中认信通
CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)

ACCREDITED
TESTING LABORATORY
CERTIFICATE # 6356.01

TEST REPORT

Applicant: **Grandstream Networks, Inc.**

Address: 126 Brookline Ave., 3rd Floor Boston, MA 02215, USA

FCC ID: **YZZGWN7603**

Product Name: **802.11ac wave-2 Wi-Fi Access Point**

Standard(s): **47 CFR Part 15, Subpart E(15.407)**
ANSI C63.10-2013
KDB 789033 D02 General U-NII Test Procedures New Rules v02r01

The above device has been tested and found compliant with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number: **CR231167508-00B**

Date Of Issue: **2024/1/29**

Reviewed By: **Calvin Chen**

Title: RF Engineer

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Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

Declarations

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	CR231167508-00B	Original Report	2024/1/29

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	802.11ac wave-2 Wi-Fi Access Point
EUT Model:	GWN7603
Trade Name:	GRANDSTREAM
Operation Frequency:	5180-5240 MHz (802.11a/n ht20/ac vht20) 5190-5230 MHz(802.11n ht40/ac vht40) 5210 MHz(802.11ac vht80) 5260-5320 MHz (802.11a/n ht20/ac vht20) 5270-5310 MHz(802.11n ht40/ac vht40) 5290 MHz(802.11ac vht80) 5500-5700 MHz (802.11a/n ht20/ac vht20) 5510-5670 MHz(802.11n ht40/ac vht40) 5530-5610 MHz(802.11ac vht80) 5745-5825 MHz (802.11a/n ht20/ac vht20) 5755-5795 MHz(802.11n ht40/ac vht40) 5775 MHz(802.11ac vht80)
Maximum Average Conducted Output Power:	20.23 dBm (5150-5250 MHz) 20.18 dBm (5250-5350 MHz) 19.87 dBm (5470-5725 MHz) 19.57 dBm (5725-5850 MHz)
Modulation Type:	802.11a/n/ac:OFDM-BPSK, QPSK, 16QAM, 64QAM,256QAM
Rated Input Voltage:	DC 44-57V from PoE or DC 12V, 2A from adapter
Serial Number:	RE/CE: 2DPM-1 RF: 2DPM-2
EUT Received Date:	2023/11/15
EUT Received Status:	Good

1.1.2 Operation Frequency Detail:

For 802.11a/n ht20/ac vht20:

5150-5250MHz Band		5250-5350 MHz Band		5470-5725 MHz Band		5725-5850MHz Band	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	52	5260	100	5500	149	5745
40	5200	56	5280	104	5520	153	5765
44	5220	60	5300	108	5540	157	5785
48	5240	64	5320	112	5560	161	5805
/	/	/	/	116	5580	165	5825
/	/	/	/	120	5600	/	/
/	/	/	/	124	5620	/	/
/	/	/	/	128	5640	/	/
/	/	/	/	132	5660	/	/
/	/	/	/	136	5680	/	/
/	/	/	/	140	5700	/	/
Per section 15.31(m)/RSS-Gen, the below frequencies were performed the test as below:							
36	5180	52	5260	100	5500	149	5745
40	5200	56	5280	116	5580	157	5785
48	5240	64	5320	140	5700	165	5825

For 802.11n ht40/ac vht40:

5150-5250MHz Band		5250-5350 MHz Band		5470-5725 MHz Band		5725-5850MHz Band	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	54	5270	102	5510	151	5755
46	5230	62	5310	110	5550	159	5795
/	/	/	/	118	5590	/	/
/	/	/	/	126	5630	/	/
/	/	/	/	134	5670	/	/
Per section 15.31(m)/RSS-Gen, the below frequencies were performed the test as below:							
38	5190	54	5270	102	5510	151	5755
46	5230	62	5310	110	5550	159	5795
/	/	/	/	134	5670	/	/

For 802.11ac vht80:

5150-5250MHz Band		5250-5350 MHz Band		5470-5725 MHz Band		5725-5850MHz Band	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	**5210**	**58**	**5290**	**106**	**5530**	**155**	**5775**
/	/	/	/	**122**	**5610**	/	/
Per section 15.31(m), the above in bold frequencies were performed the test.							

1.1.3 Antenna Information Detail▲:

Antenna Chain	Antenna Type	input impedance (Ohm)	Frequency Range (MHz)	Antenna Gain (dBi)
Chain 0	Dipole	50	5150-5850	3.54
Chain 1	Dipole	50	5150-5850	4.55

The Method of §15.203 Compliance:

☒Antenna was permanently attached to the unit.

☐Antenna use a unique type of connector to attach to the EUT.

☐Unit was professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

1.1.4 Accessory Information:

No.

1.2 Description of Test Configuration

1.2.1 EUT Operation Condition:

EUT Operation Mode:	The system was configured for testing in Engineering Mode, which was provided by the manufacturer. According to the test result of Part 15B report, for AC line conducted emission, POE power supply was the worst case select to test; for radiated emission below 1GHz, adapter power supply was the worst case select to test.
Equipment Modifications:	No
EUT Exercise Software:	RTL8852A MP Toolkit.exe
The software was provided by manufacturer. The maximum power was configured as below, that was provided by the manufacturer▲:	

5150-5250 MHz Band:					
Test Modes	**Test Channels**	**Test Frequency (MHz)**	**Data rate**	**Power Level Setting**	
				Chain 0	**Chain 1**
802.11a	Lowest	5180	6Mbps	22	21
	Middle	5200	6Mbps	25	25
	Highest	5240	6Mbps	25	25
802.11ac vht20	Lowest	5180	MCS0	22	22
	Middle	5200	MCS0	25	25
	Highest	5240	MCS0	25	25
802.11ac vht40	Lowest	5190	MCS0	1E	1E
	Highest	5230	MCS0	25	25
802.11ac vht80	Middle	5210	MCS0	17	17
5250-5350 MHz Band:					
Test Modes	**Test Channels**	**Test Frequency (MHz)**	**Data rate**	**Power Level Setting**	
				Chain 0	**Chain 1**
802.11a	Lowest	5260	6Mbps	25	25
	Middle	5280	6Mbps	25	25
	Highest	5320	6Mbps	1F	22
802.11ac vht20	Lowest	5260	MCS0	25	25
	Middle	5280	MCS0	25	25
	Highest	5320	MCS0	1F	1F
802.11ac vht40	Lowest	5270	MCS0	25	25
	Highest	5310	MCS0	1B	1B
802.11ac vht80	Middle	5290	MCS0	16	16

5470-5725 MHz Band:					
Test Modes	**Test Channels**	**Test Frequency (MHz)**	**Data rate**	**Power Level Setting**	
				Chain 0	**Chain 1**
802.11a	Lowest	5500	6Mbps	18	17
	Middle	5580	6Mbps	25	25
	Highest	5700	6Mbps	18	17
802.11ac vht20	Lowest	5500	MCS0	19	19
	Middle	5580	MCS0	25	25
	Highest	5700	MCS0	18	18
802.11ac vht40	Lowest	5510	MCS0	13	13
	Middle	5550	MCS0	1D	1D
	Highest	5670	MCS0	1D	1D
802.11ac vht80	Lowest	5530	MCS0	12	12
	Highest	5610	MCS0	1F	1F
5725-5850 MHz Band:					
Test Modes	**Test Channels**	**Test Frequency (MHz)**	**Data rate**	**Power Level Setting**	
				Chain 0	**Chain 1**
802.11a	Lowest	5745	6Mbps	25	25
	Middle	5785	6Mbps	25	25
	Highest	5825	6Mbps	25	25
802.11ac vht20	Lowest	5745	MCS0	25	25
	Middle	5785	MCS0	25	25
	Highest	5825	MCS0	25	25
802.11ac vht40	Lowest	5755	MCS0	25	25
	Highest	5795	MCS0	25	25
802.11ac vht80	Middle	5775	MCS0	1E	1E

Note:
1. The above are the worst-case data rates, which are determined for each mode based upon investigations by measuring the average power and PSD across all data rates, bandwidths, and modulations.
2. The EUT can support the 802.11a/n ht20/n ht40/ac vht20/ac vht40/acvht80 modes, the 802.11n ht20/n ht40 were reduced since the identical parameters with 802.11ac vht20/ac vht40.
3. The device supports SISO in all modes, and MIMO 2T2R in 802.11n/ac modes, per pretest, 2T2R mode was the worst mode and reported for 802.11n/ac modes.
4. The device support Beamforming and non-beamforming mode for MIMO, per pretest, Beamforming mode was the worst mode and reported for MIMO.

1.2.2 Support Equipment List and Details

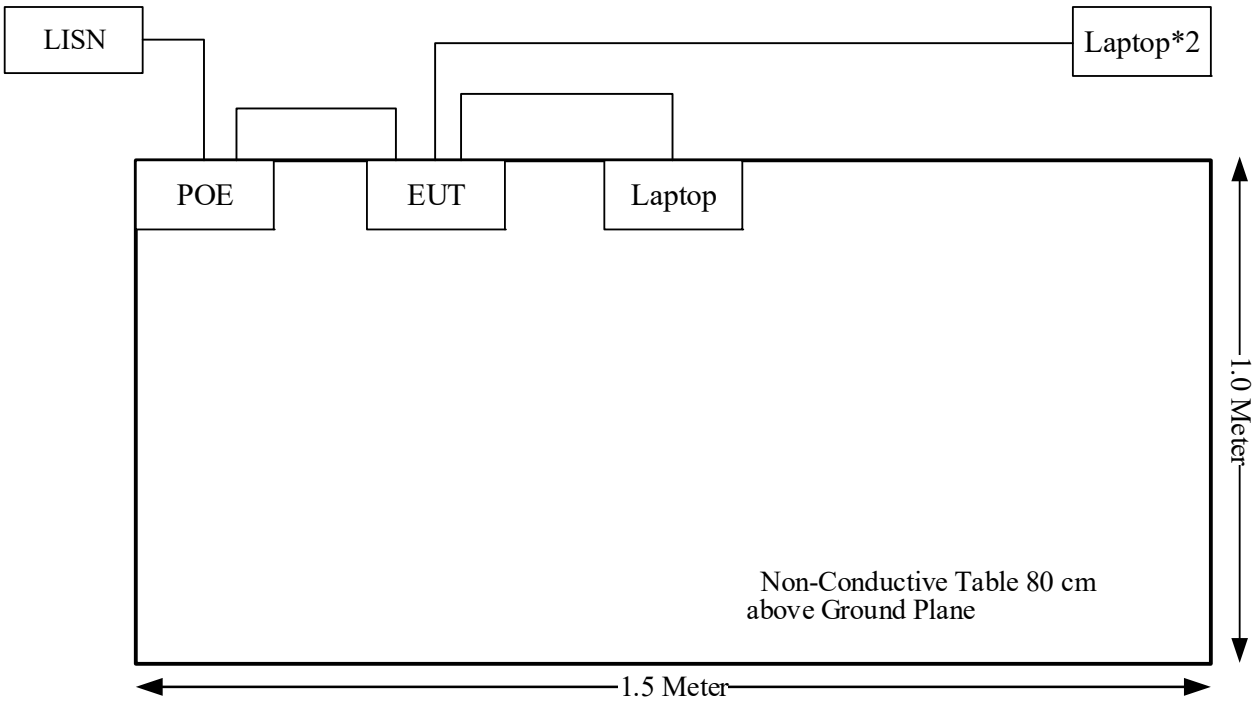
Manufacturer	Description	Model	Serial Number
MASS POWER	Adapter	NBS24J120200HU	N/A
Lenovo	Laptop	T460S	60PDTEK7
Lenovo	Laptop	T460S	60PDTEK8
DELL	Laptop	E6410	GYXJ3 A00 JSD2
Tenda	Wireless Router	RX12 Pro	ED331010215000033
Huawei	Wireless Router	HG8245Q2	HG8245-001
DIGITAL	POE	G0720-480-050	3TV4E338182

1.2.3 Support Cable List and Details

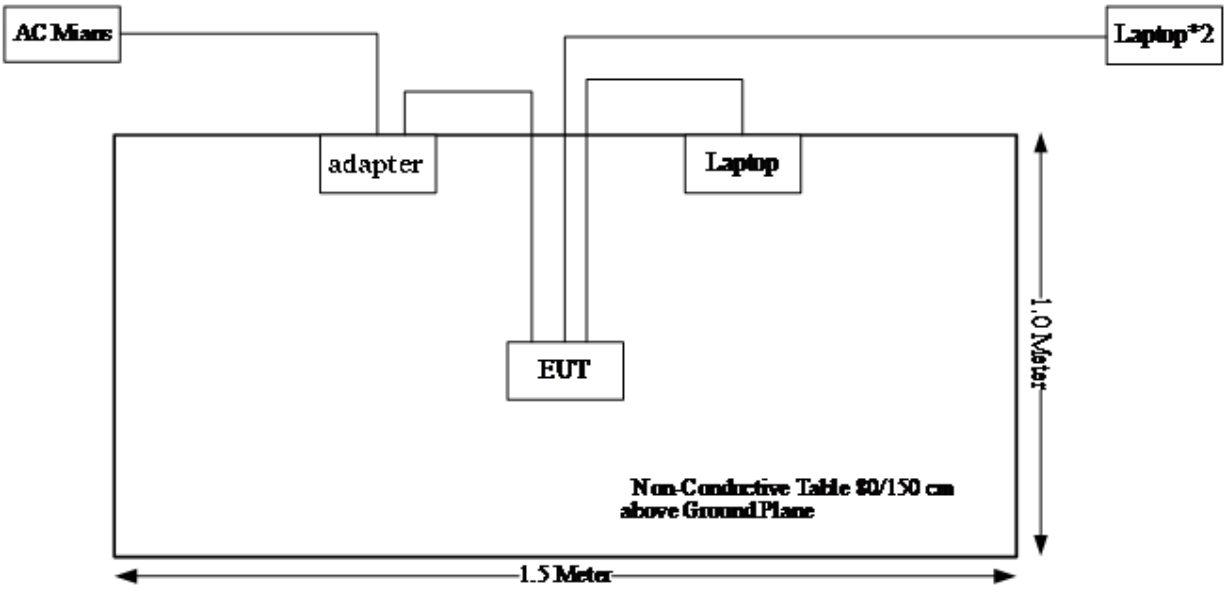
Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
RJ45 cable	NO	NO	2	EUT	Laptop
RJ45 cable*2	NO	NO	10	EUT	Laptop
AC cable	NO	NO	1.2	POE	LISN/AC Mains
DC cable	NO	NO	1.2	EUT	Adapter
RJ45 cable	NO	NO	0.5	EUT	POE

1.2.4 Block Diagram of Test Setup

AC line conducted emissions:



Spurious Emissions:



1.3 Measurement Uncertainty

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Power Spectral Density, conducted	±0.61 dB
Unwanted Emissions, radiated	9k~30MHz:4.12dB,30M~200MHz: 4.15 dB,200M~1GHz: 5.61 dB,1G~6GHz: 5.14 dB, 6G~18GHz: 5.93 dB,18G~26.5G:5.47 dB,26.5G~40G:5.63 dB
Unwanted Emissions, conducted	±1.26 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	2.8 dB (150 kHz to 30 MHz)

2. SUMMARY OF TEST RESULTS

Standard(s) Section	Test Items	Result
§15.207(a)	AC line conducted emissions	Compliant
FCC§15.205& §15.209 &§15.407(b)	Undesirable Emission& Restricted Bands	Compliant
FCC§15.407(a) (e)	Emission Bandwidth	Compliant
FCC§15.407(a)	Maximum Conducted Output Power	Compliant
FCC§15.407 (a)	Power Spectral Density	Compliant
§15.203	Antenna Requirement	Compliant
FCC §2.1091	Maximum Permissible exposure	Compliant

3. REQUIREMENTS AND TEST PROCEDURES

3.1 AC Line Conducted Emissions

3.1.1 Applicable Standard

FCC§15.207(a).

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

	Conducted limit (dBμV)	
Frequency of emission (MHz)	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.

(b) The limit shown in paragraph (a) of this section shall not apply to carrier current systems operating as intentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

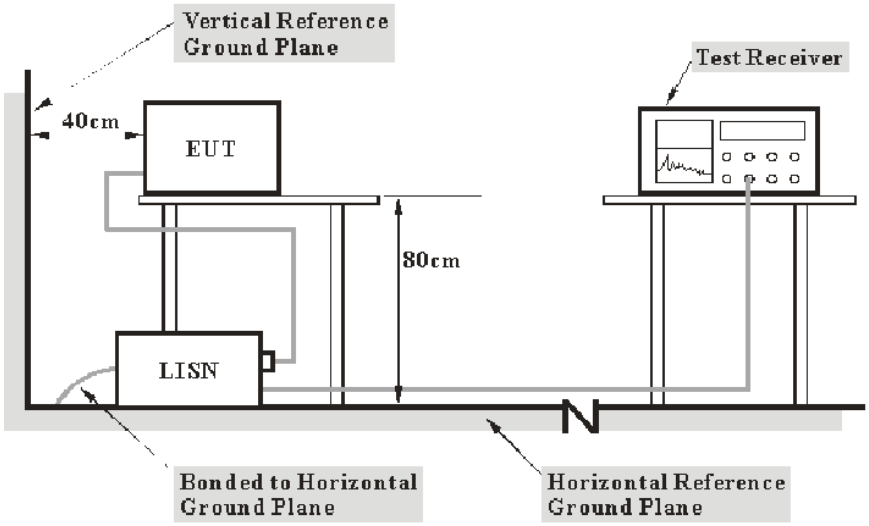
(1) For carrier current system containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 μV within the frequency band 535-1705 kHz, as measured using a 50 μH/50 ohms LISN.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits in §15.205, §15.209, §15.221, §15.223, or §15.227, as appropriate.

(c) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provisions for, the use of battery chargers which permit operating while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtainig their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

3.1.2 EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

The adapter or EUT was connected to the main LISN with a 120 V/60 Hz AC power source.

3.1.3 EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

3.1.4 Test Procedure

The frequency and amplitude of the six highest ac power-line conducted emissions relative to the limit, measured over all the current-carrying conductors of the EUT power cords, and the operating frequency or frequency to which the EUT is tuned (if appropriate), should be reported, unless such emissions are more than 20 dB below the limit. AC power-line conducted emissions measurements are to be separately carried out only on each of the phase ("hot") line(s) and (if used) on the neutral line(s), but not on the ground [protective earth] line(s). If less than six emission frequencies are within 20 dB of the limit, then the noise level of the measuring instrument at representative frequencies should be reported. The specific conductor of the power-line cord for each of the reported emissions should be identified. Measure the six highest emissions with respect to the limit on each current-carrying conductor of each power cord associated with the EUT (but not the power cords of associated or peripheral equipment that are part of the test configuration). Then, report the six highest emissions with respect to the limit from among all the measurements identifying the frequency and specific current-carrying conductor identified with the

emission. The six highest emissions should be reported for each of the current-carrying conductors, or the six highest emissions may be reported over all the current-carrying conductors.

3.1.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor
Factor=attenuation caused by cable loss + voltage division factor of AMN

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

3.2 Radiation Spurious Emissions

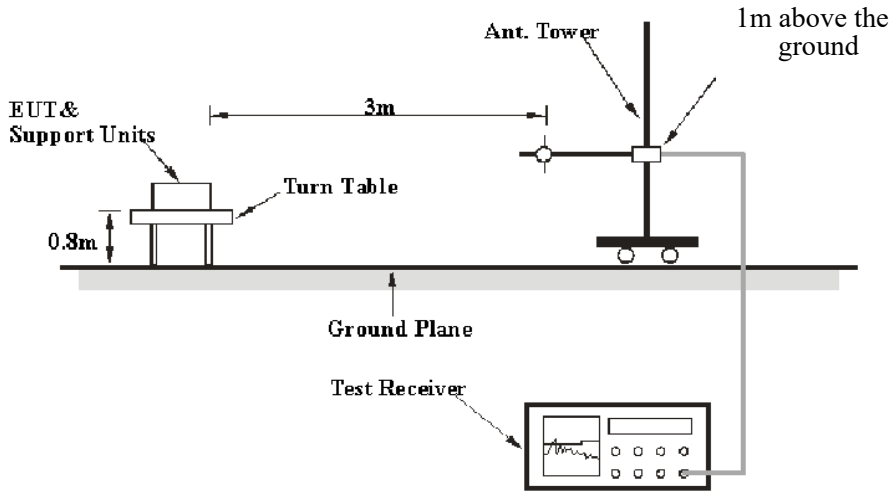
3.2.1 Applicable Standard

FCC §15.407 (b);

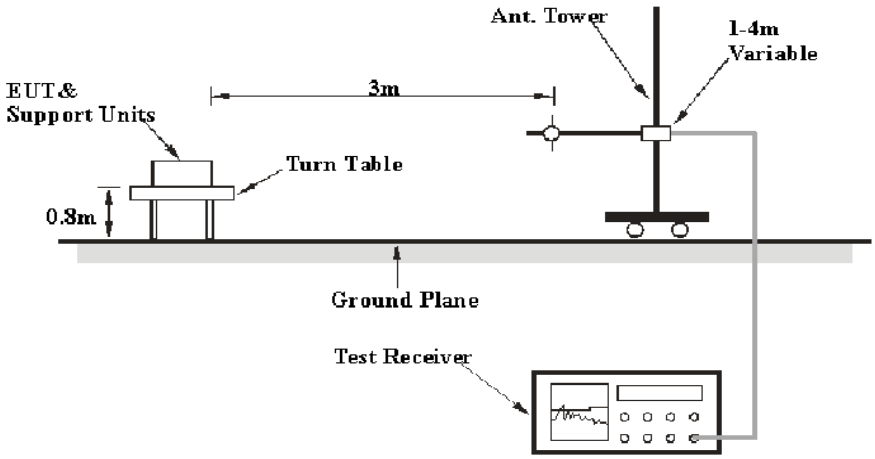
Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
(2) 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.
(3) 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.
(4) For transmitters operating solely in the 5.725-5.850 GHz band:
(i) 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.
(ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.
(8) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
(9) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in § 15.207.
(10) The provisions of § 15.205 apply to intentional radiators operating under this section.
(11) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.
(c) The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

3.2.2 EUT Setup

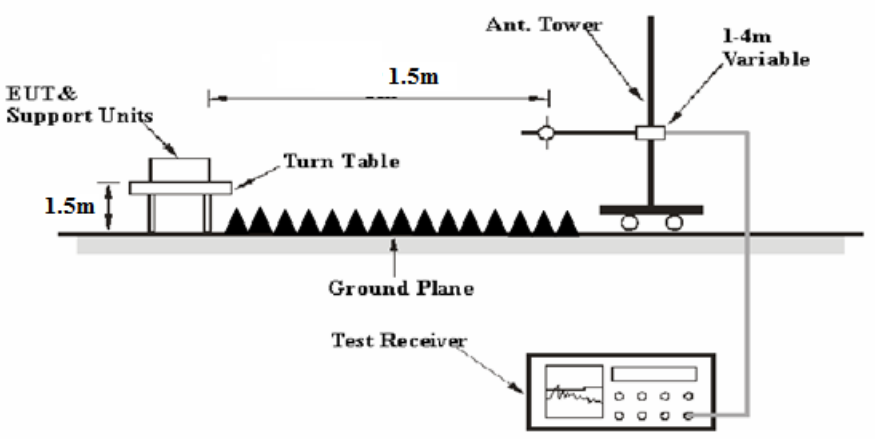
9 kHz-30MHz:



30MHz-1GHz:



1-40 GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was FCC 15.209, FCC 15.407 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle.

The spacing between the peripherals was 10cm.

3.2.3 EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9 kHz to 40 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

9 kHz-1000MHz:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
9 kHz – 150 kHz	/	/	200 Hz	QP
	300 Hz	1 kHz	/	PK
150 kHz – 30 MHz	/	/	9 kHz	QP
	10 kHz	30 kHz	/	PK
30 MHz – 1000 MHz	/	/	120 kHz	QP
	100 kHz	300 kHz	/	PK

1GHz- 40GHz:

Measurement	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3 MHz
AV	>98%	1MHz	10 Hz
	<98%	1MHz	1/T

Note: T is minimum transmission duration

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

3.2.4 Test Procedure

During the radiated emission test, the adapter was connected to the first AC floor outlet.

Data was recorded in Quasi-peak detection mode for frequency range of 9 kHz-1GHz, peak and Average detection modes for frequencies above 1GHz.

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, emission shall be computed as: E [dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters.

According to C63.10, the above 1G test result shall be extrapolated to the specified distance using an extrapolation Factor of 20dB/decade from 3m to 1.5m
Distance extrapolation Factor =20 log (specific distance [3m]/test distance [1.5m]) dB= 6.02 dB

All emissions under the average limit and under the noise floor have not recorded in the report.

3.2.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Factor= Antenna Factor + Cable Loss-Amplifier Gain

For 30MHz-1GHz:
Result = Reading + Factor

For 1GHz-40GHz
Result = Reading + Factor-Distance extrapolation Factor

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

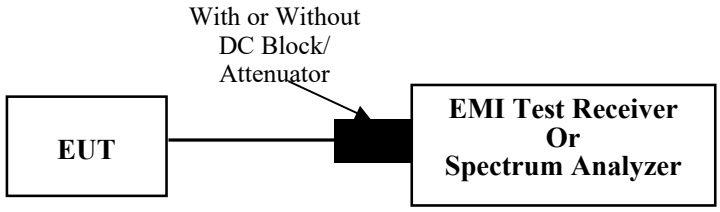
3.3 Emission Bandwidth:

3.3.1 Applicable Standard

FCC §15.407 (a),(h)
(h)(2) Radar Detection Function of Dynamic Frequency Selection (DFS). U-NII devices operating with any part of its 26 dB emission bandwidth in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection mechanism to detect the presence of radar systems and to avoid co-channel operation with radar systems.

FCC §15.407 (e)
Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

3.3.2 EUT Setup



3.3.3 Test Procedure

26dB Emission Bandwidth:

According to ANSI C63.10-2013 Section 12.4.1

a) Set RBW = approximately 1% of the emission bandwidth.
b) Set the VBW > RBW.
c) Detector = peak.
d) Trace mode = max hold
e) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

6 dB emission bandwidth:

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01

a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) 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 in this section. For devices that use channel aggregation refer to III.A and III.C for determining emission bandwidth.

99% Occupied Bandwidth:

According to ANSI C63.10-2013 Section 12.4.2&6.9.3

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.
The following procedure shall be used for measuring 99% power bandwidth:
a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.
c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.
d) Step a) through step c) might require iteration to adjust within the specified range.
e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

3.4 Maximum Conducted Output Power

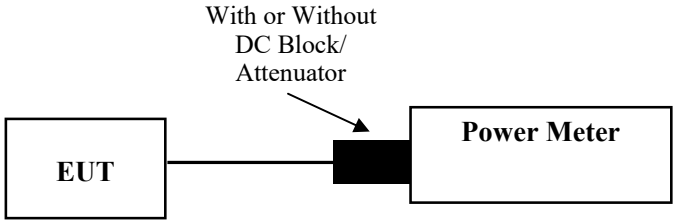
3.4.1 Applicable Standard

FCC §15.407(a) (1)(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.

FCC §15.407(a) (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.

FCC §15.407(a) (3)(i)
For the band 5.725-5.850 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. 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.

3.4.2 EUT Setup



3.4.3 Test Procedure

According to ANSI C63.10-2013 Section 12.3.3.1

Method PM-G is measurement using a gated RF average power meter.
Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Because the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

3.5 Maximum Power Spectral Density

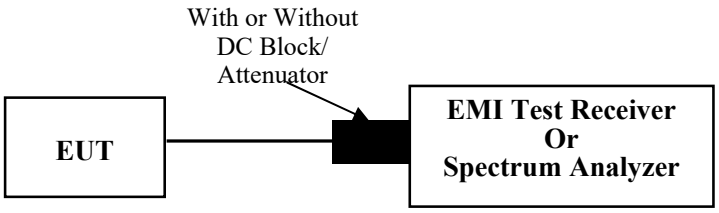
3.5.1 Applicable Standard

FCC §15.407(a) (1)(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.

FCC §15.407(a) (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.

FCC §15.407(a) (3)(i)
For the band 5.725-5.850 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. 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.

3.5.2 EUT Setup



3.5.3 Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01

Duty cycle ≥98%

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-1 should be applied.

Duty cycle <98%, duty cycle variations are less than ±2%

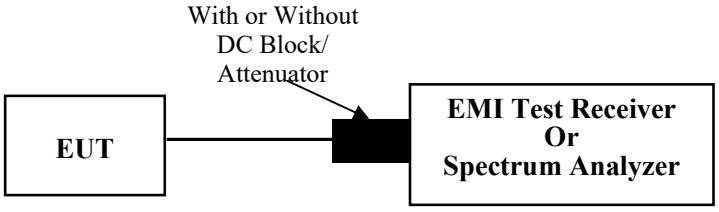
KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-2 should be applied.

Duty cycle <98%, duty cycle variations exceed ±2%

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-3 should be applied.

3.6 Duty Cycle

3.6.1 EUT Setup



3.6.2 Test Procedure

According to ANSI C63.10-2013 Section 12.2

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:
1) Set the center frequency of the instrument to the center frequency of the transmission.
2) Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value.
3) Set VBW ≥ RBW. Set detector = peak or average.
4) The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if T ≤ 16.7 μs.)

3.7 Antenna Requirement

3.7.1 Applicable Standard

FCC §15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §§15.211, 15.213, 15.217, 15.219, 15.221, or §15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

3.7.2 Judgment

Result: Compliant. Please refer to the Antenna Information detail in Section 1.

4. Test DATA AND RESULTS

4.1 AC Line Conducted Emissions

Serial Number:	2DPM-1	Test Date:	2023/12/13
Test Site:	CE	Test Mode:	Transmitting(maximum output power mode 802.11 ac20 5200MHz, MIMO)
Tester:	David Huang	Test Result:	Pass

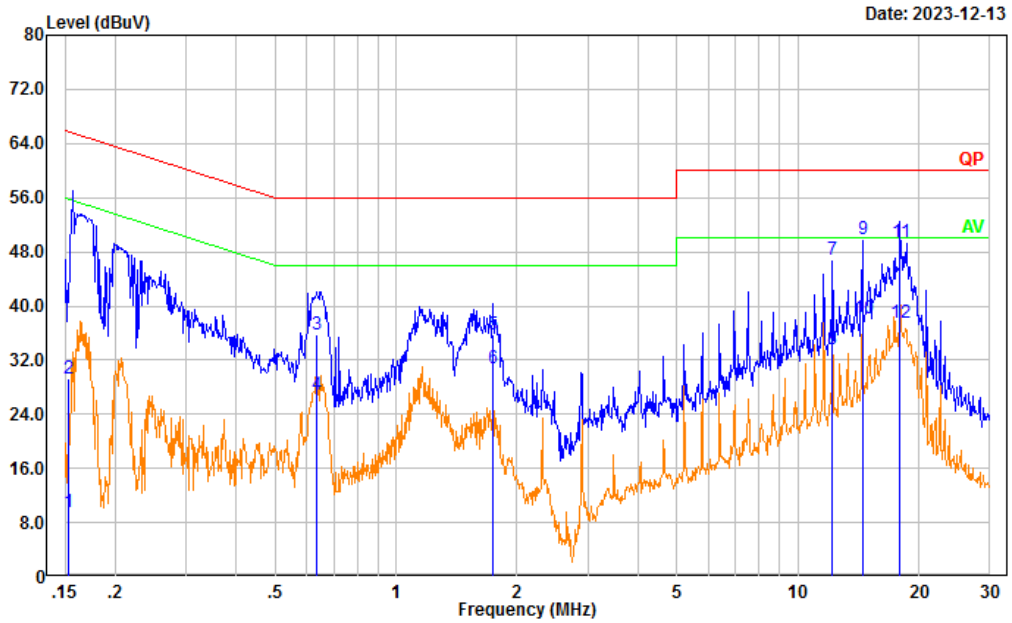
Environmental Conditions:					
Temperature: (℃)	27.5	Relative Humidity: (%)	50	ATM Pressure: (kPa)	100.8

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV216	101134	2023/3/31	2024/3/30
R&S	EMI Test Receiver	ESR3	102726	2023/3/31	2024/3/30
MICRO-COAX	Coaxial Cable	UTIFLEX	C-0200-01	2023/8/6	2024/8/5
Audix	Test Software	E3	190306 (V9)	N/A	N/A

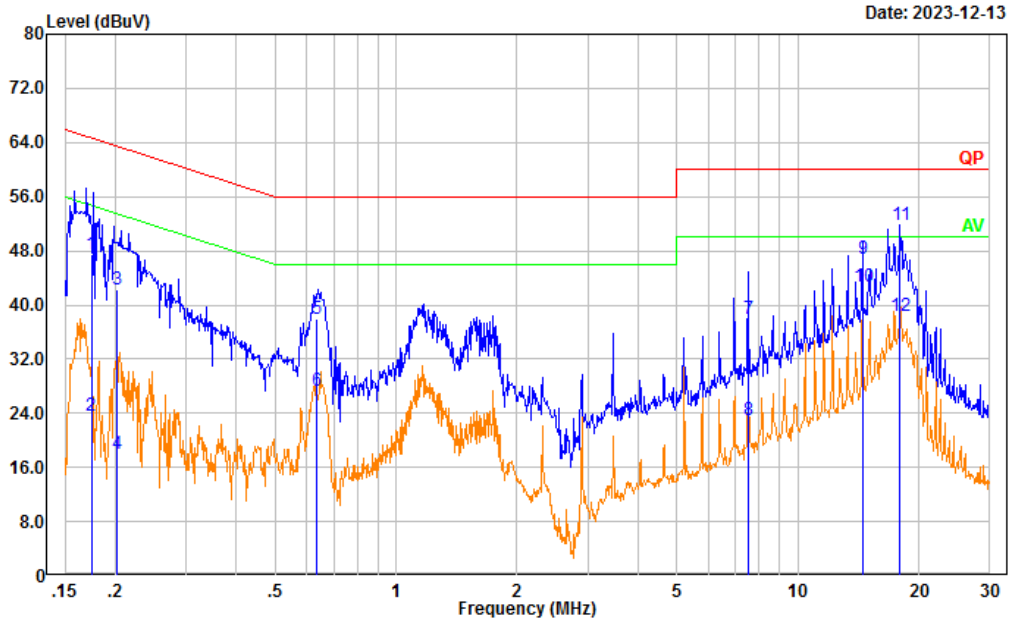
** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Project No.: CR231167508-RF
Tester: David Huang
Port: Line
Note: Transmitting(5G WIFI)



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.153	0.00	9.61	9.61	65.86	56.25	QP
2	0.153	19.60	9.61	29.21	55.86	26.65	Average
3	0.635	26.24	9.62	35.86	56.00	20.14	QP
4	0.635	17.20	9.62	26.82	46.00	19.18	Average
5	1.739	26.25	9.63	35.88	56.00	20.12	QP
6	1.739	21.26	9.63	30.89	46.00	15.11	Average
7	12.143	37.26	9.67	46.93	60.00	13.07	QP
8	12.143	23.86	9.67	33.53	50.00	16.47	Average
9	14.456	40.22	9.68	49.90	60.00	10.10	QP
10	14.456	28.39	9.68	38.07	50.00	11.93	Average
11	17.925	39.67	9.75	49.42	60.00	10.58	QP
12	17.925	27.66	9.75	37.41	50.00	12.59	Average

Project No.: CR231167508-RF
Tester: David Huang
Port: neutral
Note: Transmitting(5G WIFI)



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.174	37.81	9.61	47.42	64.75	17.33	QP
2	0.174	14.13	9.61	23.74	54.75	31.01	Average
3	0.202	32.70	9.61	42.31	63.55	21.24	QP
4	0.202	8.49	9.61	18.10	53.55	35.45	Average
5	0.635	28.38	9.62	38.00	56.00	18.00	QP
6	0.635	17.75	9.62	27.37	46.00	18.63	Average
7	7.520	28.21	9.67	37.88	60.00	22.12	QP
8	7.520	13.30	9.67	22.97	50.00	27.03	Average
9	14.529	37.13	9.69	46.82	60.00	13.18	QP
10	14.529	32.92	9.69	42.61	50.00	7.39	Average
11	17.936	42.11	9.69	51.80	60.00	8.20	QP
12	17.936	28.60	9.69	38.29	50.00	11.71	Average

4.2 Radiation Spurious Emissions

Serial Number:	2DPM-1		Test Date:	Below 1G: 2023/12/27 Above 1G: 2023/12/30	
Test Site:	966-1, 966-2		Test Mode:	Transmitting	
Tester:	Vic Du, Mack Huang,Tao Zhu		Test Result:	Pass	
Environmental Conditions:					
Temperature: (℃)	24.2 ~25.2	Relative Humidity: (%)	44 ~54	ATM Pressure: (kPa)	101.2~101.7

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Below 1G					
Sunol Sciences	Antenna	JB6	A082520-6	2023/9/18	2026/9/17
BACL	Loop Antenna	1313-1P	3092721	2023/10/20	2026/10/19
R&S	EMI Test Receiver	ESR3	102724	2023/3/31	2024/3/30
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2023/7/16	2024/7/15
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2023/7/16	2024/7/15
Sonoma	Amplifier	310N	186165	2023/7/16	2024/7/15
Audix	Test Software	E3	201021 (V9)	N/A	N/A
Above 1G					
AH	Double Ridge Guide Horn Antenna	SAS-571	1394	2023/2/22	2026/2/21
R&S	Spectrum Analyzer	FSV40	101591	2023/3/31	2024/3/30
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2023/8/6	2024/8/5
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2023/8/6	2024/8/5
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2023/11/8	2024/11/7
Audix	Test Software	E3	201021 (V9)	N/A	N/A
PASTERNACK	Horn Antenna	PE9852/2F-20	112002	2021/2/5	2024/2/4
Quinstar	Preamplifier	QLW-18405536-JO	15964001005	2023/9/15	2024/9/14
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2023/8/6	2024/8/5
E-Microwave	Band Rejection Filter	5150-5850MHz	OE01902423	2023/8/6	2024/8/5
Mini Circuits	High Pass Filter	VHF-6010+	31119	2023/8/6	2024/8/5
PASTERNACK	Horn Antenna	PE9850/2F-20	072001	2021/2/5	2024/2/4

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

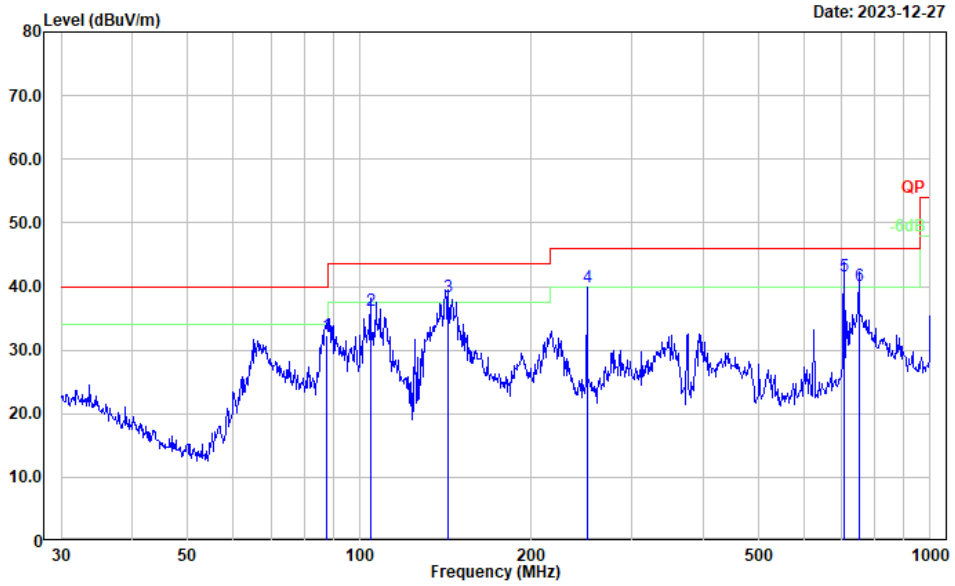
After pre-scan in the X, Y and Z axes of orientation, the worst case is below.
For 9kHz-30MHz, The amplitude of spurious emissions attenuated more than 20 dB below the limit was not be recorded.

1) 30MHz-1GHz

5150-5250MHz (Maximum output power mode 802.11 ac20, MIMO)

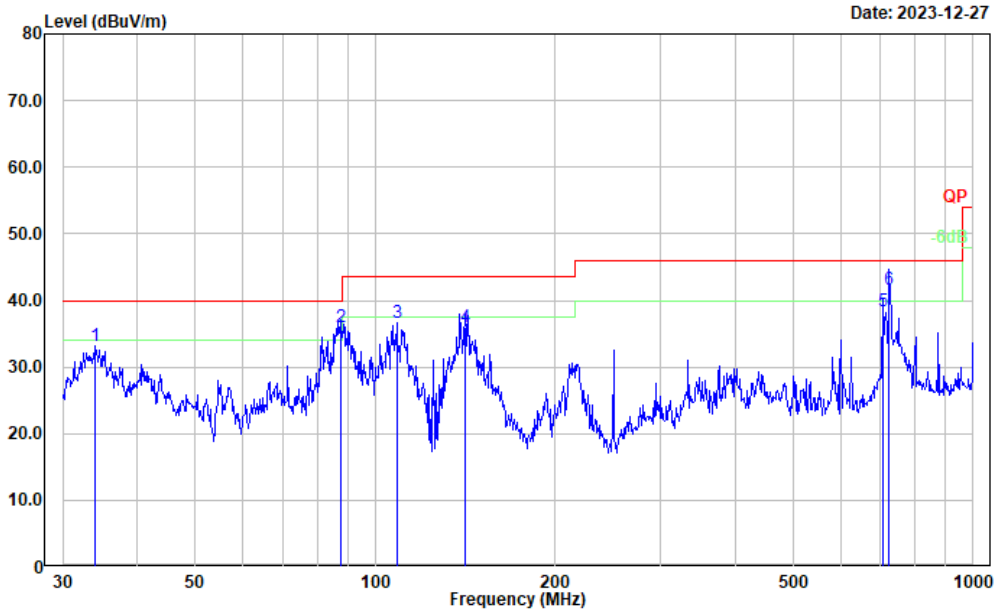
Low Channel

Project No.: CR231167508-RF
Tester: Vic Du
Polarization: horizontal
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	87.418	49.61	-17.40	32.21	40.00	7.79	QP
2	104.536	49.89	-13.73	36.16	43.50	7.34	QP
3	143.326	50.56	-12.13	38.43	43.50	5.07	QP
4	250.301	53.43	-13.61	39.82	46.00	6.18	Peak
5	706.700	45.51	-3.81	41.70	46.00	4.30	QP
6	750.108	43.53	-3.33	40.20	46.00	5.80	QP

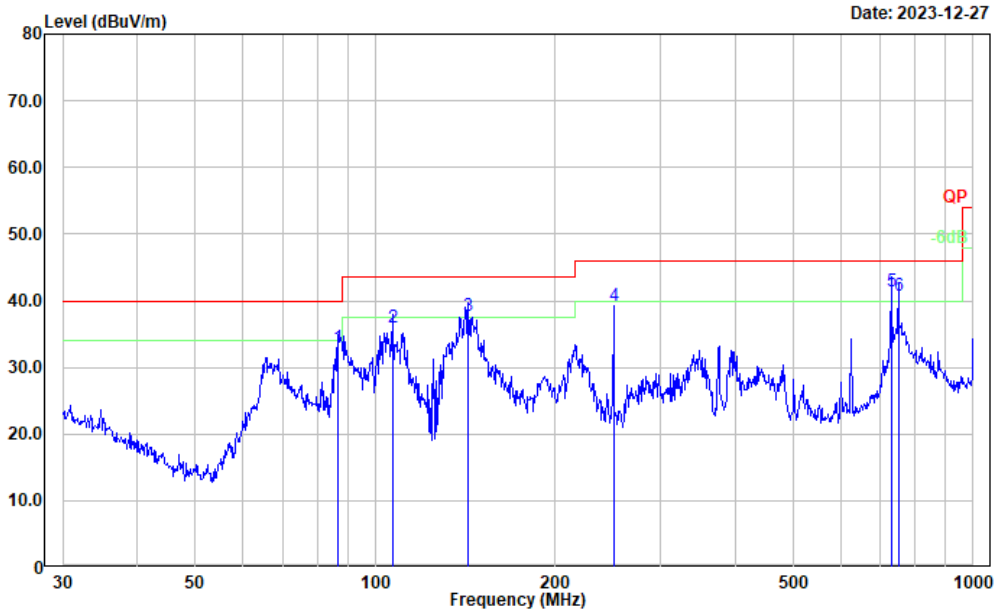
Project No.: CR231167508-RF
Tester: Vic Du
Polarization: vertical
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	33.917	40.35	-7.10	33.25	40.00	6.75	Peak
2	87.418	53.45	-17.40	36.05	40.00	3.95	QP
3	108.647	49.49	-12.91	36.58	43.50	6.92	Peak
4	141.330	48.09	-12.12	35.97	43.50	7.53	QP
5	706.700	42.10	-3.81	38.29	46.00	7.71	QP
6	724.261	45.24	-3.62	41.62	46.00	4.38	QP

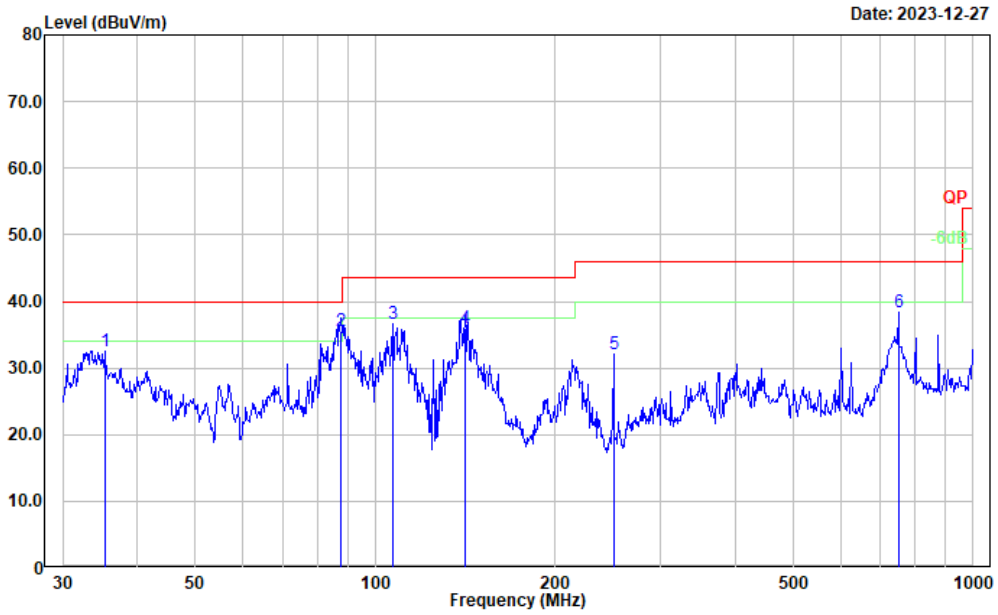
Middle Channel

Project No.: CR231167508-RF
Tester: Vic Du
Polarization: horizontal
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	86.807	50.40	-17.43	32.97	40.00	7.03	QP
2	106.759	49.20	-13.29	35.91	43.50	7.59	QP
3	143.326	49.75	-12.13	37.62	43.50	5.88	QP
4	250.301	52.82	-13.61	39.21	46.00	6.79	Peak
5	729.358	45.05	-3.57	41.48	46.00	4.52	QP
6	750.108	44.06	-3.33	40.73	46.00	5.27	QP

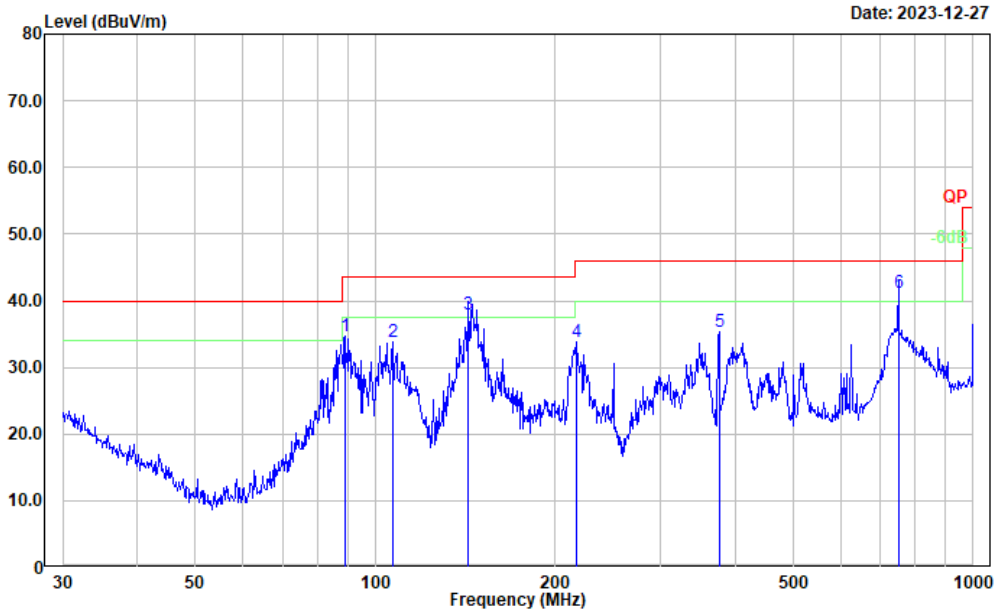
Project No.: CR231167508-RF
Tester: Vic Du
Polarization: vertical
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	35.251	40.70	-8.14	32.56	40.00	7.44	Peak
2	87.725	52.98	-17.37	35.61	40.00	4.39	QP
3	106.759	50.02	-13.29	36.73	43.50	6.77	Peak
4	141.330	48.02	-12.12	35.90	43.50	7.60	QP
5	250.301	45.65	-13.61	32.04	46.00	13.96	Peak
6	750.108	41.61	-3.33	38.28	46.00	7.72	Peak

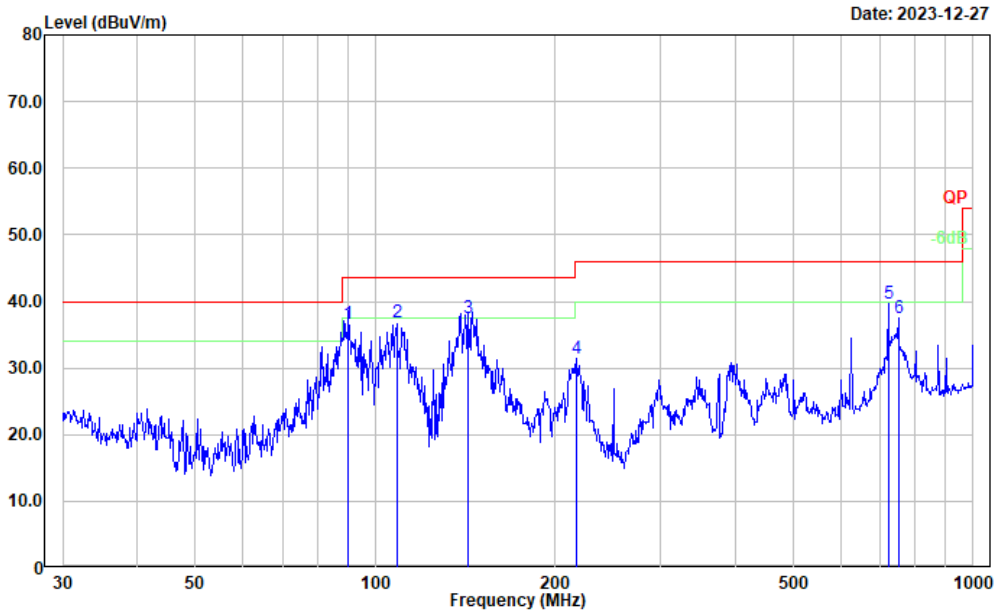
High Channel

Project No.: CR231167508-RF
Tester: Vic Du
Polarization: horizontal
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	88.964	52.09	-17.31	34.78	43.50	8.72	Peak
2	106.759	47.06	-13.29	33.77	43.50	9.73	Peak
3	143.326	50.13	-12.13	38.00	43.50	5.50	QP
4	217.544	47.00	-13.12	33.88	46.00	12.12	Peak
5	375.939	45.04	-9.71	35.33	46.00	10.67	Peak
6	750.108	44.58	-3.33	41.25	46.00	4.75	QP

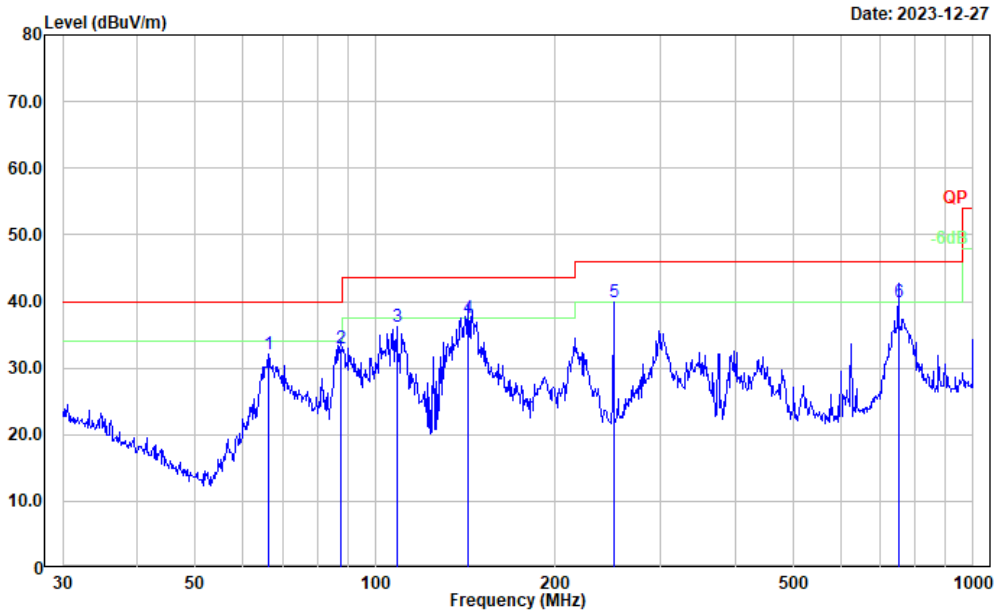
Project No.: CR231167508-RF
Tester: Vic Du
Polarization: vertical
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	90.220	53.77	-17.18	36.59	43.50	6.91	QP
2	108.647	49.66	-12.91	36.75	43.50	6.75	Peak
3	143.326	49.59	-12.13	37.46	43.50	6.04	QP
4	217.544	44.47	-13.12	31.35	46.00	14.65	Peak
5	721.726	43.25	-3.63	39.62	46.00	6.38	Peak
6	750.108	40.73	-3.33	37.40	46.00	8.60	Peak

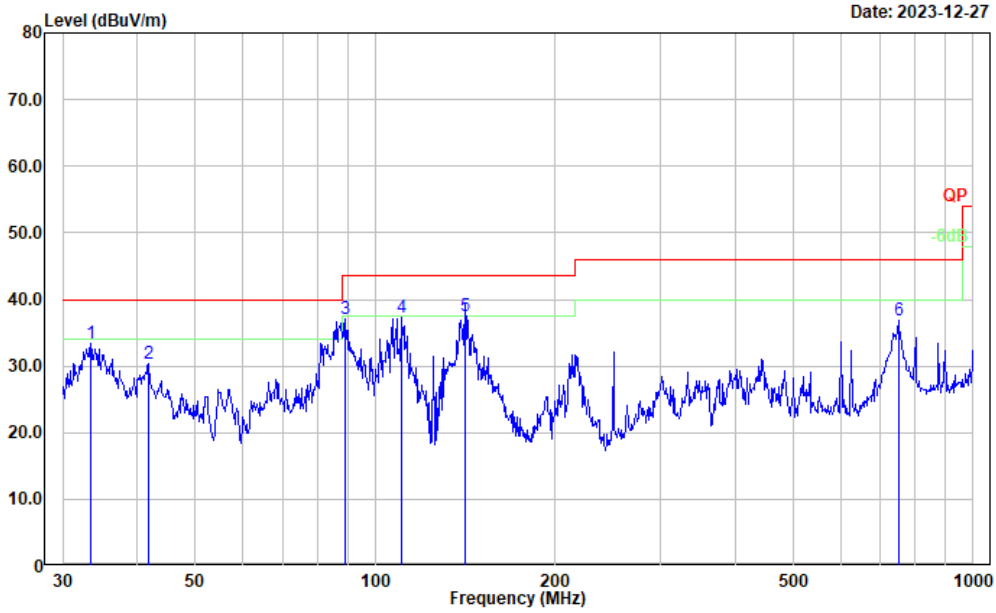
5250-5350MHz (maximum output power mode 802.11 ac20, MIMO)
Low Channel

Project No.: CR231167508-RF
Tester: Vic Du
Polarization: horizontal
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	66.266	49.29	-17.20	32.09	40.00	7.91	Peak
2	87.725	50.42	-17.37	33.05	40.00	6.95	QP
3	108.647	49.01	-12.91	36.10	43.50	7.40	Peak
4	143.326	49.69	-12.13	37.56	43.50	5.94	QP
5	250.301	53.53	-13.61	39.92	46.00	6.08	Peak
6	750.108	43.13	-3.33	39.80	46.00	6.20	QP

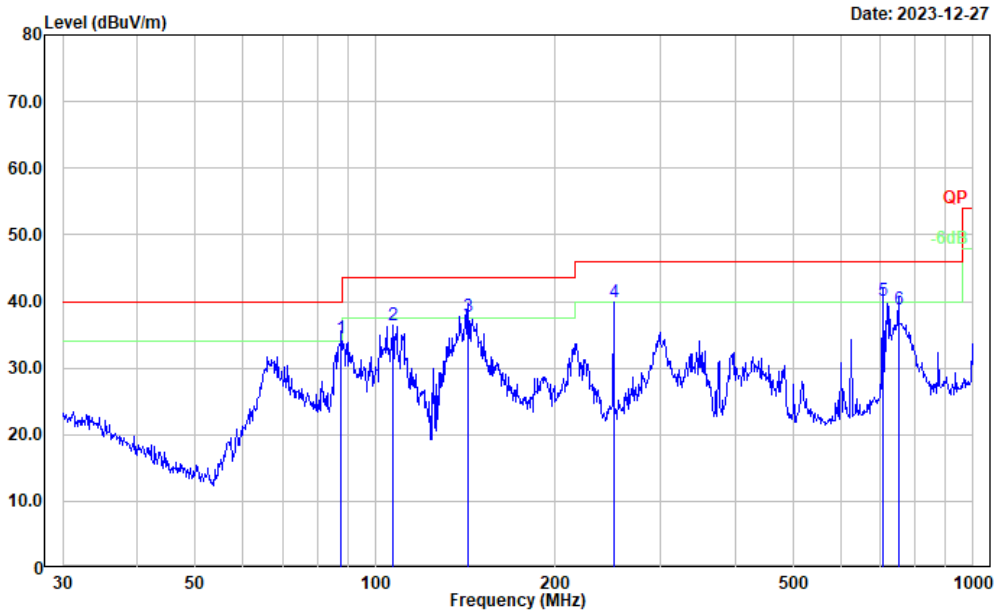
Project No.: CR231167508-RF
Tester: Vic Du
Polarization: vertical
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	33.445	40.05	-6.76	33.29	40.00	6.71	Peak
2	41.860	43.06	-12.76	30.30	40.00	9.70	Peak
3	88.964	54.40	-17.31	37.09	43.50	6.41	Peak
4	110.569	49.85	-12.63	37.22	43.50	6.28	Peak
5	141.330	49.65	-12.12	37.53	43.50	5.97	QP
6	750.108	40.25	-3.33	36.92	46.00	9.08	Peak

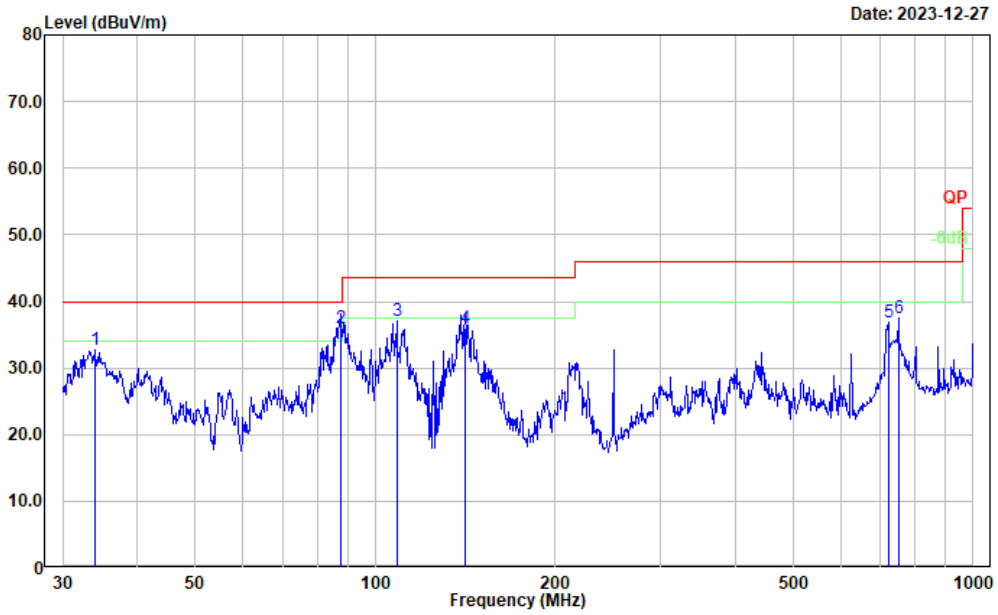
Middle Channel

Project No.: CR231167508-RF
Tester: Vic Du
Polarization: horizontal
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	87.725	51.94	-17.37	34.57	40.00	5.43	QP
2	106.759	49.64	-13.29	36.35	43.50	7.15	Peak
3	143.326	49.83	-12.13	37.70	43.50	5.80	QP
4	250.301	53.57	-13.61	39.96	46.00	6.04	Peak
5	706.700	43.97	-3.81	40.16	46.00	5.84	QP
6	750.108	42.12	-3.33	38.79	46.00	7.21	QP

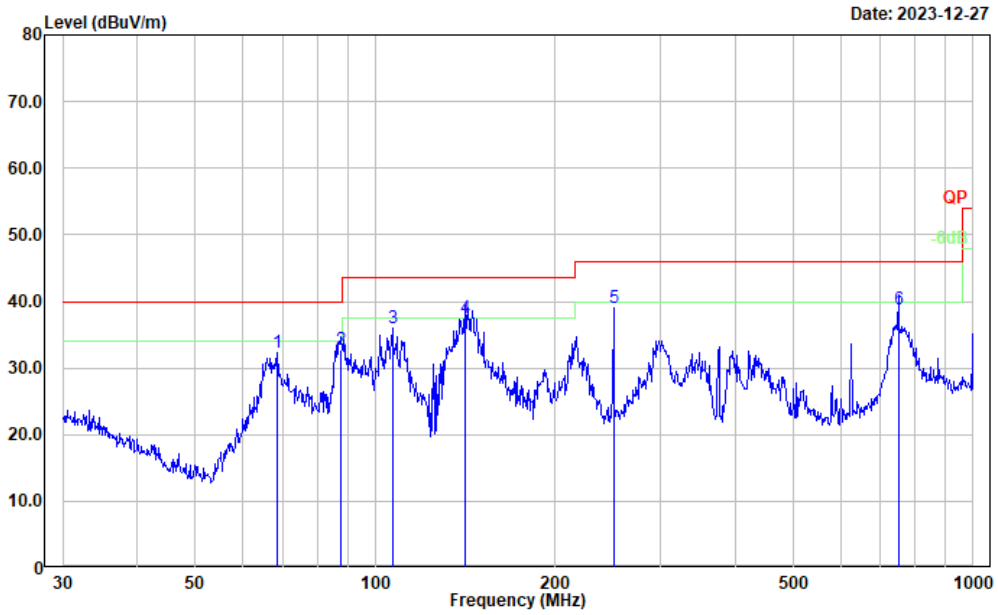
Project No.: CR231167508-RF
Tester: Vic Du
Polarization: vertical
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	33.917	39.93	-7.10	32.83	40.00	7.17	Peak
2	87.418	53.48	-17.40	36.08	40.00	3.92	QP
3	108.647	50.09	-12.91	37.18	43.50	6.32	Peak
4	141.330	48.18	-12.12	36.06	43.50	7.44	QP
5	721.726	40.50	-3.63	36.87	46.00	9.13	Peak
6	750.108	40.89	-3.33	37.56	46.00	8.44	Peak

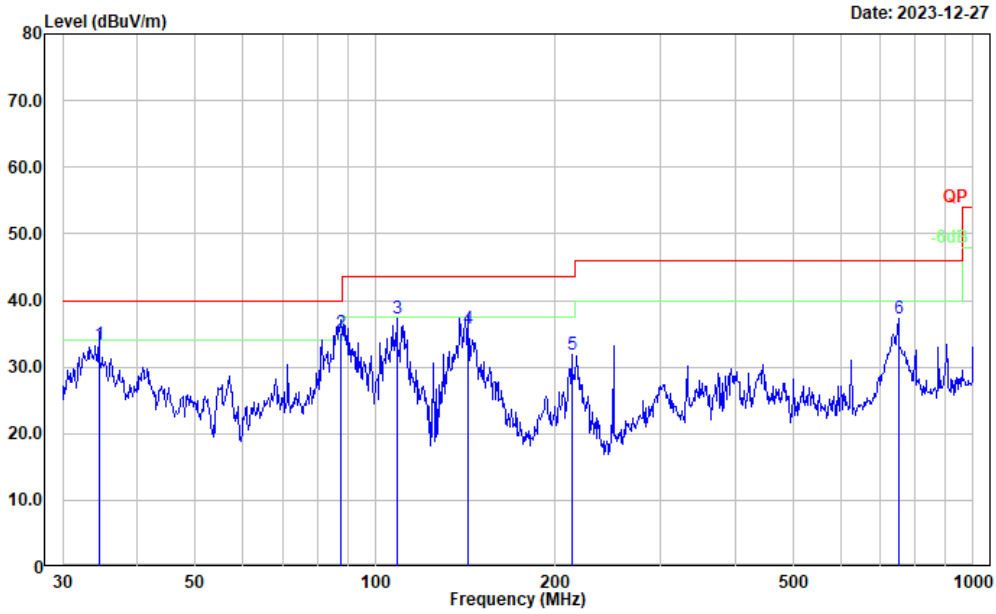
High Channel

Project No.: CR231167508-RF
Tester: Vic Du
Polarization: horizontal
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	68.391	49.42	-17.07	32.35	40.00	7.65	Peak
2	87.725	50.07	-17.37	32.70	40.00	7.30	QP
3	106.759	49.33	-13.29	36.04	43.50	7.46	Peak
4	141.330	49.69	-12.12	37.57	43.50	5.93	QP
5	250.301	52.69	-13.61	39.08	46.00	6.92	Peak
6	750.108	42.24	-3.33	38.91	46.00	7.09	QP

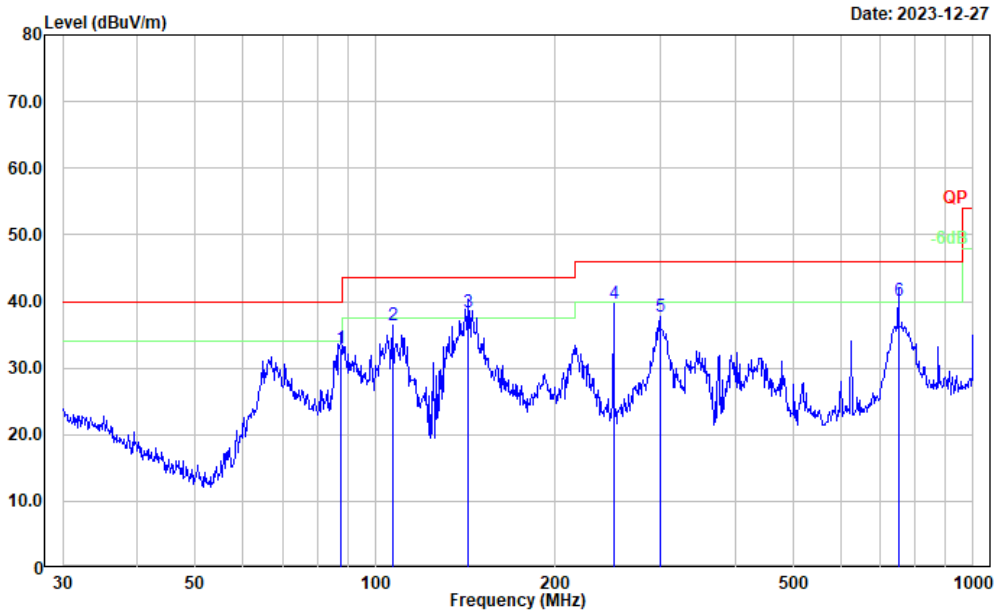
Project No.: CR231167508-RF
Tester: Vic Du
Polarization: vertical
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	34.517	40.96	-7.57	33.39	40.00	6.61	QP
2	87.725	52.53	-17.37	35.16	40.00	4.84	QP
3	108.647	50.28	-12.91	37.37	43.50	6.13	Peak
4	143.326	47.80	-12.13	35.67	43.50	7.83	QP
5	213.015	44.82	-13.01	31.81	43.50	11.69	Peak
6	750.108	40.53	-3.33	37.20	46.00	8.80	Peak

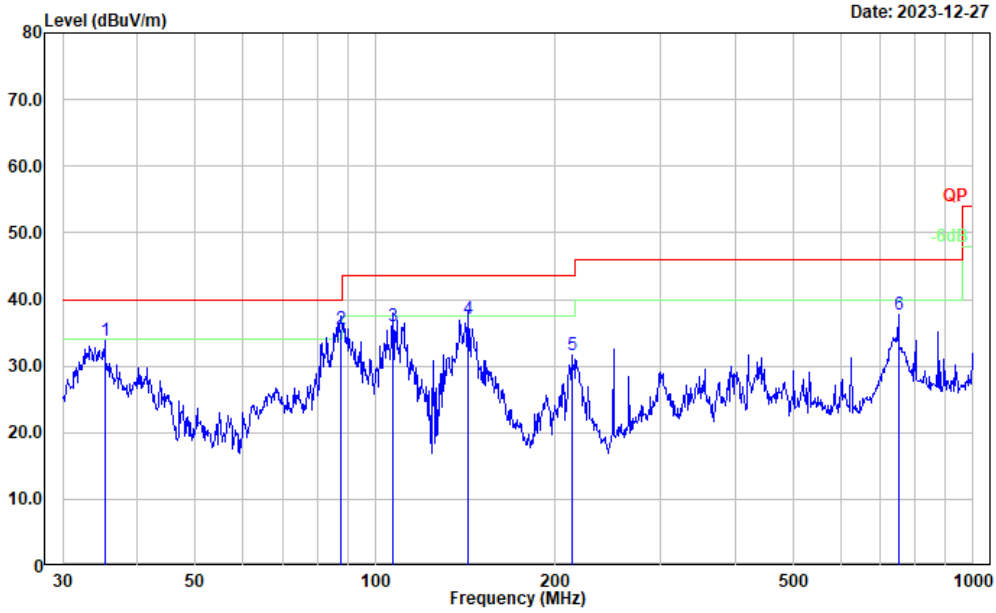
5470~5725MHz (maximum output power mode 802.11 ac20, MIMO)
Low channel

Project No.: CR231167508-RF
Tester: Vic Du
Polarization: horizontal
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	87.725	50.41	-17.37	33.04	40.00	6.96	QP
2	106.759	49.65	-13.29	36.36	43.50	7.14	Peak
3	143.326	50.48	-12.13	38.35	43.50	5.15	QP
4	250.301	53.24	-13.61	39.63	46.00	6.37	Peak
5	299.316	48.71	-11.08	37.63	46.00	8.37	Peak
6	750.108	43.41	-3.33	40.08	46.00	5.92	QP

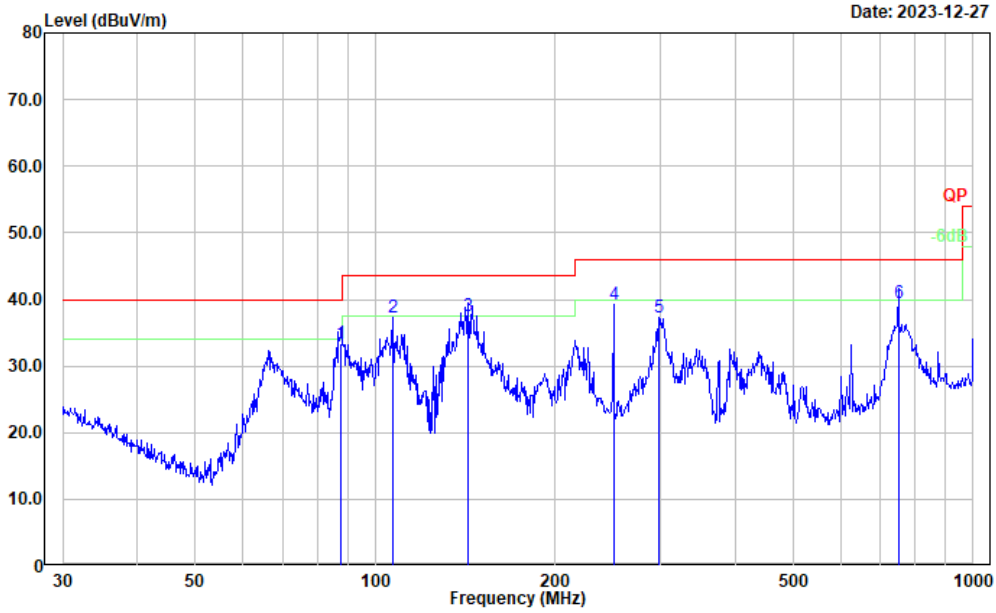
Project No.: CR231167508-RF
Tester: Vic Du
Polarization: vertical
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	35.251	42.03	-8.14	33.89	40.00	6.11	Peak
2	87.725	52.86	-17.37	35.49	40.00	4.51	QP
3	106.759	49.20	-13.29	35.91	43.50	7.59	QP
4	143.326	49.20	-12.13	37.07	43.50	6.43	QP
5	213.015	44.67	-13.01	31.66	43.50	11.84	Peak
6	750.108	41.11	-3.33	37.78	46.00	8.22	Peak

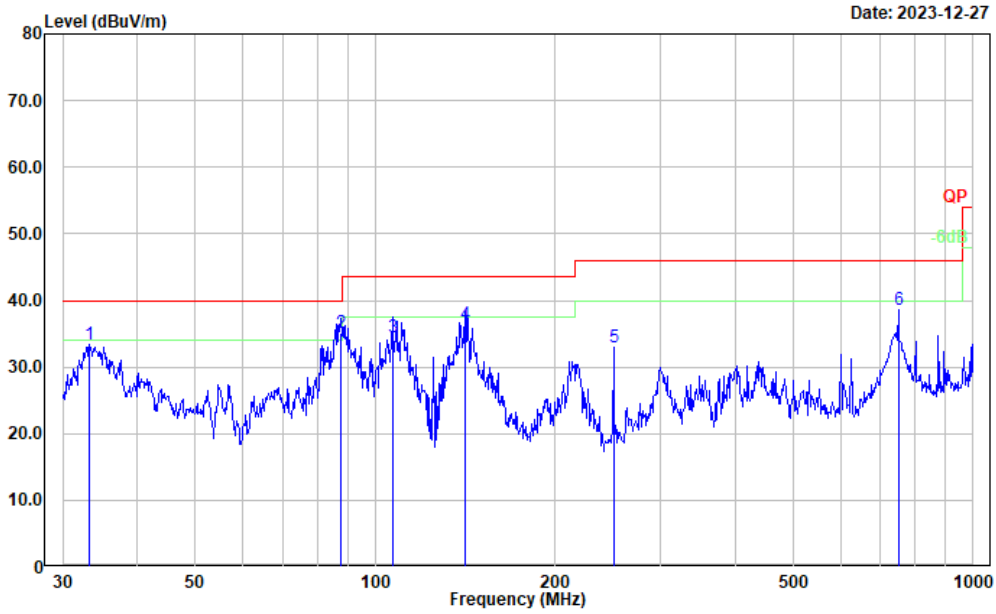
Middle channel

Project No.: CR231167508-RF
Tester: Vic Du
Polarization: horizontal
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	87.725	50.83	-17.37	33.46	40.00	6.54	QP
2	106.759	50.50	-13.29	37.21	43.50	6.29	Peak
3	142.824	49.63	-12.11	37.52	43.50	5.98	QP
4	250.301	52.95	-13.61	39.34	46.00	6.66	Peak
5	298.268	48.33	-11.13	37.20	46.00	8.80	Peak
6	750.108	42.89	-3.33	39.56	46.00	6.44	QP

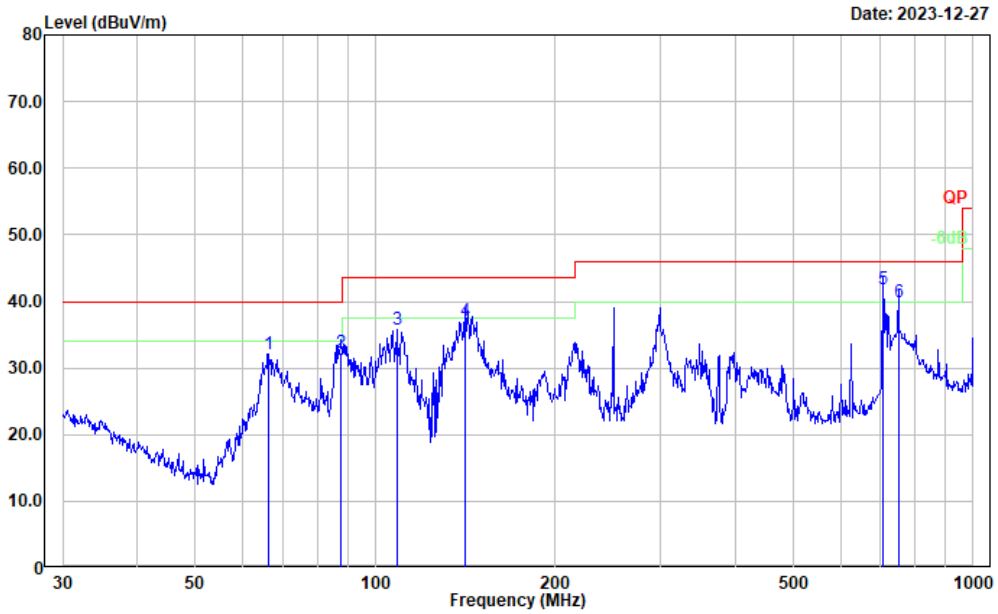
Project No.: CR231167508-RF
Tester: Vic Du
Polarization: vertical
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	33.328	40.01	-6.67	33.34	40.00	6.66	Peak
2	87.418	52.62	-17.40	35.22	40.00	4.78	QP
3	106.759	47.83	-13.29	34.54	43.50	8.96	QP
4	141.330	48.50	-12.12	36.38	43.50	7.12	QP
5	250.301	46.65	-13.61	33.04	46.00	12.96	Peak
6	750.108	41.89	-3.33	38.56	46.00	7.44	Peak

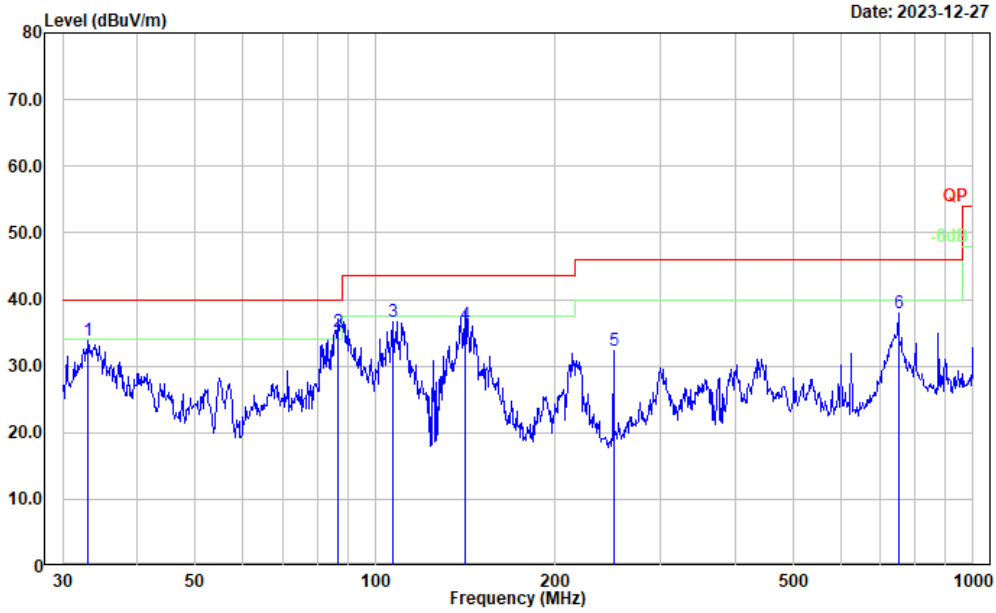
High channel

Project No.: CR231167508-RF
Tester: Vic Du
Polarization: horizontal
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	66.266	49.24	-17.20	32.04	40.00	7.96	Peak
2	87.725	49.71	-17.37	32.34	40.00	7.66	QP
3	108.647	48.74	-12.91	35.83	43.50	7.67	Peak
4	141.330	49.14	-12.12	37.02	43.50	6.48	QP
5	706.700	45.62	-3.81	41.81	46.00	4.19	QP
6	750.108	43.24	-3.33	39.91	46.00	6.09	QP

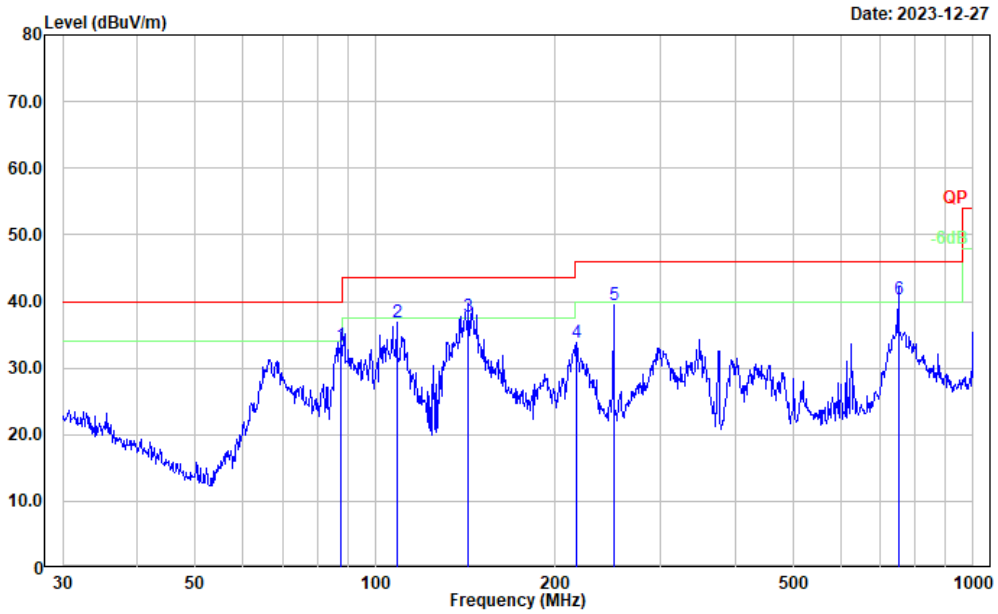
Project No.: CR231167508-RF
Tester: Vic Du
Polarization: vertical
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	33.095	40.33	-6.50	33.83	40.00	6.17	Peak
2	86.807	52.58	-17.43	35.15	40.00	4.85	QP
3	106.759	49.99	-13.29	36.70	43.50	6.80	Peak
4	141.330	48.37	-12.12	36.25	43.50	7.25	QP
5	250.301	45.90	-13.61	32.29	46.00	13.71	Peak
6	750.108	41.19	-3.33	37.86	46.00	8.14	Peak

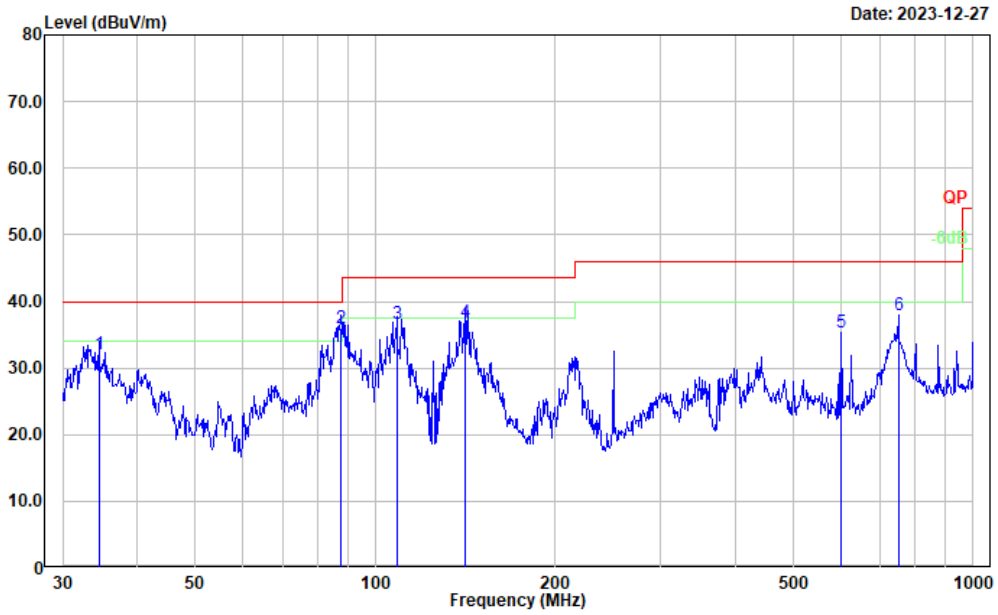
5725~5850MHz (maximum output power mode 802.11 ac, MIMO)
Low channel

Project No.: CR231167508-RF
Tester: Vic Du
Polarization: horizontal
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	87.725	50.80	-17.37	33.43	40.00	6.57	QP
2	108.647	49.81	-12.91	36.90	43.50	6.60	Peak
3	143.326	49.79	-12.13	37.66	43.50	5.84	QP
4	216.783	46.97	-13.11	33.86	46.00	12.14	Peak
5	250.301	52.96	-13.61	39.35	46.00	6.65	Peak
6	750.108	43.56	-3.33	40.23	46.00	5.77	QP

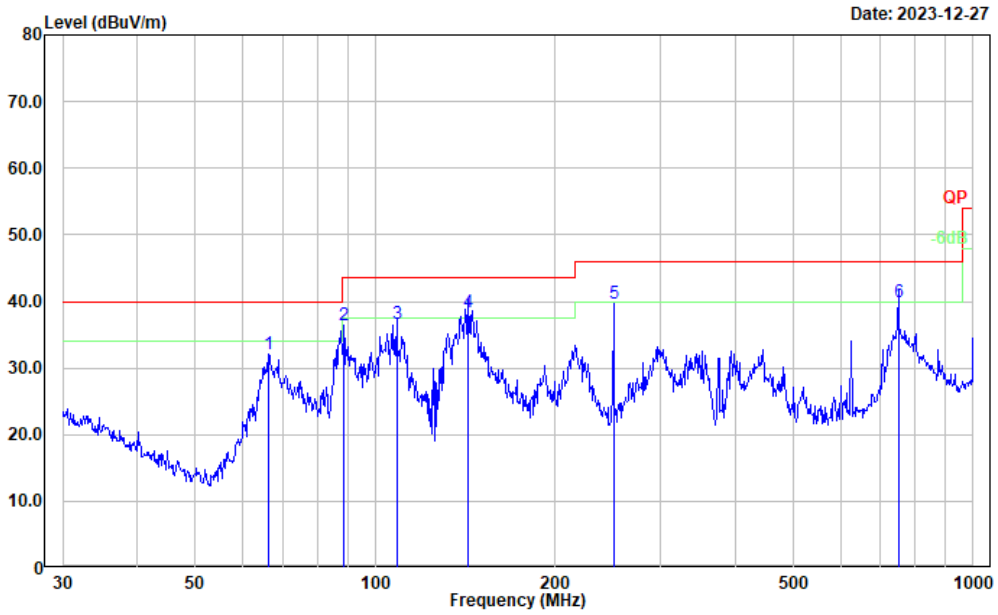
Project No.: CR231167508-RF
Tester: Vic Du
Polarization: vertical
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	34.517	39.65	-7.57	32.08	40.00	7.92	QP
2	87.725	53.39	-17.37	36.02	40.00	3.98	QP
3	108.647	49.53	-12.91	36.62	43.50	6.88	QP
4	141.330	49.06	-12.12	36.94	43.50	6.56	QP
5	601.427	40.68	-5.44	35.24	46.00	10.76	Peak
6	750.108	41.36	-3.33	38.03	46.00	7.97	Peak

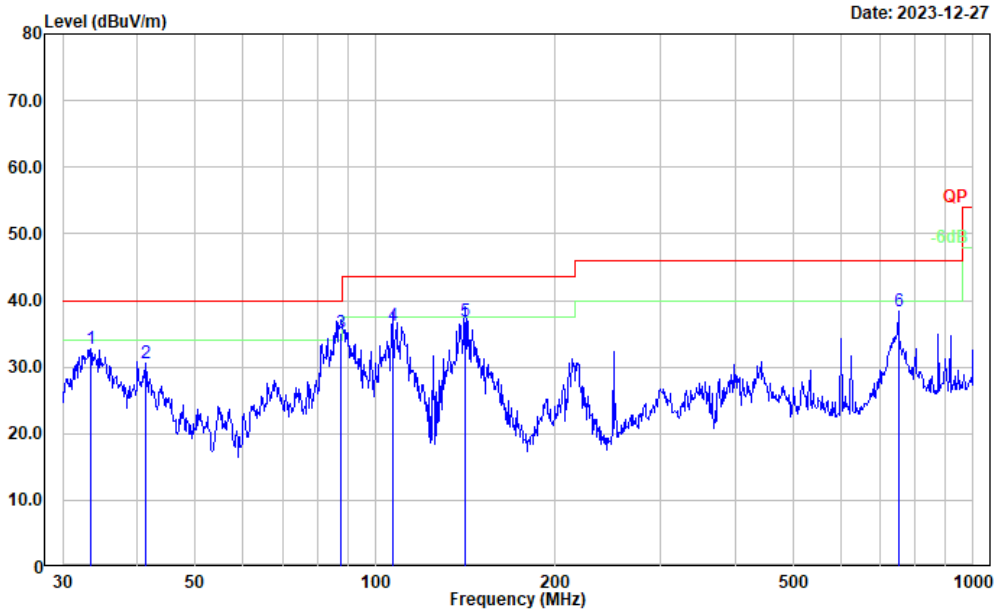
Middle channel

Project No.: CR231167508-RF
Tester: Vic Du
Polarization: horizontal
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	66.266	49.20	-17.20	32.00	40.00	8.00	Peak
2	88.652	53.82	-17.33	36.49	43.50	7.01	Peak
3	108.647	49.48	-12.91	36.57	43.50	6.93	QP
4	143.326	50.47	-12.13	38.34	43.50	5.16	QP
5	250.301	53.25	-13.61	39.64	46.00	6.36	Peak
6	750.108	43.22	-3.33	39.89	46.00	6.11	QP

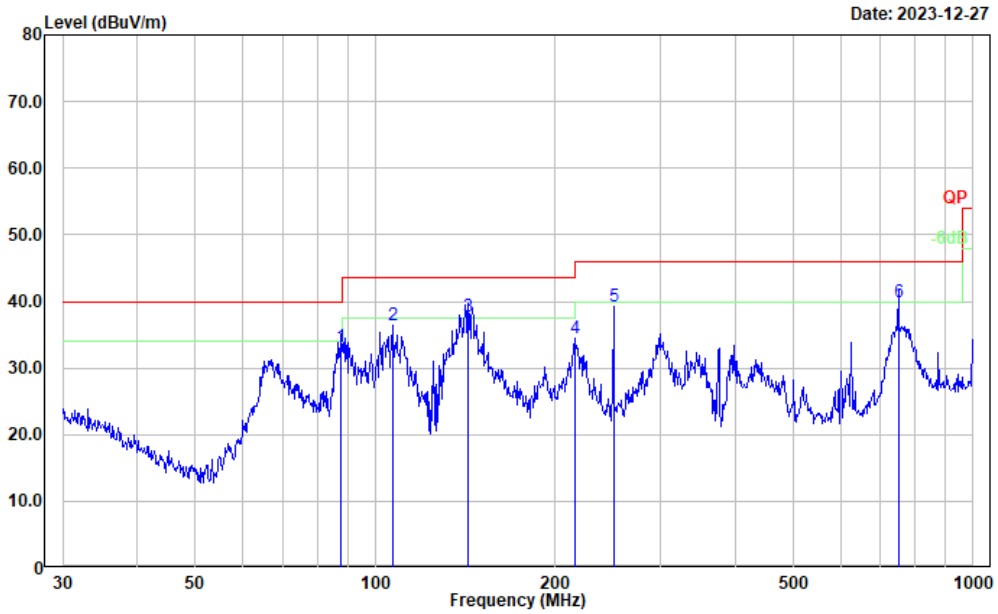
Project No.: CR231167508-RF
Tester: Vic Du
Polarization: vertical
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	33.445	39.45	-6.76	32.69	40.00	7.31	Peak
2	41.277	43.09	-12.45	30.64	40.00	9.36	Peak
3	87.725	52.43	-17.37	35.06	40.00	4.94	QP
4	106.759	49.54	-13.29	36.25	43.50	7.25	QP
5	141.330	49.05	-12.12	36.93	43.50	6.57	QP
6	750.108	41.62	-3.33	38.29	46.00	7.71	Peak

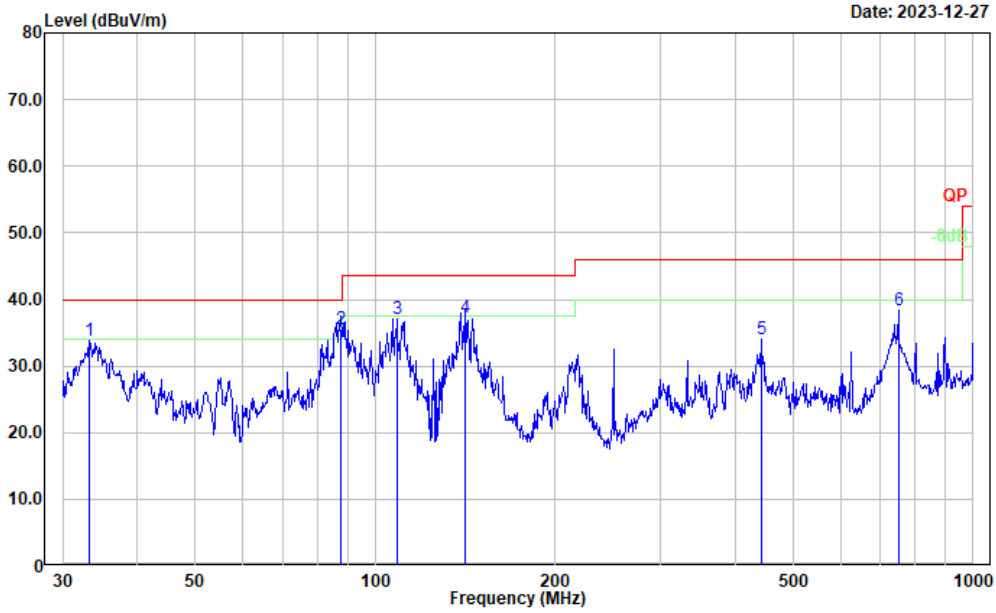
High channel

Project No.: CR231167508-RF
Tester: Vic Du
Polarization: horizontal
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	87.725	50.53	-17.37	33.16	40.00	6.84	QP
2	106.759	49.79	-13.29	36.50	43.50	7.00	Peak
3	143.326	49.87	-12.13	37.74	43.50	5.76	QP
4	215.268	47.61	-13.08	34.53	43.50	8.97	Peak
5	250.301	52.85	-13.61	39.24	46.00	6.76	Peak
6	750.108	43.28	-3.33	39.95	46.00	6.05	QP

Project No.: CR231167508-RF
Tester: Vic Du
Polarization: vertical
Note: Transmitting 5g WiFi



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	33.328	40.54	-6.67	33.87	40.00	6.13	Peak
2	87.418	52.87	-17.40	35.47	40.00	4.53	QP
3	108.647	50.09	-12.91	37.18	43.50	6.32	Peak
4	141.330	49.42	-12.12	37.30	43.50	6.20	QP
5	441.743	41.51	-7.56	33.95	46.00	12.05	Peak
6	750.108	41.81	-3.33	38.48	46.00	7.52	Peak

2) 1GHz-40GHz:

5150-5250MHz:

802.11a Mode Chain 0:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5180 MHz							
5150.000	57.58	PK	H	11.67	69.25	74.00	4.75
5150.000	39.84	AV	H	11.67	51.51	54.00	2.49
5150.000	56.37	PK	V	11.67	68.04	74.00	5.96
5150.000	37.61	AV	V	11.67	49.28	54.00	4.72
10360.000	34.68	PK	H	20.47	55.15	68.20	13.05
10360.000	34.92	PK	V	20.47	55.39	68.20	12.81
Middle Channel: 5200 MHz							
10400.000	34.96	PK	H	20.54	55.50	68.20	12.70
10400.000	34.72	PK	V	20.54	55.26	68.20	12.94
High Channel: 5240 MHz							
5350.000	48.51	PK	H	11.94	60.45	74.00	13.55
5350.000	34.87	AV	H	11.94	46.81	54.00	7.19
5350.000	47.10	PK	V	11.94	59.04	74.00	14.96
5350.000	34.58	AV	V	11.94	46.52	54.00	7.48
10480.000	34.59	PK	H	20.42	55.01	68.20	13.19
10480.000	34.72	PK	V	20.42	55.14	68.20	13.06

802.11a Mode Chain 1:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel:				5180	MHz		
5150.000	58.22	PK	H	11.67	69.89	74.00	4.11
5150.000	41.07	AV	H	11.67	52.74	54.00	1.26
5150.000	54.94	PK	V	11.67	66.61	74.00	7.39
5150.000	37.69	AV	V	11.67	49.36	54.00	4.64
10360.000	34.84	PK	H	20.47	55.31	68.20	12.89
10360.000	34.87	PK	V	20.47	55.34	68.20	12.86
Middle Channel:				5200	MHz		
10400.000	34.47	PK	H	20.54	55.01	68.20	13.19
10400.000	34.83	PK	V	20.54	55.37	68.20	12.83
High Channel:				5240	MHz		
5350.000	47.62	PK	H	11.94	59.56	74.00	14.44
5350.000	33.97	AV	H	11.94	45.91	54.00	8.09
5350.000	47.08	PK	V	11.94	59.02	74.00	14.98
5350.000	33.89	AV	V	11.94	45.83	54.00	8.17
10480.000	34.67	PK	H	20.42	55.09	68.20	13.11
10480.000	36.11	PK	V	20.42	56.53	68.20	11.67

802.11ac20 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5180 MHz							
5150.000	57.64	PK	H	11.67	69.31	74.00	4.69
5150.000	40.38	AV	H	11.67	52.05	54.00	1.95
5150.000	56.51	PK	V	11.67	68.18	74.00	5.82
5150.000	38.39	AV	V	11.67	50.06	54.00	3.94
10360.000	34.29	PK	H	20.47	54.76	68.20	13.44
10360.000	34.97	PK	V	20.47	55.44	68.20	12.76
Middle Channel: 5200 MHz							
10400.000	34.34	PK	H	20.54	54.88	68.20	13.32
10400.000	34.65	PK	V	20.54	55.19	68.20	13.01
High Channel: 5240 MHz							
5350.000	48.45	PK	H	11.94	60.39	74.00	13.61
5350.000	34.88	AV	H	11.94	46.82	54.00	7.18
5350.000	48.09	PK	V	11.94	60.03	74.00	13.97
5350.000	34.80	AV	V	11.94	46.74	54.00	7.26
10480.000	35.11	PK	H	20.42	55.53	68.20	12.67
10480.000	35.52	PK	V	20.42	55.94	68.20	12.26

802.11ac40 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5190 MHz							
5150.000	53.57	PK	H	11.67	65.24	74.00	8.76
5150.000	41.10	AV	H	11.67	52.77	54.00	1.23
5150.000	52.67	PK	V	11.67	64.34	74.00	9.66
5150.000	38.46	AV	V	11.67	50.13	54.00	3.87
10380.000	34.73	PK	H	20.51	55.24	68.20	12.96
10380.000	34.98	PK	V	20.51	55.49	68.20	12.71
High Channel: 5230 MHz							
5350.000	57.68	PK	H	11.94	69.62	74.00	4.38
5350.000	41.02	AV	H	11.94	52.96	54.00	1.04
5350.000	54.55	PK	V	11.94	66.49	74.00	7.51
5350.000	37.42	AV	V	11.94	49.36	54.00	4.64
10460.000	34.48	PK	H	20.45	54.93	68.20	13.27
10460.000	34.14	PK	V	20.45	54.59	68.20	13.61

802.11ac80 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Middle Channel: 5210 MHz							
5150.000	49.18	PK	H	11.67	60.85	74.00	13.15
5150.000	40.24	AV	H	11.67	51.91	54.00	2.09
5150.000	48.49	PK	V	11.67	60.16	74.00	13.84
5150.000	38.75	AV	V	11.67	50.42	54.00	3.58
5350.000	47.41	PK	H	11.94	59.35	74.00	14.65
5350.000	35.95	AV	H	11.94	47.89	54.00	6.11
5350.000	47.02	PK	V	11.94	58.96	74.00	15.04
5350.000	35.86	AV	V	11.94	47.80	54.00	6.20
10420.000	34.32	PK	H	20.51	54.83	68.20	13.37
10420.000	34.36	PK	V	20.51	54.87	68.20	13.33

5250-5350MHz:

802.11a Mode Chain 0:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5260 MHz							
5150.000	47.55	PK	H	11.67	59.22	74.00	14.78
5150.000	34.56	AV	H	11.67	46.23	54.00	7.77
5150.000	46.39	PK	V	11.67	58.06	74.00	15.94
5150.000	34.17	AV	V	11.67	45.84	54.00	8.16
10520.000	34.98	PK	H	20.53	55.51	68.20	12.69
10520.000	34.45	PK	V	20.53	54.98	68.20	13.22
Middle Channel: 5280 MHz							
10560.000	34.26	PK	H	20.81	55.07	68.20	13.13
10560.000	34.09	PK	V	20.81	54.90	68.20	13.30
High Channel: 5320 MHz							
5350.000	58.50	PK	H	11.94	70.44	74.00	3.56
5350.000	38.87	AV	H	11.94	50.81	54.00	3.19
5350.000	56.95	PK	V	11.94	68.89	74.00	5.11
5350.000	38.36	AV	V	11.94	50.30	54.00	3.70
10640.000	34.91	PK	H	21.13	56.04	74.00	17.96
10640.000	22.97	AV	H	21.13	44.10	54.00	9.90
10640.000	34.63	PK	V	21.13	55.76	74.00	18.24
10640.000	22.34	AV	V	21.13	43.47	54.00	10.53

802.11a Mode Chain 1:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5260 MHz							
5150.000	48.19	PK	H	11.67	59.86	74.00	14.14
5150.000	34.36	AV	H	11.67	46.03	54.00	7.97
5150.000	47.93	PK	V	11.67	59.60	74.00	14.40
5150.000	34.15	AV	V	11.67	45.82	54.00	8.18
10520.000	35.69	PK	H	20.53	56.22	68.20	11.98
10520.000	36.30	PK	V	20.53	56.83	68.20	11.37
Middle Channel: 5280 MHz							
10560.000	33.95	PK	H	20.81	54.76	68.20	13.44
10560.000	34.56	PK	V	20.81	55.37	68.20	12.83
High Channel: 5320 MHz							
5350.000	55.86	PK	H	11.94	67.80	74.00	6.20
5350.000	40.74	AV	H	11.94	52.68	54.00	1.32
5350.000	55.12	PK	V	11.94	67.06	74.00	6.94
5350.000	38.35	AV	V	11.94	50.29	54.00	3.71
10640.000	34.00	PK	H	21.13	55.13	74.00	18.87
10640.000	22.83	AV	H	21.13	43.96	54.00	10.04
10640.000	34.31	PK	V	21.13	55.44	74.00	18.56
10640.000	22.38	AV	V	21.13	43.51	54.00	10.49

802.11ac20 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5260 MHz							
5150.000	46.84	PK	H	11.67	58.51	74.00	15.49
5150.000	35.27	AV	H	11.67	46.94	54.00	7.06
5150.000	46.36	PK	V	11.67	58.03	74.00	15.97
5150.000	35.14	AV	V	11.67	46.81	54.00	7.19
10520.000	35.09	PK	H	20.53	55.62	68.20	12.58
10520.000	36.01	PK	V	20.53	56.54	68.20	11.66
Middle Channel: 5280 MHz							
10560.000	34.55	PK	H	20.81	55.36	68.20	12.84
10560.000	34.49	PK	V	20.81	55.30	68.20	12.90
High Channel: 5320 MHz							
5350.000	56.72	PK	H	11.94	68.66	74.00	5.34
5350.000	38.84	AV	H	11.94	50.78	54.00	3.22
5350.000	55.20	PK	V	11.94	67.14	74.00	6.86
5350.000	38.15	AV	V	11.94	50.09	54.00	3.91
10640.000	34.88	PK	H	21.13	56.01	74.00	17.99
10640.000	22.94	AV	H	21.13	44.07	54.00	9.93
10640.000	34.03	PK	V	21.13	55.16	74.00	18.84
10640.000	22.81	AV	V	21.13	43.94	54.00	10.06

802.11ac40 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5270 MHz							
5150.000	51.73	PK	H	11.67	63.40	74.00	10.60
5150.000	40.71	AV	H	11.67	52.38	54.00	1.62
5150.000	50.41	PK	V	11.67	62.08	74.00	11.92
5150.000	37.66	AV	V	11.67	49.33	54.00	4.67
10540.000	34.11	PK	H	20.68	54.79	68.20	13.41
10540.000	34.90	PK	V	20.68	55.58	68.20	12.62
High Channel: 5310 MHz							
5350.000	58.40	PK	H	11.94	70.34	74.00	3.66
5350.000	38.17	AV	H	11.94	50.11	54.00	3.89
5350.000	57.09	PK	V	11.94	69.03	74.00	4.97
5350.000	37.36	AV	V	11.94	49.30	54.00	4.70
10620.000	34.13	PK	H	21.11	55.24	74.00	18.76
10620.000	22.00	AV	H	21.11	43.11	54.00	10.89
10620.000	34.45	PK	V	21.11	55.56	74.00	18.44
10620.000	22.16	AV	V	21.11	43.27	54.00	10.73

802.11ac80 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Middle Channel: 5290 MHz							
5150.000	46.73	PK	H	11.67	58.40	74.00	15.60
5150.000	35.55	AV	H	11.67	47.22	54.00	6.78
5150.000	46.26	PK	V	11.67	57.93	74.00	16.07
5150.000	35.37	AV	V	11.67	47.04	54.00	6.96
5350.000	50.67	PK	H	11.94	62.61	74.00	11.39
5350.000	40.21	AV	H	11.94	52.15	54.00	1.85
5350.000	49.14	PK	V	11.94	61.08	74.00	12.92
5350.000	38.52	AV	V	11.94	50.46	54.00	3.54
10580.000	34.75	PK	H	20.96	55.71	68.20	12.49
10580.000	34.84	PK	V	20.96	55.80	68.20	12.40

5470-5725MHz

802.11a Mode Chain 0:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5500 MHz							
5470.000	55.23	PK	H	11.84	67.07	68.20	1.13
5470.000	51.79	PK	V	11.84	63.63	68.20	4.57
11000.000	34.52	PK	H	21.53	56.05	74.00	17.95
11000.000	22.86	AV	H	21.53	44.39	54.00	9.61
11000.000	34.71	PK	V	21.53	56.24	74.00	17.76
11000.000	22.99	AV	V	21.53	44.52	54.00	9.48
Middle Channel: 5580 MHz							
11160.000	34.01	PK	H	21.38	55.39	74.00	18.61
11160.000	22.38	AV	H	21.38	43.76	54.00	10.24
11160.000	34.67	PK	V	21.38	56.05	74.00	17.95
11160.000	22.30	AV	V	21.38	43.68	54.00	10.32
High Channel: 5700 MHz							
5725.000	53.43	PK	H	12.57	66.00	68.20	2.20
5725.000	50.26	PK	V	12.57	62.83	68.20	5.37
11400.000	34.05	PK	H	21.91	55.96	74.00	18.04
11400.000	22.20	AV	H	21.91	44.11	54.00	9.89
11400.000	34.84	PK	V	21.91	56.75	74.00	17.25
11400.000	22.72	AV	V	21.91	44.63	54.00	9.37

802.11a Mode Chain 1:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel:				5500	MHz		
5470.000	51.82	PK	H	11.84	63.66	68.20	4.54
5470.000	50.61	PK	V	11.84	62.45	68.20	5.75
11000.000	34.70	PK	H	21.53	56.23	74.00	17.77
11000.000	22.06	AV	H	21.53	43.59	54.00	10.41
11000.000	34.51	PK	V	21.53	56.04	74.00	17.96
11000.000	22.94	AV	V	21.53	44.47	54.00	9.53
Middle Channel:				5580	MHz		
11160.000	34.10	PK	H	21.38	55.48	74.00	18.52
11160.000	22.78	AV	H	21.38	44.16	54.00	9.84
11160.000	32.74	PK	V	21.38	54.12	74.00	19.88
11160.000	22.91	AV	V	21.38	44.29	54.00	9.71
High Channel:				5700	MHz		
5725.000	54.03	PK	H	12.57	66.60	68.20	1.60
5725.000	53.15	PK	V	12.57	65.72	68.20	2.48
11400.000	34.91	PK	H	21.91	56.82	74.00	17.18
11400.000	22.92	AV	H	21.91	44.83	54.00	9.17
11400.000	32.70	PK	V	21.91	54.61	74.00	19.39
11400.000	22.83	AV	V	21.91	44.74	54.00	9.26

802.11ac20 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5500 MHz							
5470.000	55.21	PK	H	11.84	67.05	68.20	1.15
5470.000	53.70	PK	V	11.84	65.54	68.20	2.66
11000.000	34.60	PK	H	21.53	56.13	74.00	17.87
11000.000	22.36	AV	H	21.53	43.89	54.00	10.11
11000.000	34.41	PK	V	21.53	55.94	74.00	18.06
11000.000	22.33	AV	V	21.53	43.86	54.00	10.14
Middle Channel: 5580 MHz							
11160.000	34.60	PK	H	21.38	55.98	74.00	18.02
11160.000	22.81	AV	H	21.38	44.19	54.00	9.81
11160.000	34.93	PK	V	21.38	56.31	74.00	17.69
11160.000	22.15	AV	V	21.38	43.53	54.00	10.47
High Channel: 5700 MHz							
5725.000	52.57	PK	H	12.57	65.14	68.20	3.06
5725.000	51.89	PK	V	12.57	64.46	68.20	3.74
11400.000	34.07	PK	H	21.91	55.98	74.00	18.02
11400.000	22.86	AV	H	21.91	44.77	54.00	9.23
11400.000	34.31	PK	V	21.91	56.22	74.00	17.78
11400.000	22.03	AV	V	21.91	43.94	54.00	10.06

802.11ac40 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5510 MHz							
5470.000	54.48	PK	H	11.84	66.32	68.20	1.88
5470.000	51.72	PK	V	11.84	63.56	68.20	4.64
11020.000	34.51	PK	H	21.52	56.03	74.00	17.97
11020.000	22.93	AV	H	21.52	44.45	54.00	9.55
11020.000	34.12	PK	V	21.52	55.64	74.00	18.36
11020.000	22.08	AV	V	21.52	43.60	54.00	10.40
Middle Channel: 5550 MHz							
11100.000	34.41	PK	H	21.47	55.88	74.00	18.12
11100.000	22.59	AV	H	21.47	44.06	54.00	9.94
11100.000	34.78	PK	V	21.47	56.25	74.00	17.75
11100.000	22.30	AV	V	21.47	43.77	54.00	10.23
High Channel: 5670 MHz							
5725.000	54.55	PK	H	12.57	67.12	68.20	1.08
5725.000	51.86	PK	V	12.57	64.43	68.20	3.77
11340.000	34.78	PK	H	21.86	56.64	74.00	17.36
11340.000	22.95	AV	H	21.86	44.81	54.00	9.19
11340.000	34.52	PK	V	21.86	56.38	74.00	17.62
11340.000	22.69	AV	V	21.86	44.55	54.00	9.45

802.11ac80 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5530 MHz							
5470.000	51.53	PK	H	11.84	63.37	68.20	4.83
5470.000	50.98	PK	V	11.84	62.82	68.20	5.38
11060.000	34.59	PK	H	21.49	56.08	74.00	17.92
11060.000	22.25	AV	H	21.49	43.74	54.00	10.26
11060.000	34.24	PK	V	21.49	55.73	74.00	18.27
11060.000	22.98	AV	V	21.49	44.47	54.00	9.53
High Channel: 5610 MHz							
5725.000	53.87	PK	H	12.57	66.44	68.20	1.76
5725.000	51.93	PK	V	12.57	64.50	68.20	3.70
11220.000	34.43	PK	H	21.43	55.86	74.00	18.14
11220.000	22.25	AV	H	21.43	43.68	54.00	10.32
11220.000	34.79	PK	V	21.43	56.22	74.00	17.78
11220.000	22.86	AV	V	21.43	44.29	54.00	9.71

5725-5850MHz

802.11a Mode Chain 0:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5745 MHz							
11490.000	34.44	PK	H	21.49	55.93	74.00	18.07
11490.000	22.37	AV	H	21.49	43.86	54.00	10.14
11490.000	34.10	PK	V	21.49	55.59	74.00	18.41
11490.000	22.48	AV	V	21.49	43.97	54.00	10.03
Middle Channel: 5785 MHz							
11570.000	34.72	PK	H	21.71	56.43	74.00	17.57
11570.000	22.09	AV	H	21.71	43.80	54.00	10.20
11570.000	34.00	PK	V	21.71	55.71	74.00	18.29
11570.000	22.28	AV	V	21.71	43.99	54.00	10.01
High Channel: 5825 MHz							
11650.000	34.66	PK	H	22.04	56.70	74.00	17.30
11650.000	22.65	AV	H	22.04	44.69	54.00	9.31
11650.000	34.18	PK	V	22.04	56.22	74.00	17.78
11650.000	22.60	AV	V	22.04	44.64	54.00	9.36

802.11a Mode Chain 1:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5745 MHz							
11490.000	34.82	PK	H	21.49	56.31	74.00	17.69
11490.000	22.54	AV	H	21.49	44.03	54.00	9.97
11490.000	34.67	PK	V	21.49	56.16	74.00	17.84
11490.000	22.18	AV	V	21.49	43.67	54.00	10.33
Middle Channel: 5785 MHz							
11570.000	34.81	PK	H	21.71	56.52	74.00	17.48
11570.000	22.30	AV	H	21.71	44.01	54.00	9.99
11570.000	34.58	PK	V	21.71	56.29	74.00	17.71
11570.000	22.13	AV	V	21.71	43.84	54.00	10.16
High Channel: 5825 MHz							
11650.000	34.19	PK	H	22.04	56.23	74.00	17.77
11650.000	22.76	AV	H	22.04	44.80	54.00	9.20
11650.000	34.38	PK	V	22.04	56.42	74.00	17.58
11650.000	22.27	AV	V	22.04	44.31	54.00	9.69

802.11ac20 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5745 MHz							
11490.000	34.02	PK	H	21.49	55.51	74.00	18.49
11490.000	22.91	AV	H	21.49	44.40	54.00	9.60
11490.000	34.44	PK	V	21.49	55.93	74.00	18.07
11490.000	22.38	AV	V	21.49	43.87	54.00	10.13
Middle Channel: 5785 MHz							
11570.000	34.18	PK	H	21.71	55.89	74.00	18.11
11570.000	22.91	AV	H	21.71	44.62	54.00	9.38
11570.000	34.09	PK	V	21.71	55.80	74.00	18.20
11570.000	22.35	AV	V	21.71	44.06	54.00	9.94
High Channel: 5825 MHz							
11650.000	34.24	PK	H	22.04	56.28	74.00	17.72
11650.000	22.91	AV	H	22.04	44.95	54.00	9.05
11650.000	34.66	PK	V	22.04	56.70	74.00	17.30
11650.000	22.95	AV	V	22.04	44.99	54.00	9.01

802.11ac40 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5755 MHz							
11510.000	34.45	PK	H	21.48	55.93	74.00	18.07
11510.000	22.11	AV	H	21.48	43.59	54.00	10.41
11510.000	34.77	PK	V	21.48	56.25	74.00	17.75
11510.000	22.63	AV	V	21.48	44.11	54.00	9.89
High Channel: 5795 MHz							
11590.000	34.03	PK	H	21.78	55.81	74.00	18.19
11590.000	22.34	AV	H	21.78	44.12	54.00	9.88
11590.000	34.52	PK	V	21.78	56.30	74.00	17.70
11590.000	22.18	AV	V	21.78	43.96	54.00	10.04

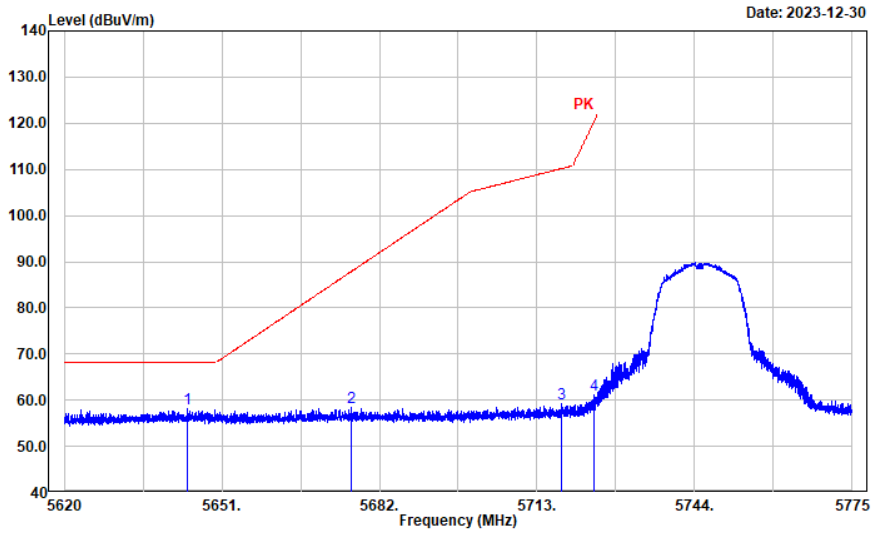
802.11ac80 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Middle Channel: 5775 MHz							
11550.000	34.12	PK	H	21.63	55.75	74.00	18.25
11550.000	22.61	AV	H	21.63	44.24	54.00	9.76
11550.000	34.66	PK	V	21.63	56.29	74.00	17.71
11550.000	22.03	AV	V	21.63	43.66	54.00	10.34

Test plots for Band Edge Measurements (Radiated)

802.11a_Chain 0			
Test Channel:	**5745MHz**	**Ant. Polar. :**	**Horizontal**

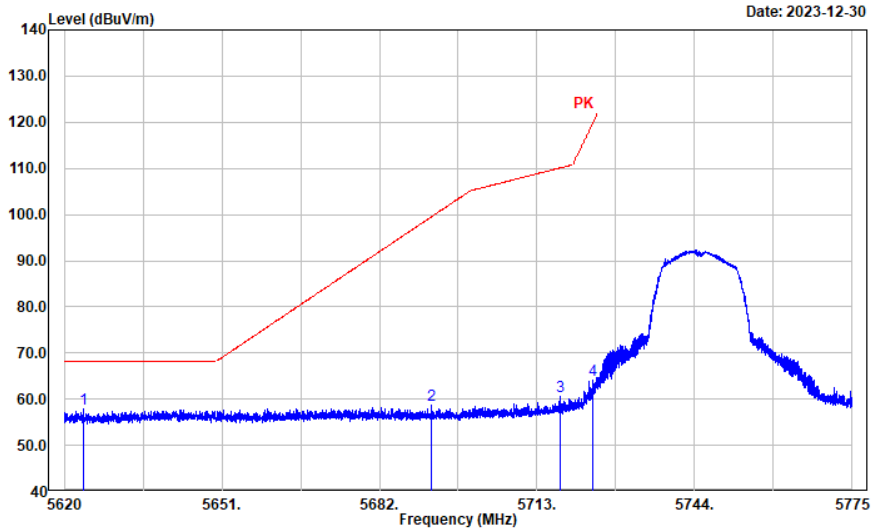
```
Project No.: CR231167508-RF
     Tester: Mack Huang/Tao Zhu
Polarization: Horizontal
       Note:
```



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5644.335	45.74	12.29	58.03	68.20	10.17	Peak
2	5676.389	45.98	12.44	58.42	87.77	29.35	Peak
3	5717.898	46.68	12.57	59.25	110.21	50.96	Peak
4	5724.129	48.64	12.57	61.21	120.21	59.00	Peak

802.11a_Chain 0			
Test Channel:	**5745MHz**	**Ant. Polar. :**	**Vertical**

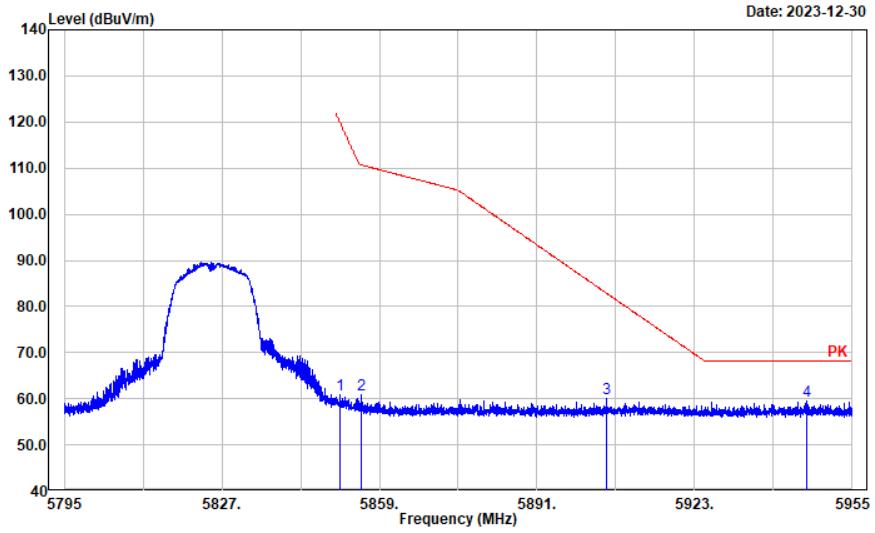
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5623.844	45.72	12.18	57.90	68.20	10.30	Peak
2	5692.323	46.26	12.52	58.78	99.54	40.76	Peak
3	5717.619	47.98	12.57	60.55	110.13	49.58	Peak
4	5724.067	51.49	12.57	64.06	120.07	56.01	Peak

802.11a_Chain 0			
Test Channel:	**5825MHz**	**Ant. Polar. :**	**Horizontal**

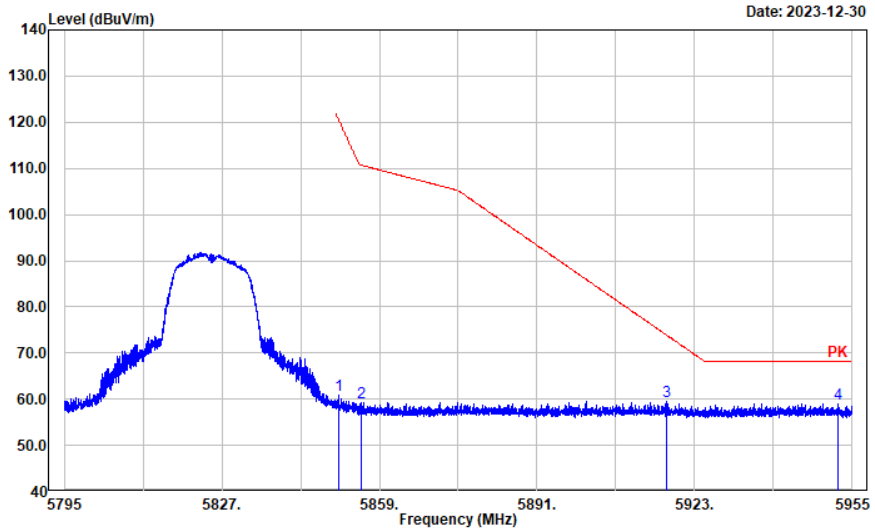
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5850.904	47.99	12.77	60.76	120.14	59.38	Peak
2	5855.384	47.98	12.80	60.78	110.69	49.91	Peak
3	5905.112	47.07	13.02	60.09	82.88	22.79	Peak
4	5945.848	46.48	13.03	59.51	68.20	8.69	Peak

802.11a_Chain 0			
Test Channel:	**5825MHz**	**Ant. Polar. :**	**Vertical**

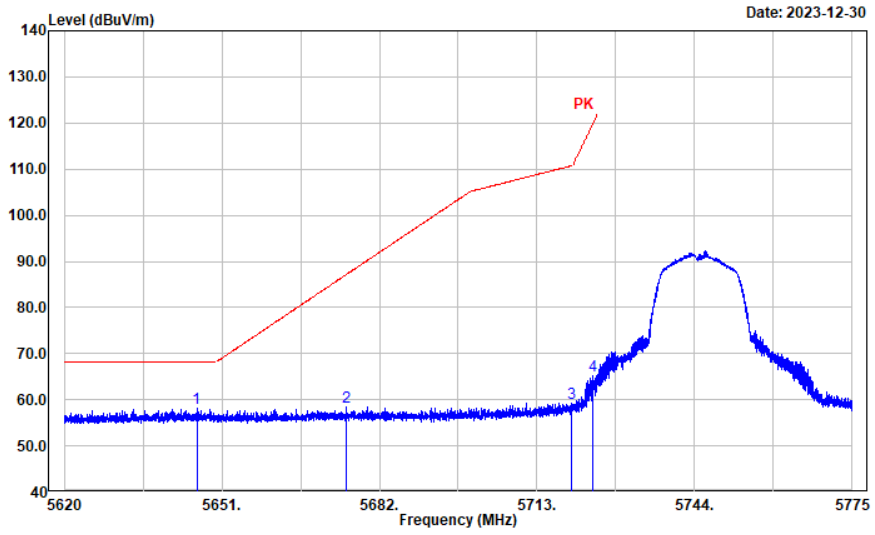
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5850.712	48.09	12.77	60.86	120.58	59.72	Peak
2	5855.352	46.52	12.80	59.32	110.70	51.38	Peak
3	5917.304	46.56	13.03	59.59	73.87	14.28	Peak
4	5952.120	46.05	13.04	59.09	68.20	9.11	Peak

802.11a_Chain 1			
Test Channel:	**5745MHz**	**Ant. Polar. :**	**Horizontal**

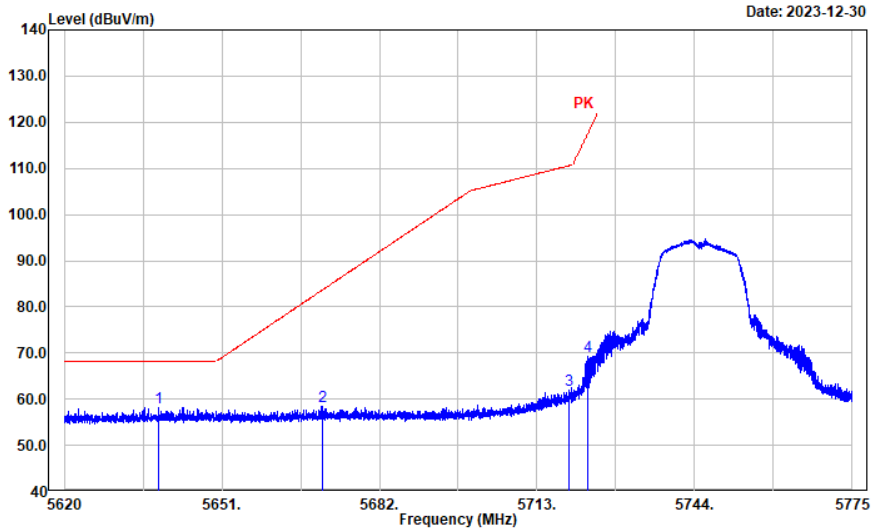
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5646.071	45.85	12.30	58.15	68.20	10.05	Peak
2	5675.397	46.00	12.44	58.44	87.03	28.59	Peak
3	5719.882	46.72	12.57	59.29	110.77	51.48	Peak
4	5723.850	52.56	12.57	65.13	119.58	54.45	Peak

802.11a_Chain 1			
Test Channel:	**5745MHz**	**Ant. Polar. :**	**Vertical**

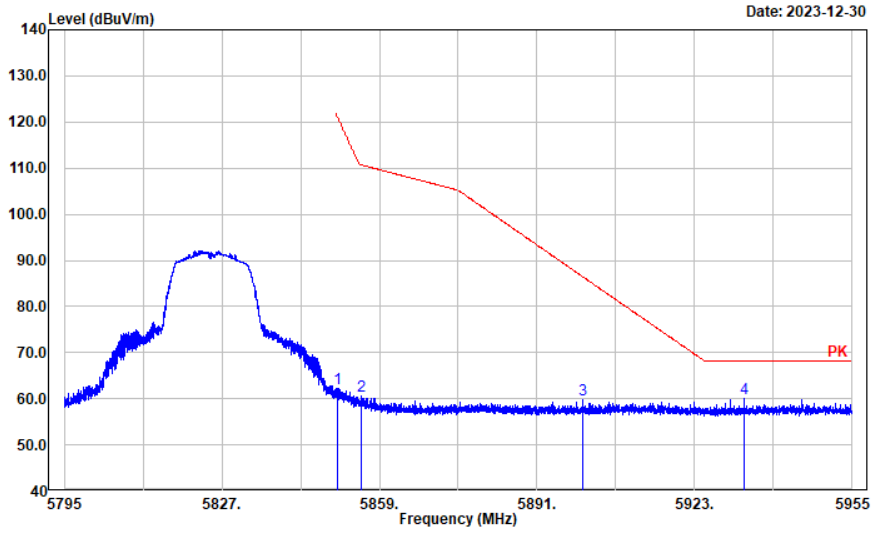
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5638.507	45.99	12.26	58.25	68.20	9.95	Peak
2	5670.840	46.05	12.42	58.47	83.66	25.19	Peak
3	5719.355	49.48	12.57	62.05	110.62	48.57	Peak
4	5723.075	56.77	12.57	69.34	117.81	48.47	Peak

802.11a_Chain 1			
Test Channel:	**5825MHz**	**Ant. Polar. :**	**Horizontal**

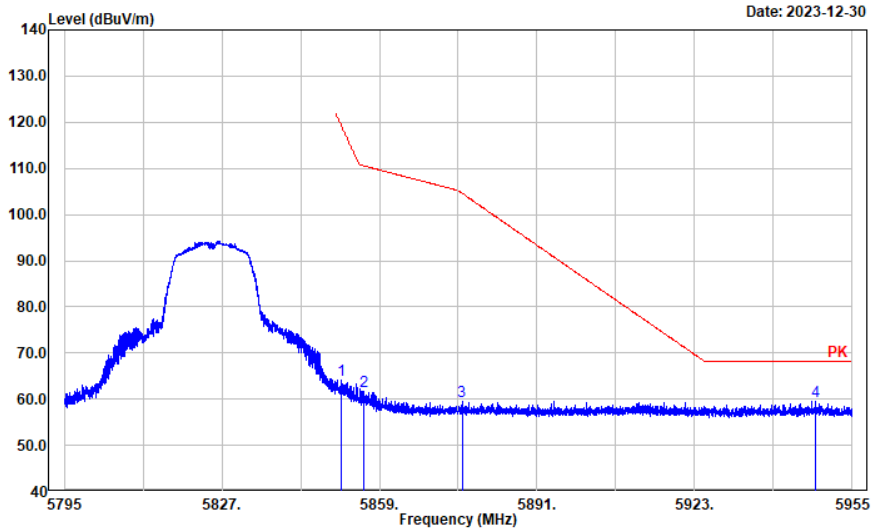
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5850.520	49.58	12.77	62.35	121.01	58.66	Peak
2	5855.320	47.74	12.80	60.54	110.71	50.17	Peak
3	5900.184	46.78	13.02	59.80	86.52	26.72	Peak
4	5933.112	47.13	13.03	60.16	68.20	8.04	Peak

802.11a_Chain 1			
Test Channel:	**5825MHz**	**Ant. Polar. :**	**Vertical**

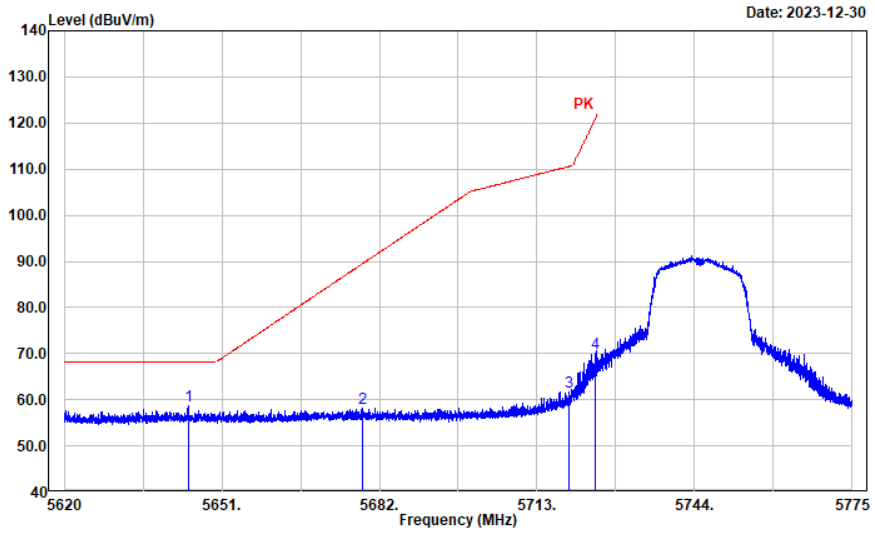
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5851.192	51.47	12.77	64.24	119.48	55.24	Peak
2	5855.800	48.83	12.80	61.63	110.58	48.95	Peak
3	5875.768	46.60	12.89	59.49	104.63	45.14	Peak
4	5947.608	46.62	13.03	59.65	68.20	8.55	Peak

802.11ac vht20			
Test Channel:	**5745MHz**	**Ant. Polar. :**	**Horizontal**

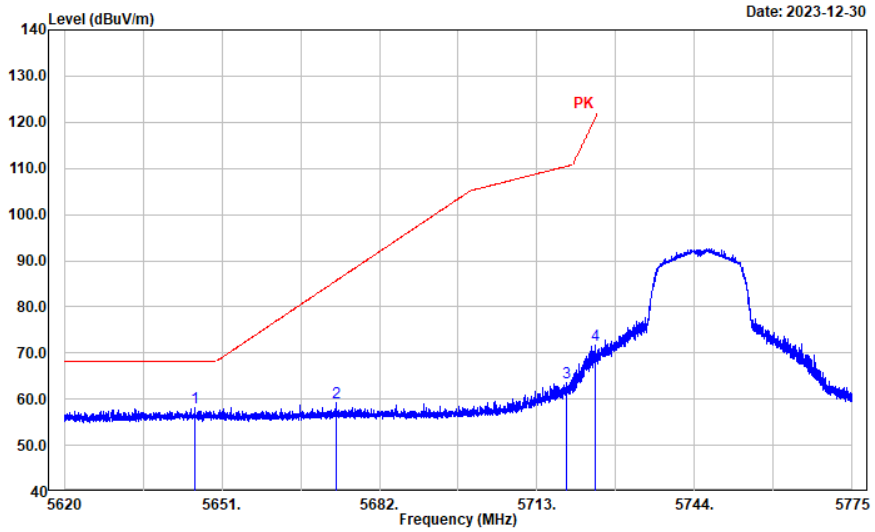
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5644.521	46.32	12.29	58.61	68.20	9.59	Peak
2	5678.621	45.75	12.46	58.21	89.42	31.21	Peak
3	5719.169	49.16	12.57	61.73	110.57	48.84	Peak
4	5724.408	57.38	12.57	69.95	120.85	50.90	Peak

802.11ac vht20			
Test Channel:	**5745MHz**	**Ant. Polar. :**	**Vertical**

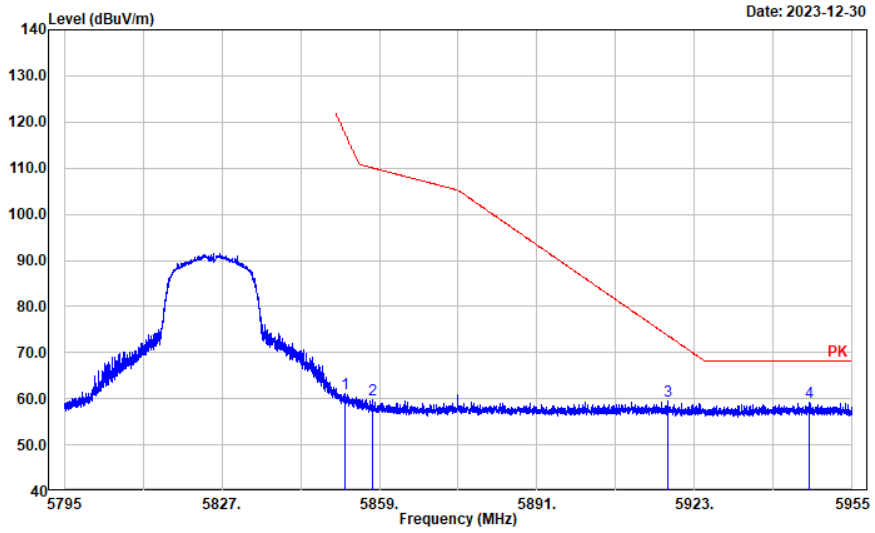
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5645.699	45.79	12.29	58.08	68.20	10.12	Peak
2	5673.475	46.91	12.43	59.34	85.61	26.27	Peak
3	5718.859	50.93	12.57	63.50	110.48	46.98	Peak
4	5724.470	59.06	12.57	71.63	120.99	49.36	Peak

802.11ac vht20			
Test Channel:	**5825MHz**	**Ant. Polar. :**	**Horizontal**

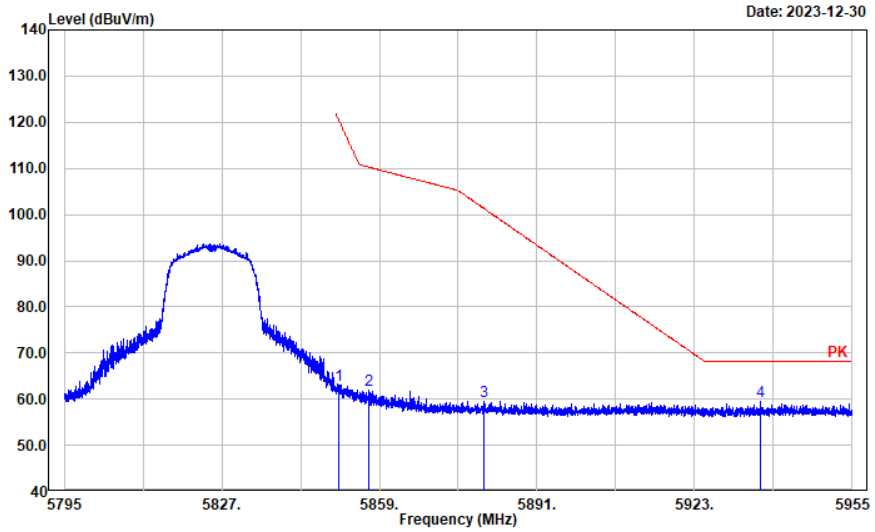
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5852.120	48.26	12.78	61.04	117.36	56.32	Peak
2	5857.720	47.10	12.81	59.91	110.04	50.13	Peak
3	5917.656	46.46	13.03	59.49	73.62	14.13	Peak
4	5946.328	46.11	13.03	59.14	68.20	9.06	Peak

802.11ac vht20			
Test Channel:	**5825MHz**	**Ant. Polar. :**	**Vertical**

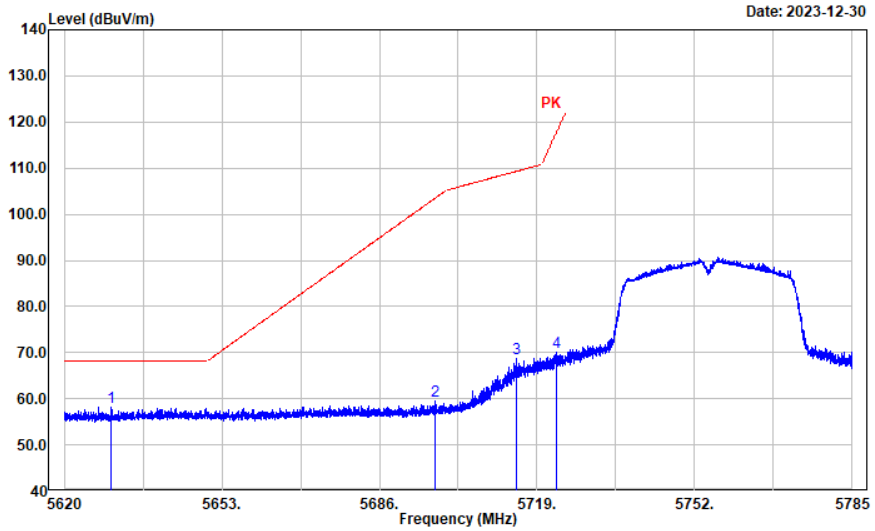
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5850.680	50.22	12.77	62.99	120.65	57.66	Peak
2	5856.760	49.05	12.81	61.86	110.31	48.45	Peak
3	5880.216	46.67	12.92	59.59	101.33	41.74	Peak
4	5936.376	46.46	13.03	59.49	68.20	8.71	Peak

802.11ac vht40			
Test Channel:	**5755MHz**	**Ant. Polar. :**	**Horizontal**

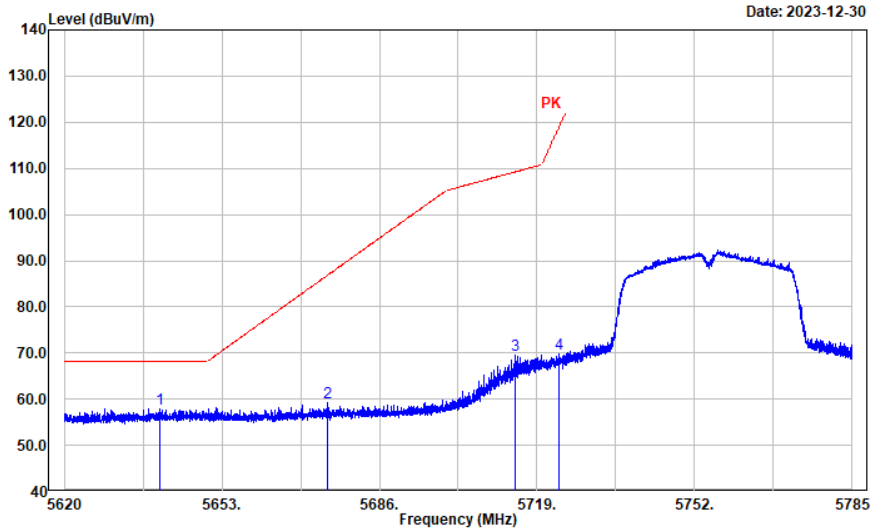
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5629.801	45.99	12.22	58.21	68.20	9.99	Peak
2	5697.649	46.85	12.54	59.39	103.47	44.08	Peak
3	5714.776	56.26	12.56	68.82	109.34	40.52	Peak
4	5723.125	57.50	12.57	70.07	117.93	47.86	Peak

802.11ac vht40			
Test Channel:	**5755MHz**	**Ant. Polar. :**	**Vertical**

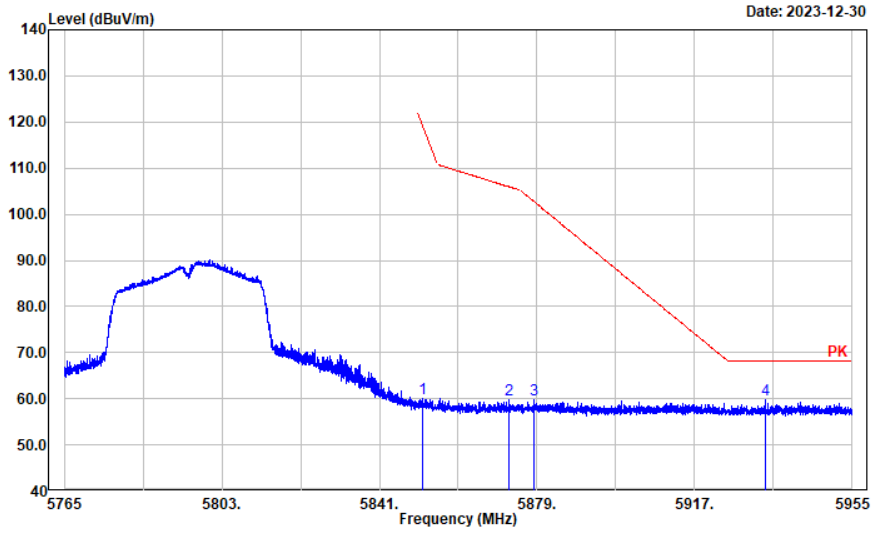
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5639.998	45.73	12.27	58.00	68.20	10.20	Peak
2	5675.044	46.80	12.44	59.24	86.77	27.53	Peak
3	5714.380	56.91	12.56	69.47	109.23	39.76	Peak
4	5723.587	57.12	12.57	69.69	118.98	49.29	Peak

802.11ac vht40			
Test Channel:	**5795MHz**	**Ant. Polar. :**	**Horizontal**

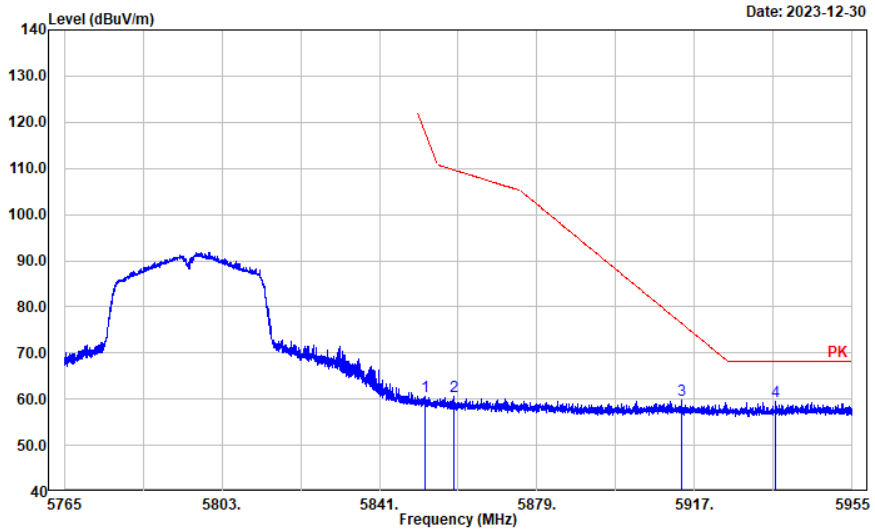
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5851.298	47.21	12.78	59.99	119.24	59.25	Peak
2	5872.160	46.93	12.89	59.82	105.99	46.17	Peak
3	5878.278	47.01	12.91	59.92	102.76	42.84	Peak
4	5934.024	46.68	13.03	59.71	68.20	8.49	Peak

802.11ac vht40			
Test Channel:	**5795MHz**	**Ant. Polar. :**	**Vertical**

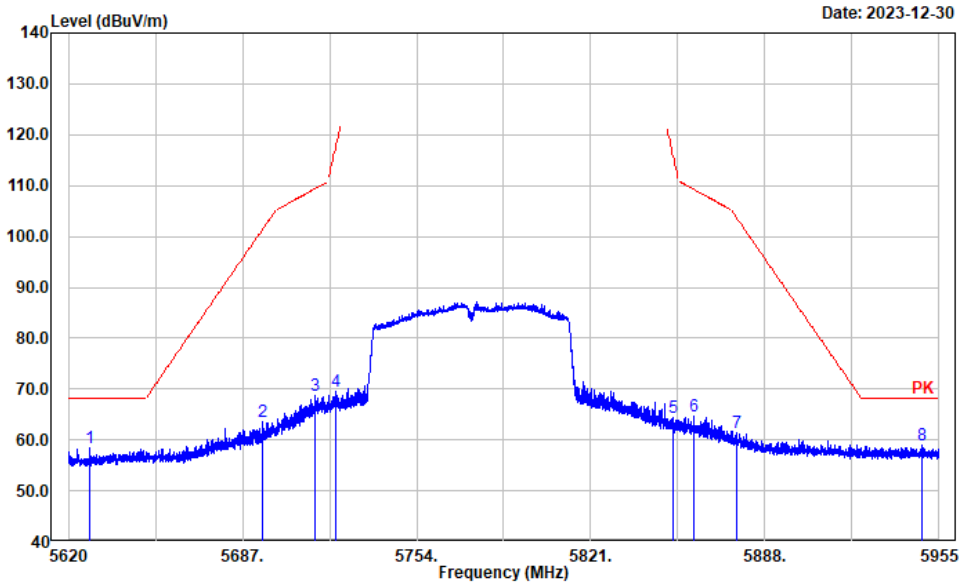
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5852.020	47.77	12.78	60.55	117.59	57.04	Peak
2	5859.012	47.66	12.81	60.47	109.68	49.21	Peak
3	5913.960	46.76	13.02	59.78	76.34	16.56	Peak
4	5936.608	46.56	13.03	59.59	68.20	8.61	Peak

802.11ac vht80			
Test Channel:	**5775MHz**	**Ant. Polar. :**	**Horizontal**

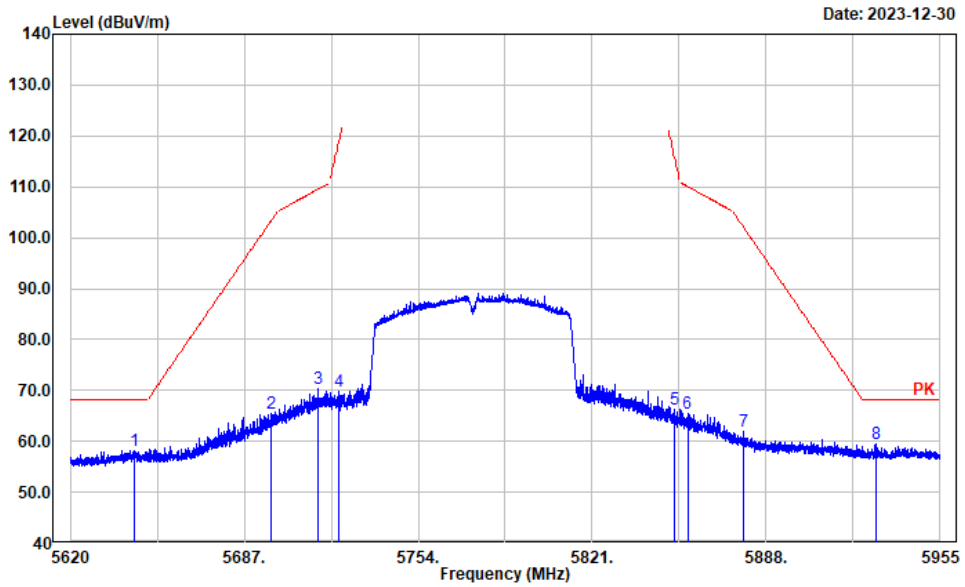
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5628.442	46.13	12.20	58.33	68.20	9.87	Peak
2	5694.772	51.01	12.52	63.53	101.35	37.82	Peak
3	5714.939	56.13	12.56	68.69	109.38	40.69	Peak
4	5723.113	56.91	12.57	69.48	117.90	48.42	Peak
5	5852.825	51.60	12.78	64.38	115.76	51.38	Peak
6	5860.664	51.89	12.82	64.71	109.21	44.50	Peak
7	5877.213	48.47	12.90	61.37	103.56	42.19	Peak
8	5948.300	45.98	13.03	59.01	68.20	9.19	Peak

802.11ac vht80			
Test Channel:	**5775MHz**	**Ant. Polar. :**	**Vertical**

Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Vertical
Note:

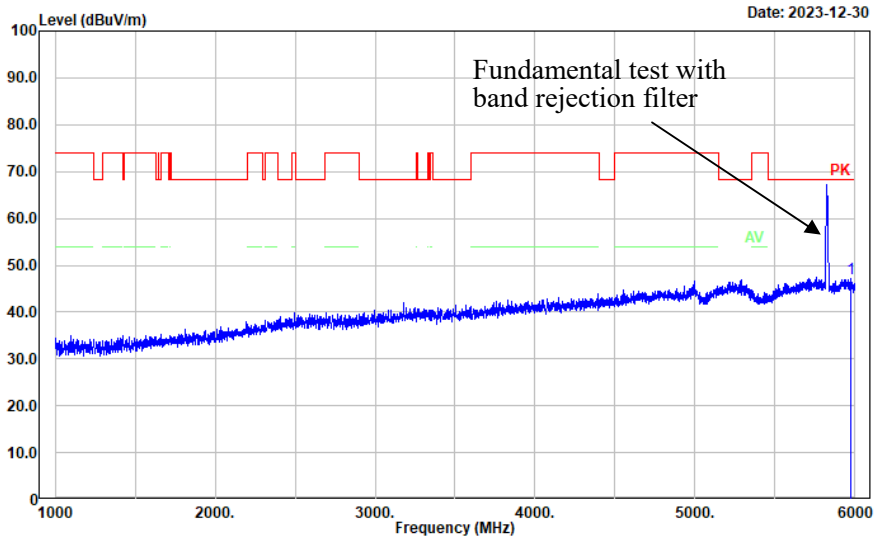


No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5644.656	45.88	12.29	58.17	68.20	10.03	Peak
2	5697.452	52.85	12.54	65.39	103.32	37.93	Peak
3	5715.207	57.89	12.56	70.45	109.46	39.01	Peak
4	5723.515	57.32	12.57	69.89	118.82	48.93	Peak
5	5852.691	53.55	12.78	66.33	116.06	49.73	Peak
6	5857.716	52.58	12.81	65.39	110.04	44.65	Peak
7	5879.357	48.96	12.92	61.88	101.96	40.08	Peak
8	5930.545	46.36	13.04	59.40	68.20	8.80	Peak

Listed with the worst harmonic margin test plot (802.11ac vht20 5825MHz)

Horizontal	
1-6GHz	

Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: horizontal
Note:

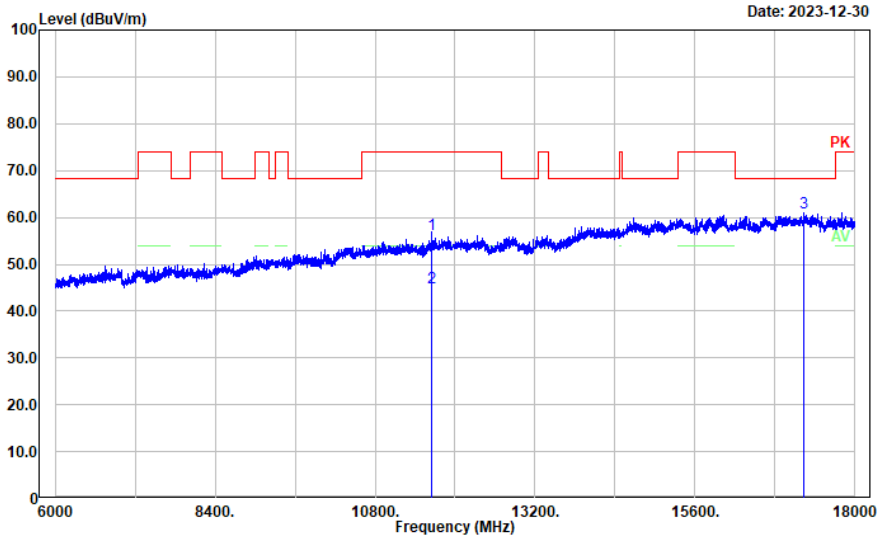


No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5976.000	34.05	13.14	47.19	68.20	21.01	Peak

Horizontal

6-18GHz

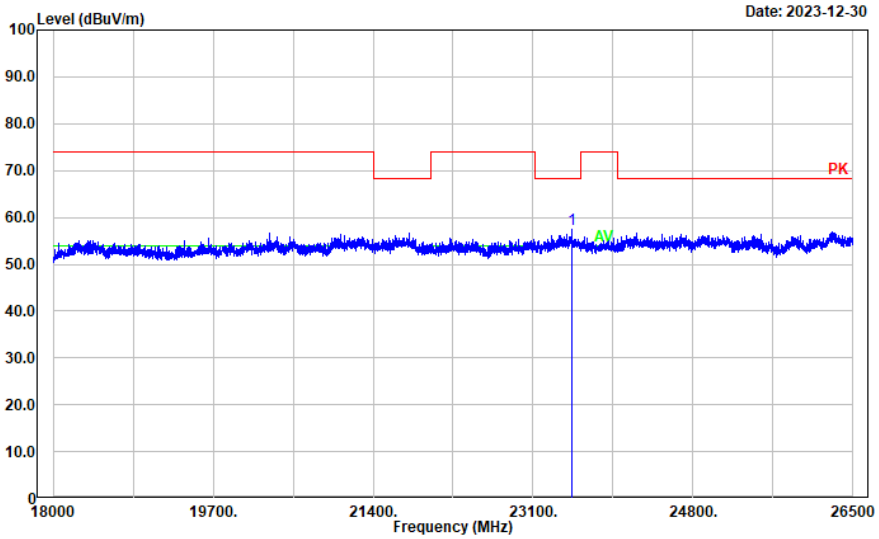
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	11650.000	34.24	22.04	56.28	74.00	17.72	Peak
2	11650.000	22.91	22.04	44.95	54.00	9.05	Average
3	17224.800	32.30	28.67	60.97	68.20	7.23	Peak

Horizontal	
18-26.5GHz	

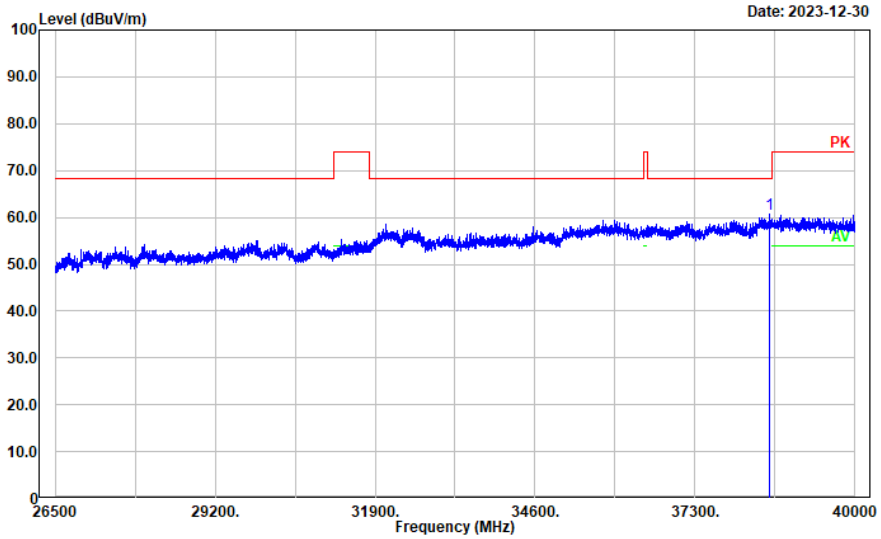
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Horizontal
Note:



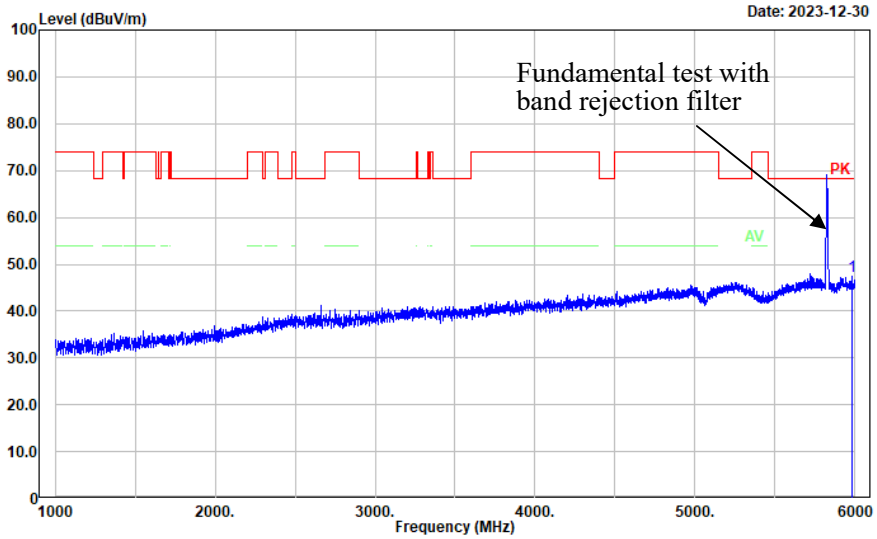
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	23506.300	51.96	5.38	57.34	68.20	10.86	Peak

Horizontal	
26.5-40GHz	

Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Horizontal
Note:

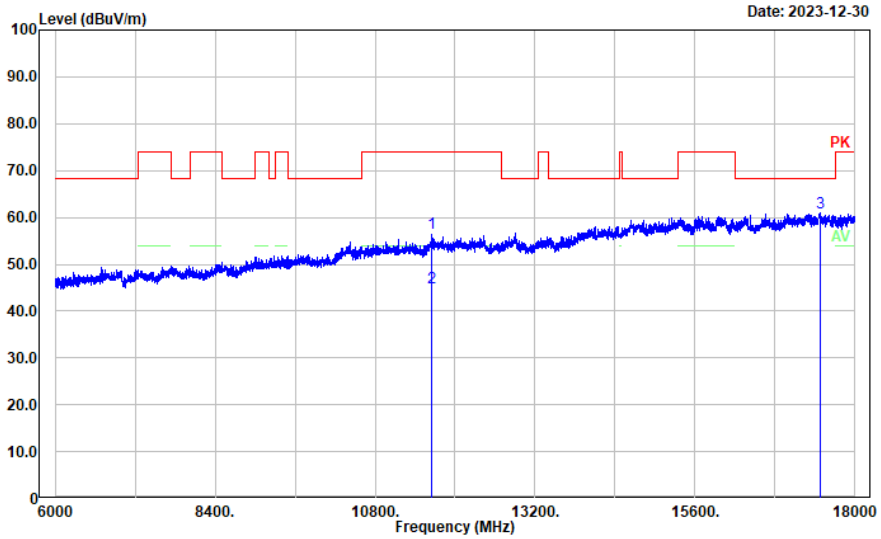


No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	38558.200	50.14	10.45	60.59	68.20	7.61	Peak

Vertical	
1-6GHz	Project No.: CR231167508-RF Tester: Mack Huang/Tao Zhu Polarization: vertical Note:  No. Frequency (MHz) Reading (dBµV) Factor (dB/m) Result (dBµV/m) Limit (dBµV/m) Margin (dB) Detector 1 5981.000 34.36 13.16 47.52 68.20 20.68 Peak

Vertical	
6-18GHz	

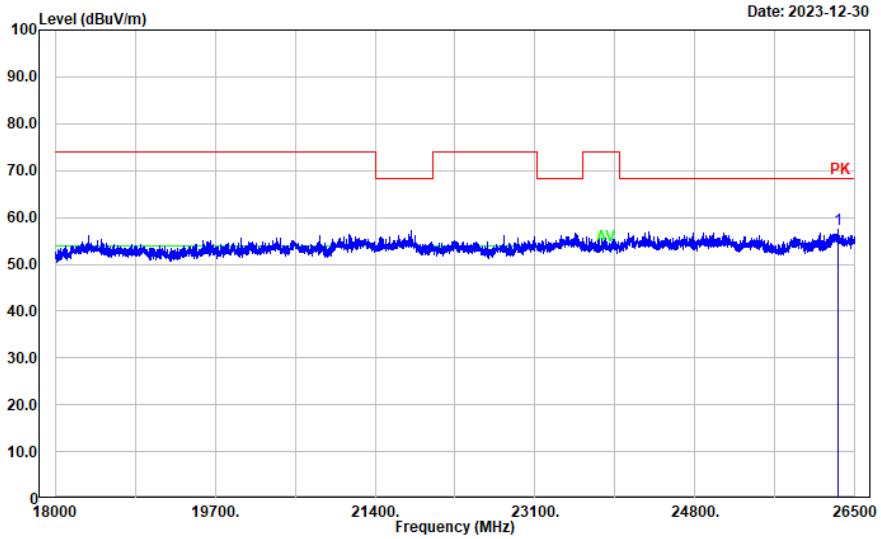
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	11650.000	34.66	22.04	56.70	74.00	17.30	Peak
2	11650.000	22.95	22.04	44.99	54.00	9.01	Average
3	17469.600	30.98	29.87	60.85	68.20	7.35	Peak

Vertical	
18-26.5GHz	

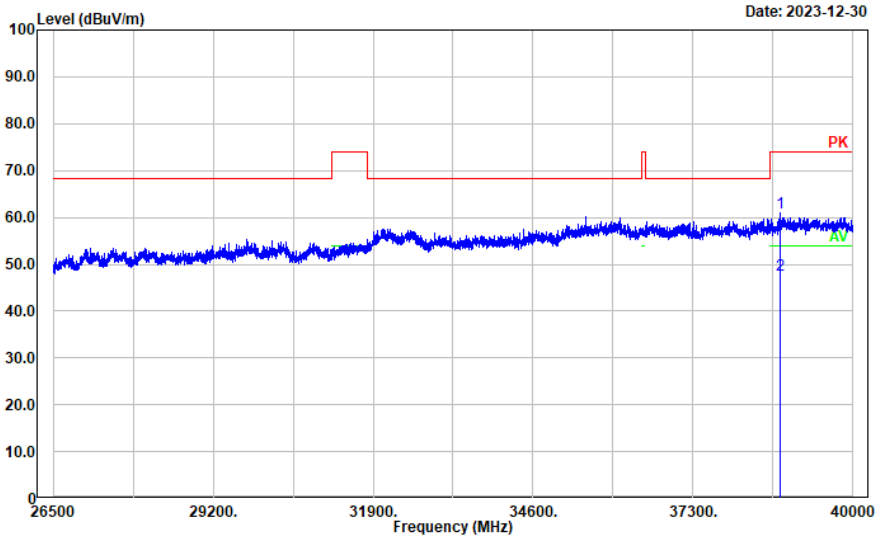
Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	26314.700	50.49	6.89	57.38	68.20	10.82	Peak

Vertical	
26.5-40GHz	

Project No.: CR231167508-RF
Tester: Mack Huang/Tao Zhu
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	38779.600	51.03	9.83	60.86	74.00	13.14	Peak
2	38779.600	37.82	9.83	47.65	54.00	6.35	Average

4.3 Emission Bandwidth

Serial Number:	2DPM-2	Test Date:	2023/12/17
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	25.9	Relative Humidity: (%)	60	ATM Pressure: (kPa)	100.2

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	102259	2023/4/18	2024/4/17
zhuoxiang	Coaxial Cable	SMA-178	211003	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060302	Each time	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

5150-5250 MHz:

Test Modes	Test Frequency (MHz)	26 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5180	37.12	17.023
	5200	32.05	17.063
	5240	32.16	17.383
802.11ac vht20	5180	25.64	17.742
	5200	32.2	18.102
	5240	25.65	17.822
802.11ac vht40	5190	40.48	36.044
	5230	55.08	36.284
802.11ac vht80	5210	80.75	74.805
Note: Test only was performed at Chain 0.			

5250-5350 MHz:

Test Modes	Test Frequency (MHz)	26 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5260	33.92	17.622
	5280	32.2	17.423
	5320	20.56	16.583
802.11ac vht20	5260	30	17.902
	5280	25.04	17.822
	5320	20.52	17.622
802.11ac vht40	5270	53.84	36.204
	5310	40.56	35.964
802.11ac vht80	5290	80.48	74.965
Note: Test only was performed at Chain 0.			

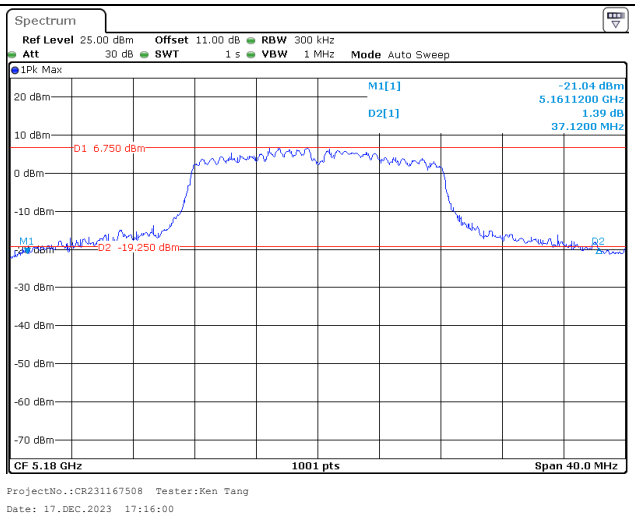
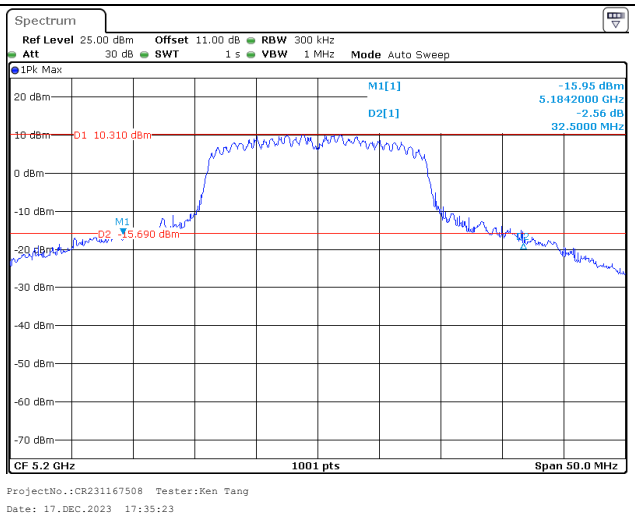
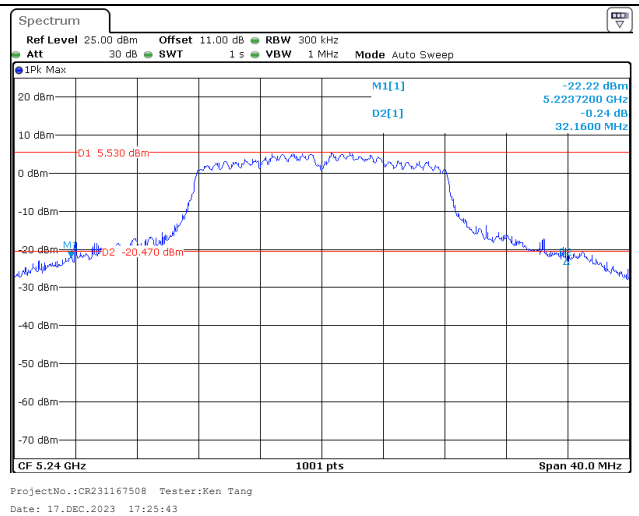
5470-5725 MHz:

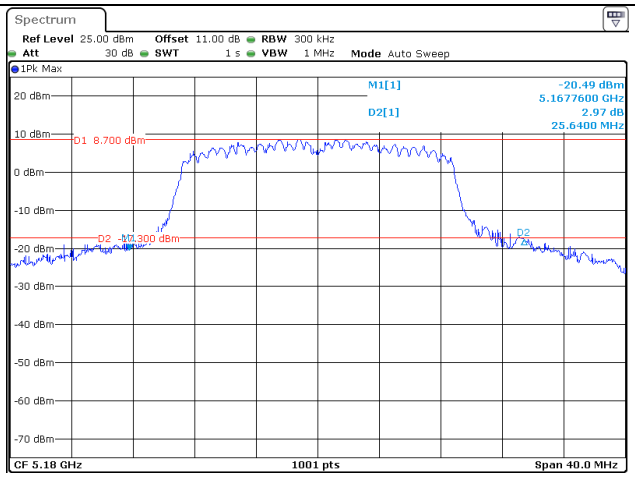
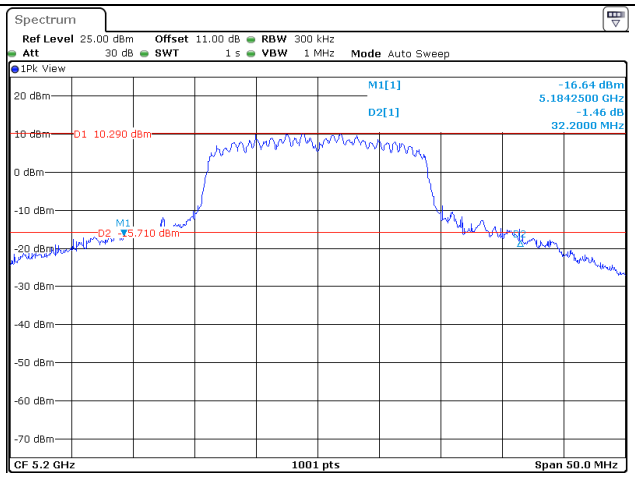
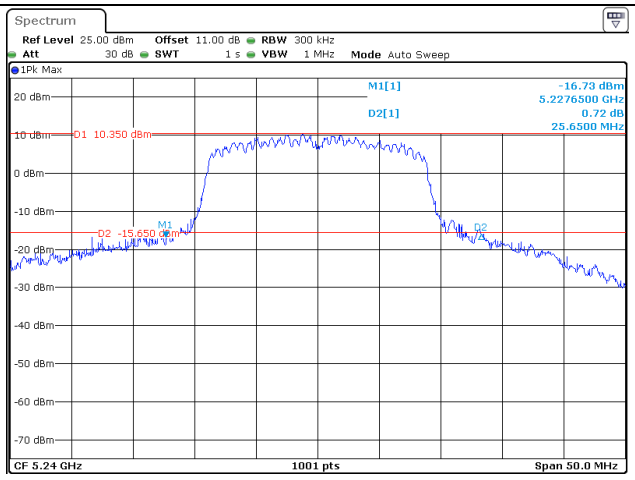
Test Modes	Test Frequency (MHz)	26 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5500	20.04	16.543
	5580	31.6	17.343
	5700	19.96	16.503
802.11ac vht20	5500	20.4	17.622
	5580	27.2	17.822
	5700	20.48	17.582
802.11ac vht40	5510	40.24	35.884
	5550	40.32	35.964
	5670	40.64	35.964
802.11ac vht80	5530	80.96	74.965
	5610	83.68	75.285
Note: Test only was performed at Chain 0.			

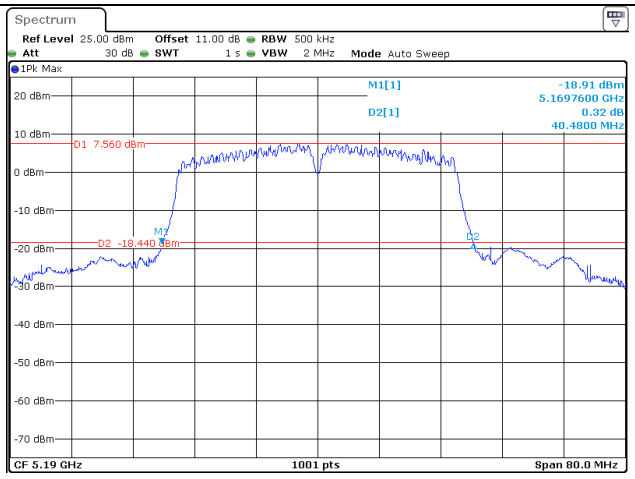
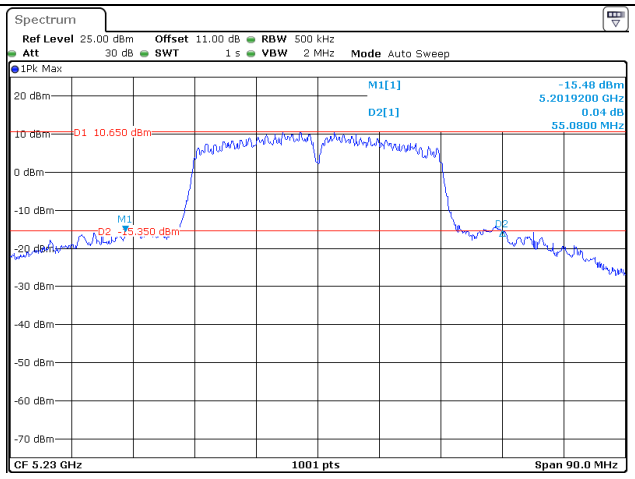
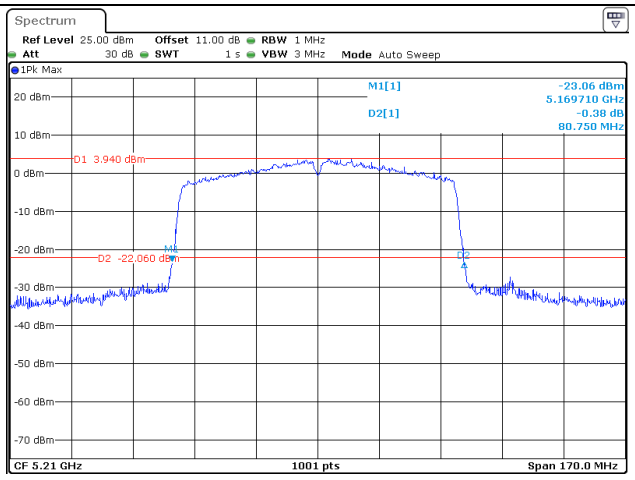
5725-5850 MHz:

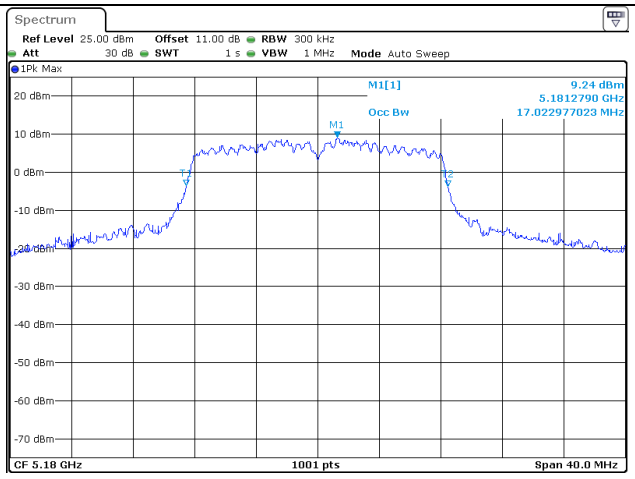
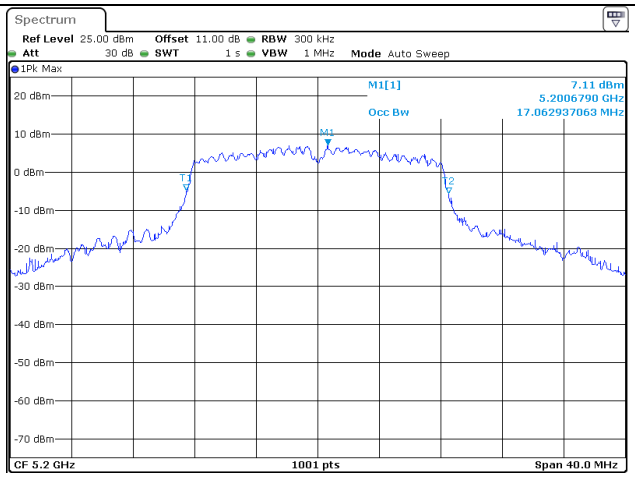
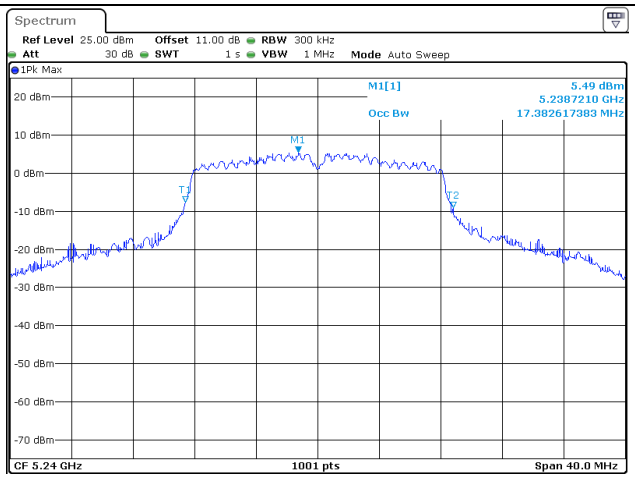
Test Modes	Test Frequency (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5745	15.4	17.303
	5785	15.4	17.063
	5825	15.4	17.343
802.11ac vht20	5745	15.8	17.742
	5785	15.8	17.742
	5825	15.8	17.742
802.11ac vht40	5755	35.28	36.124
	5795	35.28	36.124
802.11ac vht80	5775	75.36	75.125
Note: 6dB Emission Bandwidth Limit: ⩾0.5 MHz Test only was performed at Chain 0.			

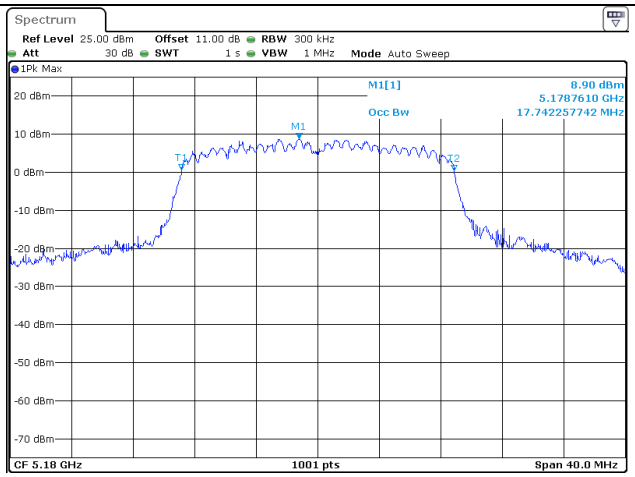
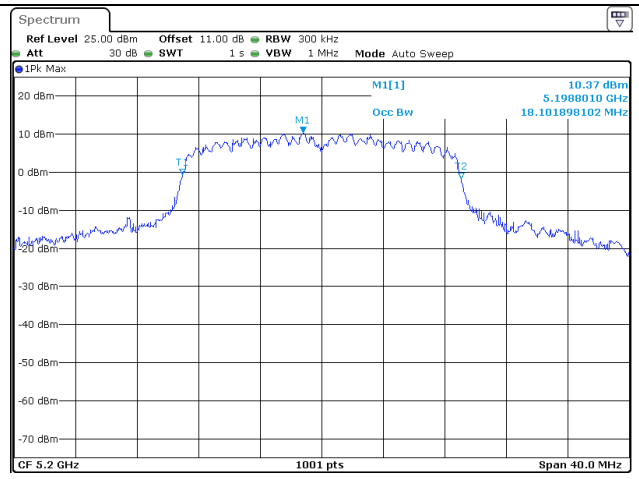
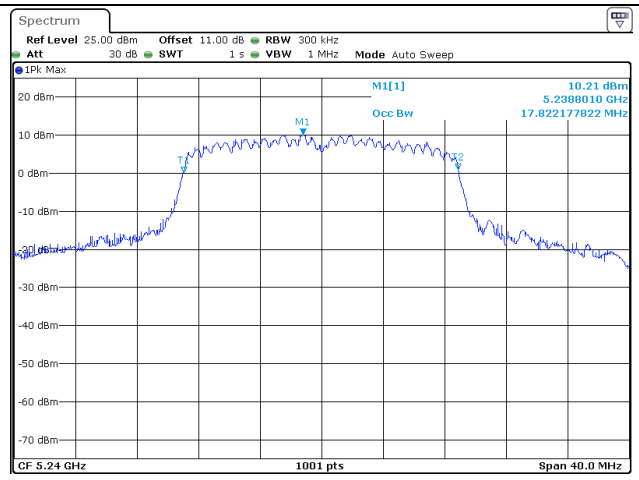
5150-5250MHz:

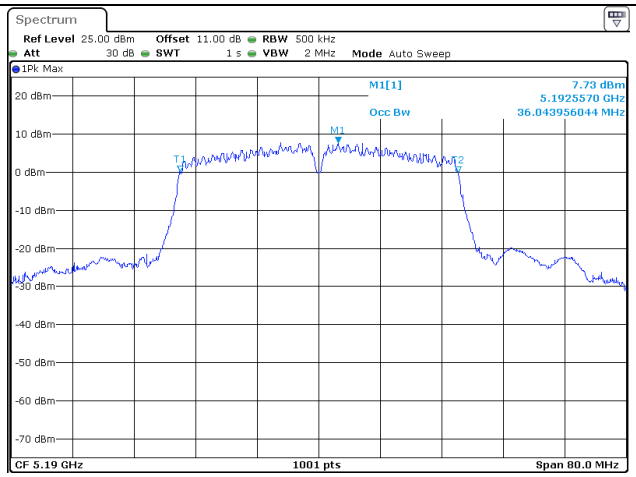
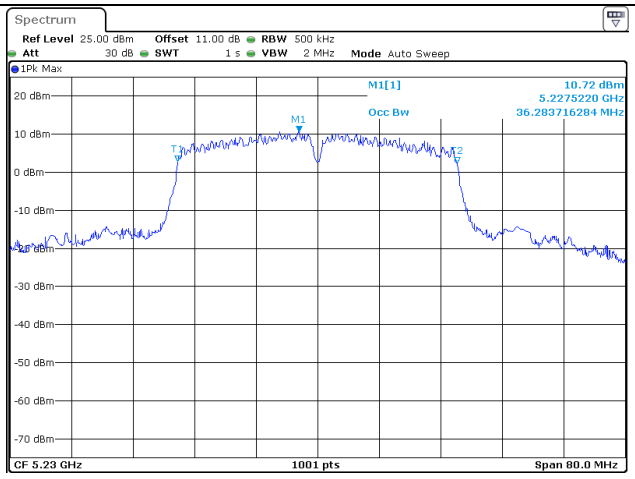
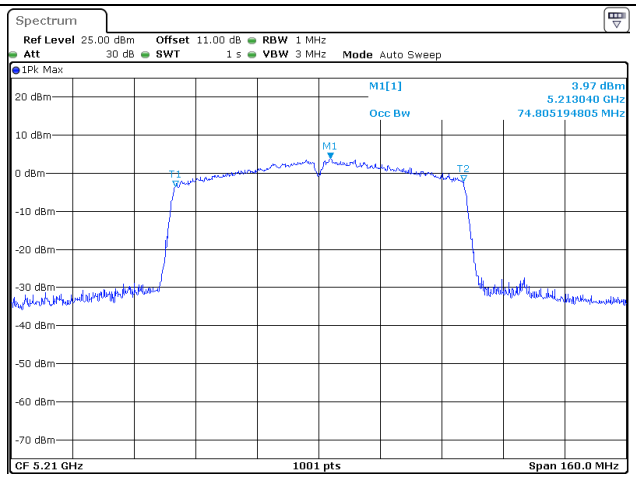
26dB Emission Bandwidth	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

26dB Emission Bandwidth	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

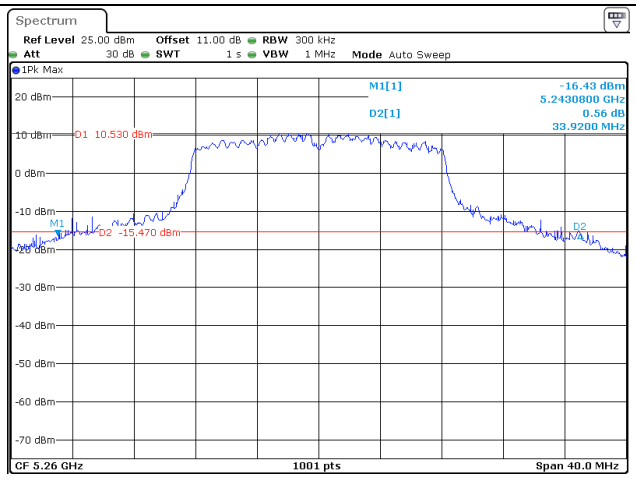
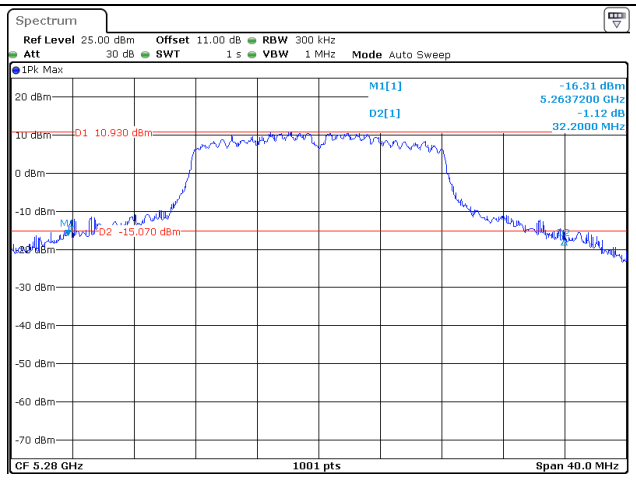
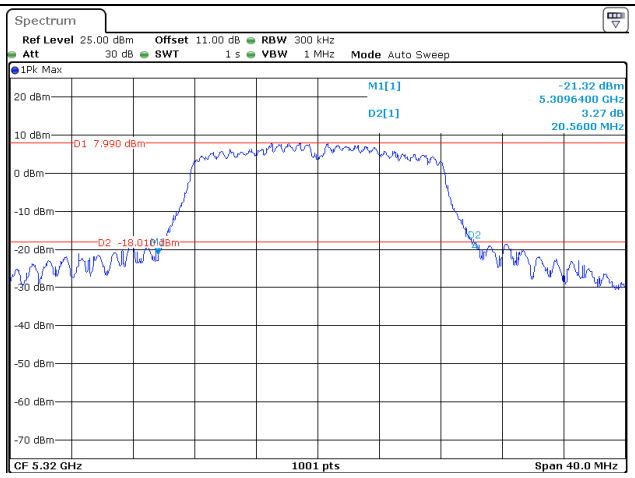
26dB Emission Bandwidth	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

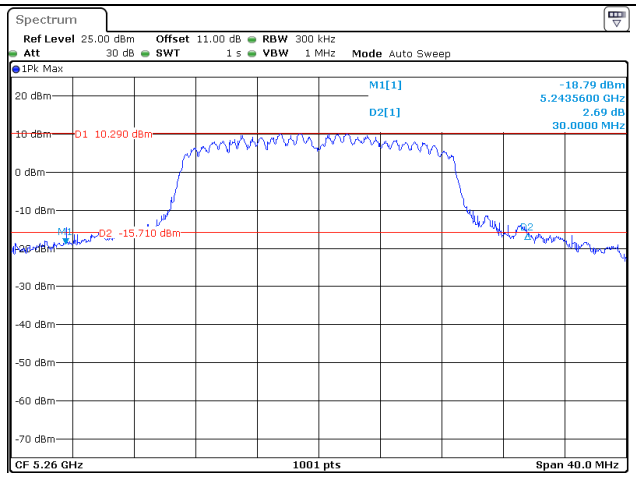
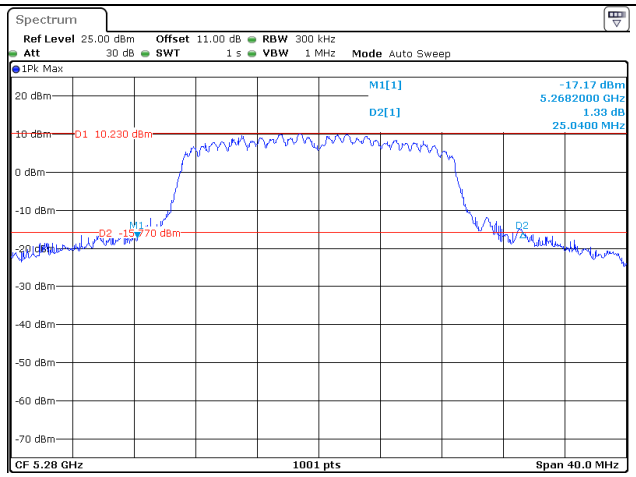
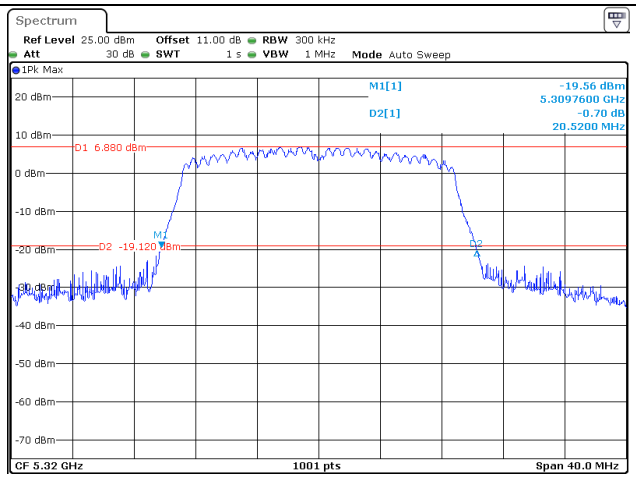
99% Emission Bandwidth	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

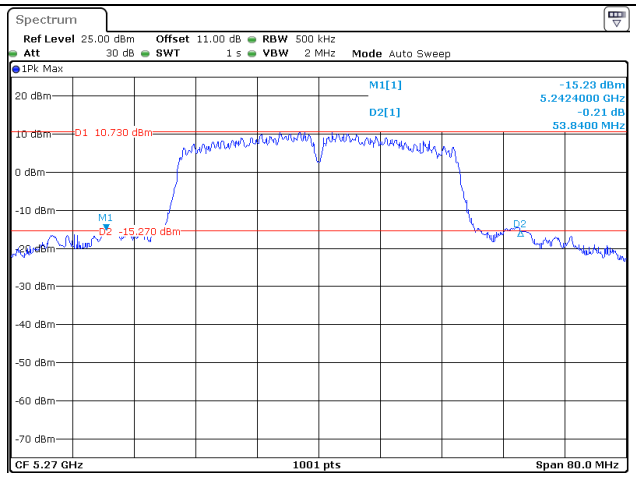
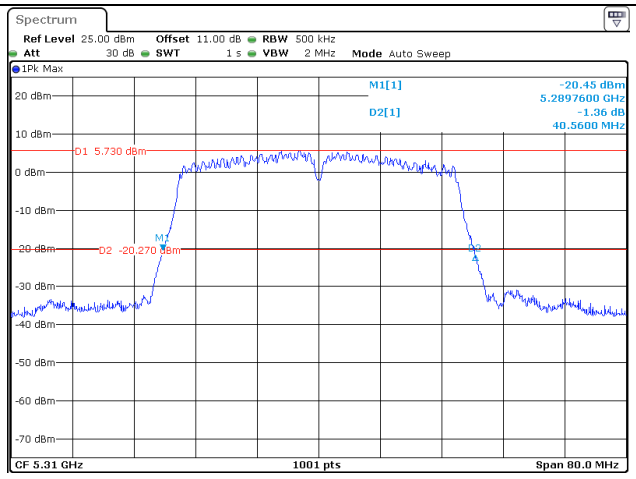
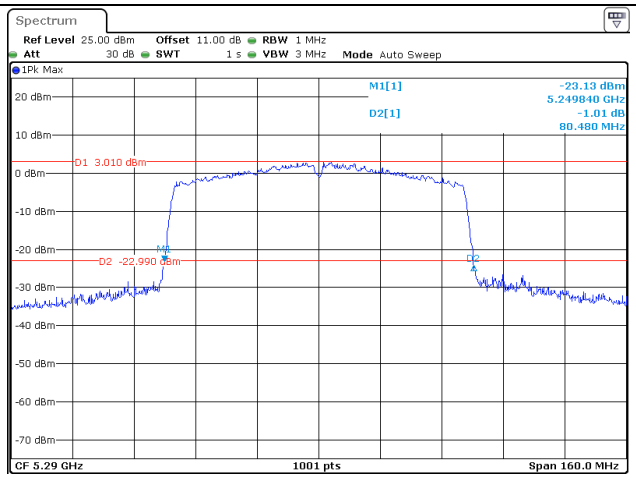
99% Emission Bandwidth	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

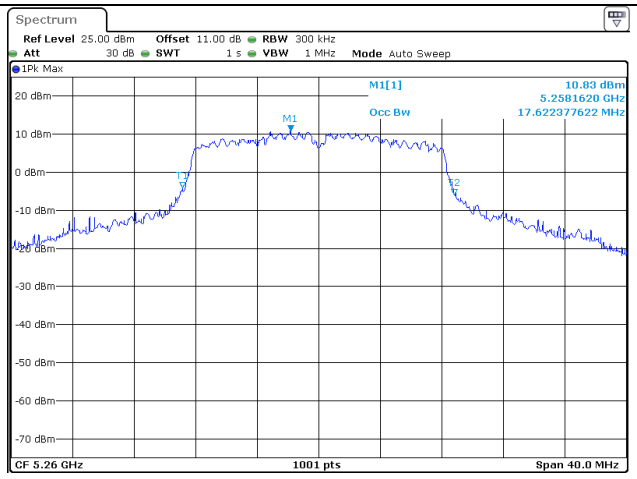
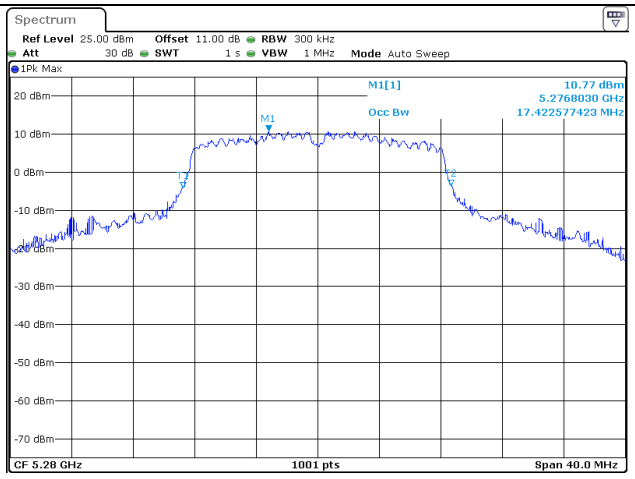
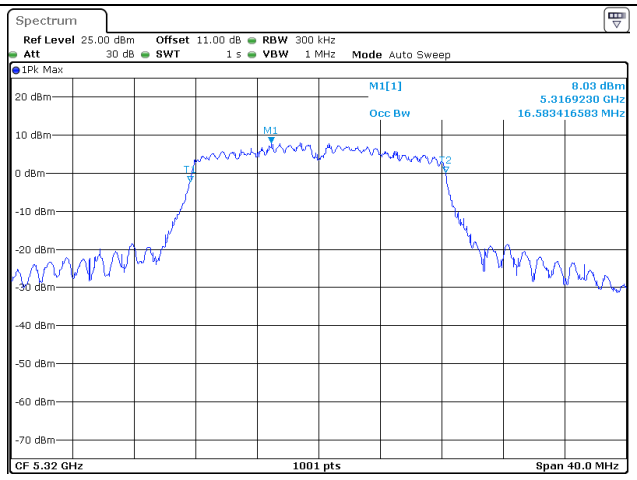
99% Emission Bandwidth	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

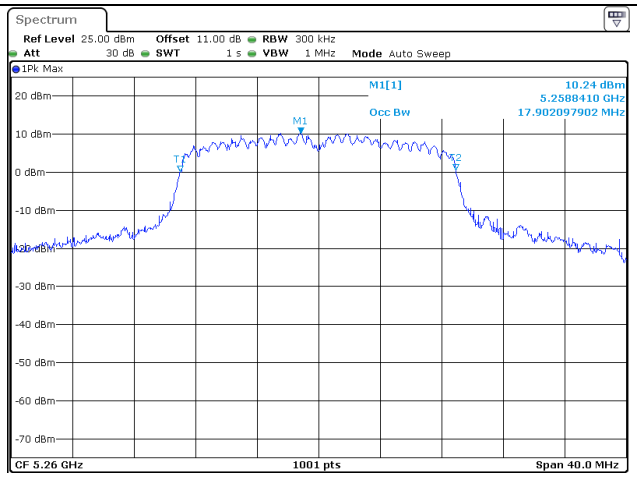
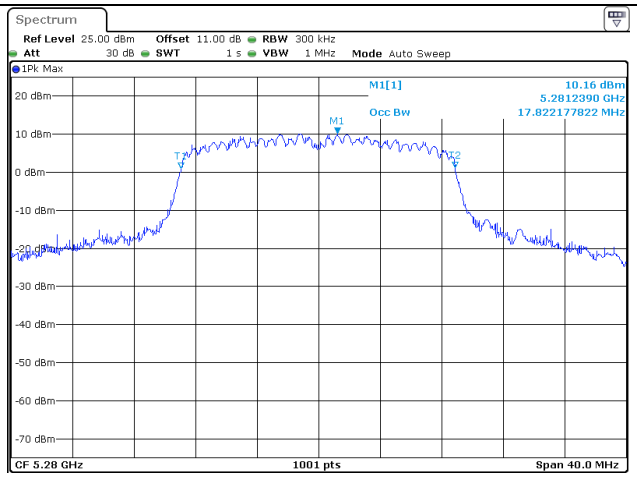
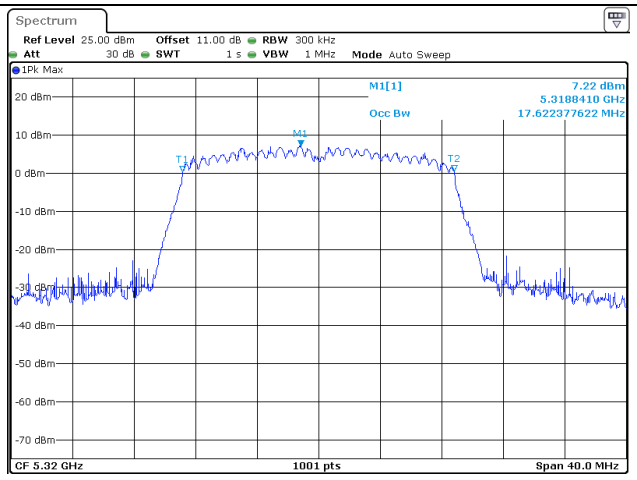
5250-5350MHz:

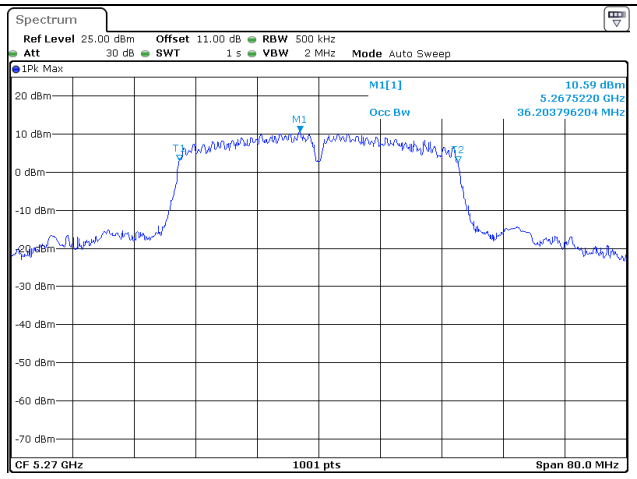
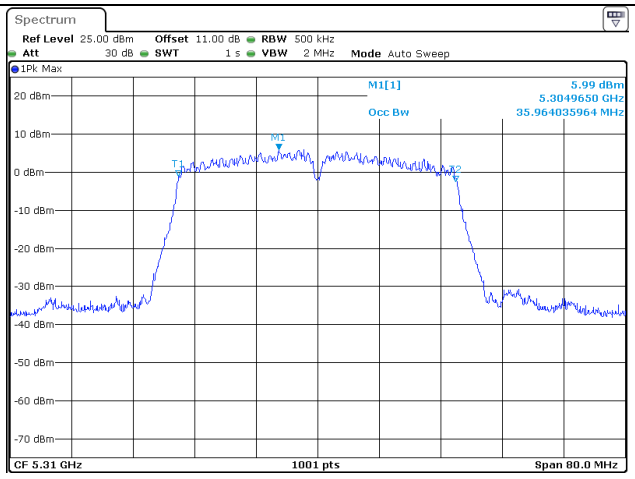
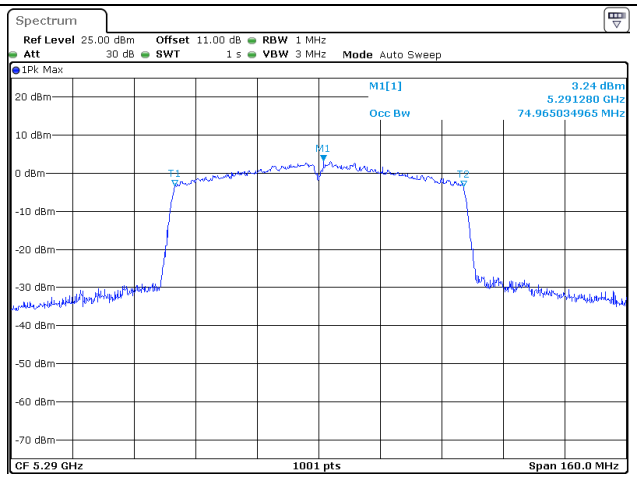
26dB Emission Bandwidth	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

26dB Emission Bandwidth	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

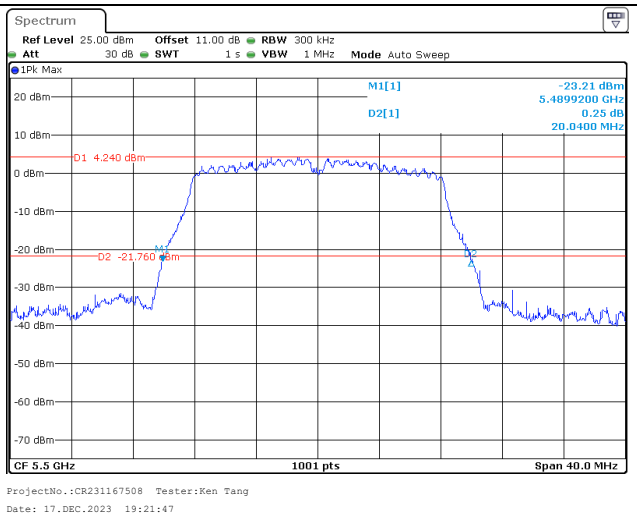
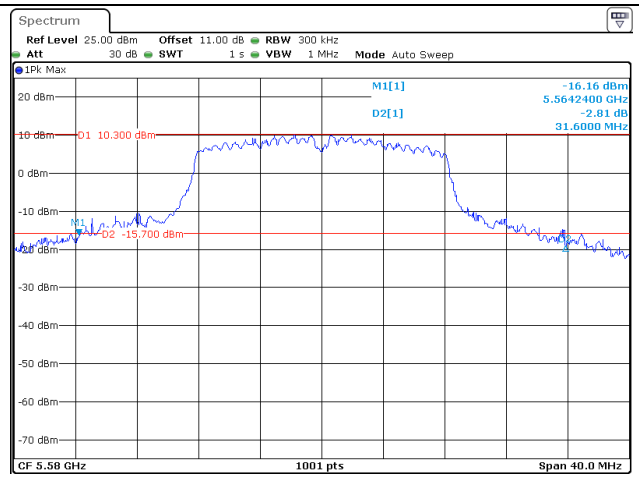
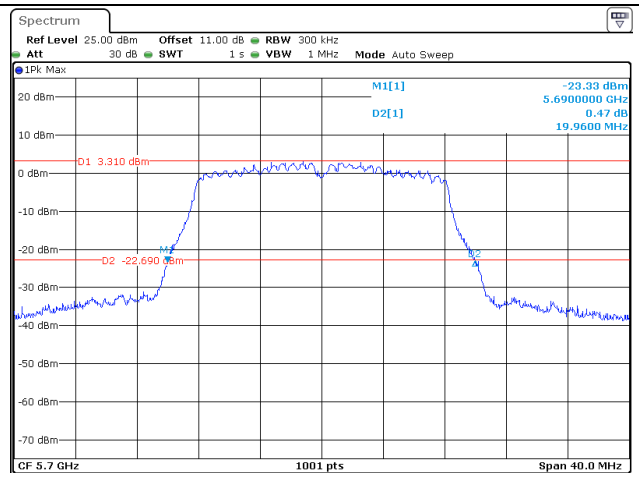
26dB Emission Bandwidth	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

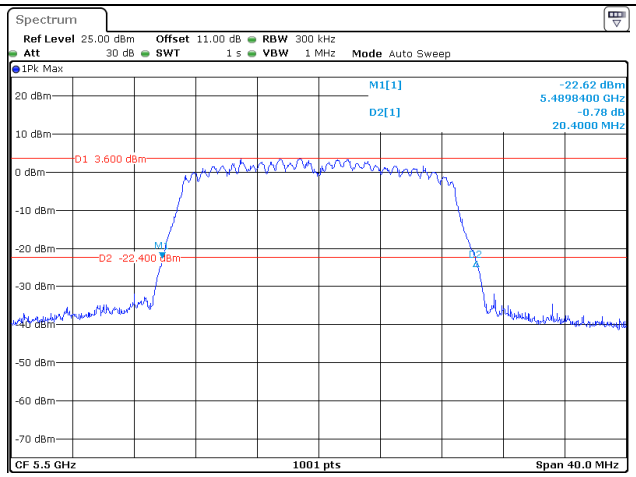
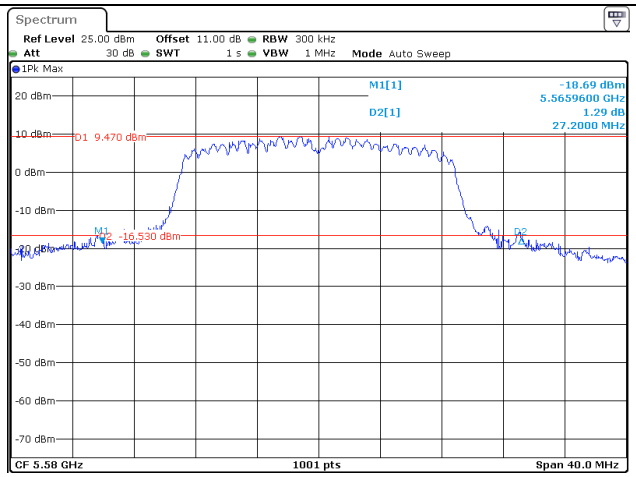
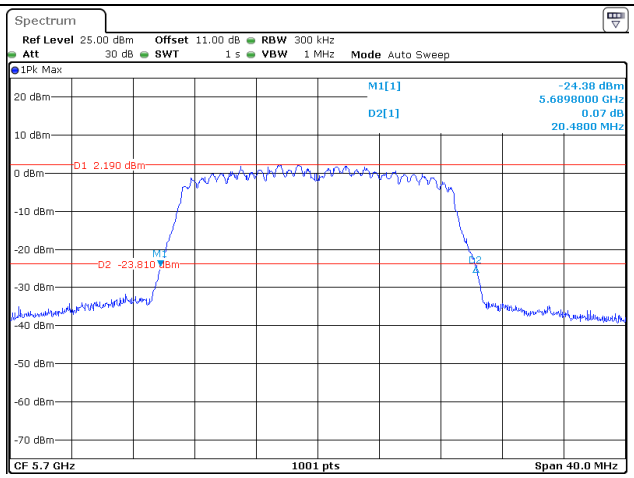
99% Emission Bandwidth	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

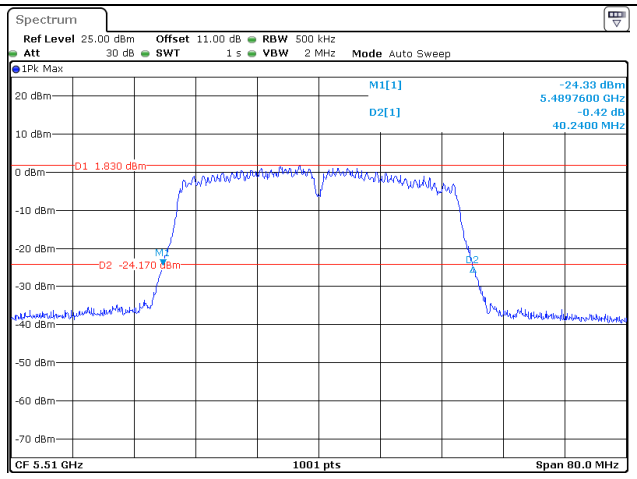
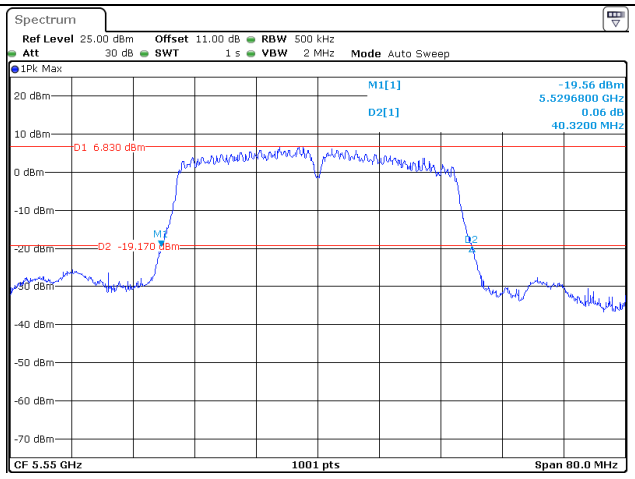
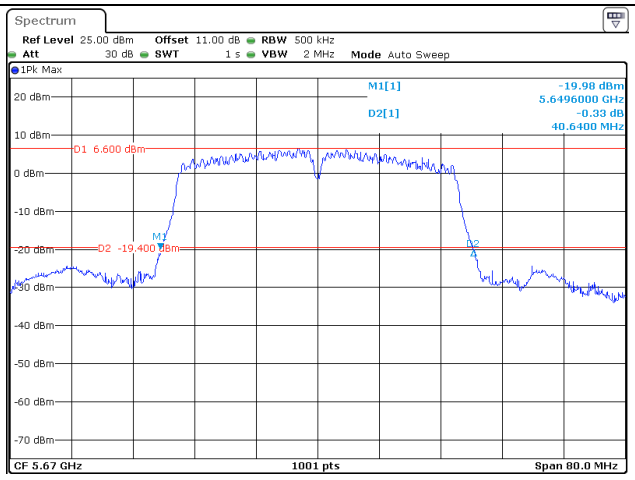
99% Emission Bandwidth	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

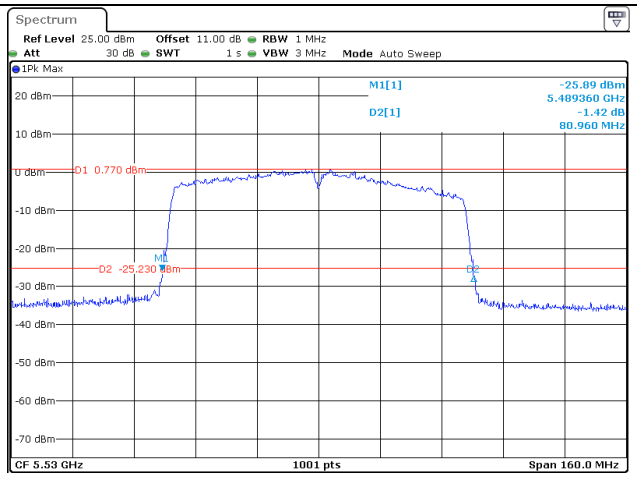
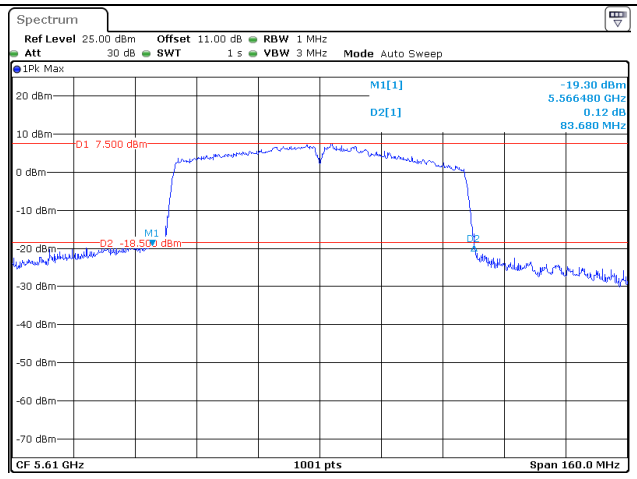
99% Emission Bandwidth	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

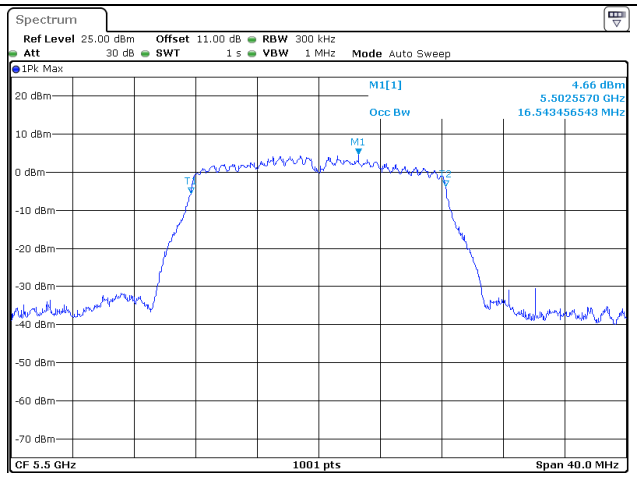
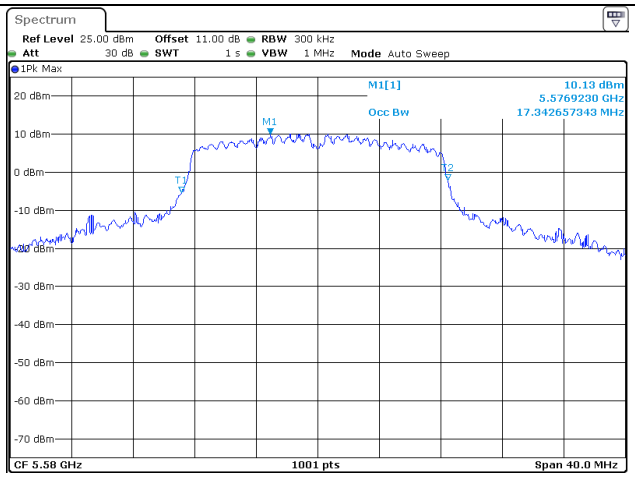
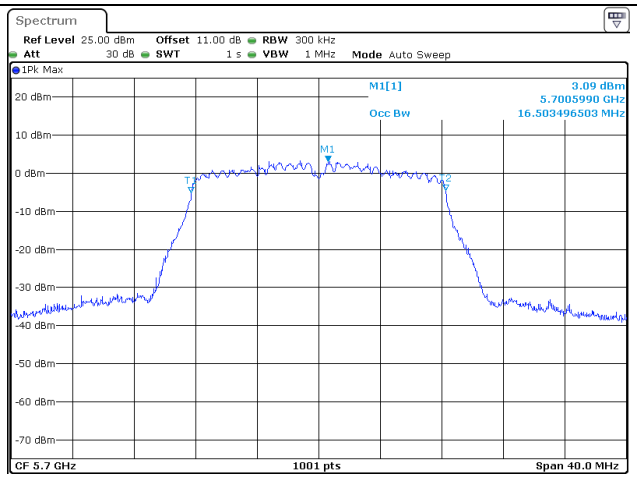
5470-5725 MHz:

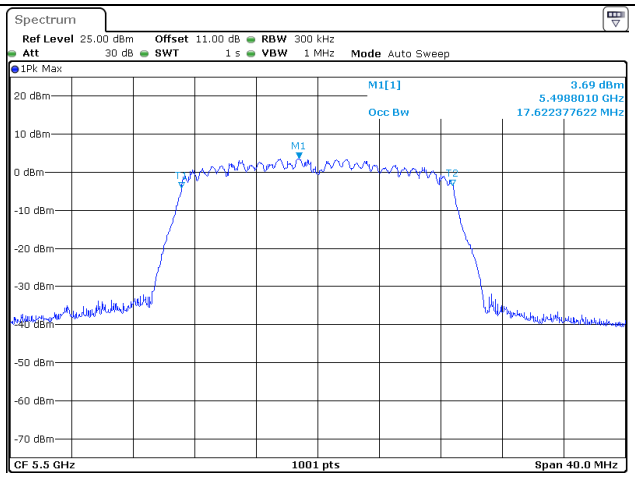
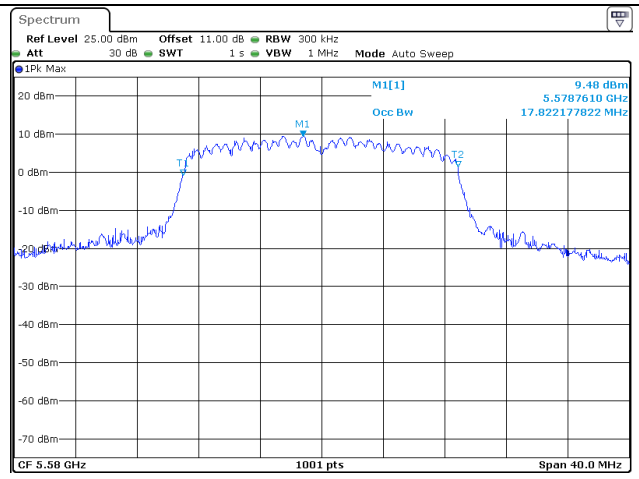
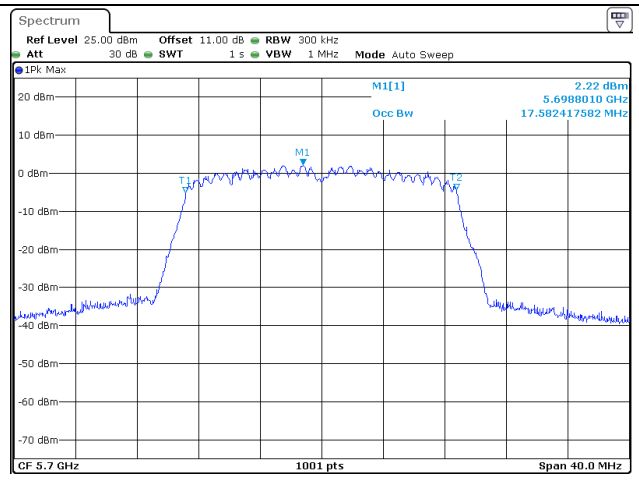
26dB Emission Bandwidth	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

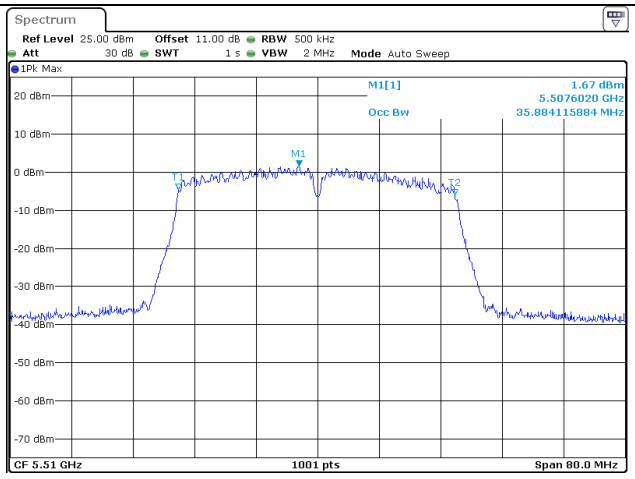
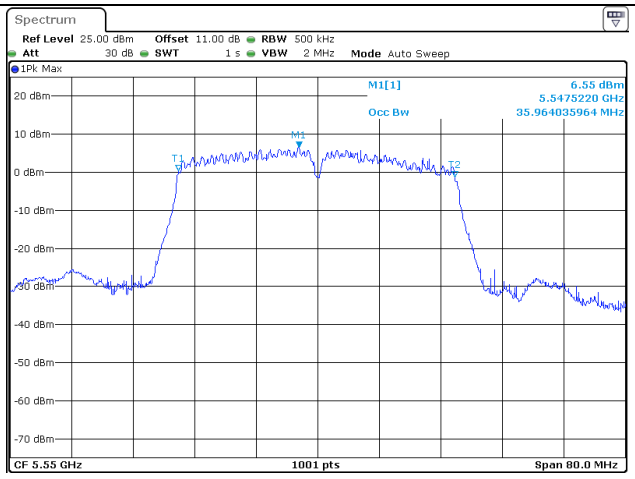
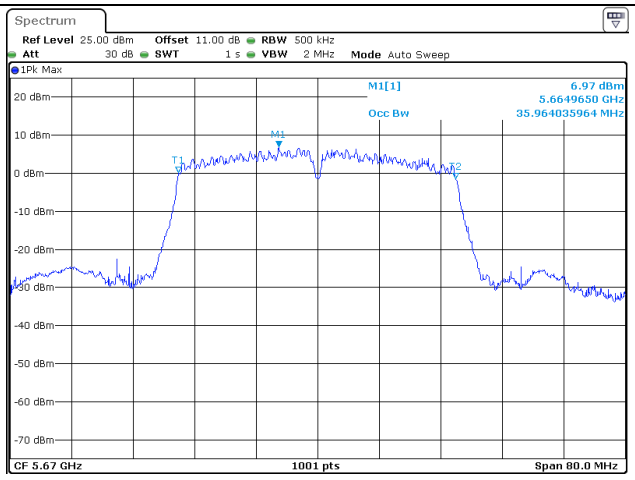
26dB Emission Bandwidth	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

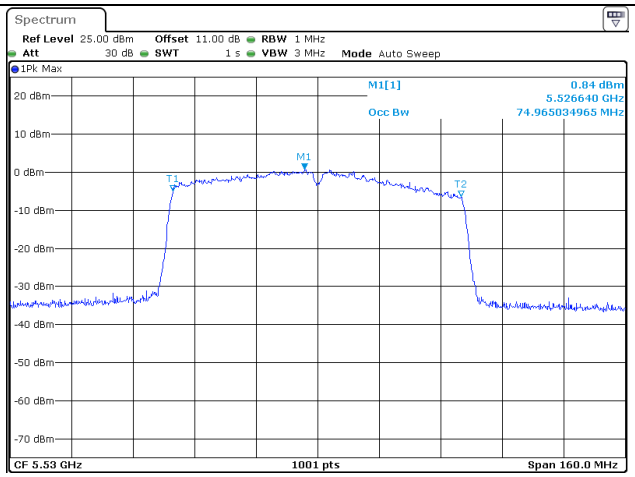
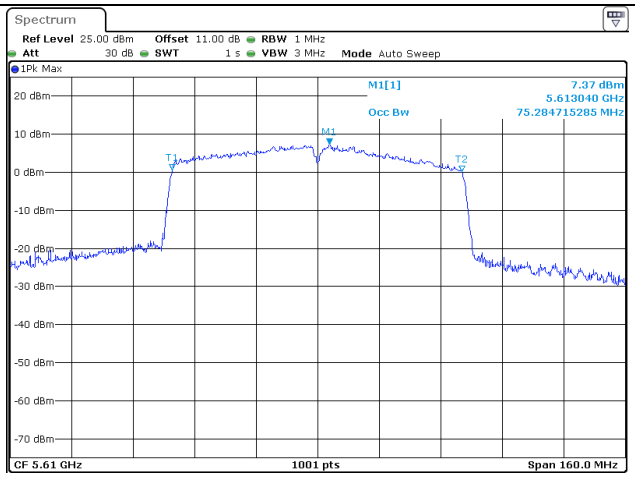
26dB Emission Bandwidth	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Middle Channel	
802.11ac vht40 Highest Channel	

26dB Emission Bandwidth	
802.11ac vht80 Lowest Channel	
802.11ac vht80 Highest Channel	

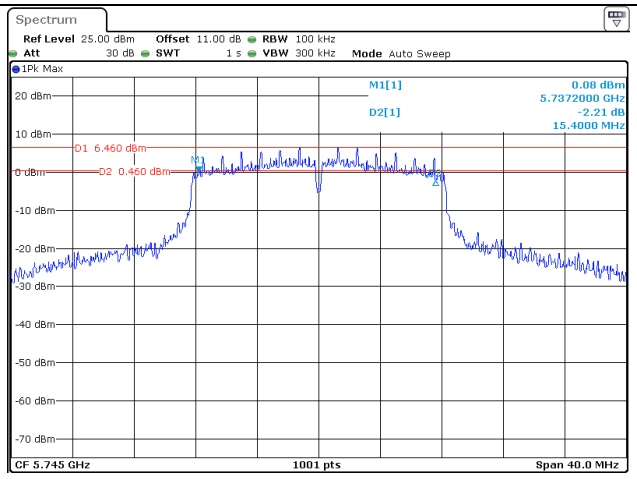
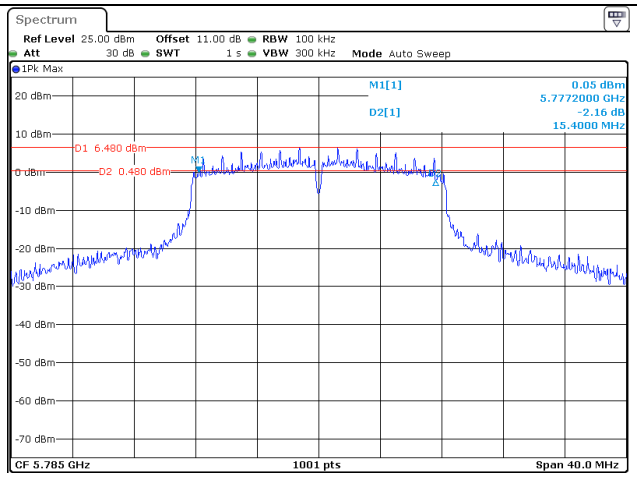
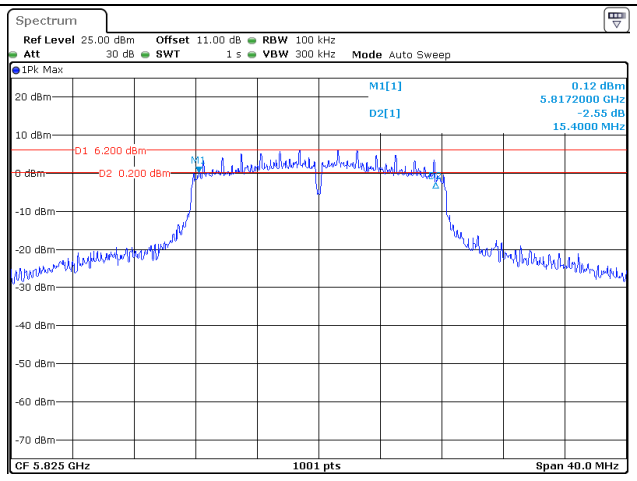
99% Emission Bandwidth	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

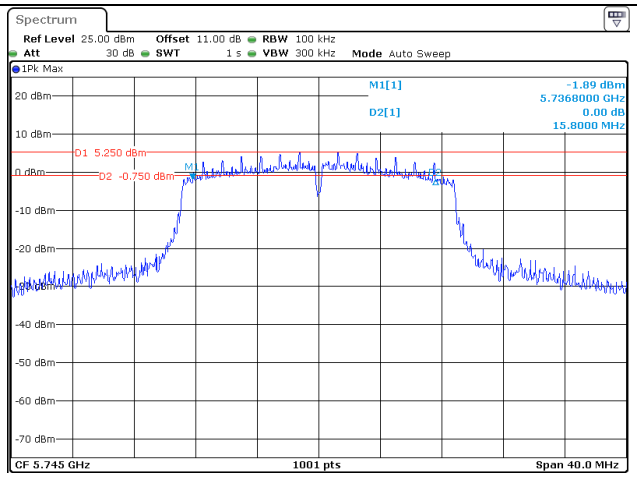
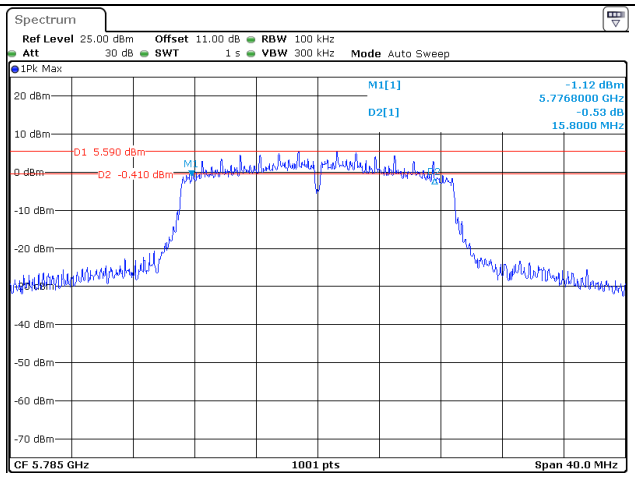
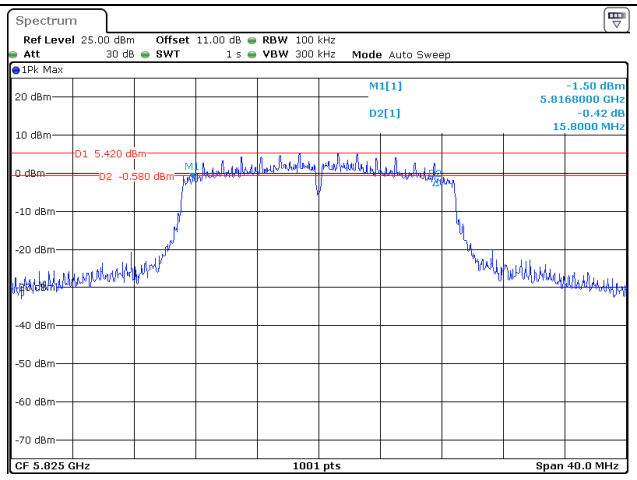
99% Emission Bandwidth	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

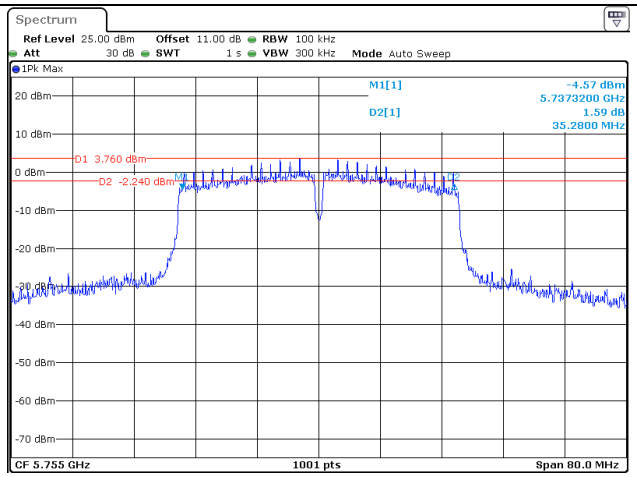
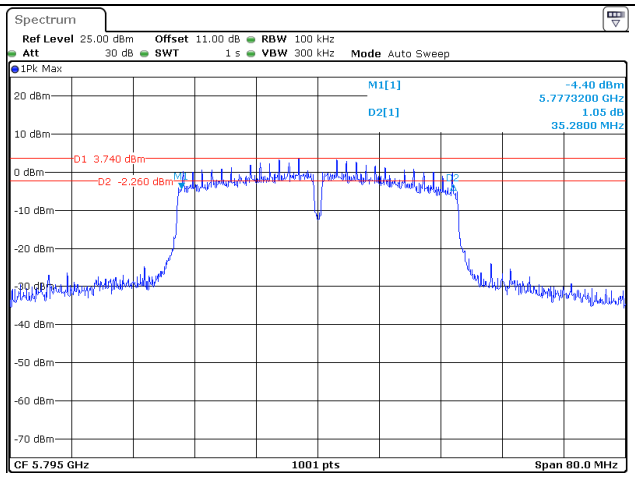
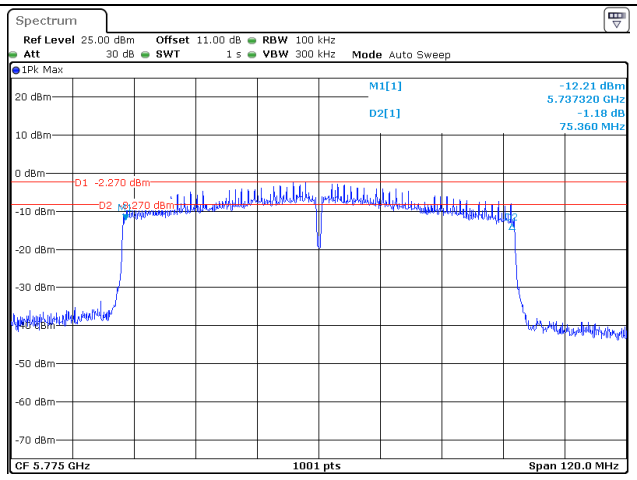
99% Emission Bandwidth	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Middle Channel	
802.11ac vht40 Highest Channel	

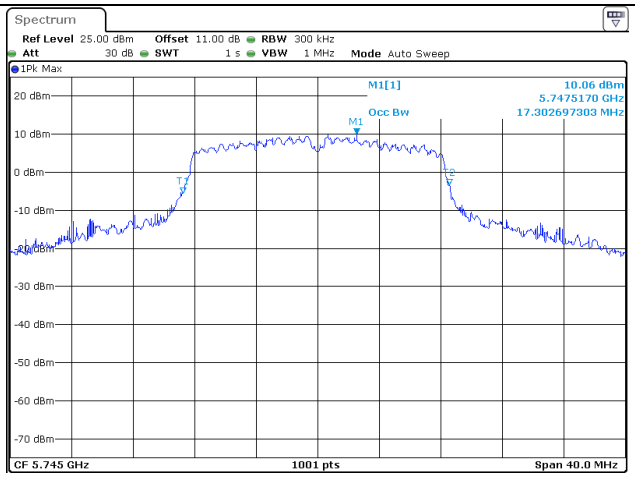
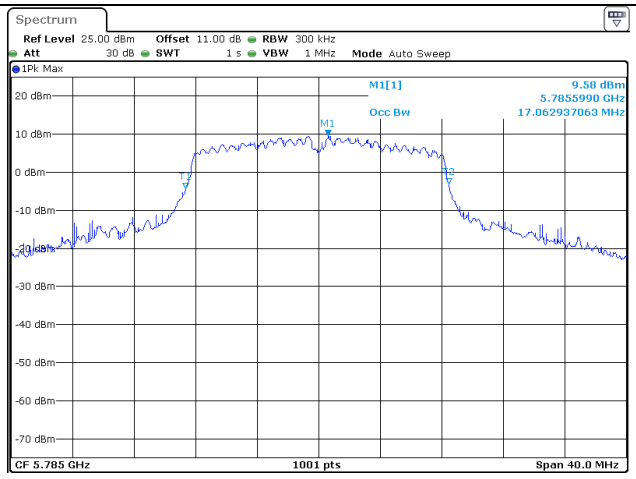
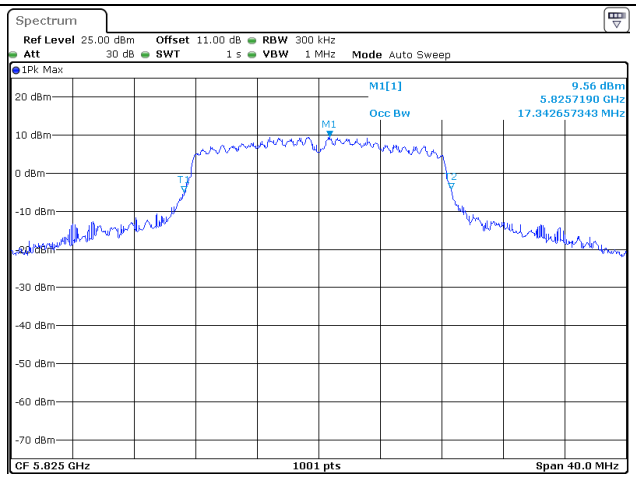
99% Emission Bandwidth	
802.11ac vht80 Lowest Channel	
802.11ac vht80 Highest Channel	

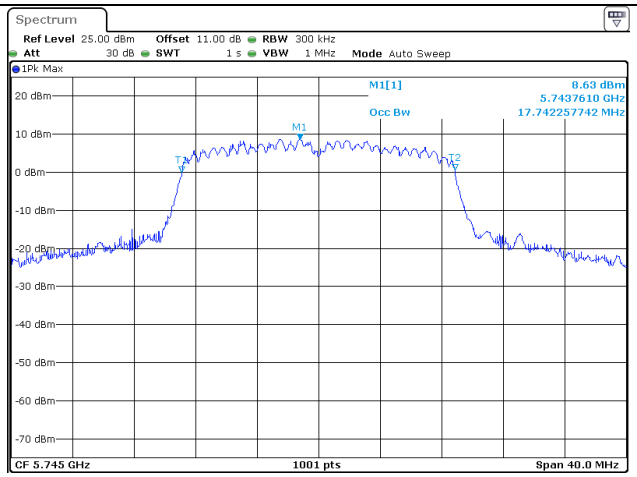
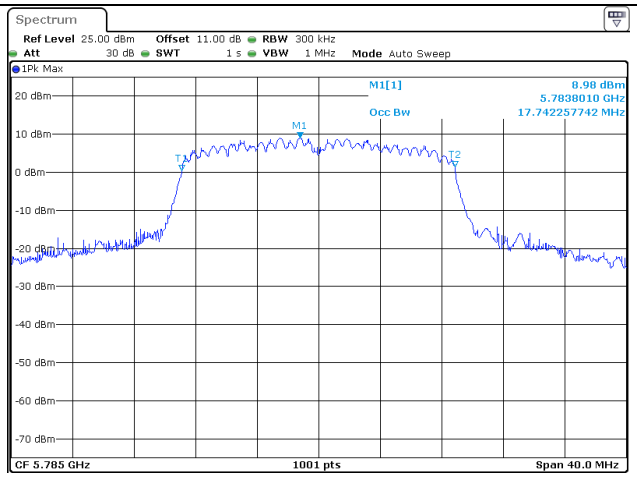
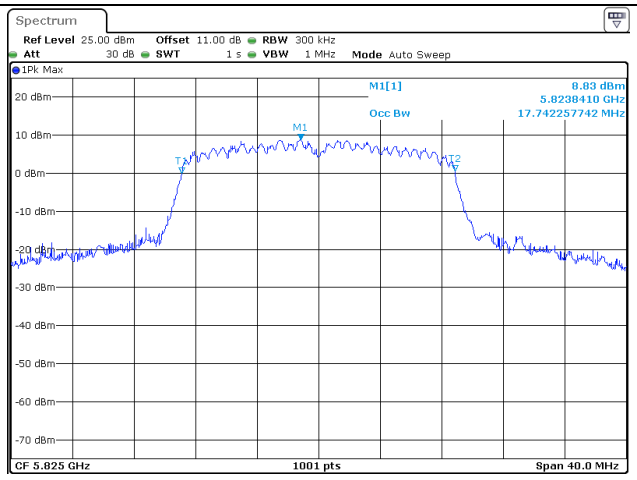
5725-5850MHz:

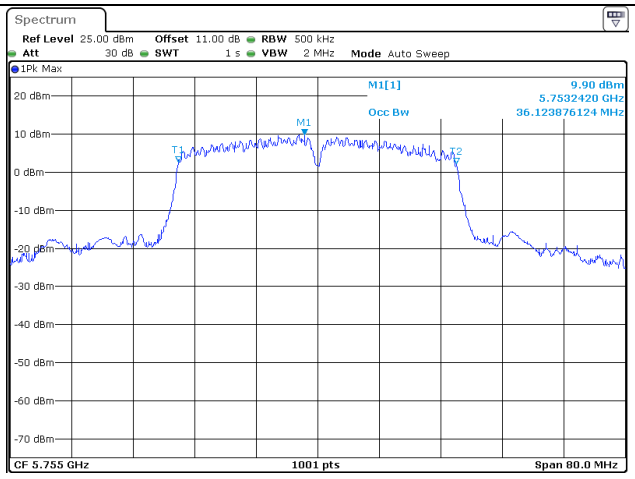
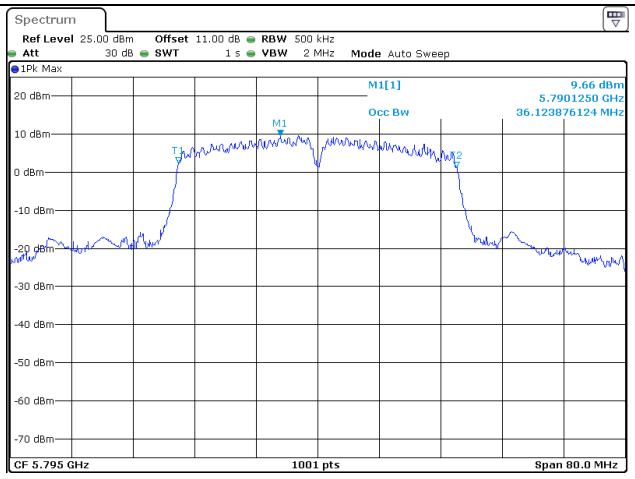
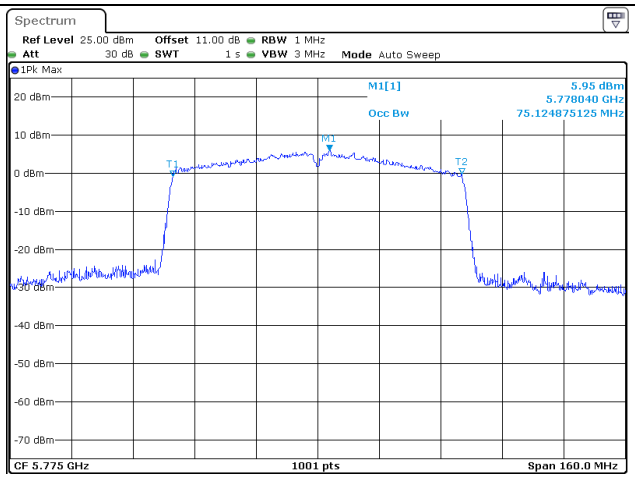
6dB Emission Bandwidth	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

6dB Emission Bandwidth	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

6dB Emission Bandwidth	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

99% Emission Bandwidth	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

99% Emission Bandwidth	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

99% Emission Bandwidth	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

4.4 Maximum Conducted Output Power

Serial Number:	2DPM-2	Test Date:	2023/12/17
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	25.9	Relative Humidity: (%)	60	ATM Pressure: (kPa)	100.2

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
Anritsu	Power Meter	ML2495A	1106009	2023/8/4	2024/8/3
Anritsu	Pulse Power Sensor	MA2411A	10780	2023/8/4	2024/8/3

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

5150-5250 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)			
		Chain 0	Chain 1	Total	Limit
802.11a	5180	16.54	17.54	/	30
	5200	17.29	17.66	/	30
	5240	17.33	17.80	/	30
802.11ac vht20	5180	16.69	17.60	20.18	28.45
	5200	16.86	17.55	**20.23**	28.45
	5240	16.48	17.46	20.01	28.45
802.11ac vht40	5190	13.56	14.66	17.16	28.45
	5230	16.45	17.67	20.11	28.45
802.11ac vht80	5210	10.71	11.54	14.16	28.45
Note: The device is an indoor AP. The device employed Beam-forming for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB					
Antenna Gain:	4.55	dBi	Directional gain:	7.55	dBi

5250-5350 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)			
		Chain 0	Chain 1	Total	Limit
802.11a	5260	17.93	19.12	/	24
	5280	18.06	19.11	/	24
	5320	15.89	19.04	/	24
802.11ac vht20	5260	15.97	16.69	19.36	22.45
	5280	15.51	16.39	18.98	22.45
	5320	13.96	15.7	17.93	22.45
802.11ac vht40	5270	16.84	17.48	**20.18**	22.45
	5310	12.71	13.66	16.22	22.45
802.11ac vht80	5290	10.58	12.37	14.58	22.45
Note: The device employed Beam-forming for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB					
Antenna Gain:	4.55	dBi	Directional gain:	7.55	dBi

5470-5725 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)			Limit (dBm)
		Chain 0	Chain 1	Total	
802.11a	5500	11.27	12.53	/	24
	5580	17.11	18.14	/	24
	5700	9.81	10.69	/	24
802.11ac vht20	5500	9.91	11.68	13.89	22.45
	5580	16.31	17.35	**19.87**	22.45
	5700	8.5	9.46	12.02	22.45
802.11ac vht40	5510	7.13	8.59	10.93	22.45
	5550	12.65	13.82	16.28	22.45
	5670	12.84	13.02	15.94	22.45
802.11ac vht80	5530	6.69	7.76	10.27	22.45
	5610	13.51	13.52	16.53	22.45
Note: The device employed Beam-forming for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB					

Antenna Gain:	4.55	dBi	Directional gain:	7.55	dBi

5725-5850 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)			
		Chain 0	Chain 1	Total	Limit
802.11a	5745	16.57	18.03	/	30
	5785	16.78	18.15	/	30
	5825	16.68	17.89	/	30
802.11ac vht20	5745	15.59	17.17	19.46	28.45
	5785	15.80	17.21	**19.57**	28.45
	5825	15.70	17.12	19.48	28.45
802.11ac vht40	5755	15.69	16.90	19.35	28.45
	5795	15.65	16.92	19.34	28.45
802.11ac vht80	5775	11.99	13.11	15.60	28.45
Note: The device employed Beam-forming for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB					

Antenna Gain:	4.55	dBi	Directional gain:	7.55	dBi

4.5 Maximum power spectral density

Serial Number:	2DPM-2	Test Date:	2023/12/17-2024/1/26
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	25.9-26.7	Relative Humidity: (%)	60-53	ATM Pressure: (kPa)	100.2

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40-N	102259	2023-04-18	2024-04-17
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

5150-5250 MHz:

Test Modes	Test Frequency (MHz)	Maximum Power Spectral Density (dBm/MHz)			
		Chain 0	Chain 1	Total	Limit
802.11a	5180	6.09	7.09	/	17
	5200	7.02	7.62	/	17
	5240	7.63	7.24	/	17
802.11ac vht20	5180	4.74	6.37	8.64	15.45
	5200	6.93	7.80	10.40	15.45
	5240	6.51	7.33	9.95	15.45
802.11ac vht40	5190	0.93	0.92	3.94	15.45
	5230	3.40	4.77	7.15	15.45
802.11ac vht80	5210	-6.18	-5.06	-2.57	15.45
Note: The device is a Indoor AP The device employed Beam-forming for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB Method SA-1 in KDB 789033 D02 General UNII Test Procedures New Rules v02r01was used for PSD test.					
Antenna Gain:	4.55	dBi	Directional gain:	7.55	dBi

5250-5350 MHz:

Test Modes	Test Frequency (MHz)	Maximum Power Spectral Density (dBm/MHz)			
		Chain 0	Chain 1	Total	Limit
802.11a	5260	7.79	8.29	/	11
	5280	8.01	8.56	/	11
	5320	4.52	8.02	/	11
802.11ac vht20	5260	5.42	6.66	9.09	9.45
	5280	5.75	5.67	8.72	9.45
	5320	2.69	4.91	6.95	9.45
802.11ac vht40	5270	4.00	3.84	6.93	9.45
	5310	-1.91	-0.21	2.03	9.45
802.11ac vht80	5290	-6.88	-5.42	-3.08	9.45
Note: The device employed Beam-forming for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB Method SA-1 in KDB 789033 D02 General UNII Test Procedures New Rules v02r01was used for PSD test.					
Antenna Gain:	4.55	dBi	Directional gain:	7.55	dBi

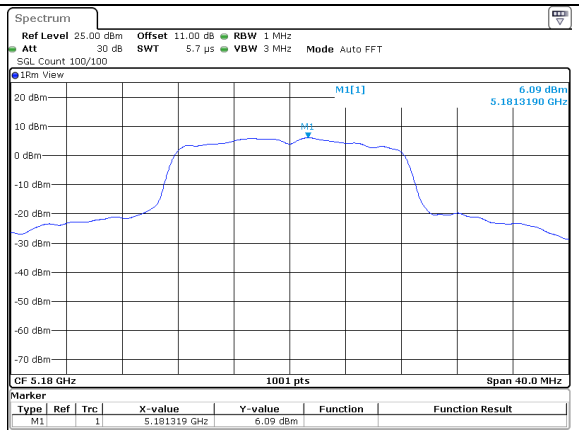
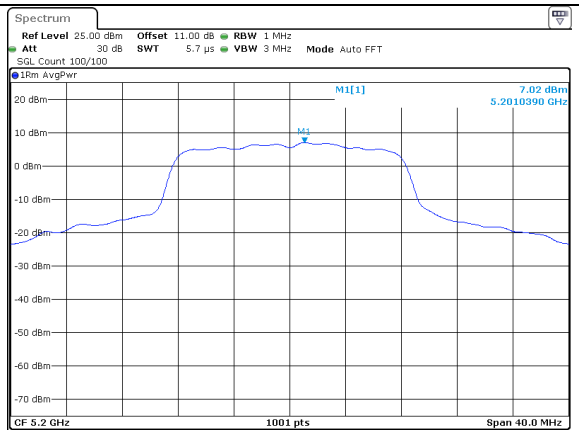
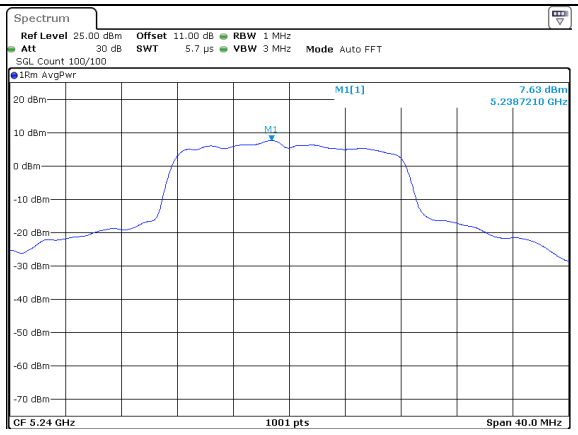
5470-5725 MHz:

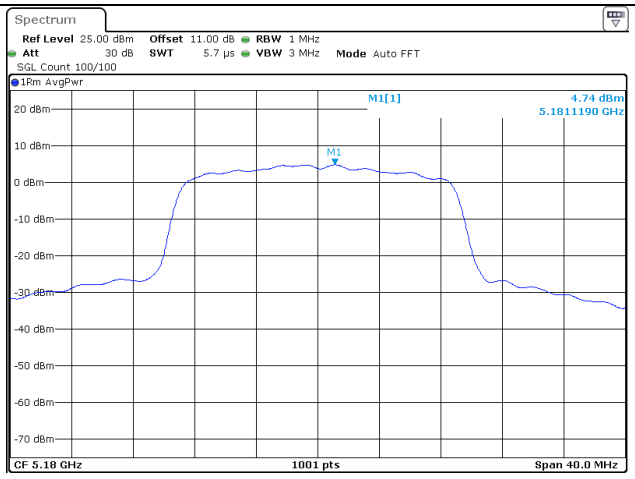
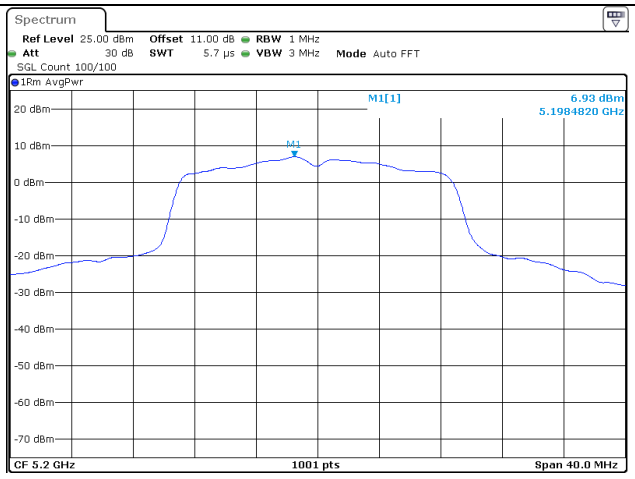
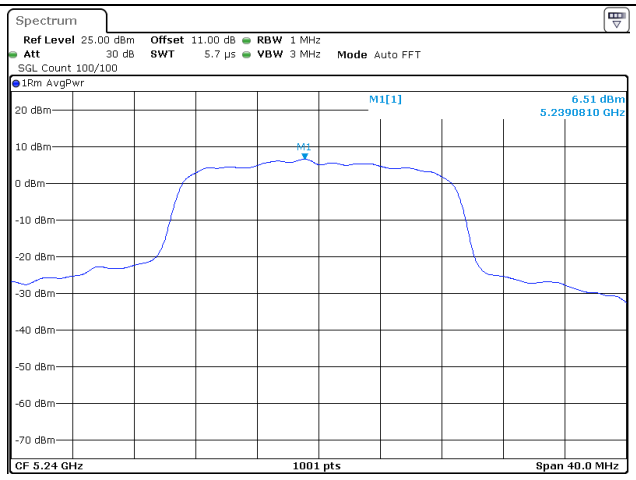
Test Modes	Test Frequency (MHz)	Maximum Power Spectral Density (dBm/MHz)			
		Chain 0	Chain 1	Total	FCC Limit
802.11a	5500	1.52	1.98	/	11
	5580	6.83	7.49	/	11
	5700	0.05	1.19	/	11
802.11ac vht20	5500	0.00	1.86	4.04	9.45
	5580	5.06	7.20	9.27	9.45
	5700	-1.51	0.61	2.69	9.45
802.11ac vht40	5510	-5.72	-4.02	-1.78	9.45
	5550	-0.99	0.46	2.81	9.45
	5670	-0.55	0.11	2.80	9.45
802.11ac vht80	5530	-8.81	-8.32	-5.55	9.45
	5610	-2.00	-1.98	1.02	9.45
Note: The device employed Beam-forming for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB Method SA-1 in KDB 789033 D02 General UNII Test Procedures New Rules v02r01was used for PSD test.					
Antenna Gain:	4.55	dBi	Directional gain:	7.55	dBi

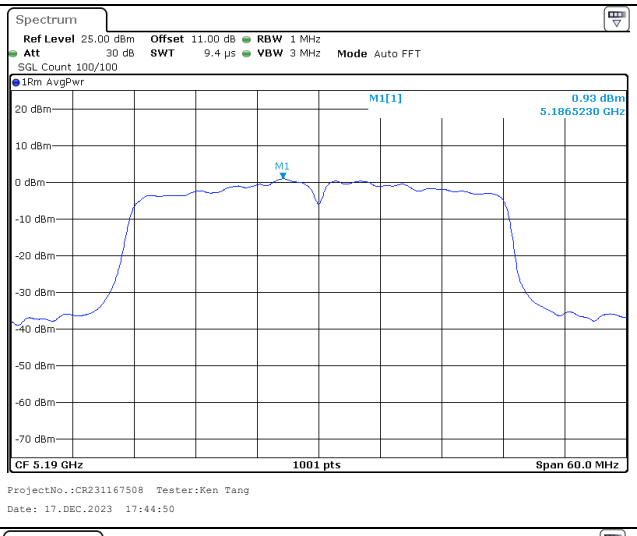
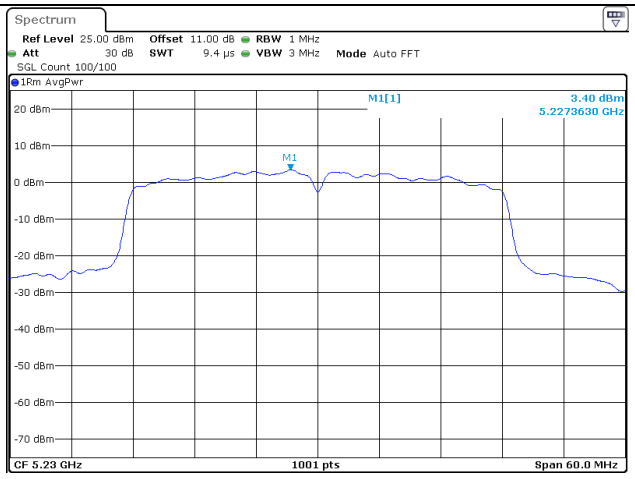
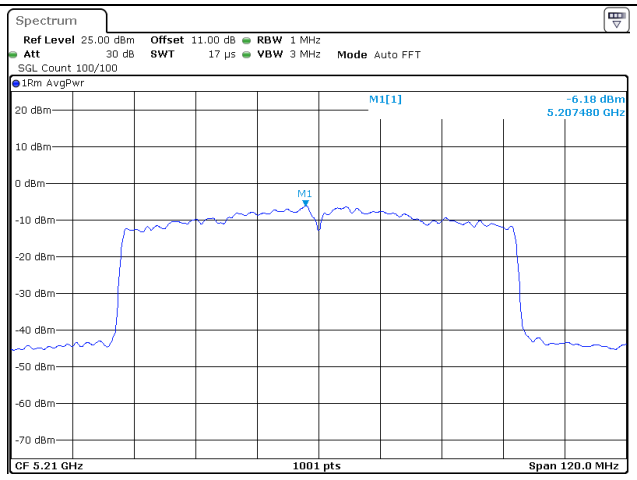
5725-5850 MHz:

Test Modes	Test Frequency (MHz)	Maximum Power Spectral Density (dBm/500kHz)			
		Chain 0	Chain 1	Total	Limit
802.11a	5745	3.79	4.7	/	30
	5785	3.15	4.99	/	30
	5825	3.56	4.97	/	30
802.11ac vht20	5745	1.91	3.94	6.05	28.45
	5785	1.98	4.19	6.23	28.45
	5825	2.89	3.71	6.33	28.45
802.11ac vht40	5755	-0.65	0.75	3.12	28.45
	5795	-0.45	0.65	3.15	28.45
802.11ac vht80	5775	-6.4	-5.42	-2.87	28.45
Note: The device employed Beam-forming for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB Method SA-1 in KDB 789033 D02 General UNII Test Procedures New Rules v02r01was used for PSD test.					
Antenna Gain:	4.55	dBi	Directional gain:	7.55	dBi

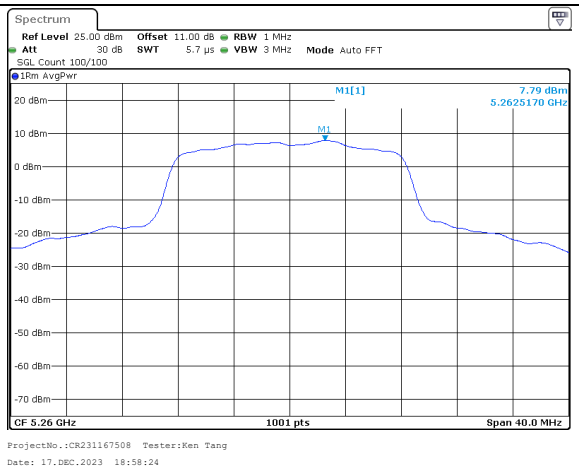
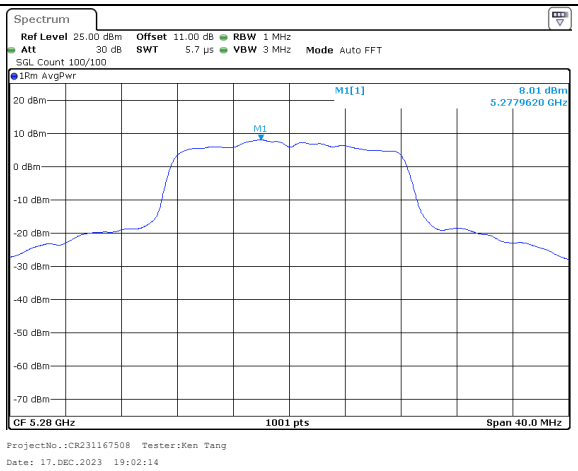
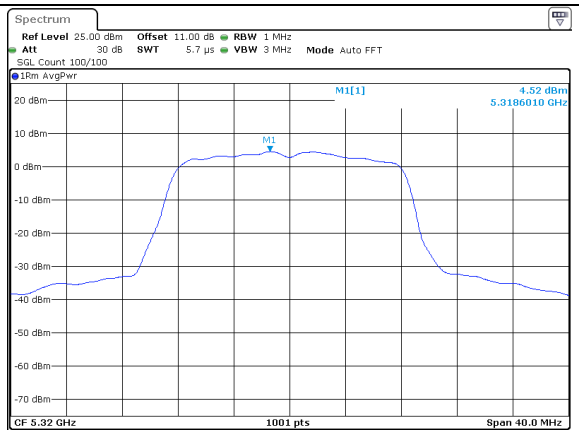
Chain 0:
5150-5250MHz:

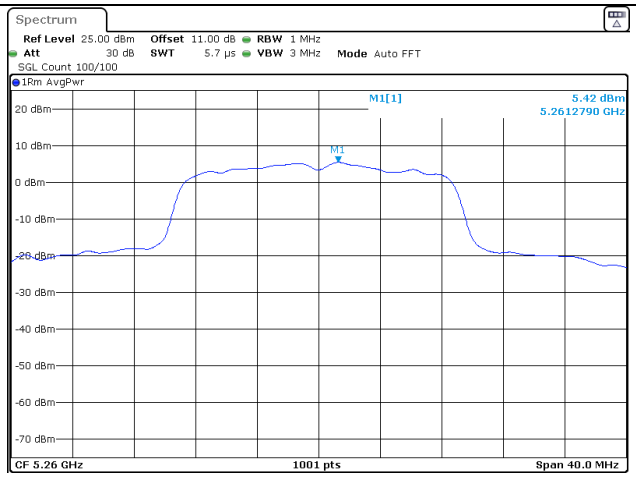
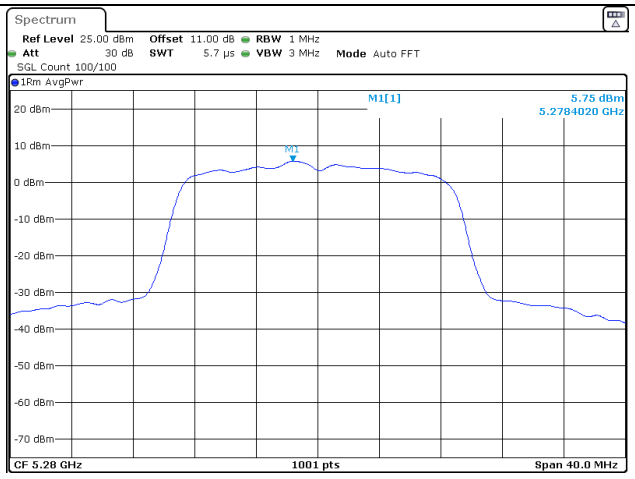
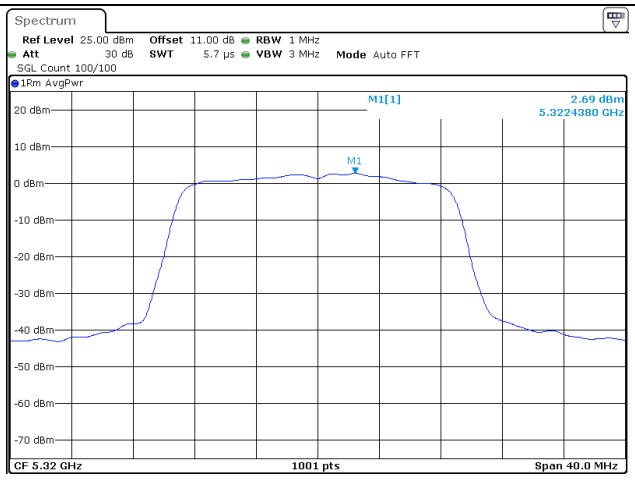
Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

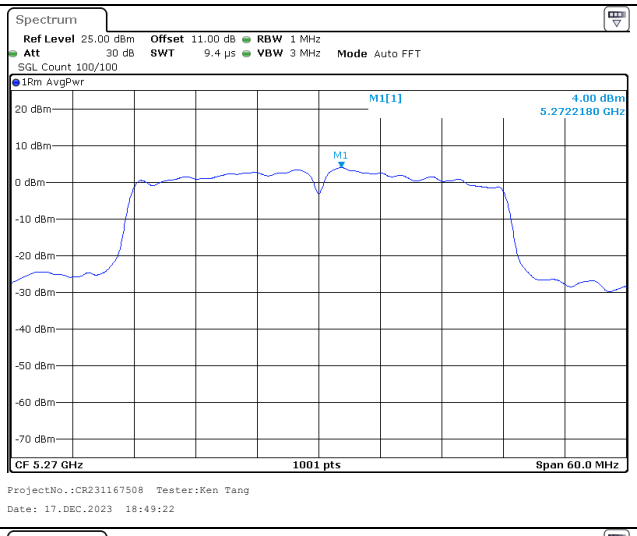
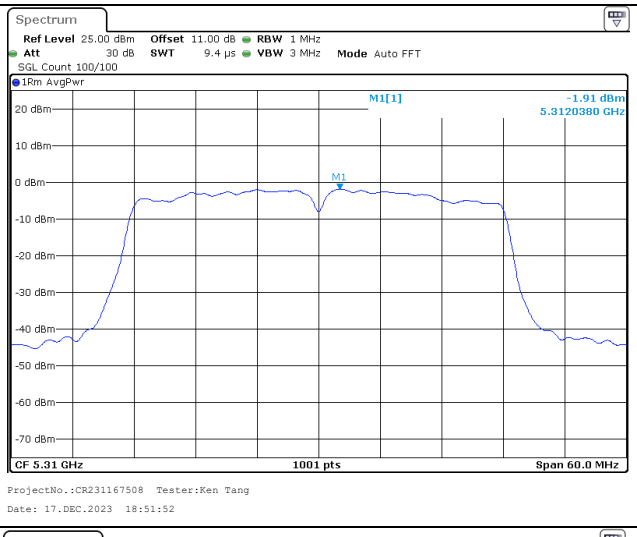
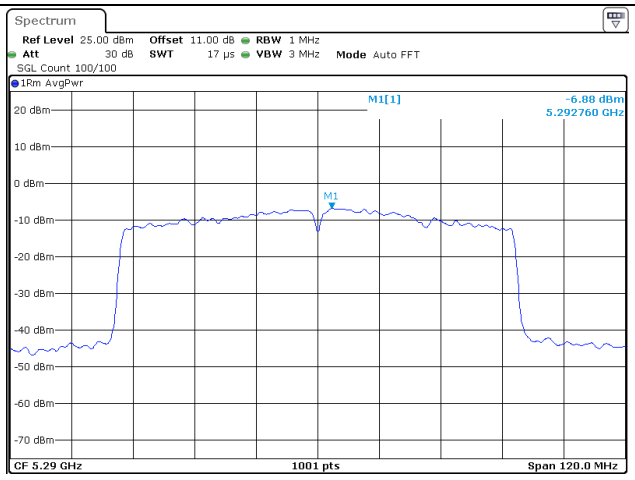
Maximum power spectral density	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

Maximum power spectral density	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

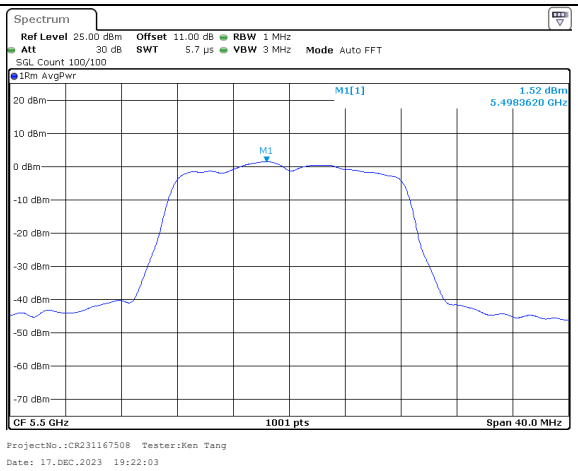
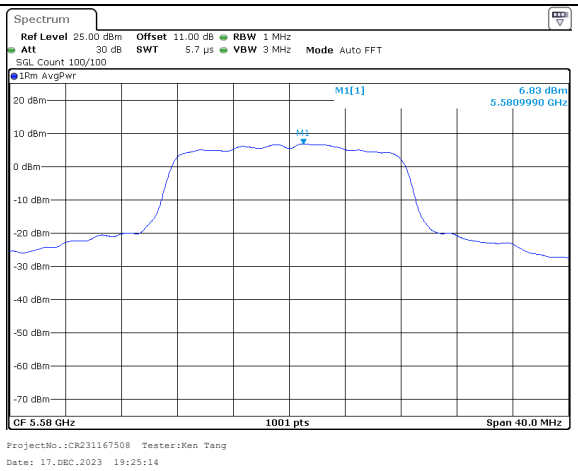
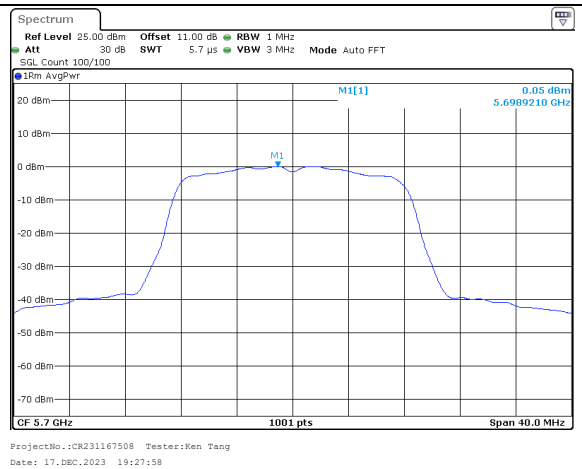
5250-5350MHz:

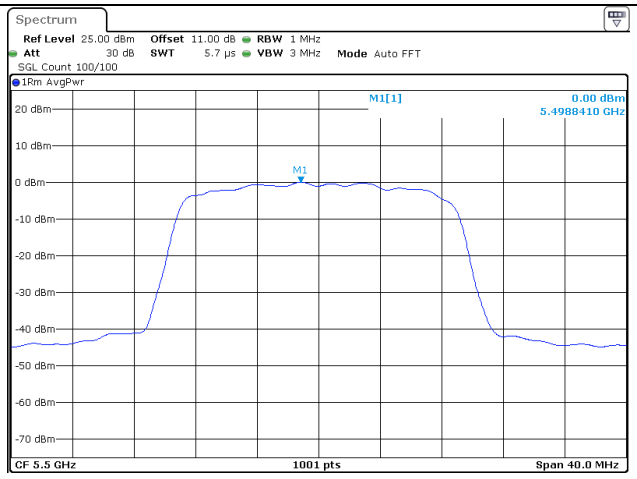
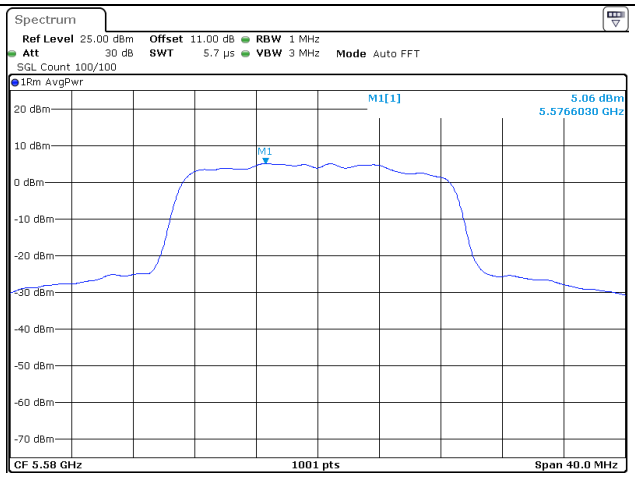
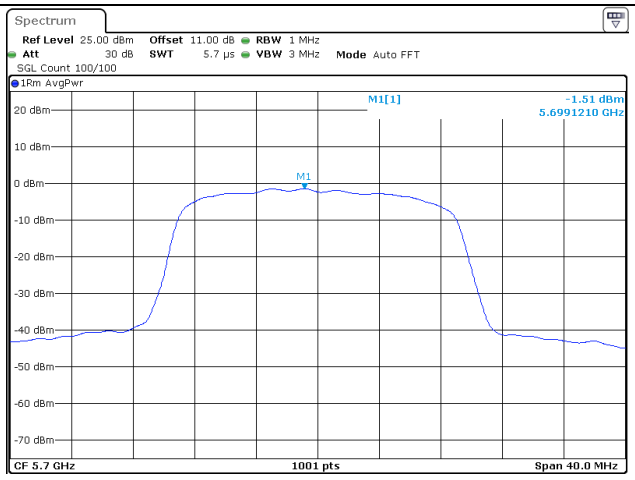
Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

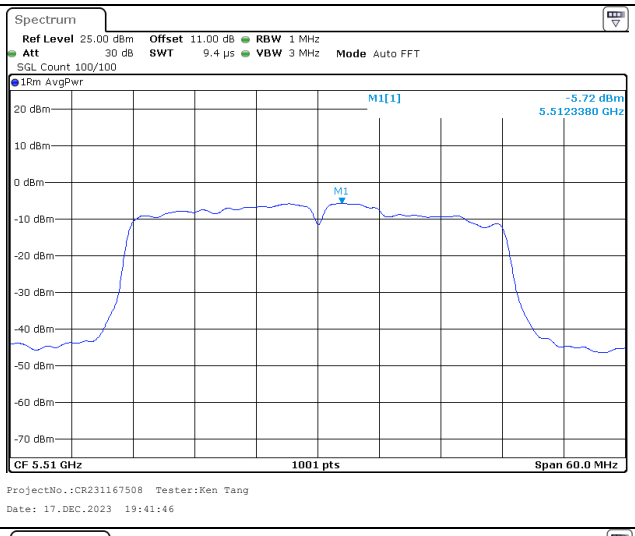
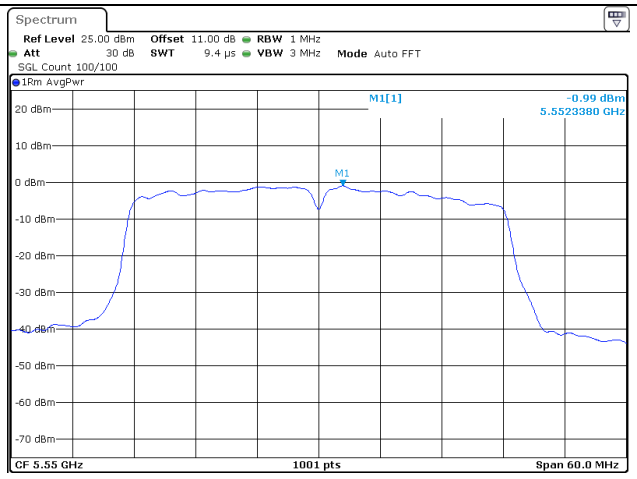
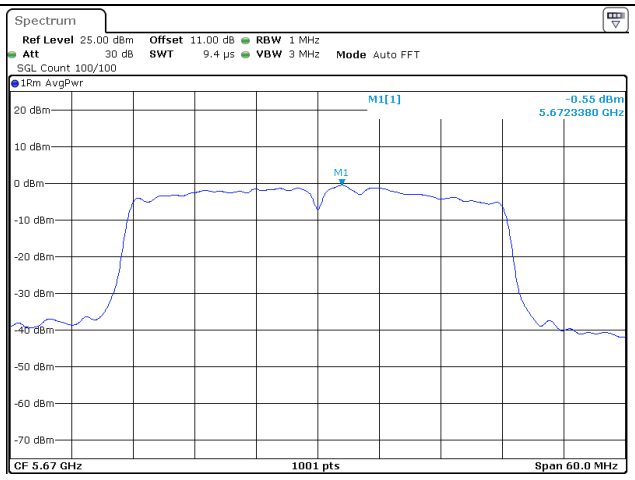
Maximum power spectral density	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

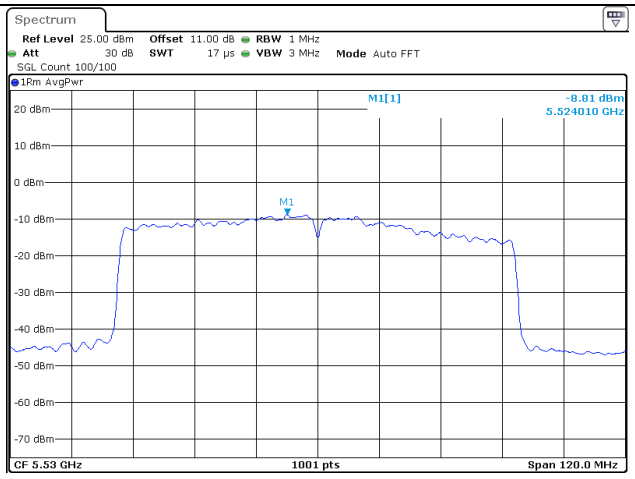
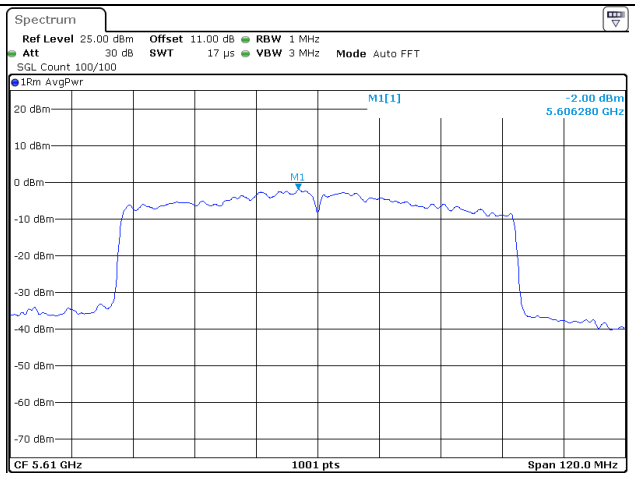
Maximum power spectral density	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

5470-5725 MHz:

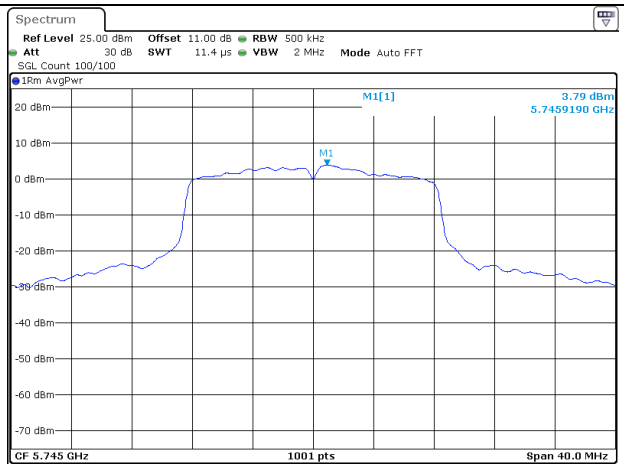
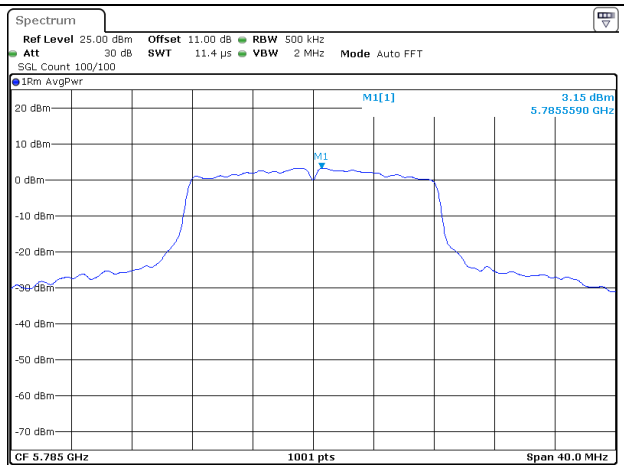
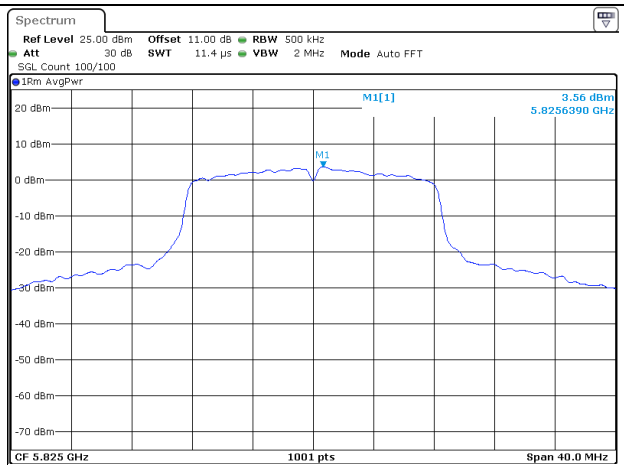
Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

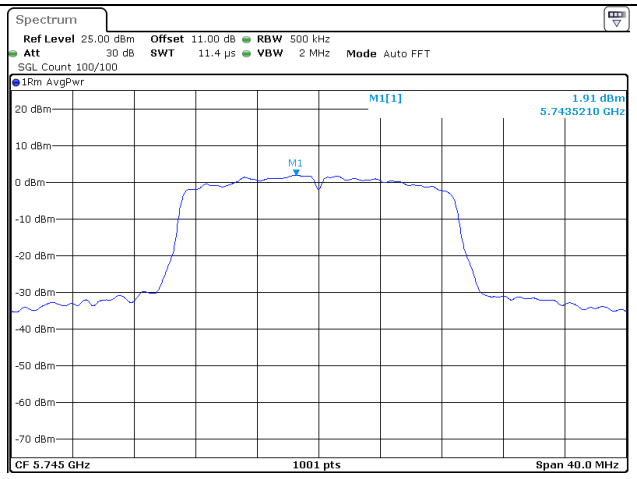
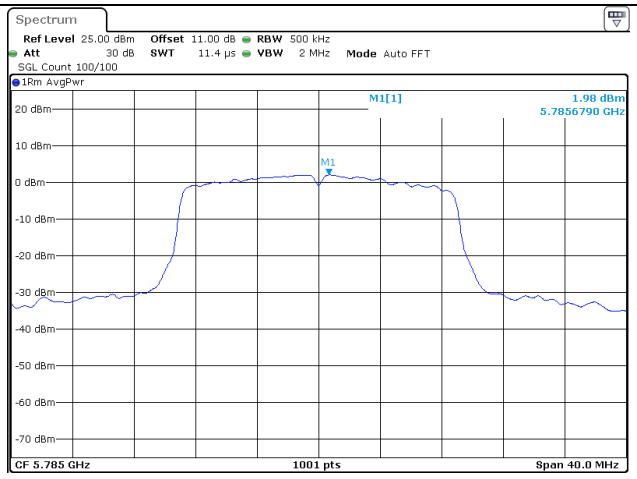
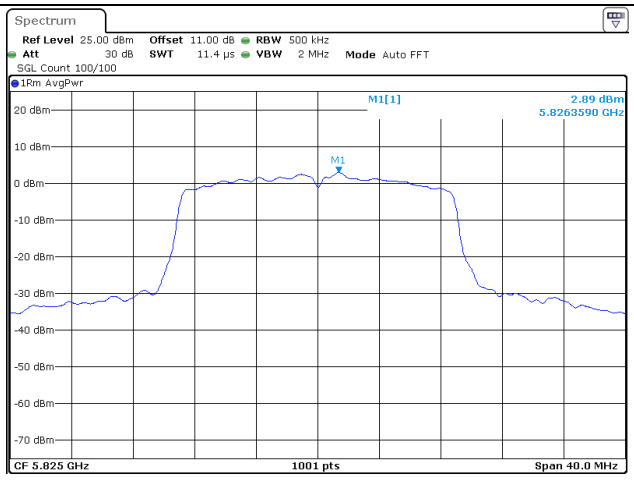
Maximum power spectral density	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

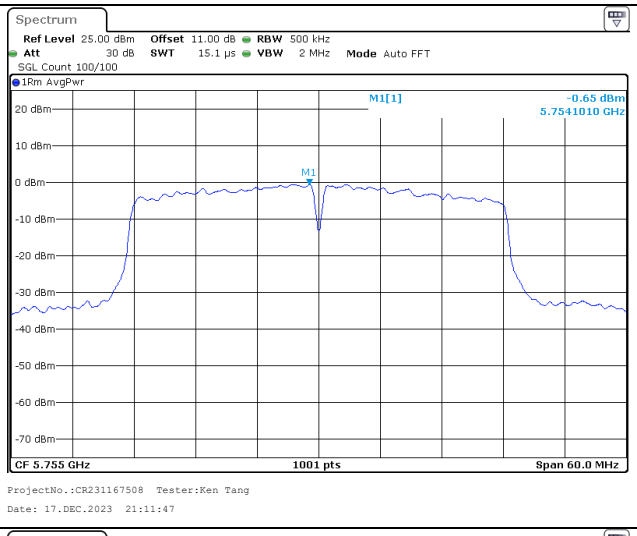
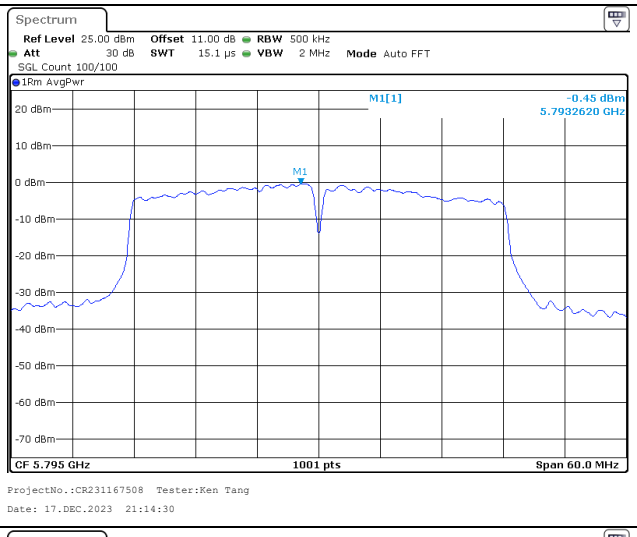
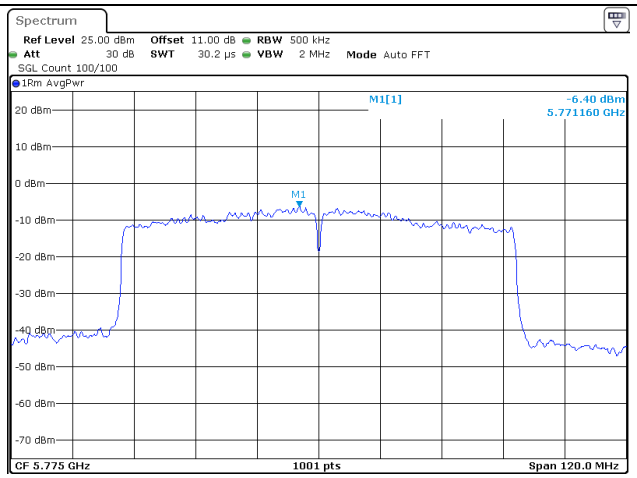
Maximum power spectral density	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Middle Channel	
802.11ac vht40 Highest Channel	

Maximum power spectral density	
802.11ac vht80 Lowest Channel	
802.11ac vht80 Highest Channel	

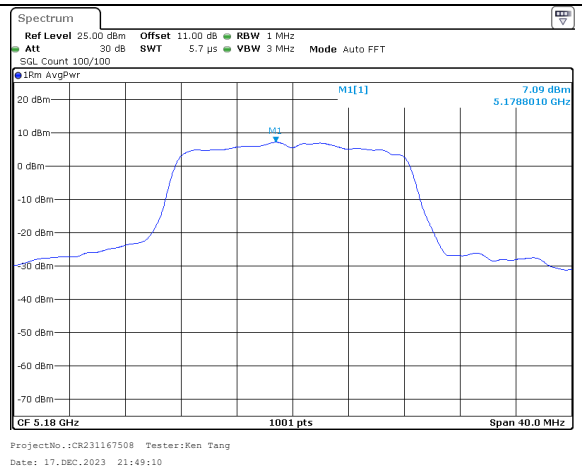
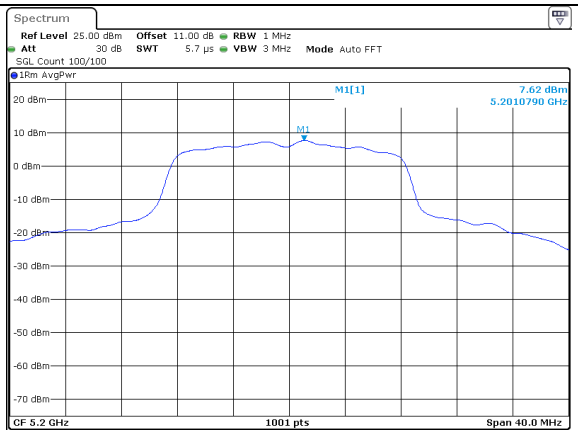
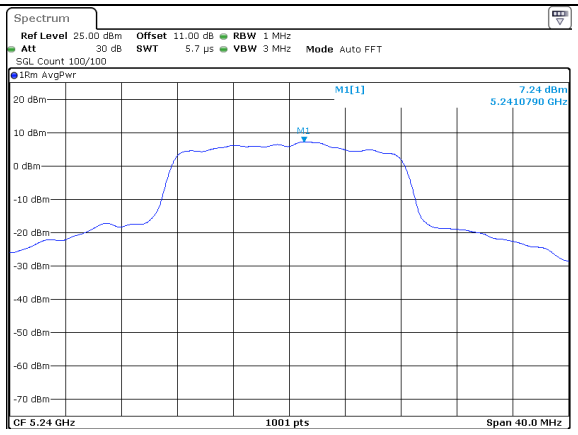
5725-5850MHz

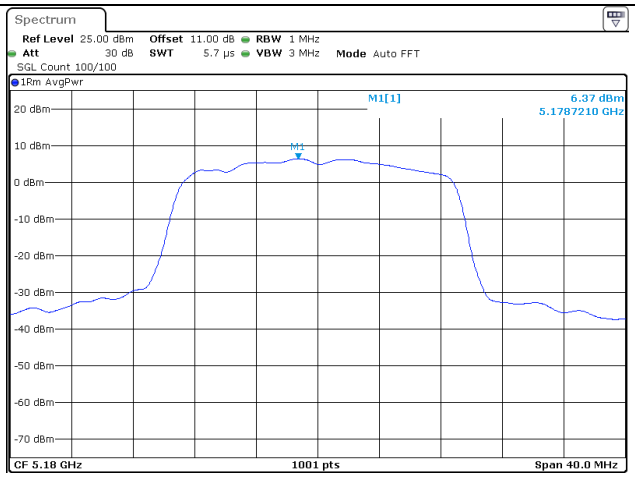
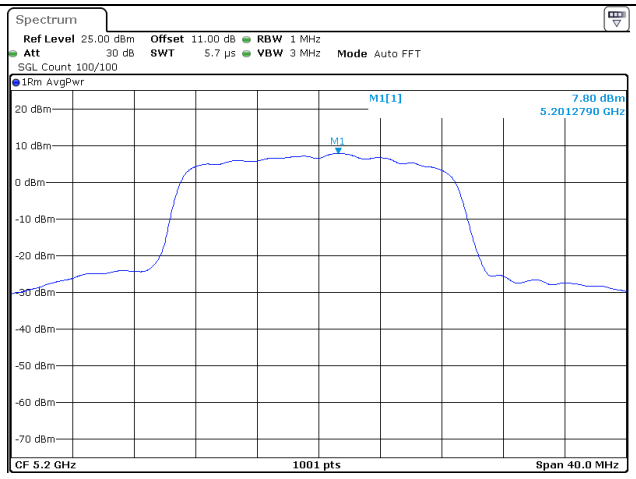
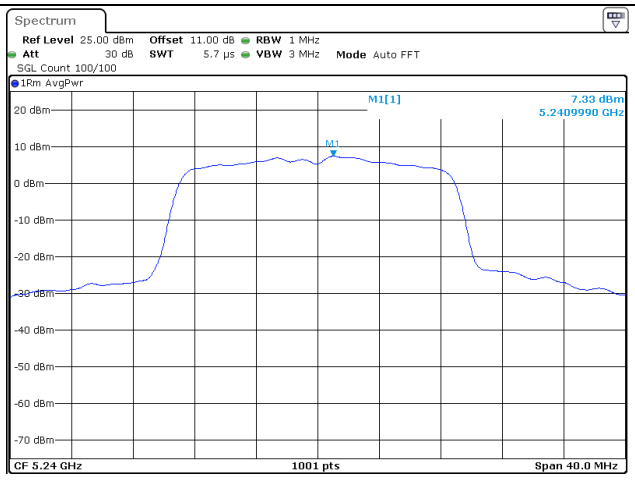
Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

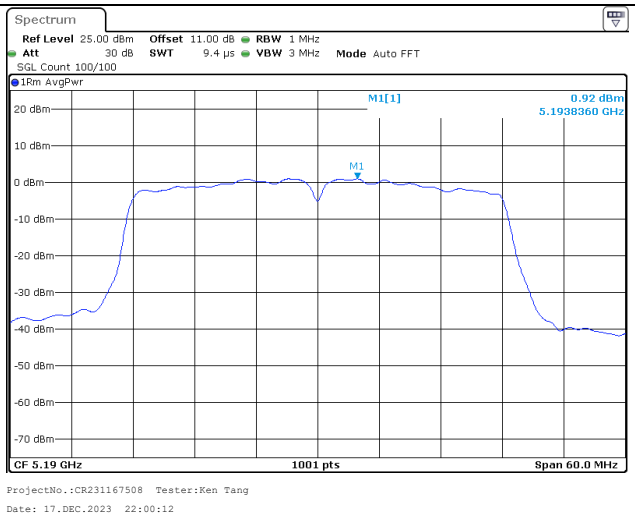
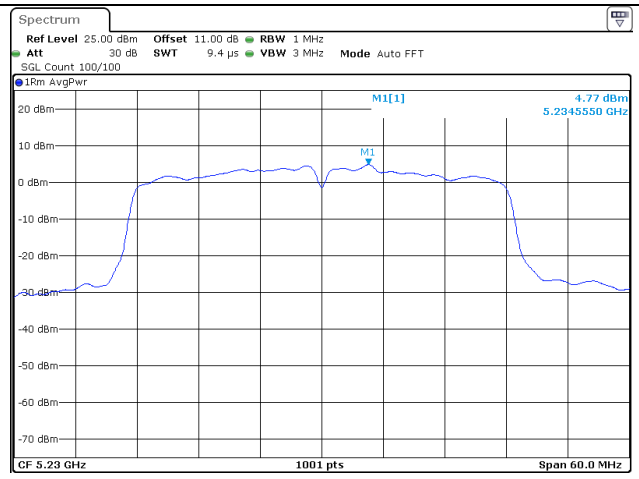
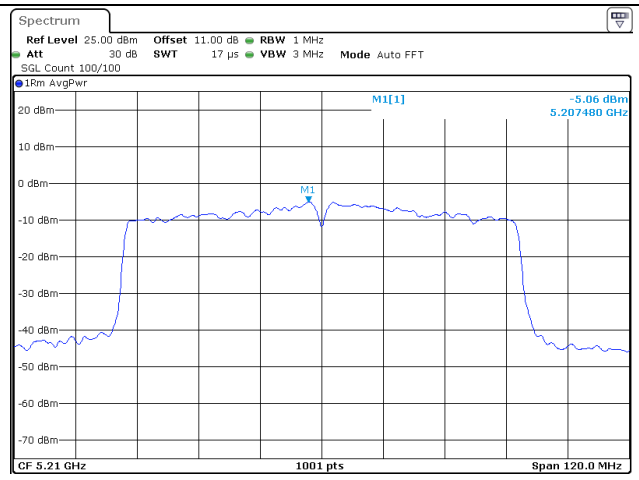
Maximum power spectral density	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

Maximum power spectral density	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

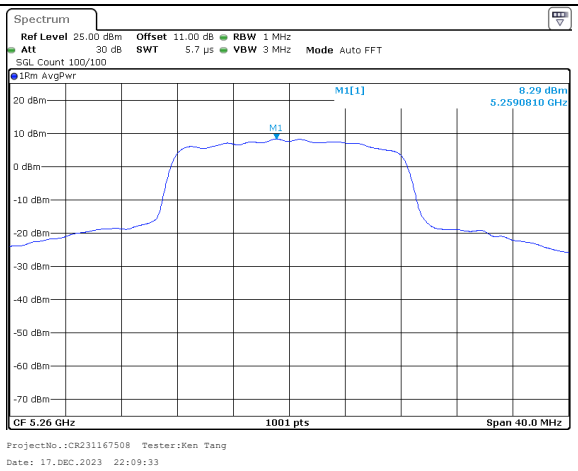
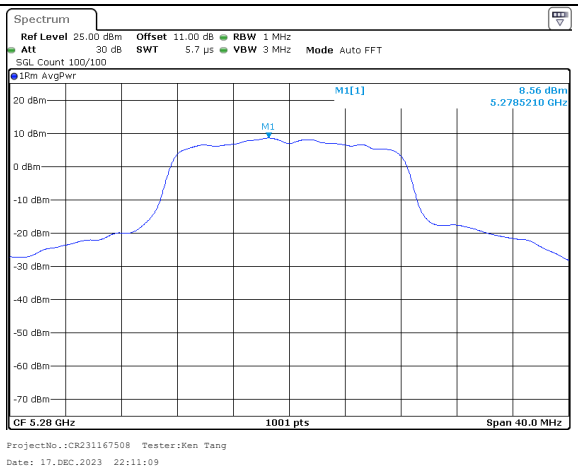
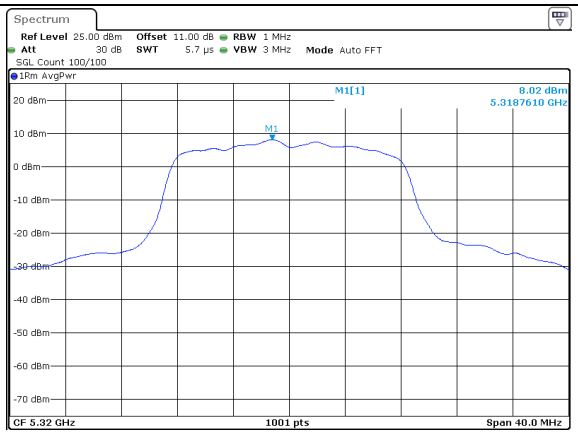
Chain 1:
5150-5250MHz:

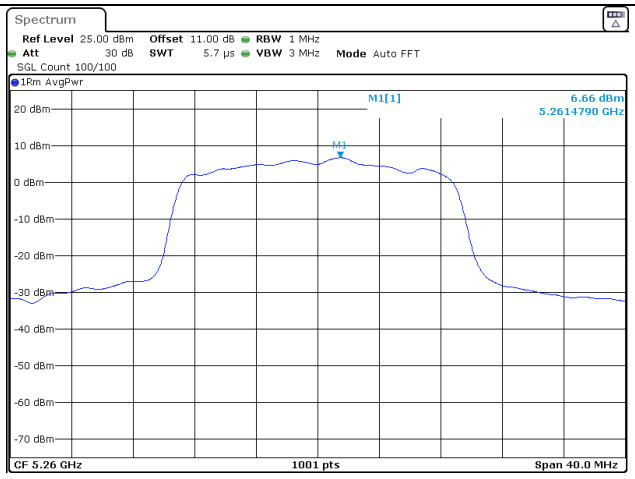
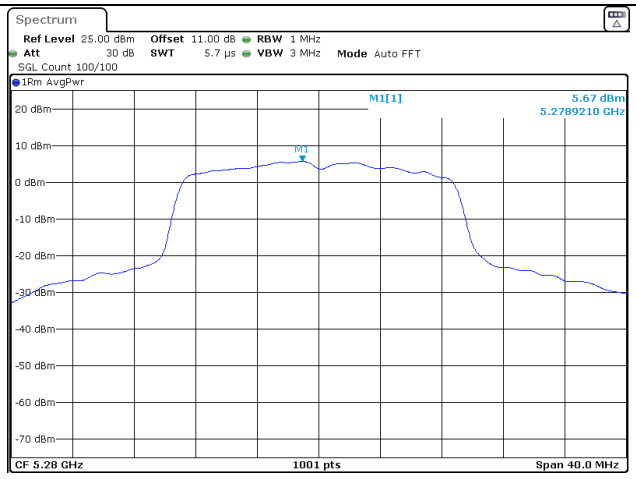
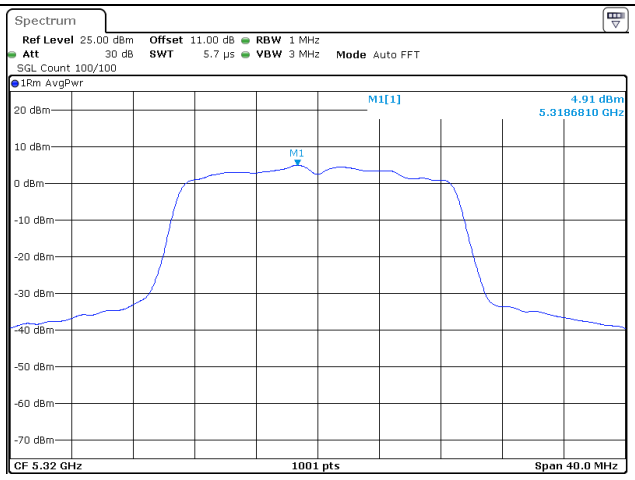
Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

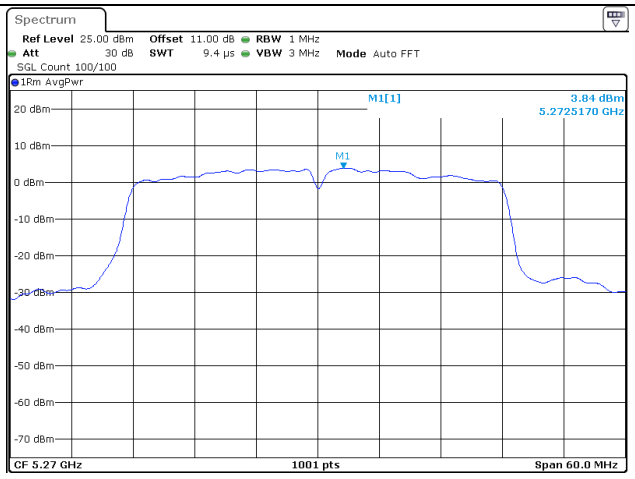
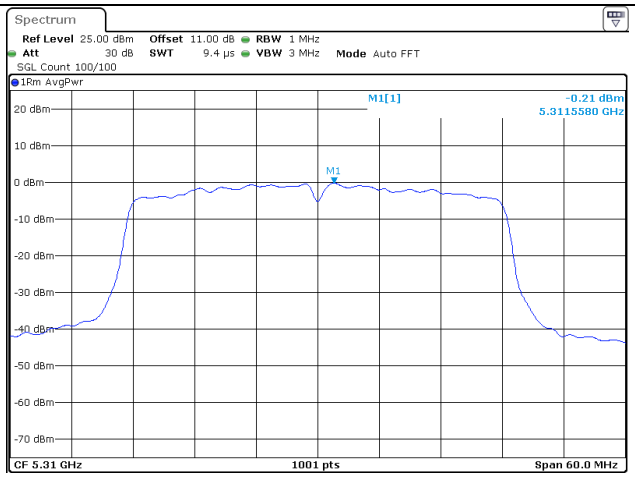
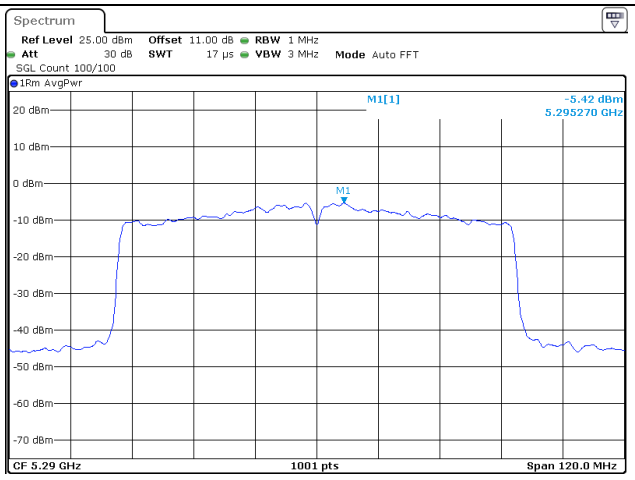
Maximum power spectral density	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

Maximum power spectral density	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

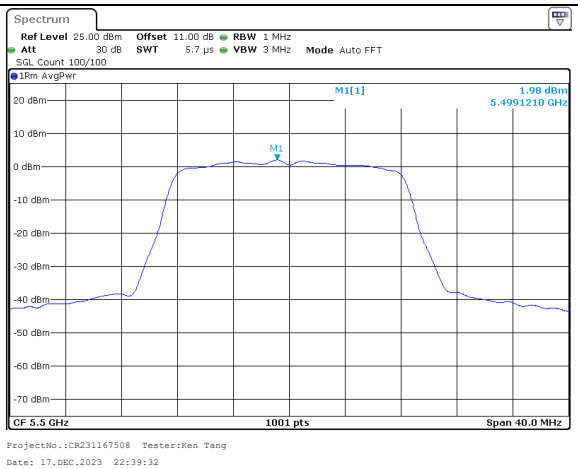
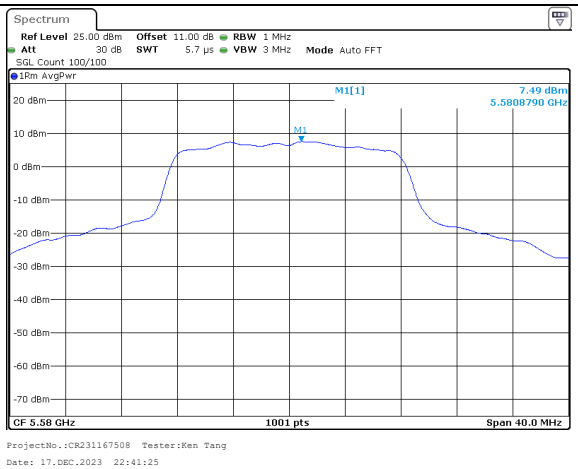
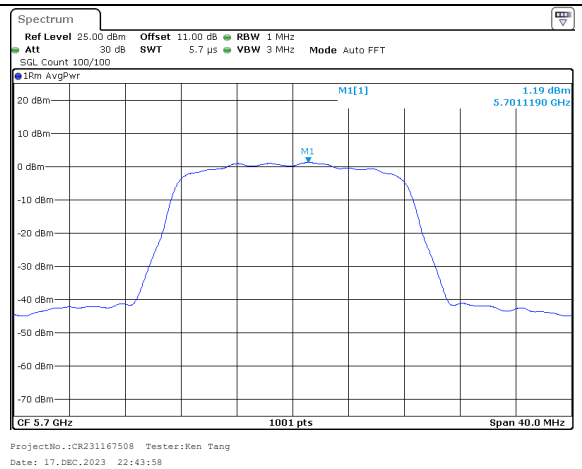
5250-5350MHz:

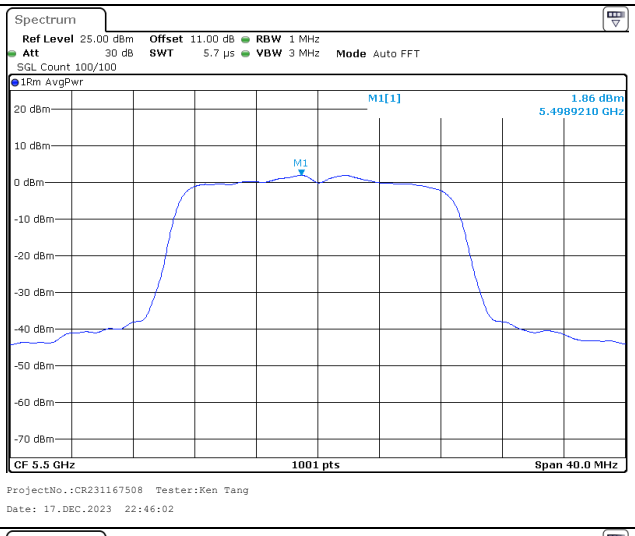
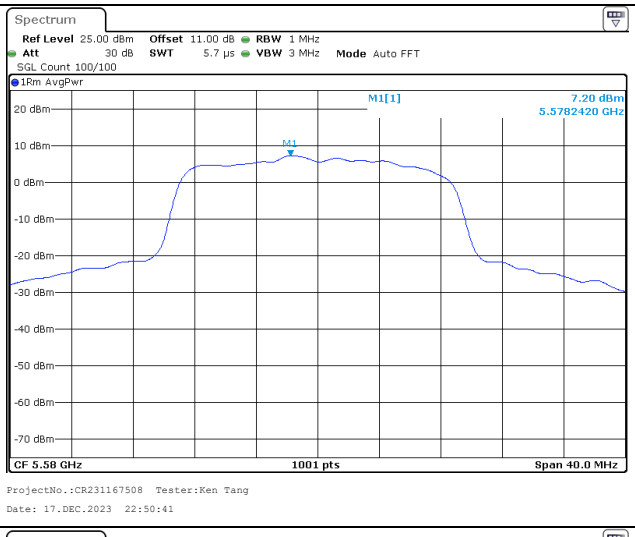
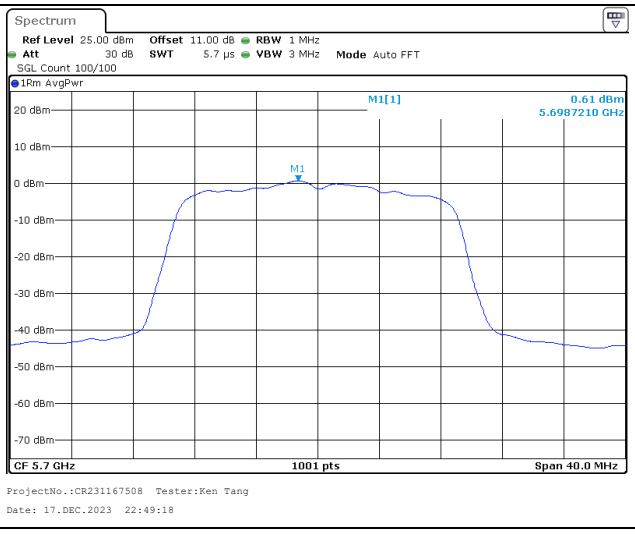
Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

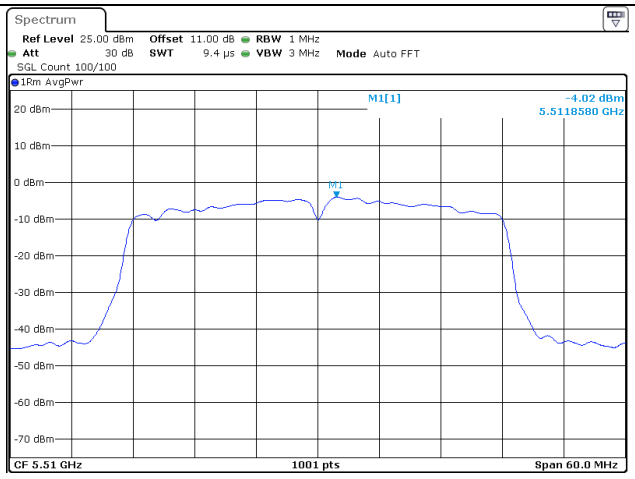
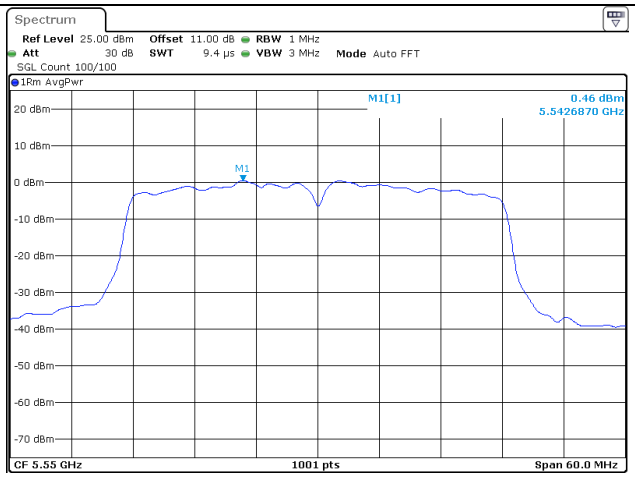
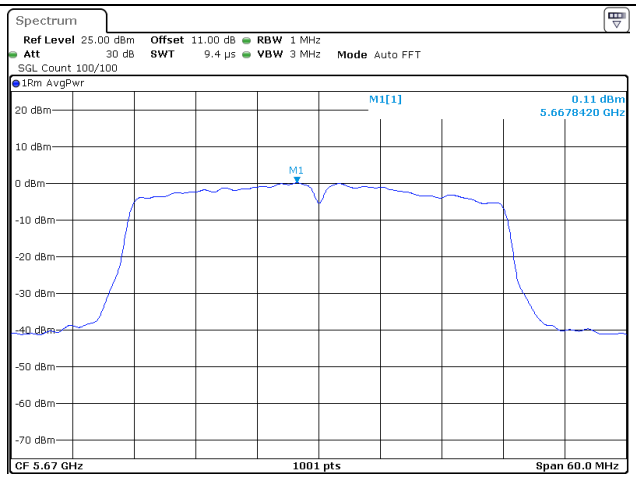
Maximum power spectral density	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

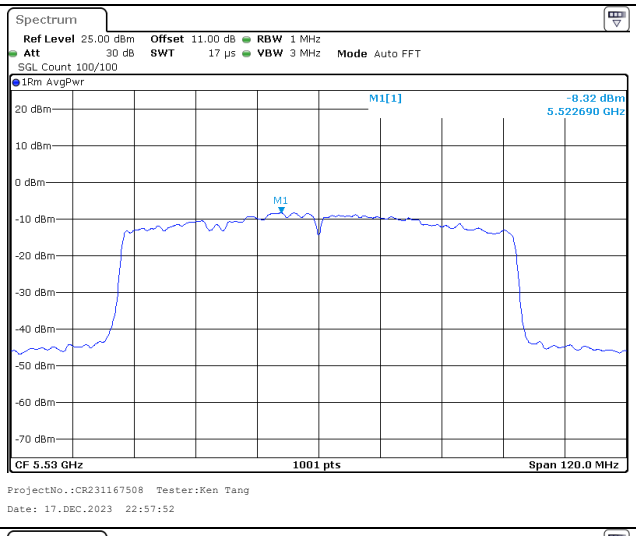
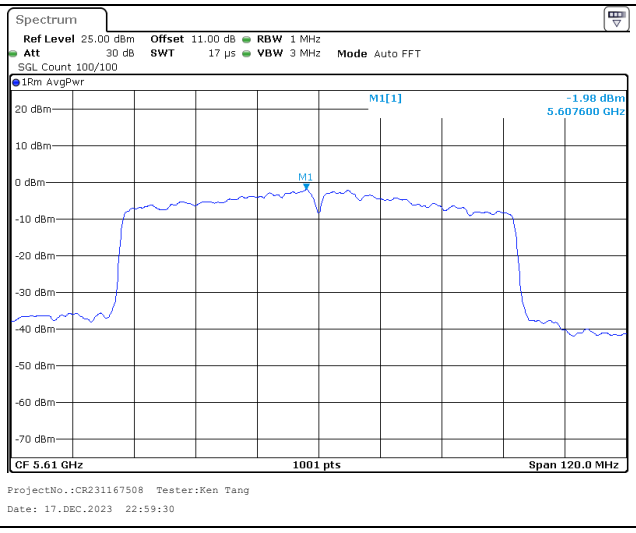
Maximum power spectral density	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

5470-5725 MHz:

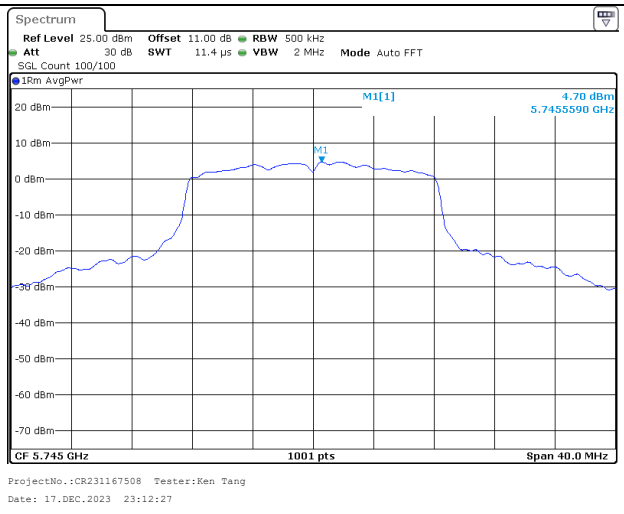
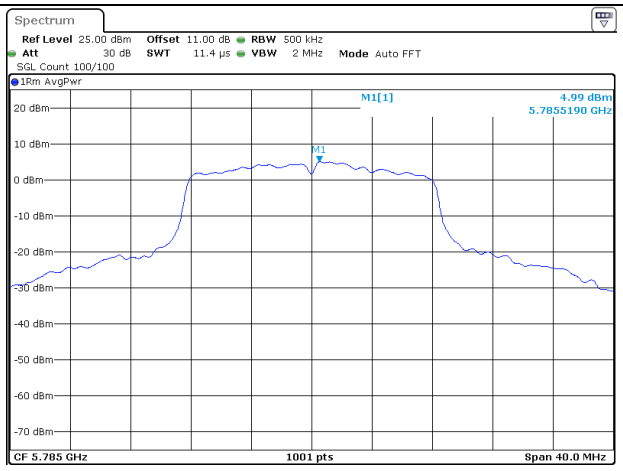
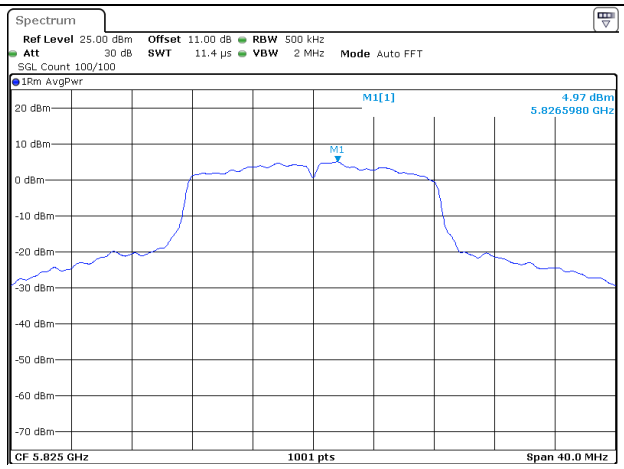
Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

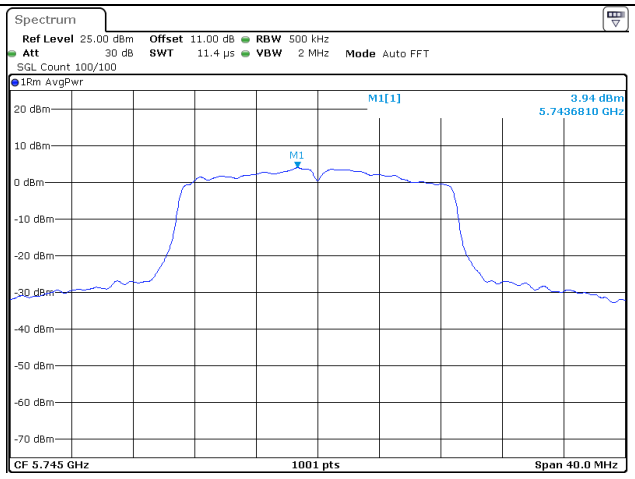
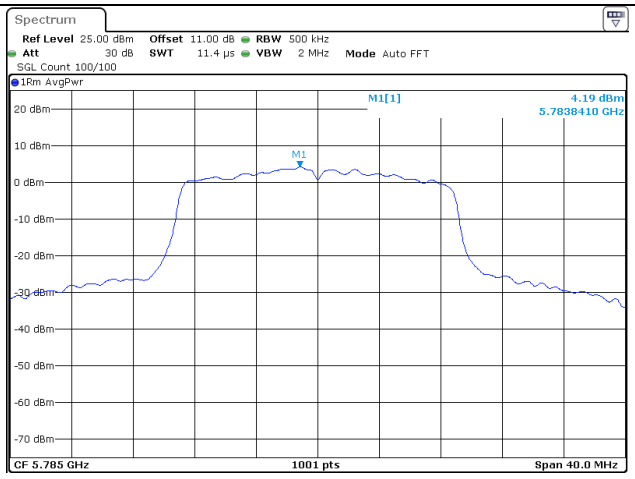
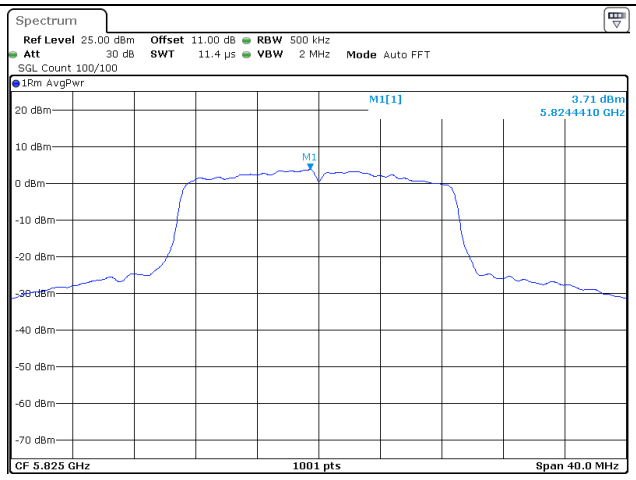
Maximum power spectral density	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

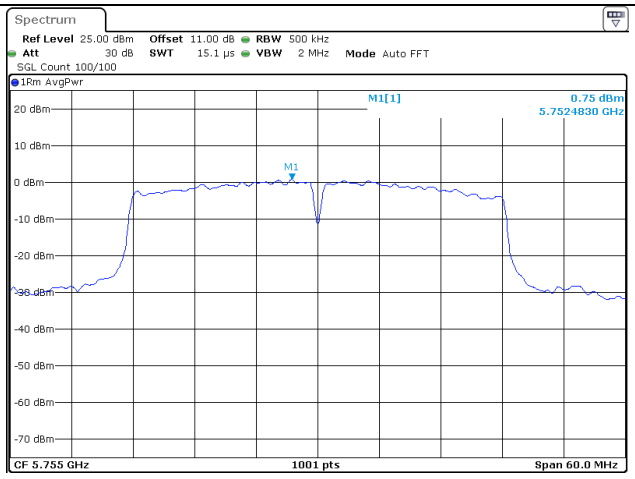
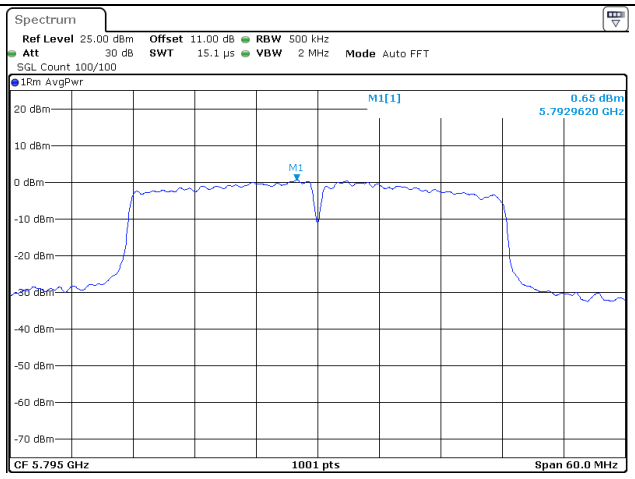
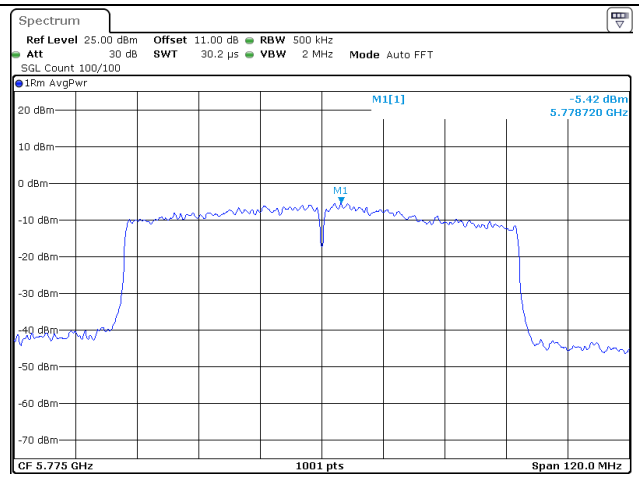
Maximum power spectral density	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Middle Channel	
802.11ac vht40 Highest Channel	

Maximum power spectral density	
802.11ac vht80 Lowest Channel	
802.11ac vht80 Highest Channel	

5725-5850MHz

Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

Maximum power spectral density	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

Maximum power spectral density	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

4.6 Duty Cycle

Serial Number:	2DPM-2	Test Date:	2023/12/06
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	N/A

Environmental Conditions:					
Temperature: (℃)	25.9	Relative Humidity: (%)	60	ATM Pressure: (kPa)	100.2

Test Equipment List and Details:

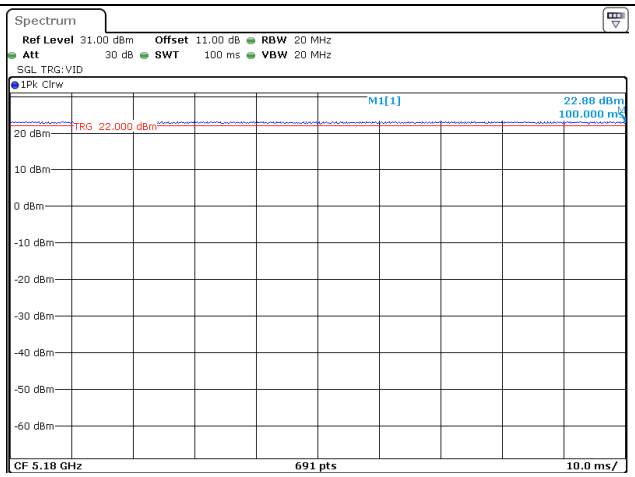
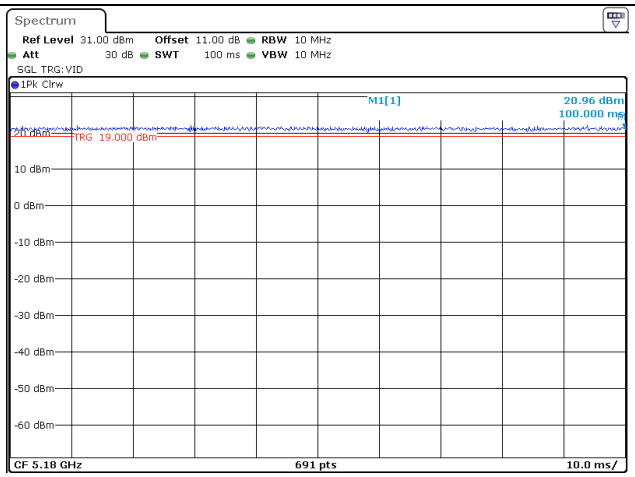
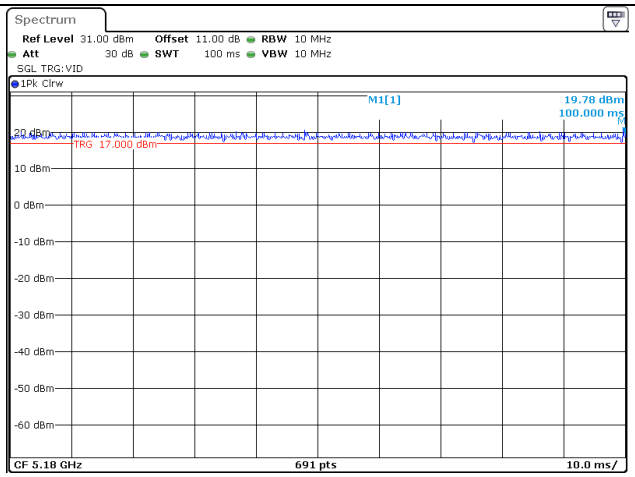
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40-N	102259	2023-04-18	2024-04-17
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A

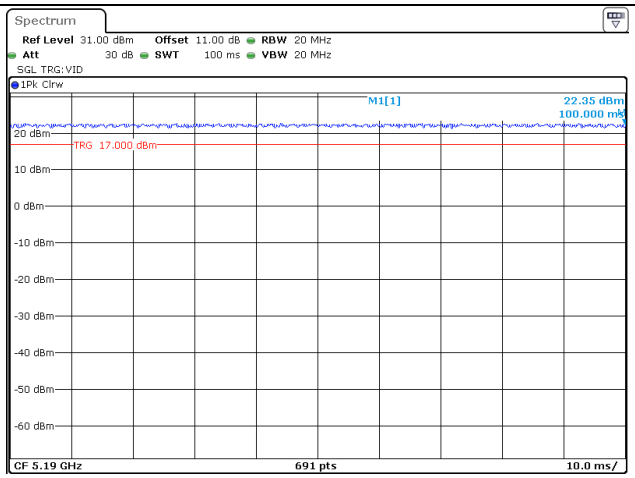
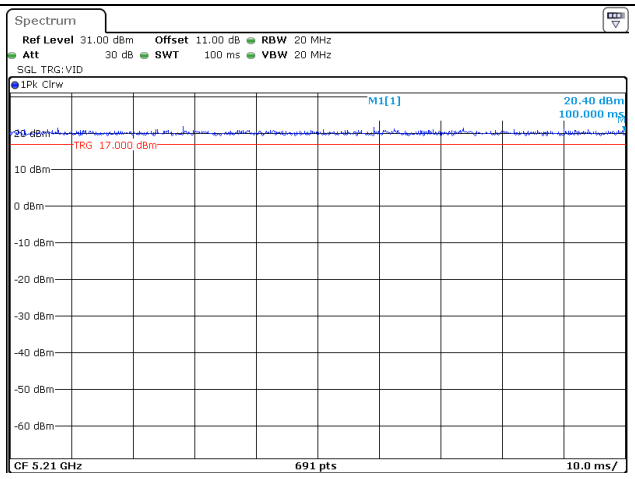
** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

Test Modes	Ton (ms)	Ton+off (ms)	Duty cycle (%)	1/T (Hz)	VBW setting (Hz)
802.11a	100	100	100.00	/	10
802.11ac vht20	100	100	100.00	/	10
802.11ac vht40	100	100	100.00	/	10
802.11ac vht80	100	100	100.00	/	10

Note: Test at the Chain 0.

Duty Cycle	
802.11a	
802.11ac vht20	
802.11ac vht40 5180MHz	

Duty Cycle	
802.11ac vht40 5190MHz	
802.11ac vht80	

5. RF EXPOSURE EVALUATION

5.1 MAXIMUM PERMISSIBLE EXPOSURE (MPE)

5.1.1 Applicable Standard

According to subpart 1.1307 (b)(1), 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for General Population/Uncontrolled Exposure

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (Minutes)**
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

5.1.2 Result

Calculated Formulary:

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm^2)
P = power input to the antenna (in appropriate units, e.g., mW).
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \le 1$$

Mode	Frequency (MHz)	Tune Up Conducted Power (dBm)	Antenna Gain (dBi) (Note 2)	Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
2.4G Wi-Fi	2412-2462	21.5	6.97	20	0.140	1.0
5G Wi-Fi	5180-5240	20.5	7.55	20	0.127	1.0
	5260-5320	20.0	7.55	20	0.113	1.0
	5500-5700	20.0	7.55	20	0.113	1.0
	5745-5825	20.0	7.55	20	0.113	1.0

Note:

1) The tune up conducted power was declared by the applicant.

2) For the Wi-Fi mode, the antenna gain would be the directional gain.

3) The 2.4G Wi-Fi and 5G Wi-Fi can transmit simultaneously.

The ratio= $MPE_{2.4G\ Wi\text{-}Fi}$/limit+$MPE_{5G\ Wi\text{-}Fi}$/limit =0.140+0.127=0.267＜1.0, simultaneous exposure is not required.

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

Result: Compliance

6. EUT PHOTOGRAPHS

Please refer to the attachment CR231167508-EXP EUT EXTERNAL PHOTOGRAPHS and CR231167508-INP EUT INTERNAL PHOTOGRAPHS.

7. TEST SETUP PHOTOGRAPHS

Please refer to the attachment CR231167508-00B-TSP TEST SETUP PHOTOGRAPHS.

===== END OF REPORT =====