

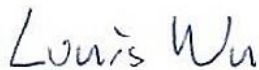


FCC RADIO TEST REPORT

FCC ID : A4RGVU6C
Equipment : Phone
Applicant : Google LLC
1600 Amphitheatre Parkway,
Mountain View, California, 94043 USA
Standard : FCC Part 15 Subpart E §15.407

The product was received on Mar. 17, 2022 and testing was performed from Mar. 26, 2022 to May 17, 2022. 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 from 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.)



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History of this test report

Report No.	Version	Description	Issue Date
FR1O2843-06F	01	Initial issue of report	Jun. 14, 2022



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
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	4.98 dB under the limit at 5649.600 MHz
3.5	15.207	AC Conducted Emission	Pass	20.04 dB under the limit at 0.152 MHz
3.6	15.203 15.407(a)	Antenna Requirement	Pass	-

Declaration of Conformity:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
2. The measurement uncertainty please refer to this report "Uncertainty of Evaluation".

Comments and Explanations:

The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: William Chen

Report Producer: Kaye Yang



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Phone
FCC ID	A4RGVU6C
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE/5G NR/ NFC/GNSS/WPC/WPT WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80/VHT160 WLAN 11ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE

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

EUT Information List	
S/N	Performed Test Item
23031FDH20005G	RF Conducted Measurement
22281FDH20003J	Radiated Spurious Emission
22281FDH20006N	Conducted Emission

1.2 Product Specification of Equipment Under Test

Product Specification is subject to this standard									
Tx/Rx Channel Frequency Range		5745 MHz ~ 5825 MHz							
Maximum Output Power		MIMO <Ant. 4+3> 802.11a: 25.81 dBm / 0.3811 W 802.11n HT20: 25.68 dBm / 0.3698 W 802.11n HT40: 24.66 dBm / 0.2924 W 802.11ac VHT20: 25.78 dBm / 0.3784 W 802.11ac VHT40: 24.76 dBm / 0.2992 W 802.11ac VHT80: 24.52 dBm / 0.2831 W 802.11ax HE20: 25.81 dBm / 0.3811 W 802.11ax HE40: 24.86 dBm / 0.3062 W 802.11ax HE80: 24.62 dBm / 0.2897 W							
99% Occupied Bandwidth		MIMO <Ant. 4> 802.11a: 32.52 MHz 802.11ax HE20: 34.67 MHz 802.11ac HE40: 51.15 MHz 802.11ac HE80: 78.04 MHz MIMO <Ant. 3> 802.11a: 31.62 MHz 802.11ax HE20: 34.47 MHz 802.11ax HE40: 52.25 MHz 802.11ax HE80: 78.04 MHz							
Type of Modulation		802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM) 802.11ax: OFDMA (BPSK/QPSK/16QAM/64QAM/256QAM/1024QAM)							
Antenna Type / Gain		<Ant. 4> : IFA Antenna with gain -3.7 dBi <Ant. 3> : Loop Antenna with gain -3.8 dBi							
Antenna Function Description		<table><tr><td></td><td>Ant. 4</td><td>Ant. 3</td></tr><tr><td>802.11 a/n/ac/ax MIMO</td><td>V</td><td>V</td></tr></table>			Ant. 4	Ant. 3	802.11 a/n/ac/ax MIMO	V	V
	Ant. 4	Ant. 3							
802.11 a/n/ac/ax MIMO	V	V							

Remark:

1. MIMO Ant. 4+3 Directional Gain is a calculated result from MIMO Ant. 4 and MIMO Ant. 3. The formula used in calculation is documented in section 3.6.
2. Power of MIMO Ant. 4 + Ant. 3 is a calculated result from sum of the power MIMO Ant. 4 and MIMO Ant. 3.
3. 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 made to the EUT during the testing.



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 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No. TH02-HY, CO05-HY, 03CH07-HY

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

FCC designation No.: TW1190

1.5 Applicable Standards

According to the specifications declared by 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.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

Remark:

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
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, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape) and accessory (Adapter or Earphone), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and find X plane with Adapter as worst plane.
- 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 with "*" are 802.11n HT40 and 802.11ac VHT40 and 802.11ax HE40.
2. The above Frequency and Channel with "[#]" are 802.11ac VHT80 and 802.11ax HE80.

2.2 Test Mode

This device support 26/52/106/242/484-tone RU.

The PSD of partial RU is reduced to be smaller than full RU according to TCB workshop interim guidance Oct., 2018.

The 242-tone RU is covered by 20MHz channel, 484-tone RU is covered by 40MHz channel.

The 802.11ax mode is investigated among different tones, full resource units (RU), partial resource units. The partial RU has no higher power than full RU's, thus the full RU is chosen as main test configuration.

The CDD mode is chosen as worst case configuration for all test cases due to higher power than SISO mode.

The 802.11n/ac mode has no higher power and PSD than 802.11ax mode, thus the 802.11ax mode is chosen as main test configuration, and the 802.11n/ac mode is verified the power.

The final test modes consider the modulation and the worst data rates as shown in the table below.

MIMO Mode

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20 (Covered by HE20)	MCS0
802.11n HT40 (Covered by HE40)	MCS0
802.11ac VHT20 (Covered by HE20)	MCS0
802.11ac VHT40 (Covered by HE40)	MCS0
802.11ac VHT80 (Covered by HE80)	MCS0
802.11ax HE20	MCS0
802.11ax HE40	MCS0
802.11ax HE80	MCS0

Remark: The conducted power level of each chain in MIMO mode is equal or higher than SISO mode.

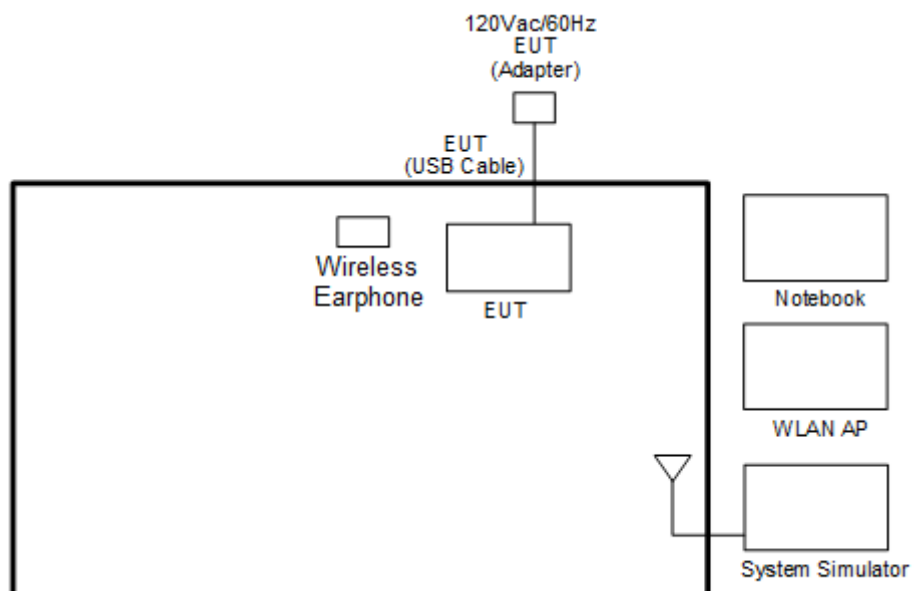
Test Cases	
AC Conducted Emission	Mode 1 : GSM850 Idle + WLAN (5GHz) Link + Bluetooth Link + USB Cable 2 (Type C)(Charging from Adapter 1)
Remark: - For Radiated Test Cases, the tests were performed with Adapter 1 and USB Cable 2. - During the preliminary test, both charging modes (Adapter mode and WPT Charging mode) were verified. It is determined that the adaptor mode is the worst case for official test.	

Ch. #		Band IV : 5725-5850 MHz			
		802.11a	802.11ax HE20	802.11ax HE40	802.11ax HE80
L	Low	149	149	151	-
M	Middle	157	157	-	155
H	High	165	165	159	-

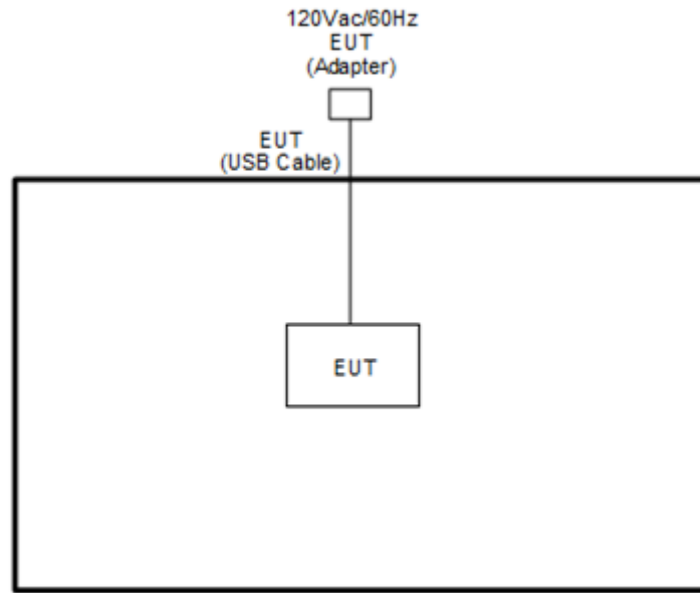
Remark: For radiation spurious emission, the modulation and the data rate picked for testing are determined by the Max. RF conducted power.

2.3 Connection Diagram of Test System

<AC Conducted Emission Mode>



<WLAN Tx Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8m
2.	Wireless Earphone	Google	G1007/G1008	A4RG1007/ A4RG1008	N/A	N/A
3.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8m
4.	Notebook	Dell	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m



2.5 EUT Operation Test Setup

The RF test items, utility "CMD Ver.10.0.19041.1415" 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.

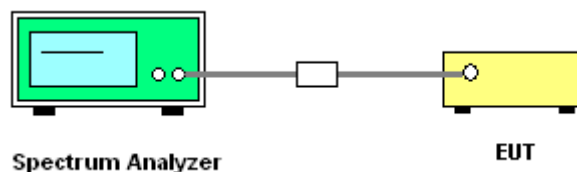
3.1.2 Measuring Instruments

Please refer to the measuring equipment list in 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

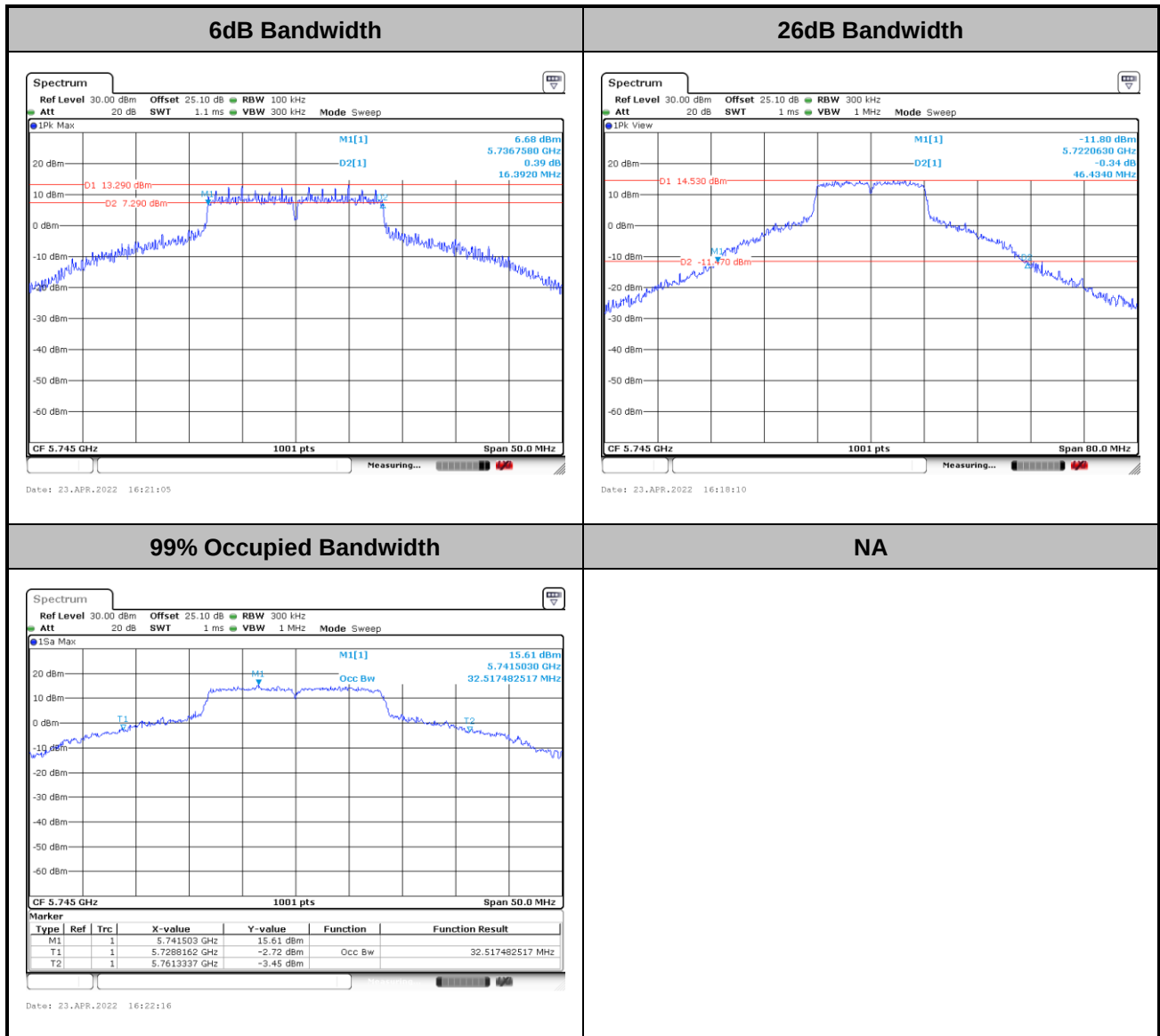


3.1.5 Test Result of 6dB and 26dB and 99% Occupied Bandwidth

Please refer to Appendix A.

MIMO <Ant. 4+3>

<802.11a>

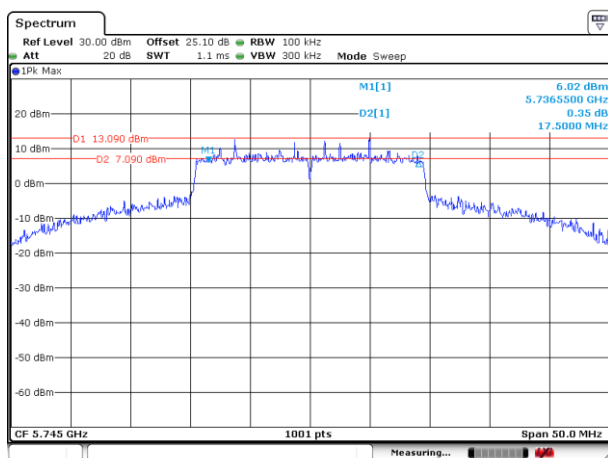


Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

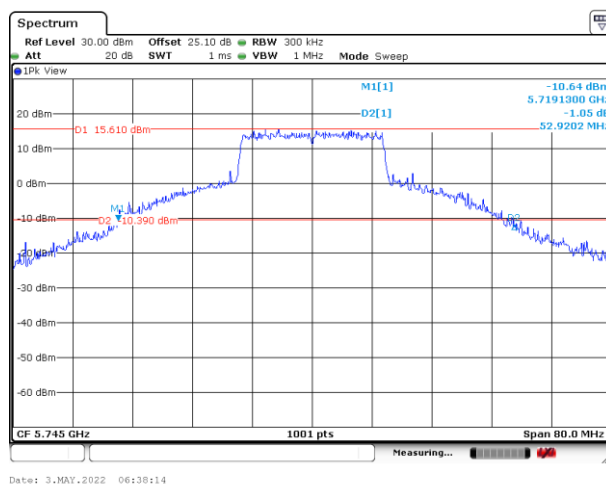


<802.11ax HE20>

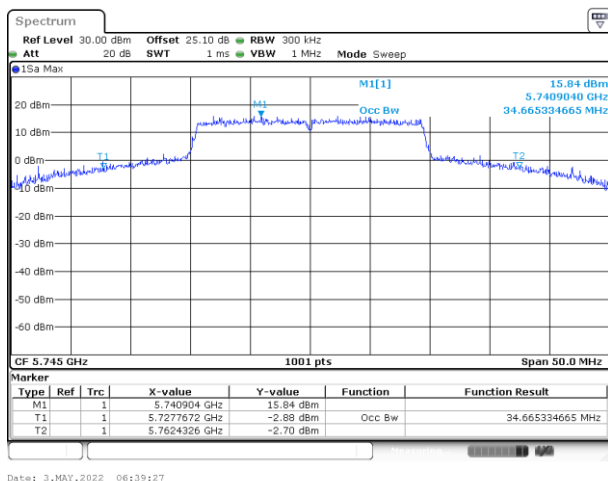
6dB Bandwidth



26dB Bandwidth



99% Occupied Bandwidth



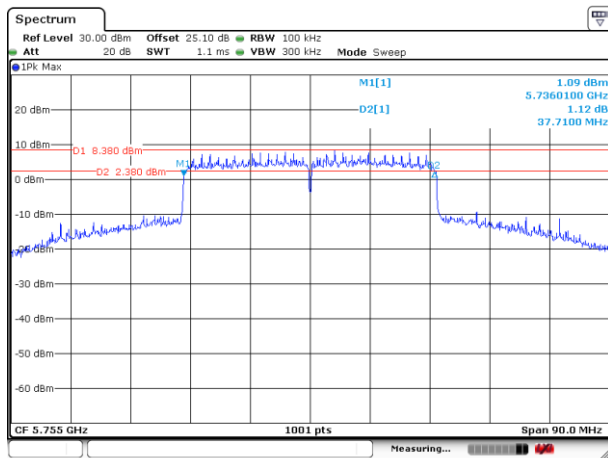
NA

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

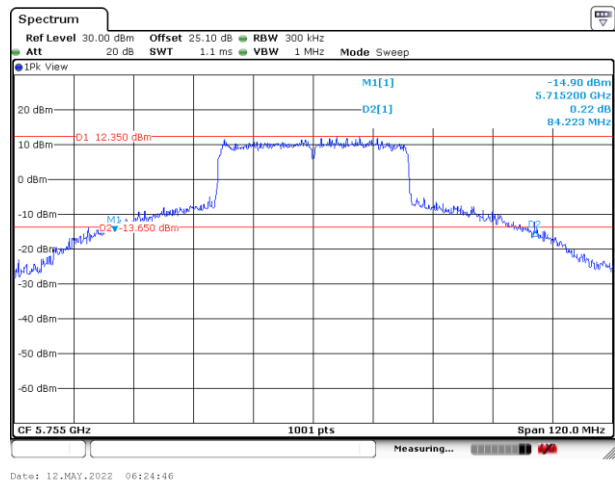


<802.11ax HE40>

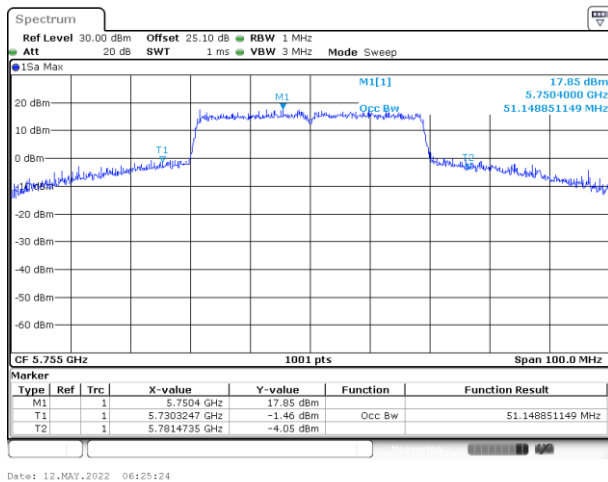
6dB Bandwidth



26dB Bandwidth



99% Occupied Bandwidth

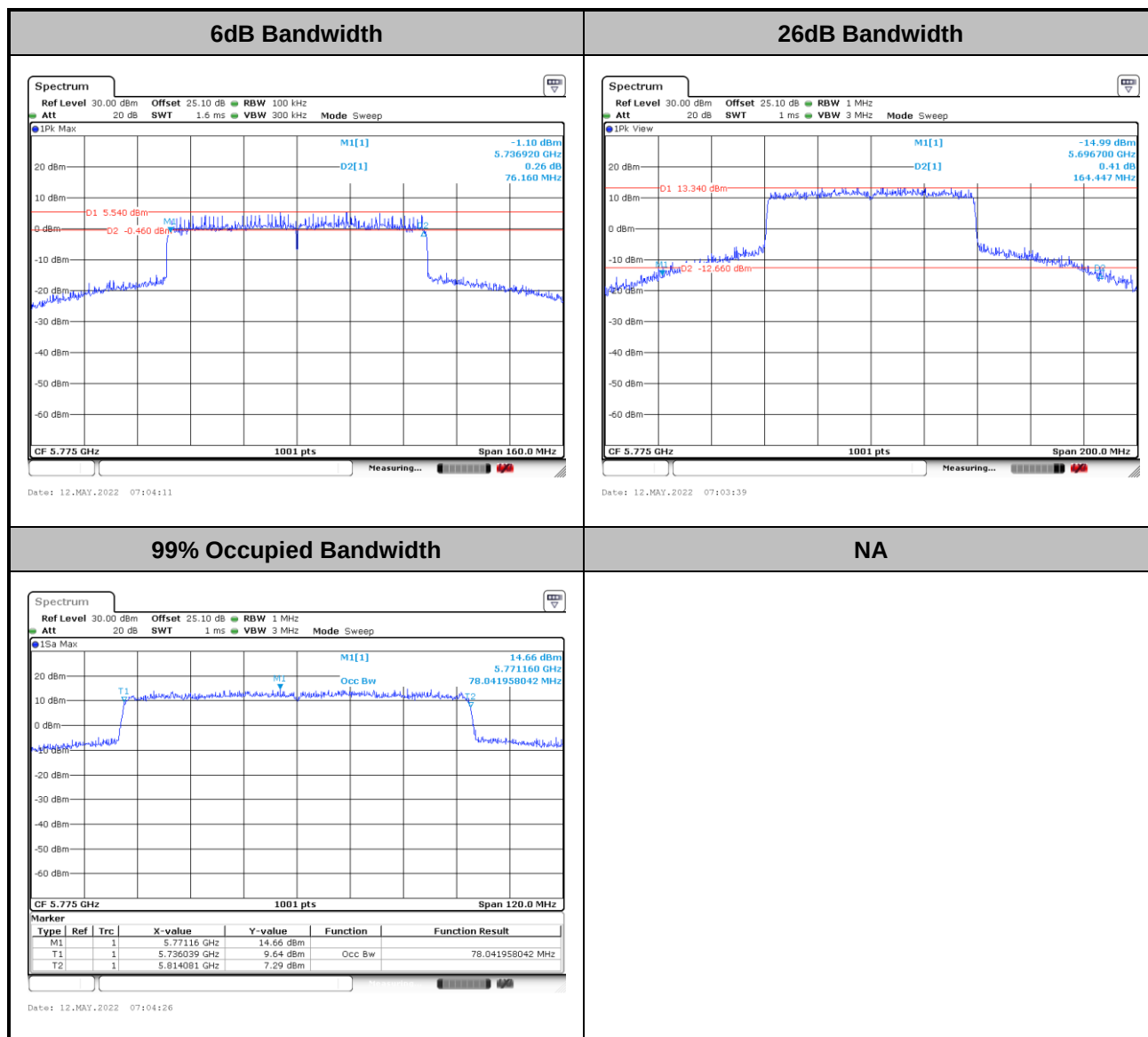


NA

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



<802.11ax HE80>



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

Please refer to the measuring equipment list in this test report.

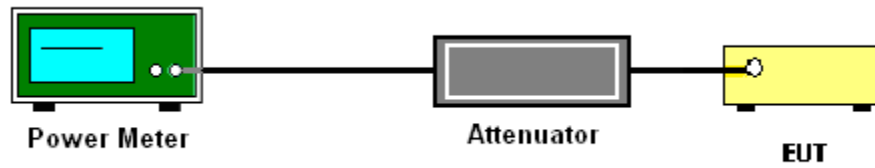
3.2.3 Test Procedures

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.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01

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

Please refer to the measuring equipment list in 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

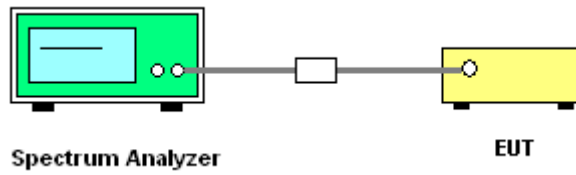
(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 300kHz.
 - Set VBW ≥ 1 MHz.
 - Add $10 \log(500 \text{ kHz/RBW})$ to the measured result, whereas RBW (< 500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement
 - Number of points in sweep $\geq 2 \text{ Span} / \text{RBW}$.
 - 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.
1. The RF output of EUT is 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. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

Method (c): Measure and add $10 \log(N_{\text{ANT}})$ dB.

With this technique, spectrum measurements are performed at each output of the device, but rather than summing the spectra or the spectral peaks across the outputs, the quantity $10 \log(N_{\text{ANT}})$ dB is added to each spectrum value before comparing to the emission limit. The addition of $10 \log(N_{\text{ANT}})$ dB serves to apportion the emission limit among the N_{ANT} outputs so that each output is permitted to contribute no more than $1/N_{\text{ANT}}^{\text{th}}$ of the PSD limit.

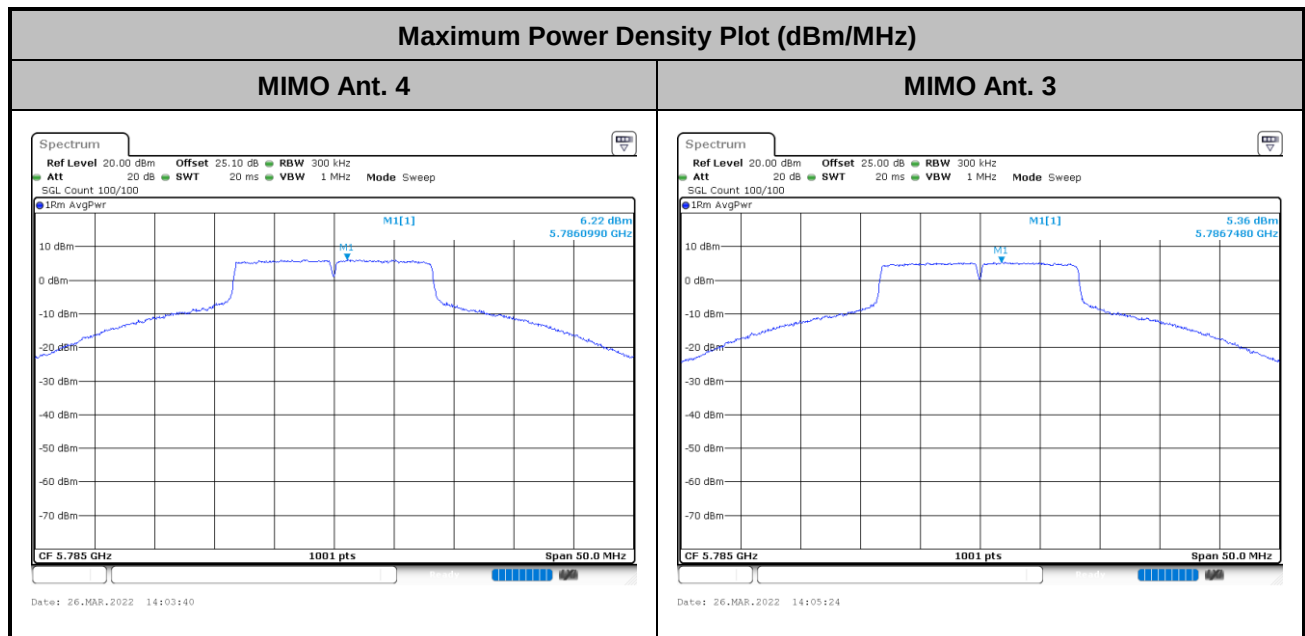
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

<802.11a>

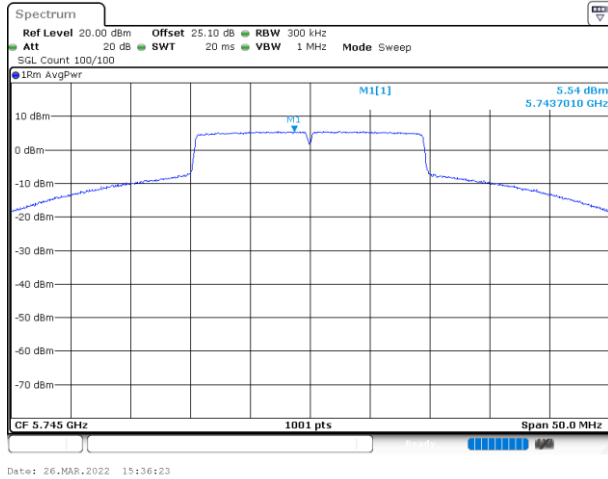




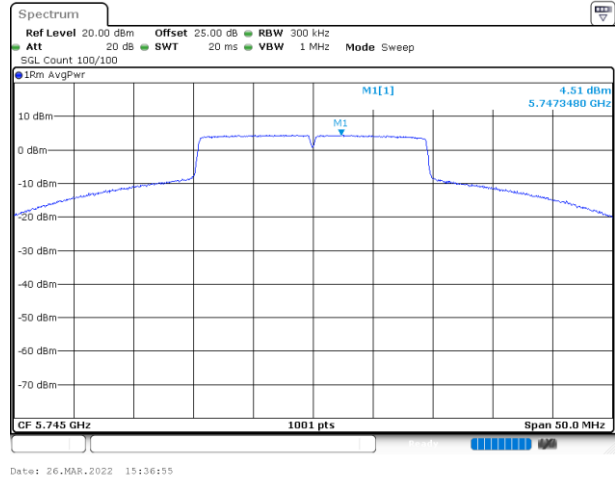
<802.11ax HE20>

Maximum Power Density Plot (dBm/MHz)

MIMO Ant. 4



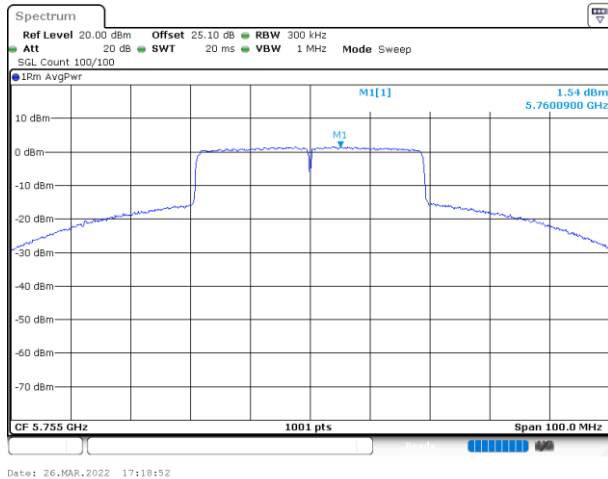
MIMO Ant. 3



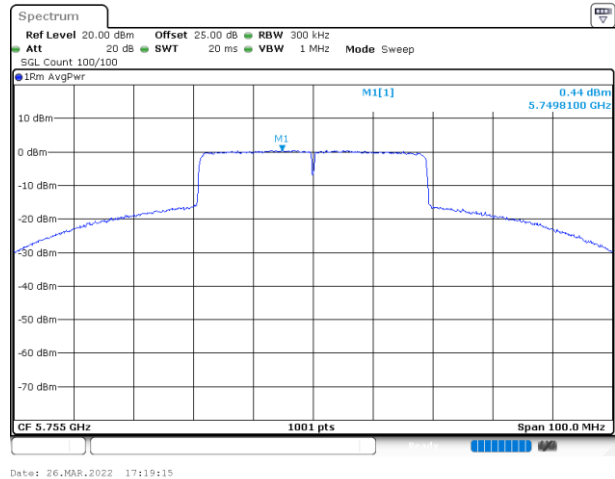
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Maximum Power Density Plot (dBm/MHz)

MIMO Ant. 4



MIMO Ant. 3

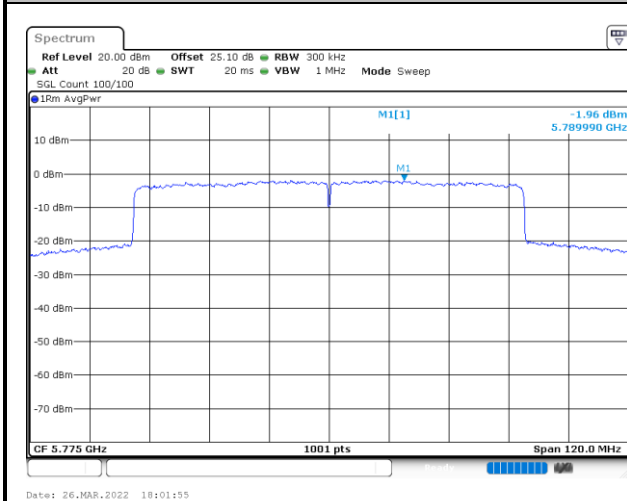




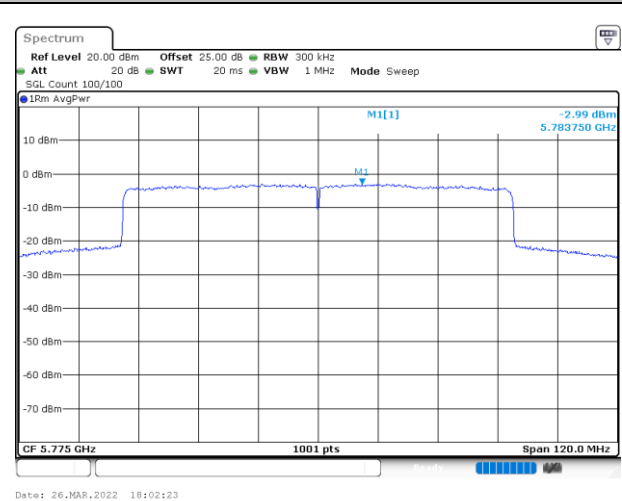
<802.11ax HE80>

Maximum Power Density Plot (dBm/MHz)

MIMO Ant. 4



MIMO Ant. 3



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 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 falls 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.

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

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

Please refer to the measuring equipment list in 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 is 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 is set 3 meters away from the receiving antenna which is 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 is 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. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading.

When there is no suspected emission found and the emission level is with at least 6 dB margin

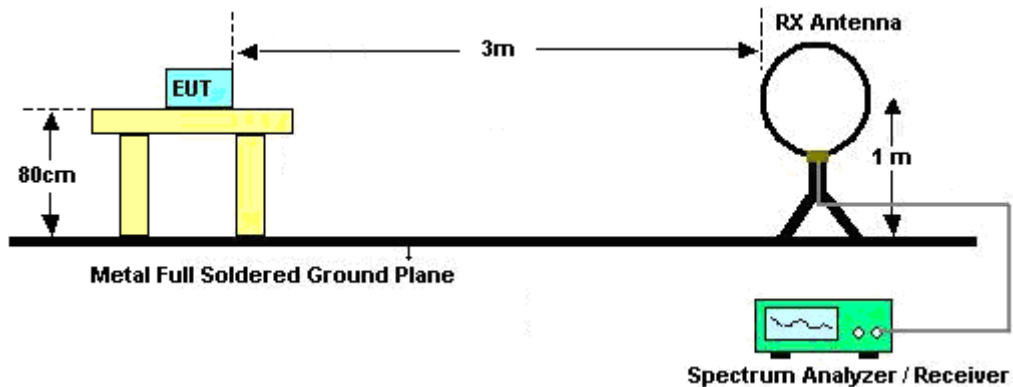
against QP limit line, the position is marked as “-“.

7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies.

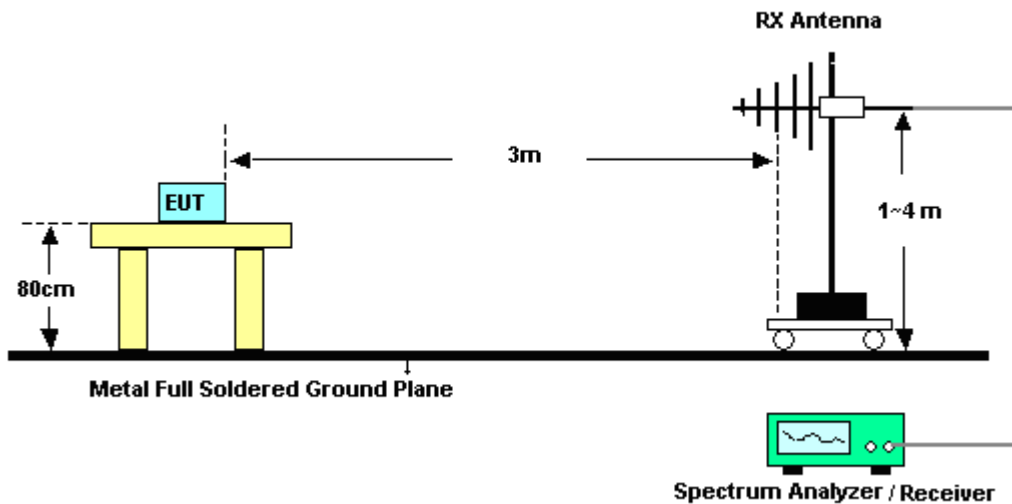
When there is no suspected emission found and the harmonic emission level is with at least 6 dB margin against average limit line, the position is marked as “-“.

3.4.4 Test Setup

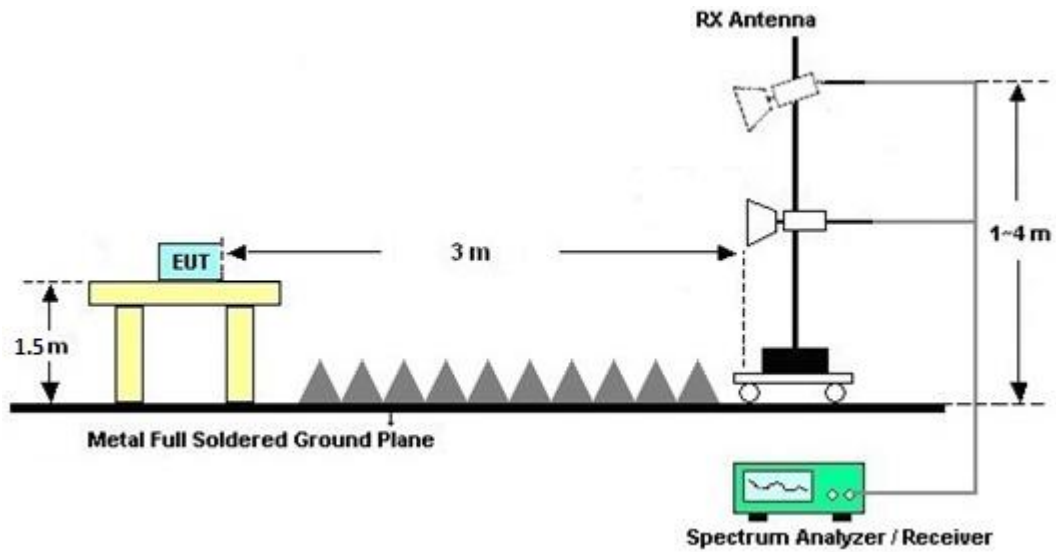
For radiated emissions below 30MHz



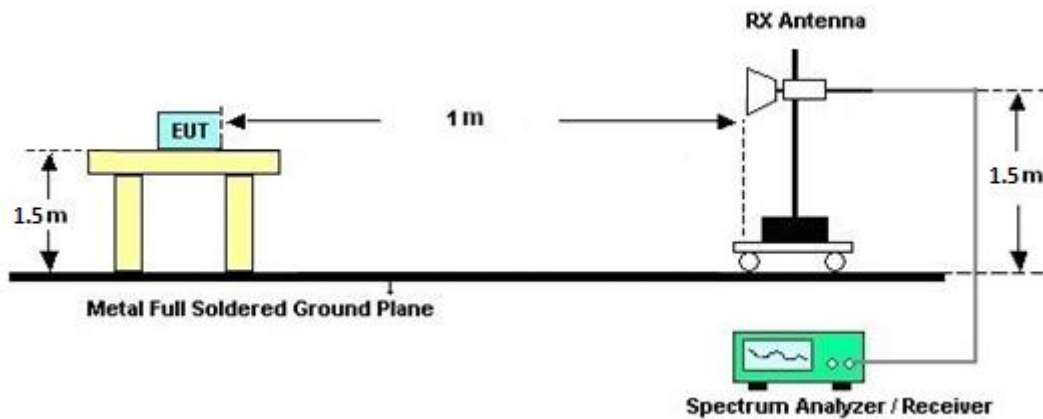
For radiated emissions from 30MHz to 1GHz



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 starts from 9 kHz to 30 MHz, is pre-scanned and the result which is 20 dB lower than the limit line is not reported.

There is adequate comparison measurement 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.

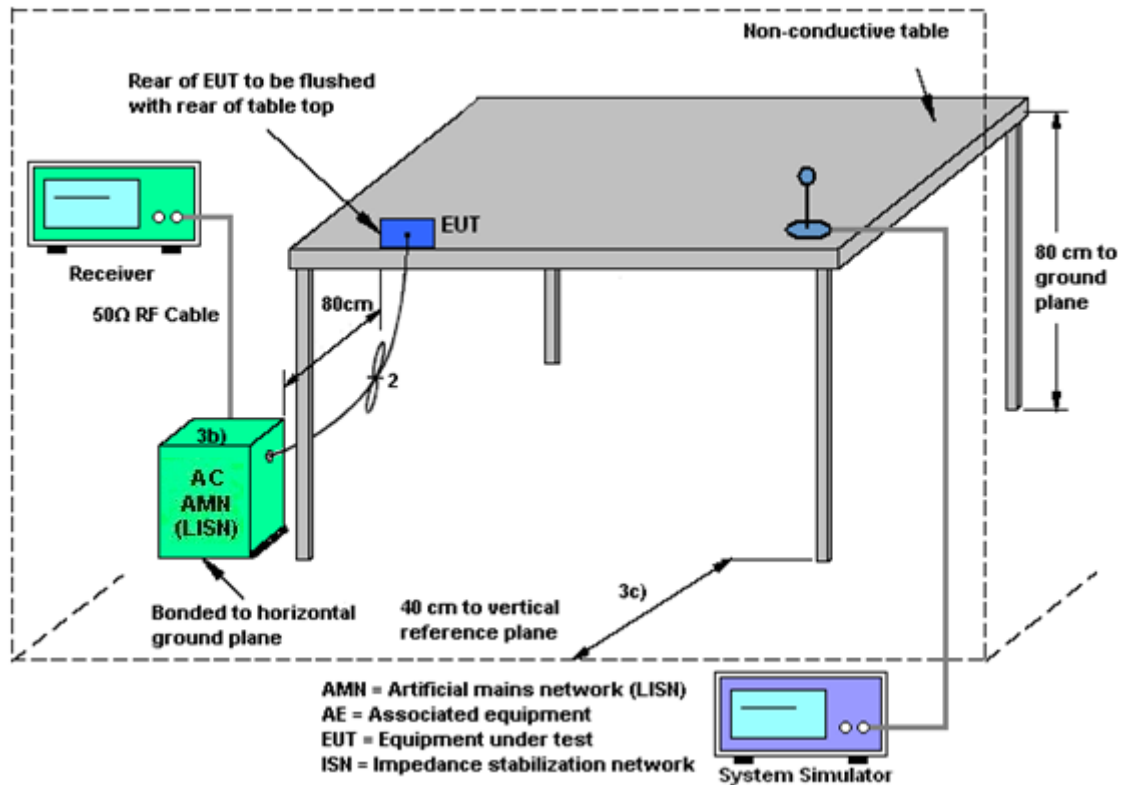
3.5.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.5.3 Test Procedures

1. The EUT is placed 0.4 meter away from the conducting wall of the shielding room, and is 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 Line and Neutral shall be tested in order to find out the maximum conducted emission.
7. The frequency range from 150 kHz to 30 MHz is scanned.
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

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For power measurements on IEEE 802.11 devices,

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows:

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

G_{ANT} is set equal to the gain of the antenna having the highest gain.

For PSD measurements, the directional gain calculation follows F2)f)ii) of KDB 662911 D01 v02r01.

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

N_{SS} = the number of independent spatial streams of data;

N_{ANT} = the total number of antennas

$g_{j,k} = 10^{G_k/20}$ if the k th antenna is being fed by spatial stream j , or zero if it is not;

G_k is the gain in dBi of the k th antenna.

As minimum $N_{SS}=1$ is supported by EUT, the formula can be simplified as:

Directional gain = $10 \cdot \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{ANT}]$ dBi

Where $G_1, G_2, \dots, G_N$ denote single antenna gain.

For example: If a device has two antenna, $G_{ANT1}= 3.6$ dBi; $G_{ANT2}=4.2$ dBi

Directional gain of power measurement = $\max(3.6, 4.2) + 0 = 4.2$ dBi

Directional gain of PSD measurement = $10 \cdot \log[(10^{3.6/20} + 10^{4.2/20})^2 / 2] = 6.92$ dBi



The directional gain "DG" is calculated as following table.

<CDD Modes>						
			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant. 4	Ant. 3	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
Band IV	-3.70	-3.80	-3.70	-0.74	0.00	0.00

Power Limit Reduction = DG(Power) – 6dBi, (min = 0)

PSD Limit Reduction = DG(PSD) – 6dBi, (min = 0)

Calculation example:

The DG for PSD is derived from formula is

$$10 \times \log \{ \{ [10^{(-3.70 \text{ dBi} / 20)} + 10^{(-3.80 \text{ dBi} / 20)}] ^ 2 \} / 2 \}$$
$$= -0.74 \text{ dBi}$$



4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	TECEP	DTM-303A	TP201996	N/A	Nov. 16, 2021	Mar. 26, 2022~ May 17, 2022	Nov. 15, 2022	Conducted (TH02-HY)
Power Sensor	DARE	RPR3006W	16I00054SNO 12 (NO:113)	10MHz~6GHz	Dec. 16, 2021	Mar. 26, 2022~ May 17, 2022	Dec. 15, 2022	Conducted (TH02-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101566	10Hz~40GHz	Aug. 30, 2021	Mar. 26, 2022~ May 17, 2022	Aug. 29, 2022	Conducted (TH02-HY)
Switch Control Mainframe	E-IUSTRUMENT	ETF-1405-0	EC1900067 (BOX7)	N/A	Aug. 12, 2021	Mar. 26, 2022~ May 17, 2022	Aug. 11, 2022	Conducted (TH02-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N -06	35419 & 03	30MHz~1GHz	Apr. 24, 2022	Apr. 28, 2022 ~ May 03, 2022	Apr. 23, 2023	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Dec. 03, 2021	Mar. 31, 2022~ May 03, 2022	Dec. 02, 2022	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Jan. 07, 2022	Mar. 31, 2022~ May 03, 2022	Jan. 06, 2023	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz~18GHz	Apr. 22, 2021	Mar. 31, 2022~ Apr. 20, 2022	Apr. 21, 2022	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz~18GHz	Apr. 21, 2022	Apr. 21, 2022 ~ May 03, 2022	Apr. 20, 2023	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz~1GHz	Oct. 04, 2021	Mar. 31, 2022~ May 03, 2022	Oct. 03, 2022	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~26.5GHz	Oct. 04, 2021	Mar. 31, 2022~ May 03, 2022	Oct. 03, 2022	Radiation (03CH07-HY)
Preamplifier	EMEC	EM18G40G	0600789	18-40GHz	Jul. 23, 2021	Mar. 31, 2022~ May 03, 2022	Jul. 22, 2022	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9030A	MY52350276	3Hz~44GHz	Jul. 22, 2021	Mar. 31, 2022~ May 03, 2022	Jul. 21, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY15682/4	30MHz to 18GHz	Feb. 23, 2022	Mar. 31, 2022~ May 03, 2022	Feb. 22, 2023	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24971/4	9kHz to 18GHz	Feb. 23, 2022	Mar. 31, 2022~ May 03, 2022	Feb. 22, 2023	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4	9kHz to 18GHz	Feb. 23, 2022	Mar. 31, 2022~ May 03, 2022	Feb. 22, 2023	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126	532078/126E	30MHz~18GHz	Sep. 17, 2021	Mar. 31, 2022~ May 03, 2022	Sep. 16, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2858/2	18GHz~40GHz	Feb. 23, 2022	Mar. 31, 2022~ May 03, 2022	Feb. 22, 2023	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2857/2	9KHz ~ 40GHz	Sep. 06, 2021	Mar. 31, 2022~ May 03, 2022	Sep. 05, 2022	Radiation (03CH07-HY)
Controller	EMEC	EM1000	N/A	Control Ant Mast	N/A	Mar. 31, 2022~ May 03, 2022	N/A	Radiation (03CH07-HY)
Controller	MF	MF-7802	N/A	Control Turn table	N/A	Mar. 31, 2022~ May 03, 2022	N/A	Radiation (03CH07-HY)
Antenna Mast	EMEC	AM-BS-4500E	N/A	Boresight mast 1M~4M	N/A	Mar. 31, 2022~ May 03, 2022	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Mar. 31, 2022~ May 03, 2022	N/A	Radiation (03CH07-HY)
Software	Audix	E3	N/A	N/A	N/A	Mar. 31, 2022~ May 03, 2022	N/A	Radiation (03CH07-HY)
USB Data Logger	TECEP	TR-32	HE17XB1148	N/A	Oct. 25, 2021	Mar. 31, 2022~ May 03, 2022	Oct. 24, 2022	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA917025 1	18GHz~40GHz	Nov. 30, 2021	Mar. 31, 2022~ May 03, 2022	Nov. 29, 2022	Radiation (03CH07-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Apr. 20, 2022	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Dec. 01, 2021	Apr. 20, 2022	Nov. 30, 2022	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 17, 2021	Apr. 20, 2022	Nov. 16, 2022	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 03, 2021	Apr. 20, 2022	Dec. 02, 2022	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32	N/A	N/A	N/A	Apr. 20, 2022	N/A	Conduction (CO05-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-FN	00691	N/A	Jul. 28, 2021	Apr. 20, 2022	Jul. 27, 2022	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	260260	N/A	Dec. 30, 2021	Apr. 20, 2022	Dec. 29, 2022	Conduction (CO05-HY)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.1 dB
--	--------

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.1 dB
--	--------

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.8 dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.0 dB
--	--------

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Jacob Yu and Junyu Jhou	Temperature:	21~25	°C
Test Date:	2022/3/26~2022/5/17	Relative Humidity:	51~54	%

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

Band IV MIMO												
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 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3		
11a	6Mbps	2	149	5745	32.52	31.12	46.43	45.52	16.39	16.39	0.5	Pass
11a	6Mbps	2	157	5785	30.12	29.57	44.44	45.08	16.38	16.39	0.5	Pass
11a	6Mbps	2	165	5825	31.72	31.62	45.00	45.55	16.38	16.38	0.5	Pass

TEST RESULTS DATA
Average Power Table

Band IV MIMO												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3	
11a	6Mbps	2	149	5745	23.00	22.30	25.67	30.00		-3.70		Pass
11a	6Mbps	2	157	5785	23.00	22.50	25.77	30.00		-3.70		Pass
11a	6Mbps	2	165	5825	23.00	22.60	25.81	30.00		-3.70		Pass
HT20	MCS0	2	149	5745	23.10	22.20	25.68	30.00		-3.70		Pass
HT20	MCS0	2	157	5785	22.90	22.40	25.67	30.00		-3.70		Pass
HT20	MCS0	2	165	5825	23.00	22.30	25.67	30.00		-3.70		Pass
HT40	MCS0	2	151	5755	21.80	21.30	24.57	30.00		-3.70		Pass
HT40	MCS0	2	159	5795	21.80	21.50	24.66	30.00		-3.70		Pass
VHT20	MCS0	2	149	5745	23.20	22.30	25.78	30.00		-3.70		Pass
VHT20	MCS0	2	157	5785	23.00	22.50	25.77	30.00		-3.70		Pass
VHT20	MCS0	2	165	5825	23.10	22.40	25.77	30.00		-3.70		Pass
VHT40	MCS0	2	151	5755	21.90	21.40	24.67	30.00		-3.70		Pass
VHT40	MCS0	2	159	5795	21.90	21.60	24.76	30.00		-3.70		Pass
VHT80	MCS0	2	155	5775	21.80	21.20	24.52	30.00		-3.70		Pass

TEST RESULTS DATA
Power Spectral Density

Band IV MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		10log (500kHz /RBW) Factor (dB)		Average Power Density with Duty Factor (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3	
11a	6Mbps	2	149	5745	0.29	0.30	2.22		8.55	7.80	11.56	30.00		-0.74		Pass
11a	6Mbps	2	157	5785	0.29	0.30	2.22		8.73	7.87	11.74	30.00		-0.74		Pass
11a	6Mbps	2	165	5825	0.29	0.30	2.22		8.71	7.93	11.72	30.00		-0.74		Pass

Note: PSD Sum = Max PSD(Ant. 1, Ant. 2) + 10 log (n)

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

Band IV MIMO													
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	RU Config	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		6 dB Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)	Pass/Fail
						Ant 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3		
HE20	MCS0	2	149	5745	Full	34.67	33.67	52.92	51.10	17.50	17.60	0.5	Pass
HE20	MCS0	2	157	5785	Full	33.07	32.42	50.41	50.54	18.95	18.85	0.5	Pass
HE20	MCS0	2	165	5825	Full	33.97	34.47	52.23	53.74	18.95	17.65	0.5	Pass
HE40	MCS0	2	151	5755	Full	51.15	48.95	84.22	81.76	37.71	37.35	0.5	Pass
HE40	MCS0	2	159	5795	Full	50.85	52.25	83.68	80.80	37.80	37.80	0.5	Pass
HE80	MCS0	2	155	5775	Full	78.04	78.04	164.45	159.77	76.16	76.00	0.5	Pass

TEST RESULTS DATA
Average Power Table

Band IV MIMO													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
						Ant 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3	
HE20	MCS0	2	149	5745	Full	23.00	22.40	25.72	30.00		-3.70		Pass
HE20	MCS0	2	149	5745	26/0	9.30	8.30	11.84	30.00		-3.70		Pass
HE20	MCS0	2	149	5745	52/37	11.50	10.50	14.04	30.00		-3.70		Pass
HE20	MCS0	2	149	5745	106/53	14.80	14.00	17.43	30.00		-3.70		Pass
HE20	MCS0	2	157	5785	Full	23.00	22.60	25.81	30.00		-3.70		Pass
HE20	MCS0	2	157	5785	26/4	10.00	8.20	12.20	30.00		-3.70		Pass
HE20	MCS0	2	157	5785	52/38	11.40	9.90	13.72	30.00		-3.70		Pass
HE20	MCS0	2	157	5785	106/53	14.50	13.50	17.04	30.00		-3.70		Pass
HE20	MCS0	2	165	5825	Full	23.00	22.50	25.77	30.00		-3.70		Pass
HE20	MCS0	2	165	5825	26/8	9.00	7.90	11.50	30.00		-3.70		Pass
HE20	MCS0	2	165	5825	52/40	11.60	10.70	14.18	30.00		-3.70		Pass
HE20	MCS0	2	165	5825	106/54	14.30	13.90	17.11	30.00		-3.70		Pass
HE40	MCS0	2	151	5755	Full	22.00	21.50	24.77	30.00		-3.70		Pass
HE40	MCS0	2	159	5795	Full	22.00	21.70	24.86	30.00		-3.70		Pass
HE80	MCS0	2	155	5775	Full	21.90	21.30	24.62	30.00		-3.70		Pass

TEST RESULTS DATA
Power Spectral Density

Band IV MIMO																	
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	RU Config	Duty Factor (dB)		10log (500kHz /RBW) Factor (dB)		Average Power Density with Duty Factor (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
						Ant 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3	
HE20	MCS0	2	149	5745	Full	0.18	0.18	2.22		7.94	6.91	10.95	30.00		-0.74		Pass
HE20	MCS0	2	149	5745	26/0	0.48	0.49	2.22		7.80	6.73	10.81	30.00		-0.74		Pass
HE20	MCS0	2	149	5745	52/37	0.64	0.64	2.22		7.74	6.35	10.75	30.00		-0.74		Pass
HE20	MCS0	2	149	5745	106/53	0.64	0.71	2.22		7.83	6.95	10.84	30.00		-0.74		Pass
HE20	MCS0	2	157	5785	Full	0.18	0.18	2.22		7.77	7.00	10.78	30.00		-0.74		Pass
HE20	MCS0	2	157	5785	26/4	0.48	0.49	2.22		7.32	5.63	10.33	30.00		-0.74		Pass
HE20	MCS0	2	157	5785	52/38	0.64	0.64	2.22		7.29	5.32	10.30	30.00		-0.74		Pass
HE20	MCS0	2	157	5785	106/53	0.64	0.71	2.22		7.50	6.52	10.51	30.00		-0.74		Pass
HE20	MCS0	2	165	5825	Full	0.18	0.18	2.22		7.84	7.07	10.85	30.00		-0.74		Pass
HE20	MCS0	2	165	5825	26/8	0.48	0.49	2.22		7.50	6.33	10.51	30.00		-0.74		Pass
HE20	MCS0	2	165	5825	52/40	0.64	0.64	2.22		7.65	6.50	10.66	30.00		-0.74		Pass
HE20	MCS0	2	165	5825	106/54	0.64	0.71	2.22		7.55	7.09	10.56	30.00		-0.74		Pass
HE40	MCS0	2	151	5755	Full	0.34	0.34	2.22		4.10	3.00	7.11	30.00		-0.74		Pass
HE40	MCS0	2	159	5795	Full	0.34	0.34	2.22		4.02	3.46	7.03	30.00		-0.74		Pass
HE80	MCS0	2	155	5775	Full	0.64	0.64	2.22		0.90	-0.13	3.91	30.00		-0.74		Pass

Note: PSD Sum = Max PSD(Ant. 1, Ant. 2) + 10 log (n)



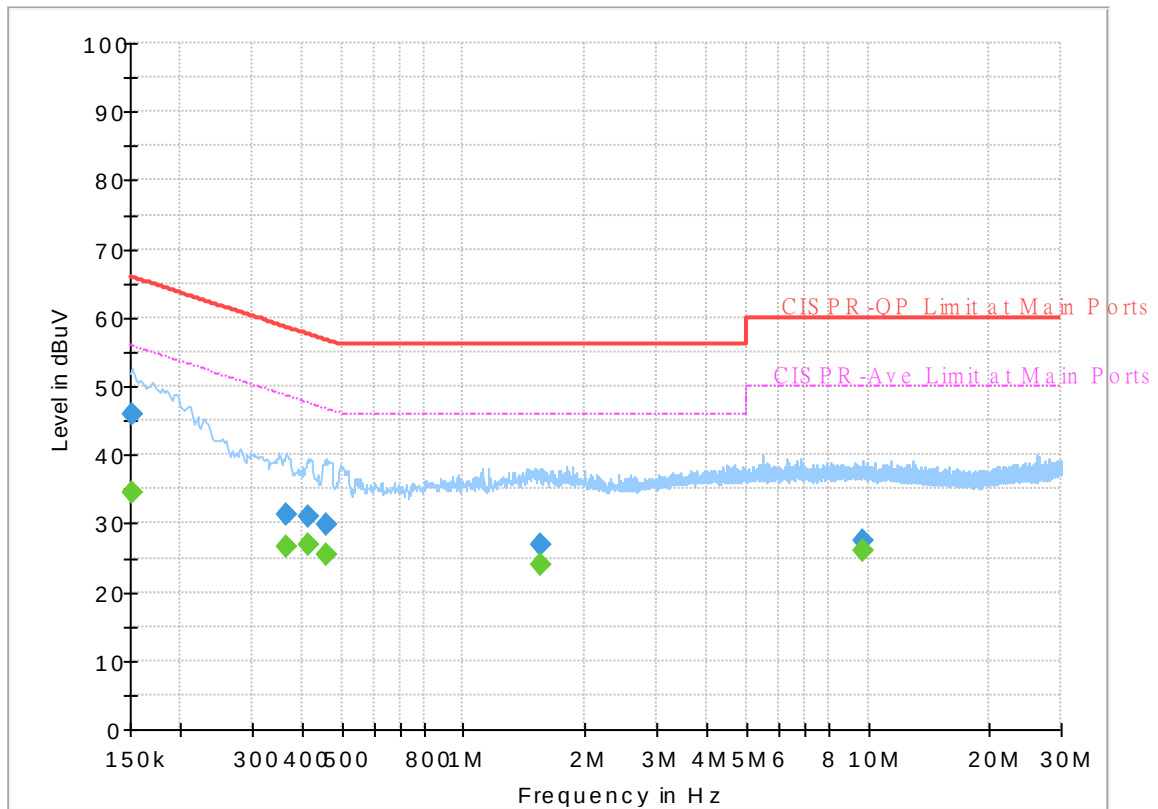
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Tom Lee	Temperature :	23~26℃
		Relative Humidity :	45~55%

EUT Information

Report NO : 1O2843-06
Test Mode : Mode 1
Test Voltage : 120Vac/60Hz
Phase : Line

Full Spectrum



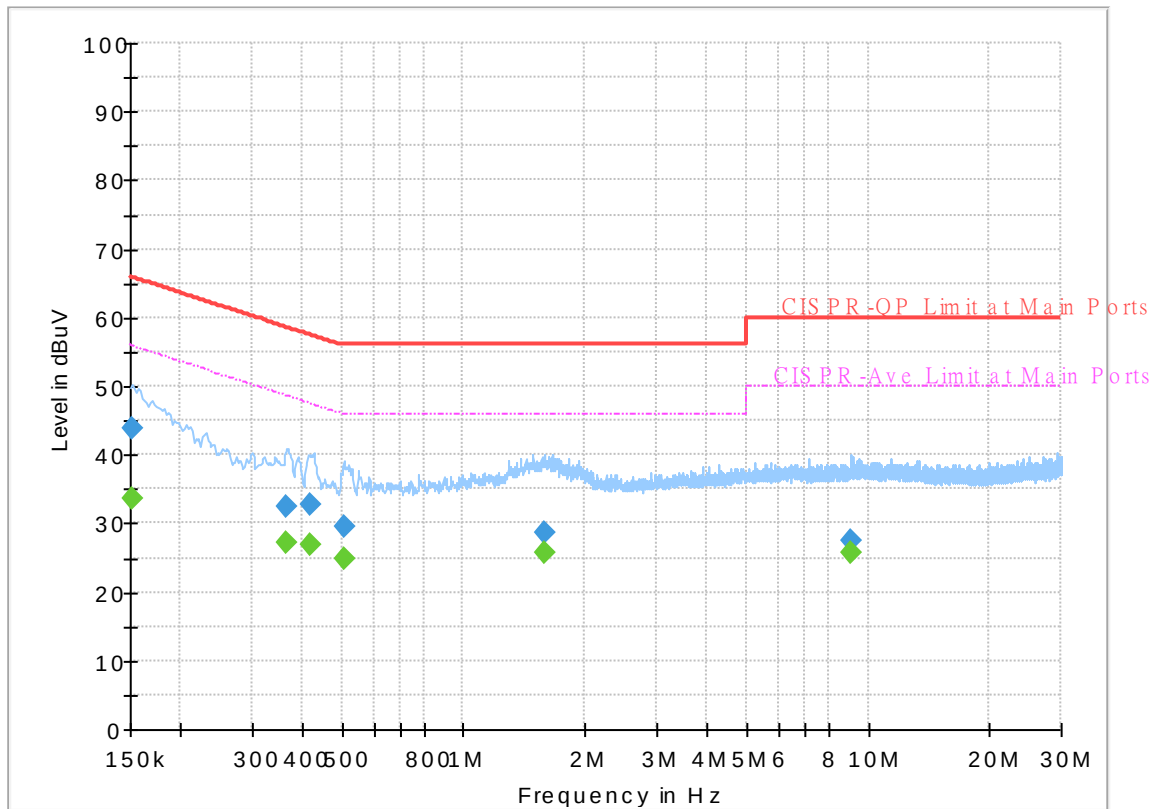
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	34.55	55.88	21.33	L1	OFF	19.6
0.152250	45.84	---	65.88	20.04	L1	OFF	19.6
0.363750	---	26.59	48.64	22.05	L1	OFF	19.6
0.363750	31.26	---	58.64	27.38	L1	OFF	19.6
0.413250	---	26.86	47.58	20.72	L1	OFF	19.6
0.413250	30.87	---	57.58	26.71	L1	OFF	19.6
0.456000	---	25.30	46.77	21.47	L1	OFF	19.6
0.456000	29.90	---	56.77	26.87	L1	OFF	19.6
1.542750	---	23.97	46.00	22.03	L1	OFF	19.7
1.542750	26.81	---	56.00	29.19	L1	OFF	19.7
9.732750	---	25.96	50.00	24.04	L1	OFF	20.1
9.732750	27.45	---	60.00	32.55	L1	OFF	20.1

EUT Information

Report NO : 1O2843-06
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)
0.152250	---	33.74	55.88	22.14	N	OFF	19.6
0.152250	43.77	---	65.88	22.11	N	OFF	19.6
0.366000	---	27.05	48.59	21.54	N	OFF	19.6
0.366000	32.40	---	58.59	26.19	N	OFF	19.6
0.420000	---	27.00	47.45	20.45	N	OFF	19.6
0.420000	32.81	---	57.45	24.64	N	OFF	19.6
0.505500	---	24.73	46.00	21.27	N	OFF	19.6
0.505500	29.50	---	56.00	26.50	N	OFF	19.6
1.592250	---	25.63	46.00	20.37	N	OFF	19.7
1.592250	28.78	---	56.00	27.22	N	OFF	19.7
9.071250	---	25.86	50.00	24.14	N	OFF	20.0
9.071250	27.36	---	60.00	32.64	N	OFF	20.0



Appendix C. Radiated Spurious Emission

Test Engineer :	Jesse Wang, Stan Hsieh, Ken Wu	Temperature :	20~26.7°C
		Relative Humidity :	49~61.1%



Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5613.4	55.96	-12.24	68.2	44.15	34.7	12.25	35.14	100	61	P	H
		5699.4	64.53	-40.23	104.76	52.51	34.9	12.28	35.16	100	61	P	H
		5720	82.2	-28.6	110.8	70.05	35.02	12.29	35.16	100	61	P	H
		5724.6	88.43	-32.86	121.29	76.24	35.05	12.3	35.16	100	61	P	H
	*	5745	114.73	-	-	102.42	35.17	12.31	35.17	100	61	P	H
	*	5745	107.45	-	-	95.14	35.17	12.31	35.17	100	61	A	H
													H
													H
		5610.6	56.63	-11.57	68.2	44.83	34.7	12.24	35.14	339	113	P	V
		5697.2	60.25	-42.89	103.14	48.24	34.89	12.28	35.16	339	113	P	V
		5718.8	81.79	-28.67	110.46	69.65	35.01	12.29	35.16	339	113	P	V
		5724.2	88.99	-31.39	120.38	76.8	35.05	12.3	35.16	339	113	P	V
	*	5745	113.11	-	-	100.8	35.17	12.31	35.17	339	113	P	V
	*	5745	105.58	-	-	93.27	35.17	12.31	35.17	339	113	A	V
													V
													V



WIFI Ant. 4+3	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 157 5785MHz		5636.4	54.87	-13.33	68.2	43.06	34.7	12.26	35.15	102	63	P	H
		5698.2	51.54	-52.33	103.87	39.53	34.89	12.28	35.16	102	63	P	H
		5719.4	60.76	-49.87	110.63	48.61	35.02	12.29	35.16	102	63	P	H
		5724.2	58.01	-62.37	120.38	45.82	35.05	12.3	35.16	102	63	P	H
	*	5785	114.25	-	-	101.9	35.2	12.32	35.17	102	63	P	H
	*	5785	106.72	-	-	94.37	35.2	12.32	35.17	102	63	A	H
		5852	55.59	-62.05	117.64	43.16	35.2	12.41	35.18	102	63	P	H
		5858	53.97	-55.99	109.96	41.55	35.2	12.41	35.19	102	63	P	H
		5921	54.63	-16.52	71.15	42.16	35.16	12.51	35.2	102	63	P	H
		5927	54.63	-13.57	68.2	42.17	35.15	12.51	35.2	102	63	P	H
													H
													H
		5628.2	51.83	-16.37	68.2	40.02	34.7	12.25	35.14	351	113	P	V
		5695.8	52.8	-49.3	102.1	40.8	34.88	12.28	35.16	351	113	P	V
		5716.4	55.09	-54.7	109.79	42.96	35	12.29	35.16	351	113	P	V
		5723.2	57.09	-61.01	118.1	44.91	35.04	12.3	35.16	351	113	P	V
	*	5785	113.05	-	-	100.7	35.2	12.32	35.17	351	113	P	V
	*	5785	105.22	-	-	92.87	35.2	12.32	35.17	351	113	A	V
		5850.8	58.11	-62.27	120.38	45.69	35.2	12.4	35.18	351	113	P	V
		5864	53.38	-54.9	108.28	40.95	35.2	12.42	35.19	351	113	P	V
		5923.6	55.82	-13.41	69.23	43.36	35.15	12.51	35.2	351	113	P	V
		5946	50.06	-18.14	68.2	37.61	35.11	12.54	35.2	351	113	P	V
													V
													V



WIFI Ant. 4+3	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 165 5825MHz	*	5825	113.72	-	-	101.33	35.2	12.37	35.18	100	63	P	H
	*	5825	105.99	-	-	93.6	35.2	12.37	35.18	100	63	A	H
		5854.6	81.32	-30.39	111.71	68.89	35.2	12.41	35.18	100	63	P	H
		5859.6	79.1	-30.41	109.51	66.67	35.2	12.42	35.19	100	63	P	H
		5878.2	60.96	-41.86	102.82	48.51	35.2	12.44	35.19	100	63	P	H
		5945	50.24	-17.96	68.2	37.79	35.11	12.54	35.2	100	63	P	H
													H
													H
	*	5825	112.61	-	-	100.22	35.2	12.37	35.18	349	113	P	V
	*	5825	104.83	-	-	92.44	35.2	12.37	35.18	349	113	A	V
		5850	80.75	-41.45	122.2	68.33	35.2	12.4	35.18	349	113	P	V
		5858.8	76.03	-33.7	109.73	63.6	35.2	12.42	35.19	349	113	P	V
		5882	62.17	-37.83	100	49.71	35.2	12.45	35.19	349	113	P	V
		5942.2	50.63	-17.57	68.2	38.17	35.12	12.54	35.2	349	113	P	V
													V
													V
													V
Remark 1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 4+3	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 149 5745MHz		11490	42.45	-31.55	74	42.56	38.11	19.32	57.54	-	-	P	H
		13270	45.19	-28.81	74	43.31	39.11	20.97	58.2	-	-	P	H
		14480	47.91	-26.09	74	44.48	39.56	21.96	58.09	-	-	P	H
		16196	46.91	-27.09	74	39.44	41.2	23.03	56.76	-	-	P	H
		17235	54.33	-13.87	68.2	45.45	41.5	23.89	56.51	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
		11490	42.87	-31.13	74	42.98	38.11	19.32	57.54	-	-	P	V
		13270	45.9	-28.1	74	44.02	39.11	20.97	58.2	-	-	P	V
		14491	47.17	-26.83	74	43.72	39.58	21.96	58.09	-	-	P	V
		15855	46.58	-27.42	74	39.94	40.81	22.78	56.95	-	-	P	V
		17235	59.83	-8.37	68.2	50.95	41.5	23.89	56.51	-	-	P	V
													V
													V
													V
													V



WIFI Ant. 4+3	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 157 5785MHz		11570	42.74	-31.26	74	42.52	38.24	19.39	57.41	-	-	P	H
		13347	44.72	-29.28	74	42.51	39.11	21.04	57.94	-	-	P	H
		14499	47.78	-26.22	74	43.73	39.6	21.97	57.52	-	-	P	H
		17355	54.49	-13.71	68.2	45.46	41.44	23.99	56.4	-	-	P	H
		17769	49	-25	74	38.26	41.57	24.33	55.16	-	-	P	H
		17769	41.22	-12.78	54	30.48	41.57	24.33	55.16	-	-	A	H
													H
													H
													H
													H
													H
													H
		11570	42.68	-31.32	74	42.46	38.24	19.39	57.41	-	-	P	V
		13358	45.05	-28.95	74	42.86	39.08	21.05	57.94	-	-	P	V
		14499	48.1	-25.9	74	44.05	39.6	21.97	57.52	-	-	P	V
		14499	38.6	-15.4	54	34.55	39.6	21.97	57.52	-	-	A	V
		17355	60.26	-7.94	68.2	51.23	41.44	23.99	56.4	-	-	P	V
		17824	48.88	-25.12	74	38.09	41.55	24.37	55.13	-	-	P	V
		17824	41.16	-12.84	54	30.37	41.55	24.37	55.13	-	-	A	V
													V
													V
													V
													V
													V

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant. 4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
802.11a CH 165 5825MHz		11650	44.58	-29.42	74	44.01	38.4	19.45	57.28	-	-	P	H
		13281	46.1	-27.9	74	43.91	39.14	20.98	57.93	-	-	P	H
		14499	46.97	-27.03	74	42.92	39.6	21.97	57.52	-	-	P	H
		17475	53.13	-15.07	68.2	44.02	41.33	24.08	56.3	-	-	P	H
		17802	49.96	-24.04	74	39.14	41.6	24.36	55.14	-	-	P	H
		17802	41.07	-12.93	54	30.25	41.6	24.36	55.14	-	-	A	H
													H
													H
													H
													H
													H
													H
													H
		11650	44.21	-29.79	74	43.64	38.4	19.45	57.28	-	-	P	V
		13292	46.29	-27.71	74	44.05	39.18	20.99	57.93	-	-	P	V
		14499	46.71	-27.29	74	42.66	39.6	21.97	57.52	-	-	P	V
		17475	57.14	-11.06	68.2	48.03	41.33	24.08	56.3	-	-	P	V
		17945	50.05	-23.95	74	39.21	41.44	24.48	55.08	-	-	P	V
		17945	40.95	-13.05	54	30.11	41.44	24.48	55.08	-	-	A	V
													V
												V	
												V	
												V	
												V	
												V	
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												
	3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.												
	4. The emission level close to 18GHz is checked that the average emission level is noise floor only.												



Band 4 5725~5850MHz

WIFI 802.11ax HE20_Full (Band Edge @ 3m)

WIFI Ant. 4+3	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)
802.11ax HE20 Full CH 149 5745MHz		5648.4	54.51	-13.69	68.2	42.7	34.7	12.26	35.15	100	65	P	H
		5697.6	66.67	-36.76	103.43	54.66	34.89	12.28	35.16	100	65	P	H
		5719.6	87	-23.69	110.69	74.85	35.02	12.29	35.16	100	65	P	H
		5722.8	87.8	-29.38	117.18	75.62	35.04	12.3	35.16	100	65	P	H
	*	5745	114.41	-	-	102.1	35.17	12.31	35.17	100	65	P	H
	*	5745	106.67	-	-	94.36	35.17	12.31	35.17	100	65	A	H
													H
													H
		5646.2	54.59	-13.61	68.2	42.78	34.7	12.26	35.15	340	114	P	V
		5697.2	63.55	-39.59	103.14	51.54	34.89	12.28	35.16	340	114	P	V
		5719.8	84.35	-26.39	110.74	72.2	35.02	12.29	35.16	340	114	P	V
		5722	89.46	-25.9	115.36	77.3	35.03	12.29	35.16	340	114	P	V
	*	5745	112.47	-	-	100.16	35.17	12.31	35.17	340	114	P	V
	*	5745	105.18	-	-	92.87	35.17	12.31	35.17	340	114	A	V
													V
													V



WIFI Ant. 4+3	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)
802.11ax HE20 Full CH 157 5785MHz		5644.8	57.36	-10.84	68.2	45.55	34.7	12.26	35.15	100	62	P	H
		5699.6	52.21	-52.7	104.91	40.19	34.9	12.28	35.16	100	62	P	H
		5715.2	61.27	-48.19	109.46	49.15	34.99	12.29	35.16	100	62	P	H
		5724.8	57.96	-63.78	121.74	45.77	35.05	12.3	35.16	100	62	P	H
	*	5785	114.14	-	-	101.79	35.2	12.32	35.17	100	62	P	H
	*	5785	106.6	-	-	94.25	35.2	12.32	35.17	100	62	A	H
		5853.4	61.76	-52.69	114.45	49.33	35.2	12.41	35.18	100	62	P	H
		5858.6	54.31	-55.48	109.79	41.89	35.2	12.41	35.19	100	62	P	H
		5911.6	55.39	-22.7	78.09	42.92	35.18	12.49	35.2	100	62	P	H
		5939.4	51.2	-17	68.2	38.75	35.12	12.53	35.2	100	62	P	H
													H
													H
		5635.6	54.6	-13.6	68.2	42.79	34.7	12.26	35.15	354	114	P	V
		5694	50.84	-49.94	100.78	38.84	34.88	12.28	35.16	354	114	P	V
		5700.2	55.75	-49.51	105.26	43.72	34.9	12.29	35.16	354	114	P	V
		5723.8	56.27	-63.19	119.46	44.09	35.04	12.3	35.16	354	114	P	V
	*	5785	112.29	-	-	99.94	35.2	12.32	35.17	354	114	P	V
	*	5785	105.17	-	-	92.82	35.2	12.32	35.17	354	114	A	V
		5850.2	55.01	-66.73	121.74	42.59	35.2	12.4	35.18	354	114	P	V
		5860.4	54.42	-54.87	109.29	41.99	35.2	12.42	35.19	354	114	P	V
		5900	51.96	-34.7	86.66	39.47	35.2	12.48	35.19	354	114	P	V
		5940.6	50.15	-18.05	68.2	37.7	35.12	12.53	35.2	354	114	P	V
													V
													V



WIFI Ant. 4+3	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)
802.11ax HE20 Full CH 165 5825MHz	*	5825	113.35	-	-	100.96	35.2	12.37	35.18	100	62	P	H
	*	5825	105.33	-	-	92.94	35.2	12.37	35.18	100	62	A	H
		5852	81.66	-35.98	117.64	69.23	35.2	12.41	35.18	100	62	P	H
		5857.6	79.52	-30.55	110.07	67.09	35.2	12.41	35.18	100	62	P	H
		5876.8	63.87	-39.99	103.86	51.42	35.2	12.44	35.19	100	62	P	H
		5931	51.55	-16.65	68.2	39.09	35.14	12.52	35.2	100	62	P	H
													H
													H
	*	5825	111.51	-	-	99.12	35.2	12.37	35.18	348	114	P	V
	*	5825	104.01	-	-	91.62	35.2	12.37	35.18	348	114	A	V
		5850	83.45	-38.75	122.2	71.03	35.2	12.4	35.18	348	114	P	V
		5856.6	81.06	-29.29	110.35	68.63	35.2	12.41	35.18	348	114	P	V
		5875.4	65.65	-39.25	104.9	53.2	35.2	12.44	35.19	348	114	P	V
		5939.4	52.28	-15.92	68.2	39.83	35.12	12.53	35.2	348	114	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE20 Full (Harmonic @ 3m)

WIFI Ant. 4+3	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)
802.11ax HE20 Full CH 149 5745MHz		11490	42.75	-31.25	74	42.86	38.11	19.32	57.54	-	-	P	H
		13347	45.05	-28.95	74	42.84	39.11	21.04	57.94	-	-	P	H
		14499	48.81	-25.19	74	44.76	39.6	21.97	57.52	-	-	P	H
		14499	38.6	-15.4	54	34.55	39.6	21.97	57.52	-	-	A	H
		17235	52.57	-15.63	68.2	43.69	41.5	23.89	56.51	-	-	P	H
		17791	49.75	-24.25	74	38.96	41.59	24.35	55.15	-	-	P	H
		17791	41.02	-12.98	54	30.23	41.59	24.35	55.15	-	-	A	H
													H
													H
													H
													H
													H
													H
		11490	42.87	-31.13	74	42.98	38.11	19.32	57.54	-	-	P	V
		13325	44.57	-29.43	74	42.34	39.15	21.02	57.94	-	-	P	V
		14499	46.74	-27.26	74	42.69	39.6	21.97	57.52	-	-	P	V
		17235	58.52	-9.68	68.2	49.64	41.5	23.89	56.51	-	-	P	V
		17714	48.71	-25.29	74	38.09	41.51	24.29	55.18	-	-	P	V
		17714	41.47	-12.53	54	30.85	41.51	24.29	55.18	-	-	A	V
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WIFI Ant. 4+3	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)
802.11ax HE20 Full CH 157 5785MHz		11570	42.81	-31.19	74	42.59	38.24	19.39	57.41	-	-	P	H
		13347	45.43	-28.57	74	43.22	39.11	21.04	57.94	-	-	P	H
		14499	47.38	-26.62	74	43.33	39.6	21.97	57.52	-	-	P	H
		17355	55.6	-12.6	68.2	46.57	41.44	23.99	56.4	-	-	P	H
		17736	49.12	-24.88	74	38.44	41.54	24.31	55.17	-	-	P	H
		17736	41.89	-12.11	54	31.21	41.54	24.31	55.17	-	-	A	H
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		11570	42.48	-31.52	74	42.26	38.24	19.39	57.41	-	-	P	V
		13336	44.92	-29.08	74	42.7	39.13	21.03	57.94	-	-	P	V
		14499	47.3	-26.7	74	43.25	39.6	21.97	57.52	-	-	P	V
		17355	60.73	-7.47	68.2	51.7	41.44	23.99	56.4	-	-	P	V
		17714	49.86	-24.14	74	39.24	41.51	24.29	55.18	-	-	P	V
		17714	40.95	-13.05	54	30.33	41.51	24.29	55.18	-	-	A	V
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[illegible]



Band 4 5725~5850MHz

WIFI 802.11ax HE40_Full (Band Edge @ 3m)

WIFI Ant. 4+3	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)
802.11ax HE40 Full CH 151 5755MHz		5650	55.98	-12.22	68.2	44.17	34.7	12.26	35.15	100	61	P	H
		5696.6	71.95	-30.74	102.69	59.94	34.89	12.28	35.16	100	61	P	H
		5720	83.9	-26.9	110.8	71.75	35.02	12.29	35.16	100	61	P	H
		5722.8	84.59	-32.59	117.18	72.41	35.04	12.3	35.16	100	61	P	H
	*	5755	109.84	-	-	97.5	35.2	12.31	35.17	100	61	P	H
	*	5755	101.46	-	-	89.12	35.2	12.31	35.17	100	61	A	H
		5853.8	57.77	-55.77	113.54	45.34	35.2	12.41	35.18	100	61	P	H
		5864.8	58.43	-49.62	108.05	46	35.2	12.42	35.19	100	61	P	H
		5898	53.82	-34.32	88.14	41.34	35.2	12.47	35.19	100	61	P	H
		5949	50.56	-17.64	68.2	38.11	35.1	12.55	35.2	100	61	P	H
													H
													H
		5643.8	52.52	-15.68	68.2	40.71	34.7	12.26	35.15	324	113	P	V
		5697.6	67.81	-35.62	103.43	55.8	34.89	12.28	35.16	324	113	P	V
		5719	82.98	-27.54	110.52	70.84	35.01	12.29	35.16	324	113	P	V
		5723.4	83.75	-34.8	118.55	71.57	35.04	12.3	35.16	324	113	P	V
	*	5755	106.64	-	-	94.3	35.2	12.31	35.17	324	113	P	V
	*	5755	99.68	-	-	87.34	35.2	12.31	35.17	324	113	A	V
		5852.6	57.04	-59.23	116.27	44.61	35.2	12.41	35.18	324	113	P	V
		5868	55.66	-51.5	107.16	43.22	35.2	12.43	35.19	324	113	P	V
		5878.6	53.01	-49.52	102.53	40.56	35.2	12.44	35.19	324	113	P	V
		5930.6	51.48	-16.72	68.2	39.02	35.14	12.52	35.2	324	113	P	V
													V
													V



WIFI Ant. 4+3	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)
802.11ax HE40 Full CH 159 5795MHz		5635	50.82	-17.38	68.2	39.01	34.7	12.26	35.15	101	63	P	H
		5692.8	59.23	-40.66	99.89	47.24	34.87	12.28	35.16	101	63	P	H
		5715.8	64.52	-45.11	109.63	52.4	34.99	12.29	35.16	101	63	P	H
		5722.8	65.37	-51.81	117.18	53.19	35.04	12.3	35.16	101	63	P	H
	*	5795	109.51	-	-	97.15	35.2	12.33	35.17	101	63	P	H
	*	5795	100.75	-	-	88.39	35.2	12.33	35.17	101	63	A	H
		5853	71.35	-44.01	115.36	58.92	35.2	12.41	35.18	101	63	P	H
		5858.2	69.03	-40.87	109.9	56.61	35.2	12.41	35.19	101	63	P	H
		5875.6	61.65	-43.1	104.75	49.2	35.2	12.44	35.19	101	63	P	H
		5938.4	53.14	-15.06	68.2	40.69	35.12	12.53	35.2	101	63	P	H
													H
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		5644.2	50.29	-17.91	68.2	38.48	34.7	12.26	35.15	316	114	P	V
		5694.6	56.79	-44.43	101.22	44.79	34.88	12.28	35.16	316	114	P	V
		5718.4	60.93	-49.42	110.35	48.79	35.01	12.29	35.16	316	114	P	V
		5724.4	62.28	-58.55	120.83	50.09	35.05	12.3	35.16	316	114	P	V
	*	5795	107.46	-	-	95.1	35.2	12.33	35.17	316	114	P	V
	*	5795	99.11	-	-	86.75	35.2	12.33	35.17	316	114	A	V
		5851	69.8	-50.12	119.92	57.38	35.2	12.4	35.18	316	114	P	V
		5857.8	66.27	-43.74	110.01	53.85	35.2	12.41	35.19	316	114	P	V
		5877.8	63.25	-39.87	103.12	50.8	35.2	12.44	35.19	316	114	P	V
		5935	51.34	-16.86	68.2	38.88	35.13	12.53	35.2	316	114	P	V
													V
													V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE40_Full (Harmonic @ 3m)

WIFI Ant. 4+3	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)
802.11ax HE40 Full CH 151 5755MHz		11510	42.66	-31.34	74	42.69	38.12	19.35	57.5	-	-	P	H
		13358	44.9	-29.1	74	42.71	39.08	21.05	57.94	-	-	P	H
		14499	47.25	-26.75	74	43.2	39.6	21.97	57.52	-	-	P	H
		17265	49.83	-18.37	68.2	40.9	41.5	23.91	56.48	-	-	P	H
		17791	49.48	-24.52	74	38.69	41.59	24.35	55.15	-	-	P	H
		17791	41.48	-12.52	54	30.69	41.59	24.35	55.15	-	-	A	H
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													H
		11510	42.78	-31.22	74	42.81	38.12	19.35	57.5	-	-	P	V
		13347	44.97	-29.03	74	42.76	39.11	21.04	57.94	-	-	P	V
		14499	47.13	-26.87	74	43.08	39.6	21.97	57.52	-	-	P	V
		17265	53.32	-14.88	68.2	44.39	41.5	23.91	56.48	-	-	P	V
		17736	49.72	-24.28	74	39.04	41.54	24.31	55.17	-	-	P	V
		17736	40.72	-13.28	54	30.04	41.54	24.31	55.17	-	-	A	V
													V
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WIFI Ant. 4+3	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)
802.11ax HE40 Full CH 159 5795MHz		11590	43.76	-30.24	74	43.44	38.28	19.41	57.37	-	-	P	H
		13347	45.62	-28.38	74	43.41	39.11	21.04	57.94	-	-	P	H
		14499	47.57	-26.43	74	43.52	39.6	21.97	57.52	-	-	P	H
		17385	49.53	-18.67	68.2	40.48	41.42	24.01	56.38	-	-	P	H
		17769	49.18	-24.82	74	38.44	41.57	24.33	55.16	-	-	P	H
		17769	42.27	-11.73	54	31.53	41.57	24.33	55.16	-	-	A	H
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Band 4 5725~5850MHz

WIFI 802.11ax HE80_Full (Band Edge @ 3m)

WIFI Ant. 4+3	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)
802.11ax HE80 Full CH 155 5775MHz		5649.6	63.22	-4.98	68.2	51.41	34.7	12.26	35.15	102	64	P	H
		5692	79.12	-20.18	99.3	67.13	34.87	12.28	35.16	102	64	P	H
		5718.6	83.02	-27.39	110.41	70.88	35.01	12.29	35.16	102	64	P	H
		5722.8	84.15	-33.03	117.18	71.97	35.04	12.3	35.16	102	64	P	H
	*	5775	105.9	-	-	93.55	35.2	12.32	35.17	102	64	P	H
	*	5775	97.79	-	-	85.44	35.2	12.32	35.17	102	64	A	H
		5850.2	76.05	-45.69	121.74	63.63	35.2	12.4	35.18	102	64	P	H
		5858.4	77.42	-32.43	109.85	65	35.2	12.41	35.19	102	64	P	H
		5875.4	69.37	-35.53	104.9	56.92	35.2	12.44	35.19	102	64	P	H
		5927.6	57.37	-10.83	68.2	44.91	35.14	12.52	35.2	102	64	P	H
													H
													H
		5640.2	60.87	-7.33	68.2	49.06	34.7	12.26	35.15	318	115	P	V
		5696	76.05	-26.2	102.25	64.05	34.88	12.28	35.16	318	115	P	V
		5718.8	79.26	-31.2	110.46	67.12	35.01	12.29	35.16	318	115	P	V
		5721.6	80.18	-34.27	114.45	68.02	35.03	12.29	35.16	318	115	P	V
	*	5775	103.4	-	-	91.05	35.2	12.32	35.17	318	115	P	V
	*	5775	95.85	-	-	83.5	35.2	12.32	35.17	318	115	A	V
		5850	77.96	-44.24	122.2	65.54	35.2	12.4	35.18	318	115	P	V
		5857.8	74.27	-35.74	110.01	61.85	35.2	12.41	35.19	318	115	P	V
		5878	67.26	-35.71	102.97	54.81	35.2	12.44	35.19	318	115	P	V
		5936.2	56.67	-11.53	68.2	44.21	35.13	12.53	35.2	318	115	P	V
													V
													V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ax HE80_Full (Harmonic @ 3m)

[illegible]

Emission above 18GHz

5GHz WIFI 802.11ax HE80 Full (SHF @ 1m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE80 Full SHF		39758	46.33	-27.67	74	45.67	44.6	14.74	58.68	-	-	P	H
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Emission below 1GHz

5GHz WIFI 802.11ax HE80 Full (LF @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE80 Full LF		30	22.7	-17.3	40	27.23	24.57	1.01	30.11	-	-	P	H
		95.88	29.06	-14.44	43.5	41.91	15.39	1.74	29.98	-	-	P	H
		196.32	25.45	-18.05	43.5	37.88	14.91	2.5	29.84	-	-	P	H
		834.1	32.91	-13.09	46	28.91	28.02	5.1	29.12	-	-	P	H
		863.5	33.47	-12.53	46	28.34	28.9	5.22	28.99	-	-	P	H
		953.8	34.83	-11.17	46	27.42	30.49	5.56	28.64	-	-	P	H
													H
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													H
		30	33.15	-6.85	40	37.68	24.57	1.01	30.11	-	-	P	V
		34.86	30.52	-9.48	40	37.55	22.1	0.95	30.08	-	-	P	V
		91.02	26.26	-17.24	43.5	39.86	14.73	1.7	30.03	-	-	P	V
		846.7	32.59	-13.41	46	27.93	28.61	5.12	29.07	-	-	P	V
		902	33.29	-12.71	46	28.02	28.61	5.46	28.8	-	-	P	V
		958	35.17	-10.83	46	27.51	30.71	5.58	28.63	-	-	P	V
													V
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Remark	1. No other spurious found. 2. All results are PASS against limit line. 3. The emission position marked as “-” means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only.												



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	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.	
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5650	55.45	-12.75	68.2	54.51	32.22	4.58	35.86	103	308	P	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) – 68.2(dBμV/m)
 = -12.75 (dB)

Peak measured complies with the limit line, so test result is “PASS”.

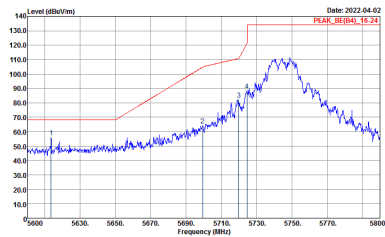
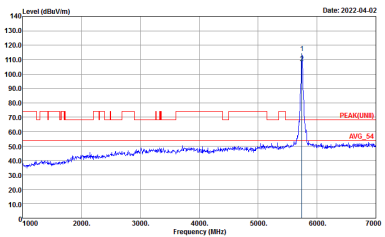


Appendix D. Radiated Spurious Emission Plots

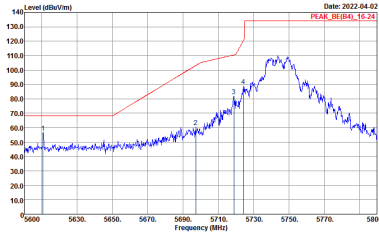
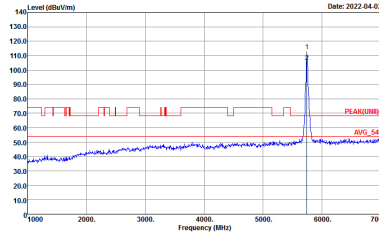
Test Engineer :	Jesse Wang, Stan Hsieh, Ken Wu	Temperature :	20~26.7°C
		Relative Humidity :	49~61.1%

Band 4 - 5725~5850MHz

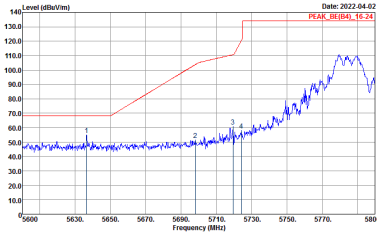
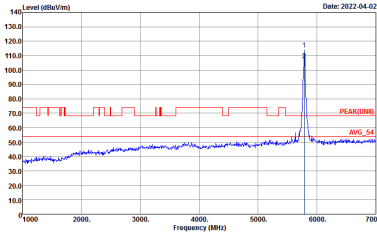
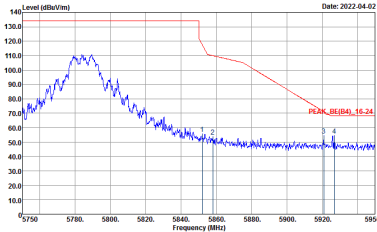
WIFI 802.11a (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site : 03CH07-HY Condition : PEAK(LINII) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto

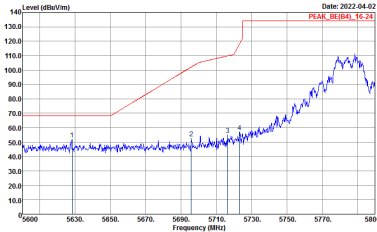
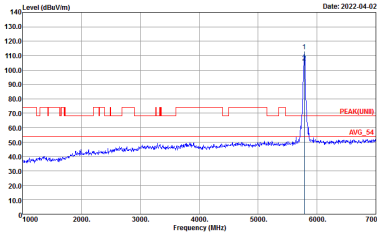
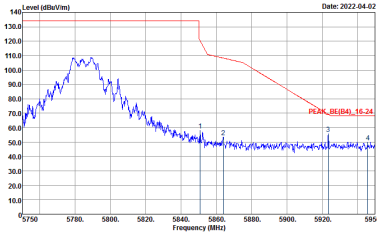


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
4+3	Vertical	Fundamental
Peak	 Site : ESCH07-RF Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site : ESCH07-RF Condition : PEAK_UN(B)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto

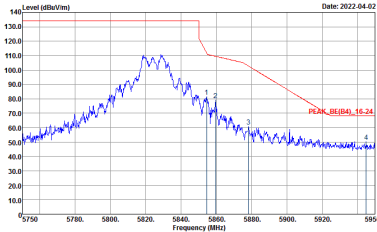
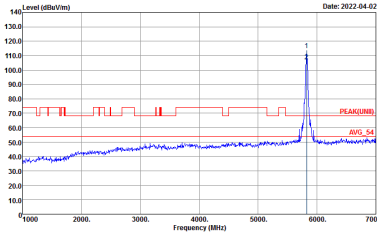


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site : 03CH07-HY Condition : PEAK_UN(B)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto
Peak	 Site : 03CH07-HY Condition : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	Left blank

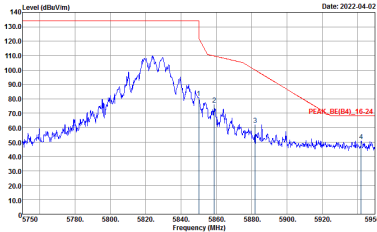
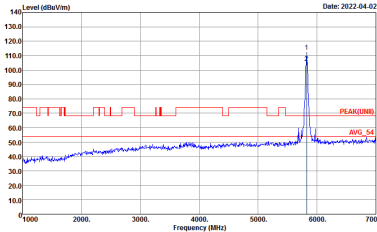


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site : 03CH07-HY Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	Left blank



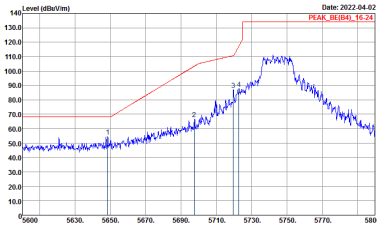
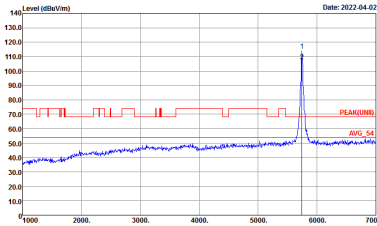
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
4+3	Horizontal	Fundamental
Peak	 Site : ESCH02-RF Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site : ESCH02-RF Condition : PEAK(UN)I 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto



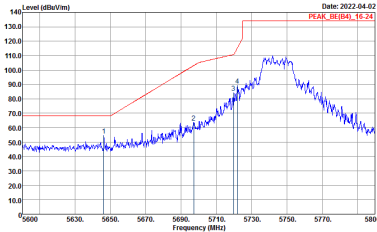
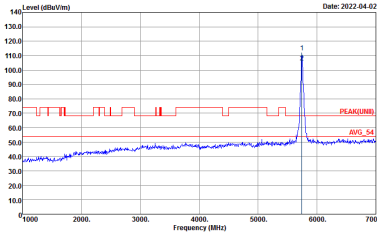
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
4+3	Vertical	Fundamental
Peak	 Site : ESCH02-RF Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site : ESCH02-RF Condition : PEAK(UN)I 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto



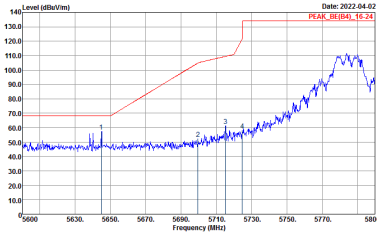
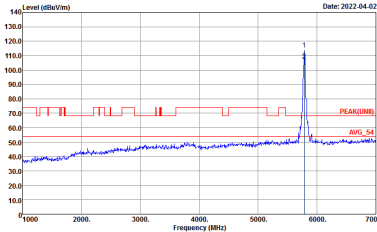
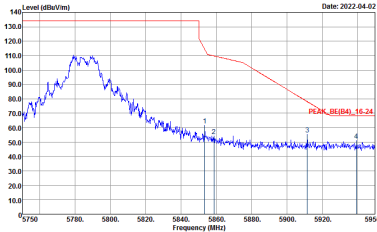
Band 4 5725~5850MHz
WIFI 802.11ax HE20 Full (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH149 5745MHz	
4+3	Horizontal	Fundamental
Peak	 Site Condition : 03CH07-HY : PEAK_RE(04)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:3000.000kHz VIEW:3000.000kHz SWTAUTO	 Site Condition : 03CH07-HY : PEAK(UNB) 3m HF_ANT_00075962 HORIZONTAL : RBW:3000.000kHz VIEW:3000.000kHz SWTAUTO

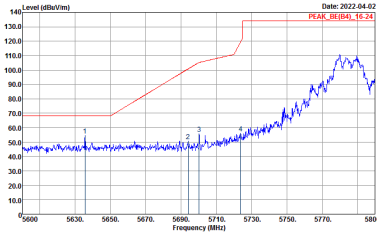
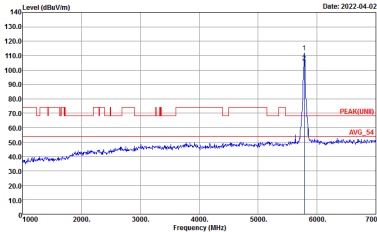
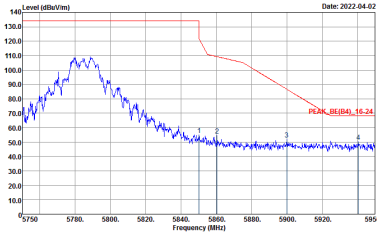


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH149 5745MHz	
4+3	Vertical	Fundamental
Peak	 Site : ESCH07-RF Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site : ESCH07-RF Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto

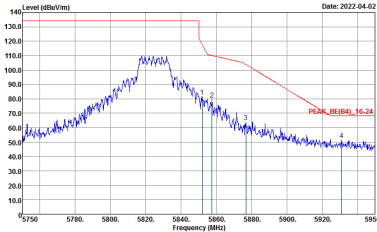
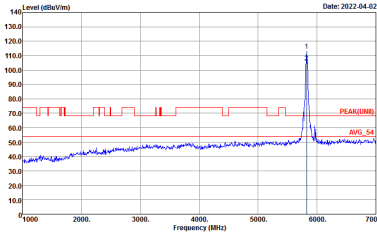


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	Left blank

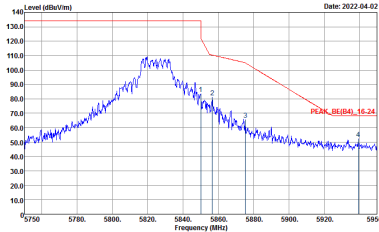
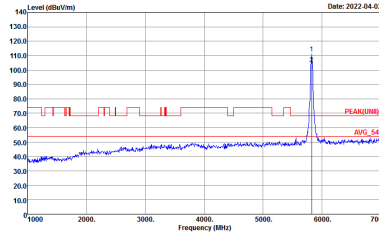


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site : 03CH07-HY Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH165 5825MHz	
4+3	Horizontal	Fundamental
Peak	 Site : ESCH02-RF Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site : ESCH02-RF Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto



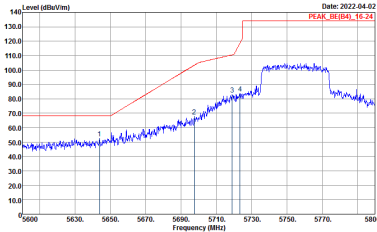
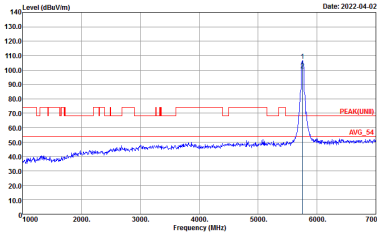
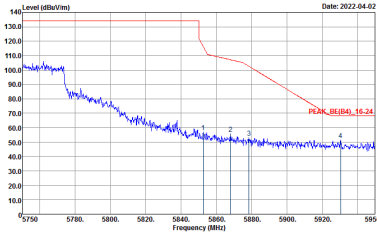
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH165 5825MHz	
4+3	Vertical	Fundamental
Peak	 Site Condition : E3CH07-RF : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site Condition : E3CH07-RF : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto

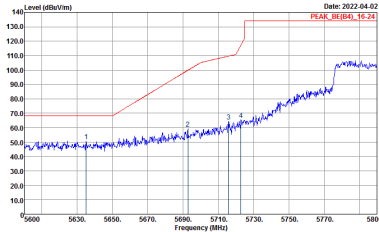
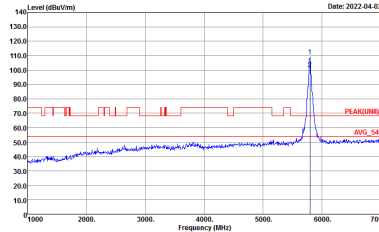
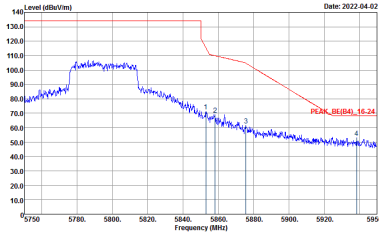


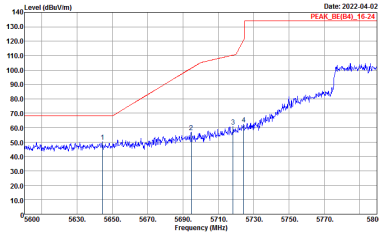
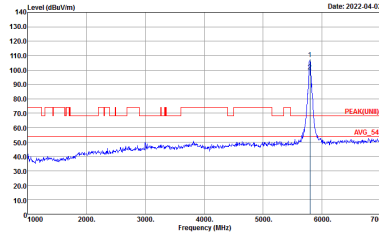
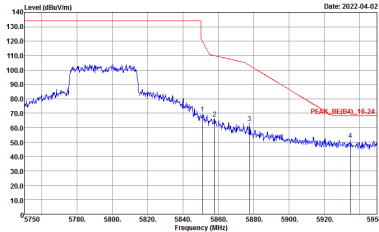
Band 4 5725~5850MHz
WIFI 802.11ax HE40 Full (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
4+3	Horizontal	Fundamental
Peak	Site Condition : 03CH07-HY : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	Site Condition : 03CH07-HY : PEAK_UN(B) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto
Peak	Site Condition : 03CH07-HY : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	Left blank



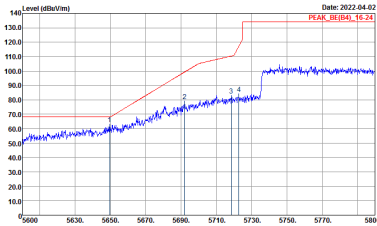
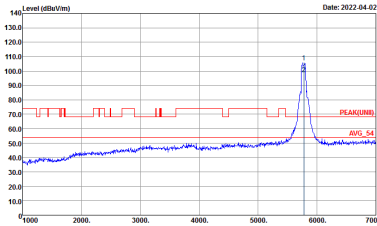
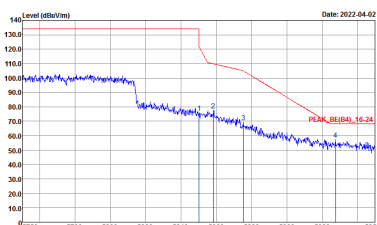
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site : 03CH07-HY Condition : PEAK_UN(I) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto
Peak	 Site : 03CH07-HY Condition : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full HT40 CH159 5795MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site : 03CH07-HY Condition : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto
Peak	 Site : 03CH07-HY Condition : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	Left blank

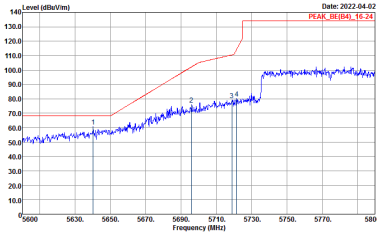
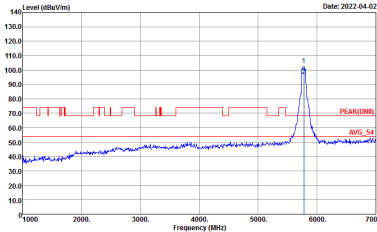
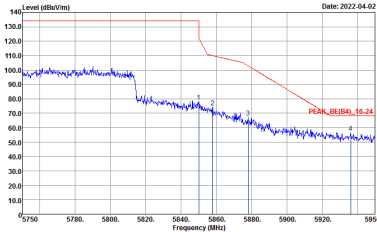
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH159 5795MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site : 03CH07-HY Condition : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto
Peak	 Site : 03CH07-HY Condition : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	Left blank



Band 4 5725~5850MHz
WIFI 802.11ax HE80 Full (Band Edge @ 3m)

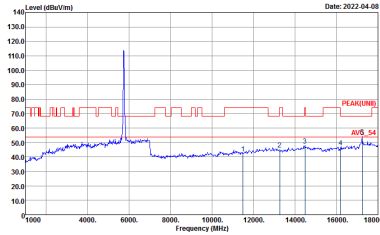
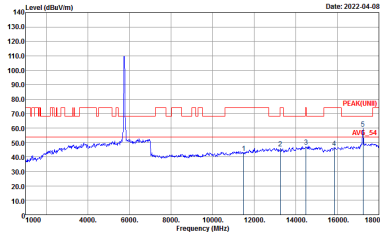
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
4+3	Horizontal	Fundamental
Peak	 Site Condition : 03CH07-HY : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site Condition : 03CH07-HY : PEAK(LNB)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto
Peak	 Site Condition : 03CH07-HY : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	Left blank



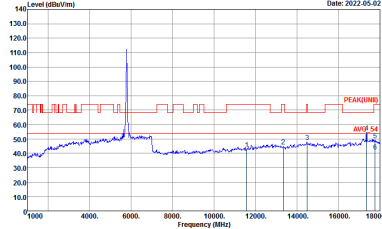
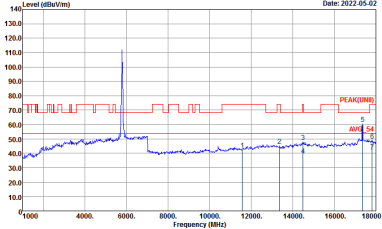
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	 Site : 03CH07-HY Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto
Peak	 Site : 03CH07-HY Condition : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto	Left blank



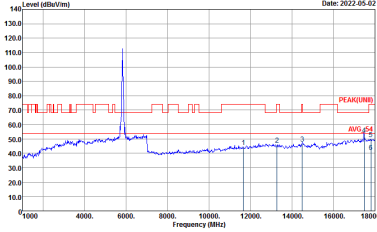
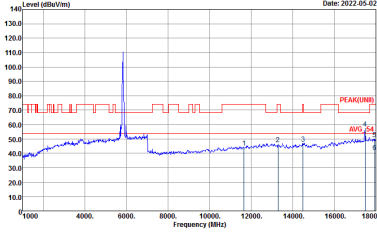
Band 4 - 5725~5850MHz
WIFI 802.11a (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
4+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-HY Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL



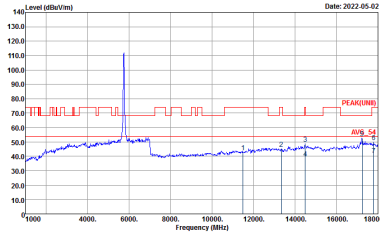
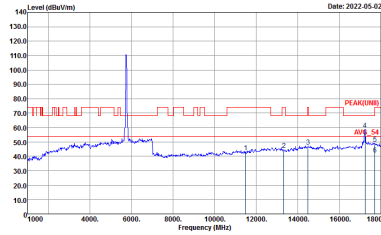
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
4+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-4H Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL	 Site : 03CH07-4H Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL



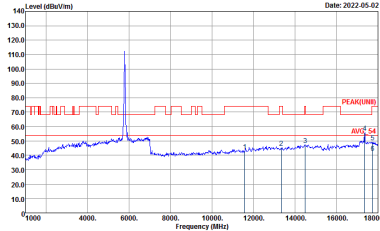
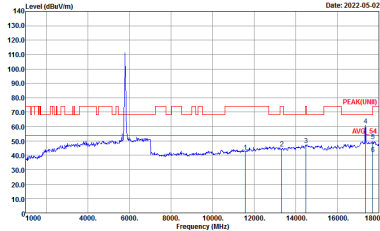
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
4+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-4H Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL	 Site : 03CH07-4H Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL



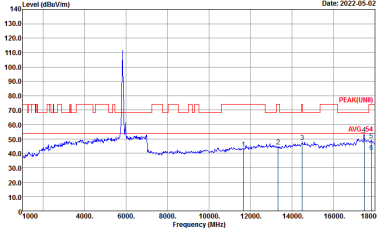
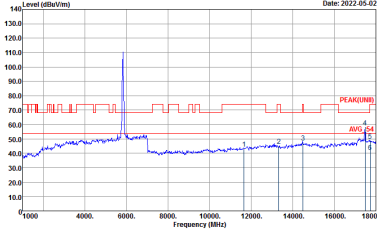
Band 4 5725~5850MHz
WIFI 802.11ax HE20 Full (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH149 5745MHz	
4+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-HY Condition : PEAK(UNIT) 3m HF_ANT_00075962 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK(UNIT) 3m HF_ANT_00075962 VERTICAL

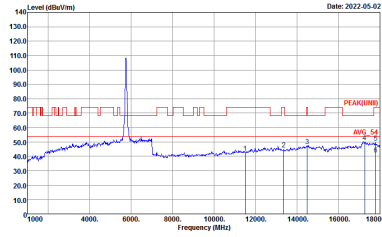
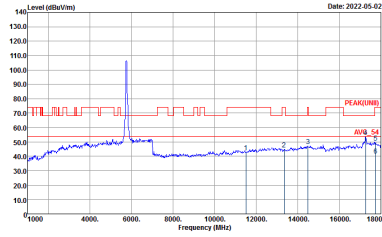


WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
4+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-4H Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL	 Site : 03CH07-4H Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL

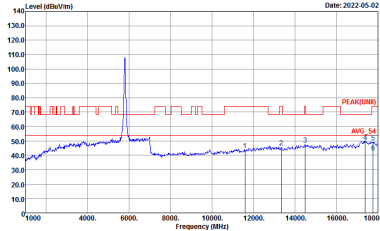
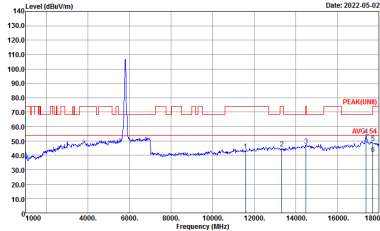


WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH165 5825MHz	
4+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-4H Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL	 Site : 03CH07-4H Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL

Band 4 5725~5850MHz
WIFI 802.11ax HE40 Full (Harmonic @ 3m)

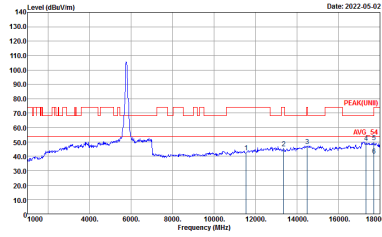
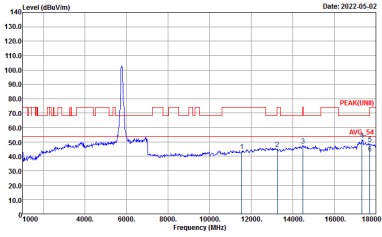
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
4+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-HY Condition : PEAK(UNIT) 3m HF_ANT_00075962 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK(UNIT) 3m HF_ANT_00075962 VERTICAL



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE40 Full CH159 5795MHz	
4+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-4H Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL	 Site : 03CH07-4H Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL



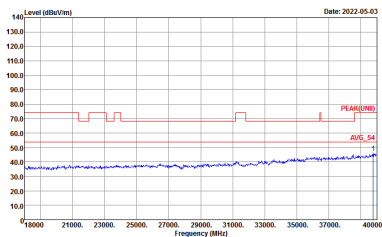
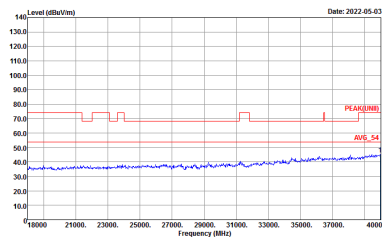
Band 4 5725~5850MHz
WIFI 802.11ax HE80 Full (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
4+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-HY Condition : PEAK(UNIT) 3m HF_ANT_00075962 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK(UNIT) 3m HF_ANT_00075962 VERTICAL



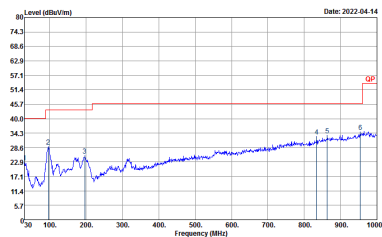
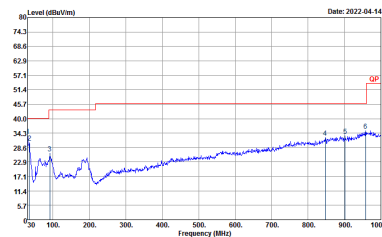
Emission above 18GHz

5GHz WIFI 802.11ax HE80 Full (SHF @ 1m)

WIFI	5GHz WIFI	
ANT	802.11ax HE80 Full SHF	
4+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-HY Condition : PEAK(UNII) 1m SHF-EHF_9170251 HORIZONTAL	 Site : 03CH07-HY Condition : PEAK(UNII) 1m SHF-EHF_9170251 VERTICAL



Emission below 1GHz
5GHz WIFI 802.11ax HE80 Full (LF @ 3m)

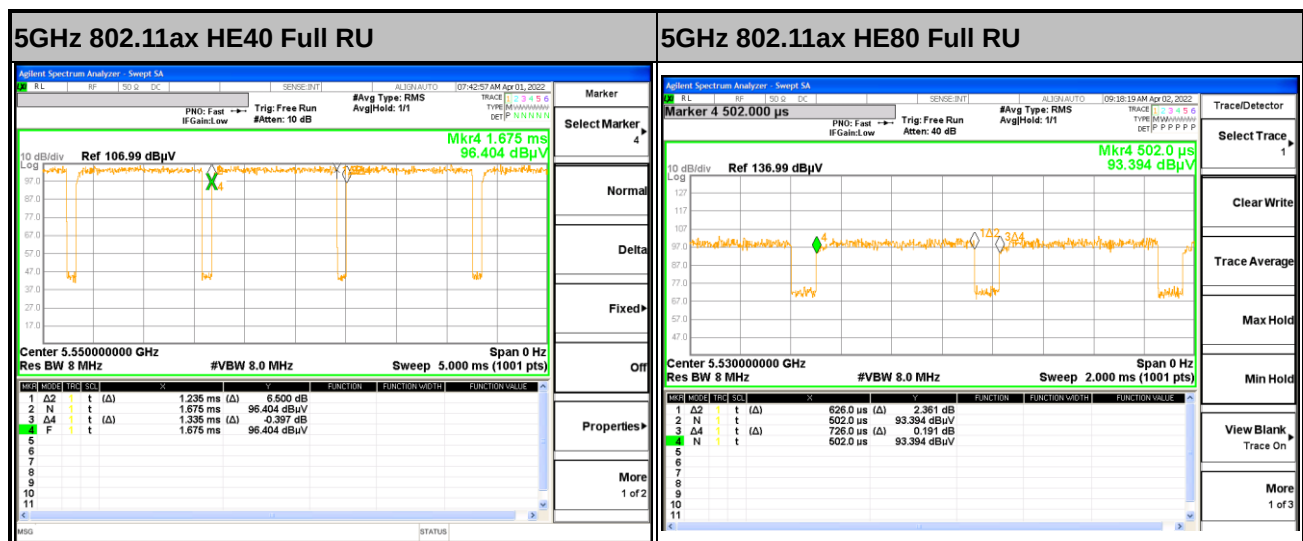
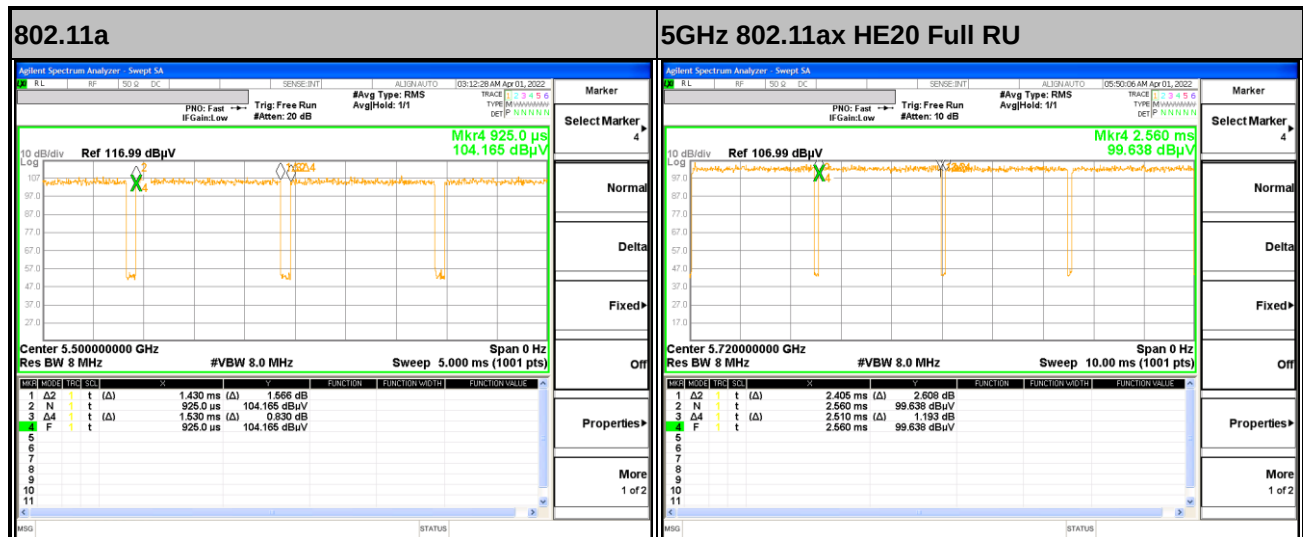
WIFI	5GHz WIFI	
ANT	802.11ax HE80 Full LF	
4+3	Horizontal	Vertical
QP / Peak	 Site : 03CH07-HY Condition : QP 3m LF-ANT-35419(h) HORIZONTAL	 Site : 03CH07-HY Condition : QP 3m LF-ANT-35419(h) VERTICAL



Appendix E. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
4+3	802.11a	93.46	1430	0.70	1kHz
4+3	5GHz 802.11ax HE20 Full RU	95.82	2405	0.42	1kHz
4+3	5GHz 802.11ax HE40 Full RU	92.51	1235	0.81	1kHz
4+3	5GHz 802.11ax HE80 Full RU	86.23	626	1.60	3kHz

MIMO <Ant. 4+3>



—THE END—