



FCC RADIO TEST REPORT

FCC ID : UZ7ET65AW
Equipment : Rugged 2 in 1 Android Tablet
Brand Name : Zebra
Model Name : ET65AW
Applicant : Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742
Manufacturer : Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742
Standard : FCC Part 15 Subpart E §15.407

The product was received on Jul. 12, 2023 and testing was performed from Jul. 19, 2023 to Aug. 22, 2023. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. EMC & Wireless Communications Laboratory

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



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History of this test report

Report No.	Version	Description	Issue Date
FR371211F	01	Initial issue of report	Sep. 19, 2023



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.403(i)	6dB & 26dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.407(a)	Maximum Conducted Output Power	Pass	-
3.3	15.407(a)	Power Spectral Density	Pass	-
3.4	15.407(b)	Unwanted Emissions	Pass	2.43 dB under the limit at 5649.20 MHz
3.5	15.207	AC Conducted Emission	Pass	3.69 dB under the limit at 13.56 MHz
3.6	15.203	Antenna Requirement	Pass	-

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.

Reviewed by: Keven Cheng**Report Producer: Ming Chen**



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Rugged 2 in 1 Android Tablet
Brand Name	Zebra
Model Name	ET65AW
FCC ID	UZ7ET65AW
EUT supports Radios application	WCDMA/HSPA/LTE/5G NR/NFC/GNSS WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80/VHT160 WLAN 11ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE
HW Version	DV2
SW Version	A13
FW Version	1.1.2.0.645.4
MFD	21JUN23
EUT Stage	Identical Prototype

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

Specification of Accessories				
Adapter	Brand Name	Zebra	Part Number	PWR-BGA15V45W-UC2-WW
Battery 1	Brand Name	Zebra	Part Number	BT-000471-0020
Battery 2	Brand Name	Zebra	Part Number	BT-000471-0820

Supported Unit Used in Test Configuration and System				
USB TYPE C to 3.5mm audio connector	Brand Name	Zebra	Part Number	ADP-USBC-35MM1-01
3.5mm Earphone	Brand Name	Zebra	Part Number	HDST-35MM-PTVP-01
USB TYPE C Earphone	Brand Name	Zebra	Part Number	HPST-USBC-PTT1-01
Headset Jumper	Brand Name	Zebra	Part Number	CBL-TC51-HDST35-01



1.2 Product Specification of Equipment Under Test

Product Specification is subject to this standard										
Tx/Rx Frequency Range	5745 MHz ~ 5825 MHz									
Maximum Output Power to Antenna	MIMO <Ant. 7+8> 802.11a: 20.26 dBm / 0.1062 W 802.11n HT20: 20.06 dBm / 0.1014 W 802.11n HT40: 20.16 dBm / 0.1038 W 802.11ac VHT20: 20.16 dBm / 0.1038 W 802.11ac VHT40: 20.26 dBm / 0.1062 W 802.11ac VHT80: 20.01 dBm / 0.1002 W 802.11ax HE20: 20.26 dBm / 0.1062 W 802.11ax HE40: 20.36 dBm / 0.1086 W 802.11ax HE80: 20.11 dBm / 0.1026 W									
99% Occupied Bandwidth	MIMO <Ant. 7> 802.11a: 17.73 MHz 802.11ax HE20: 19.33 MHz 802.11ax HE40: 38.16 MHz 802.11ax HE80: 77.44 MHz MIMO <Ant. 8> 802.11a: 18.08 MHz 802.11ax HE20: 19.63 MHz 802.11ax HE40: 38.46 MHz 802.11ax HE80: 77.32 MHz									
Antenna Type / Gain	<Ant. 7> : Monopole Antenna with gain 2.52 dBi <Ant. 8> : Monopole Antenna with gain 2.22 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	<table border="1"> <thead> <tr> <th></th> <th>Ant. 7</th> <th>Ant. 8</th> </tr> </thead> <tbody> <tr> <td>802.11 a/n/ac/ax MIMO</td> <td>V</td> <td>V</td> </tr> <tr> <td>802.11 ax TXBF</td> <td>V</td> <td>V</td> </tr> </tbody> </table>		Ant. 7	Ant. 8	802.11 a/n/ac/ax MIMO	V	V	802.11 ax TXBF	V	V
	Ant. 7	Ant. 8								
802.11 a/n/ac/ax MIMO	V	V								
802.11 ax TXBF	V	V								

Remark:

1. MIMO Ant. 7+8 Directional Gain is a calculated result from MIMO Ant. 7 and MIMO Ant. 8. The formula used in calculation is documented in section 1.2.1.
2. Power of MIMO Ant. 7 + Ant. 8 is a calculated result from sum of the power MIMO Ant. 7 and MIMO Ant. 8.
3. 802.11ax Support Tx Beamforming mode, and the manufacturer declares that Tx Beamforming power/EIRP is less than CDD mode 3dbm, so CDD mode cover Tx Beamforming mode.
4. The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.

1.2.1 Antenna Directional Gain

<For CDD Mode>

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

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

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

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

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



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

			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant 7	Ant 8	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
Band IV	2.52	2.22	2.52	5.38	0.00	0.00

Calculation example:

If a device has two antenna, $G_{ANT1}= 2.52\text{dBi}$; $G_{ANT2}=2.22\text{dBi}$

Directional gain of power measurement = $\max(2.52, 2.22) + 0 = 2.52 \text{ dBi}$

Directional gain of PSD derived from formula which is

$$10 \times \log \left\{ \left[10^{\frac{2.52 \text{ dBi}}{20}} + 10^{\frac{2.22 \text{ dBi}}{20}} \right]^2 \right\} / 2$$

$$=5.38 \text{ dBi}$$

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

<For TXBF Modes>

The EUT supports beamforming modes , then

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

Directional gain = GANT + 10 log(NANT/NSS) dBi,

where NSS = the number of independent spatial streams of data and GANT is the antenna gain in dBi

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

where

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

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

N_{ANT} = the total number of antennas

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

The directional gain “DG” is calculated as following table.

			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant 7	Ant 8	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
Band IV	2.52	2.22	5.38	5.38	0.00	0.00

Calculation example:

Directional gain is derived from formula which is

$$10 \times \log \left\{ \left[10^{(2.52 \text{ dBi} / 20)} + 10^{(2.22 \text{ dBi} / 20)} \right]^2 / 2 \right\}$$

$$= 5.38 \text{ dBi}$$

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 Inc. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No. CO05-HY, 03CH07-HY

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

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No. TH05-HY (TAF Code: 3786)
Remark	The Conducted test item subcontracted to Sporton International Inc. Wensan Laboratory.

FCC designation No.: TW1190 and TW3786

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.
3. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



2 Test Configuration of Equipment Under Test

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

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5725-5850 MHz Band 4 (U-NII-3)	149	5745	157	5785
	151*	5755	159*	5795
	153	5765	161	5805
	155#	5775	165	5825

Note:

1. The above Frequency and Channel with "*" are 802.11n HT40 and 802.11ac VHT40 and 802.11ax HE40.
2. The above Frequency and Channel with "#" are 802.11ac VHT80 and 802.11ax HE80.



2.2 Test Mode

This device support 26/52/106/242/484/996-tone RU.

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

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

The 242-tone RU is covered by 20MHz channel, 484-tone RU is covered by 40MHz channel and 996-tone RU is covered by 80MHz channel.

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.

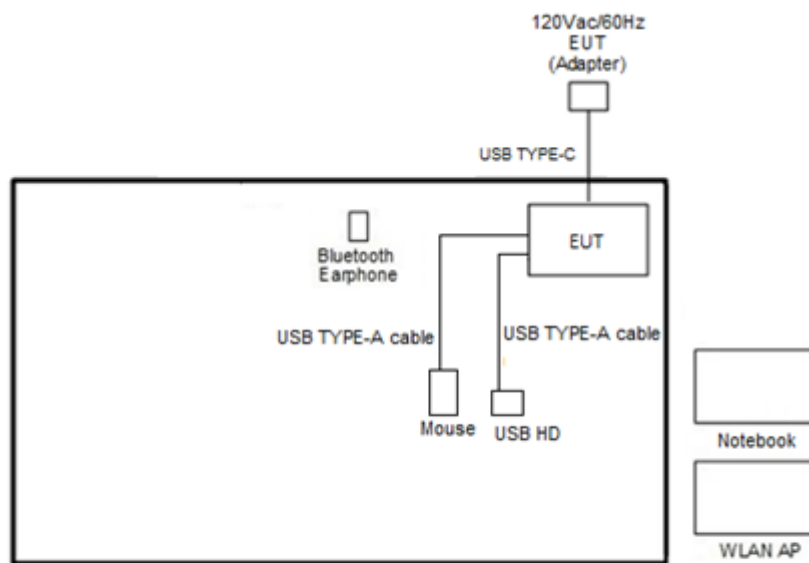
Test Cases	
AC Conducted Emission	Mode 1 : 5G NR n13 Idle + WLAN (5GHz) Link + Bluetooth Idle + NFC on + USB TYPE-A Cable (Data Link with USB HD) (Copy data from USB HD to eMMC) + USB TYPE-A with Mouse + USB TYPE-C (Charging from AC Adapter) + Battery 1
Remark:	
1. For Radiated Test Cases, the tests were performed with Battery 1.	
2. Data Link with USB HD means data application transferred mode between EUT and USB HD.	

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

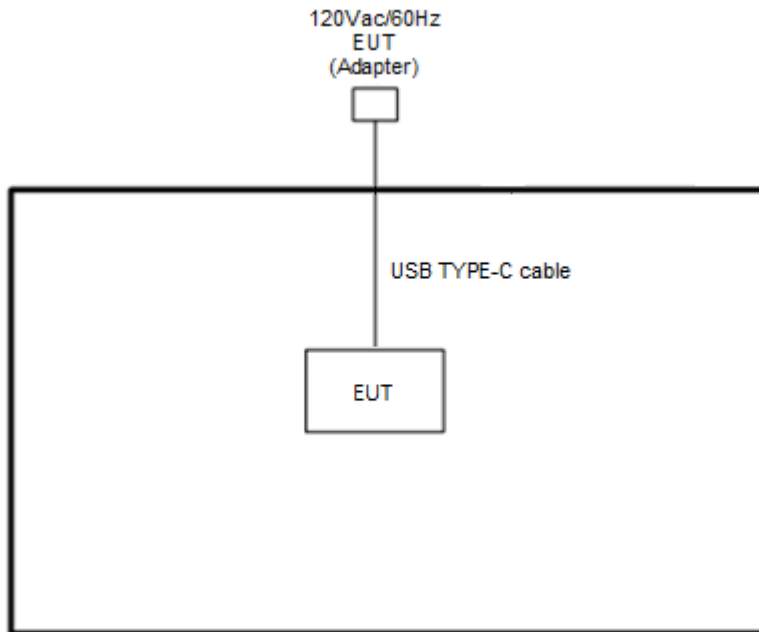
Remark: For radiation spurious emission, the modulation and the data rate picked for testing are determined by the Max. RF conducted power.

2.3 Connection Diagram of Test System

<AC Conducted Emission Mode>



<WLAN Tx Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Earphone	Sony Ericsson	MW600	PY700A2029	N/A	N/A
2.	5G Wireless Test Platform	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m
3.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
4.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
5.	Notebook	Dell	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
6.	USB HD	ADATA	HV620S-1T	FCC DoC	Shielded, 1.0 m	N/A
7.	Mouse	KRONE	SM-K800U	FCC DoC	Shielded, 1.8 m	N/A
8.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A



2.5 EUT Operation Test Setup

The RF test items, utility “QRCT Version 4.0.211.0” 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.

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

3 Test Result

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

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

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

26dB and 99% Occupied bandwidth are reporting only.

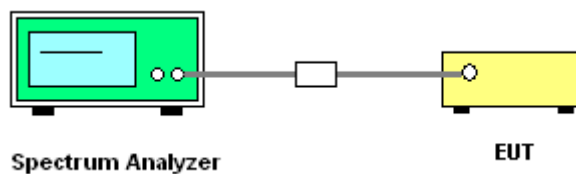
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



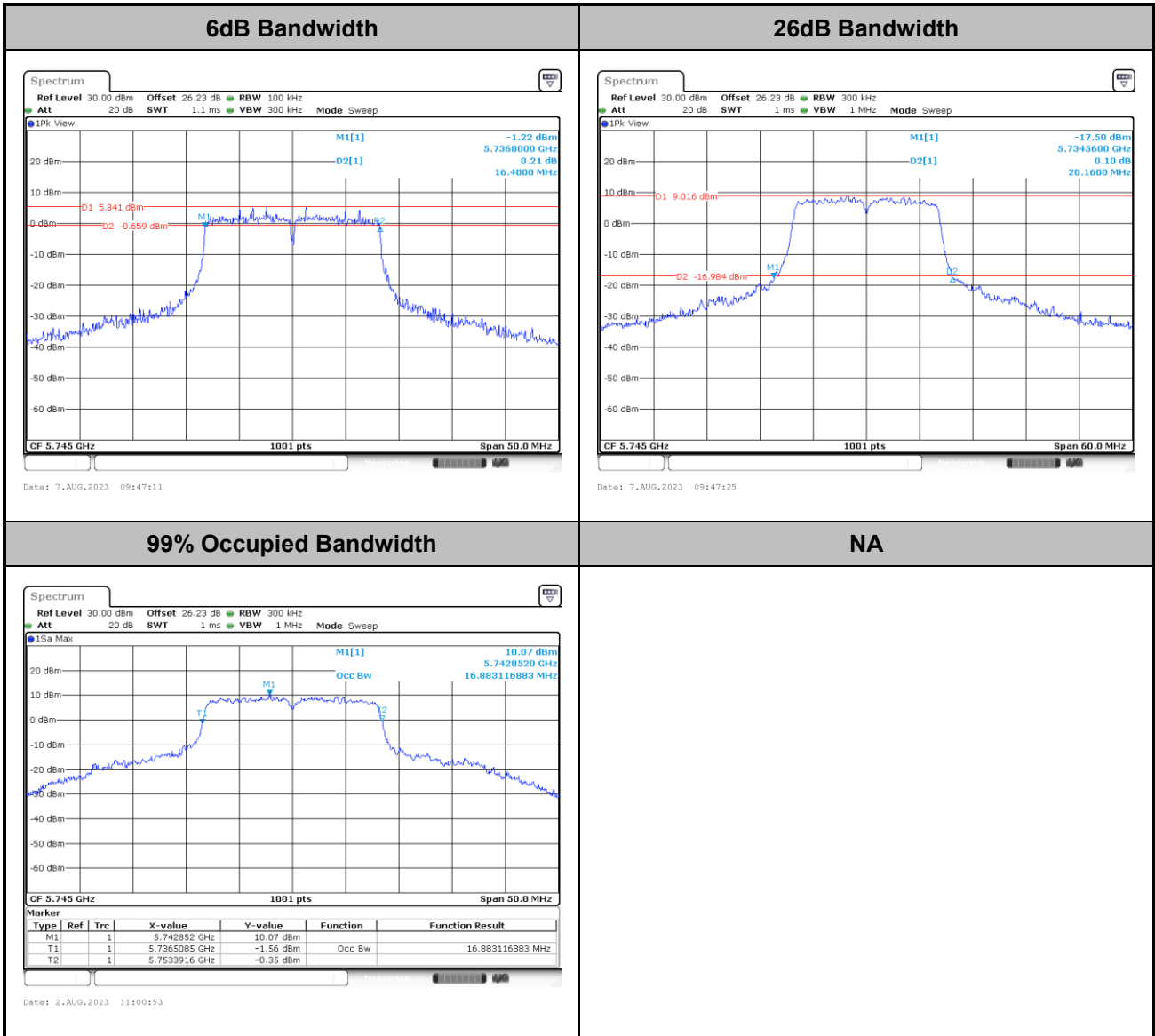
3.1.5 Test Result of 6dB and 26dB and 99% Occupied Bandwidth

Please refer to Appendix A.



MIMO <Ant. 7+8>

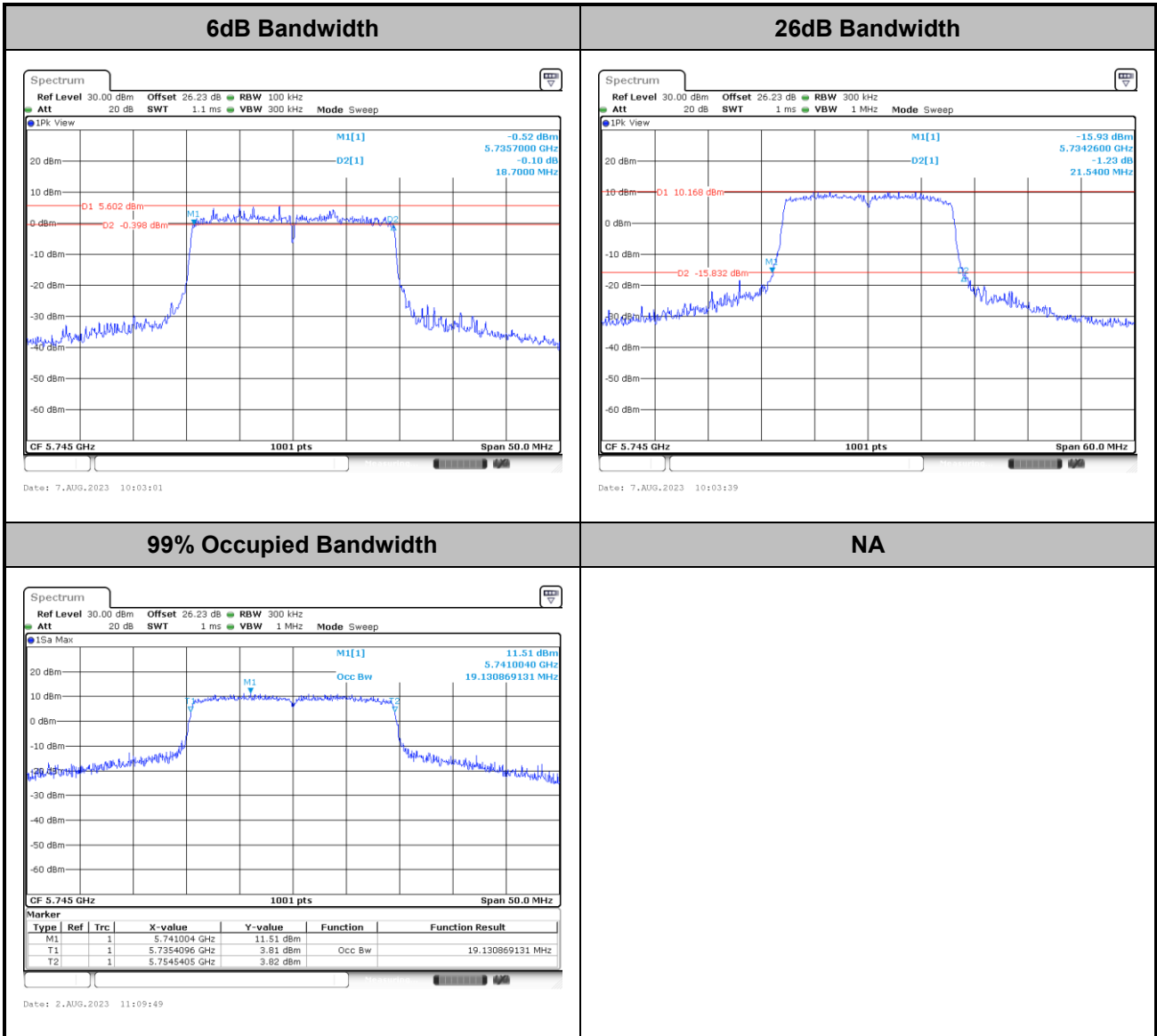
<802.11a>



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



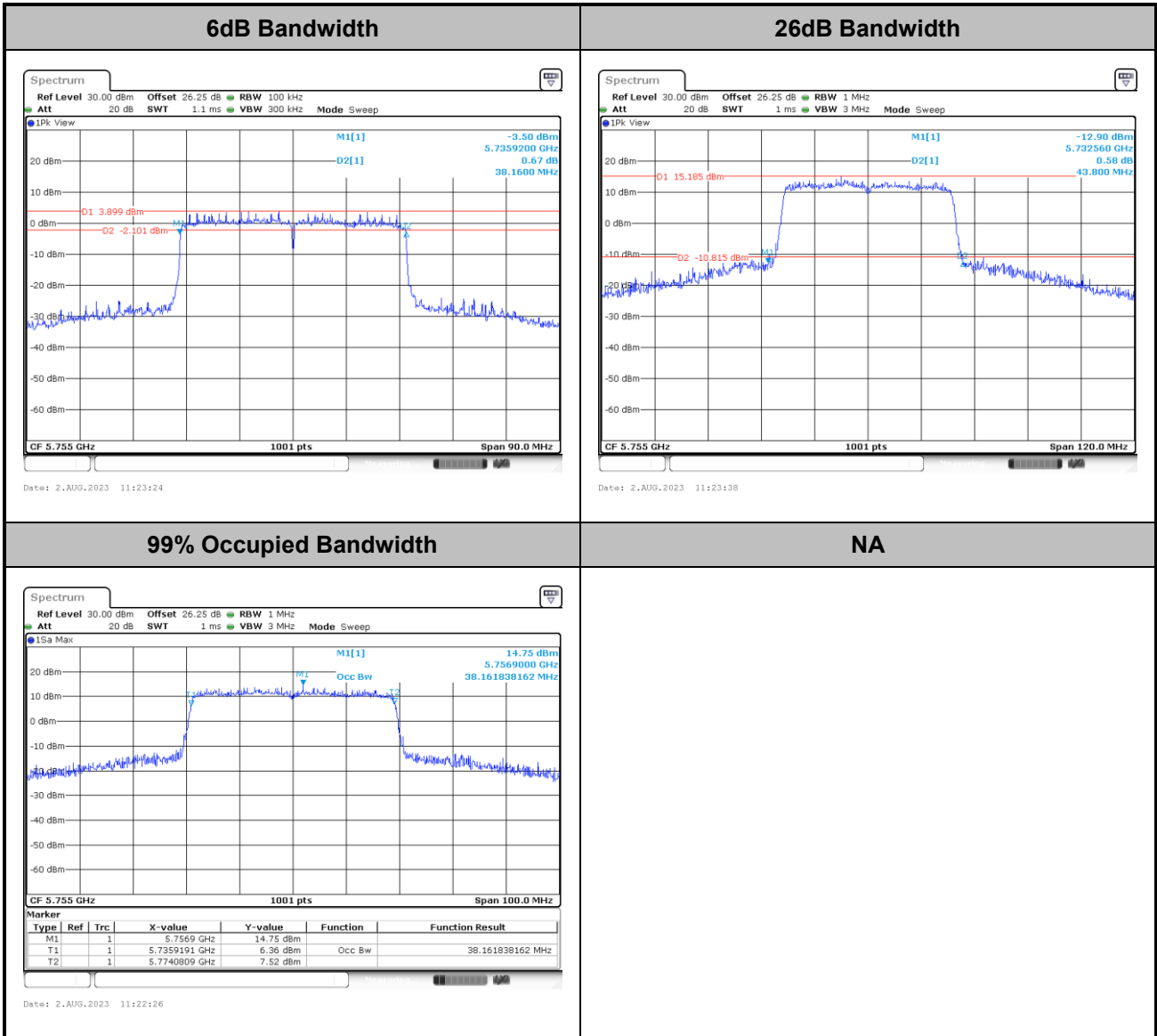
<802.11ax HE20>



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



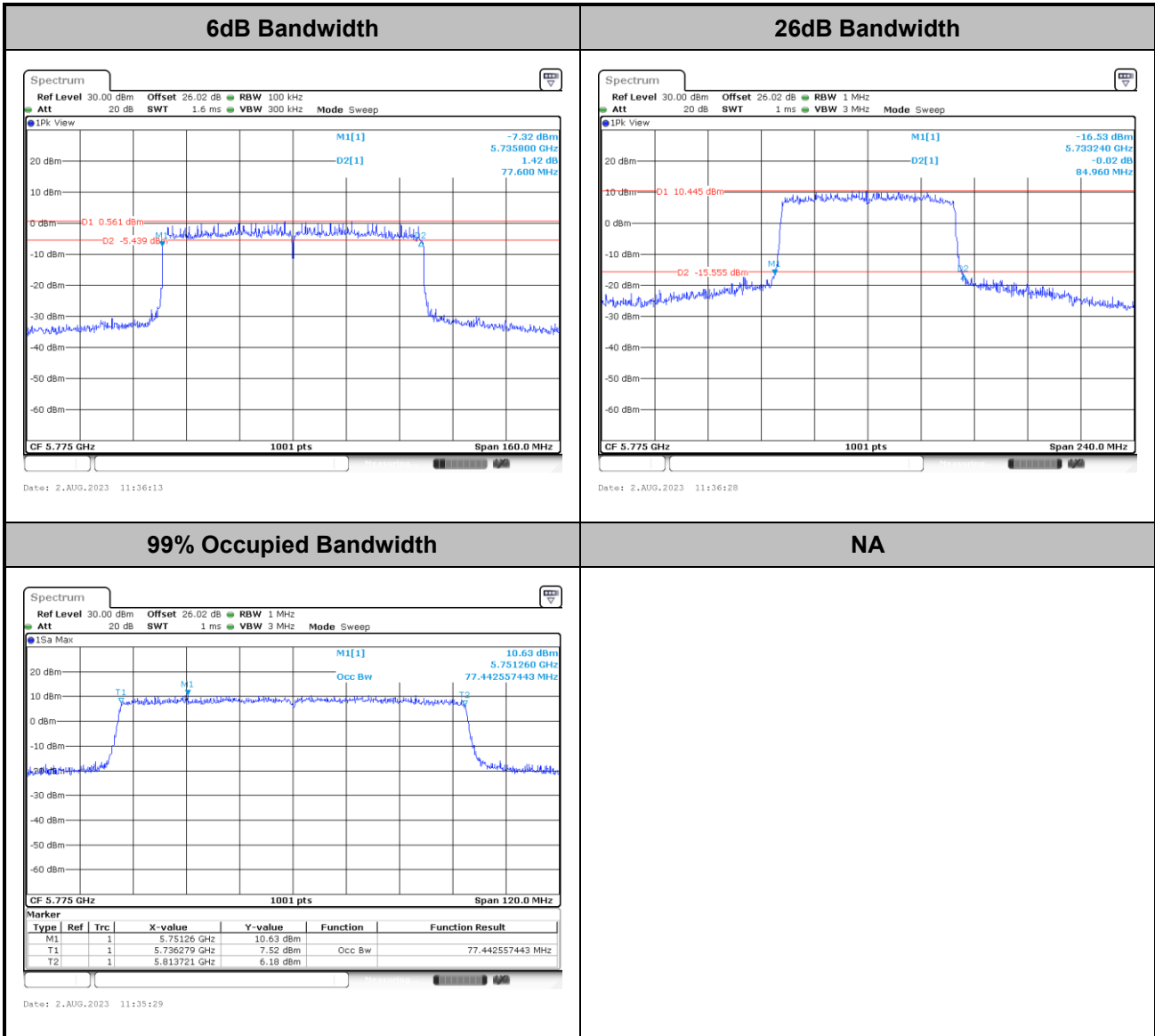
<802.11ax HE40>



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



<802.11ax HE80>



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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

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

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

3.2.2 Measuring Instruments

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

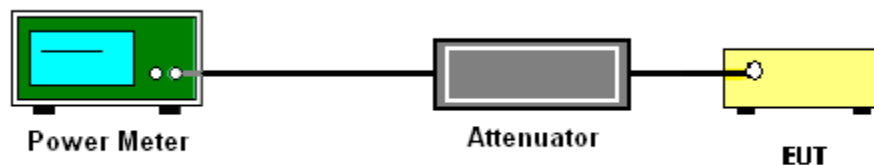
3.2.3 Test Procedures

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

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

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit at its maximum power control level.
3. Measure the average power of the transmitter.
4. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.



3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

Method SA-2

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

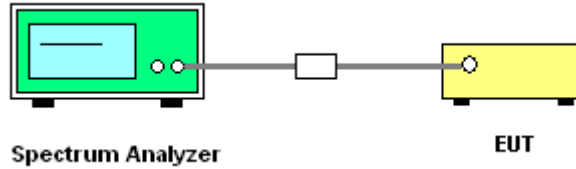
- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 300kHz.
 - Set VBW \geq 1 MHz.
 - Add $10 \log(500 \text{ kHz/RBW})$ to the measured result, whereas RBW (<500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement
 - Number of points in sweep \geq 2 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 $10 \log(1/0.25) = 6 \text{ dB}$ if the duty cycle is 25 percent.
1. The RF output of EUT is connected to the spectrum analyzer by a low loss cable.
 2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.
 3. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

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

With this technique, spectrum measurements are performed at each output of the device, but rather than summing the spectra or the spectral peaks across the outputs, the quantity $10 \log(N_{\text{ANT}})$ dB is added to each spectrum value before comparing to the emission limit. The addition of $10 \log(N_{\text{ANT}})$ dB serves to apportion the emission limit among the N_{ANT} outputs so

that each output is permitted to contribute no more than $1/N_{ANT}^{th}$ of the PSD limit.

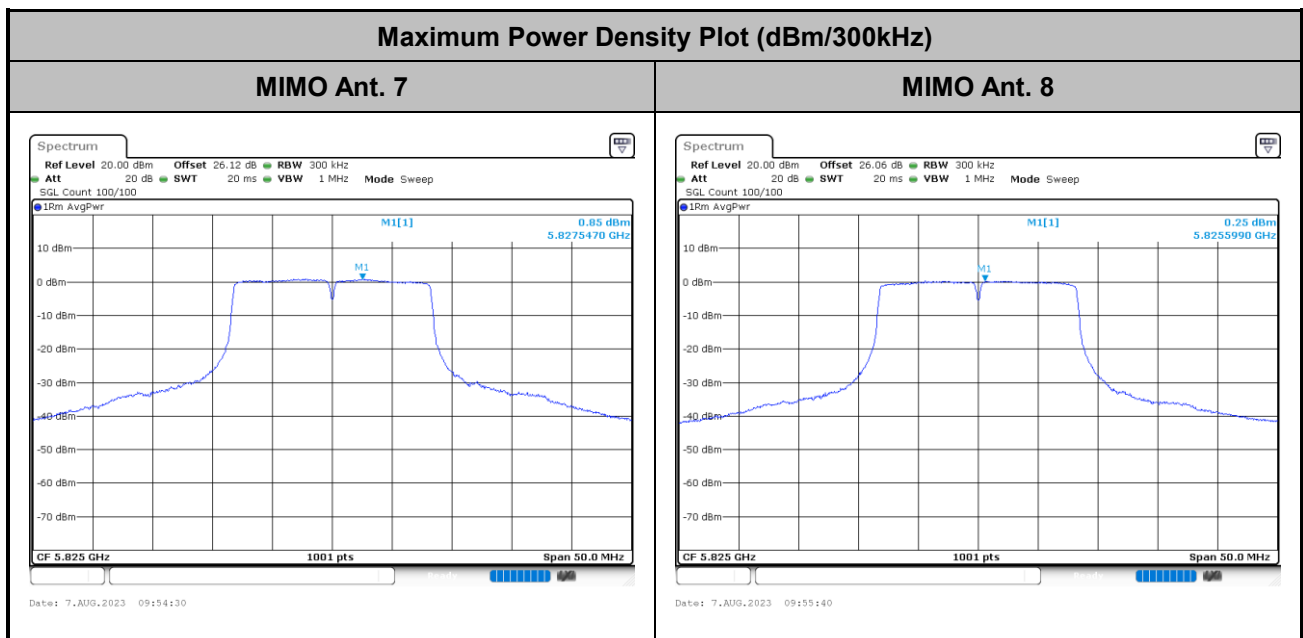
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

<802.11a>



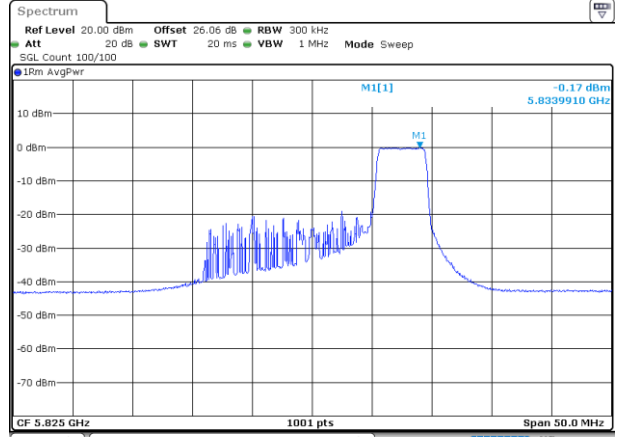
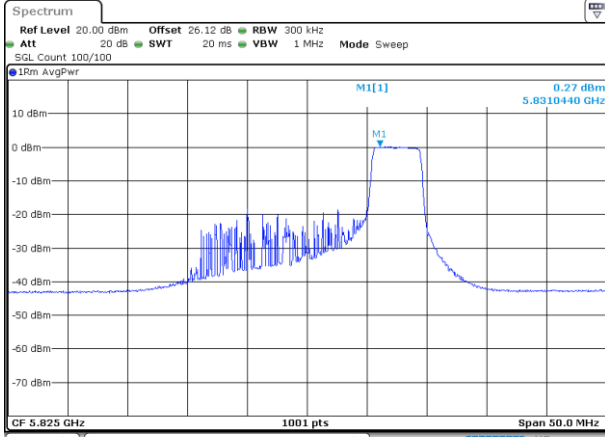


<802.11ax HE20>

Maximum Power Density Plot (dBm/300kHz)

MIMO Ant. 7

MIMO Ant. 8

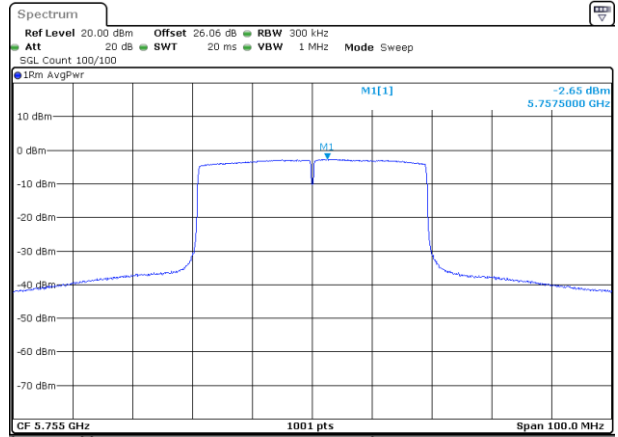
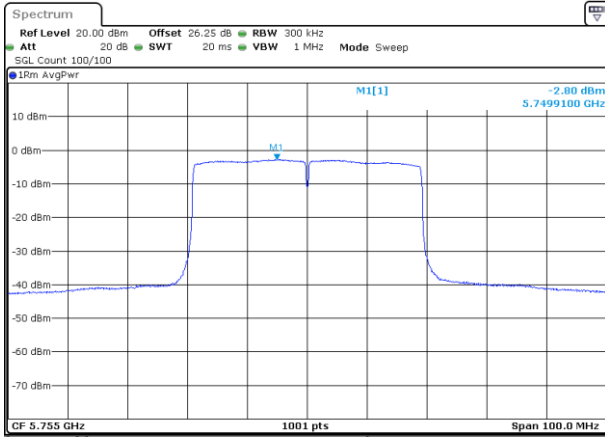


<802.11ax HE40>

Maximum Power Density Plot (dBm/300kHz)

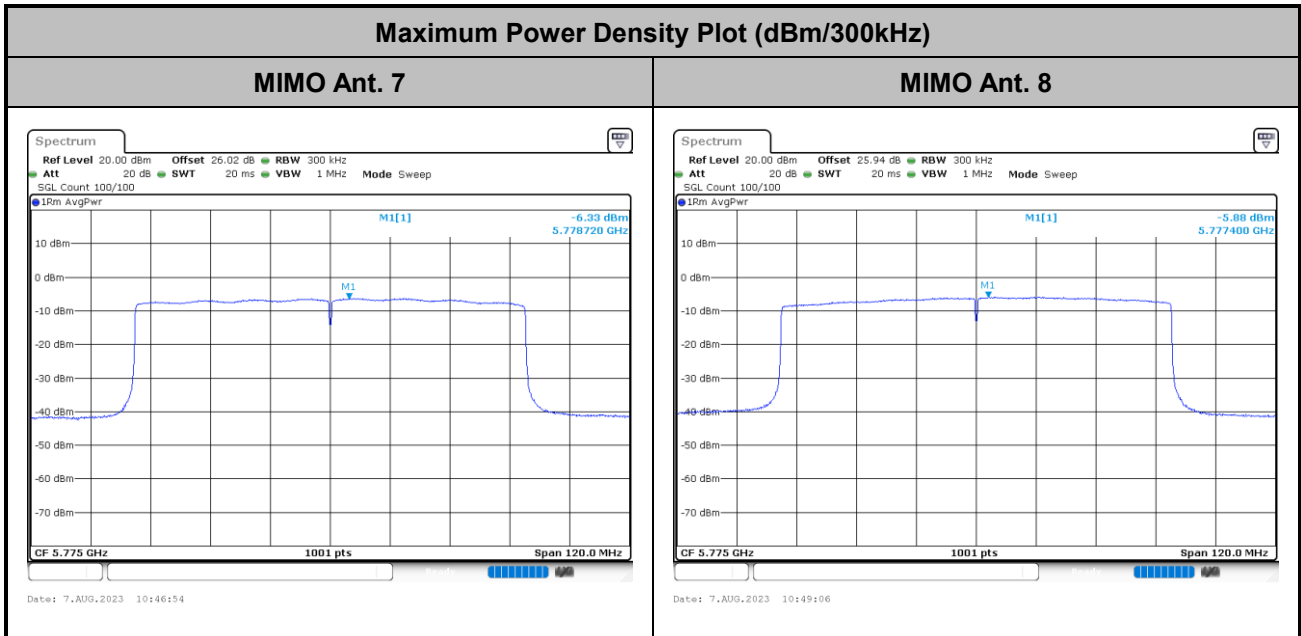
MIMO Ant. 7

MIMO Ant. 8





<802.11ax HE80>



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



3.4 Unwanted Emissions Measurement

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

3.4.1 Limit of Unwanted Emissions

(1) For transmitters operating in the 5.725-5.85 GHz band:

15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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

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

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

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

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

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

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

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



3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000 MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW \geq 3 MHz
 - Detector = Peak
 - Sweep time = auto
 - Trace mode = max hold
 - (3) Procedures for Average Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW \geq 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. The EUT is placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
3. The EUT is set 3 meters away from the receiving antenna which is mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT is arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading.
When there is no suspected emission found and the emission level is with at least 6 dB margin

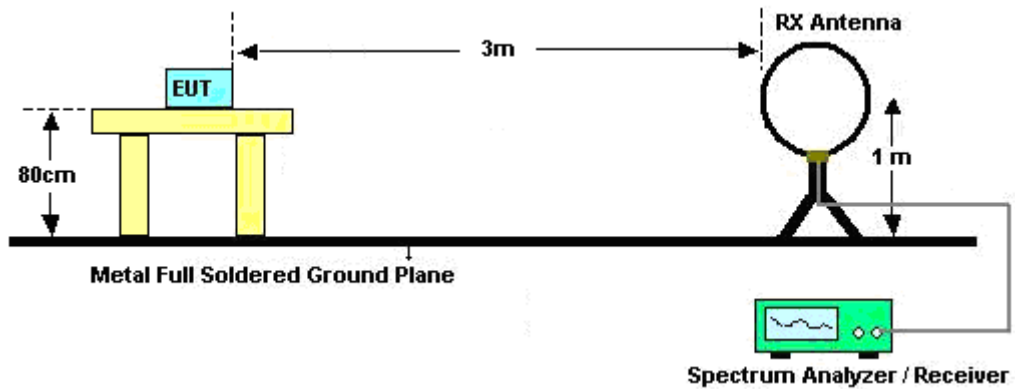
against QP limit line, the position is marked as “-”.

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

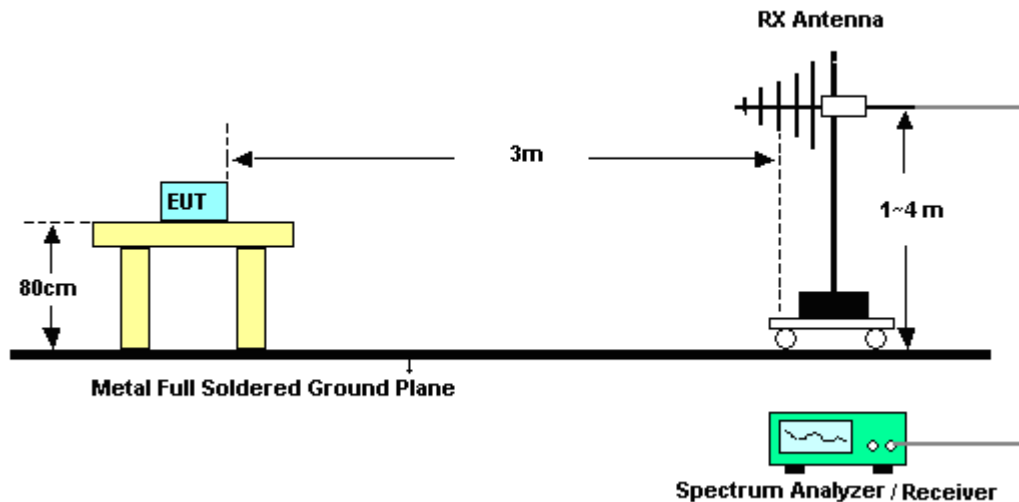
When there is no suspected emission found and the harmonic emission level is with at least 6 dB margin against average limit line, the position is marked as “-”.

3.4.4 Test Setup

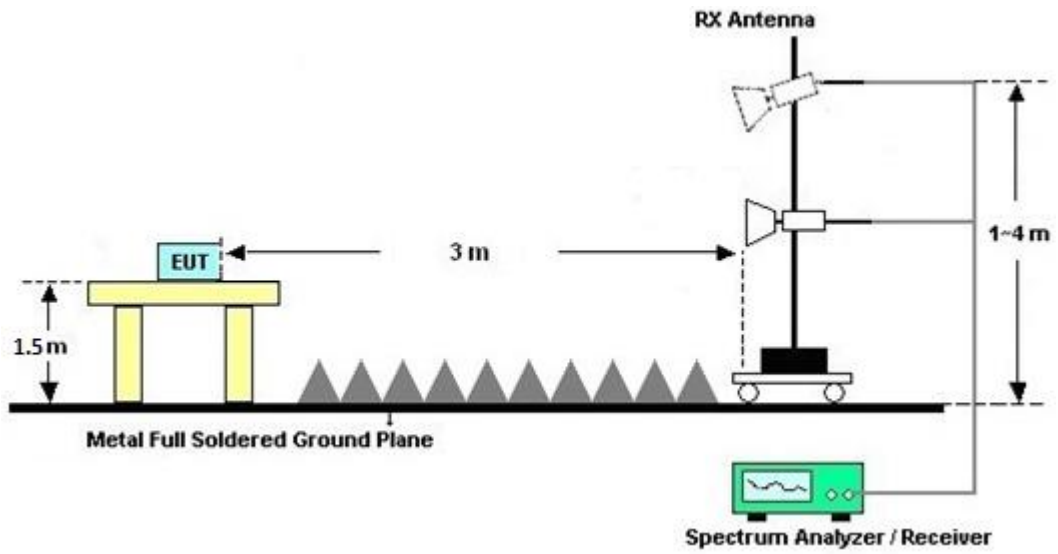
For radiated emissions below 30MHz



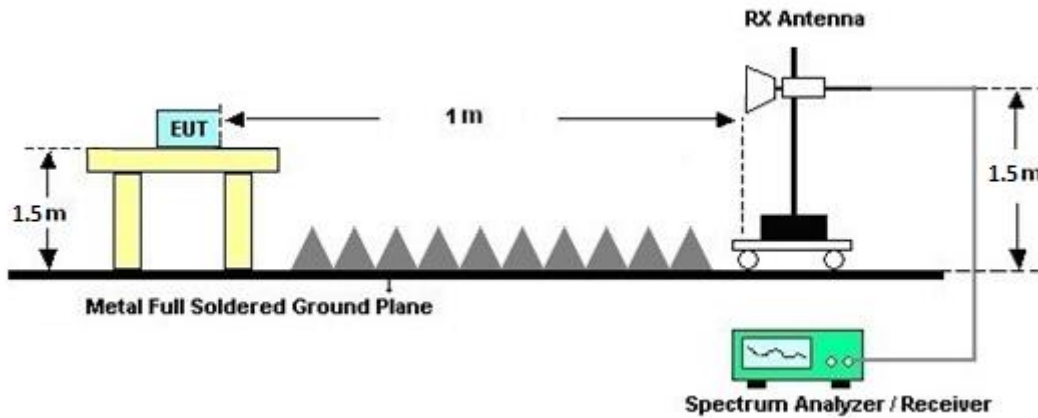
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz





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

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

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix C and D.

3.4.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.



3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

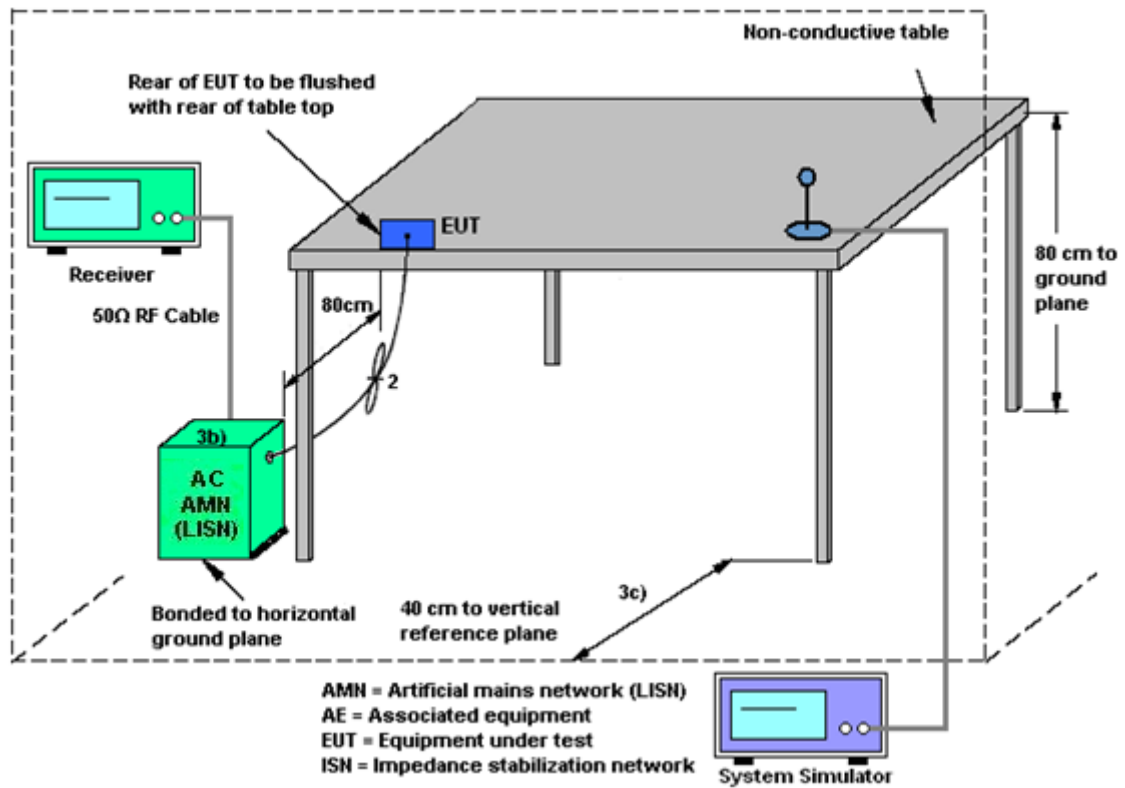
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.6 Antenna Requirements

3.6.1 Standard Applicable

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 rule.

3.6.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.



4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	TECEPEL	DTM-303A	TP201996	N/A	Nov. 17, 2022	Jul. 21, 2023~ Aug. 22, 2023	Nov. 16, 2023	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	16100054SNO 12 (NO:113)	10MHz~6GHz	Dec. 13, 2022	Jul. 21, 2023~ Aug. 22, 2023	Dec. 12, 2023	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101564	10Hz ~ 40GHz	Sep. 13, 2022	Jul. 21, 2023~ Aug. 22, 2023	Sep. 12, 2023	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jul. 20, 2023	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Dec. 01, 2022	Jul. 20, 2023	Nov. 30, 2023	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 17, 2022	Jul. 20, 2023	Nov. 16, 2023	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 01, 2022	Jul. 20, 2023	Nov. 30, 2023	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 17, 2022	Jul. 20, 2023	Nov. 16, 2023	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32	N/A	N/A	N/A	Jul. 20, 2023	N/A	Conduction (CO05-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	00691	N/A	Aug. 01, 2022	Jul. 20, 2023	Jul. 31, 2023	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	260260	N/A	Dec. 29, 2022	Jul. 20, 2023	Dec. 28, 2023	Conduction (CO05-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N- 06	35419 & 03	30MHz~1GHz	Apr. 23, 2023	Jul. 19, 2023 ~ Aug. 07, 2023	Apr. 22, 2024	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Dec. 01, 2022	Jul. 19, 2023 ~ Aug. 07, 2023	Nov. 30, 2023	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Feb. 28, 2023	Jul. 19, 2023 ~ Aug. 07, 2023	Feb. 27, 2024	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-00101 800-30-10P	1590075	1GHz~18GHz	Apr. 20, 2023	Jul. 19, 2023 ~ Aug. 07, 2023	Apr. 19, 2024	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz~1GHz	Oct. 03, 2022	Jul. 19, 2023 ~ Aug. 07, 2023	Oct. 02, 2023	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~26.5GHz	Mar. 24, 2023	Jul. 19, 2023 ~ Aug. 07, 2023	Mar. 23, 2024	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9030A	MY52350276	3Hz~44GHz	Mar. 28, 2023	Jul. 19, 2023 ~ Aug. 07, 2023	Mar. 27, 2024	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY15682/4	30MHz to 18GHz	Feb. 22, 2023	Jul. 19, 2023 ~ Aug. 07, 2023	Feb. 21, 2024	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24971/4	9kHz to 18GHz	Feb. 22, 2023	Jul. 19, 2023 ~ Aug. 07, 2023	Feb. 21, 2024	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4	9kHz to 18GHz	Feb. 22, 2023	Jul. 19, 2023 ~ Aug. 07, 2023	Feb. 21, 2024	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126	532078/126E	30MHz~18GHz	Sep. 16, 2022	Jul. 19, 2023 ~ Aug. 07, 2023	Sep. 15, 2023	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2858/2	18GHz~40GHz	Feb. 22, 2023	Jul. 19, 2023 ~ Aug. 07, 2023	Feb. 21, 2024	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	801606/2	9KHz ~ 40GHz	Apr. 20, 2023	Jul. 19, 2023 ~ Aug. 07, 2023	Apr. 19, 2024	Radiation (03CH07-HY)
Controller	EMEC	EM1000	N/A	Control Ant Mast	N/A	Jul. 19, 2023 ~ Aug. 07, 2023	N/A	Radiation (03CH07-HY)
Controller	MF	MF-7802	N/A	Control Turn table	N/A	Jul. 19, 2023 ~ Aug. 07, 2023	N/A	Radiation (03CH07-HY)
Antenna Mast	EMEC	AM-BS-4500E	N/A	Boresight mast 1M~4M	N/A	Jul. 19, 2023 ~ Aug. 07, 2023	N/A	Radiation (03CH07-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Jul. 19, 2023 ~ Aug. 07, 2023	N/A	Radiation (03CH07-HY)
Software	Audix	E3	N/A	N/A	N/A	Jul. 19, 2023 ~ Aug. 07, 2023	N/A	Radiation (03CH07-HY)
USB Data Logger	TECPEL	TR-32	HE17XB2495	N/A	Mar. 14, 2023	Jul. 19, 2023 ~ Aug. 07, 2023	Mar. 13, 2024	Radiation (03CH07-HY)
Preamplifier	EMEC	EM18G40G	060801	18GHz~40GHz	Jun. 27, 2023	Jul. 19, 2023 ~ Aug. 07, 2023	Jun. 26, 2024	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170251	18GHz~40GHz	Nov. 24, 2022	Jul. 19, 2023 ~ Aug. 07, 2023	Nov. 23, 2023	Radiation (03CH07-HY)



5 Measurement Uncertainty

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.50 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	6.50 dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 6000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.50 dB
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Uncertainty of Radiated Emission Measurement (6000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.20 dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.30 dB
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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Sylvia Li and Ray Wang	Temperature:	21~25	°C
Test Date:	2023/8/2~2023/8/22	Relative Humidity:	51~54	%

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

U-NII-3 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 7	Ant 8	Ant 7	Ant 8	Ant 7	Ant 8		
11a	6Mbps	2	149	5745	16.88	18.08	20.16	24.84	16.40	16.20	0.5	Pass
11a	6Mbps	2	157	5785	17.08	17.23	20.70	21.54	16.40	16.40	0.5	Pass
11a	6Mbps	2	165	5825	17.73	16.68	21.30	20.46	16.40	16.45	0.5	Pass

TEST RESULTS DATA
Average Power Table

U-NII-3 MIMO												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 7	Ant 8	SUM	Ant 7	Ant 8	Ant 7	Ant 8	
11a	6Mbps	2	149	5745	17.10	17.00	20.06	30.00		2.52	Pass	
11a	6Mbps	2	157	5785	17.10	17.40	20.26	30.00		2.52	Pass	
11a	6Mbps	2	165	5825	17.30	16.90	20.11	30.00		2.52	Pass	
HT20	MCS0	2	149	5745	17.00	17.10	20.06	30.00		2.52	Pass	
HT20	MCS0	2	157	5785	16.70	17.00	19.86	30.00		2.52	Pass	
HT20	MCS0	2	165	5825	17.20	16.90	20.06	30.00		2.52	Pass	
HT40	MCS0	2	151	5755	17.10	17.20	20.16	30.00		2.52	Pass	
HT40	MCS0	2	159	5795	16.90	17.10	20.01	30.00		2.52	Pass	
VHT20	MCS0	2	149	5745	17.10	17.20	20.16	30.00		2.52	Pass	
VHT20	MCS0	2	157	5785	16.80	17.10	19.96	30.00		2.52	Pass	
VHT20	MCS0	2	165	5825	17.30	17.00	20.16	30.00		2.52	Pass	
VHT40	MCS0	2	151	5755	17.20	17.30	20.26	30.00		2.52	Pass	
VHT40	MCS0	2	159	5795	17.00	17.20	20.11	30.00		2.52	Pass	
VHT80	MCS0	2	155	5775	16.90	17.10	20.01	30.00		2.52	Pass	

TEST RESULTS DATA
Power Spectral Density

U-NII-3 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		10log (500kHz /RBW) Factor (dB)		Average Power Density with Duty Factor (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 7	Ant 8	Ant 7	Ant 8	Ant 7	Ant 8	SUM	Ant 7	Ant 8	Ant 7	Ant 8	
11a	6Mbps	2	149	5745	0.03	0.04	2.22		3.02	2.67	6.03		30.00		5.38	Pass
11a	6Mbps	2	157	5785	0.03	0.04	2.22		2.99	2.98	6.00		30.00		5.38	Pass
11a	6Mbps	2	165	5825	0.03	0.04	2.22		3.10	2.51	6.11		30.00		5.38	Pass

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

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

U-NII-3 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 7	Ant 8	Ant 7	Ant 8	Ant 7	Ant 8		
HE20	MCS0	2	149	5745	Full	19.13	19.63	21.54	24.48	18.70	19.00	0.5	Pass
HE20	MCS0	2	157	5785	Full	19.23	19.23	22.02	21.72	18.55	17.70	0.5	Pass
HE20	MCS0	2	165	5825	Full	19.33	19.08	22.44	21.36	18.70	19.00	0.5	Pass
HE40	MCS0	2	151	5755	Full	38.16	38.46	43.80	72.24	38.16	37.80	0.5	Pass
HE40	MCS0	2	159	5795	Full	38.16	38.16	42.00	41.76	37.98	37.89	0.5	Pass
HE80	MCS0	2	155	5775	Full	77.44	77.32	84.96	121.20	77.60	76.00	0.5	Pass

TEST RESULTS DATA
Average Power Table

U-NII-3 MIMO													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
						Ant 7	Ant 8	SUM	Ant 7	Ant 8	Ant 7	Ant 8	
HE20	MCS0	2	149	5745	Full	17.20	17.30	20.26	30.00		2.52		Pass
HE20	MCS0	2	149	5745	26/0	8.60	8.70	11.66	30.00		2.52		Pass
HE20	MCS0	2	149	5745	52/37	11.60	11.60	14.61	30.00		2.52		Pass
HE20	MCS0	2	149	5745	106/53	14.60	14.70	17.66	30.00		2.52		Pass
HE20	MCS0	2	157	5785	Full	16.90	17.20	20.06	30.00		2.52		Pass
HE20	MCS0	2	157	5785	26/4	7.20	8.50	10.91	30.00		2.52		Pass
HE20	MCS0	2	157	5785	52/38	10.20	11.40	13.85	30.00		2.52		Pass
HE20	MCS0	2	157	5785	106/53	13.10	14.50	16.87	30.00		2.52		Pass
HE20	MCS0	2	165	5825	Full	17.40	17.10	20.26	30.00		2.52		Pass
HE20	MCS0	2	165	5825	26/8	8.50	8.40	11.46	30.00		2.52		Pass
HE20	MCS0	2	165	5825	52/40	11.80	11.60	14.71	30.00		2.52		Pass
HE20	MCS0	2	165	5825	106/54	14.60	14.50	17.56	30.00		2.52		Pass
HE40	MCS0	2	151	5755	Full	17.30	17.40	20.36	30.00		2.52		Pass
HE40	MCS0	2	151	5755	242/61	14.40	14.80	17.61	30.00		2.52		Pass
HE40	MCS0	2	159	5795	Full	17.10	17.30	20.21	30.00		2.52		Pass
HE40	MCS0	2	159	5795	242/62	14.10	14.50	17.31	30.00		2.52		Pass
HE80	MCS0	2	155	5775	Full	17.00	17.20	20.11	30.00		2.52		Pass
HE80	MCS0	2	155	5775	484/65	14.50	14.40	17.46	30.00		2.52		Pass
HE80	MCS0	2	155	5775	484/66	14.00	14.50	17.27	30.00		2.52		Pass

TEST RESULTS DATA
Power Spectral Density

U-NII-3 MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config	Duty Factor (dB)		10log (500kHz /RBW) Factor (dB)		Average Power Density with Duty Factor (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
						Ant 7	Ant 8	Ant 7	Ant 8	Ant 7	Ant 8	SUM	Ant 7	Ant 8	Ant 7	Ant 8	
HE20	MCS0	2	149	5745	Full	0.00	0.00	2.22	2.20	2.21	5.22	30.00	5.38	Pass			
HE20	MCS0	2	149	5745	26/0	0.58	0.58	2.22	2.62	2.66	5.67	30.00	5.38	Pass			
HE20	MCS0	2	149	5745	52/37	0.58	0.61	2.22	2.73	2.74	5.75	30.00	5.38	Pass			
HE20	MCS0	2	149	5745	106/53	0.64	0.67	2.22	2.71	2.82	5.83	30.00	5.38	Pass			
HE20	MCS0	2	157	5785	Full	0.00	0.00	2.22	1.74	2.01	5.02	30.00	5.38	Pass			
HE20	MCS0	2	157	5785	26/4	0.58	0.58	2.22	1.04	2.57	5.58	30.00	5.38	Pass			
HE20	MCS0	2	157	5785	52/38	0.58	0.61	2.22	1.17	2.40	5.41	30.00	5.38	Pass			
HE20	MCS0	2	157	5785	106/53	0.64	0.67	2.22	1.37	2.55	5.56	30.00	5.38	Pass			
HE20	MCS0	2	165	5825	Full	0.00	0.00	2.22	2.60	2.12	5.61	30.00	5.38	Pass			
HE20	MCS0	2	165	5825	26/8	0.58	0.58	2.22	2.96	2.62	5.97	30.00	5.38	Pass			
HE20	MCS0	2	165	5825	52/40	0.58	0.61	2.22	3.07	2.66	6.08	30.00	5.38	Pass			
HE20	MCS0	2	165	5825	106/54	0.64	0.67	2.22	2.90	2.72	5.91	30.00	5.38	Pass			
HE40	MCS0	2	151	5755	Full	0.00	0.00	2.22	-0.58	-0.43	2.58	30.00	5.38	Pass			
HE40	MCS0	2	151	5755	242/61	0.02	0.02	2.22	-0.84	-1.05	2.17	30.00	5.38	Pass			
HE40	MCS0	2	159	5795	Full	0.00	0.00	2.22	-0.87	-0.82	2.19	30.00	5.38	Pass			
HE40	MCS0	2	159	5795	242/62	0.02	0.02	2.22	-1.48	-1.30	1.71	30.00	5.38	Pass			
HE80	MCS0	2	155	5775	Full	0.03	0.04	2.22	-4.08	-3.62	-0.61	30.00	5.38	Pass			
HE80	MCS0	2	155	5775	484/65	0.03	0.03	2.22	-3.94	-4.34	-0.93	30.00	5.38	Pass			
HE80	MCS0	2	155	5775	484/66	0.03	0.03	2.22	-4.41	-4.07	-1.06	30.00	5.38	Pass			

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



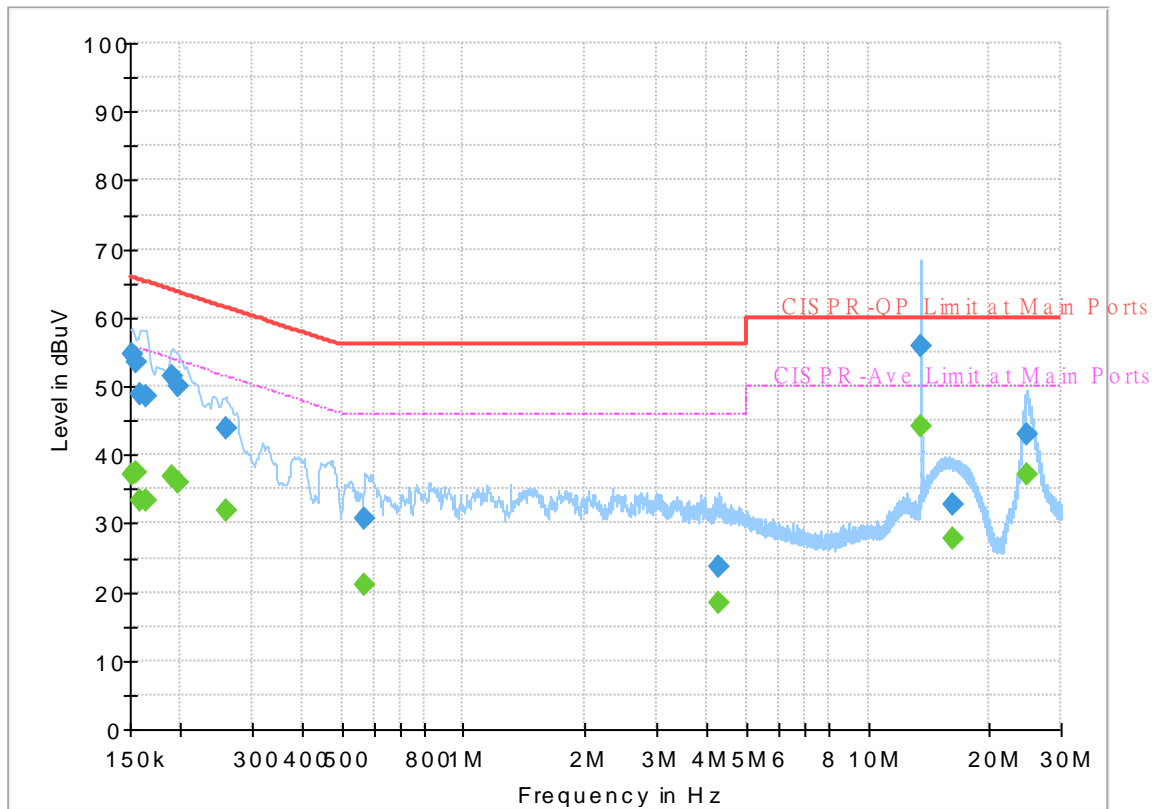
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Li-Yan Xun	Temperature :	23~26°C
		Relative Humidity :	45~55%

EUT Information

Report NO : 371211
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Line

Full Spectrum



Final_Result

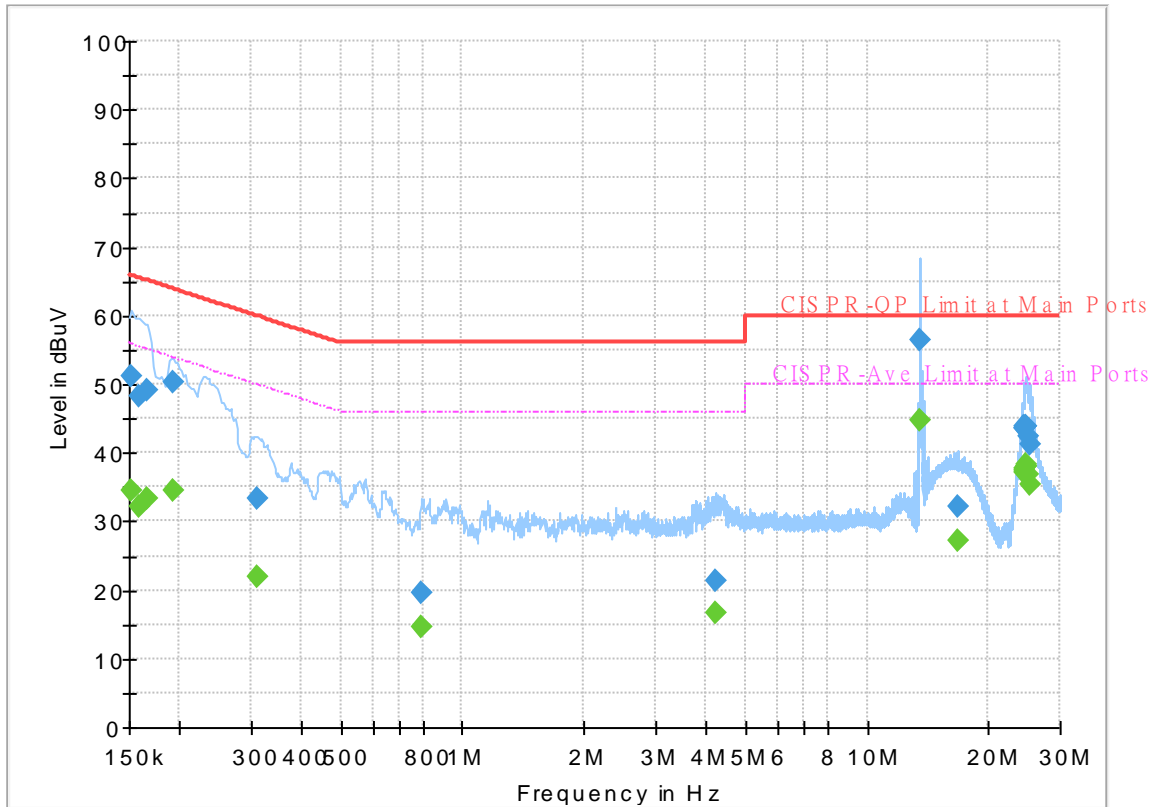
Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	37.17	55.88	18.71	L1	OFF	19.8
0.152250	54.54	---	65.88	11.34	L1	OFF	19.8
0.154500	---	37.44	55.75	18.31	L1	OFF	19.8
0.154500	53.65	---	65.75	12.10	L1	OFF	19.8
0.159000	---	33.38	55.52	22.14	L1	OFF	19.8
0.159000	48.75	---	65.52	16.77	L1	OFF	19.8
0.163500	---	33.20	55.28	22.08	L1	OFF	19.8
0.163500	48.48	---	65.28	16.80	L1	OFF	19.8
0.190500	---	36.84	54.02	17.18	L1	OFF	19.8
0.190500	51.39	---	64.02	12.63	L1	OFF	19.8
0.197250	---	35.99	53.73	17.74	L1	OFF	19.8
0.197250	50.08	---	63.73	13.65	L1	OFF	19.8
0.258000	---	31.77	51.50	19.73	L1	OFF	19.8
0.258000	43.74	---	61.50	17.76	L1	OFF	19.8
0.570750	---	21.08	46.00	24.92	L1	OFF	19.8
0.570750	30.84	---	56.00	25.16	L1	OFF	19.8
4.281000	---	18.42	46.00	27.58	L1	OFF	19.9
4.281000	23.56	---	56.00	32.44	L1	OFF	19.9
13.560000	---	44.29	50.00	5.71	L1	OFF	19.9
13.560000	55.83	---	60.00	4.17	L1	OFF	19.9
16.244250	---	27.78	50.00	22.22	L1	OFF	19.9

16.244250	32.78	---	60.00	27.22	L1	OFF	19.9
24.679500	---	37.22	50.00	12.78	L1	OFF	19.9
24.679500	42.98	---	60.00	17.02	L1	OFF	19.9

EUT Information

Report NO : 371211
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	34.44	55.88	21.44	N	OFF	19.8
0.152250	51.07	---	65.88	14.81	N	OFF	19.8
0.159000	---	32.22	55.52	23.30	N	OFF	19.8
0.159000	48.31	---	65.52	17.21	N	OFF	19.8
0.165750	---	33.48	55.17	21.69	N	OFF	19.8
0.165750	49.16	---	65.17	16.01	N	OFF	19.8
0.192750	---	34.51	53.92	19.41	N	OFF	19.8
0.192750	50.33	---	63.92	13.59	N	OFF	19.8
0.309840	---	21.84	49.98	28.14	N	OFF	19.8
0.309840	33.19	---	59.98	26.79	N	OFF	19.8
0.791250	---	14.72	46.00	31.28	N	OFF	19.8
0.791250	19.56	---	56.00	36.44	N	OFF	19.8
4.227000	---	16.55	46.00	29.45	N	OFF	19.9
4.227000	21.29	---	56.00	34.71	N	OFF	19.9
13.560000	---	44.63	50.00	5.37	N	OFF	20.0
13.560000	56.31	---	60.00	3.69	N	OFF	20.0
16.759500	---	27.33	50.00	22.67	N	OFF	20.0
16.759500	32.29	---	60.00	27.71	N	OFF	20.0
24.459000	---	37.22	50.00	12.78	N	OFF	20.1
24.459000	43.45	---	60.00	16.55	N	OFF	20.1
24.490500	---	37.53	50.00	12.47	N	OFF	20.1

24.490500	43.51	---	60.00	16.49	N	OFF	20.1
24.555750	---	37.78	50.00	12.22	N	OFF	20.1
24.555750	43.76	---	60.00	16.24	N	OFF	20.1
24.609750	---	38.13	50.00	11.87	N	OFF	20.1
24.609750	43.82	---	60.00	16.18	N	OFF	20.1
24.688500	---	38.15	50.00	11.85	N	OFF	20.1
24.688500	43.80	---	60.00	16.20	N	OFF	20.1
24.715500	---	38.30	50.00	11.70	N	OFF	20.1
24.715500	43.75	---	60.00	16.25	N	OFF	20.1
25.062000	---	36.73	50.00	13.27	N	OFF	20.1
25.062000	42.41	---	60.00	17.59	N	OFF	20.1
25.217250	---	35.46	50.00	14.54	N	OFF	20.1
25.217250	41.35	---	60.00	18.65	N	OFF	20.1



Appendix C. Radiated Spurious Emission

Test Engineer :	Jesse Wang, Stan Hsieh and Ken Wu	Temperature :	23.3~26.4°C
		Relative Humidity :	43.7~62.5%

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.	
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
7+8		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
802.11a CH 149 5745MHz		5646.2	52.57	-15.63	68.2	39.11	34.9	12.47	33.91	200	29	P	H	
		5698.6	62.23	-41.94	104.17	48.66	35	12.49	33.92	200	29	P	H	
		5720	74.31	-36.49	110.8	60.7	35.04	12.5	33.93	200	29	P	H	
		5724.4	89.84	-30.99	120.83	76.22	35.05	12.5	33.93	200	29	P	H	
	*	5745	118.87	-	-	105.19	35.09	12.52	33.93	200	29	P	H	
	*	5745	111.09	-	-	97.41	35.09	12.52	33.93	200	29	A	H	
														H
														H
			5606.6	51.21	-16.99	68.2	37.75	34.9	12.46	33.9	236	357	P	V
			5698.2	60.27	-43.6	103.87	46.7	35	12.49	33.92	236	357	P	V
			5720	71.15	-39.65	110.8	57.54	35.04	12.5	33.93	236	357	P	V
			5723.6	82.78	-36.23	119.01	69.16	35.05	12.5	33.93	236	357	P	V
	*		5745	113.85	-	-	100.17	35.09	12.52	33.93	236	357	P	V
	*		5745	106.7	-	-	93.02	35.09	12.52	33.93	236	357	A	V
													V	
													V	



WIFI Ant. 7+8	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)
		5626.6	52.14	-16.06	68.2	38.67	34.9	12.47	33.9	200	32	P	H
		5663	52.34	-25.51	77.85	38.83	34.93	12.49	33.91	200	32	P	H
		5708.2	52.94	-54.56	107.5	39.34	35.02	12.5	33.92	200	32	P	H
		5725	53.66	-68.54	122.2	40.04	35.05	12.5	33.93	200	32	P	H
	*	5785	118.29	-	-	104.6	35.1	12.53	33.94	200	32	P	H
	*	5785	111.14	-	-	97.45	35.1	12.53	33.94	200	32	A	H
		5855	53.36	-57.44	110.8	39.61	35.11	12.6	33.96	200	32	P	H
		5873.2	53.48	-52.22	105.7	39.62	35.15	12.68	33.97	200	32	P	H
		5876.2	53.24	-51.07	104.31	39.38	35.15	12.68	33.97	200	32	P	H
		5931.2	51.74	-16.46	68.2	37.77	35.2	12.75	33.98	200	32	P	H
													H
													H
802.11a													
CH 157													
5785MHz		5636	50.63	-17.57	68.2	37.17	34.9	12.47	33.91	100	252	P	V
		5684	51.1	-42.3	93.4	37.56	34.97	12.49	33.92	100	252	P	V
		5716.8	50.77	-59.14	109.91	37.17	35.03	12.5	33.93	100	252	P	V
		5723	50.86	-66.78	117.64	37.24	35.05	12.5	33.93	100	252	P	V
	*	5785	113.36	-	-	99.67	35.1	12.53	33.94	100	252	P	V
	*	5785	105.97	-	-	92.28	35.1	12.53	33.94	100	252	A	V
		5850.4	52.03	-69.26	121.29	38.29	35.1	12.6	33.96	100	252	P	V
		5870.2	52.89	-53.65	106.54	39.04	35.14	12.68	33.97	100	252	P	V
		5908.8	52	-28.15	80.15	38.03	35.2	12.75	33.98	100	252	P	V
		5927.2	52.32	-15.88	68.2	38.35	35.2	12.75	33.98	100	252	P	V
													V
													V



WiFi Ant. 7+8	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	116.09	-	-	102.34	35.1	12.6	33.95	100	13	P	H	
	*	5825	109.26	-	-	95.51	35.1	12.6	33.95	100	13	A	H	
		5850	73.98	-48.22	122.2	60.24	35.1	12.6	33.96	100	13	P	H	
		5855	71.32	-39.48	110.8	57.57	35.11	12.6	33.96	100	13	P	H	
		5875	58.38	-46.82	105.2	44.52	35.15	12.68	33.97	100	13	P	H	
		5948	53.07	-15.13	68.2	39.03	35.2	12.83	33.99	100	13	P	H	
														H
														H
	*	5825	112.06	-	-	98.31	35.1	12.6	33.95	221	316	P	V	
	*	5825	105.07	-	-	91.32	35.1	12.6	33.95	221	316	A	V	
		5855	68.83	-41.97	110.8	55.08	35.11	12.6	33.96	221	316	P	V	
		5855	68.83	-41.97	110.8	55.08	35.11	12.6	33.96	221	316	P	V	
		5884	53.57	-44.95	98.52	39.69	35.17	12.68	33.97	221	316	P	V	
		5925.8	51.6	-16.6	68.2	37.63	35.2	12.75	33.98	221	316	P	V	
														V
														V
													V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 7+8	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	46.44	-27.56	74	45.56	38.19	19.76	57.07	-	-	P	H
		17235	51.74	-16.46	68.2	42.16	41.4	23.81	55.63	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
			11490	47.09	-26.91	74	46.21	38.19	19.76	57.07	-	-	P
		17235	55.51	-12.69	68.2	45.93	41.4	23.81	55.63	-	-	P	V
													V
													V
													V
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WIFI Ant. 7+8	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11a CH 157 5785MHz		11570	45.53	-28.47	74	44.41	38.27	19.83	56.98	-	-	P	H	
		17355	50.86	-17.34	68.2	41.07	41.51	23.91	55.63	-	-	P	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
			11570	45.63	-28.37	74	44.51	38.27	19.83	56.98	-	-	P	V
			17355	51.02	-17.18	68.2	41.23	41.51	23.91	55.63	-	-	P	V
														V
														V
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													V	
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													V	



WIFI Ant. 7+8	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		11650	45.89	-28.11	74	44.49	38.4	19.91	56.91	-	-	P	H	
		17475	51.06	-17.14	68.2	41.24	41.45	24	55.63	-	-	P	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
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													H	
													H	
													H	
			11650	47.08	-26.92	74	45.68	38.4	19.91	56.91	-	-	P	V
			17475	51.63	-16.57	68.2	41.81	41.45	24	55.63	-	-	P	V
													V	
													V	
													V	
													V	
													V	
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													V	
													V	
													V	
													V	
													V	
Remark	1. No other spurious found.													
	2. All results are PASS against Peak and Average limit line.													
	3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.													



Band 4 5725~5850MHz

WIFI 802.11ax HE20_Full (Band Edge @ 3m)

WIFI Ant. 7+8	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		5644	50.91	-17.29	68.2	37.45	34.9	12.47	33.91	200	29	P	H	
		5700	64.79	-40.41	105.2	51.22	35	12.49	33.92	200	29	P	H	
		5720	82.79	-28.01	110.8	69.18	35.04	12.5	33.93	200	29	P	H	
		5723	92.17	-25.47	117.64	78.55	35.05	12.5	33.93	200	29	P	H	
	*	5745	116.98	-	-	103.3	35.09	12.52	33.93	200	29	P	H	
	*	5745	109.71	-	-	96.03	35.09	12.52	33.93	200	29	A	H	
														H
														H
			5634.8	50.63	-17.57	68.2	37.17	34.9	12.47	33.91	236	357	P	V
			5700	61.78	-43.42	105.2	48.21	35	12.49	33.92	236	357	P	V
			5719.2	77.83	-32.75	110.58	64.22	35.04	12.5	33.93	236	357	P	V
			5725	86.53	-35.67	122.2	72.91	35.05	12.5	33.93	236	357	P	V
	*		5745	113.33	-	-	99.65	35.09	12.52	33.93	236	357	P	V
	*		5745	104.76	-	-	91.08	35.09	12.52	33.93	236	357	A	V
													V	
													V	



WIFI Ant. 7+8	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)
		5639	54.67	-13.53	68.2	41.21	34.9	12.47	33.91	200	32	P	H
		5685	61.83	-32.3	94.13	48.29	34.97	12.49	33.92	200	32	P	H
		5718.6	70.94	-39.47	110.41	57.33	35.04	12.5	33.93	200	32	P	H
		5723	69.15	-48.49	117.64	55.53	35.05	12.5	33.93	200	32	P	H
	*	5785	118.16	-	-	104.47	35.1	12.53	33.94	200	32	P	H
	*	5785	109.54	-	-	95.85	35.1	12.53	33.94	200	32	A	H
		5850.6	72.15	-48.68	120.83	58.41	35.1	12.6	33.96	200	32	P	H
		5855	66.8	-44	110.8	53.05	35.11	12.6	33.96	200	32	P	H
		5875.4	64.15	-40.75	104.9	50.29	35.15	12.68	33.97	200	32	P	H
		5932.6	55.06	-13.14	68.2	41.09	35.2	12.75	33.98	200	32	P	H
802.11ax													H
HE20 Full													H
CH 157		5646.6	52.18	-16.02	68.2	38.72	34.9	12.47	33.91	100	252	P	V
5785MHz		5692	62.58	-36.72	99.3	49.03	34.98	12.49	33.92	100	252	P	V
		5716	68	-41.68	109.68	54.4	35.03	12.5	33.93	100	252	P	V
		5723.6	72.28	-46.73	119.01	58.66	35.05	12.5	33.93	100	252	P	V
	*	5785	112.42	-	-	98.73	35.1	12.53	33.94	100	252	P	V
	*	5785	104.31	-	-	90.62	35.1	12.53	33.94	100	252	A	V
		5853	69.04	-46.32	115.36	55.29	35.11	12.6	33.96	100	252	P	V
		5856	69.11	-41.41	110.52	55.36	35.11	12.6	33.96	100	252	P	V
		5887.6	61.78	-34.07	95.85	47.89	35.18	12.68	33.97	100	252	P	V
		5928.4	55	-13.2	68.2	41.03	35.2	12.75	33.98	100	252	P	V
													V
													V



WiFi Ant. 7+8	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	117.28	-	-	103.53	35.1	12.6	33.95	100	13	P	H	
	*	5825	108.58	-	-	94.83	35.1	12.6	33.95	100	13	A	H	
		5851.2	74.74	-44.72	119.46	61	35.1	12.6	33.96	100	13	P	H	
		5855.4	73.65	-37.04	110.69	59.9	35.11	12.6	33.96	100	13	P	H	
		5875	62.64	-42.56	105.2	48.78	35.15	12.68	33.97	100	13	P	H	
		5926.4	51.96	-16.24	68.2	37.99	35.2	12.75	33.98	100	13	P	H	
														H
														H
	*	5825	113.23	-	-	99.48	35.1	12.6	33.95	221	316	316	P	V
	*	5825	104.79	-	-	91.04	35.1	12.6	33.95	221	316	316	A	V
		5850.4	73.72	-47.57	121.29	59.98	35.1	12.6	33.96	221	316	316	P	V
		5855.2	64.37	-46.37	110.74	50.62	35.11	12.6	33.96	221	316	316	P	V
		5876	54.44	-50.02	104.46	40.58	35.15	12.68	33.97	221	316	316	P	V
		5949.2	51.43	-16.77	68.2	37.39	35.2	12.83	33.99	221	316	316	P	V
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



Band 4 5725~5850MHz

WIFI 802.11ax HE20 Full (Harmonic @ 3m)

WIFI Ant. 7+8	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	46.24	-27.76	74	45.36	38.19	19.76	57.07	-	-	P	H	
		17235	52.18	-16.02	68.2	42.6	41.4	23.81	55.63	-	-	P	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
			11490	46.42	-27.58	74	45.54	38.19	19.76	57.07	-	-	P	V
			17235	53.22	-14.98	68.2	43.64	41.4	23.81	55.63	-	-	P	V
													V	
													V	
													V	
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													V	
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													V	
													V	



WIFI Ant. 7+8	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Full CH 157 5785MHz		11570	46.41	-27.59	74	45.29	38.27	19.83	56.98	-	-	P	H
		17355	51.58	-16.62	68.2	41.79	41.51	23.91	55.63	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
			11570	46.25	-27.75	74	45.13	38.27	19.83	56.98	-	-	P
		17355	51.32	-16.88	68.2	41.53	41.51	23.91	55.63	-	-	P	V
													V
													V
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WIFI Ant. 7+8	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		11650	46.68	-27.32	74	45.28	38.4	19.91	56.91	-	-	P	H	
		17475	50.64	-17.56	68.2	40.82	41.45	24	55.63	-	-	P	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
			11650	46.21	-27.79	74	44.81	38.4	19.91	56.91	-	-	P	V
			17475	50.72	-17.48	68.2	40.9	41.45	24	55.63	-	-	P	V
													V	
													V	
													V	
													V	
													V	
													V	
													V	
													V	
													V	
													V	
													V	
													V	
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. 													



Band 4 5725~5850MHz

WIFI 802.11ax HE20_Partial 106 (Band Edge @ 3m)

WIFI Ant. 7+8	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 Partial 106/53 CH 149 5745MHz		5628	49.45	-18.75	68.2	35.98	34.9	12.47	33.9	284	0	P	H	
		5697	52.46	-50.53	102.99	38.9	34.99	12.49	33.92	284	0	P	H	
		5720	69.93	-40.87	110.8	56.32	35.04	12.5	33.93	284	0	P	H	
		5723.6	72.53	-46.48	119.01	58.91	35.05	12.5	33.93	284	0	P	H	
	*	5745	115.89	-	-	102.21	35.09	12.52	33.93	284	0	P	H	
	*	5745	109.43	-	-	95.75	35.09	12.52	33.93	284	0	A	H	
														H
														H
			5627.6	49.17	-19.03	68.2	35.7	34.9	12.47	33.9	100	268	P	V
			5688.2	52.03	-44.47	96.5	38.48	34.98	12.49	33.92	100	268	P	V
			5719.8	63.82	-46.92	110.74	50.21	35.04	12.5	33.93	100	268	P	V
			5725	81.9	-40.3	122.2	68.28	35.05	12.5	33.93	100	268	P	V
		*	5745	112.5	-	-	98.82	35.09	12.52	33.93	100	268	P	V
		*	5745	106.61	-	-	92.93	35.09	12.52	33.93	100	268	A	V
													V	
													V	



WIFI Ant. 7+8	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 Partial 106/54 CH 165 5825MHz	*	5825	116.99	-	-	103.24	35.1	12.6	33.95	294	28	P	H	
	*	5825	110.87	-	-	97.12	35.1	12.6	33.95	294	28	A	H	
		5850.6	66.52	-54.31	120.83	52.78	35.1	12.6	33.96	294	28	P	H	
		5855	59.56	-51.24	110.8	45.81	35.11	12.6	33.96	294	28	P	H	
		5878.2	52.9	-49.92	102.82	39.03	35.16	12.68	33.97	294	28	P	H	
		5925.8	51.15	-17.05	68.2	37.18	35.2	12.75	33.98	294	28	P	H	
														H
														H
	*	5825	111.76	-	-	98.01	35.1	12.6	33.95	293	352	P	V	
	*	5825	105.42	-	-	91.67	35.1	12.6	33.95	293	352	A	V	
		5853.4	59.95	-54.5	114.45	46.2	35.11	12.6	33.96	293	352	P	V	
		5856.8	59.45	-50.85	110.3	45.7	35.11	12.6	33.96	293	352	P	V	
		5898.2	51.55	-36.44	87.99	37.64	35.2	12.68	33.97	293	352	P	V	
		5933.8	51.26	-16.94	68.2	37.29	35.2	12.75	33.98	293	352	P	V	
														V
													V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



Band 4 5725~5850MHz

WIFI 802.11ax HE40_Full (Band Edge @ 3m)

WIFI Ant. 7+8	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)
		5647.4	58.69	-9.51	68.2	45.23	34.9	12.47	33.91	200	31	P	H
		5697.2	72.61	-30.53	103.14	59.05	34.99	12.49	33.92	200	31	P	H
		5719.8	86.31	-24.43	110.74	72.7	35.04	12.5	33.93	200	31	P	H
		5722.4	88.82	-27.45	116.27	75.21	35.04	12.5	33.93	200	31	P	H
	*	5755	116.07	-	-	102.39	35.1	12.52	33.94	200	31	P	H
	*	5755	106.94	-	-	93.26	35.1	12.52	33.94	200	31	A	H
		5853.6	60.4	-53.59	113.99	46.65	35.11	12.6	33.96	200	31	P	H
		5863	60.68	-47.88	108.56	46.83	35.13	12.68	33.96	200	31	P	H
		5880.4	58.71	-42.48	101.19	44.84	35.16	12.68	33.97	200	31	P	H
		5932.4	52.03	-16.17	68.2	38.06	35.2	12.75	33.98	200	31	P	H
802.11ax													H
HE40 Full													H
CH 151		5648	58.17	-10.03	68.2	44.71	34.9	12.47	33.91	236	357	P	V
5755MHz		5700	70.96	-34.24	105.2	57.39	35	12.49	33.92	236	357	P	V
		5719.8	83.15	-27.59	110.74	69.54	35.04	12.5	33.93	236	357	P	V
		5723.8	88.03	-31.43	119.46	74.41	35.05	12.5	33.93	236	357	P	V
	*	5755	110.88	-	-	97.2	35.1	12.52	33.94	236	357	P	V
	*	5755	102.28	-	-	88.6	35.1	12.52	33.94	236	357	A	V
		5854	57.4	-55.68	113.08	43.65	35.11	12.6	33.96	236	357	P	V
		5873.6	56.61	-48.98	105.59	42.75	35.15	12.68	33.97	236	357	P	V
		5876.2	54.84	-49.47	104.31	40.98	35.15	12.68	33.97	236	357	P	V
		5945.8	51	-17.2	68.2	36.96	35.2	12.83	33.99	236	357	P	V
													V
													V



WiFi Ant. 7+8	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)
		5638.4	52.06	-16.14	68.2	38.6	34.9	12.47	33.91	213	33	P	H
		5693.8	59.82	-40.81	100.63	46.26	34.99	12.49	33.92	213	33	P	H
		5720	63.92	-46.88	110.8	50.31	35.04	12.5	33.93	213	33	P	H
		5723.8	67.89	-51.57	119.46	54.27	35.05	12.5	33.93	213	33	P	H
	*	5795	115.37	-	-	101.69	35.1	12.53	33.95	213	33	P	H
	*	5795	106.98	-	-	93.3	35.1	12.53	33.95	213	33	A	H
		5853.6	71.44	-42.55	113.99	57.69	35.11	12.6	33.96	213	33	P	H
		5855	70.88	-39.92	110.8	57.13	35.11	12.6	33.96	213	33	P	H
		5876.2	62.43	-41.88	104.31	48.57	35.15	12.68	33.97	213	33	P	H
		5926	53.8	-14.4	68.2	39.83	35.2	12.75	33.98	213	33	P	H
802.11ax													H
HE40 Full													H
CH 159		5632.8	50.89	-17.31	68.2	37.42	34.9	12.47	33.9	100	253	P	V
5795MHz		5694.8	55.93	-45.44	101.37	42.37	34.99	12.49	33.92	100	253	P	V
		5714.8	60.14	-49.21	109.35	46.54	35.03	12.5	33.93	100	253	P	V
		5723.8	62.42	-57.04	119.46	48.8	35.05	12.5	33.93	100	253	P	V
	*	5795	109.57	-	-	95.89	35.1	12.53	33.95	100	253	P	V
	*	5795	101.38	-	-	87.7	35.1	12.53	33.95	100	253	A	V
		5850.8	65.8	-54.58	120.38	52.06	35.1	12.6	33.96	100	253	P	V
		5855.4	66.93	-43.76	110.69	53.18	35.11	12.6	33.96	100	253	P	V
		5881.2	59.77	-40.82	100.59	45.9	35.16	12.68	33.97	100	253	P	V
		5931	52.77	-15.43	68.2	38.8	35.2	12.75	33.98	100	253	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE40_Full (Harmonic @ 3m)

WIFI Ant. 7+8	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	47.19	-26.81	74	46.22	38.21	19.8	57.04	-	-	P	H
		17265	50.59	-17.61	68.2	40.98	41.4	23.84	55.63	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
			11510	46.63	-27.37	74	45.66	38.21	19.8	57.04	-	-	P
		17265	50.9	-17.3	68.2	41.29	41.4	23.84	55.63	-	-	P	V
													V
													V
													V
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WIFI Ant. 7+8	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE40 Full CH 159 5795MHz		11590	46.31	-27.69	74	45.12	38.29	19.87	56.97	-	-	P	H
		17385	51.89	-16.31	68.2	42.01	41.57	23.94	55.63	-	-	P	H
													H
													H
													H
													H
													H
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													H
													H
													H
													H
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													H
													H
													H
													H
			11590	45.95	-28.05	74	44.76	38.29	19.87	56.97	-	-	P
		17385	52.16	-16.04	68.2	42.28	41.57	23.94	55.63	-	-	P	V
													V
													V
													V
													V
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													V
													V
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													V
													V
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. 												



Band 4 5725~5850MHz

WIFI 802.11ax HE40_Partial 242 (Band Edge @ 3m)

WIFI Ant. 7+8	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)	
		5648.8	61.58	-6.62	68.2	48.12	34.9	12.47	33.91	229	27	P	H	
		5699.4	69.86	-34.9	104.76	56.29	35	12.49	33.92	229	27	P	H	
		5719.8	85.01	-25.73	110.74	71.4	35.04	12.5	33.93	229	27	P	H	
		5722.8	90.84	-26.34	117.18	77.22	35.05	12.5	33.93	229	27	P	H	
	*	5755	117.15	-	-	103.47	35.1	12.52	33.94	229	27	P	H	
	*	5755	110.35	-	-	96.67	35.1	12.52	33.94	229	27	A	H	
		5855	52.44	-58.36	110.8	38.69	35.11	12.6	33.96	229	27	P	H	
		5865.8	63.51	-44.26	107.77	49.67	35.13	12.68	33.97	229	27	P	H	
		5892.8	54.32	-37.67	91.99	40.42	35.19	12.68	33.97	229	27	P	H	
		5925.6	50.75	-17.45	68.2	36.78	35.2	12.75	33.98	229	27	P	H	
802.11ax HE40 Partial 242/61 CH 151 5755MHz													H	
													H	
			5636.8	54.77	-13.43	68.2	41.31	34.9	12.47	33.91	100	254	P	V
			5699	64.54	-39.92	104.46	50.97	35	12.49	33.92	100	254	P	V
			5719	81.31	-29.21	110.52	67.7	35.04	12.5	33.93	100	254	P	V
			5723.4	87.93	-30.62	118.55	74.31	35.05	12.5	33.93	100	254	P	V
		*	5755	110.77	-	-	97.09	35.1	12.52	33.94	100	254	P	V
		*	5755	104.11	-	-	90.43	35.1	12.52	33.94	100	254	A	V
			5854.6	51.63	-60.08	111.71	37.88	35.11	12.6	33.96	100	254	P	V
			5874.8	55.71	-49.55	105.26	41.85	35.15	12.68	33.97	100	254	P	V
			5875.6	58.1	-46.65	104.75	44.24	35.15	12.68	33.97	100	254	P	V
			5925.2	55.19	-13.01	68.2	41.22	35.2	12.75	33.98	100	254	P	V
														V
														V



WiFi Ant. 7+8	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 Partial 242/62 CH 159 5795MHz		5600.6	49.32	-18.88	68.2	35.86	34.9	12.46	33.9	285	357	P	H	
		5663.6	55.79	-22.51	78.3	42.28	34.93	12.49	33.91	285	357	P	H	
		5720	55.37	-55.43	110.8	41.76	35.04	12.5	33.93	285	357	P	H	
		5724.2	69.44	-50.94	120.38	55.82	35.05	12.5	33.93	285	357	P	H	
	*	5795	115.67	-	-	101.99	35.1	12.53	33.95	285	357	P	H	
	*	5795	108.06	-	-	94.38	35.1	12.53	33.95	285	357	A	H	
		5852.6	69.97	-46.3	116.27	56.22	35.11	12.6	33.96	285	357	P	H	
		5855	67.44	-43.36	110.8	53.69	35.11	12.6	33.96	285	357	P	H	
		5877.4	56.61	-46.81	103.42	42.75	35.15	12.68	33.97	285	357	P	H	
		5932.8	52.5	-15.7	68.2	38.53	35.2	12.75	33.98	285	357	P	H	
														H
														H
			5627.6	49.93	-18.27	68.2	36.46	34.9	12.47	33.9	100	246	P	V
			5698.2	60.51	-43.36	103.87	46.94	35	12.49	33.92	100	246	P	V
			5700	57.42	-47.78	105.2	43.85	35	12.49	33.92	100	246	P	V
			5723.4	50.81	-67.74	118.55	37.19	35.05	12.5	33.93	100	246	P	V
	*		5795	113.71	-	-	100.03	35.1	12.53	33.95	100	246	P	V
	*		5795	104.9	-	-	91.22	35.1	12.53	33.95	100	246	A	V
			5851.4	65.45	-53.56	119.01	51.71	35.1	12.6	33.96	100	246	P	V
			5857.8	61.55	-48.46	110.01	47.79	35.12	12.6	33.96	100	246	P	V
		5882.4	56.22	-43.48	99.7	42.35	35.16	12.68	33.97	100	246	P	V	
		5926.6	52.2	-16	68.2	38.23	35.2	12.75	33.98	100	246	P	V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



Band 4 5725~5850MHz

WIFI 802.11ax HE80_Full (Band Edge @ 3m)

WIFI Ant. 7+8	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)
		5649.2	65.77	-2.43	68.2	52.31	34.9	12.47	33.91	200	31	P	H
		5691.4	71.56	-27.3	98.86	58.01	34.98	12.49	33.92	200	31	P	H
		5711.4	74.71	-33.68	108.39	61.11	35.02	12.5	33.92	200	31	P	H
		5721.6	75.25	-39.2	114.45	61.64	35.04	12.5	33.93	200	31	P	H
	*	5775	110.66	-	-	96.98	35.1	12.52	33.94	200	31	P	H
	*	5775	101.62	-	-	87.94	35.1	12.52	33.94	200	31	A	H
		5850.4	74.33	-46.96	121.29	60.59	35.1	12.6	33.96	200	31	P	H
		5863.2	71.25	-37.25	108.5	57.4	35.13	12.68	33.96	200	31	P	H
		5877.6	70.31	-32.96	103.27	56.44	35.16	12.68	33.97	200	31	P	H
		5927.2	65.3	-2.9	68.2	51.33	35.2	12.75	33.98	200	31	P	H
802.11ax													H
HE80 Full													H
CH 155		5644.4	63.42	-4.78	68.2	49.96	34.9	12.47	33.91	100	253	P	V
5775MHz		5694.6	67.82	-33.4	101.22	54.26	34.99	12.49	33.92	100	253	P	V
		5714.6	70.93	-38.36	109.29	57.33	35.03	12.5	33.93	100	253	P	V
		5723.8	73.05	-46.41	119.46	59.43	35.05	12.5	33.93	100	253	P	V
	*	5775	104.49	-	-	90.81	35.1	12.52	33.94	100	253	P	V
	*	5775	96.3	-	-	82.62	35.1	12.52	33.94	100	253	A	V
		5851.2	73.85	-45.61	119.46	60.11	35.1	12.6	33.96	100	253	P	V
		5862.2	72.96	-35.82	108.78	59.12	35.12	12.68	33.96	100	253	P	V
		5882.8	69.93	-29.48	99.41	56.05	35.17	12.68	33.97	100	253	P	V
		5926	63.59	-4.61	68.2	49.62	35.2	12.75	33.98	100	253	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE80_Full (Harmonic @ 3m)

WIFI Ant. 7+8	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	46.7	-27.3	74	45.62	38.25	19.83	57	-	-	P	H
		17325	51.78	-16.42	68.2	42.08	41.45	23.88	55.63	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
	802.11ax HE80 Full CH 155 5775MHz		11550	45.97	-28.03	74	44.89	38.25	19.83	57	-	-	P
		17325	50.48	-17.72	68.2	40.78	41.45	23.88	55.63	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. 												



Band 4 5725~5850MHz

WIFI 802.11ax HE80_Partial 484 (Band Edge @ 3m)

WIFI Ant. 7+8	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)
		5641.6	65.44	-2.76	68.2	51.98	34.9	12.47	33.91	252	26	P	H
		5658.8	71.52	-3.22	74.74	58.04	34.92	12.47	33.91	252	26	P	H
		5719.6	68.26	-42.43	110.69	54.65	35.04	12.5	33.93	252	26	P	H
		5723.6	64.26	-54.75	119.01	50.64	35.05	12.5	33.93	252	26	P	H
	*	5775	110.63	-	-	96.95	35.1	12.52	33.94	252	26	P	H
	*	5775	101.49	-	-	87.81	35.1	12.52	33.94	252	26	A	H
		5850.6	60.82	-60.01	120.83	47.08	35.1	12.6	33.96	252	26	P	H
		5874	62.84	-42.64	105.48	48.98	35.15	12.68	33.97	252	26	P	H
		5876.4	64.37	-39.79	104.16	50.51	35.15	12.68	33.97	252	26	P	H
		5944.8	52.24	-15.96	68.2	38.2	35.2	12.83	33.99	252	26	P	H
802.11ax													H
HE80													H
Partial													H
484/65		5605.2	57.87	-10.33	68.2	44.41	34.9	12.46	33.9	100	326	P	V
CH 155		5653.2	64.2	-6.38	70.58	50.73	34.91	12.47	33.91	100	326	P	V
5775MHz		5716.2	61.92	-47.82	109.74	48.32	35.03	12.5	33.93	100	326	P	V
		5723.6	69.52	-49.49	119.01	55.9	35.05	12.5	33.93	100	326	P	V
	*	5775	103.54	-	-	89.86	35.1	12.52	33.94	100	326	P	V
	*	5775	96.24	-	-	82.56	35.1	12.52	33.94	100	326	A	V
		5852.2	50.57	-66.61	117.18	36.83	35.1	12.6	33.96	100	326	P	V
		5866.2	54.64	-53.02	107.66	40.8	35.13	12.68	33.97	100	326	P	V
		5922.6	51.83	-18.14	69.97	37.86	35.2	12.75	33.98	100	326	P	V
		5941.2	51.54	-16.66	68.2	37.49	35.2	12.83	33.98	100	326	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI Ant. 7+8	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)
		5601.8	62.65	-5.55	68.2	49.19	34.9	12.46	33.9	227	28	P	H
		5689.4	69.97	-27.41	97.38	56.42	34.98	12.49	33.92	227	28	P	H
		5703.2	75.38	-30.72	106.1	61.79	35.01	12.5	33.92	227	28	P	H
		5720.8	70.39	-42.23	112.62	56.78	35.04	12.5	33.93	227	28	P	H
	*	5775	111.47	-	-	97.79	35.1	12.52	33.94	227	28	P	H
	*	5775	103.13	-	-	89.45	35.1	12.52	33.94	227	28	A	H
		5854.4	75.66	-36.51	112.17	61.91	35.11	12.6	33.96	227	28	P	H
		5871.4	78.71	-27.5	106.21	64.86	35.14	12.68	33.97	227	28	P	H
		5885.6	72.5	-24.83	97.33	58.62	35.17	12.68	33.97	227	28	P	H
		5925	63.29	-4.91	68.2	49.32	35.2	12.75	33.98	227	28	P	H
802.11ax													H
HE80													H
Partial													H
484/66		5627.2	60.41	-7.79	68.2	46.94	34.9	12.47	33.9	100	257	P	V
CH 155		5697.8	62.83	-40.75	103.58	49.26	35	12.49	33.92	100	257	P	V
5775MHz		5719.4	64.66	-45.97	110.63	51.05	35.04	12.5	33.93	100	257	P	V
		5725	64.42	-57.78	122.2	50.8	35.05	12.5	33.93	100	257	P	V
	*	5775	106.73	-	-	93.05	35.1	12.52	33.94	100	257	P	V
	*	5775	97.65	-	-	83.97	35.1	12.52	33.94	100	257	A	V
		5852.2	75.15	-42.03	117.18	61.41	35.1	12.6	33.96	100	257	P	V
		5858.6	75.82	-33.97	109.79	62.06	35.12	12.6	33.96	100	257	P	V
		5886.2	67.55	-29.33	96.88	53.67	35.17	12.68	33.97	100	257	P	V
		5934	57.82	-10.38	68.2	43.85	35.2	12.75	33.98	100	257	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

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

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.	
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
7+8		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
802.11ax HE80 Full LF		30.54	22.34	-17.66	40	26.78	24.27	1.36	30.07	-	-	P	H	
		63.75	24.44	-15.56	40	41.05	11.8	1.52	29.93	-	-	P	H	
		117.75	26.45	-17.05	43.5	37.22	17.26	1.94	29.97	-	-	P	H	
		859.3	31.08	-14.92	46	26.55	28.91	4.86	29.24	-	-	P	H	
		889.4	31.2	-14.8	46	26.64	28.61	5.03	29.08	-	-	P	H	
		957.3	32.66	-13.34	46	25.67	30.64	5.14	28.79	-	-	P	H	
														H
														H
														H
														H
														H
														H
			30	32.96	-7.04	40	37.17	24.51	1.36	30.08	-	-	P	V
			63.48	22.89	-17.11	40	39.52	11.78	1.52	29.93	-	-	P	V
			120.99	23.02	-20.48	43.5	33.7	17.35	1.94	29.97	-	-	P	V
			729.1	35.01	-10.99	46	33.15	27.08	4.48	29.7	-	-	P	V
			886.6	33.82	-12.18	46	29.25	28.63	5.03	29.09	-	-	P	V
			958	33.01	-12.99	46	26.01	30.65	5.14	28.79	-	-	P	V
														V
														V
													V	
													V	
													V	
													V	
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against limit line. 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	Peak or Average
H/V	Horizontal or Vertical



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.		(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 @ 5650MHz:

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 D. Radiated Spurious Emission Plots

Test Engineer :	Jesse Wang, Stan Hsieh and Ken Wu	Temperature :	23.3~26.4°C
		Relative Humidity :	43.7~62.5%

Note symbol

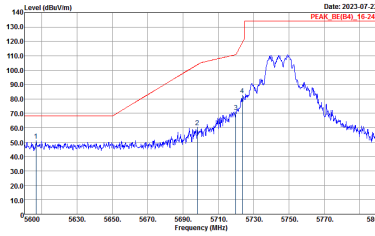
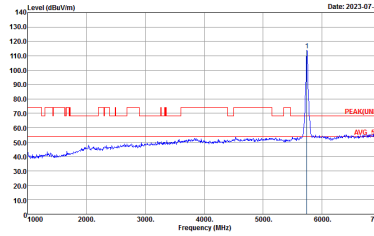
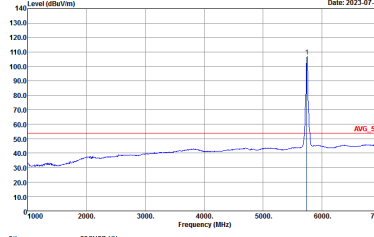
-L	Low channel location
-R	High channel location



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

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
7+8	Horizontal	Fundamental
Peak	<p>Site : 03CH07-HY Condition : PEAK_SIREM_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Site : 03CH07-HY Condition : PEAK(UMB) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg	Left blank	<p>Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
7+8	Vertical	Fundamental
Peak	 <p>Site Condition : 03CH07-HY : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	 <p>Site Condition : 03CH07-HY : PEAK(LIN) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg	Left blank	 <p>Site Condition : 03CH07-HY : AVG_S4 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto</p>

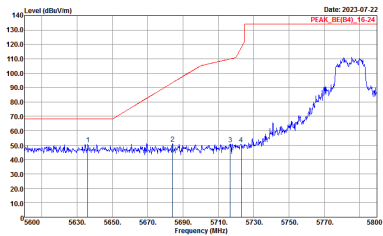
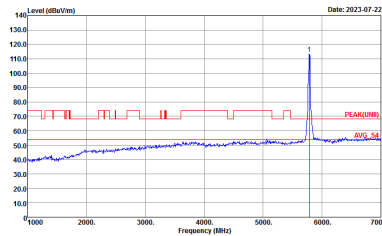
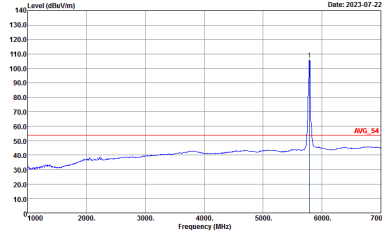


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
7+8	Horizontal	Fundamental
Peak	<p>Date: 2023-07-22 PEAK_RE(B4)_15.24</p> <p>Site : 03CH07-HY Condition : PEAK_RE(B4)_15-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Date: 2023-07-22 PEAK(LIN) 54</p> <p>Site : 03CH07-HY Condition : PEAK(LIN) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg	Left blank	<p>Date: 2023-07-22 AVG_54</p> <p>Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:0.030kHz SWT:Auto</p>

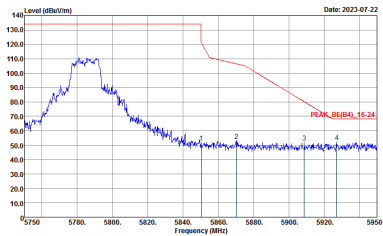


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
7+8	Horizontal	Fundamental
Peak	<p>Site : 09CH07-HY Condition : PEAK_B4(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
7+8	Vertical	Fundamental
Peak	 <p>Date: 2023-07-22 PEAK_RE(B4)_15-24</p> <p>Site : 03CH07-HY Condition : PEAK_RE(B4)_15-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	 <p>Date: 2023-07-22 PEAK(FUNB)</p> <p>Site : 03CH07-HY Condition : PEAK(FUNB)_3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg	Left blank	
		 <p>Date: 2023-07-22 AVG_S4</p> <p>Site : 03CH07-HY Condition : AVG_S4 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:0.030kHz SWT:Auto</p>

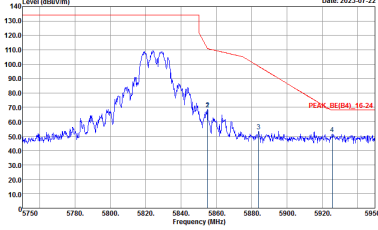
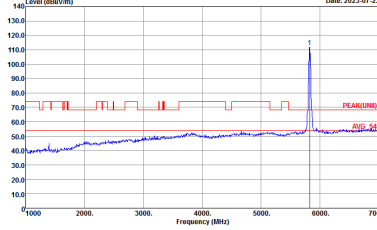
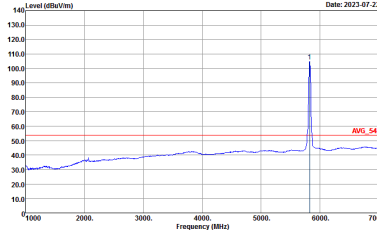


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
7+8	Vertical	Fundamental
Peak	 <p>Site : 09CH07-HY Condition : PEAK_B4(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	Left blank



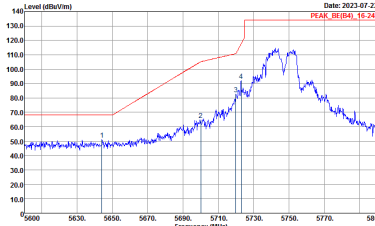
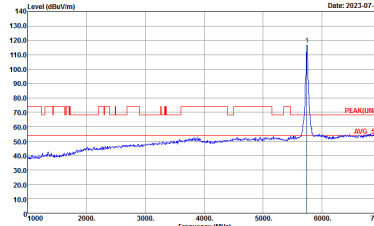
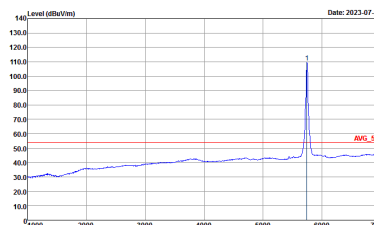
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
7+8	Horizontal	Fundamental
Peak	<p>Site : 03CH07-HY Condition : PEAK_BRE4_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Site : 03CH07-HY Condition : PEAK(FUN) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg	Left blank	
		<p>Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:0.030kHz SWT:Auto</p>



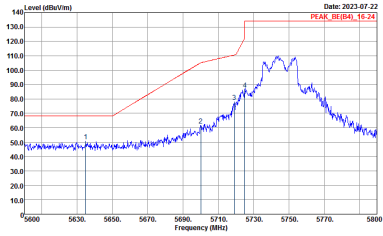
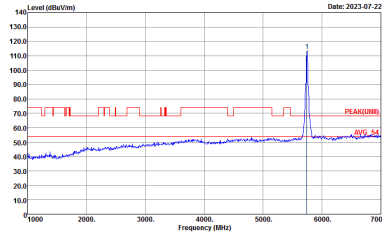
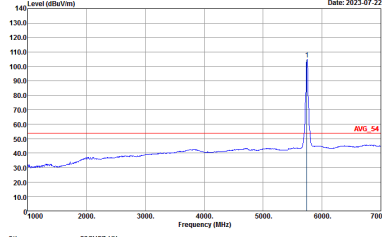
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
7+8	Vertical	Fundamental
Peak	 <p>Site : 03CH07-HY Condition : PEAK_B4_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>	 <p>Site : 03CH07-HY Condition : PEAK(UWB) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>
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		 <p>Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:0.010kHz; SWT:Auto</p>



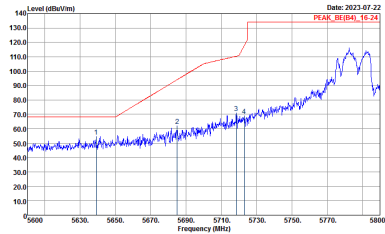
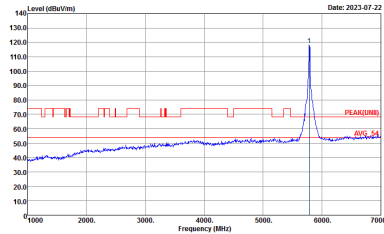
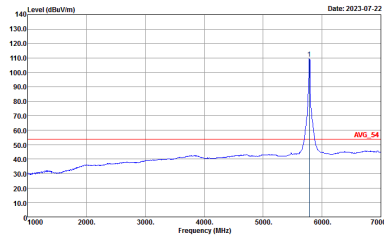
Band 4 5725~5850MHz
WIFI 802.11ax HE20 Full (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH149 5745MHz	
7+8	Horizontal	Fundamental
Peak	 <p>Site Condition : 03CH07-HY : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto</p>	 <p>Site Condition : 03CH07-HY : PEAK(LIN)I 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto</p>
Avg	Left blank	 <p>Site Condition : 03CH07-HY : AVG_S4 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWTAuto</p>

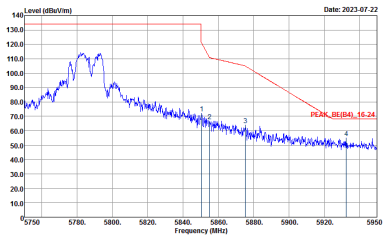


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH149 5745MHz	
7+8	Vertical	Fundamental
Peak	 <p>Site Condition : 03CH07-HY : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	 <p>Site Condition : 03CH07-HY : PEAK(LNB) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
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		 <p>Site Condition : 03CH07-HY : AVG_S4 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto</p>

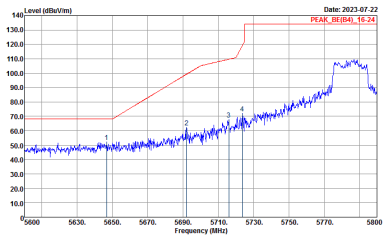
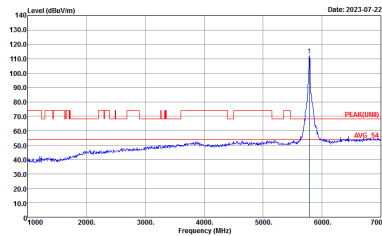
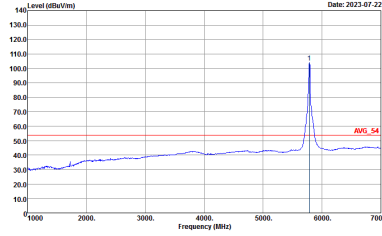


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
7+8	Horizontal	Fundamental
Peak	 <p>Site : 03CH07-HY Condition : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>	 <p>Site : 03CH07-HY Condition : PEAK(FUN) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>
Avg	Left blank	
		 <p>Site : 03CH07-HY Condition : AVG_S4 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz; VBW:0.030kHz; SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
7+8	Horizontal	Fundamental
Peak	 <p>Site : 09CH07-HY Condition : PEAK_BRE4_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	Left blank

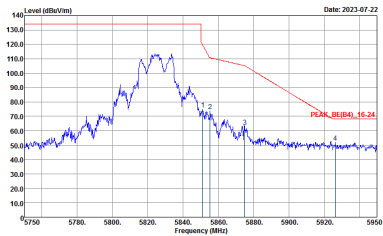
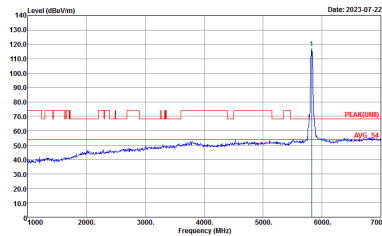
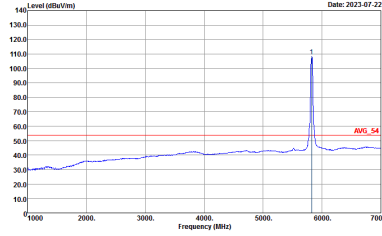


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
7+8	Vertical	Fundamental
Peak	 <p>Date: 2023-07-22 PEAK_RE(B4)_15-24</p> <p>Site Condition : 03CH07-HY : PEAK_RE(B4)_15-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>	 <p>Date: 2023-07-22 PEAK(FUNB)</p> <p>Site Condition : 03CH07-HY : PEAK(FUNB) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>
Avg	Left blank	
		 <p>Date: 2023-07-22 AVG_S4</p> <p>Site Condition : 03CH07-HY : AVG_S4 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:0.030kHz; SWT:Auto</p>

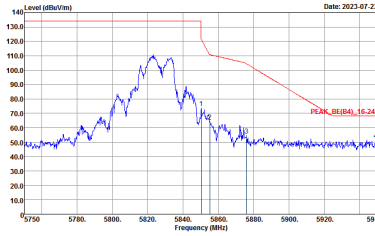
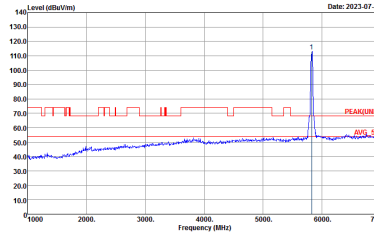
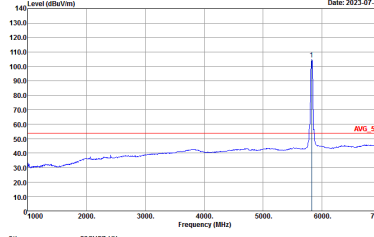


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
7+8	Vertical	Fundamental
Peak	<p>Site : 09CH07-HY Condition : PEAK_B4(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH165 5825MHz	
7+8	Horizontal	Fundamental
Peak	 <p>Site : 03CH07-HY Condition : PEAK_BRE4_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	 <p>Site : 03CH07-HY Condition : PEAK(LIN) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg	Left blank	
		 <p>Site : 03CH07-HY Condition : AVG_S4 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:0.030kHz SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH165 5825MHz	
7+8	Vertical	Fundamental
Peak	 <p>Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	 <p>Site : 03CH07-HY Condition : PEAK(LNB) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg	Left blank	
		 <p>Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto</p>



Band 4 5725~5850MHz
WIFI 802.11ax HE20 Partial 106 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Partial 106/53 CH149 5745MHz	
7+8	Horizontal	Fundamental
Peak	<p>Site Condition : 03CH07-HY : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto</p>	<p>Site Condition : 03CH07-HY : PEAK(LIN)I 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto</p>
Avg	Left blank	<p>Site Condition : 03CH07-HY : AVG_S4 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:0.300kHz SWTAuto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Partial 106/53 CH149 5745MHz	
7+8	Vertical	Fundamental
Peak	<p>Date: 2023-07-24 PEAK_RE(B4)_15-24</p> <p>Site Condition : 03CH07-HY : PEAK_RE(B4)_15-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Date: 2023-07-24 PEAK(FUNB)</p> <p>Site Condition : 03CH07-HY : PEAK(FUNB) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg	Left blank	
		<p>Date: 2023-07-24 AVG_S4</p> <p>Site Condition : 03CH07-HY : AVG_S4 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:0.300kHz SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Partial 106/54 CH165 5825MHz	
7+8	Horizontal	Fundamental
Peak	<p>Date: 2023-07-24</p> <p>Site : 03CH07-HY Condition : PEAK_BUREAU_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Date: 2023-07-24</p> <p>Site : 03CH07-HY Condition : PEAK(FUN) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg	Left blank	
		<p>Date: 2023-07-24</p> <p>Site : 03CH07-HY Condition : AVG_S4 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:0.300kHz SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Partial 106/54 CH165 5825MHz	
7+8	Vertical	Fundamental
Peak	<p>Site : 03CH07-HY Condition : PEAK_BRE4_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Site : 03CH07-HY Condition : PEAK(LIN) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
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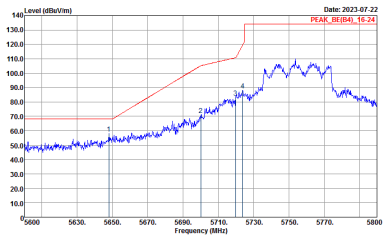
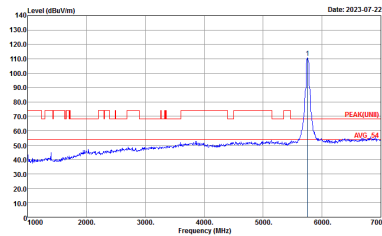
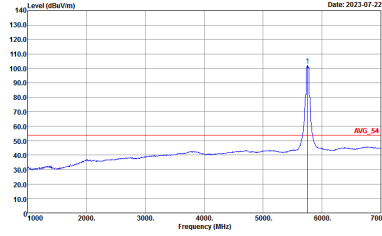
Band 4 5725~5850MHz
WIFI 802.11ax HE40 Full (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
7+8	Horizontal	Fundamental
Peak	<p>Site Condition : 03CH07-HY : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto</p>	<p>Site Condition : 03CH07-HY : PEAK(LIN)I 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto</p>
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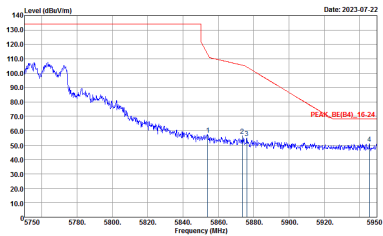


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
7+8	Horizontal	Fundamental
Peak	<p>Site : 09CH07-HY Condition : PEAK_BUREAU_16-24 3m HF_ANT_0007962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
7+8	Vertical	Fundamental
Peak	 <p>Date: 2023-07-22 PEAK_RE(B4)_15-24</p> <p>Site : 03CH07-HY Condition : PEAK_RE(B4)_15-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>	 <p>Date: 2023-07-22 PEAK(FUNB)</p> <p>Site : 03CH07-HY Condition : PEAK(FUNB)_3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>
Avg	Left blank	
		 <p>Date: 2023-07-22 AVG_S4</p> <p>Site : 03CH07-HY Condition : AVG_S4 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:0.030kHz; SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
7+8	Vertical	Fundamental
Peak	 <p>Site : 09CH07-HY Condition : PEAK_BRE4_16-24 3m HF_ANT_0007962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full HT40 CH159 5795MHz	
7+8	Horizontal	Fundamental
Peak	<p>Date: 2023-07-22 PEAK_RE(B4)_15-24</p> <p>Site : 03CH07-HY Condition : PEAK_RE(B4)_15-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Date: 2023-07-22 PEAK(FUN) 5795</p> <p>Site : 03CH07-HY Condition : PEAK(FUN) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg	Left blank	
		<p>Date: 2023-07-22 AVG_S4</p> <p>Site : 03CH07-HY Condition : AVG_S4 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:0.030kHz SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full HT40 CH159 5795MHz	
7+8	Horizontal	Fundamental
Peak	<p>Site : 09CH07-HY Condition : PEAK_BRE44_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH159 5795MHz	
7+8	Vertical	Fundamental
Peak		
Avg	Left blank	



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH159 5795MHz	
7+8	Vertical	Fundamental
Peak	<p>Site : 09CH07-HY Condition : PEAK_B4(B4)_16-24 3m HF_ANT_0007592 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	Left blank



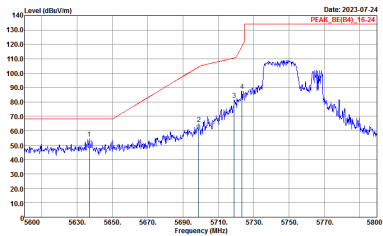
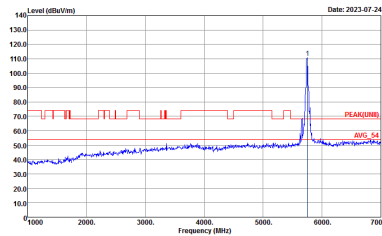
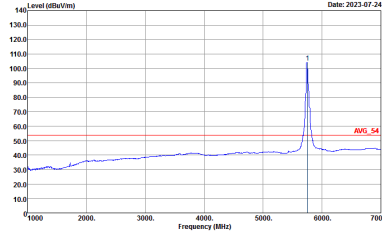
Band 4 5725~5850MHz
WIFI 802.11ax HE40 Partial 242 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/61 CH151 5755MHz	
7+8	Horizontal	Fundamental
Peak	<p>Site Condition : 03CH07-HY : PEAK_BE(64)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto</p>	<p>Site Condition : 03CH07-HY : PEAK(LIN1) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto</p>
Avg	Left blank	<p>Site Condition : 03CH07-HY : AVG_S4 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWTAuto</p>

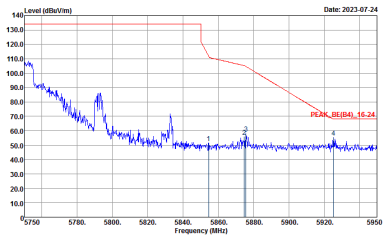


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/61 CH151 5755MHz	
7+8	Horizontal	Fundamental
Peak	<p>Site : 09CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWFAuto</p>	Left blank

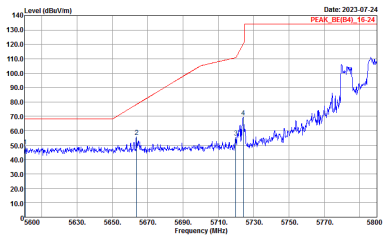
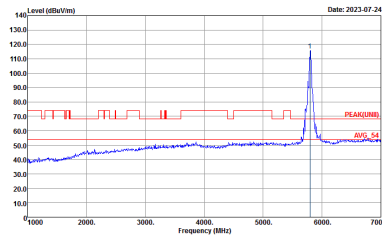
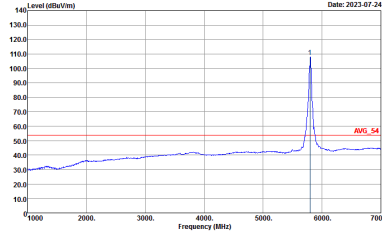


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/61 CH151 5755MHz	
7+8	Vertical	Fundamental
Peak	 <p>Date: 2023-07-24 PEAK_RE(B4)_16-24</p> <p>Site : 03CH07-HY Condition : PEAK_RE(B4)_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>	 <p>Date: 2023-07-24 PEAK(FUNB)</p> <p>Site : 03CH07-HY Condition : PEAK(FUNB)_3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>
Avg	Left blank	 <p>Date: 2023-07-24 AVG_S4</p> <p>Site : 03CH07-HY Condition : AVG_S4 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:0.030kHz; SWT:Auto</p>

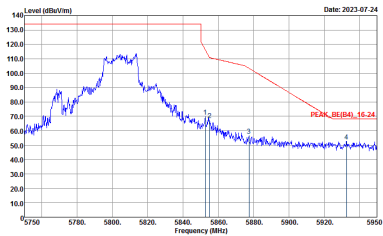


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/61 CH151 5755MHz	
7+8	Vertical	Fundamental
Peak	 <p>Site : 09CH07-HY Condition : PEAK_BUEB4_16-24 3m HF_ANT_0007592 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/62 CH159 5795MHz	
7+8	Horizontal	Fundamental
Peak	 <p>Date: 2023-07-24 PEAK_RE(B4)_15-24</p> <p>Site Condition : 03CH07-HY : PEAK_RE(B4)_15-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	 <p>Date: 2023-07-24</p> <p>Site Condition : 03CH07-HY : PEAK(FUN) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg	Left blank	 <p>Date: 2023-07-24</p> <p>Site Condition : 03CH07-HY : AVG_S4 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:0.030kHz SWT:Auto</p>

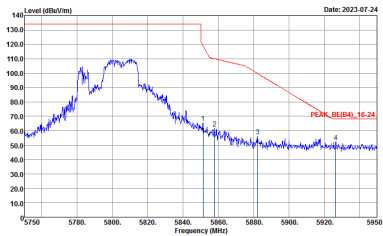


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/62 CH159 5795MHz	
7+8	Horizontal	Fundamental
Peak	 <p>Site : 09CH07-HY Condition : PEAK_BRE4_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/62 CH159 5795MHz	
7+8	Vertical	Fundamental
Peak	<p>Date: 2023-07-24 PEAK_RE(B4)_15-24</p> <p>Site Condition : 03CH07-HY : PEAK_RE(B4)_15-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Date: 2023-07-24</p> <p>Site Condition : 03CH07-HY : PEAK(FUNB) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg	Left blank	
		<p>Date: 2023-07-24</p> <p>Site Condition : 03CH07-HY : AVG_54 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>



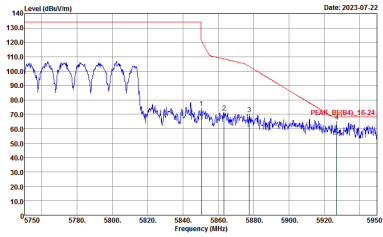
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/62 CH159 5795MHz	
7+8	Vertical	Fundamental
Peak	 <p>Site : 09CH07-HY Condition : PEAK_B4_16-24 3m HF_ANT_0007962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	Left blank



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	
7+8	Horizontal	Fundamental
Peak	<p>Site Condition : 03CH07-HY : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto</p>	<p>Site Condition : 03CH07-HY : PEAK(LINII) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto</p>
Avg	Left blank	<p>Site Condition : 03CH07-HY : AVG_54 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWTAuto</p>

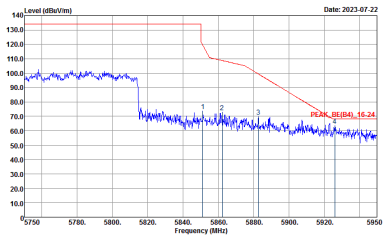


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
7+8	Horizontal	Fundamental
Peak	 <p>Site : 09CH07-HY Condition : PEAK_BRE4_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	Left blank



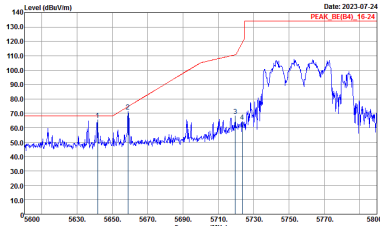
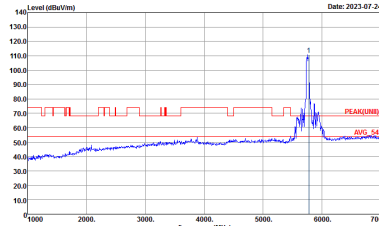
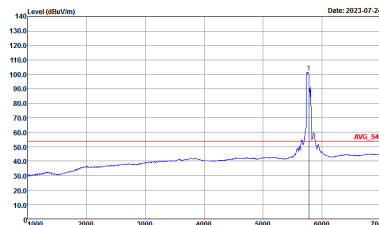
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
7+8	Vertical	Fundamental
Peak	<p>Site : 03CH07-HY Condition : PEAK_RE(B4)_15-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>	<p>Site : 03CH07-HY Condition : PEAK(FUNB)_3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>
Avg	Left blank	<p>Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:0.030kHz; SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
7+8	Vertical	Fundamental
Peak	 <p>Site : 09CH07-HY Condition : PEAK_BRE44_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	Left blank



Band 4 5725~5850MHz
WIFI 802.11ax HE80 Partial 484 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/65 CH155 5775MHz	
7+8	Horizontal	Fundamental
Peak	 <p>Site Condition : 03CH07-HY : PEAK_BEF04_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto</p>	 <p>Site Condition : 03CH07-HY : PEAK(LIN) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWTAuto</p>
Avg	Left blank	 <p>Site Condition : 03CH07-HY : AVG_54 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWTAuto</p>

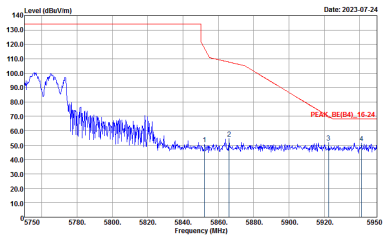


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/65 CH155 5775MHz	
7+8	Horizontal	Fundamental
Peak	<p>Site : 09CH07-HY Condition : PEAK_BUREAU_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/65 CH155 5775MHz	
7+8	Vertical	Fundamental
Peak	<p>Date: 2023-07-24 PEAK_RE(B4)_15-24</p> <p>Site Condition : 03CH07-HY : PEAK_RE(B4)_15-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>	<p>Date: 2023-07-24</p> <p>Site Condition : 03CH07-HY : PEAK(FUN) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>
Avg	Left blank	
		<p>Date: 2023-07-24</p> <p>Site Condition : 03CH07-HY : AVG_S4 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/65 CH155 5775MHz	
7+8	Vertical	Fundamental
Peak	 <p>Site : 09CH07-HY Condition : PEAK_BRE4_16-24 3m HF_ANT_0007592 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/66 CH155 5775MHz	
7+8	Horizontal	Fundamental
Peak	<p>Date: 2023-07-24 PEAK_RE(B4)_15.24</p> <p>Site : 03CH07-HY Condition : PEAK_RE(B4)_15-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Date: 2023-07-24 PEAK(FUNB)_11.41</p> <p>Site : 03CH07-HY Condition : PEAK(FUNB)_11-41 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg	Left blank	<p>Date: 2023-07-24 AVG_S4</p> <p>Site : 03CH07-HY Condition : AVG_S4 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/66 CH155 5775MHz	
7+8	Horizontal	Fundamental
Peak	<p>Site : 09CH07-HY Condition : PEAK_BRE4_16-24 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/66 CH155 5775MHz	
7+8	Vertical	Fundamental
Peak	<p>Site : 03CH07-HY Condition : PEAK_RE(B4)_15-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>	<p>Site : 03CH07-HY Condition : PEAK(FUNB)_3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>
Avg	Left blank	<p>Site : 03CH07-HY Condition : AVG_S4 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz; VBW:3000.000kHz; SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/66 CH155 5775MHz	
7+8	Vertical	Fundamental
Peak	<p>Site : 09CH07-HY Condition : PEAK_BURE4_16-24 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	Left blank



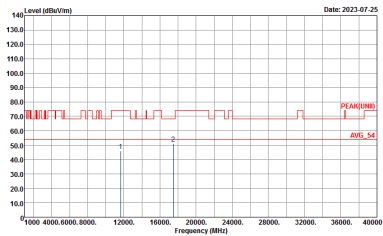
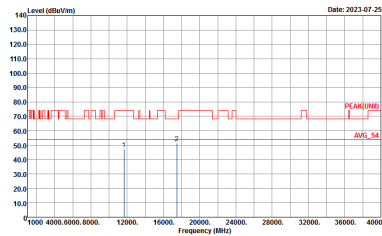
Band 4 - 5725~5850MHz
WIFI 802.11a (Harmonic @ 3m)

Table with 2 columns: Horizontal and Vertical. Rows include: WIFI (Band 4 5725~5850MHz Harmonic @ 3m), ANT (802.11a CH149 5745MHz), 7+8, and Peak Avg. Each graph shows Level (dBuV/m) vs Frequency (MHz) with Peak and Avg markers.



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
7+8	Horizontal	Vertical
Peak Avg.	<p>Site : 09CH07-HY Condition : PEAK(AVG) 3m HF_ANT_00075962 HORIZONTAL</p>	<p>Site : 09CH07-HY Condition : PEAK(AVG) 3m HF_ANT_00075962 VERTICAL</p>



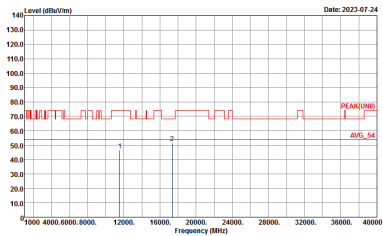
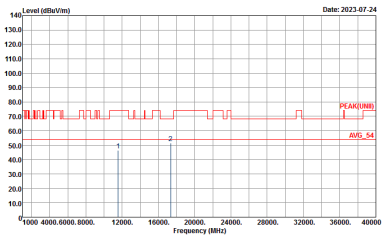
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
7+8	Horizontal	Vertical
<p>Peak</p> <p>Avg.</p>	 <p>Site : 09CH07-HY Condition : PEAK(AVG) 3m HF_ANT_00075962 HORIZONTAL</p>	 <p>Site : 09CH07-HY Condition : PEAK(AVG) 3m HF_ANT_00075962 VERTICAL</p>



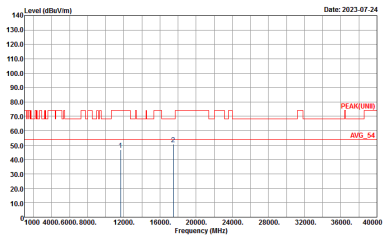
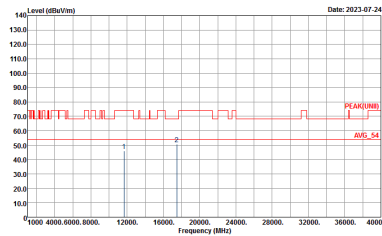
**Band 4 5725~5850MHz
WIFI 802.11ax HE20 Full (Harmonic @ 3m)**

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH149 5745MHz	
7+8	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH07-HY Condition : PEAK(LINII) 3m HF_ANT_00075962 HORIZONTAL</p>	<p>Site : 03CH07-HY Condition : PEAK(LINII) 3m HF_ANT_00075962 VERTICAL</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
7+8	Horizontal	Vertical
<p>Peak</p> <p>Avg.</p>	 <p>Site : 09CH07-HY Condition : PEAK(UWB) 3m HF_ANT_00075962 HORIZONTAL</p>	 <p>Site : 09CH07-HY Condition : PEAK(UWB) 3m HF_ANT_00075962 VERTICAL</p>



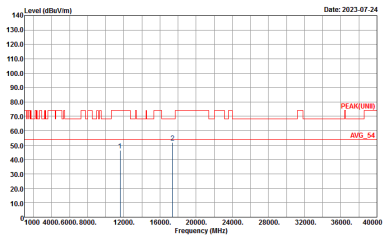
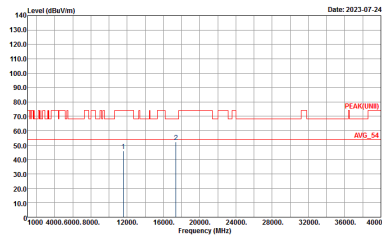
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH165 5825MHz	
7+8	Horizontal	Vertical
<p>Peak</p> <p>Avg.</p>	 <p>Site : 09CH07-HY Condition : PEAK(UWB) 3m HF_ANT_00075962 HORIZONTAL</p>	 <p>Site : 09CH07-HY Condition : PEAK(UWB) 3m HF_ANT_00075962 VERTICAL</p>



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	
7+8	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH07-HY Condition : PEAK(LINII) 3m HF_ANT_00075962 HORIZONTAL</p>	<p>Site : 03CH07-HY Condition : PEAK(LINII) 3m HF_ANT_00075962 VERTICAL</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE40 Full CH159 5795MHz	
7+8	Horizontal	Vertical
<p>Peak</p> <p>Avg.</p>	 <p>Site : 09CH07-HY Condition : PEAK(UWB) 3m HF_ANT_00075962 HORIZONTAL - - - - -</p>	 <p>Site : 09CH07-HY Condition : PEAK(UWB) 3m HF_ANT_00075962 VERTICAL - - - - -</p>



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

Table with 3 columns: WIFI, ANT, 7+8. It contains two spectral plots: Horizontal and Vertical. Each plot shows Level (dBuV/m) vs Frequency (MHz) with Peak and Avg markers.



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

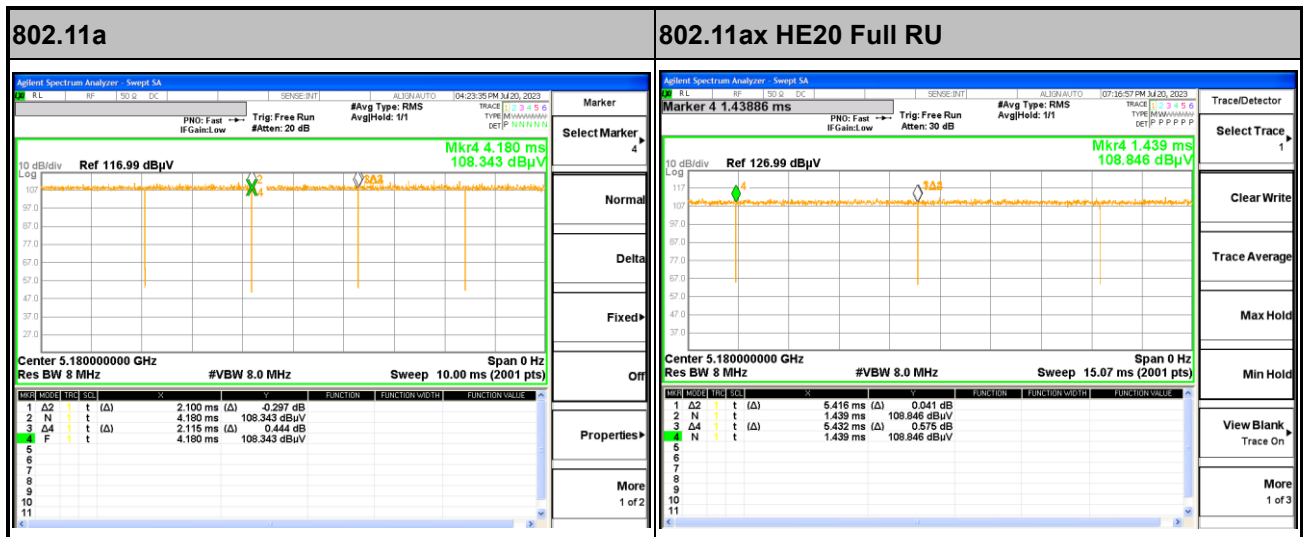
WIFI	5GHz WIFI	
ANT	802.11ax HE80 Full LF	
7+8	Horizontal	Vertical
QP / Peak	<p>Site : 03CH07-HY Condition : QP 3m LF-ANT-35413(6) HORIZONTAL</p>	<p>Site : 03CH07-HY Condition : QP 3m LF-ANT-35413(6) VERTICAL</p>



Appendix E. Duty Cycle Plots

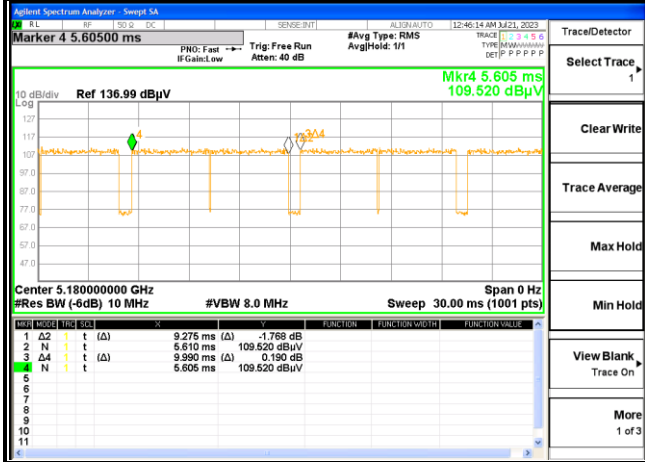
Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
7+8	802.11a	99.29	-	-	10Hz
7+8	5GHz 802.11ax HE20 Full RU	99.71	-	-	10Hz
7+8	5GHz 802.11ax HE20 106 RU	92.84	9275	0.11	300Hz
7+8	5GHz 802.11ax HE40 Full RU	99.51	-	-	10Hz
7+8	5GHz 802.11ax HE40 242 RU	99.46	-	-	10Hz
7+8	5GHz 802.11ax HE80 Full RU	99.11	-	-	10Hz
7+8	5GHz 802.11ax HE80 484 RU	99.33	-	-	10Hz

MIMO <Ant. 7+8>

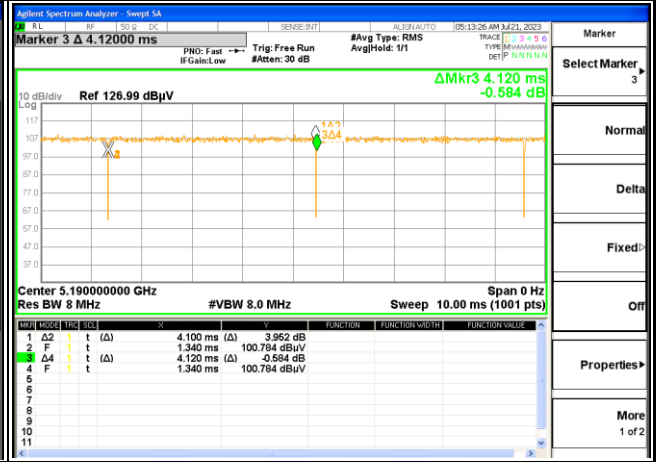




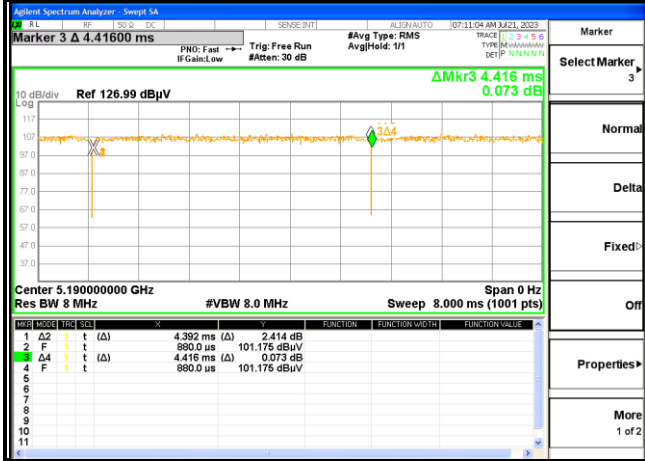
802.11ax HE20 106 RU



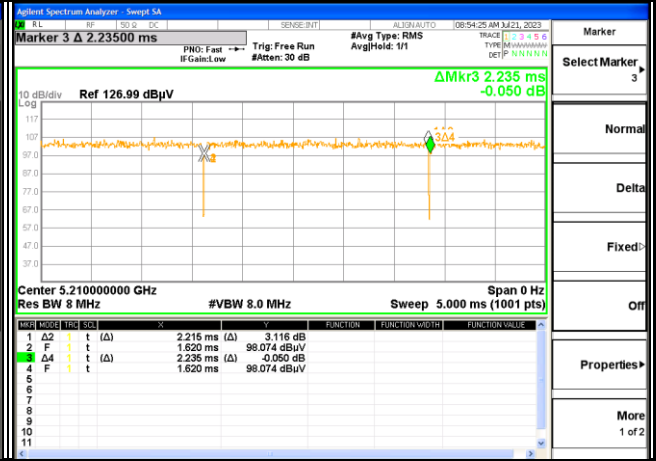
802.11ax HE40 Full RU



802.11ax HE40 242 RU



802.11ax HE80 Full RU



802.11ax HE80 484 RU

