RF TEST REPORT

Applicant	MobiWire SAS
FCC ID	QPN-H6821
Product	4G Smart Phone
Brand	MobiWire; MobiWire; Altice
Model	MobiWire H6821; MBW Vodafone Smart V22; Altice S64
Report No.	R2206A0570-R5
Issue Date	August 17, 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.

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TABLE OF CONTENT

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 30, 2022 ~ August 13, 2022 Date of Sample Received: March 24, 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.			

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
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2. General Description of Equipment under Test

2.1. Applicant and Manufacturer Information

Applicant	MobiWire SAS
Applicant address	107 Boulevard de la Mission Marchand, 92400 Courbevoie, France.
Manufacturer	MobiWire SAS
Manufacturer address	107 Boulevard de la Mission Marchand, 92400 Courbevoie, France.

2.2. General information

EUT Description		
Model	MobiWire H6821; MBW Vodafone Smart V22; Altice S64	
IMEI	353539550000384	
Hardware Version	V00	
Software Version	MobiWire_H6821M_V01	
Power Supply	Battery / AC adapter	
Antenna Type	Internal Antenna	
Antenna Gain	U-NII-1 & 2A	-4.0dBi
	U-NII-2C	-5.0dBi
	U-NII-3	-6.0 dBi
Operating Frequency Range(s)	U-NII-1: 5150MHz-5250MHz U-NII-2A: 5250MHz -5350MHz U-NII-2C: 5470MHz-5600MHz, 5650MHz-5725MHz U-NII-3: 5725MHz -5850MHz	
Modulation Type	802.11a/n (HT20/HT40) : OFDM 802.11ac (VHT20/VHT40/VHT80): OFDM	
Max. Conducted Power	16.97 dBm	
Testing temperature range:	-20 ° C to 50° C	
Operating temperature range:	-10 ° C to 55 C	
Operating voltage range:	3.6 V to 4.4 V	
State DC voltage:	3.85V	
EUT Accessory		
Adapter	Manufacturer: Dongguan Aohai Technology Co., Ltd. Model: A18A-050100U-US2	
Battery	Manufacturer: NINGBO VEKEN BATTERY CO., LTD Model: 178249203	

Earphone	Manufacturer: JIU JIANG JUWEI ELECTRONICS CO.,LTD Model: JWEP0957-M01R
USB Cable	Manufacturer: SHENZHEN FKY-QY HARDWARE ELECTRONIC CO.,LTD Model: AM/MICRO5P
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.	

Item	Configure 1	Configure 2
Components on PCB changes	/	add second memory
Others	The same	The same
Note: Customer declaration, two models are the same, except for the memory, There are more than one Configure, each one should be applied throughout the compliance test respectively, and however, only the worst case (Configure 1) will be recorded in this report.		

Three models: MobiWire H6821; MBW Vodafone Smart V22; Altice S64
The difference:
MBW Vodafone Smart V22, Altice S64:
1. Battery silkscreen logo is different.
2. Different chargers are used. MBW Vodafone Smart V22 use AU charger, Altice S64 use US charger.
MobiWire H6821 is same as MBW Vodafone Smart V22.
And only the data for MobiWire H6821 is recorded in this report.

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 (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

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-2A	20 MHz	52	5260MHz
			56	5280MHz
			60	5300MHz
			64	5320MHz
		40 MHz	54	5270MHz
			62	5310MHz
		80 MHz	58	5290MHz
	U-NII-2C	20 MHz	100	5500MHz
			104	5520MHz

			108	5540MHz
			112	5560MHz
			116	5580MHz
			132	5660MHz
			136	5680MHz
			140	5700MHz
			144	5720MHz
		40 MHz	102	5510MHz
			110	5550MHz
			118	5590MHz
			134	5670MHz
			142	5710MHz
		80 MHz	106	5530MHz
			138	5690MHz
	U-NII-3	20 MHz	144	5720MHz
			149	5745MHz
			153	5765MHz
			157	5785MHz
			161	5805MHz
			165	5825MHz
		40 MHz	142	5710MHz
			151	5755MHz
			159	5795MHz
		80 MHz	138	5690MHz
			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.

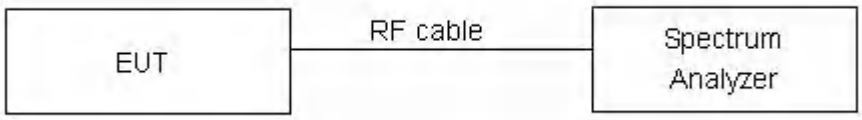
For U-NII-1/U-NII-2A/U-NII-2C, set RBW ≈1% OCB kHz, VBW ≥ 3 × RBW, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the 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	Channel/ Frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	36/5180	16.550	19.83	PASS
	40/5200	16.534	20.19	PASS
	48/5240	16.547	20.05	PASS
802.11n HT20	36/5180	17.639	20.37	PASS
	40/5200	17.590	20.26	PASS
	48/5240	17.618	20.22	PASS
802.11n HT40	38/5190	36.005	40.91	PASS
	46/5230	36.020	41.04	PASS
802.11ac VHT20	36/5180	17.627	20.33	PASS
	40/5200	17.612	20.09	PASS
	48/5240	17.622	20.26	PASS
802.11ac VHT40	38/5190	36.009	40.50	PASS
	46/5230	35.965	40.98	PASS
802.11ac VHT80	42/5210	75.305	81.10	PASS

U-NII-2A

Mode	Channel/ Frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	52/5260	16.535	19.93	PASS
	60/5300	16.518	19.85	PASS
	64/5320	16.514	20.22	PASS
802.11n HT20	52/5260	17.596	20.25	PASS
	60/5300	17.627	20.26	PASS
	64/5320	17.608	20.31	PASS
802.11n HT40	54/5270	35.986	41.25	PASS
	62/5310	36.024	40.82	PASS
802.11ac VHT20	52/5260	17.600	20.42	PASS
	60/5300	17.601	20.45	PASS
	64/5320	17.617	21.04	PASS
802.11ac VHT40	54/5270	35.958	40.95	PASS
	62/5310	36.017	40.72	PASS
802.11ac VHT80	58/5290	75.341	80.93	PASS

U-NII-2C

Mode	Channel/ Frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	100/5500	16.566	20.42	PASS
	116/5580	16.548	19.98	PASS
	140/5700	16.480	19.89	PASS
	144/5720	13.265	14.86	PASS
802.11n HT20	100/5500	17.615	20.49	PASS
	116/5580	17.619	20.58	PASS
	140/5700	17.613	20.27	PASS
	144/5720	13.789	20.37	PASS
802.11n HT40	102/5510	36.059	40.75	PASS
	110/5550	36.004	40.77	PASS
	134/5670	35.982	40.63	PASS
	142/5710	32.744	40.57	PASS
802.11ac VHT20	100/5500	17.647	20.21	PASS
	116/5580	17.631	20.30	PASS
	140/5700	17.628	20.29	PASS
	144/5720	13.770	15.24	PASS
802.11ac VHT40	102/5510	36.005	40.54	PASS
	110/5550	36.004	40.94	PASS
	134/5670	35.944	40.76	PASS
	142/5710	32.773	35.25	PASS
802.11ac VHT80	106/5530	75.301	81.03	PASS
	138/5690	71.981	75.43	PASS

U-NII-3

Mode	Channel/ Frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11a	144/5720	16.699	3.272	500	PASS
	149/5745	16.672	15.797	500	PASS
	157/5785	16.675	13.858	500	PASS
	165/5825	16.687	14.762	500	PASS
802.11n HT20	144/5720	17.860	3.397	500	PASS
	149/5745	17.901	14.988	500	PASS
	157/5785	17.837	14.390	500	PASS
	165/5825	17.889	14.833	500	PASS
802.11n	142/5710	36.301	2.925	500	PASS

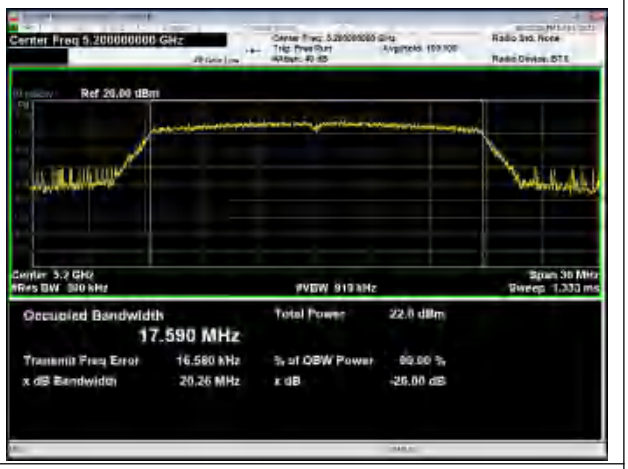
HT40	151/5755	36.300	35.121	500	PASS
	159/5795	36.315	35.101	500	PASS
802.11ac VHT20	144/5720	17.854	3.136	500	PASS
	149/5745	17.861	15.064	500	PASS
	157/5785	17.898	14.034	500	PASS
	165/5825	17.903	15.083	500	PASS
802.11ac VHT40	142/5710	36.341	3.127	500	PASS
	151/5755	36.327	32.610	500	PASS
	159/5795	36.338	35.076	500	PASS
802.11ac VHT80	138/5690	75.827	3.189	500	PASS
	155/5775	75.780	75.075	500	PASS

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

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

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

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



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

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

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

U-NII-1, 802.11ac 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

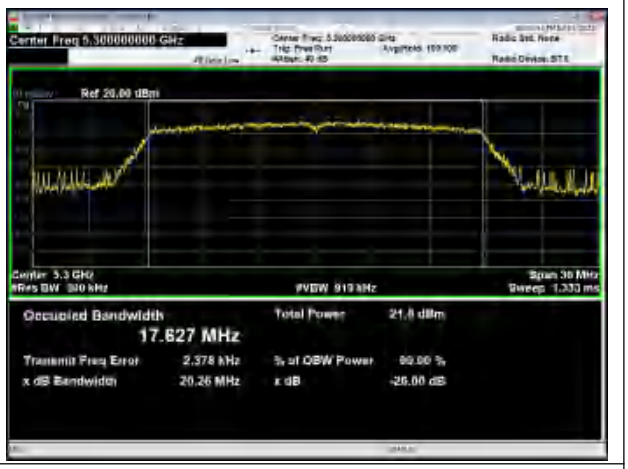
U-NII-1, 802.11ac VHT40, Channel No.: 46	U-NII-1, 802.11ac VHT80, Channel No.: 42
	

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

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

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

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



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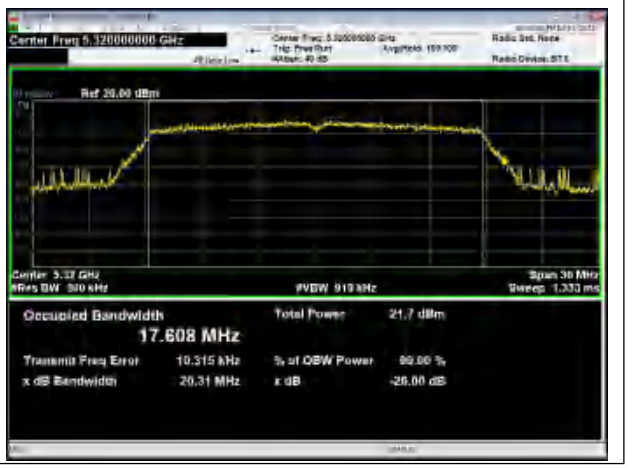

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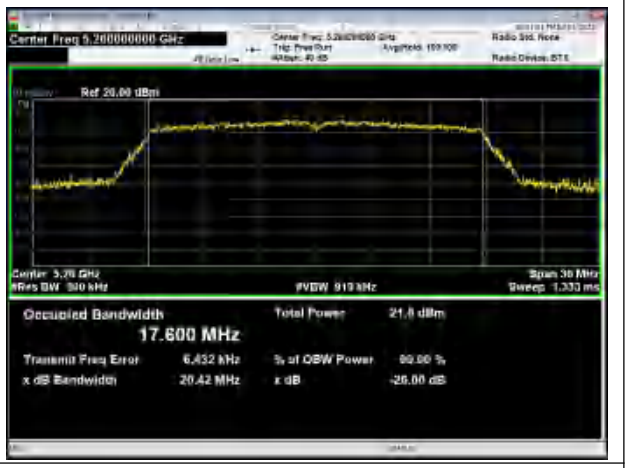
U-NII-2A, 802.11ac VHT20, Channel No.:52



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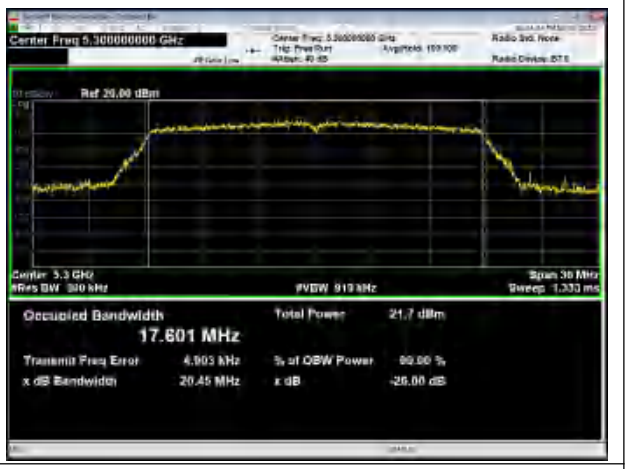

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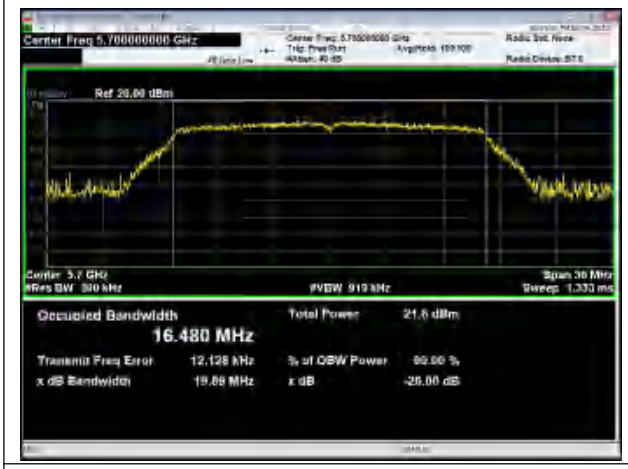
U-NII-2A, 802.11ac VHT20, Channel No.: 64

U-NII-2A, 802.11ac VHT40, Channel No.: 62	U-NII-2A, 802.11ac VHT80, Channel No.: 58
	

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

U-NII-2C, 802.11a, Channel No.: 116

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



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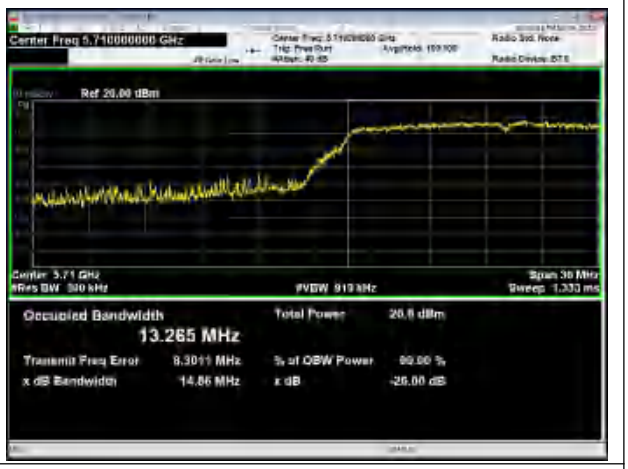


U-NII-2C, 802.11n HT20, Channel No.: 100

U-NII-2C, 802.11ac VHT20, Channel No.: 100

U-NII-2C, 802.11n HT20, Channel No.: 116

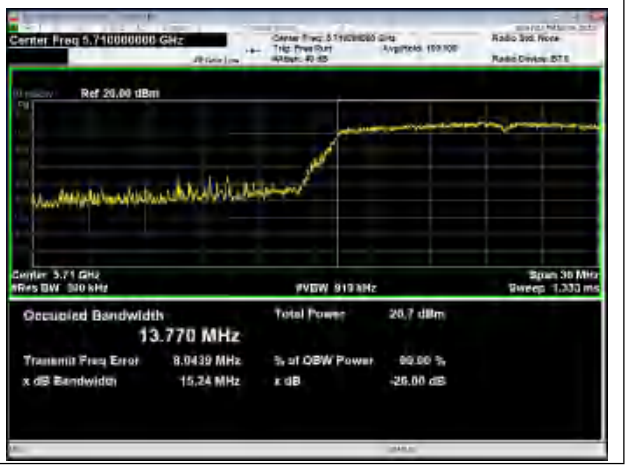
U-NII-2C, 802.11ac VHT20, Channel No.: 116

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

U-NII-2C, 802.11ac VHT20, Channel No.: 140

U-NII-2C, 802.11n HT20, Channel No.: 144

U-NII-2C, 802.11ac VHT20, Channel No.: 144



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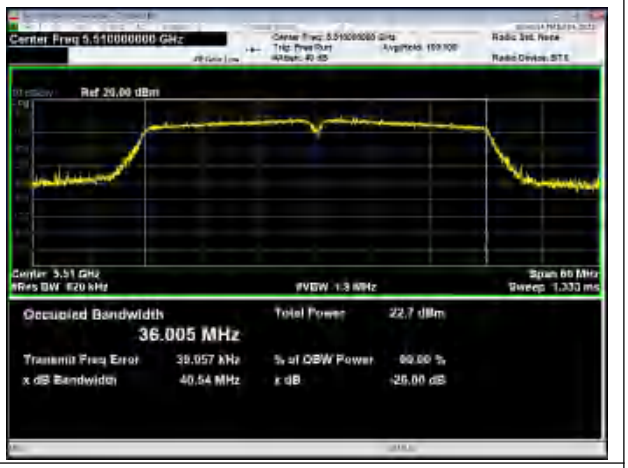

U-NII-2C, 802.11n HT40, Channel No.: 110

U-NII-2C, 802.11ac VHT40, Channel No.: 110

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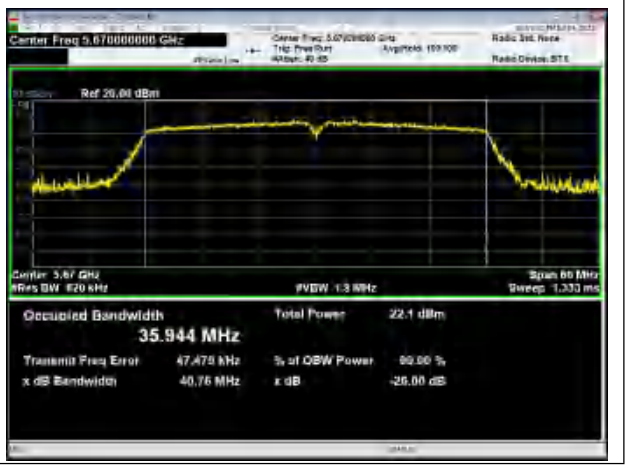
U-NII-2C, 802.11ac VHT40, Channel No.: 134



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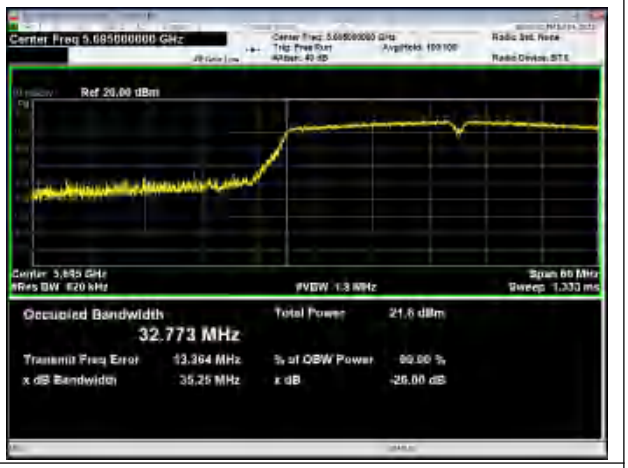
U-NII-2C, 802.11ac VHT40, Channel No.: 142



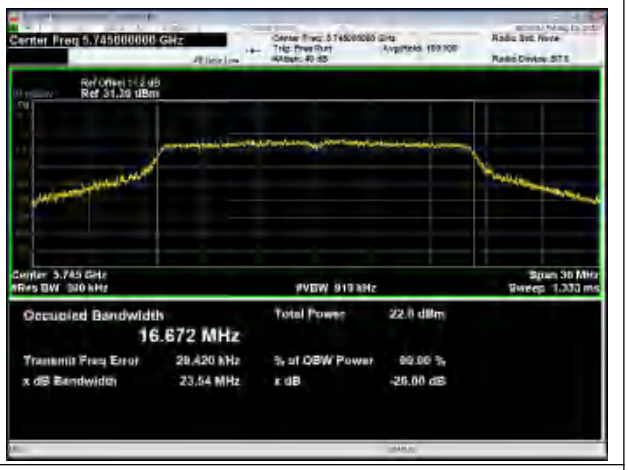
U-NII-2C, 802.11ac VHT80, Channel No.: 106

U-NII-2C, 802.11ac VHT80, Channel No.: 138

99% bandwidth

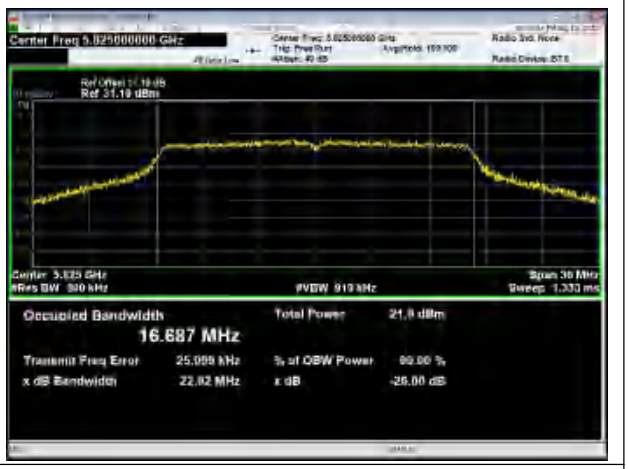
U-NII-3, 802.11a, Channel No.: 144

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



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

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



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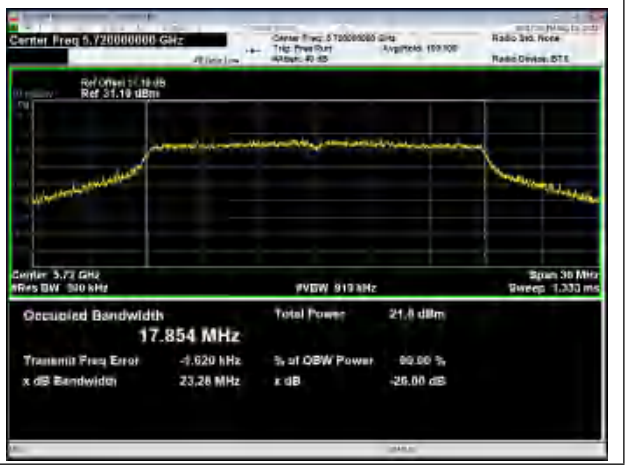
U-NII-3, 802.11ac VHT20, Channel No.: 144



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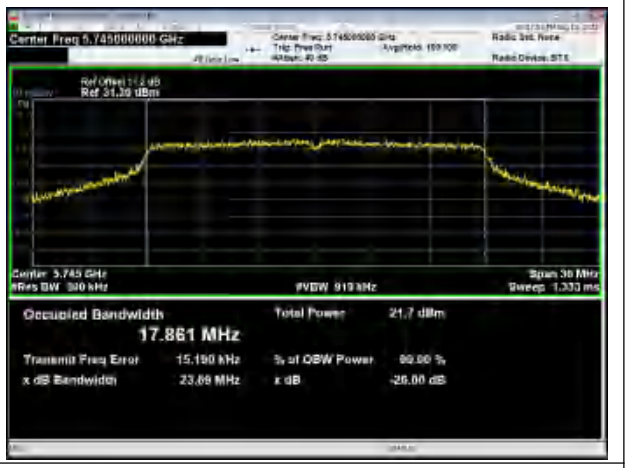

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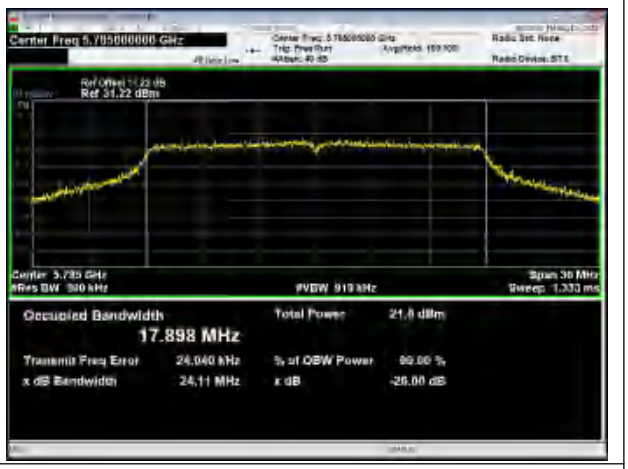
U-NII-3, 802.11ac VHT20, Channel No.: 157



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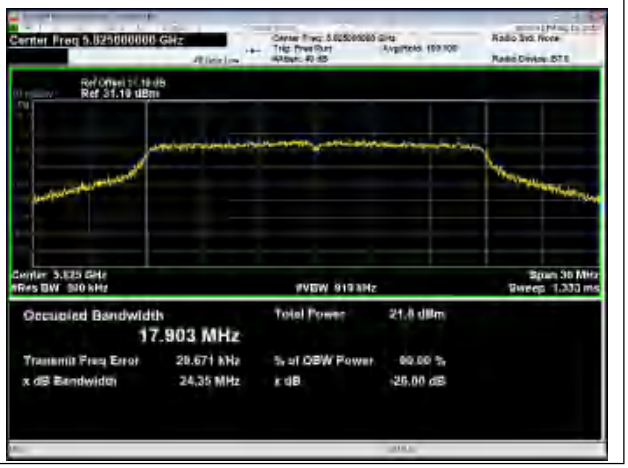
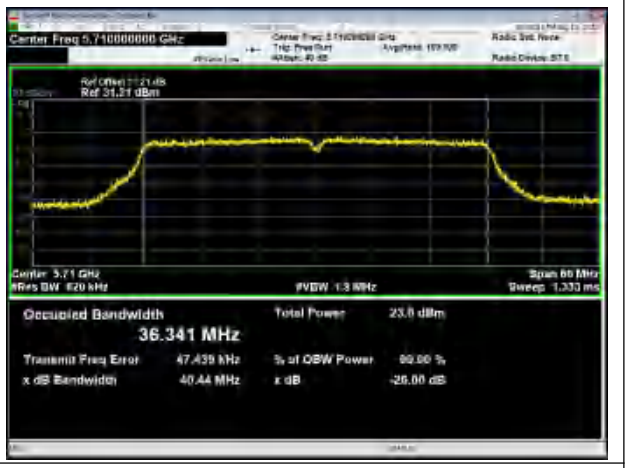
U-NII-3, 802.11ac VHT20, Channel No.: 165



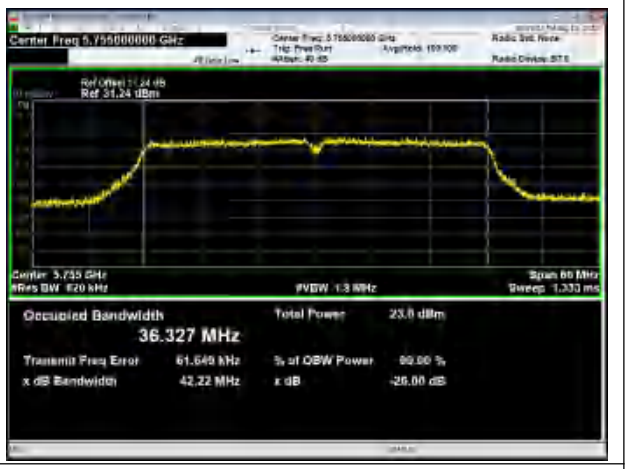
U-NII-3, 802.11n HT40, Channel No.: 142

U-NII-3, 802.11ac VHT40, Channel No.: 142



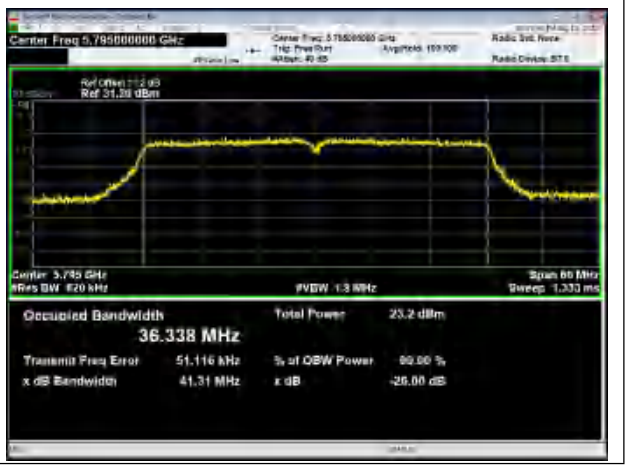
U-NII-3, 802.11n HT40, Channel No.: 151

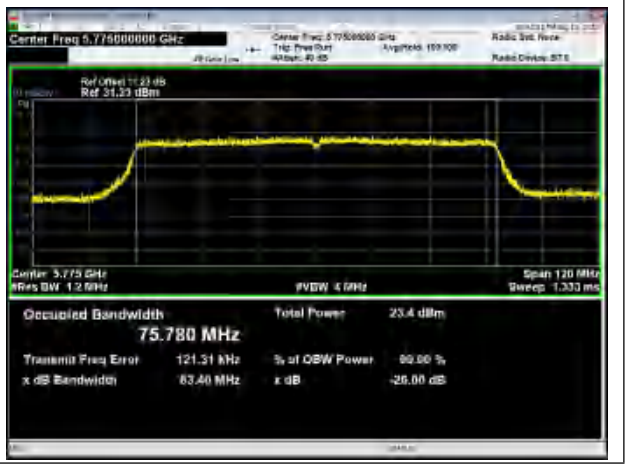
U-NII-3, 802.11ac VHT40, Channel No.: 151



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

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



U-NII-3, 802.11ac VHT80, Channel No.: 106	U-NII-3, 802.11ac VHT80, Channel No.: 138
	

Minimum 6 dB bandwidth

U-NII-3, 802.11a, Channel No.: 144

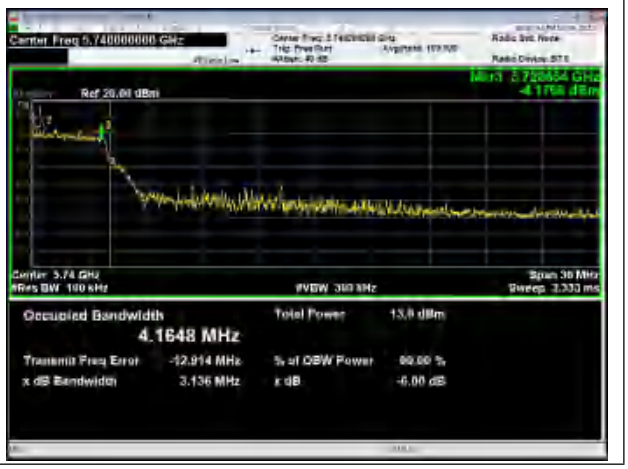
U-NII-3, 802.11a, Channel No.: 149

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

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

U-NII-3, 802.11n HT20, Channel No.: 144

U-NII-3, 802.11ac VHT20, Channel No.: 144



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

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

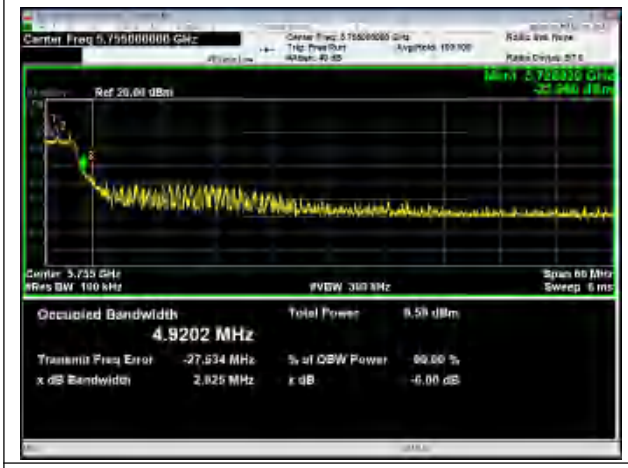
U-NII-3, 802.11n HT20, Channel No.: 157

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

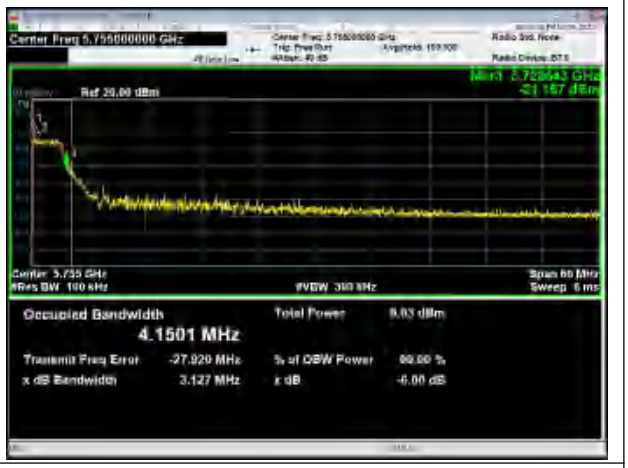
U-NII-3, 802.11n HT20, Channel No.: 165

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

U-NII-3, 802.11n HT40, Channel No.: 142



U-NII-3, 802.11ac VHT40, Channel No.: 142

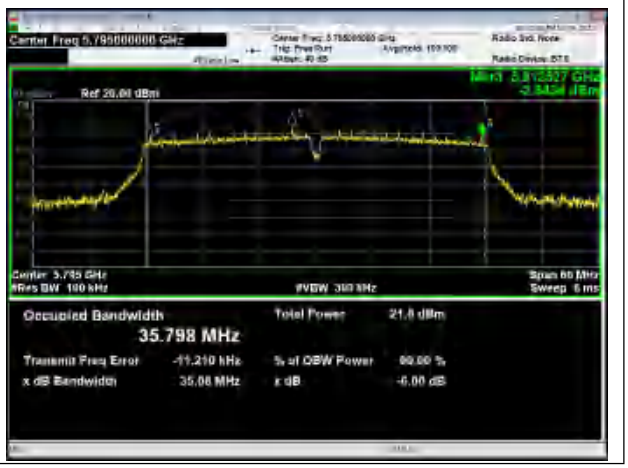


U-NII-3, 802.11n HT40, Channel No.: 151

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

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

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



U-NII-3, 802.11ac VHT80, Channel No.: 106	U-NII-3, 802.11ac VHT80, Channel No.: 138
	

5.2. Average Power Output

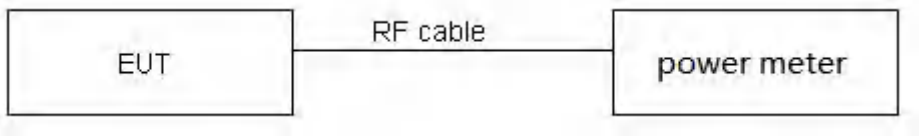
Ambient condition

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	1.39	1.44	0.965	0.153
802.11n HT20	1.30	1.34	0.970	0.132
802.11n HT40	0.64	0.69	0.931	0.312
802.11ac VHT20	1.36	1.41	0.965	0.157
802.11ac VHT40	0.65	0.70	0.937	0.284
802.11ac VHT80	0.32	0.37	0.880	0.553
Note: when Duty cycle≥0.98, Duty cycle correction Factor not required.				

Power Index								
Channel	802.11a	802.11n HT20	802.11ac VHT20	Channel	802.11n HT40	802.11ac VHT40	Channel	802.11ac VHT80
CH36	16	16	16	CH38	16	16	CH42	16
CH40	16	16	16	CH46	16	16	/	/
CH48	16	16	16	/	/	/	/	/
CH52	16	16	16	CH54	16	16	CH58	16
CH60	16	16	16	CH62	16	16	/	/
CH64	16	16	16	/	/	/	/	/
CH100	16	16	16	CH102	16	16	CH106	16
CH116	16	16	16	CH118	16	16	CH138	16
CH140	16	16	16	CH134	16	16	/	/
CH144	16	16	16	CH142	16	16	/	/
CH149	16	16	16	CH151	16	16	CH155	16
CH157	16	16	16	CH159	16	16	/	/
CH165	16	16	16	/	/	/	/	/

Test Mode		Channel/Frequency (MHz)	B=26 dB bandwidth (MHz)	Limit 11 dBm + 10 log B (dBm)	Final Limit (dBm)
U-NII-2A	802.11a	52/5260	19.93	24.00	24.00
		60/5300	19.85	23.98<24	23.98
		64/5320	20.22	24.06>24	24.00
	802.11n HT20	52/5260	20.25	24.06>24	24.00
		60/5300	20.26	24.07>24	24.00
		64/5320	20.31	24.08>24	24.00
	802.11n HT40	54/5270	41.25	27.15>24	24.00
		62/5310	40.82	27.11>24	24.00
	802.11ac VHT20	52/5260	20.42	24.10>24	24.00
		60/5300	20.45	24.11>24	24.00
		64/5320	21.04	24.23>24	24.00
	802.11ac VHT40	54/5270	40.95	27.12>24	24.00
		62/5310	40.72	27.10>24	24.00
	802.11ac VHT80	58/5290	80.93	30.08>24	24.00
U-NII-2C	802.11a	100/5500	20.42	24.10>24	24.00
		116/5580	19.98	24.01>24	24.00
		140/5700	19.89	23.99<24	23.99
		144/5720	14.86	22.72<24	22.72
	802.11n HT20	100/5500	20.49	24.12>24	24.00
		116/5580	20.58	24.13>24	24.00
		140/5700	20.27	24.07>24	24.00
		144/5720	20.37	24.09>24	24.00
	802.11n HT40	102/5510	40.75	27.10>24	24.00
		110/5550	40.77	27.10>24	24.00
		134/5670	40.63	27.09>24	24.00
		142/5710	40.57	27.08>24	24.00
	802.11ac VHT20	100/5500	20.21	24.06>24	24.00
		116/5580	20.30	24.07>24	24.00
		140/5700	20.29	24.07>24	24.00
		144/5720	15.24	22.83>24	24.00
	802.11ac VHT40	102/5510	40.54	27.08>24	24.00
		110/5550	40.94	27.12>24	24.00
		134/5670	40.76	27.10>24	24.00
		142/5710	35.25	26.47>24	24.00
	802.11ac VHT80	106/5530	81.03	30.09>24	24.00
		138/5690	75.43	29.78>24	24.00
Note: 250mW=24dBm					

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	16.50	16.65	24.00	PASS
	40/5200	16.49	16.64	24.00	PASS
	48/5240	16.34	16.49	24.00	PASS
802.11n HT20	36/5180	16.29	16.42	24.00	PASS
	40/5200	16.32	16.45	24.00	PASS
	48/5240	16.19	16.32	24.00	PASS
802.11n HT40	38/5190	16.07	16.38	24.00	PASS
	46/5230	16.19	16.50	24.00	PASS
802.11ac VHT20	36/5180	16.28	16.44	24.00	PASS
	40/5200	16.34	16.50	24.00	PASS
	48/5240	16.13	16.29	24.00	PASS
802.11ac VHT40	38/5190	16.09	16.38	24.00	PASS
	46/5230	16.16	16.44	24.00	PASS
802.11ac VHT80	42/5210	16.04	16.59	24.00	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

U-NII-2A

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	52/5260	16.23	16.38	24.00	PASS
	60/5300	16.19	16.34	23.98	PASS
	64/5320	16.13	16.28	24.00	PASS
802.11n HT20	52/5260	16.10	16.24	24.00	PASS
	60/5300	16.02	16.15	24.00	PASS
	64/5320	16.00	16.13	24.00	PASS
802.11n HT40	54/5270	15.89	16.21	24.00	PASS
	62/5310	15.44	15.75	24.00	PASS
802.11ac VHT20	52/5260	16.05	16.21	24.00	PASS
	60/5300	16.02	16.17	24.00	PASS
	64/5320	16.04	16.19	24.00	PASS
802.11ac VHT40	54/5270	15.90	16.18	24.00	PASS
	62/5310	15.92	16.20	24.00	PASS
802.11ac VHT80	58/5290	15.30	15.86	24.00	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

U-NII-2C

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	100/5500	16.70	16.85	24.00	PASS
	116/5580	16.51	16.66	24.00	PASS
	140/5700	15.87	16.02	23.99	PASS
	144/5720	15.15	15.30	22.72	PASS
802.11n HT20	100/5500	16.54	16.67	24.00	PASS
	116/5580	16.25	16.38	24.00	PASS
	140/5700	15.80	15.93	24.00	PASS
	144/5720	15.00	15.13	24.00	PASS
802.11n HT40	102/5510	16.52	16.83	24.00	PASS
	110/5550	16.49	16.80	24.00	PASS
	134/5670	15.92	16.24	24.00	PASS
	142/5710	15.41	15.72	24.00	PASS
802.11ac VHT20	100/5500	16.56	16.72	24.00	PASS
	116/5580	16.27	16.42	24.00	PASS
	140/5700	15.80	15.95	24.00	PASS

	144/5720	14.98	15.14	22.83	PASS
802.11ac VHT40	102/5510	16.51	16.80	24.00	PASS
	110/5550	16.49	16.77	24.00	PASS
	134/5670	15.91	16.19	24.00	PASS
	142/5710	15.45	15.73	24.00	PASS
802.11ac VHT80	106/5530	16.42	16.97	24.00	PASS
	138/5690	15.46	16.02	24.00	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	144/5720	7.04	7.19	30.00	PASS
	149/5745	15.77	15.92	30.00	PASS
	157/5785	15.73	15.88	30.00	PASS
	165/5825	15.46	15.61	30.00	PASS
802.11n HT20	144/5720	7.81	7.94	30.00	PASS
	149/5745	15.70	15.83	30.00	PASS
	157/5785	15.61	15.74	30.00	PASS
	165/5825	15.32	15.45	30.00	PASS
802.11n HT40	142/5710	2.97	3.29	30.00	PASS
	151/5755	15.53	15.84	30.00	PASS
	159/5795	15.23	15.54	30.00	PASS
802.11ac VHT20	144/5720	7.76	7.92	30.00	PASS
	149/5745	15.61	15.77	30.00	PASS
	157/5785	15.51	15.67	30.00	PASS
	165/5825	15.31	15.47	30.00	PASS
802.11ac VHT40	142/5710	3.10	3.38	30.00	PASS
	151/5755	15.54	15.82	30.00	PASS
	159/5795	15.21	15.50	30.00	PASS
802.11ac VHT80	138/5690	-0.15	0.40	30.00	PASS
	155/5775	15.03	15.58	30.00	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
3.85	-20	5199.995511	5199.986685	5199.985726	5199.984842
3.85	-10	5200.004628	5199.979126	5199.982062	5199.982923
3.85	0	5199.996087	5199.973332	5199.977400	5199.981386
3.85	10	5199.991223	5199.968746	5199.974472	5199.977424
3.85	20	5199.984805	5199.965927	5199.965143	5199.969682
3.85	30	5199.978215	5199.956992	5199.958277	5199.962797
3.85	40	5199.975043	5199.951453	5199.949493	5199.952970
3.85	50	5199.967514	5199.942038	5199.942487	5199.952081
3.60	20	5199.965182	5199.934225	5199.941350	5199.943652
4.40	20	5199.955806	5199.929001	5199.938213	5199.939058
Max. ΔMHz		-0.044194	-0.070999	-0.061787	-0.060942
PPM		-8.498846	-13.653654	-11.882115	-11.719615

Voltage (V)	Temperature (°C)	U-NII-2A Test Results			
		5300MHz			
		1min	2min	5min	10min
3.85	-20	5300.004593	5300.003580	5300.003492	5299.995464
3.85	-10	5299.997609	5299.999587	5299.994862	5299.993533
3.85	0	5299.989674	5299.999020	5299.992901	5299.988975
3.85	10	5299.987187	5299.993407	5299.987512	5299.985632
3.85	20	5299.980058	5299.990096	5299.979980	5299.977948
3.85	30	5299.977958	5299.980505	5299.971887	5299.968958
3.85	40	5299.969216	5299.977712	5299.971556	5299.962765
3.85	50	5299.959674	5299.973524	5299.965245	5299.957839
3.60	20	5299.953493	5299.965194	5299.957114	5299.949829
4.40	20	5299.945144	5299.964207	5299.951570	5299.941407
Max. ΔMHz		-0.054856	-0.035793	-0.048430	-0.058593
PPM		-10.350189	-6.753396	-9.137736	-11.055283

Voltage (V)	Temperature (°C)	U-NII-2C Test Results			
		5580MHz			
		1min	2min	5min	10min
3.85	-20	5579.993987	5579.990763	5579.985040	5579.975632
3.85	-10	5579.993684	5579.985267	5579.982907	5579.975611
3.85	0	5579.993677	5579.978051	5579.978677	5579.973070
3.85	10	5579.986277	5579.977012	5579.971966	5579.967400
3.85	20	5579.981322	5579.975109	5579.964442	5579.963550
3.85	30	5579.976005	5579.969275	5579.962304	5579.958449
3.85	40	5579.972565	5579.966884	5579.960137	5579.952776
3.85	50	5579.969733	5579.957625	5579.959233	5579.947327
3.60	20	5579.962957	5579.951900	5579.956184	5579.946969
4.40	20	5579.958039	5579.947283	5579.950088	5579.943346
Max. ΔMHz		-0.041961	-0.052717	-0.049912	-0.056654
PPM		-7.519892	-9.447491	-8.944803	-10.153047

Voltage (V)	Temperature (°C)	U-NII-3 Test Results			
		5785MHz			
		1min	2min	5min	10min
3.85	-20	5784.991568	5784.986647	5784.980145	5784.971222
3.85	-10	5784.982666	5784.985706	5784.974048	5784.970232
3.85	0	5784.980332	5784.978698	5784.968279	5784.963995
3.85	10	5784.971977	5784.976449	5784.964875	5784.954545
3.85	20	5784.966559	5784.971795	5784.962080	5784.953683
3.85	30	5784.965946	5784.968341	5784.954557	5784.948828
3.85	40	5784.958260	5784.966806	5784.947149	5784.946883
3.85	50	5784.958060	5784.965192	5784.946151	5784.941543
3.60	20	5784.950549	5784.960115	5784.945421	5784.935610
4.40	20	5784.945329	5784.952025	5784.944274	5784.935482
Max. ΔMHz		-0.054671	-0.047975	-0.055726	-0.064518
PPM		-9.450475	-8.292999	-9.632844	-11.152636

5.4. Power Spectral Density

Ambient condition

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

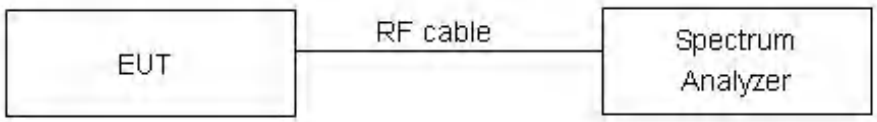
Method of Measurement

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, 5.250-5.350GHz, 5.470-5.725GHz.
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	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/ Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	36/5180	6.88	7.03	11	PASS
	40/5200	6.70	6.85	11	PASS
	48/5240	6.60	6.75	11	PASS
802.11n HT20	36/5180	6.53	6.66	11	PASS
	40/5200	6.57	6.70	11	PASS
	48/5240	6.47	6.60	11	PASS
802.11n HT40	38/5190	3.79	4.10	11	PASS
	46/5230	3.54	3.85	11	PASS
802.11ac VHT20	36/5180	6.36	6.52	11	PASS
	40/5200	6.71	6.87	11	PASS
	48/5240	6.83	6.99	11	PASS
802.11ac VHT40	38/5190	3.47	3.75	11	PASS
	46/5230	3.68	3.96	11	PASS
802.11ac VHT80	42/5210	0.53	1.08	11	PASS

U-NII-2A

Mode	Channel/ Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	52/5260	6.60	6.75	11	PASS
	60/5300	6.77	6.92	11	PASS
	64/5320	6.62	6.77	11	PASS
802.11n HT20	52/5260	6.33	6.46	11	PASS
	60/5300	6.37	6.50	11	PASS
	64/5320	6.13	6.26	11	PASS
802.11n HT40	54/5270	3.53	3.84	11	PASS
	62/5310	2.77	3.08	11	PASS
802.11ac VHT20	52/5260	6.38	6.54	11	PASS
	60/5300	6.40	6.56	11	PASS
	64/5320	6.82	6.98	11	PASS

802.11ac VHT40	54/5270	3.31	3.59	11	PASS
	62/5310	3.18	3.46	11	PASS
802.11ac VHT80	58/5290	-0.16	0.39	11	PASS

U-NII-2C

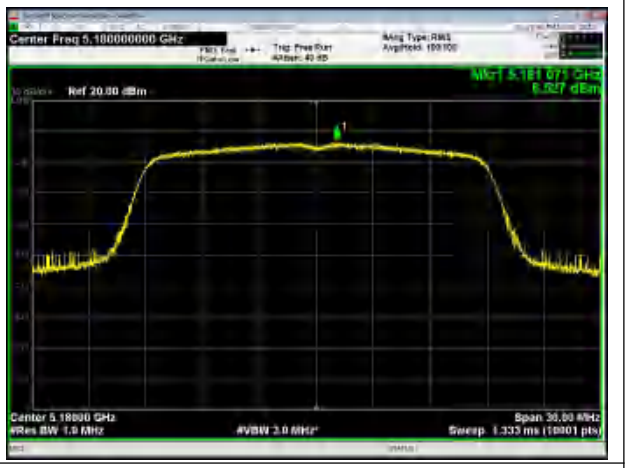
Mode	Channel/ Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	100/5500	7.30	7.45	11	PASS
	116/5580	6.80	6.95	11	PASS
	140/5700	6.29	6.44	11	PASS
	144/5720	6.11	6.26	11	PASS
802.11n HT20	100/5500	6.97	7.10	11	PASS
	116/5580	6.72	6.85	11	PASS
	140/5700	6.01	6.14	11	PASS
	144/5720	6.04	6.17	11	PASS
802.11n HT40	102/5510	3.71	4.02	11	PASS
	110/5550	3.89	4.20	11	PASS
	134/5670	3.18	3.49	11	PASS
	142/5710	3.04	3.35	11	PASS
802.11ac VHT20	100/5500	7.00	7.16	11	PASS
	116/5580	6.67	6.83	11	PASS
	140/5700	6.07	6.23	11	PASS
	144/5720	6.08	6.24	11	PASS
802.11ac VHT40	102/5510	3.89	4.17	11	PASS
	110/5550	3.76	4.04	11	PASS
	134/5670	3.47	3.75	11	PASS
	142/5710	3.03	3.31	11	PASS
802.11ac VHT80	106/5530	0.85	1.40	11	PASS
	138/5690	-0.04	0.51	11	PASS

U-NII-3

Mode	Channel/ Frequency (MHz)	Read Value (dBm/470kHz)	Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)	Conclusion
802.11a	144/5720	0.18	0.60	30	PASS
	149/5745	3.37	3.79	30	PASS
	157/5785	3.06	3.48	30	PASS
	165/5825	2.77	3.19	30	PASS
802.11n HT20	144/5720	0.79	1.19	30	PASS
	149/5745	2.57	2.97	30	PASS
	157/5785	2.45	2.85	30	PASS
	165/5825	2.27	2.67	30	PASS
802.11n HT40	142/5710	-4.04	-3.46	30	PASS
	151/5755	-0.32	0.26	30	PASS
	159/5795	-0.71	-0.13	30	PASS
802.11ac VHT20	144/5720	1.04	1.47	30	PASS
	149/5745	2.56	2.99	30	PASS
	157/5785	2.62	3.05	30	PASS
	165/5825	2.32	2.75	30	PASS
802.11ac VHT40	142/5710	-4.02	-3.47	30	PASS
	151/5755	-0.65	-0.10	30	PASS
	159/5795	-0.49	0.06	30	PASS
802.11ac VHT80	138/5690	-7.7	-6.88	30	PASS
	155/5775	-3.82	-3.00	30	PASS
Note: PSD=Read Value+Duty cycle correction factor +10*log(500/470)					

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

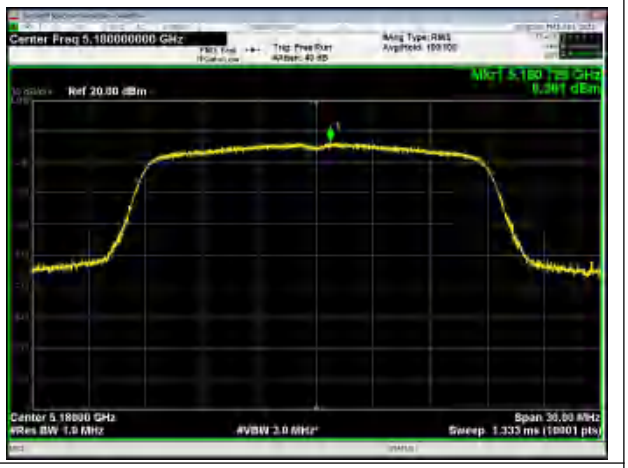
U-NII-1, 802.11n HT20, Channel No.: 40

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



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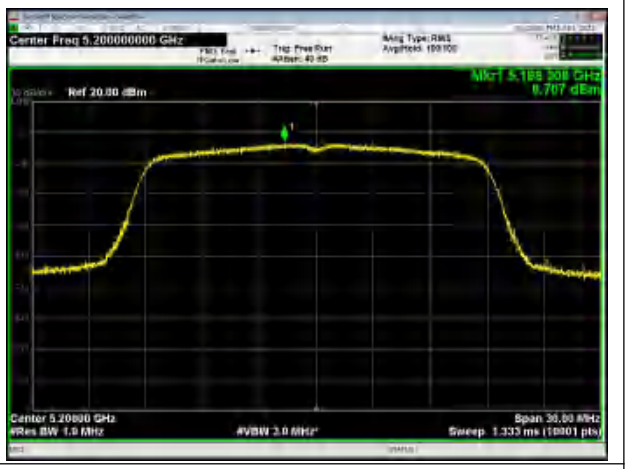

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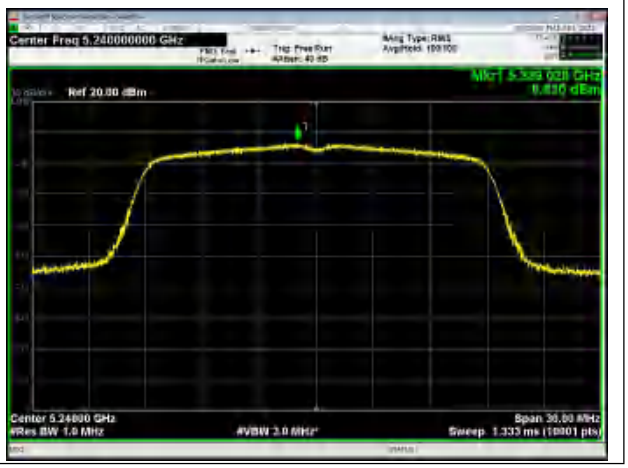
U-NII-1, 802.11ac VHT20, Channel No.: 48



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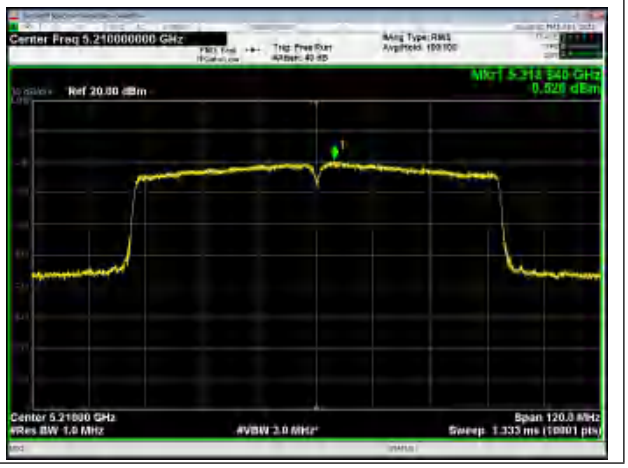
	

U-NII-2A, 802.11a, Channel No.: 52

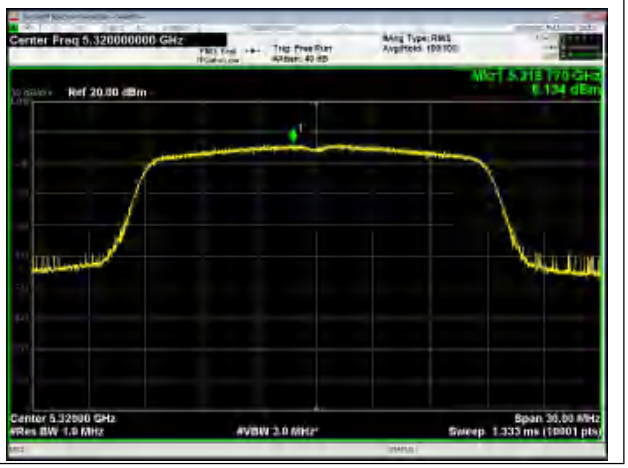
U-NII-2A, 802.11n HT20, Channel No.: 52

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

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

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

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

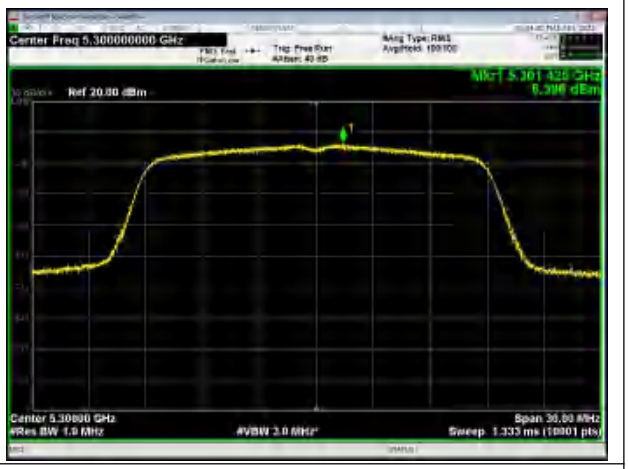


U-NII-2A, 802.11n HT40, Channel No.: 54

U-NII-2A, 802.11ac VHT20, Channel No.:52

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

U-NII-2A, 802.11ac VHT20, Channel No.: 60



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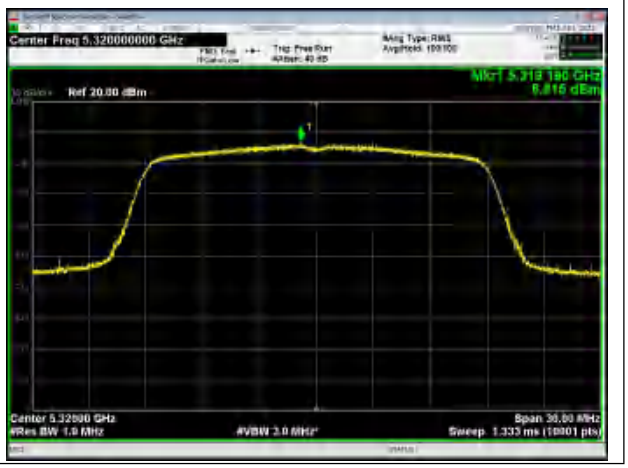

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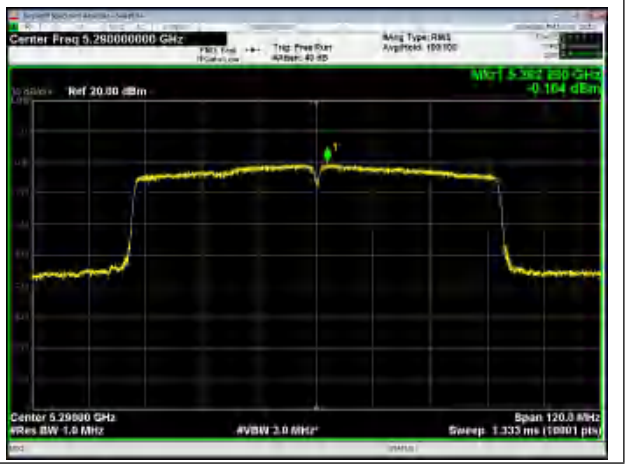
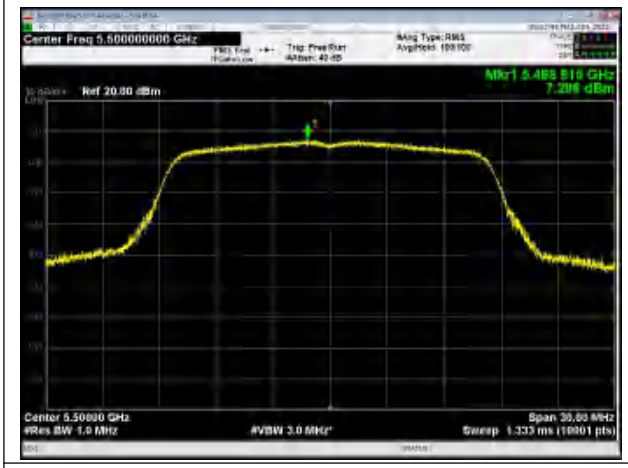
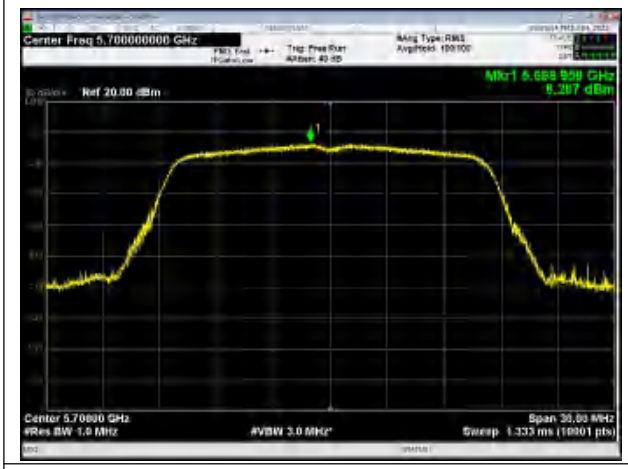
	

U-NII-2C, 802.11a, Channel No.: 100

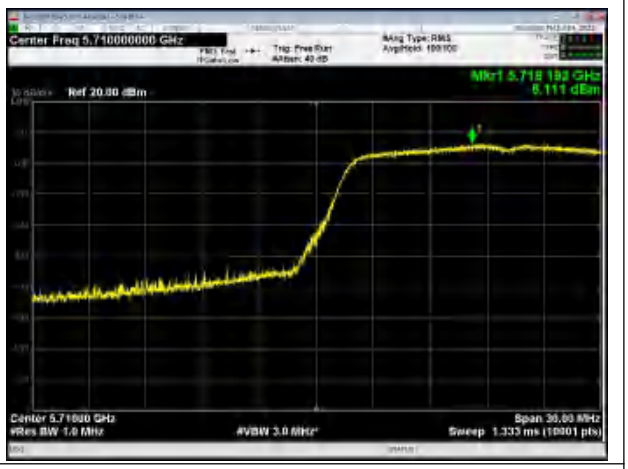


U-NII-2C, 802.11a, Channel No.: 116

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

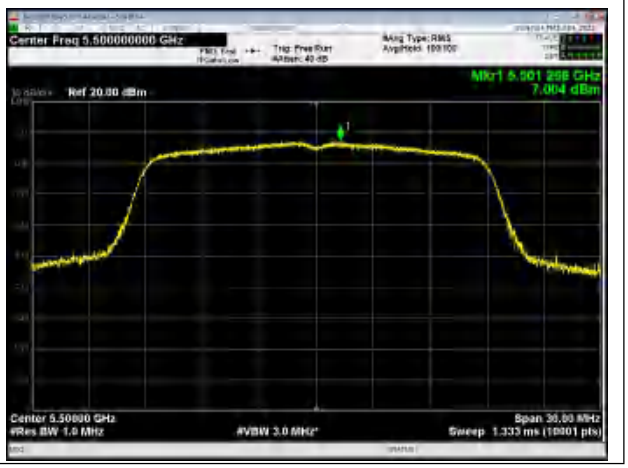


U-NII-2C, 802.11a, Channel No.: 144



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

U-NII-2C, 802.11ac VHT20, Channel No.: 100

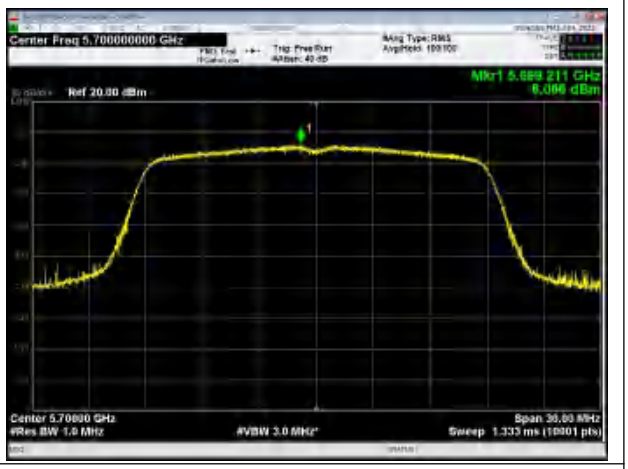


U-NII-2C, 802.11n HT20, Channel No.: 116

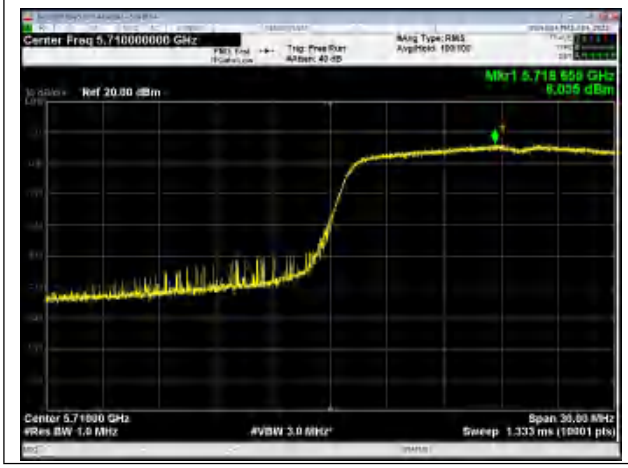
U-NII-2C, 802.11ac VHT20, Channel No.: 116

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

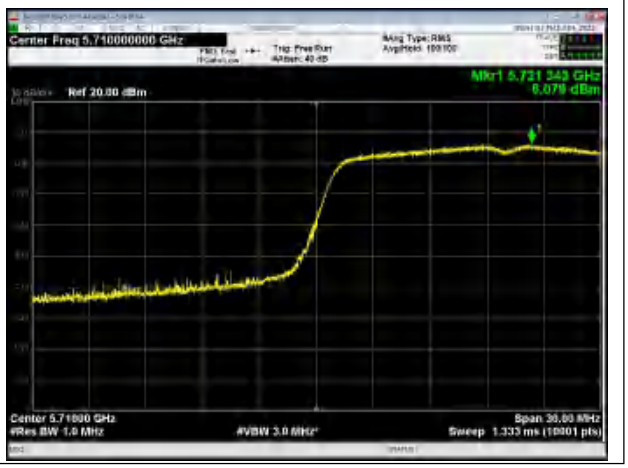
U-NII-2C, 802.11ac VHT20, Channel No.: 140



U-NII-2C, 802.11n HT20, Channel No.: 144

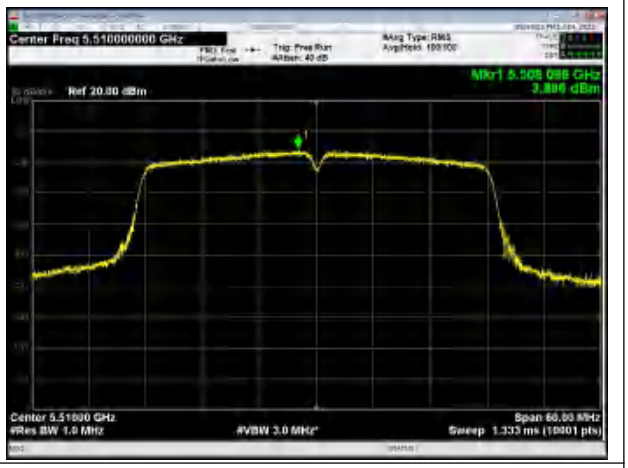


U-NII-2C, 802.11ac VHT20, Channel No.: 144



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

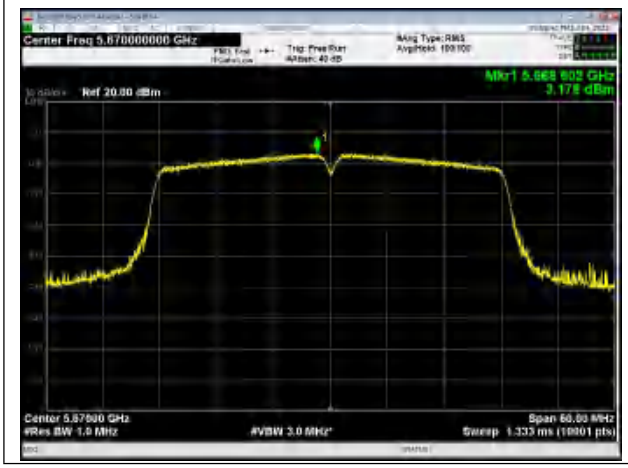
U-NII-2C, 802.11ac VHT40, Channel No.: 102



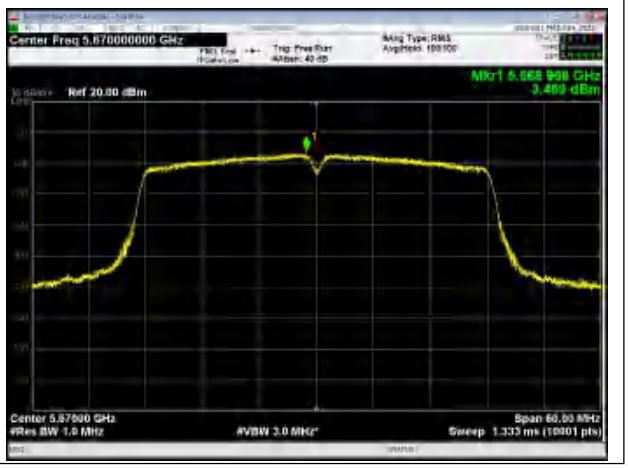
U-NII-2C, 802.11n HT40, Channel No.: 110

U-NII-2C, 802.11ac VHT40, Channel No.: 110

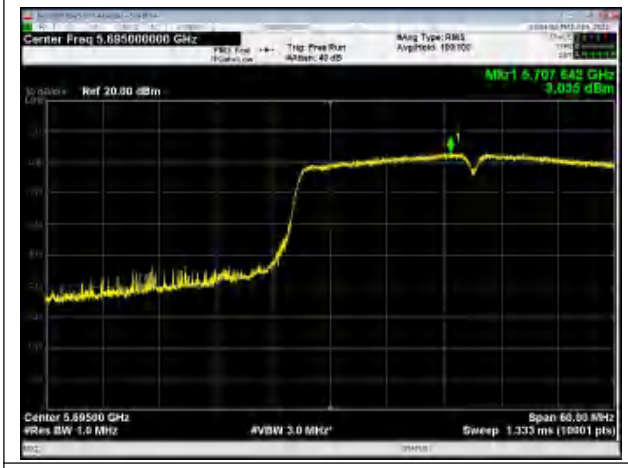
U-NII-2C, 802.11n HT40, Channel No.: 134



U-NII-2C, 802.11ac VHT40, Channel No.: 134



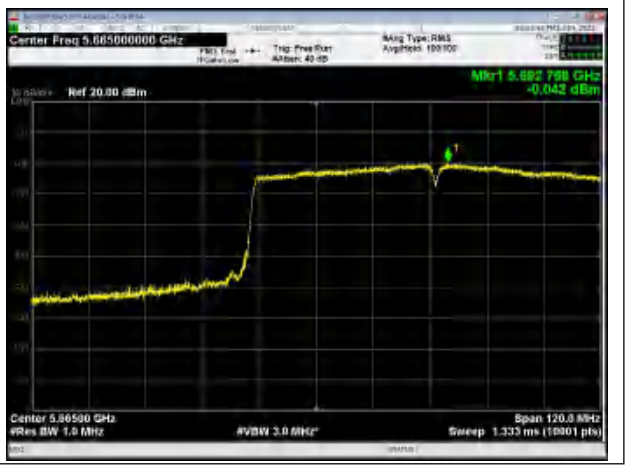
U-NII-2C, 802.11n HT40, Channel No.: 142



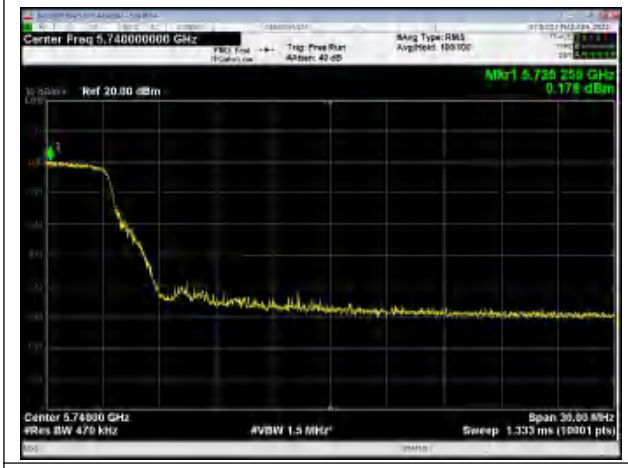
U-NII-2C, 802.11ac VHT40, Channel No.: 142

U-NII-2C, 802.11ac VHT80, Channel No.: 106

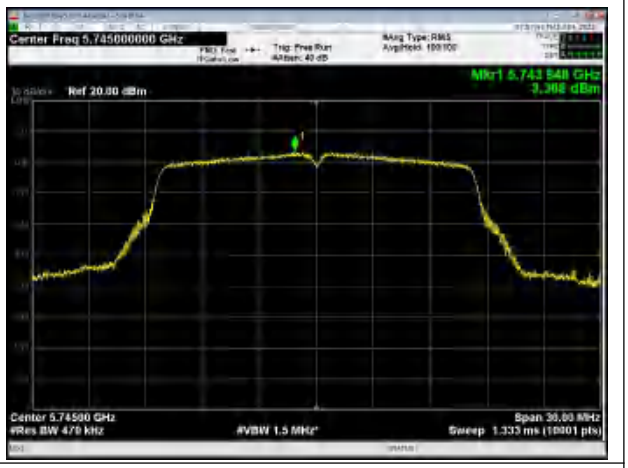
U-NII-2C, 802.11ac VHT80, Channel No.: 138



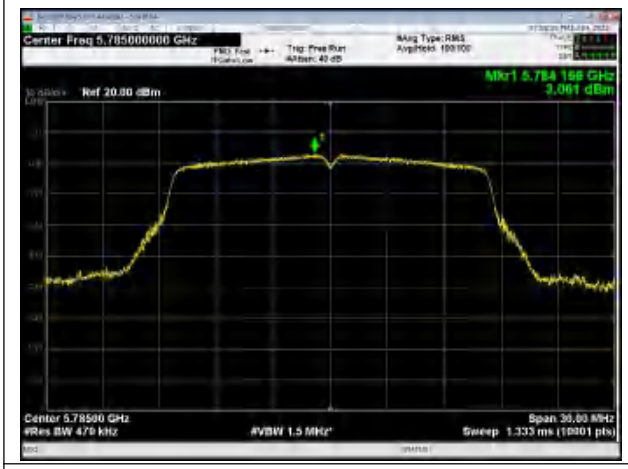
U-NII-3, 802.11a, Channel No.: 144



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

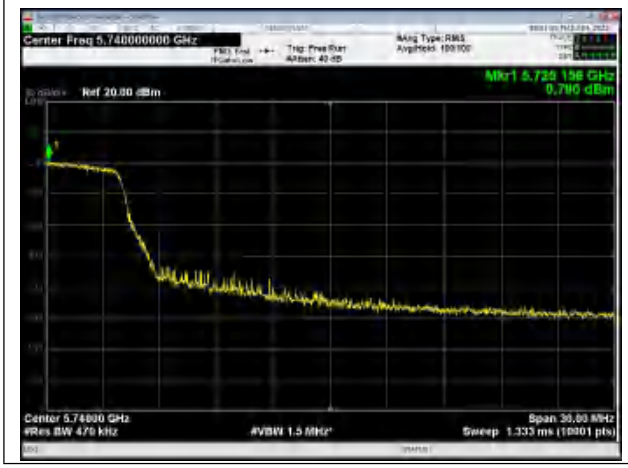


U-NII-3, 802.11a, Channel No.: 157

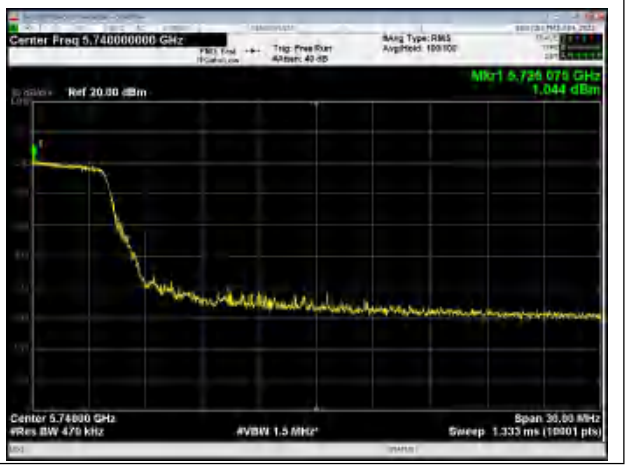


U-NII-3, 802.11a, Channel No.: 165

U-NII-3, 802.11n HT20, Channel No.: 144

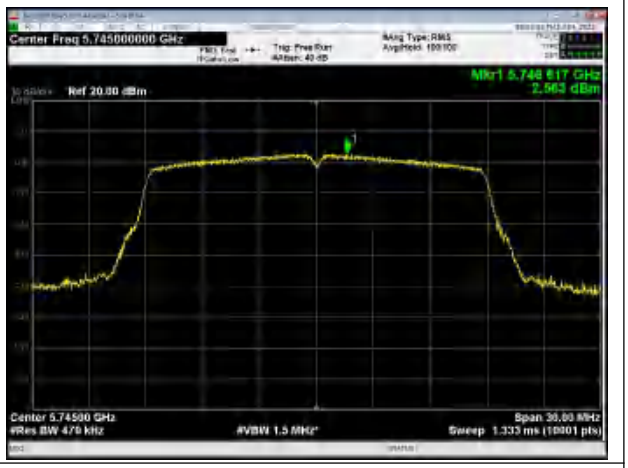


U-NII-3, 802.11ac VHT20, Channel No.: 144



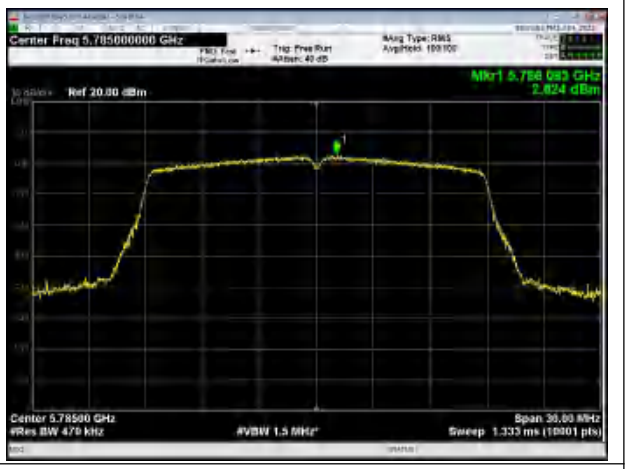
U-NII-3, 802.11n HT20, Channel No.: 149

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

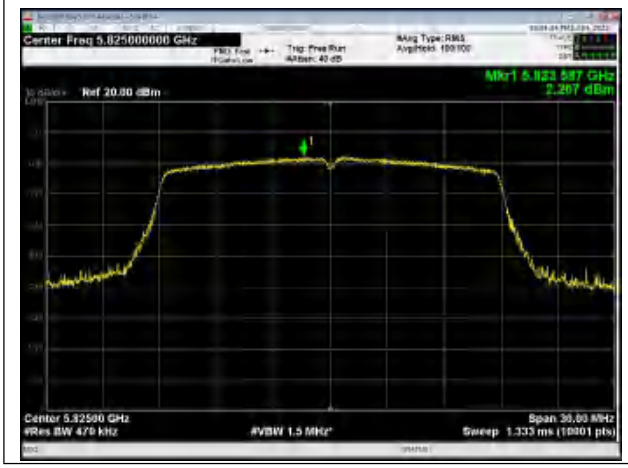


U-NII-3, 802.11n HT20, Channel No.: 157

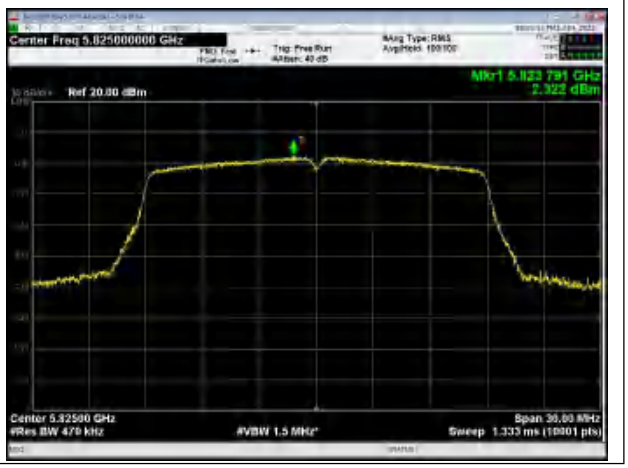
U-NII-3, 802.11ac VHT20, Channel No.: 157



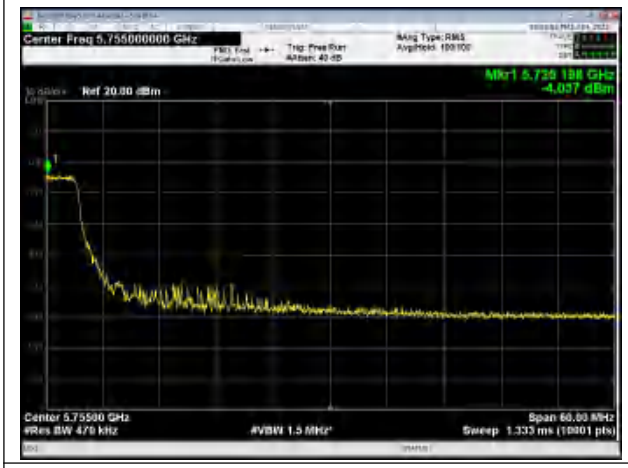
U-NII-3, 802.11n HT20, Channel No.: 165



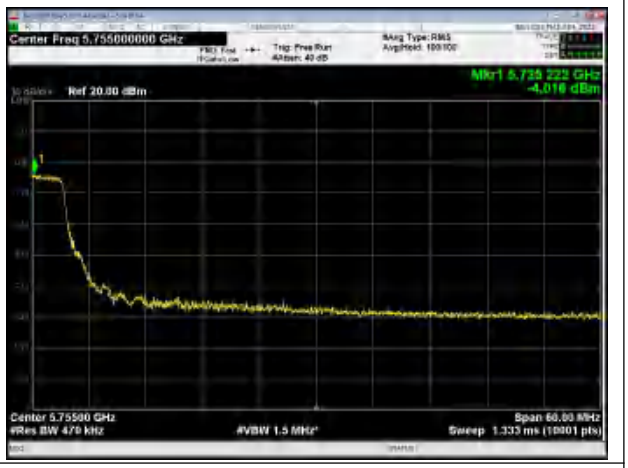
U-NII-3, 802.11ac VHT20, Channel No.: 165



U-NII-3, 802.11n HT40, Channel No.: 142



U-NII-3, 802.11ac VHT40, Channel No.: 142



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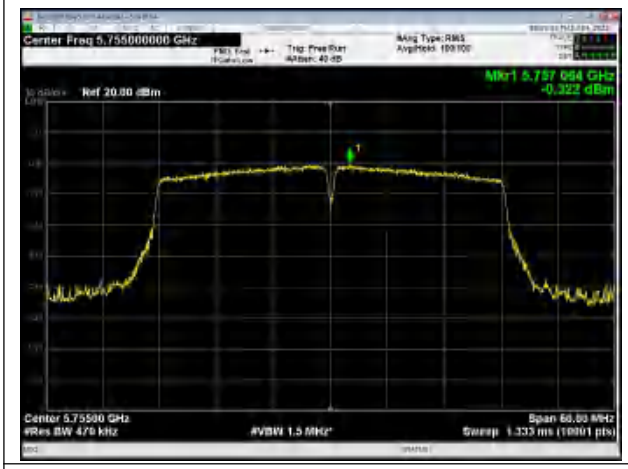
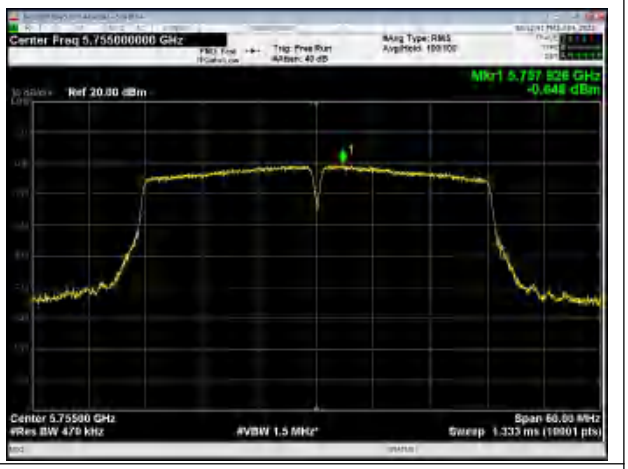


U-NII-3, 802.11ac VHT40, Channel No.: 151



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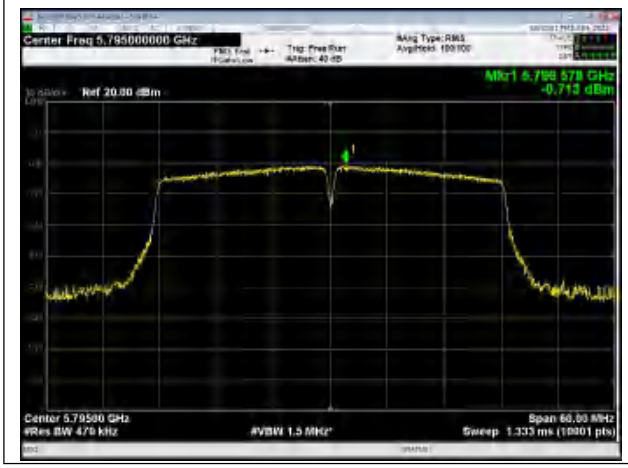

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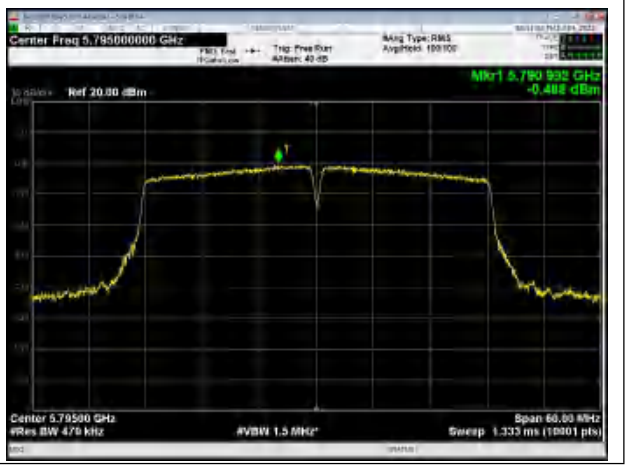
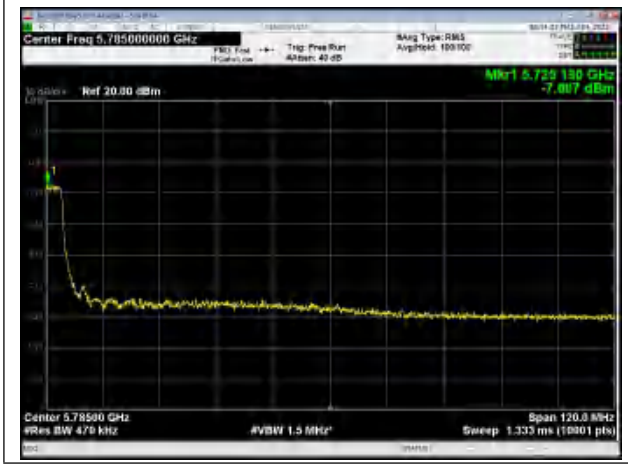
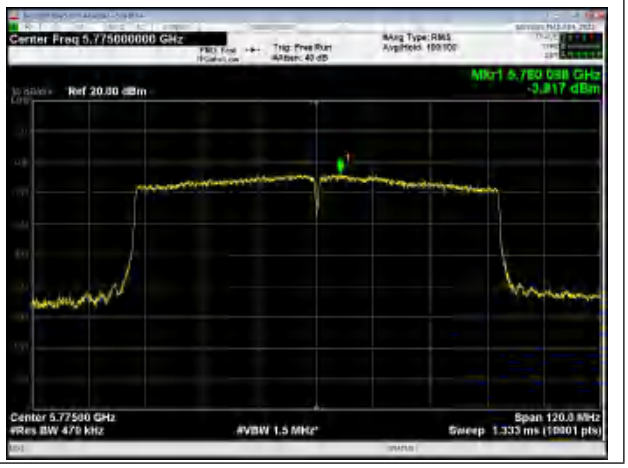


U-NII-3, 802.11ac VHT80, Channel No.: 106



U-NII-3, 802.11ac VHT80, Channel No.: 138



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.

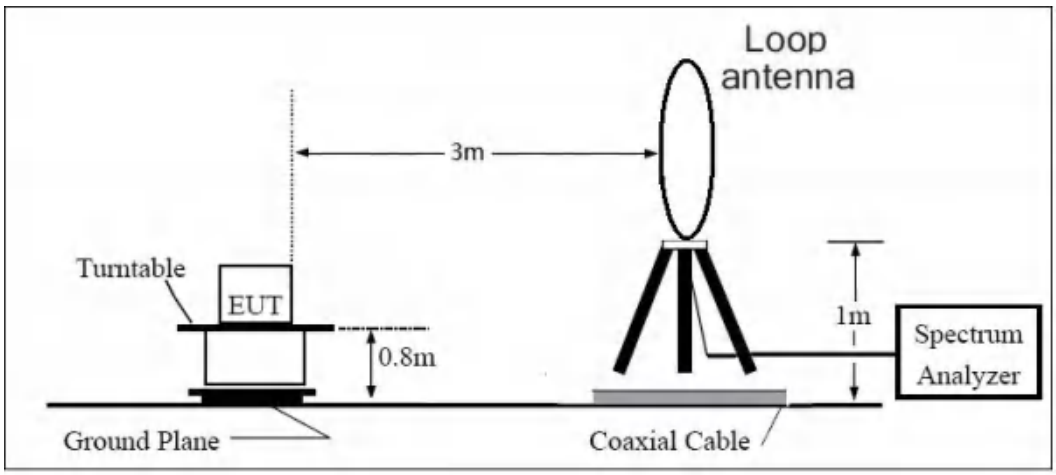
Reduce the video bandwidth until no significant variations in the displayed signal are observed in subsequent traces, provided the video bandwidth is no less than 1 Hz. For regulatory requirements that specify averaging only over the transmit duration (e.g., digital transmission system [DTS] and Unlicensed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

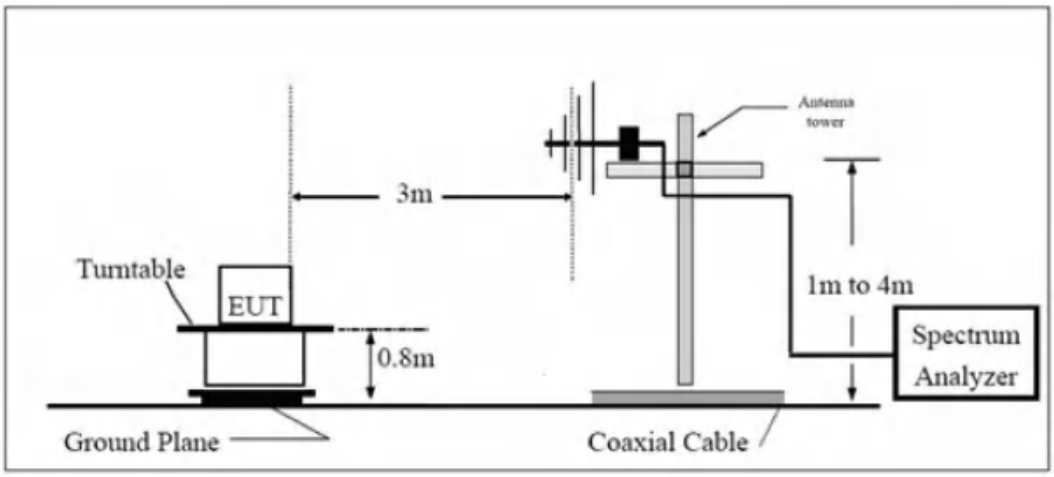
The test is in transmitting mode.

Test setup

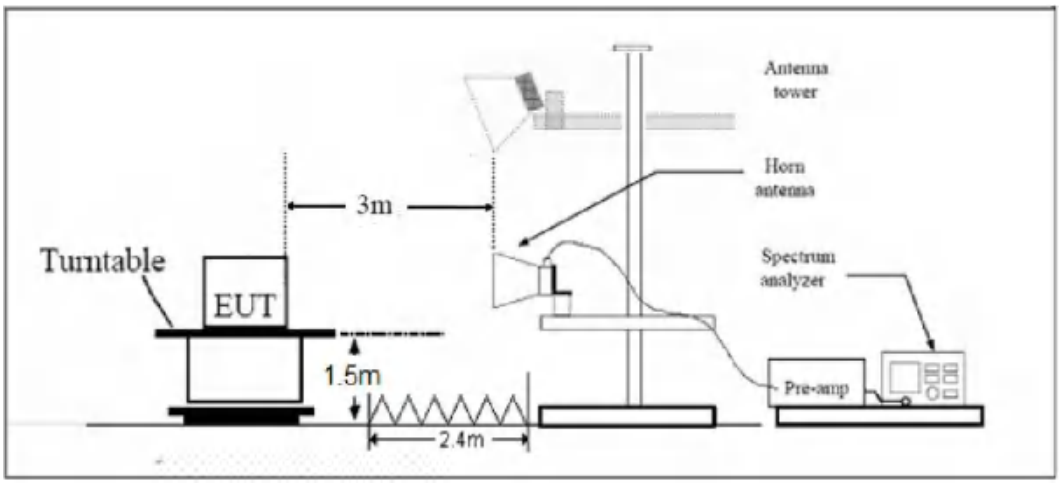
9KHz~ 30MHz



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:

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.

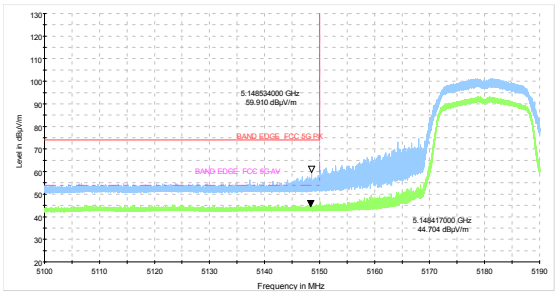
A font (Level in dBµV/m) in the test plot =(level in dB µ V/m)

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

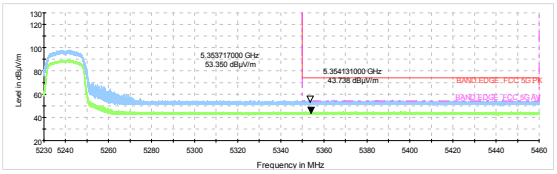
The signal beyond the limit is carrier.

U-NII-1

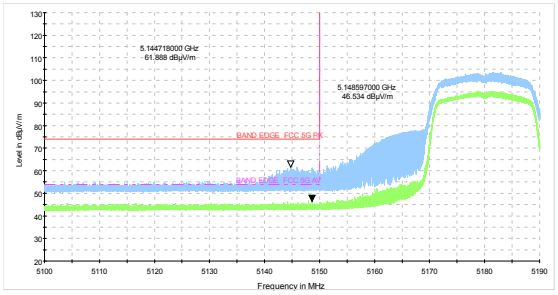
802.11a-Channel 36: Peak+Average



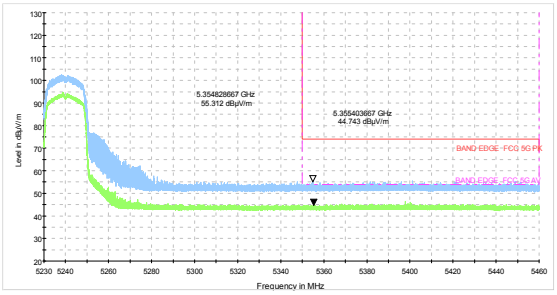
802.11a-Channel 48: Peak+Average



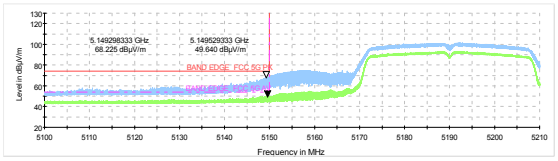
802.11n HT20 -Channel 36: Peak+Average



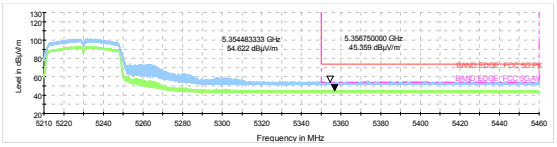
802.11n HT20 -Channel 48: Peak+Average



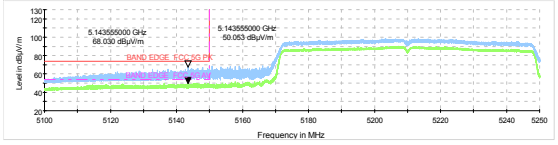
802.11n HT40-Channel 38: Peak+Average



802.11n HT40-Channel 46: Peak+Average

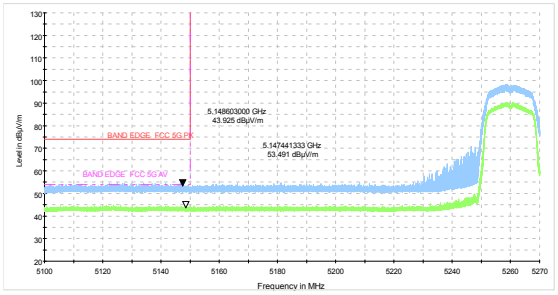


802.11ac VHT80-Channel 42: Peak+Average

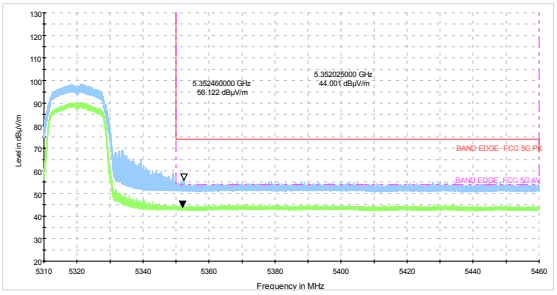


U-NII-2A

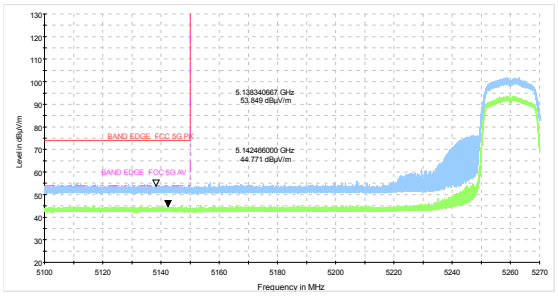
802.11a-Channel 52: Peak+Average



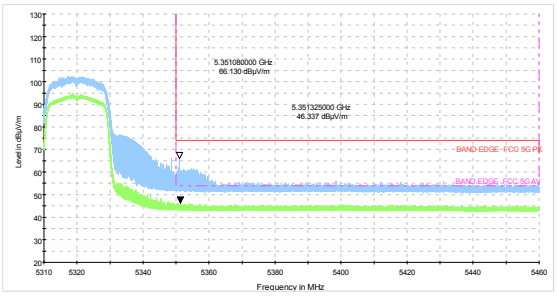
802.11a-Channel 64: Peak+Average



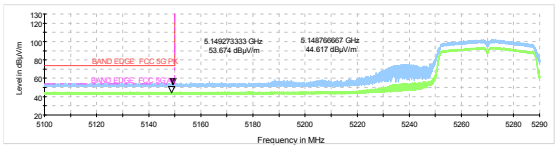
802.11n HT20 -Channel 52: Peak+Average



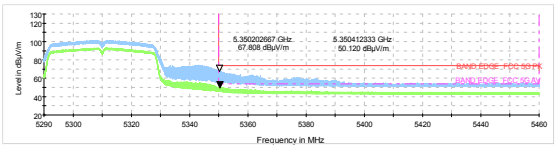
802.11n HT20 -Channel 64: Peak+Average



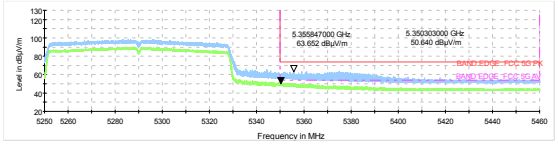
802.11n HT40-Channel 54: Peak+Average



802.11n HT40-Channel 62: Peak+Average

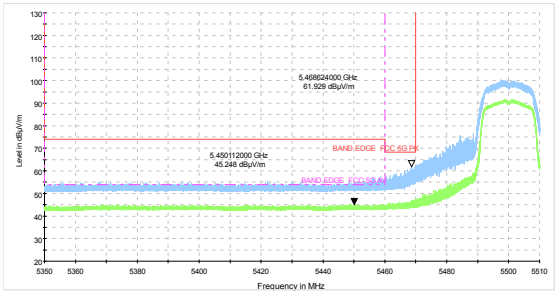


802.11ac VHT80- Channel 58: Peak+Average

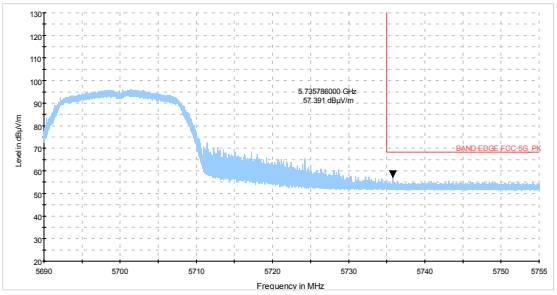


U-NII-2C

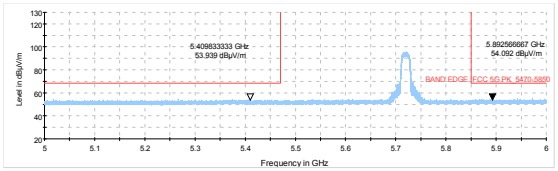
802.11a-Channel 100: Peak+Average



802.11a-Channel 140: Peak



802.11a –Channel 144: Peak



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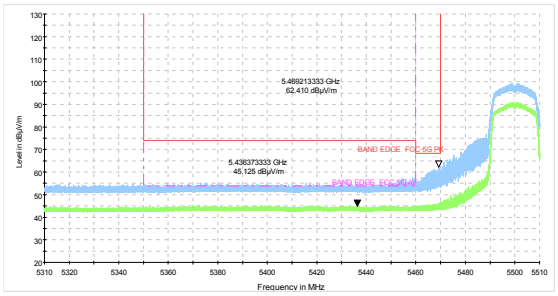
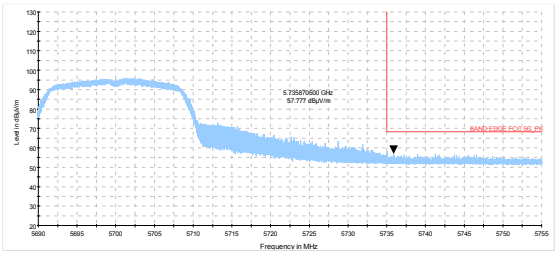
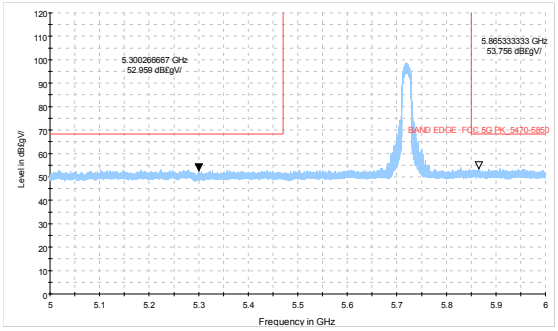
802.11n HT20-Channel 100: Peak+Average



802.11n HT20-Channel 140: Peak



802.11n HT20-Channel 144: Peak



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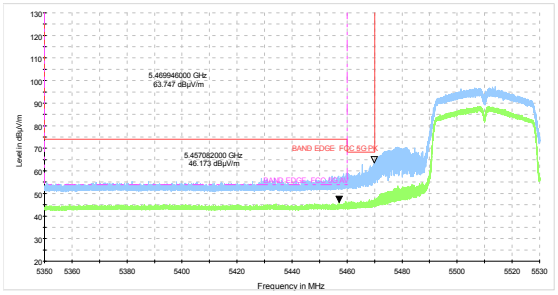
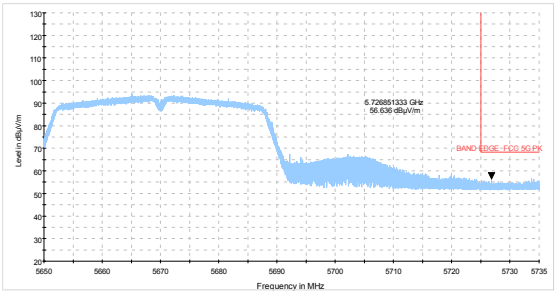
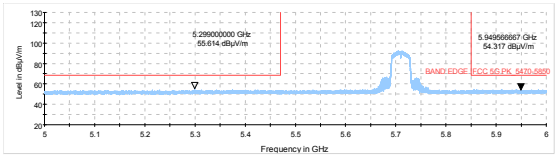
802.11n HT40-Channel 102: Peak+Average



802.11n HT40-Channel 134: Peak



802.11n HT40-Channel 142: Peak



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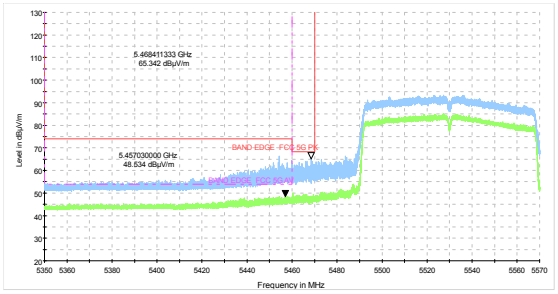
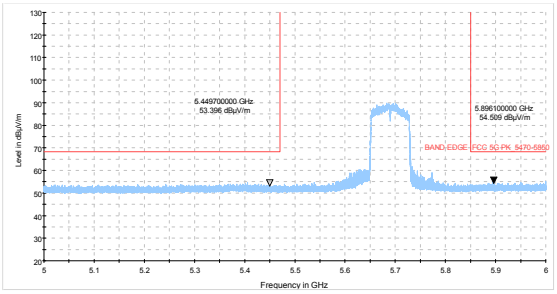
802.11ac VHT80–Channel 106: Peak+Average

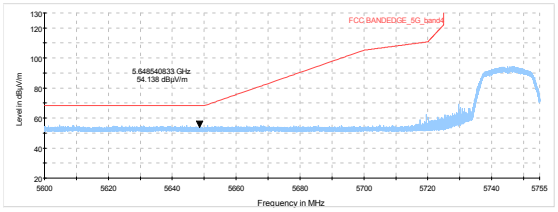


802.11ac VHT80–Channel 138: Peak

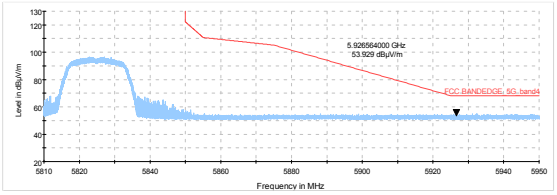


U-NII-3

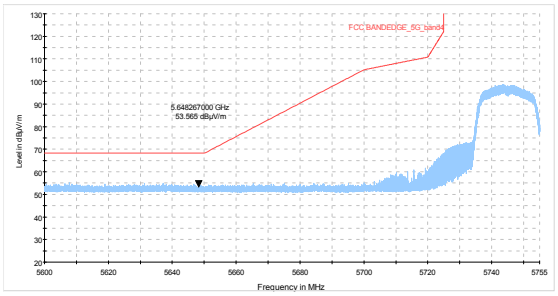
802.11a-Channel 149: Peak



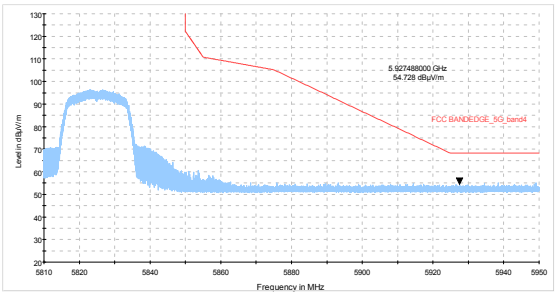
802.11a-Channel 165: Peak+Average



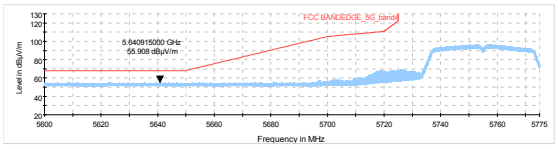
802.11n HT20-Channel 149: Peak



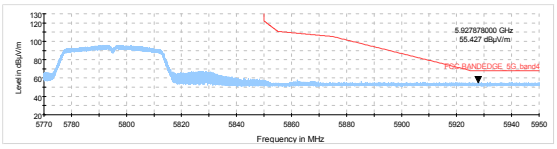
802.11n HT20-Channel 165: Peak



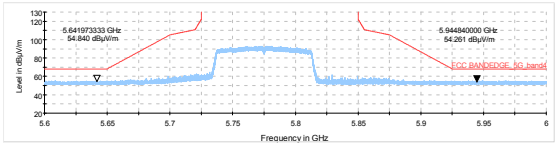
802.11n HT40-Channel 151: Peak



802.11n HT40-Channel 159: Peak



802.11ac VHT80- Channel 155: Peak



Result of RE

Test result

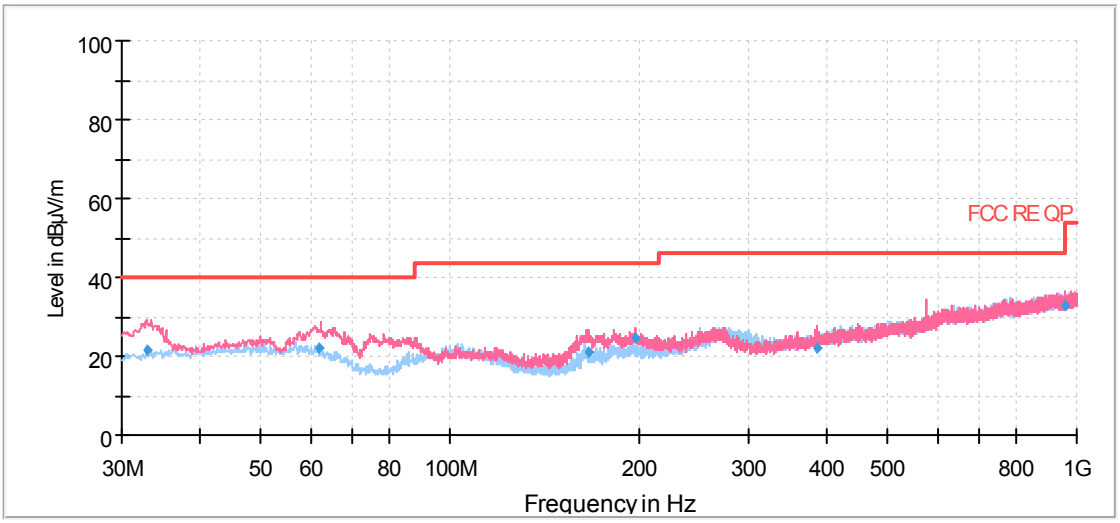
Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the Emissions in the frequency band 9kHz-30MHz are more than 20dB below the limit are not reported.

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

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

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels, 802.11ac (VHT80), Channel 58 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Continuous TX mode:



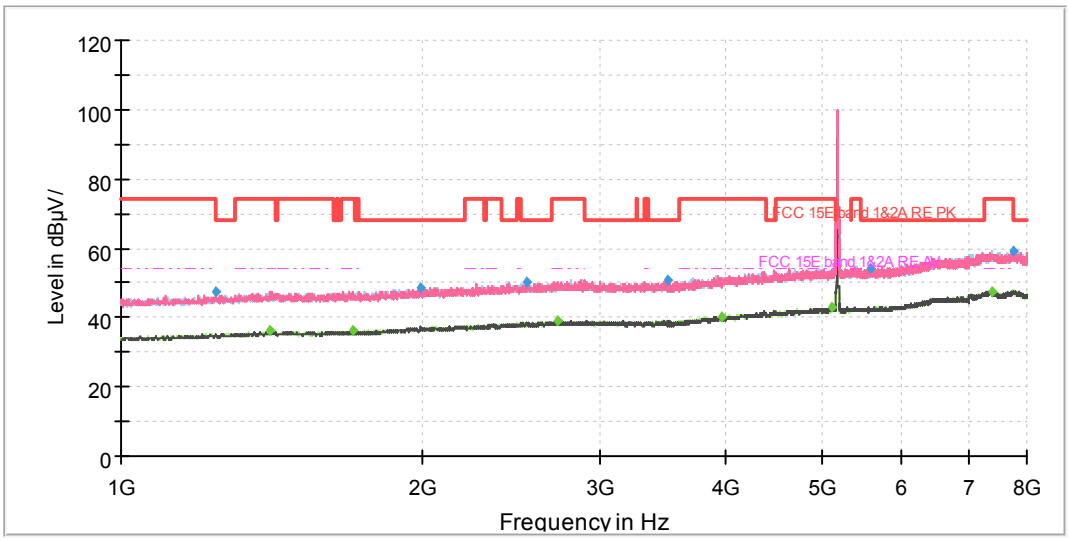
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
33.03	21.70	125.0	V	199.00	13	18.30	40.00
61.73	21.87	100.0	V	0.00	14	18.13	40.00
166.49	21.04	100.0	V	346.00	11	22.46	43.50
198.01	24.44	100.0	V	212.00	13	19.06	43.50
384.01	22.09	115.0	V	27.00	18	23.91	46.00
956.39	32.93	125.0	H	330.00	27	13.07	46.00

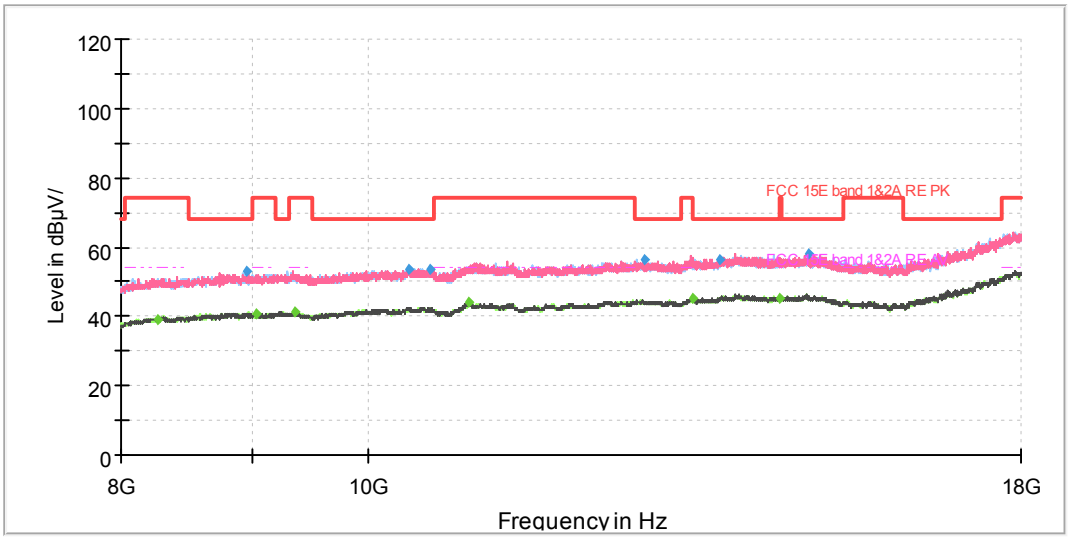
Remark: 1. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)

2. Margin = Limit – Quasi-Peak

802.11a CH36



Radiates Emission from 1GHz to 8GHz



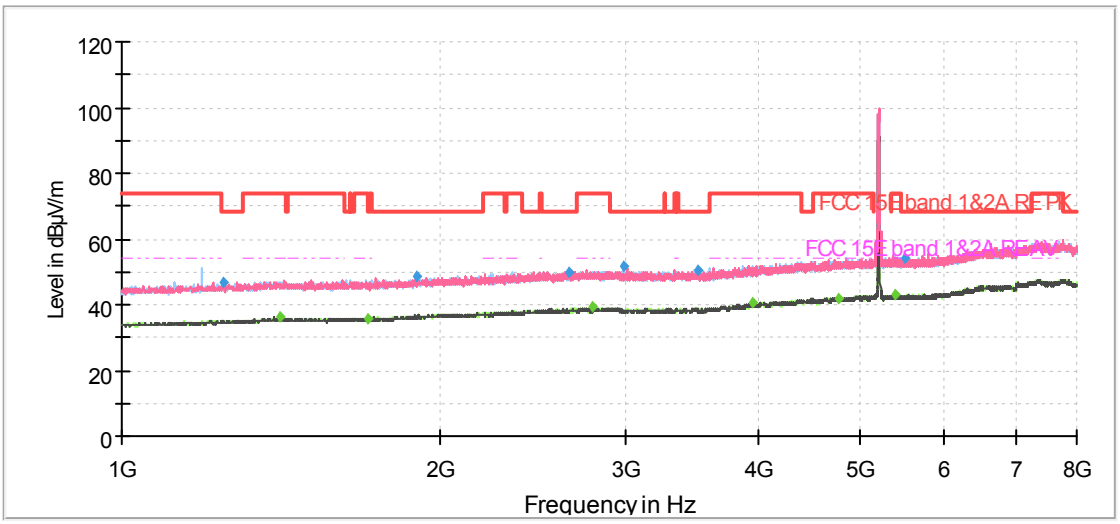
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

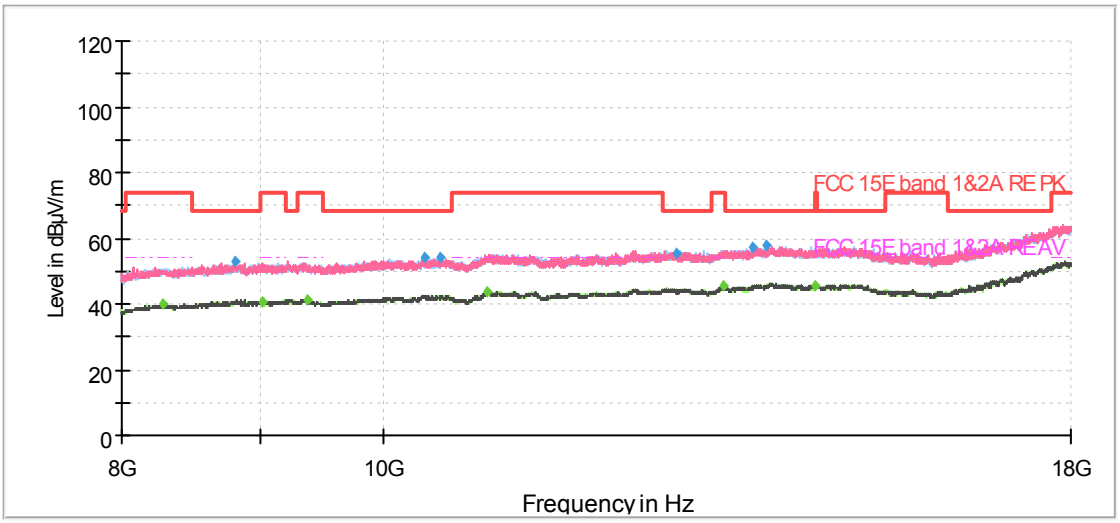
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1244.13	47.39	---	68.20	20.81	200.0	H	221.00	-8
1407.75	---	36.07	54.00	17.93	200.0	V	316.00	-7
1706.13	---	36.31	54.00	17.69	200.0	V	135.00	-6
1988.75	48.71	---	68.20	19.49	100.0	H	338.00	-5
2538.25	50.36	---	68.20	17.84	100.0	H	136.00	-4
2728.13	---	38.93	54.00	15.07	100.0	H	177.00	-4
3502.50	50.85	---	68.20	17.35	200.0	H	153.00	-3
3962.75	---	40.28	54.00	13.72	100.0	V	84.00	-1
5123.00	---	42.95	54.00	11.05	100.0	H	256.00	3
5580.63	54.40	---	68.20	13.80	200.0	V	234.00	4
7378.75	---	47.70	54.00	6.30	100.0	V	132.00	9
7755.88	59.36	---	68.20	8.84	200.0	V	75.00	9

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

802.11a CH40



Radiates Emission from 1GHz to 8GHz

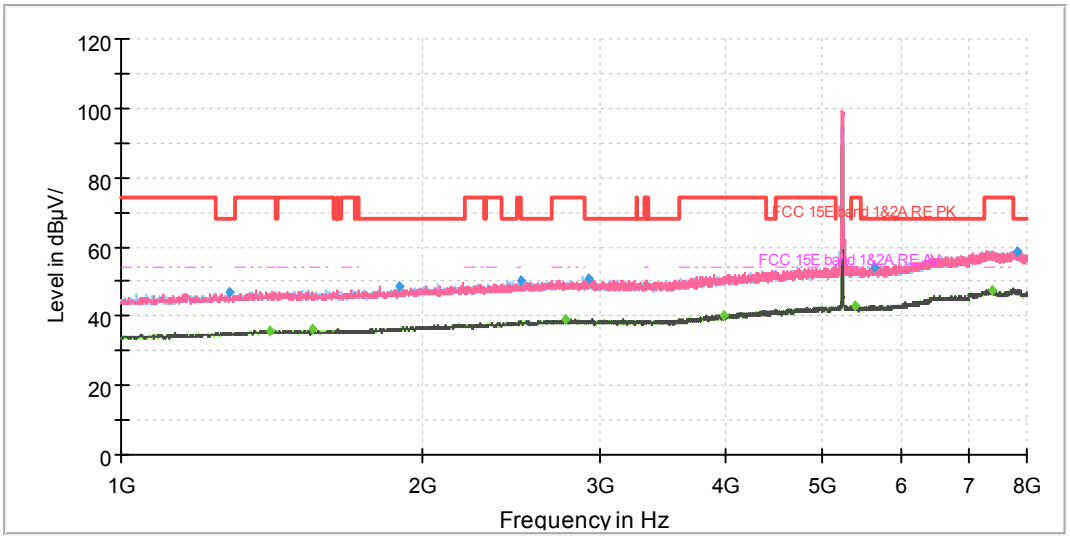


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

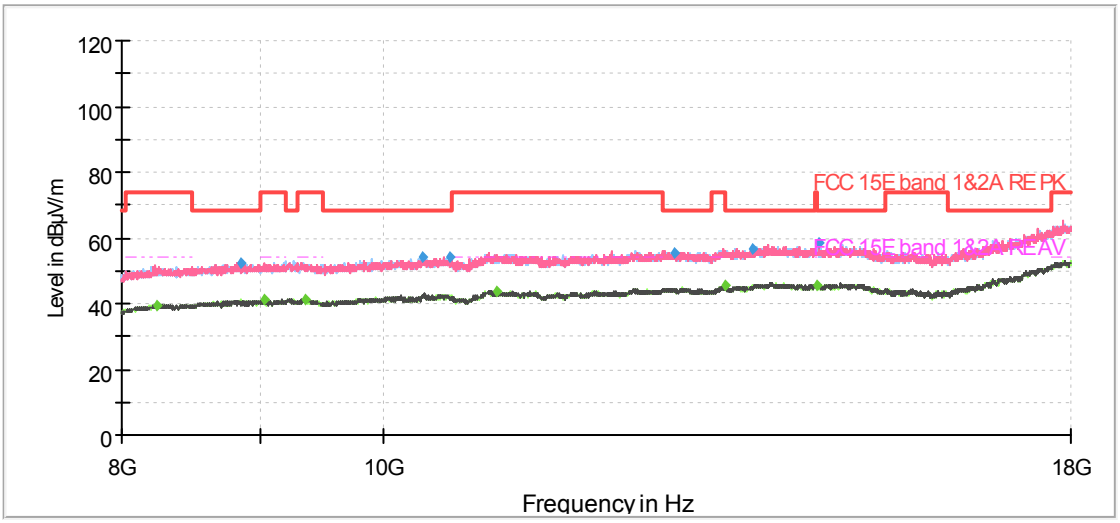
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1245.00	47.05	---	68.20	21.15	200.0	H	189.00	-8
1412.13	---	36.16	54.00	17.84	100.0	H	302.00	-7
1708.75	---	35.98	54.00	18.02	200.0	V	236.00	-6
1897.75	48.49	---	68.20	19.71	100.0	V	3.00	-5
2652.00	49.95	---	68.20	18.25	200.0	V	339.00	-4
2782.38	---	39.11	54.00	14.89	100.0	H	354.00	-3
2987.13	51.97	---	68.20	16.23	200.0	H	38.00	-3
3506.00	50.19	---	68.20	18.01	100.0	V	107.00	-3
3952.25	---	40.47	54.00	13.53	100.0	V	224.00	-1
4758.13	---	41.83	54.00	12.17	100.0	H	136.00	2
5382.00	---	42.86	54.00	11.14	200.0	V	210.00	4
5508.88	54.09	---	68.20	14.11	100.0	H	170.00	4

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

802.11a CH48



Radiates Emission from 1GHz to 8GHz



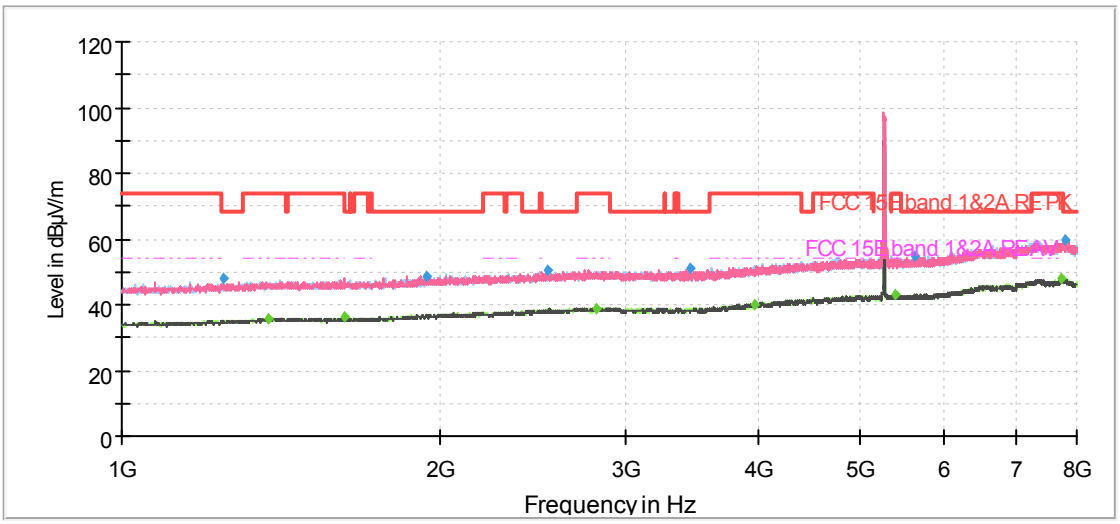
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

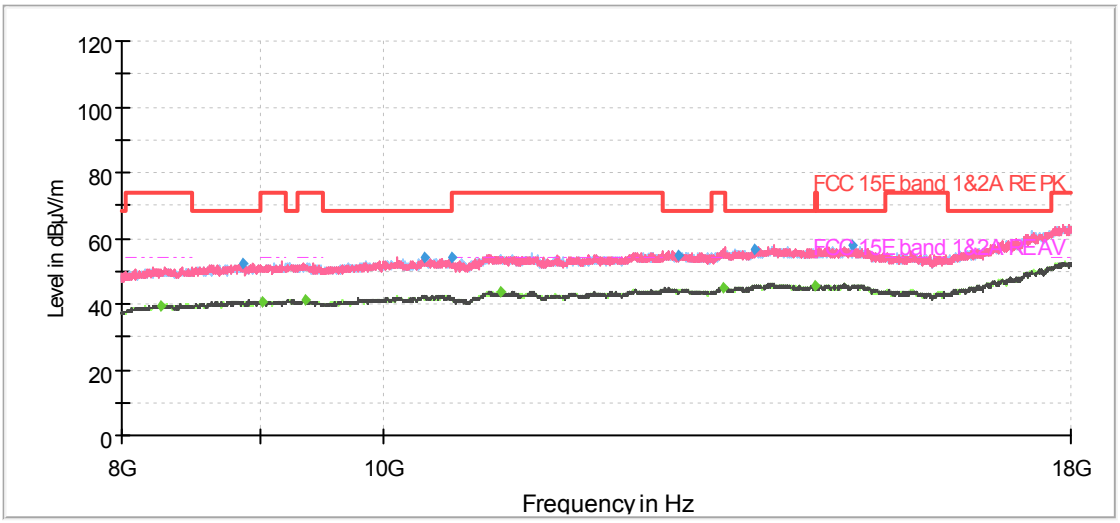
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1280.88	46.97	---	68.20	21.23	200.0	V	253.00	-8
1408.63	---	35.81	54.00	18.19	100.0	H	331.00	-7
1553.88	---	36.10	54.00	17.90	200.0	H	2.00	-6
1892.50	48.45	---	68.20	19.75	200.0	H	118.00	-6
2505.88	50.12	---	68.20	18.08	100.0	H	324.00	-4
2767.50	---	38.91	54.00	15.09	100.0	H	83.00	-4
2929.38	50.82	---	68.20	17.38	200.0	H	9.00	-3
3988.13	---	40.30	54.00	13.70	200.0	H	6.00	-1
5395.13	---	42.91	54.00	11.09	200.0	V	0.00	4
5638.38	54.35	---	68.20	13.85	100.0	H	303.00	4
7384.00	---	47.70	54.00	6.30	200.0	H	9.00	9
7823.25	58.88	---	68.20	9.32	200.0	V	205.00	9

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

802.11a CH52



Radiates Emission from 1GHz to 8GHz

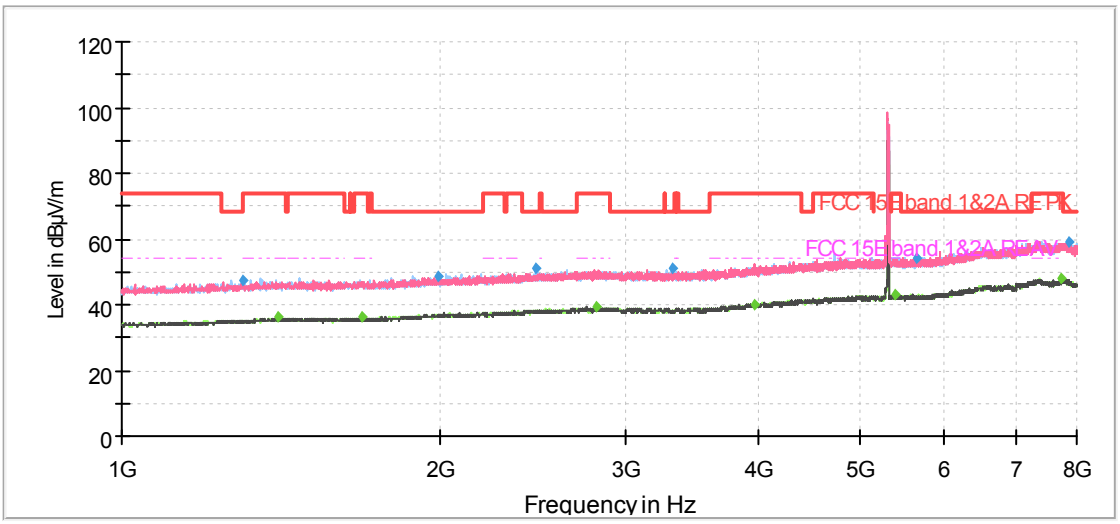


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

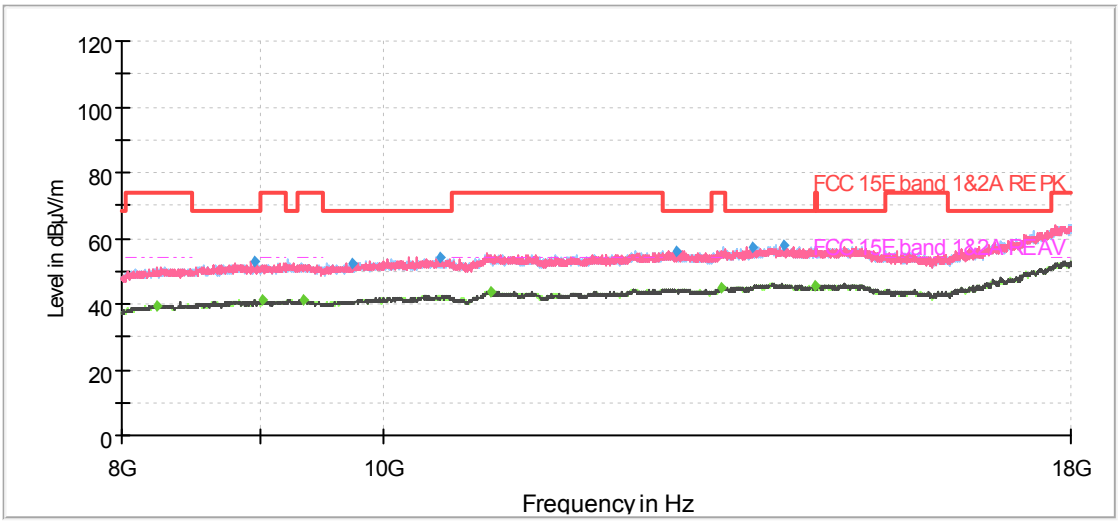
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1246.75	48.06	---	68.20	20.14	200.0	H	197.00	-8
1378.00	---	35.82	54.00	18.18	100.0	V	145.00	-7
1623.88	---	36.08	54.00	17.92	100.0	H	96.00	-6
1939.75	48.87	---	68.20	19.33	100.0	V	6.00	-5
2522.50	50.69	---	68.20	17.51	100.0	H	246.00	-4
2813.00	---	39.04	54.00	14.96	100.0	H	287.00	-3
3440.38	50.87	---	68.20	17.33	200.0	V	206.00	-3
3968.88	---	40.30	54.00	13.70	100.0	V	291.00	-1
5384.63	---	42.89	54.00	11.11	200.0	V	178.00	4
5626.13	54.68	---	68.20	13.52	200.0	V	138.00	4
7738.38	---	47.94	54.00	6.06	200.0	V	273.00	9
7790.00	59.67	---	68.20	8.53	200.0	H	334.00	9

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

802.11a CH60



Radiates Emission from 1GHz to 8GHz

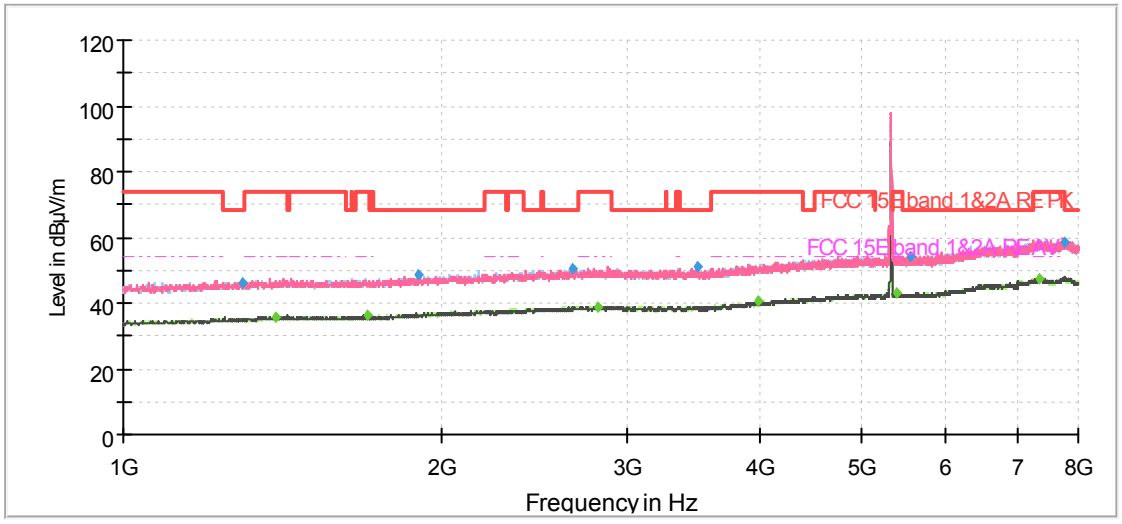


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

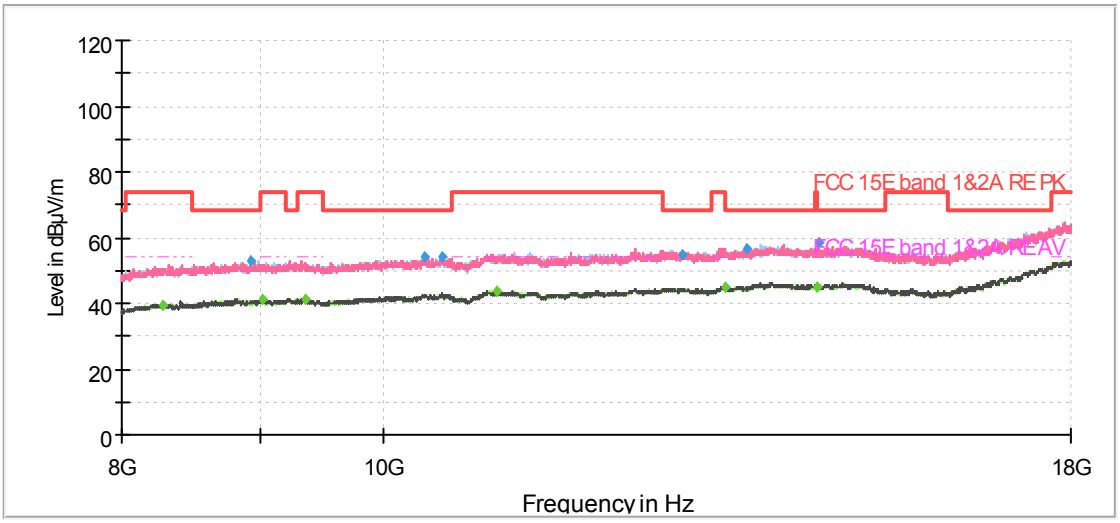
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1299.25	47.14	---	68.20	21.06	200.0	V	346.00	-7
1406.00	---	36.01	54.00	17.99	100.0	H	82.00	-7
1687.75	---	36.12	54.00	17.88	200.0	H	85.00	-6
1989.63	48.87	---	68.20	19.33	200.0	H	113.00	-5
2464.75	50.93	---	68.20	17.27	200.0	H	2.00	-4
2808.63	---	39.22	54.00	14.78	100.0	V	72.00	-3
3317.88	50.88	---	68.20	17.32	100.0	V	25.00	-3
3964.50	---	40.28	54.00	13.72	200.0	H	6.00	-1
5395.13	---	43.11	54.00	10.89	100.0	V	5.00	4
5634.00	54.05	---	68.20	14.15	200.0	H	140.00	4
7748.88	---	47.73	54.00	6.27	200.0	V	206.00	9
7875.75	58.99	---	68.20	9.21	100.0	V	99.00	9

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

802.11a CH64



Radiates Emission from 1GHz to 8GHz



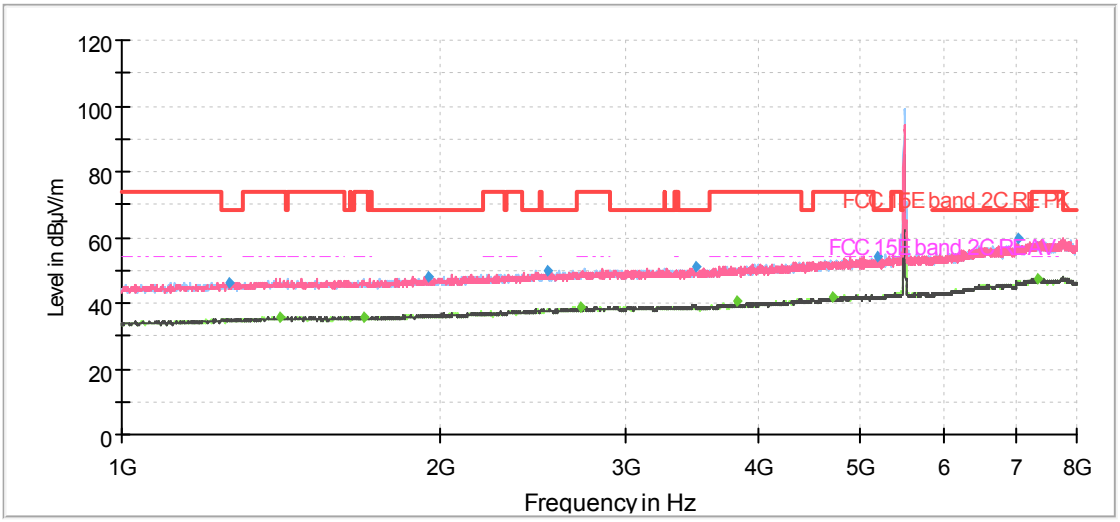
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

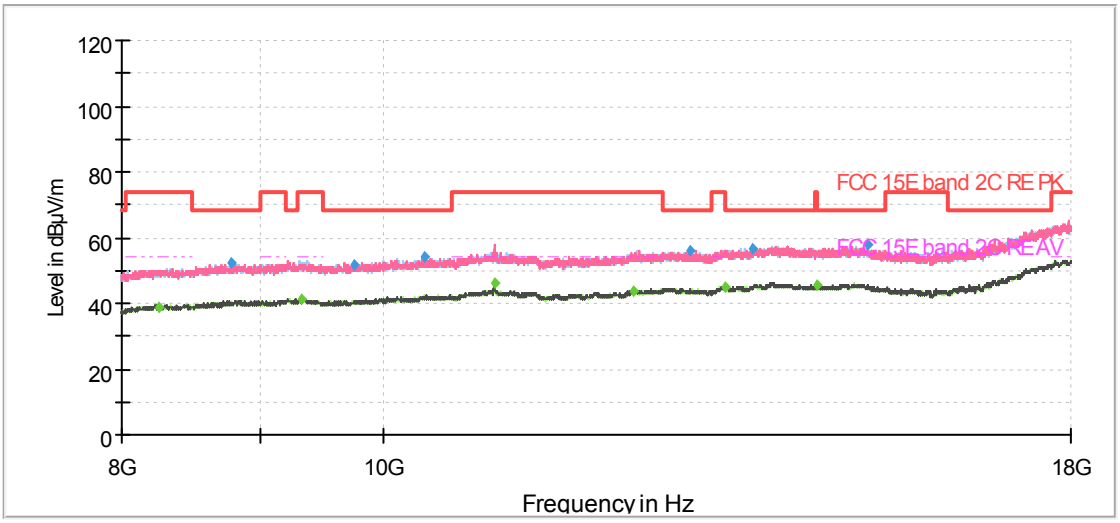
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1297.50	46.45	---	68.20	21.75	200.0	V	178.00	-7
1393.75	---	35.77	54.00	18.23	200.0	V	171.00	-7
1698.25	---	36.23	54.00	17.77	200.0	H	0.00	-6
1896.88	48.40	---	68.20	19.80	200.0	H	15.00	-6
2656.38	50.31	---	68.20	17.89	200.0	H	0.00	-4
2808.63	---	38.90	54.00	15.10	100.0	H	291.00	-3
3486.75	50.80	---	68.20	17.40	100.0	V	218.00	-3
3982.88	---	40.55	54.00	13.45	200.0	H	102.00	-1
5382.00	---	42.98	54.00	11.02	100.0	H	47.00	4
5553.50	53.94	---	68.20	14.26	200.0	V	225.00	4
7355.13	---	47.61	54.00	6.39	200.0	H	142.00	9
7778.63	58.69	---	68.20	9.51	200.0	H	252.00	9

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

802.11a CH100



Radiates Emission from 1GHz to 8GHz



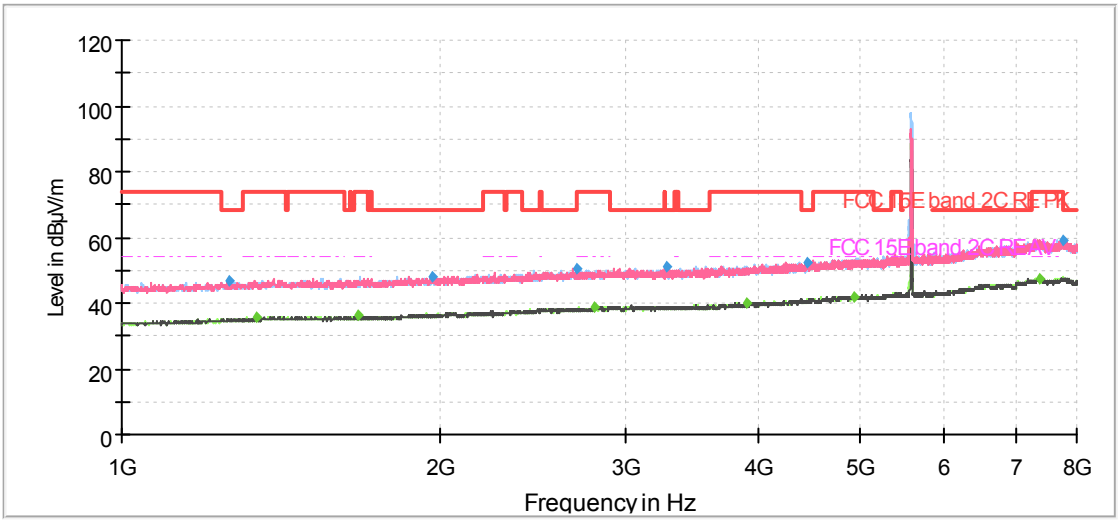
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

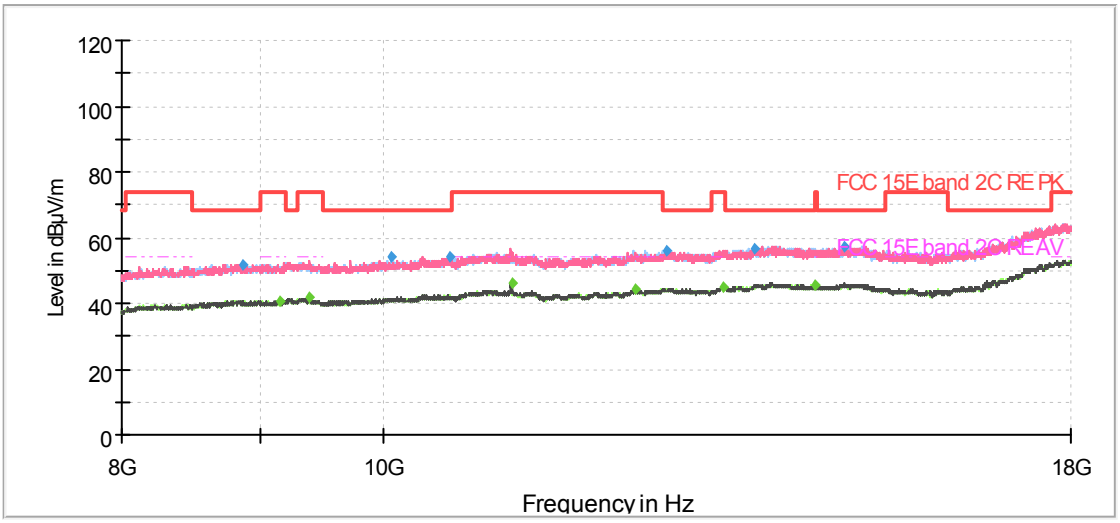
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1264.25	46.45	---	68.20	21.75	200.0	H	1.00	-8
1409.50	---	35.74	54.00	18.26	200.0	V	226.00	-7
1693.00	---	35.71	54.00	18.29	200.0	V	326.00	-6
1945.88	47.86	---	68.20	20.34	200.0	V	306.00	-5
2527.75	49.99	---	68.20	18.21	200.0	V	306.00	-4
2720.25	---	38.71	54.00	15.29	100.0	H	280.00	-4
3492.88	50.78	---	68.20	17.42	100.0	V	155.00	-3
3821.88	---	40.31	54.00	13.69	200.0	V	306.00	-1
4694.25	---	41.62	54.00	12.38	100.0	V	0.00	2
5184.25	53.94	---	68.20	14.26	100.0	H	0.00	3
7034.00	59.72	---	68.20	8.48	200.0	H	293.00	8
7363.00	---	47.69	54.00	6.31	200.0	H	2.00	9

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

802.11a CH116



Radiates Emission from 1GHz to 8GHz



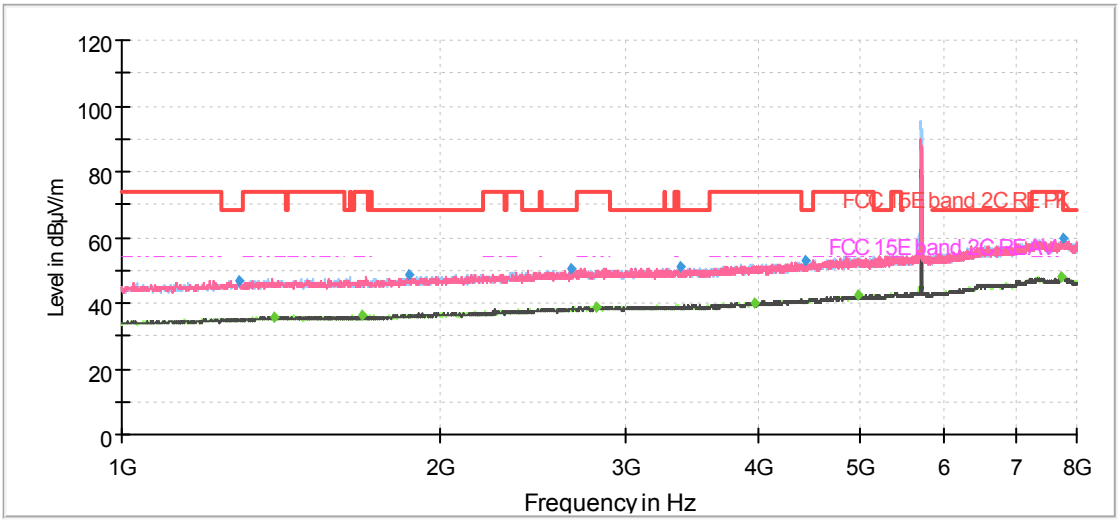
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

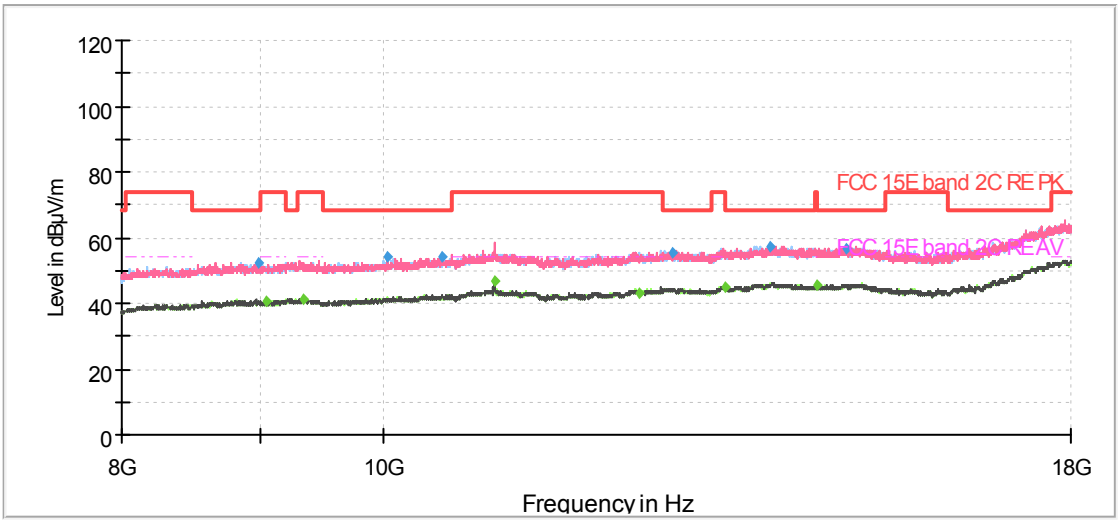
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1262.50	46.78	---	68.20	21.42	100.0	V	299.00	-8
1342.13	---	35.83	54.00	18.17	100.0	V	44.00	-7
1672.88	---	36.02	54.00	17.98	200.0	H	185.00	-6
1965.13	48.01	---	68.20	20.19	100.0	V	71.00	-5
2689.63	50.27	---	68.20	17.93	200.0	V	0.00	-4
2793.75	---	38.69	54.00	15.31	200.0	V	197.00	-3
3274.13	51.01	---	68.20	17.19	200.0	H	178.00	-3
3903.25	---	40.13	54.00	13.87	100.0	H	148.00	-1
4448.38	52.04	---	68.20	16.16	100.0	V	199.00	1
4932.25	---	42.14	54.00	11.86	200.0	H	128.00	3
7366.50	---	47.55	54.00	6.45	100.0	H	356.00	9
7762.88	59.27	---	68.20	8.93	100.0	V	58.00	9

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

802.11a CH144



Radiates Emission from 1GHz to 8GHz



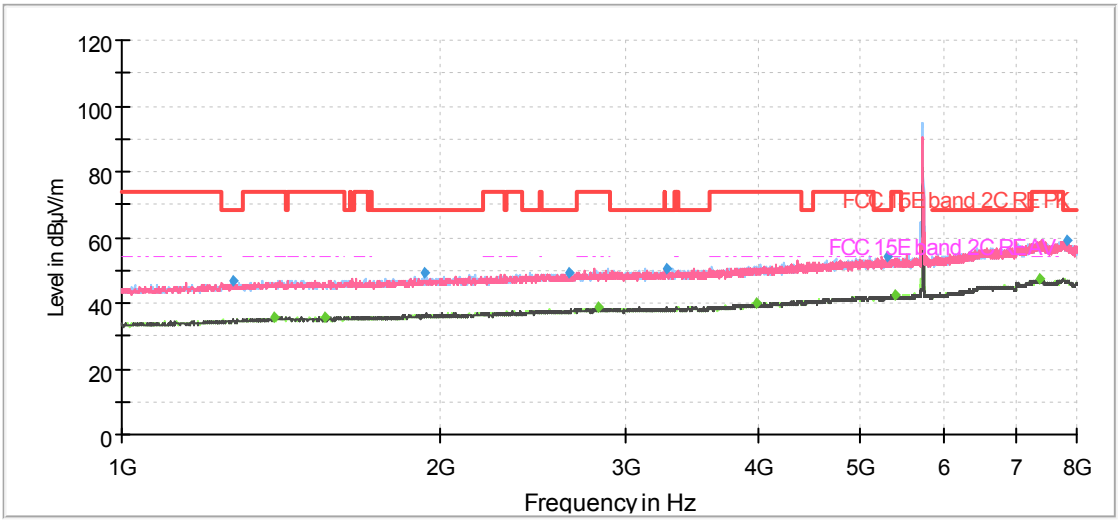
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

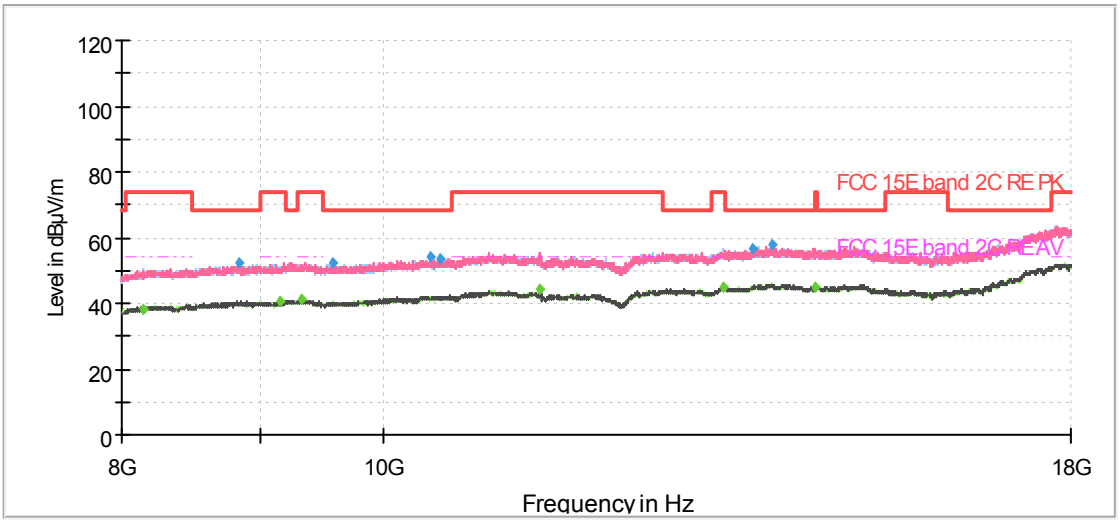
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1289.63	47.04	---	68.20	21.16	200.0	V	8.00	-8
1391.13	---	35.86	54.00	18.14	200.0	H	358.00	-7
1688.63	---	36.07	54.00	17.93	200.0	V	56.00	-6
1867.13	48.48	---	68.20	19.72	100.0	H	48.00	-6
2660.75	50.26	---	68.20	17.94	100.0	H	4.00	-4
2805.13	---	38.80	54.00	15.20	200.0	H	334.00	-3
3372.13	51.22	---	68.20	16.98	200.0	H	19.00	-3
3966.25	---	40.20	54.00	13.80	200.0	V	4.00	-1
4437.00	53.07	---	68.20	15.13	100.0	H	88.00	1
4963.75	---	42.37	54.00	11.63	100.0	V	274.00	3
7748.88	---	47.84	54.00	6.16	200.0	H	294.00	9
7761.13	59.59	---	68.20	8.61	200.0	H	321.00	9

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

802.11a CH140



Radiates Emission from 1GHz to 8GHz



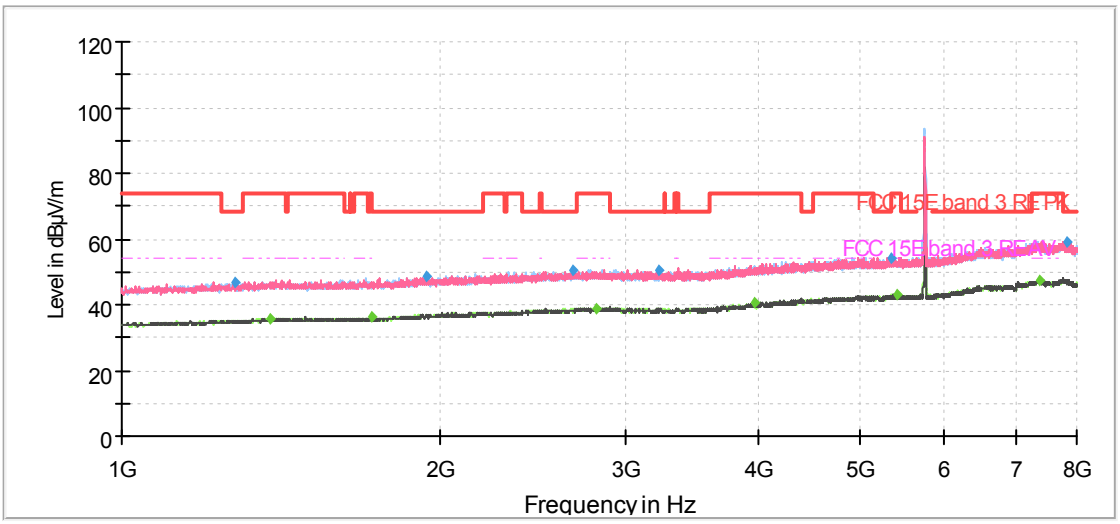
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

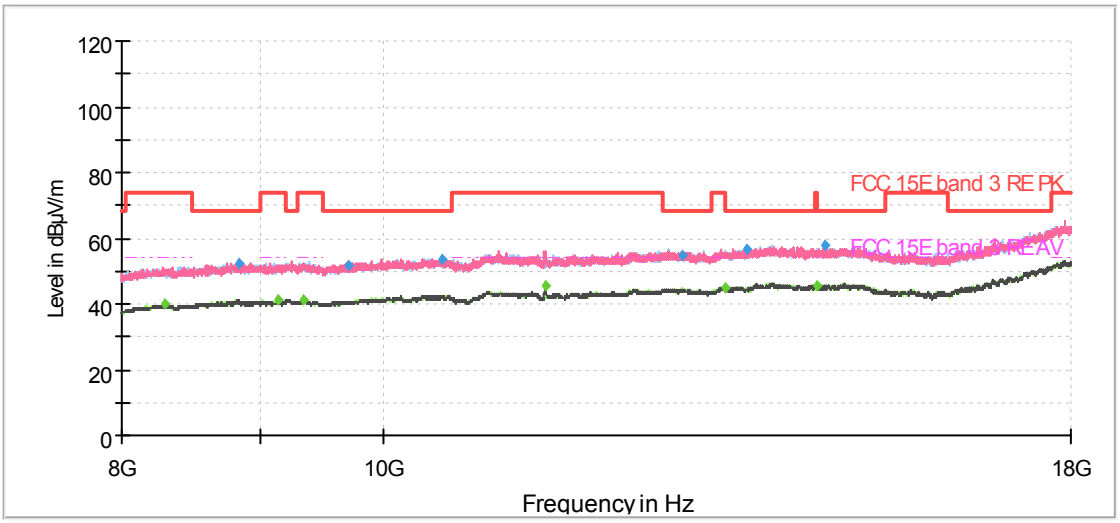
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1274.75	46.54	---	68.20	21.66	200.0	H	4.00	-8
1392.00	---	35.55	54.00	18.45	100.0	H	289.00	-7
1554.75	---	35.93	54.00	18.07	100.0	H	359.00	-6
1933.63	49.15	---	68.20	19.05	200.0	H	30.00	-5
2651.13	49.05	---	68.20	19.15	100.0	V	9.00	-4
2822.63	---	38.47	54.00	15.53	200.0	V	247.00	-3
3279.38	50.41	---	68.20	17.79	100.0	V	1.00	-3
3986.38	---	39.74	54.00	14.26	200.0	H	36.00	-1
5293.63	54.16	---	68.20	14.04	200.0	H	3.00	3
5376.75	---	42.66	54.00	11.34	100.0	H	158.00	4
7370.00	---	47.25	54.00	6.75	100.0	V	141.00	9
7839.00	58.97	---	68.20	9.23	100.0	V	2.00	9

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

802.11a CH149



Radiates Emission from 1GHz to 8GHz

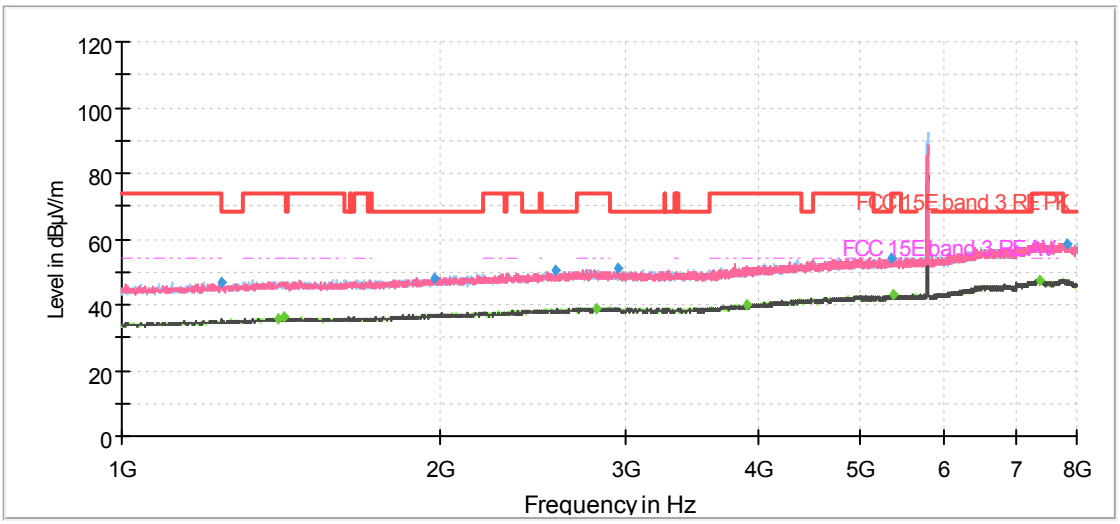


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

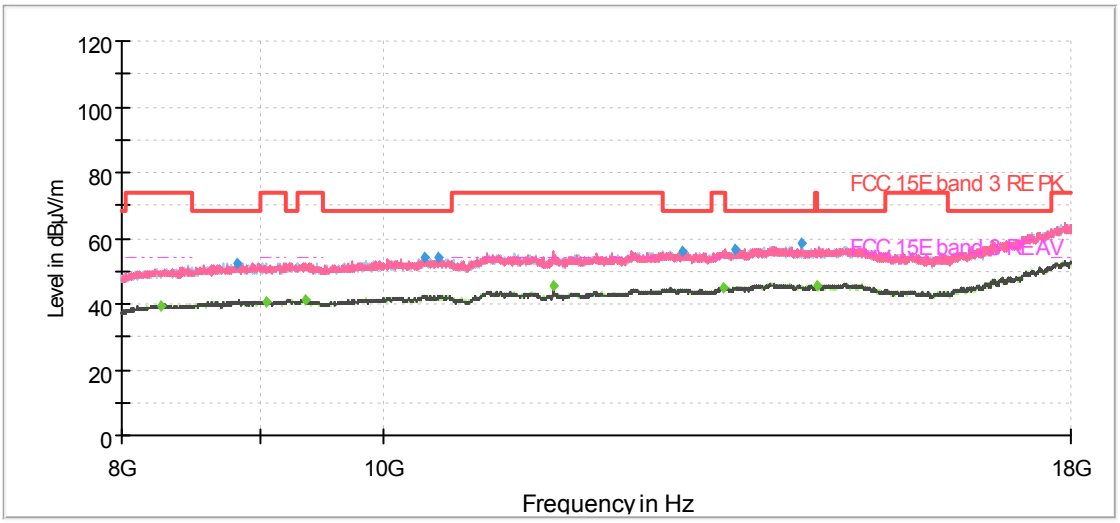
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1280.88	46.47	---	68.20	21.73	200.0	V	178.00	-8
1378.88	---	35.90	54.00	18.10	200.0	V	292.00	-7
1721.88	---	36.01	54.00	17.99	200.0	V	358.00	-6
1938.00	48.85	---	68.20	19.35	100.0	H	108.00	-5
2668.63	50.19	---	68.20	18.01	200.0	V	272.00	-4
2813.00	---	38.98	54.00	15.02	200.0	V	157.00	-3
3221.63	50.71	---	68.20	17.49	200.0	V	349.00	-3
3960.13	---	40.31	54.00	13.69	100.0	V	43.00	-1
5334.75	54.43	---	68.20	13.77	100.0	H	198.00	4
5401.25	---	42.87	54.00	11.13	100.0	V	190.00	4
7383.13	---	47.67	54.00	6.33	100.0	H	266.00	9
7831.13	59.31	---	68.20	8.89	200.0	V	298.00	9

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

802.11a CH157



Radiates Emission from 1GHz to 8GHz

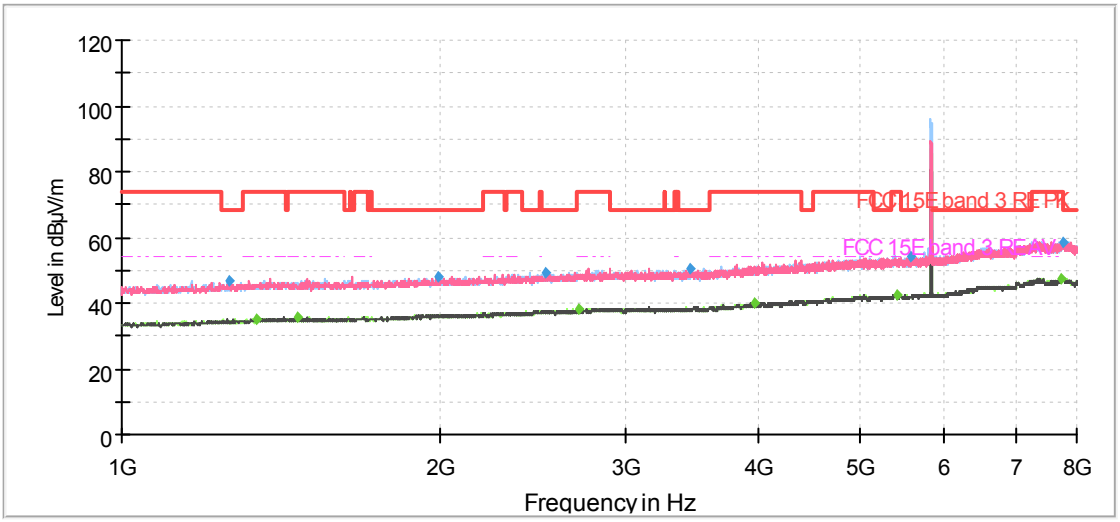


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

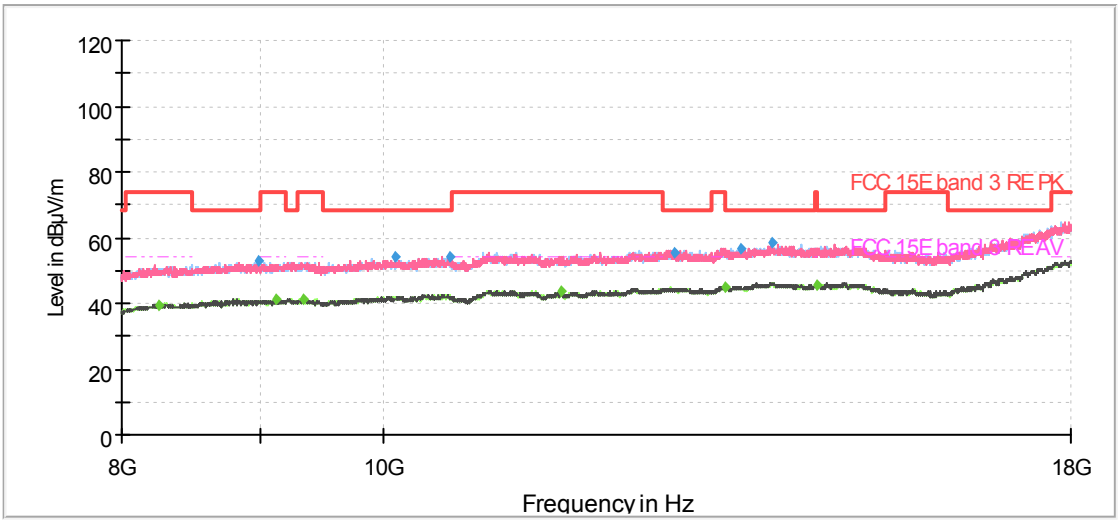
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1243.25	46.93	---	68.20	21.27	200.0	H	103.00	-8
1405.13	---	35.95	54.00	18.05	200.0	V	129.00	-7
1422.63	---	36.02	54.00	17.98	100.0	V	118.00	-7
1978.25	48.22	---	68.20	19.98	100.0	V	216.00	-5
2571.50	50.22	---	68.20	17.98	200.0	V	2.00	-4
2807.75	---	39.02	54.00	14.98	100.0	H	355.00	-3
2945.13	50.80	---	68.20	17.40	100.0	H	292.00	-3
3905.00	---	40.20	54.00	13.80	200.0	V	256.00	-1
5346.13	54.36	---	68.20	13.84	200.0	V	95.00	4
5370.63	---	42.84	54.00	11.16	100.0	V	16.00	4
7367.38	---	47.56	54.00	6.44	100.0	H	265.00	9
7827.63	58.72	---	68.20	9.48	200.0	V	156.00	9

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

802.11a CH165



Radiates Emission from 1GHz to 8GHz



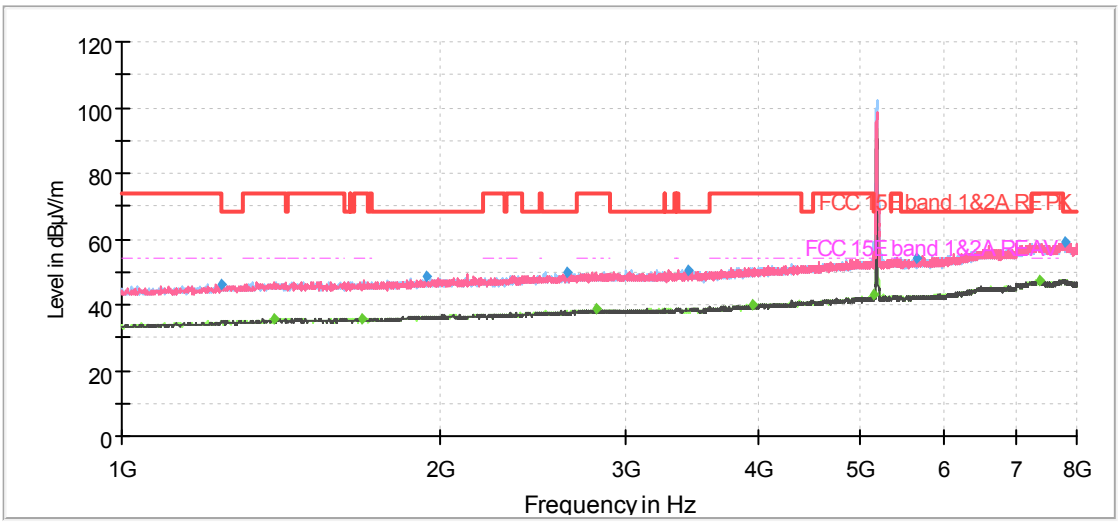
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

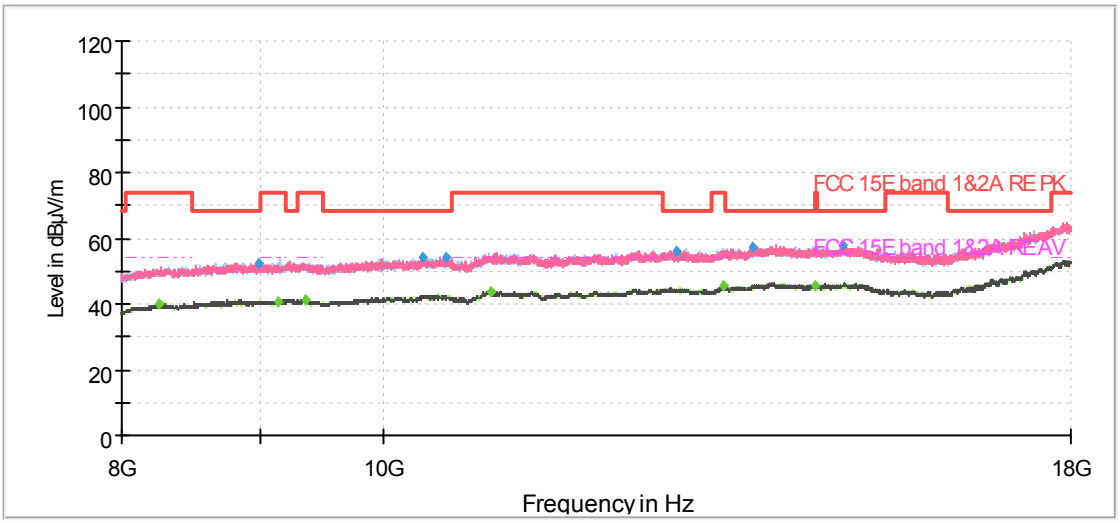
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1264.25	46.82	---	68.20	21.38	100.0	H	328.00	-8
1340.38	---	35.32	54.00	18.68	100.0	H	68.00	-7
1469.00	---	35.59	54.00	18.41	200.0	V	212.00	-7
1987.88	48.19	---	68.20	20.01	200.0	H	56.00	-5
2519.88	49.46	---	68.20	18.74	200.0	H	124.00	-4
2701.88	---	38.32	54.00	15.68	200.0	V	298.00	-4
3450.00	50.37	---	68.20	17.83	100.0	V	0.00	-3
3967.13	---	39.94	54.00	14.06	200.0	V	305.00	-1
5401.25	---	42.46	54.00	11.54	100.0	H	102.00	4
5576.25	54.10	---	68.20	14.10	200.0	H	0.00	4
7748.00	---	47.27	54.00	6.73	100.0	H	164.00	9
7771.63	58.47	---	68.20	9.73	200.0	H	220.00	9

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

802.11n (HT20) CH36



Radiates Emission from 1GHz to 8GHz

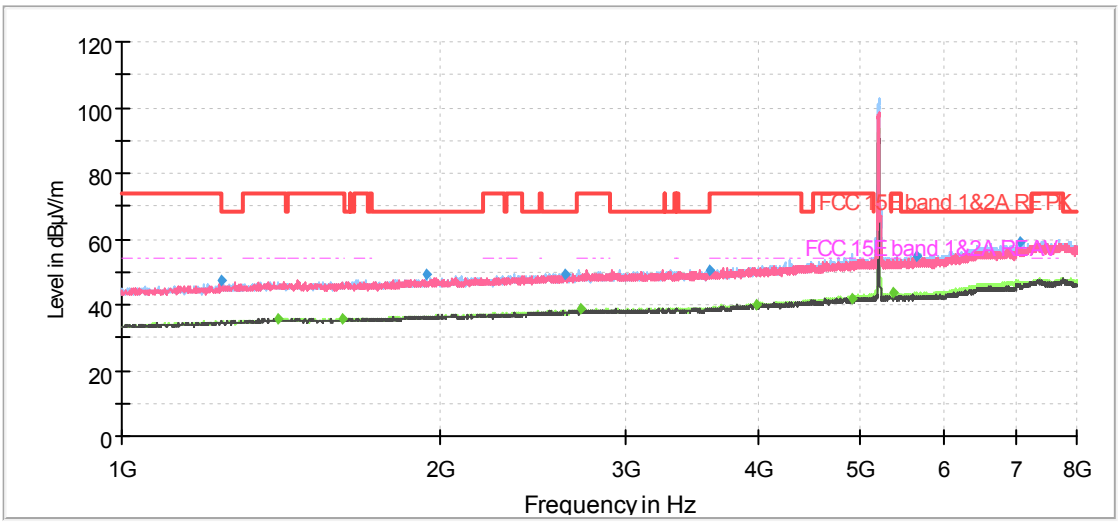


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

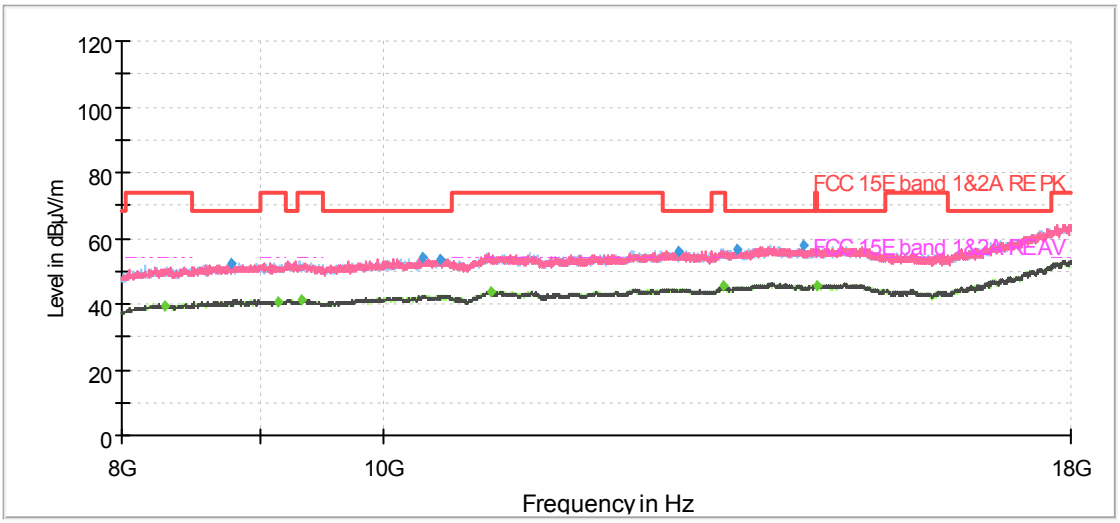
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1240.63	46.35	---	68.20	21.85	200.0	H	64.00	-8
1394.63	---	35.74	54.00	18.26	100.0	V	5.00	-7
1690.38	---	35.88	54.00	18.12	200.0	V	177.00	-6
1938.88	48.58	---	68.20	19.62	200.0	V	0.00	-5
2636.25	49.80	---	68.20	18.40	200.0	H	4.00	-4
2809.50	---	38.48	54.00	15.52	100.0	H	111.00	-3
3433.38	50.74	---	68.20	17.46	200.0	H	3.00	-3
3954.00	---	40.21	54.00	13.79	200.0	H	235.00	-1
5143.13	---	43.05	54.00	10.95	100.0	H	0.00	3
5646.25	53.87	---	68.20	14.33	100.0	H	359.00	4
7377.88	---	47.32	54.00	6.68	100.0	H	333.00	9
7813.63	58.77	---	68.20	9.43	100.0	V	87.00	9

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

802.11n (HT20) CH40



Radiates Emission from 1GHz to 8GHz

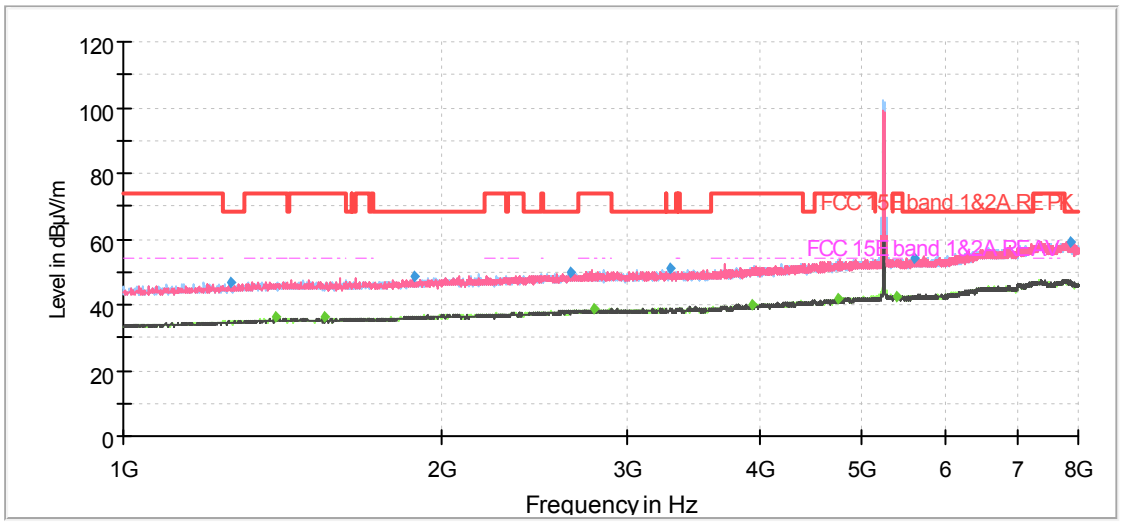


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

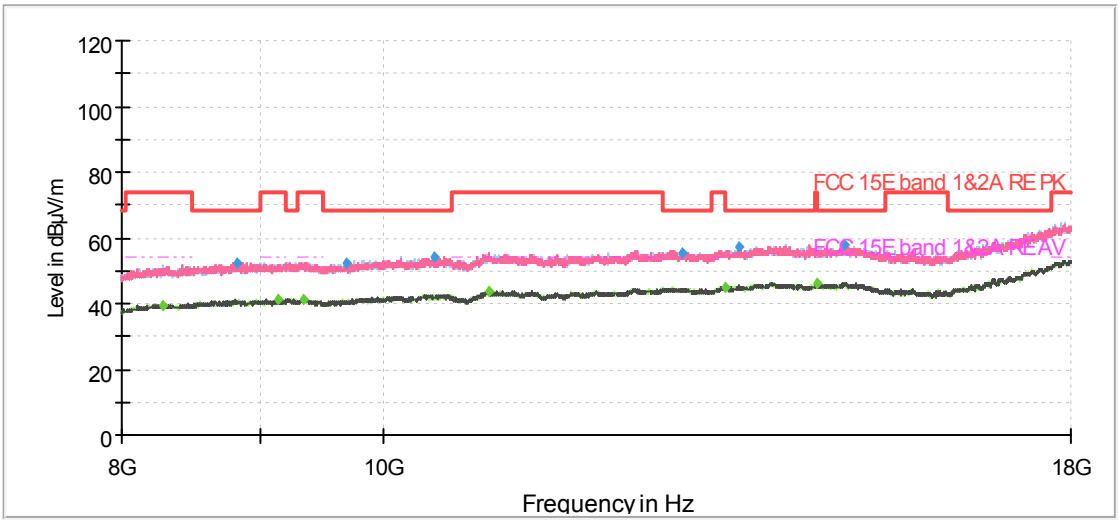
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1244.13	47.11	---	68.20	21.09	200.0	V	353.00	-8
1403.38	---	35.74	54.00	18.26	100.0	H	42.00	-7
1619.50	---	35.80	54.00	18.20	100.0	H	162.00	-6
1943.25	49.08	---	68.20	19.12	100.0	H	340.00	-5
2631.00	49.53	---	68.20	18.67	100.0	H	223.00	-4
2719.38	---	38.60	54.00	15.40	100.0	V	0.00	-4
3589.13	50.50	---	68.20	17.70	100.0	H	156.00	-2
3982.00	---	40.26	54.00	13.74	100.0	H	358.00	-1
4899.00	---	41.68	54.00	12.32	100.0	H	358.00	2
5368.88	---	43.44	54.00	10.56	100.0	H	230.00	4
5643.63	54.80	---	68.20	13.40	100.0	H	340.00	4
7057.63	59.29	---	68.20	8.91	100.0	H	0.00	8

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

802.11n (HT20) CH48



Radiates Emission from 1GHz to 8GHz



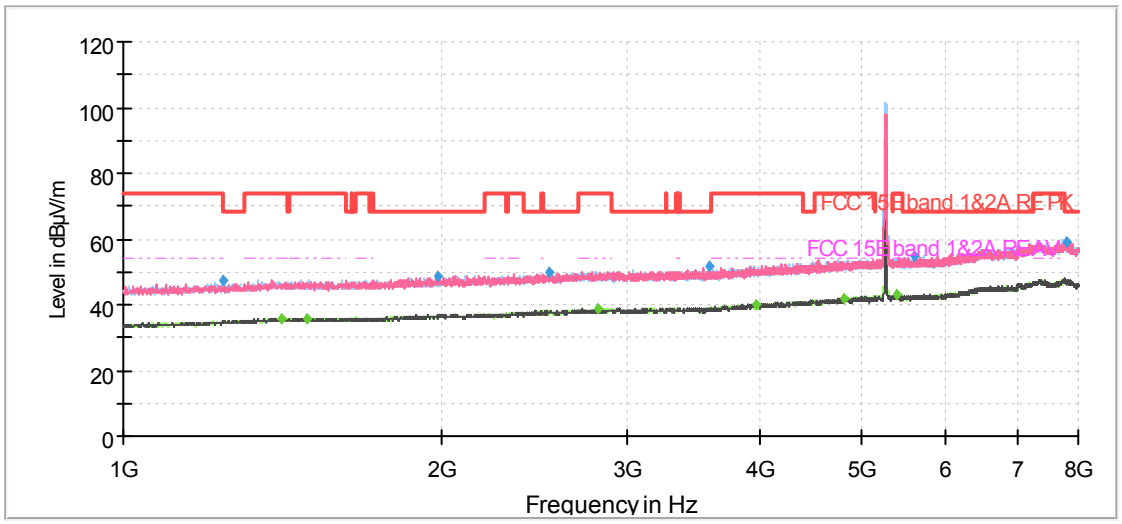
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

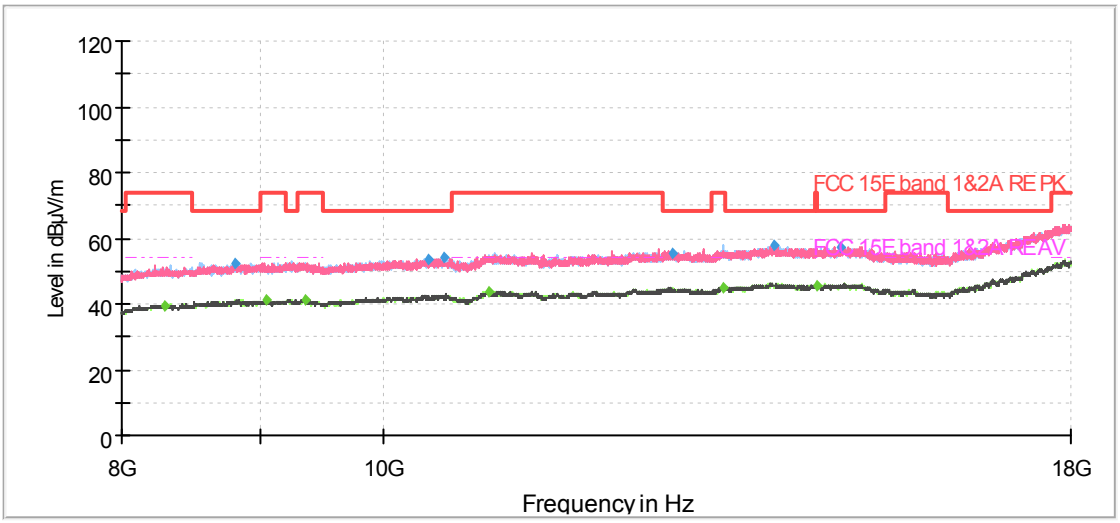
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1263.38	46.47	---	68.20	21.73	200.0	V	358.00	-8
1392.00	---	36.08	54.00	17.92	100.0	V	358.00	-7
1552.13	---	36.09	54.00	17.91	100.0	V	304.00	-6
1881.13	48.33	---	68.20	19.87	100.0	H	114.00	-6
2652.00	49.59	---	68.20	18.61	200.0	V	356.00	-4
2781.50	---	38.51	54.00	15.49	100.0	V	210.00	-3
3292.50	50.96	---	68.20	17.24	200.0	V	247.00	-3
3940.88	---	40.00	54.00	14.00	100.0	H	300.00	-1
4736.25	---	41.67	54.00	12.33	200.0	H	306.00	2
5382.00	---	42.75	54.00	11.25	100.0	H	352.00	4
5606.00	54.03	---	68.20	14.17	200.0	V	227.00	4
7877.50	58.96	---	68.20	9.24	100.0	H	359.00	9

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

802.11n (HT20) CH52



Radiates Emission from 1GHz to 8GHz

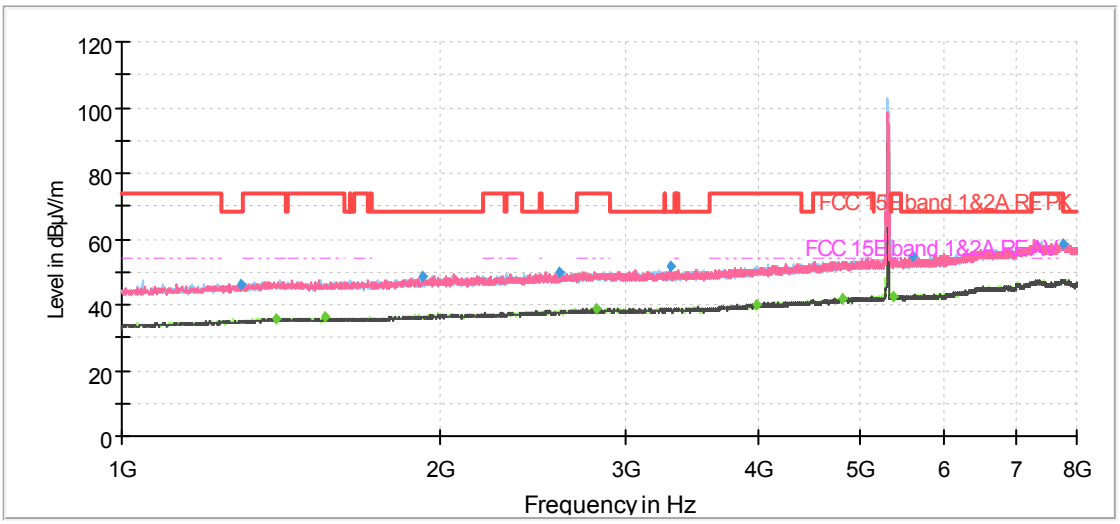


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

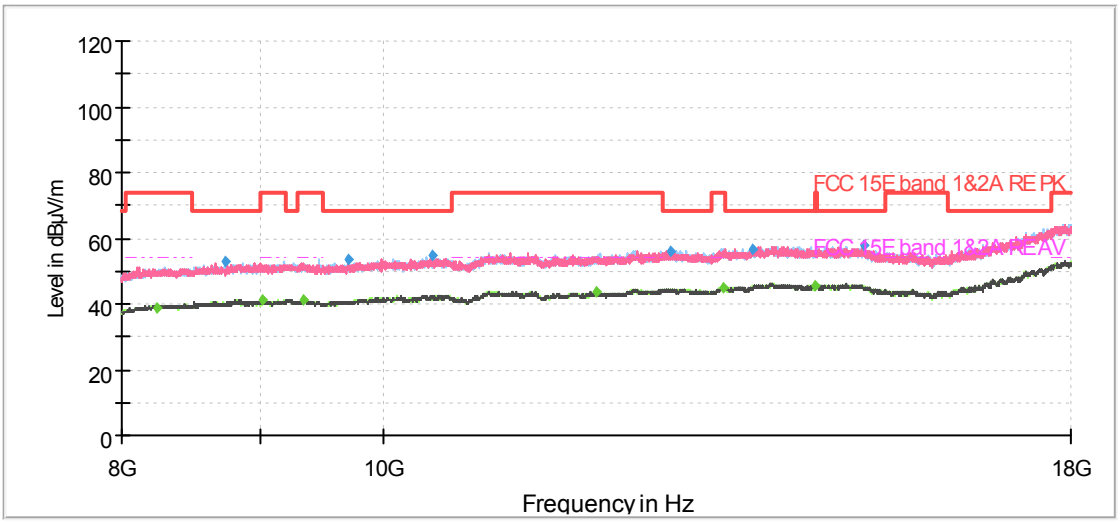
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1244.13	47.13	---	68.20	21.07	200.0	H	119.00	-8
1408.63	---	35.89	54.00	18.11	100.0	V	161.00	-7
1489.13	---	36.00	54.00	18.00	100.0	V	3.00	-7
1982.63	48.32	---	68.20	19.88	100.0	V	44.00	-5
2530.38	49.77	---	68.20	18.43	200.0	H	153.00	-4
2808.63	---	38.62	54.00	15.38	200.0	V	336.00	-3
3579.50	51.43	---	68.20	16.77	200.0	H	40.00	-2
3969.75	---	40.13	54.00	13.87	100.0	H	357.00	-1
4796.63	---	41.54	54.00	12.46	100.0	H	0.00	2
5382.00	---	42.85	54.00	11.15	100.0	H	359.00	4
5607.75	54.89	---	68.20	13.31	100.0	V	72.00	4
7804.00	58.83	---	68.20	9.37	100.0	V	113.00	9

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

802.11n (HT20) CH60



Radiates Emission from 1GHz to 8GHz

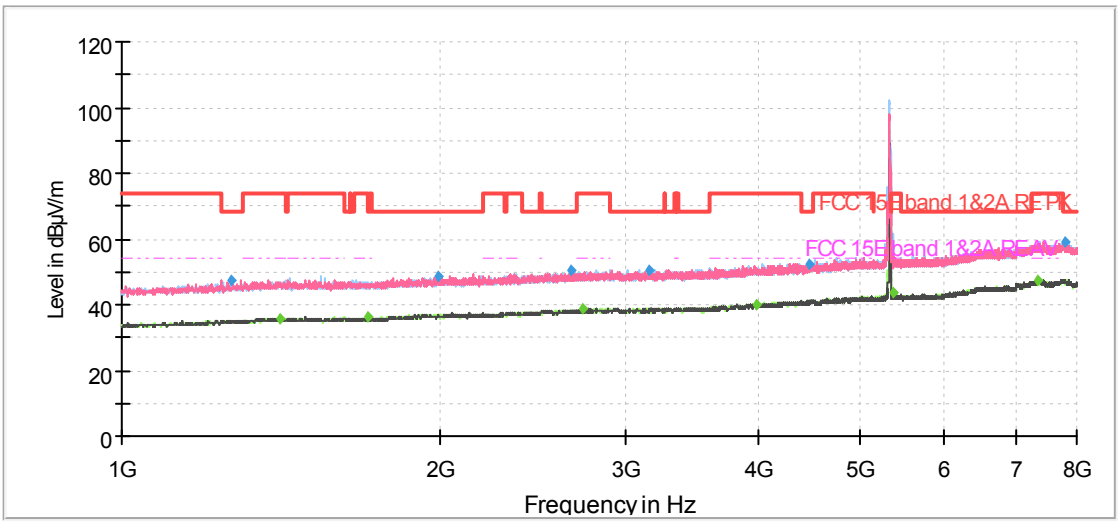


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

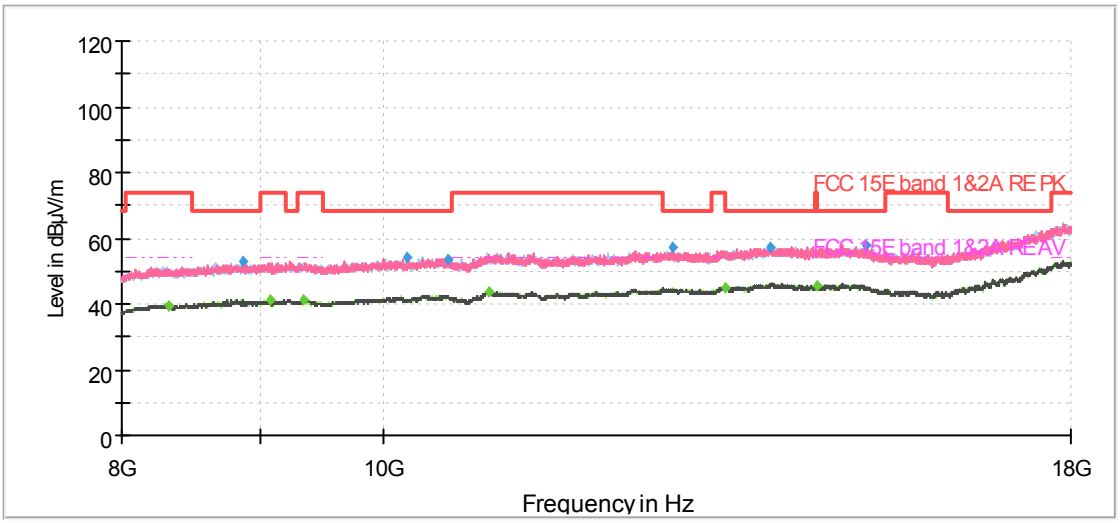
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1296.63	46.45	---	68.20	21.75	200.0	V	204.00	-7
1401.63	---	35.70	54.00	18.30	200.0	H	155.00	-7
1555.63	---	36.14	54.00	17.86	200.0	V	359.00	-6
1922.25	48.41	---	68.20	19.79	100.0	V	5.00	-5
2592.50	49.94	---	68.20	18.26	200.0	V	198.00	-4
2810.38	---	38.89	54.00	15.11	100.0	H	340.00	-3
3303.00	51.52	---	68.20	16.68	200.0	V	191.00	-3
3988.13	---	40.20	54.00	13.80	200.0	H	120.00	-1
4812.38	---	41.58	54.00	12.42	100.0	H	313.00	2
5362.75	---	42.75	54.00	11.25	100.0	H	313.00	4
5597.25	54.47	---	68.20	13.73	200.0	V	218.00	4
7780.38	58.70	---	68.20	9.50	100.0	V	103.00	9

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

802.11n (HT20) CH64



Radiates Emission from 1GHz to 8GHz

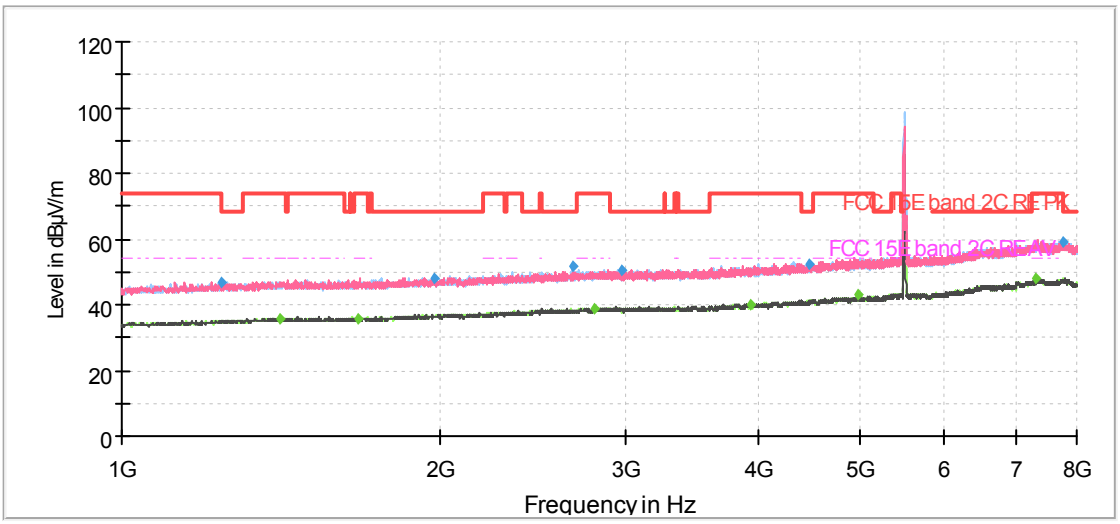


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

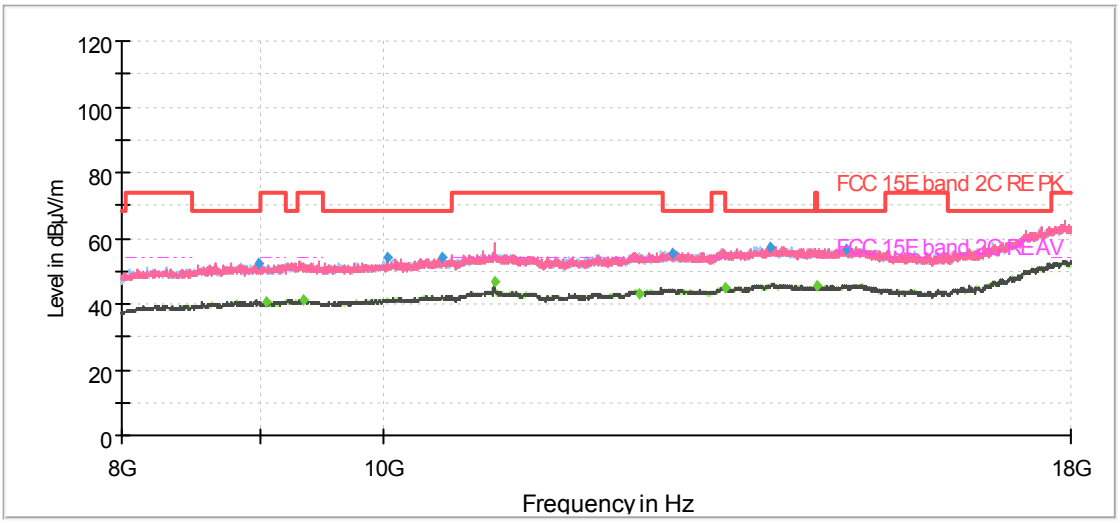
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1271.25	47.30	---	68.20	20.90	100.0	H	226.00	-8
1411.25	---	35.86	54.00	18.14	100.0	V	314.00	-7
1708.75	---	36.16	54.00	17.84	100.0	H	358.00	-6
1992.25	48.54	---	68.20	19.66	100.0	V	154.00	-5
2660.75	50.56	---	68.20	17.64	100.0	H	294.00	-4
2732.50	---	38.79	54.00	15.21	200.0	V	359.00	-4
3153.38	50.74	---	68.20	17.46	200.0	V	196.00	-3
3983.75	---	40.08	54.00	13.92	200.0	H	17.00	-1
4462.38	52.48	---	68.20	15.72	200.0	H	119.00	1
5353.13	---	43.39	54.00	10.61	100.0	H	354.00	4
7362.13	---	47.48	54.00	6.52	200.0	V	359.00	9
7789.13	59.14	---	68.20	9.06	100.0	V	242.00	9

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

802.11n (HT20) CH100



Radiates Emission from 1GHz to 8GHz

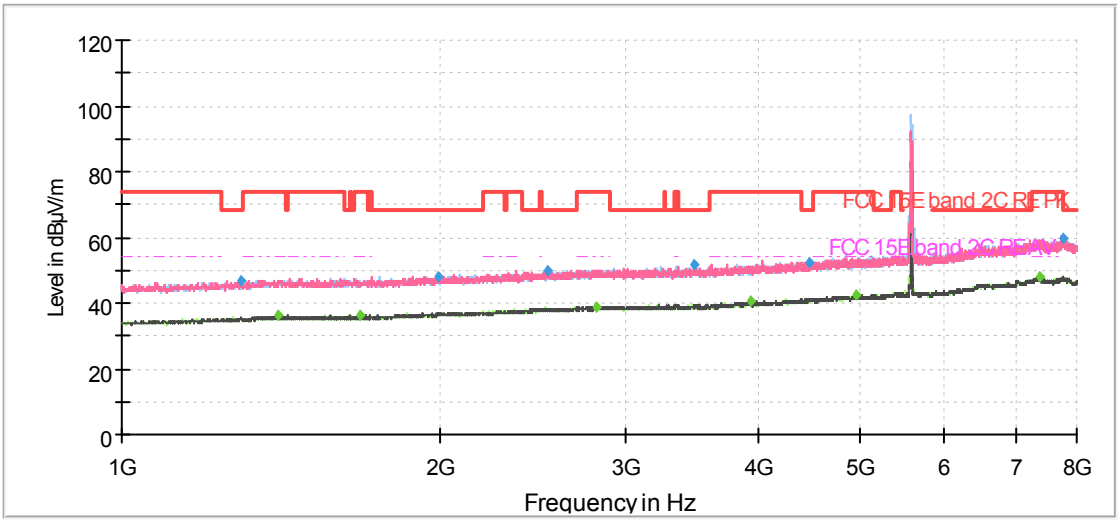


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

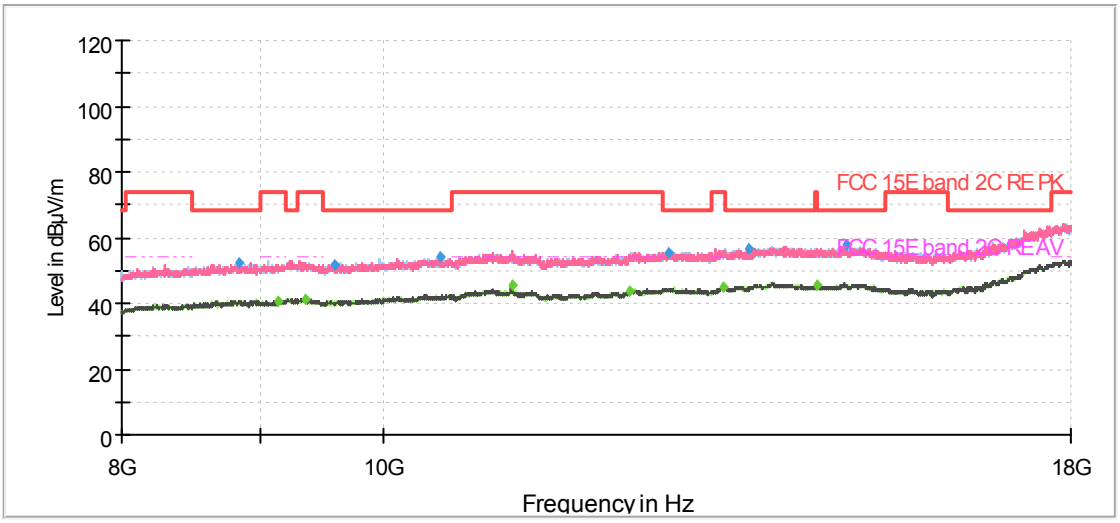
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1243.25	46.56	---	68.20	21.64	100.0	V	240.00	-8
1413.88	---	35.84	54.00	18.16	200.0	V	3.00	-7
1674.63	---	35.83	54.00	18.17	100.0	H	26.00	-6
1973.88	48.03	---	68.20	20.17	100.0	H	119.00	-5
2665.13	51.57	---	68.20	16.63	200.0	H	304.00	-4
2796.38	---	38.75	54.00	15.25	100.0	V	179.00	-3
2975.75	50.76	---	68.20	17.44	200.0	H	18.00	-3
3936.50	---	40.15	54.00	13.85	200.0	V	10.00	-1
4458.88	52.10	---	68.20	16.10	200.0	H	357.00	1
4969.88	---	42.86	54.00	11.14	100.0	V	150.00	3
7328.00	---	47.72	54.00	6.28	100.0	H	20.00	9
7754.13	58.87	---	68.20	9.33	100.0	H	7.00	9

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

802.11n (HT20) CH116



Radiates Emission from 1GHz to 8GHz



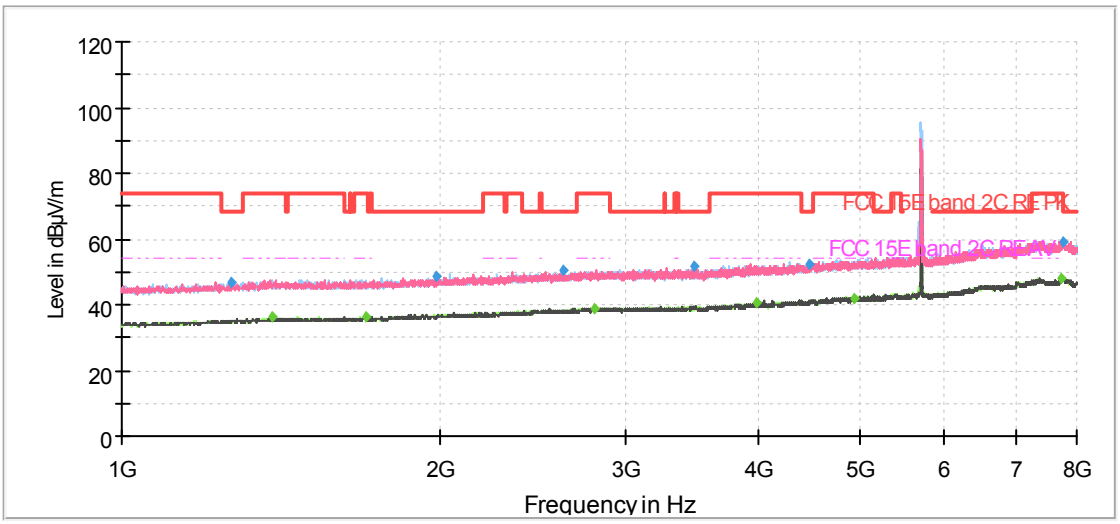
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

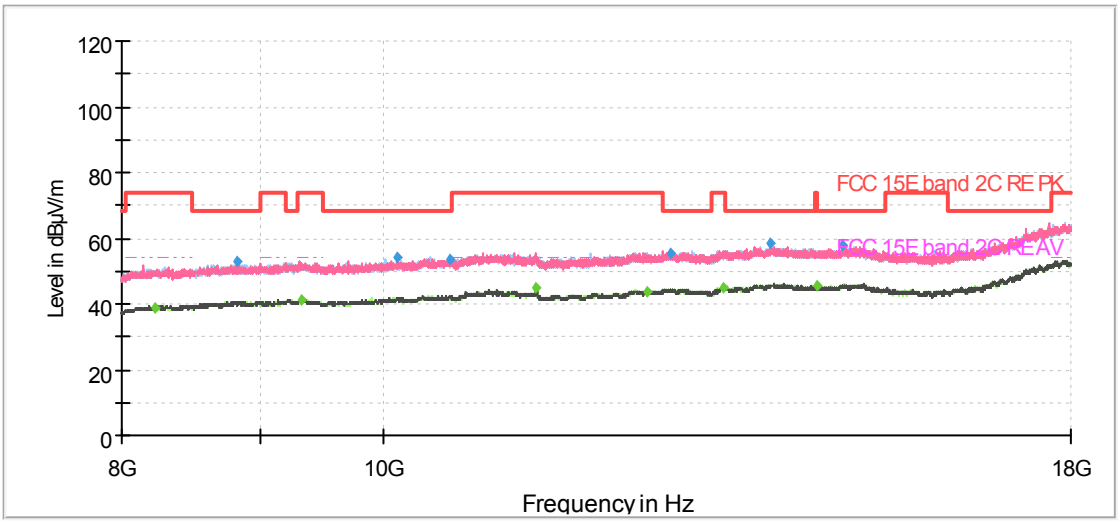
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1295.75	46.58	---	68.20	21.62	200.0	V	76.00	-8
1406.00	---	36.05	54.00	17.95	100.0	V	284.00	-7
1678.13	---	36.01	54.00	17.99	100.0	H	191.00	-6
1991.38	48.05	---	68.20	20.15	100.0	H	43.00	-5
2530.38	50.05	---	68.20	18.15	200.0	H	358.00	-4
2815.63	---	38.98	54.00	15.02	200.0	H	310.00	-3
3475.38	51.59	---	68.20	16.61	100.0	V	0.00	-3
3937.38	---	40.37	54.00	13.63	200.0	H	351.00	-1
4462.38	52.08	---	68.20	16.12	200.0	H	250.00	1
4955.88	---	42.25	54.00	11.75	100.0	V	210.00	3
7364.75	---	47.83	54.00	6.17	100.0	H	117.00	9
7766.38	59.41	---	68.20	8.79	100.0	V	153.00	9

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

802.11n (HT20) CH140



Radiates Emission from 1GHz to 8GHz

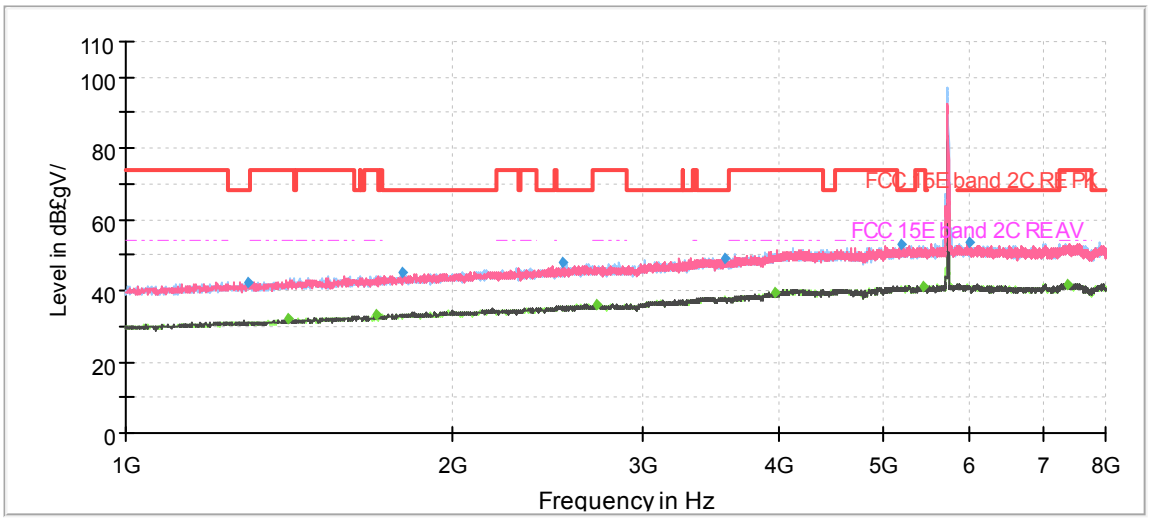


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

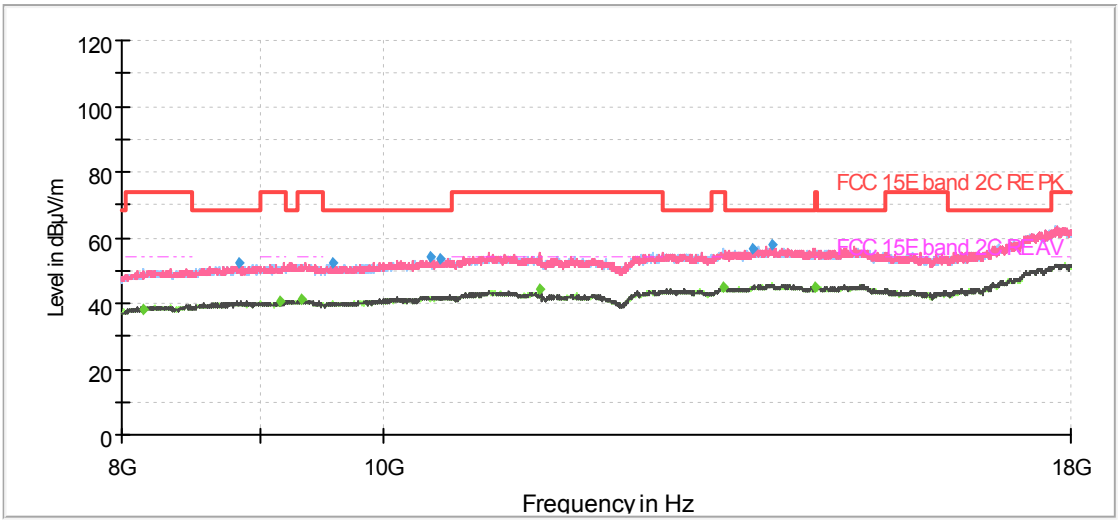
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1267.75	46.50	---	68.20	21.70	100.0	H	217.00	-8
1390.25	---	36.09	54.00	17.91	200.0	H	0.00	-7
1702.63	---	36.32	54.00	17.68	100.0	V	318.00	-6
1986.13	48.44	---	68.20	19.76	200.0	H	186.00	-5
2617.00	50.70	---	68.20	17.50	100.0	V	311.00	-4
2801.63	---	38.81	54.00	15.19	100.0	V	299.00	-3
3483.25	51.59	---	68.20	16.61	100.0	V	171.00	-3
3983.75	---	40.35	54.00	13.65	100.0	V	325.00	-1
4469.38	52.56	---	68.20	15.64	200.0	H	155.00	1
4916.50	---	42.00	54.00	12.00	100.0	V	0.00	3
7722.63	---	47.86	54.00	6.14	100.0	V	318.00	9
7778.63	59.19	---	68.20	9.01	100.0	V	205.00	9

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

802.11n (HT20) CH144



Radiates Emission from 1GHz to 8GHz



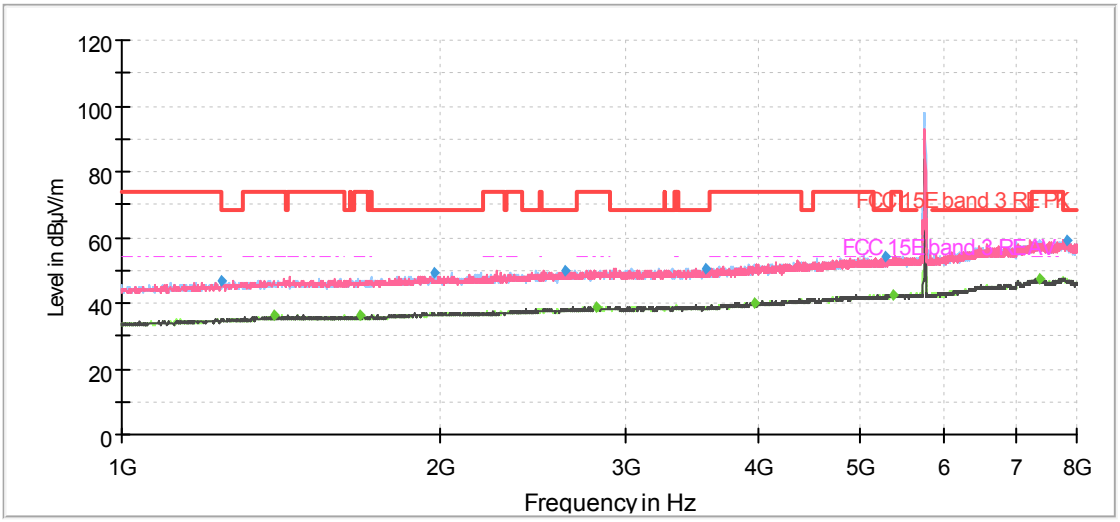
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

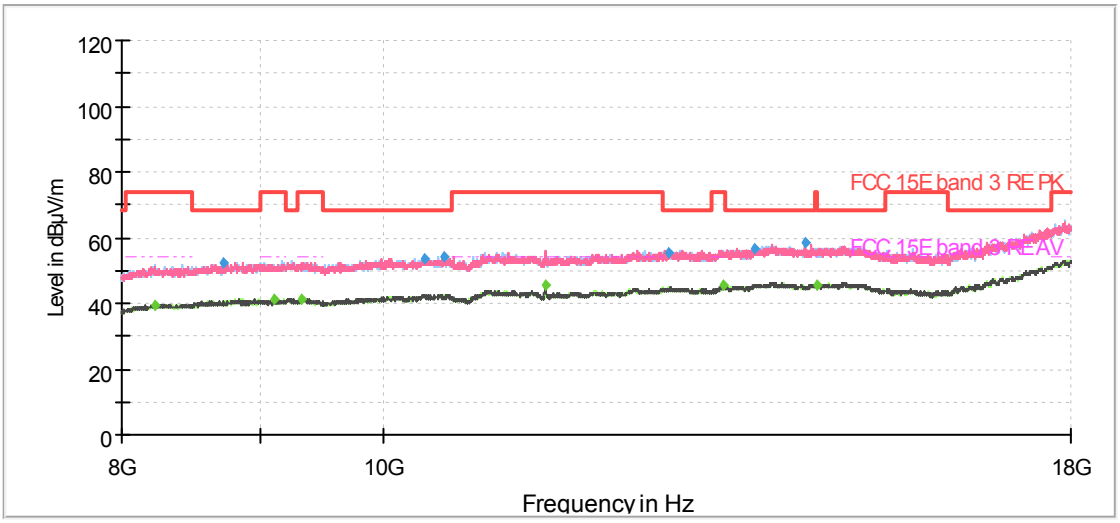
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1295.75	42.27	---	68.20	25.93	200.0	V	234.00	-7
1409.50	---	32.11	54.00	21.89	200.0	V	318.00	-6
1698.25	---	33.02	54.00	20.98	200.0	H	119.00	-5
1796.25	44.92	---	68.20	23.28	200.0	V	311.00	-4
2532.13	47.84	---	68.20	20.36	200.0	V	305.00	0
2722.00	---	36.36	54.00	17.64	200.0	V	12.00	1
3562.88	49.33	---	68.20	18.87	200.0	H	359.00	4
3962.75	---	39.56	54.00	14.44	200.0	V	220.00	6
5175.50	53.16	---	68.20	15.04	200.0	V	42.00	9
5438.88	---	41.11	54.00	12.89	200.0	H	69.00	9
5999.75	53.76	---	68.20	14.44	200.0	H	19.00	10
7391.88	---	41.91	54.00	12.09	200.0	V	199.00	11

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

802.11n (HT20) CH149



Radiates Emission from 1GHz to 8GHz



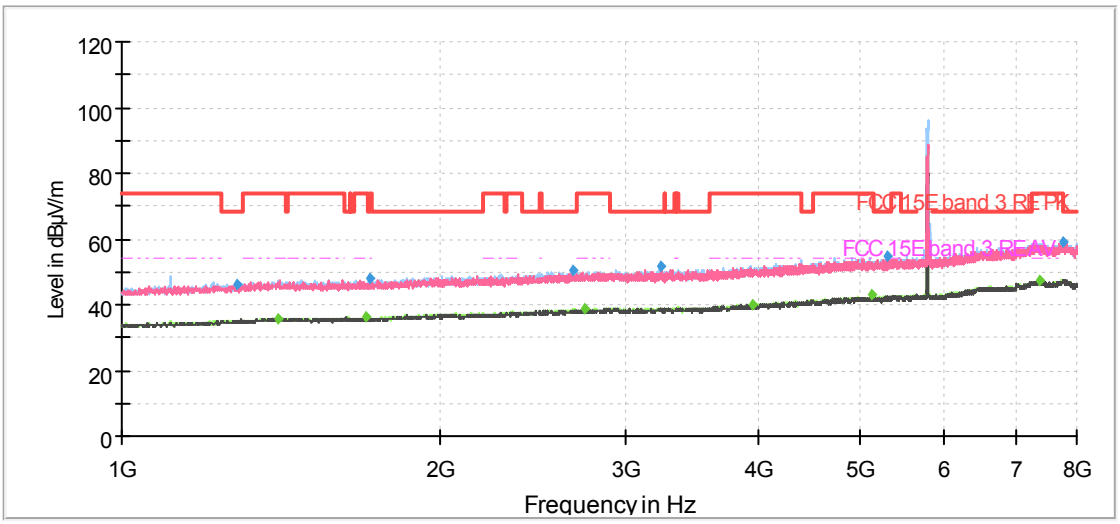
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

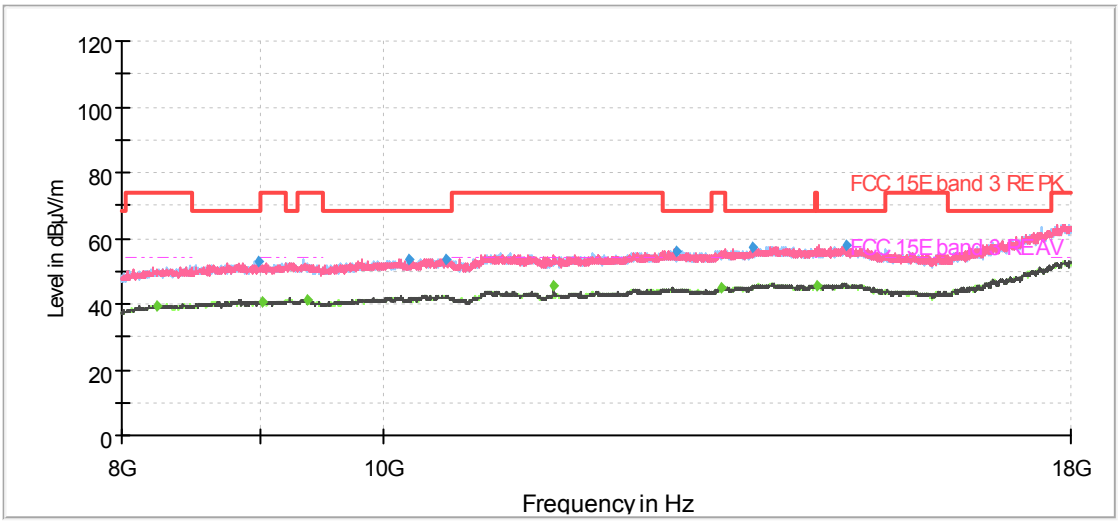
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1243.25	46.89	---	68.20	21.31	100.0	V	356.00	-8
1392.00	---	36.01	54.00	17.99	100.0	H	211.00	-7
1678.13	---	36.34	54.00	17.66	100.0	V	0.00	-6
1973.00	49.06	---	68.20	19.14	200.0	H	353.00	-5
2621.38	49.96	---	68.20	18.24	200.0	H	320.00	-4
2812.13	---	38.76	54.00	15.24	100.0	H	124.00	-3
3567.25	50.68	---	68.20	17.52	200.0	H	272.00	-3
3963.63	---	40.23	54.00	13.77	200.0	V	0.00	-1
5274.38	54.11	---	68.20	14.09	200.0	V	51.00	3
5371.50	---	42.74	54.00	11.26	200.0	V	1.00	4
7368.25	---	47.44	54.00	6.56	100.0	H	48.00	9
7815.38	59.13	---	68.20	9.07	100.0	V	221.00	9

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

802.11n (HT20) CH157



Radiates Emission from 1GHz to 8GHz

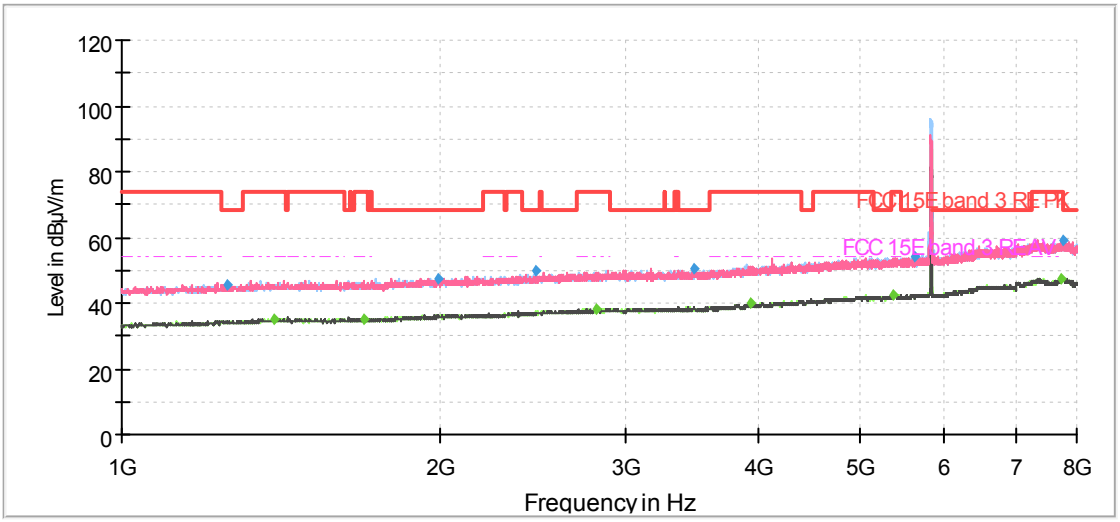


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

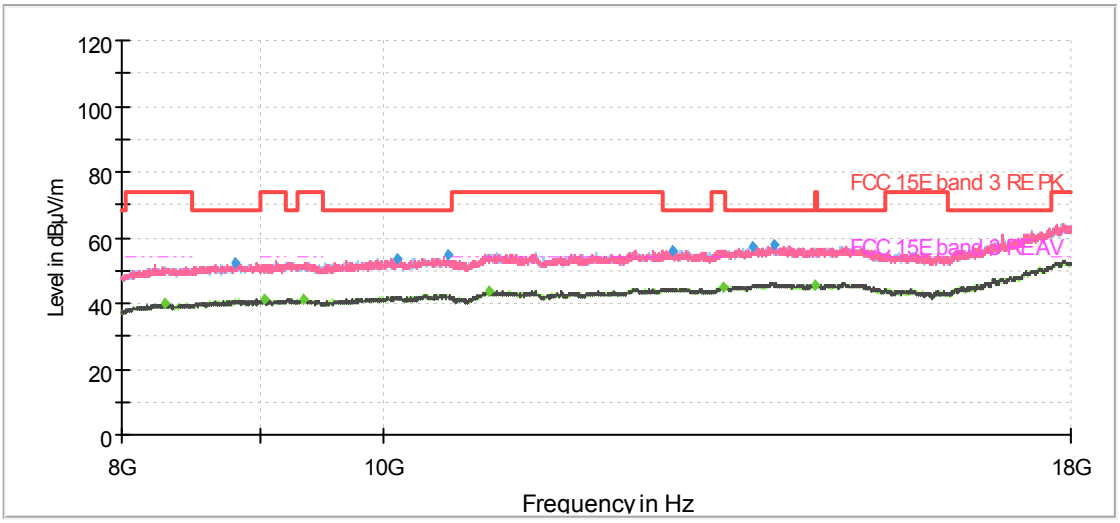
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
8231.25	---	39.26	54.00	14.74	200.0	H	356.00	-8
8726.25	52.50	---	68.20	15.70	200.0	H	139.00	-7
9115.00	---	41.03	54.00	12.97	100.0	V	143.00	-6
9328.75	---	41.32	54.00	12.68	200.0	H	359.00	-6
10367.50	53.84	---	68.20	14.36	200.0	H	357.00	-4
10540.00	54.46	---	68.20	13.74	200.0	H	255.00	-4
11488.75	---	45.30	54.00	8.70	100.0	V	211.00	-3
12760.00	55.67	---	68.20	12.53	100.0	V	136.00	-1
13376.25	---	45.36	54.00	8.64	200.0	H	200.00	3
13726.25	56.72	---	68.20	11.48	100.0	V	211.00	3
14333.75	58.33	---	68.20	9.87	200.0	H	208.00	9
14496.25	---	45.62	54.00	8.38	200.0	H	106.00	9

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

802.11n (HT20) CH165



Radiates Emission from 1GHz to 8GHz



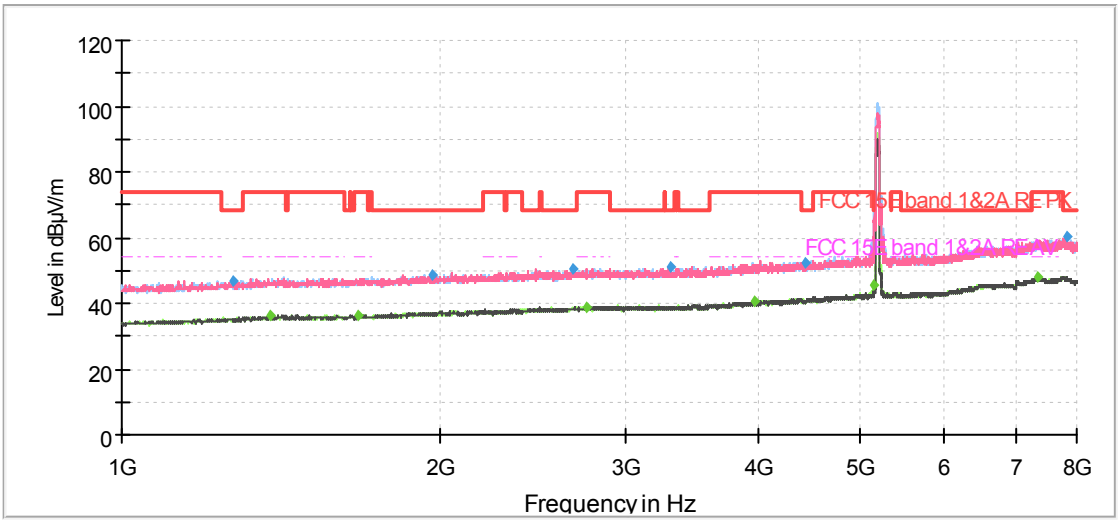
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

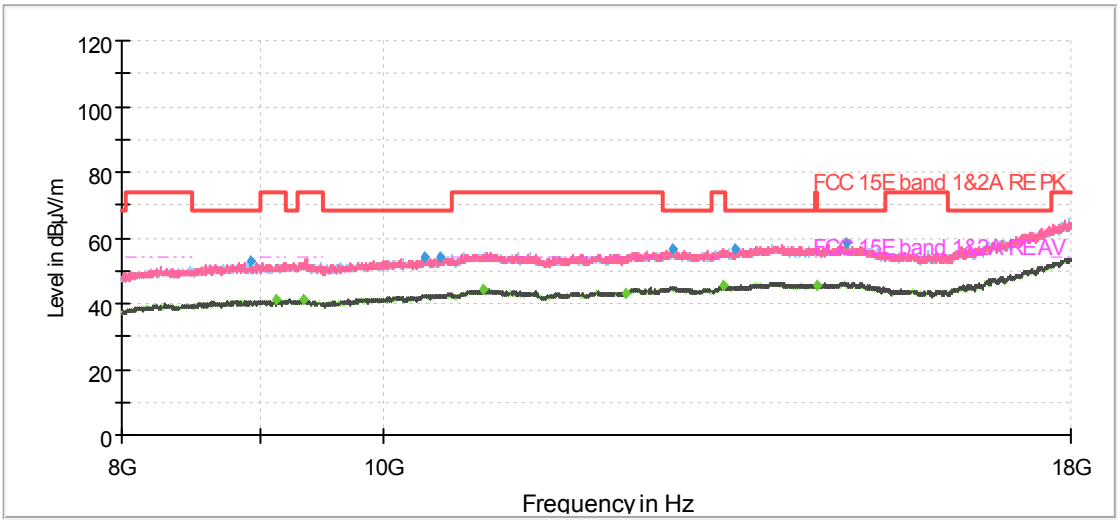
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1260.75	45.63	---	68.20	22.57	200.0	V	11.00	-8
1391.13	---	35.32	54.00	18.68	200.0	V	20.00	-7
1695.63	---	35.32	54.00	18.68	100.0	V	358.00	-6
1987.88	47.44	---	68.20	20.76	200.0	H	239.00	-5
2467.38	49.66	---	68.20	18.54	100.0	H	1.00	-4
2812.13	---	38.10	54.00	15.90	100.0	H	86.00	-3
3472.75	50.39	---	68.20	17.81	200.0	V	163.00	-3
3934.75	---	39.81	54.00	14.19	200.0	V	239.00	-1
5375.00	---	42.50	54.00	11.50	100.0	H	7.00	4
5616.50	54.37	---	68.20	13.83	100.0	V	355.00	4
7745.38	---	47.34	54.00	6.66	100.0	H	107.00	9
7763.75	58.86	---	68.20	9.34	100.0	V	355.00	9

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

802.11n (HT40) CH38



Radiates Emission from 1GHz to 8GHz



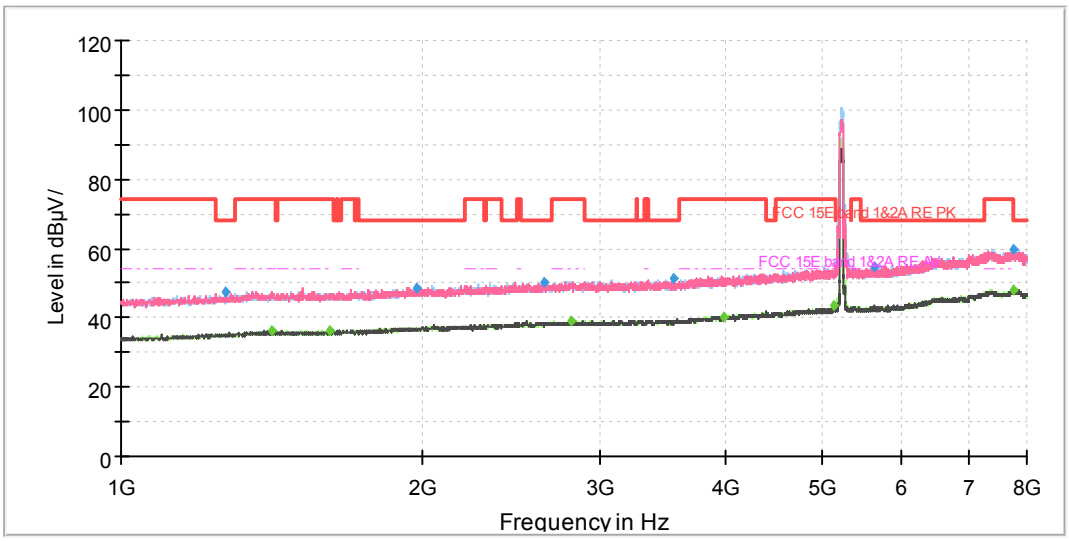
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

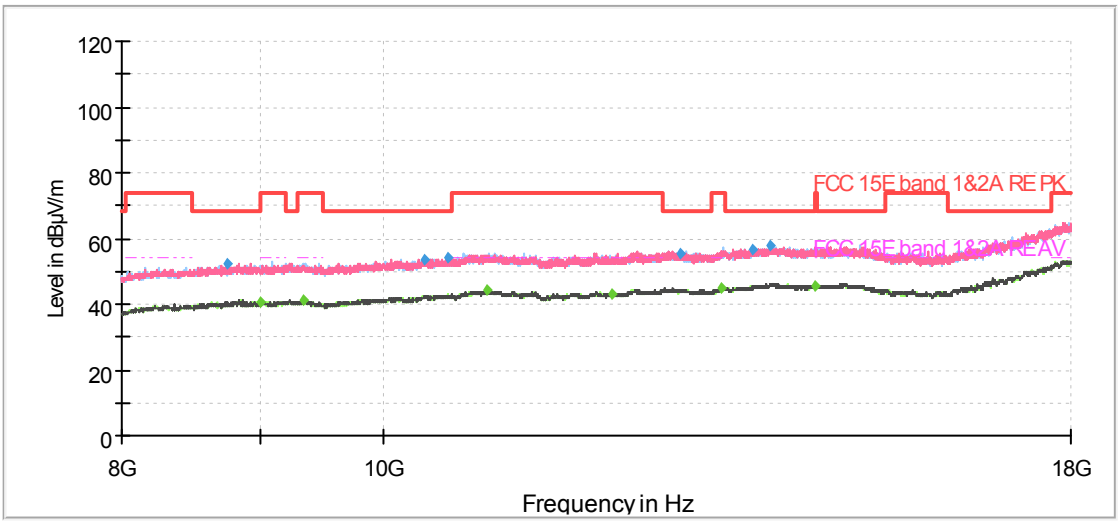
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1272.13	47.04	---	68.20	21.16	100.0	V	355.00	-8
1382.38	---	36.21	54.00	17.79	200.0	H	337.00	-7
1670.25	---	36.43	54.00	17.57	200.0	H	261.00	-6
1967.75	48.61	---	68.20	19.59	100.0	H	131.00	-5
2665.13	50.76	---	68.20	17.44	200.0	H	111.00	-4
2748.25	---	38.98	54.00	15.02	200.0	H	166.00	-4
3310.00	51.19	---	68.20	17.01	100.0	H	104.00	-3
3966.25	---	40.47	54.00	13.53	200.0	V	86.00	-1
4423.88	52.46	---	68.20	15.74	200.0	V	92.00	1
5147.50	---	45.31	54.00	8.69	100.0	H	4.00	3
7349.00	---	47.81	54.00	6.19	200.0	V	58.00	9
7835.50	60.30	---	68.20	7.90	200.0	H	186.00	9

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

802.11n (HT40) CH46



Radiates Emission from 1GHz to 8GHz



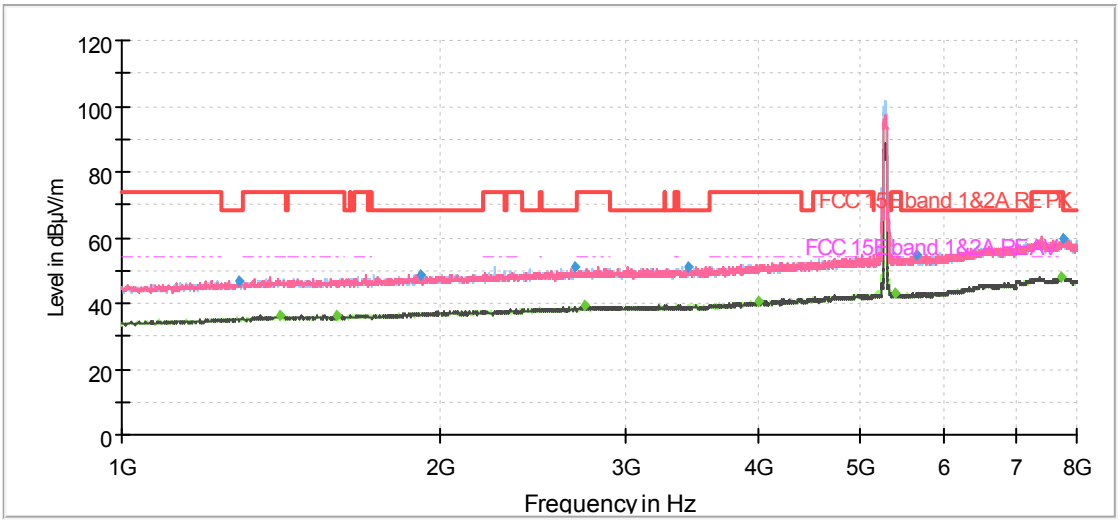
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

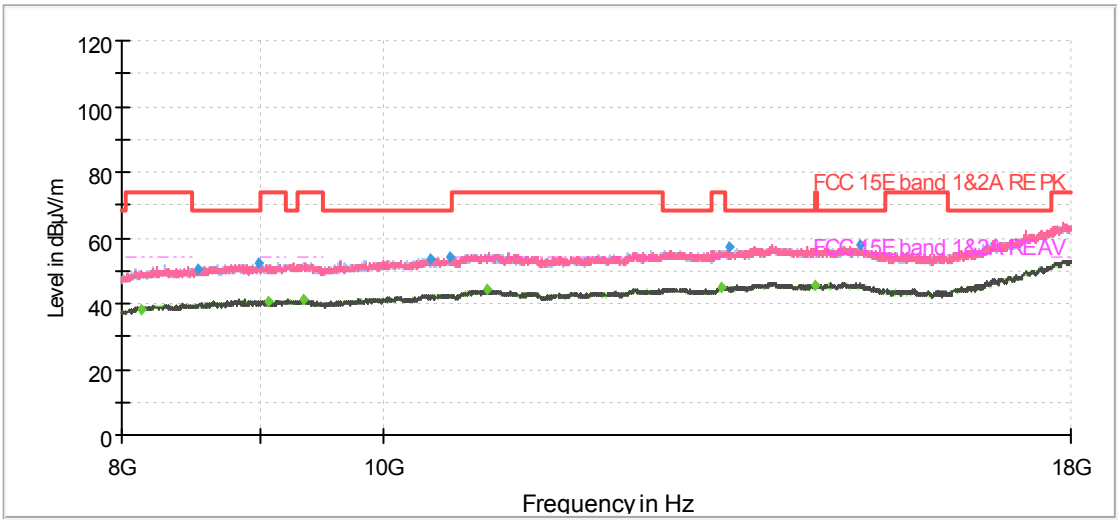
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1269.50	47.61	---	68.20	20.59	100.0	H	229.00	-8
1413.88	---	36.22	54.00	17.78	200.0	V	107.00	-7
1615.13	---	36.30	54.00	17.70	100.0	H	174.00	-6
1972.13	48.53	---	68.20	19.67	200.0	H	266.00	-5
2645.88	50.20	---	68.20	18.00	200.0	V	266.00	-4
2806.88	---	38.95	54.00	15.05	100.0	V	0.00	-3
3553.25	51.51	---	68.20	16.69	100.0	V	0.00	-3
3985.50	---	40.46	54.00	13.54	100.0	V	312.00	-1
5138.75	---	43.30	54.00	10.70	100.0	H	167.00	3
5626.13	54.88	---	68.20	13.32	200.0	V	23.00	4
7743.63	---	47.95	54.00	6.05	200.0	H	313.00	9
7767.25	59.53	---	68.20	8.67	200.0	H	61.00	9

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

802.11n (HT40) CH54



Radiates Emission from 1GHz to 8GHz



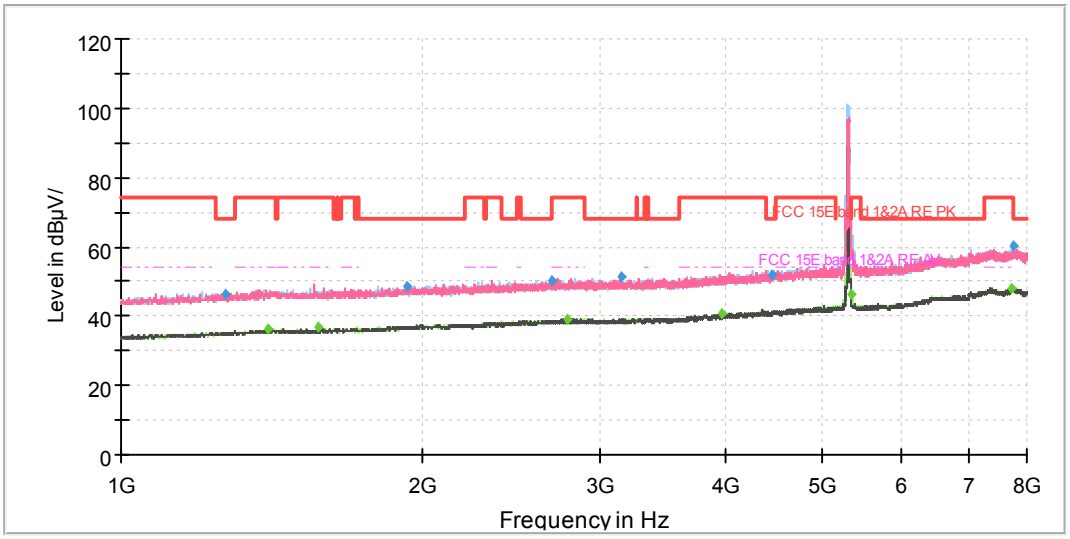
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

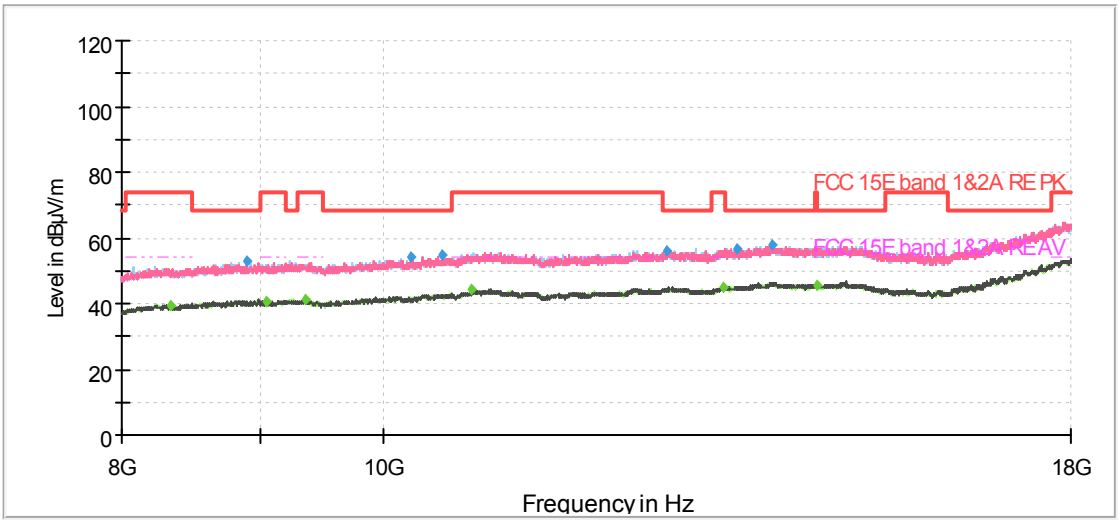
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1290.50	46.65	---	68.20	21.55	100.0	H	286.00	-8
1408.63	---	36.14	54.00	17.86	200.0	H	301.00	-7
1598.50	---	36.61	54.00	17.39	100.0	H	0.00	-6
1920.50	48.66	---	68.20	19.54	100.0	H	25.00	-5
2680.00	50.77	---	68.20	17.43	100.0	H	147.00	-4
2744.75	---	39.15	54.00	14.85	100.0	H	93.00	-4
3428.13	51.18	---	68.20	17.02	200.0	V	250.00	-3
3998.63	---	40.54	54.00	13.46	100.0	H	19.00	-1
5376.75	---	43.19	54.00	10.81	100.0	V	279.00	4
5639.25	54.96	---	68.20	13.24	200.0	V	62.00	4
7736.63	---	47.75	54.00	6.25	200.0	H	88.00	9
7755.00	59.73	---	68.20	8.47	200.0	V	76.00	9

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

802.11n (HT40) CH62



Radiates Emission from 1GHz to 8GHz



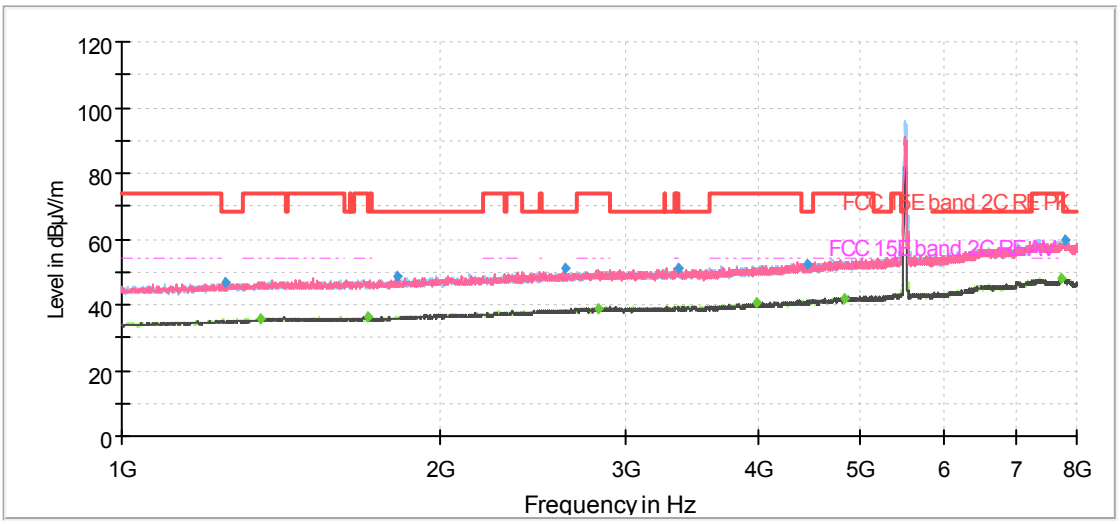
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

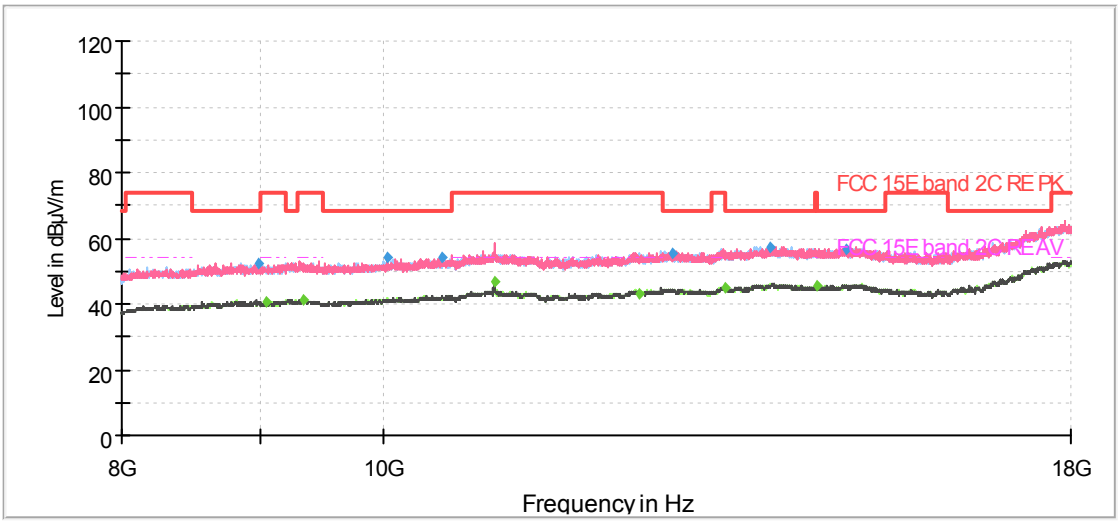
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1269.50	46.37	---	68.20	21.83	200.0	H	343.00	-8
1399.88	---	36.35	54.00	17.65	200.0	V	195.00	-7
1571.38	---	36.68	54.00	17.32	200.0	H	222.00	-6
1931.00	48.52	---	68.20	19.68	200.0	H	229.00	-5
2683.50	50.11	---	68.20	18.09	100.0	V	289.00	-4
2778.88	---	39.14	54.00	14.86	200.0	H	0.00	-3
3149.88	51.18	---	68.20	17.02	100.0	V	206.00	-3
3967.13	---	40.48	54.00	13.52	200.0	H	338.00	-1
4451.88	51.85	---	68.20	16.35	100.0	H	73.00	1
5350.50	---	46.24	54.00	7.76	200.0	H	0.00	4
7731.38	---	47.93	54.00	6.07	200.0	H	297.00	9
7755.00	60.06	---	68.20	8.14	100.0	H	87.00	9

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

802.11n (HT40) CH102



Radiates Emission from 1GHz to 8GHz

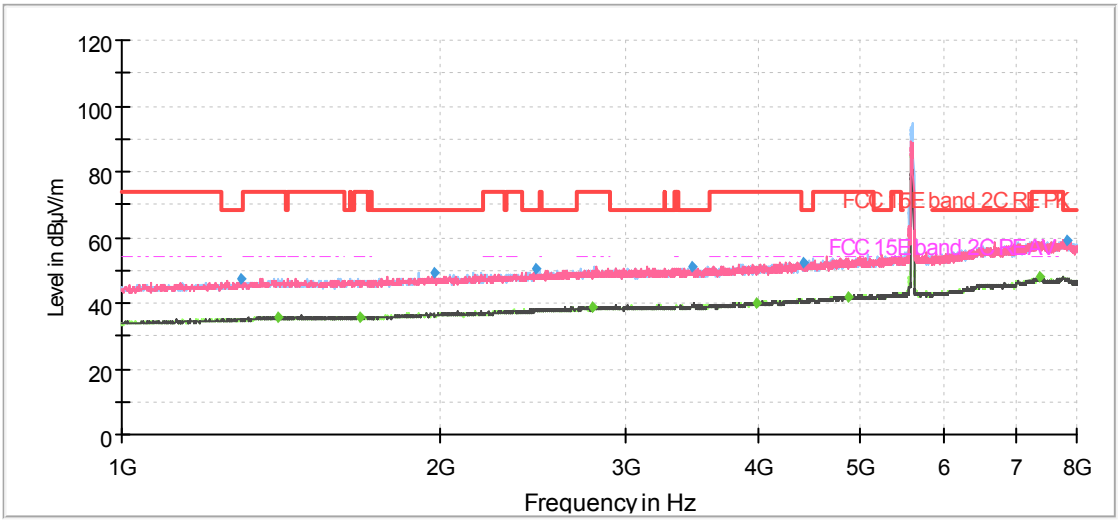


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

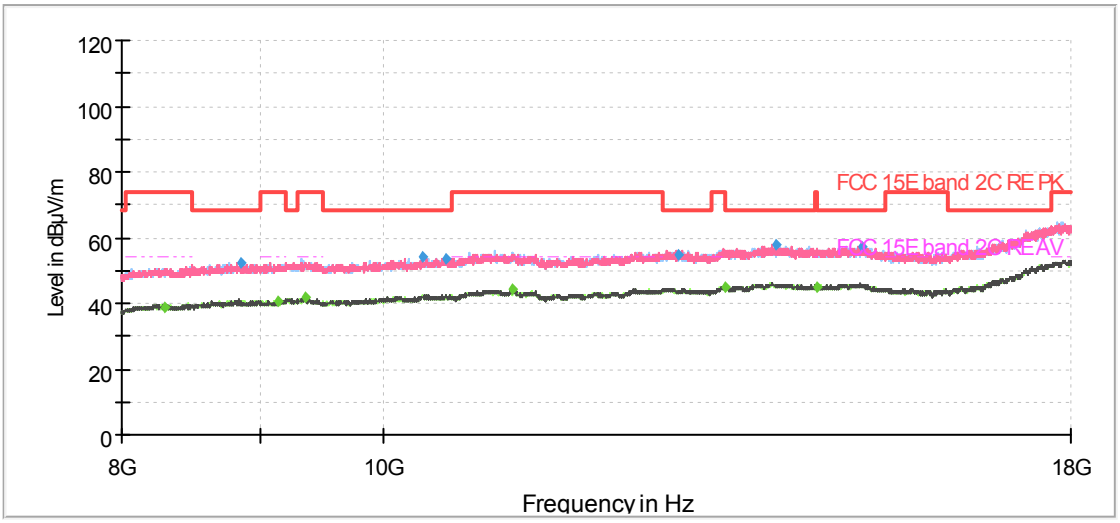
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1251.13	46.69	---	68.20	21.51	100.0	H	7.00	-8
1352.63	---	35.87	54.00	18.13	100.0	H	98.00	-7
1706.13	---	36.25	54.00	17.75	100.0	H	181.00	-6
1819.88	48.84	---	68.20	19.36	200.0	H	149.00	-6
2627.50	50.90	---	68.20	17.30	100.0	H	194.00	-4
2818.25	---	38.95	54.00	15.05	100.0	H	3.00	-3
3359.88	51.26	---	68.20	16.94	200.0	H	284.00	-3
3988.13	---	40.39	54.00	13.61	200.0	V	43.00	-1
4455.38	52.49	---	68.20	15.71	100.0	V	356.00	1
4813.25	---	41.79	54.00	12.21	200.0	V	36.00	2
7747.13	---	48.06	54.00	5.94	100.0	H	0.00	9
7783.00	59.90	---	68.20	8.30	200.0	H	298.00	9

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

802.11n (HT40) CH118



Radiates Emission from 1GHz to 8GHz



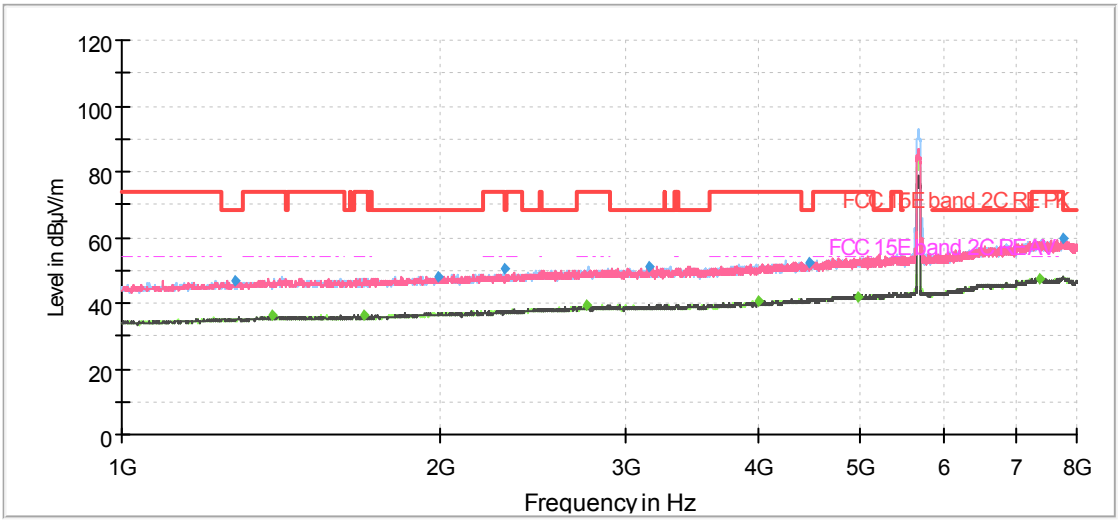
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

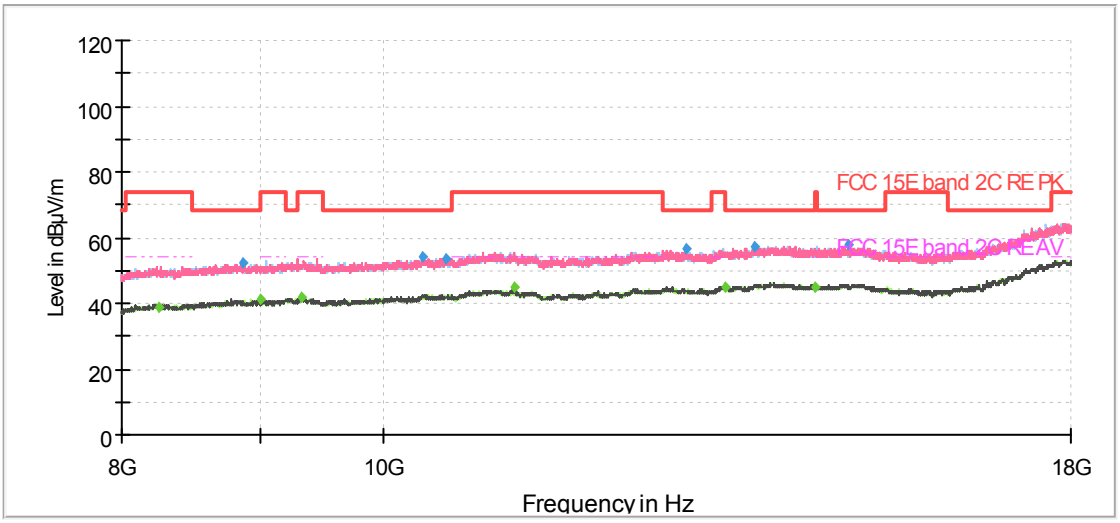
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1295.75	47.31	---	68.20	20.89	200.0	V	82.00	-8
1406.88	---	35.96	54.00	18.04	100.0	H	197.00	-7
1680.75	---	35.66	54.00	18.34	100.0	H	65.00	-6
1977.38	49.13	---	68.20	19.07	100.0	V	359.00	-5
2464.75	50.64	---	68.20	17.56	100.0	V	19.00	-4
2781.50	---	38.83	54.00	15.17	200.0	V	0.00	-3
3466.63	51.31	---	68.20	16.89	100.0	H	174.00	-3
3983.75	---	40.29	54.00	13.71	200.0	V	2.00	-1
4416.88	52.35	---	68.20	15.86	100.0	V	223.00	1
4870.13	---	41.90	54.00	12.10	100.0	V	347.00	2
7378.75	---	47.91	54.00	6.09	200.0	H	295.00	9
7840.75	59.36	---	68.20	8.84	100.0	H	52.00	9

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

802.11n (HT40) CH134



Radiates Emission from 1GHz to 8GHz



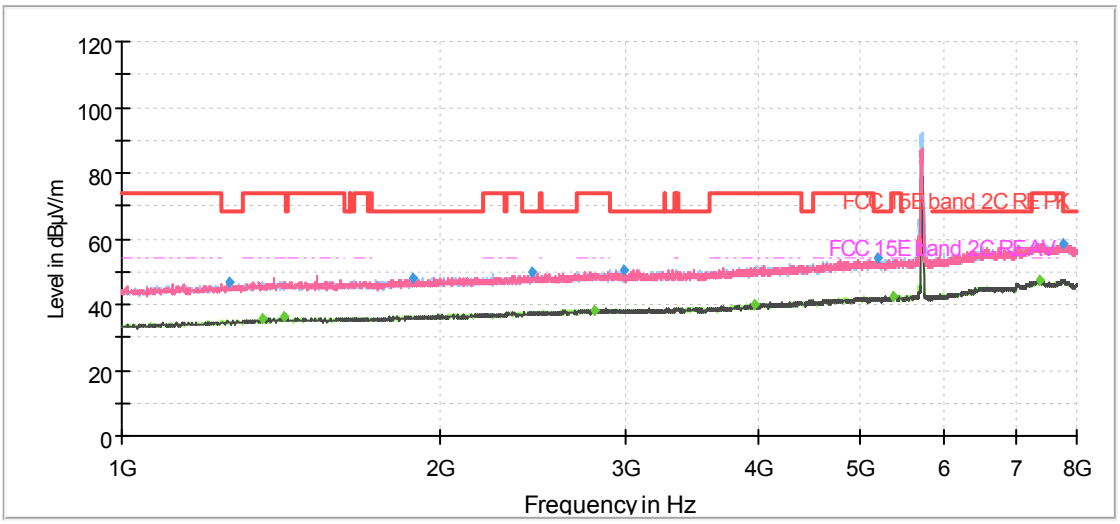
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

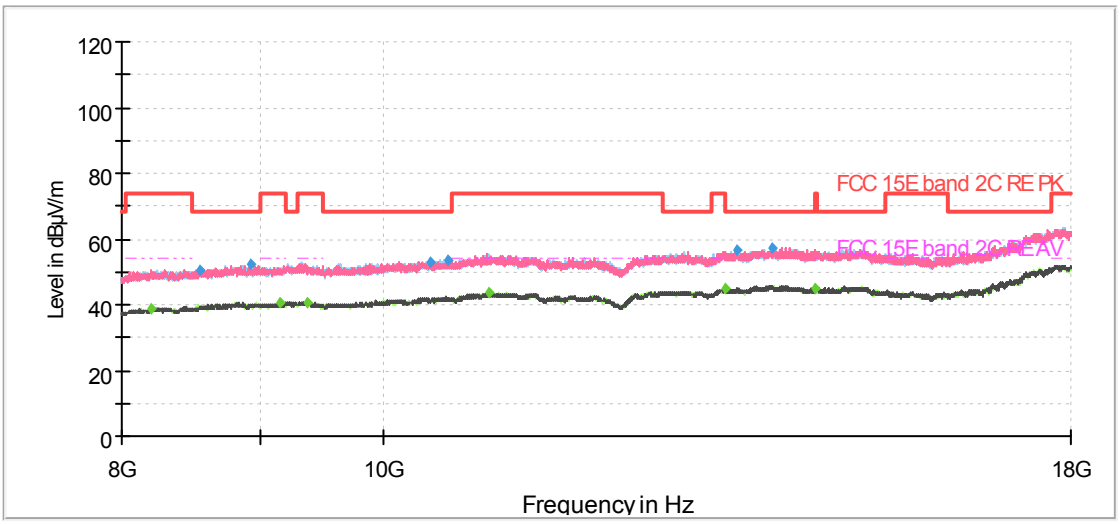
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1279.13	46.65	---	68.20	21.55	100.0	V	358.00	-8
1388.50	---	36.32	54.00	17.68	100.0	V	122.00	-7
1696.50	---	36.21	54.00	17.79	100.0	V	357.00	-6
1987.88	48.13	---	68.20	20.07	200.0	H	306.00	-5
2303.75	50.38	---	68.20	17.82	200.0	H	259.00	-4
2747.38	---	39.12	54.00	14.88	200.0	H	280.00	-4
3148.13	51.16	---	68.20	17.04	100.0	H	40.00	-3
3999.50	---	40.43	54.00	13.57	100.0	H	190.00	-1
4465.00	52.15	---	68.20	16.05	200.0	H	39.00	1
4958.50	---	42.14	54.00	11.86	100.0	V	207.00	3
7364.75	---	47.67	54.00	6.33	200.0	V	252.00	9
7762.88	59.43	---	68.20	8.77	200.0	V	178.00	9

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

802.11n (HT40) CH142



Radiates Emission from 1GHz to 8GHz

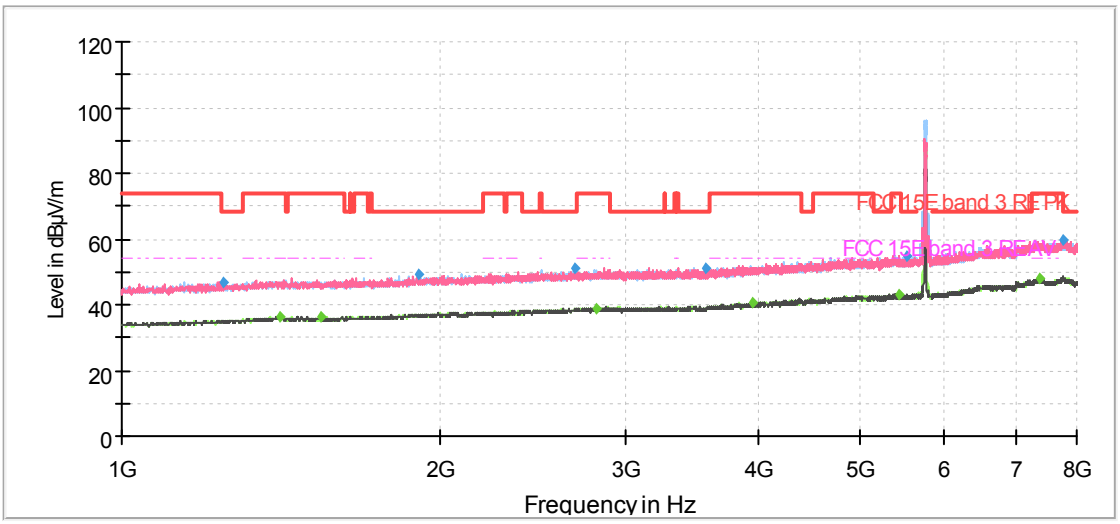


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

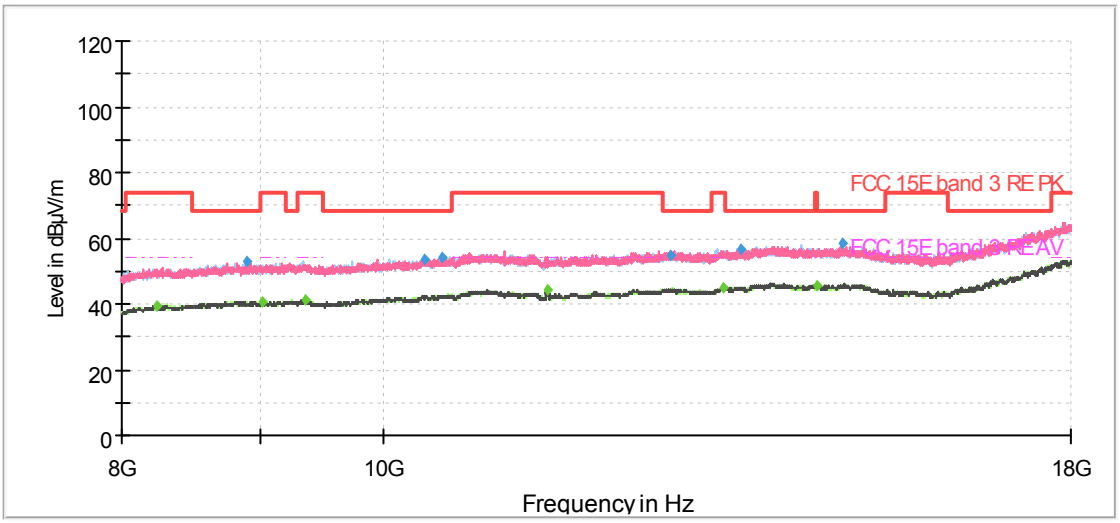
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1262.50	46.90	---	68.20	21.30	200.0	V	288.00	-8
1356.13	---	36.00	54.00	18.00	100.0	H	200.00	-7
1422.63	---	36.07	54.00	17.93	200.0	V	220.00	-7
1883.75	48.06	---	68.20	20.14	100.0	H	323.00	-6
2441.13	49.62	---	68.20	18.58	100.0	V	4.00	-4
2800.75	---	38.45	54.00	15.55	100.0	V	119.00	-3
2986.25	50.62	---	68.20	17.58	200.0	V	227.00	-3
3959.25	---	39.81	54.00	14.19	200.0	V	199.00	-1
5180.75	54.05	---	68.20	14.15	100.0	V	57.00	3
5368.88	---	42.52	54.00	11.48	200.0	V	315.00	4
7377.00	---	47.29	54.00	6.71	200.0	V	165.00	9
7765.50	58.62	---	68.20	9.58	200.0	V	323.00	9

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

802.11n (HT40) CH151



Radiates Emission from 1GHz to 8GHz



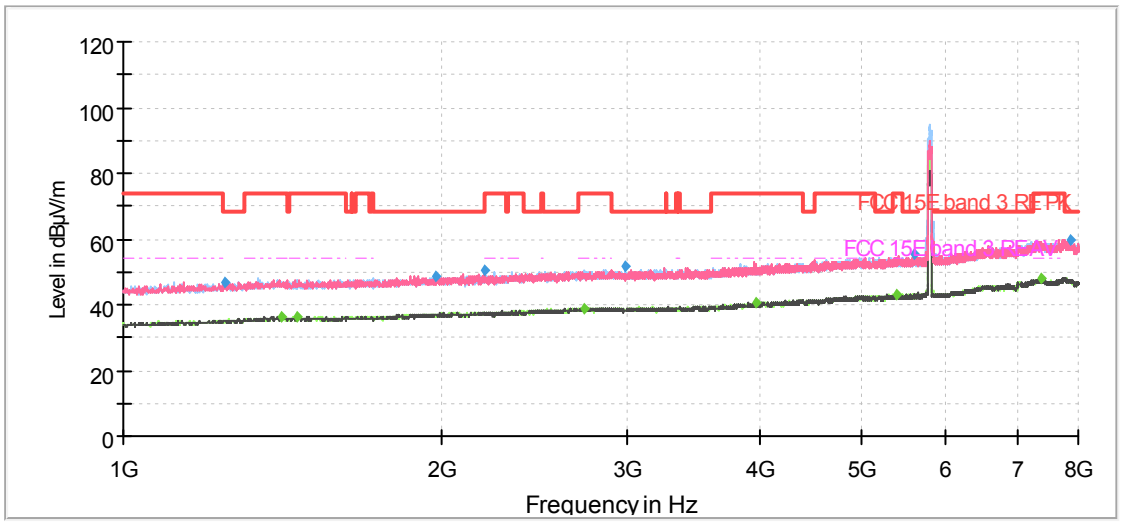
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

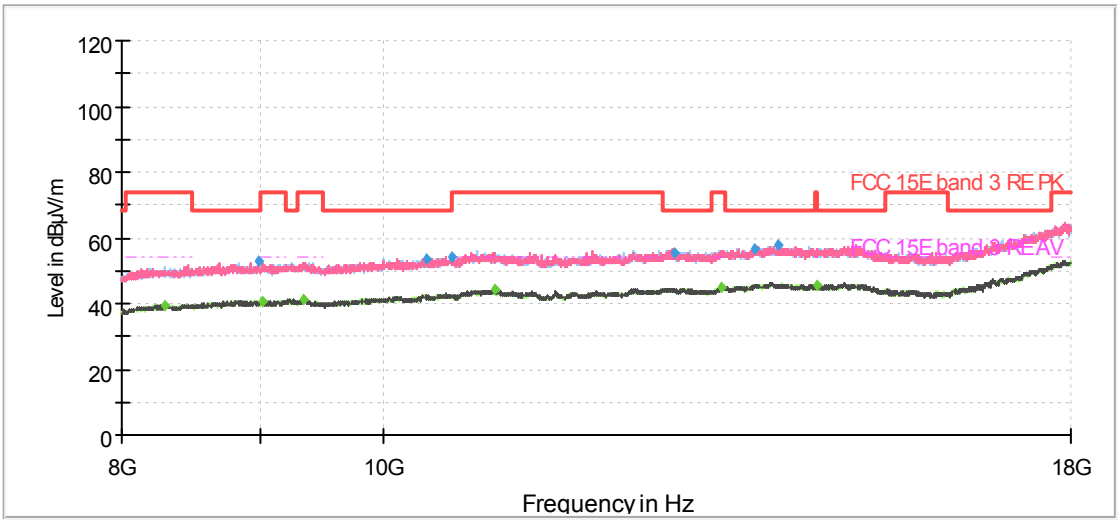
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1248.50	46.69	---	68.20	21.51	100.0	V	324.00	-8
1412.13	---	36.32	54.00	17.68	200.0	H	278.00	-7
1539.88	---	36.52	54.00	17.48	100.0	H	5.00	-6
1912.63	49.18	---	68.20	19.02	200.0	V	117.00	-5
2678.25	50.98	---	68.20	17.22	100.0	V	158.00	-4
2811.25	---	38.98	54.00	15.02	200.0	H	329.00	-3
3560.25	51.33	---	68.20	16.87	100.0	V	282.00	-3
3957.50	---	40.43	54.00	13.57	200.0	V	21.00	-1
5433.63	---	43.13	54.00	10.87	200.0	V	272.00	4
5518.50	54.55	---	68.20	13.65	200.0	H	0.00	4
7377.00	---	47.88	54.00	6.12	200.0	H	176.00	9
7753.25	59.67	---	68.20	8.53	100.0	V	282.00	9

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

802.11n (HT40) CH159



Radiates Emission from 1GHz to 8GHz



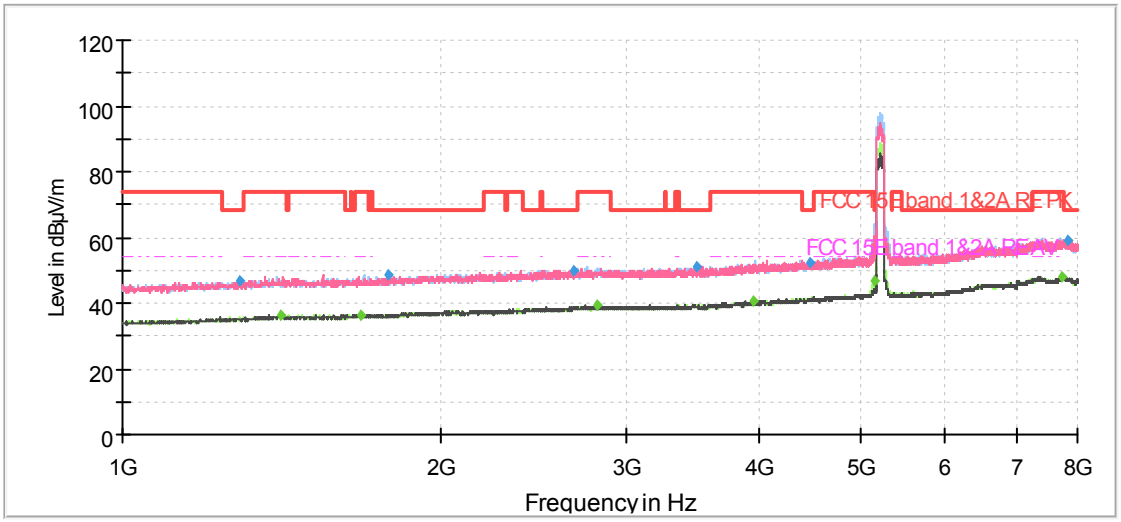
Note: The signal beyond the limit is carrier.

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)
1245.00	46.68	---	68.20	21.52	200.0	H	115.00	-8
1413.00	---	36.36	54.00	17.64	100.0	V	352.00	-7
1460.25	---	36.46	54.00	17.54	100.0	V	183.00	-7
1973.88	48.75	---	68.20	19.45	100.0	H	171.00	-5
2193.50	50.31	---	68.20	17.89	200.0	V	0.00	-5
2731.63	---	39.02	54.00	14.98	100.0	V	278.00	-4
2980.13	51.53	---	68.20	16.67	200.0	H	359.00	-3
3967.13	---	40.66	54.00	13.34	200.0	H	339.00	-1
5389.88	---	42.99	54.00	11.01	100.0	H	314.00	4
5607.75	55.48	---	68.20	12.72	100.0	H	68.00	4
7374.38	---	47.95	54.00	6.05	100.0	H	48.00	9
7860.88	59.92	---	68.20	8.28	200.0	H	272.00	9

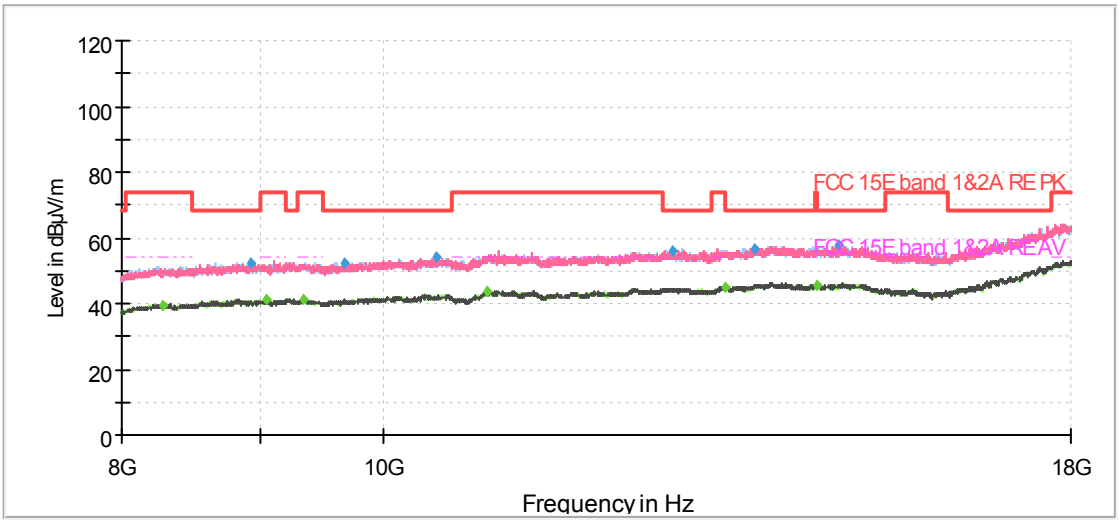
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11ac (VHT80) CH42



R

adiates Emission from 1GHz to 8GHz



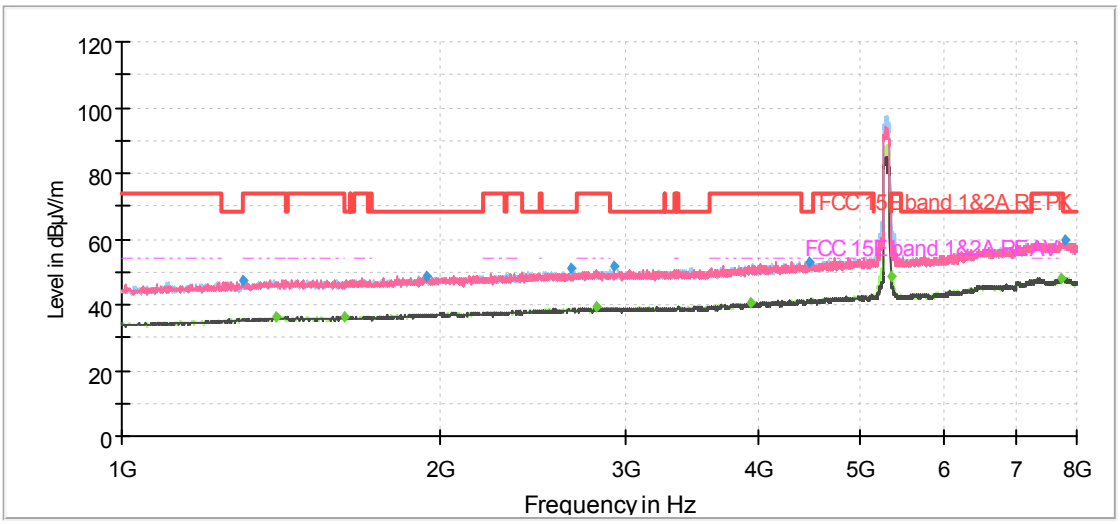
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

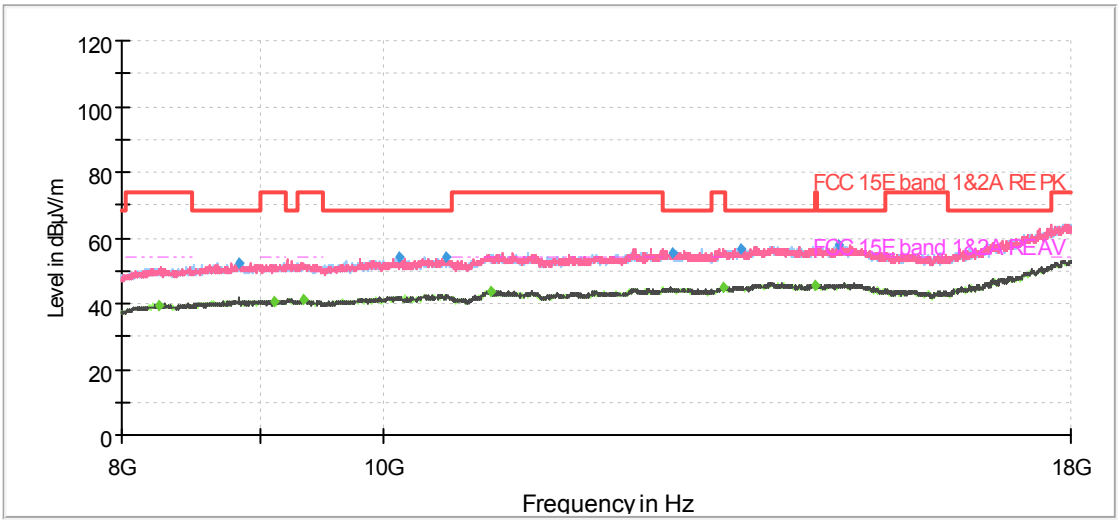
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1292.25	46.89	---	68.20	21.31	200.0	H	287.00	-8
1410.38	---	36.04	54.00	17.96	100.0	V	357.00	-7
1681.63	---	36.33	54.00	17.67	100.0	V	345.00	-6
1781.38	48.63	---	68.20	19.57	100.0	H	183.00	-6
2671.25	50.11	---	68.20	18.09	200.0	H	357.00	-4
2810.38	---	39.17	54.00	14.83	200.0	H	265.00	-3
3491.13	51.09	---	68.20	17.11	200.0	V	98.00	-3
3950.50	---	40.49	54.00	13.51	100.0	V	357.00	-1
4458.88	52.60	---	68.20	15.60	100.0	V	314.00	1
5145.75	---	46.81	54.00	7.19	100.0	H	5.00	3
7744.50	---	48.05	54.00	5.95	100.0	V	237.00	9
7839.88	59.23	---	68.20	8.97	200.0	V	10.00	9

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

802.11ac (VHT80) CH58



Radiates Emission from 1GHz to 8GHz



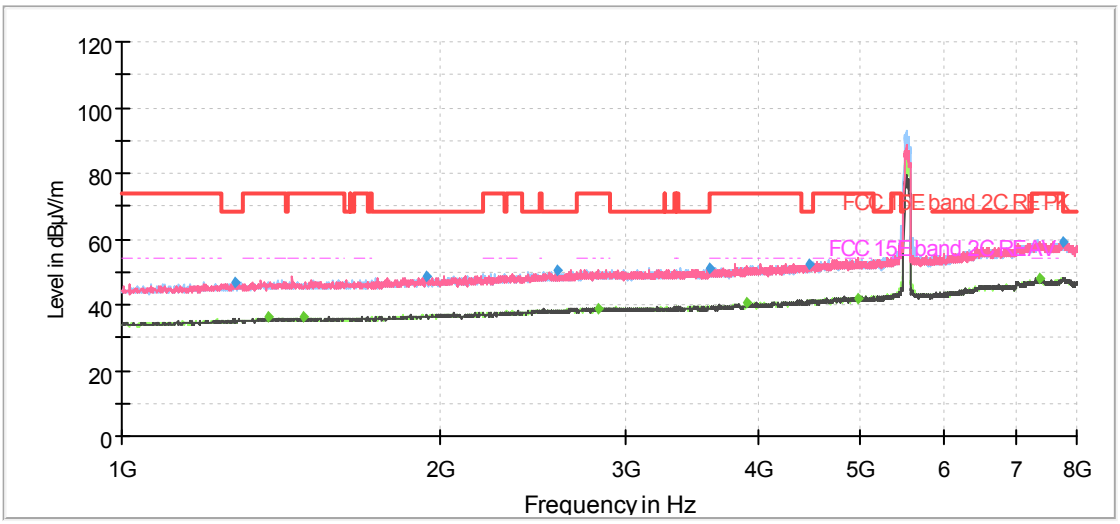
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

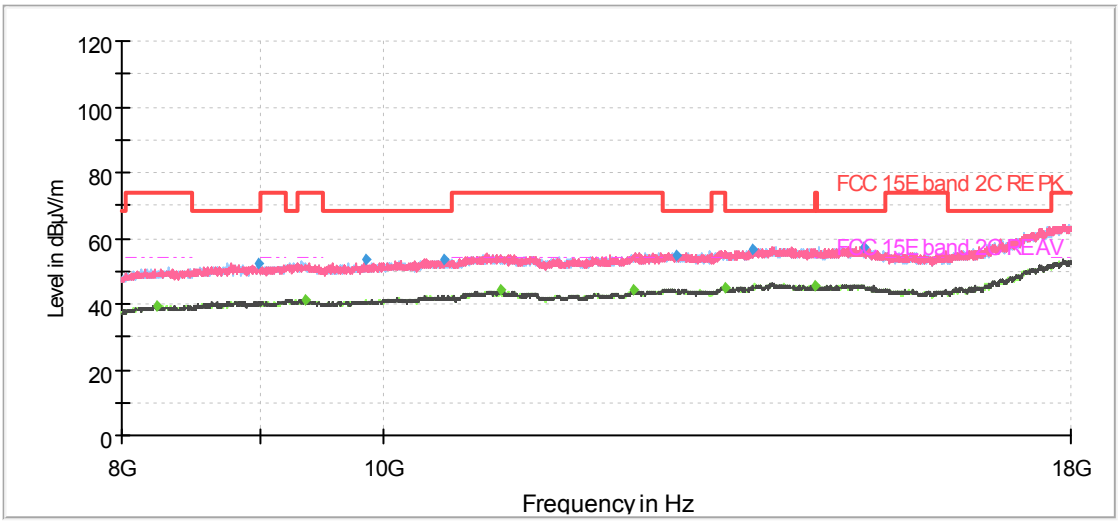
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1299.25	47.23	---	68.20	20.97	200.0	H	160.00	-7
1401.63	---	36.33	54.00	17.67	200.0	V	78.00	-7
1624.75	---	36.39	54.00	17.61	200.0	H	125.00	-6
1944.13	48.71	---	68.20	19.49	200.0	V	204.00	-5
2659.88	50.81	---	68.20	17.39	100.0	H	129.00	-4
2811.25	---	39.12	54.00	14.88	200.0	V	2.00	-3
2918.00	51.60	---	68.20	16.60	100.0	V	248.00	-3
3936.50	---	40.48	54.00	13.52	200.0	V	0.00	-1
4470.25	53.16	---	68.20	15.04	100.0	H	122.00	1
5350.50	---	48.84	54.00	5.16	100.0	H	13.00	4
7736.63	---	47.95	54.00	6.05	200.0	H	215.00	9
7792.63	59.47	---	68.20	8.73	200.0	V	3.00	9

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

802.11ac (VHT80) CH106



Radiates Emission from 1GHz to 8GHz

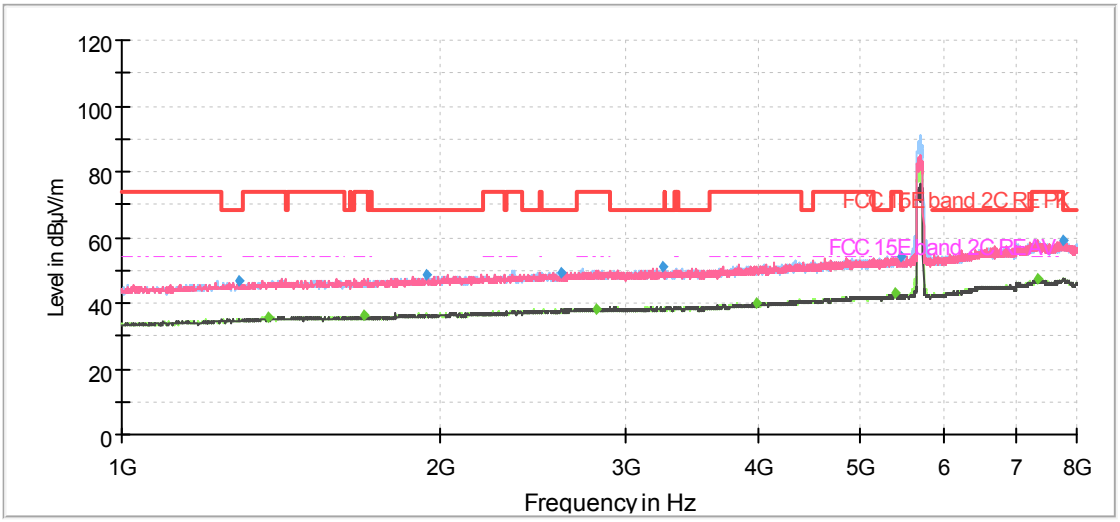


Note: The signal beyond the limit is carrier.
Radiates Emission from 8GHz to 18GHz

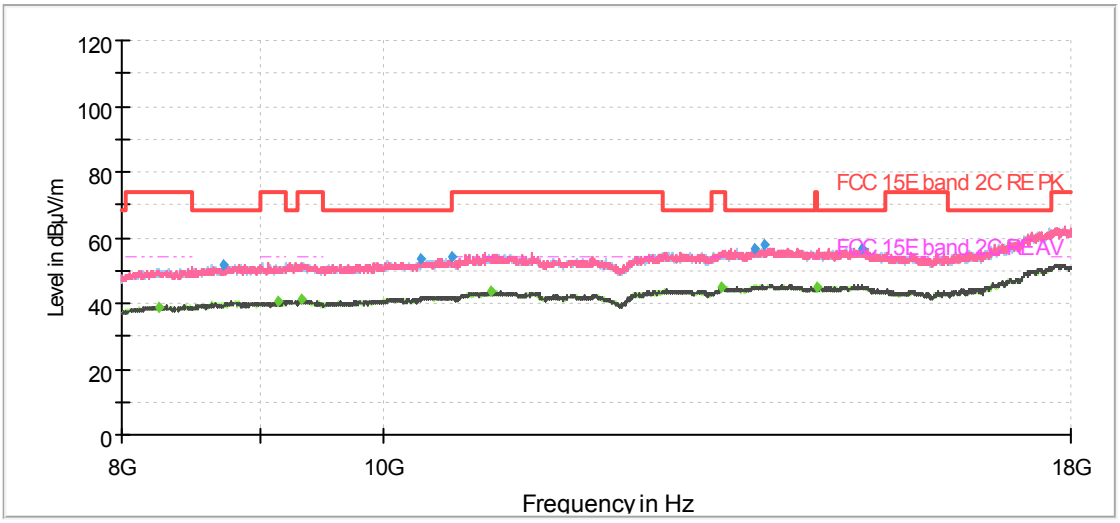
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1278.25	46.81	---	68.20	21.39	100.0	V	211.00	-8
1378.00	---	36.04	54.00	17.96	200.0	V	205.00	-7
1488.25	---	36.28	54.00	17.72	100.0	H	294.00	-7
1940.63	48.55	---	68.20	19.65	100.0	H	47.00	-5
2577.63	50.30	---	68.20	17.90	100.0	V	75.00	-4
2819.13	---	39.02	54.00	14.98	200.0	V	148.00	-3
3598.75	51.03	---	68.20	17.17	200.0	H	244.00	-2
3905.88	---	40.60	54.00	13.40	100.0	V	355.00	-1
4459.75	52.22	---	68.20	15.98	200.0	V	88.00	1
4958.50	---	42.09	54.00	11.91	200.0	H	278.00	3
7373.50	---	47.80	54.00	6.20	100.0	V	352.00	9
7780.38	59.32	---	68.20	8.88	100.0	H	253.00	9

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

802.11ac (VHT80) CH138



Radiates Emission from 1GHz to 8GHz



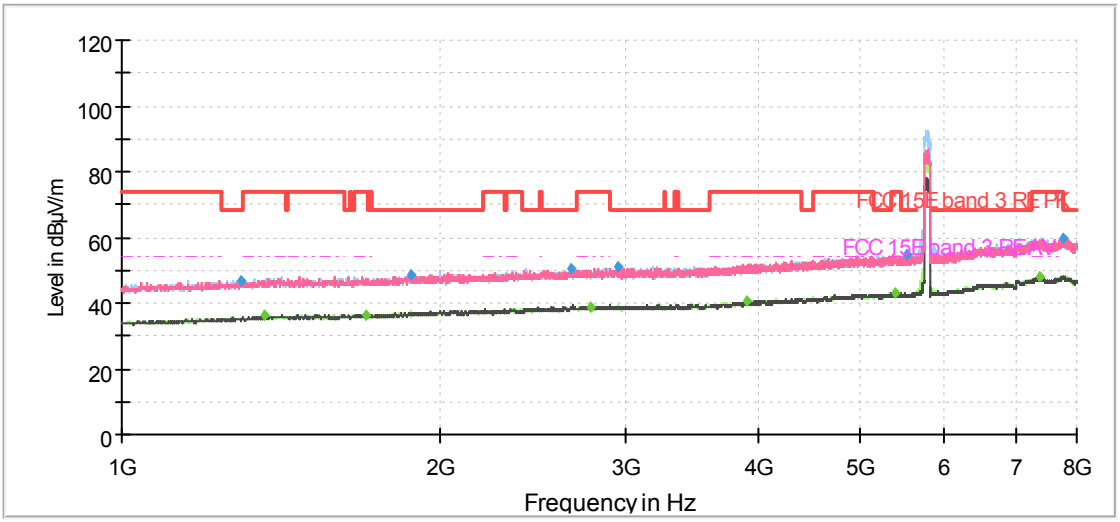
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

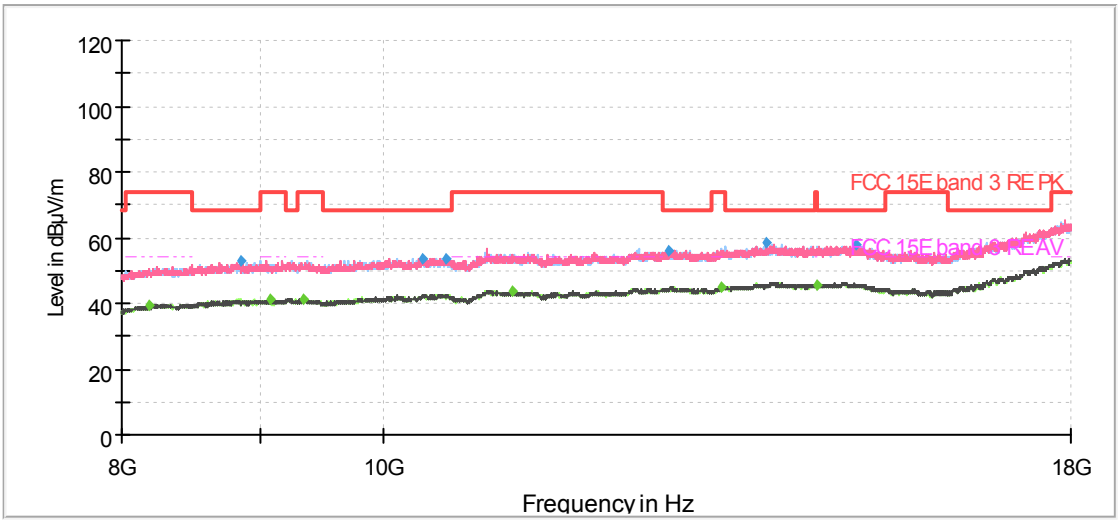
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1289.63	46.50	---	68.20	21.70	200.0	V	266.00	-8
1376.25	---	35.75	54.00	18.25	100.0	H	335.00	-7
1693.88	---	36.14	54.00	17.86	100.0	V	224.00	-6
1938.88	48.45	---	68.20	19.75	100.0	H	77.00	-5
2600.38	49.32	---	68.20	18.88	200.0	H	0.00	-4
2811.25	---	38.33	54.00	15.67	100.0	V	177.00	-3
3245.25	50.80	---	68.20	17.40	200.0	H	0.00	-3
3983.75	---	40.22	54.00	13.78	200.0	H	93.00	-1
5392.50	---	42.92	54.00	11.08	200.0	V	346.00	4
5464.25	54.04	---	68.20	14.16	200.0	H	189.00	4
7346.38	---	47.37	54.00	6.63	200.0	V	346.00	9
7776.00	58.78	---	68.20	9.42	100.0	V	20.00	9

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

802.11ac (VHT80) CH155



Radiates Emission from 1GHz to 8GHz



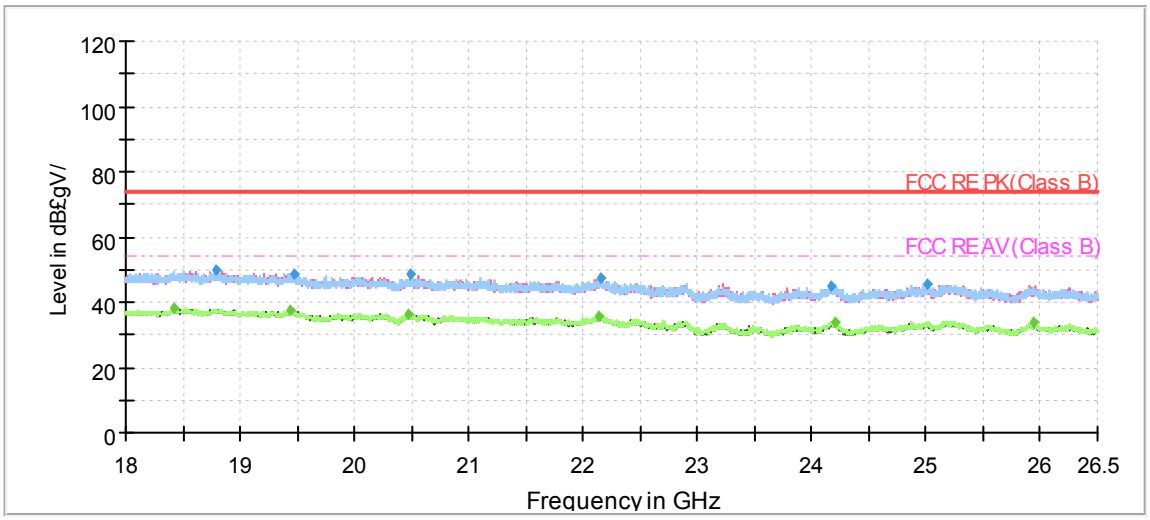
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

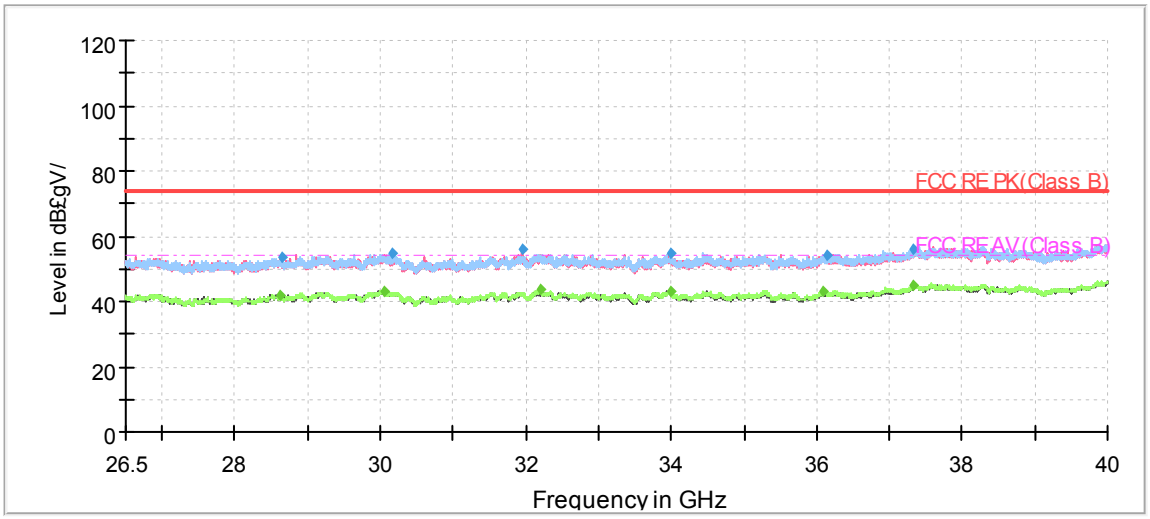
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1297.50	46.83	---	68.20	21.37	100.0	V	350.00	-7
1361.38	---	36.07	54.00	17.93	200.0	V	216.00	-7
1703.50	---	36.45	54.00	17.55	200.0	H	325.00	-6
1877.63	48.52	---	68.20	19.68	100.0	V	0.00	-6
2655.50	50.23	---	68.20	17.97	200.0	V	31.00	-4
2780.63	---	39.06	54.00	14.94	200.0	H	292.00	-3
2945.13	51.25	---	68.20	16.95	200.0	V	127.00	-3
3903.25	---	40.53	54.00	13.47	200.0	V	38.00	-1
5391.63	---	43.11	54.00	10.89	200.0	V	299.00	4
5522.00	54.53	---	68.20	13.67	100.0	H	77.00	4
7363.88	---	48.28	54.00	5.72	100.0	H	0.00	9
7752.38	59.54	---	68.20	8.66	100.0	H	30.00	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, 802.11ac (VHT80), Channel 58 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.



Radiates Emission from 18GHz to 26.5GHz



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)
18419.69	---	38.05	54.00	15.95	200.0	V	211.00	-2
18789.44	50.01	---	74.00	23.99	200.0	H	12.00	-2
19437.56	---	37.30	54.00	16.70	200.0	H	312.00	-1
19471.56	48.55	---	74.00	25.45	200.0	V	99.00	-1
20478.81	---	36.13	54.00	17.87	200.0	V	191.00	0
20493.69	48.47	---	74.00	25.53	200.0	V	281.00	0
22136.31	---	35.84	54.00	18.16	200.0	H	202.00	1
22159.69	47.36	---	74.00	26.64	200.0	H	226.00	1
24164.63	45.19	---	74.00	28.81	200.0	H	17.00	2
24198.63	---	33.80	54.00	20.20	200.0	H	212.00	2
25004.00	45.74	---	74.00	28.26	200.0	H	52.00	3
25939.00	---	34.09	54.00	19.91	200.0	H	143.00	3

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

5.6. Conducted Emission

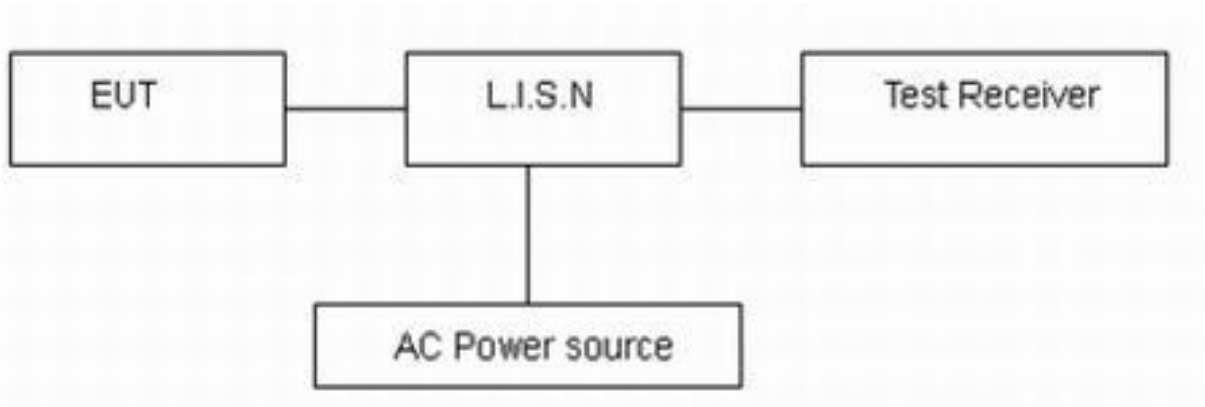
Ambient condition

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

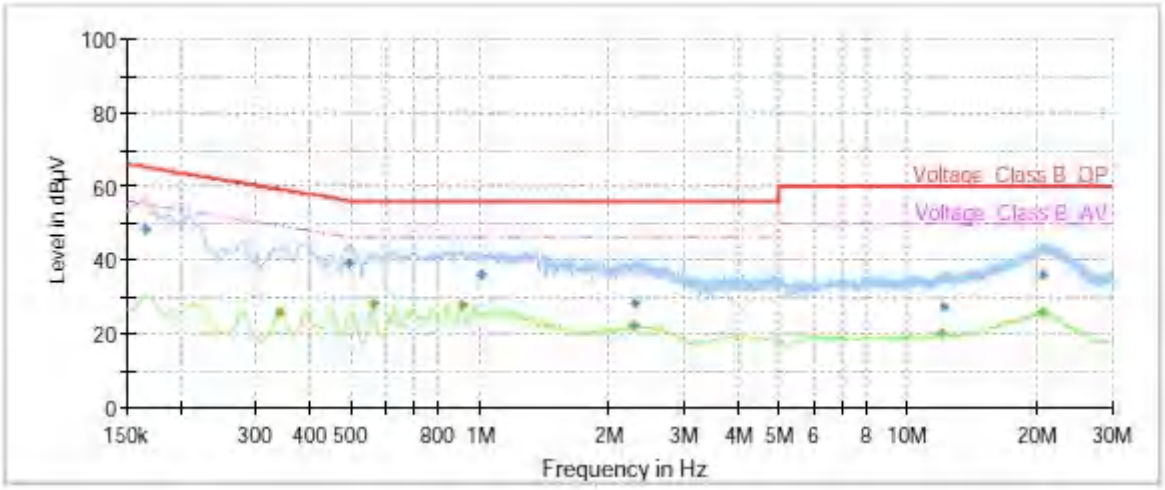
Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46*
0.5 - 5	56	46
5 - 30	60	50
*: Decreases with the logarithm of the frequency.		

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:

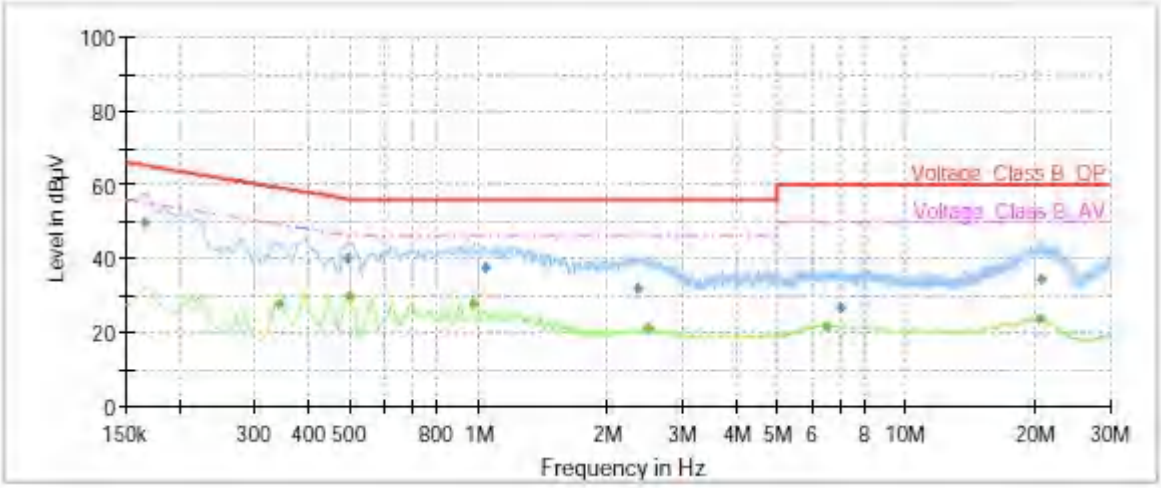
Following plots, Blue trace uses the peak detection and Green trace uses the average detection. During the test, the Conducted Emission was performed in all modes with all channels, 802.11ac (VHT80), Channel 58 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.17	48.32	---	65.17	16.85	1000.00	9.000	L1	ON	21
0.34	---	25.43	49.23	23.80	1000.00	9.000	L1	ON	21
0.49	39.02	---	56.13	17.11	1000.00	9.000	L1	ON	20
0.56	---	28.01	46.00	17.99	1000.00	9.000	L1	ON	20
0.91	---	27.62	46.00	18.38	1000.00	9.000	L1	ON	20
1.01	36.08	---	56.00	19.92	1000.00	9.000	L1	ON	20
2.27	---	21.81	46.00	24.19	1000.00	9.000	L1	ON	19
2.31	28.12	---	56.00	27.88	1000.00	9.000	L1	ON	19
12.02	---	19.83	50.00	30.17	1000.00	9.000	L1	ON	20
12.18	27.16	---	60.00	32.84	1000.00	9.000	L1	ON	20
20.64	---	25.63	50.00	24.37	1000.00	9.000	L1	ON	20
20.66	35.71	---	60.00	24.29	1000.00	9.000	L1	ON	20

Remark: Correct factor=cable loss + LISN factor

L line Conducted Emission from 150 KHz to 30 MHz



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.17	49.71	---	65.17	15.46	1000.00	9.000	N	ON	21
0.34	---	27.53	49.23	21.70	1000.00	9.000	N	ON	21
0.49	40.11	---	56.10	15.99	1000.00	9.000	N	ON	20
0.50	---	29.93	46.02	16.09	1000.00	9.000	N	ON	20
0.97	---	27.81	46.00	18.19	1000.00	9.000	N	ON	20
1.04	37.34	---	56.00	18.66	1000.00	9.000	N	ON	20
2.36	31.66	---	56.00	24.34	1000.00	9.000	N	ON	20
2.47	---	20.94	46.00	25.06	1000.00	9.000	N	ON	19
6.50	---	21.74	50.00	28.26	1000.00	9.000	N	ON	20
7.05	26.84	---	60.00	33.16	1000.00	9.000	N	ON	20
20.39	---	23.83	50.00	26.17	1000.00	9.000	N	ON	20
20.63	34.59	---	60.00	25.41	1000.00	9.000	N	ON	20

Remark: Correct factor=cable loss + LISN factor

N line Conducted Emission from 150 KHz to 30 MHz

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
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
Spectrum Analyzer	KEYSIGHT	N9020A	MY50330351	2022-05-14	2023-05-13
Radiated Emission					
EMI Test Receiver	R&S	ESCI7	100936	2021-12-12	2022-12-11
Signal Analyzer	R&S	FSV40	100816	2021-12-12	2022-12-11
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	391	2019-12-16	2022-12-15
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
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 ********

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.