FCC TEST REPORT

(Part 15, Subpart E)

Applicant:	PAX Technology Limited
Address:	Room 2416, 24/F., Sun Hung Kai Centre, 30 Harbour Hong Kong China

Manufacturer or Supplier:	PAX Computer Technology (Shenzhen) Co., Ltd.
Address:	4/F, No.3 Building, Software Park, Second Central Science-Tech Road, High-Tech industrial Park, Shenzhen, Guangdong, P.R.C.
Product:	Integrated Smart Terminal
Brand Name:	PAX
Model Name:	E800
FCC ID:	V5PE800GM
Date of tests:	Sep. 01, 2021 ~ Sep. 26, 2021

The tests have been carried out according to the requirements of the following standard:

☒ **FCC Part 15, Subpart E, Section 15.407**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Simon Wang Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
Simon Date: Sep. 27, 2021	Luke Lu Date: Sep. 27, 2021

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P21090006RF04	Original release	Sep. 27, 2021

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E		
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**
15.407(b)(6)	AC Power Conducted Emission	Compliance
15.407(b) (1/2/3/4/5)	Radiated Emission & Band Edge Measurement	Compliance
15.407(a/1/2/3)	Maximum conducted output Power	Compliance
15.407(a/1/2/3)	Peak Power Spectral Density	Compliance
15.403(i)	26 dB Bandwidth	Compliance
15.407(e)	6 dB Bandwidth	Compliance
15.203	Antenna Requirement	Compliance

1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	UNCERTAINTY
AC Power Conducted emissions	±2.70dB
Radiated emissions (30MHz~1GMHz)	±4.98dB
Radiated emissions (1GMHz ~6GMHz)	±4.70dB
Radiated emissions (6GMHz ~18GMHz)	±4.60dB
Radiated emissions (18GMHz ~40GMHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Conducted Output power	±2.06dB
Power Spectral Density	±0.85 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Integrated Smart Terminal
BRAND NAME	PAX
MODEL NAME	E800
NOMINAL VOLTAGE	24Vdc (adapter) 7.2Vdc (Li-ion, battery)
MODULATION	DSSS，OFDM
TRANSFER RATE	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to MCS7 802.11ac: up to 390.0Mbps
OPERATING FREQUENCY	5180 ~ 5240MHz
NUMBER OF CHANNEL	5180 ~ 5240MHz: 4 for 802.11a, 802.11n, 802.11ac (20MHz) 2 for 802.11n, 802.11ac (40MHz) 1 for 802.11ac (80MHz)
AVERAGE POWER	27.54mW for 5180 ~ 5240MHz
ANTENNA TYPE	PIFA Antenna
ANTENNA GAIN	2 dBi for 5180 ~ 5240MHz
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
802.11a	1TX/1RX
802.11n/802.11ac (20MHz)	1TX/1RX
802.11n/802.11ac (40MHz)	1TX/1RX
802.11ac (80MHz)	1TX/1RX

3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

List of Accessory:

ACCESSORIES	BRAND	MODEL	SPECIFICATION
Battery	VEKEN	YW-006	Capacity：7.2vdc 2600mAh
AC Adapter	HONOTO	ADS-65HI-19A-3 24065E	I/P:100-240Vac, 1.5A O/P: 24Vdc, 2.7A

2.2 DESCRIPTION OF TEST MODES

FOR 5180 ~ 5240MHz

4 channels are provided for 802.11a, 802.11n, 802.11ac (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n, 802.11ac (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
42	5210 MHz		

2.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	**-**	**Powered by Adapter with wifi(5G) link**
B	-	-	-	√	Powered by Battery with wifi(5G) link
C	-	-	-	-	Powered by USB with wifi(5G) link

Where **RE≥1G:** Radiated Emission above 1GHz **RE<1G:** Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

NOTE:
The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane.**
NOTE: "-"means no effect.

RADIATED EMISSION TEST (BELOW 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11n (40MHz)	5180-5240	38 to 46	38	OFDM	MCS0

RADIATED EMISSION TEST (ABOVE 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A	802.11n (20MHz)		36 to 48	36, 40, 48	OFDM	MCS0
A	802.11n (40MHz)		38 to 46	38, 46	OFDM	MCS0
A	802.11ac (80MHz)		42	42	OFDM	MCS0

POWER LINE CONDUCTED EMISSION TEST:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11n (20MHz)	5180-5240	36 to 48	48	OFDM	MCS0

BANDEDGE MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 48	36 to 48	6.0
A	802.11n (20MHz)		36 to 48	36, 48	36 to 48	MCS0
A	802.11n (40MHz)		38 to 46	38, 46	38 to 46	MCS0
A	802.11ac (20MHz)		36 to 48	36, 48	36 to 48	MCS0
A	802.11ac (40MHz)		38 to 46	38, 46	38 to 46	MCS0
A	802.11ac (80MHz)		42	42	42	MCS0

ANTENNA PORT CONDUCTED MEASUREMENT:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A	802.11n (20MHz)		36 to 48	36, 40, 48	OFDM	MCS0
A	802.11n (40MHz)		38 to 46	38, 46	OFDM	MCS0
A	802.11ac (20MHz)		36 to 48	36, 40, 48	OFDM	MCS0
A	802.11ac (40MHz)		38 to 46	38, 46	OFDM	MCS0
A	802.11ac (80MHz)		42	42	OFDM	MCS0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE<1G	23deg. C, 70%RH	DC 24V	Star Le
RE≥1G	23deg. C, 70%RH	DC 24V	Star Le
PLC	25deg. C, 52%RH	DC 24V	Lily Zhao
APCM	25deg. C, 60%RH	DC 24V	Lily Zhao

2.3 DUTY CYCLE OF TEST SIGNAL

Duty cycle of test signal is < 98%, duty factor shall be considered.

802.11a: Duty cycle =1.396/1.438=0.971，Duty factor = 10 * log(1/ 0.971) = 0.13

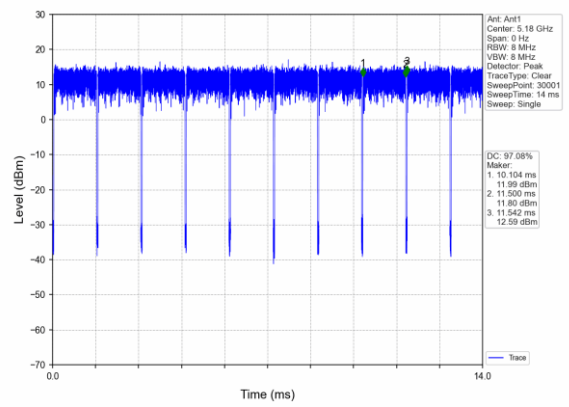
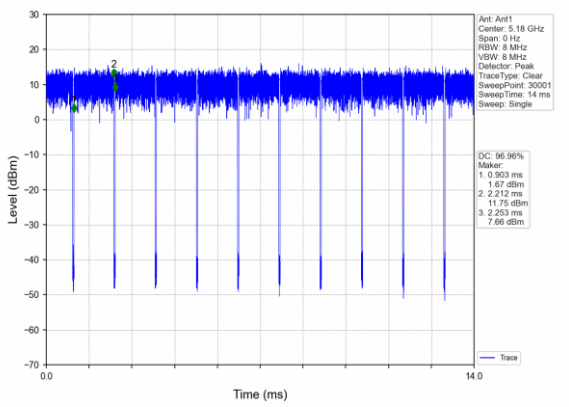
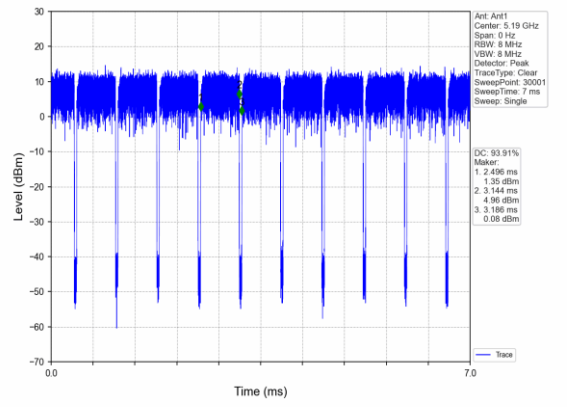
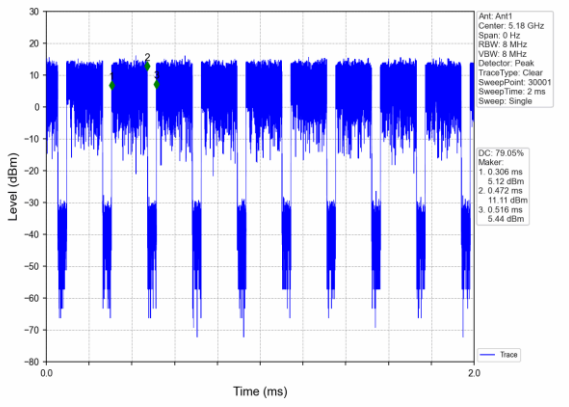
802.11n (20MHz): Duty cycle =1.309/1.350=0.970, Duty factor = 10 * log(1/ 0.970)= 0.13

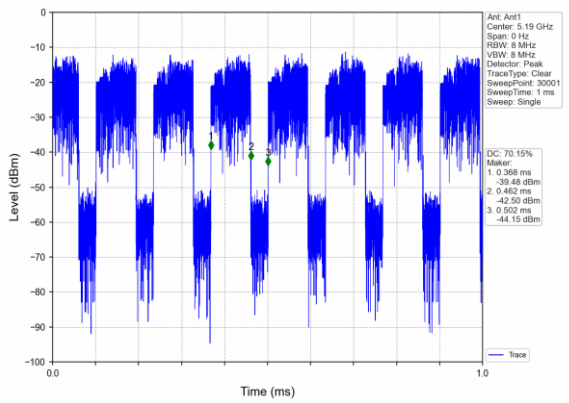
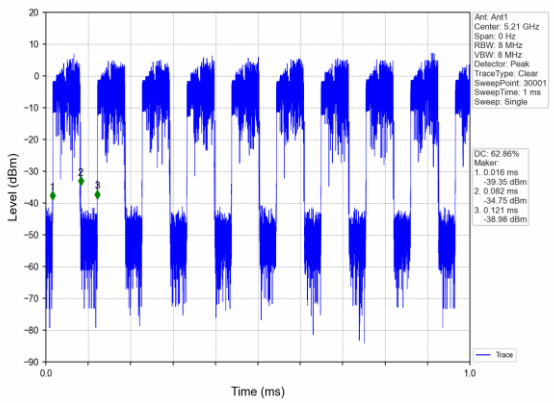
802.11n (40MHz): Duty cycle =0.648/0.690=0.940, Duty factor = 10 * log(1/ 0.940)=0.27

802.11ac (20MHz): Duty cycle =0.166/0.210 =0.790, Duty factor = 10 * log(1/ 0.790)=1.02

802.11ac (40MHz): Duty cycle =0.094/0.134=0.701, Duty factor = 10 * log(1/ 0.701)=1.54

802.11ac (80MHz): Duty cycle = 0.066/0.105=0.629, Duty factor = 10 * log(1/ 0.629)=2.02

802.11a	802.11n (20MHz)
	
802.11n (40MHz)	**802.11ac (20MHz)**
	

802.11 ac (40MHz)	802.11ac (80MHz)
	

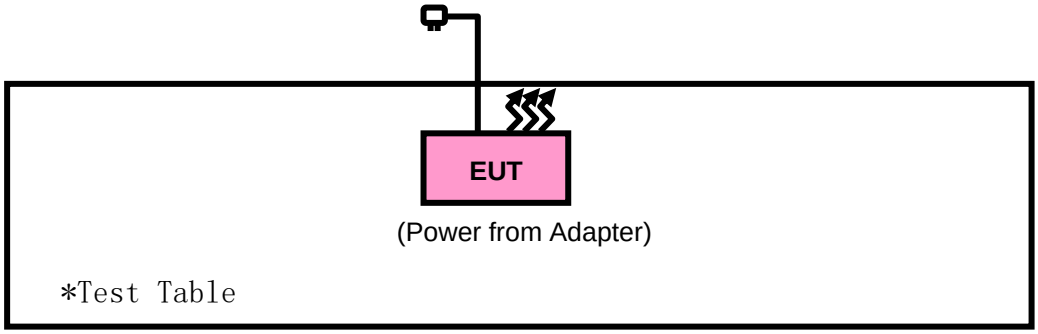
2.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Desktop	Lenovo	M73 SFF	PC04GRQV	N/A
2	Desktop	Lenovo	M73 SFF	PC06CS27	N/A
3	Laptop	Lenovo	Thnikpad L440	R90FTFKN	N/A
4	DC source	Kikusui/JP	PMX18-5A	0000001	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	AC Line: Unshielded, Detachable 1.5m
2	AC Line: Unshielded, Detachable 1.5m
3	AC Line: Unshielded, Detachable 1.5m
4	DC Line: Unshielded, Detachable 1.0m

2.4.1 CONFIGURATION OF SYSTEM UNDER TEST



2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart E (15.407)
KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (Certification). The test report has been issued separately.

3 TEST TYPES AND RESULTS

3.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

3.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table:

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

3.1.2 LIMITS OF UNWANTED EMISSION

<table>
<tr><td rowspan="2">RESTRICTED BANDS</td><td>APPLICABLE TO</td><td colspan="2">LIMIT</td></tr>
<tr><td rowspan="2">789033 D02 General UNII Test Procedures New Rules v02r01</td><td colspan="2">FIELD STRENGTH AT 3m (dBµV/m)</td></tr>
<tr><td>PK : 74</td><td>AV : 54</td></tr>
<tr><td rowspan="5">OUT OF THE RESTRICTED BANDS</td><td>APPLICABLE TO</td><td>EIRP LIMIT (dBm/MHz)</td><td>EQUIVALENT FIELD STRENGTH AT 3m (dBµV/m)</td></tr>
<tr><td>15.407(b)(1)</td><td rowspan="3">PK : -27</td><td rowspan="3">PK : 68.2</td></tr>
<tr><td>15.407(b)(2)</td></tr>
<tr><td>15.407(b)(3)</td></tr>
<tr><td>15.407(b)(4)</td><td colspan="2">See note 2 (FCC 16-24)</td></tr>
</table>

NOTE: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts).

2. 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.

3.1.3 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	May. 19,20	May. 18,23
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Mar. 05,21	Mar. 04,22
Horn Antenna	ETS-LINDGREN	3117	00168728	Apr. 02,21	Apr. 01,22
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Aug. 25, 21	Aug. 24, 22
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	Jun. 03,21	Jun. 02,22
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Apr. 22,21	Apr. 21,22
Signal Pre-Amplifier	EMSI	EMC 9135	980249	Jun. 02,21	Jun. 01,22
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	Jun. 03,21	Jun. 02,22
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Apr. 22,21	Apr. 21,22

NOTE: 1. The calibration interval of the above test instruments is 12 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2. The test was performed in 3m Chamber.

3. The FCC Site Registration No. is 525120; The Designation No. is CN1171.

3.1.4 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

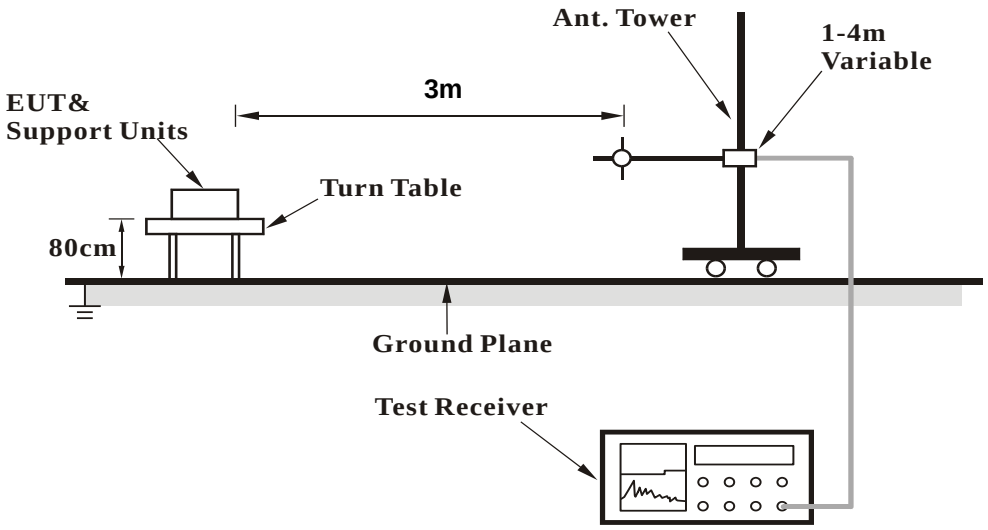
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

3.1.5 DEVIATION FROM TEST STANDARD

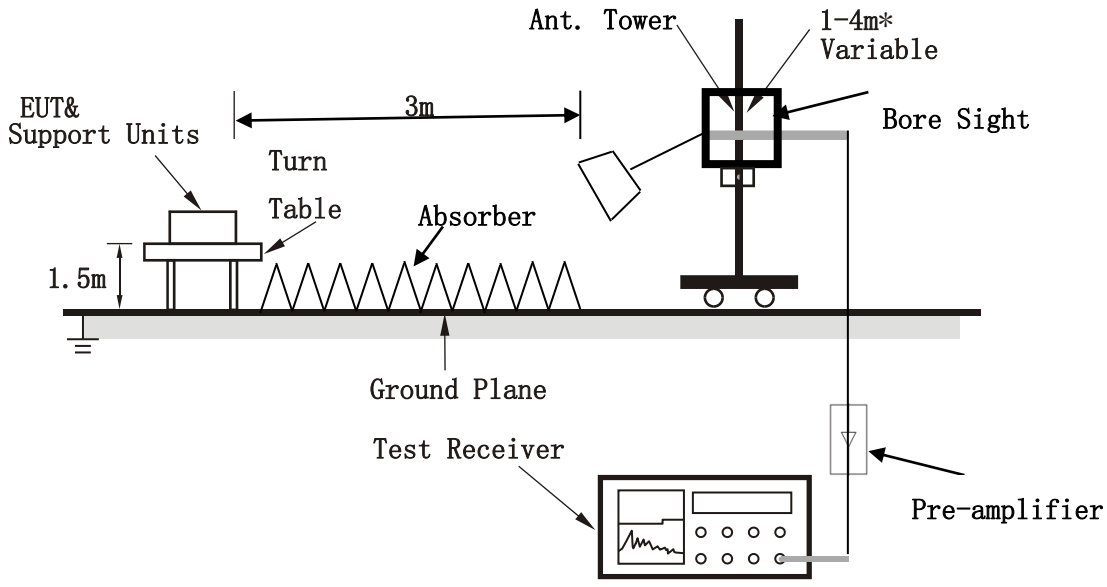
No deviation.

3.1.6 TEST SETUP

< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.1.7 EUT OPERATING CONDITION

a. Set the EUT under full load condition and placed them on a testing table.

b. Set the transmitter part of EUT under transmission condition continuously at specific channel frequency.

c. The necessary accessories enable the EUT in full functions.

3.1.8 TEST RESULTS

BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

Band 1

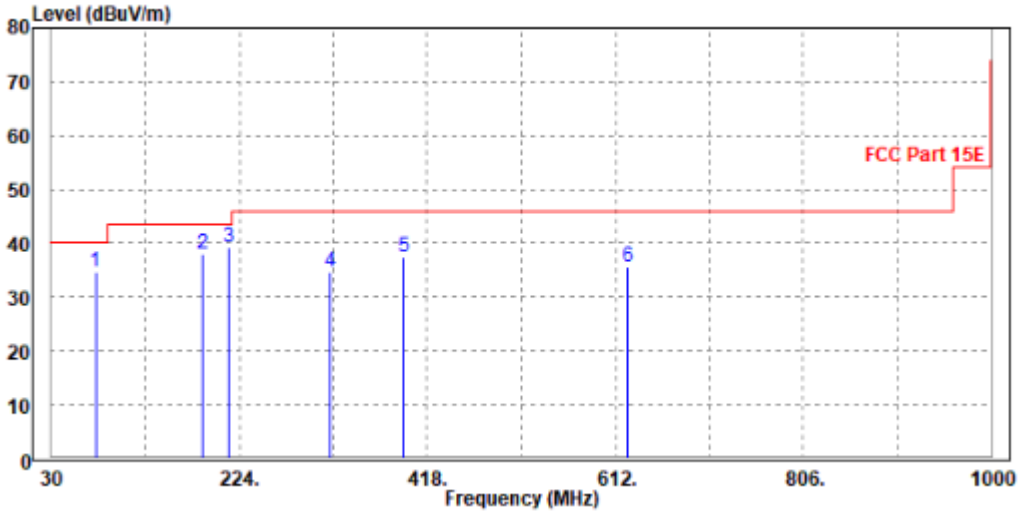
802.11n (40MHz)

CHANNEL	TX Channel 38	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
75.59	34.68	63.09	40	-5.32	7.81	1.12	37.34	200	0	QP
186.17	37.98	62.41	43.5	-5.52	10.45	1.73	36.61	200	0	QP
212.36	39.3	62.48	43.5	-4.2	11.54	1.85	36.57	200	0	QP
317.12	34.78	54.78	46	-11.22	14.5	2.26	36.76	200	0	QP
393.75	37.5	55.08	46	-8.5	16.72	2.53	36.83	200	0	QP
624.61	35.63	48.55	46	-10.37	21.19	3.3	37.41	200	0	QP

REMARKS:

1. Emission level (dBuV/m) = Read level (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

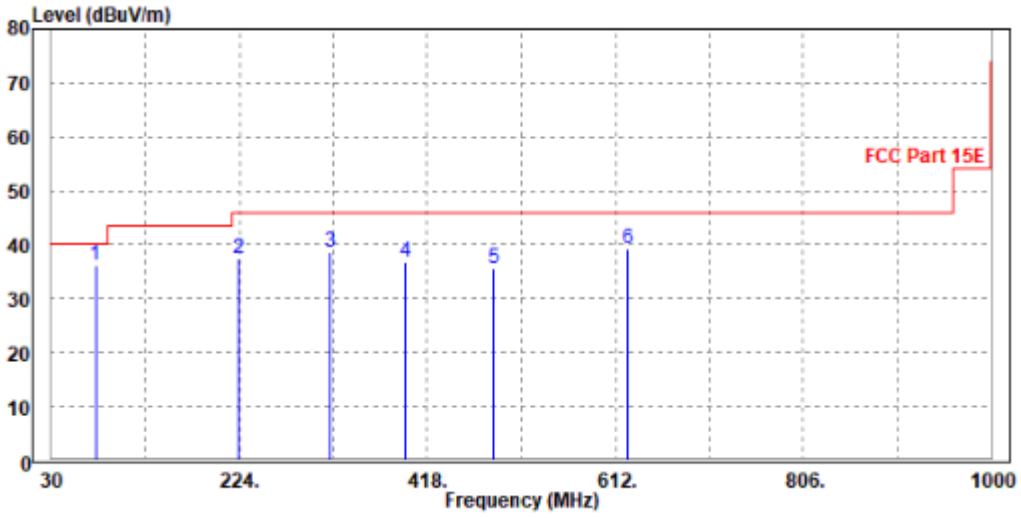


CHANNEL	Channel 38	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
75.59	36.32	64.42	40	-3.68	8.12	1.12	37.34	100	0	QP
224	37.43	59.53	46	-8.57	12.6	1.9	36.6	100	0	QP
317.12	38.55	57.67	46	-7.45	15.38	2.26	36.76	100	0	QP
395.69	36.92	54.1	46	-9.08	17.11	2.54	36.83	100	0	QP
486.87	35.58	50.83	46	-10.42	18.85	2.88	36.98	100	0	QP
624.61	39.27	52.14	46	-6.73	21.24	3.3	37.41	100	0	QP

REMARKS:

1. Emission level (dBuV/m) = Read level (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.



ABOVE 1GHz WORST-CASE DATA:

Note: For higher frequency, the emission is too low to be detected.

Band 1

802.11a

CHANNEL	TX Channel 36	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	57.2	59.51	74	-16.8	34.52	9.52	46.35	115	85	Peak
5150	50	52.31	54	-4	34.52	9.52	46.35	115	85	Average
5180	96.52	98.75	–	–	34.54	9.58	46.35	115	85	Peak
5180	87.35	89.58	–	–	34.54	9.58	46.35	115	85	Average
5350	53.2	54.88	74	-20.8	34.68	9.94	46.3	115	85	Peak
5350	47.41	49.09	54	-6.59	34.68	9.94	46.3	115	85	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	58.12	60.35	74	-15.88	34.6	9.52	46.35	135	345	Peak
5150	50.92	53.15	54	-3.08	34.6	9.52	46.35	135	345	Average
5180	101.87	104.04	–	–	34.6	9.58	46.35	135	345	Peak
5180	92.28	94.45	–	–	34.6	9.58	46.35	135	345	Average
5350	53.6	55.36	74	-20.4	34.6	9.94	46.3	135	345	Peak
5350	47.88	49.64	54	-6.12	34.6	9.94	46.3	135	345	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 5180MHz: Fundamental frequency.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	54.65	56.96	74	-19.35	34.52	9.52	46.35	115	85	Peak
5150	48.64	50.95	54	-5.36	34.52	9.52	46.35	115	85	Average
5200	93.96	96.12	–	–	34.56	9.62	46.34	115	85	Peak
5200	86.14	88.3	–	–	34.56	9.62	46.34	115	85	Average
5350	53.76	55.44	74	-20.24	34.68	9.94	46.3	115	85	Peak
5350	47.74	49.42	54	-6.26	34.68	9.94	46.3	115	85	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	56.04	58.27	74	-17.96	34.6	9.52	46.35	135	345	Peak
5150	48.99	51.22	54	-5.01	34.6	9.52	46.35	135	345	Average
5200	100.11	102.23	–	–	34.6	9.62	46.34	135	345	Peak
5200	92.72	94.84	–	–	34.6	9.62	46.34	135	345	Average
5350	53.94	55.7	74	-20.06	34.6	9.94	46.3	135	345	Peak
5350	47.59	49.35	54	-6.41	34.6	9.94	46.3	135	345	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 5200MHz: Fundamental frequency.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	56.5	58.81	74	-17.5	34.52	9.52	46.35	115	85	Peak
5150	48.46	50.77	54	-5.54	34.52	9.52	46.35	115	85	Average
5240	94.24	96.27	–	–	34.59	9.71	46.33	115	85	Peak
5240	85.86	87.89	–	–	34.59	9.71	46.33	115	85	Average
5350	54.64	56.32	74	-19.36	34.68	9.94	46.3	115	85	Peak
5350	47.94	49.62	54	-6.06	34.68	9.94	46.3	115	85	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	55.54	57.77	74	-18.46	34.6	9.52	46.35	135	345	Peak
5150	48.98	51.21	54	-5.02	34.6	9.52	46.35	135	345	Average
5240	104.06	106.08	–	–	34.6	9.71	46.33	135	345	Peak
5240	93.88	95.9	–	–	34.6	9.71	46.33	135	345	Average
5350	53.97	55.73	74	-20.03	34.6	9.94	46.3	135	345	Peak
5350	47.53	49.29	54	-6.47	34.6	9.94	46.3	135	345	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 5240MHz: Fundamental frequency.

802.11n (20MHz)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	54.84	57.15	74	-19.16	34.52	9.52	46.35	115	80	Peak
5150	48.67	50.98	54	-5.33	34.52	9.52	46.35	115	80	Average
5180	91.83	94.06	–	–	34.54	9.58	46.35	115	80	Peak
5180	83.7	85.93	–	–	34.54	9.58	46.35	115	80	Average
5350	55.06	56.74	74	-18.94	34.68	9.94	46.3	115	80	Peak
5350	47.05	48.73	54	-6.95	34.68	9.94	46.3	115	80	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	57.06	59.29	74	-16.94	34.6	9.52	46.35	135	345	Peak
5150	49.68	51.91	54	-4.32	34.6	9.52	46.35	135	345	Average
5180	98.73	100.9	–	–	34.6	9.58	46.35	135	345	Peak
5180	90.35	92.52	–	–	34.6	9.58	46.35	135	345	Average
5350	55.33	57.09	74	-18.67	34.6	9.94	46.3	135	345	Peak
5350	47.42	49.18	54	-6.58	34.6	9.94	46.3	135	345	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 5180MHz: Fundamental frequency.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	53.55	55.86	74	-20.45	34.52	9.52	46.35	125	85	Peak
5150	48.31	50.62	54	-5.69	34.52	9.52	46.35	125	85	Average
5200	92.01	94.17	–	–	34.56	9.62	46.34	125	85	Peak
5200	84.37	86.53	–	–	34.56	9.62	46.34	125	85	Average
5350	53.43	55.11	74	-20.57	34.68	9.94	46.3	125	85	Peak
5350	47.06	48.74	54	-6.94	34.68	9.94	46.3	125	85	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	54.4	56.63	74	-19.6	34.6	9.52	46.35	110	260	Peak
5150	47.69	49.92	54	-6.31	34.6	9.52	46.35	110	260	Average
5200	94.57	96.69	–	–	34.6	9.62	46.34	110	260	Peak
5200	84.88	87	–	–	34.6	9.62	46.34	110	260	Average
5350	54.92	56.68	74	-19.08	34.6	9.94	46.3	110	260	Peak
5350	47.02	48.78	54	-6.98	34.6	9.94	46.3	110	260	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 5200MHz: Fundamental frequency.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	55.63	57.94	74	-18.37	34.52	9.52	46.35	135	260	Peak
5150	47.92	50.23	54	-6.08	34.52	9.52	46.35	135	260	Average
5240	95.36	97.39	–	–	34.59	9.71	46.33	135	260	Peak
5240	86.83	88.86	–	–	34.59	9.71	46.33	135	260	Average
5350	54.9	56.58	74	-19.1	34.68	9.94	46.3	135	260	Peak
5350	47.69	49.37	54	-6.31	34.68	9.94	46.3	135	260	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	54.43	56.66	74	-19.57	34.6	9.52	46.35	135	260	Peak
5150	47.57	49.8	54	-6.43	34.6	9.52	46.35	135	260	Average
5240	94.53	96.55	–	–	34.6	9.71	46.33	135	260	Peak
5240	85.68	87.7	–	–	34.6	9.71	46.33	135	260	Average
5350	54.7	56.46	74	-19.3	34.6	9.94	46.3	135	260	Peak
5350	46.77	48.53	54	-7.23	34.6	9.94	46.3	135	260	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 5240MHz: Fundamental frequency.

802.11n (40MHz)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	56.77	59.08	74	-17.23	34.52	9.52	46.35	100	325	Peak
5150	48.29	50.6	54	-5.71	34.52	9.52	46.35	100	325	Average
5190	85.08	87.27	–	–	34.55	9.6	46.34	100	325	Peak
5190	79.52	81.71	–	–	34.55	9.6	46.34	100	325	Average
5350	52.64	54.32	74	-21.36	34.68	9.94	46.3	100	325	Peak
5350	46.89	48.57	54	-7.11	34.68	9.94	46.3	100	325	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	54.94	57.17	74	-19.06	34.6	9.52	46.35	120	350	Peak
5150	**50.94**	**53.17**	**54**	**-3.06**	**34.6**	**9.52**	**46.35**	**120**	**350**	**Average**
5190	90.84	92.98	–	–	34.6	9.6	46.34	120	350	Peak
5190	84.61	86.75	–	–	34.6	9.6	46.34	120	350	Average
5350	53.99	55.75	74	-20.01	34.6	9.94	46.3	120	350	Peak
5350	46.75	48.51	54	-7.25	34.6	9.94	46.3	120	350	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 5190MHz: Fundamental frequency.

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	54.98	57.29	74	-19.02	34.52	9.52	46.35	100	325	Peak
5150	47.95	50.26	54	-6.05	34.52	9.52	46.35	100	325	Average
5230	91.23	93.29	–	–	34.58	9.69	46.33	100	325	Peak
5230	83.95	86.01	–	–	34.58	9.69	46.33	100	325	Average
5350	53.14	54.82	74	-20.86	34.68	9.94	46.3	100	325	Peak
5350	46.65	48.33	54	-7.35	34.68	9.94	46.3	100	325	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	55.33	57.56	74	-18.67	34.6	9.52	46.35	130	350	Peak
5150	48	50.23	54	-6	34.6	9.52	46.35	130	350	Average
5230	97.56	99.6	–	–	34.6	9.69	46.33	130	350	Peak
5230	89.65	91.69	–	–	34.6	9.69	46.33	130	350	Average
5350	53.32	55.08	74	-20.68	34.6	9.94	46.3	130	350	Peak
5350	47.48	49.24	54	-6.52	34.6	9.94	46.3	130	350	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 5230MHz: Fundamental frequency.

802.11ac (20MHz)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	55.52	57.83	74	-18.48	34.52	9.52	46.35	115	85	Peak
5150	48.88	51.19	54	-5.12	34.52	9.52	46.35	115	85	Average
5180	91.76	93.99	–	–	34.54	9.58	46.35	115	85	Peak
5180	85.54	87.77	–	–	34.54	9.58	46.35	115	85	Average
5350	53.34	55.02	74	-20.66	34.68	9.94	46.3	115	85	Peak
5350	47.05	48.73	54	-6.95	34.68	9.94	46.3	115	85	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	56.65	58.88	74	-17.35	34.6	9.52	46.35	135	345	Peak
5150	49.96	52.19	54	-4.04	34.6	9.52	46.35	135	345	Average
5180	97.93	100.1	–	–	34.6	9.58	46.35	135	345	Peak
5180	90.43	92.6	–	–	34.6	9.58	46.35	135	345	Average
5350	54.91	56.67	74	-19.09	34.6	9.94	46.3	135	345	Peak
5350	47.17	48.93	54	-6.83	34.6	9.94	46.3	135	345	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 5180MHz: Fundamental frequency.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	55.61	57.92	74	-18.39	34.52	9.52	46.35	115	85	Peak
5150	48.41	50.72	54	-5.59	34.52	9.52	46.35	115	85	Average
5200	93.47	95.63	–	–	34.56	9.62	46.34	115	85	Peak
5200	85.79	87.95	–	–	34.56	9.62	46.34	115	85	Average
5350	55.21	56.89	74	-18.79	34.68	9.94	46.3	115	85	Peak
5350	47.23	48.91	54	-6.77	34.68	9.94	46.3	115	85	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	54.58	56.81	74	-19.42	34.6	9.52	46.35	135	345	Peak
5150	48.7	50.93	54	-5.3	34.6	9.52	46.35	135	345	Average
5200	99.75	101.87	–	–	34.6	9.62	46.34	135	345	Peak
5200	92.1	94.22	–	–	34.6	9.62	46.34	135	345	Average
5350	53.52	55.28	74	-20.48	34.6	9.94	46.3	135	345	Peak
5350	47.27	49.03	54	-6.73	34.6	9.94	46.3	135	345	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 5200MHz: Fundamental frequency.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	53.35	55.66	74	-20.65	34.52	9.52	46.35	115	85	Peak
5150	48	50.31	54	-6	34.52	9.52	46.35	115	85	Average
5240	93.4	95.43	–	–	34.59	9.71	46.33	115	85	Peak
5240	86.96	88.99	–	–	34.59	9.71	46.33	115	85	Average
5350	54.21	55.89	74	-19.79	34.68	9.94	46.3	115	85	Peak
5350	47.29	48.97	54	-6.71	34.68	9.94	46.3	115	85	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	55.46	57.69	74	-18.54	34.6	9.52	46.35	135	345	Peak
5150	48.26	50.49	54	-5.74	34.6	9.52	46.35	135	345	Average
5240	103.21	105.23	–	–	34.6	9.71	46.33	135	345	Peak
5240	95.17	97.19	–	–	34.6	9.71	46.33	135	345	Average
5350	53	54.76	74	-21	34.6	9.94	46.3	135	345	Peak
5350	46.69	48.45	54	-7.31	34.6	9.94	46.3	135	345	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 5240MHz: Fundamental frequency.

802.11ac (40MHz)

CHANNEL	TX Channel 38	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	**EMISSION LEVEL (dBuV/m)**	**READ LEVEL (dBuV)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA FACTOR (dB /m)**	**CABLE LOSS (dB)**	**PREAMP FACTOR (dB)**	**ANTENNA HEIGHT (cm)**	**TABLE ANGLE (Degree)**	**REMARK**
5150	56	58.31	74	-18	34.52	9.52	46.35	115	85	Peak
5150	50.28	52.59	54	-3.72	34.52	9.52	46.35	115	85	Average
5190	86.86	89.05	–	–	34.55	9.6	46.34	115	85	Peak
5190	80.46	82.65	–	–	34.55	9.6	46.34	115	85	Average
5350	53.07	54.75	74	-20.93	34.68	9.94	46.3	115	85	Peak
5350	47.64	49.32	54	-6.36	34.68	9.94	46.3	115	85	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	**EMISSION LEVEL (dBuV/m)**	**READ LEVEL (dBuV)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA FACTOR (dB /m)**	**CABLE LOSS (dB)**	**PREAMP FACTOR (dB)**	**ANTENNA HEIGHT (cm)**	**TABLE ANGLE (Degree)**	**REMARK**
5150	57.28	59.51	74	-16.72	34.6	9.52	46.35	135	345	Peak
5150	50.84	53.07	54	-3.16	34.6	9.52	46.35	135	345	Average
5190	92.92	95.06	–	–	34.6	9.6	46.34	135	345	Peak
5190	85.19	87.33	–	–	34.6	9.6	46.34	135	345	Average
5350	55.09	56.85	74	-18.91	34.6	9.94	46.3	135	345	Peak
5350	47.89	49.65	54	-6.11	34.6	9.94	46.3	135	345	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 5190MHz: Fundamental frequency.

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	56	58.31	74	-18	34.52	9.52	46.35	115	85	Peak
5150	48.7	51.01	54	-5.3	34.52	9.52	46.35	115	85	Average
5230	91.85	93.91	–	–	34.58	9.69	46.33	115	85	Peak
5230	83.62	85.68	–	–	34.58	9.69	46.33	115	85	Average
5350	52.5	54.18	74	-21.5	34.68	9.94	46.3	115	85	Peak
5350	47.01	48.69	54	-6.99	34.68	9.94	46.3	115	85	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	55.68	57.91	74	-18.32	34.6	9.52	46.35	135	345	Peak
5150	50.91	53.14	54	-3.09	34.6	9.52	46.35	135	345	Average
5230	98.42	100.46	–	–	34.6	9.69	46.33	135	345	Peak
5230	92.79	94.83	–	–	34.6	9.69	46.33	135	345	Average
5350	53.23	54.99	74	-20.77	34.6	9.94	46.3	135	345	Peak
5350	47.65	49.41	54	-6.35	34.6	9.94	46.3	135	345	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 5230MHz: Fundamental frequency.

802.11ac (80MHz)

CHANNEL	TX Channel 42	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	55	57.31	74	-19	34.52	9.52	46.35	100	325	Peak
5150	48.42	50.73	54	-5.58	34.52	9.52	46.35	100	325	Average
5210	80.91	83.04	–	–	34.57	9.64	46.34	100	325	Peak
5210	73.52	75.65	–	–	34.57	9.64	46.34	100	325	Average
5350	55.42	57.1	74	-18.58	34.68	9.94	46.3	100	325	Peak
5350	47.31	48.99	54	-6.69	34.68	9.94	46.3	100	325	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	56.2	58.43	74	-17.8	34.6	9.52	46.35	130	345	Peak
5150	50.35	52.58	54	-3.65	34.6	9.52	46.35	130	345	Average
5210	85.76	87.86	–	–	34.6	9.64	46.34	130	345	Peak
5210	79.08	81.18	–	–	34.6	9.64	46.34	130	345	Average
5350	53.75	55.51	74	-20.25	34.6	9.94	46.3	130	345	Peak
5350	46.59	48.35	54	-7.41	34.6	9.94	46.3	130	345	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Emission level – Limit value.
2. 5210MHz: Fundamental frequency.

3.2 OUT OF BAND EMISSION MEASUREMENT

3.2.1 LIMITS OF OUT OF BAND EMISSION MEASUREMENT

	APPLICABLE TO	EIRP LIMIT (dBm/MHz)
OUT OF THE RESTRICTED BANDS	15.407(b)(1)	-27
	15.407(b)(2)	
	15.407(b)(3)	
	15.407(b)(4)	See note

NOTE:

(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 in the 5.725-5.85 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.

3.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	Jun. 03,21	Jun. 02,22
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	Jun. 03,21	Jun. 02,22

NOTE:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in RF OVEN ROOM.
3. The FCC Site Registration No. is 525120; The Designation No. is CN1171.

3.2.3 TEST PROCEDURES

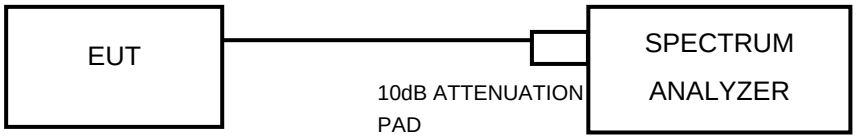
a. Cheak the calibration of the measurement instrument using either an internal calibrator or a known signal from an external generator.
b. The resolution bandwidth is set to 1MHzThe Video bandwidth is set to ≥1MHz, report the peak value out of oprating band.
c. Repeat above procedures until all frequencies measured wre complete.

NOTE: All modes of operation were investigated and the worst-case emissions are reported,antenna gain was added into the test result.

3.2.4 DEVIATION FROM TEST STANDARD

No deviation.

3.2.5 TEST SETUP

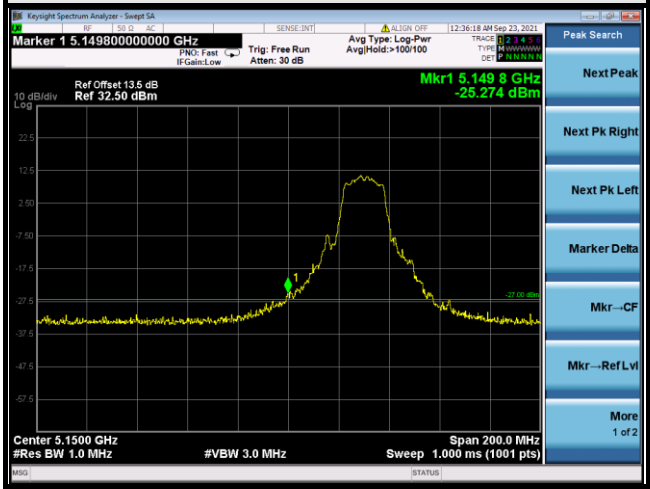
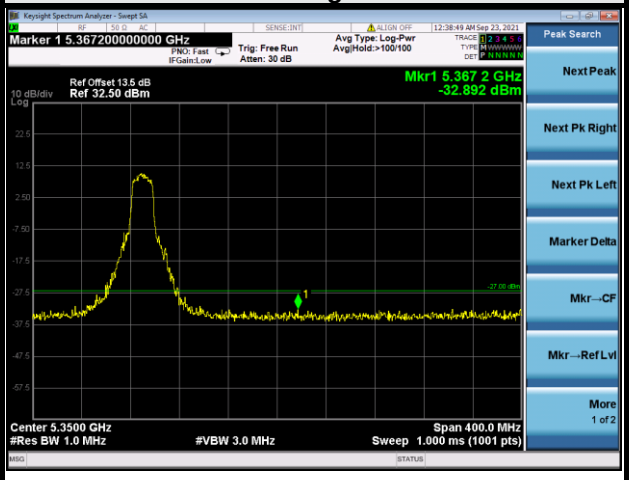
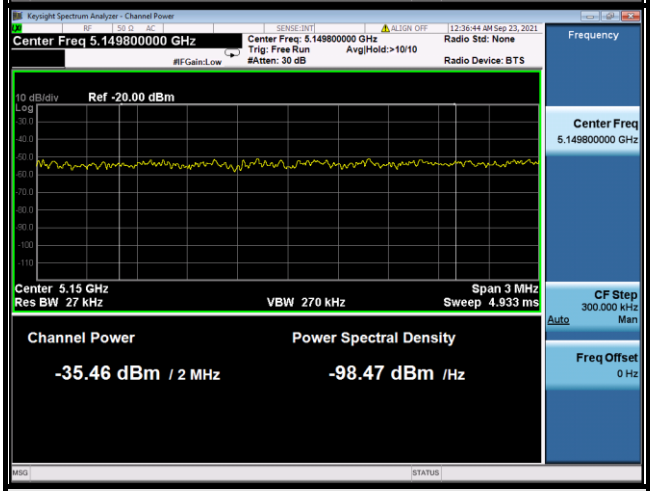
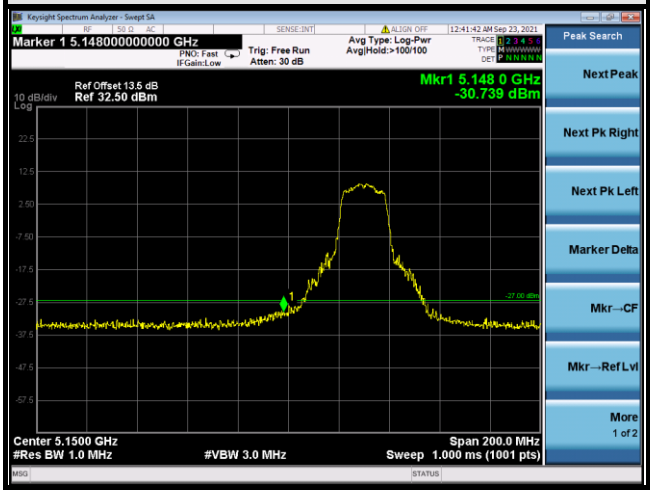
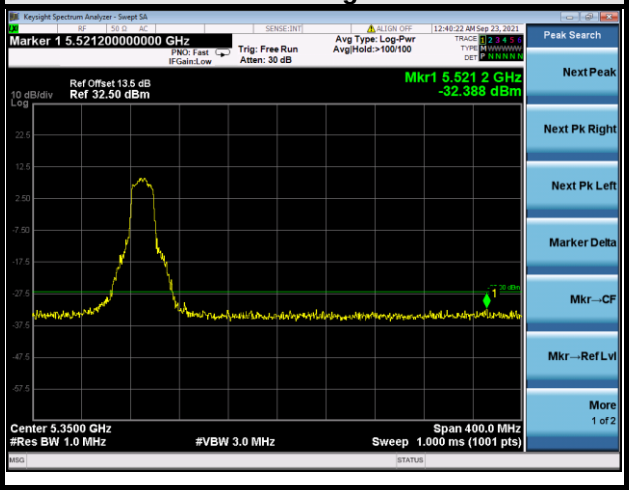


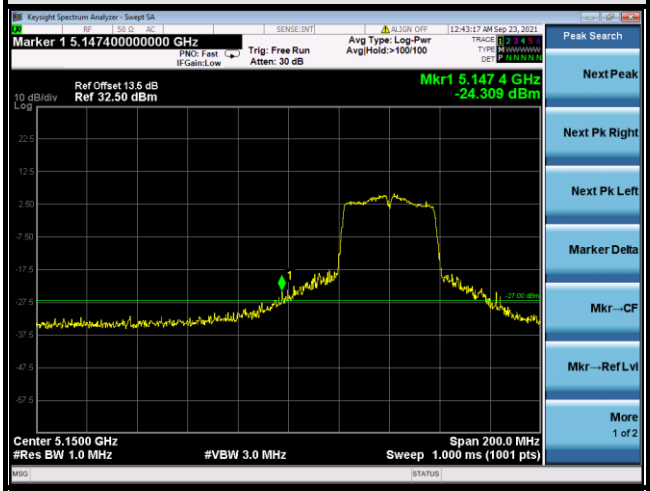
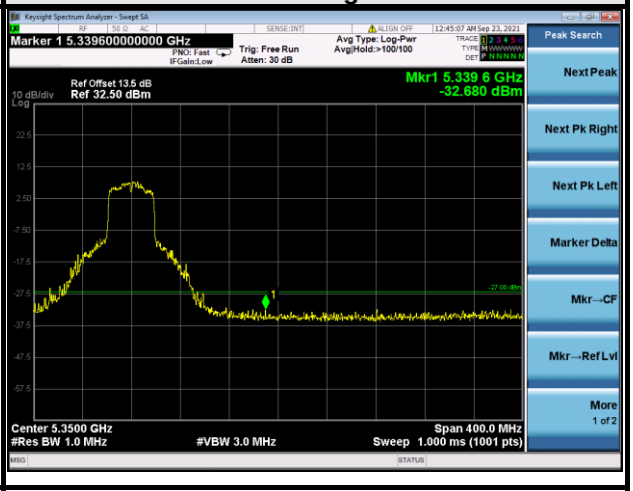
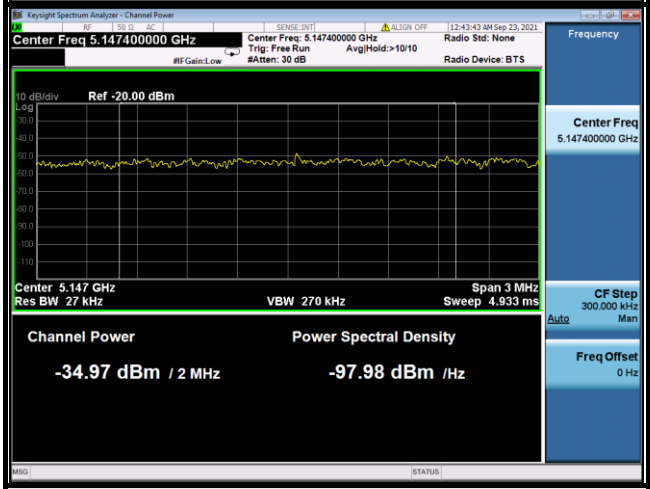
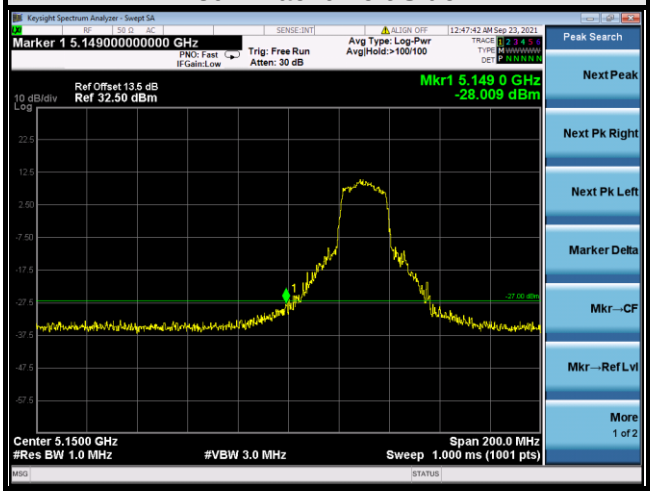
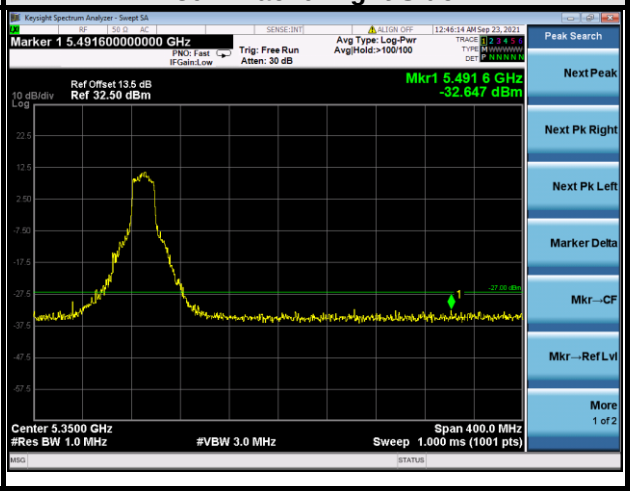
3.2.6 EUT OPERATING CONDITION

a. Set the EUT under full load condition and placed them on a testing table.
b. Set the transmitter part of EUT under transmission condition continuously at specific channel frequency.
c. The necessary accessories enable the EUT in full functions.

3.2.7 TEST RESULTS

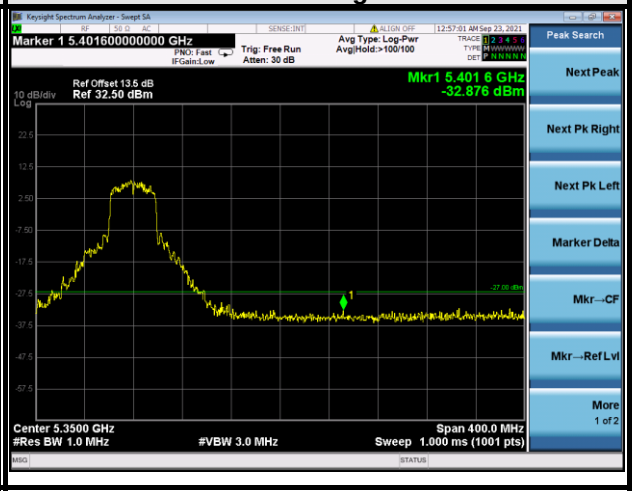
For U-NII-1:

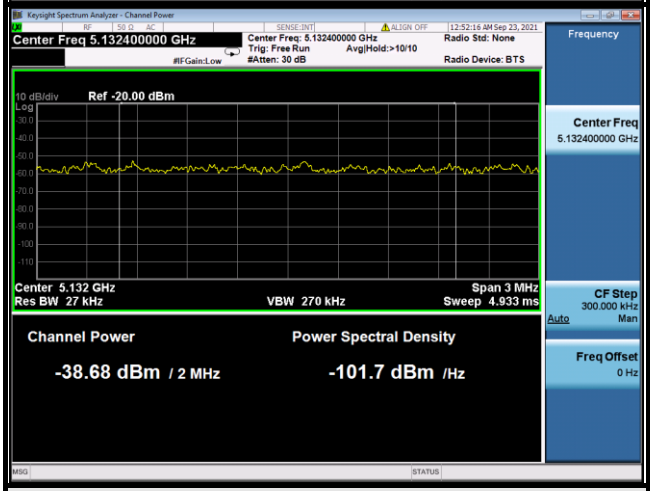
SPECTRUM PLOT OF BANDEDGE	
802.11a Left Side	**802.11a Right Side**
	
	/
802.11n20 Left Side	**802.11n20 Right Side**
	

802.11n40 Left Side	802.11n40 Right Side
	
	/
802.11ac20 Left Side	**802.11ac20 Right Side**
	

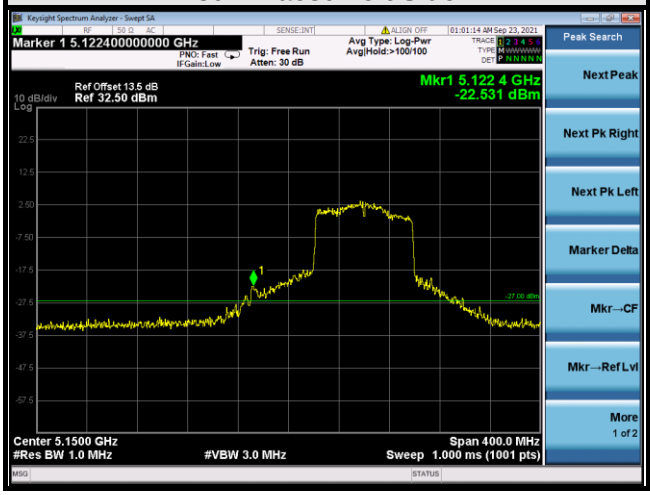
802.11ac40 Left Side

802.11ac40 Right Side

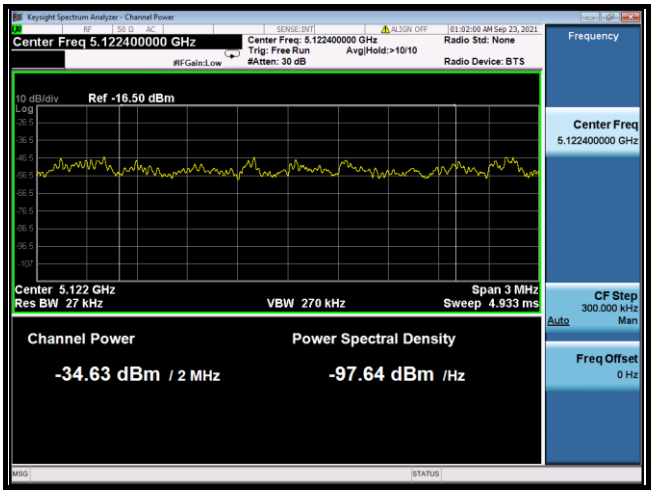




802.11ac80 Left Side



802.11ac80 Right Side


Keysight Spectrum Analyzer - Channel Power
Center Freq 5.122400000 GHz
Center Freq: 5.122400000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Ref -16.50 dBm
Center Freq
5.122400000 GHz
Center 5.122 GHz
Res BW 27 kHz
VBW 270 kHz
Span 3 MHz
Sweep 4.933 ms
CF Step
300.000 kHz
Auto
Man
Channel Power
-34.63 dBm / 2 MHz
Power Spectral Density
-97.64 dBm /Hz
Freq Offset
0 Hz

/

3.3 CONDUCTED EMISSION MEASUREMENT

3.3.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

NOTE: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

3.3.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR3	101900	Mar. 03,21	Mar. 02,22
EMC32 test software	Rohde&Schwarz	EMC32	NA	NA	NA
LISN network	Rohde&Schwarz	ENV216	101922	Feb. 22,21	Feb. 21,22

NOTE:

1. The test was performed in CE shielded room.
2. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

3.3.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

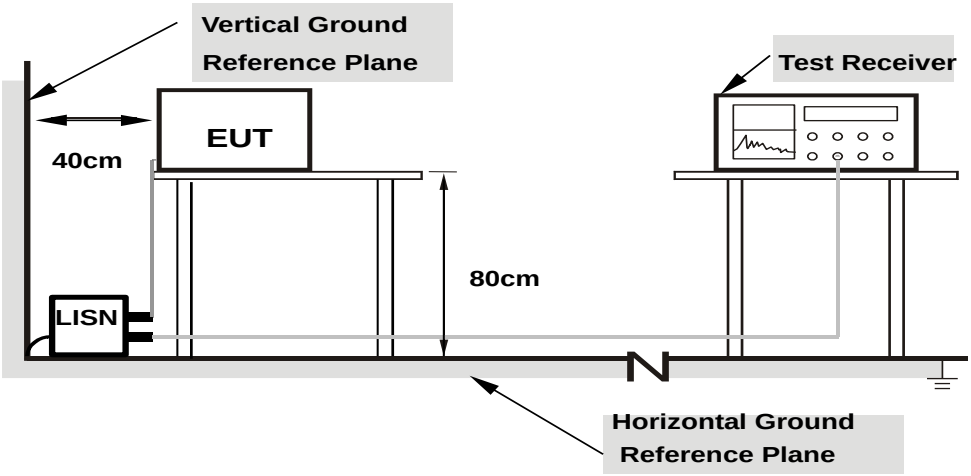
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

3.3.4 DEVIATION FROM TEST STANDARD

No deviation.

3.3.5 TEST SETUP



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

For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.3.6 EUT OPERATING CONDITIONS

Same as 3.1.6.

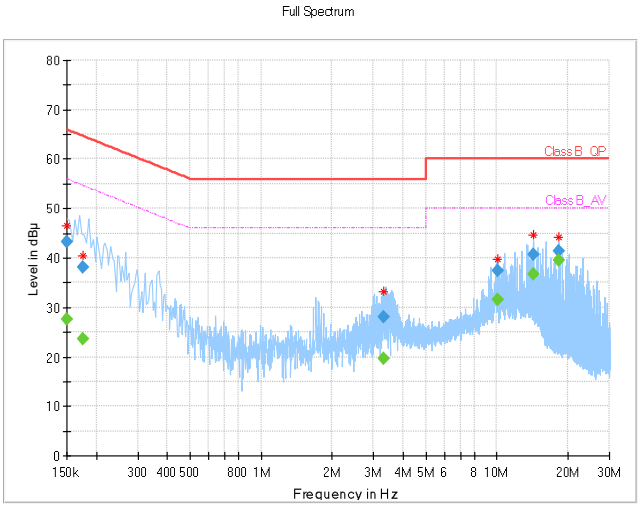
3.3.7 TEST RESULTS

CONDUCTED WORST-CASE DATA:

Frequency Range	150KHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	24deg. C, 55%RH
Tested By	Carl Xie		

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150000	---	27.53	56.00	28.47	L1	ON	9.7
0.150000	43.17	---	66.00	22.83	L1	ON	9.7
0.176000	---	23.66	54.67	31.01	L1	ON	9.7
0.176000	38.18	---	64.67	26.49	L1	ON	9.7
3.324000	---	19.69	46.00	26.31	L1	ON	9.7
3.324000	27.96	---	56.00	28.04	L1	ON	9.7
10.060000	---	31.64	50.00	18.36	L1	ON	9.8
10.060000	37.42	---	60.00	22.58	L1	ON	9.8
14.212000	---	36.70	50.00	13.30	L1	ON	9.8
14.212000	40.76	---	60.00	19.24	L1	ON	9.8
18.244000	---	39.42	50.00	10.58	L1	ON	9.8
18.244000	41.43	---	60.00	18.57	L1	ON	9.8

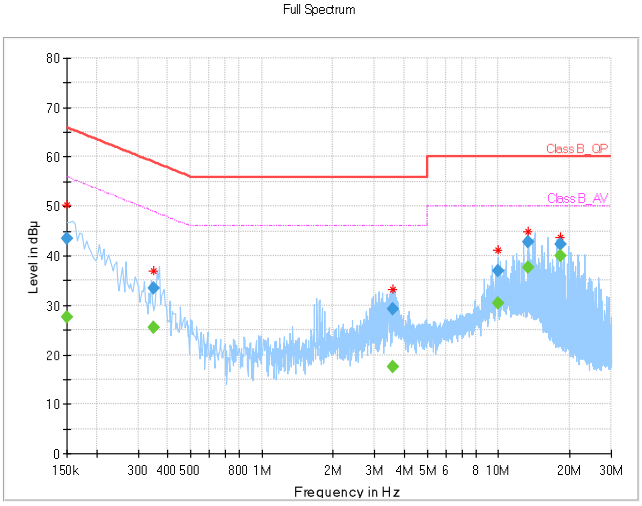
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Limit value - Emission level
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



Frequency Range	150KHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120Vac, 60Hz	Environmental Conditions	24deg. C, 55%RH
Tested By	Carl Xie		

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150000	---	27.61	56.00	28.39	N	ON	9.7
0.150000	43.50	---	66.00	22.50	N	ON	9.7
0.348000	---	25.49	49.01	23.52	N	ON	9.7
0.348000	33.52	---	59.01	25.49	N	ON	9.7
3.568000	---	17.66	46.00	28.34	N	ON	9.8
3.568000	29.18	---	56.00	26.82	N	ON	9.8
9.940000	---	30.38	50.00	19.62	N	ON	9.8
9.940000	36.87	---	60.00	23.13	N	ON	9.8
13.420000	---	37.66	50.00	12.34	N	ON	9.8
13.420000	42.74	---	60.00	17.26	N	ON	9.8
18.244000	---	39.90	50.00	10.10	N	ON	9.9
18.244000	42.42	---	60.00	17.58	N	ON	9.9

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Limit value - Emission level
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



3.4 MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

3.4.1 LIMITS OF MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

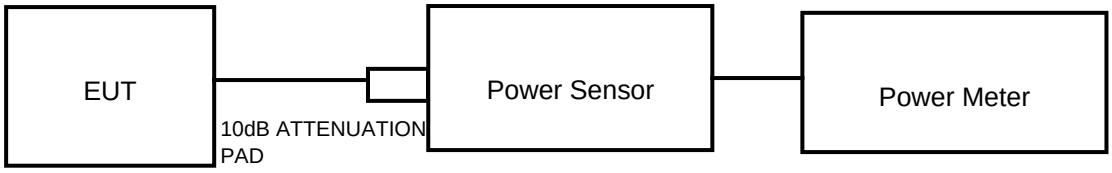
Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≦ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
	B	Indoor Access Point	1 Watt (30 dBm)
	√	Client devices	250mW (24 dBm)
U-NII-2A	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	√		1 Watt (30 dBm)

NOTE: Where B is the 26dB emission bandwidth in MHz.

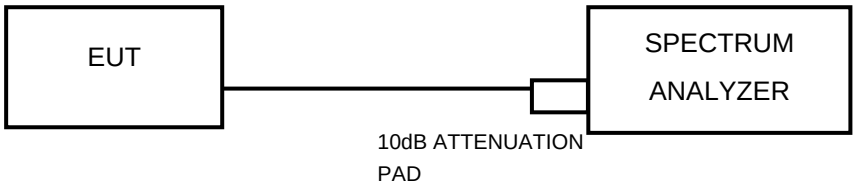
3.4.2 TEST SETUP

FOR POWER OUTPUT MEASUREMENT

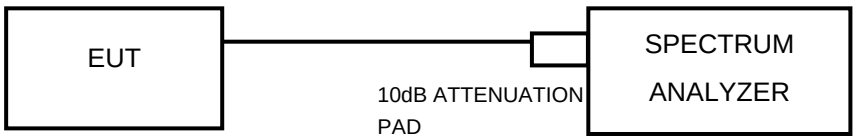
802.11a, 802.11n (20MHz), 802.11n (40MHz) TEST CONFIGURATION



11ac TEST CONFIGURATION



FOR 26dB BANDWIDTH



3.4.3 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Meter	ANRITSU	ML2495A	1506002	Feb. 22,21	Feb. 21,22
EXA Signal Analyzer	KEYSIGHT	N9010A-526	MY54510322	Feb. 25,21	Feb. 24,22
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	Jun. 03,21	Jun. 02,22
Power Sensor	ANRITSU	MA2411B	1339352	May. 07,21	May. 08,22

NOTE:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in RF Oven room.

3.4.4 TEST PROCEDURE

FOR POWER MEASUREMENT

For 802.11a, 802.11n (20MHz), 802.11n (40MHz)

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

For 802.11ac (80MHz)

1. Measure the duty cycle, x, of the transmitter output signal as described in II.B.
2. Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
3. Set RBW = 1 MHz.
4. Set VBW ≥ 3 MHz.
5. Number of points in sweep ≥ 2 × span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
6. Sweep time = auto.
7. Detector = power averaging (rms), if available. Otherwise, use sample detector mode.
8. Do not use sweep triggering. Allow the sweep to “free run.”
9. Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
10. Add 10 log (1/x), where x is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add 10 log (1/0.25) = 6 dB if the duty cycle is 25%.

FOR 99 PERCENT OCCUPIED BANDWIDTH

The following procedure shall be used for measuring (99 %) power bandwidth:

1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW ≥ 3 · RBW
5. 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.
6. Use the 99 % power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. 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% occupied bandwidth is the difference between these two frequencies.

FOR 26dB BANDWIDTH

1) Set RBW = approximately 1% of the emission bandwidth.
2) Set the VBW > RBW.
3) Detector = Peak.
4) Trace mode = max hold.
5) 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 analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

FOR 6dB BANDWIDTH

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. 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.

3.4.5 DEVIATION FROM TEST STANDARD

No deviation.

3.4.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

3.4.7 TEST RESULTS

OUTPUT POWER:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	Duty Factor	FINAL AVERAGE POWER (dBm)	FINAL AVERAGE POWER (mW)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	12.94	0.13	13.07	20.28	24	PASS
40	5200	12.65	0.13	12.78	18.97	24	PASS
48	5240	13.06	0.13	13.19	20.84	24	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	Duty Factor	FINAL AVERAGE POWER (dBm)	FINAL AVERAGE POWER (mW)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	11.74	0.13	11.87	15.38	24	PASS
40	5200	12.45	0.13	12.58	18.11	24	PASS
48	5240	11.8	0.13	11.93	15.60	24	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	Duty Factor	FINAL AVERAGE POWER (dBm)	FINAL AVERAGE POWER (mW)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	9.85	0.27	10.12	10.28	24	PASS
46	5230	11.92	0.27	12.19	16.56	24	PASS

802.11ac (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	Duty Factor	FINAL AVERAGE POWER (dBm)	FINAL AVERAGE POWER (mW)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	12.25	1.00	13.25	21.13	24	PASS
40	5200	12.94	1.00	13.94	24.77	24	PASS
48	5240	13.40	1.00	14.40	**27.54**	24	PASS

802.11ac (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	Duty Factor	FINAL AVERAGE POWER (dBm)	FINAL AVERAGE POWER (mW)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	8.56	1.54	10.10	10.23	24	PASS
46	5230	12.48	1.54	14.02	25.23	24	PASS

802.11ac (80MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	Duty Factor	FINAL AVERAGE POWER (dBm)	FINAL AVERAGE POWER (mW)	POWER LIMIT (dBm)	PASS/FAIL
42	5210	4.52	2.02	6.54	4.51	24	PASS

99% OCCUPIED BANDWIDTH & 26dB BANDWIDTH

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH	26dB BANDWIDTH (MHz)	PASS/FAIL
36	5180	20.438	33.673	PASS
40	5200	20.187	33.616	PASS
48	5240	20.210	33.627	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH	26dB BANDWIDTH (MHz)	PASS/FAIL
36	5180	19.562	33.872	PASS
40	5200	19.723	36.219	PASS
48	5240	19.862	38.612	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH	26dB BANDWIDTH (MHz)	PASS/FAIL
38	5190	38.566	76.406	PASS
46	5230	42.764	87.751	PASS

802.11ac (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH	26dB BANDWIDTH (MHz)	PASS/FAIL
36	5180	20.046	38.379	PASS
40	5200	20.751	37.342	PASS
48	5240	23.969	41.149	PASS

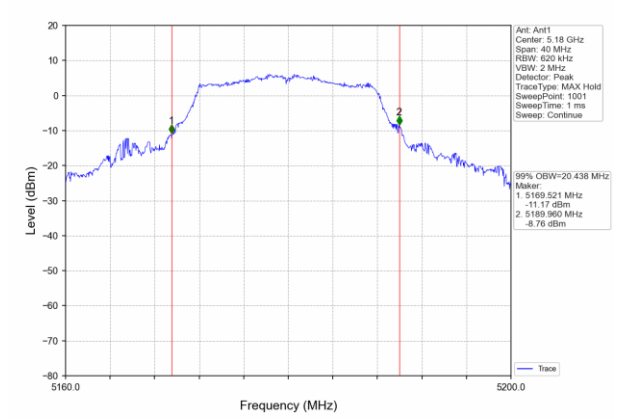
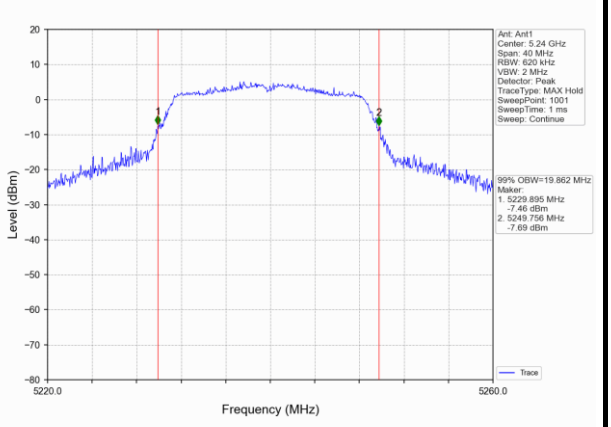
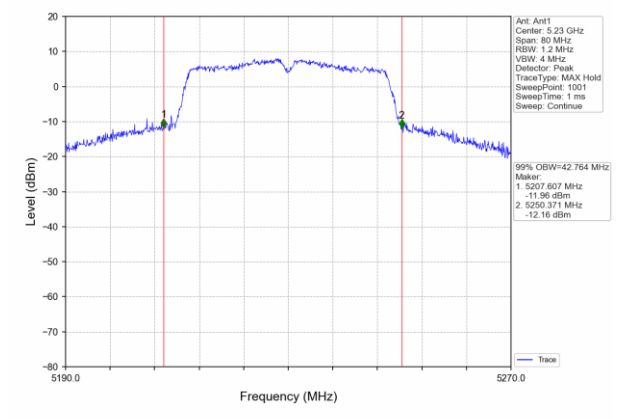
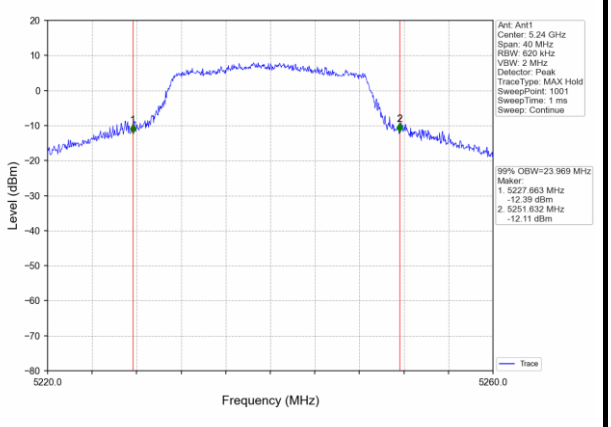
802.11ac (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH	26dB BANDWIDTH (MHz)	PASS/FAIL
38	5190	46.052	88.087	PASS
46	5230	46.499	85.216	PASS

802.11ac (80MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH	26dB BANDWIDTH (MHz)	PASS/FAIL
42	5210	78.082	128.961	PASS

For U-NII-1:

SPECTRUM PLOT OF WORST VALUE of 99% OCCUPIED BANDWIDTH	
802.11a	**802.11n (20MHz)**
	
802.11n (40MHz)	**802.11ac (20MHz)**
	
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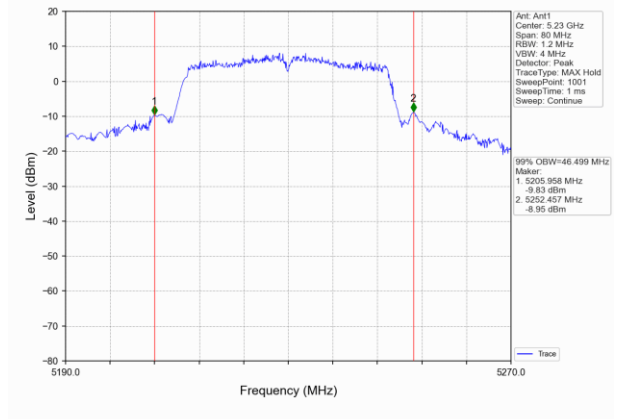	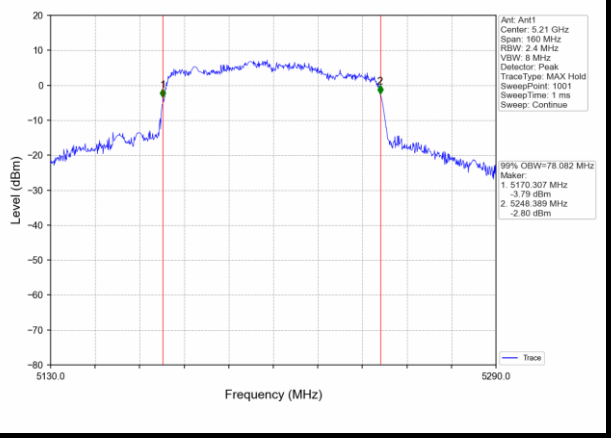

SPECTRUM PLOT OF WORST VALUE of 26dB Bandwidth	
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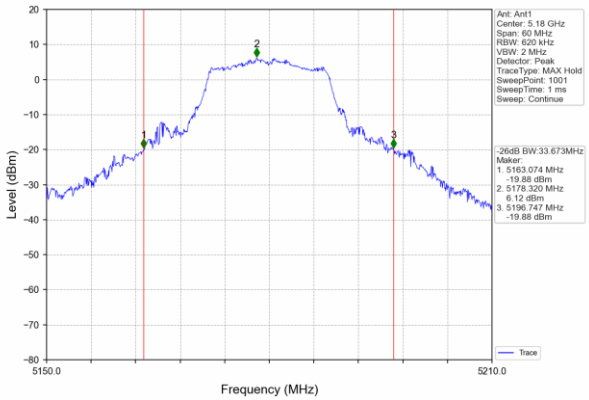
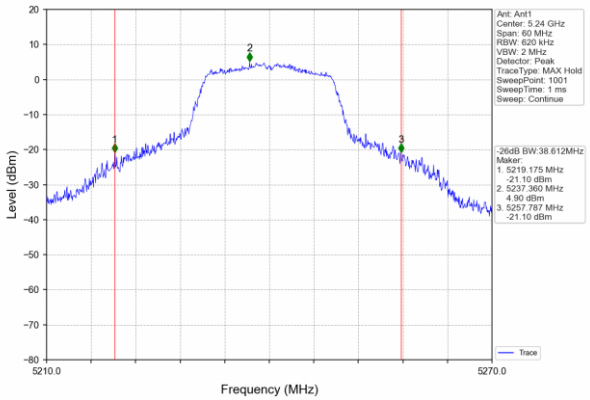
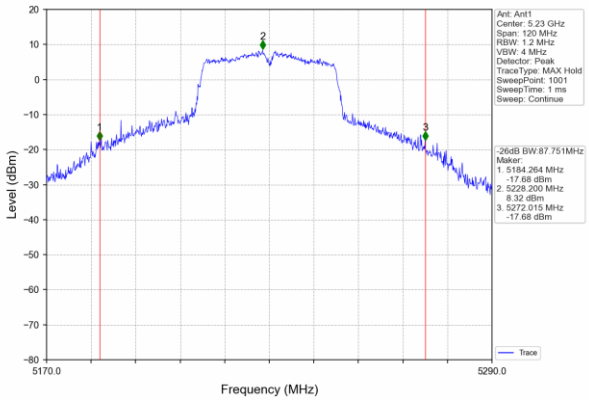
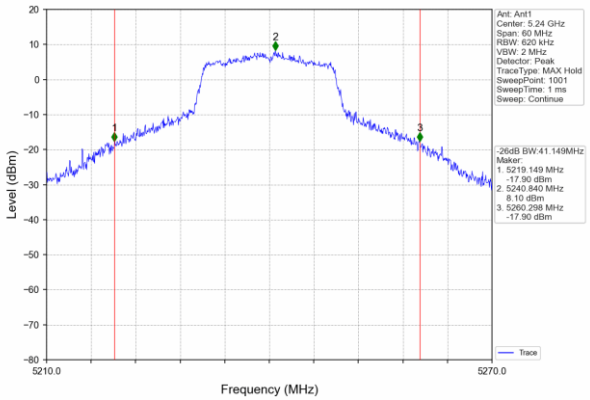
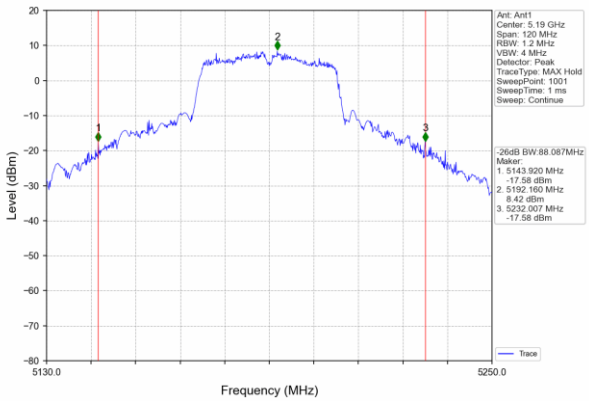
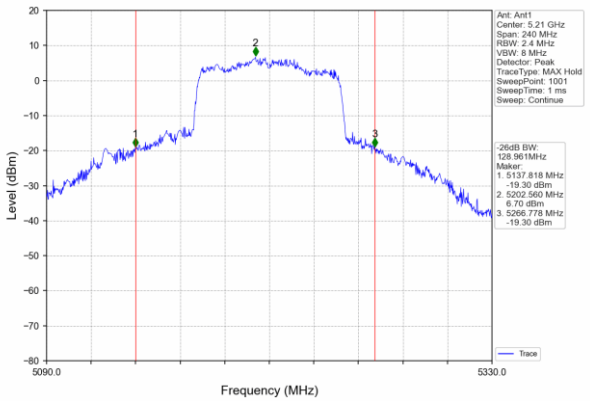
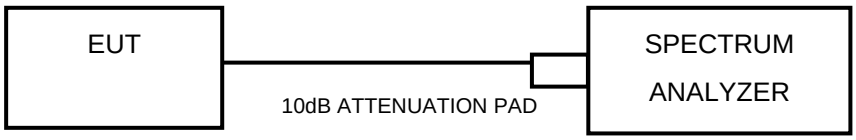
	
802.11n (40MHz)	802.11ac (20MHz)
	
802.11ac (40MHz)	802.11ac (80MHz)
	

3.5 MAXIMUM POWER SPECTRAL DENSITY MEASUREMENT

3.5.1 LIMITS OF MAXIMUM POWER SPECTRAL DENSITY MEASUREMENT

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	17dBm/ MHz
		Fixed point-to-point Access Point	
		Indoor Access Point	
	√	Client devices	11dBm/ MHz
U-NII-2A	√		11dBm/ MHz
U-NII-2C	√		11dBm/ MHz
U-NII-3	√		30dBm/ 500kHz

3.5.2 TEST SETUP



3.5.3 TEST INSTRUMENTS

Refer to section 3.3.3 to get information of above instrument.

3.5.4 TEST PROCEDURES

Using method SA-2

1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
3) Set Channel power measure = 1MHz
4) Sweep time = auto, trigger set to “free run”.
5) Trace average at least 100 traces in power averaging mode.
6) Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission).
7) Record the max value

3.5.5 DEVIATION FROM TEST STANDARD

No deviation.

3.5.6 EUT OPERATING CONDITIONS

Same as 3.1.6.

3.5.7 TEST RESULTS

For U-NII-1
802.11a

CHANNEL	FREQUENCY (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor	PSD with Duty Factor (dBm/MHz)	MAXIMUM LIMIT (dBm/MHz)	PASS/FAIL
36	5180	0.54	0.13	0.67	11	PASS
40	5200	0.18	0.13	0.31	11	PASS
48	5240	-0.14	0.13	-0.01	11	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor	PSD with Duty Factor (dBm/MHz)	MAXIMUM LIMIT (dBm/MHz)	PASS/FAIL
36	5180	-0.99	0.13	-0.86	11	PASS
40	5200	-0.25	0.13	-0.12	11	PASS
48	5240	-0.82	0.14	-0.68	11	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor	PSD with Duty Factor (dBm/MHz)	MAXIMUM LIMIT (dBm/MHz)	PASS/FAIL
38	5190	-2.7	0.27	-2.43	11	PASS
46	5230	-1.97	0.27	-1.70	11	PASS

802.11 ac (20MHz)

CHANNEL	FREQUENCY (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor	PSD with Duty Factor (dBm/MHz)	MAXIMUM LIMIT (dBm/MHz)	PASS/FAIL
36	5180	0.48	1.02	1.50	11	PASS
40	5200	0.24	1.00	1.24	11	PASS
48	5240	0.78	0.97	1.75	11	PASS

802.11ac (40MHz)

CHANNEL	FREQUENCY (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor	PSD with Duty Factor (dBm/MHz)	MAXIMUM LIMIT (dBm/MHz)	PASS/FAIL
38	5190	-2.91	1.54	-1.37	11	PASS
46	5230	-3.25	1.54	-1.71	11	PASS

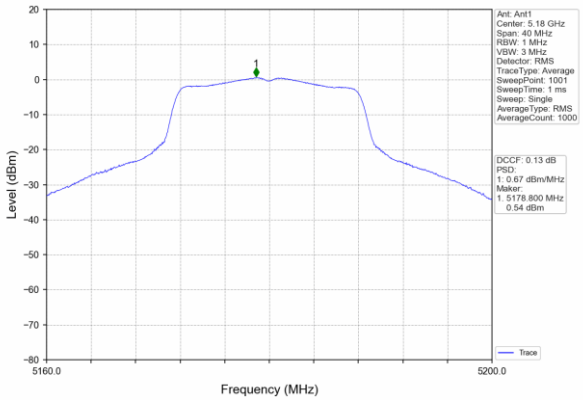
802.11ac (80MHz)

CHANNEL	FREQUENCY (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor	PSD with Duty Factor (dBm/MHz)	MAXIMUM LIMIT (dBm/MHz)	PASS/FAIL
42	5210	-8.06	2.02	-6.04	11	PASS

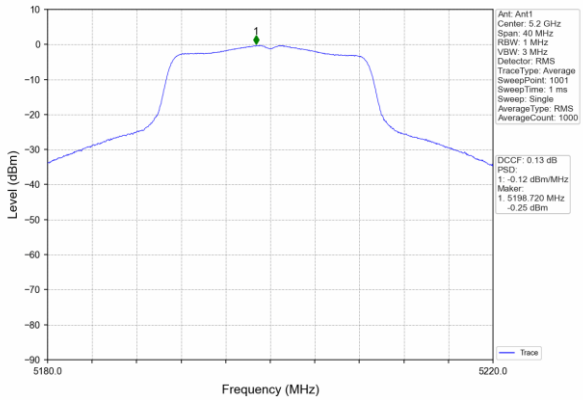
For 5180~5240MHz

PSD w/o Duty Factor

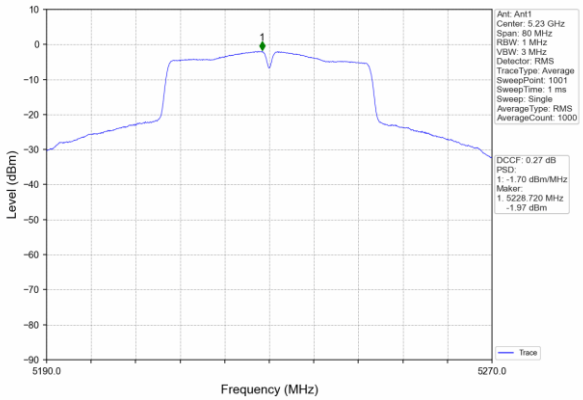
802.11a



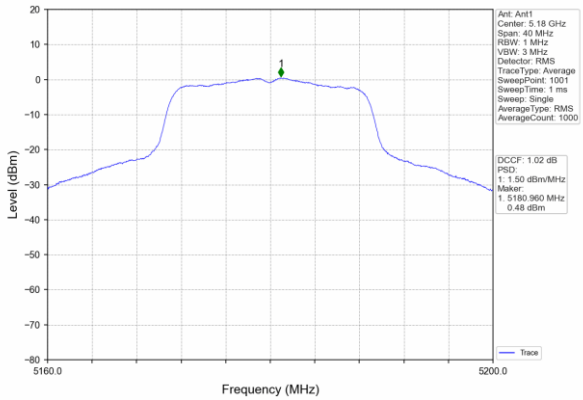
802.11n (20MHz)



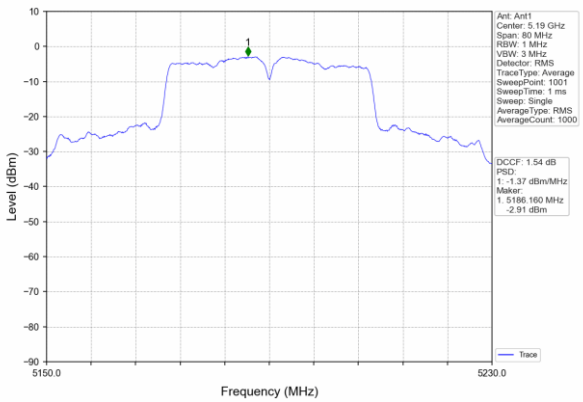
802.11n (40MHz)



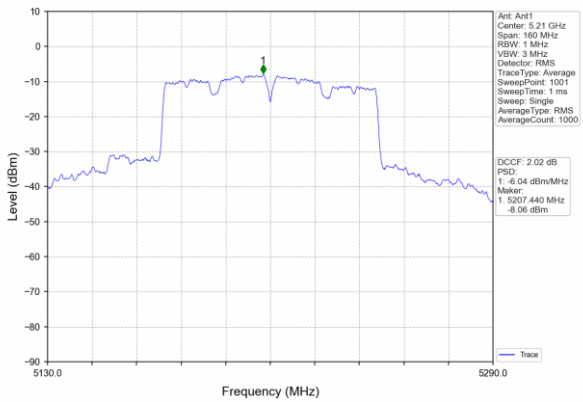
802.11ac (20MHz)



802.11ac (40MHz)



802.11ac (80MHz)



4 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

5 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

---END---