FCC RADIO TEST REPORT

FCC ID	:	**2AVOB-FH7K2H**
Equipment	:	**AMC Dash Cart**
Model Name	:	**FH7K2H**
Applicant	:	**Amazon.com Services LLC** **410 Terry Avenue N, Seattle, WA 98109-5210 United States**
Trademark	:	**Nalloy LLC, Amazon Retail LLC**
Standard	:	**FCC Part 15 Subpart E §15.407**

The product was received on Aug. 16, 2024 and testing was performed from Aug. 28, 2024 to Nov. 18, 2024. We, Sporton International (USA) Inc., 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 variant report apply exclusively to the tested model / sample. Without written approval from Sporton International (USA) Inc., the test report shall not be reproduced except in full.

Neil Kao

Approved by: Neil Kao

Sporton International (USA) Inc.

1175 Montague Expressway, Milpitas, CA 95035

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 7
1.4 Testing Location 7
1.5 Applicable Standards 7
2 Test Configuration of Equipment Under Test **8**
2.1 Carrier Frequency and Channel 8
2.2 Test Mode 9
2.3 Connection Diagram of Test System 10
2.4 Support Unit used in test configuration and system 10
2.5 EUT Operation Test Setup 10
2.6 Measurement Results Explanation Example 10
3 Test Result **11**
3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement 11
3.2 Maximum Conducted Output Power Measurement 12
3.3 Power Spectral Density Measurement 13
3.4 Unwanted Emissions Measurement 15
3.5 Antenna Requirements 20
4 List of Measuring Equipment **21**
5 Measurement Uncertainty **22**
Appendix A. Conducted Test Results
Appendix B. Radiated Spurious Emission
Appendix C. Radiated Spurious Emission Plots
Appendix D. Duty Cycle Plots

History of this test report

Report No.	Version	Description	Issue Date
FR241118001C	01	Initial issue of report	Dec. 04, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)
3.1	15.403	6dB & 26dB Bandwidth	Pass
3.1	2.1049	99% Occupied Bandwidth	Pass
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
-	15.207	AC Conducted Emission	Not Required
3.5	15.203	Antenna Requirement	Pass

Note:

1. The power source method of the EUT is to use DC power source, and there is no other AC power port, after assessing, AC Conduction Emission test is not required.
2. This is a variant report by changing PCBA. All the test cases were performed on original report which can be referred to Sporton Report Number FR240310001-01B. Based on the original report, only worst case was verified.

Conformity Assessment Condition:
1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account. 2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”.
Disclaimer:
The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	AMC Dash Cart
Model Name	FH7K2H
FCC ID	2AVOB-FH7K2H
EUT supports Radios application	LTE/GPS/RFID WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 WLAN 11ax HE20/HE40/HE80

1.2 Product Specification of Equipment Under Test

Product Specification is subject to this standard	
Tx/Rx Frequency Range	5725 MHz ~ 5850 MHz
Maximum Output Power to antenna	**MIMO <Ant. 1+2>:** 802.11a: 21.44 dBm / 0.1393 W 802.11n HT20: 21.29 dBm / 0.1346 W 802.11n HT40: 21.76 dBm / 0.1500 W 802.11ac VHT20: 21.39 dBm / 0.1377 W 802.11ac VHT40: 21.86 dBm / 0.1535 W 802.11ac VHT80: 22.80 dBm / 0.1905 W 802.11ax HE20: 21.49 dBm / 0.1409 W 802.11ax HE40: 21.96 dBm / 0.1570 W 802.11ax HE80: 22.90 dBm / 0.1950 W
99% Occupied Bandwidth	**MIMO <Ant. 1>:** 802.11a: 16.38 MHz 802.11ax HE20: 18.84 MHz 802.11ax HE40: 37.88 MHz 802.11ax HE80: 77.16 MHz **MIMO <Ant. 2>:** 802.11a: 16.37 MHz 802.11ax HE20: 18.89 MHz 802.11ax HE40: 38.07 MHz 802.11ax HE80: 77.54 MHz
Antenna Gain	<Ant. 1>: Chip Antenna with gain 4.0 dBi <Ant. 2>: Chip Antenna with gain 1.5 dBi
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 Function Description	

	Ant. 1	Ant. 2
802.11 a/n/ac/ax MIMO	V	V

Remark:

1. MIMO Ant. 1+2 Directional Gain is a calculated result from MIMO Ant. 1 and MIMO Ant. 2. The formula used in calculation is documented in section 1.2.1.
2. Power of MIMO Ant. 1 + Ant. 2 is a calculated result from sum of the power MIMO Ant. 1 and MIMO Ant. 2.

1.2.1 Antenna Directional Gain

Follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)f)ii)

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

For power measurements on IEEE 802.11 devices,

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.

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

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 kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna.

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

Directional gain = $10*\log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}]$ dBi

Where G1, G2….GN denote single antenna gain.

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

	Ant 1 (dBi)	Ant 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band IV	4.00	1.50	4.00	5.85	0.00	0.00

Calculation example:

If a device has two antenna, G_{ANT1}= 4.00dBi; G_{ANT2}=1.50dBi

Directional gain of power measurement = max(4.00, 1.50) + 0 = 4.00 dBi

Directional gain of PSD derived from formula which is

10 x log { { [10^ (4.00 dBi / 20) + 10^ (1.50 dBi / 20)] ^ 2 } / 2 }

= 5.85 dBi

Power and PSD limit reduction = Composite gain – 6dBi, (min = 0)

1.3 Modification of EUT

No modifications made to the EUT during the testing.

1.4 Testing Location

Test Site	Sporton International (USA) Inc.
Test Site Location	1175 Montague Expressway, Milpitas, CA 95035 TEL : 408 9043300
Test Site No.	**Sporton Site No.**
	TH01-CA, 03CH01-CA

FCC Designation No.: US1250

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: 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 adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and only the worst case emissions were reported in this report.

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

The SISO mode conducted power is covered by MIMO mode per chain, so only the MIMO mode is tested.

The power for 802.11n and 802.11ac mode is smaller than 802.11ax mode, so all other conducted and radiated test is covered by 802.11ax mode.

The final test modes include the worst data rates for each modulation shown in the table below.

MIMO Mode

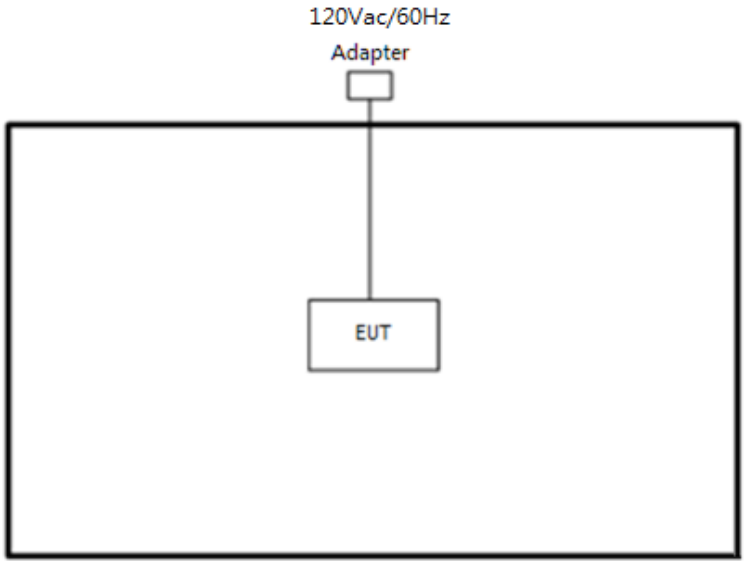
Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20 (Covered by HE20)	MCS0
802.11n HT40 (Covered by HE40)	MCS0
802.11ac VHT20 (Covered by HE20)	MCS0
802.11ac VHT40 (Covered by HE40)	MCS0
802.11ac VHT80 (Covered by HE80)	MCS0
802.11ax HE20	MCS0
802.11ax HE40	MCS0
802.11ax HE80	MCS0

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

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



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Adapter	Delta	ADH-60DRB	NA	NA	Unshielded, 1.8m

2.5 EUT Operation Test Setup

The RF test items, utility "QRCT Version 4.0.00201.0" 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.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

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.

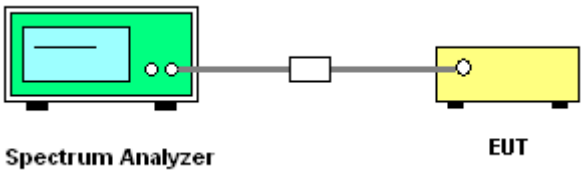
3.1.2 Measuring Instruments

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 ≥ 3 x 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.

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.

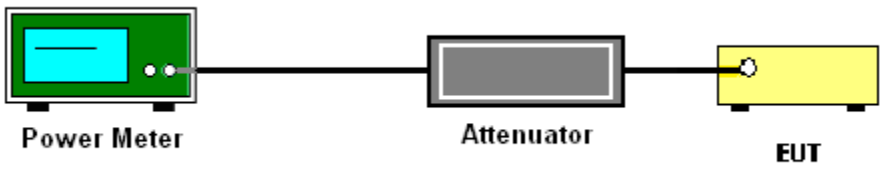
3.2.3 Test Procedures

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.

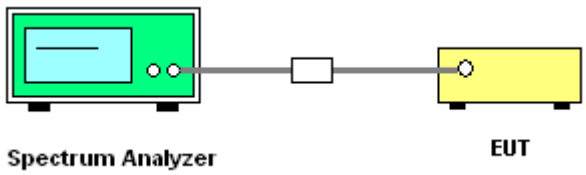
 # Method SA-2 #

(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 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 ≥ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.

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_{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_{ANT}) dB is added to each spectrum value before comparing to the emission limit. The addition of 10 log(N_{ANT}) dB serves to apportion the emission limit among the N_{ANT} outputs so that each output is permitted to contribute no more than $1/N_{ANT}$ th of the PSD limit.

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 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.

$$E=\frac{1000000\sqrt{30P}}{3}$$ μV/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 ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

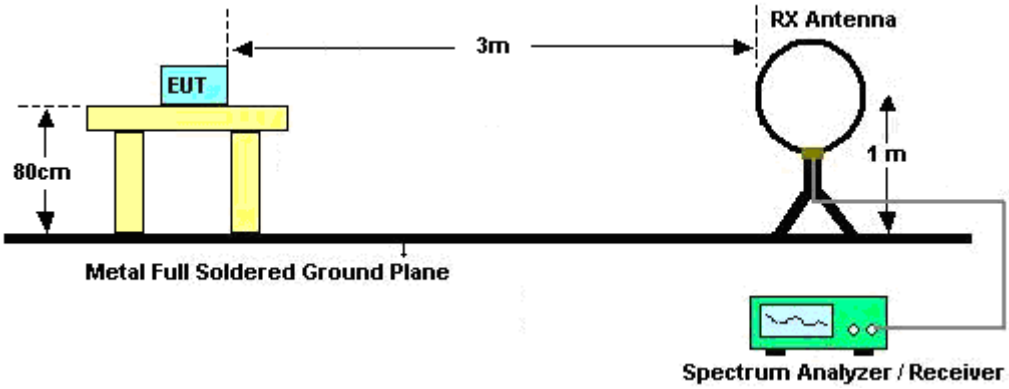
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000 MHz

   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 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.

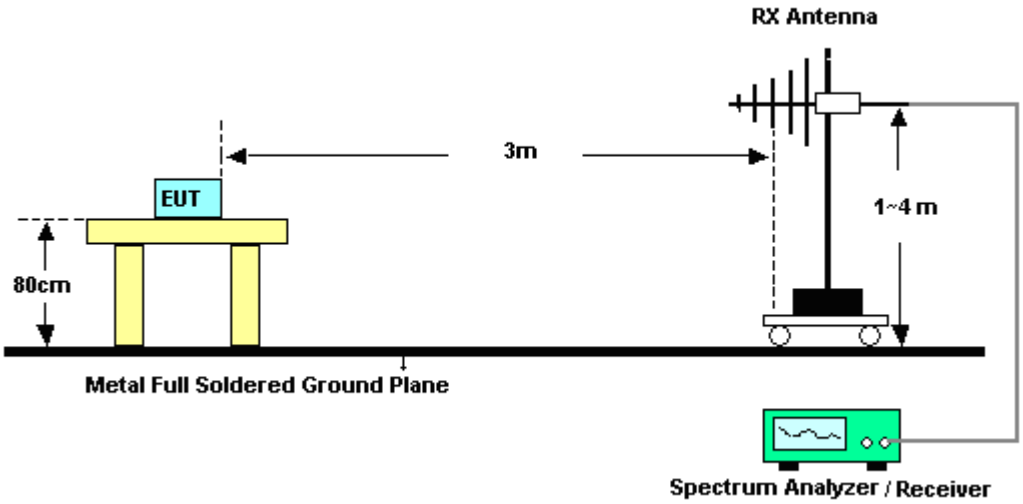
6. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading. When there is no suspected emission found and the emission level is with at least 6 dB margin against QP limit 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

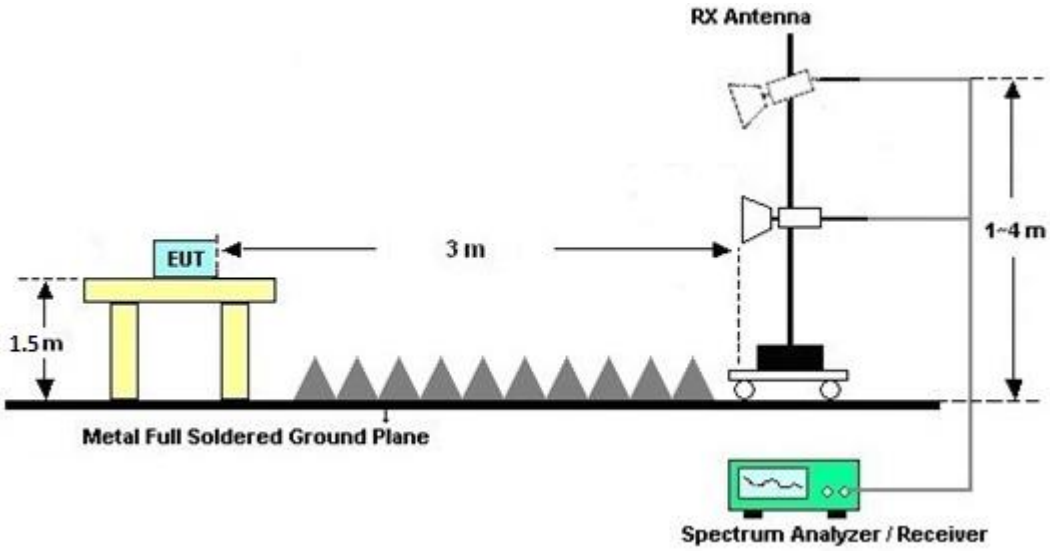
For radiated emissions below 30MHz



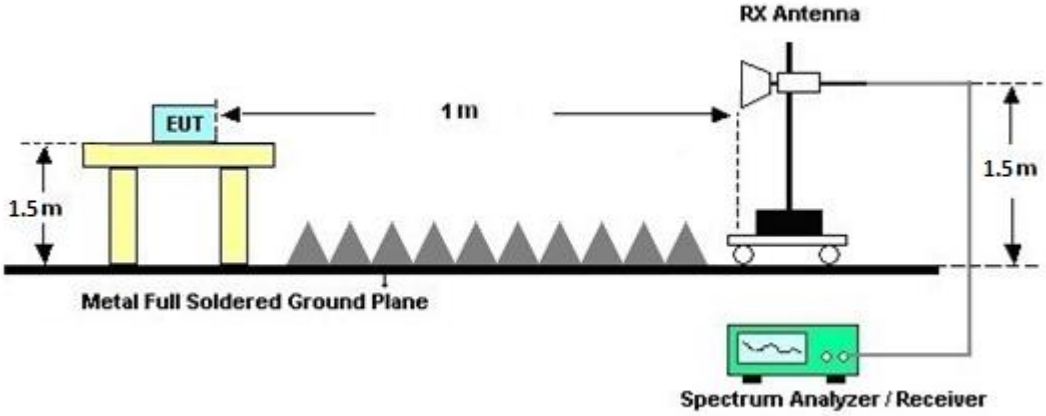
For radiated emissions from 30MHz to 1GHz



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 B and C.

3.4.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix B and C.

3.5 Antenna Requirements

3.5.1 Standard Applicable

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

3.5.2 Antenna Anti-Replacement Construction

Antenna permanently attached.

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	Testo	608-H1	45142602	N/A	Aug. 14, 2024	Oct. 28, 2024~ Nov. 18, 2024	Aug. 13, 2025	Conducted (TH01-CA)
Power Sensor	DARE!!	RPR3006W #10	RPR6W-2101 003	10MHz-8GHz	Apr. 25, 2024	Oct. 28, 2024~ Nov. 18, 2024	Apr. 24, 2025	Conducted (TH01-CA)
Switch Box	EM Electronics	EMSW18	1070901	N/A	Jul. 16, 2024	Oct. 28, 2024~ Nov. 18, 2024	Jul. 15, 2025	Conducted (TH01-CA)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101545	10Hz-40GHz	Apr. 25, 2024	Oct. 28, 2024~ Nov. 18, 2024	Apr. 24, 2025	Conducted (TH01-CA)
Bilog Antenna	TESEQ	6111D	54683	30MHz~1GHz	Nov. 13, 2023	Aug. 28, 2024~ Oct. 25, 2024	Nov. 12, 2024	Radiation (03CH01-CA)
Loop Antenna	R&S	HFH2-Z2E	100840	9kHz~30MHz	May 02, 2024	Aug. 28, 2024~ Oct. 25, 2024	May 01, 2025	Radiation (03CH01-CA)
Horn Antenna	SCHWARZBE CK	BBHA 9120D	02113	1GHz~18GHz	Apr. 26, 2024	Aug. 28, 2024~ Oct. 25, 2024	Apr. 25, 2025	Radiation (03CH01-CA)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA9170	00841	18GHz~40GHz	Aug. 07, 2024	Aug. 28, 2024~ Oct. 25, 2024	Aug. 06, 2025	Radiation (03CH01-CA)
Amplifier	SONOMA	310N	372241	9kHz~1GHz	Apr. 24, 2024	Aug. 28, 2024~ Oct. 25, 2024	Apr. 23, 2025	Radiation (03CH01-CA)
Filter	Wainwright	WHKX8-5872. 5-6750-18000- 40ST	SN8	6.75GHz High Pass Filter	Jun. 04, 2024	Aug. 28, 2024~ Oct. 25, 2024	Jun. 03, 2025	Radiation (03CH01-CA)
Filter	Wainwright	WLK12-1200-1 272-11000-40 SS	SN1	1.2GHz Low Pass Filter	Jun. 04, 2024	Aug. 28, 2024~ Oct. 25, 2024	Jun. 03, 2025	Radiation (03CH01-CA)
Preamplifier	Keysight	83017A	MY53270321	1GHz~26.5GHz	Apr. 25, 2024	Aug. 28, 2024~ Oct. 25, 2024	Apr. 24, 2025	Radiation (03CH01-CA)
Preamplifier	E-instrument	ERA-100M-18 G-56-01-A70	EC1900252	1GHz~18GHz	Apr. 25, 2024	Aug. 28, 2024~ Oct. 25, 2024	Apr. 24, 2025	Radiation (03CH01-CA)
Preamplifier	EMEC	EMC18G40G	060725	18G-40G	Apr. 24, 2024	Aug. 28, 2024~ Oct. 25, 2024	Apr. 23, 2025	Radiation (03CH01-CA)
RF Cable	HUBER+SUH NER	SUCOFLEX 102	8015932/2, 8015762/2, 804938/2	N/A	Mar. 05, 2024	Aug. 28, 2024~ Oct. 25, 2024	Mar. 04, 2025	Radiation (03CH01-CA)
Hygrometer	TESEO	608-H1	45142559	N/A	Aug. 14, 2024	Aug. 28, 2024~ Oct. 25, 2024	Aug. 13, 2025	Radiation (03CH01-CA)
Controller	Chaintek	EM-1000	060881	Control Turn Table & Antenna Mast	N/A	Aug. 28, 2024~ Oct. 25, 2024	N/A	Radiation (03CH01-CA)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Aug. 28, 2024~ Oct. 25, 2024	N/A	Radiation (03CH01-CA)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Aug. 28, 2024~ Oct. 25, 2024	N/A	Radiation (03CH01-CA)
Test Software	Audix E3	E3 230621 Sporton US,V9	PK-002093	N/A	N/A	Aug. 28, 2024~ Oct. 25, 2024	N/A	Radiation (03CH01-CA)

5 Measurement Uncertainty

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.7 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.5 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.5 dB**

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Ju Chang	Temperature:	18.9-23.2	°C
Test Date:	2024/10/28-2024/11/18	Relative Humidity:	33.1-52.1	%

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 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	2	149	5745	16.36	16.36	18.97	18.70	16.06	16.31	0.5	Pass
11a	6Mbps	2	157	5785	16.36	16.37	18.94	19.00	16.05	16.31	0.5	Pass
11a	6Mbps	2	165	5825	16.38	16.37	18.87	19.47	16.04	16.31	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 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	2	149	5745	17.36	17.54	20.46	30.00		4.00		Pass
11a	6Mbps	2	157	5785	17.51	18.79	21.21	30.00		4.00		Pass
11a	6Mbps	2	165	5825	18.31	18.54	21.44	30.00		4.00		Pass
HT20	MCS0	2	149	5745	18.16	18.39	21.29	30.00		4.00		Pass
HT20	MCS0	2	157	5785	17.11	18.44	20.84	30.00		4.00		Pass
HT20	MCS0	2	165	5825	18.11	18.39	21.26	30.00		4.00		Pass
HT40	MCS0	2	151	5755	18.61	18.89	21.76	30.00		4.00		Pass
HT40	MCS0	2	159	5795	17.61	18.89	21.31	30.00		4.00		Pass
VHT20	MCS0	2	149	5745	18.26	18.49	21.39	30.00		4.00		Pass
VHT20	MCS0	2	157	5785	17.21	18.54	20.94	30.00		4.00		Pass
VHT20	MCS0	2	165	5825	18.21	18.49	21.36	30.00		4.00		Pass
VHT40	MCS0	2	151	5755	18.71	18.99	21.86	30.00		4.00		Pass
VHT40	MCS0	2	159	5795	17.71	18.99	21.41	30.00		4.00		Pass
VHT80	MCS0	2	155	5775	19.31	20.23	22.80	30.00		4.00		Pass

TEST RESULTS DATA
Power Spectral Density

Band IV MIMO															
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	2	149	5745	2.22		2.70	2.39	5.71	30.00		5.85		Pass
11a	6Mbps	2	157	5785	2.22		2.81	3.76	6.77	30.00		5.85		Pass
11a	6Mbps	2	165	5825	2.22		3.56	3.54	6.57	30.00		5.85		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	NTX	CH.	Freq. (MHz)	RU Config.	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		
HE20	MCS0	2	149	5745	Full	18.84	18.89	20.86	20.95	17.13	18.09	0.5	Pass
HE20	MCS0	2	157	5785	Full	18.82	18.86	20.72	20.78	18.55	18.86	0.5	Pass
HE20	MCS0	2	165	5825	Full	18.84	18.89	20.62	21.47	18.61	18.62	0.5	Pass
HE40	MCS0	2	151	5755	Full	37.88	38.07	41.41	50.34	36.08	36.30	0.5	Pass
HE40	MCS0	2	159	5795	Full	37.79	37.97	41.01	41.49	36.99	36.18	0.5	Pass
HE80	MCS0	2	155	5775	Full	77.16	77.54	82.14	135.71	77.25	75.14	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 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
HE20	MCS0	2	149	5745	Full	18.36	18.59	21.49	30.00		4.00		Pass
HE20	MCS0	2	157	5785	Full	17.31	18.64	21.04	30.00		4.00		Pass
HE20	MCS0	2	165	5825	Full	18.31	18.59	21.46	30.00		4.00		Pass
HE40	MCS0	2	151	5755	Full	18.81	19.09	21.96	30.00		4.00		Pass
HE40	MCS0	2	159	5795	Full	17.81	19.09	21.51	30.00		4.00		Pass
HE80	MCS0	2	155	5775	Full	19.41	20.33	22.90	30.00		4.00		Pass

TEST RESULTS DATA
Power Spectral Density

Band IV MIMO															
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	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	
HE20	MCS0	2	149	5745	Full	2.22		3.32	3.18	6.33	30.00		5.85		Pass
HE20	MCS0	2	157	5785	Full	2.22		2.02	3.02	6.03	30.00		5.85		Pass
HE20	MCS0	2	165	5825	Full	2.22		3.31	3.41	6.42	30.00		5.85		Pass
HE40	MCS0	2	151	5755	Full	2.22		0.89	0.85	3.90	30.00		5.85		Pass
HE40	MCS0	2	159	5795	Full	2.22		-0.16	0.87	3.88	30.00		5.85		Pass
HE80	MCS0	2	155	5775	Full	2.22		-1.70	-1.15	1.86	30.00		5.85		Pass

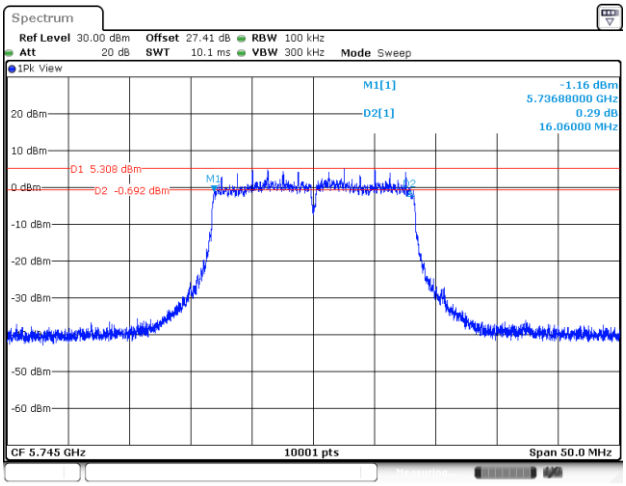
Note: PSD Sum = Max PSD(Ant. 1, Ant. 2) + 10 log (n)

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

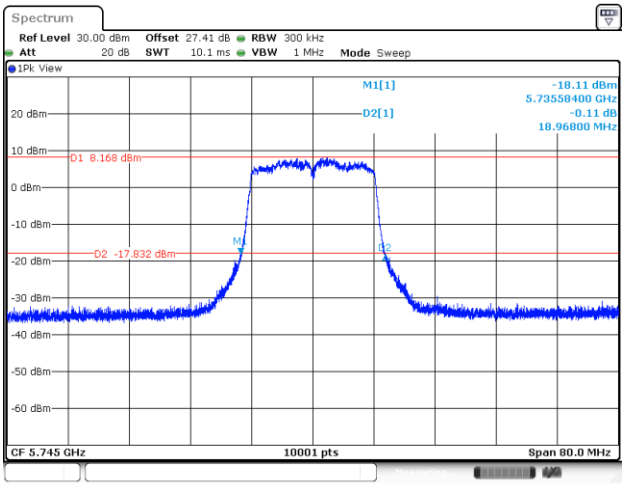
MIMO <Ant. 1+2>

<802.11a>

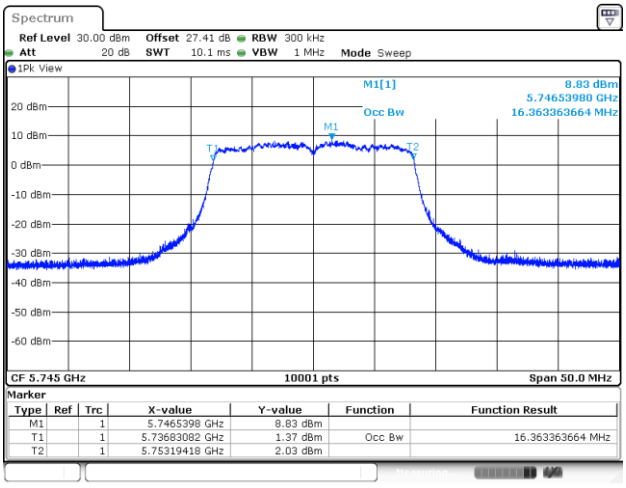
6dB Bandwidth



26dB Bandwidth

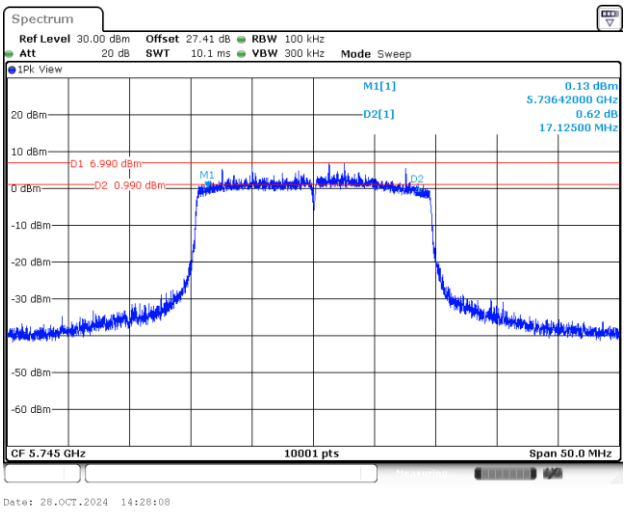
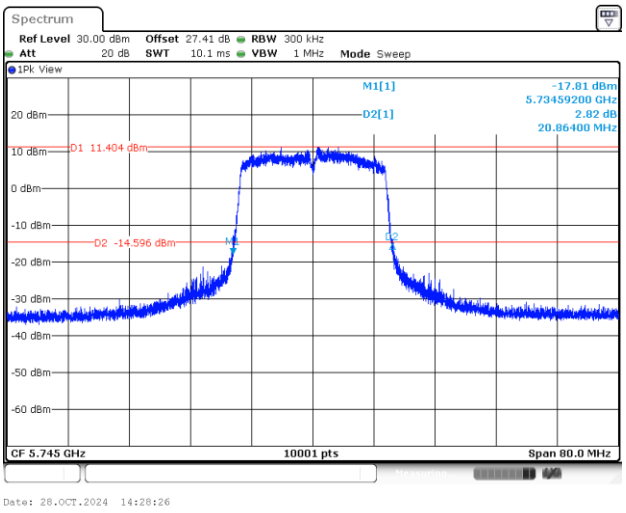
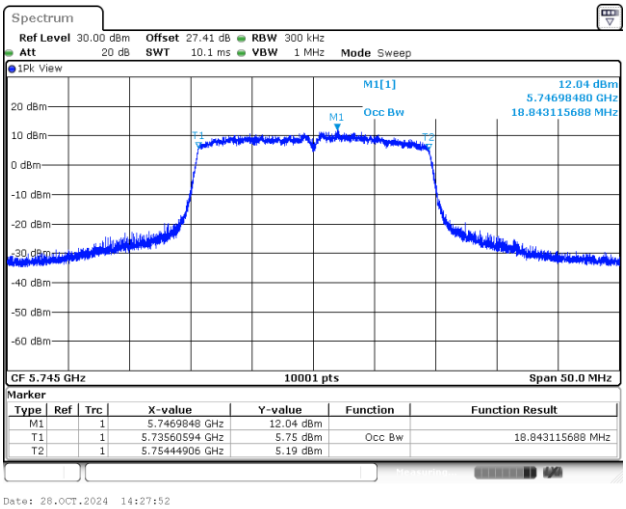


99% Occupied Bandwidth

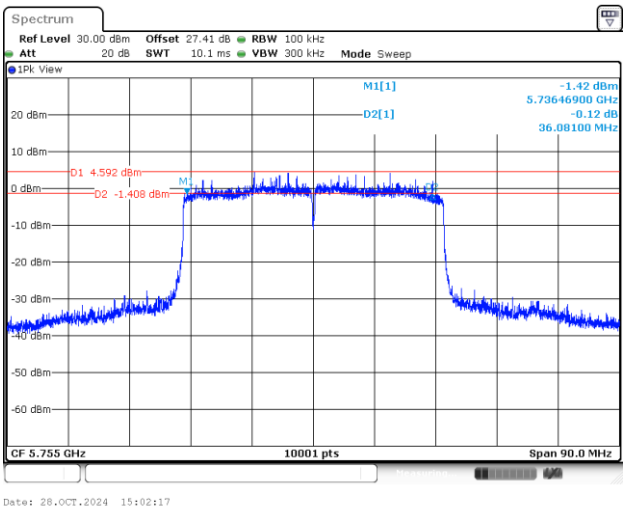
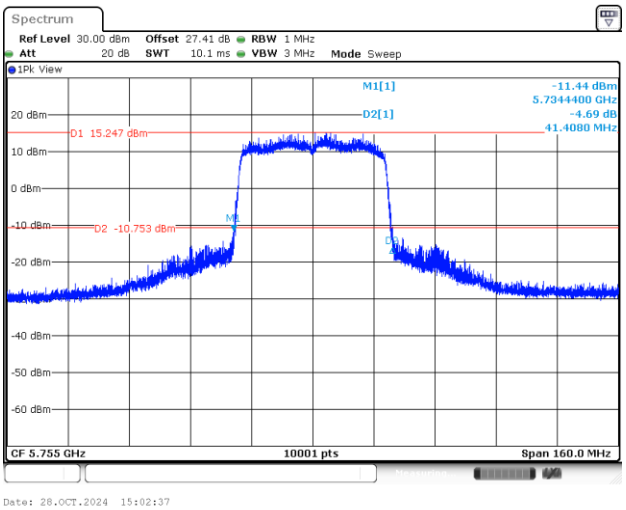
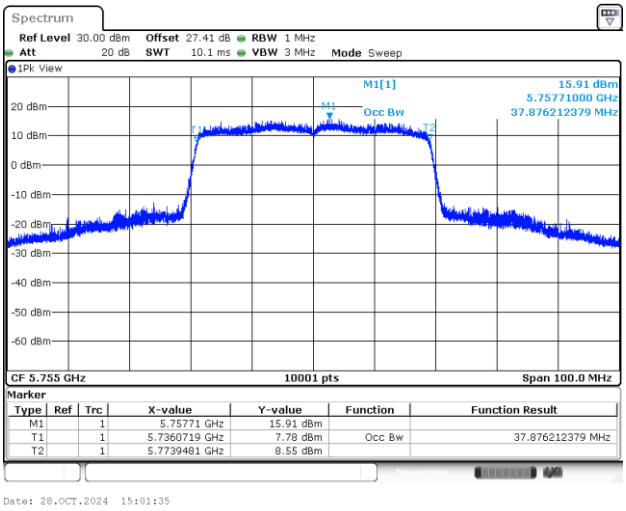


N/A

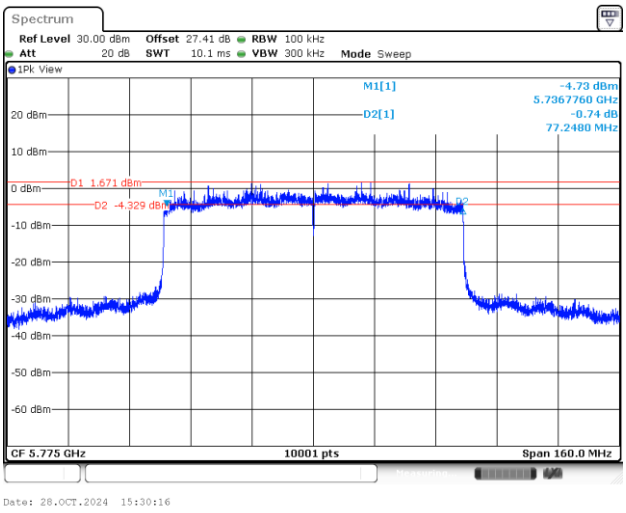
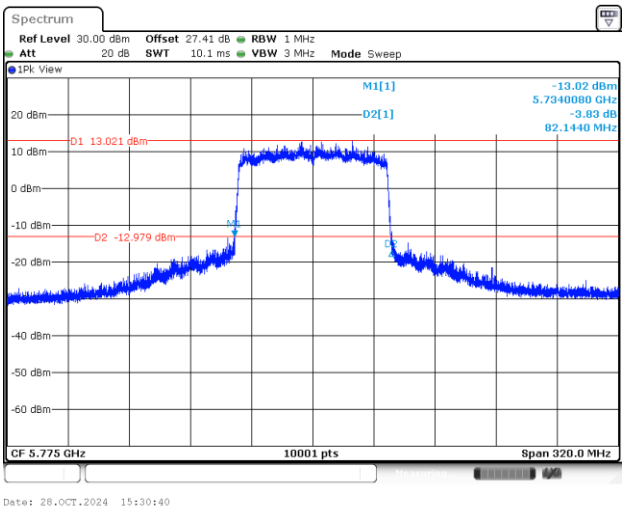
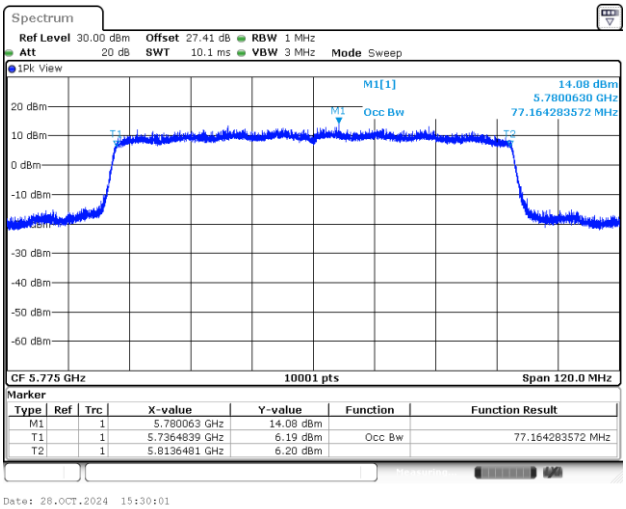
<802.11ax HE20>

6dB Bandwidth	26dB Bandwidth
	
99% Occupied Bandwidth	**N/A**
	

<802.11ax HE40>

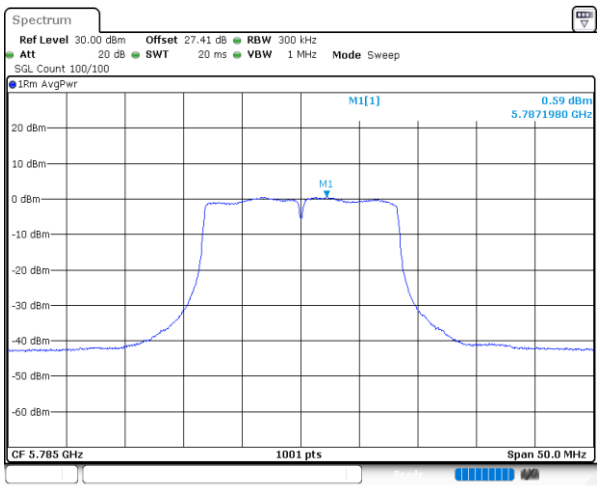
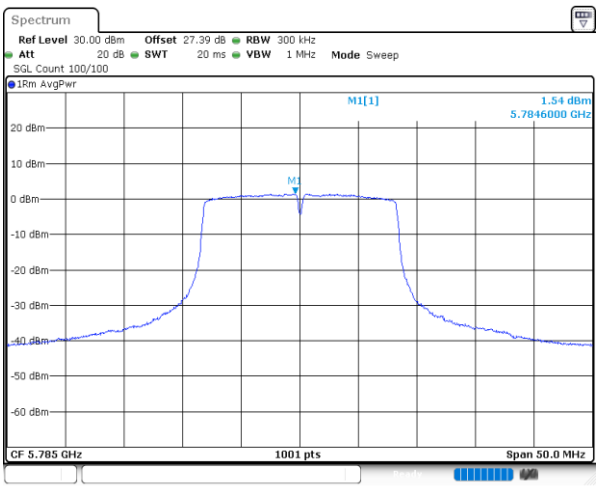
6dB Bandwidth	26dB Bandwidth
	
99% Occupied Bandwidth	**N/A**
	

<802.11ax HE80>

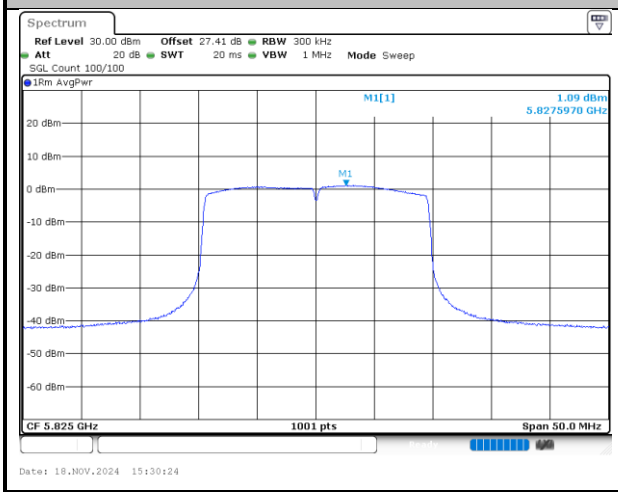
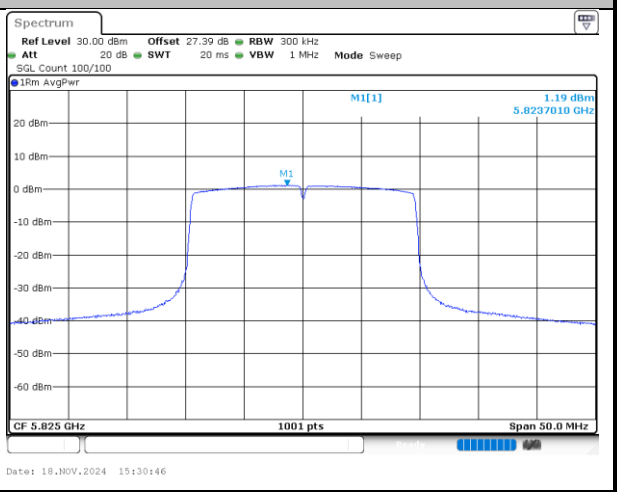
6dB Bandwidth	26dB Bandwidth
	
99% Occupied Bandwidth	**N/A**
	

Test Result of Power Spectral Density

<802.11a>

Maximum Power Density Plot (dBm/300kHz)	
MIMO Ant. 1	MIMO Ant. 2
	

<802.11ax HE20>

Maximum Power Density Plot (dBm/300kHz)	
MIMO Ant. 1	MIMO Ant. 2
	

<802.11ax HE40>

Maximum Power Density Plot (dBm/300kHz)	
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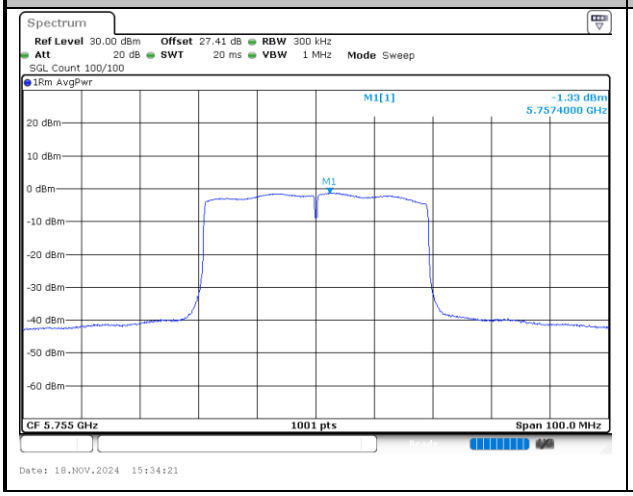	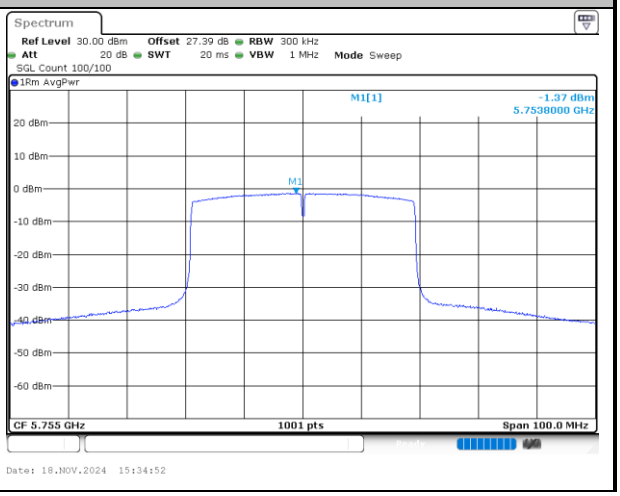

<802.11ax HE80>

Maximum Power Density Plot (dBm/300kHz)	
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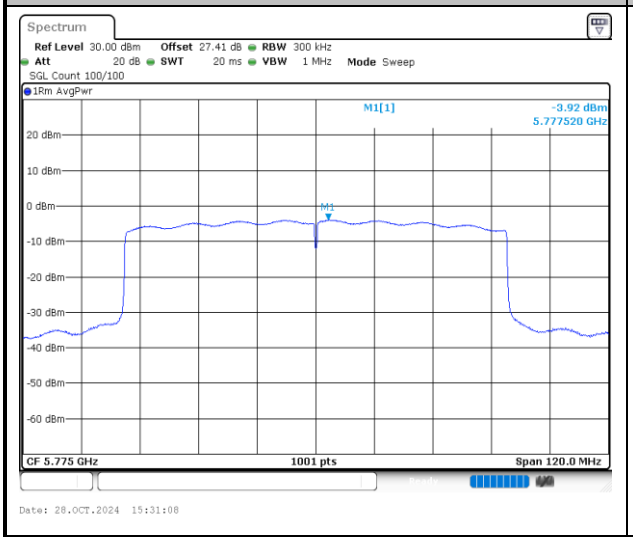
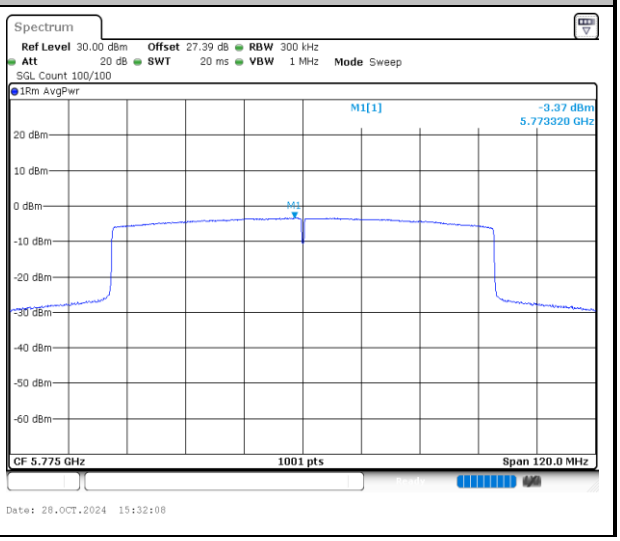
	

Appendix B. Radiated Spurious Emission

Test Engineer :	Jesse Fan, Leo Liu, and Bill Chang	Temperature :	18.5~24.1°C
		Relative Humidity :	42.4~48.5%

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5619.6	55.21	-12.99	68.2	39.51	33.26	11.59	29.15	334	130	P	H
		5654	55.59	-15.58	71.17	39.75	33.38	11.63	29.17	334	130	P	H
		5717.6	64.02	-46.11	110.13	47.85	33.64	11.69	29.16	334	130	P	H
		5723.6	68.95	-50.06	119.01	52.74	33.67	11.7	29.16	334	130	P	H
	*	5745	113.26	-	-	96.93	33.78	11.72	29.17	334	130	P	H
	*	5745	106.86	-	-	90.53	33.78	11.72	29.17	334	130	A	H
		5625.2	55.7	-12.5	68.2	39.91	33.35	11.6	29.16	315	213	P	V
		5684	55.88	-37.52	93.4	39.84	33.54	11.66	29.16	315	213	P	V
		5717.4	64.36	-45.71	110.07	48.15	33.68	11.69	29.16	315	213	P	V
		5722.6	68.29	-48.44	116.73	52.04	33.71	11.7	29.16	315	213	P	V
	*	5745	115.1	-	-	98.73	33.82	11.72	29.17	315	213	P	V
	*	5745	108.11	-	-	91.74	33.82	11.72	29.17	315	213	A	V

WIFI Ant. 1+2	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		5621.6	55.62	-12.58	68.2	39.91	33.27	11.59	29.15	328	130	P	H
		5673	55.31	-29.95	85.26	39.37	33.45	11.65	29.16	328	130	P	H
		5720	55.64	-55.16	110.8	39.44	33.66	11.7	29.16	328	130	P	H
		5721.4	55	-58.99	113.99	38.8	33.66	11.7	29.16	328	130	P	H
	*	5785	114.39	-	-	97.85	33.96	11.76	29.18	328	130	P	H
	*	5785	107.65	-	-	91.11	33.96	11.76	29.18	328	130	A	H
		5853	55.53	-59.83	115.36	38.76	34.17	11.83	29.23	328	130	P	H
		5858.6	56.4	-53.39	109.79	39.61	34.18	11.84	29.23	328	130	P	H
		5913	56.82	-20.23	77.05	39.92	34.25	11.89	29.24	328	130	P	H
		5940.6	56.54	-11.66	68.2	39.63	34.25	11.91	29.25	328	130	P	H
		5633.8	55.3	-12.9	68.2	39.48	33.37	11.61	29.16	313	211	P	V
		5657.4	55.8	-17.9	73.7	39.89	33.45	11.63	29.17	313	211	P	V
		5709.2	56.68	-51.1	107.78	40.51	33.64	11.68	29.15	313	211	P	V
		5723.8	55.23	-64.23	119.46	38.98	33.71	11.7	29.16	313	211	P	V
	*	5785	115.31	-	-	98.73	34	11.76	29.18	313	211	P	V
	*	5785	108.43	-	-	91.85	34	11.76	29.18	313	211	A	V
		5855	55.91	-54.89	110.8	39.09	34.22	11.83	29.23	313	211	P	V
		5874.2	56.02	-49.4	105.42	39.15	34.25	11.85	29.23	313	211	P	V
		5914.6	56.93	-18.94	75.87	39.97	34.31	11.89	29.24	313	211	P	V
		5931.6	56.68	-11.52	68.2	39.7	34.31	11.91	29.24	313	211	P	V

WIFI Ant. 1+2	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	115.34	-	-	98.65	34.1	11.8	29.21	339	129	P	H
	*	5825	108.19	-	-	91.5	34.1	11.8	29.21	339	129	A	H
		5851.8	71.01	-47.09	118.1	54.24	34.17	11.83	29.23	339	129	P	H
		5856	62.73	-47.79	110.52	45.95	34.18	11.83	29.23	339	129	P	H
		5895	56.1	-34.26	90.36	39.22	34.24	11.87	29.23	339	129	P	H
		5935.8	56.66	-11.54	68.2	39.74	34.25	11.91	29.24	339	129	P	H
	*	5825	115.06	-	-	98.33	34.14	11.8	29.21	341	212	P	V
	*	5825	108.24	-	-	91.51	34.14	11.8	29.21	341	212	A	V
		5851	72.78	-47.14	119.92	55.97	34.21	11.83	29.23	341	212	P	V
		5855	64.63	-46.17	110.8	47.81	34.22	11.83	29.23	341	212	P	V
		5921.2	57.19	-13.81	71	40.22	34.31	11.9	29.24	341	212	P	V
		5943.2	57.49	-10.71	68.2	40.5	34.32	11.92	29.25	341	212	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1+2	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	57.89	-16.11	74	69.48	39.11	17.08	67.78	400	166	P	H
		11490	49.15	-4.85	54	60.74	39.11	17.08	67.78	400	166	A	H
		17235	49.25	-18.95	68.2	59.09	37.89	21.23	68.96	197	215	P	H
		11490	59.86	-14.14	74	71.48	39.08	17.08	67.78	211	240	P	V
		11490	50.21	-3.79	54	61.83	39.08	17.08	67.78	211	240	A	V
		17235	51.79	-16.41	68.2	61.46	38.06	21.23	68.96	193	236	P	V
802.11a CH 157 5785MHz		11570	57.2	-16.8	74	69.03	38.92	17.14	67.89	202	224	P	H
		11570	48.3	-5.7	54	60.13	38.92	17.14	67.89	202	224	A	H
		17355	49.72	-18.48	68.2	59.35	38.16	21.3	69.09	305	230	P	H
		11570	58.85	-15.15	74	70.72	38.88	17.14	67.89	202	236	P	V
		11570	48.54	-5.46	54	60.41	38.88	17.14	67.89	202	236	A	V
		17355	51.64	-16.56	68.2	61.07	38.36	21.3	69.09	256	234	P	V
802.11a CH 165 5825MHz		11650	53.89	-20.11	74	65.77	38.72	17.2	67.8	286	115	P	H
		11650	44.37	-9.63	54	56.25	38.72	17.2	67.8	286	115	A	H
		17475	51.81	-16.39	68.2	61.25	38.53	21.38	69.35	303	231	P	H
		11650	57.56	-16.44	74	69.46	38.7	17.2	67.8	198	251	P	V
		11650	48.23	-5.77	54	60.13	38.7	17.2	67.8	198	251	A	V
		17475	52.74	-15.46	68.2	61.96	38.75	21.38	69.35	263	234	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ax HE20_Full (Band Edge @ 3m)

WIFI Ant. 1+2	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		5610.4	54.77	-13.43	68.2	39.11	33.23	11.58	29.15	228	210	P	H
		5675.4	55.75	-31.29	87.04	39.8	33.46	11.65	29.16	228	210	P	H
		5719.8	71.76	-38.98	110.74	55.56	33.66	11.7	29.16	228	210	P	H
		5721.4	72.41	-41.58	113.99	56.21	33.66	11.7	29.16	228	210	P	H
	*	5745	115.6	-	-	99.27	33.78	11.72	29.17	228	210	P	H
	*	5745	106.75	-	-	90.42	33.78	11.72	29.17	228	210	A	H
		5617.2	55.81	-12.39	68.2	40.05	33.32	11.59	29.15	295	213	P	V
		5698.4	57.18	-46.84	104.02	41.07	33.59	11.67	29.15	295	213	P	V
		5717.4	71.99	-38.08	110.07	55.78	33.68	11.69	29.16	295	213	P	V
		5724.8	78.04	-43.7	121.74	61.78	33.72	11.7	29.16	295	213	P	V
	*	5745	116.56	-	-	100.19	33.82	11.72	29.17	295	213	P	V
	*	5745	109.3	-	-	92.93	33.82	11.72	29.17	295	213	A	V

WIFI Ant. 1+2	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)
		5641.2	55.2	-13	68.2	39.42	33.33	11.61	29.16	239	226	P	H
		5658	56.46	-17.68	74.14	40.61	33.39	11.63	29.17	239	226	P	H
		5707.2	55.31	-51.91	107.22	39.19	33.59	11.68	29.15	239	226	P	H
		5724.4	54.81	-66.02	120.83	38.59	33.68	11.7	29.16	239	226	P	H
	*	5785	114.64	-	-	98.1	33.96	11.76	29.18	239	226	P	H
	*	5785	106.91	-	-	90.37	33.96	11.76	29.18	239	226	A	H
		5852	56.6	-61.04	117.64	39.83	34.17	11.83	29.23	239	226	P	H
		5874.8	55.92	-49.34	105.26	39.09	34.21	11.85	29.23	239	226	P	H
802.11ax		5921.8	56.41	-14.15	70.56	39.5	34.25	11.9	29.24	239	226	P	H
HE20 Full		5950	56.59	-11.61	68.2	39.67	34.25	11.92	29.25	239	226	P	H
CH 157		5614	54.54	-13.66	68.2	38.8	33.31	11.58	29.15	305	209	P	V
5785MHz		5684.6	55.47	-38.37	93.84	39.43	33.54	11.66	29.16	305	209	P	V
		5714.8	55.22	-54.13	109.35	39.02	33.67	11.69	29.16	305	209	P	V
		5722.6	54.77	-61.96	116.73	38.52	33.71	11.7	29.16	305	209	P	V
	*	5785	114.78	-	-	98.2	34	11.76	29.18	305	209	P	V
	*	5785	106.92	-	-	90.34	34	11.76	29.18	305	209	A	V
		5852.6	56.21	-60.06	116.27	39.4	34.21	11.83	29.23	305	209	P	V
		5868.2	56.05	-51.05	107.1	39.2	34.24	11.84	29.23	305	209	P	V
		5896.2	57.21	-32.26	89.47	40.28	34.29	11.87	29.23	305	209	P	V
		5925	56.68	-11.52	68.2	39.71	34.31	11.9	29.24	305	209	P	V

WIFI Ant. 1+2	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	115.29	-	-	98.6	34.1	11.8	29.21	243	224	P	H
	*	5825	106.77	-	-	90.08	34.1	11.8	29.21	243	224	A	H
		5850	67.4	-54.8	122.2	50.63	34.17	11.83	29.23	243	224	P	H
		5856.2	66.88	-43.58	110.46	50.1	34.18	11.83	29.23	243	224	P	H
		5906.4	56.71	-25.22	81.93	39.81	34.25	11.88	29.23	243	224	P	H
		5925.6	56.66	-11.54	68.2	39.75	34.25	11.9	29.24	243	224	P	H
	*	5825	114.1	-	-	97.37	34.14	11.8	29.21	299	209	P	V
	*	5825	106.75	-	-	90.02	34.14	11.8	29.21	299	209	A	V
		5853.2	65.77	-49.13	114.9	48.95	34.22	11.83	29.23	299	209	P	V
		5855.2	66.92	-43.82	110.74	50.1	34.22	11.83	29.23	299	209	P	V
		5922.4	56.11	-14.01	70.12	39.14	34.31	11.9	29.24	299	209	P	V
		5931.2	56.35	-11.85	68.2	39.38	34.31	11.9	29.24	299	209	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ax HE20 Full (Harmonic @ 3m)

WIFI Ant. 1+2	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	58.99	-15.01	74	70.58	39.11	17.08	67.78	223	170	P	H
		11490	48.43	-5.57	54	60.02	39.11	17.08	67.78	223	170	A	H
		17235	47.44	-20.76	68.2	57.28	37.89	21.23	68.96	225	198	P	H
		11490	61.26	-12.74	74	72.88	39.08	17.08	67.78	218	240	P	V
		11490	49.75	-4.25	54	61.37	39.08	17.08	67.78	218	240	A	V
		17235	51.04	-17.16	68.2	60.71	38.06	21.23	68.96	202	229	P	V
802.11ax HE20 Full CH 157 5785MHz		11570	57.61	-16.39	74	69.44	38.92	17.14	67.89	212	224	P	H
		11570	46.82	-7.18	54	58.65	38.92	17.14	67.89	212	224	A	H
		17355	49.63	-18.57	68.2	59.26	38.16	21.3	69.09	206	158	P	H
		11570	57.83	-16.17	74	69.7	38.88	17.14	67.89	221	238	P	V
		11570	47.86	-6.14	54	59.73	38.88	17.14	67.89	221	238	A	V
		17355	52.51	-15.69	68.2	61.94	38.36	21.3	69.09	195	234	P	V
802.11ax HE20 Full CH 165 5825MHz		11650	54.36	-19.64	74	66.24	38.72	17.2	67.8	232	165	P	H
		11650	44.22	-9.78	54	56.1	38.72	17.2	67.8	232	165	A	H
		17475	53.11	-15.09	68.2	62.55	38.53	21.38	69.35	245	214	P	H
		11650	55.38	-18.62	74	67.28	38.7	17.2	67.8	243	235	P	V
		11650	45.55	-8.45	54	57.45	38.7	17.2	67.8	243	235	A	V
		17475	53.99	-14.21	68.2	63.21	38.75	21.38	69.35	272	231	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ax HE40_Full (Band Edge @ 3m)

WIFI Ant. 1+2	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		5614	54.6	-13.6	68.2	38.93	33.24	11.58	29.15	333	131	P	H
		5699.8	67.62	-37.43	105.05	51.54	33.56	11.67	29.15	333	131	P	H
		5718.6	77.75	-32.66	110.41	61.57	33.65	11.69	29.16	333	131	P	H
		5722.6	82.86	-33.87	116.73	66.65	33.67	11.7	29.16	333	131	P	H
	*	5755	113.18	-	-	96.8	33.82	11.73	29.17	333	131	P	H
	*	5755	104.45	-	-	88.07	33.82	11.73	29.17	333	131	A	H
		5850.2	56.3	-65.44	121.74	39.53	34.17	11.83	29.23	333	131	P	H
		5857.8	56.88	-53.13	110.01	40.1	34.18	11.83	29.23	333	131	P	H
		5919.8	56.68	-15.35	72.03	39.78	34.25	11.89	29.24	333	131	P	H
		5935	57.15	-11.05	68.2	40.23	34.25	11.91	29.24	333	131	P	H
		5648.6	56.16	-12.04	68.2	40.29	33.42	11.62	29.17	331	214	P	V
		5696.4	69.01	-33.54	102.55	52.9	33.59	11.67	29.15	331	214	P	V
		5715.4	78.75	-30.76	109.51	62.55	33.67	11.69	29.16	331	214	P	V
		5724.8	80.38	-41.36	121.74	64.12	33.72	11.7	29.16	331	214	P	V
	*	5755	113.08	-	-	96.66	33.86	11.73	29.17	331	214	P	V
	*	5755	106.12	-	-	89.7	33.86	11.73	29.17	331	214	A	V
		5853.6	55.34	-58.65	113.99	38.52	34.22	11.83	29.23	331	214	P	V
		5864.8	55.87	-52.18	108.05	39.02	34.24	11.84	29.23	331	214	P	V
		5919.8	56.88	-15.15	72.03	39.92	34.31	11.89	29.24	331	214	P	V
		5938.4	56.46	-11.74	68.2	39.48	34.32	11.91	29.25	331	214	P	V

WIFI Ant. 1+2	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		5615.8	54.85	-13.35	68.2	39.16	33.25	11.59	29.15	339	131	P	H
		5699.4	56.59	-48.17	104.76	40.51	33.56	11.67	29.15	339	131	P	H
		5720	62.03	-48.77	110.8	45.83	33.66	11.7	29.16	339	131	P	H
		5720	62.03	-48.77	110.8	45.83	33.66	11.7	29.16	339	131	P	H
	*	5795	111.66	-	-	95.07	34.01	11.77	29.19	339	131	P	H
	*	5795	104.52	-	-	87.93	34.01	11.77	29.19	339	131	A	H
		5854.8	69.76	-41.5	111.26	52.98	34.18	11.83	29.23	339	131	P	H
		5857	66.02	-44.22	110.24	49.24	34.18	11.83	29.23	339	131	P	H
		5878.8	60.75	-41.63	102.38	43.91	34.22	11.85	29.23	339	131	P	H
		5937	56.53	-11.67	68.2	39.61	34.25	11.91	29.24	339	131	P	H
		5614.8	56.55	-11.65	68.2	40.8	33.31	11.59	29.15	317	210	P	V
		5699.2	58.4	-46.21	104.61	42.28	33.6	11.67	29.15	317	210	P	V
		5716.4	62.06	-47.73	109.79	45.85	33.68	11.69	29.16	317	210	P	V
		5724.4	63.66	-57.17	120.83	47.4	33.72	11.7	29.16	317	210	P	V
	*	5795	112.88	-	-	96.25	34.05	11.77	29.19	317	210	P	V
	*	5795	104.74	-	-	88.11	34.05	11.77	29.19	317	210	A	V
		5850	65.82	-56.38	122.2	49.01	34.21	11.83	29.23	317	210	P	V
		5856.8	64.1	-46.2	110.3	47.28	34.22	11.83	29.23	317	210	P	V
		5875	57.1	-48.1	105.2	40.23	34.25	11.85	29.23	317	210	P	V
		5941	56.02	-12.18	68.2	39.04	34.32	11.91	29.25	317	210	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ax HE40_Full (Harmonic @ 3m)

WIFI Ant. 1+2	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	55.09	-18.91	74	66.75	39.07	17.09	67.82	222	170	P	H
		11510	45.47	-8.53	54	57.13	39.07	17.09	67.82	222	170	A	H
		17265	59.2	-9	68.2	68.96	37.97	21.25	68.98	307	224	P	H
		11510	56.52	-17.48	74	68.22	39.03	17.09	67.82	214	240	P	V
		11510	46.66	-7.34	54	58.36	39.03	17.09	67.82	214	240	A	V
		17265	64.78	-3.42	68.2	74.37	38.14	21.25	68.98	192	227	P	V
802.11ax HE40 Full CH 159 5795MHz		11590	51.09	-22.91	74	62.98	38.85	17.16	67.9	216	313	P	H
		11590	38.78	-15.22	54	50.67	38.85	17.16	67.9	216	313	A	H
		17385	58.23	-9.97	68.2	67.82	38.25	21.32	69.16	305	222	P	H
		11590	51.95	-22.05	74	63.87	38.82	17.16	67.9	212	244	P	V
		11590	39.46	-14.54	54	51.38	38.82	17.16	67.9	212	244	A	V
		17385	63.35	-4.85	68.2	72.74	38.45	21.32	69.16	197	234	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ax HE80_Full (Band Edge @ 3m)

WIFI Ant. 1+2	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		5642.8	66.45	-1.75	68.2	50.67	33.34	11.61	29.17	365	170	P	H
		5684.2	83.4	-10.14	93.54	67.4	33.5	11.66	29.16	365	170	P	H
		5715.2	88.52	-20.94	109.46	72.36	33.63	11.69	29.16	365	170	P	H
		5721	86.46	-26.62	113.08	70.26	33.66	11.7	29.16	365	170	P	H
	*	5775	109.65	-	-	93.16	33.92	11.75	29.18	365	170	P	H
	*	5775	101.17	-	-	84.68	33.92	11.75	29.18	365	170	A	H
		5850.6	78.31	-42.52	120.83	61.54	34.17	11.83	29.23	365	170	P	H
		5855.6	76.9	-33.73	110.63	60.12	34.18	11.83	29.23	365	170	P	H
		5876	70.19	-34.27	104.46	53.36	34.21	11.85	29.23	365	170	P	H
		5946	58.93	-9.27	68.2	42.01	34.25	11.92	29.25	365	170	P	H
		5643.2	65.9	-2.3	68.2	50.05	33.4	11.62	29.17	301	210	P	V
		5698.2	80.88	-22.99	103.87	64.77	33.59	11.67	29.15	301	210	P	V
		5717.2	86.4	-23.62	110.02	70.19	33.68	11.69	29.16	301	210	P	V
		5722.8	85.87	-31.31	117.18	69.62	33.71	11.7	29.16	301	210	P	V
	*	5775	110.38	-	-	93.85	33.96	11.75	29.18	301	210	P	V
	*	5775	102.46	-	-	85.93	33.96	11.75	29.18	301	210	A	V
		5851	78.79	-41.13	119.92	61.98	34.21	11.83	29.23	301	210	P	V
		5855.4	78.26	-32.43	110.69	61.44	34.22	11.83	29.23	301	210	P	V
		5875.4	69.92	-34.98	104.9	53.04	34.26	11.85	29.23	301	210	P	V
		5935.4	58.32	-9.88	68.2	41.34	34.31	11.91	29.24	301	210	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ax HE80_Full (Harmonic @ 3m)

WIFI Ant. 1+2	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		11550	52.19	-21.81	74	63.98	38.98	17.12	67.89	218	225	P	H
		11550	43.03	-10.97	54	54.82	38.98	17.12	67.89	218	225	A	H
		17325	58.26	-9.94	68.2	67.91	38.11	21.28	69.04	204	222	P	H
		11550	53.11	-20.89	74	64.94	38.94	17.12	67.89	221	240	P	V
		11550	44.38	-9.62	54	56.21	38.94	17.12	67.89	221	240	A	V
		17325	60.8	-7.4	68.2	70.27	38.29	21.28	69.04	197	235	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission above 18GHz

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

WIFI Ant. 1+2	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 SHF		23100	45.95	-28.05	74	44.07	39.03	14.97	52.12	201	292	P	H
		23100	39.99	-14.01	54	38.11	39.03	14.97	52.12	201	292	A	H
		28875	44.7	-23.5	68.2	40.13	39.88	17.91	53.22	199	251	P	H
		23100	48.94	-25.06	74	46.79	39.3	14.97	52.12	201	236	P	V
		23100	40.89	-13.11	54	38.74	39.3	14.97	52.12	201	236	A	V
		28875	51.97	-16.23	68.2	47.32	39.96	17.91	53.22	198	229	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Emission below 1GHz

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

WIFI Ant. 1+2	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 LF		45.52	14.74	-25.26	40	29.6	16.44	1.1	32.4	-	-	P	H
		144.46	30.47	-13.03	43.5	43.54	17.41	1.93	32.41	-	-	P	H
		280.26	36.75	-9.25	46	47.86	18.71	2.68	32.5	-	-	P	H
		511.12	29.19	-16.81	46	34.36	24	3.64	32.81	-	-	P	H
		742.95	33.39	-12.61	46	33.84	27.96	4.41	32.82	-	-	P	H
		964	33.65	-20.35	54	28.84	31.1	5.16	31.45	-	-	P	H
		43.58	19.84	-20.16	40	33.63	17.55	1.08	32.42	-	-	P	V
		122.15	26.37	-17.13	43.5	39.66	17.4	1.73	32.42	-	-	P	V
		466.5	29.29	-16.71	46	35.07	23.43	3.53	32.74	-	-	P	V
		627.52	27.33	-18.67	46	30.21	26	4.04	32.92	-	-	P	V
		804.06	30.56	-15.44	46	30.5	28.02	4.62	32.58	-	-	P	V
		931.13	33.24	-12.76	46	29.84	30.07	5.07	31.74	-	-	P	V
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 **Margin** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

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

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(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. Margin(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Margin(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 68.2(dBμV/m)

= -12.75 (dB)

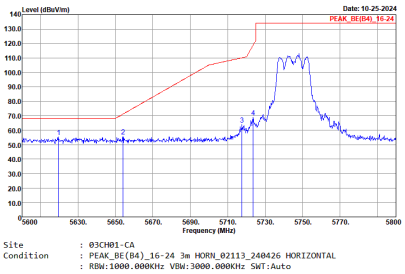
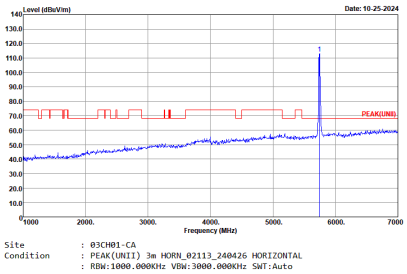
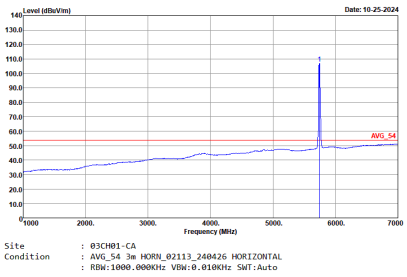
Peak measured complies with the limit line, so test result is “PASS”.

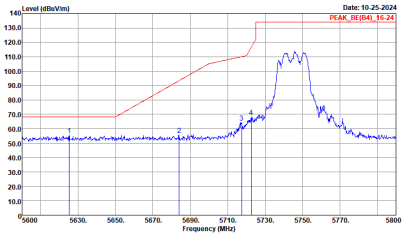
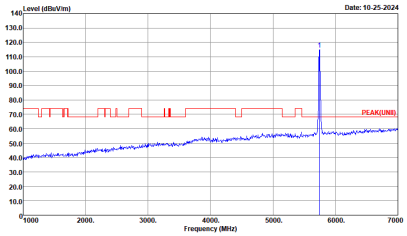
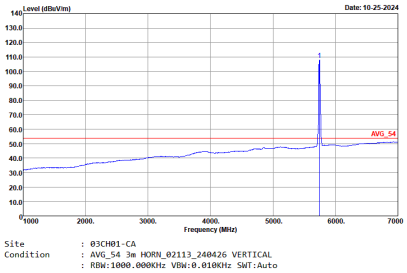
Appendix C. Radiated Spurious Emission Plots

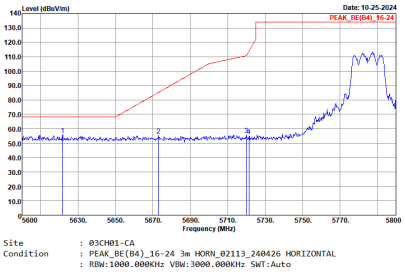
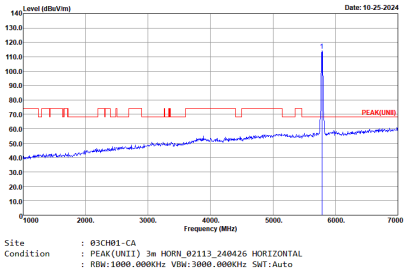
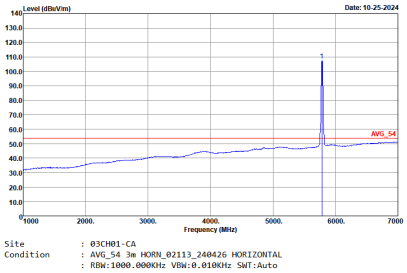
Test Engineer :	Jesse Fan, Leo Liu, and Bill Chang	**Temperature :**	18.5~24.1°C
		Relative Humidity :	42.4~48.5%

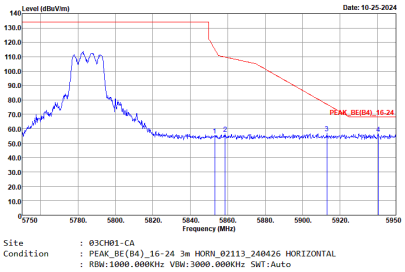
Band 4 - 5725~5850MHz

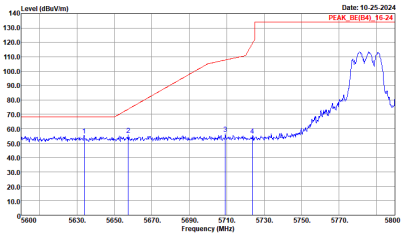
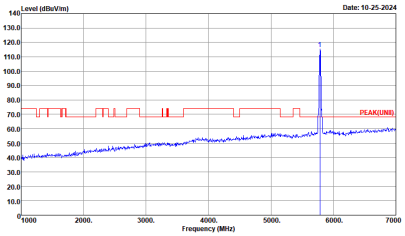
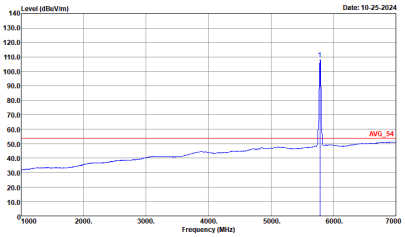
WIFI 802.11a (Band Edge @ 3m)

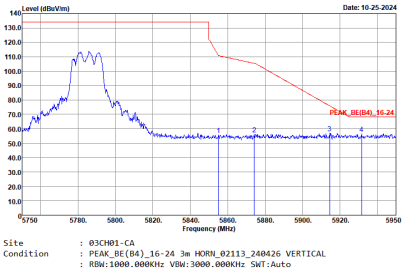
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.	Left blank	

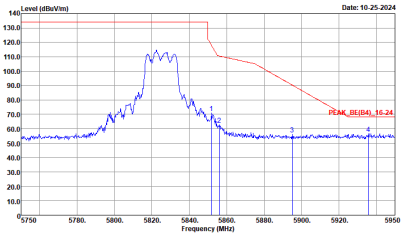
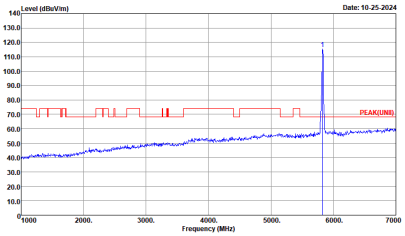
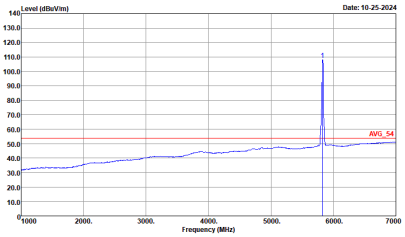
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1+2	Vertical	Fundamental
Peak		
Avg.	Left blank	

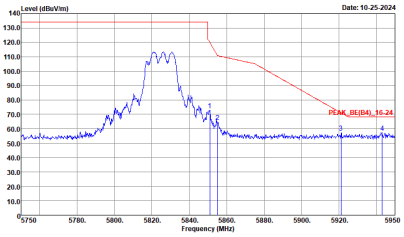
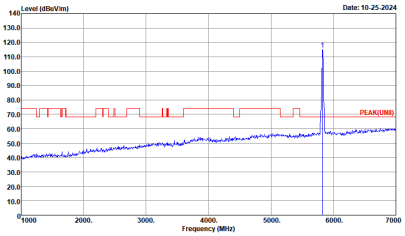
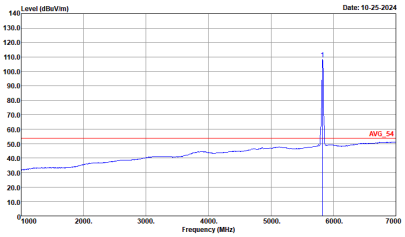
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.	Left blank	

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Horizontal	Fundamental
Peak		Left blank

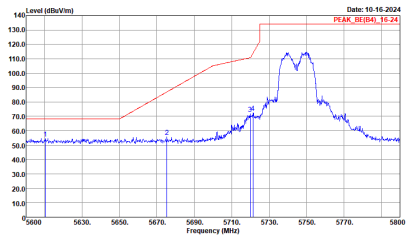
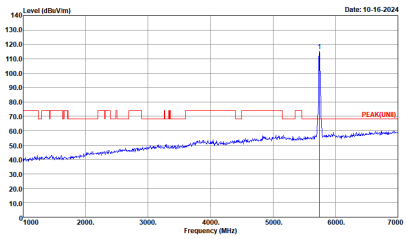
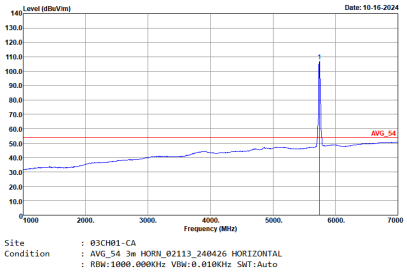
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH01-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_240426 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH01-CA Condition : PEAK(UNII) 3m HORN_02113_240426 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Left blank	 Site : 03CH01-CA Condition : AVG_54 3m HORN_02113_240426 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

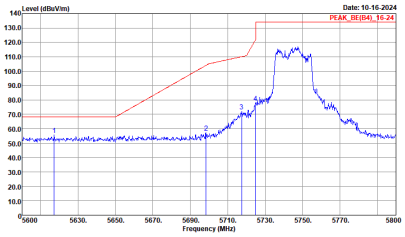
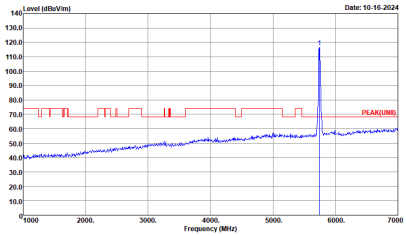
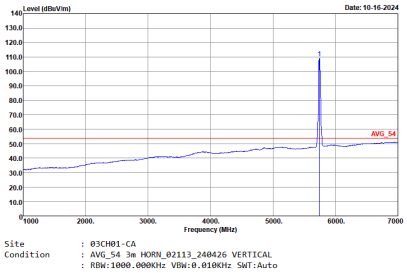
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Vertical	Fundamental
Peak		Left blank

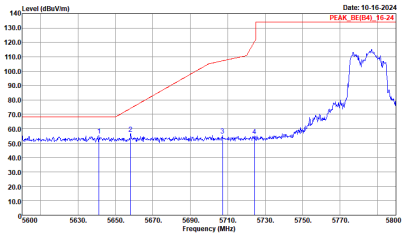
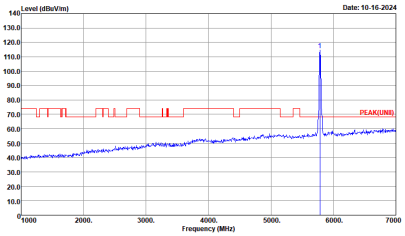
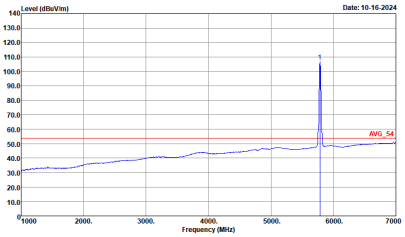
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH01-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_240426 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH01-CA Condition : PEAK(UNII) 3m HORN_02113_240426 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Left blank	 Site : 03CH01-CA Condition : AVG_54 3m HORN_02113_240426 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

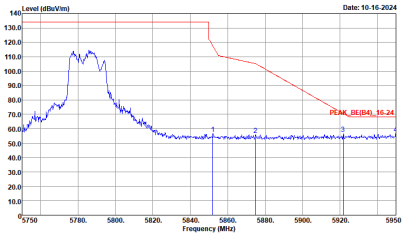
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH01-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_240426 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH01-CA Condition : PEAK(UNII) 3m HORN_02113_240426 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Left blank	 Site : 03CH01-CA Condition : AVG_54 3m HORN_02113_240426 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

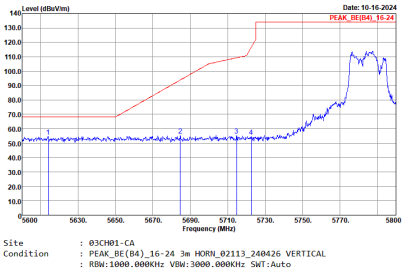
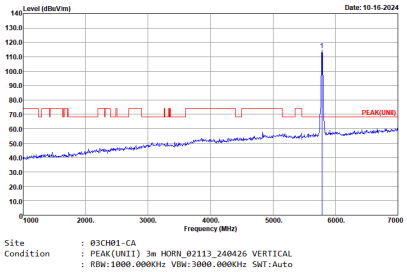
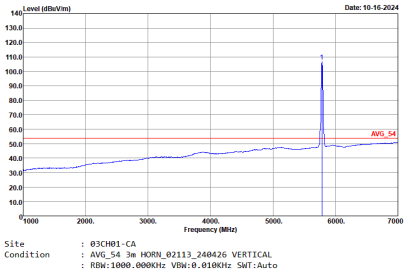
Band 4 5725~5850MHz
WIFI 802.11ax HE20 Full (Band Edge @ 3m)

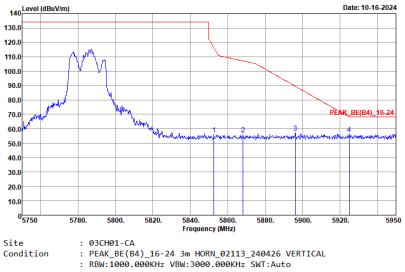
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH149 5745MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.	Left blank	

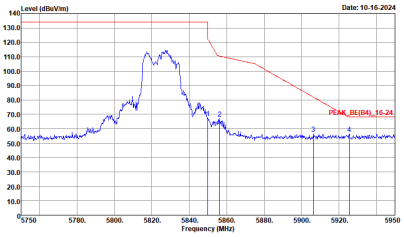
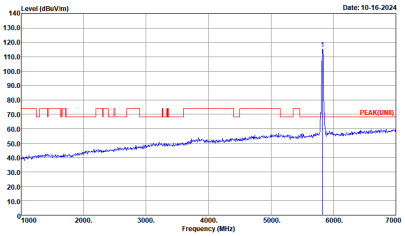
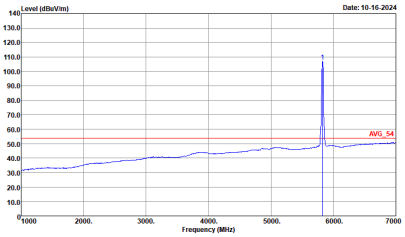
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH149 5745MHz	
1+2	Vertical	Fundamental
Peak		
Avg.	Left blank	

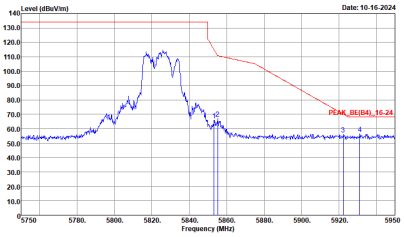
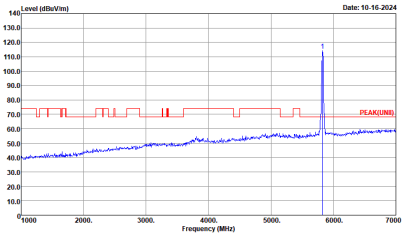
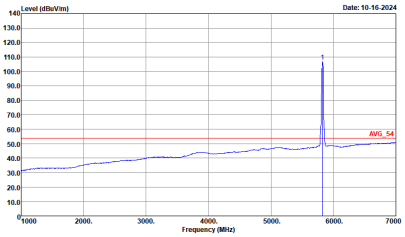
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH01-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_240426 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH01-CA Condition : PEAK(UNII) 3m HORN_02113_240426 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Left blank	 Site : 03CH01-CA Condition : AVG_54 3m HORN_02113_240426 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH01-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_240426 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
1+2	Vertical	Fundamental
Peak		
Avg.	Left blank	

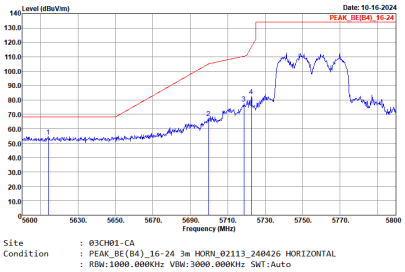
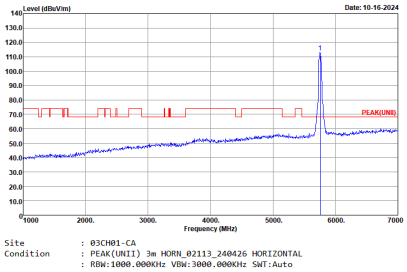
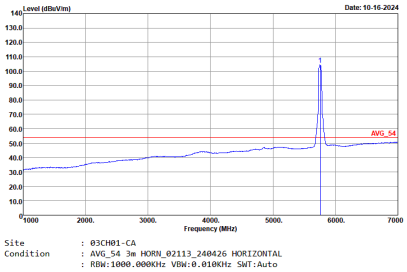
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
1+2	Vertical	Fundamental
Peak		Left blank

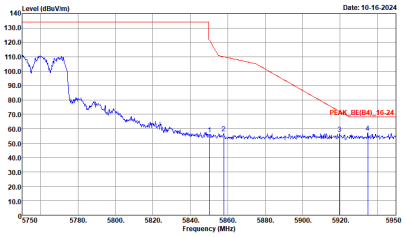
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH165 5825MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH01-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_240426 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH01-CA Condition : PEAK(UNII) 3m HORN_02113_240426 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Left blank	 Site : 03CH01-CA Condition : AVG_54 3m HORN_02113_240426 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

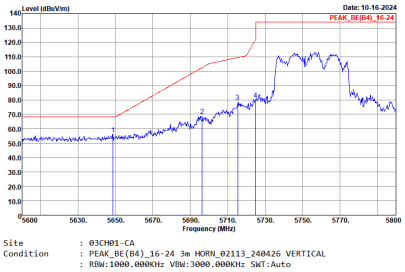
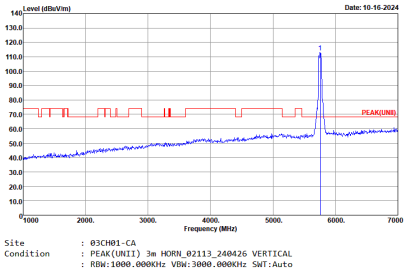
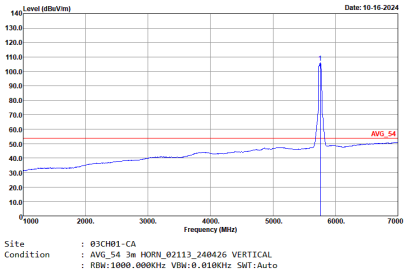
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH165 5825MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH01-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_240426 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH01-CA Condition : PEAK(UNII) 3m HORN_02113_240426 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Left blank	 Site : 03CH01-CA Condition : AVG_54 3m HORN_02113_240426 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

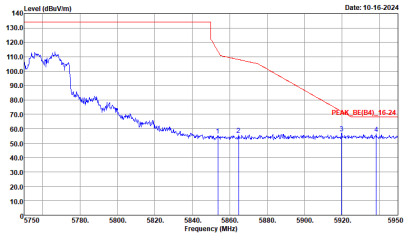
Band 4 5725~5850MHz

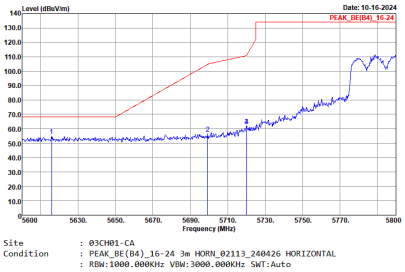
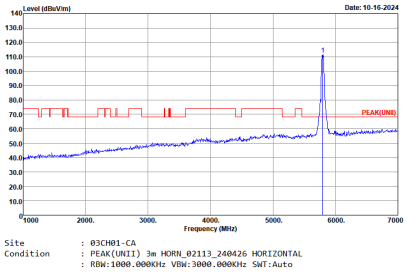
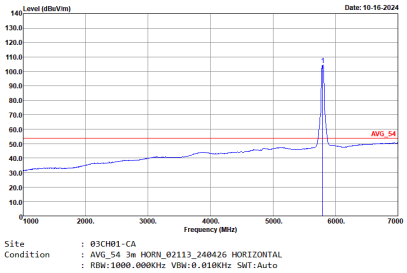
WIFI 802.11ax HE40 Full (Band Edge @ 3m)

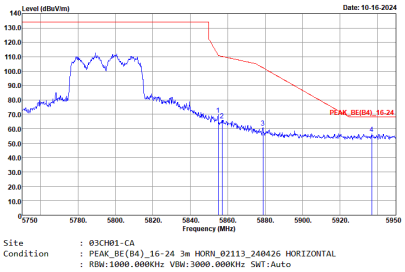
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.	Left blank	

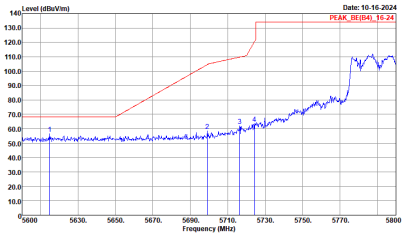
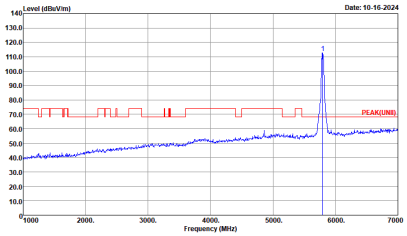
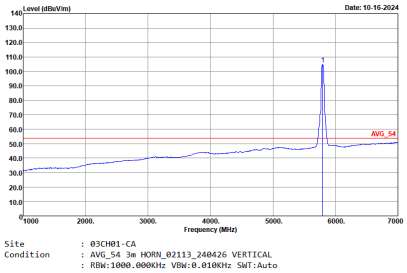
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH01-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_240426 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank

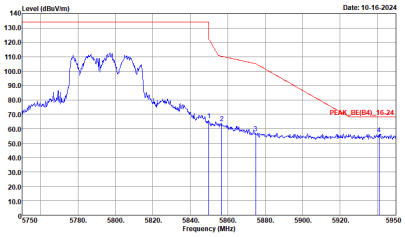
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
1+2	Vertical	Fundamental
Peak		
Avg.	Left blank	

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH01-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_240426 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full HT40 CH159 5795MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.	Left blank	

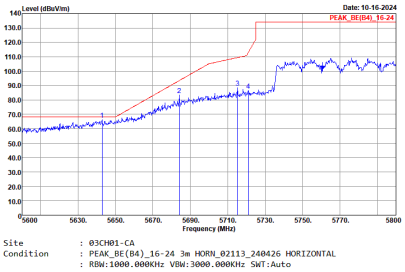
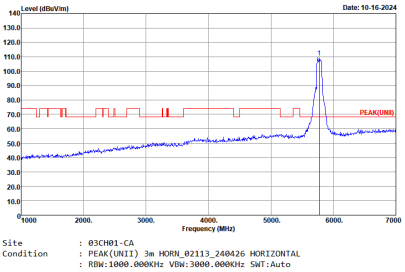
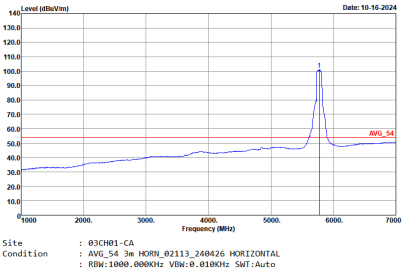
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full HT40 CH159 5795MHz	
1+2	Horizontal	Fundamental
Peak		Left blank

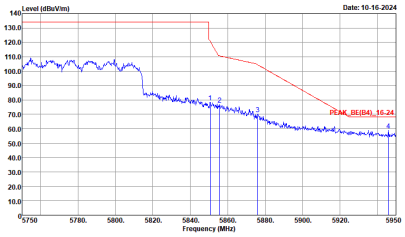
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH159 5795MHz	
1+2	Vertical	Fundamental
Peak		
Avg.	Left blank	

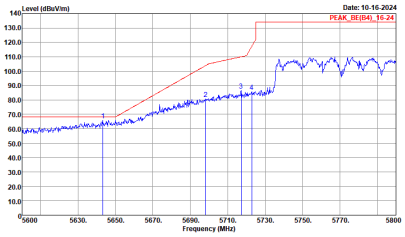
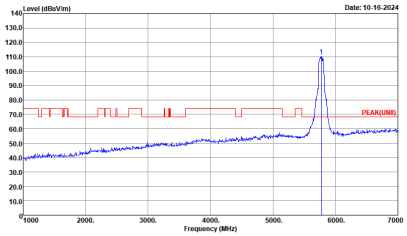
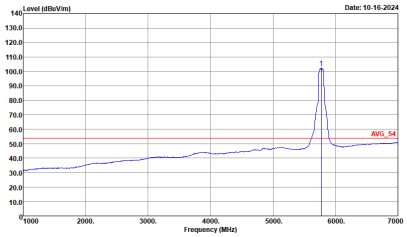
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH159 5795MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH01-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_240426 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank

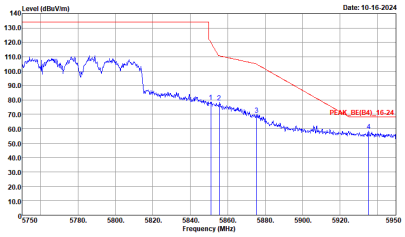
Band 4 5725~5850MHz

WIFI 802.11ax HE80 Full (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.	Left blank	

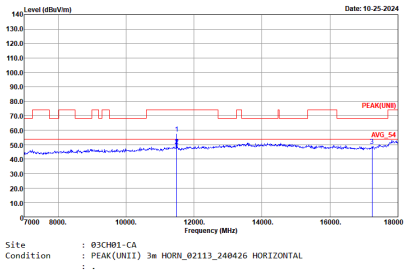
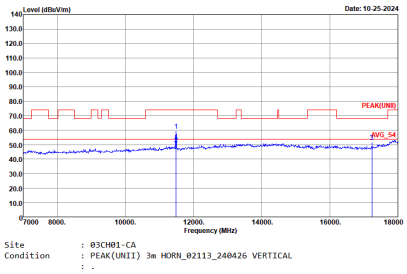
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH01-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_240426 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank

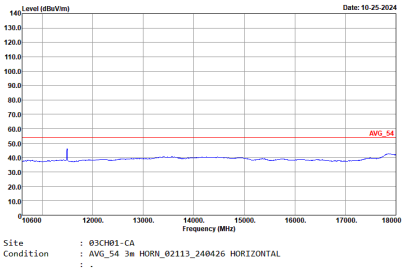
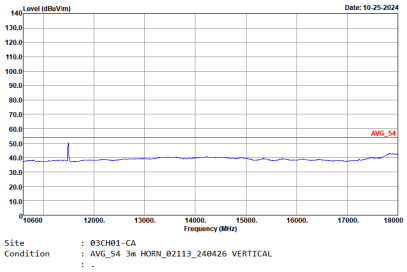
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH01-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_240426 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH01-CA Condition : PEAK(UNII) 3m HORN_02113_240426 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Left blank	 Site : 03CH01-CA Condition : AVG_54 3m HORN_02113_240426 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

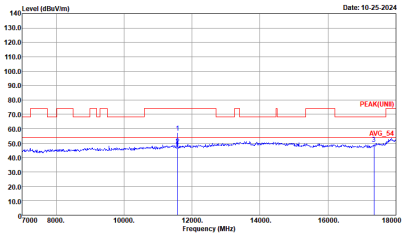
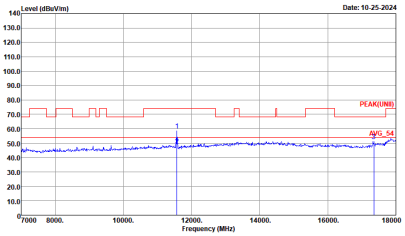
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH01-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_240426 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank

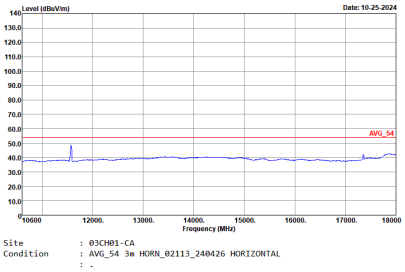
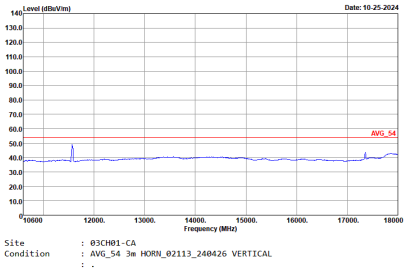
Band 4 - 5725~5850MHz

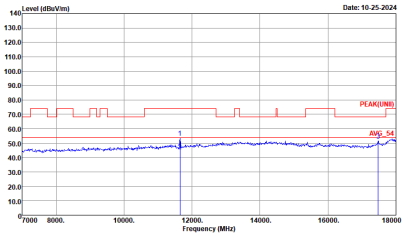
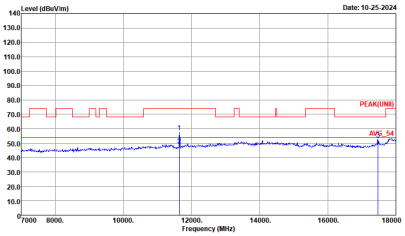
WIFI 802.11a (Harmonic @ 3m)

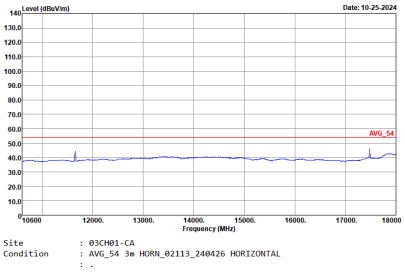
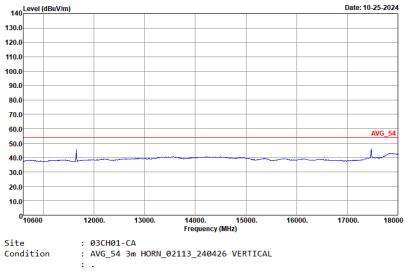
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
1+2	Horizontal	Vertical
14.47G ~14.5G Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH01-CA Condition : PEAK(UNII) 3m HORN_02113_240426 HORIZONTAL : .	 Site : 03CH01-CA Condition : PEAK(UNII) 3m HORN_02113_240426 VERTICAL : .

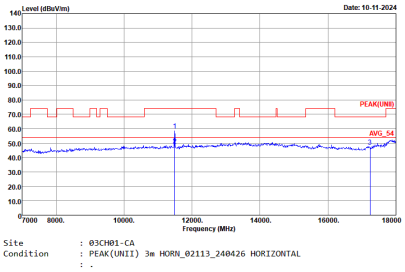
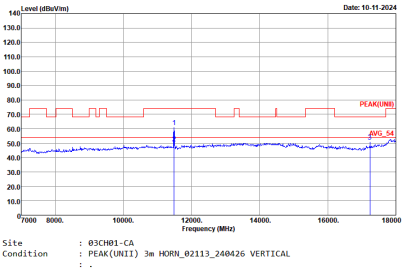
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Horizontal	Vertical
14.47G ~14.5G Avg.		

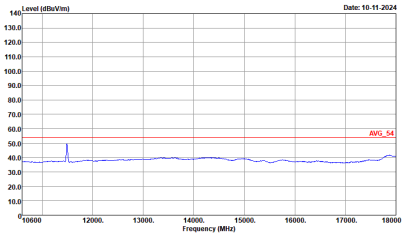
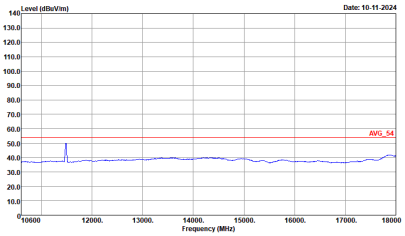
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH01-CA Condition : PEAK(UNII) 3m HORN_02113_240426 HORIZONTAL : .	 Site : 03CH01-CA Condition : PEAK(UNII) 3m HORN_02113_240426 VERTICAL : .

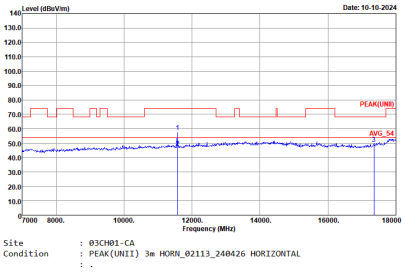
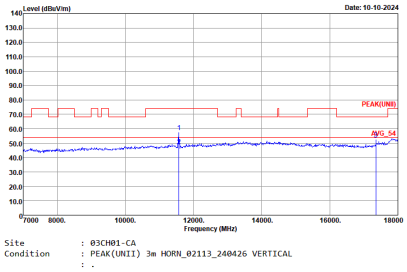
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
1+2	Horizontal	Vertical
14.47G ~14.5G Avg.		

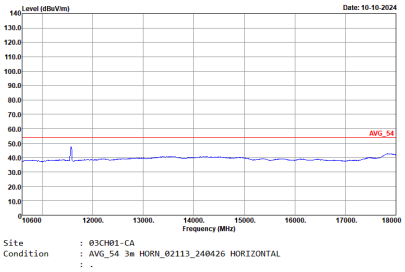
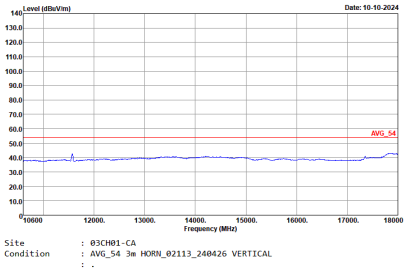
Band 4 5725~5850MHz

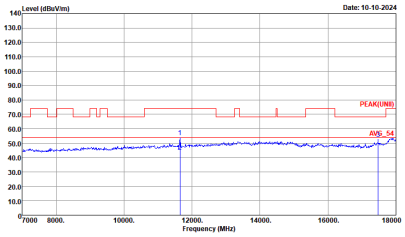
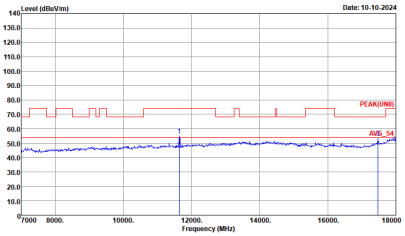
WIFI 802.11ax HE20 Full (Harmonic @ 3m)

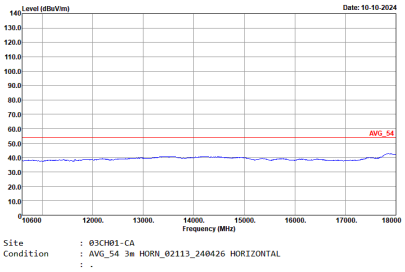
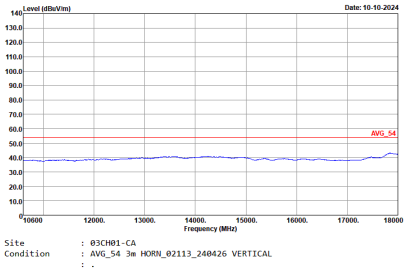
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH149 5745MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH149 5745MHz	
1+2	Horizontal	Vertical
14.47G ~14.5G Avg.	 Site : 03CH01-CA Condition : AVG_54 3m HORN_02113_240426 HORIZONTAL : .	 Site : 03CH01-CA Condition : AVG_54 3m HORN_02113_240426 VERTICAL : .

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
1+2	Horizontal	Vertical
Peak Avg.		

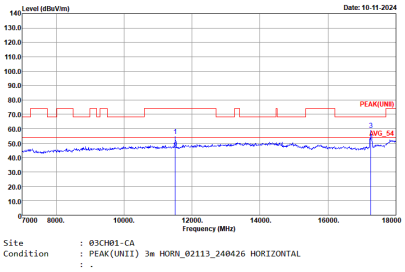
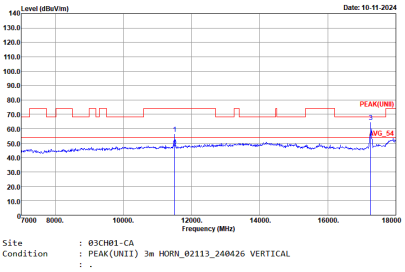
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
1+2	Horizontal	Vertical
14.47G ~14.5G Avg.		

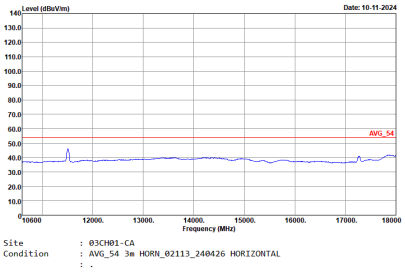
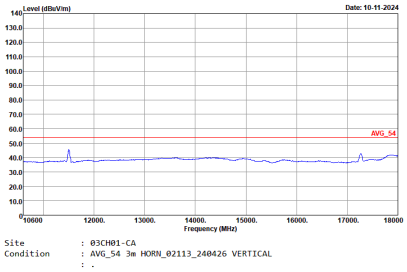
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH165 5825MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH01-CA Condition : PEAK(UNII) 3m HORN_02113_240426 HORIZONTAL : .	 Site : 03CH01-CA Condition : PEAK(UNII) 3m HORN_02113_240426 VERTICAL : .

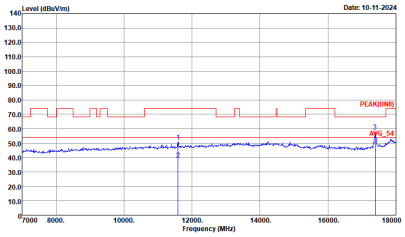
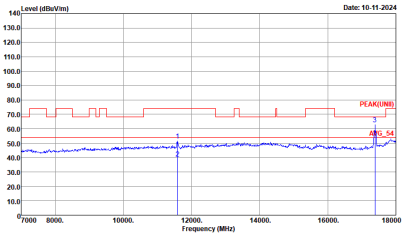
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH165 5825MHz	
1+2	Horizontal	Vertical
14.47G ~14.5G Avg.		

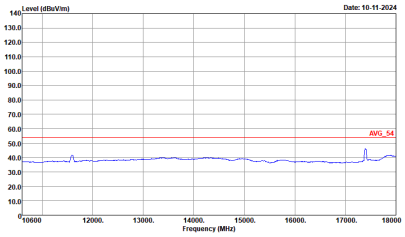
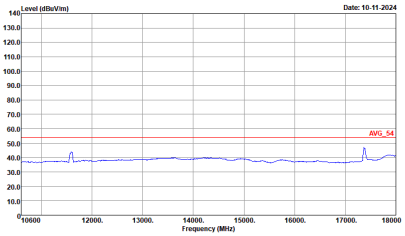
Band 4 5725~5850MHz

WIFI 802.11ax HE40 Full (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
1+2	Horizontal	Vertical
Peak Avg.		

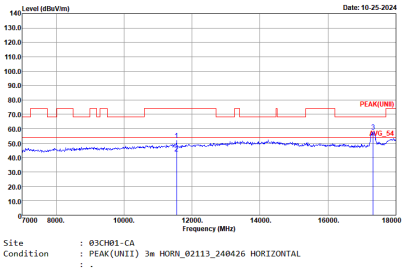
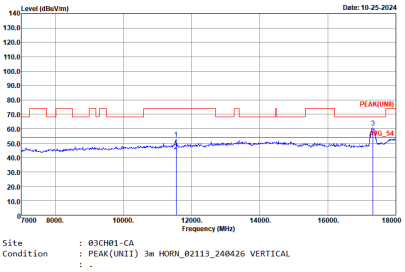
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
1+2	Horizontal	Vertical
14.47G ~14.5G Avg.		

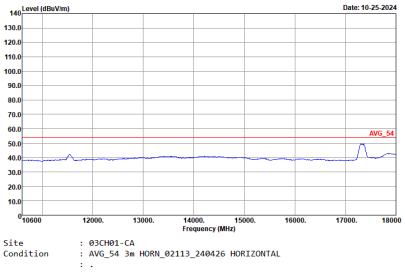
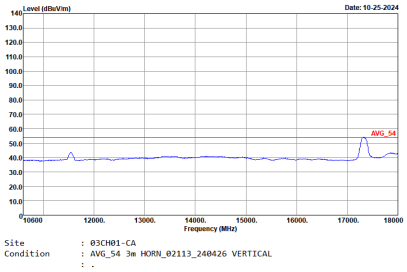
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE40 Full CH159 5795MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH01-CA Condition : PEAK(UNII) 3m HORN_02113_240426 HORIZONTAL : .	 Site : 03CH01-CA Condition : PEAK(UNII) 3m HORN_02113_240426 VERTICAL : .

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE40 Full CH159 5795MHz	
1+2	Horizontal	Vertical
14.47G ~14.5G Avg.	 Site : 03CH01-CA Condition : AVG_54 3m HORN_02113_240426 HORIZONTAL : .	 Site : 03CH01-CA Condition : AVG_54 3m HORN_02113_240426 VERTICAL : .

Band 4 5725~5850MHz

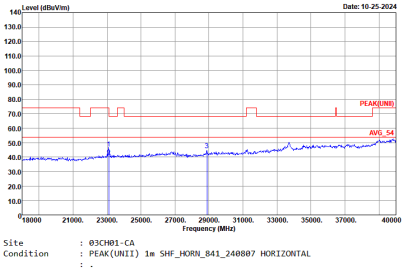
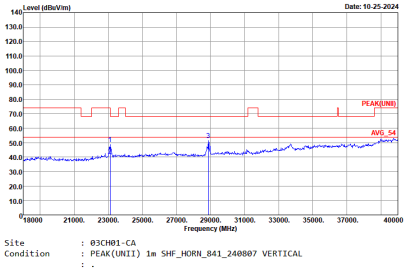
WIFI 802.11ax HE80 Full (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
1+2	Horizontal	Vertical
14.47G ~14.5G Avg.		

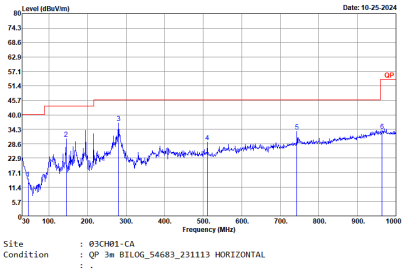
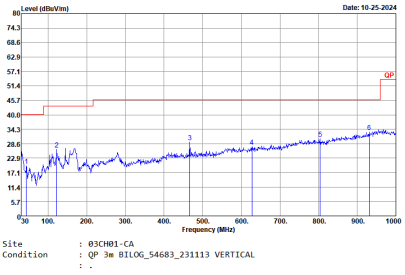
Emission above 18GHz

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

WIFI	5GHz WIFI	
ANT	802.11ax HE80 Full SHF	
1+2	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

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

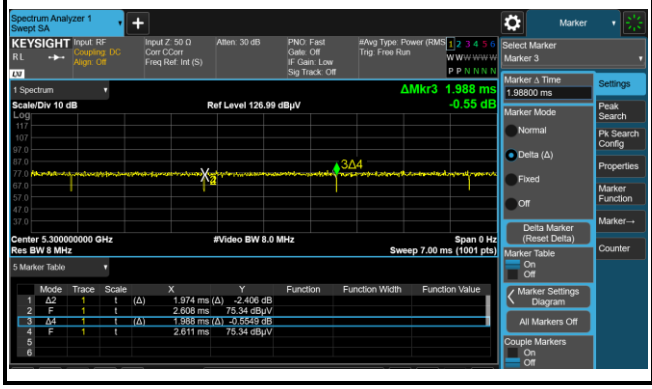
WIFI	5GHz WIFI	
ANT	802.11ax HE80 Full LF	
1+2	Horizontal	Vertical
QP / Peak		

Appendix D. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1+2	802.11a	99.30	-	-	10Hz
1+2	5GHz 802.11ax HE20 Full RU	99.63	-	-	10Hz
1+2	5GHz 802.11ax HE40 Full RU	99.40	-	-	10Hz
1+2	5GHz 802.11ax HE80 Full RU	99.67	-	-	10Hz

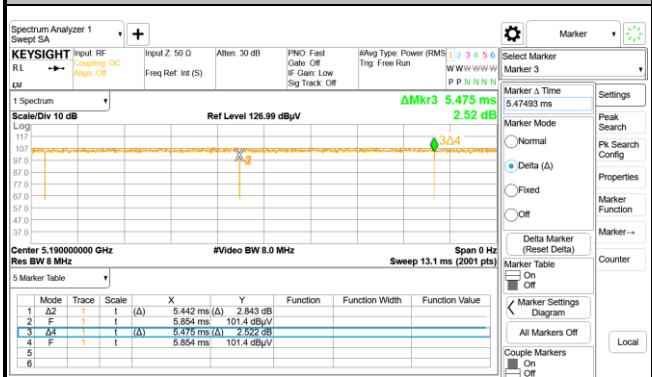
MIMO <Ant. 1+2>

802.11a

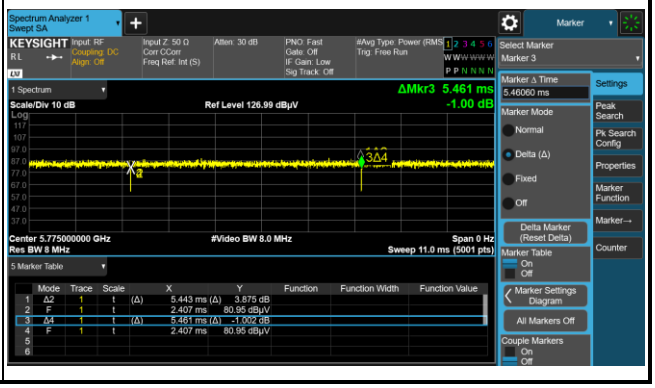


5GHz 802.11ax HE20 Full RU

5GHz 802.11ax HE40 Full RU



5GHz 802.11ax HE80 Full RU



——THE END——