



FCC RF Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2245-1
FCC ID : IHDT56AF9
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure
TEST DATE(S) : Jun. 28, 2022 ~ Jul. 06, 2022

We, Sporton International Inc. (Shenzhen), would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Shenzhen), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia



Sporton International Inc. (ShenZhen)

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People's Republic of China



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR253001E	Rev. 01	Initial issue of report	Jul. 30, 2022

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 & 15.403(i)	26dB & 99% Bandwidth	-	Report only	-
3.2	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 11 dBm	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b) & 15.209(a)	Pass	Under limit 3.51 dB at 5150.000 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 9.12 dB at 0.270 MHz
3.6	15.203 & 15.407(a)	Antenna Requirement	15.203 & 15.407(a)	Pass	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.



1 General Description

1.1 Applicant

Motorola Mobility LLC

222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC

222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2245-1
FCC ID	IHDT56AF9
IMEI Code	Conducted:357398930010852 Conduction: 357398930014391 Radiation: 357398930011165
HW Version	DVT2
SW Version	S3SSM32.29
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5700 MHz
Maximum Output Power to Antenna	<5180 MHz ~ 5240 MHz> 802.11a : 18.31 dBm / 0.0678 W 802.11n HT20 : 17.98 dBm / 0.0628 W 802.11n HT40 : 17.10 dBm / 0.0513 W 802.11ac VHT20 : 17.05 dBm / 0.0507 W 802.11ac VHT40 : 16.05 dBm / 0.0403 W 802.11ac VHT80 : 13.88 dBm / 0.0244 W <5260 MHz ~ 5320 MHz> 802.11a : 17.74 dBm / 0.0594 W 802.11n HT20 : 17.59 dBm / 0.0574 W 802.11n HT40 : 16.93 dBm / 0.0493 W 802.11ac VHT20 : 16.64 dBm / 0.0461 W 802.11ac VHT40 : 16.00 dBm / 0.0398 W 802.11ac VHT80 : 15.04 dBm / 0.0319 W <5500 MHz ~ 5700 MHz > 802.11a : 18.13 dBm / 0.0650 W 802.11n HT20 : 17.95 dBm / 0.0624 W 802.11n HT40 : 17.20 dBm / 0.0525 W 802.11ac VHT20 : 17.18 dBm / 0.0522 W 802.11ac VHT40 : 16.40 dBm / 0.0437 W 802.11ac VHT80 : 15.50 dBm / 0.0355 W
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 16.78 MHz 802.11n HT20 : 17.98 MHz 802.11n HT40 : 36.66 MHz 802.11ac VHT80 : 75.64 MHz <5260 MHz ~ 5320 MHz> 802.11a : 16.83 MHz 802.11n HT20 : 17.98 MHz 802.11n HT40 : 36.66 MHz 802.11ac VHT80 : 75.64 MHz <5500 MHz ~ 5700 MHz > 802.11a : 16.83 MHz 802.11n HT20 : 17.93 MHz 802.11n HT40 : 36.76 MHz 802.11ac VHT80 : 75.64 MHz
Antenna Type / Gain	<5180 MHz ~ 5240 MHz> PIFA Antenna with gain -5.00 dBi <5260 MHz ~ 5320 MHz> PIFA Antenna with gain -5.50 dBi <5500 MHz ~ 5700 MHz> PIFA Antenna with gain -5.50 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

Note:

1. WLAN operation in 5600 MHz ~ 5650 MHz is notched.
2. Note: For 802.11n HT20 / ac VHT20 and 802.11n HT40 / ac VHT40 mode, the whole testing have assessed only 802.11n HT20/HT40 by referring to their maximum conducted power.

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Specification of Accessory

Specification of Accessory				
AC Adapter (US)	Brand Name	Motorola (Salcomp)	Model Name	MC-681L
AC Adapter (EU)	Brand Name	Motorola (Salcomp)	Model Name	MC-682L
AC Adapter (UK)	Brand Name	Motorola (Salcomp)	Model Name	MC-683L
AC Adapter (AU)	Brand Name	Motorola (Salcomp)	Model Name	MC-685L
AC Adapter (AR)	Brand Name	Motorola (Salcomp)	Model Name	MC-686L
AC Adapter (BR)	Brand Name	Motorola (Salcomp)	Model Name	MC-687L
AC Adapter (CHILE)	Brand Name	Motorola (Salcomp)	Model Name	MC-689L
Battery 1	Brand Name	Motorola(ATL)	Model Name	NP40
Battery 2	Brand Name	Motorola(SCUD)	Model Name	NP40
Earphone	Brand Name	Motorola (Lyand)	Model Name	MI181C
USB Cable	Brand Name	Motorola(Saibao)	Model Name	SC18D24968

1.7 Testing Location

Sporton International Inc. (Shenzhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CO01-SZ TH01-SZ	CN1256	421272

Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH03-SZ	CN1256	421272

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH03-SZ	AUDIX	E3	6.2009-8-24
2.	CO01-SZ	AUDIX	E3	6.120613b

1.9 Applicable Standards

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

- 47 CFR Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5180-5240 MHz U-NII-1	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	42 [#]	5210		
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5260-5320 MHz U-NII-2A	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	58 [#]	5290		
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5500- 5700 MHz MHz U-NII-2C	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	106 [#]	5530	134*	5670
	108	5540	136	5680
	110*	5550	140	5700

Note:

1. The above Frequency and Channel in "*" were 802.11n HT40 and 802.11ac VHT40.
2. The above Frequency and Channel in "[#]" were 802.11ac VHT80.

2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT80	MCS0

Test Cases	
AC Conducted Emission	Mode 1 : GSM850 Idle + WLAN(5G)Link + USB Cable (Charging from Adapter) + Battery1

Simultaneous transmission
802.11n HT40 CH38(5190MHz) Link + LTE Band 13 Link

Ch. #		U-NII-1 : 5180-5240 MHz	U-NII-2A : 5260-5320 MHz	U-NII-2C : 5500- 5700 MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		U-NII-1 : 5180-5240 MHz	U-NII-2A : 5260-5320 MHz	U-NII-2C : 5500- 5700 MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

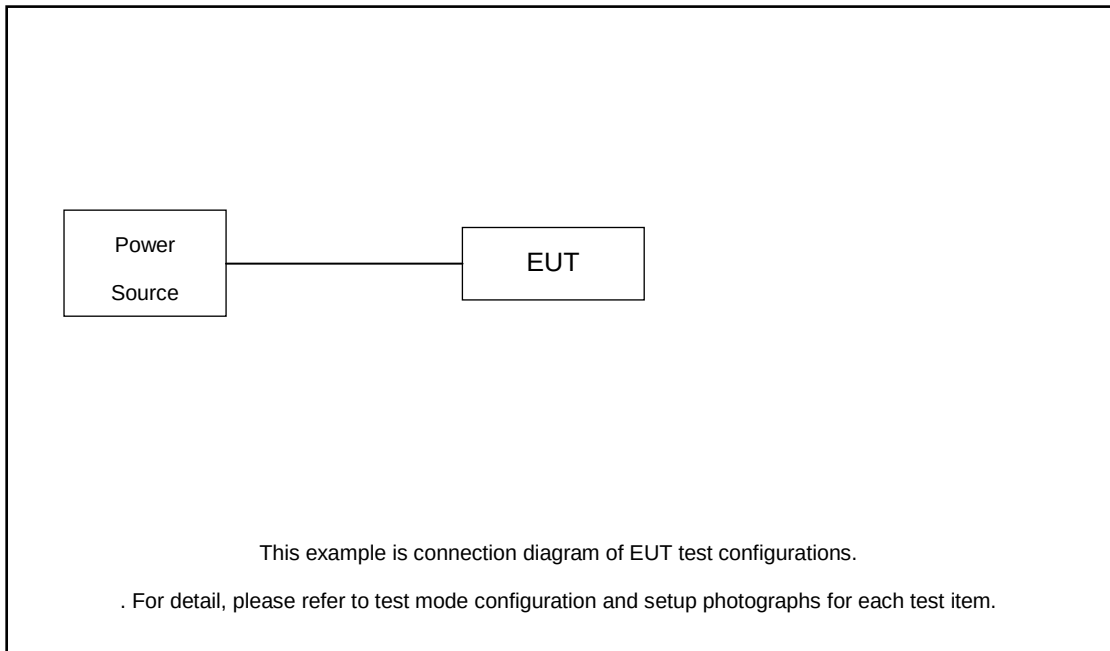


Ch. #		U-NII-1 : 5180-5240 MHz	U-NII-2A : 5260-5320 MHz	U-NII-2C : 5500- 5700 MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134

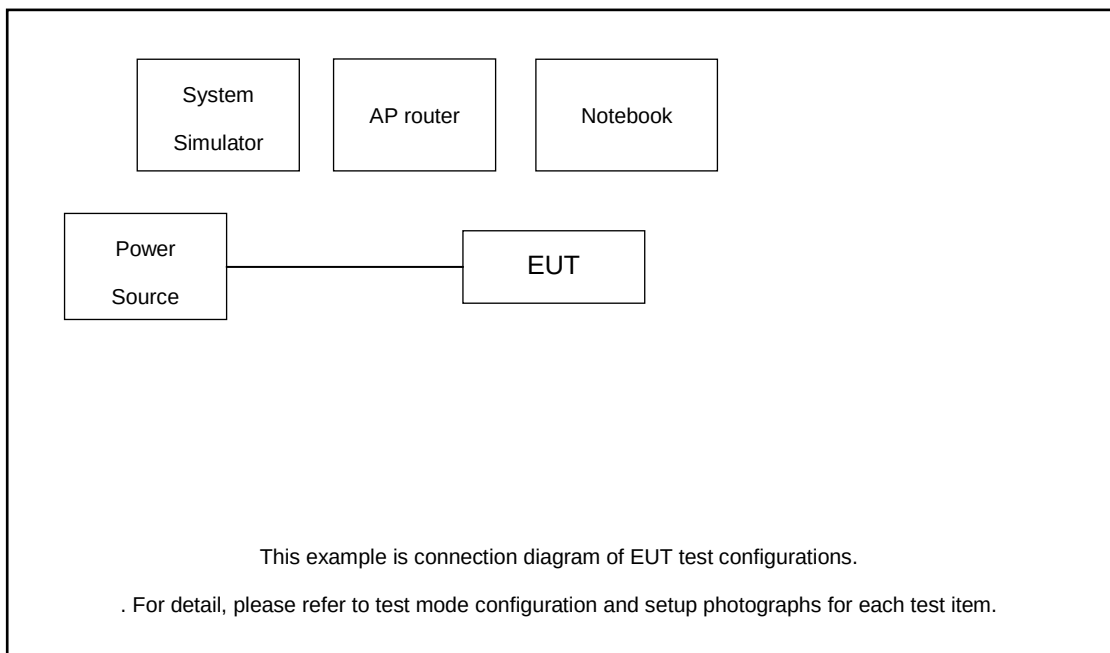
Ch. #		U-NII-1 : 5180-5240 MHz	U-NII-2A : 5260-5320 MHz	U-NII-2C : 5500- 5700 MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	-
M	Middle	42	58	106
H	High	-	-	-

2.3 Connection Diagram of Test System

<Radiated Emission >



< AC Conducted Emission >



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded,1.8m
2.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	WLAN AP	D-Link	DIR-820L	KA2IR820LA1	N/A	Unshielded,1.8m

2.5 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuous transmit.

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP under large package sizes transmission.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 2.8 dB and 10dB attenuator.

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 2.8 + 10 = 12.8 \text{ (dB)} \end{aligned}$$

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

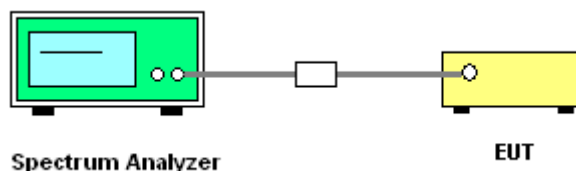
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. 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%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1% to 5% of the OBW and set the Video bandwidth (VBW) $\geq 3 * RBW$.
8. Measure and record the results in the test report.

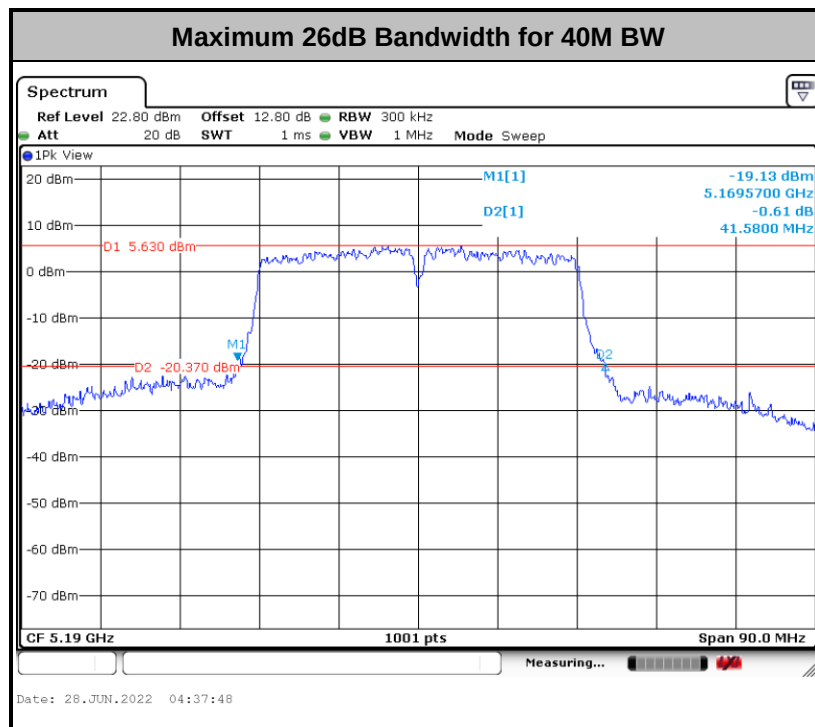
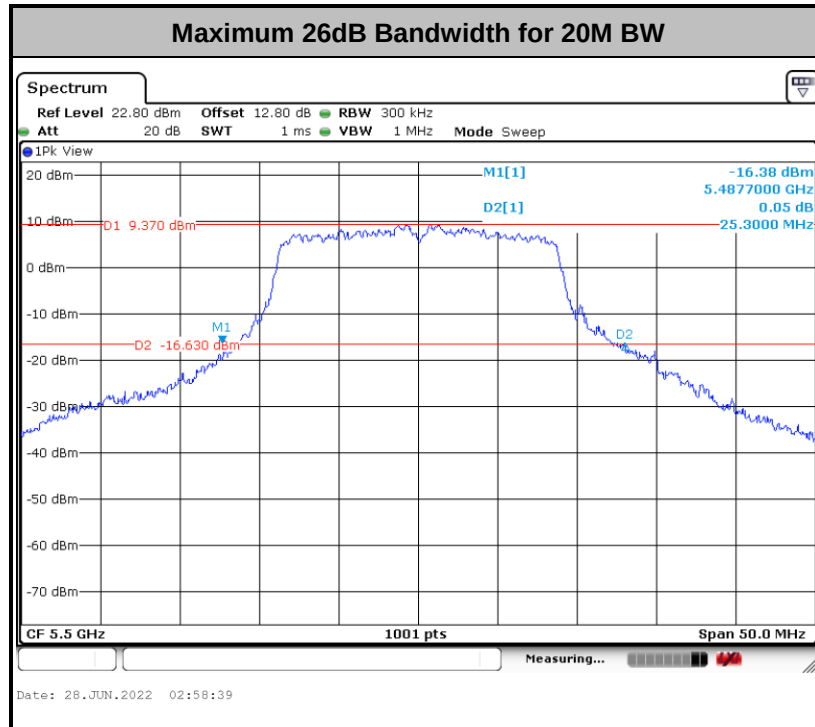
3.1.4 Test Setup

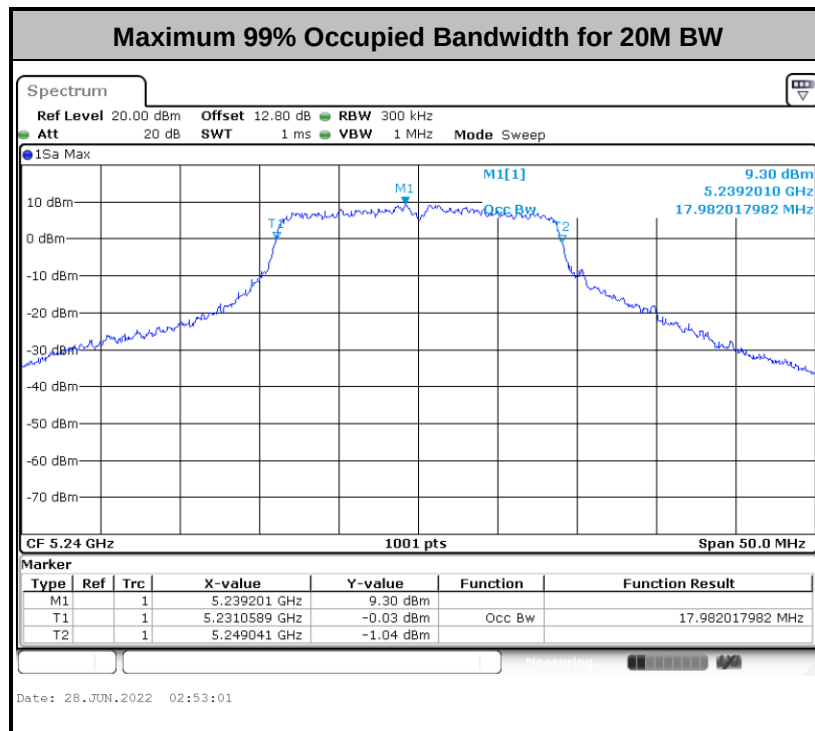
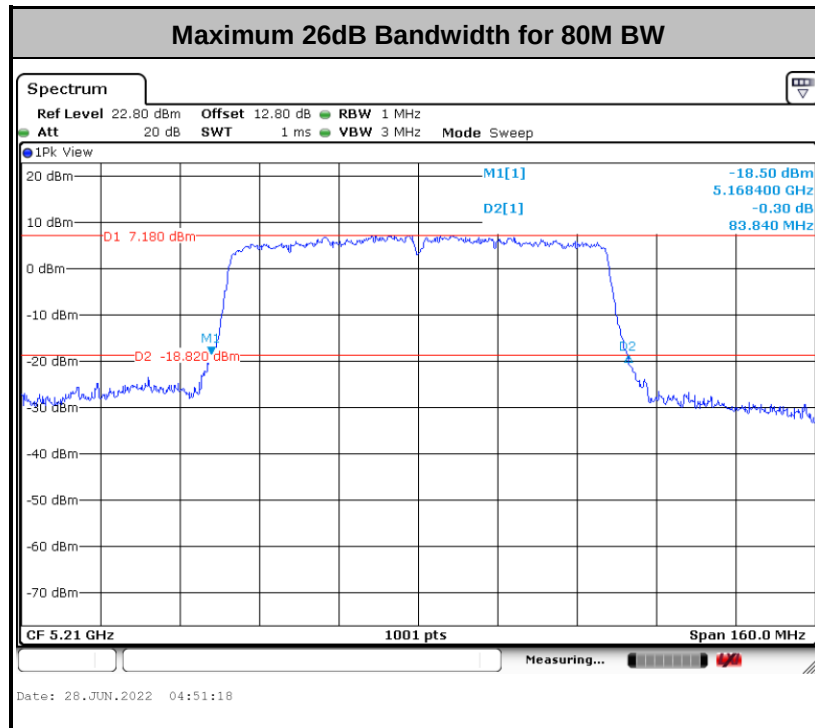


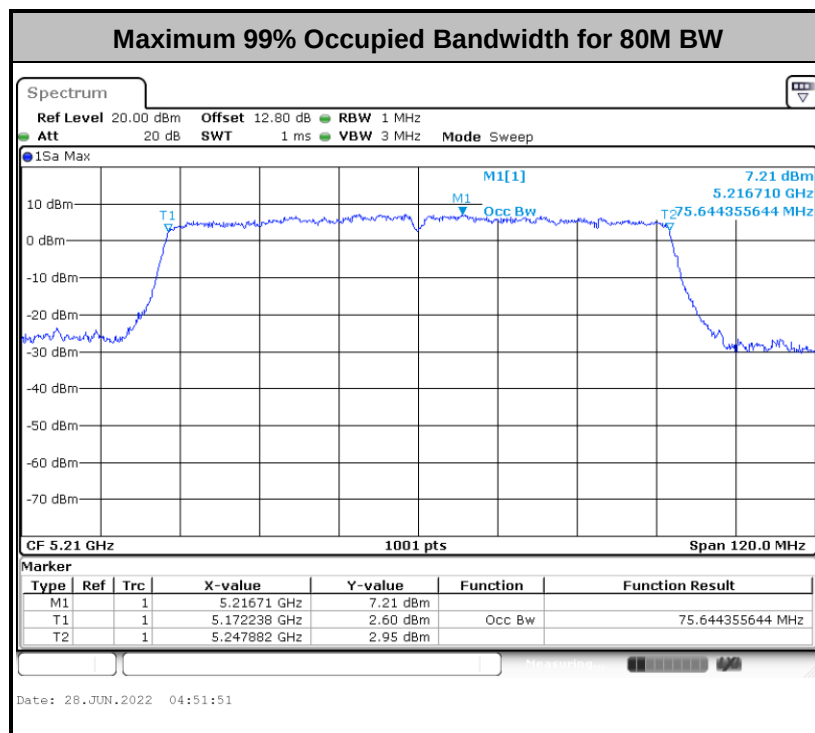
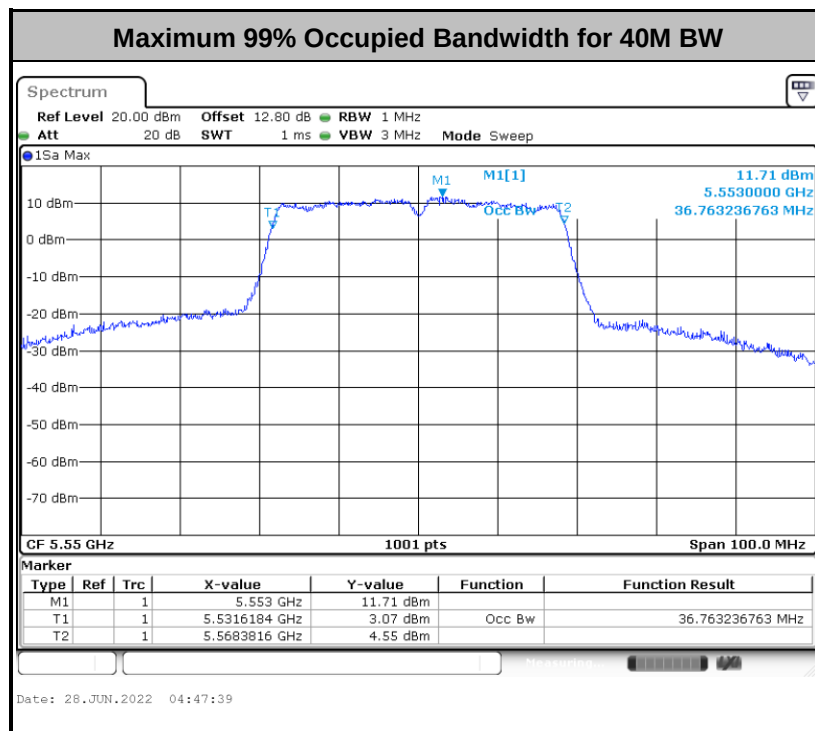


3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.







Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.



3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

For mobile and portable 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.

For the 5.25–5.725 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 10 B, where B is the 26 dB emission bandwidth in megahertz.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note that U-NII-2 band, devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

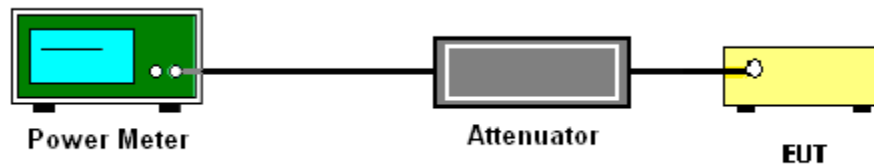
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, $10 \log(1/x)$, where x is the duty cycle.

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band.

For the 5.25–5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

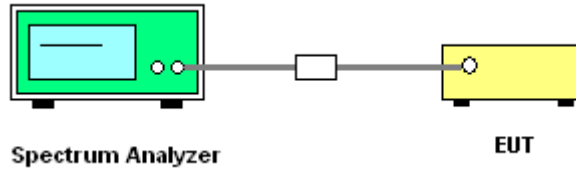
The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section F) Maximum power spectral density.

Method SA-2

(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

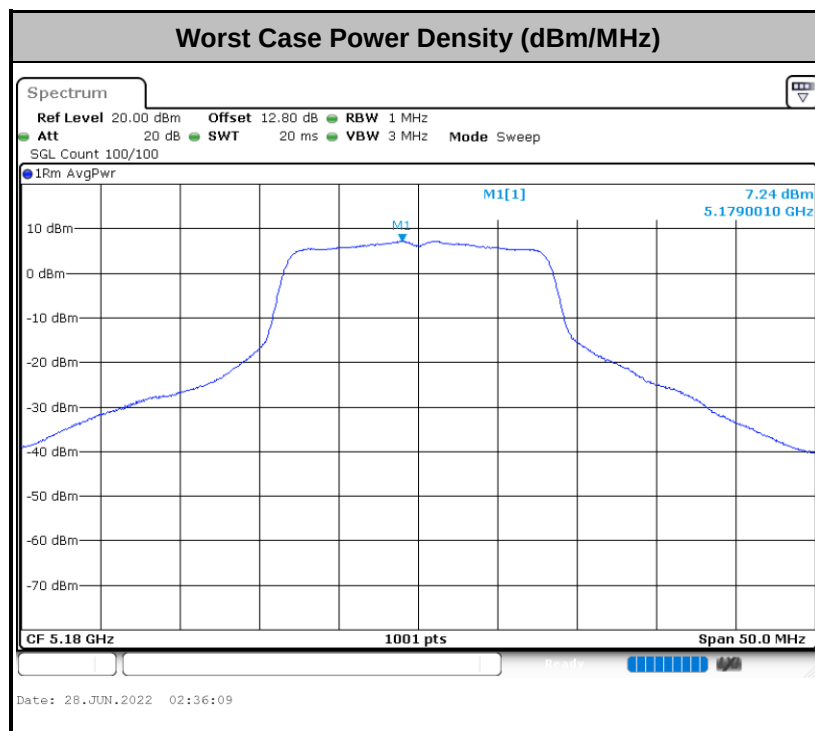
- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz.
- Set VBW $\geq$ 3 MHz.
- Number of points in sweep $\geq$ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add $10 \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add $10 \log(1/0.25) = 6$ dB if the duty cycle is 25 percent.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



Note: Average Power Density (dB) = Measured value+ Duty Factor

3.4 Unwanted Emissions Measurement

This section is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement.

3.4.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27dBm/MHz .

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz . Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5725 MHz band: all emissions outside of the 5470-5725 MHz band shall not exceed an EIRP of -27 dBm/MHz .

- (2) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table,

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	$2400/F(\text{kHz})$	300
0.490 – 1.705	$24000/F(\text{kHz})$	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

EIRP (dBm)	Field Strength at 3m (dBμV/m)
- 27	68.3

Note: The following formula is used to convert the EIRP to field strength.

$$\text{EIRP} = E_{\text{Meas}} + 20\log(d_{\text{Meas}}) - 104.7$$

where

EIRP is the equivalent isotropically radiated power, in dBm

E_{Meas} is the field strength of the emission at the measurement distance, in dBμV/m

d_{Meas} is the measurement distance, in m

(3) ANSI C63.10-2013 clause 12.7.3 note 97

As specified by regulatory requirements, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit. However, an out-of-band emission that complies with both the average and peak general regulatory limits is not required to satisfy the peak emission limit.

3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

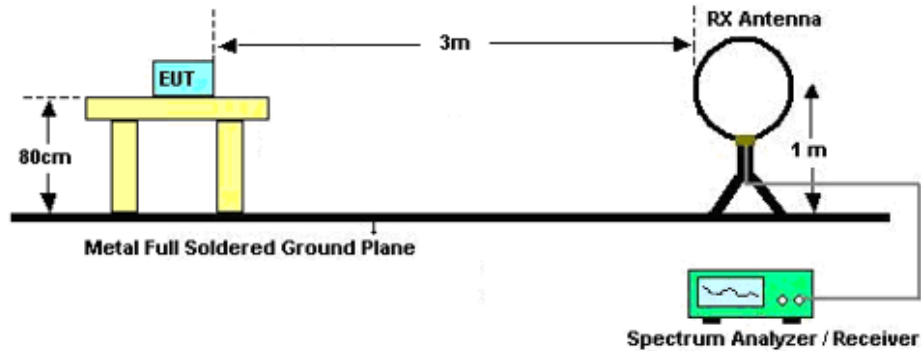


3.4.3 Test Procedures

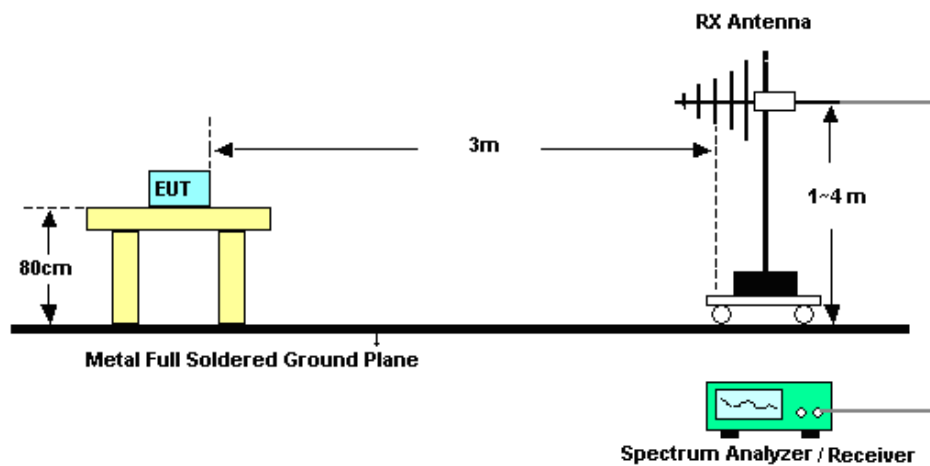
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW $\geq$ 3 MHz
 - Detector = Peak
 - Sweep time = auto
 - Trace mode = max hold
 - (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
 - RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq$ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.4.4 Test Setup

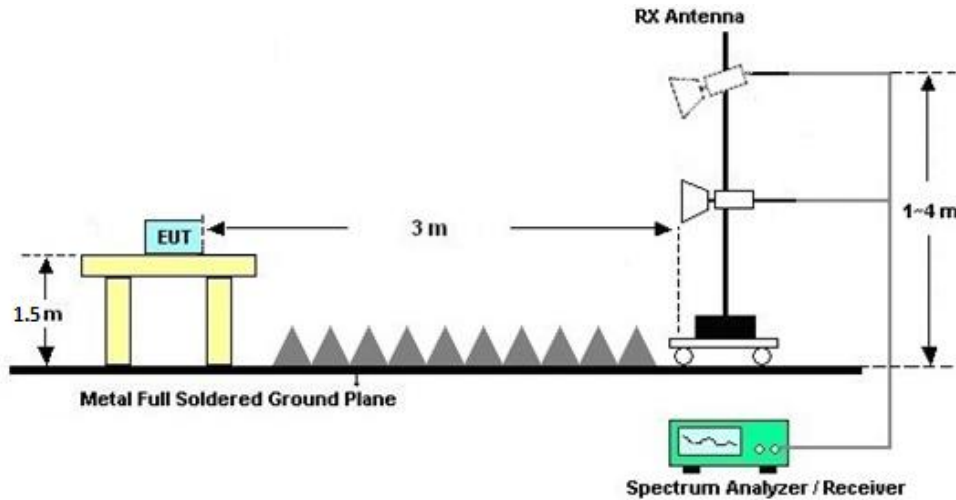
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.4.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.4.7 Duty Cycle

Please refer to Appendix D.

3.4.8 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic or 40GHz, whichever is lower)

Please refer to Appendix C.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

For equipment 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.

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	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.

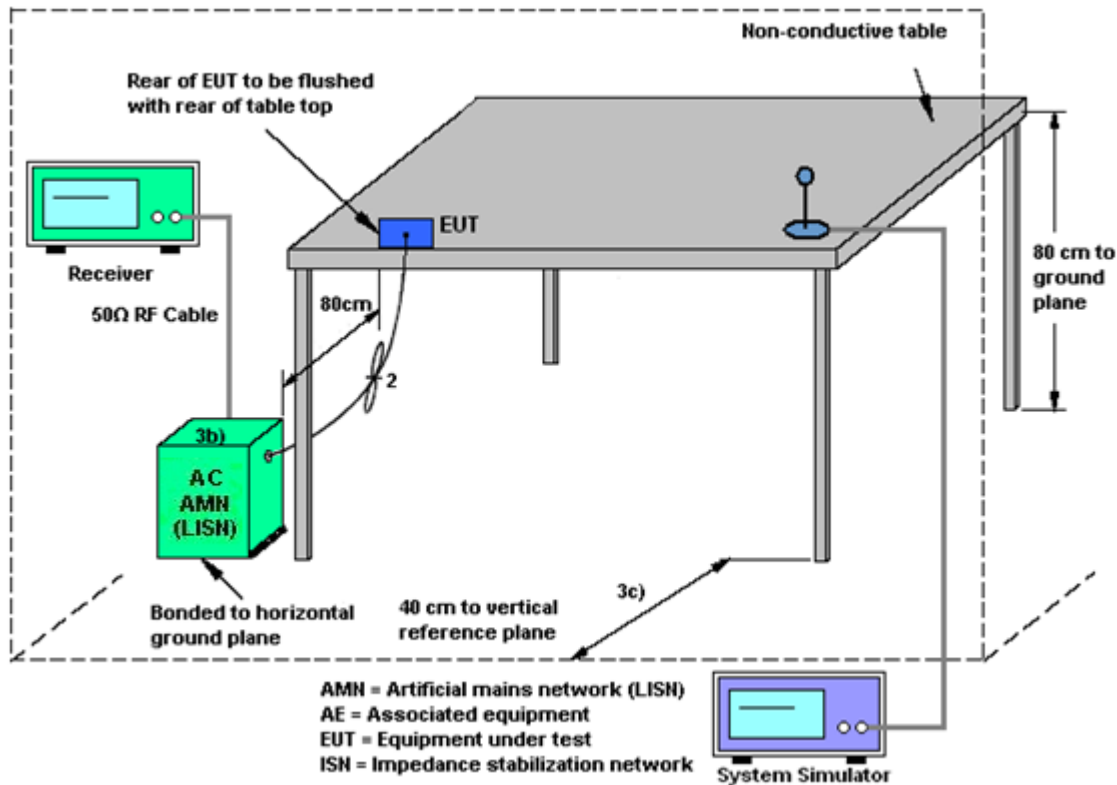
3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.6 Antenna Requirements

3.6.1 Standard Applicable

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.6.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.6.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 07, 2022	Jun. 28, 2022	Apr. 06, 2023	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1339473	30MHz~40GHz	Dec. 28, 2021	Jun. 28, 2022	Dec. 27, 2022	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1542004	50MHz Bandwidth	Dec. 28, 2021	Jun. 28, 2022	Dec. 27, 2022	Conducted (TH01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	Apr. 06, 2022	Jul. 04, 2022	Apr. 05, 2023	Radiation (03CH03-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 06, 2022	Jul. 04, 2022	Apr. 05, 2023	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 22, 2022	Jul. 04, 2022	Jun. 21, 2023	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz~2GHz	Jun. 22, 2022	Jul. 04, 2022	Jun. 21, 2023	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 18, 2021	Jul. 04, 2022	Jul. 17, 2022	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Oct. 22, 2021	Jul. 04, 2022	Oct. 21, 2022	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Apr. 10, 2022	Jul. 04, 2022	Apr. 09, 2023	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz~3000MHz	Oct. 22, 2021	Jul. 04, 2022	Oct. 21, 2022	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 22, 2021	Jul. 04, 2022	Oct. 21, 2022	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Dec. 30, 2021	Jul. 04, 2022	Dec. 29, 2022	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Jul. 04, 2022	NCR	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Jul. 04, 2022	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Jul. 04, 2022	NCR	Radiation (03CH03-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Sep. 01, 2021	Jul. 06, 2022	Aug. 31, 2022	Conduction (CO01-SZ)
AC LISN	R&S	ENV216	100063	9kHz~30MHz	Sep. 01, 2021	Jul. 06, 2022	Aug. 31, 2022	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Oct. 29, 2021	Jul. 06, 2022	Oct. 28, 2022	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 14, 2021	Jul. 06, 2022	Jul. 13, 2022	Conduction (CO01-SZ)

NCR: No Calibration Required

5 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Power	± 1.34 dB
Conducted Emissions	± 1.34 dB
Occupied Channel Bandwidth	± 0.13 %
Conducted Power Spectral Density	± 1.32 dB

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.2dB
---	-------

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0dB
---	-------

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.9dB
---	-------

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0dB
---	-------

----- THE END -----



Appendix A. Conducted Test Results

Report Number : FR253001E

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Tang ZhaoYang	Temperature:	21~25	°C
Test Date:	2022/6/28	Relative Humidity:	51~54	%

TEST RESULTS DATA
26dB and 99% OBW

Band I						
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)
11a	6Mbps	1	36	5180	16.78	23.55
11a	6Mbps	1	44	5220	16.73	23.65
11a	6Mbps	1	48	5240	16.78	23.65
HT20	MCS0	1	36	5180	17.98	24.45
HT20	MCS0	1	44	5220	17.98	24.55
HT20	MCS0	1	48	5240	17.98	24.35
HT40	MCS0	1	38	5190	36.66	41.58
HT40	MCS0	1	46	5230	36.66	41.40
VHT80	MCS0	1	42	5210	75.64	83.84

TEST RESULTS DATA
Average Power Table

FCC Band I										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)		Pass/Fail
11a	6Mbps	1	36	5180	0.08	18.31	24.00	-5.00		Pass
11a	6Mbps	1	44	5220	0.08	18.00	24.00	-5.00		Pass
11a	6Mbps	1	48	5240	0.08	17.71	24.00	-5.00		Pass
HT20	MCS0	1	36	5180	0.09	17.98	24.00	-5.00		Pass
HT20	MCS0	1	44	5220	0.09	17.80	24.00	-5.00		Pass
HT20	MCS0	1	48	5240	0.09	17.09	24.00	-5.00		Pass
HT40	MCS0	1	38	5190	0.16	15.28	24.00	-5.00		Pass
HT40	MCS0	1	46	5230	0.16	17.10	24.00	-5.00		Pass
VHT20	MCS0	1	36	5180	0.08	17.05	24.00	-5.00		Pass
VHT20	MCS0	1	44	5220	0.08	16.73	24.00	-5.00		Pass
VHT20	MCS0	1	48	5240	0.08	16.60	24.00	-5.00		Pass
VHT40	MCS0	1	38	5190	0.16	15.25	24.00	-5.00		Pass
VHT40	MCS0	1	46	5230	0.16	16.05	24.00	-5.00		Pass
VHT80	MCS0	1	42	5210	0.32	13.88	24.00	-5.00		Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)	-	Pass/Fail
11a	6Mbps	1	36	5180	0.08	7.32	11.00	-5.00		Pass
11a	6Mbps	1	44	5220	0.08	6.90	11.00	-5.00		Pass
11a	6Mbps	1	48	5240	0.08	6.53	11.00	-5.00		Pass
HT20	MCS0	1	36	5180	0.09	6.83	11.00	-5.00		Pass
HT20	MCS0	1	44	5220	0.09	6.39	11.00	-5.00		Pass
HT20	MCS0	1	48	5240	0.09	6.11	11.00	-5.00		Pass
HT40	MCS0	1	38	5190	0.16	3.29	11.00	-5.00		Pass
HT40	MCS0	1	46	5230	0.16	2.75	11.00	-5.00		Pass
VHT80	MCS0	1	42	5210	0.32	-1.20	11.00	-5.00		Pass

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TEST RESULTS DATA
26dB and 99% OBW

Band II								
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	52	5260	16.78	23.95	23.98	
11a	6M bps	1	60	5300	16.78	23.25	23.98	
11a	6M bps	1	64	5320	16.83	23.60	23.98	
HT20	MCS 0	1	52	5260	17.98	24.50	23.98	
HT20	MCS 0	1	60	5300	17.98	24.45	23.98	
HT20	MCS 0	1	64	5320	17.98	24.40	23.98	
HT40	MCS 0	1	54	5270	36.56	41.13	23.98	
HT40	MCS 0	1	62	5310	36.66	41.31	23.98	
VHT80	MCS 0	1	58	5290	75.64	83.20	23.98	

TEST RESULTS DATA
Average Power Table

FCC Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	52	5260	0.08	17.74	23.98	-5.50	26.99	Pass
11a	6M bps	1	60	5300	0.08	17.60	23.98	-5.50	26.99	Pass
11a	6M bps	1	64	5320	0.08	17.40	23.98	-5.50	26.99	Pass
HT20	MCS 0	1	52	5260	0.09	17.59	23.98	-5.50	26.99	Pass
HT20	MCS 0	1	60	5300	0.09	17.45	23.98	-5.50	26.99	Pass
HT20	MCS 0	1	64	5320	0.09	17.31	23.98	-5.50	26.99	Pass
HT40	MCS 0	1	54	5270	0.16	16.93	23.98	-5.50	26.99	Pass
HT40	MCS 0	1	62	5310	0.16	14.22	23.98	-5.50	26.99	Pass
VHT20	MCS 0	1	52	5260	0.08	16.64	23.98	-5.50	26.99	Pass
VHT20	MCS 0	1	60	5300	0.08	16.42	23.98	-5.50	26.99	Pass
VHT20	MCS 0	1	64	5320	0.08	16.21	23.98	-5.50	26.99	Pass
VHT40	MCS 0	1	54	5270	0.16	16.00	23.98	-5.50	26.99	Pass
VHT40	MCS 0	1	62	5310	0.16	14.19	23.98	-5.50	26.99	Pass
VHT80	MCS 0	1	58	5290	0.32	15.04	23.98	-5.50	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	52	5260	0.08	6.63	11.00	-5.50		Pass
11a	6M bps	1	60	5300	0.08	6.53	11.00	-5.50		Pass
11a	6M bps	1	64	5320	0.08	6.36	11.00	-5.50		Pass
HT20	MCS 0	1	52	5260	0.09	6.15	11.00	-5.50		Pass
HT20	MCS 0	1	60	5300	0.09	6.04	11.00	-5.50		Pass
HT20	MCS 0	1	64	5320	0.09	5.86	11.00	-5.50		Pass
HT40	MCS 0	1	54	5270	0.16	2.67	11.00	-5.50		Pass
HT40	MCS 0	1	62	5310	0.16	2.46	11.00	-5.50		Pass
VHT80	MCS 0	1	58	5290	0.32	-1.53	11.00	-5.50		Pass

Report Number : [FR253001E](#)

TEST RESULTS DATA
26dB and 99% OBW

Band III								
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	100	5500	16.83	23.50	23.98	
11a	6M bps	1	116	5580	16.78	23.55	23.98	
11a	6M bps	1	140	5700	16.73	23.10	23.98	
HT20	MCS 0	1	100	5500	17.88	25.30	23.98	
HT20	MCS 0	1	116	5580	17.93	24.30	23.98	
HT20	MCS 0	1	140	5700	17.88	23.30	23.98	
HT40	MCS 0	1	102	5510	36.66	41.49	23.98	
HT40	MCS 0	1	110	5550	36.76	41.40	23.98	
HT40	MCS 0	1	134	5670	36.56	41.04	23.98	
VHT80	MCS 0	1	106	5530	75.64	83.36	23.98	

TEST RESULTS DATA
Average Power Table

FCC Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	100	5500	0.08	17.78	23.98	-5.50	26.99	Pass
11a	6M bps	1	116	5580	0.08	18.13	23.98	-5.50	26.99	Pass
11a	6M bps	1	140	5700	0.08	17.35	23.98	-5.50	26.99	Pass
HT20	MCS 0	1	100	5500	0.09	17.58	23.98	-5.50	26.99	Pass
HT20	MCS 0	1	116	5580	0.09	17.95	23.98	-5.50	26.99	Pass
HT20	MCS 0	1	140	5700	0.09	17.17	23.98	-5.50	26.99	Pass
HT40	MCS 0	1	102	5510	0.16	17.01	23.98	-5.50	26.99	Pass
HT40	MCS 0	1	110	5550	0.16	17.20	23.98	-5.50	26.99	Pass
HT40	MCS 0	1	134	5670	0.16	16.73	23.98	-5.50	26.99	Pass
VHT20	MCS 0	1	100	5500	0.08	16.63	23.98	-5.50	26.99	Pass
VHT20	MCS 0	1	116	5580	0.08	17.18	23.98	-5.50	26.99	Pass
VHT20	MCS 0	1	140	5700	0.08	16.29	23.98	-5.50	26.99	Pass
VHT40	MCS 0	1	102	5510	0.16	16.13	23.98	-5.50	26.99	Pass
VHT40	MCS 0	1	110	5550	0.16	16.40	23.98	-5.50	26.99	Pass
VHT40	MCS 0	1	134	5670	0.16	15.88	23.98	-5.50	26.99	Pass
VHT80	MCS 0	1	106	5530	0.32	15.50	23.98	-5.50	26.99	Pass

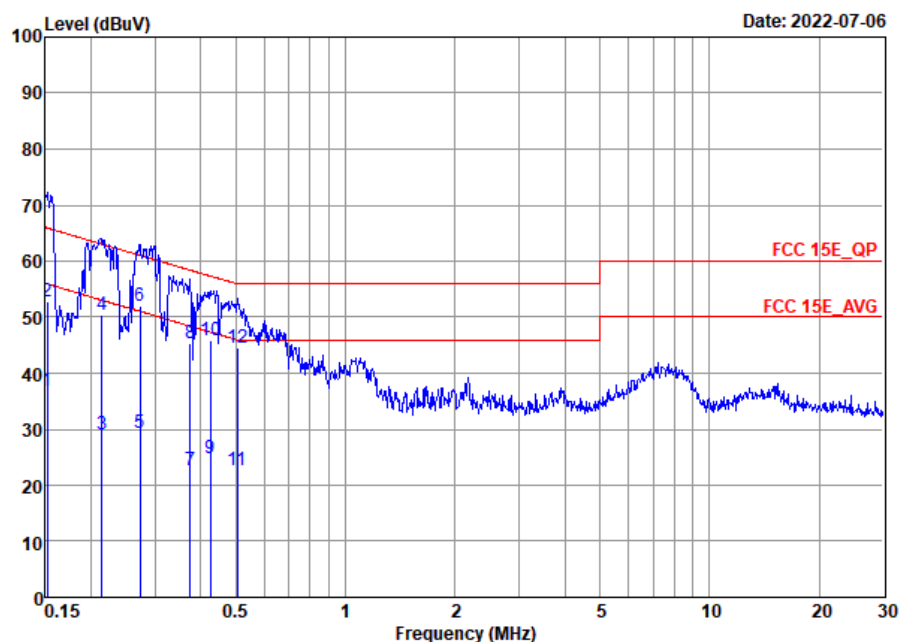
TEST RESULTS DATA
Power Spectral Density

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	100	5500	0.08	6.81	11.00	-5.50		Pass
11a	6M bps	1	116	5580	0.08	7.02	11.00	-5.50		Pass
11a	6M bps	1	140	5700	0.08	6.17	11.00	-5.50		Pass
HT20	MCS 0	1	100	5500	0.09	6.26	11.00	-5.50		Pass
HT20	MCS 0	1	116	5580	0.09	6.55	11.00	-5.50		Pass
HT20	MCS 0	1	140	5700	0.09	5.69	11.00	-5.50		Pass
HT40	MCS 0	1	102	5510	0.16	2.74	11.00	-5.50		Pass
HT40	MCS 0	1	110	5550	0.16	2.98	11.00	-5.50		Pass
HT40	MCS 0	1	134	5670	0.16	2.38	11.00	-5.50		Pass
VHT80	MCS 0	1	106	5530	0.32	-1.13	11.00	-5.50		Pass



Appendix B. AC Conducted Emission Test Results

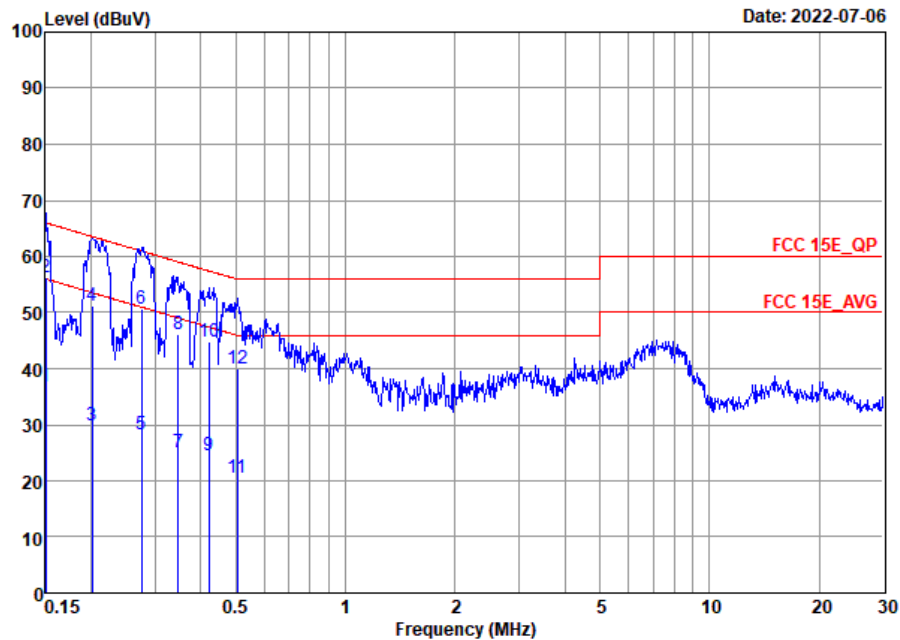
Test Engineer :	Lily Wang	Temperature :	22~25°C
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-SZ
Condition: FCC 15E_QP LISN_20210901_L LINE

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.15	36.73	-19.18	55.91	15.70	10.20	10.83	Average
2	0.15	52.83	-13.08	65.91	31.80	10.20	10.83	QP
3	0.21	29.18	-23.87	53.05	8.70	10.19	10.29	Average
4	0.21	50.28	-12.77	63.05	29.80	10.19	10.29	QP
5	0.27	29.31	-21.72	51.03	8.40	10.17	10.74	Average
6 *	0.27	51.91	-9.12	61.03	31.00	10.17	10.74	QP
7	0.38	22.62	-25.77	48.39	1.20	10.09	11.33	Average
8	0.38	45.32	-13.07	58.39	23.90	10.09	11.33	QP
9	0.43	24.88	-22.45	47.33	3.20	10.11	11.57	Average
10	0.43	45.88	-11.45	57.33	24.20	10.11	11.57	QP
11	0.50	22.56	-23.44	46.00	0.60	10.12	11.84	Average
12	0.50	44.46	-11.54	56.00	22.50	10.12	11.84	QP

Test Engineer :	Lily Wang	Temperature :	22~25°C
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : C001-SZ
Condition: FCC 15E QP LISN 20210901 N NEUTRAL

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.15	36.76	-19.24	56.00	15.60	10.31	10.85	Average
2 *	0.15	56.16	-9.84	66.00	35.00	10.31	10.85	QP
3	0.20	29.84	-23.70	53.54	9.39	10.28	10.17	Average
4	0.20	51.14	-12.40	63.54	30.69	10.28	10.17	QP
5	0.28	28.18	-22.76	50.94	7.19	10.23	10.76	Average
6	0.28	50.68	-10.26	60.94	29.69	10.23	10.76	QP
7	0.35	25.05	-24.00	49.05	3.70	10.17	11.18	Average
8	0.35	46.15	-12.90	59.05	24.80	10.17	11.18	QP
9	0.42	24.53	-22.89	47.42	2.80	10.19	11.54	Average
10	0.42	44.93	-12.49	57.42	23.20	10.19	11.54	QP
11	0.50	20.63	-25.37	46.00	-1.40	10.19	11.84	Average
12	0.50	40.13	-15.87	56.00	18.10	10.19	11.84	QP

Note:

1. Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
2. Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)



Appendix C. Radiated Spurious Emission

5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5147.68	56.02	-17.98	74	47.2	34.19	7.48	32.85	229	124	P	H
		5150	49.71	-4.29	54	40.88	34.2	7.48	32.85	229	124	A	H
	*	5180	106.68	-	-	97.78	34.26	7.53	32.89	229	124	P	H
		5180	99.55	-	-	90.65	34.26	7.53	32.89	229	124	A	H
		5149.76	57.02	-16.98	74	48.19	34.2	7.48	32.85	235	57	P	V
		5150	48.46	-5.54	54	39.63	34.2	7.48	32.85	235	57	A	V
	*	5180	105.36	-	-	96.46	34.26	7.53	32.89	235	57	P	V
		5180	98.46	-	-	89.56	34.26	7.53	32.89	235	57	A	V
802.11a CH 44 5220MHz		5055.9	51.34	-22.66	74	42.78	33.91	7.33	32.68	224	137	P	H
		5149.76	40.34	-13.66	54	31.51	34.2	7.48	32.85	224	137	A	H
	*	5220	105.09	-	-	96.15	34.34	7.58	32.98	224	137	P	H
		5220	97.77	-	-	88.83	34.34	7.58	32.98	224	137	A	H
		5424.72	47.79	-26.21	74	38.79	34.5	7.77	33.27	224	137	P	H
		5439.36	38.94	-15.06	54	29.95	34.5	7.81	33.32	224	137	A	H
		5086.58	49.54	-24.46	74	40.91	33.97	7.39	32.73	223	112	P	V
		5149.76	40.29	-13.71	54	31.46	34.2	7.48	32.85	223	112	A	V
	*	5220	105.25	-	-	96.31	34.34	7.58	32.98	223	112	P	V
		5220	97.76	-	-	88.82	34.34	7.58	32.98	223	112	A	V
		5434.32	48.86	-25.14	74	39.88	34.5	7.8	33.32	223	112	P	V
		5443.92	38.96	-15.04	54	29.96	34.5	7.82	33.32	223	112	A	V



802.11a CH 48 5240MHz		5140.14	49.6	-24.4	74	40.78	34.16	7.47	32.81	214	43	P	H
		5000.52	40.03	-13.97	54	31.5	33.9	7.23	32.6	214	43	A	H
	*	5240	103.66	-	-	94.66	34.38	7.6	32.98	214	43	P	H
		5240	96.15	-	-	87.15	34.38	7.6	32.98	214	43	A	H
		5449.68	47.6	-26.4	74	38.59	34.5	7.83	33.32	214	43	P	H
		5438.16	38.88	-15.12	54	29.89	34.5	7.81	33.32	214	43	A	H
		5060.84	49.09	-24.91	74	40.51	33.92	7.34	32.68	225	111	P	V
		5000.52	40	-14	54	31.47	33.9	7.23	32.6	225	111	A	V
	*	5240	105.66	-	-	96.66	34.38	7.6	32.98	225	111	P	V
		5240	98.12	-	-	89.12	34.38	7.6	32.98	225	111	A	V
		5355.84	49.77	-24.23	74	40.78	34.5	7.68	33.19	225	111	P	V
		5437.92	38.96	-15.04	54	29.98	34.5	7.8	33.32	225	111	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		10360	46.68	-21.62	68.3	51.88	37.19	10.79	53.18	-	-	P	H
		15540	50.3	-23.7	74	50.98	40.03	13.68	54.39	-	-	P	H
		10360	46.39	-21.91	68.3	51.59	37.19	10.79	53.18	-	-	P	V
		15540	50.49	-23.51	74	51.17	40.03	13.68	54.39	-	-	P	V
802.11a CH 44 5220MHz		10440	46.01	-22.29	68.3	51.19	37.25	10.84	53.27	-	-	P	H
		15660	50.79	-23.21	74	51.44	40.13	13.77	54.55	-	-	P	H
		10440	45.38	-22.92	68.3	50.56	37.25	10.84	53.27	-	-	P	V
		15660	50.4	-23.6	74	51.05	40.13	13.77	54.55	-	-	P	V
802.11a CH 48 5240MHz		10480	46	-22.3	68.3	51.2	37.28	10.86	53.34	-	-	P	H
		15720	50.67	-23.33	74	51.32	40.18	13.81	54.64	-	-	P	H
		10480	46.17	-22.13	68.3	51.37	37.28	10.86	53.34	-	-	P	V
		15720	49.88	-24.12	74	50.53	40.18	13.81	54.64	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		5148.2	57.97	-16.03	74	49.15	34.19	7.48	32.85	183	128	P	H
		5150	45.86	-8.14	54	37.03	34.2	7.48	32.85	183	128	A	H
	*	5180	105.31	-	-	96.41	34.26	7.53	32.89	183	128	P	H
		5180	98.25	-	-	89.35	34.26	7.53	32.89	183	128	A	H
		5148.98	56.89	-17.11	74	48.06	34.2	7.48	32.85	180	44	P	V
		5150	45.04	-8.96	54	36.21	34.2	7.48	32.85	180	44	A	V
	*	5180	105.2	-	-	96.3	34.26	7.53	32.89	180	44	P	V
		5180	97.36	-	-	88.46	34.26	7.53	32.89	180	44	A	V
802.11n HT20 CH 44 5220MHz		5077.74	50.34	-23.66	74	41.74	33.96	7.37	32.73	338	38	P	H
		5048.62	40.78	-13.22	54	32.24	33.9	7.32	32.68	338	38	A	H
	*	5220	104.12	-	-	95.18	34.34	7.58	32.98	338	38	P	H
		5220	96.71	-	-	87.77	34.34	7.58	32.98	338	38	A	H
		5449.44	48.09	-25.91	74	39.08	34.5	7.83	33.32	338	38	P	H
		5447.04	39.5	-14.5	54	30.49	34.5	7.83	33.32	338	38	A	H
		5147.16	50.56	-23.44	74	41.74	34.19	7.48	32.85	337	103	P	V
		5150	41.16	-12.84	54	32.33	34.2	7.48	32.85	337	103	A	V
	*	5220	105.4	-	-	96.46	34.34	7.58	32.98	337	103	P	V
		5220	98.67	-	-	89.73	34.34	7.58	32.98	337	103	A	V
		5442	48.18	-25.82	74	39.18	34.5	7.82	33.32	337	103	P	V
		5436.96	39.75	-14.25	54	30.77	34.5	7.8	33.32	337	103	A	V



802.11n HT20 CH 48 5240MHz		5108.42	49.42	-24.58	74	40.74	34.03	7.42	32.77	216	47	P	H
		5070.98	40.87	-13.13	54	32.3	33.94	7.36	32.73	216	47	A	H
	*	5240	103.33	-	-	94.33	34.38	7.6	32.98	216	47	P	H
		5240	96.45	-	-	87.45	34.38	7.6	32.98	216	47	A	H
		5460	50.82	-17.48	68.3	41.82	34.5	7.86	33.36	216	47	P	H
		5442.96	39.59	-14.41	54	30.59	34.5	7.82	33.32	216	47	A	H
		5059.28	50.42	-23.58	74	41.84	33.92	7.34	32.68	350	94	P	V
		5035.62	40.67	-13.33	54	32.12	33.9	7.29	32.64	350	94	A	V
	*	5240	106.05	-	-	97.05	34.38	7.6	32.98	350	94	P	V
		5240	97.05	-	-	88.05	34.38	7.6	32.98	350	94	A	V
		5399.52	48.3	-25.7	74	39.32	34.5	7.71	33.23	350	94	P	V
		5444.64	39.69	-14.31	54	30.69	34.5	7.82	33.32	350	94	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		10360	45.98	-22.32	68.3	51.18	37.19	10.79	53.18	-	-	P	H
HT20		15540	50.24	-23.76	74	50.92	40.03	13.68	54.39	-	-	P	H
CH 36		10360	46.64	-21.66	68.3	51.84	37.19	10.79	53.18	-	-	P	V
5180MHz		15540	49.35	-24.65	74	50.03	40.03	13.68	54.39	-	-	P	V
802.11n		10440	46.03	-22.27	68.3	51.21	37.25	10.84	53.27	-	-	P	H
HT20		15660	50.44	-23.56	74	51.09	40.13	13.77	54.55	-	-	P	H
CH 44		10440	46.29	-22.01	68.3	51.47	37.25	10.84	53.27	-	-	P	V
5220MHz		15660	50.52	-23.48	74	51.17	40.13	13.77	54.55	-	-	P	V
802.11n		10480	45.87	-22.43	68.3	51.07	37.28	10.86	53.34	-	-	P	H
HT20		15720	49.02	-24.98	74	49.67	40.18	13.81	54.64	-	-	P	H
CH 48		10480	45.22	-23.08	68.3	50.42	37.28	10.86	53.34	-	-	P	V
5240MHz		15720	50.75	-23.25	74	51.4	40.18	13.81	54.64	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5148.98	57.14	-16.86	74	48.31	34.2	7.48	32.85	126	316	P	H
		5150	49.68	-4.32	54	40.85	34.2	7.48	32.85	126	316	A	H
	*	5190	96.01	-	-	87.07	34.28	7.55	32.89	126	316	P	H
		5190	88.19	-	-	79.25	34.28	7.55	32.89	126	316	A	H
		5420.8	48.57	-25.43	74	39.58	34.5	7.76	33.27	126	316	P	H
		5440.4	40.07	-13.93	54	31.08	34.5	7.81	33.32	126	316	A	H
		5148.98	56.82	-17.18	74	47.99	34.2	7.48	32.85	302	96	P	V
		5150	50.49	-3.51	54	41.66	34.2	7.48	32.85	302	96	A	V
	*	5190	98.54	-	-	89.6	34.28	7.55	32.89	302	96	P	V
		5190	90.12	-	-	81.18	34.28	7.55	32.89	302	96	A	V
		5362.84	48.02	-25.98	74	39.02	34.5	7.69	33.19	302	96	P	V
		5443.2	39.89	-14.11	54	30.89	34.5	7.82	33.32	302	96	A	V
802.11n HT40 CH 46 5230MHz		5073.84	50.44	-23.56	74	41.86	33.95	7.36	32.73	100	127	P	H
		5149.5	42.32	-11.68	54	33.49	34.2	7.48	32.85	100	127	A	H
	*	5230	101.98	-	-	93.01	34.36	7.59	32.98	100	127	P	H
		5230	94.6	-	-	85.63	34.36	7.59	32.98	100	127	A	H
		5356.32	49.24	-24.76	74	40.25	34.5	7.68	33.19	100	127	P	H
		5432.16	40	-14	54	31.03	34.5	7.79	33.32	100	127	A	H
		5149.76	50.13	-23.87	74	41.3	34.2	7.48	32.85	293	67	P	V
		5148.46	42.52	-11.48	54	33.7	34.19	7.48	32.85	293	67	A	V
	*	5230	101.82	-	-	92.85	34.36	7.59	32.98	293	67	P	V
		5230	93.14	-	-	84.17	34.36	7.59	32.98	293	67	A	V
		5447.52	48.97	-25.03	74	39.96	34.5	7.83	33.32	293	67	P	V
		5352.24	40.58	-13.42	54	31.59	34.5	7.68	33.19	293	67	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		10380	46.09	-22.21	68.3	51.29	37.2	10.81	53.21	-	-	P	H
		15570	50.68	-23.32	74	51.36	40.06	13.7	54.44	-	-	P	H
		10380	46.46	-21.84	68.3	51.66	37.2	10.81	53.21	-	-	P	V
		15570	50.51	-23.49	74	51.19	40.06	13.7	54.44	-	-	P	V
802.11n HT40 CH 46 5230MHz		10460	46.06	-22.24	68.3	51.23	37.27	10.85	53.29	-	-	P	H
		15690	49.69	-24.31	74	50.35	40.15	13.79	54.6	-	-	P	H
		10460	46.07	-22.23	68.3	51.24	37.27	10.85	53.29	-	-	P	V
		15690	49.55	-24.45	74	50.21	40.15	13.79	54.6	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		5135.72	58.57	-15.43	74	49.78	34.14	7.46	32.81	175	135	P	H
	*	5149.5	49.92	-4.08	54	41.09	34.2	7.48	32.85	175	135	A	H
	*	5210	96.03	-	-	87.08	34.32	7.57	32.94	175	135	P	H
		5210	90.17	-	-	81.22	34.32	7.57	32.94	175	135	A	H
		5404.08	50.13	-23.87	74	41.18	34.5	7.72	33.27	175	135	P	H
		5403.6	40.55	-13.45	54	31.6	34.5	7.72	33.27	175	135	A	H
		5148.2	53.47	-20.53	74	44.65	34.19	7.48	32.85	175	135	P	V
	*	5149.76	45.49	-8.51	54	36.66	34.2	7.48	32.85	175	135	A	V
	*	5210	90.51	-	-	81.56	34.32	7.57	32.94	175	135	P	V
		5210	84.31	-	-	75.36	34.32	7.57	32.94	175	135	A	V
		5432.88	49.04	-24.96	74	40.07	34.5	7.79	33.32	175	135	P	V
		5452.08	40.39	-13.61	54	31.37	34.5	7.84	33.32	175	135	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		10420	46.49	-21.81	68.3	51.67	37.24	10.83	53.25	-	-	P	H
		15630	49.37	-24.63	74	50.06	40.1	13.74	54.53	-	-	P	H
		10420	45.89	-22.41	68.3	51.07	37.24	10.83	53.25	-	-	P	V
		15630	50.26	-23.74	74	50.95	40.1	13.74	54.53	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5250~5350MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		5032.24	50.24	-23.76	74	41.69	33.9	7.29	32.64	153	130	P	H
		5002.6	40.53	-13.47	54	32	33.9	7.23	32.6	153	130	A	H
	*	5260	105.32	-	-	96.33	34.4	7.61	33.02	153	130	P	H
		5260	98.74	-	-	89.75	34.4	7.61	33.02	153	130	A	H
		5368.08	49.87	-24.13	74	40.87	34.5	7.69	33.19	153	130	P	H
		5439.84	39.34	-14.66	54	30.35	34.5	7.81	33.32	153	130	A	H
		5001.04	50.72	-23.28	74	42.19	33.9	7.23	32.6	155	138	P	V
		5000.52	40.55	-13.45	54	32.02	33.9	7.23	32.6	155	138	A	V
	*	5260	104.09	-	-	95.1	34.4	7.61	33.02	155	138	P	V
		5260	97.37	-	-	88.38	34.4	7.61	33.02	155	138	A	V
		5367.12	48.77	-25.23	74	39.77	34.5	7.69	33.19	155	138	P	V
		5443.92	39.35	-14.65	54	30.35	34.5	7.82	33.32	155	138	A	V
802.11a CH 60 5300MHz		5003.85	50.23	-23.77	74	41.69	33.9	7.24	32.6	181	133	P	H
		5000	40.54	-13.46	54	32.01	33.9	7.23	32.6	181	133	A	H
	*	5300	105.76	-	-	96.82	34.4	7.65	33.11	181	133	P	H
		5300	98.52	-	-	89.58	34.4	7.65	33.11	181	133	A	H
		5378.88	49.63	-24.37	74	40.66	34.5	7.7	33.23	181	133	P	H
		5350.08	40.7	-13.3	54	31.71	34.5	7.68	33.19	181	133	A	H
		5014	50.42	-23.58	74	41.9	33.9	7.26	32.64	165	58	P	V
		5000.35	40.54	-13.46	54	32.01	33.9	7.23	32.6	165	58	A	V
	*	5300	105.39	-	-	96.45	34.4	7.65	33.11	165	58	P	V
		5300	97.82	-	-	88.88	34.4	7.65	33.11	165	58	A	V
		5359.44	49.94	-24.06	74	40.94	34.5	7.69	33.19	165	58	P	V
		5350.08	40.57	-13.43	54	31.58	34.5	7.68	33.19	165	58	A	V
802.11a CH 64 5320MHz	*	5320	104.88	-	-	95.89	34.44	7.66	33.11	161	124	P	H
		5320	98.21	-	-	89.22	34.44	7.66	33.11	161	124	A	H
		5353.6	59.29	-14.71	74	50.3	34.5	7.68	33.19	161	124	P	H
		5350.08	49.26	-4.74	54	40.27	34.5	7.68	33.19	161	124	A	H
	*	5320	104.41	-	-	95.42	34.44	7.66	33.11	235	56	P	V



		5320	96.97	-	-	87.98	34.44	7.66	33.11	235	56	A	V
		5350.72	59.7	-14.3	74	50.71	34.5	7.68	33.19	235	56	P	V
		5350.08	49.24	-4.76	54	40.25	34.5	7.68	33.19	235	56	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5250~5350MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		10520	46.16	-22.14	68.3	51.33	37.33	10.88	53.38	-	-	P	H
		15780	51.35	-22.65	74	51.99	40.22	13.85	54.71	-	-	P	H
		10520	46.73	-21.57	68.3	51.9	37.33	10.88	53.38	-	-	P	V
		15780	49.69	-24.31	74	50.33	40.22	13.85	54.71	-	-	P	V
802.11a CH 60 5300MHz		10600	47.22	-26.78	74	52.35	37.44	10.92	53.49	-	-	P	H
		15900	48.97	-25.03	74	49.58	40.32	13.94	54.87	-	-	P	H
		10600	45.73	-28.27	74	50.86	37.44	10.92	53.49	-	-	P	V
		15900	49.52	-24.48	74	50.13	40.32	13.94	54.87	-	-	P	V
802.11a CH 64 5320MHz		10640	46.63	-27.37	74	51.72	37.5	10.95	53.54	-	-	P	H
		15960	49.71	-24.29	74	50.32	40.37	13.98	54.96	-	-	P	H
		10640	47.36	-26.64	74	52.45	37.5	10.95	53.54	-	-	P	V
		15960	49.89	-24.11	74	50.5	40.37	13.98	54.96	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5250~5350MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		5033.02	50.54	-23.46	74	41.99	33.9	7.29	32.64	351	36	P	H
		5068.9	40.77	-13.23	54	32.21	33.94	7.35	32.73	351	36	A	H
	*	5260	102.69	-	-	93.7	34.4	7.61	33.02	351	36	P	H
		5260	95.99	-	-	87	34.4	7.61	33.02	351	36	A	H
		5453.52	48.61	-25.39	74	39.63	34.5	7.84	33.36	351	36	P	H
		5456.4	39.74	-14.26	54	30.75	34.5	7.85	33.36	351	36	A	H
		5047.32	49.79	-24.21	74	41.25	33.9	7.32	32.68	345	95	P	V
		5023.92	40.73	-13.27	54	32.2	33.9	7.27	32.64	345	95	A	V
	*	5260	105.36	-	-	96.37	34.4	7.61	33.02	345	95	P	V
		5260	98.08	-	-	89.09	34.4	7.61	33.02	345	95	A	V
		5450.16	49.03	-24.97	74	40.01	34.5	7.84	33.32	345	95	P	V
		5424	39.74	-14.26	54	30.74	34.5	7.77	33.27	345	95	A	V
802.11n HT20 CH 60 5300MHz		5039.55	50.6	-23.4	74	42.08	33.9	7.3	32.68	363	48	P	H
		5037.45	40.68	-13.32	54	32.16	33.9	7.3	32.68	363	48	A	H
	*	5300	102.74	-	-	93.8	34.4	7.65	33.11	363	48	P	H
		5300	95.77	-	-	86.83	34.4	7.65	33.11	363	48	A	H
		5360.16	52.26	-21.74	74	43.26	34.5	7.69	33.19	363	48	P	H
		5359.92	40.09	-13.91	54	31.09	34.5	7.69	33.19	363	48	A	H
		5022.4	50.57	-23.43	74	42.04	33.9	7.27	32.64	310	102	P	V
		5009.45	40.79	-13.21	54	32.24	33.9	7.25	32.6	310	102	A	V
	*	5300	105.72	-	-	96.78	34.4	7.65	33.11	310	102	P	V
		5300	98.72	-	-	89.78	34.4	7.65	33.11	310	102	A	V
		5368.08	53.43	-20.57	74	44.43	34.5	7.69	33.19	310	102	P	V
		5350.32	42.32	-11.68	54	33.33	34.5	7.68	33.19	310	102	A	V
802.11n HT20 CH 64 5320MHz	*	5320	103.33	-	-	94.34	34.44	7.66	33.11	295	122	P	H
		5320	96.24	-	-	87.25	34.44	7.66	33.11	295	122	A	H
		5351.68	58.79	-15.21	74	49.8	34.5	7.68	33.19	295	122	P	H
		5350.56	48.35	-5.65	54	39.36	34.5	7.68	33.19	295	122	A	H
	*	5320	106.46	-	-	97.47	34.44	7.66	33.11	309	98	P	V
		5320	99.18	-	-	90.19	34.44	7.66	33.11	309	98	A	V



		5353.6	60.71	-13.29	74	51.72	34.5	7.68	33.19	309	98	P	V
		5350.08	50.88	-3.62	54	41.89	34.5	7.68	33.19	309	98	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

5250~5350MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		10520	47.06	-21.24	68.3	52.23	37.33	10.88	53.38	-	-	P	H
HT20		15780	50.52	-23.48	74	51.16	40.22	13.85	54.71	-	-	P	H
CH 52		10520	46.35	-21.95	68.3	51.52	37.33	10.88	53.38	-	-	P	V
5260MHz		15780	49.8	-24.2	74	50.44	40.22	13.85	54.71	-	-	P	V
802.11n		10600	45.34	-28.66	74	50.47	37.44	10.92	53.49	-	-	P	H
HT20		15900	49.04	-24.96	74	49.65	40.32	13.94	54.87	-	-	P	H
CH 60		10600	45.7	-28.3	74	50.83	37.44	10.92	53.49	-	-	P	V
5300MHz		15900	49.11	-24.89	74	49.72	40.32	13.94	54.87	-	-	P	V
802.11n		10640	46.94	-27.06	74	52.03	37.5	10.95	53.54	-	-	P	H
HT20		15960	50.6	-23.4	74	51.21	40.37	13.98	54.96	-	-	P	H
CH 64		10640	46.81	-27.19	74	51.9	37.5	10.95	53.54	-	-	P	V
5320MHz		15960	49.9	-24.1	74	50.51	40.37	13.98	54.96	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5250~5350MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		5083.65	50.4	-23.6	74	41.78	33.97	7.38	32.73	152	130	P	H
		5019.95	41.14	-12.86	54	32.61	33.9	7.27	32.64	152	130	A	H
	*	5270	100.68	-	-	91.68	34.4	7.62	33.02	152	130	P	H
		5270	93.63	-	-	84.63	34.4	7.62	33.02	152	130	A	H
		5371.2	50.16	-23.84	74	41.16	34.5	7.69	33.19	152	130	P	H
		5350.32	42.48	-11.52	54	33.49	34.5	7.68	33.19	152	130	A	H
		5007.35	49.09	-24.91	74	40.55	33.9	7.24	32.6	373	62	P	V
		5031.5	41.05	-12.95	54	32.5	33.9	7.29	32.64	373	62	A	V
	*	5270	101.42	-	-	92.42	34.4	7.62	33.02	373	62	P	V
		5270	94.17	-	-	85.17	34.4	7.62	33.02	373	62	A	V
		5353.44	49.48	-24.52	74	40.49	34.5	7.68	33.19	373	62	P	V
		5350.08	41.63	-12.37	54	32.64	34.5	7.68	33.19	373	62	A	V
802.11n HT40 CH 62 5310MHz		5064.75	50.39	-23.61	74	41.84	33.93	7.35	32.73	186	129	P	H
		5000	41.56	-12.44	54	33.03	33.9	7.23	32.6	186	129	A	H
	*	5310	98.74	-	-	89.77	34.42	7.66	33.11	186	129	P	H
		5310	91.73	-	-	82.76	34.42	7.66	33.11	186	129	A	H
		5350.08	56.42	-17.58	74	47.43	34.5	7.68	33.19	186	129	P	H
		5350.08	49.05	-4.95	54	40.06	34.5	7.68	33.19	186	129	A	H
		5059.15	49.8	-24.2	74	41.22	33.92	7.34	32.68	369	62	P	V
		5038.15	41.66	-12.34	54	33.14	33.9	7.3	32.68	369	62	A	V
	*	5310	99.97	-	-	91	34.42	7.66	33.11	369	62	P	V
		5310	92.34	-	-	83.37	34.42	7.66	33.11	369	62	A	V
		5350.08	56.87	-17.13	74	47.88	34.5	7.68	33.19	369	62	P	V
		5350.08	49.48	-4.52	54	40.49	34.5	7.68	33.19	369	62	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5250~5350MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		10540	46.31	-21.99	68.3	51.47	37.36	10.89	53.41	-	-	P	H
HT40		15810	51.4	-22.6	74	52.03	40.25	13.87	54.75	-	-	P	H
CH 54		10540	46.33	-21.97	68.3	51.49	37.36	10.89	53.41	-	-	P	V
5270MHz		15810	49.19	-24.81	74	49.82	40.25	13.87	54.75	-	-	P	V
802.11n		10620	46.67	-27.33	74	51.79	37.47	10.93	53.52	-	-	P	H
HT40		15930	49.53	-24.47	74	50.14	40.34	13.96	54.91	-	-	P	H
CH 62		10620	46.19	-27.81	74	51.31	37.47	10.93	53.52	-	-	P	V
5310MHz		15930	49.68	-24.32	74	50.29	40.34	13.96	54.91	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5250~5350MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 58 5290MHz		5044.45	50.33	-23.67	74	41.8	33.9	7.31	32.68	240	65	P	H
		5040.25	41.09	-12.91	54	32.57	33.9	7.3	32.68	240	65	A	H
	*	5290	95.86	-	-	86.88	34.4	7.64	33.06	240	65	P	H
		5290	88.41	-	-	79.43	34.4	7.64	33.06	240	65	A	H
		5358	56.87	-17.13	74	47.88	34.5	7.68	33.19	240	65	P	H
		5350.08	49.4	-4.6	54	40.41	34.5	7.68	33.19	240	65	A	H
		5020.65	49.92	-24.08	74	41.39	33.9	7.27	32.64	200	49	P	V
		5096.25	41.18	-12.82	54	32.56	33.99	7.4	32.77	200	49	A	V
	*	5290	95.86	-	-	86.88	34.4	7.64	33.06	200	49	P	V
		5290	88.45	-	-	79.47	34.4	7.64	33.06	200	49	A	V
		5363.04	57.56	-16.44	74	48.56	34.5	7.69	33.19	200	49	P	V
		5350.08	50.18	-3.82	54	41.19	34.5	7.68	33.19	200	49	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

5250~5350MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 58 5290MHz		10580	46.1	-22.2	68.3	51.25	37.41	10.91	53.47	-	-	P	H
		15870	50.01	-23.99	74	50.63	40.3	13.92	54.84	-	-	P	H
		10580	46.18	-22.12	68.3	51.33	37.41	10.91	53.47	-	-	P	V
		15870	49.76	-24.24	74	50.38	40.3	13.92	54.84	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5470~5725MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 100 5500MHz		5456.72	53.91	-20.09	74	44.92	34.5	7.85	33.36	143	327	P	H
		5469.68	57.48	-10.82	68.3	48.46	34.5	7.88	33.36	143	327	P	H
		5460	41.48	-12.52	54	32.48	34.5	7.86	33.36	143	327	A	H
	*	5500	104.45	-	-	95.39	34.5	7.96	33.4	143	327	P	H
		5500	96.74	-	-	87.68	34.5	7.96	33.4	143	327	A	H
		5455.12	52.56	-21.44	74	43.57	34.5	7.85	33.36	159	136	P	V
		5466.96	53.83	-14.47	68.3	44.81	34.5	7.88	33.36	159	136	P	V
		5460	41.04	-12.96	54	32.04	34.5	7.86	33.36	159	136	A	V
	*	5500	103.1	-	-	94.04	34.5	7.96	33.4	159	136	P	V
		5500	96.36	-	-	87.3	34.5	7.96	33.4	159	136	A	V
802.11a CH 116 5580MHz		5399.44	49.05	-24.95	74	40.07	34.5	7.71	33.23	132	323	P	H
		5460.64	49.33	-18.97	68.3	40.33	34.5	7.86	33.36	132	323	P	H
		5459.68	39.42	-14.58	54	30.42	34.5	7.86	33.36	132	323	A	H
	*	5580	104.02	-	-	94.94	34.5	7.97	33.39	132	323	P	H
		5580	96.32	-	-	87.24	34.5	7.97	33.39	132	323	A	H
		5750.51	48.02	-20.28	68.3	38.25	34.7	8.42	33.35	132	323	P	H
		5443.84	49.13	-24.87	74	40.13	34.5	7.82	33.32	144	138	P	V
		5467.36	48.59	-19.71	68.3	39.57	34.5	7.88	33.36	144	138	P	V
		5459.92	39.38	-14.62	54	30.38	34.5	7.86	33.36	144	138	A	V
	*	5580	100.65	-	-	91.57	34.5	7.97	33.39	144	138	P	V
		5580	94.61	-	-	85.53	34.5	7.97	33.39	144	138	A	V
		5739.485	48.59	-19.71	68.3	38.8	34.7	8.44	33.35	144	138	P	V



802.11a CH 140 5700MHz	*	5700	104.79	-	-	94.93	34.7	8.52	33.36	234	62	P	H
		5700	98.06	-	-	88.2	34.7	8.52	33.36	234	62	A	H
		5725.16	62.02	-6.28	68.3	52.2	34.7	8.47	33.35	234	62	P	H
	*	5700	102.52	-	-	92.66	34.7	8.52	33.36	159	128	P	V
		5700	96.32	-	-	86.46	34.7	8.52	33.36	159	128	A	V
		5729.64	59.43	-8.87	68.3	49.62	34.7	8.46	33.35	159	128	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 100 5500MHz		11000	46.38	-27.62	74	51.24	38	11.14	54	-	-	P	H
		16500	50.84	-17.46	68.3	48.9	41.25	14.27	53.58	-	-	P	H
		11000	45.93	-28.07	74	50.79	38	11.14	54	-	-	P	V
		16500	50.54	-17.76	68.3	48.6	41.25	14.27	53.58	-	-	P	V
802.11a CH 116 5580MHz		11160	46.02	-27.98	74	50.55	38.1	11.27	53.9	-	-	P	H
		16740	50.3	-18	68.3	47.16	41.66	14.39	52.91	-	-	P	H
		11160	46.54	-27.46	74	51.07	38.1	11.27	53.9	-	-	P	V
		16740	50.13	-18.17	68.3	46.99	41.66	14.39	52.91	-	-	P	V
802.11a CH 140 5700MHz		11400	46.45	-27.55	74	50.5	38.24	11.47	53.76	-	-	P	H
		17100	50.69	-17.61	68.3	46.3	41.97	14.69	52.27	-	-	P	H
		11400	46.28	-27.72	74	50.33	38.24	11.47	53.76	-	-	P	V
		17100	50.36	-17.94	68.3	45.97	41.97	14.69	52.27	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5470~5725MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		5458.48	54.55	-19.45	74	45.55	34.5	7.86	33.36	140	132	P	H
		5467.6	56.05	-12.25	68.3	47.03	34.5	7.88	33.36	140	132	P	H
		5459.76	42.31	-11.69	54	33.31	34.5	7.86	33.36	140	132	A	H
	*	5500	103.65	-	-	94.59	34.5	7.96	33.4	140	132	P	H
		5500	96.29	-	-	87.23	34.5	7.96	33.4	140	132	A	H
		5454.8	52.32	-21.68	74	43.33	34.5	7.85	33.36	177	60	P	V
		5462.96	56.11	-12.19	68.3	47.1	34.5	7.87	33.36	177	60	P	V
		5459.44	41.54	-12.46	54	32.54	34.5	7.86	33.36	177	60	A	V
	*	5500	102.81	-	-	93.75	34.5	7.96	33.4	177	60	P	V
		5500	95.24	-	-	86.18	34.5	7.96	33.4	177	60	A	V
802.11n HT20 CH 116 5580MHz		5422.48	49.3	-24.7	74	40.3	34.5	7.77	33.27	137	133	P	H
		5465.44	48.2	-20.1	68.3	39.19	34.5	7.87	33.36	137	133	P	H
		5436.64	40.18	-13.82	54	31.2	34.5	7.8	33.32	137	133	A	H
	*	5580	103.58	-	-	94.5	34.5	7.97	33.39	137	133	P	H
		5580	95.93	-	-	86.85	34.5	7.97	33.39	137	133	A	H
		5738.225	48.87	-19.43	68.3	39.08	34.7	8.44	33.35	137	133	P	H
		5459.68	49.99	-24.01	74	40.99	34.5	7.86	33.36	174	59	P	V
		5468.56	49.9	-18.4	68.3	40.88	34.5	7.88	33.36	174	59	P	V
		5435.44	40.03	-13.97	54	31.05	34.5	7.8	33.32	174	59	A	V
	*	5580	103.03	-	-	93.95	34.5	7.97	33.39	174	59	P	V
		5580	95.52	-	-	86.44	34.5	7.97	33.39	174	59	A	V
		5754.29	50.61	-17.69	68.3	40.84	34.71	8.41	33.35	174	59	P	V



802.11n HT20 CH 140 5700MHz	*	5700	102.72	-	-	92.86	34.7	8.52	33.36	154	182	P	H
		5700	95.49	-	-	85.63	34.7	8.52	33.36	154	182	A	H
		5726.68	60.4	-7.9	68.3	50.58	34.7	8.47	33.35	154	182	P	H
	*	5700	102.11	-	-	92.25	34.7	8.52	33.36	154	78	P	V
		5700	94.61	-	-	84.75	34.7	8.52	33.36	154	78	A	V
		5725.4	59.14	-9.16	68.3	49.32	34.7	8.47	33.35	154	78	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

5470~5725MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		11000	46.02	-27.98	74	50.88	38	11.14	54	-	-	P	H
		16500	50.34	-17.96	68.3	48.4	41.25	14.27	53.58	-	-	P	H
		11000	45.84	-28.16	74	50.7	38	11.14	54	-	-	P	V
		16500	50.49	-17.81	68.3	48.55	41.25	14.27	53.58	-	-	P	V
802.11n HT20 CH 116 5580MHz		11160	46.74	-27.26	74	51.27	38.1	11.27	53.9	-	-	P	H
		16740	50.67	-17.63	68.3	47.53	41.66	14.39	52.91	-	-	P	H
		11160	45.39	-28.61	74	49.92	38.1	11.27	53.9	-	-	P	V
		16740	50.52	-17.78	68.3	47.38	41.66	14.39	52.91	-	-	P	V
802.11n HT20 CH 140 5700MHz		11400	46.01	-27.99	74	50.06	38.24	11.47	53.76	-	-	P	H
		17100	50.35	-17.95	68.3	45.96	41.97	14.69	52.27	-	-	P	H
		11400	45.96	-28.04	74	50.01	38.24	11.47	53.76	-	-	P	V
		17100	49.97	-18.33	68.3	45.58	41.97	14.69	52.27	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5470~5725MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		5459.92	56.09	-17.91	74	47.09	34.5	7.86	33.36	148	133	P	H
		5468.8	60.13	-8.17	68.3	51.11	34.5	7.88	33.36	148	133	P	H
		5459.68	47.87	-6.13	54	38.87	34.5	7.86	33.36	148	133	A	H
	*	5510	99.92	-	-	90.86	34.5	7.96	33.4	148	133	P	H
		5510	92.39	-	-	83.33	34.5	7.96	33.4	148	133	A	H
		5753.03	49.82	-18.48	68.3	40.05	34.71	8.41	33.35	148	133	P	H
		5459.44	53.63	-20.37	74	44.63	34.5	7.86	33.36	166	77	P	V
		5468.32	60	-8.3	68.3	50.98	34.5	7.88	33.36	166	77	P	V
		5459.68	46.47	-7.53	54	37.47	34.5	7.86	33.36	166	77	A	V
	*	5510	99.29	-	-	90.23	34.5	7.96	33.4	166	77	P	V
		5510	93.19	-	-	84.13	34.5	7.96	33.4	166	77	A	V
		5725.625	50.82	-17.48	68.3	41	34.7	8.47	33.35	166	77	P	V
802.11n HT40 CH 110 5550MHz		5445.28	49.8	-24.2	74	40.8	34.5	7.82	33.32	156	131	P	H
		5468.32	48.45	-19.85	68.3	39.43	34.5	7.88	33.36	156	131	P	H
		5457.52	41.18	-12.82	54	32.19	34.5	7.85	33.36	156	131	A	H
	*	5550	98.87	-	-	89.79	34.5	7.97	33.39	156	131	P	H
		5550	91.11	-	-	82.03	34.5	7.97	33.39	156	131	A	H
		5726.255	50.02	-18.28	68.3	40.2	34.7	8.47	33.35	156	131	P	H
		5445.04	50.95	-23.05	74	41.95	34.5	7.82	33.32	164	62	P	V
		5464.96	50.03	-18.27	68.3	41.02	34.5	7.87	33.36	164	62	P	V
		5459.2	41.39	-12.61	54	32.39	34.5	7.86	33.36	164	62	A	V
	*	5550	91.47	-	-	82.39	34.5	7.97	33.39	164	62	P	V
		5550	91.47	-	-	82.39	34.5	7.97	33.39	164	62	A	V
		5740.115	50.43	-17.87	68.3	40.64	34.7	8.44	33.35	164	62	P	V



802.11n HT40 CH 134 5670MHz		5444.5	49.55	-24.45	74	40.55	34.5	7.82	33.32	155	185	P	H
		5464.45	47.76	-20.54	68.3	38.75	34.5	7.87	33.36	155	185	P	H
		5454.65	40.37	-13.63	54	31.38	34.5	7.85	33.36	155	185	A	H
	*	5670	97.82	-	-	88.19	34.64	8.36	33.37	155	185	P	H
		5670	91	-	-	81.37	34.64	8.36	33.37	155	185	A	H
		5725.1	52.28	-16.02	68.3	42.46	34.7	8.47	33.35	155	185	P	H
		5450.45	49.68	-24.32	74	40.66	34.5	7.84	33.32	166	67	P	V
		5459.9	47.15	-26.85	74	38.15	34.5	7.86	33.36	166	67	P	V
		5441.35	40.33	-13.67	54	31.34	34.5	7.81	33.32	166	67	A	V
	*	5670	98.32	-	-	88.69	34.64	8.36	33.37	166	67	P	V
		5670	90.58	-	-	80.95	34.64	8.36	33.37	166	67	A	V
		5727.2	52.48	-15.82	68.3	42.66	34.7	8.47	33.35	166	67	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5470~5725MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11020	46.02	-27.98	74	50.84	38.01	11.16	53.99	-	-	P	H
HT40		16530	50.05	-18.25	68.3	47.94	41.3	14.29	53.48	-	-	P	H
CH 102		11020	45.86	-28.14	74	50.68	38.01	11.16	53.99	-	-	P	V
5510MHz		16530	50.09	-18.21	68.3	47.98	41.3	14.29	53.48	-	-	P	V
802.11n		11100	45.96	-28.04	74	50.62	38.06	11.22	53.94	-	-	P	H
HT40		16650	50.8	-17.5	68.3	48.09	41.51	14.35	53.15	-	-	P	H
CH 110		11100	47.39	-26.61	74	52.05	38.06	11.22	53.94	-	-	P	V
5550MHz		16650	50.36	-17.94	68.3	47.65	41.51	14.35	53.15	-	-	P	V
802.11n		11340	46.32	-27.68	74	50.5	38.2	11.42	53.8	-	-	P	H
HT40		17010	50.7	-17.6	68.3	46.27	42.09	14.55	52.21	-	-	P	H
CH 134		11340	45.43	-28.57	74	49.61	38.2	11.42	53.8	-	-	P	V
5670MHz		17010	50.03	-18.27	68.3	45.6	42.09	14.55	52.21	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5470~5725MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 106 5530MHz		5455.36	57.85	-16.15	74	48.86	34.5	7.85	33.36	232	61	P	H
		5470	58.21	-10.09	68.3	49.18	34.5	7.89	33.36	232	61	P	H
		5452.24	49.96	-4.04	54	40.94	34.5	7.84	33.32	232	61	A	H
	*	5530	94.19	-	-	85.13	34.5	7.96	33.4	232	61	P	H
		5530	86.87	-	-	77.81	34.5	7.96	33.4	232	61	A	H
		5742.635	49.5	-18.8	68.3	39.72	34.7	8.43	33.35	232	61	P	H
		5455.6	56.58	-17.42	74	47.59	34.5	7.85	33.36	188	53	P	V
		5467.6	56.66	-11.64	68.3	47.64	34.5	7.88	33.36	188	53	P	V
		5458.24	49.14	-4.86	54	40.14	34.5	7.86	33.36	188	53	A	V
	*	5530	94	-	-	84.94	34.5	7.96	33.4	188	53	P	V
		5530	86.84	-	-	77.78	34.5	7.96	33.4	188	53	A	V
		5758.385	50.25	-18.05	68.3	40.48	34.72	8.4	33.35	188	53	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

5470~5725MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 106 5530MHz		11060	46.11	-27.89	74	50.84	38.04	11.19	53.96	-	-	P	H
		16590	50.7	-17.6	68.3	48.32	41.4	14.32	53.34	-	-	P	H
		11060	46.55	-27.45	74	51.28	38.04	11.19	53.96	-	-	P	V
		16590	50.82	-17.48	68.3	48.44	41.4	14.32	53.34	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

WIFI 802.11a (LF @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a LF		54.25	19.82	-20.18	40	32.52	20.13	2.13	34.96	-	-	P	H
		96.93	23.59	-19.91	43.5	41.61	14.3	2.48	34.8	-	-	P	H
		142.52	22.21	-21.29	43.5	35.14	19.24	2.54	34.71	-	-	P	H
		166.77	22.24	-21.26	43.5	35.08	19.24	2.62	34.7	-	-	P	H
		283.17	22.79	-23.21	46	34.91	19.43	3.08	34.63	-	-	P	H
		738.1	26.87	-19.13	46	29.75	27.61	3.91	34.4	-	-	P	H
		60.07	26.65	-13.35	40	39.76	19.53	2.26	34.9	-	-	P	V
		97.9	30.13	-13.37	43.5	48.01	14.45	2.47	34.8	-	-	P	V
		165.8	25.81	-17.69	43.5	38.63	19.27	2.61	34.7	-	-	P	V
		180.35	26.2	-17.3	43.5	40.29	17.94	2.67	34.7	-	-	P	V
		319.06	22.58	-23.42	46	33.77	20.2	3.21	34.6	-	-	P	V
		633.34	27.11	-18.89	46	31.56	26.19	3.89	34.53	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



<Simultaneous transmission>

802.11n HT40 CH38(5190MHz) Link + LTE Band 13 Link (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH38 5190MHz & LTE Band13		5148.46	61.31	-12.69	74	52.49	34.19	7.48	32.85	104	143	P	H
		5149.76	49.67	-4.33	54	40.84	34.2	7.48	32.85	104	143	P	H
		5190	98.62	-	-	89.68	34.28	7.55	32.89	104	143	A	H
		5190	91.49	-	-	82.55	34.28	7.55	32.89	104	143	P	H
		5439.28	49.22	-24.78	74	40.23	34.5	7.81	33.32	104	143	A	H
		5447.68	40.52	-13.48	54	31.51	34.5	7.83	33.32	104	143	P	H
		5148.2	58.17	-15.83	74	49.35	34.19	7.48	32.85	313	103	P	V
		5150	50.04	-3.96	54	41.21	34.2	7.48	32.85	313	103	P	V
		5190	98.26	-	-	89.32	34.28	7.55	32.89	313	103	A	V
		5190	91.29	-	-	82.35	34.28	7.55	32.89	313	103	P	V
		5431.44	48.73	-25.27	74	39.76	34.5	7.79	33.32	313	103	A	V
		5441.8	40.21	-13.79	54	31.22	34.5	7.81	33.32	313	103	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



802.11n HT40 CH38(5190MHz) Link + LTE Band 13 Link (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n40 CH38 5190MHz & LTE Band13		1559.5	43.96	-30.04	74	46.81	27.88	3.85	34.58	-	-	P	H
		2339.25	47.1	-26.9	74	44.14	31.86	4.79	33.69	-	-	P	H
		3119	46.2	-22.1	68.3	41.11	32.86	5.6	33.37	-	-	P	H
		10380	45.07	-23.23	68.3	50.27	37.2	10.81	53.21	-	-	P	H
		15570	49.38	-24.62	74	50.06	40.06	13.7	54.44	-	-	P	H
		1559.5	43.77	-30.23	74	46.62	27.88	3.85	34.58	-	-	P	V
		2339.25	45.58	-28.42	74	42.62	31.86	4.79	33.69	-	-	P	V
		3119	46.51	-21.79	68.3	41.42	32.86	5.6	33.37	-	-	P	V
		10380	45.49	-22.81	68.3	50.69	37.2	10.81	53.21	-	-	P	V
		15570	50.22	-23.78	74	50.9	40.06	13.7	54.44	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is Margin line.
P/A	P eak or A verage
H/V	H orizontal or V ertical



A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Margin (dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)
 = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
 = 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)
 = 55.45 (dBμV/m)
2. Margin (dB)
 = Level(dBμV/m) – Limit Line(dBμV/m)
 = 55.45(dBμV/m) – 74(dBμV/m)
 = -18.55(dB)

For Average Limit @ 2390MHz:

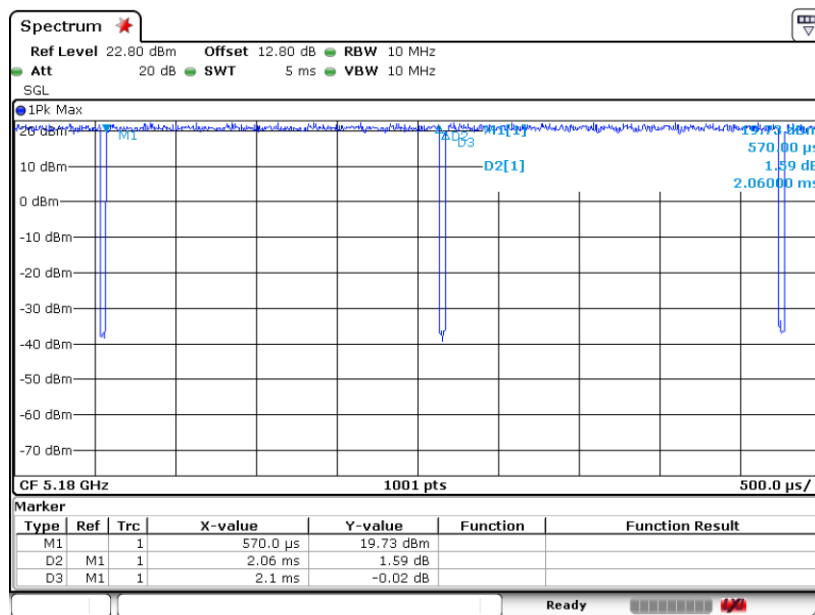
1. Level(dBμV/m)
 = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
 = 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)
 = 43.54 (dBμV/m)
2. Margin (dB) = Level(dBμV/m) – Limit Line(dBμV/m)
 = 43.54(dBμV/m) – 54(dBμV/m)
 = -10.46(dB)

Both peak and average measured complies with the limit line, so test result is “PASS”.

Appendix D. Duty Cycle Plots

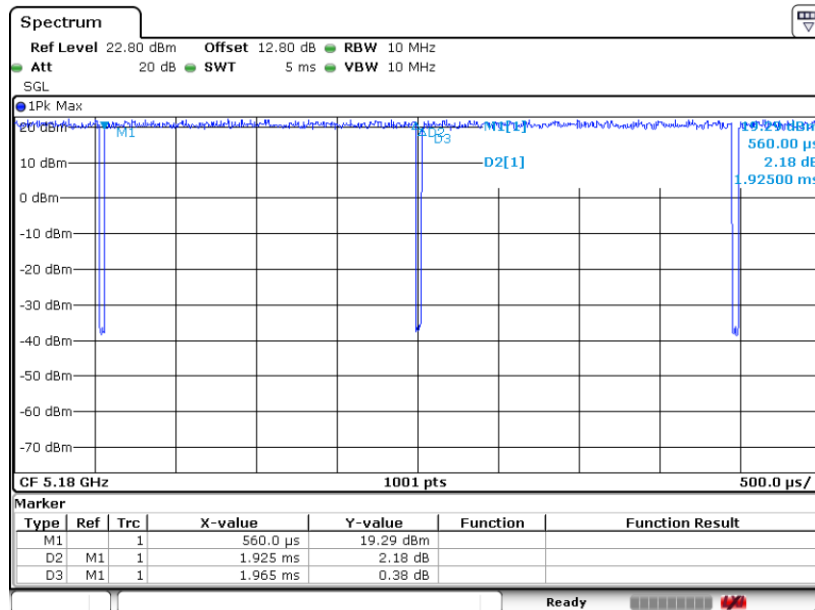
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	98.10	-	-	10Hz
802.11n HT20	97.96	1.925	0.519	1KHz
802.11n HT40	96.34	0.948	1.055	3KHz
802.11ac VHT80	92.81	0.465	2.151	3KHz

802.11a

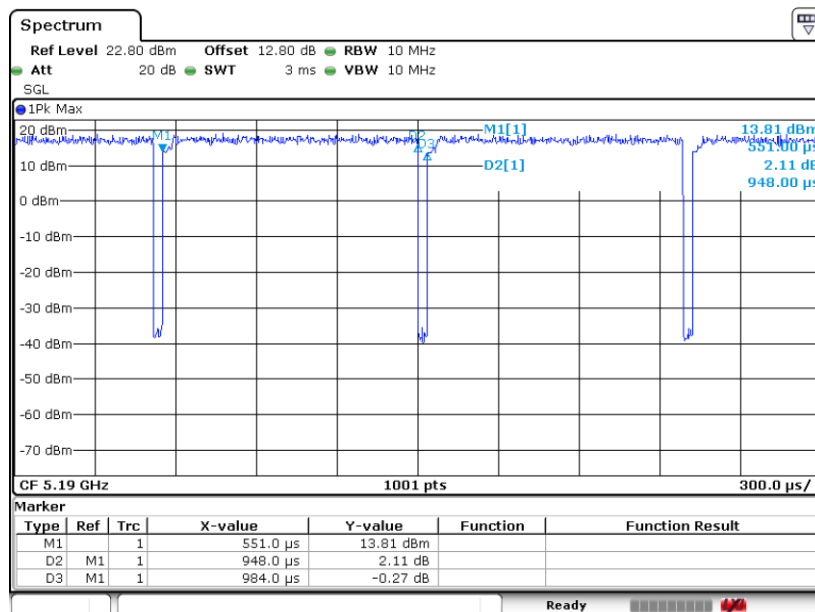




802.11n HT20



802.11n HT40





802.11ac VHT80

