FCC RADIO TEST REPORT

FCC ID	:	UZ7MC945B
Equipment	:	Mobile Computer
Brand Name	:	ZEBRA
Model Name	:	MC945B
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 Nov. 06, 2023 and testing was performed from Nov. 09, 2023 to Jan. 23, 2024. We, Sporton International Inc. Wensan 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. Wensan Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. Wensan Laboratory
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History of this test report

Report No.	Version	Description	Issue Date
FR3N2803F	01	Initial issue of report	Feb. 01, 2024

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	1.14 dB under the limit at 5645.45 MHz
3.5	15.207	AC Conducted Emission	Pass	11.34 dB under the limit at 0.40 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: Michelle Chen

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Computer
Brand Name	ZEBRA
Model Name	MC945B
FCC ID	UZ7MC945B
Sample 1	SE5800 + with Camera
Sample 2	SE4770 + without Camera
EUT supports Radios application	WCDMA/LTE/5G NR/GNSS/NFC 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	13-10-31.00-TN-U00-PRD-NEM-04
FW Version	FUSION_QA_6_1.1.0.004_T
MFD	10NOV23
EUT Stage	Identical Prototype

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

Specification of Accessories				
Adapter USB Wall Charger	**Brand Name**	Zebra	**Part Number**	PWR-WUA5V12W0US
Battery 1 Standard Battery (7000mAh)	**Brand Name**	Zebra	**Model Number**	BT-000370
Battery 2 Standard Battery (7000mAh)	**Brand Name**	Zebra	**Model Number**	BT-000370B
Earphone USB-C Audio Headset	**Brand Name**	Zebra	**Part Number**	HDST-USBC-PTT1-01
USB Cable (Type C to Type A)	**Brand Name**	Zebra	**Part Number**	CBL-TC2X-USBC-01
Holster	**Brand Name**	Zebra	**Part Number**	SG-MC9X-SHLSTG-01
USB Cable (CUP)	**Brand Name**	Zebra	**Part Number**	CBL-MC93-USBCHG-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. 6+7>** 802.11a: 20.81 dBm / 0.1205 W 802.11n HT20: 20.71 dBm / 0.1178 W 802.11n HT40: 20.66 dBm / 0.1164 W 802.11ac VHT20: 20.71 dBm / 0.1178 W 802.11ac VHT40: 20.66 dBm / 0.1164 W 802.11ac VHT80: 20.56 dBm / 0.1138 W 802.11ax HE20: 20.81 dBm / 0.1205 W 802.11ax HE40: 20.76 dBm / 0.1191 W 802.11ax HE80: 20.66 dBm / 0.1164 W
99% Occupied Bandwidth	**MIMO <Ant. 6>** 802.11a: 16.33 802.11ax HE20: 18.83 MHz 802.11ax HE40: 37.86 MHz 802.11ax HE80: 76.84 MHz **MIMO <Ant. 7>** 802.11a: 16.33 MHz 802.11ax HE20: 18.83 MHz 802.11ax HE40: 37.76 MHz 802.11ax HE80: 76.84 MHz
Antenna Type / Gain	**<Ant. 6>:** PIFA Antenna with gain 2.59 dBi **<Ant. 7>:** PIFA Antenna with gain 2.30 dBi
Type of Modulation	802.11a/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM) 802.11ax: OFDMA (BPSK / QPSK / 16QAM / 64QAM / 256QAM / 1024QAM)
Antenna Function Description	

	Ant. 6	Ant. 7
802.11a/n/ac/ax MIMO	V	V
802.11ax TXBF	V	V

Remark:

1. MIMO Ant. 6+7 Directional Gain is a calculated result from MIMO Ant. 6 and MIMO Ant. 7. The formula used in calculation is documented in section 1.1.1.
2. Power of MIMO Ant. 6 + Ant. 7 is a calculated result from sum of the power MIMO Ant. 6 and MIMO Ant. 7.
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 kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna.

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

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

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

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

	Ant 6 (dBi)	Ant 7 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band IV	2.59	2.30	2.59	5.46	0.00	0.00

Calculation example:

If a device has two antenna, G_{ANT6}= 2.59dBi; G_{ANT7}=2.30dBi

Directional gain of power measurement = max(2.59, 2.30) + 0 = 2.59 dBi

Directional gain of PSD derived from formula which is

10 x log { { [10^ (2.59 dBi / 20) + 10^ (2.30 dBi / 20)] ^ 2 } / 2 }

= 5.46 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)

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

where

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

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

N_{ANT} = the total number of antennas

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

G_k is the gain in dBi of the kth antenna.

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

	Ant 6 (dBi)	Ant 7 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band IV	2.59	2.30	5.46	5.46	0.00	0.00

Calculation example:

Directional gain of PSD derived from formula which is

10 x log { { [10^ (2.59 dBi / 20) + 10^ (2.30 dBi / 20)] ^ 2 } / 2 }

= 5.46 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. 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, CO07-HY, 03CH20-HY

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

FCC designation No.: 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 : Keypad (53key) + MP3 play + WLAN (5GHz) Link + Bluetooth Link + Battery 2 Standard Battery (7000mAh) + Scan + USB Cable (Type C to Type A) with USB Cable (CUP) (Charging from Adapter USB Wall Charger) for Sample 1
Remark: For Radiated Test Cases, the tests were performed with Battery 1 Standard Battery (7000mAh) and Sample 1.	

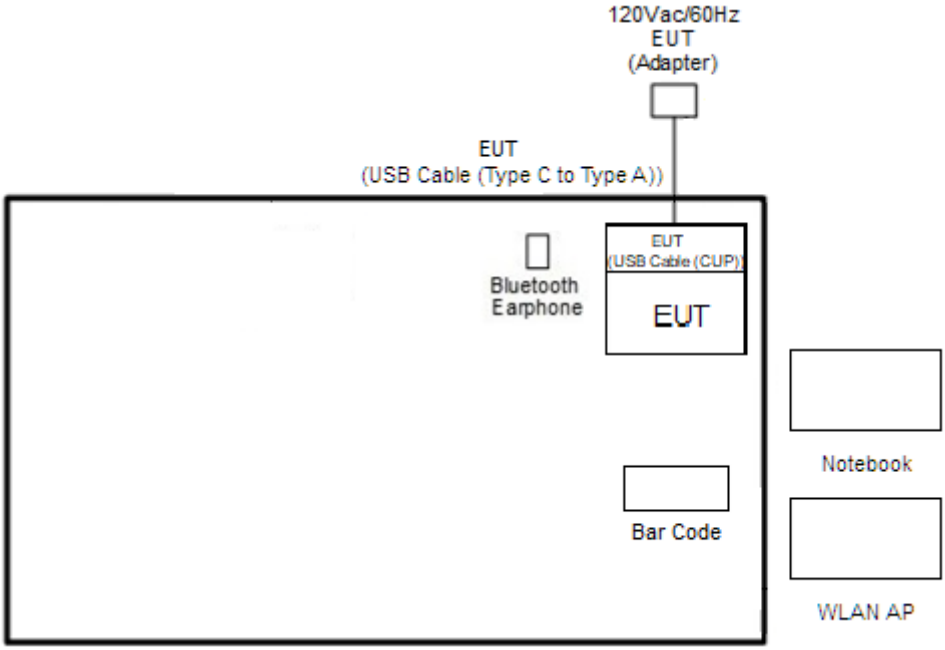
MIMO <Ant. 6+7>

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	-

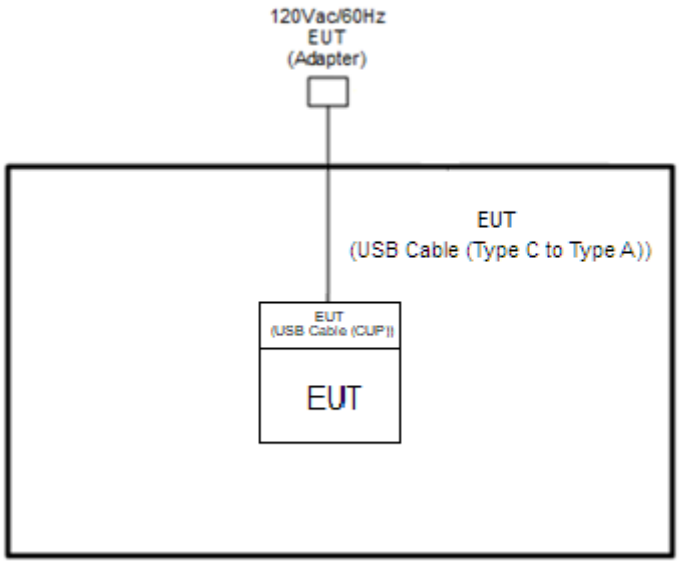
Remark: For radiation spurious emission, the modulation and the data rate picked for testing are determined by the Max. RF conducted power.

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.	WLAN AP	ASUS	RT-AC52	MSQ-RTAC4A00	N/A	Unshielded, 1.8 m
3.	Notebook	Dell	Latitude 3420	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bar Code	N/A	N/A	N/A	N/A	N/A

2.5 EUT Operation Test Setup

The RF test items, utility “QRCT v.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.

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

= 4.2 + 10 = 14.2 (dB)

3 Test Result

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

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

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

26dB and 99% Occupied bandwidth are reporting only.

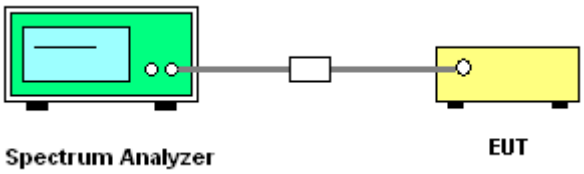
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



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

Please refer to Appendix A.

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

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

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

3.2.2 Measuring Instruments

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

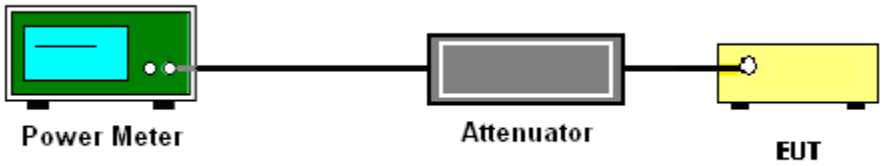
3.2.3 Test Procedures

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

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

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

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

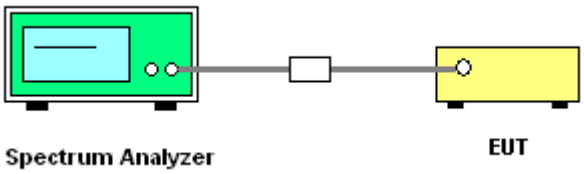
 # Method SA-2 #

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

- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300kHz.
- Set VBW ≥ 1 MHz.
- Add 10 log (500 kHz/RBW) to the measured result, whereas RBW (<500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement
- Number of points in sweep ≥ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.

1. The RF output of EUT is connected to the spectrum analyzer by a low loss cable.
2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.
3. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
   Method (c): Measure and add 10 log(N_{ANT}) dB.
   With this technique, spectrum measurements are performed at each output of the device, but rather than summing the spectra or the spectral peaks across the outputs, the quantity 10 log(N_{ANT}) dB is added to each spectrum value before comparing to the emission limit. The addition of 10 log(N_{ANT}) dB serves to apportion the emission limit among the N_{ANT} outputs so that each output is permitted to contribute no more than $1/N_{ANT}$ th of the PSD limit.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

3.4 Unwanted Emissions Measurement

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

3.4.1 Limit of Unwanted Emissions

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

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

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

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

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

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

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

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

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

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

3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000 MHz

   - RBW = 120 kHz
   - VBW = 300 kHz
   - Detector = Peak
   - Trace mode = max hold

   (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

   - RBW = 1 MHz
   - VBW ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

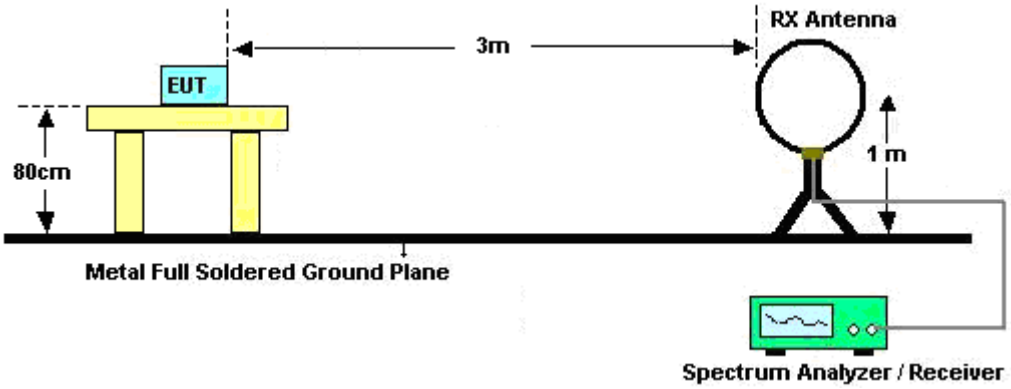
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000 MHz

   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. The EUT is placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
3. The EUT is set 3 meters away from the receiving antenna which is mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT is arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.

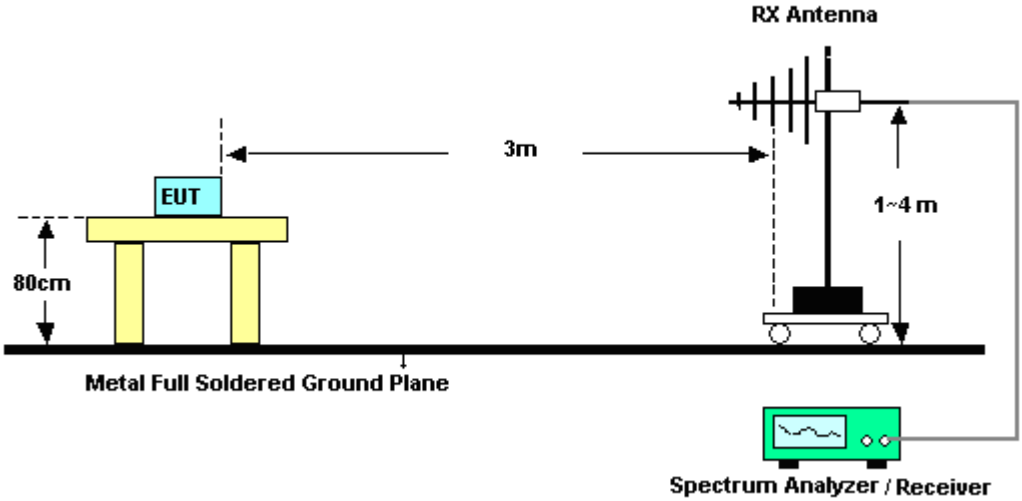
6. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading. When there is no suspected emission found and the emission level is with at least 6 dB margin against QP limit line, the position is marked as "-".
7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies.
   When there is no suspected emission found and the harmonic emission level is with at least 6 dB margin against average limit line, the position is marked as "-".

3.4.4 Test Setup

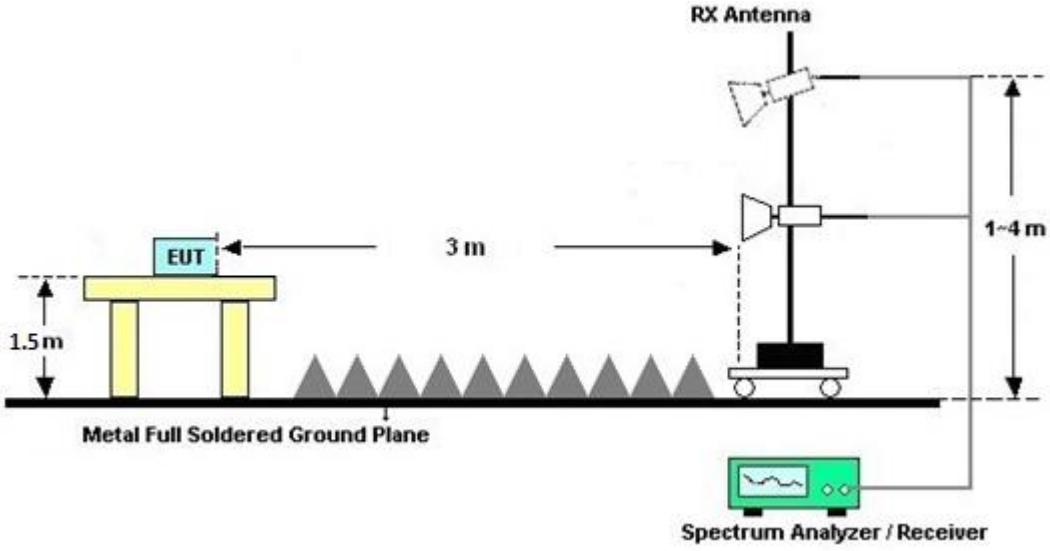
For radiated emissions below 30MHz



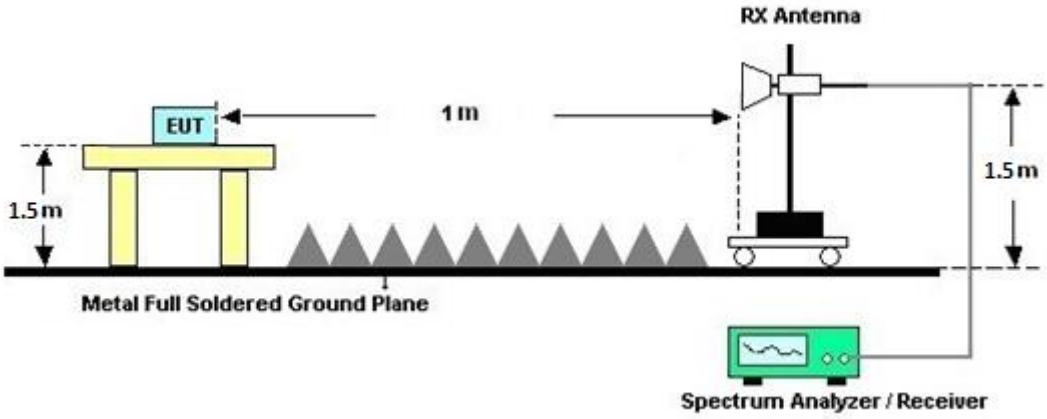
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



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

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

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

3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix 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 (dBμV)	
	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.

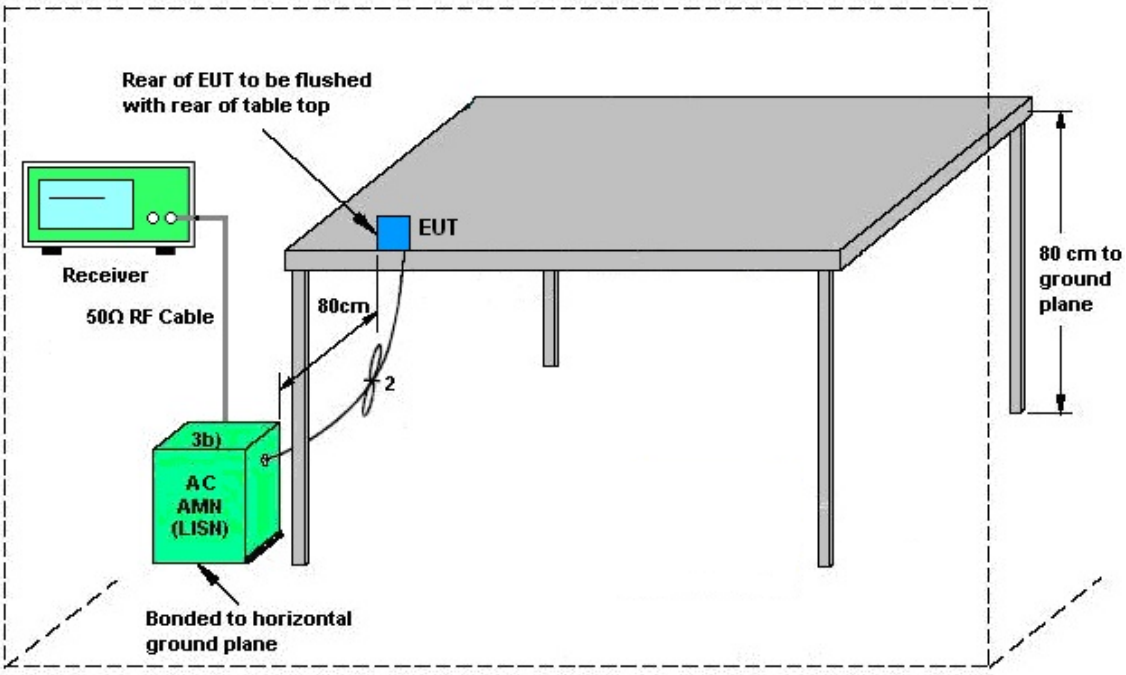
3.5.2 Measuring Instruments

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



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

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
AC Power Source	ACPOWER	AFC-11003G	F317040033	N/A	N/A	Dec. 20, 2023	N/A	Conduction (CO07-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Dec. 20, 2023	N/A	Conduction (CO07-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	9561-F N00373	9kHz-200MHz	Oct. 20, 2023	Dec. 20, 2023	Oct. 19, 2024	Conduction (CO07-HY)
RF Cable	HUBER + SUHNER	RG 214/U	1358175	9kHz~30MHz	Mar. 15, 2023	Dec. 20, 2023	Mar. 14, 2024	Conduction (CO07-HY)
Two-Line V-Network	TESEQ	NNB 51	45051	N/A	Mar. 05, 2023	Dec. 20, 2023	Mar. 04, 2024	Conduction (CO07-HY)
Four-Line V-Network	TESEQ	NNB 52	36122	N/A	Mar. 13, 2023	Dec. 20, 2023	Mar. 12, 2024	Conduction (CO07-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102317	9kHz~3.6GHz	Sep. 20, 2023	Dec. 20, 2023	Sep. 19, 2024	Conduction (CO07-HY)
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 07. 2023	Nov. 09, 2023~ Jan. 23, 2024	Nov. 06. 2024	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	17I00015SNO36 (NO:35_原144)	10MHz~6GHz	Aug. 23, 2023	Nov. 09, 2023~ Jan. 23, 2024	Aug. 22, 2024	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101564	10Hz ~ 40GHz	Sep. 12, 2023	Nov. 09, 2023~ Jan. 23, 2024	Sep. 11, 2024	Conducted (TH05-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY54130085	N/A	Oct. 06, 2023	Dec. 01, 2023~ Jan. 19, 2024	Oct. 05, 2024	Radiation (03CH20-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 12, 2023	Dec. 01, 2023~ Jan. 19, 2024	Sep. 11, 2024	Radiation (03CH20-HY)
Preamplifier	EMEC	EM18G40G	060873	18GHz~40GHz	Sep. 06, 2023	Dec. 01, 2023~ Jan. 19, 2024	Sep. 05, 2024	Radiation (03CH20-HY)
Controller	ChainTek	3000-1	N/A	Control Turn table & Ant Mast	N/A	Dec. 01, 2023~ Jan. 19, 2024	N/A	Radiation (03CH20-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Dec. 01, 2023~ Jan. 19, 2024	N/A	Radiation (03CH20-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Dec. 01, 2023~ Jan. 19, 2024	N/A	Radiation (03CH20-HY)
Signal Analyzer	Keysight	N9010B	MY60240520	N/A	Dec. 22, 2022	Dec. 01, 2023~ Dec. 14, 2023	Dec. 21, 2023	Radiation (03CH20-HY)
Signal Analyzer	Keysight	N9010B	MY60240520	N/A	Dec. 12, 2023	Dec. 15, 2023~ Jan. 19, 2024	Dec. 11, 2024	Radiation (03CH20-HY)
Bilog Antenna	TESEQ	CBL 6111D&00802N1D01N-06	55606 & 08	30MHz~1GHz	Oct. 20, 2023	Dec. 01, 2023~ Dec. 18, 2023	Oct. 19, 2024	Radiation (03CH20-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	02360	1GHz-18GHz	Oct. 30, 2023	Dec. 01, 2023~ Jan. 19, 2024	Oct. 29, 2024	Radiation (03CH20-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	1224	18GHz-40GHz	Jul. 10, 2023	Dec. 01, 2023~ Jan. 19, 2024	Jul. 09, 2024	Radiation (03CH20-HY)
Preamplifier	COM-POWER	PAM-103	18020201	1MHz-1000MHz	Jan. 02, 2023	Dec. 01, 2023~ Dec. 31, 2023	Jan. 01, 2024	Radiation (03CH20-HY)
Preamplifier	COM-POWER	PAM-103	18020201	1MHz-1000MHz	Jan. 01, 2024	Jan. 01, 2024~ Jan. 19, 2024	Dec. 31, 2024	Radiation (03CH20-HY)
Amplifier	EMCI	EMC118A45SE	980792	N/A	Nov. 13, 2023	Dec. 01, 2023~ Jan. 19, 2024	Nov. 12, 2024	Radiation (03CH20-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	519229/2,804015/2,804027/2	N/A	Jan. 18, 2023	Dec. 01, 2023~ Jan. 16, 2024	Jan. 17, 2024	Radiation (03CH20-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	519229/2,804015/2,804027/2	N/A	Jan. 17, 2024	Jan. 17, 2024~ Jan. 19, 2024	Jan. 16, 2025	Radiation (03CH20-HY)
Hygrometer	TECPEL	DTM-303B	TP200728	N/A	Mar. 28, 2023	Dec. 01, 2023~ Jan. 19, 2024	Mar. 27, 2024	Radiation (03CH20-HY)
Software	Audix	N/A	RK-002156	N/A	N/A	Dec. 01, 2023~ Jan. 19, 2024	N/A	Radiation (03CH20-HY)

5 Measurement Uncertainty

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.44 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	6.40 dB

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 6000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.50 dB

Uncertainty of Radiated Emission Measurement (6000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.60 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.40 dB

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Mina Liu	Temperature:	21~25	°C
Test Date:	2023/11/9~2024/01/23	Relative Humidity:	51~54	%

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

U-NII-3 MIMO												
Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		6 dB Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)	Pass/Fail
					Ant 6	Ant 7	Ant 6	Ant 7	Ant 6	Ant 7		
11a	6Mbps	2	149	5745	16.33	16.33	19.54	19.18	15.13	15.08	0.5	Pass
11a	6Mbps	2	157	5785	16.33	16.33	19.46	19.32	15.00	15.09	0.5	Pass
11a	6Mbps	2	165	5825	16.33	16.33	19.41	19.30	13.83	15.08	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 6	Ant 7	SUM	Ant 6	Ant 7	Ant 6	Ant 7	
11a	6Mbps	2	149	5745	17.50	17.90	20.71	30.00		2.59		Pass
11a	6Mbps	2	157	5785	17.70	17.80	20.76	30.00		2.59		Pass
11a	6Mbps	2	165	5825	17.80	17.80	20.81	30.00		2.59		Pass
HT20	MCS0	2	149	5745	17.30	17.70	20.51	30.00		2.59		Pass
HT20	MCS0	2	157	5785	17.30	17.60	20.46	30.00		2.59		Pass
HT20	MCS0	2	165	5825	17.60	17.80	20.71	30.00		2.59		Pass
HT40	MCS0	2	151	5755	17.60	17.70	20.66	30.00		2.59		Pass
HT40	MCS0	2	159	5795	17.50	17.80	20.66	30.00		2.59		Pass
VHT20	MCS0	2	149	5745	17.30	17.70	20.51	30.00		2.59		Pass
VHT20	MCS0	2	157	5785	17.30	17.60	20.46	30.00		2.59		Pass
VHT20	MCS0	2	165	5825	17.60	17.80	20.71	30.00		2.59		Pass
VHT40	MCS0	2	151	5755	17.60	17.70	20.66	30.00		2.59		Pass
VHT40	MCS0	2	159	5795	17.50	17.80	20.66	30.00		2.59		Pass
VHT80	MCS0	2	155	5775	17.40	17.70	20.56	30.00		2.59		Pass

Report Number : FR3N2803F

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 (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 6	Ant 7	Ant 6	Ant 7	SUM	Ant 6	Ant 7	Ant 6	Ant 7	
11a	6Mbps	2	149	5745	0.65	0.67	2.22		3.38	3.78	6.79	30.00		5.46		Pass
11a	6Mbps	2	157	5785	0.65	0.67	2.22		3.80	4.04	7.05	30.00		5.46		Pass
11a	6Mbps	2	165	5825	0.65	0.67	2.22		4.04	4.29	7.30	30.00		5.46		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 6	Ant 7	Ant 6	Ant 7	Ant 6	Ant 7		
HE20	MCS0	2	149	5745	Full	18.83	18.83	20.94	21.10	15.09	18.11	0.5	Pass
HE20	MCS0	2	157	5785	Full	18.83	18.83	21.04	20.94	15.04	16.36	0.5	Pass
HE20	MCS0	2	165	5825	Full	18.83	18.83	20.99	20.90	16.84	16.64	0.5	Pass
HE40	MCS0	2	151	5755	Full	37.66	37.76	41.23	41.12	36.08	35.62	0.5	Pass
HE40	MCS0	2	159	5795	Full	37.86	37.76	41.07	41.18	33.94	35.11	0.5	Pass
HE80	MCS0	2	155	5775	Full	76.84	76.84	81.25	81.86	70.03	75.09	0.5	Pass

Report Number : FR3N2803F

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 6	Ant 7	SUM	Ant 6	Ant 7	Ant 6	Ant 7	
HE20	MCS0	2	149	5745	Full	17.40	17.80	20.61	30.00		2.59		Pass
HE20	MCS0	2	149	5745	26/0	9.80	10.40	13.12	30.00		2.59		Pass
HE20	MCS0	2	149	5745	52/37	12.60	13.00	15.81	30.00		2.59		Pass
HE20	MCS0	2	149	5745	106/53	15.50	15.90	18.71	30.00		2.59		Pass
HE20	MCS0	2	157	5785	Full	17.40	17.70	20.56	30.00		2.59		Pass
HE20	MCS0	2	157	5785	26/4	10.00	10.50	13.27	30.00		2.59		Pass
HE20	MCS0	2	157	5785	52/38	12.50	12.90	15.71	30.00		2.59		Pass
HE20	MCS0	2	157	5785	106/53	15.70	16.20	18.97	30.00		2.59		Pass
HE20	MCS0	2	165	5825	Full	17.70	17.90	20.81	30.00		2.59		Pass
HE20	MCS0	2	165	5825	26/8	9.80	10.40	13.12	30.00		2.59		Pass
HE20	MCS0	2	165	5825	52/40	13.10	13.40	16.26	30.00		2.59		Pass
HE20	MCS0	2	165	5825	106/54	15.70	16.20	18.97	30.00		2.59		Pass
HE40	MCS0	2	151	5755	Full	17.70	17.80	20.76	30.00		2.59		Pass
HE40	MCS0	2	151	5755	242/61	15.20	15.90	18.57	30.00		2.59		Pass
HE40	MCS0	2	159	5795	Full	17.60	17.90	20.76	30.00		2.59		Pass
HE40	MCS0	2	159	5795	242/62	15.70	15.90	18.81	30.00		2.59		Pass
HE80	MCS0	2	155	5775	Full	17.50	17.80	20.66	30.00		2.59		Pass
HE80	MCS0	2	155	5775	484/65	14.10	14.50	17.31	30.00		2.59		Pass
HE80	MCS0	2	155	5775	484/66	13.40	14.00	16.72	30.00		2.59		Pass

Report Number : FR3N2803F

TEST RESULTS DATA
Power Spectral Density

U-NII-3 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
						Ant 6	Ant 7	Ant 6	Ant 7	SUM	Ant 6	Ant 7	Ant 6	Ant 7	
HE20	MCS0	2	149	5745	Full	2.22		3.77	3.84	6.85	30.00		5.46		Pass
HE20	MCS0	2	149	5745	26/0	2.22		2.88	3.36	6.37	30.00		5.46		Pass
HE20	MCS0	2	149	5745	52/37	2.22		2.98	3.24	6.25	30.00		5.46		Pass
HE20	MCS0	2	149	5745	106/53	2.22		3.10	3.23	6.24	30.00		5.46		Pass
HE20	MCS0	2	157	5785	Full	2.22		3.51	4.01	7.02	30.00		5.46		Pass
HE20	MCS0	2	157	5785	26/4	2.22		3.26	3.55	6.56	30.00		5.46		Pass
HE20	MCS0	2	157	5785	52/38	2.22		3.48	3.33	6.49	30.00		5.46		Pass
HE20	MCS0	2	157	5785	106/53	2.22		3.42	3.95	6.96	30.00		5.46		Pass
HE20	MCS0	2	165	5825	Full	2.22		4.00	4.12	7.13	30.00		5.46		Pass
HE20	MCS0	2	165	5825	26/8	2.22		3.64	3.87	6.88	30.00		5.46		Pass
HE20	MCS0	2	165	5825	52/40	2.22		3.77	3.92	6.93	30.00		5.46		Pass
HE20	MCS0	2	165	5825	106/54	2.22		3.54	3.98	6.99	30.00		5.46		Pass
HE40	MCS0	2	151	5755	Full	2.22		2.00	2.17	5.18	30.00		5.46		Pass
HE40	MCS0	2	151	5755	242/61	2.22		1.51	2.15	5.16	30.00		5.46		Pass
HE40	MCS0	2	159	5795	Full	2.22		1.79	2.31	5.32	30.00		5.46		Pass
HE40	MCS0	2	159	5795	242/62	2.22		1.27	1.88	4.89	30.00		5.46		Pass
HE80	MCS0	2	155	5775	Full	2.22		-1.64	-1.16	1.85	30.00		5.46		Pass
HE80	MCS0	2	155	5775	484/65	2.22		-1.65	-1.28	1.73	30.00		5.46		Pass
HE80	MCS0	2	155	5775	484/66	2.22		-2.02	-1.36	1.65	30.00		5.46		Pass

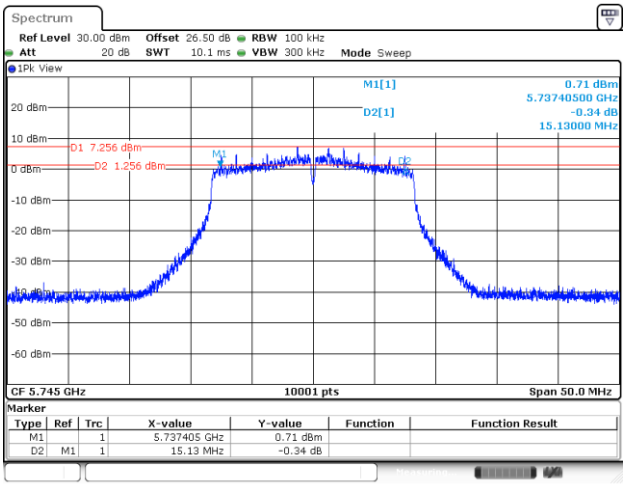
Note: PSD Sum = Max PSD(Ant. 1, Ant. 2) + 10 log (n)

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

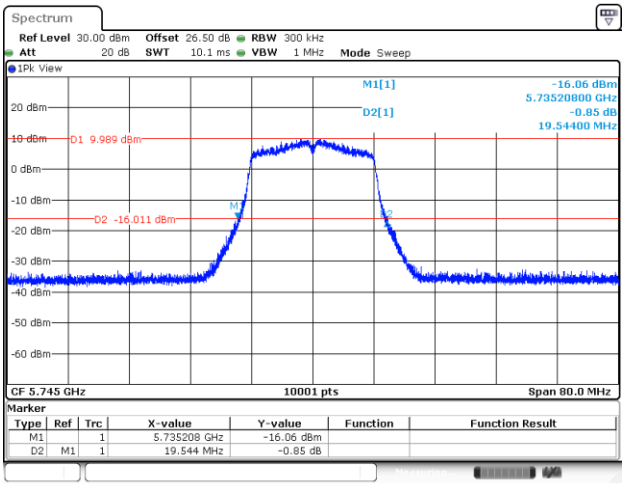
MIMO <Ant. 6+7>

<802.11a>

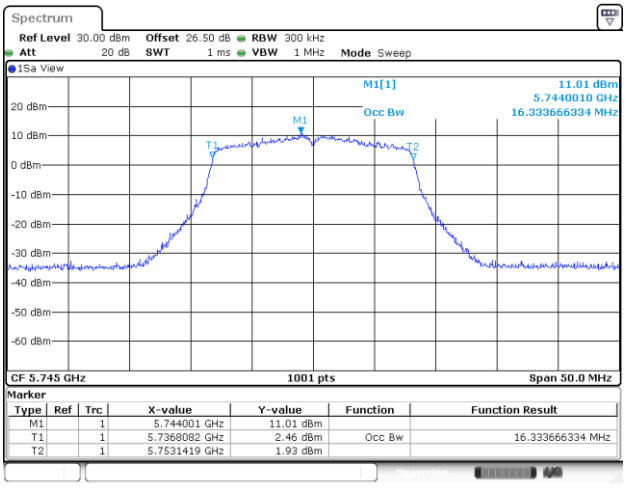
6dB Bandwidth



26dB Bandwidth

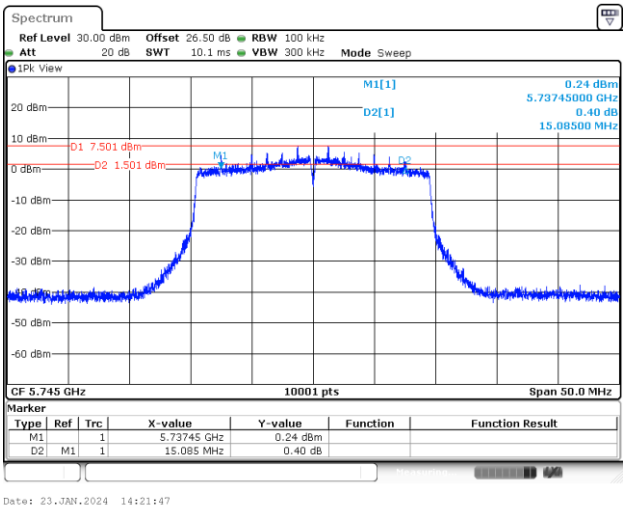
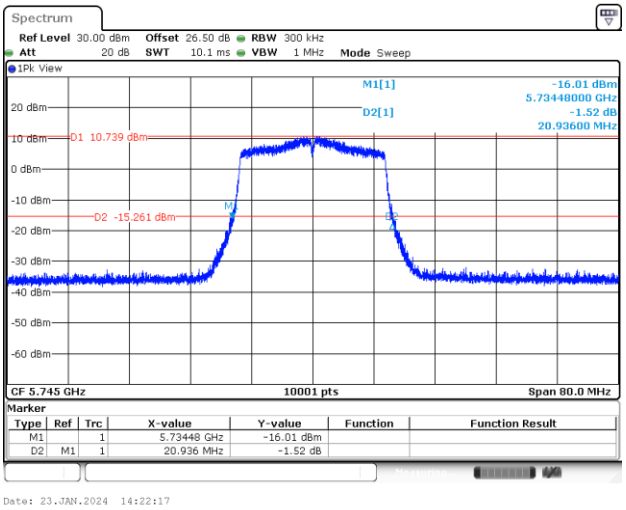
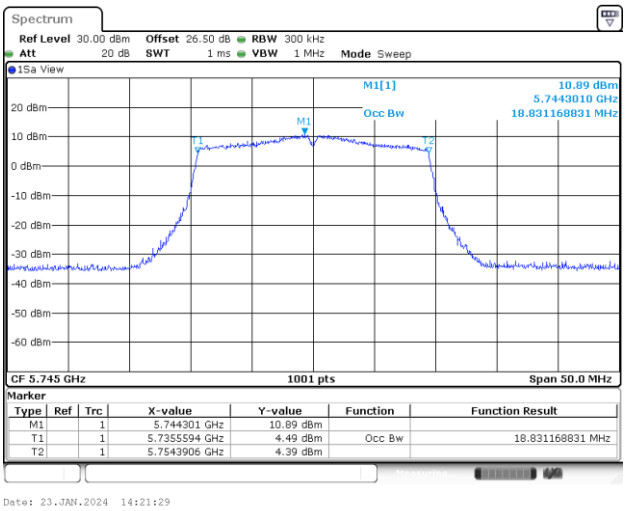


99% Occupied Bandwidth

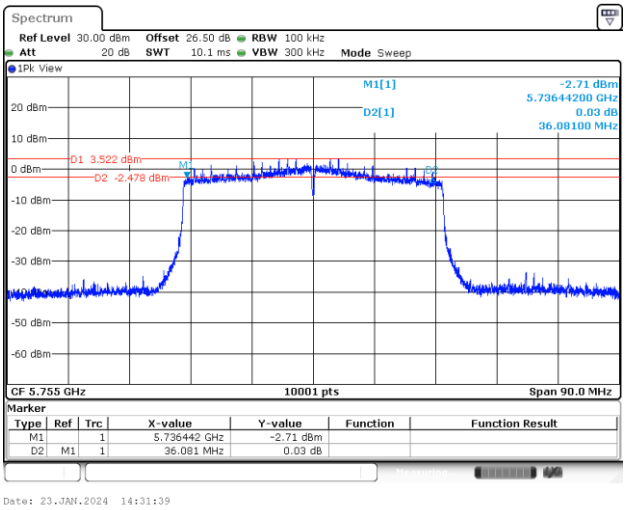
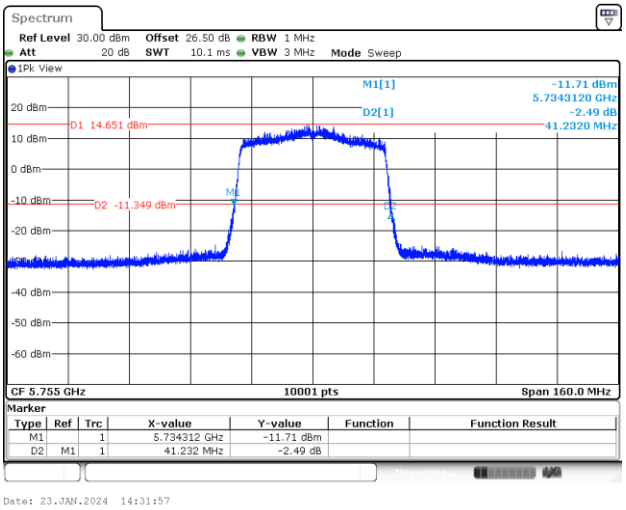
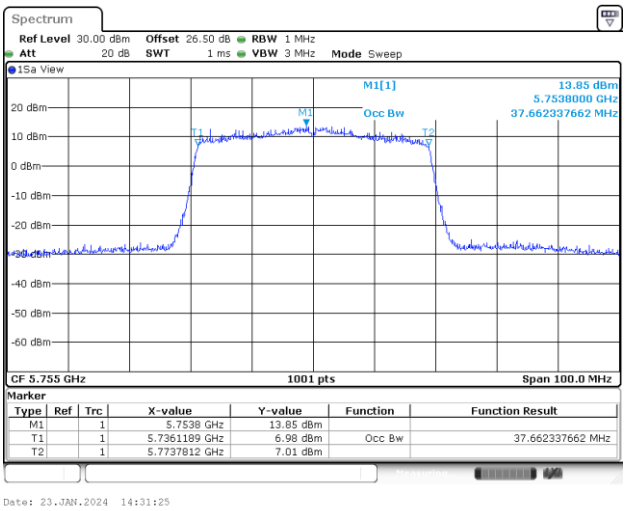


N/A

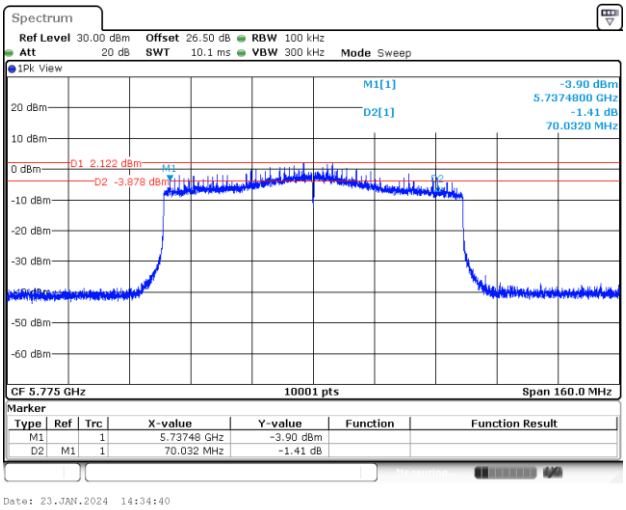
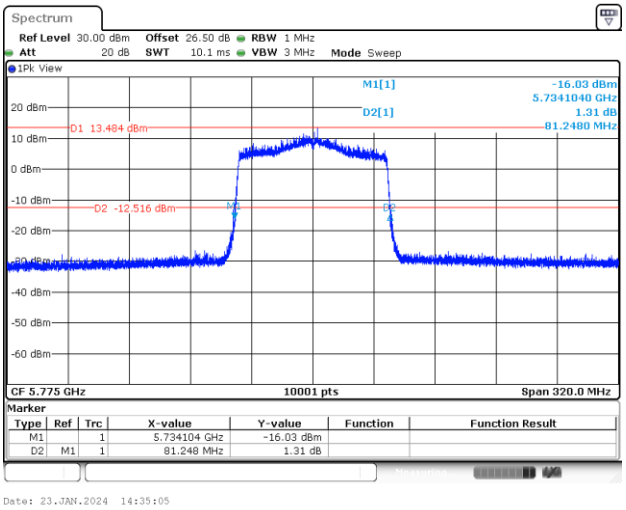
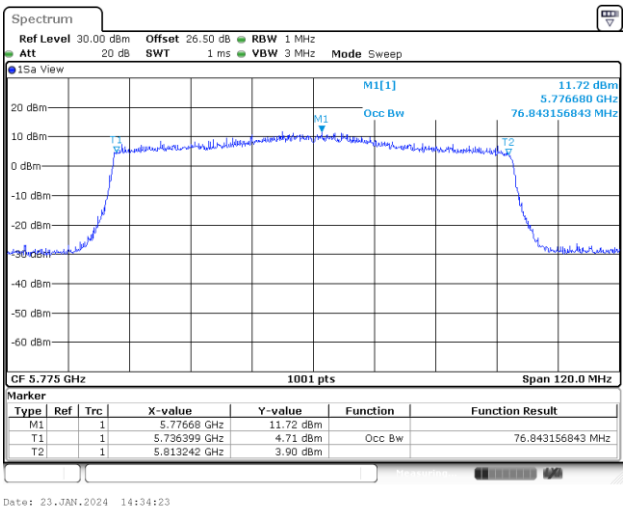
<802.11ax HE20>

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

<802.11ax HE40>

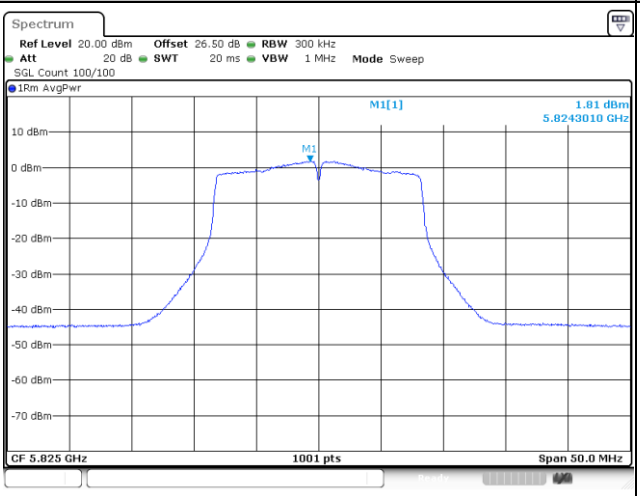
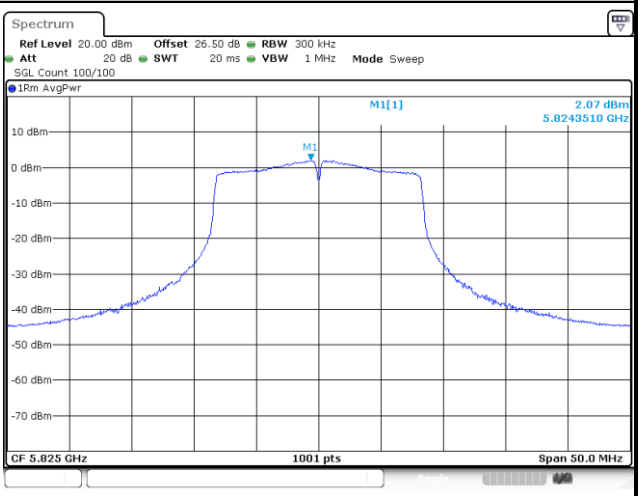
6dB Bandwidth	26dB Bandwidth
	
99% Occupied Bandwidth	**N/A**
	

<802.11ax HE80>

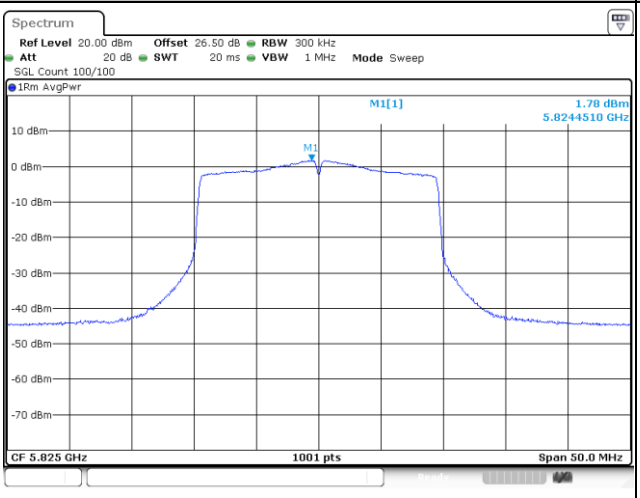
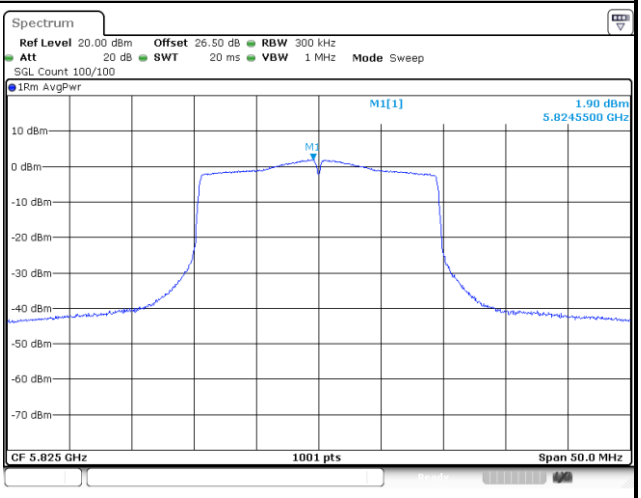
6dB Bandwidth	26dB Bandwidth
	
99% Occupied Bandwidth	**N/A**
	

Test Result of Power Spectral Density

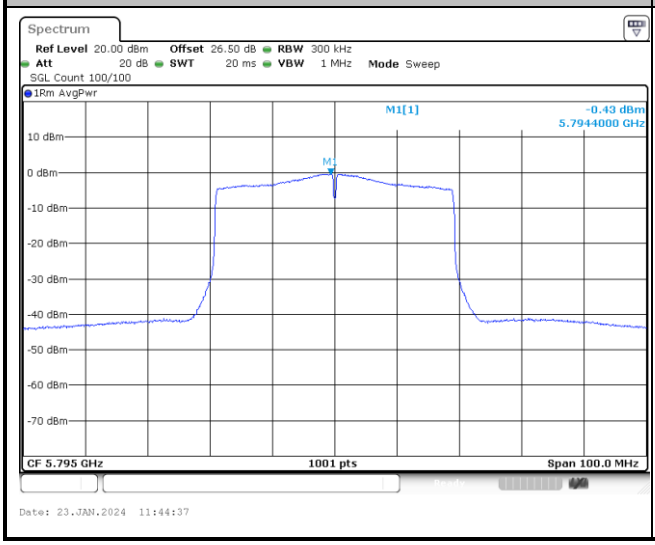
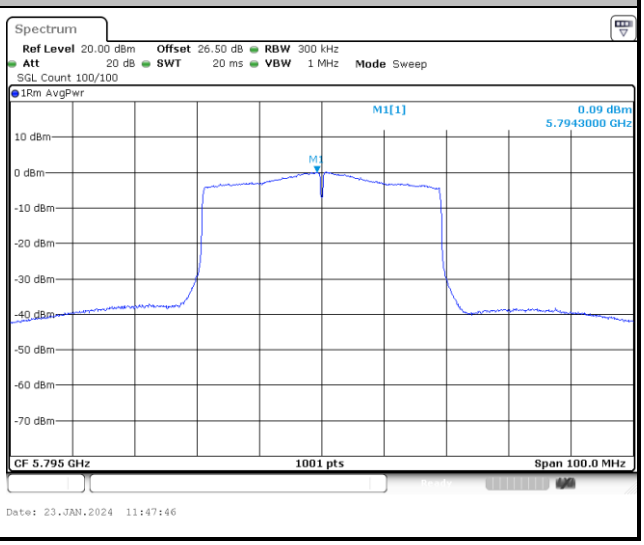
<802.11a>

Maximum Power Density Plot (dBm/300kHz)	
MIMO Ant. 6	MIMO Ant. 7
	

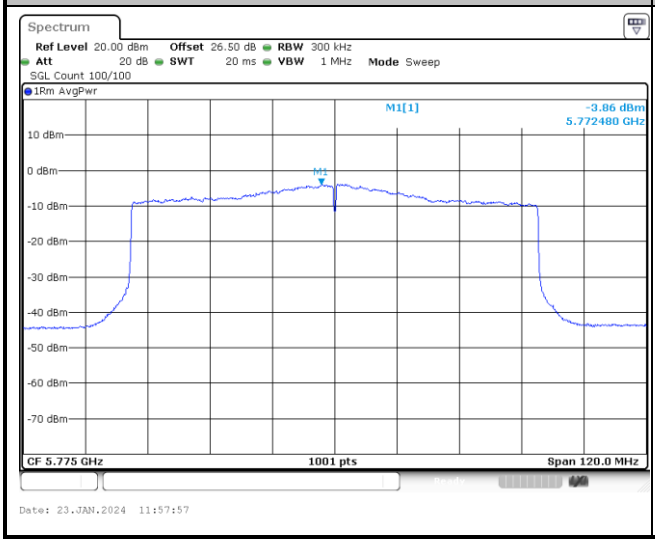
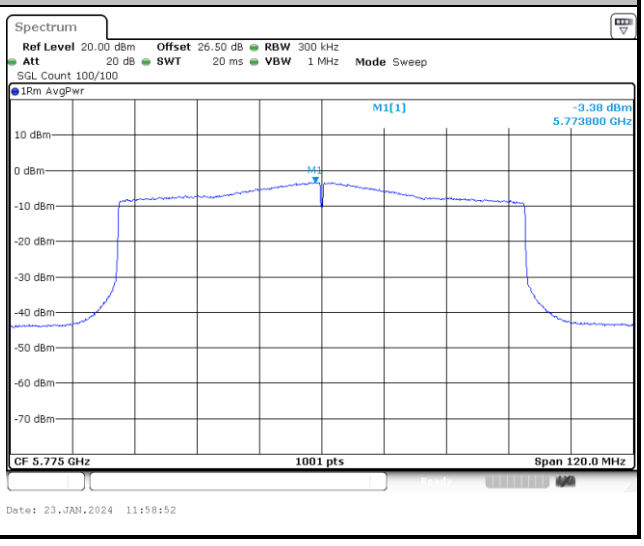
<802.11ax HE20>

Maximum Power Density Plot (dBm/300kHz)	
MIMO Ant. 6	MIMO Ant. 7
	

<802.11ax HE40>

Maximum Power Density Plot (dBm/300kHz)	
MIMO Ant. 6	MIMO Ant. 7
	

<802.11ax HE80>

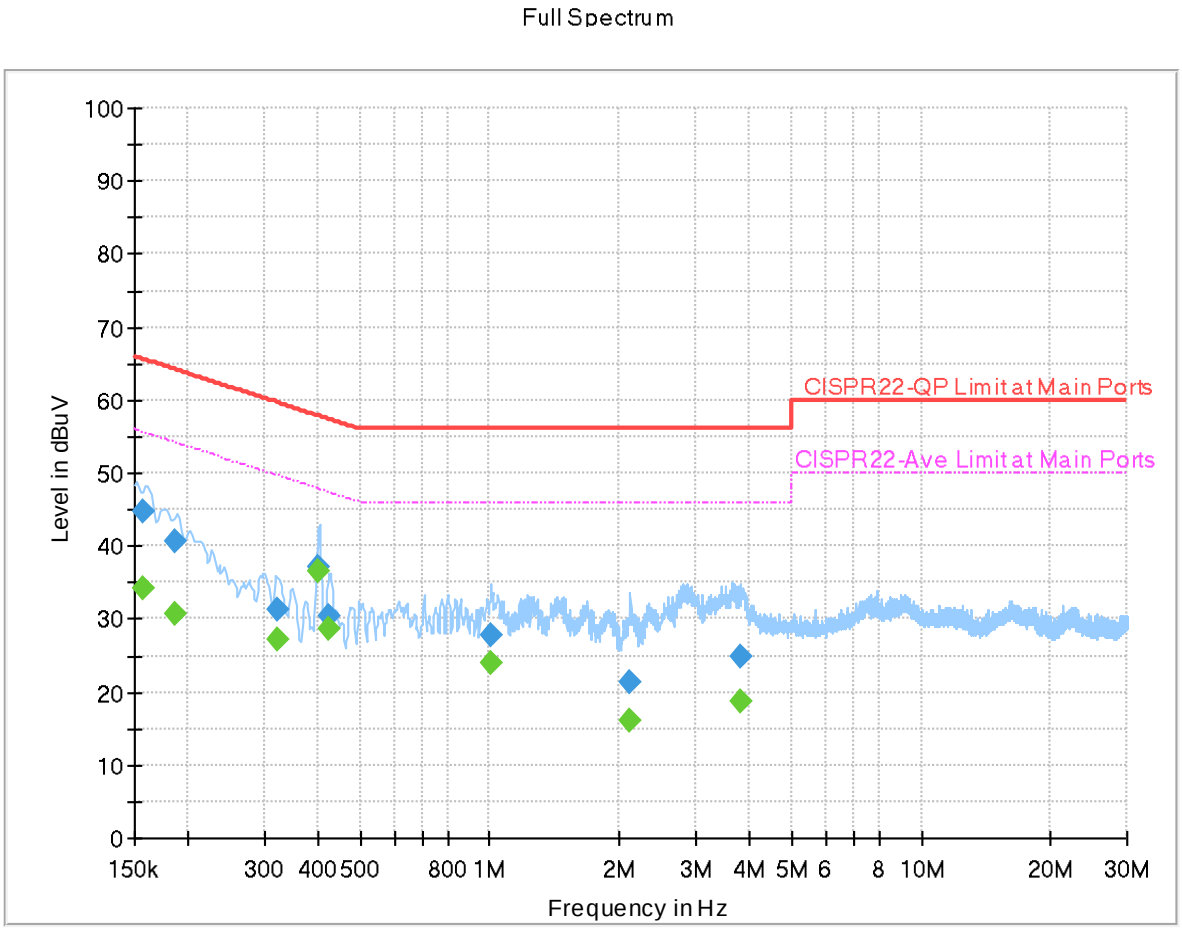
Maximum Power Density Plot (dBm/300kHz)	
MIMO Ant. 6	MIMO Ant. 7
	

Appendix B. AC Conducted Emission Test Results

Test Engineer :	Louis Chung	**Temperature :**	19.2~21.3℃
		Relative Humidity :	58.2~63.7%

EUT Information

Report NO :	3N2803
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line

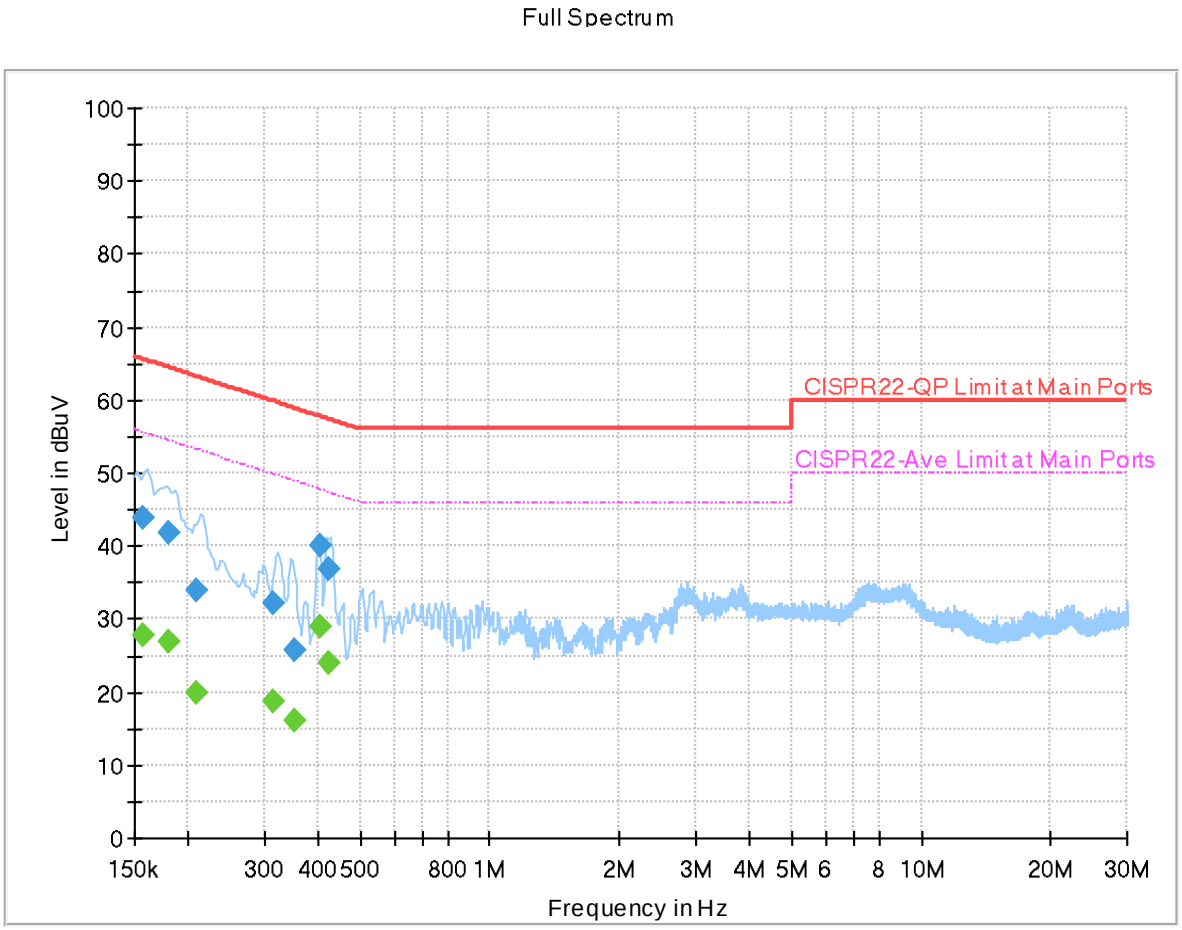


Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.156660	---	34.35	55.64	21.29	L1	OFF	19.9
0.156660	44.85	---	65.64	20.79	L1	OFF	19.9
0.186000	---	30.76	54.21	23.45	L1	OFF	19.9
0.186000	40.69	---	64.21	23.52	L1	OFF	19.9
0.321360	---	27.26	49.67	22.41	L1	OFF	19.9
0.321360	31.39	---	59.67	28.28	L1	OFF	19.9
0.401640	---	36.48	47.82	11.34	L1	OFF	19.9
0.401640	37.21	---	57.82	20.61	L1	OFF	19.9
0.425400	---	28.69	47.34	18.65	L1	OFF	19.9
0.425400	30.32	---	57.34	27.02	L1	OFF	19.9
1.009500	---	24.01	46.00	21.99	L1	OFF	20.0
1.009500	27.81	---	56.00	28.19	L1	OFF	20.0
2.114250	---	16.12	46.00	29.88	L1	OFF	20.0
2.114250	21.39	---	56.00	34.61	L1	OFF	20.0
3.832800	---	18.85	46.00	27.15	L1	OFF	20.0
3.832800	24.92	---	56.00	31.08	L1	OFF	20.0

EUT Information

Report NO :	3N2803
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Neutral



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.156750	---	27.92	55.63	27.71	N	OFF	19.9
0.156750	43.98	---	65.63	21.65	N	OFF	19.9
0.179250	---	27.02	54.52	27.50	N	OFF	19.9
0.179250	41.80	---	64.52	22.72	N	OFF	19.9
0.209760	---	19.92	53.22	33.30	N	OFF	19.9
0.209760	34.00	---	63.22	29.22	N	OFF	19.9
0.316320	---	18.63	49.80	31.17	N	OFF	19.9
0.316320	32.22	---	59.80	27.58	N	OFF	19.9
0.351420	---	16.12	48.93	32.81	N	OFF	19.9
0.351420	25.68	---	58.93	33.25	N	OFF	19.9
0.404160	---	29.02	47.77	18.75	N	OFF	19.9
0.404160	40.08	---	57.77	17.69	N	OFF	19.9
0.424500	---	23.92	47.36	23.44	N	OFF	19.9
0.424500	36.75	---	57.36	20.61	N	OFF	19.9

Appendix C. Radiated Spurious Emission

Test Engineer :	John Chuang, David Dai and Howard Huang	Temperature :	18.9~23.4°C
		Relative Humidity :	65.7~69.9%

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant. 6+7	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		5616.65	50.09	-18.11	68.2	41.52	33.2	13.37	38	226	12	P	H
		5699	59.84	-44.62	104.46	50.93	33.4	13.49	37.98	226	12	P	H
		5719.925	69.94	-40.84	110.78	60.84	33.56	13.52	37.98	226	12	P	H
		5724.65	74.23	-47.17	121.4	65.09	33.6	13.52	37.98	226	12	P	H
	*	5745	116.09	-	-	106.75	33.76	13.55	37.97	226	12	P	H
	*	5745	109.04	-	-	99.7	33.76	13.55	37.97	226	12	A	H
													H
													H
		5621.6	48.9	-19.3	68.2	40.32	33.2	13.38	38	389	80	P	V
		5699.675	64.47	-40.49	104.96	55.56	33.4	13.49	37.98	389	80	P	V
		5719.475	74.44	-36.21	110.65	65.34	33.56	13.52	37.98	389	80	P	V
		5721.05	77.12	-36.07	113.19	68.01	33.57	13.52	37.98	389	80	P	V
	*	5745	114.37	-	-	105.03	33.76	13.55	37.97	389	80	P	V
	*	5745	107.6	-	-	98.26	33.76	13.55	37.97	389	80	A	V
													V
													V

WIFI Ant. 6+7	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		5650	48.86	-19.34	68.2	40.23	33.2	13.42	37.99	100	55	P	H
		5695.75	57.13	-44.94	102.07	48.25	33.38	13.48	37.98	100	55	P	H
		5718.75	63.82	-46.63	110.45	54.73	33.55	13.52	37.98	100	55	P	H
		5723.25	65.85	-52.36	118.21	56.72	33.59	13.52	37.98	100	55	P	H
	*	5785	115.74	-	-	106.15	33.94	13.61	37.96	100	55	P	H
	*	5785	109.1	-	-	99.51	33.94	13.61	37.96	100	55	A	H
		5850	66.82	-55.38	122.2	56.78	34.3	13.69	37.95	100	55	P	H
		5856.75	65.64	-44.67	110.31	55.58	34.3	13.7	37.94	100	55	P	H
		5876.25	61.65	-42.62	104.27	51.56	34.3	13.73	37.94	100	55	P	H
		5932.75	51.15	-17.05	68.2	40.98	34.3	13.8	37.93	100	55	P	H
													H
													H
		5649.25	48.7	-19.5	68.2	40.07	33.2	13.42	37.99	400	79	P	V
		5700	55.78	-49.42	105.2	46.87	33.4	13.49	37.98	400	79	P	V
		5712.75	58.58	-50.19	108.77	49.55	33.5	13.51	37.98	400	79	P	V
		5721.75	59.2	-55.59	114.79	50.09	33.57	13.52	37.98	400	79	P	V
	*	5785	116	-	-	106.41	33.94	13.61	37.96	400	79	P	V
	*	5785	108.48	-	-	98.89	33.94	13.61	37.96	400	79	A	V
		5851.5	60.11	-58.67	118.78	50.06	34.3	13.7	37.95	400	79	P	V
		5860.75	57.57	-51.62	109.19	47.5	34.3	13.71	37.94	400	79	P	V
		5875	54.96	-50.24	105.2	44.87	34.3	13.73	37.94	400	79	P	V
		5925	50.55	-17.65	68.2	40.39	34.3	13.79	37.93	400	79	P	V
													V
													V

WIFI Ant. 6+7	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)
	*	5825	116.52	-	-	106.66	34.15	13.66	37.95	100	56	P	H
	*	5825	109.38	-	-	99.52	34.15	13.66	37.95	100	56	A	H
		5850.8	75.6	-44.78	120.38	65.55	34.3	13.7	37.95	100	56	P	H
		5857.2	72.26	-37.92	110.18	62.2	34.3	13.7	37.94	100	56	P	H
		5878	64.65	-38.32	102.97	54.56	34.3	13.73	37.94	100	56	P	H
		5928.6	51.03	-17.17	68.2	40.86	34.3	13.8	37.93	100	56	P	H
													H
802.11a													H
CH 165	*	5825	114.34	-	-	104.48	34.15	13.66	37.95	400	74	P	V
5825MHz	*	5825	107.59	-	-	97.73	34.15	13.66	37.95	400	74	A	V
		5850	72.51	-49.69	122.2	62.47	34.3	13.69	37.95	400	74	P	V
		5856.8	67.05	-43.25	110.3	56.99	34.3	13.7	37.94	400	74	P	V
		5878.8	58.08	-44.3	102.38	47.99	34.3	13.73	37.94	400	74	P	V
		5929.6	49.43	-18.77	68.2	39.26	34.3	13.8	37.93	400	74	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. 6+7	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	52.46	-21.54	74	35.91	39.13	20.06	42.64	300	3	P	H
		11490	41.66	-12.34	54	25.11	39.13	20.06	42.64	300	3	A	H
		17235	51.27	-16.93	68.2	33.33	37.97	24.74	44.77	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		11490	51.96	-22.04	74	35.41	39.13	20.06	42.64	200	25	P	V
		11490	42.02	-11.98	54	25.47	39.13	20.06	42.64	200	25	A	V
		17235	50.99	-17.21	68.2	33.05	37.97	24.74	44.77	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 6+7	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	52.22	-21.78	74	35.76	39.03	20.14	42.71	100	272	P	H
		11570	41.74	-12.26	54	25.28	39.03	20.14	42.71	100	272	A	H
		17355	51.32	-16.88	68.2	33.2	38.21	24.79	44.88	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		11570	50.47	-23.53	74	34.01	39.03	20.14	42.71	100	5	P	V
		11570	41.73	-12.27	54	25.27	39.03	20.14	42.71	100	5	A	V
		17355	51.29	-16.91	68.2	33.17	38.21	24.79	44.88	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 6+7	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	51.92	-22.08	74	35.54	38.95	20.21	42.78	100	311	P	H
		11650	41.25	-12.75	54	24.87	38.95	20.21	42.78	100	311	A	H
		17475	52.88	-15.32	68.2	34.58	38.45	24.84	44.99	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		11650	51.49	-22.51	74	35.11	38.95	20.21	42.78	200	4	P	V
		11650	41.59	-12.41	54	25.21	38.95	20.21	42.78	200	4	A	V
		17475	52.04	-16.16	68.2	33.74	38.45	24.84	44.99	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.

Band 4 5725~5850MHz

WIFI 802.11ax HE20_Full (Band Edge @ 3m)

WIFI Ant. 6+7	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)
		5648.825	51.53	-16.67	68.2	42.9	33.2	13.42	37.99	200	10	P	H
		5696.525	68.38	-34.26	102.64	59.48	33.39	13.49	37.98	200	10	P	H
		5710.475	74.32	-33.82	108.14	65.32	33.48	13.5	37.98	200	10	P	H
		5723.075	79.75	-38.06	117.81	70.63	33.58	13.52	37.98	200	10	P	H
	*	5745	115.14	-	-	105.8	33.76	13.55	37.97	200	10	P	H
	*	5745	108.24	-	-	98.9	33.76	13.55	37.97	200	10	A	H
802.11ax													H
HE20 Full													H
CH 149		5639.15	53.98	-14.22	68.2	45.38	33.2	13.4	38	385	80	P	V
5745MHz		5698.55	69.15	-34.98	104.13	60.25	33.39	13.49	37.98	385	80	P	V
		5717.45	77.36	-32.73	110.09	68.29	33.54	13.51	37.98	385	80	P	V
		5724.65	81.03	-40.37	121.4	71.89	33.6	13.52	37.98	385	80	P	V
	*	5745	114.73	-	-	105.39	33.76	13.55	37.97	385	80	P	V
	*	5745	107.57	-	-	98.23	33.76	13.55	37.97	385	80	A	V
													V
													V

WIFI Ant. 6+7	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)
		5646	48	-20.2	68.2	39.38	33.2	13.41	37.99	400	12	P	H
		5697.5	49.34	-54.02	103.36	40.44	33.39	13.49	37.98	400	12	P	H
		5720	52.47	-58.33	110.8	43.37	33.56	13.52	37.98	400	12	P	H
		5723.5	52.13	-66.65	118.78	43	33.59	13.52	37.98	400	12	P	H
	*	5785	115.15	-	-	105.56	33.94	13.61	37.96	400	12	P	H
	*	5785	108.42	-	-	98.83	33.94	13.61	37.96	400	12	A	H
		5851.6	49.85	-68.7	118.55	39.8	34.3	13.7	37.95	400	12	P	H
		5857.4	50.6	-59.53	110.13	40.54	34.3	13.7	37.94	400	12	P	H
		5911.2	49.95	-28.43	78.38	39.81	34.3	13.77	37.93	400	12	P	H
		5939.2	48.49	-19.71	68.2	38.3	34.3	13.81	37.92	400	12	P	H
802.11ax													H
HE20 Full													H
CH 157		5633.75	49.08	-19.12	68.2	40.48	33.2	13.4	38	400	73	P	V
5785MHz		5692.75	51.55	-48.31	99.86	42.68	33.37	13.48	37.98	400	73	P	V
		5719	57.13	-53.39	110.52	48.04	33.55	13.52	37.98	400	73	P	V
		5723.25	57.29	-60.92	118.21	48.16	33.59	13.52	37.98	400	73	P	V
	*	5785	116.72	-	-	107.13	33.94	13.61	37.96	400	73	P	V
	*	5785	108.44	-	-	98.85	33.94	13.61	37.96	400	73	A	V
		5850.8	56.87	-63.51	120.38	46.82	34.3	13.7	37.95	400	73	P	V
		5857.2	53.87	-56.31	110.18	43.81	34.3	13.7	37.94	400	73	P	V
		5884	50.25	-48.27	98.52	40.15	34.3	13.74	37.94	400	73	P	V
		5936.8	48.91	-19.29	68.2	38.73	34.3	13.81	37.93	400	73	P	V
													V
													V

WIFI Ant. 6+7	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)
	*	5825	116.29	-	-	106.43	34.15	13.66	37.95	375	360	P	H
	*	5825	108.21	-	-	98.35	34.15	13.66	37.95	375	360	A	H
		5851.6	71.31	-47.24	118.55	61.26	34.3	13.7	37.95	375	360	P	H
		5855	70.57	-40.23	110.8	60.51	34.3	13.7	37.94	375	360	P	H
		5875.2	66.77	-38.28	105.05	56.68	34.3	13.73	37.94	375	360	P	H
		5938.6	51.87	-16.33	68.2	41.68	34.3	13.81	37.92	375	360	P	H
802.11ax													H
HE20 Full													H
CH 165	*	5825	115.26	-	-	105.4	34.15	13.66	37.95	400	87	P	V
5825MHz	*	5825	107.84	-	-	97.98	34.15	13.66	37.95	400	87	A	V
		5850	76.22	-45.98	122.2	66.18	34.3	13.69	37.95	400	87	P	V
		5855.6	71.22	-39.41	110.63	61.16	34.3	13.7	37.94	400	87	P	V
		5875.2	63.77	-41.28	105.05	53.68	34.3	13.73	37.94	400	87	P	V
		5928	57.24	-10.96	68.2	47.07	34.3	13.8	37.93	400	87	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. 6+7	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)
		11490	51.61	-22.39	74	35.06	39.13	20.06	42.64	200	314	P	H
		11490	41.46	-12.54	54	24.91	39.13	20.06	42.64	200	314	A	H
		17235	51.5	-16.7	68.2	33.56	37.97	24.74	44.77	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
802.11ax													H
HE20 Full													H
CH 149		11490	52	-22	74	35.45	39.13	20.06	42.64	200	32	P	V
5745MHz		11490	41.84	-12.16	54	25.29	39.13	20.06	42.64	200	32	A	V
		17235	51.7	-16.5	68.2	33.76	37.97	24.74	44.77	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 6+7	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)
		11570	51.63	-22.37	74	35.17	39.03	20.14	42.71	400	144	P	H
		11570	41.28	-12.72	54	24.82	39.03	20.14	42.71	400	144	A	H
		17355	51.36	-16.84	68.2	33.24	38.21	24.79	44.88	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
802.11ax													H
HE20 Full													H
CH 157		11570	51.7	-22.3	74	35.24	39.03	20.14	42.71	100	5	P	V
5785MHz		11570	41.35	-12.65	54	24.89	39.03	20.14	42.71	100	5	A	V
		17355	51.79	-16.41	68.2	33.67	38.21	24.79	44.88	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 6+7	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)
		11650	52.45	-21.55	74	36.07	38.95	20.21	42.78	400	56	P	H
		11650	41.25	-12.75	54	24.87	38.95	20.21	42.78	400	56	A	H
		17475	52.23	-15.97	68.2	33.93	38.45	24.84	44.99	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
802.11ax													H
HE20 Full													H
CH 165		11650	52.02	-21.98	74	35.64	38.95	20.21	42.78	200	27	P	V
5825MHz		11650	41.45	-12.55	54	25.07	38.95	20.21	42.78	200	27	A	V
		17475	52.31	-15.89	68.2	34.01	38.45	24.84	44.99	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.

Band 4 5725~5850MHz

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

WIFI Ant. 6+7	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		5645.45	67.06	-1.14	68.2	58.45	33.2	13.41	38	106	121	P	H
		5694.5	80.83	-20.32	101.15	71.95	33.38	13.48	37.98	106	121	P	H
		5719.25	89.6	-20.99	110.59	80.51	33.55	13.52	37.98	106	121	P	H
		5719.925	89.51	-21.27	110.78	80.41	33.56	13.52	37.98	106	121	P	H
	*	5745	114.38	-	-	105.04	33.76	13.55	37.97	106	121	P	H
	*	5745	106.14	-	-	96.8	33.76	13.55	37.97	106	121	A	H
													H
													H
		5634.2	65.22	-2.98	68.2	56.62	33.2	13.4	38	100	6	P	V
		5695.4	80.14	-21.67	101.81	71.26	33.38	13.48	37.98	100	6	P	V
		5713.4	86.8	-22.15	108.95	77.76	33.51	13.51	37.98	100	6	P	V
		5723.3	85.9	-32.42	118.32	76.77	33.59	13.52	37.98	100	6	P	V
	*	5745	114.89	-	-	105.55	33.76	13.55	37.97	100	6	P	V
	*	5745	106.28	-	-	96.94	33.76	13.55	37.97	100	6	A	V
													V
													V

WIFI Ant. 6+7	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	111.91	-	-	102.05	34.15	13.66	37.95	100	107	P	H
	*	5825	104.99	-	-	95.13	34.15	13.66	37.95	100	107	A	H
		5851.6	86.86	-31.69	118.55	76.81	34.3	13.7	37.95	100	107	P	H
		5857.2	90.36	-19.82	110.18	80.3	34.3	13.7	37.94	100	107	P	H
		5880.2	80.12	-21.22	101.34	70.03	34.3	13.73	37.94	100	107	P	H
		5931.4	64.24	-3.96	68.2	54.07	34.3	13.8	37.93	100	107	P	H
													H
													H
	*	5825	112	-	-	102.14	34.15	13.66	37.95	100	8	P	V
	*	5825	104.79	-	-	94.93	34.15	13.66	37.95	100	8	A	V
		5852.2	84.6	-32.58	117.18	74.55	34.3	13.7	37.95	100	8	P	V
		5856.6	88.41	-21.94	110.35	78.35	34.3	13.7	37.94	100	8	P	V
		5880.2	78.14	-23.2	101.34	68.05	34.3	13.73	37.94	100	8	P	V
		5933.2	59.79	-8.41	68.2	49.62	34.3	13.8	37.93	100	8	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. 6+7	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)
		5643.25	57.99	-10.21	68.2	49.38	33.2	13.41	38	386	0	P	H
		5699.75	65.59	-39.43	105.02	56.68	33.4	13.49	37.98	386	0	P	H
		5719	74.42	-36.1	110.52	65.33	33.55	13.52	37.98	386	0	P	H
		5720	75.6	-35.2	110.8	66.5	33.56	13.52	37.98	386	0	P	H
	*	5755	112.72	-	-	103.3	33.82	13.57	37.97	386	0	P	H
	*	5755	104.94	-	-	95.52	33.82	13.57	37.97	386	0	A	H
		5851.25	57.14	-62.21	119.35	47.09	34.3	13.7	37.95	386	0	P	H
		5862.5	58.58	-50.12	108.7	48.51	34.3	13.71	37.94	386	0	P	H
		5877.25	55.71	-47.82	103.53	45.62	34.3	13.73	37.94	386	0	P	H
		5925	54.09	-14.11	68.2	43.93	34.3	13.79	37.93	386	0	P	H
802.11ax													H
HE40 Full													H
CH 151		5642.5	60.14	-8.06	68.2	51.53	33.2	13.41	38	383	72	P	V
5755MHz		5698.25	69.45	-34.46	103.91	60.55	33.39	13.49	37.98	383	72	P	V
		5717.75	78.09	-32.08	110.17	69.02	33.54	13.51	37.98	383	72	P	V
		5723.75	79.95	-39.4	119.35	70.82	33.59	13.52	37.98	383	72	P	V
	*	5755	114.37	-	-	104.95	33.82	13.57	37.97	383	72	P	V
	*	5755	105.81	-	-	96.39	33.82	13.57	37.97	383	72	A	V
		5850.5	63.55	-57.51	121.06	53.5	34.3	13.7	37.95	383	72	P	V
		5860.75	64.98	-44.21	109.19	54.91	34.3	13.71	37.94	383	72	P	V
		5880	64.86	-36.63	101.49	54.77	34.3	13.73	37.94	383	72	P	V
		5925.5	57.77	-10.43	68.2	47.61	34.3	13.79	37.93	383	72	P	V
													V
													V

WIFI Ant. 6+7	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)
		5646.75	58.77	-9.43	68.2	50.14	33.2	13.42	37.99	378	15	P	H
		5685.5	58.65	-35.85	94.5	49.83	33.34	13.47	37.99	378	15	P	H
		5701.75	59.66	-46.03	105.69	50.74	33.41	13.49	37.98	378	15	P	H
		5721	64.6	-48.48	113.08	55.49	33.57	13.52	37.98	378	15	P	H
	*	5795	113.15	-	-	103.51	33.98	13.62	37.96	378	15	P	H
	*	5795	106.7	-	-	97.06	33.98	13.62	37.96	378	15	A	H
		5850	68.1	-54.1	122.2	58.06	34.3	13.69	37.95	378	15	P	H
		5856.25	64.02	-46.43	110.45	53.96	34.3	13.7	37.94	378	15	P	H
		5885.5	63.55	-33.85	97.4	53.45	34.3	13.74	37.94	378	15	P	H
		5939.75	61.96	-6.24	68.2	51.77	34.3	13.81	37.92	378	15	P	H
802.11ax													H
HE40 Full													H
CH 159		5641.75	54.44	-13.76	68.2	45.83	33.2	13.41	38	400	87	P	V
5795MHz		5681	62.51	-28.67	91.18	53.72	33.32	13.46	37.99	400	87	P	V
		5715.5	63.12	-46.42	109.54	54.07	33.52	13.51	37.98	400	87	P	V
		5724.75	64.37	-57.26	121.63	55.23	33.6	13.52	37.98	400	87	P	V
	*	5795	115.12	-	-	105.48	33.98	13.62	37.96	400	87	P	V
	*	5795	106.31	-	-	96.67	33.98	13.62	37.96	400	87	A	V
		5852	69.84	-47.8	117.64	59.79	34.3	13.7	37.95	400	87	P	V
		5861.5	67.43	-41.55	108.98	57.36	34.3	13.71	37.94	400	87	P	V
		5880.5	63.21	-37.9	101.11	53.12	34.3	13.73	37.94	400	87	P	V
		5931.75	61.93	-6.27	68.2	51.76	34.3	13.8	37.93	400	87	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. 6+7	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)
		11510	51.62	-22.38	74	35.11	39.09	20.08	42.66	400	135	P	H
		11510	41.32	-12.68	54	24.81	39.09	20.08	42.66	400	135	A	H
		17265	51.91	-16.29	68.2	33.92	38.03	24.75	44.79	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
802.11ax													H
HE40 Full													H
CH 151		11510	52.05	-21.95	74	35.54	39.09	20.08	42.66	300	58	P	V
5755MHz		11510	41.4	-12.6	54	24.89	39.09	20.08	42.66	300	58	A	V
		17265	51.5	-16.7	68.2	33.51	38.03	24.75	44.79	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 6+7	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)
		11590	49.99	-24.01	74	33.55	39.01	20.16	42.73	100	114	P	H
		11590	40.44	-13.56	54	24	39.01	20.16	42.73	100	114	A	H
		17385	51.71	-16.49	68.2	33.54	38.27	24.8	44.9	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
802.11ax													H
HE40 Full													H
CH 159		11590	50.2	-23.8	74	33.76	39.01	20.16	42.73	300	44	P	V
5795MHz		11590	40.42	-13.58	54	23.98	39.01	20.16	42.73	300	44	A	V
		17385	51.52	-16.68	68.2	33.35	38.27	24.8	44.9	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.

Band 4 5725~5850MHz

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

WIFI Ant. 6+7	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)
		5637.75	65.98	-2.22	68.2	57.38	33.2	13.4	38	100	121	P	H
		5699.25	73	-31.65	104.65	64.09	33.4	13.49	37.98	100	121	P	H
		5719.25	78.65	-31.94	110.59	69.56	33.55	13.52	37.98	100	121	P	H
		5720.75	80.29	-32.22	112.51	71.18	33.57	13.52	37.98	100	121	P	H
	*	5755	111.45	-	-	102.03	33.82	13.57	37.97	100	121	P	H
	*	5755	101.29	-	-	91.87	33.82	13.57	37.97	100	121	A	H
		5852.75	67.69	-48.24	115.93	57.64	34.3	13.7	37.95	100	121	P	H
		5872.25	65.74	-40.23	105.97	55.66	34.3	13.72	37.94	100	121	P	H
		5881.5	65.28	-35.09	100.37	55.18	34.3	13.74	37.94	100	121	P	H
802.11ax		5936.75	58.6	-9.6	68.2	48.42	34.3	13.81	37.93	100	121	P	H
HE40													H
Partial													H
242/61		5645.5	64.07	-4.13	68.2	55.46	33.2	13.41	38	100	5	P	V
CH 151		5699.25	72.02	-32.63	104.65	63.11	33.4	13.49	37.98	100	5	P	V
5755MHz		5717.25	78.14	-31.89	110.03	69.07	33.54	13.51	37.98	100	5	P	V
		5723.5	78.65	-40.13	118.78	69.52	33.59	13.52	37.98	100	5	P	V
	*	5755	110.27	-	-	100.85	33.82	13.57	37.97	100	5	P	V
	*	5755	101.09	-	-	91.67	33.82	13.57	37.97	100	5	A	V
		5852.75	67.76	-48.17	115.93	57.71	34.3	13.7	37.95	100	5	P	V
		5869.75	66.86	-39.81	106.67	56.78	34.3	13.72	37.94	100	5	P	V
		5876.25	65.53	-38.74	104.27	55.44	34.3	13.73	37.94	100	5	P	V
		5936.25	56.37	-11.83	68.2	46.19	34.3	13.81	37.93	100	5	P	V
													V
													V

WIFI Ant. 6+7	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)
		5642.5	59.05	-9.15	68.2	50.44	33.2	13.41	38	100	110	P	H
		5692.25	66.1	-33.39	99.49	57.23	33.37	13.48	37.98	100	110	P	H
		5719.75	70.58	-40.15	110.73	61.48	33.56	13.52	37.98	100	110	P	H
		5723	71.41	-46.23	117.64	62.29	33.58	13.52	37.98	100	110	P	H
	*	5795	111.19	-	-	101.55	33.98	13.62	37.96	100	110	P	H
	*	5795	101.74	-	-	92.02	34.04	13.64	37.96	100	110	A	H
		5852.25	80.39	-36.68	117.07	70.34	34.3	13.7	37.95	100	110	P	H
		5858	79.23	-30.73	109.96	69.16	34.3	13.71	37.94	100	110	P	H
		5875.5	72.89	-31.94	104.83	62.8	34.3	13.73	37.94	100	110	P	H
802.11ax		5949	65.3	-2.9	68.2	55.1	34.3	13.82	37.92	100	110	P	H
HE40													H
Partial													H
242/62		5642.5	57.65	-10.55	68.2	49.04	33.2	13.41	38	112	6	P	V
CH 159		5685.5	64.57	-29.93	94.5	55.75	33.34	13.47	37.99	112	6	P	V
5795MHz		5719.25	68.69	-41.9	110.59	59.6	33.55	13.52	37.98	112	6	P	V
		5722.5	69.55	-46.95	116.5	60.43	33.58	13.52	37.98	112	6	P	V
	*	5795	109.83	-	-	100.19	33.98	13.62	37.96	112	6	P	V
	*	5795	100.39	-	-	90.75	33.98	13.62	37.96	112	6	A	V
		5851.5	76.98	-41.8	118.78	66.93	34.3	13.7	37.95	112	6	P	V
		5858.25	76.19	-33.7	109.89	66.12	34.3	13.71	37.94	112	6	P	V
		5875.5	69.38	-35.45	104.83	59.29	34.3	13.73	37.94	112	6	P	V
		5925	62.14	-6.06	68.2	51.98	34.3	13.79	37.93	112	6	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. 6+7	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)
		5645	65	-3.2	68.2	56.39	33.2	13.41	38	100	57	P	H
		5687.25	73.77	-22.03	95.8	64.94	33.35	13.47	37.99	100	57	P	H
		5718.75	75.5	-34.95	110.45	66.41	33.55	13.52	37.98	100	57	P	H
		5725	76.68	-45.52	122.2	67.53	33.6	13.53	37.98	100	57	P	H
	*	5775	111.11	-	-	101.57	33.9	13.6	37.96	100	57	P	H
	*	5775	103.25	-	-	93.71	33.9	13.6	37.96	100	57	A	H
		5850.5	75.69	-45.37	121.06	65.64	34.3	13.7	37.95	100	57	P	H
		5864.75	74.73	-33.34	108.07	64.66	34.3	13.71	37.94	100	57	P	H
		5875.25	70.22	-34.79	105.01	60.13	34.3	13.73	37.94	100	57	P	H
		5935.25	62.66	-5.54	68.2	52.48	34.3	13.81	37.93	100	57	P	H
802.11ax													H
HE80 Full													H
CH 155		5643.5	64.17	-4.03	68.2	55.56	33.2	13.41	38	400	74	P	V
5775MHz		5683.75	70.48	-22.73	93.21	61.66	33.34	13.47	37.99	400	74	P	V
		5716.5	72.76	-37.06	109.82	63.7	33.53	13.51	37.98	400	74	P	V
		5724.25	71.12	-49.37	120.49	61.99	33.59	13.52	37.98	400	74	P	V
	*	5775	109.97	-	-	100.43	33.9	13.6	37.96	400	74	P	V
	*	5775	102.95	-	-	93.41	33.9	13.6	37.96	400	74	A	V
		5850.75	69.68	-50.81	120.49	59.63	34.3	13.7	37.95	400	74	P	V
		5858	68.26	-41.7	109.96	58.19	34.3	13.71	37.94	400	74	P	V
		5899.75	68.13	-18.72	86.85	58	34.3	13.76	37.93	400	74	P	V
		5930.25	62.57	-5.63	68.2	52.4	34.3	13.8	37.93	400	74	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. 6+7	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)
		11550	49.5	-24.5	74	33.02	39.05	20.12	42.69	298	23	P	H
		11550	40.24	-13.76	54	23.76	39.05	20.12	42.69	298	23	A	H
		17325	51.98	-16.22	68.2	33.91	38.15	24.77	44.85	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
802.11ax													H
HE80 Full													H
CH 155		11550	49.67	-24.33	74	33.19	39.05	20.12	42.69	300	44	P	V
5775MHz		11550	40.28	-13.72	54	23.8	39.05	20.12	42.69	300	44	A	V
		17325	52.19	-16.01	68.2	34.12	38.15	24.77	44.85	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.

Band 4 5725~5850MHz

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

WIFI Ant. 6+7	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 Partial 484/65 CH 155 5775MHz		5641.75	59.46	-8.74	68.2	50.85	33.2	13.41	38	100	109	P	H
		5697.75	67.21	-36.33	103.54	58.31	33.39	13.49	37.98	100	109	P	H
		5717.5	72.1	-38	110.1	63.03	33.54	13.51	37.98	100	109	P	H
		5721.25	72.51	-41.14	113.65	63.4	33.57	13.52	37.98	100	109	P	H
	*	5775	106.51	-	-	96.97	33.9	13.6	37.96	100	109	P	H
	*	5775	96.82	-	-	87.28	33.9	13.6	37.96	100	109	A	H
		5853	75.88	-39.48	115.36	65.83	34.3	13.7	37.95	100	109	P	H
		5857.25	76.37	-33.8	110.17	66.31	34.3	13.7	37.94	100	109	P	H
		5877.25	71.39	-32.14	103.53	61.3	34.3	13.73	37.94	100	109	P	H
		5938.5	61.79	-6.41	68.2	51.6	34.3	13.81	37.92	100	109	P	H
													H
													H
		5627	55.23	-12.97	68.2	46.64	33.2	13.39	38	137	69	P	V
		5699	60.08	-44.38	104.46	51.17	33.4	13.49	37.98	137	69	P	V
		5717.75	63.27	-46.9	110.17	54.2	33.54	13.51	37.98	137	69	P	V
		5725	66.27	-55.93	122.2	57.12	33.6	13.53	37.98	137	69	P	V
	*	5775	105.63	-	-	96.09	33.9	13.6	37.96	137	69	P	V
	*	5775	97.45	-	-	87.91	33.9	13.6	37.96	137	69	A	V
		5853	70.31	-45.05	115.36	60.26	34.3	13.7	37.95	137	69	P	V
		5873	71.22	-34.54	105.76	61.14	34.3	13.72	37.94	137	69	P	V
		5877	67.68	-36.03	103.71	57.59	34.3	13.73	37.94	137	69	P	V
		5925	60.73	-7.47	68.2	50.57	34.3	13.79	37.93	137	69	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_Partial 484 (Band Edge @ 3m)

WIFI Ant. 6+7	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 Partial 484/66 CH 155 5775MHz		5642.75	59.28	-8.92	68.2	50.67	33.2	13.41	38	100	110	P	H
		5698	70.82	-32.91	103.73	61.92	33.39	13.49	37.98	100	110	P	H
		5719	73.24	-37.28	110.52	64.15	33.55	13.52	37.98	100	110	P	H
		5724.75	73.44	-48.19	121.63	64.3	33.6	13.52	37.98	100	110	P	H
	*	5775	105.63	-	-	96.09	33.9	13.6	37.96	100	110	P	H
	*	5775	96.81	-	-	87.27	33.9	13.6	37.96	100	110	A	H
		5853	75.41	-39.95	115.36	65.36	34.3	13.7	37.95	100	110	P	H
		5857	76.28	-33.96	110.24	66.22	34.3	13.7	37.94	100	110	P	H
		5876.25	71.85	-32.42	104.27	61.76	34.3	13.73	37.94	100	110	P	H
		5925.75	62.2	-6	68.2	52.04	34.3	13.79	37.93	100	110	P	H
													H
													H
		5633.25	58.54	-9.66	68.2	49.94	33.2	13.4	38	100	7	P	V
		5695.75	69.92	-32.15	102.07	61.04	33.38	13.48	37.98	100	7	P	V
		5719.25	72.94	-37.65	110.59	63.85	33.55	13.52	37.98	100	7	P	V
		5725	72.93	-49.27	122.2	63.78	33.6	13.53	37.98	100	7	P	V
	*	5775	104	-	-	94.46	33.9	13.6	37.96	100	7	P	V
	*	5775	95.82	-	-	86.28	33.9	13.6	37.96	100	7	A	V
		5853.25	74.29	-40.5	114.79	64.24	34.3	13.7	37.95	100	7	P	V
		5857	74.92	-35.32	110.24	64.86	34.3	13.7	37.94	100	7	P	V
		5885.25	70.13	-27.46	97.59	60.03	34.3	13.74	37.94	100	7	P	V
		5926.75	59.3	-8.9	68.2	49.14	34.3	13.79	37.93	100	7	P	V
													V
													V

Remark

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

Emission above 18GHz

5GHz WIFI 802.11ax HE20 Partial 106 (SHF @ 1m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
6+7		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE20 Full SHF		38680	49.64	-24.36	74	40.22	44.46	26.48	61.52	-	-	P	H
		38680	39.27	-14.73	54	29.85	44.46	26.48	61.52	-	-	A	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		38746	50.09	-23.91	74	40.56	44.67	26.5	61.64	-	-	P	V
		38746	39.85	-14.15	54	30.32	44.67	26.5	61.64	-	-	A	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.												

Emission below 1GHz

5GHz WIFI 802.11ax HE20 Partial 106 (LF @ 3m)

WIFI Ant. 6+7	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 LF		30.51	25.07	-14.93	40	34.79	24.73	1.31	35.76	-	-	P	H
		140.84	29.27	-14.23	43.5	44.78	17.82	2.28	35.61	-	-	P	H
		416.8	32.32	-13.68	46	41.03	22.47	3.77	34.95	-	-	P	H
		678.4	30.11	-15.89	46	33	26.51	4.79	34.19	-	-	P	H
		736	33.92	-12.08	46	34.77	28.11	4.99	33.95	-	-	P	H
		957.6	35.33	-10.67	46	31.72	30.99	5.72	33.1	-	-	P	H
													H
													H
													H
													H
													H
													H
		32.04	29.71	-10.29	40	40.13	24.06	1.28	35.76	-	-	P	V
		41.39	27.41	-12.59	40	42.94	18.92	1.3	35.75	-	-	P	V
		146.62	24.51	-18.99	43.5	40.08	17.72	2.31	35.6	-	-	P	V
		394.4	27.31	-18.69	46	36.99	21.63	3.68	34.99	-	-	P	V
		747.2	36.06	-9.94	46	36.7	28.23	5.03	33.9	-	-	P	V
		953.6	36.58	-9.42	46	33.09	30.9	5.71	33.12	-	-	P	V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against limit line.
3. The emission position marked as "-" means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only.

Note symbol

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

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

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
6+7		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		11213	48.14	-25.86	74	59.06	39.72	17.65	68.29	-	-	P	H
		11213	37.67	-16.33	54	48.59	39.72	17.65	68.29	-	-	A	H

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

For Peak Limit @ 11213MHz:

1. Level(dBμV/m)

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

= 39.72(dB/m) + 17.65(dB) + 59.06(dBμV) – 68.29 (dB)

= 48.14 (dBμV/m)

2. Margin(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 48.14(dBμV/m) – 74(dBμV/m)

= -25.86(dB)

For Average Limit @ 11213MHz:

1. Level(dBμV/m)

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

= 39.72(dB/m) + 17.65(dB) + 48.59(dBμV) – 68.29 (dB)

= 37.67 (dBμV/m)

2. Margin(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

= 37.67(dBμV/m) – 54(dBμV/m)

= -16.33(dB)

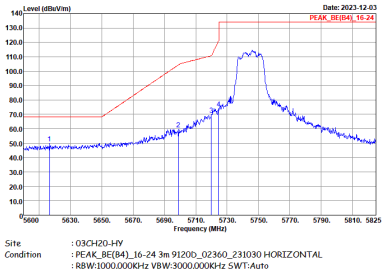
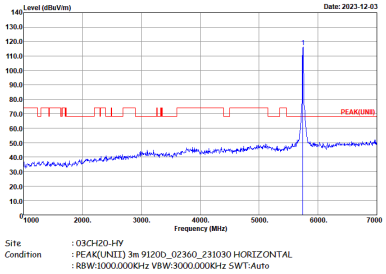
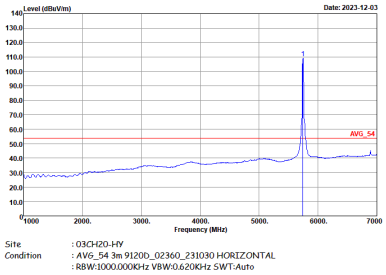
Both peak and average measured complies with the limit line, so test result is “PASS”.

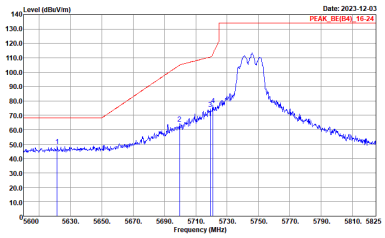
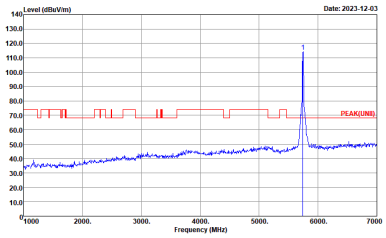
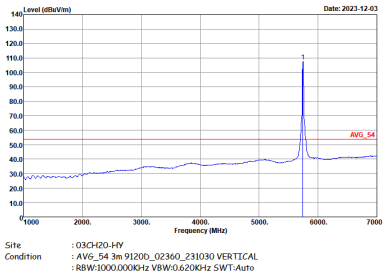
Appendix D. Radiated Spurious Emission Plots

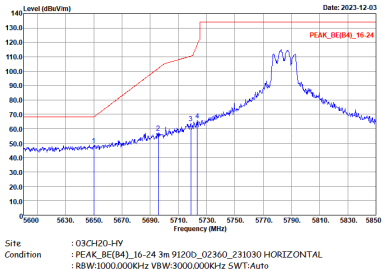
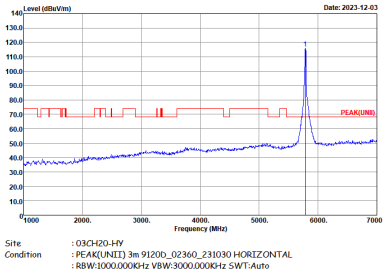
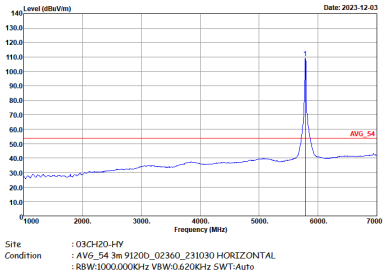
Test Engineer :	John Chuang, David Dai and Howard Huang	**Temperature :**	18.9~23.4°C
		Relative Humidity :	65.7~69.9%

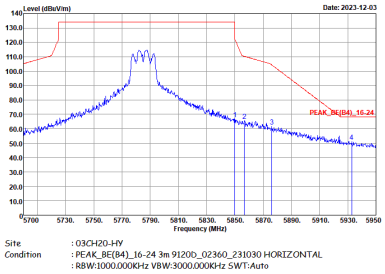
Band 4 - 5725~5850MHz

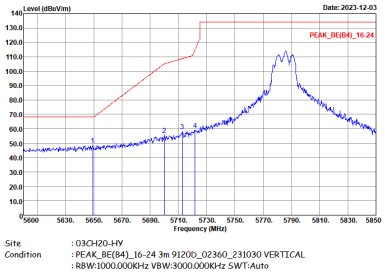
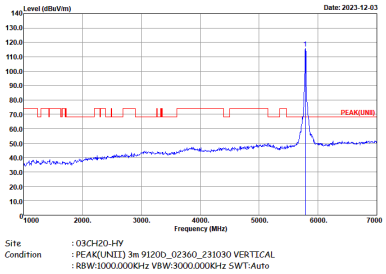
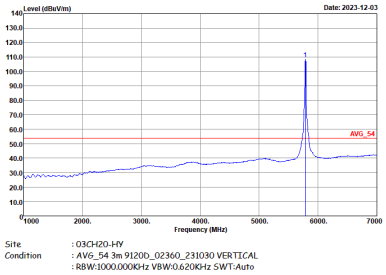
WIFI 802.11a (Band Edge @ 3m)

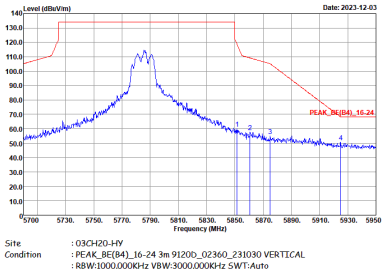
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
6+7	Horizontal	Fundamental
Peak		
Avg	Left blank	

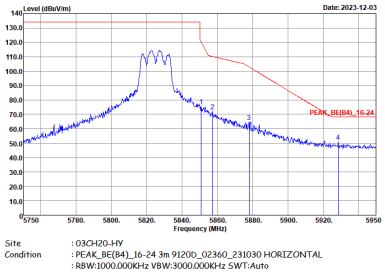
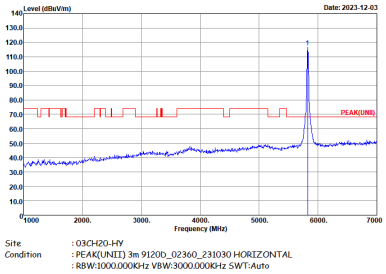
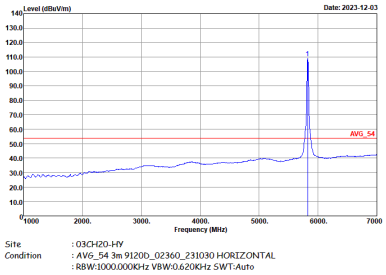
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
6+7	Vertical	Fundamental
Peak		
Avg	Left blank	

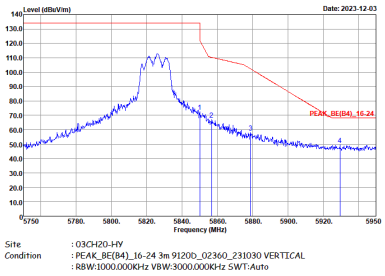
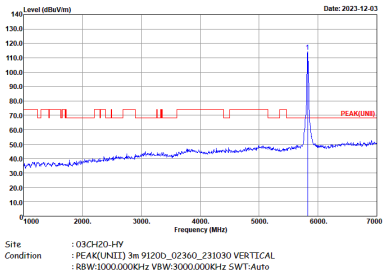
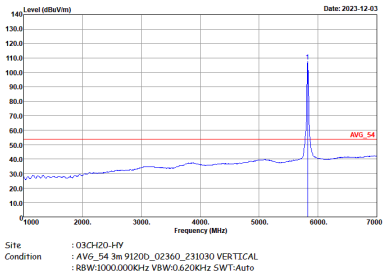
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
6+7	Horizontal	Fundamental
Peak		
Avg	Left blank	

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
6+7	Horizontal	Fundamental
Peak		Left blank

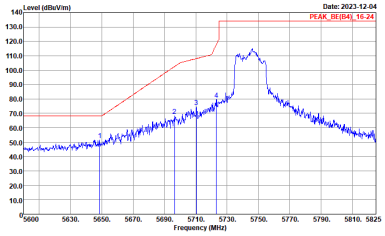
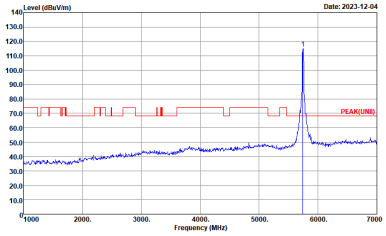
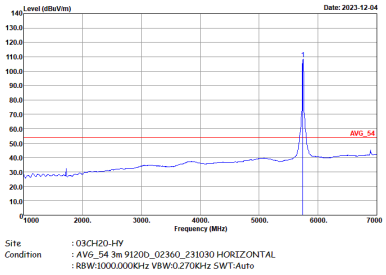
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
6+7	Vertical	Fundamental
Peak		
Avg	Left blank	

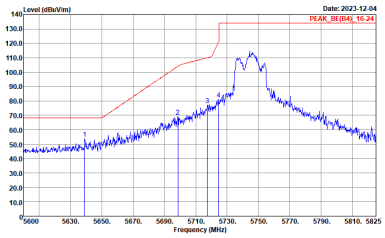
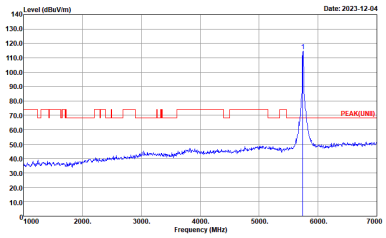
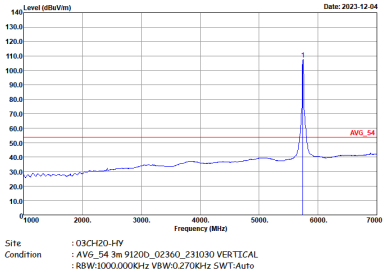
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
6+7	Vertical	Fundamental
Peak		Left blank

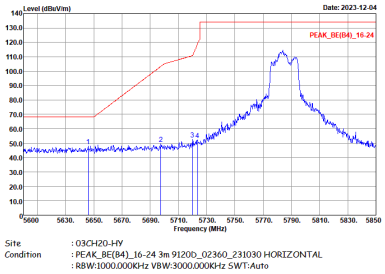
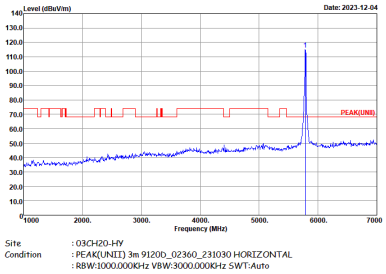
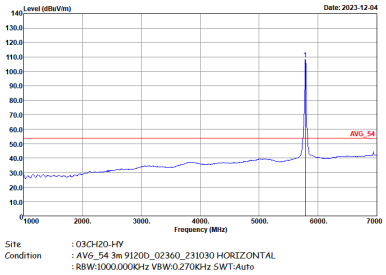
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
6+7	Horizontal	Fundamental
Peak		
Avg	Left blank	

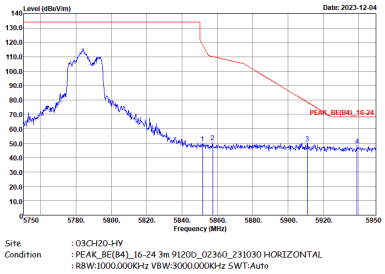
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
6+7	Vertical	Fundamental
Peak		
Avg	Left blank	

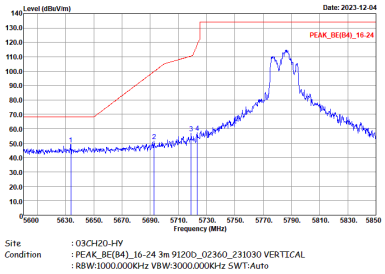
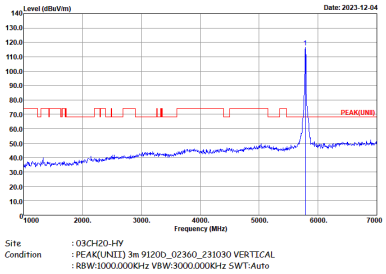
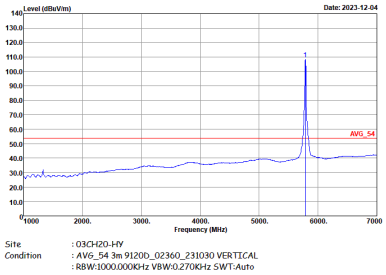
Band 4 5725~5850MHz
WIFI 802.11ax HE20 Full (Band Edge @ 3m)

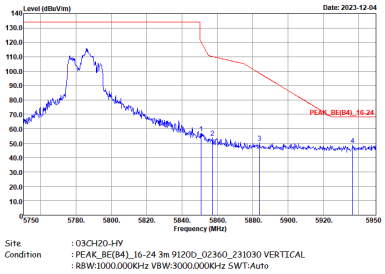
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH149 5745MHz	
6+7	Horizontal	Fundamental
Peak		
Avg	Left blank	

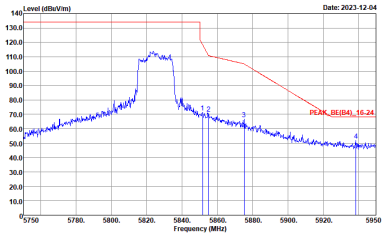
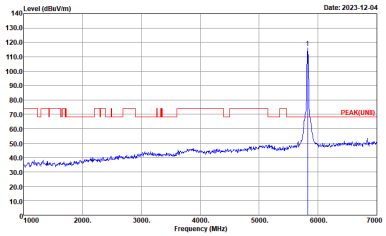
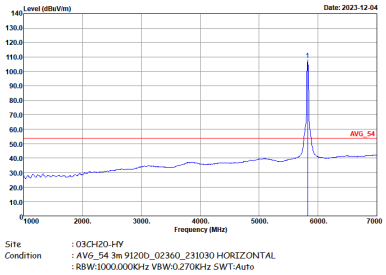
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH149 5745MHz	
6+7	Vertical	Fundamental
Peak		
Avg	Left blank	

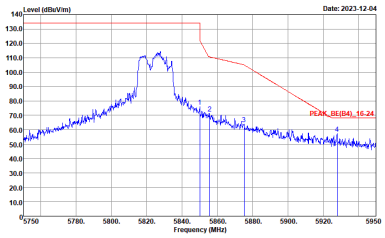
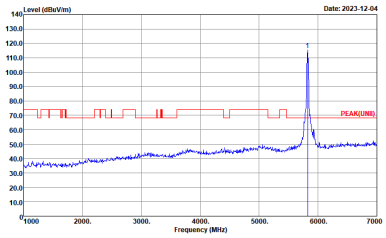
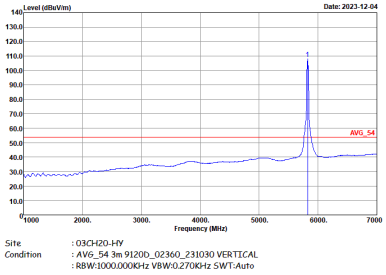
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
6+7	Horizontal	Fundamental
Peak		
Avg	Left blank	

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
6+7	Horizontal	Fundamental
Peak		Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
6+7	Vertical	Fundamental
Peak		
Avg	Left blank	

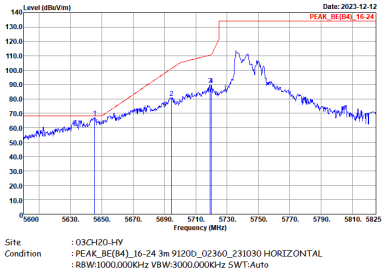
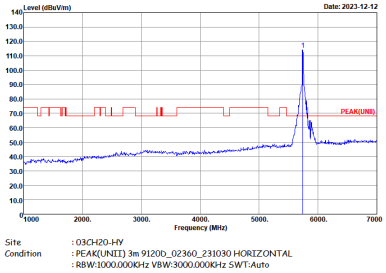
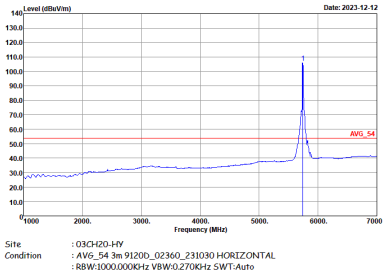
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
6+7	Vertical	Fundamental
Peak		Left blank

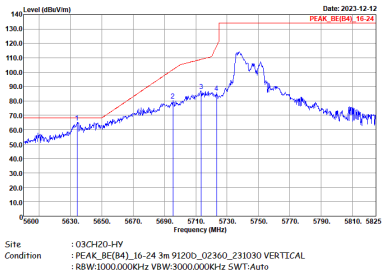
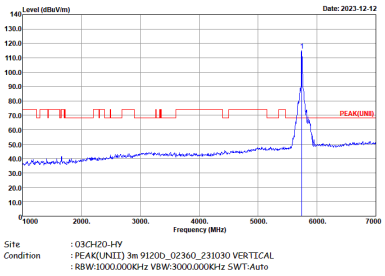
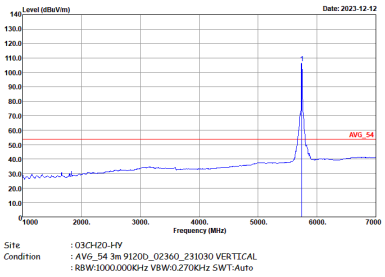
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH165 5825MHz	
6+7	Horizontal	Fundamental
Peak		
Avg	Left blank	

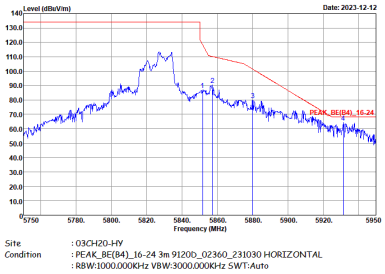
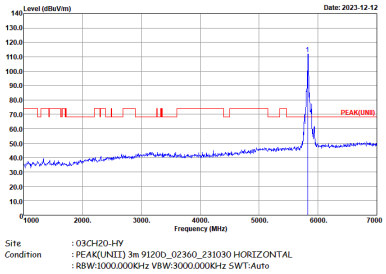
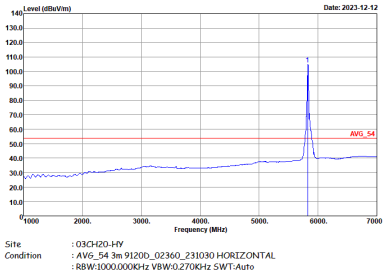
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH165 5825MHz	
6+7	Vertical	Fundamental
Peak		
Avg	Left blank	

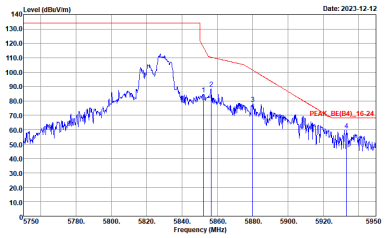
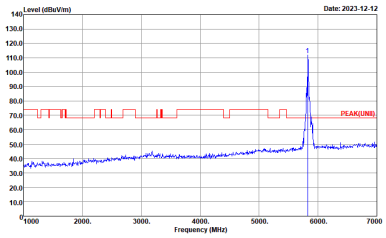
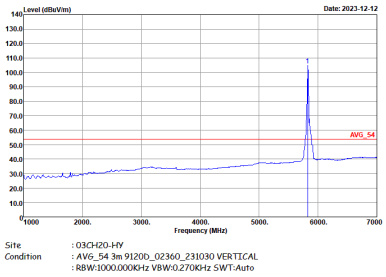
Band 4 5725~5850MHz

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	
6+7	Horizontal	Fundamental
Peak		
Avg	Left blank	

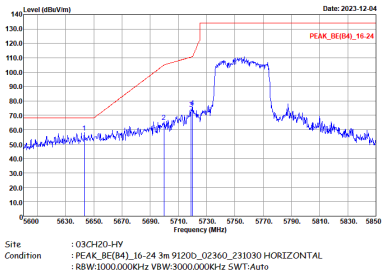
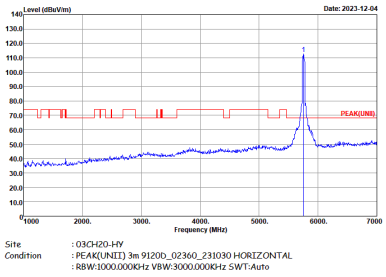
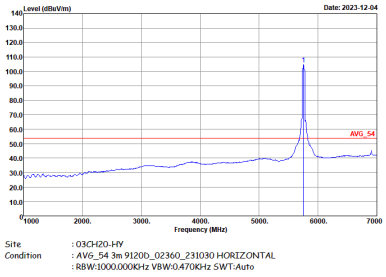
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Partial 106/53 CH149 5745MHz	
6+7	Vertical	Fundamental
Peak		
Avg	Left blank	

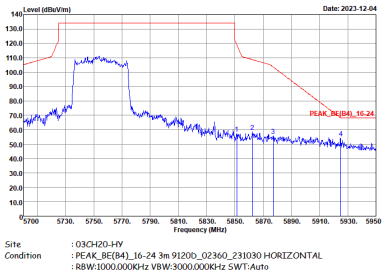
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Partial 106/54 CH165 5825MHz	
6+7	Horizontal	Fundamental
Peak		
Avg	Left blank	

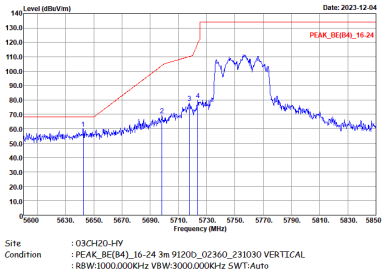
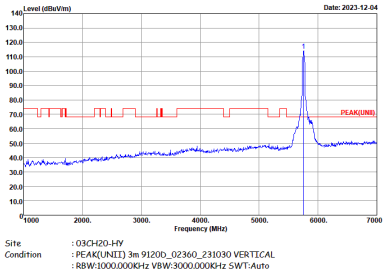
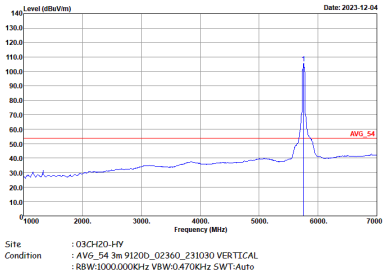
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE20 Partial 106/54 CH165 5825MHz	
6+7	Vertical	Fundamental
Peak		
Avg	Left blank	

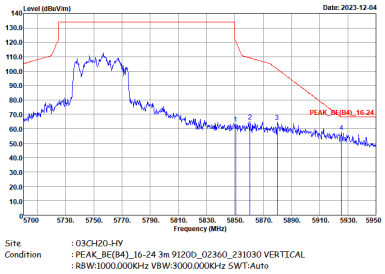
Band 4 5725~5850MHz

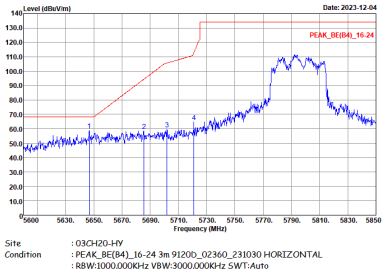
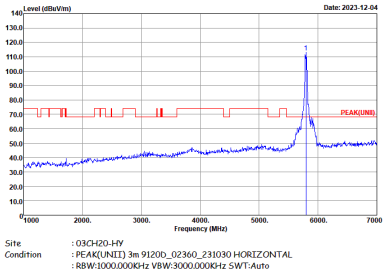
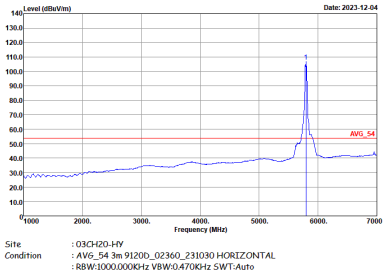
WIFI 802.11ax HE40 Full (Band Edge @ 3m)

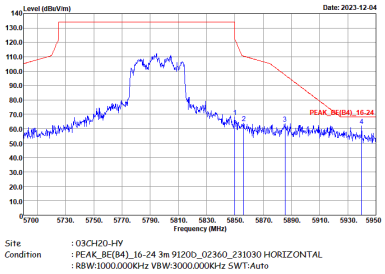
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
6+7	Horizontal	Fundamental
Peak		
Avg	Left blank	

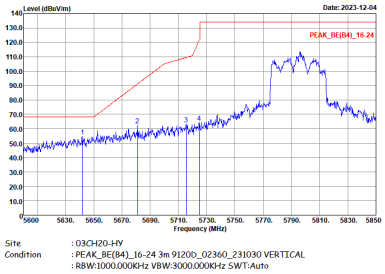
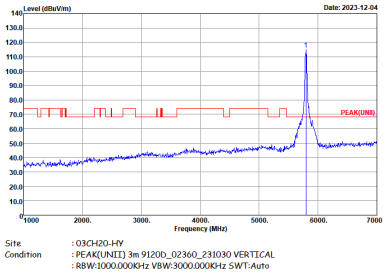
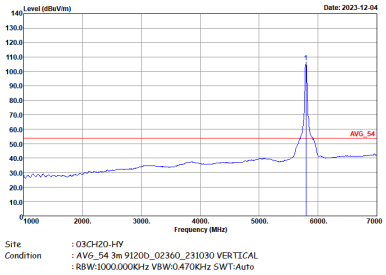
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
6+7	Horizontal	Fundamental
Peak		Left blank

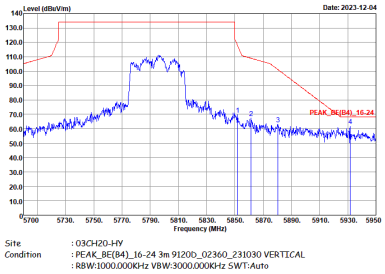
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
6+7	Vertical	Fundamental
Peak		
Avg	Left blank	

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
6+7	Vertical	Fundamental
Peak		Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH159 5795MHz	
6+7	Horizontal	Fundamental
Peak		
Avg	Left blank	

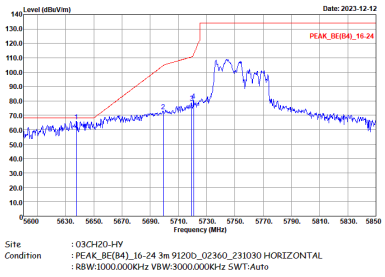
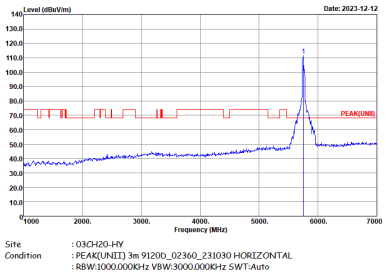
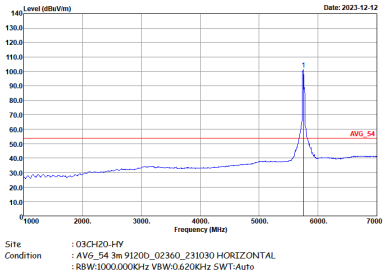
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH159 5795MHz	
6+7	Horizontal	Fundamental
Peak		Left blank

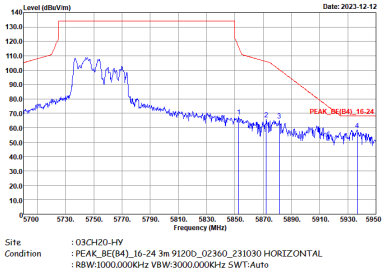
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH159 5795MHz	
6+7	Vertical	Fundamental
Peak		
Avg	Left blank	

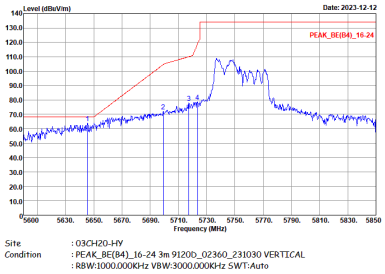
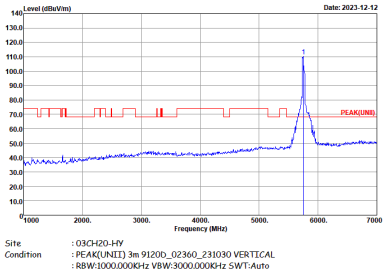
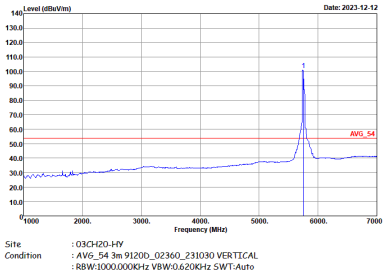
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH159 5795MHz	
6+7	Vertical	Fundamental
Peak		Left blank

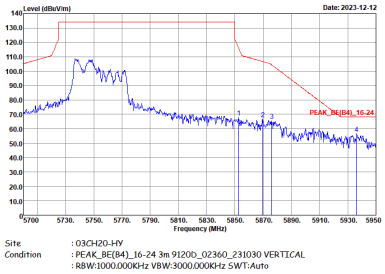
Band 4 5725~5850MHz

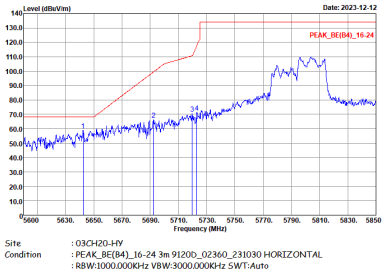
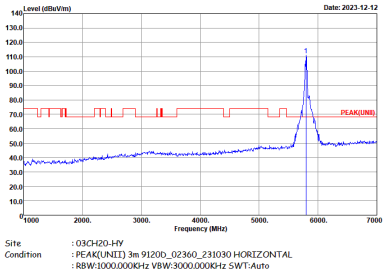
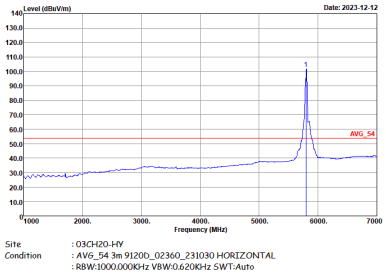
WIFI 802.11ax HE40 Partial 242 (Band Edge @ 3m)

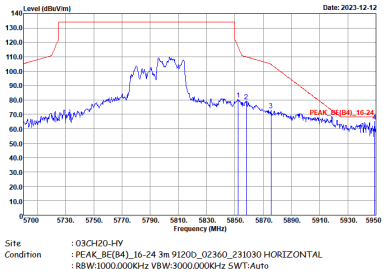
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/61 CH151 5755MHz	
6+7	Horizontal	Fundamental
Peak		
Avg	Left blank	

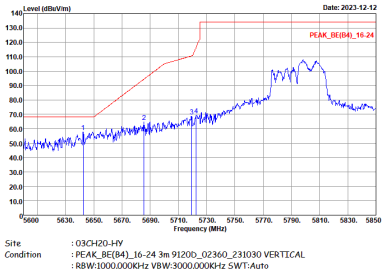
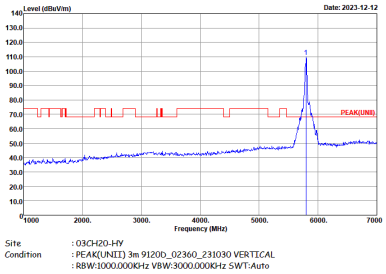
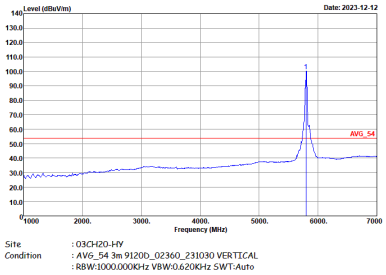
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/61 CH151 5755MHz	
6+7	Horizontal	Fundamental
Peak		Left blank

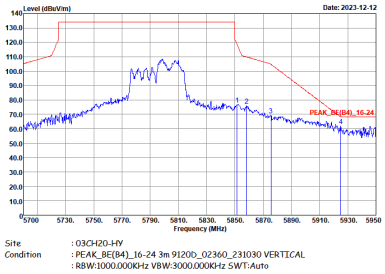
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/61 CH151 5755MHz	
6+7	Vertical	Fundamental
Peak		
Avg	Left blank	

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/61 CH151 5755MHz	
6+7	Vertical	Fundamental
Peak		Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/62 CH159 5795MHz	
6+7	Horizontal	Fundamental
Peak		
Avg	Left blank	

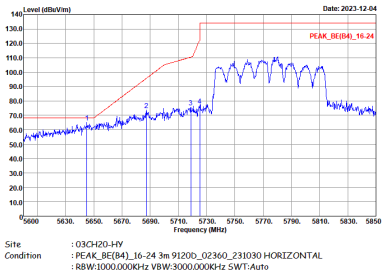
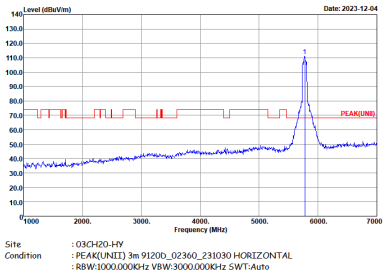
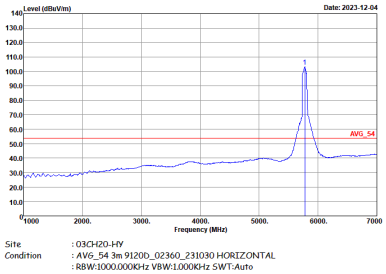
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/62 CH159 5795MHz	
6+7	Horizontal	Fundamental
Peak		Left blank

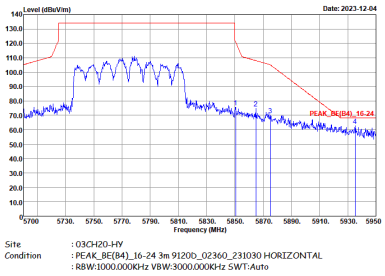
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/62 CH159 5795MHz	
6+7	Vertical	Fundamental
Peak		
Avg	Left blank	

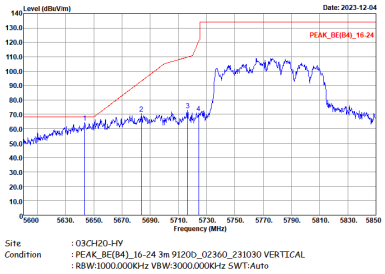
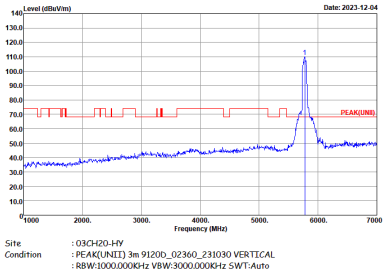
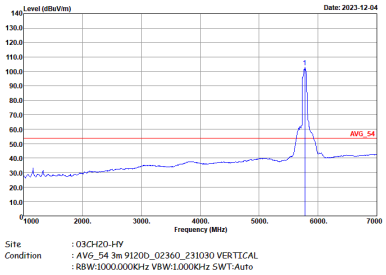
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/62 CH159 5795MHz	
6+7	Vertical	Fundamental
Peak		Left blank

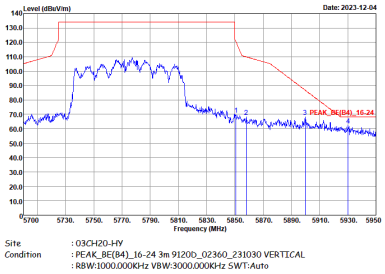
Band 4 5725~5850MHz

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

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
6+7	Horizontal	Fundamental
Peak		
Avg	Left blank	

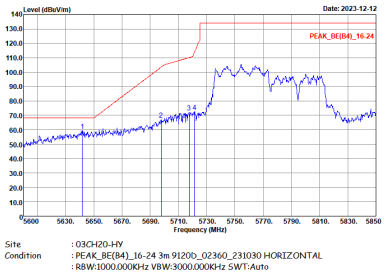
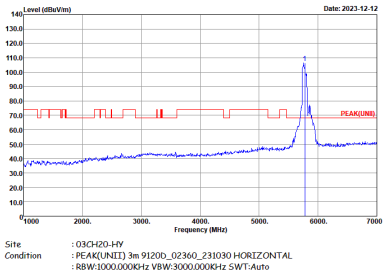
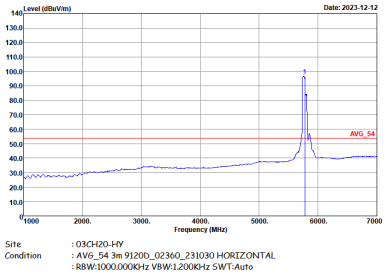
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
6+7	Horizontal	Fundamental
Peak		Left blank

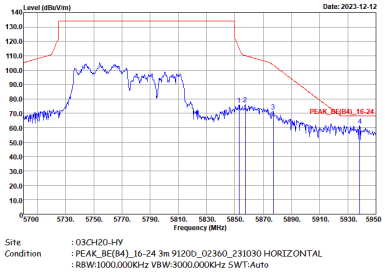
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
6+7	Vertical	Fundamental
Peak		
Avg	Left blank	

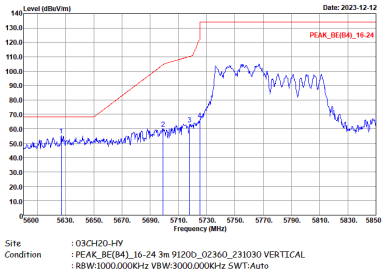
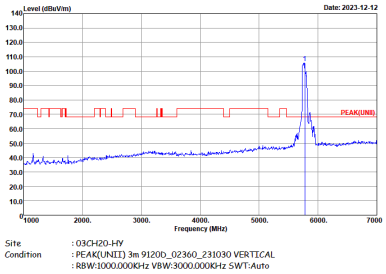
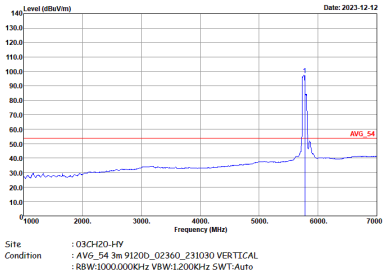
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
6+7	Vertical	Fundamental
Peak		Left blank

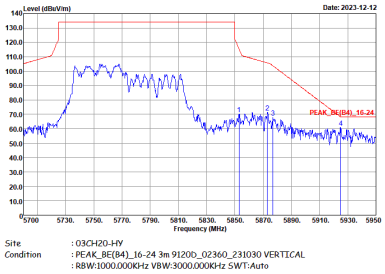
Band 4 5725~5850MHz

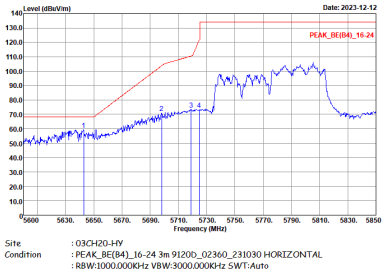
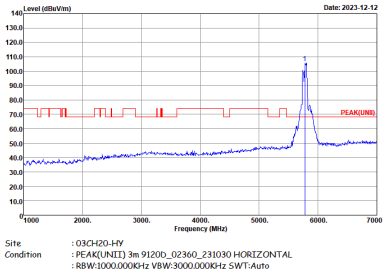
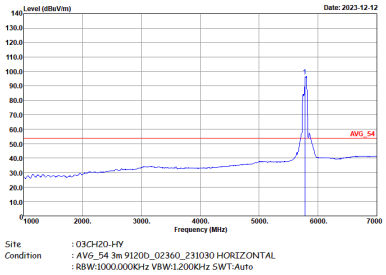
WIFI 802.11ax HE80 Partial 484 (Band Edge @ 3m)

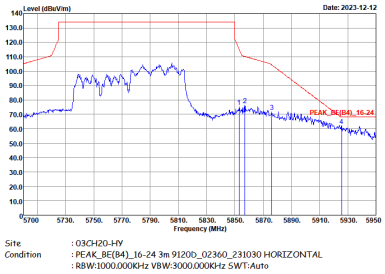
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/65 CH155 5775MHz	
6+7	Horizontal	Fundamental
Peak		
Avg	Left blank	

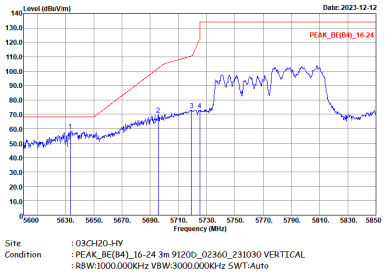
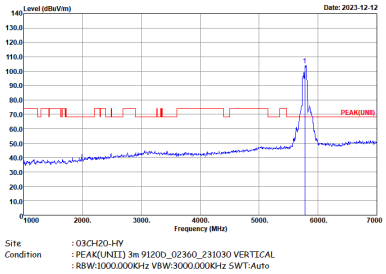
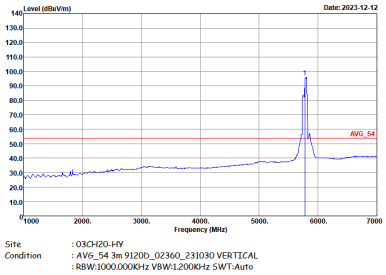
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/65 CH155 5775MHz	
6+7	Horizontal	Fundamental
Peak		Left blank

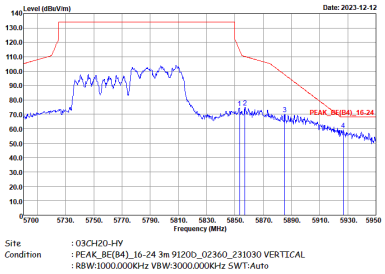
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/65 CH155 5775MHz	
6+7	Vertical	Fundamental
Peak		
Avg	Left blank	

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/65 CH155 5775MHz	
6+7	Vertical	Fundamental
Peak		Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/66 CH155 5775MHz	
6+7	Horizontal	Fundamental
Peak		
Avg	Left blank	

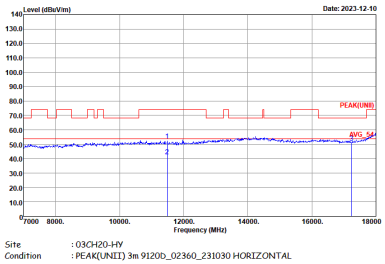
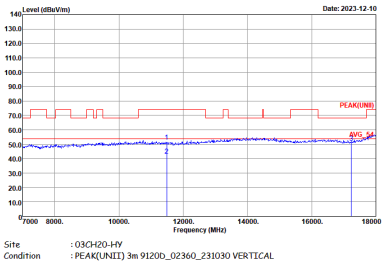
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/66 CH155 5775MHz	
6+7	Horizontal	Fundamental
Peak		Left blank

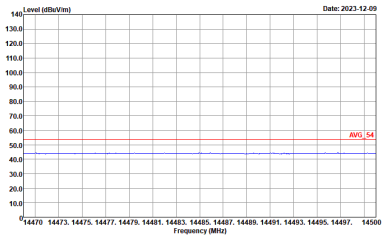
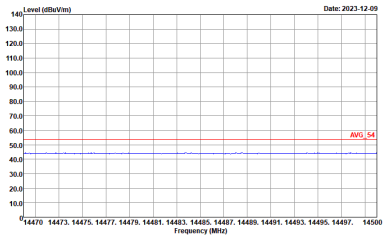
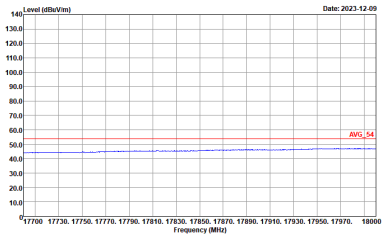
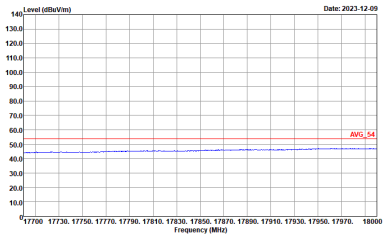
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/66 CH155 5775MHz	
6+7	Vertical	Fundamental
Peak		
Avg	Left blank	

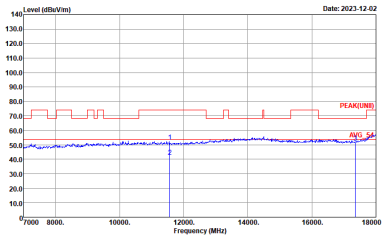
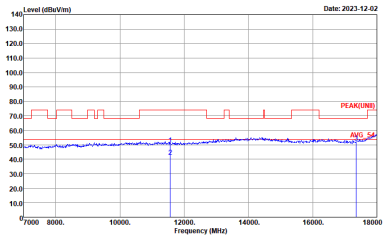
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Partial 484/66 CH155 5775MHz	
6+7	Vertical	Fundamental
Peak		Left blank

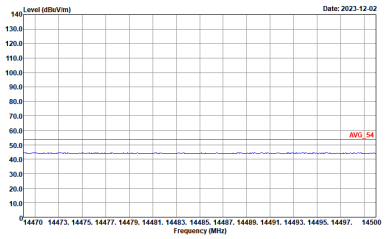
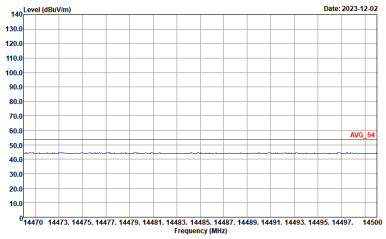
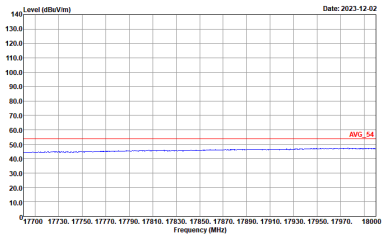
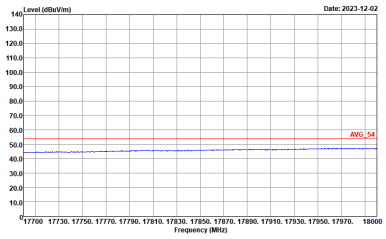
Band 4 - 5725~5850MHz

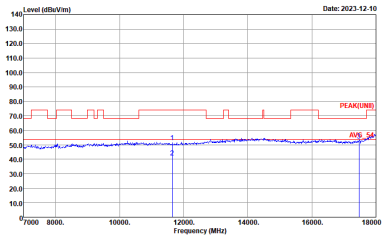
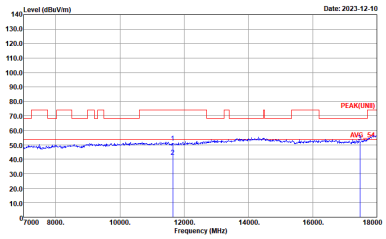
WIFI 802.11a (Harmonic @ 3m)

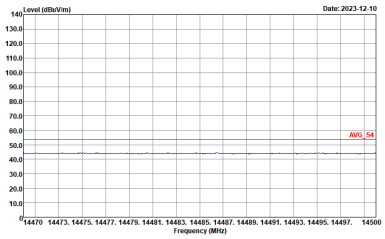
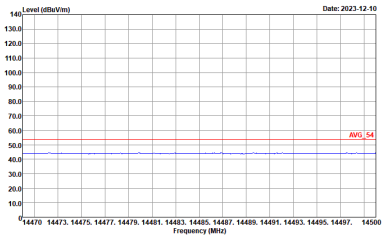
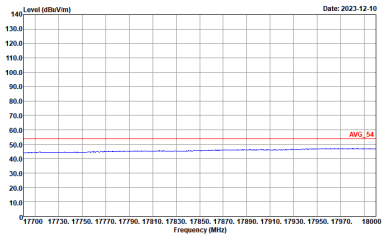
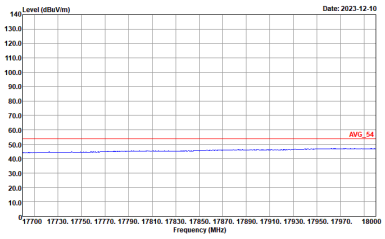
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
6+7	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
6+7	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
6+7	Horizontal	Vertical
Peak Avg.		

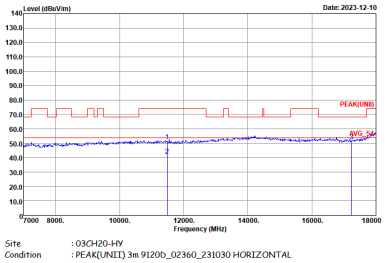
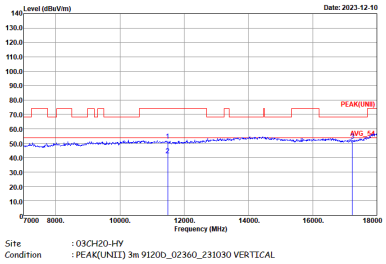
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
6+7	Horizontal	Vertical
14.47G ~14.5G Avg.	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 HORIZONTAL	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 VERTICAL
17.7G ~18G Avg	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 HORIZONTAL	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 VERTICAL

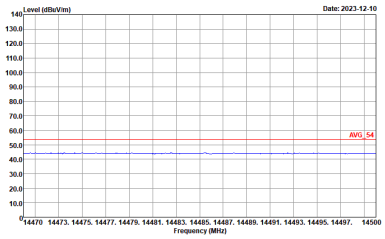
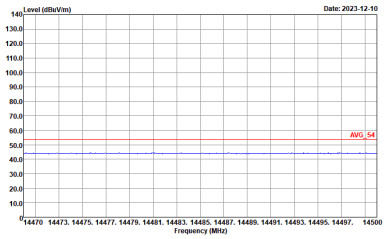
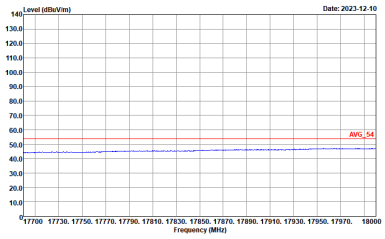
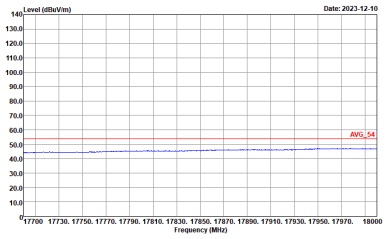
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
6+7	Horizontal	Vertical
Peak Avg.		

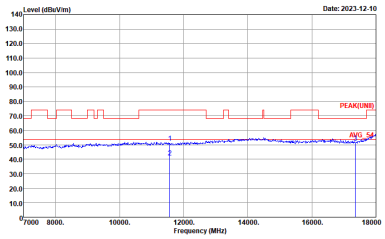
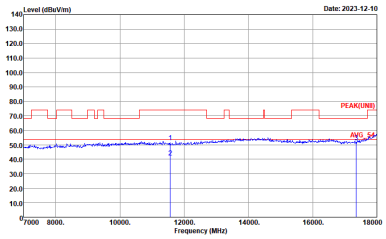
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
6+7	Horizontal	Vertical
14.47G ~14.5G Avg.	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 HORIZONTAL	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 VERTICAL
17.7G ~18G Avg	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 HORIZONTAL	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 VERTICAL

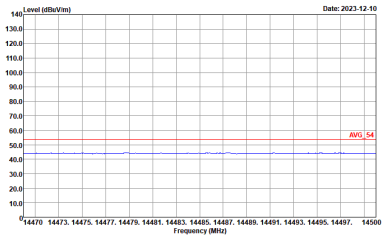
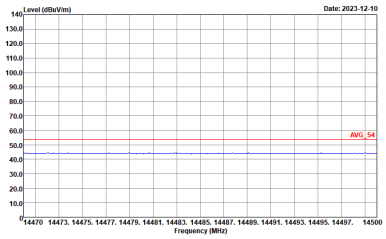
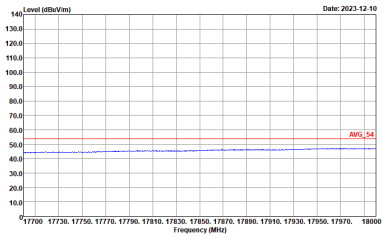
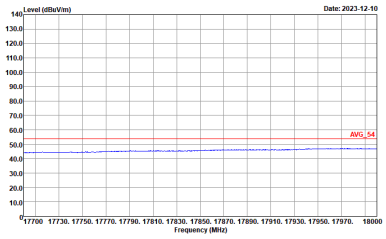
Band 4 5725~5850MHz

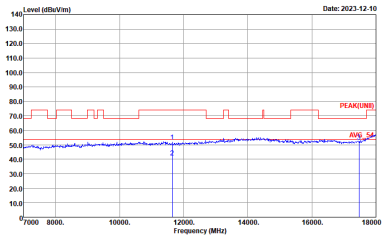
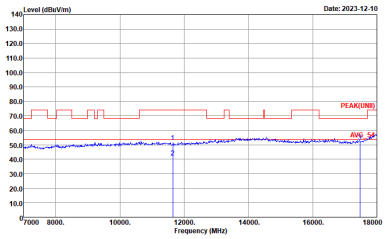
WIFI 802.11ax HE20 Full (Harmonic @ 3m)

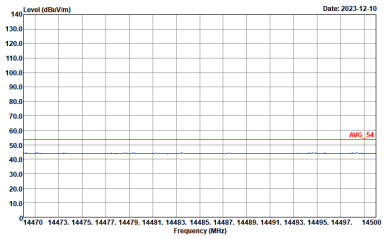
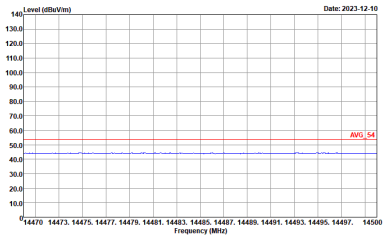
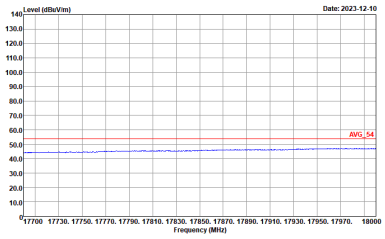
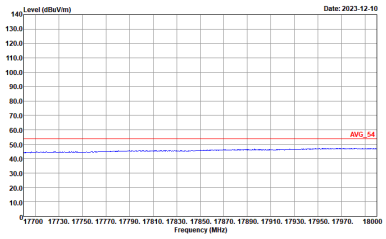
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH149 5745MHz	
6+7	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH149 5745MHz	
6+7	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
6+7	Horizontal	Vertical
Peak Avg.		

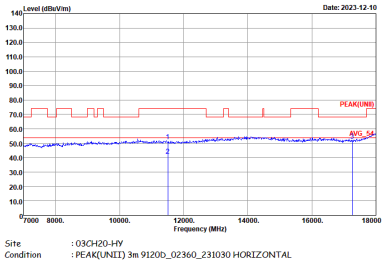
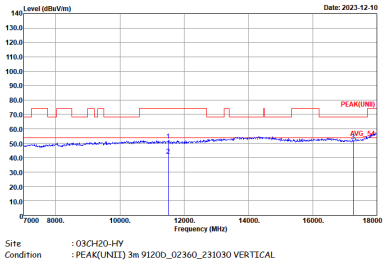
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH157 5785MHz	
6+7	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

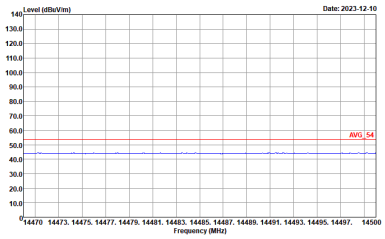
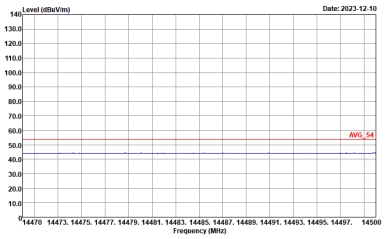
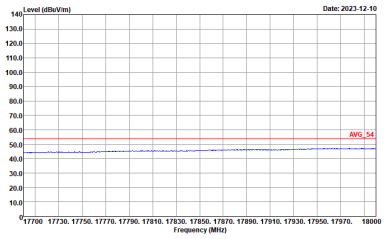
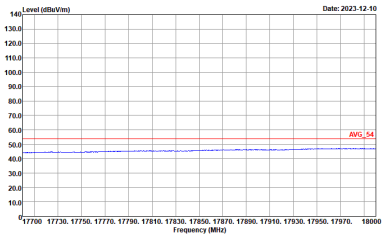
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH165 5825MHz	
6+7	Horizontal	Vertical
Peak Avg.		

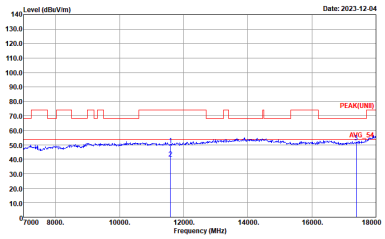
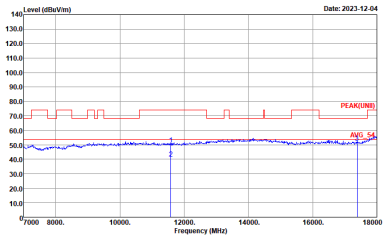
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH165 5825MHz	
6+7	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

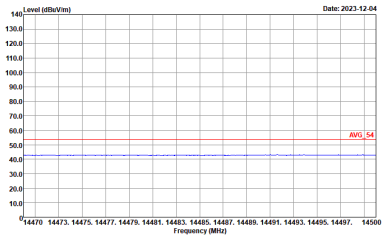
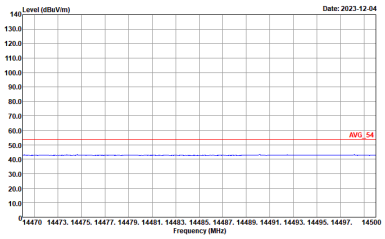
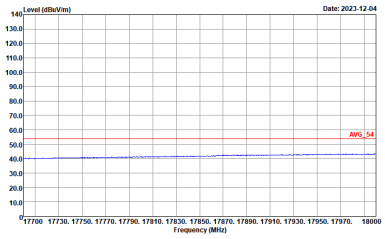
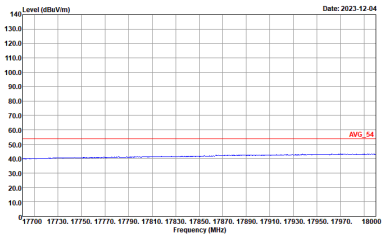
Band 4 5725~5850MHz

WIFI 802.11ax HE40 Full (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
6+7	Horizontal	Vertical
Peak Avg.		

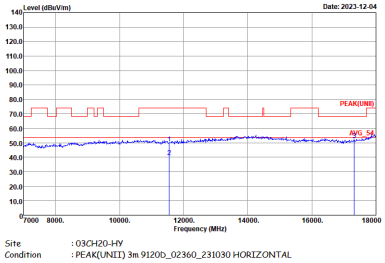
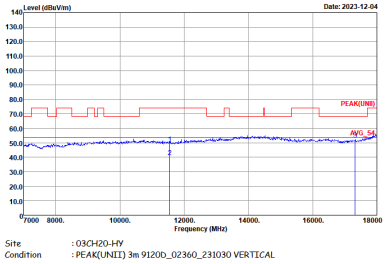
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
6+7	Horizontal	Vertical
14.47G ~14.5G Avg.	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 HORIZONTAL	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 VERTICAL
17.7G ~18G Avg	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 HORIZONTAL	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 VERTICAL

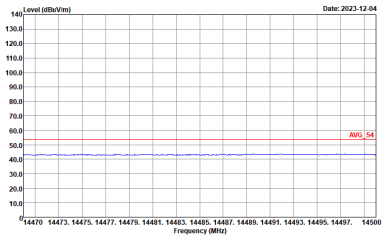
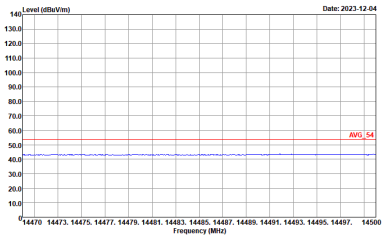
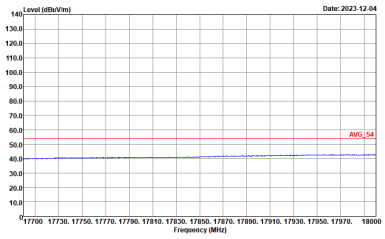
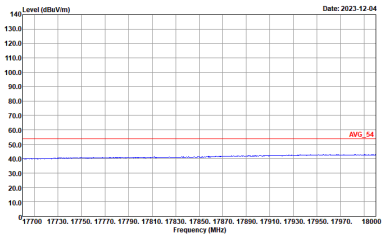
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE40 Full CH159 5795MHz	
6+7	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE40 Full CH159 5795MHz	
6+7	Horizontal	Vertical
14.47G ~14.5G Avg.	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 HORIZONTAL	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 VERTICAL
17.7G ~18G Avg	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 HORIZONTAL	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 VERTICAL

Band 4 5725~5850MHz

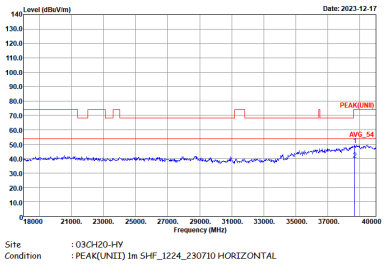
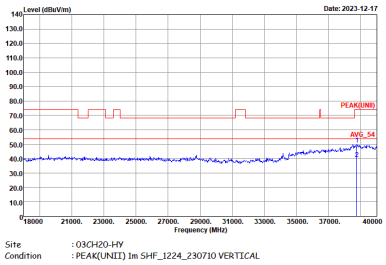
WIFI 802.11ax HE80 Full (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
6+7	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
6+7	Horizontal	Vertical
14.47G ~14.5G Avg.	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 HORIZONTAL	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 VERTICAL
17.7G ~18G Avg	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 HORIZONTAL	 Site : 03CH20-HY Condition : AVG_54 3m 9120D_02360_231030 VERTICAL

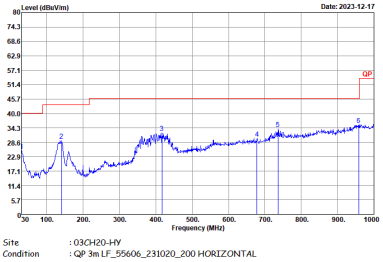
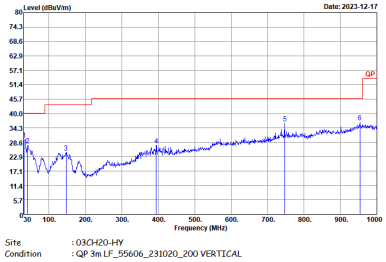
Emission above 18GHz

5GHz WIFI 802.11ax HE20 Partial 106 (SHF @ 1m)

WIFI	5GHz WIFI	
ANT	802.11ax HE20 Partial 106/53 SHF	
6+7	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

5GHz WIFI 802.11ax HE20 Partial 106 (LF @ 3m)

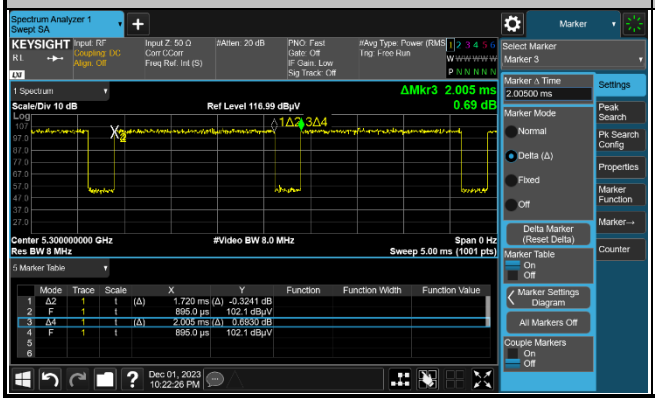
WIFI	5GHz WIFI	
ANT	802.11ax HE20 Partial 106/53 LF	
6+7	Horizontal	Vertical
QP / Peak		

Appendix E. Duty Cycle Plots

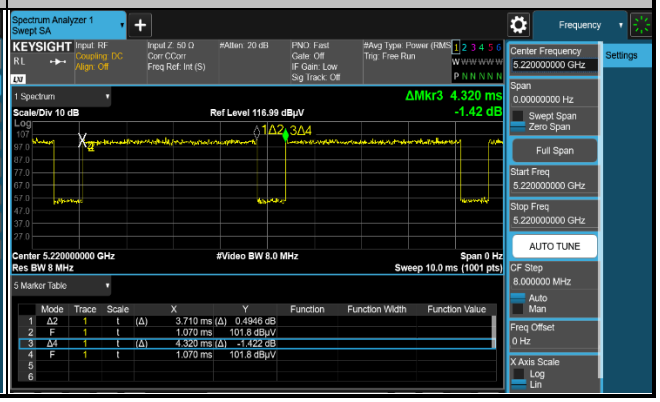
Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
6+7	802.11a	85.79	1720	0.58	620Hz
6+7	5GHz 802.11ax HE20 Full RU	85.88	3710	0.27	270Hz
6+7	5GHz 802.11ax HE20 106 RU	85.81	3900	0.26	270Hz
6+7	5GHz 802.11ax HE40 Full RU	85.99	2222	0.45	470Hz
6+7	5GHz 802.11ax HE40 242 RU	85.71	1740	0.57	620Hz
6+7	5GHz 802.11ax HE80 Full RU	85.67	1094	0.91	1kHz
6+7	5GHz 802.11ax HE80 484 RU	88.30	906	1.10	1.2Hz

MIMO <Ant. 6+7>

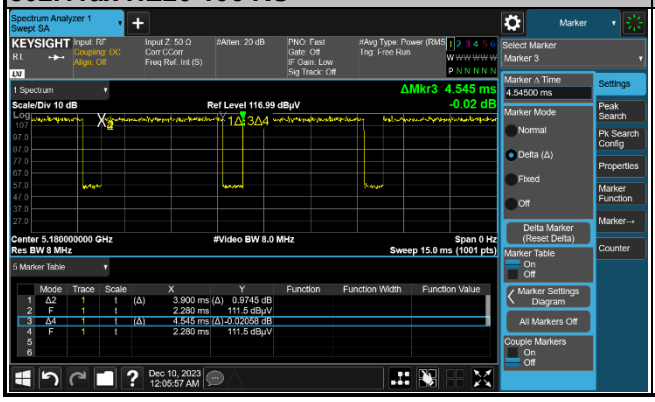
802.11a



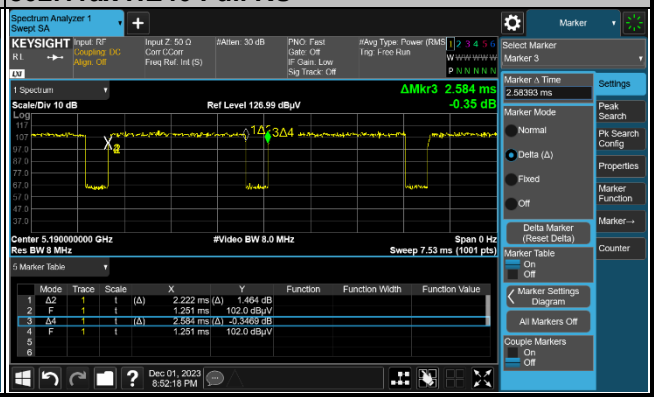
802.11ax HE20 Full RU



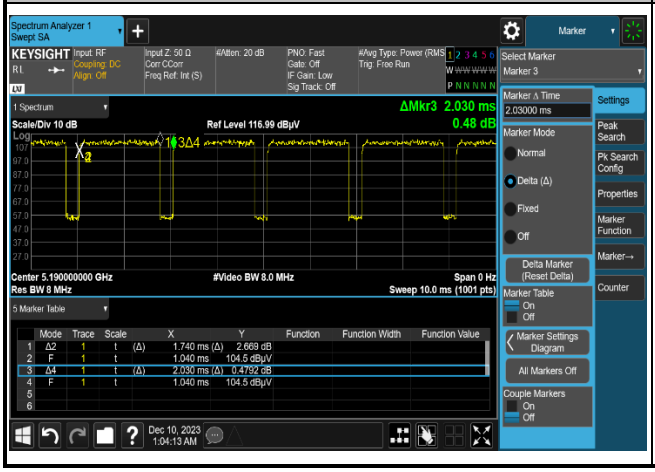
802.11ax HE20 106 RU



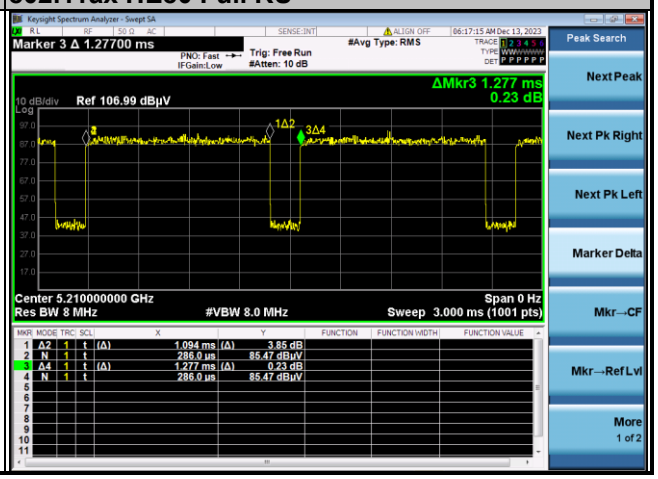
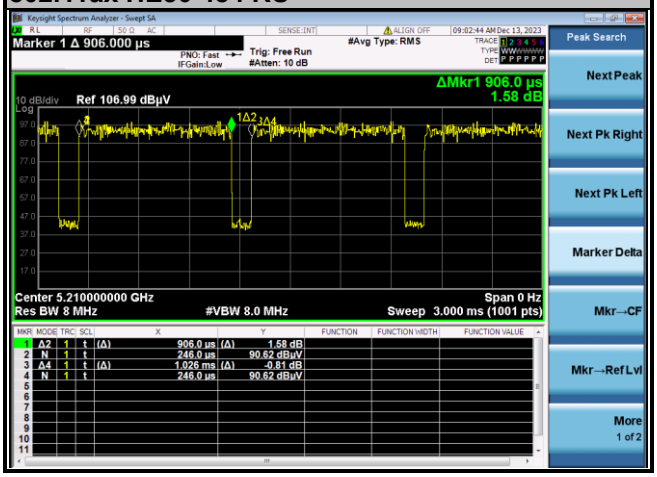
802.11ax HE40 Full RU



802.11ax HE40 242 RU



802.11ax HE80 Full RU



802.11ax HE80 484 RU