



FCC RADIO TEST REPORT

FCC ID : 2AYXP-6253
Equipment : Electronic Display Device
Model Name : M2L4EK
Applicant : Avalite Bakerite LLC
101 East Park Boulevard
Plano, TX 75074
Standard : FCC Part 15 Subpart E §15.407

The product was received on Mar. 18, 2021 and testing was started from Mar. 30, 2021 and completed on Apr. 23, 2021. We, Sporton International Inc. EMC & Wireless Communications Laboratory, 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. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Louis Wu

Sporton International Inc. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)



Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	5
1.1 Product Feature of Equipment Under Test.....	5
1.2 Product Specification of Equipment Under Test.....	5
1.3 Modification of EUT	5
1.4 Testing Location	6
1.5 Applicable Standards.....	6
2 Test Configuration of Equipment Under Test	7
2.1 Carrier Frequency and Channel	7
2.2 Test Mode.....	8
2.3 Connection Diagram of Test System.....	9
2.4 Support Unit used in test configuration and system	10
2.5 EUT Operation Test Setup	11
2.6 Measurement Results Explanation Example.....	11
3 Test Result	12
3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement	12
3.2 Maximum Conducted Output Power Measurement	15
3.3 Power Spectral Density Measurement	16
3.4 Unwanted Emissions Measurement.....	18
3.5 AC Conducted Emission Measurement.....	23
3.6 Automatically Discontinue Transmission	25
3.7 Antenna Requirements.....	27
4 List of Measuring Equipment.....	28
5 Uncertainty of Evaluation.....	30
Appendix A. Conducted Test Results	
Appendix B. AC Conducted Emission Test Result	
Appendix C. Radiated Spurious Emission	
Appendix D. Radiated Spurious Emission Plots	
Appendix E. Duty Cycle Plots	



History of this test report

Report No.	Version	Description	Issued Date
FR0N1024-01E	01	Initial issue of report	May 12, 2021
FR0N1024-01E	02	Revise List of Measuring Equipment	Jun. 23, 2021
FR0N1024-01E	03	1. Correct the WPC function is supporting receive only 2. Add the description for WPC charging mode 3. Revise Radiated Spurious Emission Data	Jun. 25, 2021



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)
3.1	15.403(i)	6dB & 26dB Bandwidth	Pass
3.1	2.1049	99% Occupied Bandwidth	Reporting only
3.2	15.407(a)	Maximum Conducted Output Power	Pass
3.3	15.407(a)	Power Spectral Density	Pass
3.4	15.407(b)	Unwanted Emissions	Pass
3.5	15.207	AC Conducted Emission	Pass
3.6	15.407(c)	Automatically Discontinue Transmission	Pass
3.7	15.203 15.407(a)	Antenna Requirement	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.

Reviewed by: Wii Chang

Report Producer: Amy Chen



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Electronic Display Device
Model Name	M2L4EK
FCC ID	2AYXP-6253
EUT supports Radios application	WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE WPC Receive only

Remark: The above EUT's information was declared by manufacturer.

1.2 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Frequency Range	5745 MHz ~ 5825 MHz
Maximum Average Output Power to antenna	802.11a : 15.70 dBm (0.0372 W) 802.11n HT20 16.00 dBm (0.0398 W) 802.11n HT40: 15.00 dBm (0.0316 W) 802.11ac VHT20: 15.90 dBm (0.0389 W) 802.11ac VHT40: 14.90 dBm (0.0309 W) 802.11ac VHT80: 13.90 dBm (0.0245 W)
99% Occupied Bandwidth	802.11a : 16.65 dBm 802.11n HT20 : 17.80 dBm 802.11n HT40 : 36.30 dBm 802.11ac VHT80 : 76.20 dBm
Antenna Type / Gain	Monopole Antenna with gain 2.5 dBi
Type of Modulation	802.11a/n : OFDM (BPSK/QPSK/16QAM/64QAM) 802.11ac : OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)

Remark: The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.

1.3 Modification of EUT

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



1.4 Testing Location

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No. TH02-HY, CO05-HY, DFS02-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No. 03CH13-HY (TAF Code: 3786)
Remark	The Radiated Spurious Emission test item subcontracted to Sporton International Inc. Wensan Laboratory

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC designation No.: TW1190 and TW3786

1.5 Applicable Standards

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

- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.
- ♦ 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. The TAF code is not including all the FCC KDB listed without accreditation.-



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 (X plane and WPC Charging Mode) 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)
5725-5850 MHz Band 4 (U-NII-3)	149	5745	157	5785
	151*	5755	159*	5795
	153	5765	161	5805
	155 [#]	5775	165	5825

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 VHT20 (Covered by HT20)	MCS0
802.11ac VHT40 (Covered by HT40)	MCS0
802.11ac VHT80	MCS0

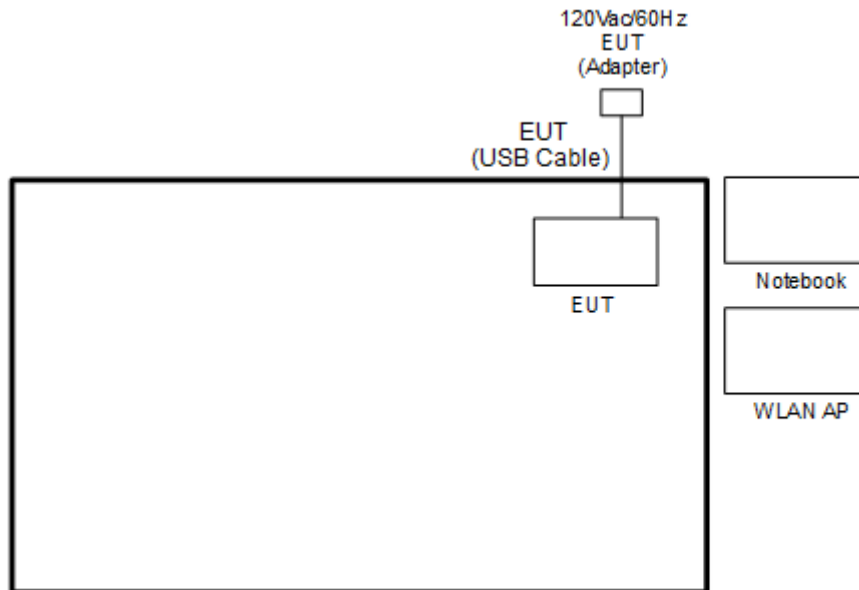
Test Cases	
AC Conducted Emission	Mode 1 : WLAN (5GHz) Link + USB Cable (Charger from Adapter (AP15))
Remark: 1. For Radiated Test Cases, the tests were performed with Adapter (AP15). 2. For AC Conducted Emission test item, the special software tool was used for changing screens automatically and was made the EUT send transmitting signal for all testing. 3. The worst mode is 11n HT20 CH149, so we additional verified the worst case (11n HT20 CH149) under WPC charging mode and found it passed the test.	

Ch. #	Band IV : 5725-5850 MHz			
	802.11a	802.11n HT20	802.11n HT40	802.11ac VHT80
L Low	149	149	151	-
M Middle	157	157	-	155
H High	165	165	159	-

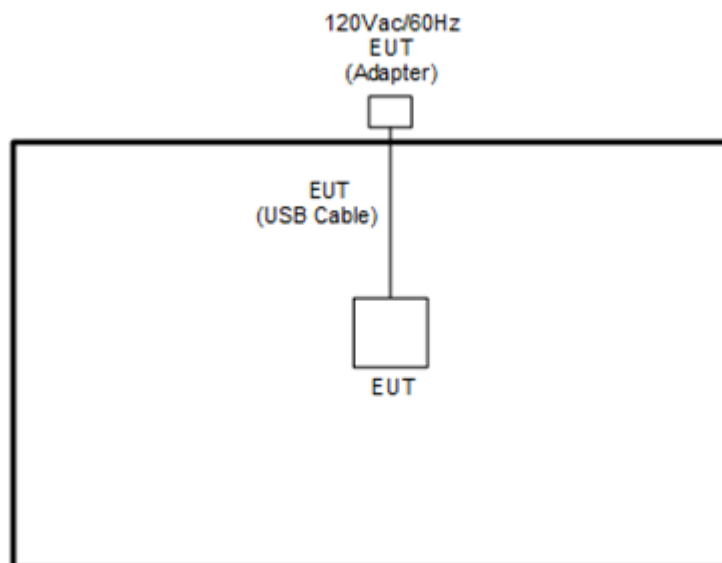
Remark: For radiation spurious emission, the final modulation and the worst data rate was reference the max RF conducted power.

2.3 Connection Diagram of Test System

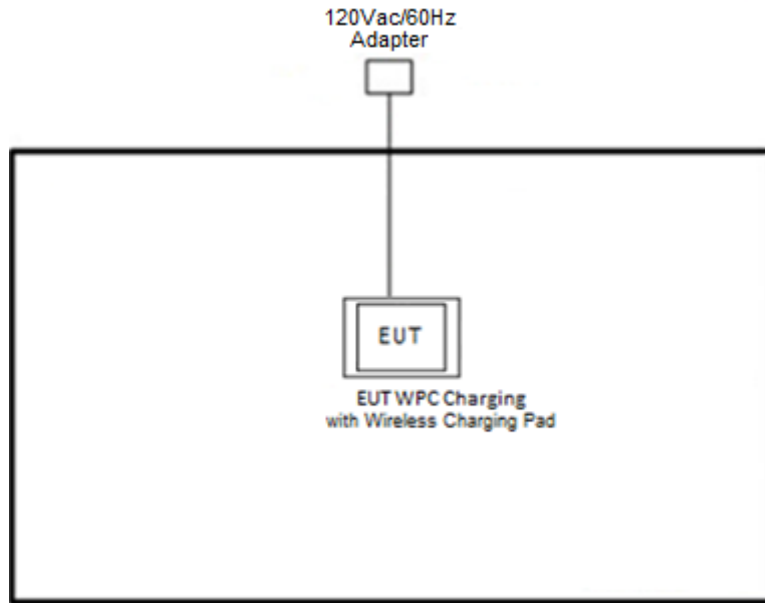
<AC Conducted Emission Mode>



<WLAN Tx Mode>



<WPC Charging Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8m
2.	Notebook	DELL	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Wireless Charging Pad	Belkin	F7U027	K7SF7U027	N/A	N/A



2.5 EUT Operation Test Setup

The RF test items, utility “CMD V10.0.18362.1256” was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

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 4.2 dB and 10 dB attenuator.

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 4.2 + 10 = 14.2 \text{ (dB)} \end{aligned}$$

3 Test Result

3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement

3.1.1 Description of 6dB and 26dB and 99% Occupied Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

26dB and 99% Occupied bandwidth are reporting only.

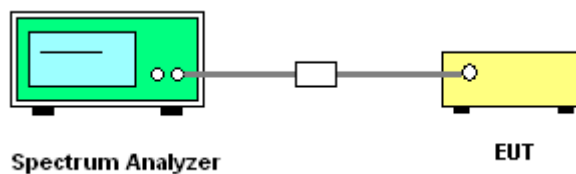
3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 Test Procedures

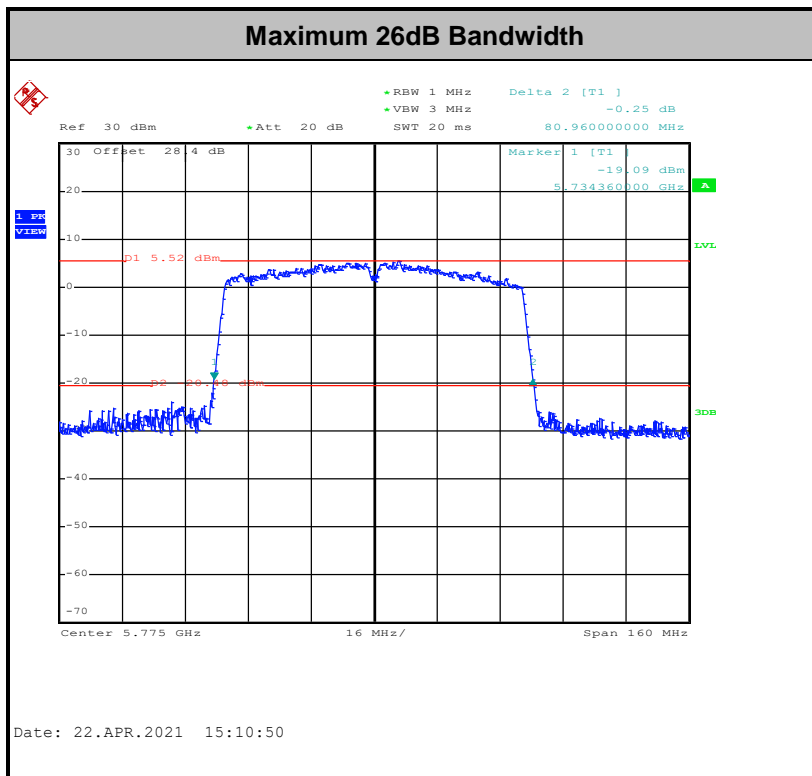
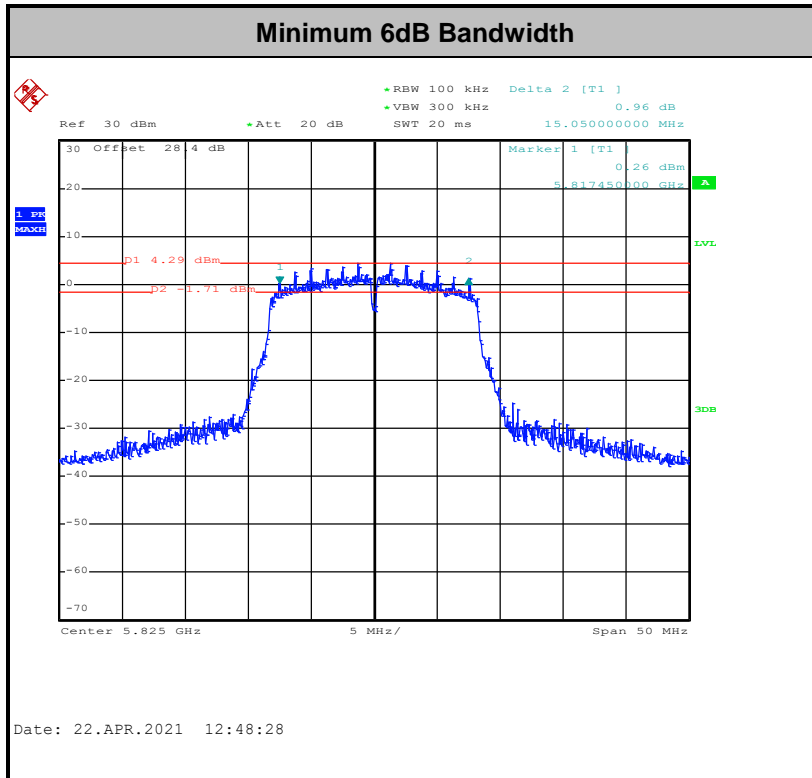
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth for the band 5.725-5.85 GHz
2. Set RBW = 100 kHz.
3. Set the VBW $\geq 3 \times$ RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.
7. Measure and record the results in the test report.

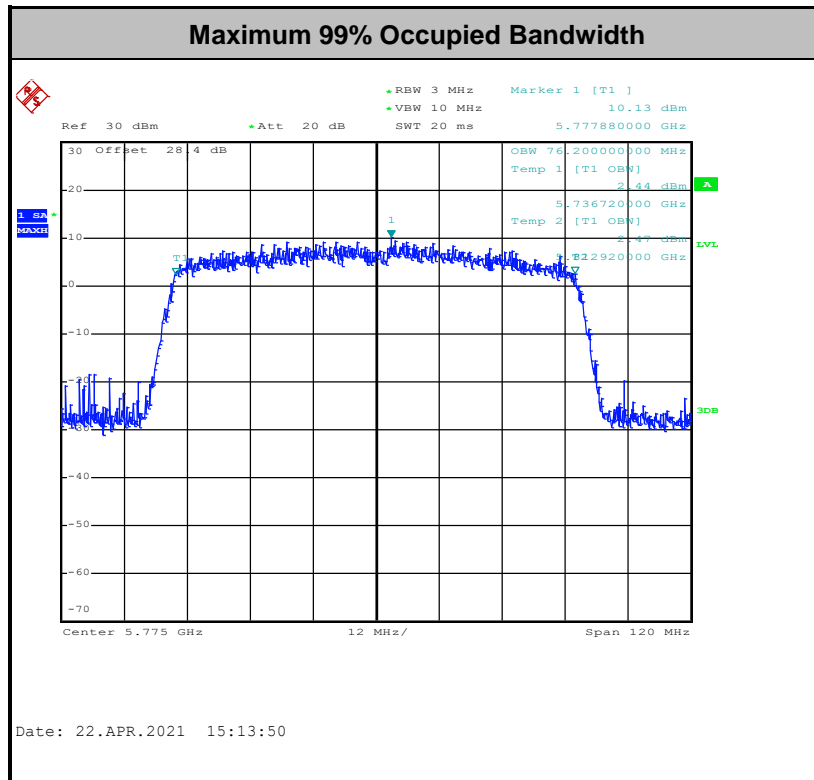
3.1.4 Test Setup



3.1.5 Test Result of 6dB and 26dB and 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

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

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.

3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

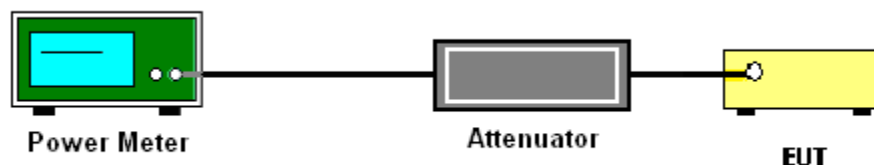
3.2.3 Test Procedures

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

Method PM-G (Measurement using a gated RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit at its maximum power control level.
3. Measure the average power of the transmitter.
4. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

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

For the band 5.725–5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

If transmitting antennas of directional gain greater than 6 dBi are used, 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

See list of measuring equipment of this test report.

3.3.3 Test Procedures

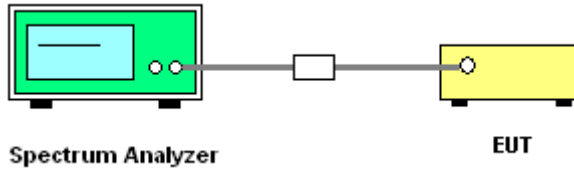
The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section F) Maximum power spectral density.

Method SA-3

(power averaging (rms) detection with max hold):

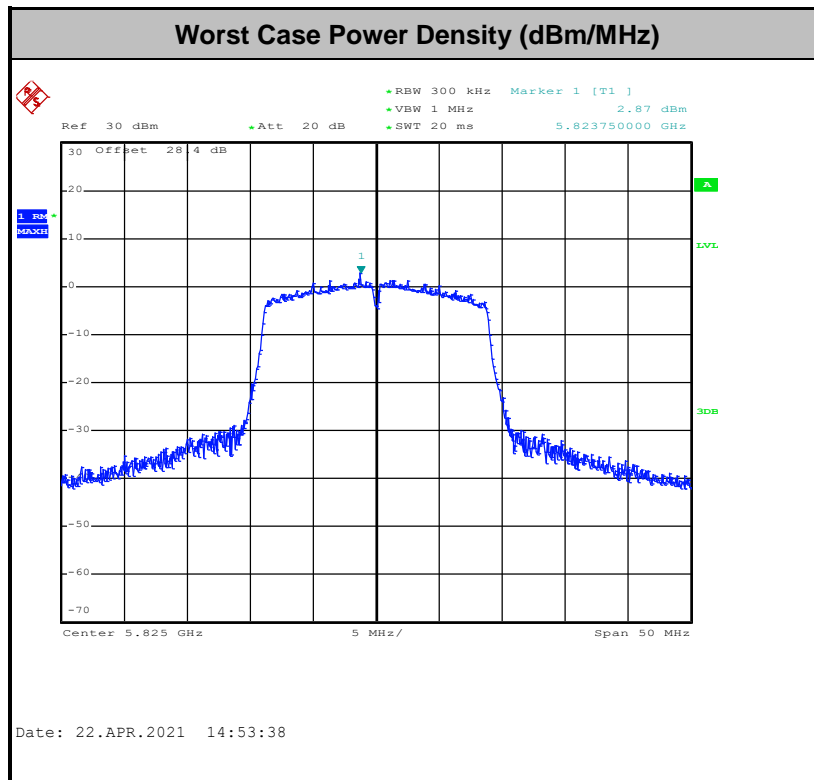
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW \geq 3 MHz.
 - Number of points in sweep \geq 2 Span / RBW.
 - Sweep time \leq (number of points in sweep) \times T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Detector = power averaging (rms).
 - Trace mode = max hold.
 - Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.
1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
 2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.





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 5.725-5.85 GHz band:

15.407(b)(4)(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.

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

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

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

(3) KDB789033 D02 v02r01 G)2)c)

(i) Sections 15.407(b)(1-3) specifies the unwanted emissions limit for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz.

(ii) Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are based on the use of a peak detector.



3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

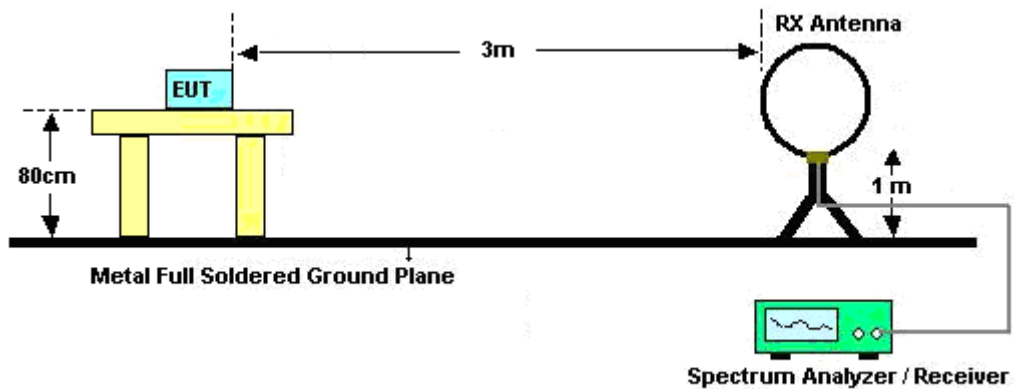
3.4.3 Test Procedures

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 1000 MHz
 - 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 1000 MHz
 - 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 1 GHz and 1.5 meter for frequency above 1 GHz 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 1 GHz, 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.

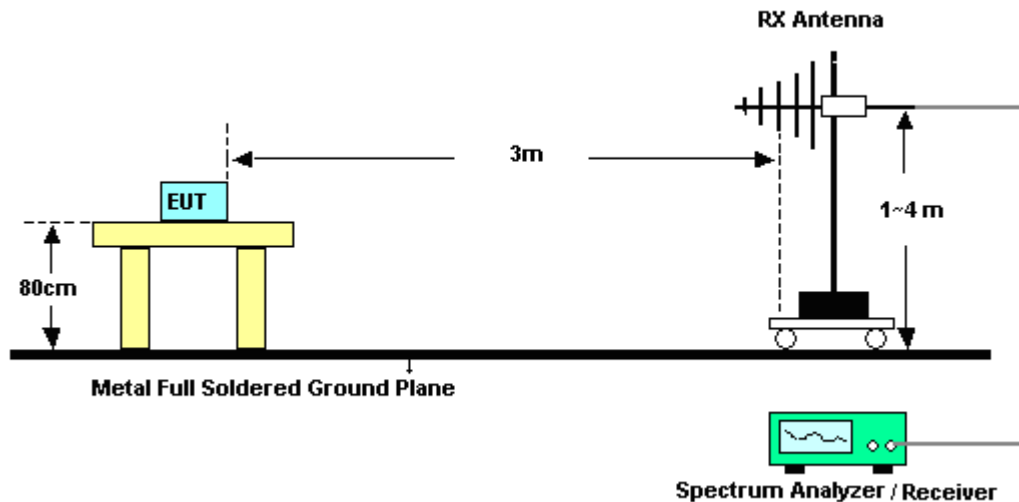
7. For testing above 1 GHz, the emission level of the EUT in peak mode was 20 dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.4.4 Test Setup

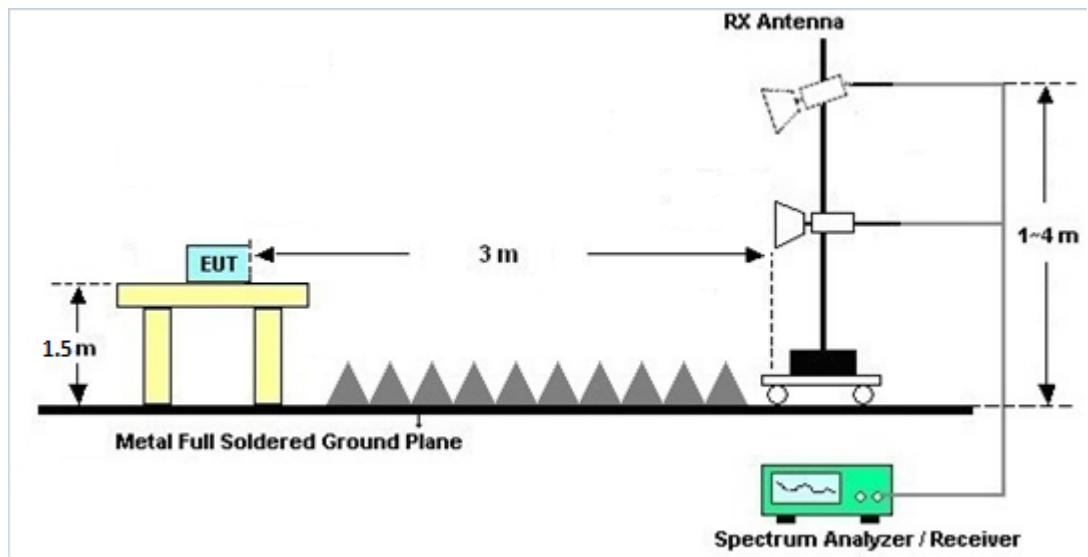
For radiated emissions below 30MHz



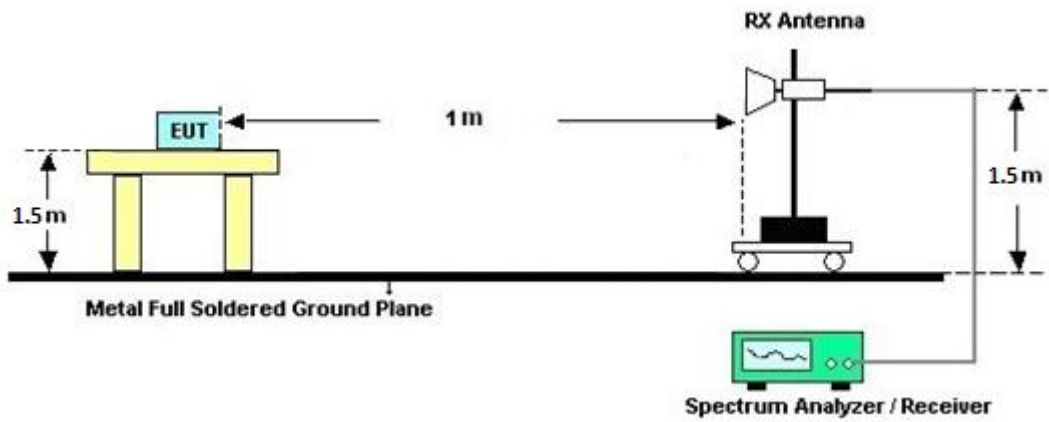
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz





3.4.5 Test Results of Radiated 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 alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix C and D.

3.4.7 Duty Cycle

Please refer to Appendix E.

3.4.8 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix C and D.



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.

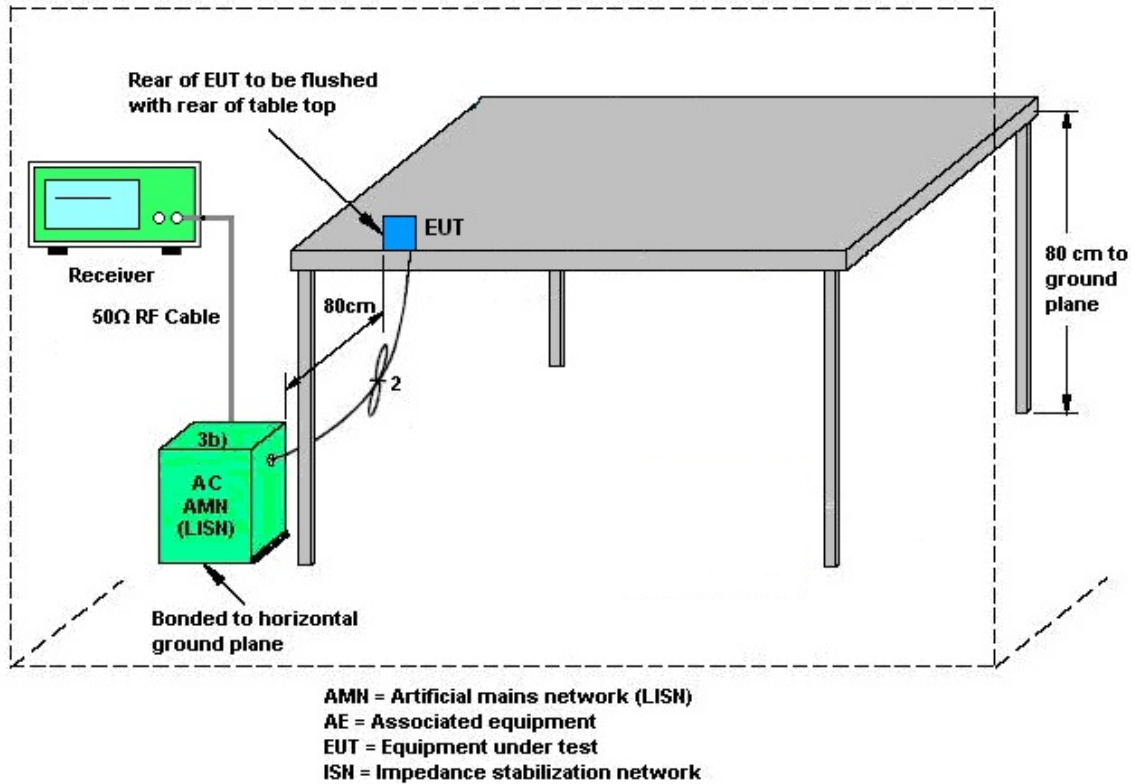
3.5.2 Measuring Instruments

See list of measuring equipment 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 shall 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 Automatically Discontinue Transmission

3.6.1 Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

3.6.3 Test Result of Automatically Discontinue Transmission

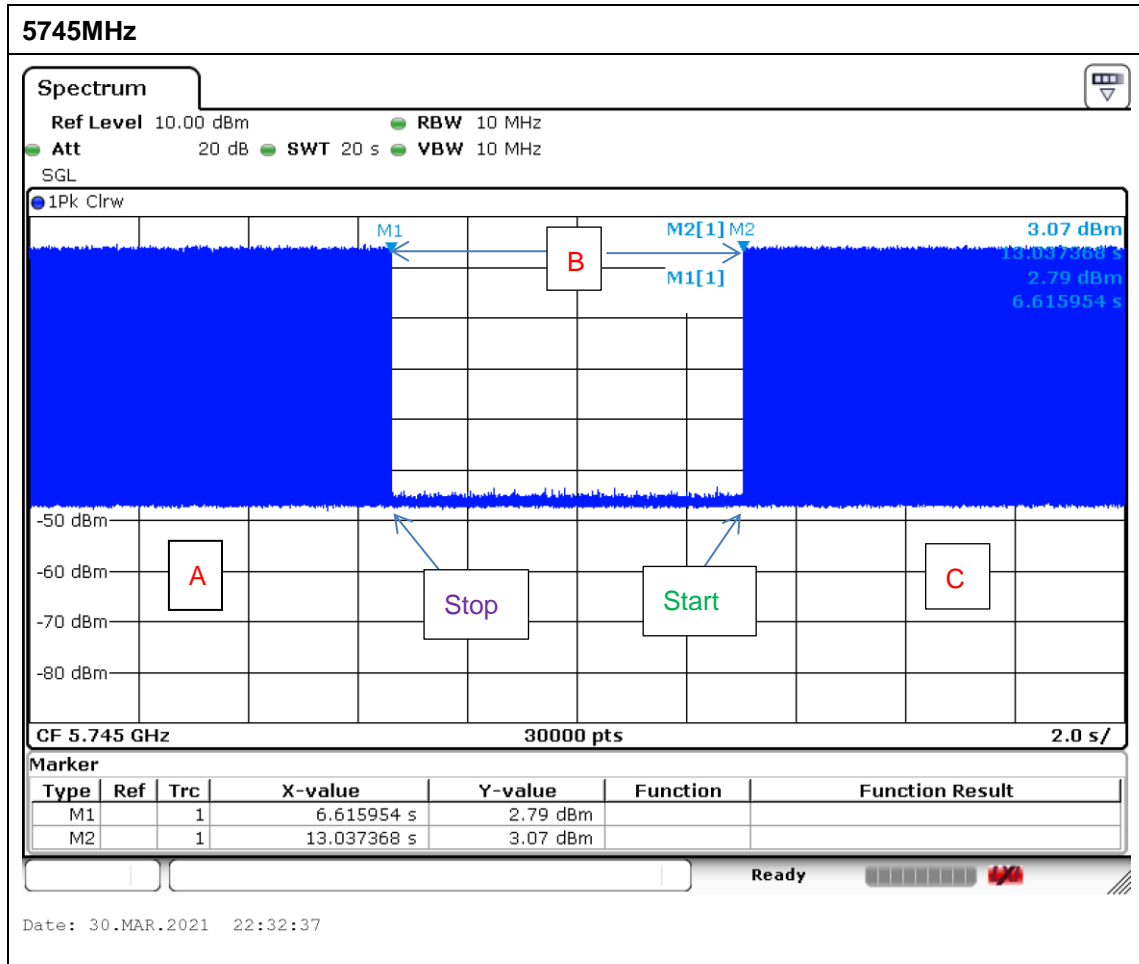
EUT is verified this characteristic during the function check of normal sample associated with an access point:

- A. Information start: make EUT supply information to the access point.
- B. Information stop: stop supplying information to the access point.

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving.

- C. Information start: make EUT supply information to the access point again.

The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.



Note: The control / signalling information during the period B is precluded.



3.7 Antenna Requirements

3.7.1 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.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 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	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Jul. 14, 2020	Apr. 01, 2021~ Apr. 23, 2021	Jul. 13, 2021	Radiation (03CH13-HY)
Amplifier	Sonoma-Instrument	310 N	187282	9KHz~1GHz	Dec. 16, 2020	Apr. 01, 2021~ Apr. 23, 2021	Dec. 15, 2021	Radiation (03CH13-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	40103&07	30MHz to 1GHz	Apr. 29, 2020	Apr. 01, 2021~ Apr. 23, 2021	Apr. 28, 2021	Radiation (03CH13-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1241	1GHz ~ 18GHz	Jul. 15, 2020	Apr. 01, 2021~ Apr. 23, 2021	Jul. 14, 2021	Radiation (03CH13-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590074	1GHz~18GHz	May 19, 2020	Apr. 01, 2021~ Apr. 23, 2021	May 18, 2021	Radiation (03CH13-HY)
Preamplifier	Keysight	83017A	MY53270147	1GHz~26.5GHz	Oct. 28, 2020	Apr. 01, 2021~ Apr. 23, 2021	Oct. 27, 2021	Radiation (03CH13-HY)
Signal Generator	Anritsu	MG3694C	163401	0.1Hz~40GHz	Jan. 31, 2021	Apr. 01, 2021~ Apr. 23, 2021	Jan. 30, 2022	Radiation (03CH13-HY)
Spectrum Analyzer	Keysight	N9010A	MY55370526	10Hz~44GHz	Mar. 18, 2021	Apr. 01, 2021~ Apr. 23, 2021	Mar. 17, 2022	Radiation (03CH13-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Apr. 01, 2021~ Apr. 23, 2021	N/A	Radiation (03CH13-HY)
Antenna Mast	EMEC	AM-BS-4500- B	N/A	1m~4m	N/A	Apr. 01, 2021~ Apr. 23, 2021	N/A	Radiation (03CH13-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Apr. 01, 2021~ Apr. 23, 2021	N/A	Radiation (03CH13-HY)
Software	Audix	E3 6.2009-8-24	RK-000992	N/A	N/A	Apr. 01, 2021~ Apr. 23, 2021	N/A	Radiation (03CH13-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~ 40GHz	Dec. 11, 2020	Apr. 01, 2021~ Apr. 23, 2021	Dec. 10, 2021	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0030/126E	30M-18G	Feb. 10, 2021	Apr. 01, 2021~ Apr. 23, 2021	Feb. 09, 2022	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	804793/4	30M-18G	Feb. 10, 2021	Apr. 01, 2021~ Apr. 23, 2021	Feb. 09, 2022	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30M~40GHz	Feb. 22, 2021	Apr. 01, 2021~ Apr. 23, 2021	Feb. 21, 2022	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY4274/2	30MHz~40GHz	Mar. 11, 2021	Apr. 01, 2021~ Apr. 23, 2021	Mar. 10, 2022	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24961/4	30M-18G	Feb. 10, 2021	Apr. 01, 2021~ Apr. 23, 2021	Feb. 09, 2022	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 11, 2021	Apr. 01, 2021~ Apr. 23, 2021	Mar. 10, 2022	Radiation (03CH13-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Dec. 11, 2020	Apr. 01, 2021~ Apr. 23, 2021	Dec. 10, 2021	Radiation (03CH13-HY)
Filter	Wainwright	WLK4-1000-1 530-8000-40S S	SN12	1.53GHz Low Pass Filter	Sep. 15, 2020	Apr. 01, 2021~ Apr. 23, 2021	Sep. 14, 2021	Radiation (03CH13-HY)
Filter	Wainwright	WHKX8-5872. 5-6750-18000- 40ST	SN5	6.75GHz High Pass Filter	Mar. 11, 2021	Apr. 01, 2021~ Apr. 23, 2021	Mar. 10, 2022	Radiation (03CH13-HY)
Filter	Wainwright	WHKX12-270 0-3000-18000- 60SS	SN2	3GHz High Pass Filter	Jul. 13, 2020	Apr. 01, 2021~ Apr. 23, 2021	Jul. 12, 2021	Radiation (03CH13-HY)
Hygrometer	TECPEL	DTM-303A	TP182676	N/A	Nov. 18, 2020	Apr. 01, 2021~ Apr. 23, 2021	Nov. 17, 2021	Radiation (03CH13-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	Testo	608-H1	34893241	N/A	Mar. 03, 2021	Apr. 03, 2021~ Apr. 22, 2021	Mar. 02, 2022	Conducted (TH02-HY)
Power Sensor	DARE	RPR3006W	16I00054SNO10	10MHz~6GHz	Dec. 16, 2020	Apr. 03, 2021~ Apr. 22, 2021	Dec. 15, 2021	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz-40GHz	Jan. 21, 2021	Apr. 03, 2021~ Apr. 22, 2021	Jan. 20, 2022	Conducted (TH02-HY)
Switch Box & RF Cable	EM Electronics	EMSW18SE	SW200302	N/A	Mar. 17, 2021	Apr. 03, 2021~ Apr. 22, 2021	Mar. 16, 2022	Conducted (TH02-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Apr. 07, 2021	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Nov. 30, 2020	Apr. 07, 2021	Nov. 29, 2021	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 18, 2020	Apr. 07, 2021	Nov. 17, 2021	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 16, 2020	Apr. 07, 2021	Nov. 15, 2021	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Apr. 07, 2021	N/A	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Feb. 25, 2021	Apr. 07, 2021	Feb. 24, 2022	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	260260	N/A	Dec. 31, 2020	Apr. 07, 2021	Dec. 30, 2021	Conduction (CO05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV30	100895	9kHz~30GHz	Apr. 29, 2020	Mar. 30, 2021	Apr. 28, 2021	DFS (DFS02-HY)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.3
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.8
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.1
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.6
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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Mina Liu	Temperature:	21~25	°C
Test Date:	2021/4/3~2021/04/22	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 26dB EBW and 99% OBW

Band IV single antenna												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		6 dB Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	149	5745	-	16.60	-	27.80	-	15.10	0.5	Pass
11a	6Mbps	1	157	5785	-	16.65	-	21.50	-	15.10	0.5	Pass
11a	6Mbps	1	165	5825	-	16.60	-	29.70	-	15.05	0.5	Pass
HT20	MCS0	1	149	5745	-	17.70	-	31.90	-	15.10	0.5	Pass
HT20	MCS0	1	157	5785	-	17.65	-	29.55	-	15.10	0.5	Pass
HT20	MCS0	1	165	5825	-	17.80	-	29.40	-	15.10	0.5	Pass
HT40	MCS0	1	151	5755	-	36.30	-	41.58	-	34.92	0.5	Pass
HT40	MCS0	1	159	5795	-	36.20	-	41.58	-	34.92	0.5	Pass
VHT80	MCS0	1	155	5775	-	76.20	-	80.96	-	75.04	0.5	Pass

TEST RESULTS DATA
Average Power Table

Band IV single antenna												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	-	15.70		-	30.00	-	2.50	Pass
11a	6Mbps	1	157	5785	-	15.70		-	30.00	-	2.50	Pass
11a	6Mbps	1	165	5825	-	15.60		-	30.00	-	2.50	Pass
HT20	MCS0	1	149	5745	-	15.70		-	30.00	-	2.50	Pass
HT20	MCS0	1	157	5785	-	15.60		-	30.00	-	2.50	Pass
HT20	MCS0	1	165	5825	-	16.00		-	30.00	-	2.50	Pass
HT40	MCS0	1	151	5755	-	14.60		-	30.00	-	2.50	Pass
HT40	MCS0	1	159	5795	-	15.00		-	30.00	-	2.50	Pass
VHT20	MCS0	1	149	5745	-	15.60		-	30.00	-	2.50	Pass
VHT20	MCS0	1	157	5785	-	15.50		-	30.00	-	2.50	Pass
VHT20	MCS0	1	165	5825	-	15.90		-	30.00	-	2.50	Pass
VHT40	MCS0	1	151	5755	-	14.50		-	30.00	-	2.50	Pass
VHT40	MCS0	1	159	5795	-	14.90		-	30.00	-	2.50	Pass
VHT80	MCS0	1	155	5775	-	13.90		-	30.00	-	2.50	Pass

TEST RESULTS DATA
Power Spectral Density

Band IV single antenna														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	-	2.22	-	5.07		-	30.00	-	2.50	Pass
11a	6Mbps	1	157	5785	-	2.22	-	4.54		-	30.00	-	2.50	Pass
11a	6Mbps	1	165	5825	-	2.22	-	4.67		-	30.00	-	2.50	Pass
HT20	MCS0	1	149	5745	-	2.22	-	4.81		-	30.00	-	2.50	Pass
HT20	MCS0	1	157	5785	-	2.22	-	4.53		-	30.00	-	2.50	Pass
HT20	MCS0	1	165	5825	-	2.22	-	5.09		-	30.00	-	2.50	Pass
HT40	MCS0	1	151	5755	-	2.22	-	1.04		-	30.00	-	2.50	Pass
HT40	MCS0	1	159	5795	-	2.22	-	0.86		-	30.00	-	2.50	Pass
VHT80	MCS0	1	155	5775	-	2.22	-	-2.15		-	30.00	-	2.50	Pass



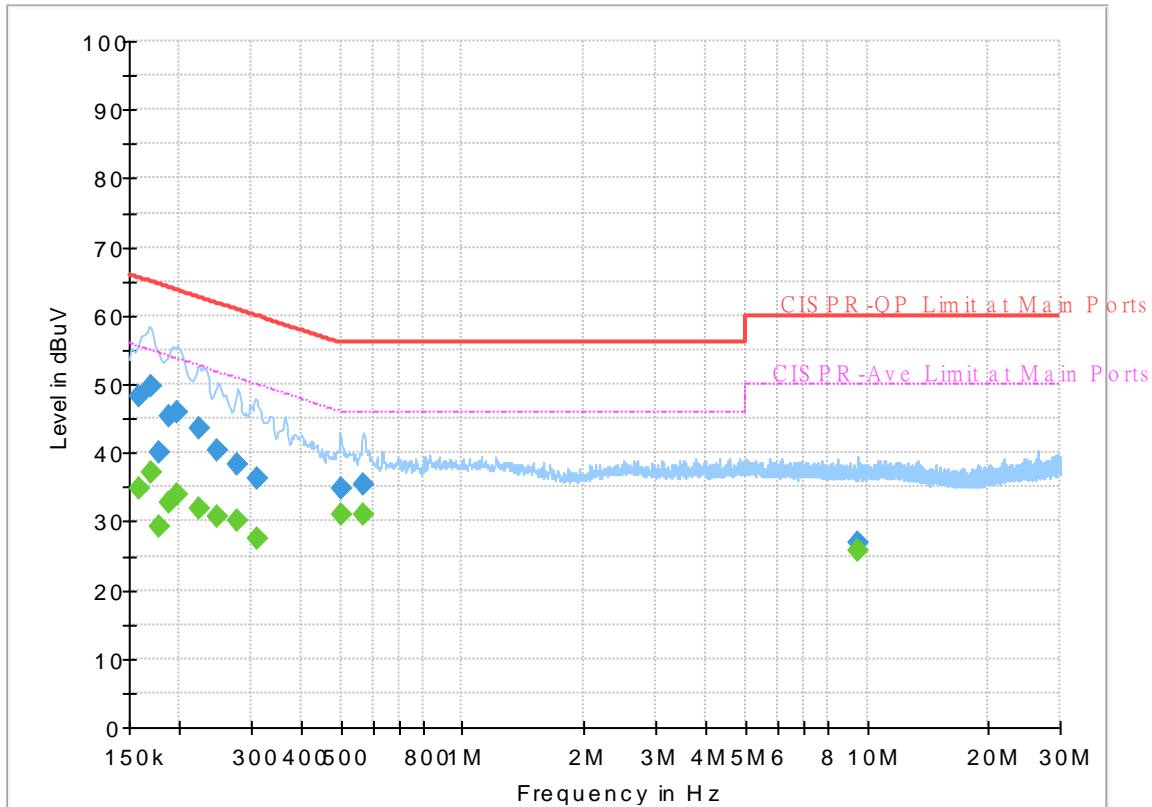
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Tom Lee	Temperature :	23~26°C
		Relative Humidity :	40~50%

EUT Information

Report NO : 0N1024-01
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Line

Full Spectrum



Final_Result

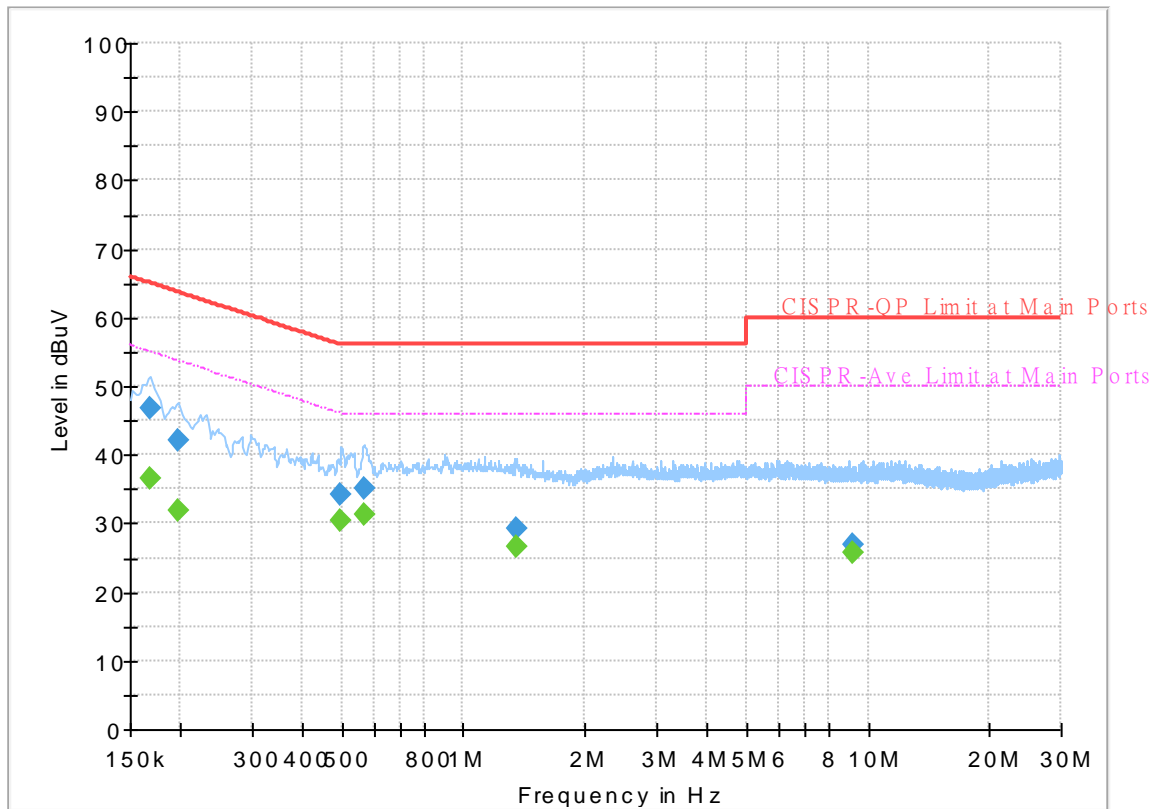
Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.159000	---	34.72	55.52	20.80	L1	OFF	19.7
0.159000	48.15	---	65.52	17.37	L1	OFF	19.7
0.170250	---	37.14	54.95	17.81	L1	OFF	19.7
0.170250	49.66	---	64.95	15.29	L1	OFF	19.7
0.177000	---	29.22	54.63	25.41	L1	OFF	19.7
0.177000	40.04	---	64.63	24.59	L1	OFF	19.7
0.188250	---	32.82	54.11	21.29	L1	OFF	19.7
0.188250	45.19	---	64.11	18.92	L1	OFF	19.7
0.197250	---	33.96	53.73	19.77	L1	OFF	19.7
0.197250	45.84	---	63.73	17.89	L1	OFF	19.7
0.224250	---	31.80	52.66	20.86	L1	OFF	19.7
0.224250	43.49	---	62.66	19.17	L1	OFF	19.7
0.249000	---	30.71	51.79	21.08	L1	OFF	19.7
0.249000	40.44	---	61.79	21.35	L1	OFF	19.7
0.278250	---	30.11	50.87	20.76	L1	OFF	19.7
0.278250	38.23	---	60.87	22.64	L1	OFF	19.7
0.309750	---	27.62	49.98	22.36	L1	OFF	19.7
0.309750	36.21	---	59.98	23.77	L1	OFF	19.7
0.501000	---	31.10	46.00	14.90	L1	OFF	19.9
0.501000	34.76	---	56.00	21.24	L1	OFF	19.9
0.566250	---	31.08	46.00	14.92	L1	OFF	19.9

0.566250	35.52	---	56.00	20.48	L1	OFF	19.9
9.467250	---	25.60	50.00	24.40	L1	OFF	20.2
9.467250	26.90	---	60.00	33.10	L1	OFF	20.2

EUT Information

Report NO : 0N1024-01
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.168000	---	36.60	55.06	18.46	N	OFF	19.7
0.168000	46.85	---	65.06	18.21	N	OFF	19.7
0.197250	---	31.75	53.73	21.98	N	OFF	19.7
0.197250	42.15	---	63.73	21.58	N	OFF	19.7
0.498750	---	30.46	46.02	15.56	N	OFF	19.9
0.498750	34.32	---	56.02	21.70	N	OFF	19.9
0.566250	---	31.27	46.00	14.73	N	OFF	20.0
0.566250	34.98	---	56.00	21.02	N	OFF	20.0
1.351500	---	26.70	46.00	19.30	N	OFF	20.3
1.351500	29.25	---	56.00	26.75	N	OFF	20.3
9.125250	---	25.68	50.00	24.32	N	OFF	20.2
9.125250	26.93	---	60.00	33.07	N	OFF	20.2



Appendix C. Radiated Spurious Emission

Test Engineer :	Daniel Lee, Jacky Hong, and Wilson Wu	Temperature :	20~25°C
		Relative Humidity :	50~60%

Band 4 - 5725~5850MHz
WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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 149 5745MHz		5634.8	53.44	-14.76	68.2	42.59	31.83	6.44	27.42	105	152	P	H
		5693.6	55.01	-45.47	100.48	44.08	31.97	6.42	27.46	105	152	P	H
		5717.6	62.7	-47.43	110.13	51.73	32.04	6.41	27.48	105	152	P	H
		5722.8	68.03	-49.15	117.18	57.05	32.05	6.41	27.48	105	152	P	H
	*	5745	109.31	-	-	98.31	32.09	6.41	27.5	105	152	P	H
	*	5745	102.17	-	-	91.17	32.09	6.41	27.5	105	152	A	H
		5641.8	52.89	-15.31	68.2	42.05	31.82	6.44	27.42	348	324	P	V
		5687.6	52.93	-43.12	96.05	42.02	31.95	6.42	27.46	348	324	P	V
		5716.2	56.24	-53.5	109.74	45.27	32.03	6.42	27.48	348	324	P	V
		5724.8	63.24	-58.5	121.74	52.26	32.05	6.41	27.48	348	324	P	V
	*	5745	106.79	-	-	95.79	32.09	6.41	27.5	348	324	P	V
	*	5745	99.09	-	-	88.09	32.09	6.41	27.5	348	324	A	V



WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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)
		5650	53.24	-14.96	68.2	42.44	31.8	6.43	27.43	100	158	P	H
		5676.6	54	-33.92	87.92	43.11	31.91	6.43	27.45	100	158	P	H
		5719.6	54.56	-56.13	110.69	43.59	32.04	6.41	27.48	100	158	P	H
		5721.6	54.57	-59.88	114.45	43.6	32.04	6.41	27.48	100	158	P	H
	*	5785	109.04	-	-	98.08	32.1	6.39	27.53	100	158	P	H
	*	5785	101.83	-	-	90.87	32.1	6.39	27.53	100	158	A	H
		5853	53.48	-61.88	115.36	42.3	32.31	6.44	27.57	100	158	P	H
		5866.2	54.34	-53.32	107.66	43.11	32.36	6.45	27.58	100	158	P	H
		5899.6	52.66	-34.3	86.96	41.3	32.5	6.47	27.61	100	158	P	H
		5938.6	52.9	-15.3	68.2	41.38	32.65	6.51	27.64	100	158	P	H
		5624.8	52.7	-15.5	68.2	41.82	31.85	6.44	27.41	345	325	P	V
		5676	52.52	-34.96	87.48	41.64	31.9	6.43	27.45	345	325	P	V
		5700.2	52.43	-52.83	105.26	41.47	32	6.42	27.46	345	325	P	V
		5719.8	52.52	-58.22	110.74	41.55	32.04	6.41	27.48	345	325	P	V
	*	5785	106.47	-	-	95.51	32.1	6.39	27.53	345	325	P	V
	*	5785	99.26	-	-	88.3	32.1	6.39	27.53	345	325	A	V
		5854	51.51	-61.57	113.08	40.32	32.32	6.44	27.57	345	325	P	V
		5860.6	52.45	-56.78	109.23	41.25	32.34	6.44	27.58	345	325	P	V
		5903	52.32	-32.12	84.44	40.94	32.51	6.48	27.61	345	325	P	V
		5941.4	51.87	-16.33	68.2	40.33	32.67	6.51	27.64	345	325	P	V



WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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 165 5825MHz	*	5825	109.07	-	-	98.01	32.2	6.41	27.55	102	157	P	H
	*	5825	101.9	-	-	90.84	32.2	6.41	27.55	102	157	A	H
		5851	66.77	-53.15	119.92	55.61	32.3	6.43	27.57	102	157	P	H
		5855.6	58.46	-52.17	110.63	47.28	32.32	6.44	27.58	102	157	P	H
		5876.8	55.24	-48.62	103.86	43.96	32.41	6.46	27.59	102	157	P	H
		5944.4	53.06	-15.14	68.2	41.51	32.68	6.51	27.64	102	157	P	H
	*	5825	105.88	-	-	94.82	32.2	6.41	27.55	357	326	P	V
	*	5825	98.71	-	-	87.65	32.2	6.41	27.55	357	326	A	V
		5851.8	63.89	-54.21	118.1	52.72	32.31	6.43	27.57	357	326	P	V
		5857	55.73	-54.51	110.24	44.54	32.33	6.44	27.58	357	326	P	V
		5882.6	53.16	-46.4	99.56	41.87	32.43	6.46	27.6	357	326	P	V
		5926	52.94	-15.26	68.2	41.47	32.6	6.5	27.63	357	326	P	V
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. 												



Band 4 5725~5850MHz
WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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 149 5745MHz		11490	54.71	-19.29	74	59.76	40.07	10.68	55.8	103	124	P	H
		11490	43.28	-10.72	54	48.33	40.07	10.68	55.8	103	124	A	H
		17235	48.81	-19.39	68.2	52.5	40.01	12.61	56.31	100	0	P	H
		18000	56.62	-17.38	74	51.79	48.1	13.2	56.47	118	211	P	H
		18000	46.16	-7.84	54	41.33	48.1	13.2	56.47	118	211	A	H
		11490	49.16	-24.84	74	54.21	40.07	10.68	55.8	100	0	P	V
		17235	47.65	-20.55	68.2	51.34	40.01	12.61	56.31	100	0	P	V
		17989	56.14	-17.86	74	51.64	47.79	13.19	56.48	125	215	P	V
		17989	45.79	-8.21	54	41.29	47.79	13.19	56.48	125	215	A	V
		11490	49.16	-24.84	74	54.21	40.07	10.68	55.8	100	0	P	V
802.11a CH 157 5785MHz		11570	54.78	-19.22	74	60	39.89	10.72	55.83	100	88	P	H
		11570	43.16	-10.84	54	48.38	39.89	10.72	55.83	100	88	A	H
		17355	49.21	-18.99	68.2	52.57	40.48	12.71	56.55	100	0	P	H
		17978	55.94	-18.06	74	51.76	47.48	13.19	56.49	114	218	P	H
		11570	49.38	-24.62	74	54.6	39.89	10.72	55.83	100	0	P	V
		17355	48.25	-19.95	68.2	51.61	40.48	12.71	56.55	100	0	P	V
		17978	55.69	-18.31	74	51.51	47.48	13.19	56.49	141	216	P	V
		17978	45.54	-8.46	54	41.36	47.48	13.19	56.49	141	216	A	V
	11570	49.38	-24.62	74	54.6	39.89	10.72	55.83	100	0	P	V	



802.11a CH 165 5825MHz		11650	48.37	-25.63	74	53.95	39.55	10.75	55.88	100	0	P	H
		17475	48.89	-19.31	68.2	51.97	40.92	12.8	56.8	100	0	P	H
		17978	55.78	-18.22	74	51.6	47.48	13.19	56.49	108	215	P	H
		17978	47.54	-6.46	54	43.36	47.48	13.19	56.49	108	215	A	H
		11650	47.41	-26.59	74	52.99	39.55	10.75	55.88	100	0	P	V
		17475	48.89	-19.31	68.2	51.97	40.92	12.8	56.8	100	0	P	V
		17945	55.38	-18.62	74	52.17	46.56	13.16	56.51	143	236	P	V
		17945	46.49	-7.51	54	43.28	46.56	13.16	56.51	143	236	A	V
Remark	<ol style="list-style-type: none">1. No other spurious found.2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

Table with 14 columns: WIFI Ant. 2, Note, Frequency (MHz), Level (dBµV/m), Over Limit (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). Rows include frequencies like 5646.8, 5676.4, 5713, 5724.4, 5745, 5745, 5644.6, 5693.8, 5713, 5724.2, 5745, 5745.



WIFI Ant. 2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (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 157 5785MHz		5623.6	53.9	-14.3	68.2	43.02	31.85	6.44	27.41	109	158	P	H
		5695.4	53.61	-48.2	101.81	42.67	31.98	6.42	27.46	109	158	P	H
		5717.6	54.78	-55.35	110.13	43.81	32.04	6.41	27.48	109	158	P	H
		5723.8	54.42	-65.04	119.46	43.44	32.05	6.41	27.48	109	158	P	H
	*	5785	108.98	-	-	98.02	32.1	6.39	27.53	109	158	P	H
	*	5785	101.77	-	-	90.81	32.1	6.39	27.53	109	158	A	H
		5854.2	55.25	-57.37	112.62	44.07	32.32	6.44	27.58	109	158	P	H
		5859.2	54.42	-55.2	109.62	43.22	32.34	6.44	27.58	109	158	P	H
		5889.6	54.08	-40.28	94.36	42.75	32.46	6.47	27.6	109	158	P	H
		5940.2	52.09	-16.11	68.2	40.56	32.66	6.51	27.64	109	158	P	H
		5627	51.93	-16.27	68.2	41.05	31.85	6.44	27.41	362	334	P	V
		5698.6	52.54	-51.63	104.17	41.59	31.99	6.42	27.46	362	334	P	V
		5704.8	51.98	-54.57	106.55	41.02	32.01	6.42	27.47	362	334	P	V
		5724.2	51.64	-68.74	120.38	40.66	32.05	6.41	27.48	362	334	P	V
	*	5785	105.75	-	-	94.79	32.1	6.39	27.53	362	334	P	V
	*	5785	98.47	-	-	87.51	32.1	6.39	27.53	362	334	A	V
		5852.8	53.16	-62.66	115.82	41.99	32.31	6.43	27.57	362	334	P	V
		5868.8	52.67	-54.26	106.93	41.43	32.38	6.45	27.59	362	334	P	V
	5876.6	52.56	-51.45	104.01	41.28	32.41	6.46	27.59	362	334	P	V	
	5927.6	53.02	-15.18	68.2	41.54	32.61	6.5	27.63	362	334	P	V	



WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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 165 5825MHz	*	5825	109.42	-	-	98.36	32.2	6.41	27.55	100	158	P	H
	*	5825	102.23	-	-	91.17	32.2	6.41	27.55	100	158	A	H
		5853.8	67.11	-46.43	113.54	55.92	32.32	6.44	27.57	100	158	P	H
		5856.8	64.68	-45.62	110.3	53.49	32.33	6.44	27.58	100	158	P	H
		5878.2	54.17	-48.65	102.82	42.89	32.41	6.46	27.59	100	158	P	H
		5944.8	53.23	-14.97	68.2	41.68	32.68	6.51	27.64	100	158	P	H
	*	5825	106.14	-	-	95.08	32.2	6.41	27.55	359	325	P	V
	*	5825	98.89	-	-	87.83	32.2	6.41	27.55	359	325	A	V
		5850.2	63.98	-57.76	121.74	52.82	32.3	6.43	27.57	359	325	P	V
		5855	60.72	-50.08	110.8	49.54	32.32	6.44	27.58	359	325	P	V
		5884.2	52.19	-46.18	98.37	40.89	32.44	6.46	27.6	359	325	P	V
		5926.2	53.22	-14.98	68.2	41.75	32.6	6.5	27.63	359	325	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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 149 5745MHz		11490	55.61	-18.39	74	60.66	40.07	10.68	55.8	100	68	P	H
		11490	43.9	-10.1	54	48.95	40.07	10.68	55.8	100	68	A	H
		17235	48.55	-19.65	68.2	52.24	40.01	12.61	56.31	100	0	P	H
		17989	56.14	-17.86	74	51.64	47.79	13.19	56.48	110	208	P	H
		11490	49.03	-24.97	74	54.08	40.07	10.68	55.8	100	0	P	V
		17235	48.24	-19.96	68.2	51.93	40.01	12.61	56.31	100	0	P	V
		18000	56.51	-17.49	74	51.68	48.1	13.2	56.47	135	215	P	V
		18000	46.39	-7.61	54	41.56	48.1	13.2	56.47	135	215	A	V
		11490	49.03	-24.97	74	54.08	40.07	10.68	55.8	100	0	P	V
802.11n HT20 CH 157 5785MHz		11570	49.02	-24.98	74	54.24	39.89	10.72	55.83	100	0	P	H
		17355	48.55	-19.65	68.2	51.91	40.48	12.71	56.55	100	0	P	H
		18000	56.18	-17.82	74	51.35	48.1	13.2	56.47	121	208	P	H
		18000	46.18	-7.82	54	41.35	48.1	13.2	56.47	121	208	A	H
		11570	47.83	-26.17	74	53.05	39.89	10.72	55.83	100	0	P	V
		17355	49.29	-18.91	68.2	52.65	40.48	12.71	56.55	100	0	P	V
		17956	55.88	-18.12	74	52.35	46.87	13.16	56.5	140	215	P	V
		17956	45.68	-8.32	54	42.15	46.87	13.16	56.5	140	215	A	V



802.11n HT20 CH 165 5825MHz		11650	52.46	-21.54	74	58.04	39.55	10.75	55.88	100	66	P	H
		11650	42.46	-11.54	54	48.04	39.55	10.75	55.88	100	66	A	H
		17475	48.93	-19.27	68.2	52.01	40.92	12.8	56.8	100	0	P	H
		17978	56.21	-17.79	74	52.03	47.48	13.19	56.49	110	207	P	H
		17978	46.53	-7.47	54	42.35	47.48	13.19	56.49	110	207	A	H
		11650	48.23	-25.77	74	53.81	39.55	10.75	55.88	100	0	P	V
		17475	49.18	-19.02	68.2	52.26	40.92	12.8	56.8	100	0	P	V
		17978	56.08	-17.92	74	51.9	47.48	13.19	56.49	135	215	P	V
		17978	45.76	-8.24	54	41.58	47.48	13.19	56.49	135	215	A	V
		11650	48.23	-25.77	74	53.81	39.55	10.75	55.88	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 4 5725~5850MHz
WIFI 802.11n HT40 (Band Edge @ 3m)**

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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 151 5755MHz		5616.6	53.99	-14.21	68.2	43.07	31.87	6.45	27.4	100	156	P	H
		5692.2	56.43	-43.02	99.45	45.5	31.97	6.42	27.46	100	156	P	H
		5719.4	72.22	-38.41	110.63	61.25	32.04	6.41	27.48	100	156	P	H
		5723	74.25	-43.39	117.64	63.27	32.05	6.41	27.48	100	156	P	H
	*	5755	104.91	-	-	93.91	32.1	6.4	27.5	100	156	P	H
	*	5755	98.08	-	-	87.08	32.1	6.4	27.5	100	156	A	H
		5852	52.4	-65.24	117.64	41.23	32.31	6.43	27.57	100	156	P	H
		5859.4	53.72	-55.85	109.57	42.52	32.34	6.44	27.58	100	156	P	H
		5894	52.44	-38.66	91.1	41.09	32.48	6.47	27.6	100	156	P	H
		5935.8	52.2	-16	68.2	40.68	32.64	6.51	27.63	100	156	P	H
		5626.8	52.86	-15.34	68.2	41.98	31.85	6.44	27.41	347	324	P	V
		5691.2	53.3	-45.41	98.71	42.38	31.96	6.42	27.46	347	324	P	V
		5719.6	68.09	-42.6	110.69	57.12	32.04	6.41	27.48	347	324	P	V
		5720.4	68.35	-43.36	111.71	57.38	32.04	6.41	27.48	347	324	P	V
	*	5755	102.68	-	-	91.68	32.1	6.4	27.5	347	324	P	V
	*	5755	95.41	-	-	84.41	32.1	6.4	27.5	347	324	A	V
		5850.6	50.55	-70.28	120.83	39.39	32.3	6.43	27.57	347	324	P	V
		5856	52.34	-58.18	110.52	41.16	32.32	6.44	27.58	347	324	P	V
		5922.4	52.43	-17.69	70.12	40.97	32.59	6.49	27.62	347	324	P	V
		5932.8	51.24	-16.96	68.2	39.74	32.63	6.5	27.63	347	324	P	V



WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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)
		5648.6	52.31	-15.89	68.2	41.5	31.8	6.44	27.43	100	158	P	H
		5689.2	53.86	-43.38	97.24	42.94	31.96	6.42	27.46	100	158	P	H
		5713.6	55.04	-53.97	109.01	44.06	32.03	6.42	27.47	100	158	P	H
		5722	55.19	-60.17	115.36	44.22	32.04	6.41	27.48	100	158	P	H
	*	5795	105.98	-	-	95.02	32.1	6.39	27.53	100	158	P	H
	*	5795	98.89	-	-	87.93	32.1	6.39	27.53	100	158	A	H
		5850.4	58.68	-62.61	121.29	47.52	32.3	6.43	27.57	100	158	P	H
		5864	58.43	-49.85	108.28	47.21	32.36	6.44	27.58	100	158	P	H
802.11n		5875.4	53.85	-51.05	104.9	42.59	32.4	6.45	27.59	100	158	P	H
HT40		5946.6	52.46	-15.74	68.2	40.9	32.69	6.51	27.64	100	158	P	H
CH 159		5643	52.08	-16.12	68.2	41.25	31.81	6.44	27.42	360	325	P	V
5795MHz		5682.8	52.93	-39.58	92.51	42.02	31.93	6.43	27.45	360	325	P	V
		5703.2	51.99	-54.11	106.1	41.03	32.01	6.42	27.47	360	325	P	V
		5721.6	51.92	-62.53	114.45	40.95	32.04	6.41	27.48	360	325	P	V
	*	5795	102.67	-	-	91.71	32.1	6.39	27.53	360	325	P	V
	*	5795	95.52	-	-	84.56	32.1	6.39	27.53	360	325	A	V
		5855	51.78	-59.02	110.8	40.6	32.32	6.44	27.58	360	325	P	V
		5870	52.79	-53.81	106.6	41.55	32.38	6.45	27.59	360	325	P	V
		5905.4	53.64	-29.03	82.67	42.25	32.52	6.48	27.61	360	325	P	V
		5928.8	51.4	-16.8	68.2	39.91	32.62	6.5	27.63	360	325	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 4 5725~5850MHz
WIFI 802.11n HT40 (Harmonic @ 3m)**

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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 151 5755MHz		11510	48.2	-25.8	74	53.24	40.07	10.69	55.8	100	0	P	H
		17265	47.32	-20.88	68.2	50.95	40.1	12.64	56.37	100	0	P	H
		17989	56.71	-17.29	74	52.21	47.79	13.19	56.48	246	265	P	H
		17989	46.61	-7.39	54	42.11	47.79	13.19	56.48	246	265	A	H
		11510	47.55	-26.45	74	52.59	40.07	10.69	55.8	100	0	P	V
		17265	47.6	-20.6	68.2	51.23	40.1	12.64	56.37	100	0	P	V
		18000	56.63	-17.37	74	51.8	48.1	13.2	56.47	304	204	P	V
		18000	46.93	-7.07	54	42.1	48.1	13.2	56.47	304	204	A	V
802.11n HT40 CH 159 5795MHz		11590	46.49	-27.51	74	51.78	39.83	10.73	55.85	100	0	P	H
		17385	48.41	-19.79	68.2	51.68	40.62	12.73	56.62	100	0	P	H
		17956	55.93	-18.07	74	52.4	46.87	13.16	56.5	248	208	P	H
		17956	45.93	-8.07	54	42.4	46.87	13.16	56.5	248	208	A	H
		11590	46.7	-27.3	74	51.99	39.83	10.73	55.85	100	0	P	V
		17385	48.86	-19.34	68.2	52.13	40.62	12.73	56.62	100	0	P	V
		18000	57.33	-16.67	74	52.5	48.1	13.2	56.47	289	234	P	V
		18000	47.63	-6.37	54	42.8	48.1	13.2	56.47	289	234	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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 155 5775MHz		5624.6	52.91	-15.29	68.2	42.03	31.85	6.44	27.41	100	151	P	H
		5691.2	61.01	-37.7	98.71	50.09	31.96	6.42	27.46	100	151	P	H
		5713.4	63.76	-45.19	108.95	52.78	32.03	6.42	27.47	100	151	P	H
		5722.4	60.51	-55.76	116.27	49.54	32.04	6.41	27.48	100	151	P	H
	*	5775	102.43	-	-	91.45	32.1	6.4	27.52	100	151	P	H
	*	5775	95.1	-	-	84.12	32.1	6.4	27.52	100	151	A	H
		5854.4	57.49	-54.68	112.17	46.31	32.32	6.44	27.58	100	151	P	H
		5862.2	58.62	-50.16	108.78	47.41	32.35	6.44	27.58	100	151	P	H
		5879	55.28	-46.95	102.23	43.99	32.42	6.46	27.59	100	151	P	H
		5947.6	51.66	-16.54	68.2	40.09	32.69	6.52	27.64	100	151	P	H
		5628.8	52.24	-15.96	68.2	41.37	31.84	6.44	27.41	381	339	P	V
		5684.2	54.44	-39.1	93.54	43.53	31.94	6.42	27.45	381	339	P	V
		5717.6	56.71	-53.42	110.13	45.74	32.04	6.41	27.48	381	339	P	V
		5724.6	57.04	-64.25	121.29	46.06	32.05	6.41	27.48	381	339	P	V
	*	5775	99.16	-	-	88.18	32.1	6.4	27.52	381	339	P	V
	*	5775	91.88	-	-	80.9	32.1	6.4	27.52	381	339	A	V
		5851.6	54.23	-64.32	118.55	43.06	32.31	6.43	27.57	381	339	P	V
		5870	54.18	-52.42	106.6	42.94	32.38	6.45	27.59	381	339	P	V
		5898.4	52.2	-35.65	87.85	40.85	32.49	6.47	27.61	381	339	P	V
		5948	51.26	-16.94	68.2	39.69	32.69	6.52	27.64	381	339	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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 155 5775MHz		11550	47.77	-26.23	74	52.93	39.95	10.71	55.82	100	0	P	H
		17325	47.97	-20.23	68.2	51.44	40.33	12.69	56.49	100	0	P	H
		17989	56.91	-17.09	74	52.41	47.79	13.19	56.48	255	205	P	H
		17989	46.71	-7.29	54	42.21	47.79	13.19	56.48	255	205	A	H
		11550	46.79	-27.21	74	51.95	39.95	10.71	55.82	100	0	P	V
		17325	48.66	-19.54	68.2	52.13	40.33	12.69	56.49	100	0	P	V
		17989	56.31	-17.69	74	51.81	47.79	13.19	56.48	289	188	P	V
		17989	46.41	-7.59	54	41.91	47.79	13.19	56.48	289	188	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission above 18GHz

WIFI 802.11n HT20 (SHF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n		23610	41.81	-32.19	74	42.76	39.85	12.7	53.5	150	0	P	H
HT20		30870	43.45	-24.75	68.2	42.58	40.62	15.8	55.55	150	0	P	H
CH 149		30606	43.46	-24.74	68.2	42.69	40.46	15.75	55.44	150	0	P	V
5745MHz		38174	47.1	-21.1	68.2	40.63	43.41	19.02	55.96	150	0	P	V
SHF													
Remark	1. No other spurious found. 2. All results are PASS against limit line. 3. Super High Frequency (SHF)												



Emission below 1GHz
WIFI 802.11n HT20 (LF @ 3m)

Table with 14 columns: WIFI, Note, Frequency, Level, Over, Limit, Read, Antenna, Path, Preamp, Ant, Table, Peak, Pol. It contains 12 rows of test data for 802.11n HT20 LF and a Remark section at the bottom.



<WPC Charging Mode>

Band 4 - 5725~5850MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 149 5745MHz		5632.4	53.09	-15.11	68.2	42.23	31.84	6.44	27.42	100	154	P	H
		5696	55.95	-46.3	102.25	45.01	31.98	6.42	27.46	100	154	P	H
		5719.4	63.78	-46.85	110.63	52.81	32.04	6.41	27.48	100	154	P	H
		5725	72.08	-50.12	122.2	61.1	32.05	6.41	27.48	100	154	P	H
	*	5745	108.92	-	-	97.92	32.09	6.41	27.5	100	154	P	H
	*	5745	101.08	-	-	90.08	32.09	6.41	27.5	100	154	A	H
		5613	53.35	-14.85	68.2	42.43	31.87	6.45	27.4	381	337	P	V
		5659.6	53.49	-21.84	75.33	42.65	31.84	6.43	27.43	381	337	P	V
		5719.4	60.15	-50.48	110.63	49.18	32.04	6.41	27.48	381	337	P	V
		5724.9	63.07	-58.9	121.97	52.09	32.05	6.41	27.48	381	337	P	V
	*	5745	107.23	-	-	96.23	32.09	6.41	27.5	381	337	P	V
*	5745	99.17	-	-	88.17	32.09	6.41	27.5	381	337	A	V	

Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.
---------------	---



Band 4 5725~5850MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

Table with 14 columns: WIFI Ant. 2, Note, Frequency (MHz), Level (dBµV/m), Over Limit (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). Rows include test data for frequencies 11490, 17235, 17978, 17989 and their harmonics, and a Remark section.



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 over limit line.
P/A	Peak or Average
H/V	Horizontal or Vertical



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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(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. Over Limit(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. Over Limit(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. Over Limit(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. Radiated Spurious Emission Plots

Test Engineer :	Daniel Lee, Jacky Hong, and Wilson Wu	Temperature :	20~25°C
		Relative Humidity :	50~60%

Note symbol

-L	Low channel location
-R	High channel location



Band 4 - 5725~5850MHz
WIFI 802.11a (Band Edge @ 3m)

Table with 2 columns: WIFI (Band 4 5725~5850MHz Band Edge @ 3m), ANT (802.11a CH149 5745MHz). Row 2: 2, Horizontal, Fundamental. Includes two spectral plots with Level (dBuV/m) vs Frequency (MHz) and technical details like Site, Condition, and Date.



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
2	Vertical	Fundamental
Peak	<p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH13-HY Condition : PEAK(LINE) 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
2	Horizontal	Fundamental
Peak	<p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH13-HY Condition : PEAK(LINE) 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	<p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
2	Vertical	Fundamental
Peak		
Peak		Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
2	Horizontal	Fundamental
Peak	<p>Site : 03CH13-HY Condition : PEAK_SE[94]_16-24 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH13-HY Condition : PEAK[LINE] 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
2	Vertical	Fundamental
Peak	<p>Site : 03CH13-HY Condition : PEAK_SE[94]_16-24 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH13-HY Condition : PEAK[LINE] 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



Band 4 5725~5850MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2	Horizontal	Fundamental
Peak	<p>Site : 03CH13-HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>

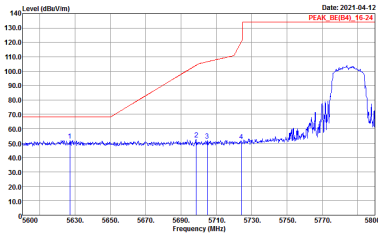
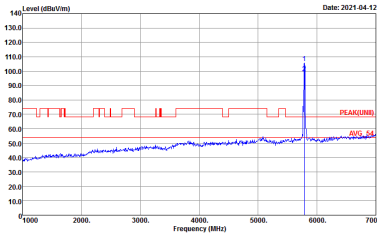
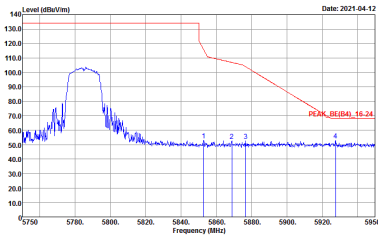


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2	Vertical	Fundamental
Peak	<p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH13-HY Condition : PEAK(FUNB)_16-24 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
2	Horizontal	Fundamental
Peak		
Peak		Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
2	Vertical	Fundamental
Peak	 <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH13-HY Condition : PEAK(LINE) 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	 <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
2	Horizontal	Fundamental
Peak	<p>Date: 2021-04-12</p> <p>Site : 03CH13-HY Condition : PEAK_SE[94]_16-24 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Date: 2021-04-12</p> <p>Site : 03CH13-HY Condition : PEAK[LINE] 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



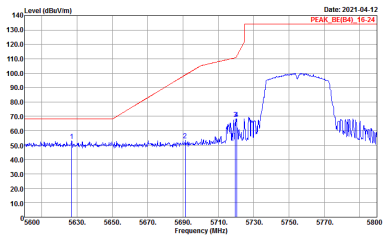
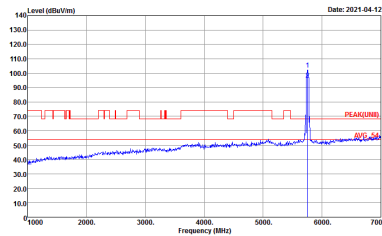
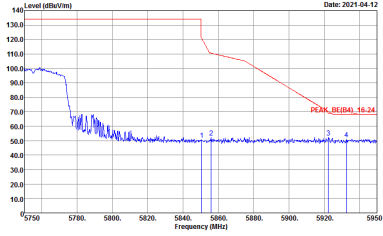
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
2	Vertical	Fundamental
Peak	<p>Site : 03CH13-HY Condition : PEAK_SE(94)_16-24 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH13-HY Condition : PEAK(LINE) 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



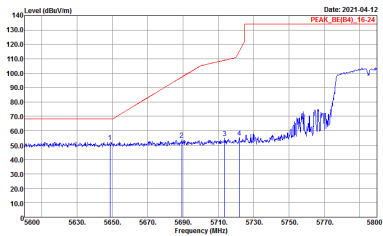
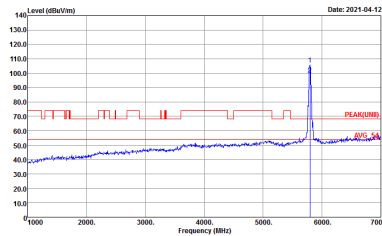
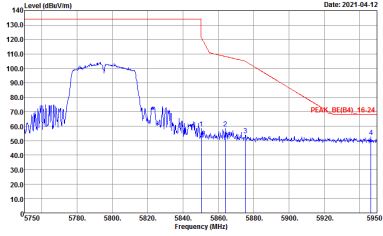
Band 4 5725~5850MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
2	Horizontal	Fundamental
Peak	<p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH13-HY Condition : PEAK(UNB) 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	<p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank

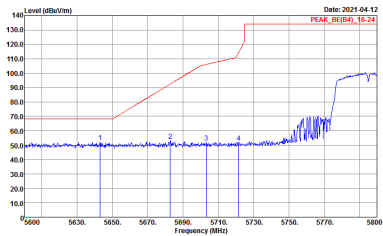
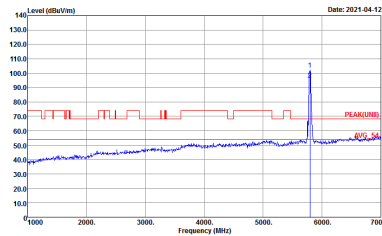
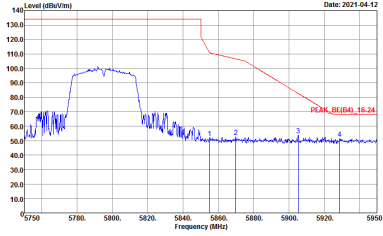


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
2	Vertical	Fundamental
Peak	 <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH13-HY Condition : PEAK(LINE) 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	 <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
2	Horizontal	Fundamental
Peak	 <p>Date: 2021-04-12 PEAK_BE(B4)_16-24</p> <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Date: 2021-04-12 PEAK(LINE)</p> <p>Site : 03CH13-HY Condition : PEAK(LINE) 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	 <p>Date: 2021-04-12 PEAK_BE(B4)_16-24</p> <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
2	Vertical	Fundamental
Peak	 <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH13-HY Condition : PEAK(LINE) 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	 <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank



Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
2	Horizontal	Fundamental
Peak	<p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Site : 03CH13-HY Condition : PEAK(UIN) 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Peak	<p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	Left blank



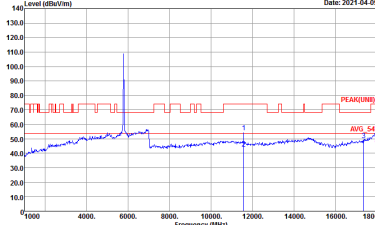
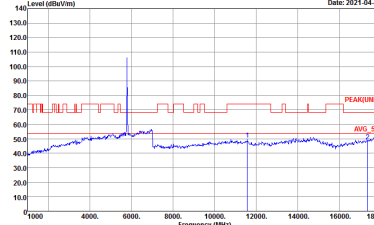
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
2	Vertical	Fundamental
Peak	<p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH13-HY Condition : PEAK(LINE) 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	<p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank



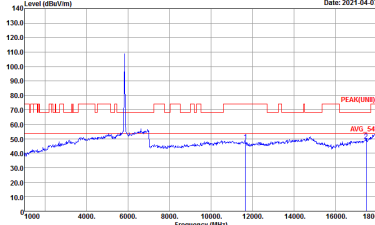
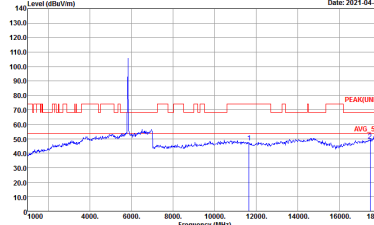
Band 4 - 5725~5850MHz
WIFI 802.11a (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
2	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH13-HY Condition : PEAK(UNIT) 3m HORN_91200_1241 HORIZONTAL Detector : Peak</p>	<p>Site : 03CH13-HY Condition : PEAK(UNIT) 3m HORN_91200_1241 VERTICAL Detector : Peak</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
2	Horizontal	Vertical
Peak Avg.	 <p>Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1241 HORIZONTAL</p>	 <p>Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1241 VERTICAL</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
2	Horizontal	Vertical
<p>Peak</p> <p>Avg.</p>	 <p>Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1241 HORIZONTAL</p>	 <p>Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1241 VERTICAL</p>



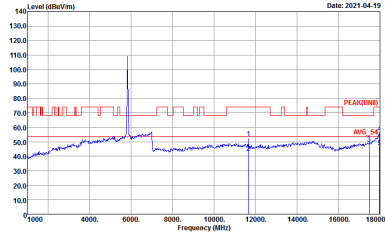
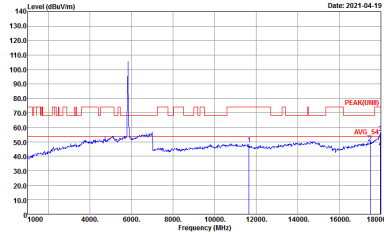
Band 4 5725~5850MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH13-14Y Condition : PEAK(UNII) 3m HORN_91200_1241 HORIZONTAL</p>	<p>Site : 03CH13-14Y Condition : PEAK(UNII) 3m HORN_91200_1241 VERTICAL</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
2	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1241 HORIZONTAL</p>	<p>Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1241 VERTICAL</p>



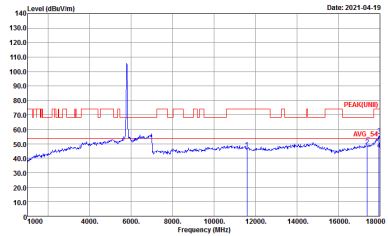
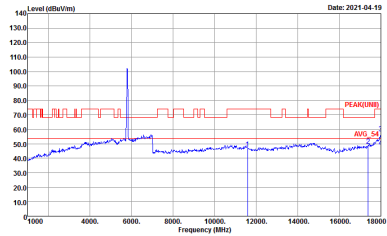
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
2	Horizontal	Vertical
<p>Peak</p> <p>Avg.</p>	 <p>Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1241 HORIZONTAL</p>	 <p>Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1241 VERTICAL</p>



Band 4 5725~5850MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

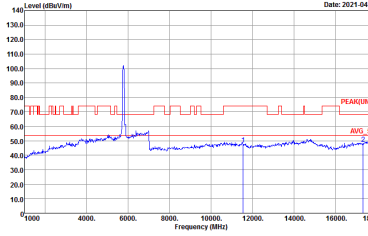
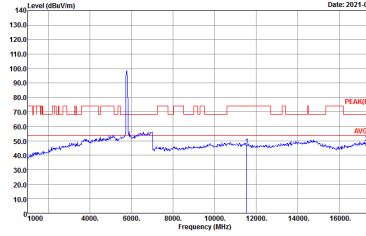
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
2	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH13-4F Condition : PEAK(UNII) 3m HORN_91200_1241 HORIZONTAL</p>	<p>Site : 03CH13-4F Condition : PEAK(UNII) 3m HORN_91200_1241 VERTICAL</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
2	Horizontal	Vertical
Peak Avg.	 <p>Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1241 HORIZONTAL</p>	 <p>Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1241 VERTICAL</p>



**Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)**

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
2	Horizontal	Vertical
<p>Peak Avg.</p>	 <p>Site : 03CH13-4F Condition : PEAK(UNII) 3m HORN_91200_1241 HORIZONTAL</p>	 <p>Site : 03CH13-4F Condition : PEAK(UNII) 3m HORN_91200_1241 VERTICAL</p>



Emission above 18GHz
5GHz WIFI 802.11n HT20 (SHF)

WIFI	5GHz WIFI	
ANT	802.11n HT20 CH149 Super High Frequency (SHF)	
2	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH13-HY Condition : PEAK[UNIT] 1m SHF HORN BBH49170584 HORIZONTAL</p>	<p>Site : 03CH13-HY Condition : PEAK[UNIT] 1m SHF HORN BBH49170584 VERTICAL</p>



Emission below 1GHz
5GHz WIFI 802.11n HT20 (LF)

WIFI	5GHz WIFI	
ANT	802.11n HT20 LF	
2	Horizontal	Vertical
QP / Peak	<p>Site : 03CH13-HY Condition : QP 3m BIL06_40103 HORIZONTAL</p>	<p>Site : 03CH13-HY Condition : QP 3m BIL06_40103 VERTICAL</p>



<WPC Charging Mode>

Band 4 - 5725~5850MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2	Horizontal	Fundamental
Peak	<p>Date: 2021-04-22 PEAK: RE(B4), 16.24</p> <p>Site : 03CH13-HY Condition : PEAK_3E(B4)_16-24 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000kHz VSW:3000.000kHz SWT:Auto</p>	<p>Date: 2021-04-22 PEAK(LINB): 54 AVG: 54</p> <p>Site : 03CH13-HY Condition : PEAK(LINB) 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000kHz VSW:3000.000kHz SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2	Vertical	Fundamental
Peak	<p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORNL_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH13-HY Condition : PEAK(LINE) 3m HORNL_91200_1241 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



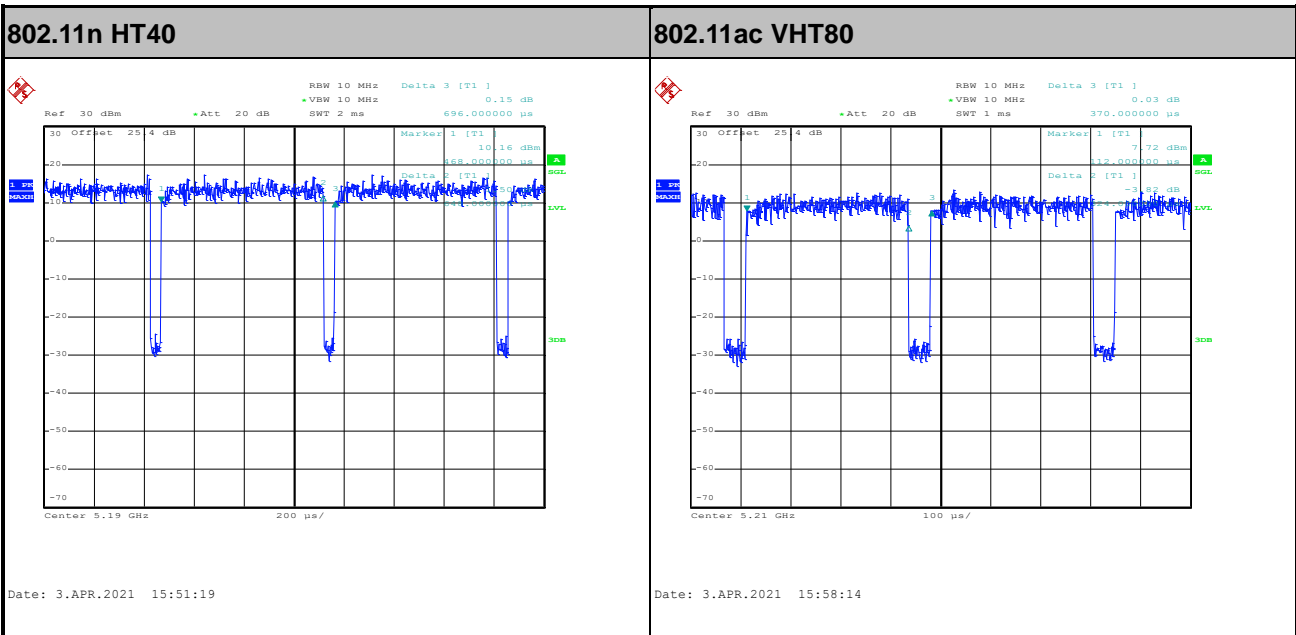
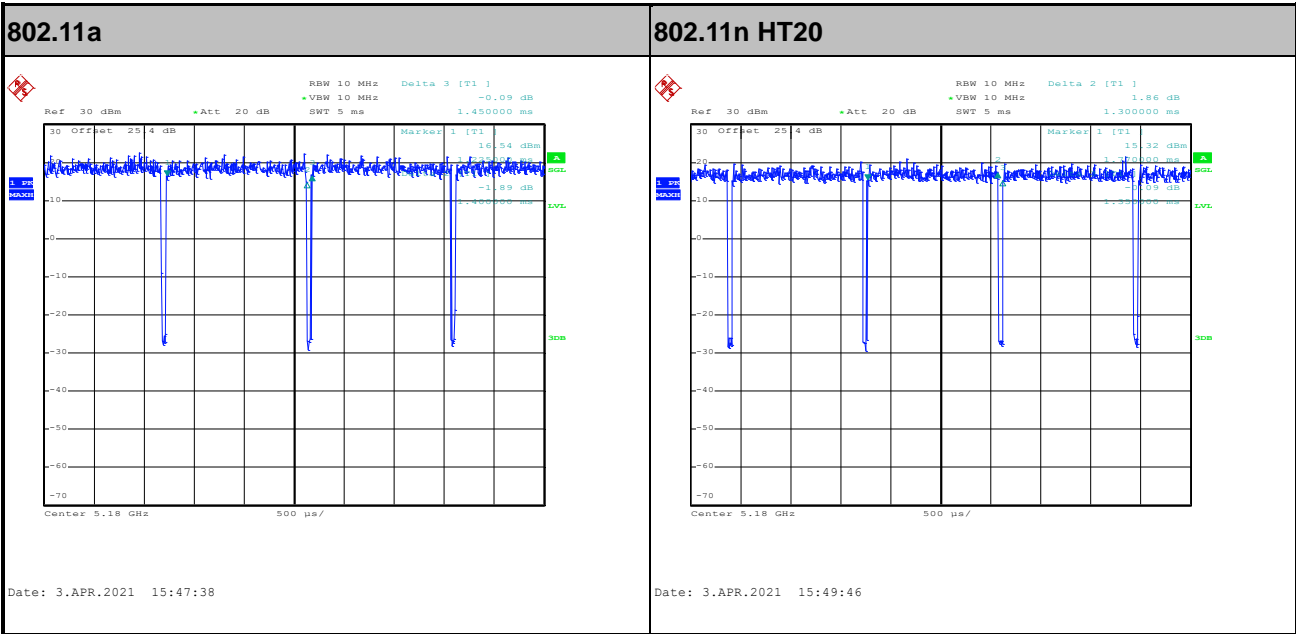
Band 4 - 5725~5850MHz
WIFI 802.11a (Harmonic @ 3m)

Table with 2 columns: Horizontal and Vertical. Each column contains a spectral plot showing Level (dBu/m) vs Frequency (MHz) with Peak and Avg markers. Includes site and condition details for both orientations.



Appendix E. Duty Cycle Plots

Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
802.11a	96.55	1400	0.71	1kHz	0.15
5GHz 802.11n HT20	96.30	1350	0.74	1kHz	0.16
5GHz 802.11n HT40	93.10	648	1.54	3kHz	0.31
5GHz 802.11ac VHT80	87.57	324	3.09	10kHz	0.58



—————THE END—————