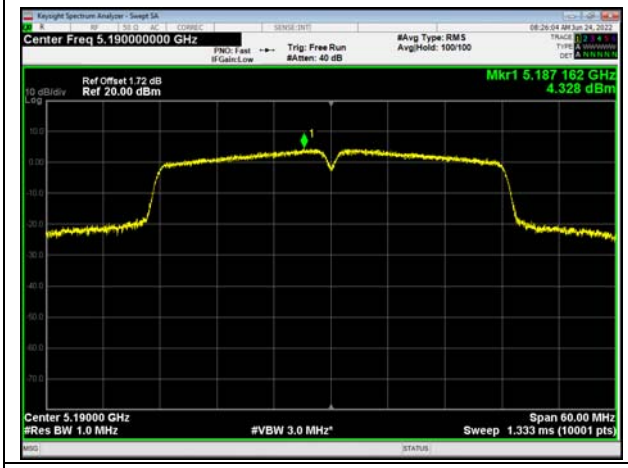
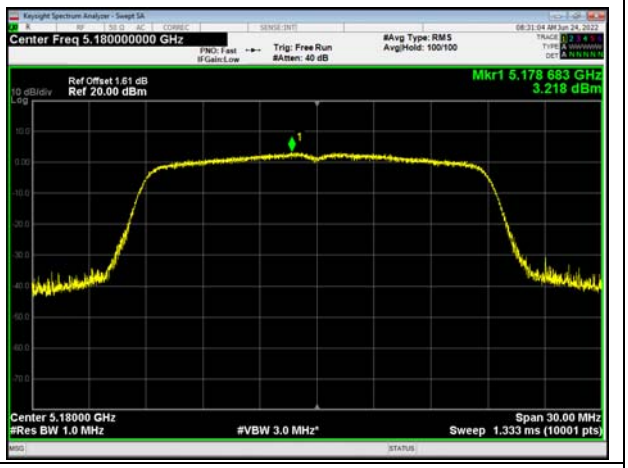
U-NII-1, 802.11n HT40, Channel No.: 38



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



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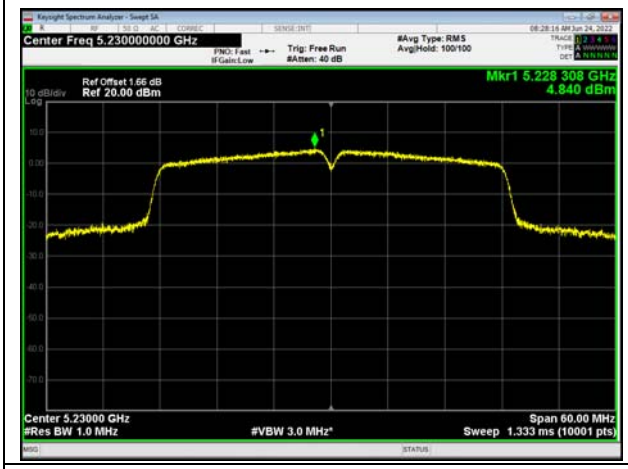

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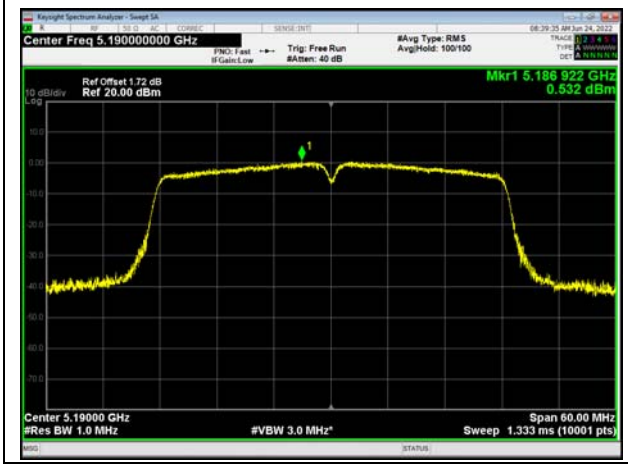

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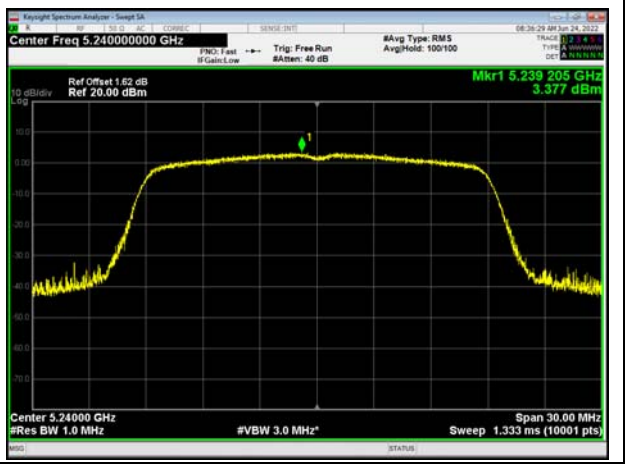

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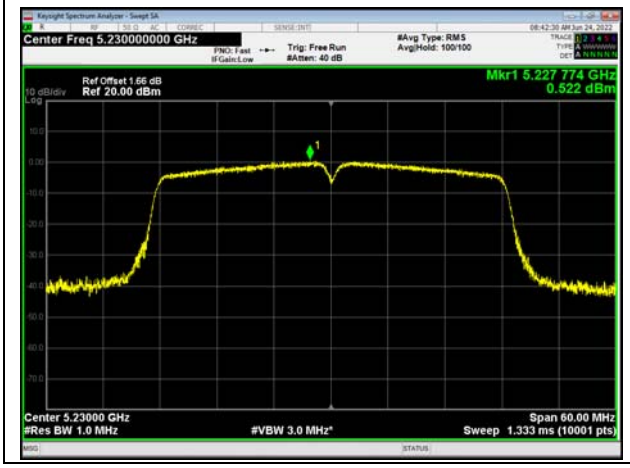	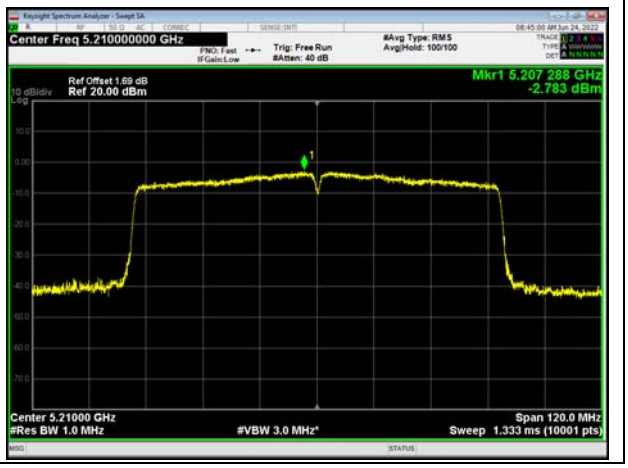

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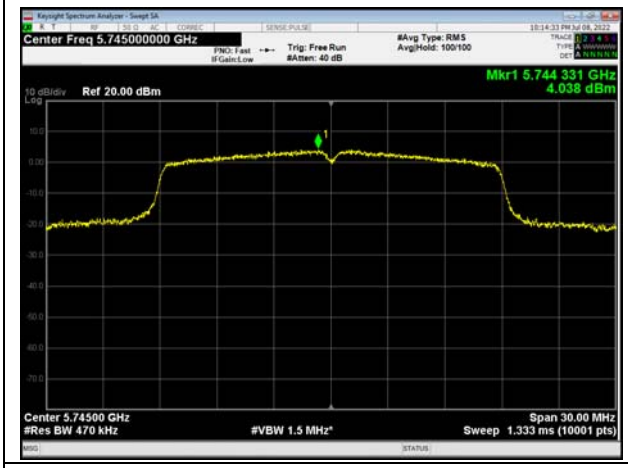
U-NII-3, 802.11a, Channel No.: 149



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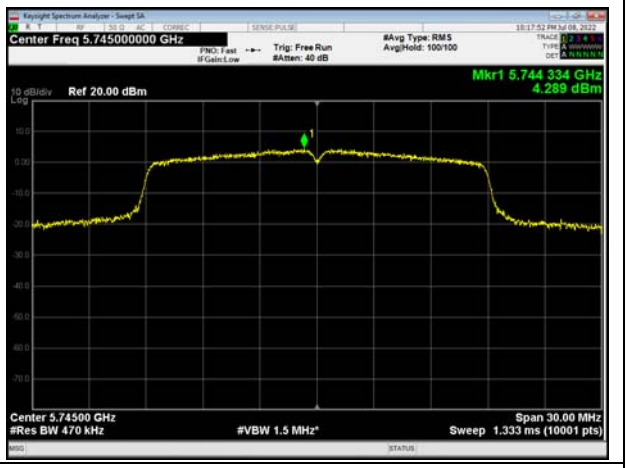

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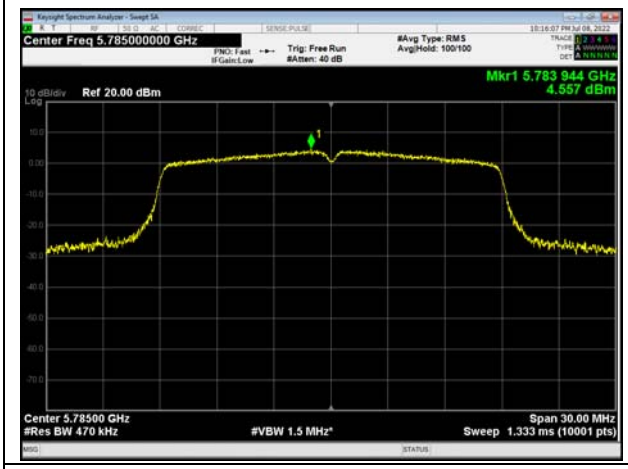

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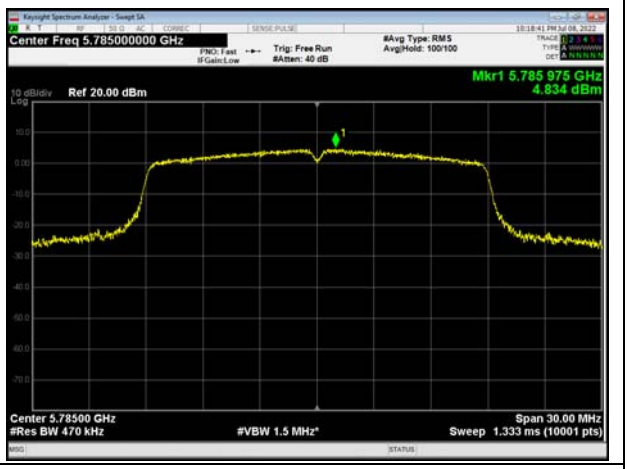

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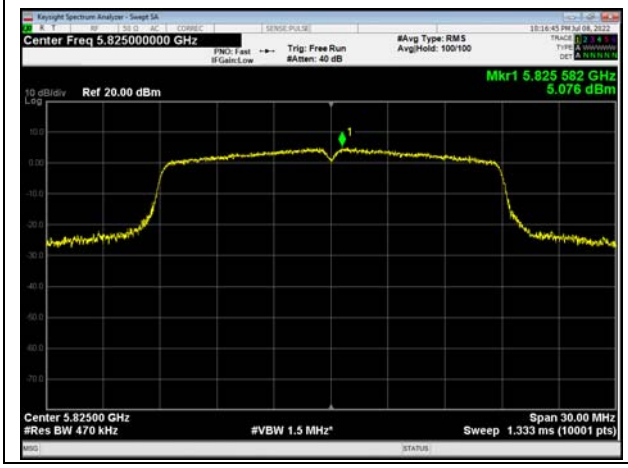

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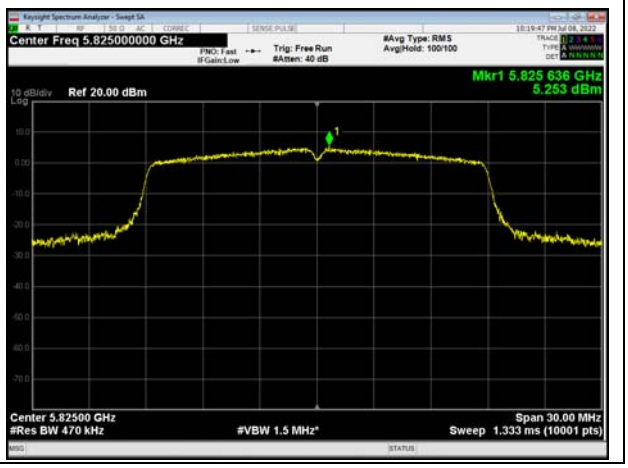

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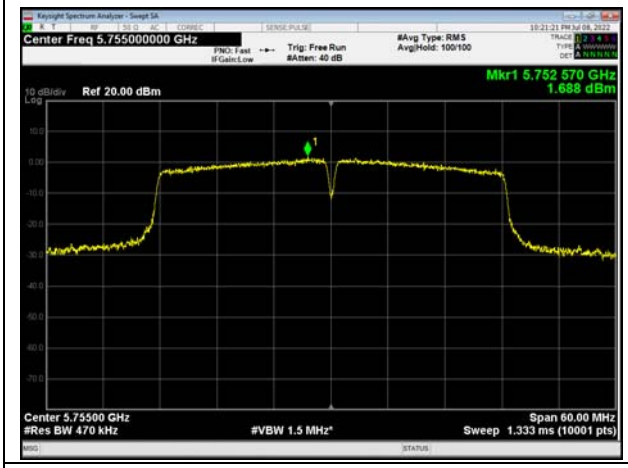
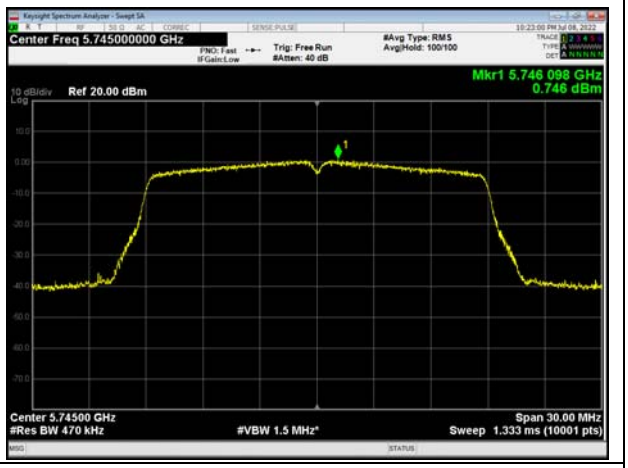
U-NII-3, 802.11n HT40, Channel No.: 151



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



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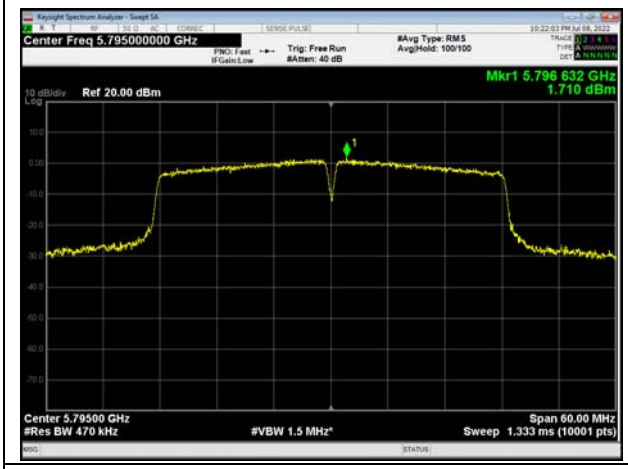
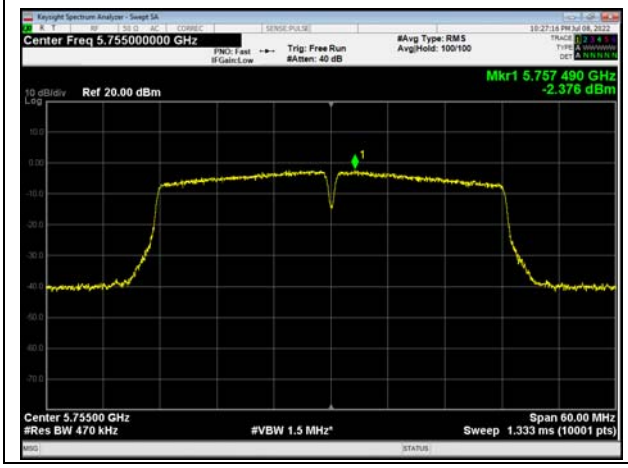


U-NII-3, 802.11ac VHT20, Channel No.: 157

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



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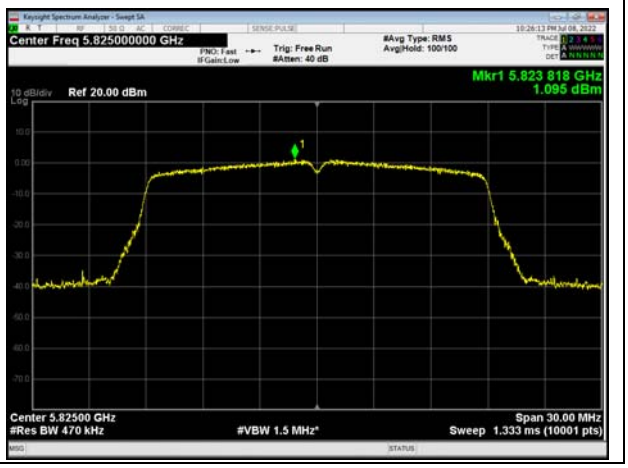

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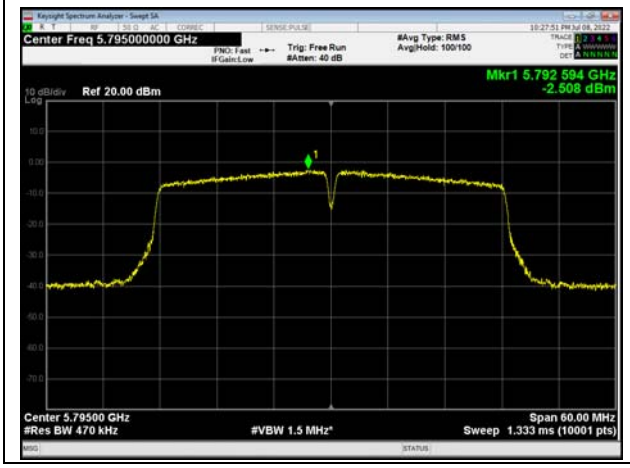
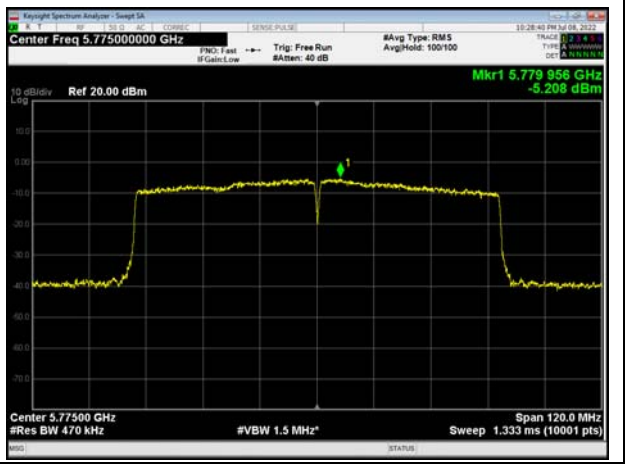
U-NII-3, 802.11ac VHT40, Channel No.: 159



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



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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

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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.

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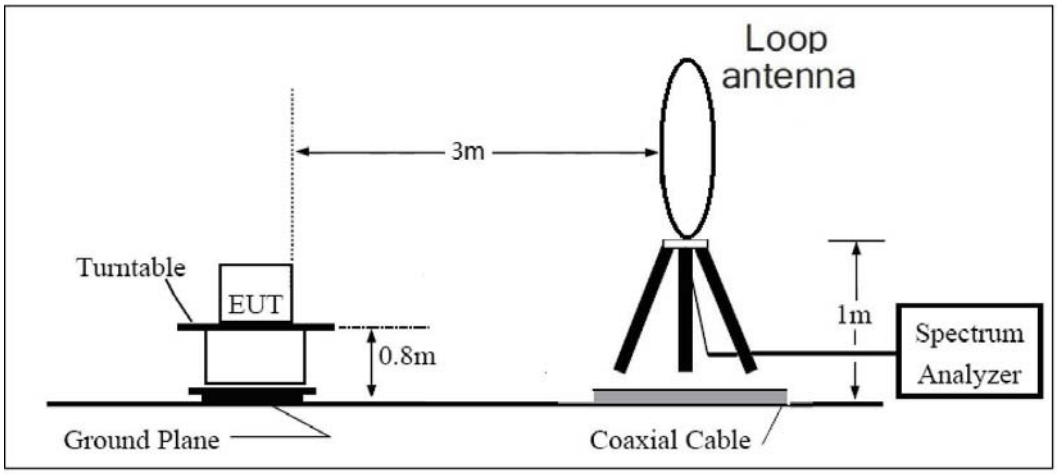
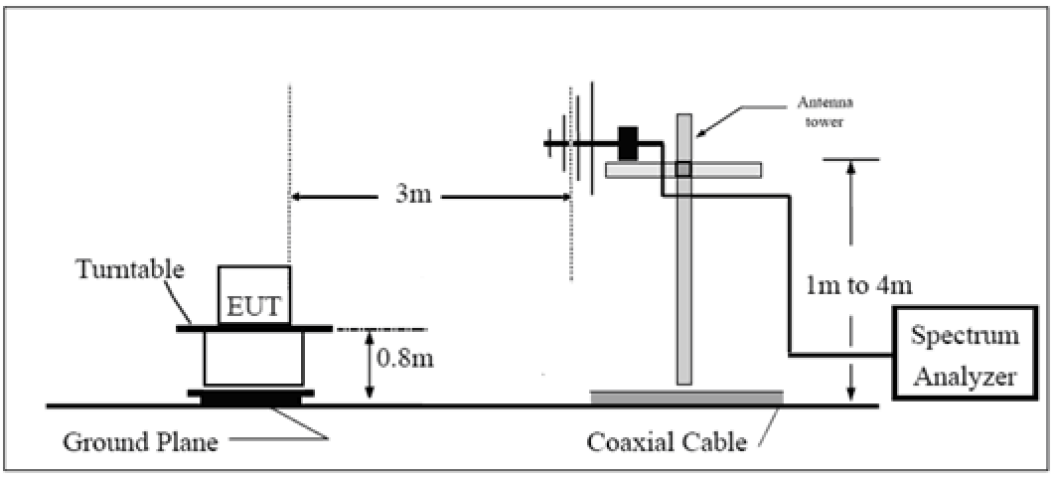
Test setup

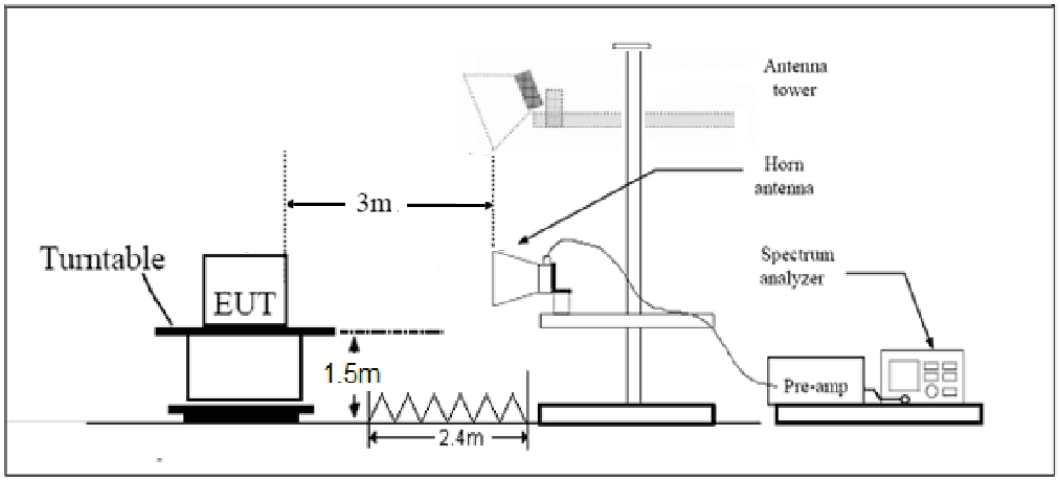
9KHz~ 30MHz



30MHz~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

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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).

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

(3) 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

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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

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Test Results:

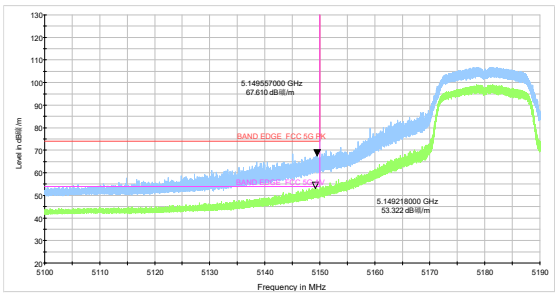
The modulation and bandwidth are similar for 802.11n mode for 20MHz/40MHz and 802.11ac mode for V20MHz/V40MHz, therefore investigated worst case to representative mode in test report.

A font (dB礦/m)in the test plot =(dB μ V/m)

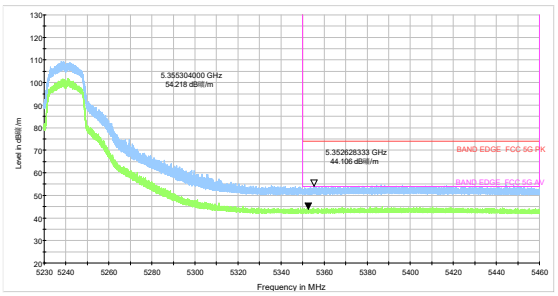
The signal beyond the limit is carrier.

U-NII-1

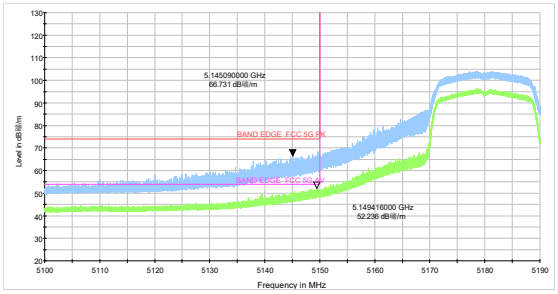
802.11a-Channel 36: Peak + Average



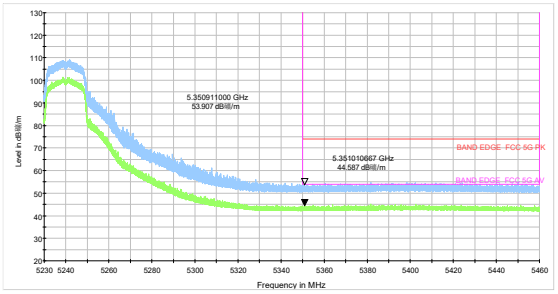
802.11a-Channel 48: Peak + Average



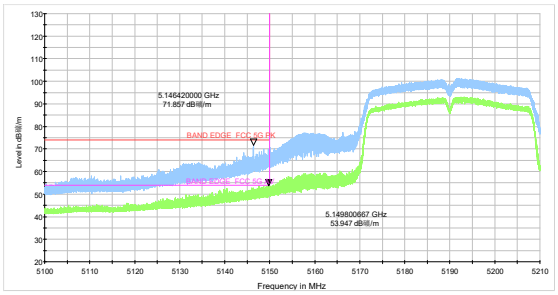
802.11n HT20-Channel 36: Peak + Average



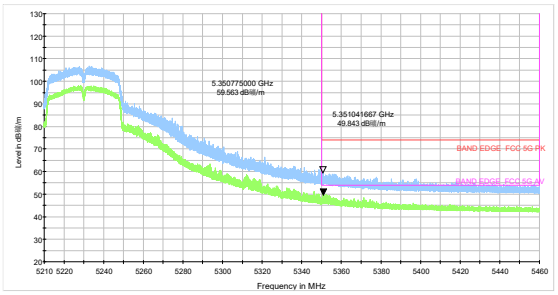
802.11n HT20-Channel 48: Peak + Average



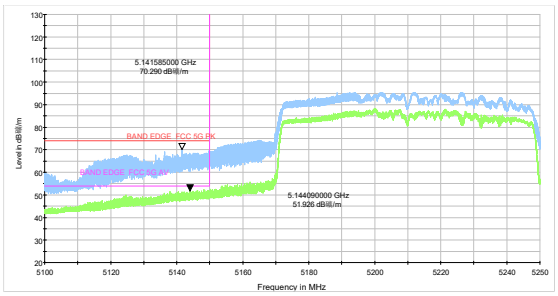
802.11n HT40-Channel 38: Peak + Average



802.11n HT40-Channel 46: Peak + Average



802.11ac VHT80 –Channel 42: Peak + Average



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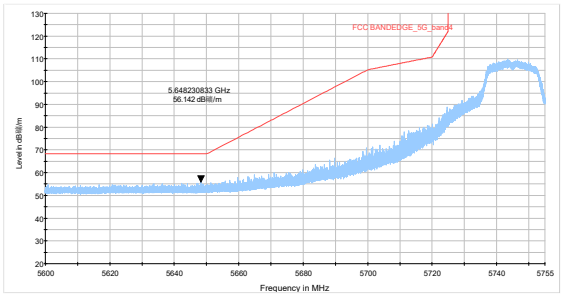
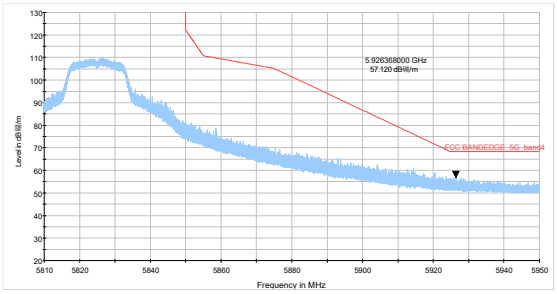
U-NII-3

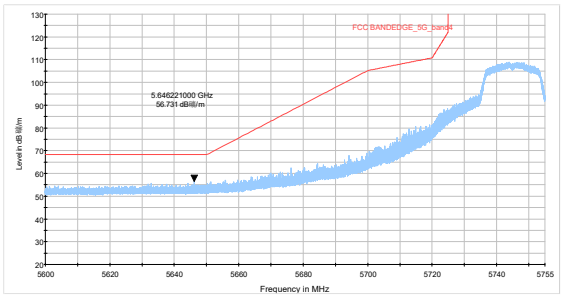
802.11a-Channel 149: Peak



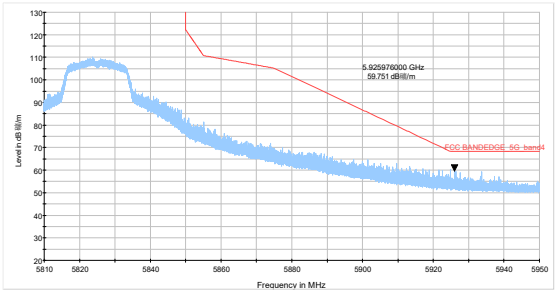
802.11a-Channel 165: Peak



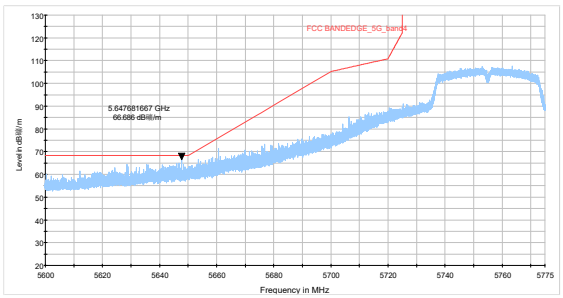
802.11n HT20-Channel 149: Peak



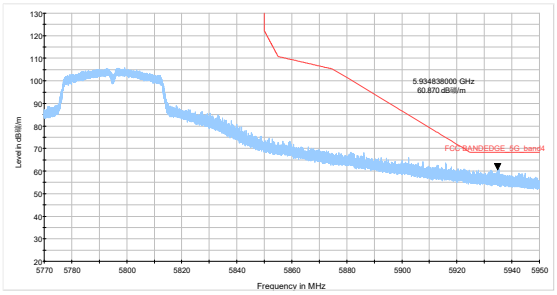
802.11n HT20-Channel 165: Peak



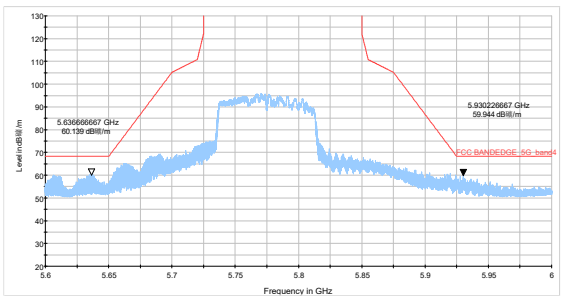
802.11n HT40-Channel 151: Peak



802.11n HT40-Channel 159: Peak



802.11ac VHT80- Channel 155: Peak



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Result of RE

Test result

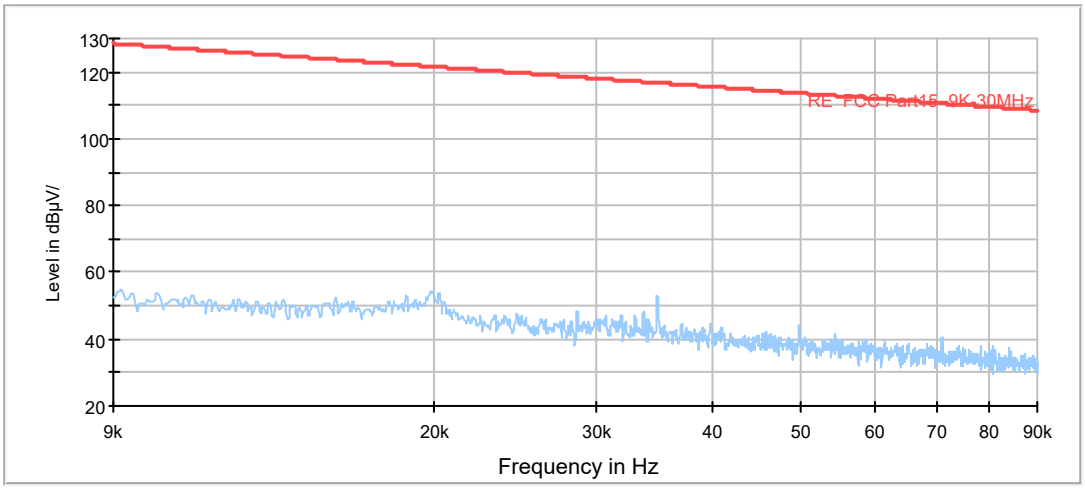
A font (Level in dB礦/m)in the test plot =(level in dB μ V/m)

A font (Level in dBμV/)in the test plot =(level in dB μ V/m)

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels, 802.11n (HT40), Channel 46 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

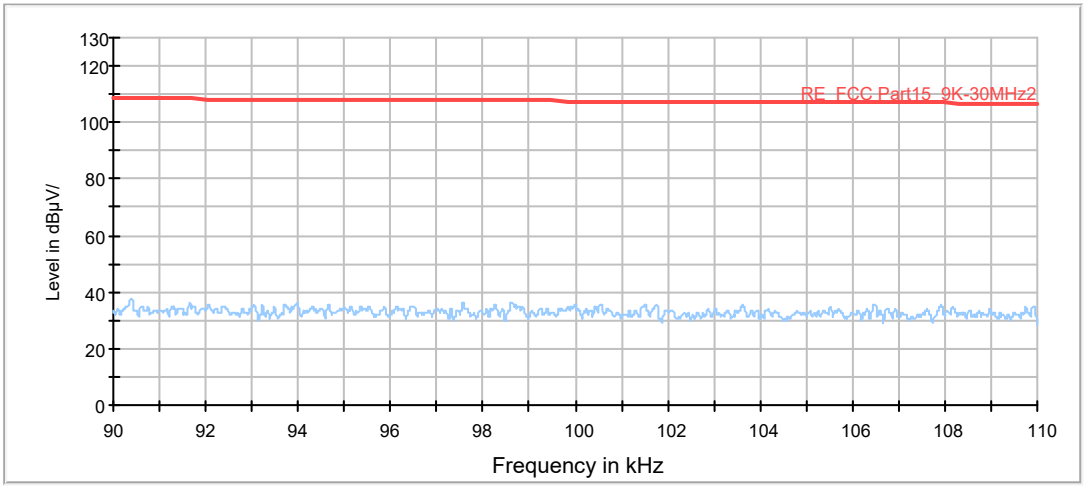
Continuous TX mode:

FCC RE 9K-90KHz AV



Radiates Emission from 9KHz to 90KHz

FCC RE 90K-110KHz QP



Radiates Emission from 90KHz to 110KHz

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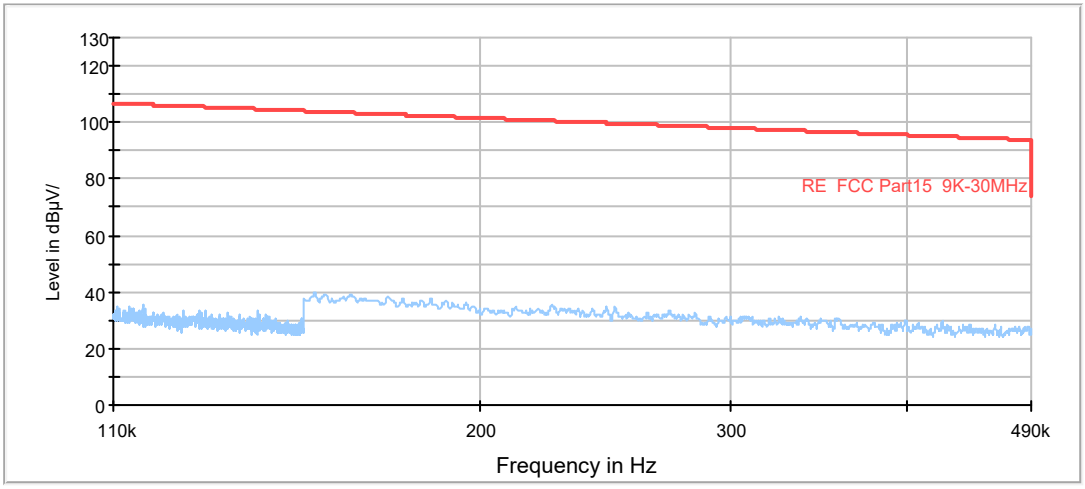
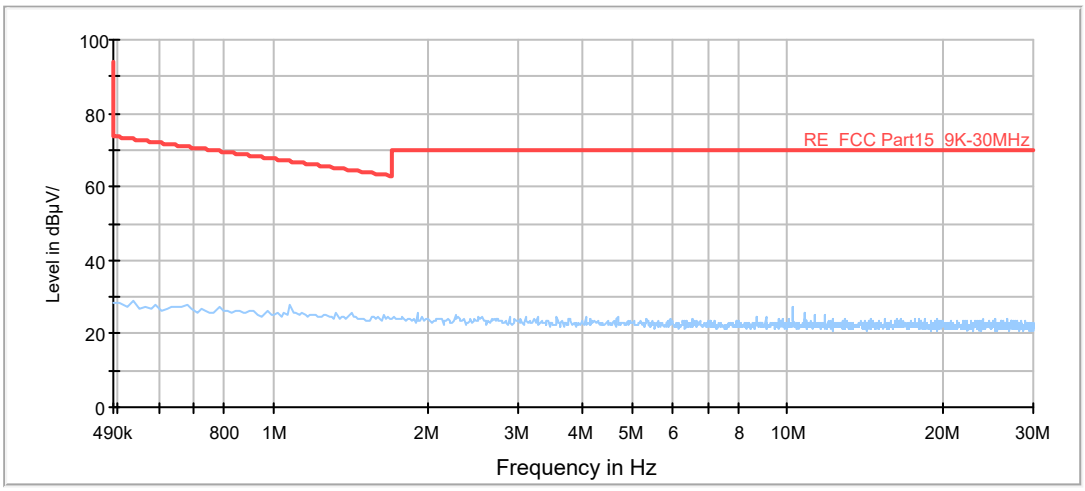
FCC RE 110K-490KHz AV



Radiates Emission from 110KHz to 490KHz

FCC RE 490K-30MHz QP



Radiates Emission from 490KHz to 30MHz

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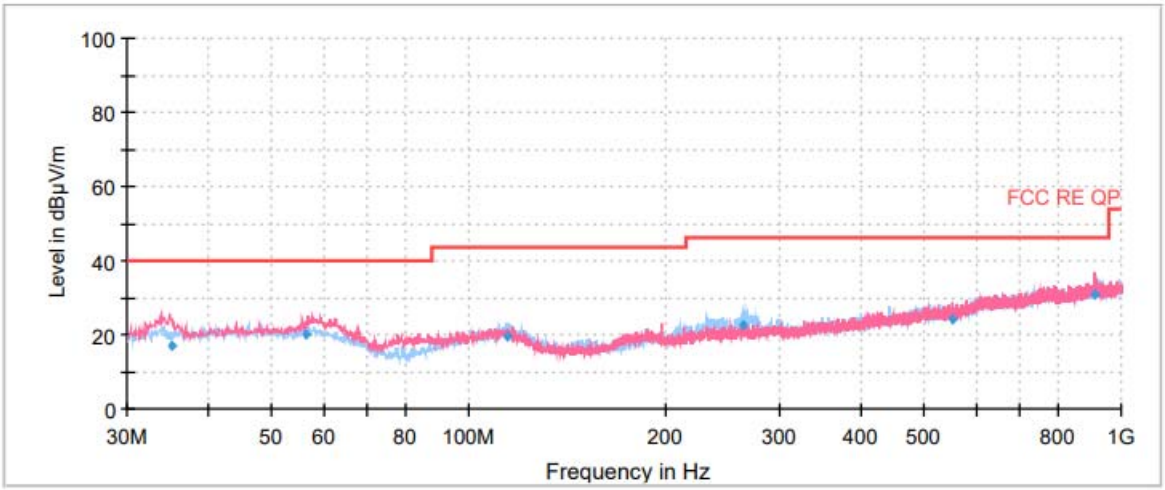

Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
35.24	17.03	179.0	V	222.00	13	22.97	40.00
56.56	19.77	105.0	V	94.00	14	20.23	40.00
114.52	19.24	225.0	H	306.00	12	24.26	43.50
264.37	22.65	105.0	H	85.00	14	23.35	46.00
552.25	24.10	196.0	V	334.00	20	21.90	46.00
912.84	30.98	105.0	V	275.00	25	15.02	46.00

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

2. Margin = Limit – Quasi-Peak

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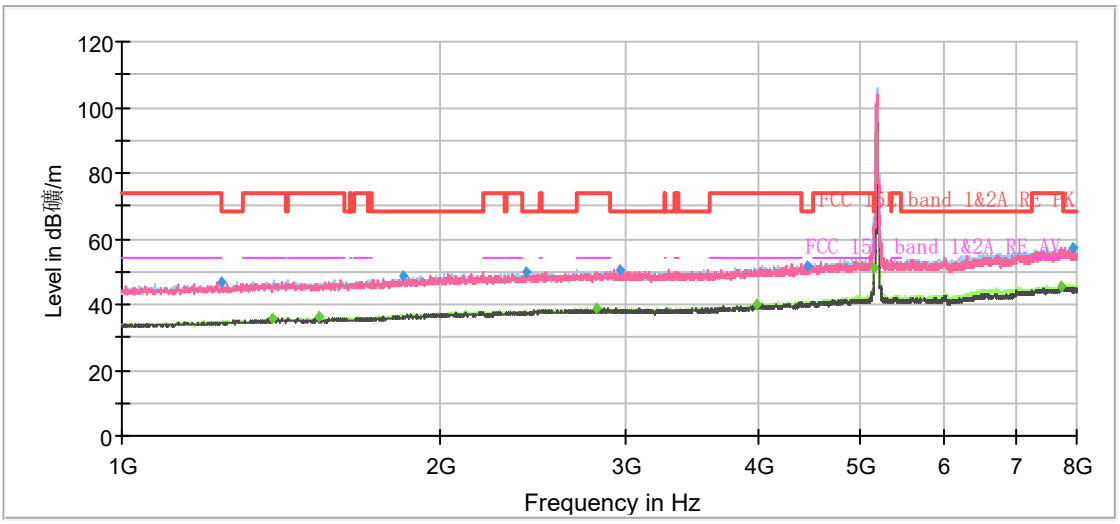
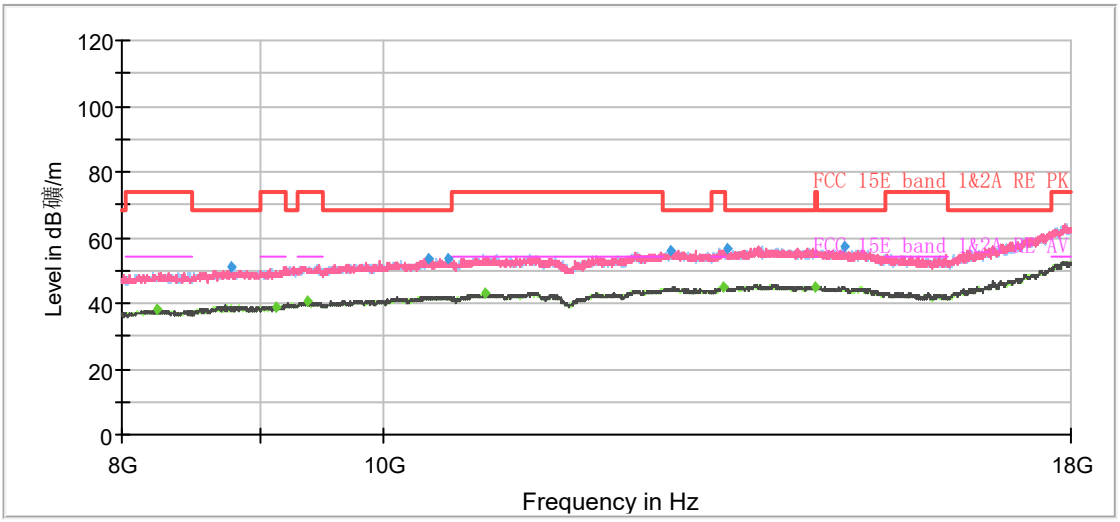
802.11a CH36



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1240.63	46.92	---	68.20	21.28	500.00	100.0	H	0.00	-8
1390.25	---	35.56	54.00	18.44	500.00	200.0	H	356.00	-7
1535.50	---	36.02	54.00	17.98	500.00	100.0	H	140.00	-7
1843.50	48.70	---	68.20	19.50	500.00	200.0	H	348.00	-6
2414.00	49.77	---	68.20	18.43	500.00	200.0	H	203.00	-4
2810.38	---	38.92	54.00	15.08	500.00	100.0	H	29.00	-3
2960.88	50.51	---	68.20	17.69	500.00	200.0	H	188.00	-3
3982.00	---	39.88	54.00	14.12	500.00	200.0	H	0.00	-1
4440.50	51.64	---	68.20	16.56	500.00	100.0	H	78.00	0
5149.25	---	50.79	54.00	3.21	500.00	200.0	H	0.00	2
7748.88	---	45.33	54.00	8.67	500.00	100.0	H	147.00	7
7920.38	57.20	---	68.20	11.00	500.00	200.0	H	241.00	7

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

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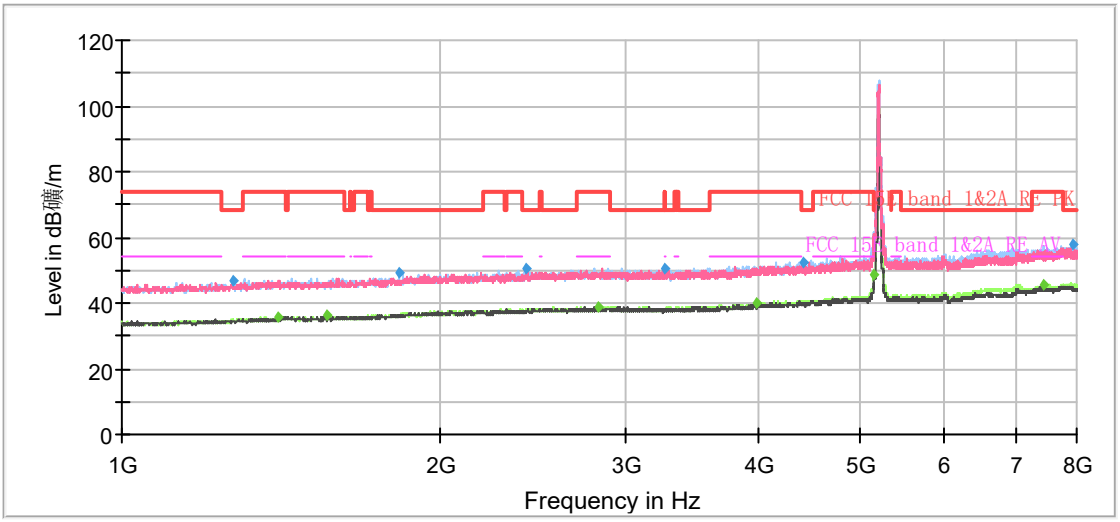
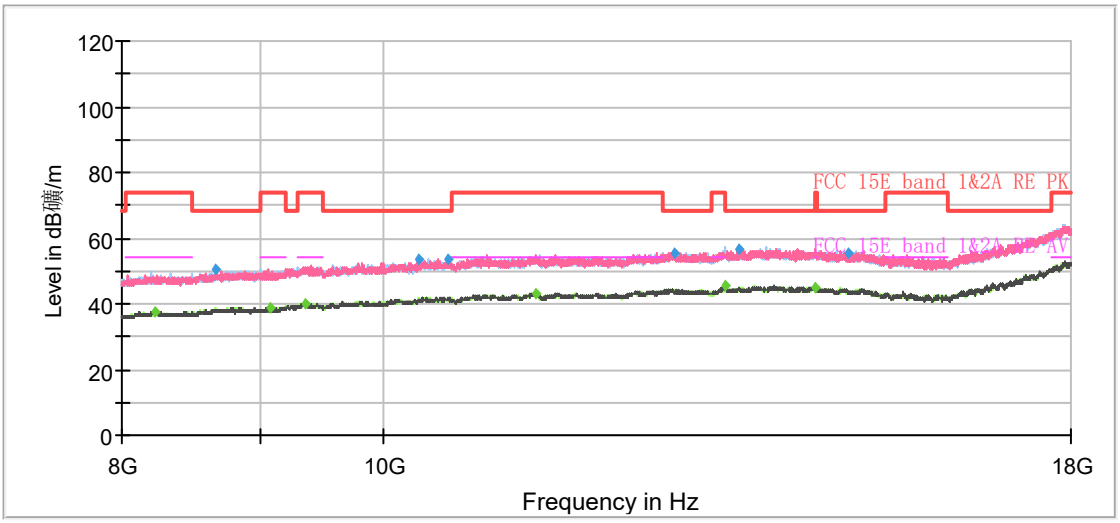
802.11a CH40



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1274.75	46.66	---	68.20	21.54	500.00	200.0	H	230.00	-8
1402.50	---	35.65	54.00	18.35	500.00	100.0	H	31.00	-7
1563.50	---	36.13	54.00	17.87	500.00	100.0	H	23.00	-7
1827.75	48.95	---	68.20	19.25	500.00	200.0	H	190.00	-6
2407.88	50.49	---	68.20	17.71	500.00	100.0	V	253.00	-4
2818.25	---	38.79	54.00	15.21	500.00	200.0	H	272.00	-3
3256.63	50.37	---	68.20	17.83	500.00	100.0	H	93.00	-3
3982.00	---	39.94	54.00	14.06	500.00	100.0	H	78.00	-1
4415.13	52.26	---	68.20	15.94	500.00	100.0	H	17.00	0
5148.38	---	48.37	54.00	5.63	500.00	100.0	H	0.00	2
7432.13	---	45.42	54.00	8.58	500.00	200.0	H	320.00	7
7935.25	57.78	---	68.20	10.42	500.00	200.0	H	183.00	7

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

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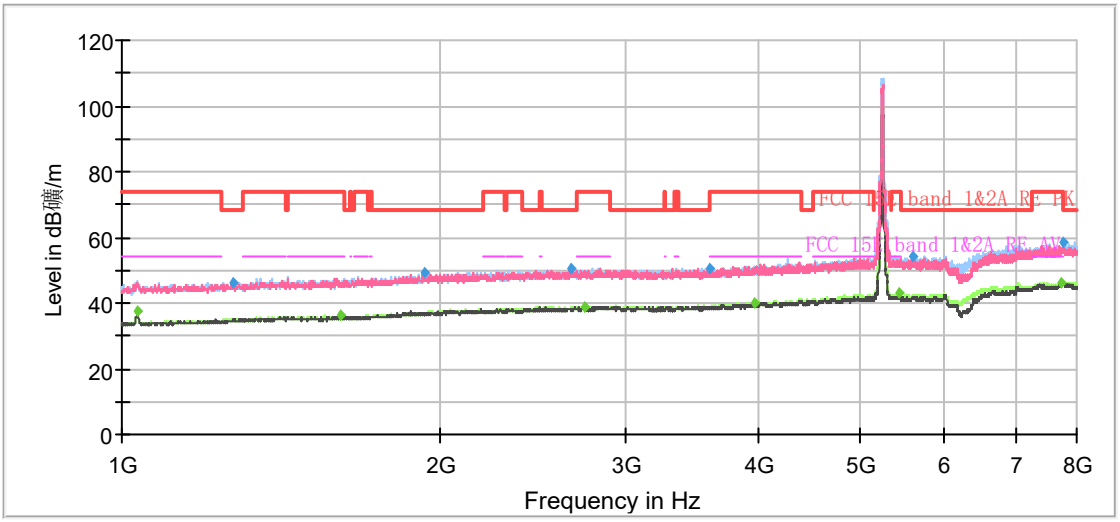
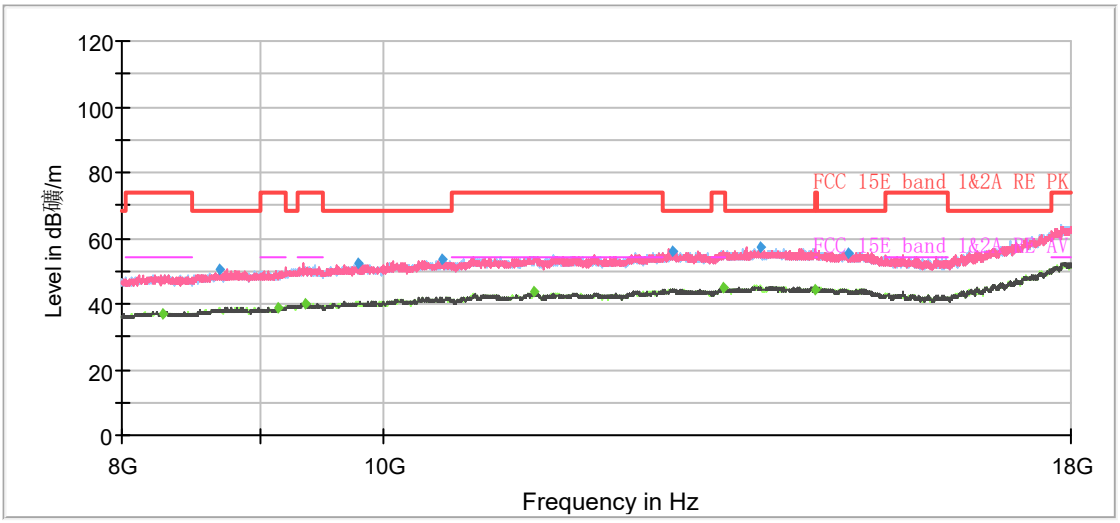
802.11a CH48



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1035.88	---	37.24	54.00	16.76	500.00	100.0	V	163.00	-10
1274.75	46.28	---	68.20	21.92	500.00	200.0	V	187.00	-8
1611.63	---	36.20	54.00	17.80	500.00	100.0	H	4.00	-6
1933.63	48.94	---	68.20	19.26	500.00	100.0	H	170.00	-5
2661.63	50.38	---	68.20	17.82	500.00	100.0	H	116.00	-3
2743.88	---	38.90	54.00	15.10	500.00	200.0	H	283.00	-4
3593.50	50.47	---	68.20	17.73	500.00	100.0	H	129.00	-3
3961.88	---	40.21	54.00	13.79	500.00	200.0	H	110.00	-1
5423.13	---	42.81	54.00	11.19	500.00	200.0	H	316.00	3
5593.75	54.18	---	68.20	14.02	500.00	200.0	H	207.00	3
7734.00	---	45.91	54.00	8.09	500.00	200.0	H	337.00	7
7760.25	58.65	---	68.20	9.55	500.00	200.0	H	358.00	7

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

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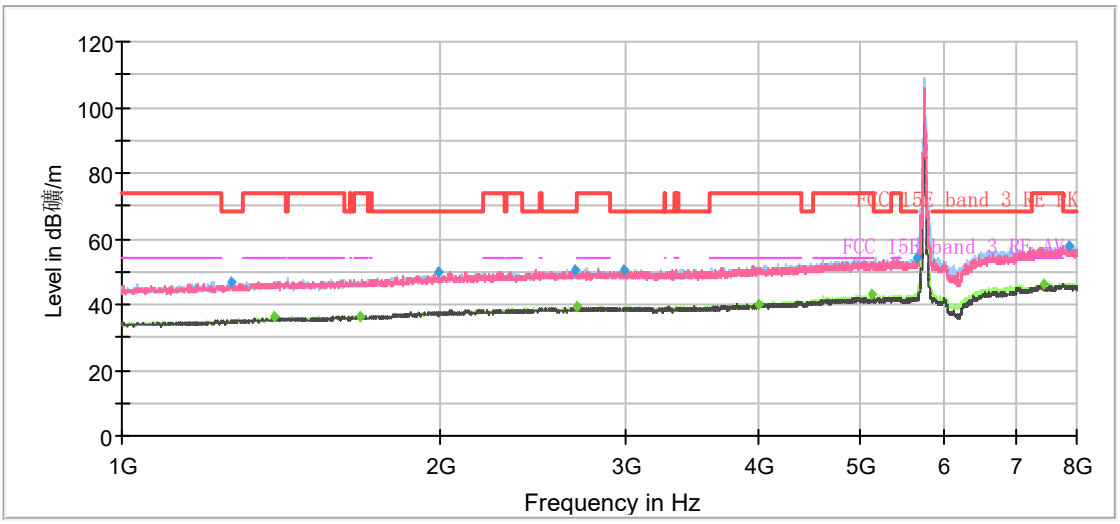
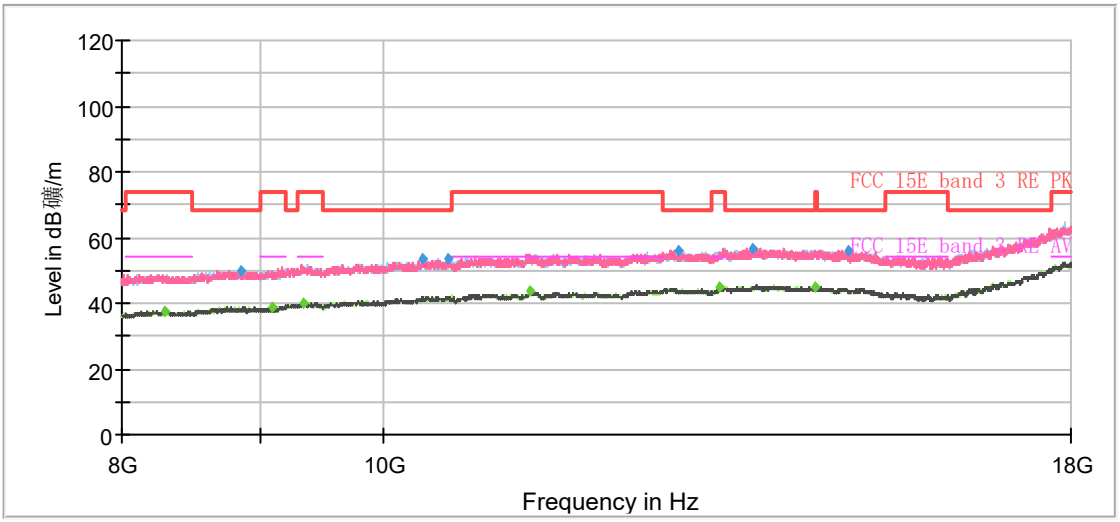
802.11a CH149



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1269.50	46.67	---	68.20	21.53	500.00	100.0	V	182.00	-8
1391.13	---	36.03	54.00	17.97	500.00	100.0	H	42.00	-7
1680.75	---	36.52	54.00	17.48	500.00	100.0	H	99.00	-6
1993.13	49.55	---	68.20	18.65	500.00	200.0	H	344.00	-5
2685.25	50.58	---	68.20	17.62	500.00	100.0	H	201.00	-4
2696.63	---	39.08	54.00	14.92	500.00	100.0	H	167.00	-4
2988.00	50.60	---	68.20	17.60	500.00	200.0	V	2.00	-3
3995.13	---	40.28	54.00	13.72	500.00	100.0	H	99.00	-1
5125.63	---	42.90	54.00	11.10	500.00	100.0	H	56.00	2
5649.75	54.12	---	68.20	14.08	500.00	100.0	H	5.00	3
7451.38	---	46.30	54.00	7.70	500.00	100.0	H	311.00	7
7858.25	57.97	---	68.20	10.23	500.00	100.0	H	29.00	7

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

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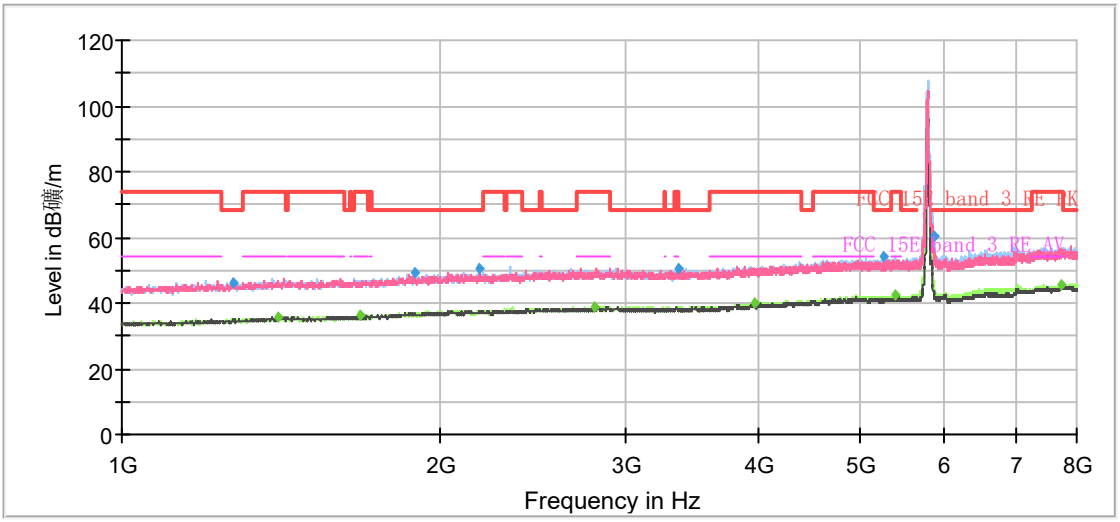
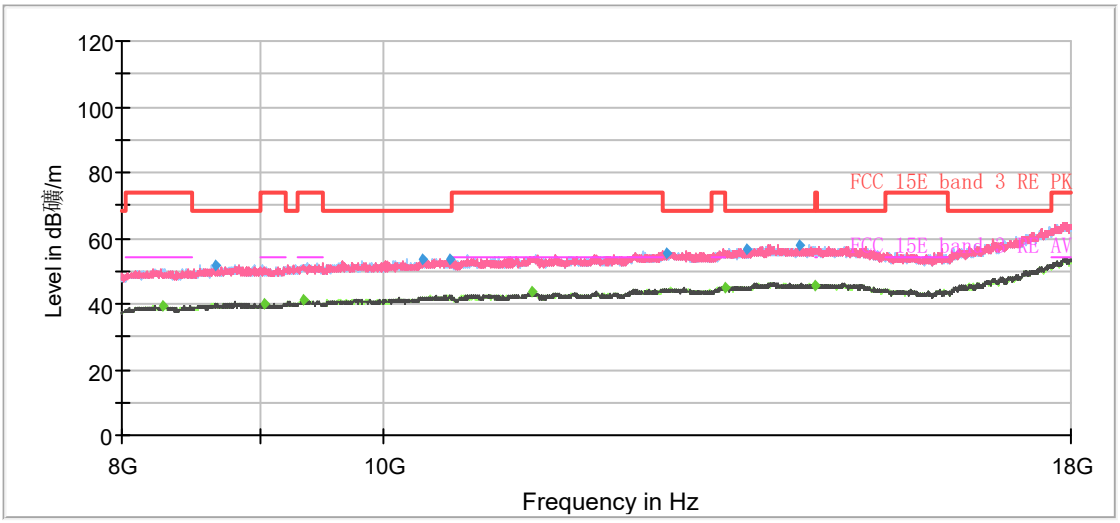
802.11a CH157



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1273.00	46.43	---	68.20	21.77	500.00	100.0	H	140.00	-8
1406.88	---	35.67	54.00	18.33	500.00	200.0	V	146.00	-7
1679.00	---	36.14	54.00	17.86	500.00	200.0	H	226.00	-6
1896.00	49.05	---	68.20	19.15	500.00	200.0	H	328.00	-5
2182.13	50.43	---	68.20	17.77	500.00	100.0	V	220.00	-4
2801.63	---	38.85	54.00	15.15	500.00	100.0	H	5.00	-3
3361.63	50.65	---	68.20	17.55	500.00	200.0	H	348.00	-3
3964.50	---	39.78	54.00	14.22	500.00	100.0	H	0.00	-1
5242.00	54.40	---	68.20	13.80	500.00	100.0	H	45.00	2
5396.00	---	42.48	54.00	11.52	500.00	100.0	H	245.00	3
5852.75	60.19	---	68.20	8.01	500.00	100.0	H	12.00	4
7737.50	---	45.24	54.00	8.76	500.00	100.0	H	126.00	7

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

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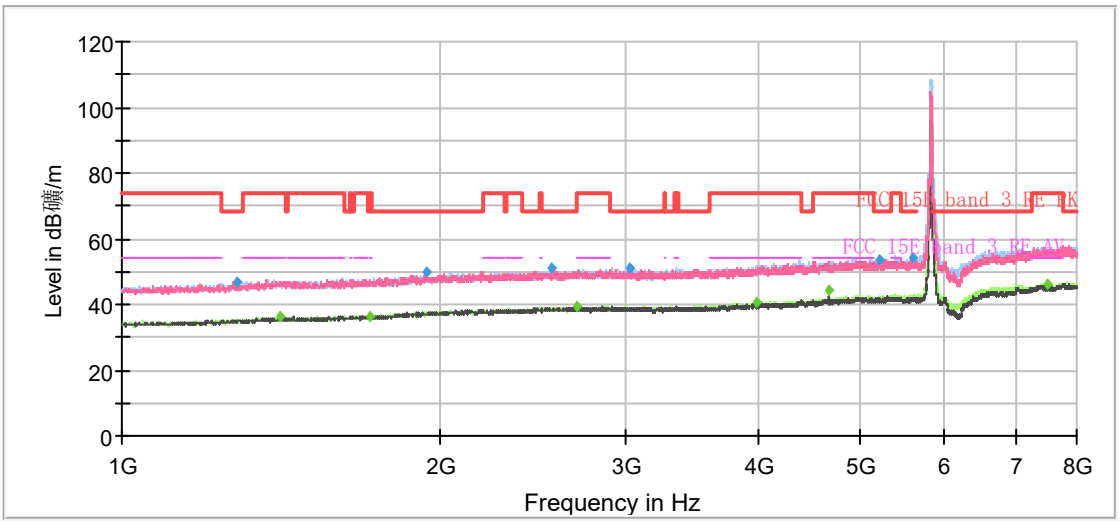
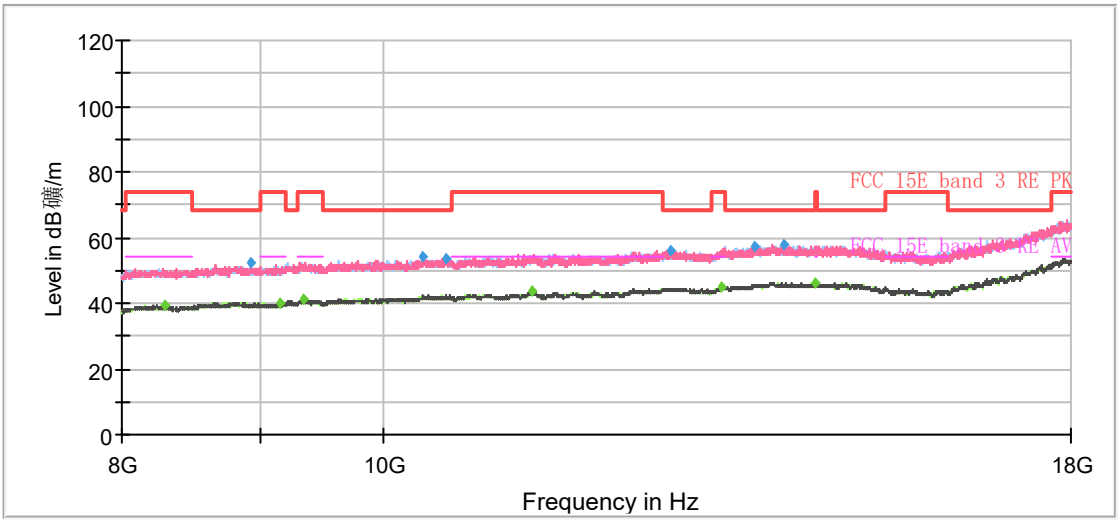
802.11a CH165



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1287.00	46.88	---	68.20	21.32	500.00	100.0	V	336.00	-8
1409.50	---	36.19	54.00	17.81	500.00	100.0	H	12.00	-7
1719.25	---	36.29	54.00	17.71	500.00	100.0	V	185.00	-6
1940.63	49.56	---	68.20	18.64	500.00	100.0	H	84.00	-5
2547.00	50.77	---	68.20	17.43	500.00	100.0	H	2.00	-4
2694.00	---	39.24	54.00	14.76	500.00	100.0	H	56.00	-4
3016.00	50.97	---	68.20	17.23	500.00	200.0	V	65.00	-3
3985.50	---	40.31	54.00	13.69	500.00	100.0	H	229.00	-1
4660.13	---	44.15	54.00	9.85	500.00	100.0	H	118.00	1
5200.88	53.25	---	68.20	14.95	500.00	100.0	H	282.00	2
5606.00	54.01	---	68.20	14.19	500.00	200.0	H	359.00	3
7510.00	---	46.24	54.00	7.76	500.00	100.0	H	256.00	7

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

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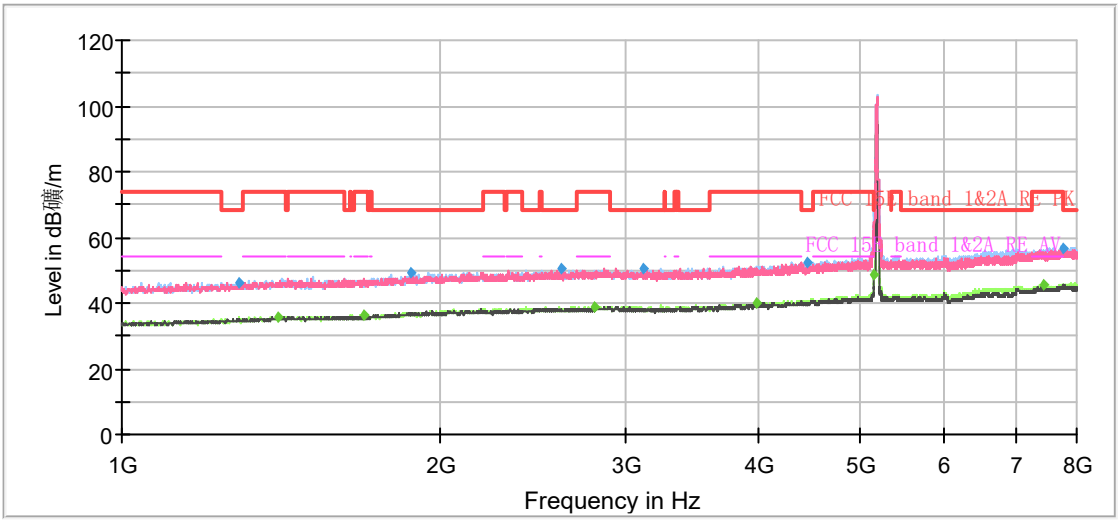
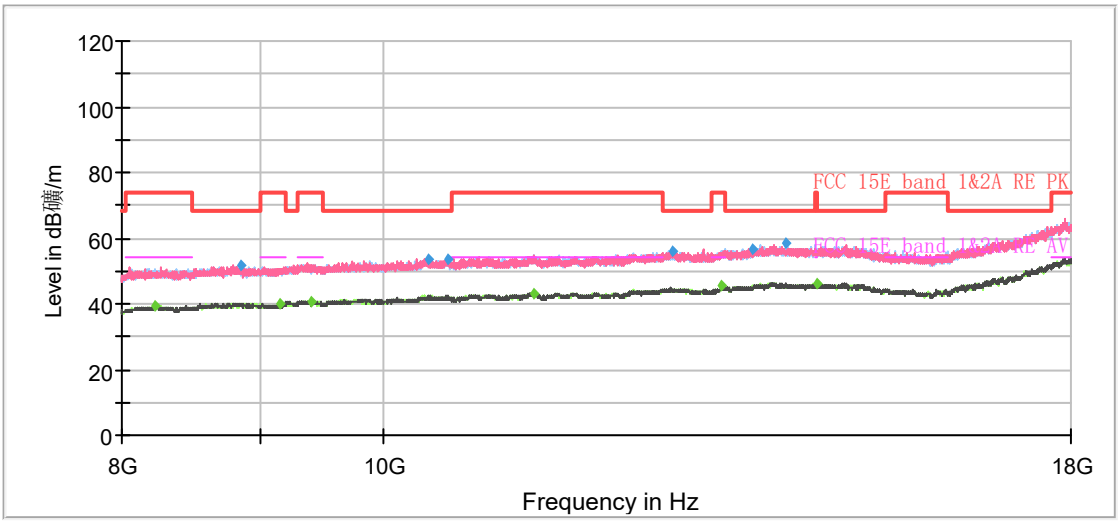
802.11n (HT20) CH36



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1289.63	46.46	---	68.20	21.74	500.00	100.0	H	358.00	-8
1406.00	---	35.65	54.00	18.35	500.00	200.0	V	102.00	-7
1694.75	---	36.17	54.00	17.83	500.00	200.0	H	1.00	-6
1880.25	49.39	---	68.20	18.81	500.00	200.0	V	141.00	-5
2606.50	50.18	---	68.20	18.02	500.00	200.0	H	5.00	-4
2804.25	---	38.71	54.00	15.29	500.00	100.0	H	322.00	-3
3113.13	50.57	---	68.20	17.63	500.00	100.0	V	167.00	-3
3978.50	---	39.76	54.00	14.24	500.00	100.0	H	358.00	-1
4454.50	52.07	---	68.20	16.13	500.00	200.0	H	10.00	0
5149.25	---	48.40	54.00	5.60	500.00	100.0	H	211.00	2
7436.50	---	45.34	54.00	8.66	500.00	200.0	H	2.00	7
7773.38	56.91	---	68.20	11.29	500.00	100.0	V	250.00	7

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

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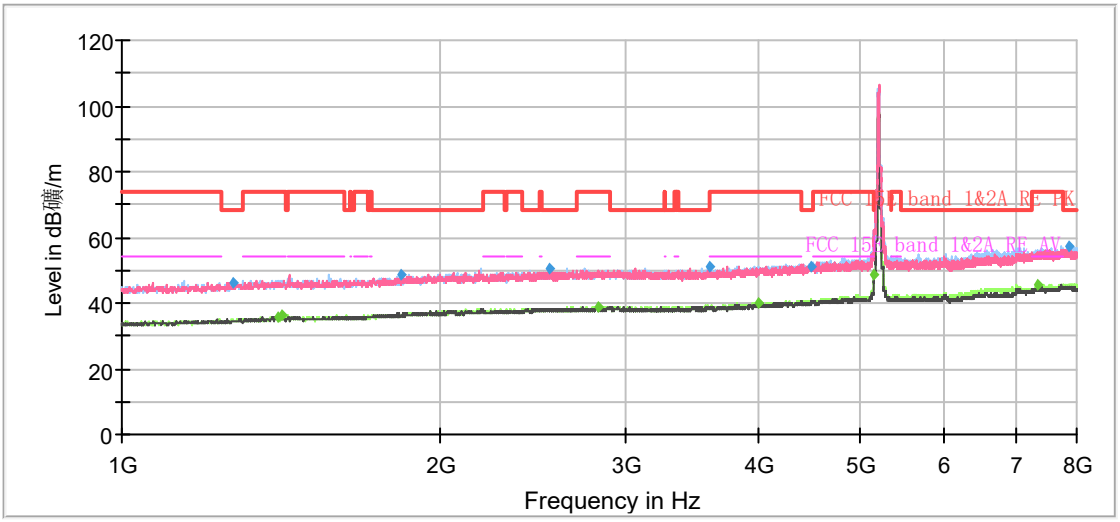
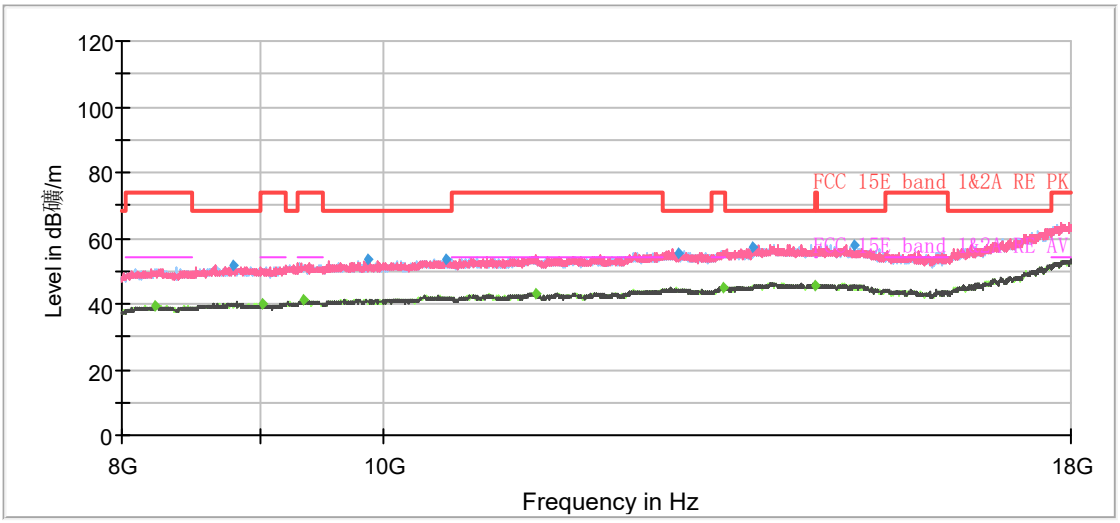
802.11n (HT20) CH40



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1276.50	46.37	---	68.20	21.83	500.00	100.0	H	359.00	-8
1403.38	---	35.97	54.00	18.03	500.00	100.0	H	349.00	-7
1418.25	---	36.09	54.00	17.91	500.00	100.0	H	318.00	-7
1840.00	48.55	---	68.20	19.65	500.00	200.0	H	28.00	-6
2540.00	50.71	---	68.20	17.49	500.00	100.0	H	349.00	-4
2824.38	---	38.88	54.00	15.12	500.00	200.0	H	21.00	-3
3599.63	51.29	---	68.20	16.91	500.00	200.0	H	57.00	-3
3999.50	---	39.91	54.00	14.09	500.00	200.0	H	8.00	-1
4481.63	51.26	---	68.20	16.94	500.00	200.0	V	214.00	0
5147.50	---	48.53	54.00	5.47	500.00	100.0	H	207.00	2
7360.38	---	45.50	54.00	8.50	500.00	100.0	H	249.00	7
7858.25	57.25	---	68.20	10.95	500.00	200.0	V	117.00	7

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

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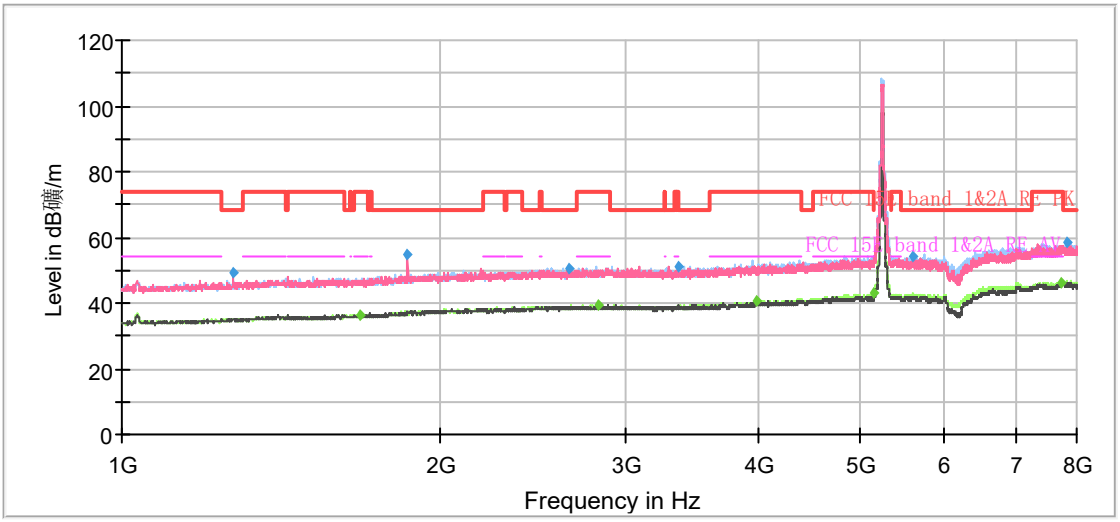
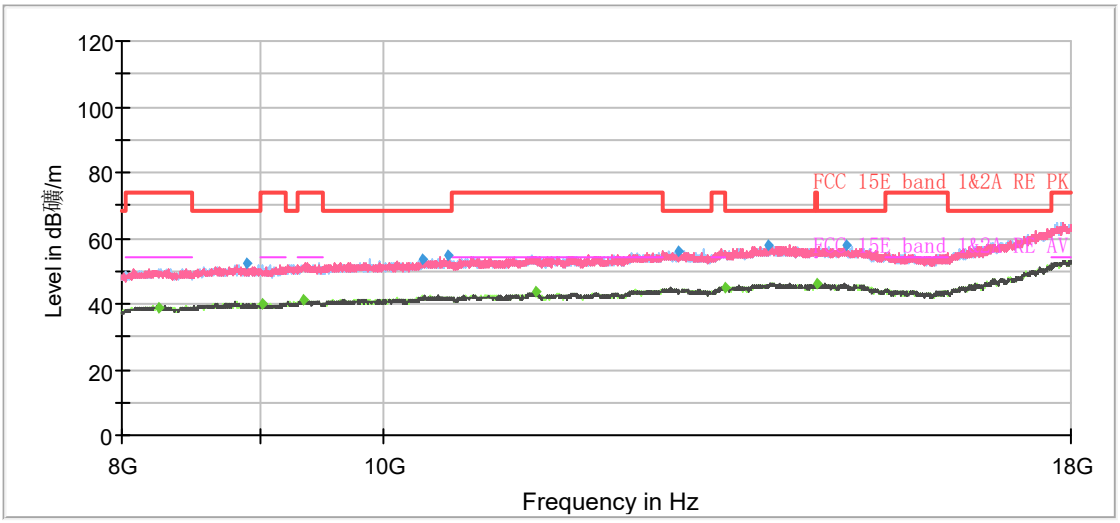
802.11n (HT20) CH48



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1273.00	49.21	---	68.20	18.99	500.00	200.0	V	214.00	-8
1682.50	---	36.49	54.00	17.51	500.00	100.0	H	131.00	-6
1863.63	54.79	---	68.20	13.41	500.00	200.0	V	233.00	-5
2646.75	50.60	---	68.20	17.60	500.00	200.0	V	324.00	-4
2823.50	---	39.21	54.00	14.79	500.00	200.0	H	18.00	-3
3363.38	51.35	---	68.20	16.85	500.00	200.0	H	322.00	-3
3983.75	---	40.38	54.00	13.62	500.00	200.0	H	154.00	-1
5139.63	---	42.90	54.00	11.10	500.00	100.0	H	49.00	2
5605.13	53.85	---	68.20	14.35	500.00	200.0	H	212.00	3
7748.00	---	46.28	54.00	7.72	500.00	100.0	H	104.00	7
7840.75	58.27	---	68.20	9.93	500.00	200.0	H	120.00	7

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

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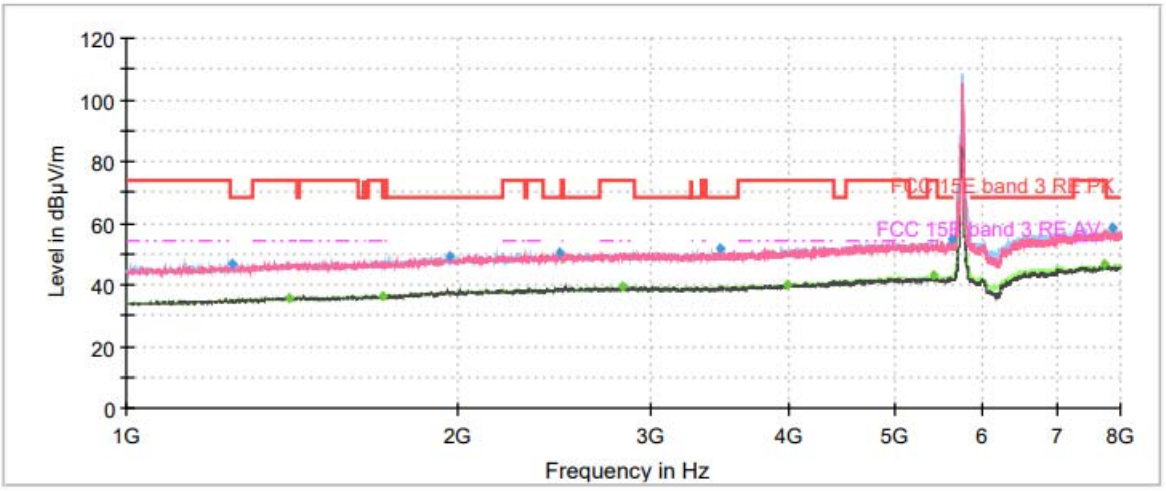
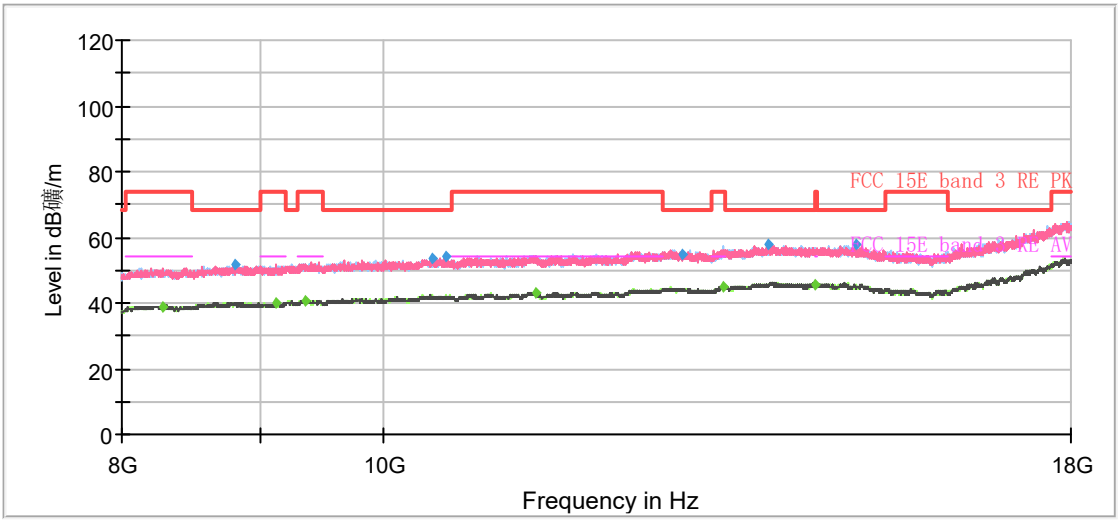
802.11n (HT20) CH149



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1245.88	46.59	---	68.20	21.61	500.00	100.0	V	110.00	-8
1406.00	---	35.89	54.00	18.11	500.00	200.0	H	300.00	-7
1705.25	---	36.46	54.00	17.54	500.00	100.0	H	125.00	-6
1969.50	48.97	---	68.20	19.23	500.00	100.0	V	253.00	-5
2477.00	50.49	---	68.20	17.71	500.00	100.0	V	308.00	-4
2827.88	---	39.33	54.00	14.67	500.00	100.0	H	159.00	-3
3461.38	51.91	---	68.20	16.29	500.00	100.0	H	159.00	-3
3984.63	---	40.19	54.00	13.81	500.00	200.0	H	333.00	-1
5403.00	---	42.90	54.00	11.10	500.00	100.0	H	29.00	3
5632.25	54.89	---	68.20	13.31	500.00	100.0	H	311.00	3
7727.88	---	46.56	54.00	7.44	500.00	100.0	H	110.00	7
7870.50	58.41	---	68.20	9.79	500.00	100.0	H	216.00	7

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

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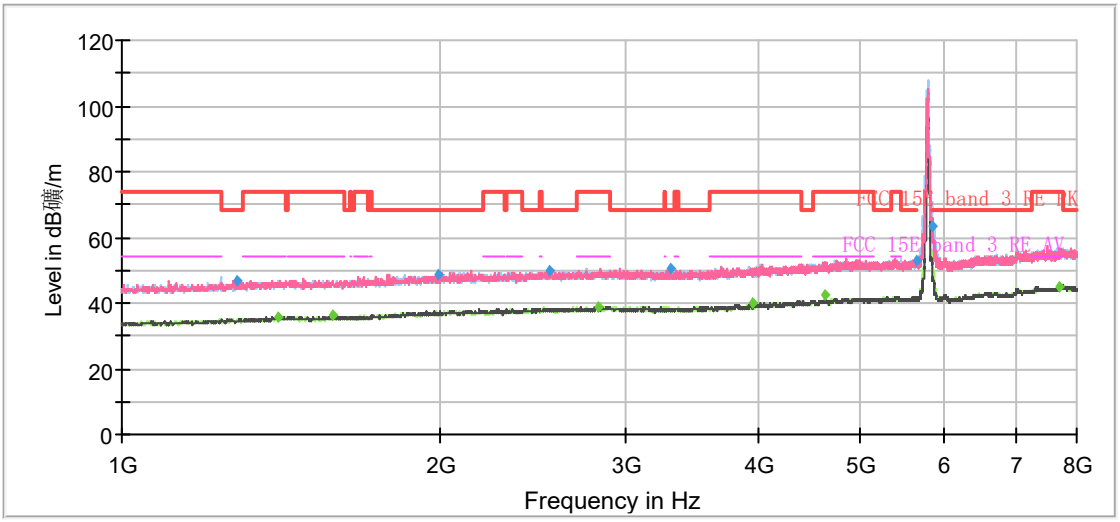
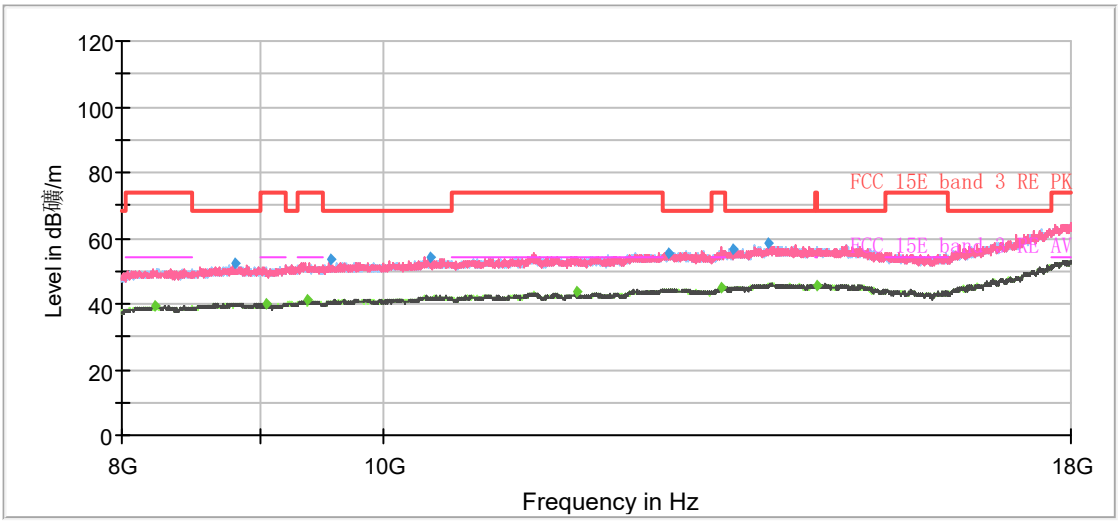
802.11n (HT20) CH157



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1286.13	46.85	---	68.20	21.35	500.00	100.0	V	0.00	-8
1406.88	---	35.72	54.00	18.28	500.00	100.0	V	195.00	-7
1580.13	---	36.26	54.00	17.74	500.00	100.0	H	0.00	-6
1987.88	48.77	---	68.20	19.43	500.00	200.0	H	116.00	-5
2541.75	50.01	---	68.20	18.19	500.00	200.0	H	263.00	-4
2826.13	---	38.84	54.00	15.16	500.00	200.0	V	359.00	-3
3307.38	50.66	---	68.20	17.54	500.00	100.0	H	177.00	-3
3954.88	---	40.18	54.00	13.82	500.00	100.0	V	140.00	-1
4627.75	---	42.56	54.00	11.44	500.00	100.0	V	210.00	1
5634.88	52.93	---	68.20	15.27	500.00	200.0	V	0.00	3
5851.00	63.48	---	68.20	4.72	500.00	100.0	H	0.00	4
7711.25	---	45.07	54.00	8.93	500.00	200.0	V	106.00	7

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

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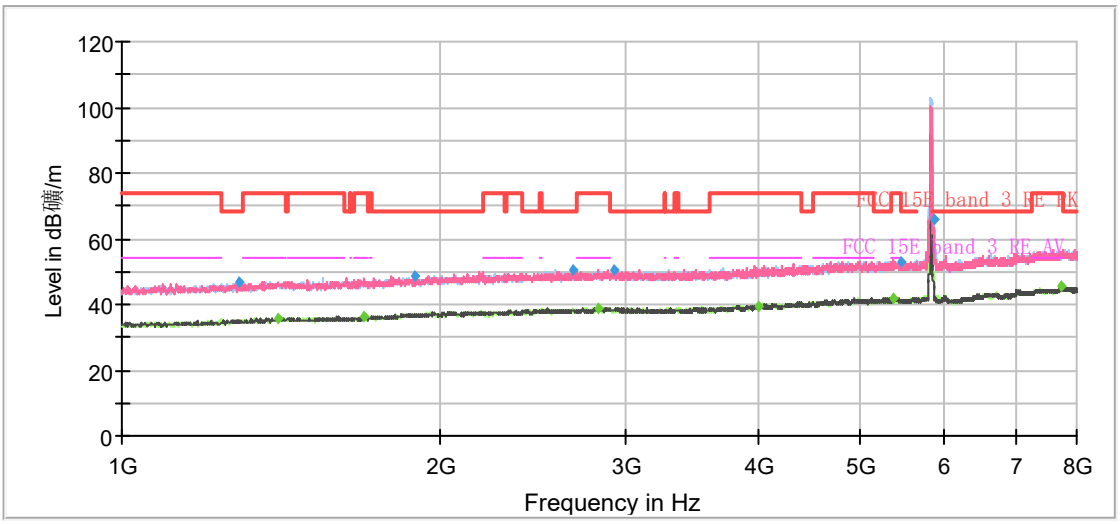
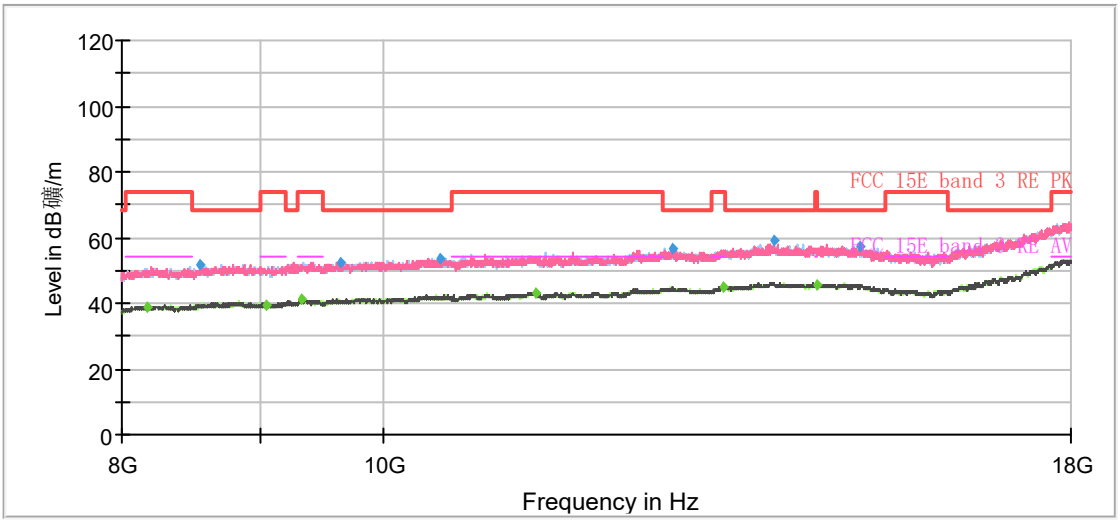
802.11n (HT20) CH165



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1293.13	46.66	---	68.20	21.54	500.00	200.0	V	0.00	-8
1406.88	---	35.87	54.00	18.13	500.00	100.0	V	112.00	-7
1694.75	---	36.14	54.00	17.86	500.00	100.0	H	56.00	-6
1890.75	48.52	---	68.20	19.68	500.00	100.0	H	0.00	-5
2673.88	50.65	---	68.20	17.55	500.00	200.0	H	131.00	-3
2822.63	---	38.70	54.00	15.30	500.00	200.0	H	340.00	-3
2918.00	50.55	---	68.20	17.65	500.00	200.0	H	77.00	-4
3998.63	---	39.64	54.00	14.36	500.00	100.0	H	234.00	-1
5373.25	---	41.96	54.00	12.04	500.00	200.0	H	340.00	3
5462.50	53.22	---	68.20	14.98	500.00	200.0	V	123.00	3
5854.50	65.80	---	68.20	2.40	500.00	200.0	H	286.00	4
7748.88	---	45.29	54.00	8.71	500.00	200.0	V	130.00	7

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

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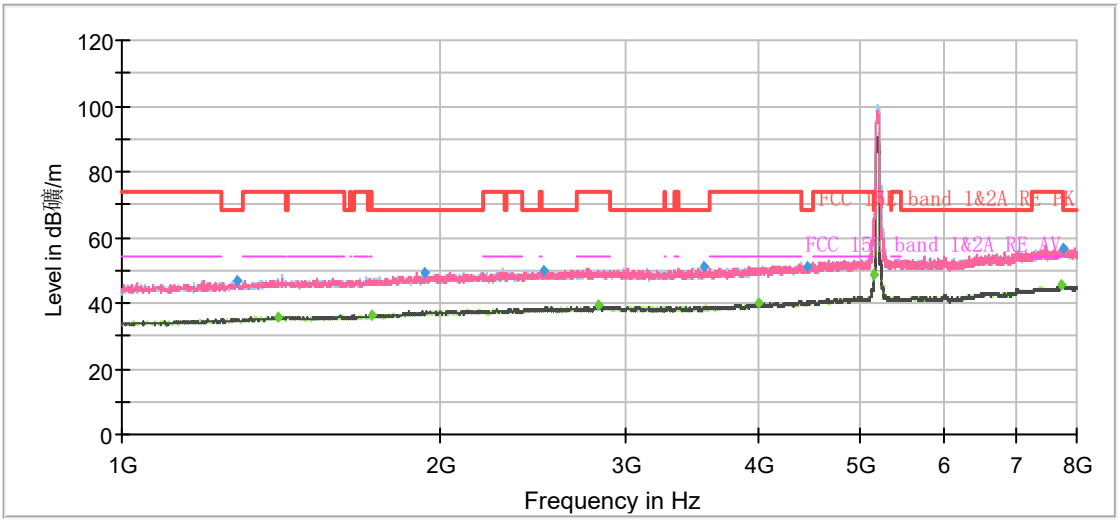
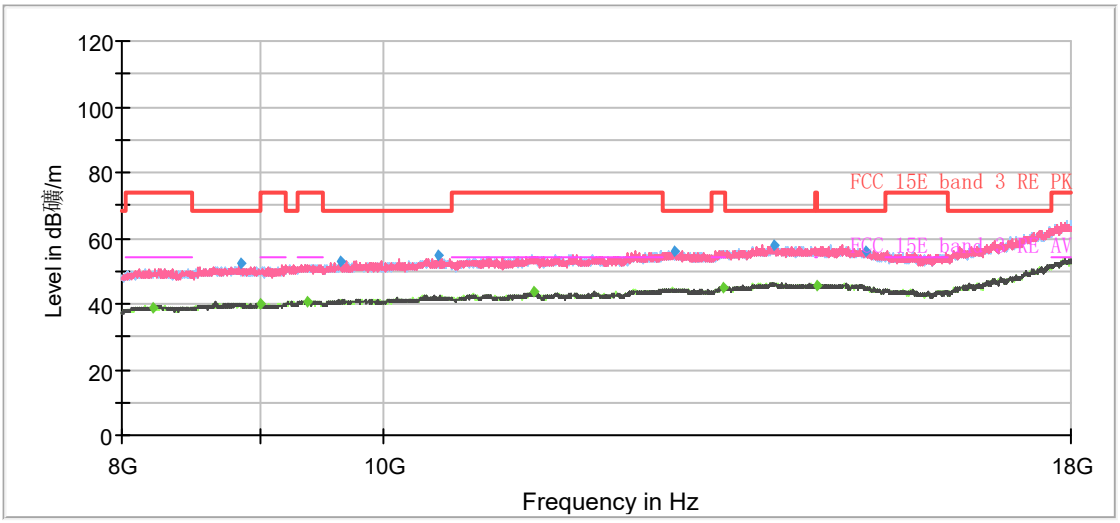
802.11n (HT40) CH38



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1283.50	46.93	---	68.20	21.27	500.00	100.0	V	248.00	-8
1407.75	---	35.84	54.00	18.16	500.00	100.0	V	2.00	-7
1721.88	---	36.36	54.00	17.64	500.00	200.0	V	312.00	-6
1931.00	49.40	---	68.20	18.80	500.00	200.0	H	92.00	-5
2505.88	50.15	---	68.20	18.05	500.00	100.0	V	0.00	-4
2821.75	---	39.21	54.00	14.79	500.00	200.0	H	4.00	-3
3551.50	50.80	---	68.20	17.40	500.00	200.0	H	112.00	-3
3996.00	---	39.70	54.00	14.30	500.00	100.0	H	342.00	-1
4448.38	51.20	---	68.20	17.00	500.00	100.0	H	167.00	0
5148.38	---	48.91	54.00	5.09	500.00	100.0	H	236.00	2
7741.88	---	45.35	54.00	8.65	500.00	200.0	H	259.00	7
7762.00	56.53	---	68.20	11.67	500.00	200.0	H	71.00	7

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

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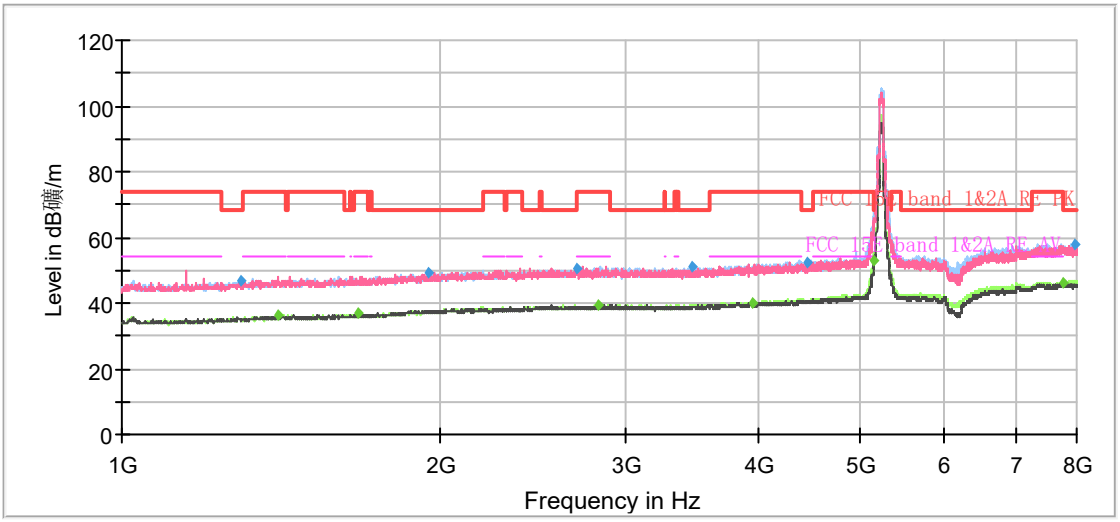
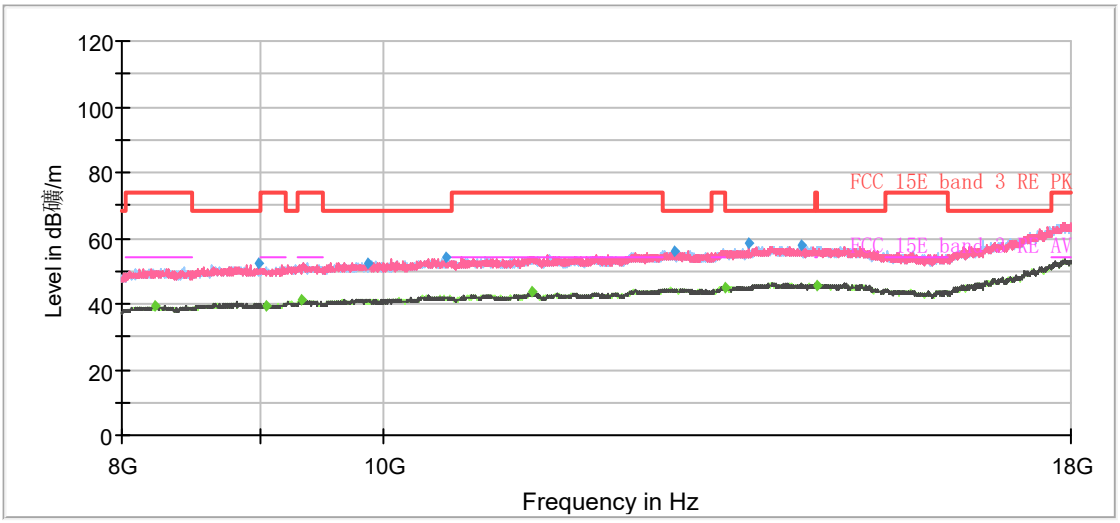
802.11n (HT40) CH46



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1294.00	46.61	---	68.20	21.59	500.00	100.0	H	204.00	-8
1404.25	---	36.12	54.00	17.88	500.00	100.0	V	273.00	-7
1675.50	---	36.66	54.00	17.34	500.00	200.0	H	154.00	-6
1950.25	49.04	---	68.20	19.16	500.00	200.0	H	335.00	-5
2688.75	50.59	---	68.20	17.61	500.00	200.0	H	0.00	-4
2823.50	---	39.33	54.00	14.67	500.00	200.0	V	52.00	-3
3468.38	51.35	---	68.20	16.85	500.00	200.0	V	93.00	-3
3954.00	---	40.27	54.00	13.73	500.00	100.0	H	114.00	-1
4456.25	52.60	---	68.20	15.60	500.00	200.0	H	347.00	0
5145.75	---	52.87	54.00	1.13	500.00	100.0	H	218.00	2
7749.75	---	46.23	54.00	7.77	500.00	100.0	V	224.00	7
7954.50	57.92	---	68.20	10.28	500.00	200.0	H	271.00	8

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

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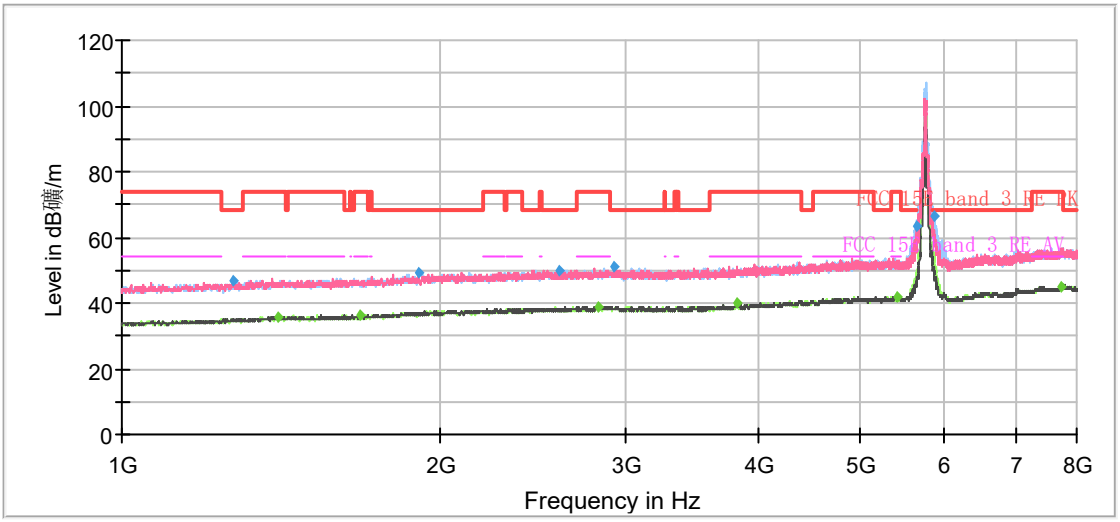
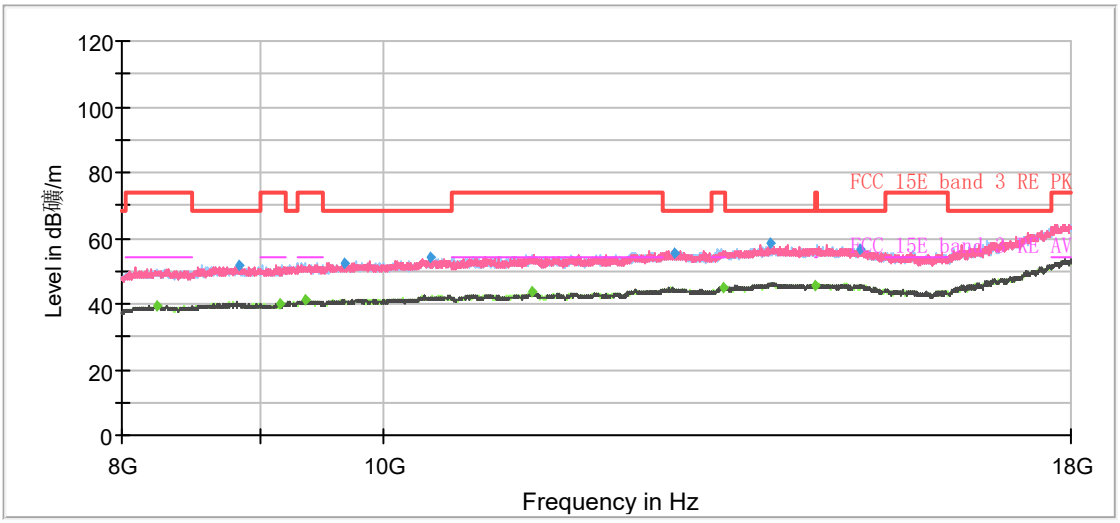
802.11n (HT40) CH151



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1276.50	46.48	---	68.20	21.72	500.00	200.0	V	358.00	-8
1405.13	---	35.96	54.00	18.04	500.00	200.0	V	258.00	-7
1677.25	---	36.20	54.00	17.80	500.00	200.0	H	118.00	-6
1906.50	49.17	---	68.20	19.03	500.00	100.0	V	0.00	-5
2589.00	50.10	---	68.20	18.10	500.00	200.0	H	0.00	-4
2821.75	---	38.75	54.00	15.25	500.00	100.0	V	10.00	-3
2918.00	51.11	---	68.20	17.09	500.00	100.0	H	209.00	-4
3817.50	---	39.70	54.00	14.30	500.00	200.0	V	258.00	-2
5403.00	---	41.76	54.00	12.24	500.00	200.0	V	346.00	3
5642.75	63.29	---	68.20	4.91	500.00	100.0	H	292.00	3
5859.75	66.38	---	68.20	1.82	500.00	100.0	H	0.00	4
7748.00	---	45.18	54.00	8.82	500.00	200.0	V	217.00	7

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

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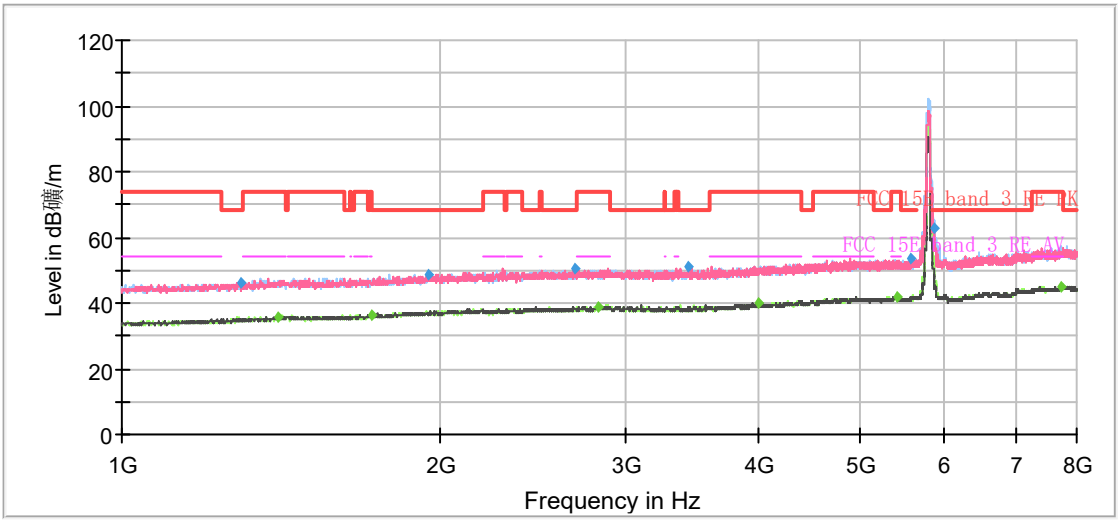
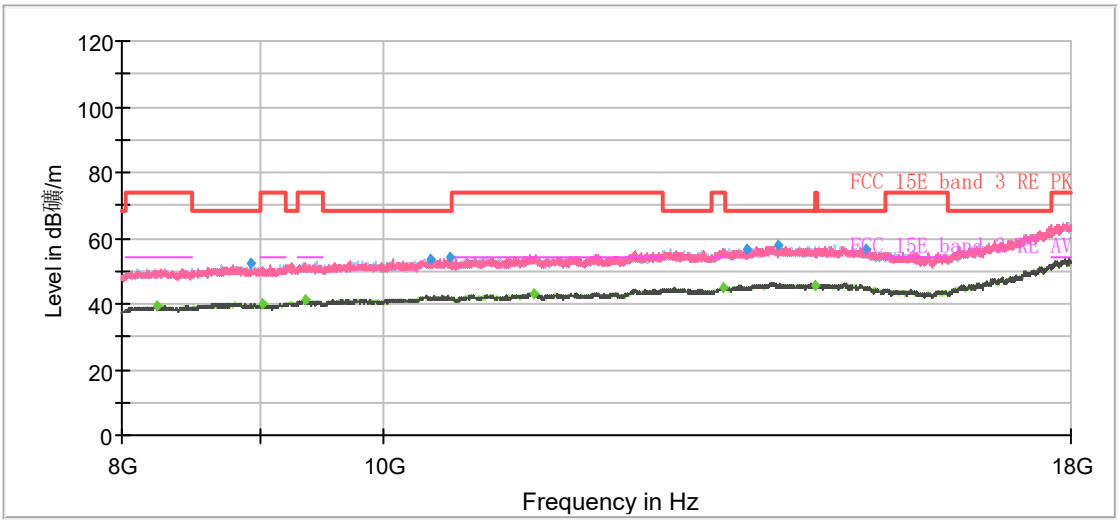
802.11n (HT40) CH159



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1297.50	46.13	---	68.20	22.07	500.00	100.0	V	39.00	-8
1406.00	---	35.81	54.00	18.19	500.00	200.0	H	13.00	-7
1720.13	---	36.24	54.00	17.76	500.00	200.0	V	326.00	-6
1952.88	48.72	---	68.20	19.48	500.00	200.0	V	271.00	-5
2682.63	50.17	---	68.20	18.03	500.00	100.0	H	355.00	-4
2825.25	---	38.85	54.00	15.15	500.00	200.0	V	258.00	-3
3432.50	50.93	---	68.20	17.27	500.00	200.0	V	346.00	-3
3999.50	---	39.89	54.00	14.11	500.00	200.0	H	65.00	-1
5400.38	---	41.89	54.00	12.11	500.00	200.0	H	86.00	3
5575.38	53.35	---	68.20	14.85	500.00	100.0	V	19.00	3
5874.63	62.78	---	68.20	5.42	500.00	100.0	H	306.00	4
7723.50	---	45.19	54.00	8.81	500.00	100.0	V	74.00	7

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

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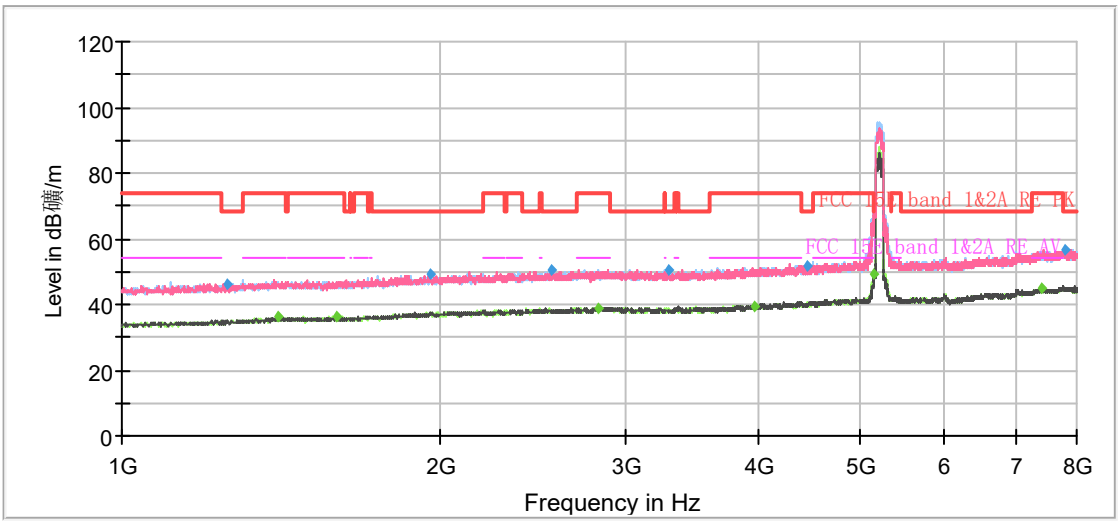
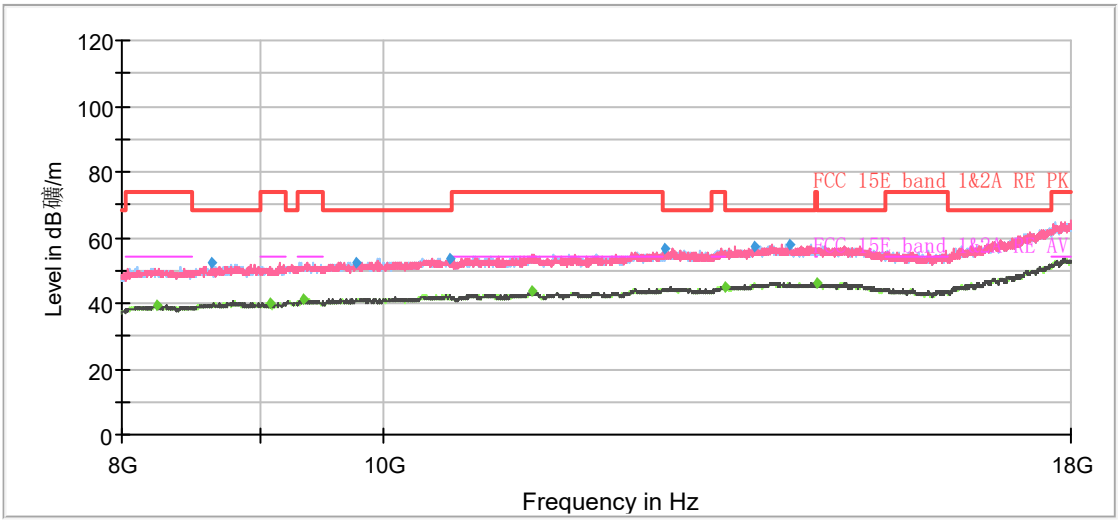
802.11ac (VHT80) CH42



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1259.88	46.06	---	68.20	22.14	500.00	100.0	H	0.00	-8
1407.75	---	36.05	54.00	17.95	500.00	200.0	V	303.00	-7
1599.38	---	36.59	54.00	17.41	500.00	200.0	H	3.00	-6
1955.50	49.06	---	68.20	19.14	500.00	200.0	V	228.00	-5
2553.13	50.16	---	68.20	18.04	500.00	100.0	H	13.00	-4
2820.88	---	38.82	54.00	15.18	500.00	100.0	H	105.00	-3
3292.50	50.42	---	68.20	17.78	500.00	200.0	V	358.00	-3
3963.63	---	39.66	54.00	14.34	500.00	200.0	H	3.00	-1
4456.25	51.85	---	68.20	16.35	500.00	200.0	H	84.00	0
5146.63	---	49.18	54.00	4.82	500.00	100.0	H	97.00	2
7397.13	---	45.13	54.00	8.87	500.00	100.0	V	278.00	7
7794.38	56.71	---	68.20	11.49	500.00	200.0	H	2.00	7

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

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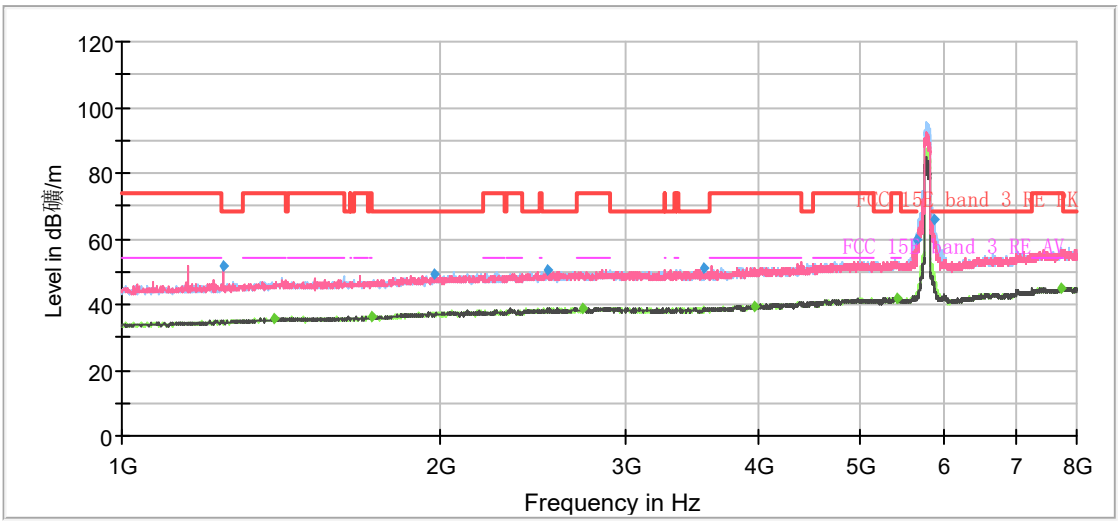
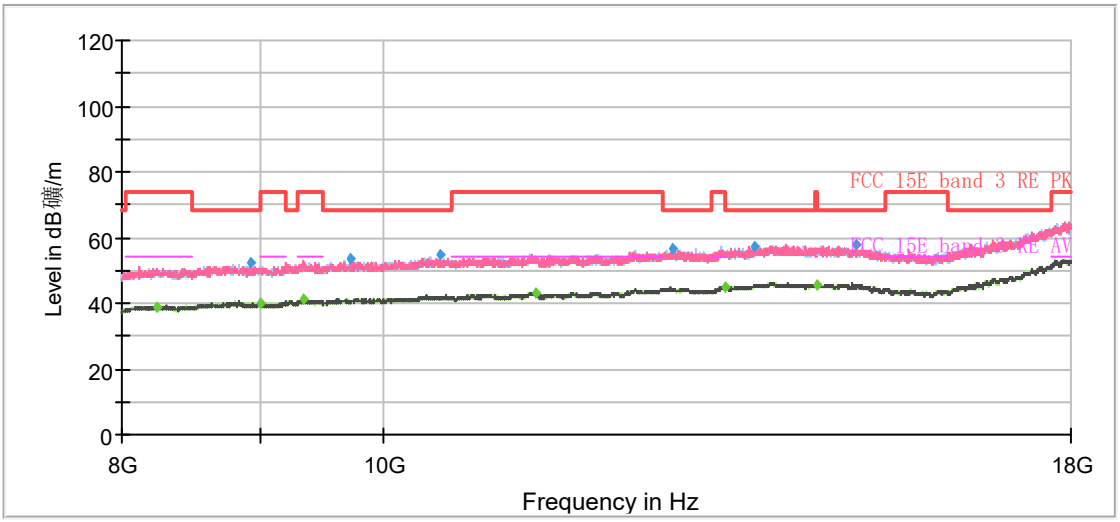
802.11ac (VHT80) CH155



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

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Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1246.75	51.99	---	68.20	16.21	500.00	200.0	V	268.00	-8
1392.88	---	35.67	54.00	18.33	500.00	100.0	V	75.00	-7
1721.00	---	36.37	54.00	17.63	500.00	100.0	H	317.00	-6
1973.88	48.93	---	68.20	19.27	500.00	100.0	V	128.00	-5
2528.63	50.34	---	68.20	17.86	500.00	200.0	V	342.00	-4
2729.88	---	39.02	54.00	14.98	500.00	200.0	V	268.00	-4
3551.50	50.95	---	68.20	17.25	500.00	100.0	V	109.00	-3
3963.63	---	39.62	54.00	14.38	500.00	200.0	H	170.00	-1
5415.25	---	41.92	54.00	12.08	500.00	200.0	H	244.00	3
5635.75	59.97	---	68.20	8.23	500.00	200.0	H	178.00	3
5852.75	65.55	---	68.20	2.65	500.00	100.0	H	289.00	4
7747.13	---	45.14	54.00	8.86	500.00	100.0	H	240.00	7

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

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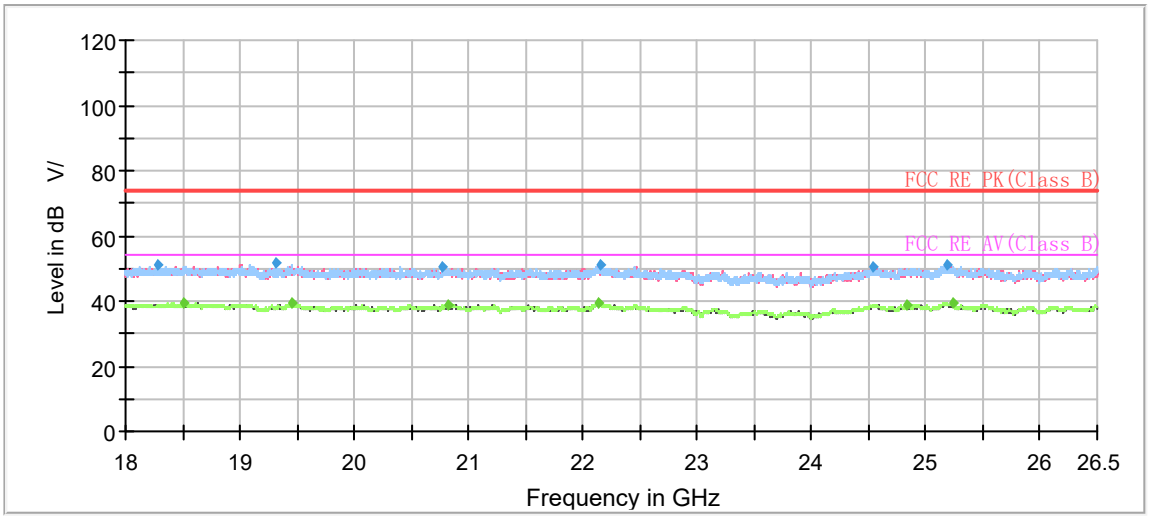
During the test, the Radiates Emission from 18GHz to 40GHz was performed in all modes with all channels, 802.11n (HT40), Channel 46 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

A font (Level in dB V/)in the test plot =(level in dB μ V/m)



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
18276.25	51.14	---	74.00	22.86	500.00	100.0	V	61.00	-2
18513.19	---	39.30	54.00	14.70	500.00	200.0	V	124.00	-2
19316.44	51.56	---	74.00	22.44	500.00	200.0	H	326.00	-1
19458.81	---	39.26	54.00	14.74	500.00	200.0	H	221.00	-1
20767.81	50.57	---	74.00	23.43	500.00	200.0	H	1.00	0
20817.75	---	38.77	54.00	15.23	500.00	100.0	H	12.00	0
22136.31	---	39.51	54.00	14.49	500.00	200.0	H	44.00	1
22145.88	50.86	---	74.00	23.14	500.00	200.0	H	184.00	1
24539.69	50.43	---	74.00	23.57	500.00	200.0	V	119.00	3
24839.31	---	38.87	54.00	15.13	500.00	100.0	H	124.00	3
25178.25	51.28	---	74.00	22.72	500.00	200.0	H	235.00	3
25230.31	---	39.31	54.00	14.70	500.00	200.0	H	259.00	3

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

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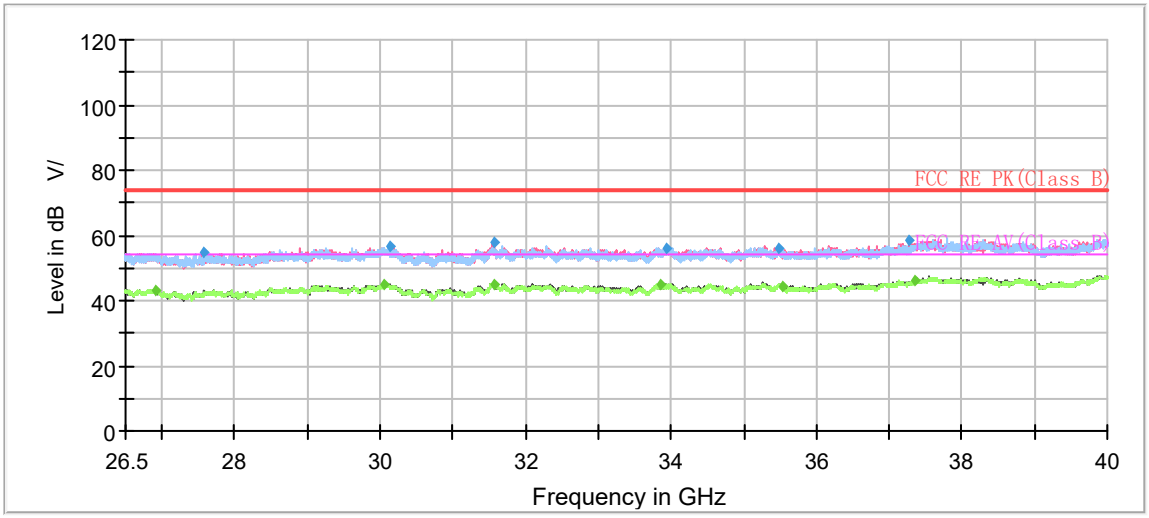

Radiates Emission from 26.5GHz to 40GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
26908.38	---	43.29	54.00	10.71	500.00	200.0	H	168.00	7
27574.94	54.46	---	74.00	19.54	500.00	200.0	V	36.00	6
30048.81	---	45.15	54.00	8.85	500.00	200.0	V	6.00	7
30128.13	56.40	---	74.00	17.60	500.00	100.0	V	263.00	7
31557.44	---	45.15	54.00	8.85	500.00	200.0	H	153.00	8
31570.94	57.61	---	74.00	16.39	500.00	200.0	V	266.00	8
33864.25	---	45.00	54.00	9.00	500.00	100.0	V	281.00	8
33948.63	56.26	---	74.00	17.74	500.00	100.0	V	350.00	8
35489.31	56.28	---	74.00	17.72	500.00	200.0	V	261.00	8
35526.44	---	44.52	54.00	9.48	500.00	200.0	V	167.00	8
37266.25	58.19	---	74.00	15.81	500.00	100.0	V	219.00	11
37342.19	---	46.33	54.00	7.67	500.00	200.0	V	162.00	11

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

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5.6. Conducted Emission

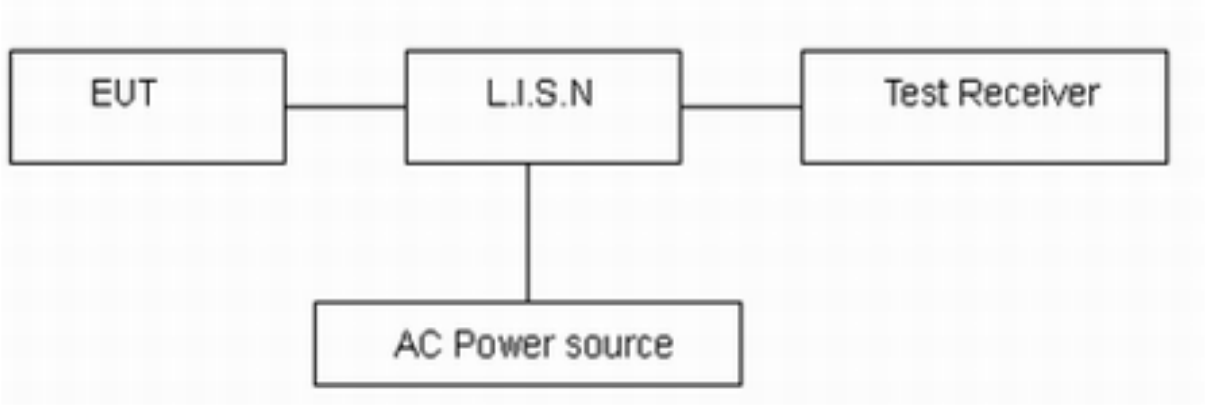
Ambient condition

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.

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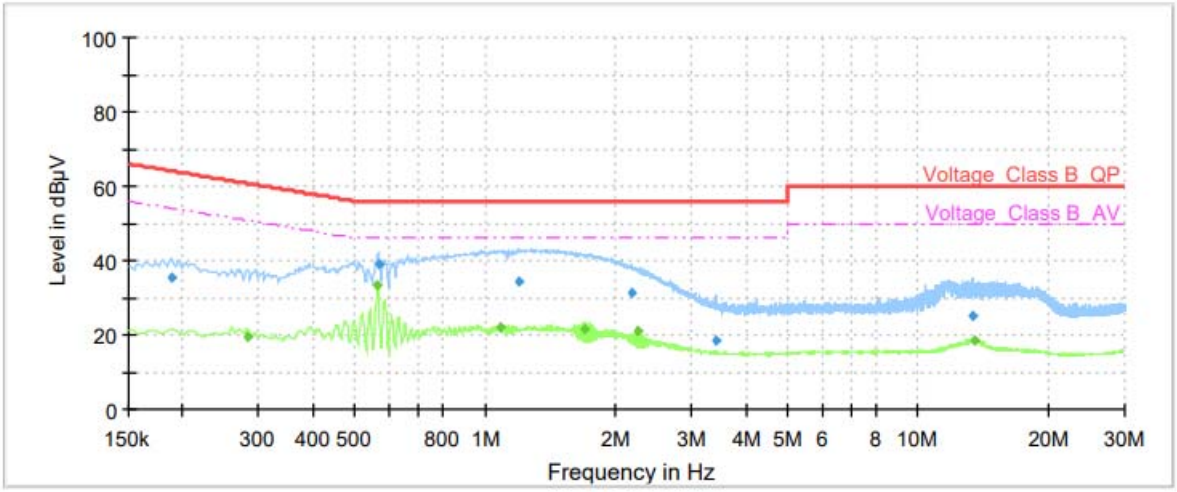
Test Results:

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, 802.11n (HT40), Channel 46 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)
0.19	35.26	---	64.11	28.85	1000.00	9.000	L1	ON	21
0.28	---	19.46	50.74	31.28	1000.00	9.000	L1	ON	21
0.56	---	33.53	46.00	12.47	1000.00	9.000	L1	ON	20
0.57	38.99	---	56.00	17.01	1000.00	9.000	L1	ON	20
1.08	---	21.96	46.00	24.04	1000.00	9.000	L1	ON	20
1.20	34.45	---	56.00	21.55	1000.00	9.000	L1	ON	20
1.70	---	21.60	46.00	24.40	1000.00	9.000	L1	ON	20
2.18	31.46	---	56.00	24.54	1000.00	9.000	L1	ON	20
2.24	---	20.78	46.00	25.22	1000.00	9.000	L1	ON	19
3.40	18.69	---	56.00	37.31	1000.00	9.000	L1	ON	19
13.33	25.14	---	60.00	34.86	1000.00	9.000	L1	ON	20
13.55	---	18.28	50.00	31.72	1000.00	9.000	L1	ON	20

Remark: Correct factor=cable loss + LISN factor

L line Conducted Emission from 150 KHz to 30 MHz

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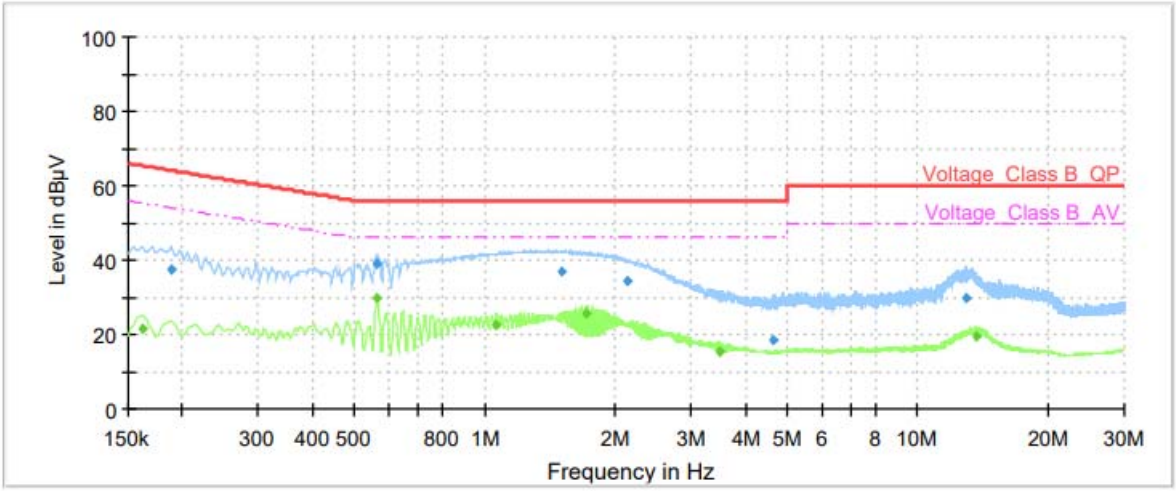

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.16	---	21.45	55.40	33.95	1000.00	9.000	N	ON	21
0.19	37.23	---	64.11	26.88	1000.00	9.000	N	ON	21
0.56	---	29.95	46.00	16.05	1000.00	9.000	N	ON	20
0.56	39.18	---	56.00	16.82	1000.00	9.000	N	ON	20
1.07	---	22.53	46.00	23.47	1000.00	9.000	N	ON	20
1.50	37.11	---	56.00	18.89	1000.00	9.000	N	ON	20
1.71	---	25.68	46.00	20.32	1000.00	9.000	N	ON	20
2.13	34.58	---	56.00	21.42	1000.00	9.000	N	ON	20
3.48	---	15.55	46.00	30.45	1000.00	9.000	N	ON	19
4.62	18.64	---	56.00	37.36	1000.00	9.000	N	ON	19
12.93	29.50	---	60.00	30.50	1000.00	9.000	N	ON	20
13.72	---	19.67	50.00	30.33	1000.00	9.000	N	ON	20

Remark: Correct factor=cable loss + LISN factor

N line Conducted Emission from 150 KHz to 30 MHz

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6. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Power sensor	R&S	OSP-B157 W8	100924	2021-12-12	2022-12-11
Spectrum Analyzer	KEYSIGHT	N9020A	MY54420163	2021-12-12	2022-12-11
DC Power Supply	GWINSTEK	GPS-3030 D	GEQ875952	2022-05-14	2023-05-13
Climate Chamber	ESPEC	SU-242	93000506	2021-12-12	2022-12-11
Radiated Emission					
EMI Test Receiver	R&S	ESCI7	100936	2021-12-12	2022-12-11
Signal Analyzer	R&S	FSV40	101297	2021-12-12	2022-12-11
Signal Analyzer	R&S	FSV30	100815	2021-12-12	2022-12-11
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	391	2019-12-16	2022-12-15
Loop antenna	SCHWARZBECK	FMZB1519	1519-047	2020-04-02	2023-04-01
Horn Antenna	Schwarzbeck	BBHA 9120D	430	2021-07-26	2024-07-25
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	/	/
Conducted Emission					
Artificial main network	R&S	ENV216	102191	2020-12-13	2022-12-12
EMI Test Receiver	R&S	ESR	101667	2022-05-25	2023-05-24
Software	R&S	EMC32	10.35.10	/	/

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

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ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

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ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.

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