FCC RADIO TEST REPORT

FCC ID	:	**2AIMRRD13**
Equipment	:	**Xiaomi Mesh System AC1200**
Brand Name	:	**Xiaomi**
Model Name	:	**RD13**
Applicant	:	**Beijing Xiaomi Electronics Co., Ltd. Room 802, Floor 8, Building 5, No.15 KeChuang 10th Road, Beijing Economic and Technological Development Zone, Beijing City, China.**
Manufacturer	:	**Beijing Xiaomi Electronics Co., Ltd. Room 802, Floor 8, Building 5, No.15 KeChuang 10th Road, Beijing Economic and Technological Development Zone, Beijing City, China.**
Standard	:	**FCC Part 15 Subpart E §15.407**

The product was received on May 09, 2024 and testing was performed from May 17, 2024 to Jun. 19, 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
FR450101B	01	Initial issue of report	Jun. 06, 2024
FR450101B	02	Adding VHT80 Data This report is an updated version, replacing the report issued on Jun. 06, 2024.	Jun. 21, 2024
FR450101B	03	Revise Test Mode and Appendix D This report is an updated version, replacing the report issued on Jun. 21, 2024.	Jul. 18, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.403(i)	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	0.52 dB under the limit at 5150.00 MHz and 5350.00 MHz
3.5	15.207	AC Conducted Emission	Pass	17.91 dB under the limit at 0.55 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: Lewis Ho

Report Producer: Mila Chen

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature
General Specs Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n/ac **Antenna Type** WLAN: **<Ant. 1>**: Dipole Antenna **<Ant. 2>**: Dipole Antenna

Antenna information		
5150 MHz ~ 5250 MHz	Peak Gain (dBi)	Ant. 1: 2.36 Ant. 2: 2.52

Remark: The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.

1.1.1 Antenna Directional Gain

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

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

For power measurements on IEEE 802.11 devices,

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

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

For PSD measurements, the directional gain calculation.

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

where

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

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

N_{ANT} = the total number of antennas

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

G_k is the gain in dBi of the kth antenna.

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

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

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

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

	Ant 1 (dBi)	Ant 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band I	2.36	2.52	2.52	5.45	0.00	0.00

Calculation example:

If a device has two antenna, G_{ANT1}= 2.36dBi; G_{ANT2}=2.52dBi

Directional gain of power measurement = max(2.36, 2.52) + 0 = 2.52 dBi

Directional gain of PSD derived from formula which is

10 x log { { [10^ (2.36 dBi / 20) + 10^ (2.52 dBi / 20)] ^ 2 } / 2 }

= 5.45 dBi

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

1.2 Modification of EUT

No modifications made to the EUT during the testing.

1.3 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 TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	TH05-HY, CO07-HY, 03CH12-HY

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

FCC designation No.: TW3786

1.4 Applicable Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- FCC KDB 414788 D01 Radiated Test Site v01r01.
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

Remark:

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. The TAF code is not including all the FCC KDB listed without accreditation.

2 Test Configuration of Equipment Under Test

a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and 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)
5150-5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	42#	5210		

2.2 Test Mode

The device only supports SISO in 802.11a mode and only supports MIMO in 802.11n and 802.11ac mode.
The power for 802.11ac mode is smaller than 802.11n mode, so all other conducted and radiated test is covered by 802.11n mode.

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

Single Mode

Modulation	Data Rate
802.11a	**6 Mbps**

MIMO Mode

Modulation	Data Rate
802.11n HT20	**MCS0**
802.11n HT40	**MCS0**
802.11ac VHT20 (Covered by HT20)	**MCS0**
802.11ac VHT40 (Covered by HT40)	**MCS0**
802.11ac VHT80	**MCS0**

Test Cases	
AC Conducted Emission	Mode 1 : Lan Link + WLAN (5GHz) Link

<Ant. 1>

Ch. #		Band I：5150-5250 MHz
		802.11a
L	Low	36
M	Middle	44
H	High	48

<Ant. 2>

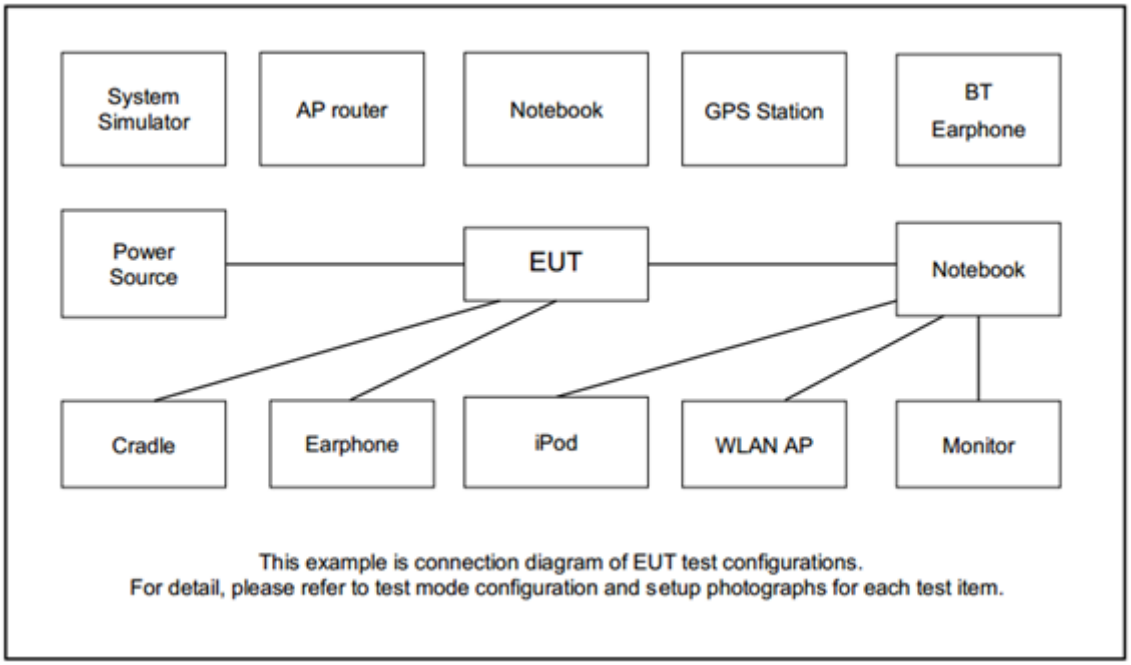
Ch. #		Band I：5150-5250 MHz
		802.11a
L	Low	36
M	Middle	44
H	High	48

MIMO<Ant. 1+2>

Ch. #		Band I：5150-5250 MHz		
		802.11n HT20	802.11n HT40	802.11ac VHT80
L	Low	36	38	-
M	Middle	44	-	42
H	High	48	46	-

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

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	DELL	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
2.	Notebook	DELL	MS-17L2	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	iPod	Apple	A1199	DoC	Shielded, 1.0m	N/A
4.	Earphone + Mic	Samsung	Ecouteur	N/A	Unshielded, 1.8 m	N/A

2.5 EUT Operation Test Setup

The RF test items, utility “MP tool” 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 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

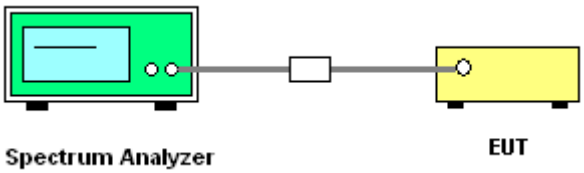
3.1.2 Measuring Instruments

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
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) ≥ 3 * RBW.
8. Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

For the 5.15–5.25 GHz bands:

■ For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW. For an indoor access point operating in the band 5.15-5.25 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.

Note that U-NII-2 band, devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

3.2.2 Measuring Instruments

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

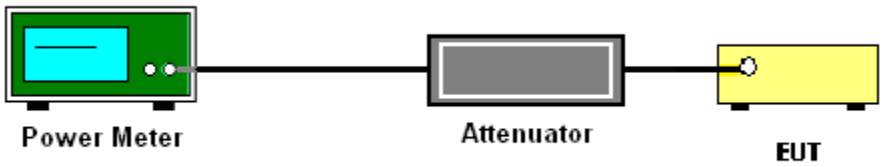
3.2.3 Test Procedures

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

<FCC 14-30 CFR 15.407>

For the 5.15–5.25 GHz bands:

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1.0 MHz band. For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1.0 MHz 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).

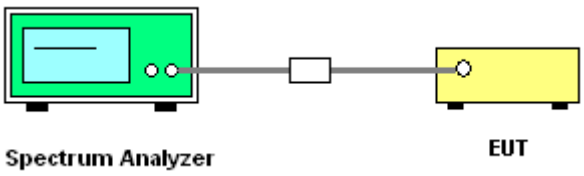
- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz.
- Set VBW ≥ 3 MHz.
- Number of points in sweep ≥ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add 10 log(1/x), 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 (a): Measure and sum the spectra across the outputs.

   The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points; the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

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 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of –27dBm/MHz.

(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

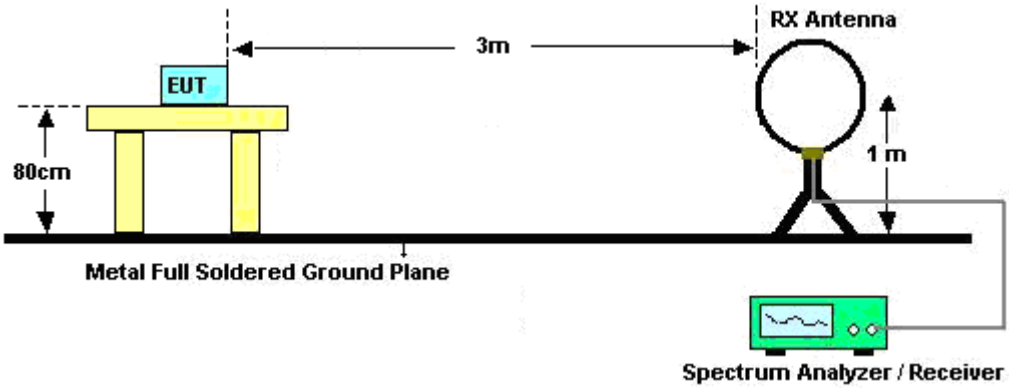
   (2) Procedures for Average Unwanted Emissions Measurements Above 1000 MHz

   - 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.

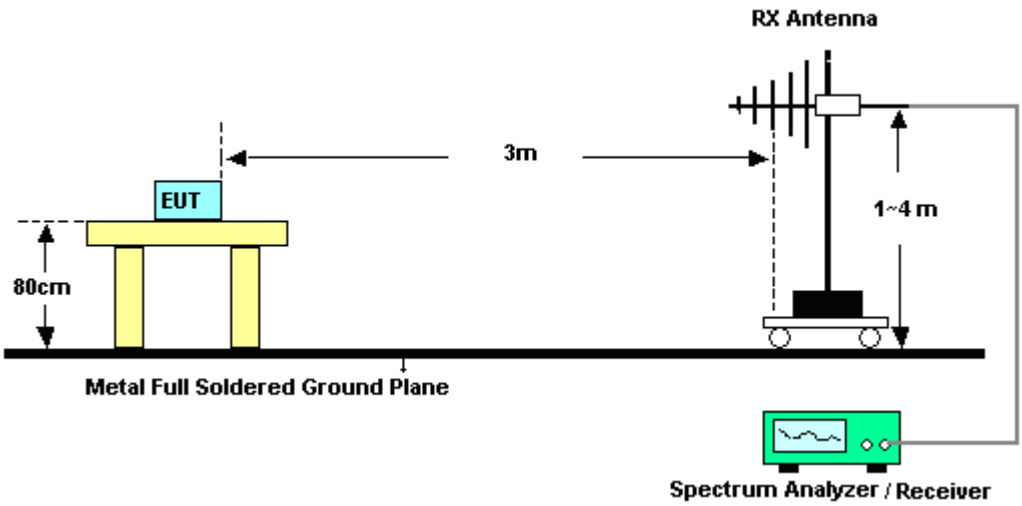
2. The EUT is placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
3. The EUT is set 3 meters away from the receiving antenna which is mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna 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

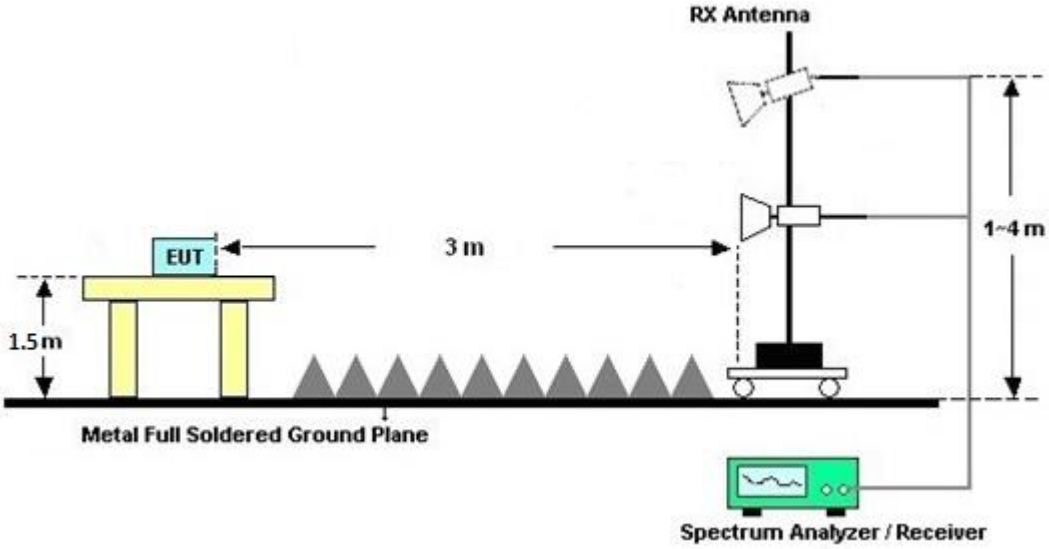
For radiated emissions below 30MHz



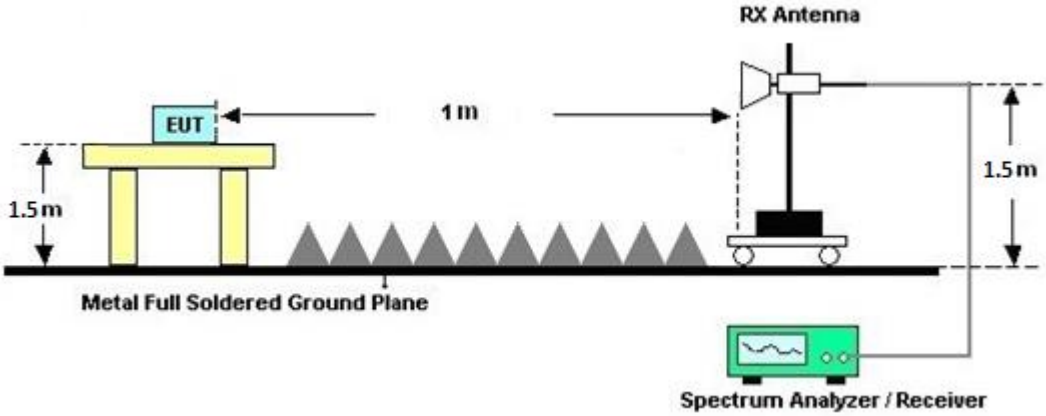
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



3.4.5 Test Results of Radiated Spurious 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 Spurious at 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 Radiated Spurious Emissions (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.

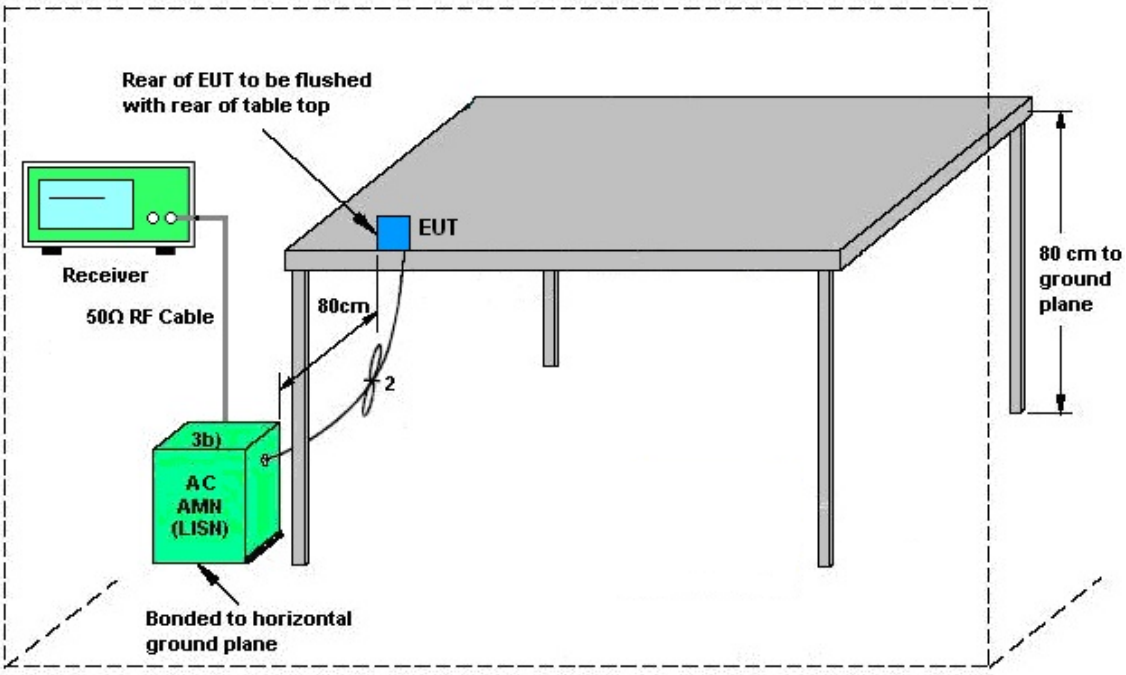
3.5.2 Measuring Instruments

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	May 17, 2024	N/A	Conduction (CO07-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	May 17, 2024	N/A	Conduction (CO07-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	9561-F N00373	9kHz-200MHz	Oct. 20, 2023	May 17, 2024	Oct. 19, 2024	Conduction (CO07-HY)
RF Cable	HUBER + SUHNER	RG 214/U	1358175	9kHz~30MHz	Mar. 14, 2024	May 17, 2024	Mar. 13, 2025	Conduction (CO07-HY)
Two-Line V-Network	TESEQ	NNB 51	45051	N/A	Mar. 10, 2024	May 17, 2024	Mar. 09, 2025	Conduction (CO07-HY)
Four-Line V-Network	TESEQ	NNB 52	36122	N/A	Mar. 07, 2024	May 17, 2024	Mar. 06, 2025	Conduction (CO07-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102317	9kHz~3.6GHz	Sep. 20, 2023	May 17, 2024	Sep. 19, 2024	Conduction (CO07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 12, 2023	May 17, 2024~ Jun. 19, 2024	Sep. 11, 2024	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N -06	37059 & 01	30MHz~1GHz	Nov. 03, 2023	May 17, 2024~ Jun. 19, 2024	Nov. 02, 2024	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-02114	1GHz~18GHz	Jul. 31, 2023	May 17, 2024~ Jun. 19, 2024	Jul. 30, 2024	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA9170	00993	18GHz-40GHz	Nov. 24, 2023	May 17, 2024~ Jun. 19, 2024	Nov. 23, 2024	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103	161075	10MHz~1GHz	Mar. 20, 2024	May 17, 2024~ Jun. 19, 2024	Mar. 19, 2025	Radiation (03CH12-HY)
Preamplifier	Agilent	8449B	3008A02375	1GHz~26.5GHz	May 23, 2023	May 17, 2024~ May 21, 2024	May 22, 2024	Radiation (03CH12-HY)
Preamplifier	Agilent	8449B	3008A02375	1GHz~26.5GHz	May 22, 2024	May 22, 2024~ Jun. 19, 2024	May 21, 2025	Radiation (03CH12-HY)
Preamplifier	E-INSTRUMENT TECH LTD.	ERA-100M-18G-56-01-A70	EC1900249	1GHz-18GHz	Dec. 20, 2023	May 17, 2024~ Jun. 19, 2024	Dec. 19, 2024	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 07, 2023	May 17, 2024~ Jun. 19, 2024	Dec. 06, 2024	Radiation (03CH12-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Jan. 10, 2024	May 17, 2024~ Jun. 19, 2024	Jan. 09, 2025	Radiation (03CH12-HY)
Filter	Wainwright	WLKS1200-12SS	SN2	1.2GHz Low Pass Filter	Mar. 13, 2024	May 17, 2024~ Jun. 19, 2024	Mar. 12, 2025	Radiation (03CH12-HY)
Filter	Wainwright	WHKX8-5872.5-6750-18000-40ST	SN2	6.75GHz High Pass Filter	Mar. 13, 2024	May 17, 2024~ Jun. 19, 2024	Mar. 12, 2025	Radiation (03CH12-HY)

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30MHz~18GHz	Dec. 18, 2023	May 17, 2024~ Jun. 19, 2024	Dec. 17, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz~40GHz	Dec. 18, 2023	May 17, 2024~ Jun. 19, 2024	Dec. 17, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803953/2	30MHz~40GHz	Dec. 18, 2023	May 17, 2024~ Jun. 19, 2024	Dec. 17, 2024	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303B	TP210090	N/A	Sep. 08, 2023	May 17, 2024~ Jun. 19, 2024	Sep. 07, 2024	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	May 17, 2024~ Jun. 19, 2024	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	May 17, 2024~ Jun. 19, 2024	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	May 17, 2024~ Jun. 19, 2024	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	May 17, 2024~ Jun. 19, 2024	N/A	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 07, 2023	May 17, 2024~ Jun. 19, 2024	Nov. 06, 2024	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	17I00015SNO 36 (NO:35)	10MHz~6GHz	Aug. 23, 2023	May 17, 2024~ Jun. 19, 2024	Aug. 22, 2024	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV3044	101466	10HZ~44GHZ	Jan. 24, 2024	May 17, 2024~ Jun. 19, 2024	Jan. 23, 2025	Conducted (TH05-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))	6.1 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.3 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.8 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.3 dB

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Wei Shun	Temperature:	21~25	°C
Test Date:	2024/05/17~2024/06/19	Relative Humidity:	51~54	%

Report Number : FR450101B

TEST RESULTS DATA
26dB and 99% OBW

U-NII-1 single antenna														
Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26 dB Bandwidth (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)			Note
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	36	5180	16.48	16.68	23.18	28.17	-		22.17	22.22	-	
11a	6Mbps	1	44	5220	30.44	16.94	43.11	32.90	-		23.01	22.29		
11a	6Mbps	1	48	5240	35.09	38.44	53.20	61.53	-		23.01	23.01		

U-NII-1 MIMO														
Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26 dB Bandwidth (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)			Note
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2		
HT20	MCS0	2	36	5180	17.53	17.53	19.70	19.68	-		22.44		-	
HT20	MCS0	2	44	5220	29.57	29.23	44.91	44.67	-		23.01			
HT20	MCS0	2	48	5240	25.91	25.08	43.33	43.18	-		23.01			
HT40	MCS0	2	38	5190	36.42	36.41	42.74	42.72	-		23.01			
HT40	MCS0	2	46	5230	37.49	37.13	72.27	71.82	-		23.01			
VHT80	MCS0	2	42	5210	74.95	75.01	81.82	81.98	-		23.01			

Report Number : FR450101B

TEST RESULTS DATA
Average Power Table

FCC U-NII-1 single antenna													
Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)			Pass/Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	36	5180	20.40	22.30	-	30.00	30.00	2.36	2.52	-	Pass
11a	6Mbps	1	44	5220	25.50	23.90		30.00	30.00	2.36	2.52		Pass
11a	6Mbps	1	48	5240	26.10	26.50		30.00	30.00	2.36	2.52		Pass

FCC U-NII-1 MIMO													
Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)			Pass/Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
HT20	MCS0	2	36	5180	18.00	17.70	20.86	30.00		2.52		-	Pass
HT20	MCS0	2	44	5220	25.10	25.30	28.21	30.00		2.52			Pass
HT20	MCS0	2	48	5240	24.60	24.90	27.76	30.00		2.52			Pass
HT40	MCS0	2	38	5190	15.90	15.80	18.86	30.00		2.52			Pass
HT40	MCS0	2	46	5230	23.00	23.20	26.11	30.00		2.52			Pass
VHT20	MCS0	2	36	5180	25.00	24.50	27.77	30.00		2.52			Pass
VHT20	MCS0	2	44	5220	24.40	24.50	27.46	30.00		2.52			Pass
VHT20	MCS0	2	48	5240	24.50	24.80	27.66	30.00		2.52			Pass
VHT40	MCS0	2	38	5190	25.00	24.60	27.81	30.00		2.52			Pass
VHT40	MCS0	2	46	5230	24.10	24.30	27.21	30.00		2.52			Pass
VHT80	MCS0	2	42	5210	18.40	18.40	21.41	30.00		2.52			Pass

Report Number : FR450101B

TEST RESULTS DATA
Power Spectral Density

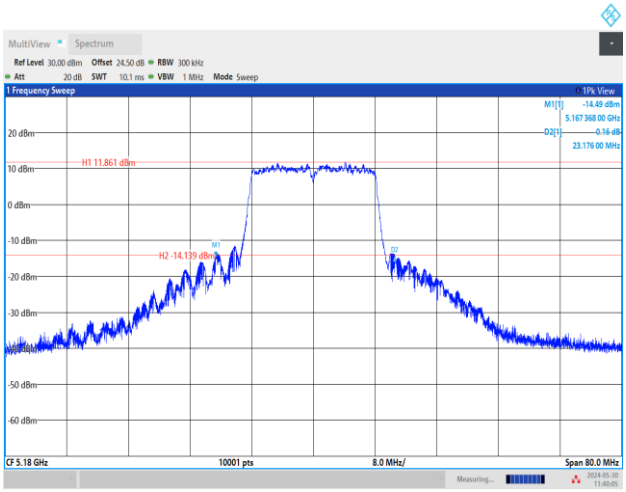
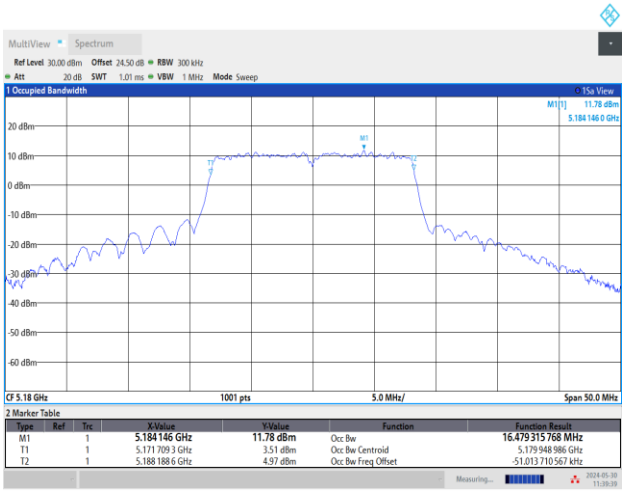
FCC U-NII-1 single antenna																
Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density with Duty Factor (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)			Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	36	5180	0.00	0.00	9.83	11.34	-	17.00	17.00	2.36	2.52	-	Pass
11a	6Mbps	1	44	5220	0.00	0.00	14.73	13.10		17.00	17.00	2.36	2.52		Pass
11a	6Mbps	1	48	5240	0.00	0.00	15.64	15.96		17.00	17.00	2.36	2.52		Pass

FCC U-NII-1 MIMO																
Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density with Duty Factor (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)			Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
HT20	MCS0	2	36	5180	0.00	0.00	-		9.78	17.00		5.45		-	Pass
HT20	MCS0	2	44	5220	0.00	0.00			16.91	17.00		5.45			Pass
HT20	MCS0	2	48	5240	0.00	0.00			16.87	17.00		5.45			Pass
HT40	MCS0	2	38	5190	0.00	0.00			5.29	17.00		5.45			Pass
HT40	MCS0	2	46	5230	0.00	0.00			12.34	17.00		5.45			Pass
VHT80	MCS0	2	42	5210	0.00	0.00			2.58	17.00		5.45			Pass

Test Result of 26dB & 99% Occupied Bandwidth

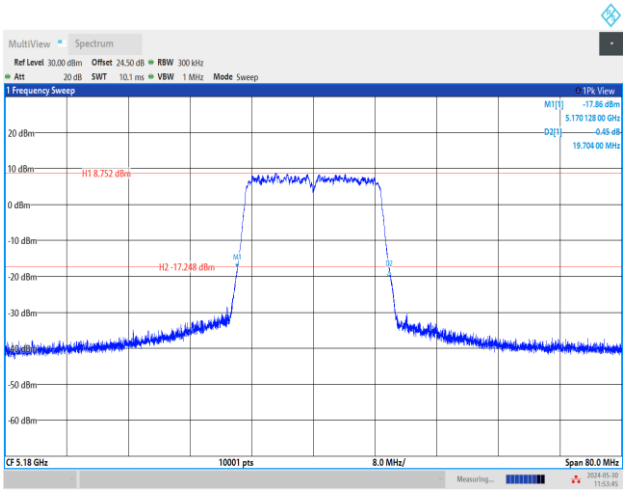
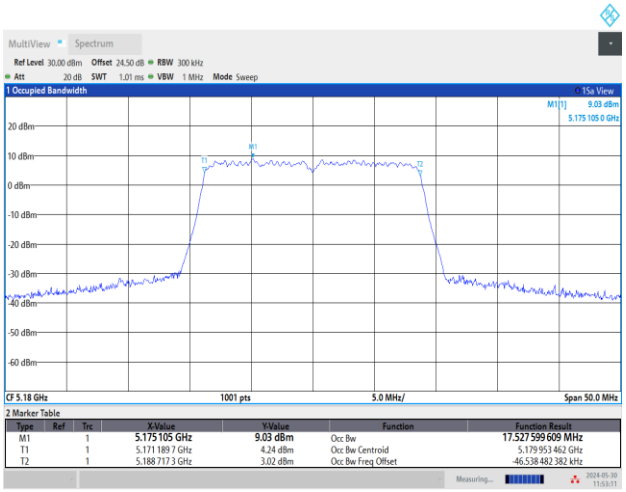
<Ant. 1>

<802.11a>

26dB Bandwidth	99% Occupied Bandwidth
	

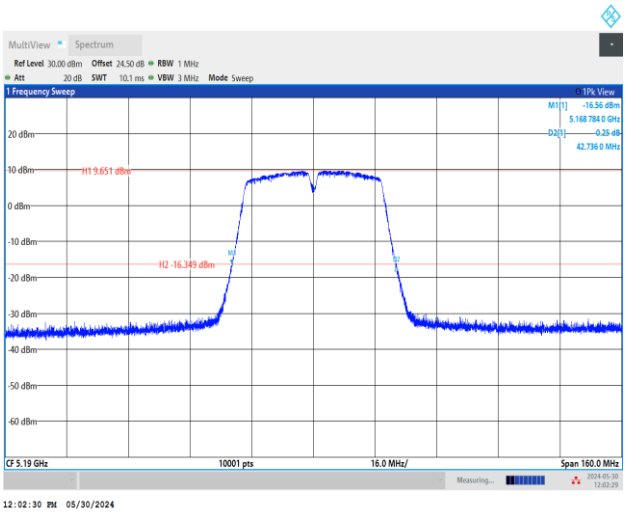
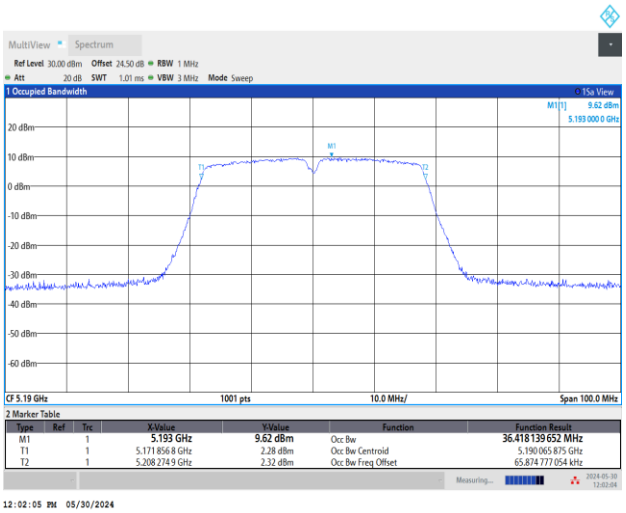
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<802.11n HT20>

26dB Bandwidth	99% Occupied Bandwidth
	

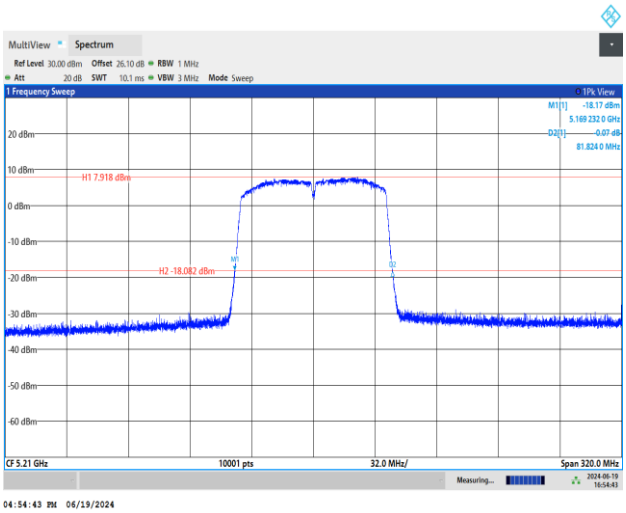
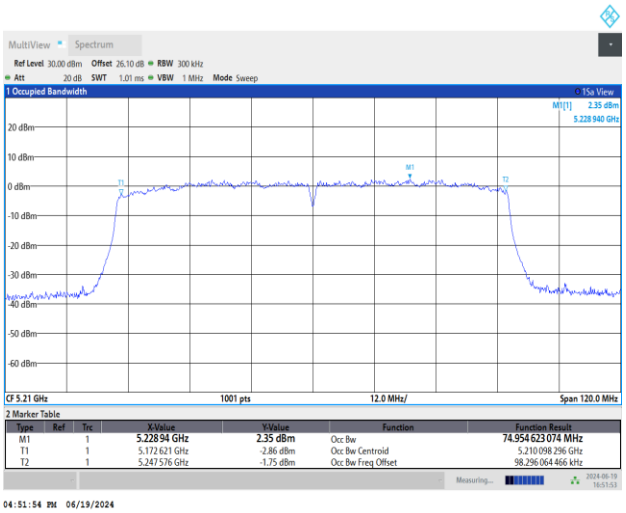
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<802.11n HT40>

26dB Bandwidth	99% Occupied Bandwidth
	

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

<802.11ac VHT80>

26dB Bandwidth	99% Occupied Bandwidth
	

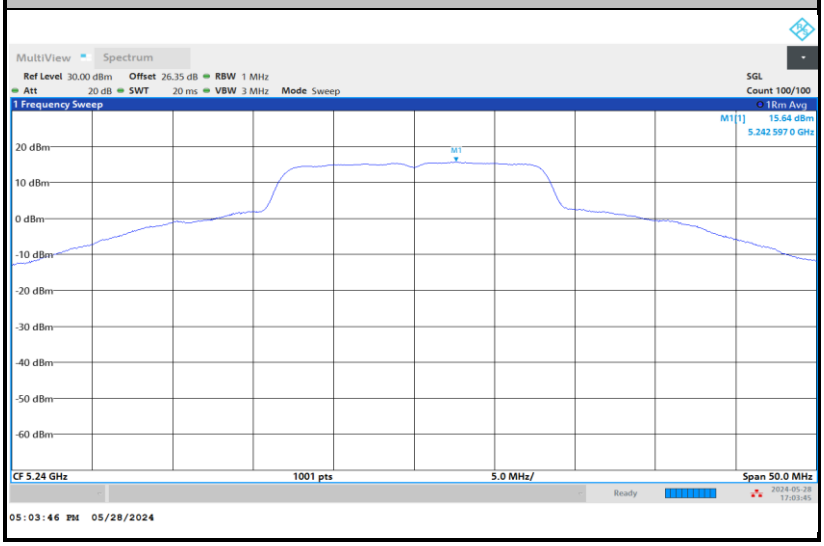
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

Test Result of Power Spectral Density

<Ant. 1>

<802.11a>

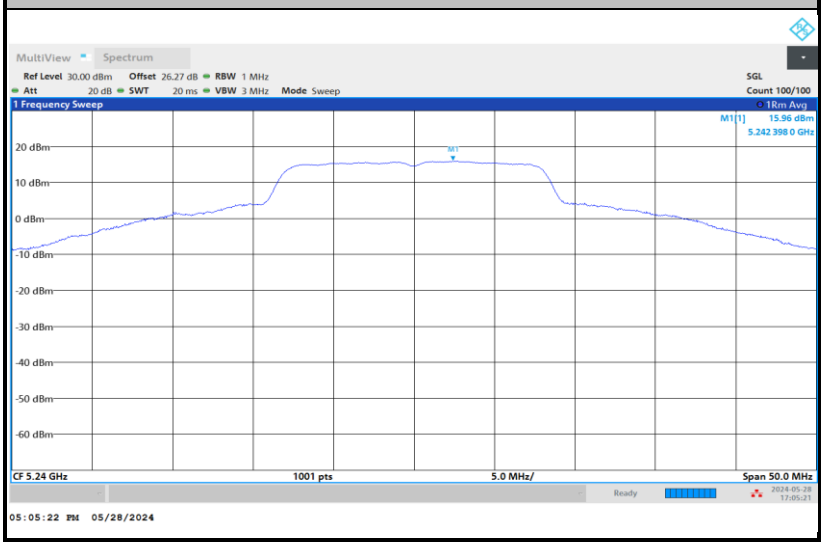
Maximum Power Density Plot (dBm/MHz)



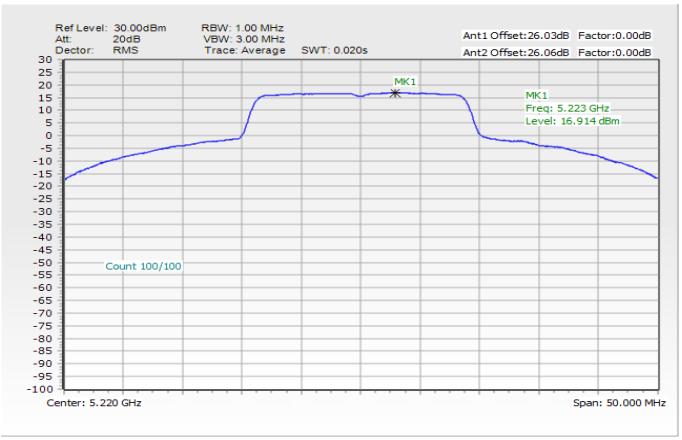
<Ant. 2>

<802.11a>

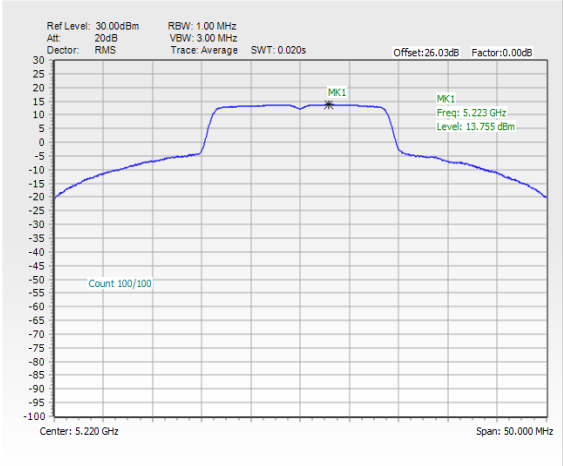
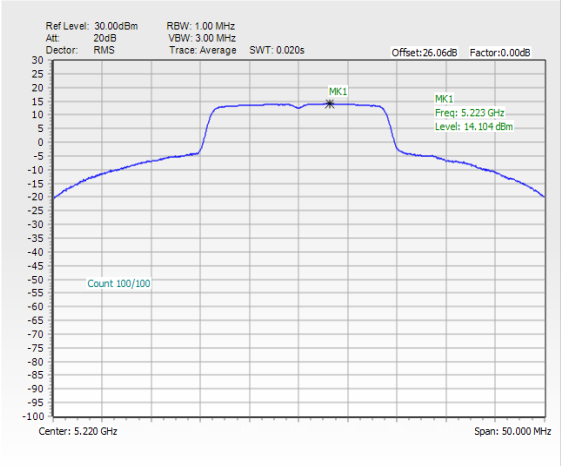
Maximum Power Density Plot (dBm/MHz)



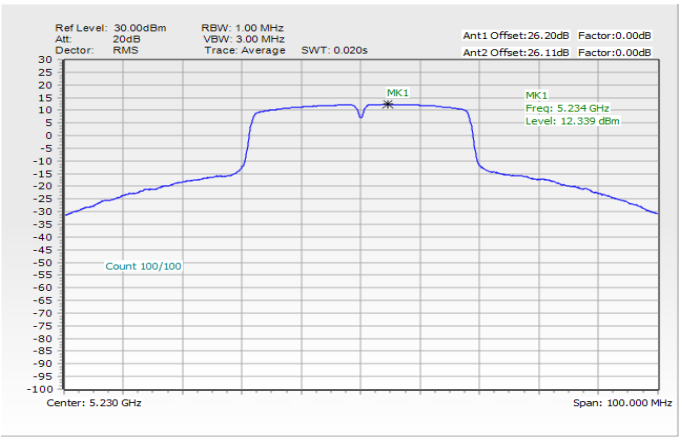
<802.11n HT20>

Maximum Power Density Plot (dBm/MHz)


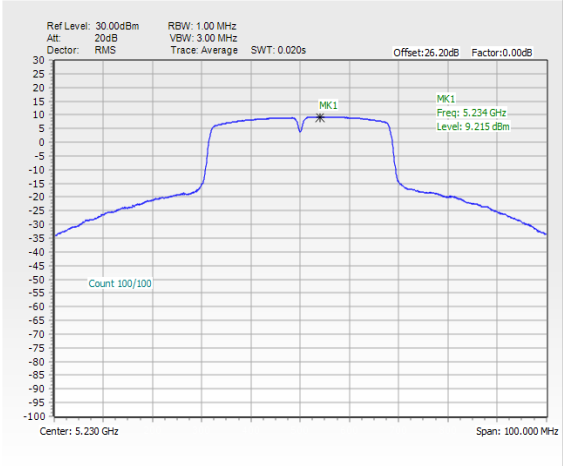
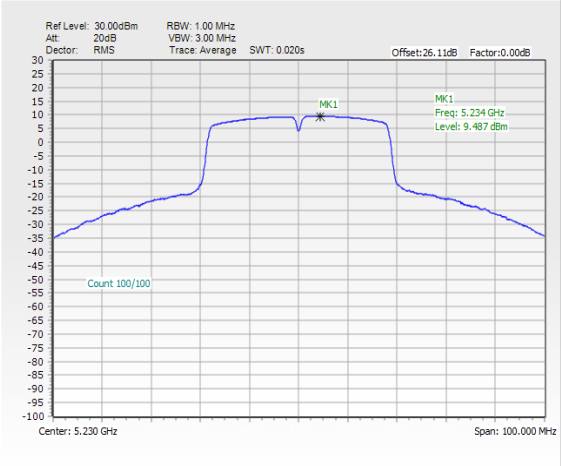
Remark: The test plot is showing a bin by bin combined result mathematically adds two traces.

Maximum Power Density Plot Trace 1 (Ant 1)	Maximum Power Density Plot Trace 2 (Ant 2)
	

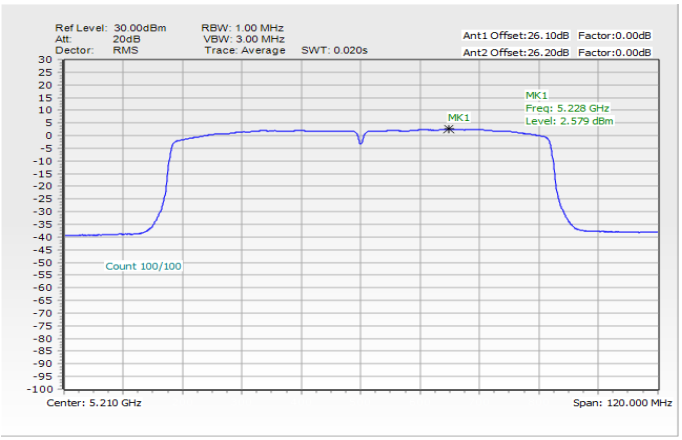
<802.11n HT40>

Maximum Power Density Plot (dBm/MHz)


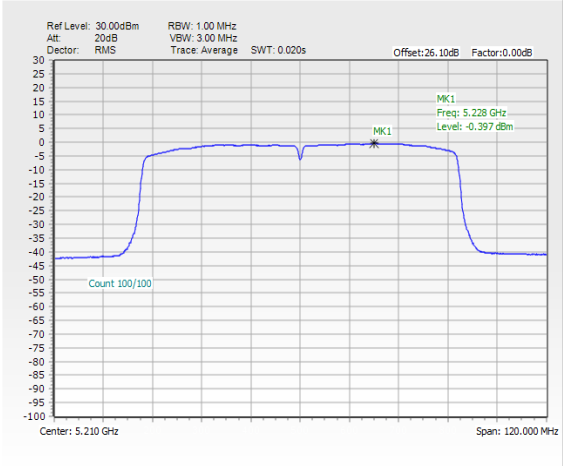
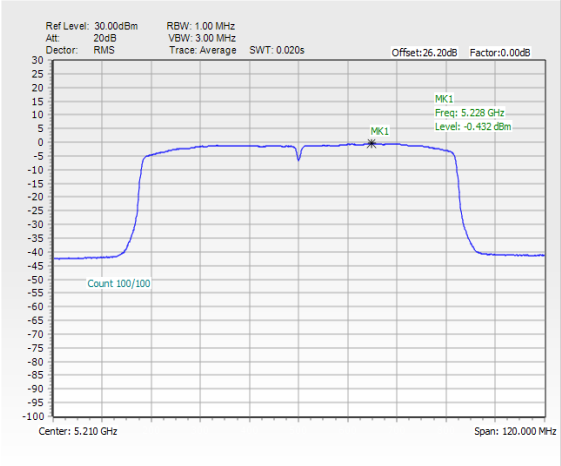
Remark: The test plot is showing a bin by bin combined result mathematically adds two traces.

Maximum Power Density Plot Trace 1 (Ant 1)	Maximum Power Density Plot Trace 2 (Ant 2)
	

<802.11ac VHT80>

Maximum Power Density Plot (dBm/MHz)


Remark: The test plot is showing a bin by bin combined result mathematically adds two traces.

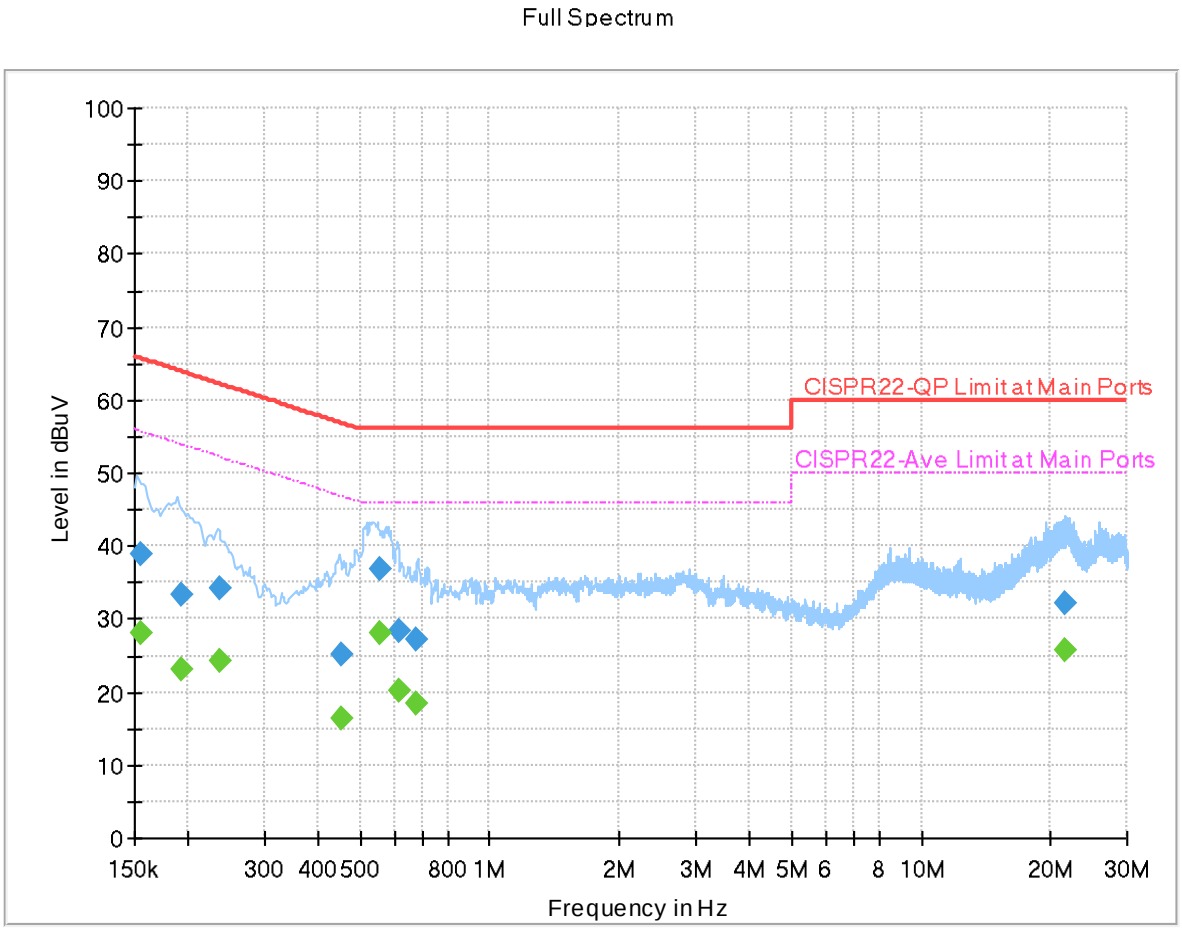
Maximum Power Density Plot Trace 1 (Ant 1)	Maximum Power Density Plot Trace 2 (Ant 2)
	

Appendix B. AC Conducted Emission Test Results

Test Engineer :	Louis Chung	**Temperature :**	20.2~25.3℃
		Relative Humidity :	45.3~52.1%

EUT Information

Report NO :	450101
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line

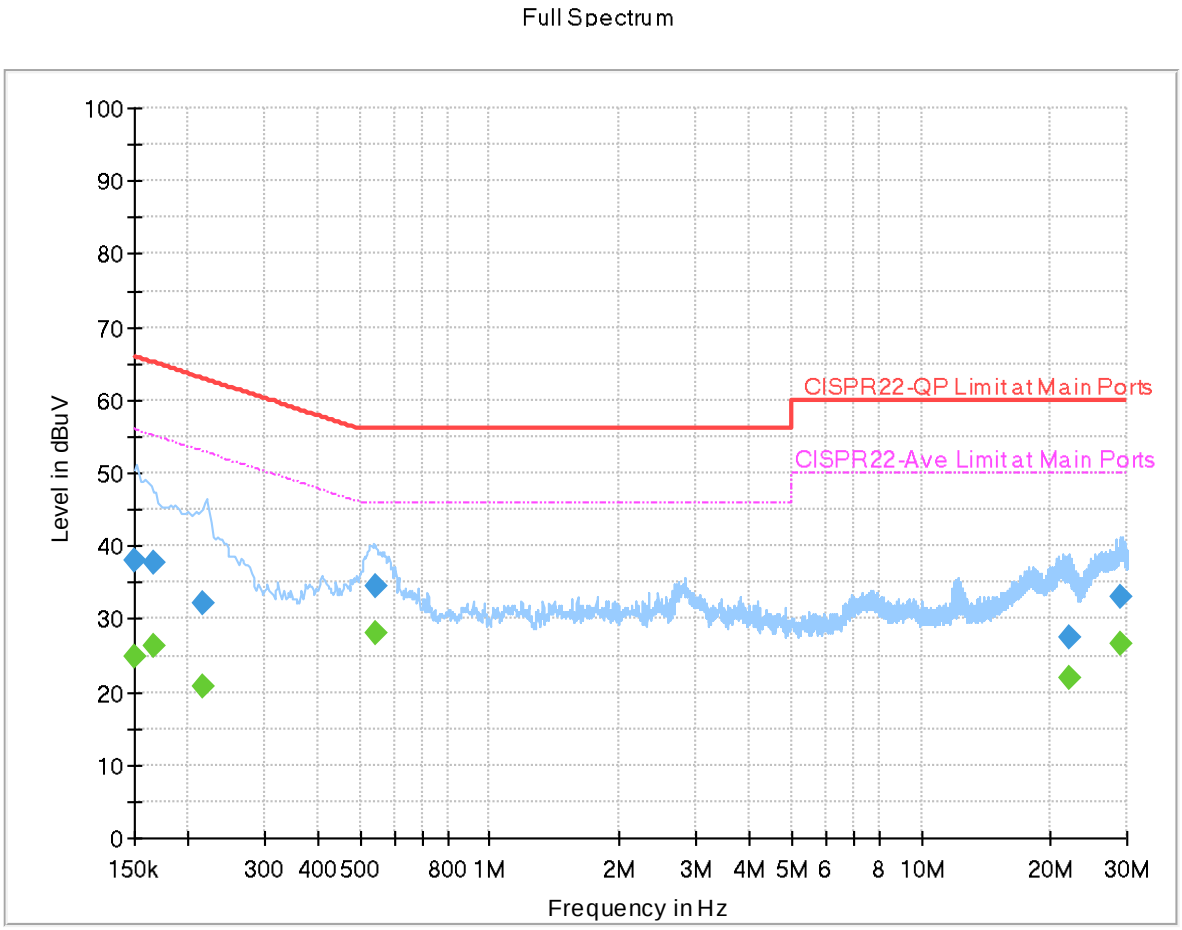


Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.155940	---	28.13	55.68	27.55	L1	OFF	19.9
0.155940	38.83	---	65.68	26.85	L1	OFF	19.9
0.192750	---	23.19	53.92	30.73	L1	OFF	19.9
0.192750	33.41	---	63.92	30.51	L1	OFF	19.9
0.237750	---	24.34	52.17	27.83	L1	OFF	19.9
0.237750	34.08	---	62.17	28.09	L1	OFF	19.9
0.453750	---	16.28	46.81	30.53	L1	OFF	19.9
0.453750	25.25	---	56.81	31.56	L1	OFF	19.9
0.553200	---	28.03	46.00	17.97	L1	OFF	19.9
0.553200	36.75	---	56.00	19.25	L1	OFF	19.9
0.613500	---	20.12	46.00	25.88	L1	OFF	19.9
0.613500	28.42	---	56.00	27.58	L1	OFF	19.9
0.676500	---	18.37	46.00	27.63	L1	OFF	19.9
0.676500	27.32	---	56.00	28.68	L1	OFF	19.9
21.472260	---	25.85	50.00	24.15	L1	OFF	20.1
21.472260	32.24	---	60.00	27.76	L1	OFF	20.1

EUT Information

Report NO :	450101
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)
0.150000	---	24.79	56.00	31.21	N	OFF	19.9
0.150000	38.06	---	66.00	27.94	N	OFF	19.9
0.165750	---	26.27	55.17	28.90	N	OFF	19.9
0.165750	37.65	---	65.17	27.52	N	OFF	19.9
0.215250	---	20.90	53.00	32.10	N	OFF	19.9
0.215250	32.29	---	63.00	30.71	N	OFF	19.9
0.546000	---	28.09	46.00	17.91	N	OFF	19.9
0.546000	34.49	---	56.00	21.51	N	OFF	19.9
21.968250	---	21.87	50.00	28.13	N	OFF	20.2
21.968250	27.54	---	60.00	32.46	N	OFF	20.2
29.141250	---	26.55	50.00	23.45	N	OFF	20.2
29.141250	32.93	---	60.00	27.07	N	OFF	20.2

Appendix C. Radiated Spurious Emission

Test Engineer :	Jesse Fan, Tim Lee, and Wilson	Temperature :	20~25°C
		Relative Humidity :	50~60%

<Ant. 1>

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5139.88	54.08	-19.92	74	43.85	33.26	10.7	33.73	195	22	P	H
		5150	45.72	-8.28	54	35.53	33.2	10.72	33.73	195	22	A	H
	*	5180	107.08	-	-	96.87	33.14	10.79	33.72	195	22	P	H
	*	5180	99.72	-	-	89.51	33.14	10.79	33.72	195	22	A	H
													H
		5149.24	62.8	-11.2	74	52.61	33.2	10.72	33.73	220	247	P	V
		5150	53.41	-0.59	54	43.22	33.2	10.72	33.73	220	247	A	V
	*	5180	117.16	-	-	106.95	33.14	10.79	33.72	220	247	P	V
	*	5180	110.53	-	-	100.32	33.14	10.79	33.72	220	247	A	V
													V
802.11a CH 44 5220MHz		5144.04	54.95	-19.05	74	44.73	33.24	10.71	33.73	100	192	P	H
		5150	46.17	-7.83	54	35.98	33.2	10.72	33.73	100	192	A	H
	*	5220	110.49	-	-	100.13	33.14	10.94	33.72	100	192	P	H
	*	5220	103.91	-	-	93.55	33.14	10.94	33.72	100	192	A	H
		5374.04	52.53	-21.47	74	41.26	33.15	11.81	33.69	100	192	P	H
		5456.92	44.76	-9.24	54	33.78	33.01	11.64	33.67	100	192	A	H
		5147.94	61.5	-12.5	74	51.3	33.21	10.72	33.73	213	239	P	V
		5150	52.94	-1.06	54	42.75	33.2	10.72	33.73	213	239	A	V
	*	5220	121.98	-	-	111.62	33.14	10.94	33.72	213	239	P	V
	*	5220	114.61	-	-	104.25	33.14	10.94	33.72	213	239	A	V
		5458.04	57.8	-16.2	74	46.82	33.02	11.63	33.67	213	239	P	V
		5459.16	51.64	-2.36	54	40.66	33.02	11.63	33.67	213	239	A	V

802.11a CH 48 5240MHz		5081.64	54.16	-19.84	74	43.87	33.46	10.57	33.74	188	29	P	H
		5148.72	45.33	-8.67	54	35.13	33.21	10.72	33.73	188	29	A	H
	*	5240	113.44	-	-	102.91	33.18	11.06	33.71	188	29	P	H
	*	5240	106.22	-	-	95.69	33.18	11.06	33.71	188	29	A	H
		5416.32	53.72	-20.28	74	42.46	33.07	11.87	33.68	188	29	P	H
		5370.12	46.02	-7.98	54	34.76	33.16	11.79	33.69	188	29	A	H
		5136.76	63.13	-10.87	74	52.89	33.28	10.69	33.73	218	239	P	V
		5148.72	53.25	-0.75	54	43.05	33.21	10.72	33.73	218	239	A	V
	*	5240	121.36	-	-	110.83	33.18	11.06	33.71	218	239	P	V
	*	5240	114.73	-	-	104.2	33.18	11.06	33.71	218	239	A	V
		5455.24	61	-13	74	50.01	33.01	11.65	33.67	218	239	P	V
		5458.88	52.58	-1.42	54	41.6	33.02	11.63	33.67	218	239	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	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 36 5180MHz		10360	47.8	-20.4	68.2	58.9	39.08	17.45	67.63	-	-	P	H
		15540	52.66	-21.34	74	59.15	38.5	22.28	67.27	187	2	P	H
		15540	42.25	-11.75	54	48.74	38.5	22.28	67.27	187	2	A	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		10360	47.84	-20.36	68.2	58.94	39.08	17.45	67.63	-	-	P	V
		15540	51.96	-22.04	74	58.45	38.5	22.28	67.27	100	241	P	V
		15540	41.63	-12.37	54	48.12	38.5	22.28	67.27	100	241	A	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1	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 44 5220MHz		10440	51.17	-17.03	68.2	62.34	38.92	17.43	67.52	210	159	P	H
		15660	56.88	-17.12	74	63.96	37.88	22.38	67.34	183	2	P	H
		15660	46.7	-7.3	54	53.78	37.88	22.38	67.34	183	2	A	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		10440	52.37	-15.83	68.2	63.54	38.92	17.43	67.52	123	72	P	V
		15660	54.7	-19.3	74	61.78	37.88	22.38	67.34	100	240	P	V
		15660	44.28	-9.72	54	51.36	37.88	22.38	67.34	100	240	A	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1	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 48 5240MHz		10480	52.04	-16.16	68.2	63.24	38.84	17.42	67.46	208	155	P	H
		15720	56.79	-17.21	74	63.82	37.92	22.42	67.37	187	2	P	H
		15720	46.04	-7.96	54	53.07	37.92	22.42	67.37	187	2	A	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		10480	50.67	-17.53	68.2	61.87	38.84	17.42	67.46	120	77	P	V
		15720	54.36	-19.64	74	61.39	37.92	22.42	67.37	100	239	P	V
		15720	43.86	-10.14	54	50.89	37.92	22.42	67.37	100	239	A	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.

<Ant. 2>

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5149.24	56.74	-17.26	74	45.87	33.2	10.72	33.05	194	236	P	H
		5150	47.38	-6.62	54	36.51	33.2	10.72	33.05	194	236	A	H
	*	5180	107.76	-	-	96.89	33.14	10.79	33.06	194	236	P	H
	*	5180	100.69	-	-	89.82	33.14	10.79	33.06	194	236	A	H
													H
													H
		5150	60.76	-13.24	74	49.89	33.2	10.72	33.05	200	246	P	V
		5150	53.29	-0.71	54	42.42	33.2	10.72	33.05	200	246	A	V
	*	5180	117.74	-	-	106.87	33.14	10.79	33.06	200	246	P	V
	*	5180	111.06	-	-	100.19	33.14	10.79	33.06	200	246	A	V
													V
													V
802.11a CH 44 5220MHz		5100.88	54.76	-19.24	74	43.69	33.49	10.61	33.03	215	242	P	H
		5133.64	45.55	-8.45	54	34.62	33.3	10.68	33.05	215	242	A	H
	*	5220	110.9	-	-	99.89	33.14	10.94	33.07	215	242	P	H
	*	5220	104.13	-	-	93.12	33.14	10.94	33.07	215	242	A	H
		5378.52	54.08	-19.92	74	42.23	33.14	11.84	33.13	215	242	P	H
		5381.32	46.77	-7.23	54	34.91	33.14	11.85	33.13	215	242	A	H
		5145.08	57.89	-16.11	74	47	33.23	10.71	33.05	218	247	P	V
		5147.42	48.9	-5.1	54	38.02	33.22	10.71	33.05	218	247	A	V
	*	5220	119.42	-	-	108.41	33.14	10.94	33.07	218	247	P	V
	*	5220	112.52	-	-	101.51	33.14	10.94	33.07	218	247	A	V
		5381.04	59.49	-14.51	74	47.63	33.14	11.85	33.13	218	247	P	V
		5382.72	53.39	-0.61	54	41.53	33.13	11.86	33.13	218	247	A	V

802.11a CH 48 5240MHz		5106.08	56.93	-17.07	74	45.89	33.46	10.62	33.04	214	241	P	H
		5150	46.91	-7.09	54	36.04	33.2	10.72	33.05	214	241	A	H
	*	5240	113.11	-	-	101.95	33.18	11.06	33.08	214	241	P	H
	*	5240	107.23	-	-	96.07	33.18	11.06	33.08	214	241	A	H
		5367.88	53.32	-20.68	74	41.51	33.16	11.78	33.13	214	241	P	H
		5350	45.71	-8.29	54	33.95	33.2	11.68	33.12	214	241	A	H
		5148.46	63.8	-10.2	74	52.92	33.21	10.72	33.05	223	254	P	V
		5150	53.44	-0.56	54	42.57	33.2	10.72	33.05	223	254	A	V
	*	5240	120.7	-	-	109.54	33.18	11.06	33.08	223	254	P	V
	*	5240	114.88	-	-	103.72	33.18	11.06	33.08	223	254	A	V
		5395.32	59.48	-14.52	74	47.57	33.11	11.93	33.13	223	254	P	V
		5396.72	52.06	-1.94	54	40.14	33.11	11.94	33.13	223	254	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		10360	50.72	-17.48	68.2	61.82	39.08	17.45	67.63	209	57	P	H
		15540	54.49	-19.51	74	60.98	38.5	22.28	67.27	184	3	P	H
		15540	43.78	-10.22	54	50.27	38.5	22.28	67.27	184	3	A	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		10360	50.18	-18.02	68.2	61.28	39.08	17.45	67.63	126	201	P	V
		15540	51.25	-22.75	74	57.74	38.5	22.28	67.27	301	231	P	V
		15540	40.3	-13.7	54	46.79	38.5	22.28	67.27	301	231	A	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 44 5220MHz		10440	47.72	-20.48	68.2	58.89	38.92	17.43	67.52	-	-	P	H
		15660	56.44	-17.56	74	63.52	37.88	22.38	67.34	187	3	P	H
		15660	45.51	-8.49	54	52.59	37.88	22.38	67.34	187	3	A	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		10440	47.87	-20.33	68.2	59.04	38.92	17.43	67.52	-	-	P	V
		15660	50.42	-23.58	74	57.5	37.88	22.38	67.34	301	231	P	V
		15660	39.73	-14.27	54	46.81	37.88	22.38	67.34	301	231	A	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 48 5240MHz		10480	49.37	-18.83	68.2	60.57	38.84	17.42	67.46	205	55	P	H
		15720	59.41	-14.59	74	66.44	37.92	22.42	67.37	185	3	P	H
		15720	49.12	-4.88	54	56.15	37.92	22.42	67.37	185	3	A	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		10480	49.09	-19.11	68.2	60.29	38.84	17.42	67.46	130	205	P	V
		15720	53.81	-20.19	74	60.84	37.92	22.42	67.37	300	239	P	V
		15720	40.98	-13.02	54	48.01	37.92	22.42	67.37	300	239	A	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.

Band 1 5150~5250MHz

Emission above 18GHz

WIFI 802.11a (SHF @ 1m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant. 1		(MHz)	(dBµV/m)	(dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
		26058.6	40.97	-27.23	68.2	37.39	38.9	17.57	52.89	-	-	P	H
		35633	46.9	-21.3	68.2	36.81	43.03	21.57	54.51	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
802.11a													H
SHF		27479.4	41.64	-26.56	68.2	36.05	39.86	18.72	52.99	-	-	P	V
		35941	47.66	-20.54	68.2	37.21	43.14	22.06	54.75	-	-	P	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

WIFI 802.11a (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a LF		73.2	25.66	-14.34	40	40.74	13.21	1.61	29.9	-	-	P	H
		152.85	27.5	-16	43.5	37.84	17.15	2.34	29.83	-	-	P	H
		281.1	26.24	-19.76	46	34	18.87	2.97	29.6	-	-	P	H
		421.8	27.86	-18.14	46	30.89	22.83	3.55	29.41	-	-	P	H
		629	30.16	-15.84	46	28.38	26.53	4.34	29.09	-	-	P	H
		906.9	35.21	-10.79	46	29.32	29.25	5.12	28.48	-	-	P	H
													H
													H
													H
													H
													H
													H
		39.99	35.67	-4.33	40	44.28	19.92	1.12	29.65	179	119	Q	V
		154.47	23.5	-20	43.5	33.86	17.12	2.35	29.83	-	-	P	V
		272.19	24.18	-21.82	46	32.05	18.86	2.89	29.62	-	-	P	V
		445.6	27.57	-18.43	46	30.26	23.03	3.65	29.37	-	-	P	V
		778.8	33.84	-12.16	46	29.31	28.36	5.03	28.86	-	-	P	V
		960.1	36.92	-17.08	54	28.53	31.14	5.52	28.27	-	-	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.												

MIMO<Ant. 1+2>

Band 1 - 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 36 5180MHz		5105.04	54.58	-19.42	74	43.53	33.47	10.62	33.04	101	103	P	H
		5150	46.09	-7.91	54	35.22	33.2	10.72	33.05	101	103	A	H
	*	5180	106.24	-	-	95.37	33.14	10.79	33.06	101	103	P	H
	*	5180	99.13	-	-	88.26	33.14	10.79	33.06	101	103	A	H
													H
													H
		5149.5	62.14	-11.86	74	51.27	33.2	10.72	33.05	100	19	P	V
		5150	53.37	-0.63	54	42.5	33.2	10.72	33.05	100	19	A	V
	*	5180	117.9	-	-	107.03	33.14	10.79	33.06	100	19	P	V
	*	5180	110.53	-	-	99.66	33.14	10.79	33.06	100	19	A	V
													V
													V
802.11n HT20 CH 44 5220MHz		5139.36	55.49	-18.51	74	44.58	33.26	10.7	33.05	100	105	P	H
		5150	46.49	-7.51	54	35.62	33.2	10.72	33.05	100	105	A	H
	*	5220	113.07	-	-	102.06	33.14	10.94	33.07	100	105	P	H
	*	5220	105.66	-	-	94.65	33.14	10.94	33.07	100	105	A	H
		5405.4	54.89	-19.11	74	43.01	33.09	11.93	33.14	100	105	P	H
		5397.56	46.14	-7.86	54	34.23	33.1	11.95	33.14	100	105	A	H
		5148.72	62.06	-11.94	74	51.18	33.21	10.72	33.05	100	29	P	V
		5150	51.93	-2.07	54	41.06	33.2	10.72	33.05	100	29	A	V
	*	5220	121.66	-	-	110.65	33.14	10.94	33.07	100	29	P	V
	*	5220	115.78	-	-	104.77	33.14	10.94	33.07	100	29	A	V
		5456.92	58.32	-15.68	74	46.83	33.01	11.64	33.16	100	29	P	V
		5456.92	51.88	-2.12	54	40.39	33.01	11.64	33.16	100	29	A	V

802.11n HT20 CH 48 5240MHz		5085.8	55.32	-18.68	74	44.3	33.47	10.58	33.03	100	186	P	H
		5149.76	45.92	-8.08	54	35.05	33.2	10.72	33.05	100	186	A	H
	*	5240	115.13	-	-	103.97	33.18	11.06	33.08	100	186	P	H
	*	5240	108.03	-	-	96.87	33.18	11.06	33.08	100	186	A	H
		5379.64	54.06	-19.94	74	42.21	33.14	11.84	33.13	100	186	P	H
		5350	45.71	-8.29	54	33.95	33.2	11.68	33.12	100	186	A	H
		5143.52	61.73	-12.27	74	50.83	33.24	10.71	33.05	116	17	P	V
		5150	53.48	-0.52	54	42.61	33.2	10.72	33.05	116	17	P	V
	*	5240	123.12	-	-	111.96	33.18	11.06	33.08	116	17	P	V
	*	5240	115.62	-	-	104.46	33.18	11.06	33.08	116	17	A	V
		5350.8	60.99	-13.01	74	49.23	33.2	11.68	33.12	116	17	P	V
		5350	53.48	-0.52	54	41.72	33.2	11.68	33.12	116	17	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10360	47.79	-20.41	68.2	58.89	39.08	17.45	67.63	-	-	P	H
		15536	50.14	-23.86	74	56.63	38.5	22.28	67.27	100	277	P	H
		15536	40.06	-13.94	54	46.55	38.5	22.28	67.27	100	277	A	H
													H
													H
													H
													H
													H
													H
													H
802.11n													H
HT20													H
CH 36		10360	47.89	-20.31	68.2	58.99	39.08	17.45	67.63	-	-	P	V
5180MHz		15540	49.72	-24.28	74	56.21	38.5	22.28	67.27	199	190	P	V
		15540	39.89	-14.11	54	46.38	38.5	22.28	67.27	199	190	A	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10440	50.28	-17.92	68.2	61.45	38.92	17.43	67.52	150	123	P	H
		15660	52.95	-21.05	74	60.03	37.88	22.38	67.34	105	277	P	H
		15660	43.24	-10.76	54	50.32	37.88	22.38	67.34	105	277	A	H
													H
													H
													H
													H
													H
													H
													H
i802.11n													H
HT20													H
CH 44		10440	52.98	-15.22	68.2	64.15	38.92	17.43	67.52	137	211	P	V
5220MHz		15657	48.95	-25.05	74	56.01	37.89	22.38	67.33	205	197	P	V
		15657	39.65	-14.35	54	46.71	37.89	22.38	67.33	205	197	A	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10480	52.98	-15.22	68.2	64.18	38.84	17.42	67.46	151	126	P	H
		15720	57.75	-16.25	74	64.78	37.92	22.42	67.37	102	271	P	H
		15720	47.21	-6.79	54	54.24	37.92	22.42	67.37	102	271	A	H
													H
													H
													H
													H
													H
													H
													H
802.11n													H
HT20													H
CH 48		10480	51.66	-16.54	68.2	62.86	38.84	17.42	67.46	135	210	P	V
5240MHz		15720	52.56	-21.44	74	59.59	37.92	22.42	67.37	205	190	P	V
		15720	42.31	-11.69	54	49.34	37.92	22.42	67.37	205	190	A	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.

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5081.64	55.86	-18.14	74	44.86	33.46	10.57	33.03	106	140	P	H
		5147.94	45.71	-8.29	54	34.83	33.21	10.72	33.05	106	140	A	H
	*	5190	102.23	-	-	91.36	33.12	10.81	33.06	106	140	P	H
	*	5190	95.34	-	-	84.47	33.12	10.81	33.06	106	140	A	H
		5459.72	53.85	-20.15	74	42.36	33.02	11.63	33.16	106	140	P	H
		5361.16	44.58	-9.42	54	32.78	33.18	11.74	33.12	106	140	A	H
		5148.98	60.96	-13.04	74	50.08	33.21	10.72	33.05	105	93	P	V
		5150	53.48	-0.52	54	42.61	33.2	10.72	33.05	105	93	A	V
	*	5190	112.82	-	-	101.95	33.12	10.81	33.06	105	93	P	V
	*	5190	105.66	-	-	94.79	33.12	10.81	33.06	105	93	A	V
		5356.4	54.65	-19.35	74	42.87	33.19	11.71	33.12	105	93	P	V
		5351.64	47.59	-6.41	54	35.82	33.2	11.69	33.12	105	93	A	V
802.11n HT40 CH 46 5230MHz		5094.12	55.14	-18.86	74	44.08	33.49	10.6	33.03	111	144	P	H
		5149.24	45.92	-8.08	54	35.05	33.2	10.72	33.05	111	144	A	H
	*	5230	109.34	-	-	98.26	33.16	11	33.08	111	144	P	H
	*	5230	102.62	-	-	91.54	33.16	11	33.08	111	144	A	H
		5437.6	53.99	-20.01	74	42.37	33.02	11.75	33.15	111	144	P	H
		5350.52	45.58	-8.42	54	33.82	33.2	11.68	33.12	111	144	A	H
		5148.98	62.66	-11.34	74	51.78	33.21	10.72	33.05	105	94	P	V
		5149.24	53.43	-0.57	54	42.56	33.2	10.72	33.05	105	94	A	V
	*	5230	118.19	-	-	107.11	33.16	11	33.08	105	94	P	V
	*	5230	111.64	-	-	100.56	33.16	11	33.08	105	94	A	V
		5435.08	58.3	-15.7	74	46.66	33.03	11.76	33.15	105	94	P	V
		5350	51.04	-2.96	54	39.28	33.2	11.68	33.12	105	94	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10380	48.42	-19.78	68.2	59.54	39.04	17.44	67.6	-	-	P	H
		15570	50.07	-23.93	74	56.63	38.42	22.31	67.29	102	268	P	H
		15570	39.65	-14.35	54	46.21	38.42	22.31	67.29	102	268	A	H
													H
													H
													H
													H
													H
													H
													H
802.11n													H
HT40													H
CH 38		10380	48.82	-19.38	68.2	59.94	39.04	17.44	67.6	-	-	P	V
5190MHz		15570	50.93	-23.07	74	57.49	38.42	22.31	67.29	201	199	P	V
		15570	40.79	-13.21	54	47.35	38.42	22.31	67.29	201	199	A	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10460	48.95	-19.25	68.2	60.13	38.88	17.43	67.49	-	-	P	H
		15690	49.51	-24.49	74	56.63	37.82	22.41	67.35	100	270	P	H
		15690	39.75	-14.25	54	46.87	37.82	22.41	67.35	100	270	A	H
													H
													H
													H
													H
													H
													H
													H
802.11n													H
HT40													H
CH 46		10460	48.05	-20.15	68.2	59.23	38.88	17.43	67.49	-	-	P	V
5230MHz		15690	49.56	-24.44	74	56.68	37.82	22.41	67.35	200	195	P	V
		15690	39.29	-14.71	54	46.41	37.82	22.41	67.35	200	195	A	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 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		5141.18	55.41	-18.59	74	44.51	33.25	10.7	33.05	213	67	P	H
		5145.6	45.82	-8.18	54	34.93	33.23	10.71	33.05	213	67	A	H
	*	5210	99.39	-	-	88.45	33.12	10.89	33.07	213	67	P	H
	*	5210	93.52	-	-	82.58	33.12	10.89	33.07	213	67	A	H
		5381.88	54.95	-19.05	74	43.08	33.14	11.86	33.13	213	67	P	H
		5401.48	44.9	-9.1	54	32.99	33.1	11.95	33.14	213	67	A	H
		5148.98	62.83	-11.17	74	51.95	33.21	10.72	33.05	206	60	P	V
		5148.72	52.9	-1.1	54	42.02	33.21	10.72	33.05	206	60	A	V
	*	5210	109.44	-	-	98.5	33.12	10.89	33.07	206	60	P	V
	*	5210	102.8	-	-	91.86	33.12	10.89	33.07	206	60	A	V
		5395.32	59.62	-14.38	74	47.71	33.11	11.93	33.13	206	60	P	V
		5350	49.87	-4.13	54	38.11	33.2	11.68	33.12	206	60	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10420	50.22	-17.98	68.2	61.38	38.96	17.43	67.55	-	-	P	H
		15630	51.33	-22.67	74	58.23	38.06	22.36	67.32	102	266	P	H
		15630	41.47	-12.53	54	48.37	38.06	22.36	67.32	102	266	A	H
													H
													H
													H
													H
													H
													H
													H
802.11ac													H
VHT80													H
CH 42		10420	50.18	-18.02	68.2	61.34	38.96	17.43	67.55	-	-	P	V
5210MHz		15630	50.52	-23.48	74	57.42	38.06	22.36	67.32	195	188	P	V
		15630	40.63	-13.37	54	47.53	38.06	22.36	67.32	195	188	A	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 1 5150~5250MHz

Emission above 18GHz

WIFI 802.11n HT40 (SHF @ 1m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant. 1+2		(MHz)	(dBµV/m)	(dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
802.11n HT40 SHF		23638.8	41.05	-32.95	74	39.92	38.86	15.27	53	-	-	P	H
		35545	46.07	-22.13	68.2	36.95	42.14	21.42	54.44	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		23927.4	39.89	-34.11	74	38.96	38.52	15.41	53	-	-	P	V
		35072	45.09	-23.11	68.2	37.4	41.73	20.45	54.49	-	-	P	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

WIFI 802.11n HT40 (LF @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 LF		72.93	25.94	-14.06	40	41.08	13.16	1.6	29.9	-	-	P	H
		154.2	27.78	-15.72	43.5	38.12	17.14	2.35	29.83	-	-	P	H
		277.05	25.94	-20.06	46	33.83	18.79	2.93	29.61	-	-	P	H
		432.3	27.7	-18.3	46	30.65	22.85	3.59	29.39	-	-	P	H
		721.4	32.06	-13.94	46	28.86	27.44	4.74	28.98	-	-	P	H
		945.4	37.49	-8.51	46	29.62	30.81	5.38	28.32	-	-	P	H
													H
													H
													H
													H
													H
													H
		39.45	35.24	-4.76	40	43.58	20.2	1.12	29.66	110	182	Q	V
		180.39	24.08	-19.42	43.5	36.28	15.22	2.37	29.79	-	-	P	V
		274.62	23.7	-22.3	46	31.58	18.81	2.92	29.61	-	-	P	V
		565.3	30.95	-15.05	46	29.74	26.32	4.04	29.15	-	-	P	V
		840.4	35.77	-10.23	46	30.37	29.15	4.96	28.71	-	-	P	V
		962.2	37.07	-16.93	54	28.7	31.09	5.55	28.27	-	-	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 **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

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

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5150	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		5150	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

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

For Peak Limit @ 5150MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 5150MHz:

1. Level(dBμV/m)

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

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

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

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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

Appendix D. Radiated Spurious Emission Plots

Test Engineer :	Jesse Fan, Tim Lee, and Wilson	**Temperature :**	20~25°C
		Relative Humidity :	50~60%

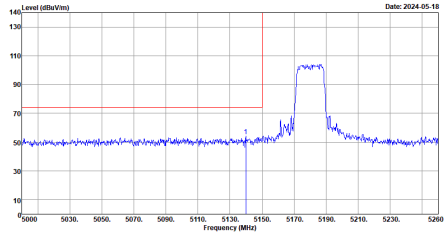
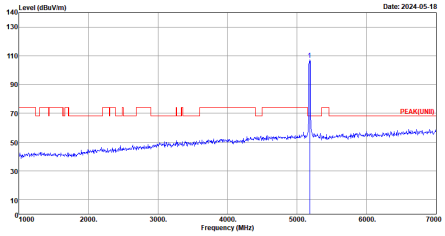
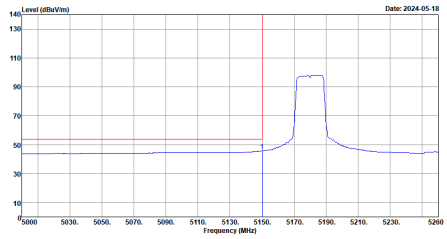
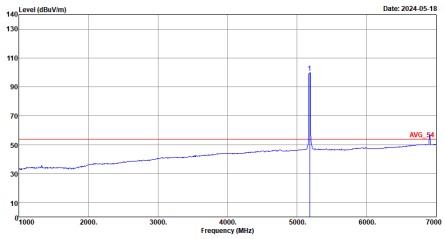
Note symbol

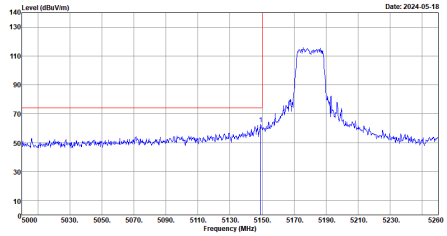
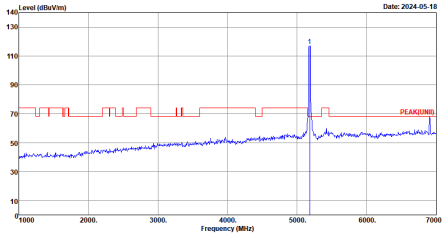
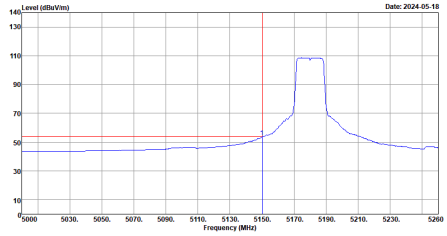
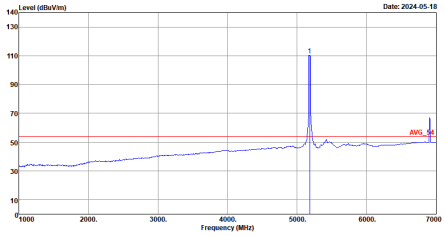
-L	**Low channel location**
-R	**High channel location**

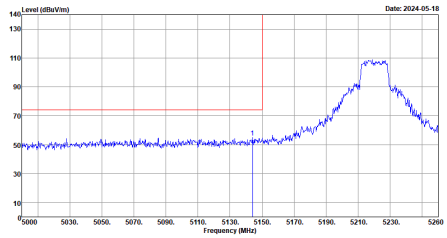
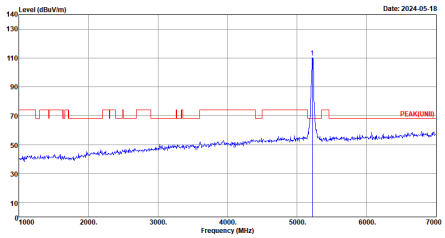
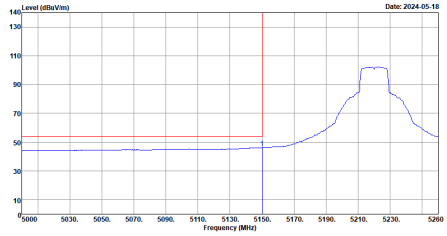
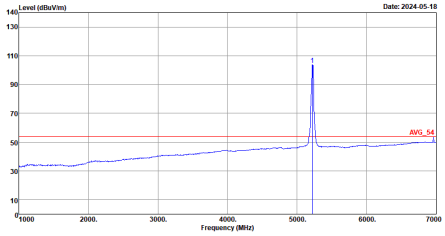
<Ant. 1>

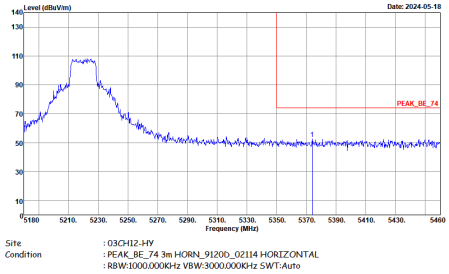
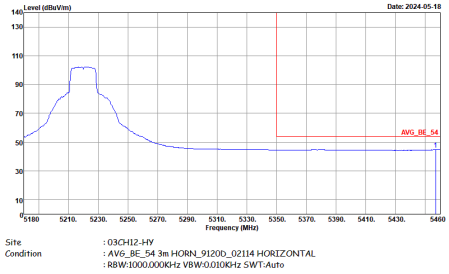
Band 1 - 5150~5250MHz

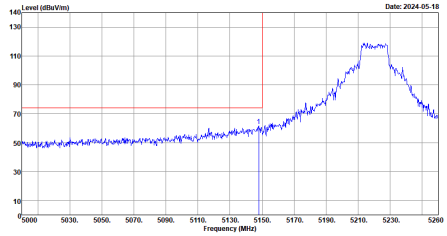
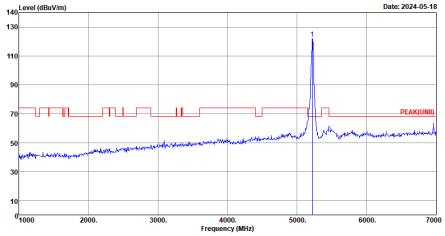
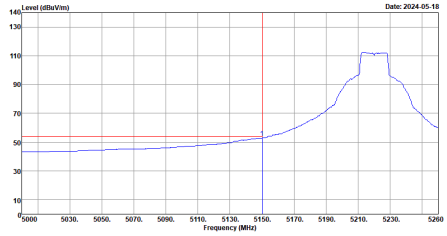
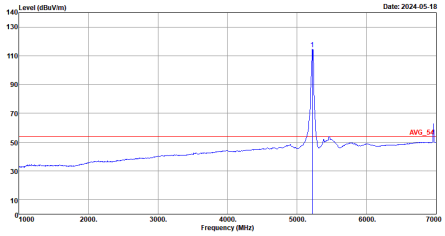
WIFI 802.11a (Band Edge @ 3m)

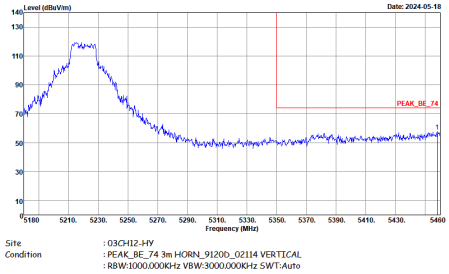
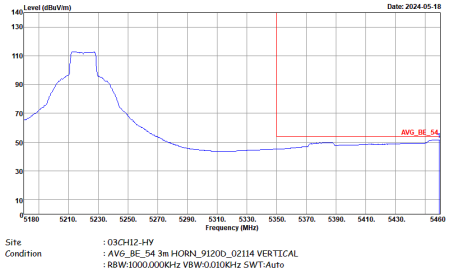
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_8E_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNII) 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_8E_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

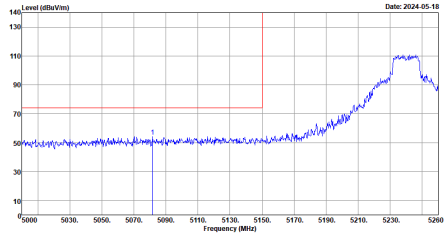
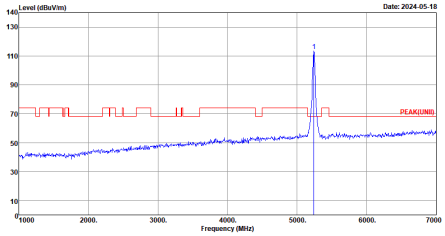
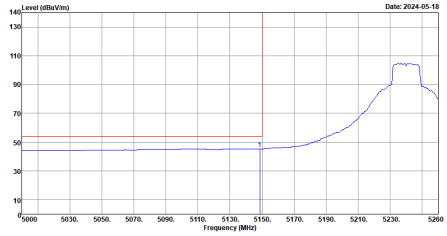
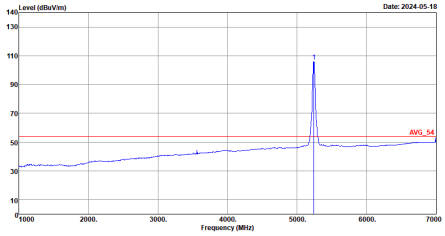
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Vertical	Fundamental
Peak		
Avg.		

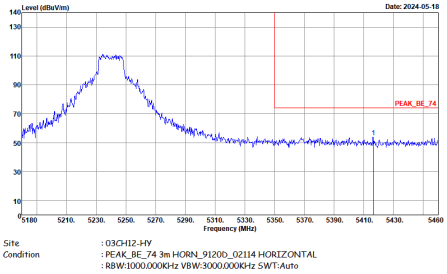
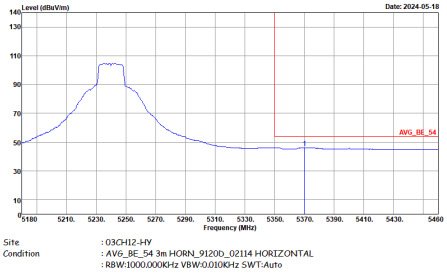
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNII) 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

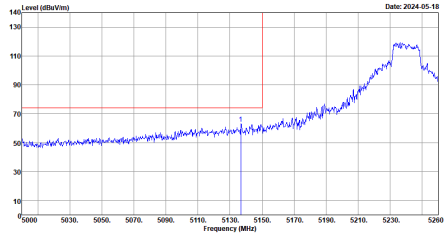
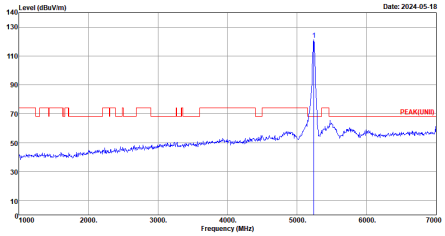
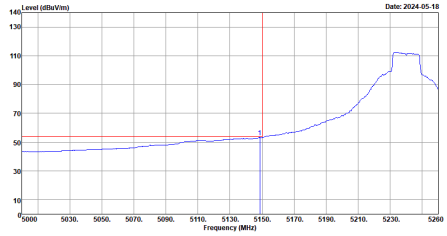
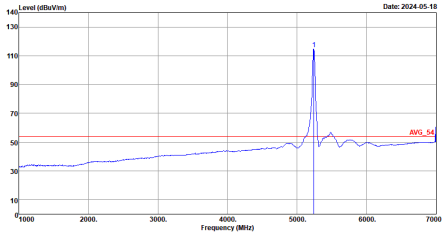
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

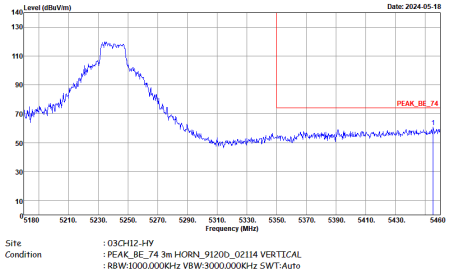
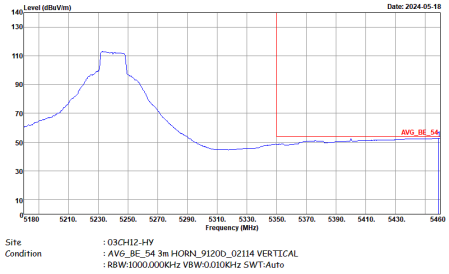
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNII) 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

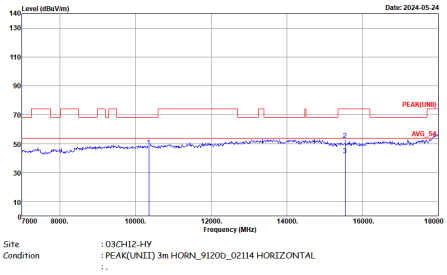
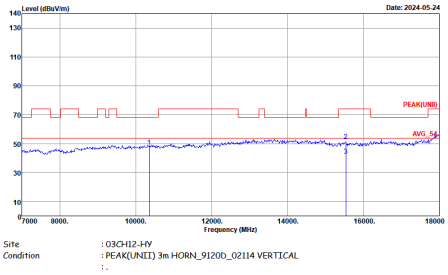
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

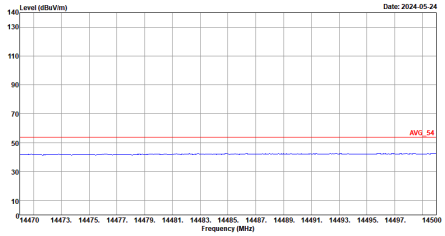
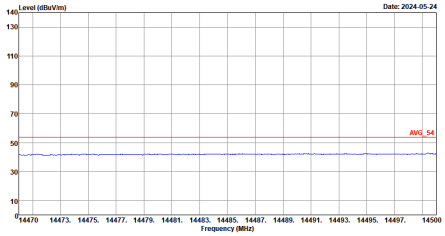
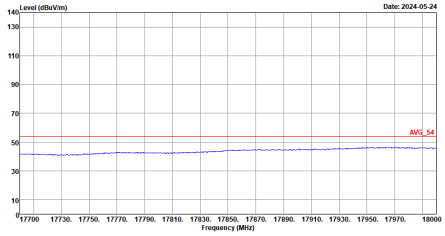
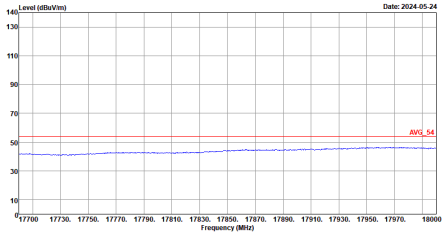
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		

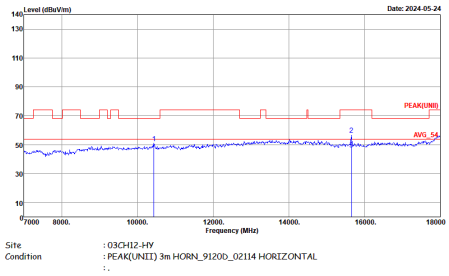
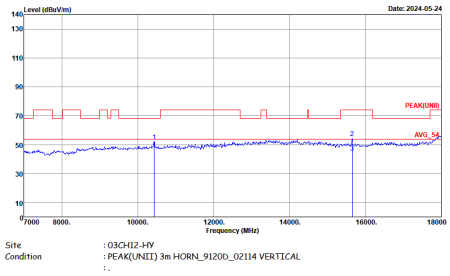
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

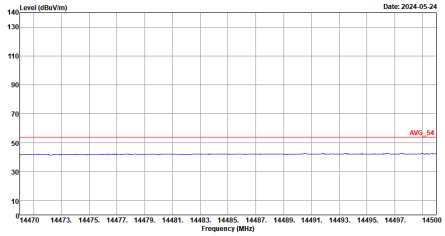
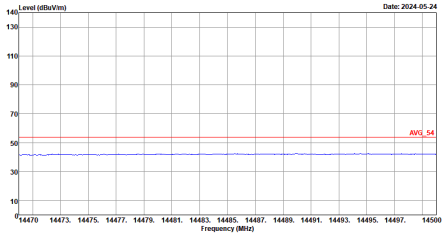
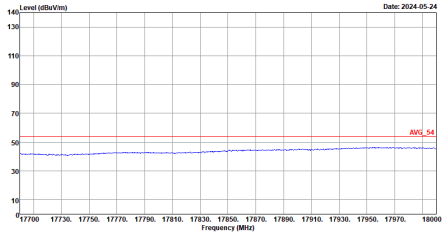
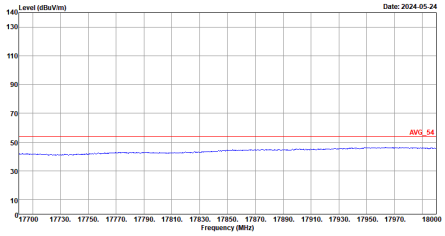
Band 1 5150~5250MHz

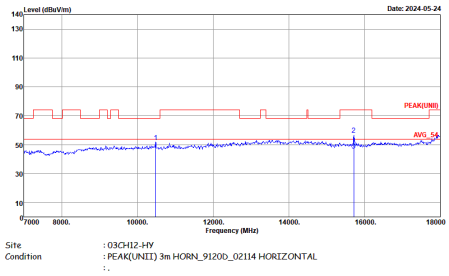
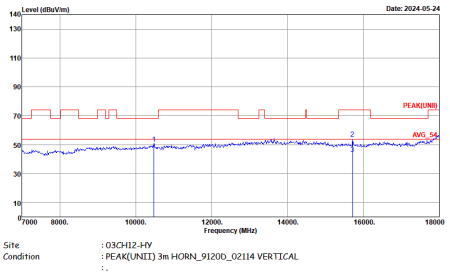
WIFI 802.11a (Harmonic @ 3m)

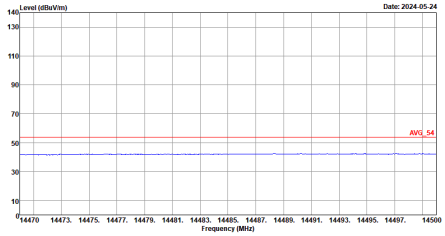
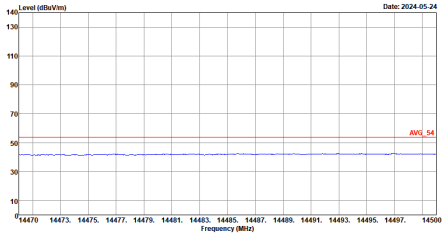
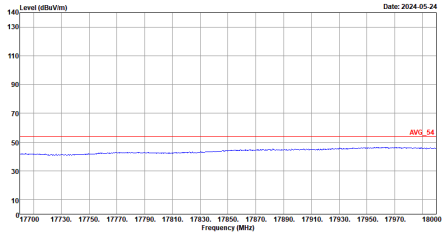
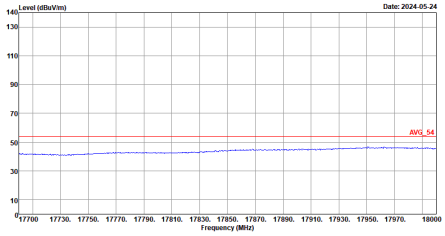
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg.		

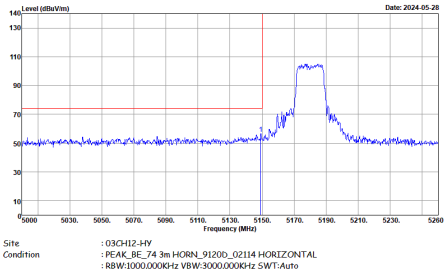
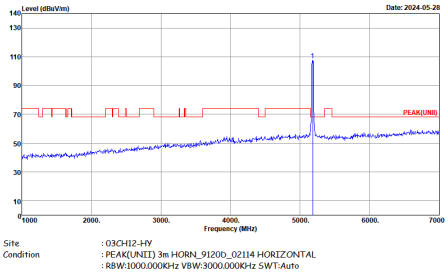
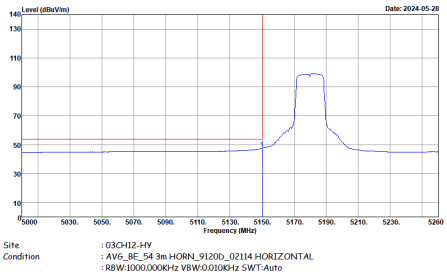
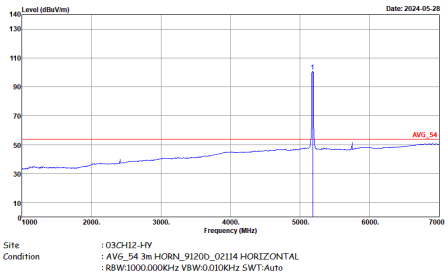
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH48 5240MHz	
1	Horizontal	Vertical
Peak Avg.		

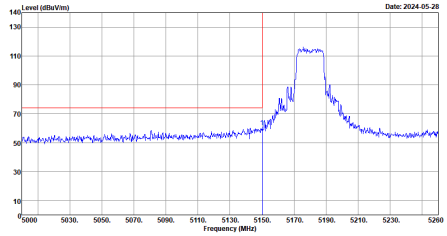
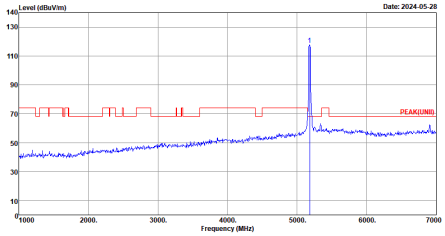
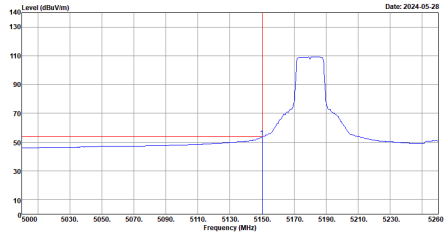
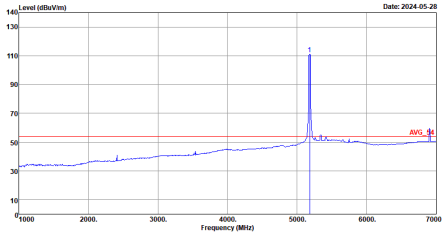
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH48 5240MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg.		

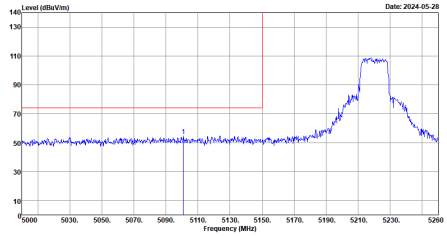
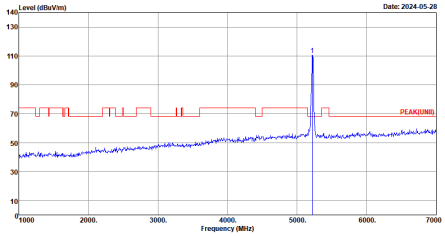
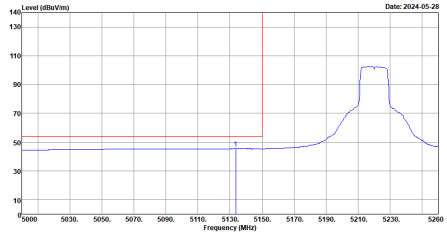
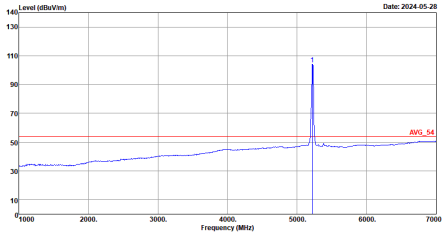
<Ant. 2>

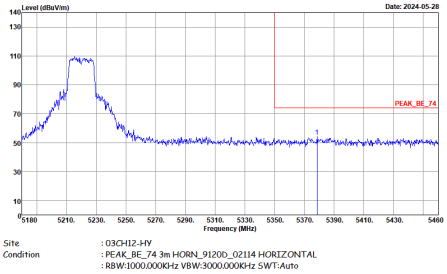
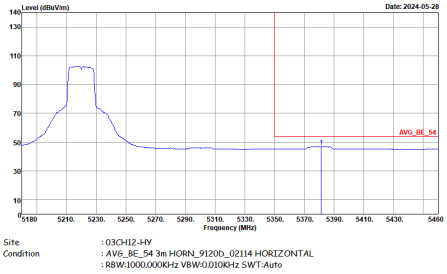
Band 1 - 5150~5250MHz

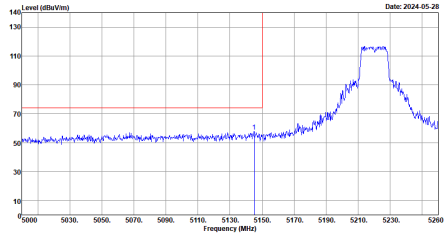
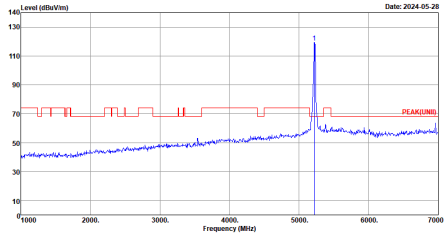
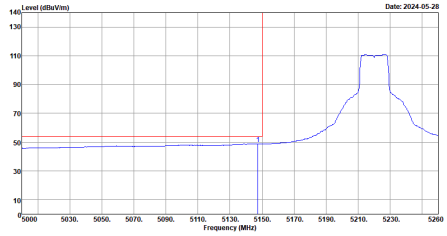
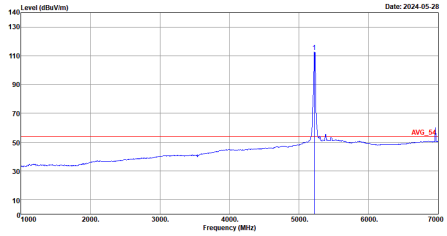
WIFI 802.11a (Band Edge @ 3m)

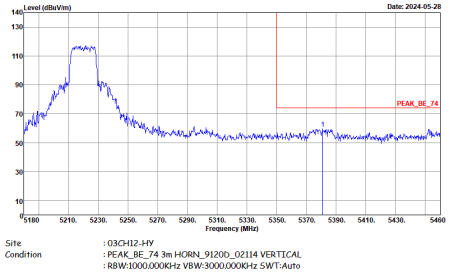
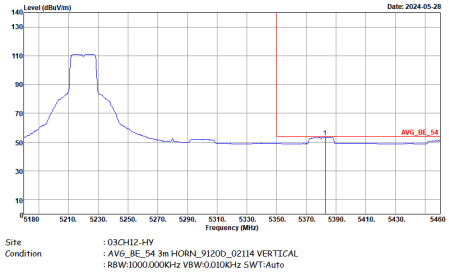
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
2	Horizontal	Fundamental
Peak		
Avg.		

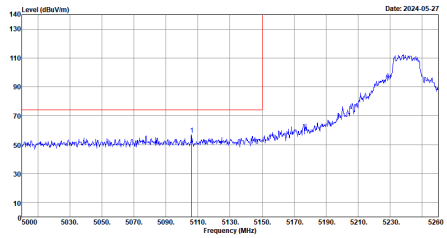
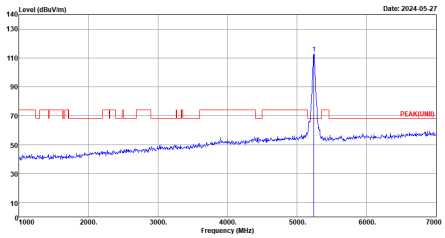
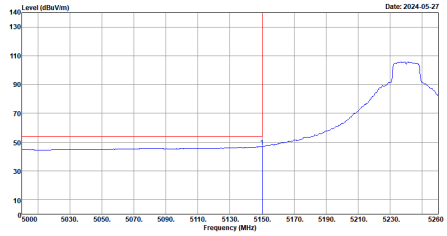
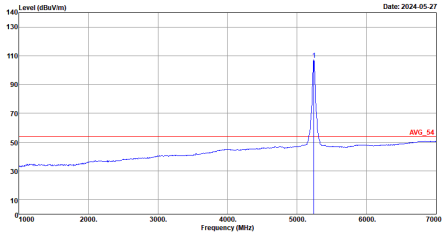
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
2	Vertical	Fundamental
Peak		
Avg.		

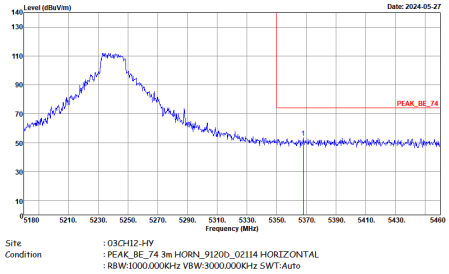
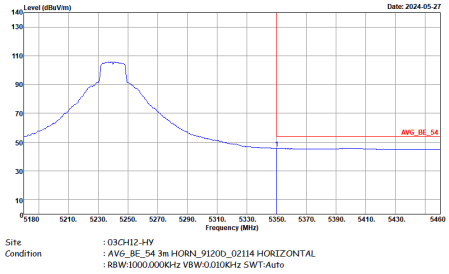
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNII) 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

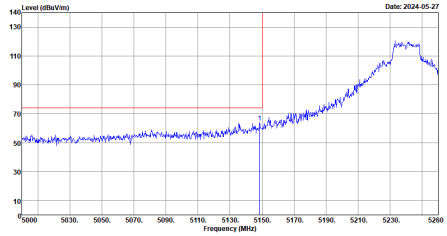
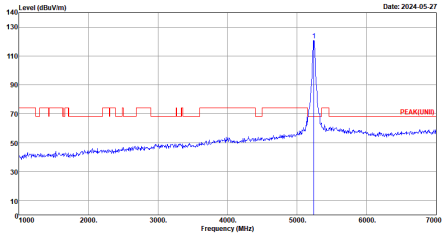
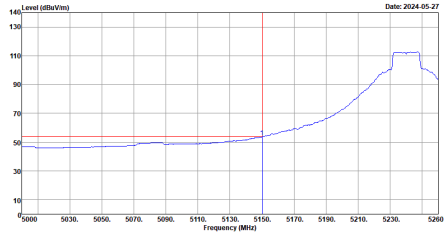
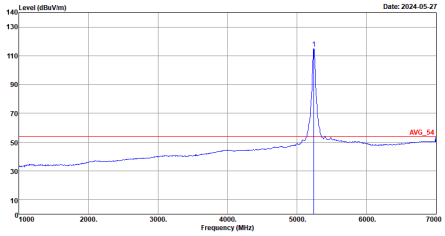
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

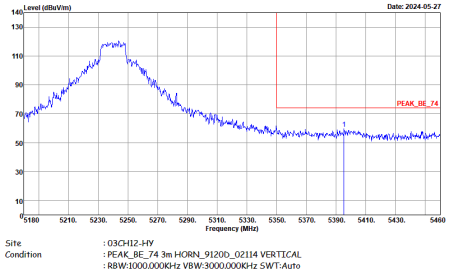
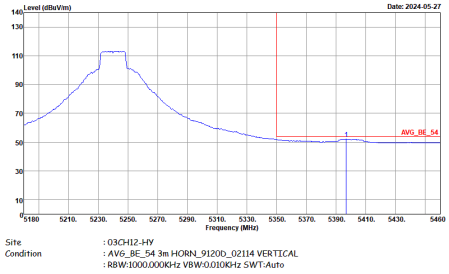
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNII) 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

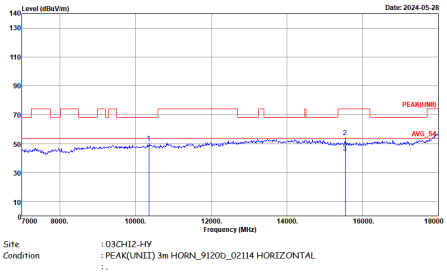
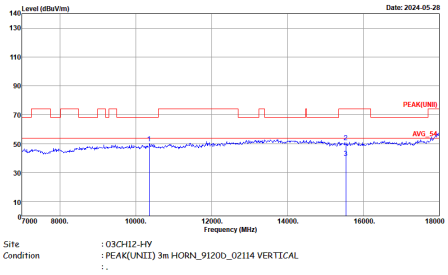
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

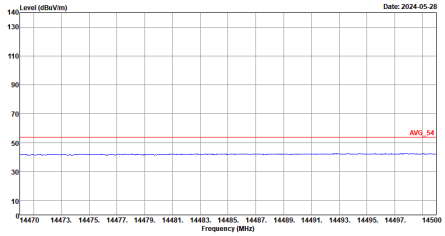
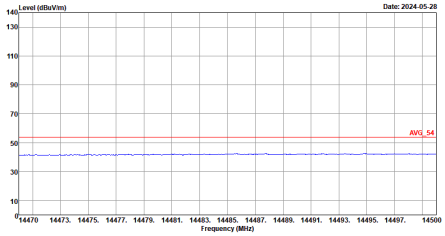
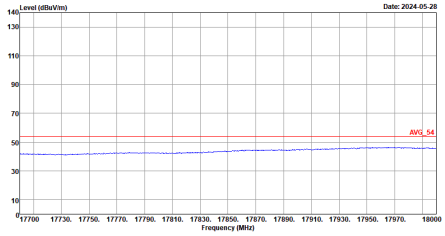
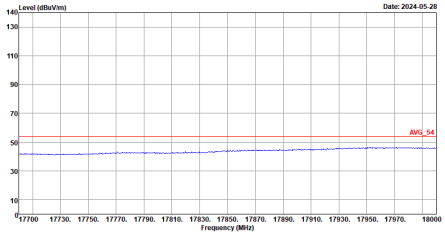
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		

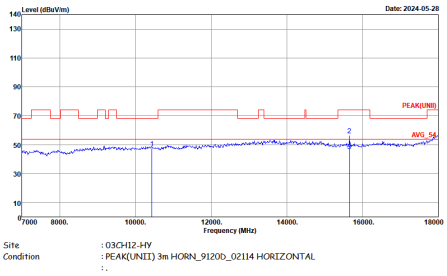
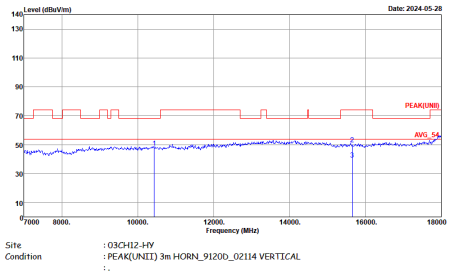
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

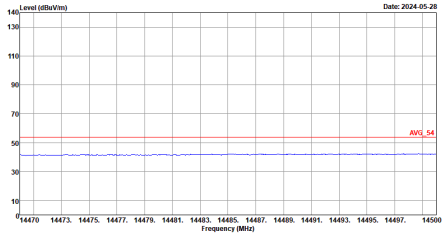
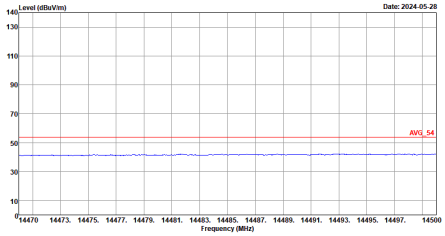
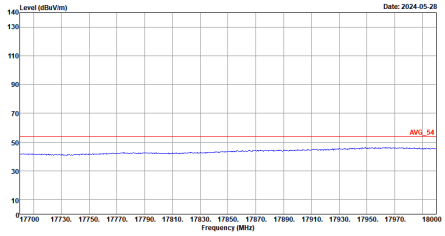
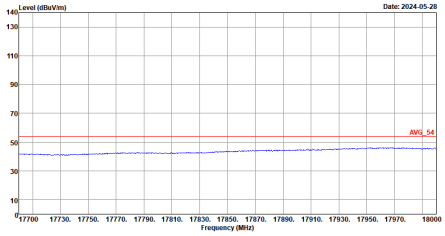
Band 1 5150~5250MHz

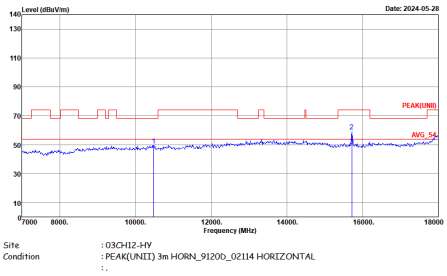
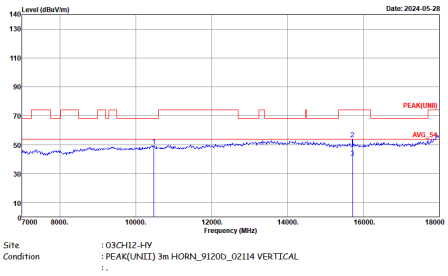
WIFI 802.11a (Harmonic @ 3m)

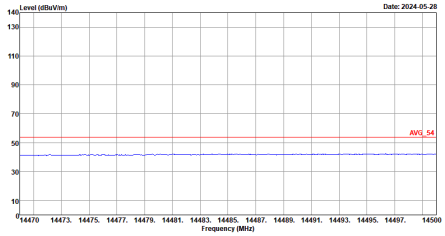
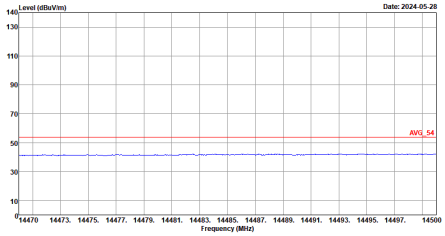
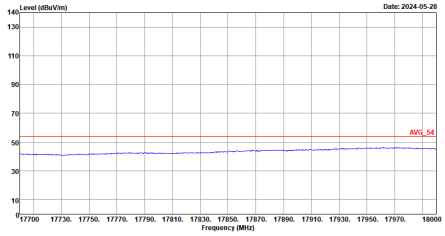
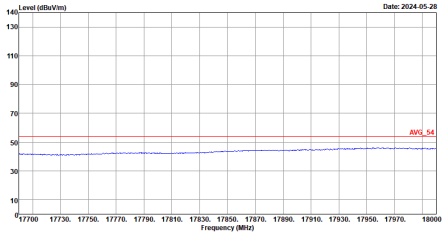
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
2	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
2	Horizontal	Vertical
14.47G ~14.5G Avg.	 Site : 03CH12-HY Condition : AV6_54 3m HORN_9120D_02114 HORIZONTAL : .	 Site : 03CH12-HY Condition : AV6_54 3m HORN_9120D_02114 VERTICAL : .
17.7G ~18G Avg.	 Site : 03CH12-HY Condition : AV6_54 3m HORN_9120D_02114 HORIZONTAL : .	 Site : 03CH12-HY Condition : AV6_54 3m HORN_9120D_02114 VERTICAL : .

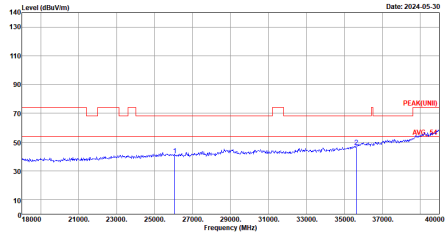
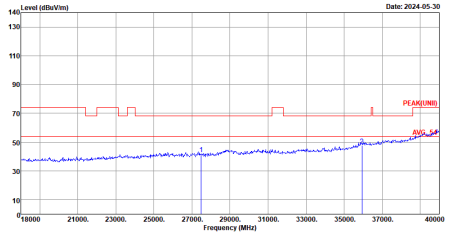
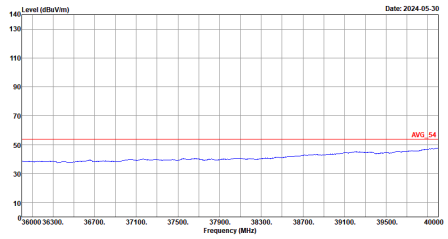
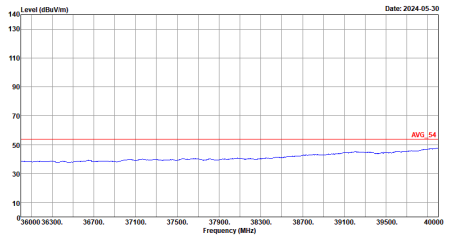
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH48 5240MHz	
2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH48 5240MHz	
2	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg.		

Band 1 5150~5250MHz

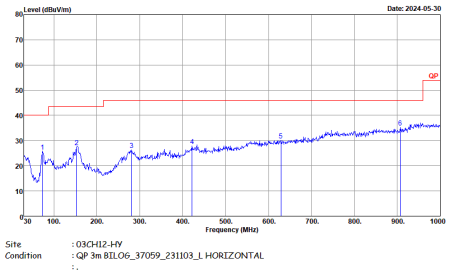
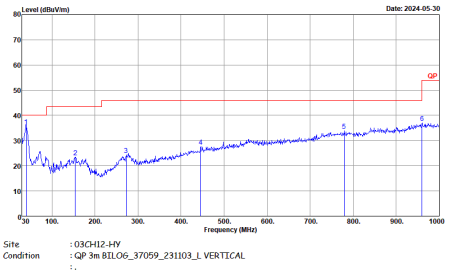
Emission above 18GHz

5GHz WIFI 802.11a (SHF @ 1m)

WIFI	5GHz WIFI	
ANT	802.11a SHF	
2	Horizontal	Vertical
Peak		
36G ~40G Avg.		

Emission below 1GHz

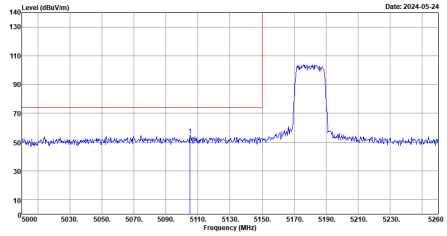
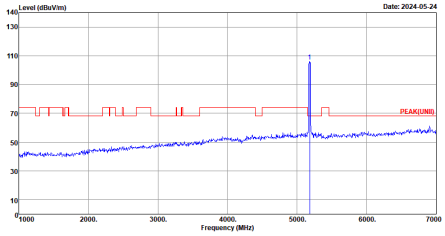
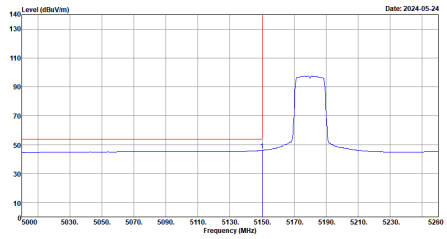
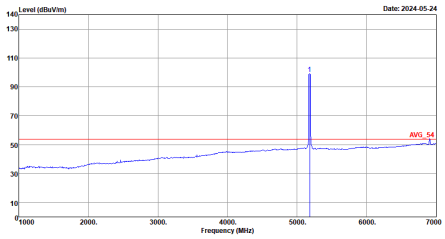
5GHz WIFI 802.11a (LF)

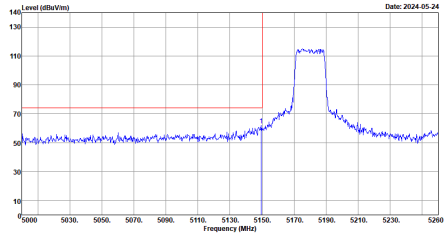
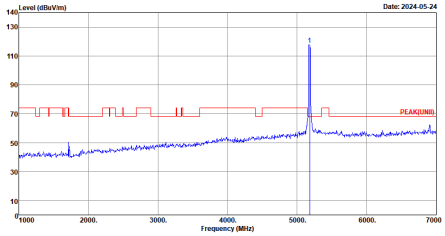
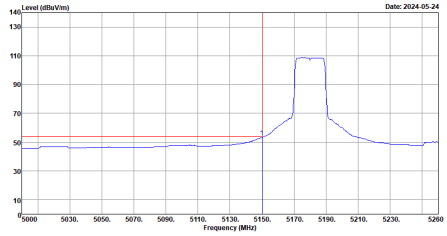
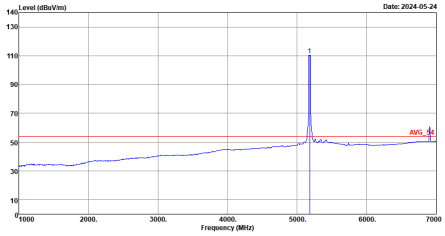
WIFI	5GHz WIFI	
ANT	802.11a LF	
2	Horizontal	Vertical
QP / Peak		

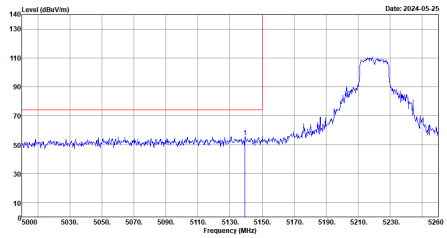
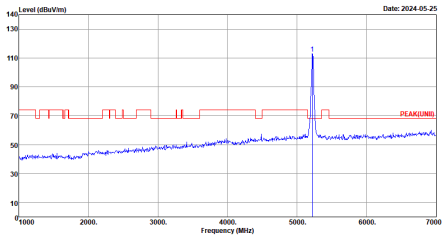
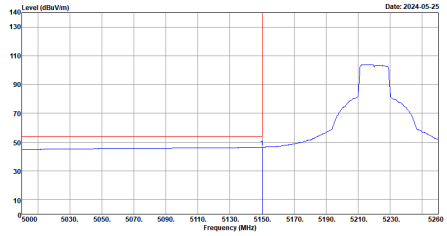
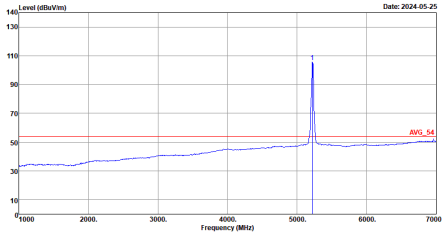
MIMO<Ant. 1+2>

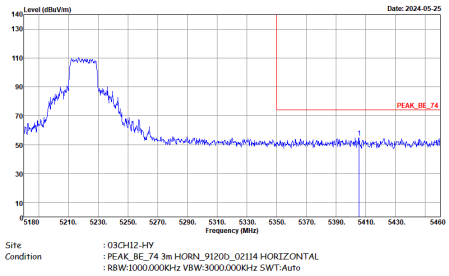
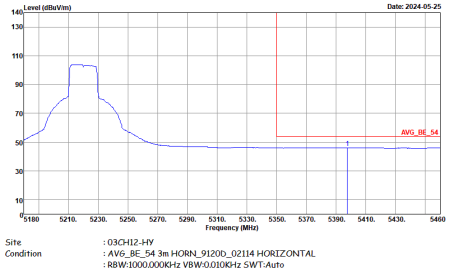
Band 1 - 5150~5250MHz

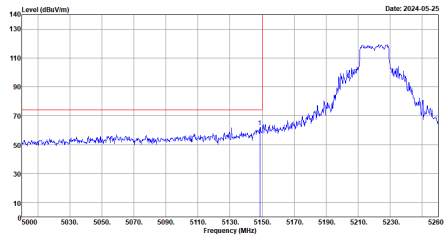
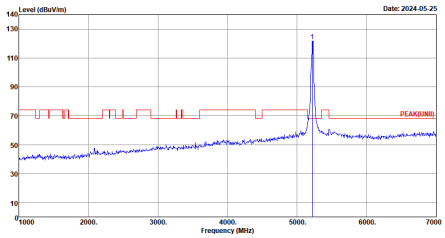
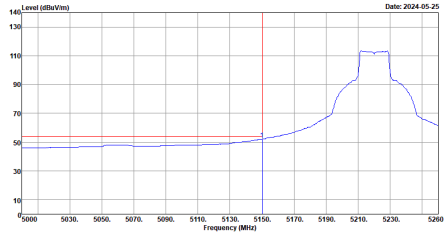
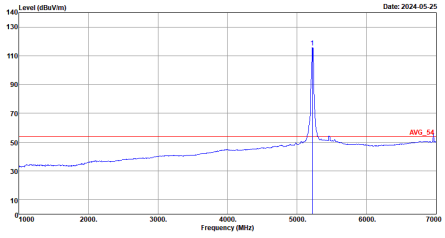
WIFI 802.11n HT20 (Band Edge @ 3m)

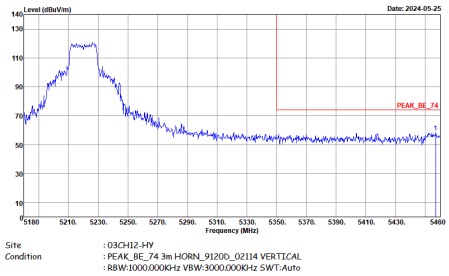
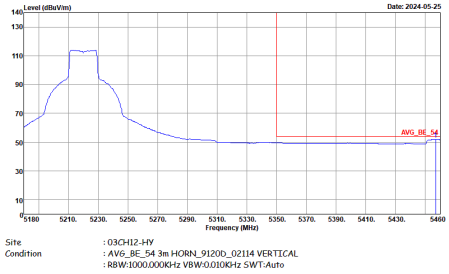
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_8E_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNII) 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_8E_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

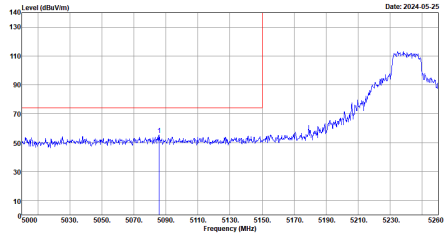
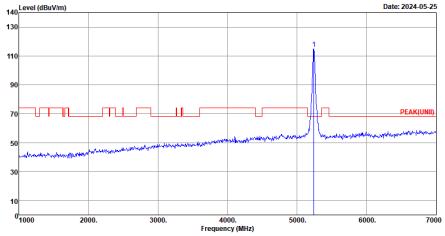
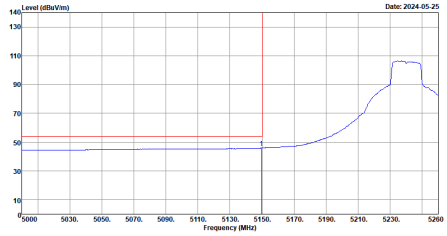
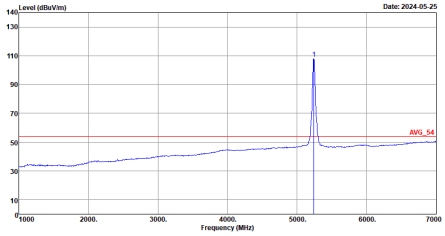
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		

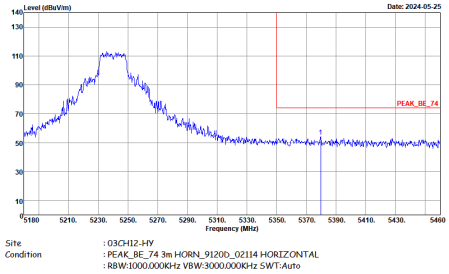
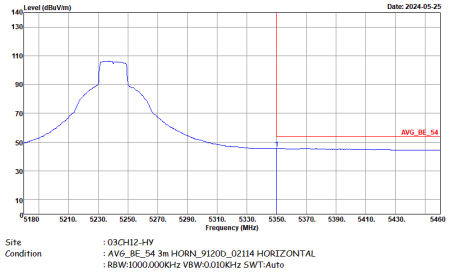
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

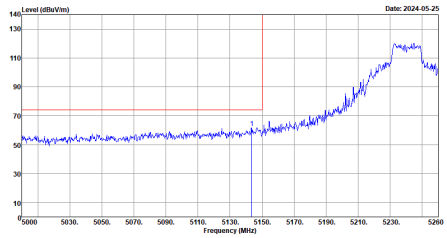
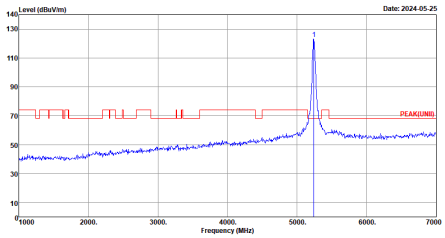
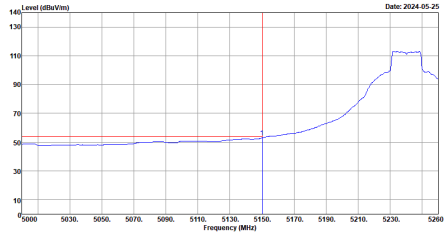
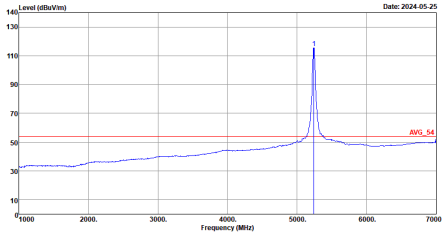
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

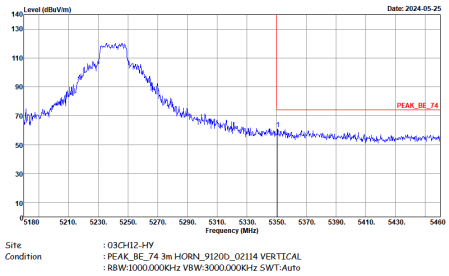
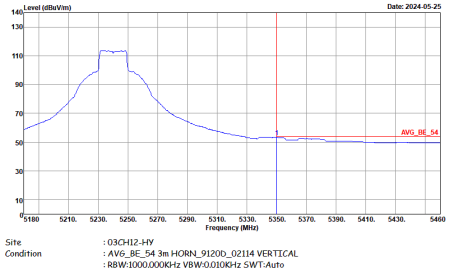
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

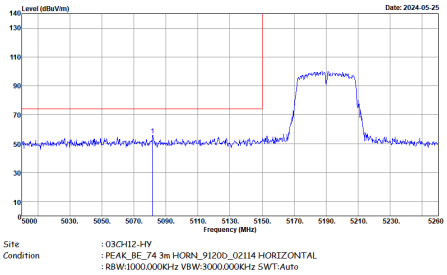
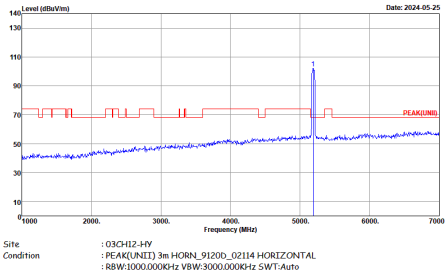
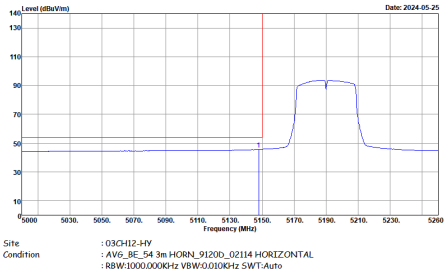
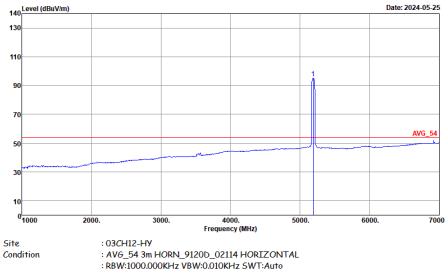
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

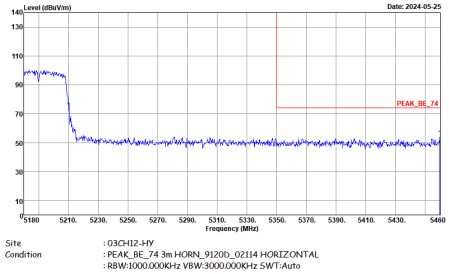
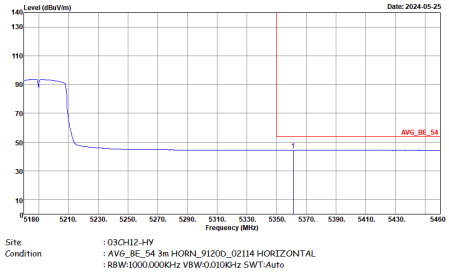
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

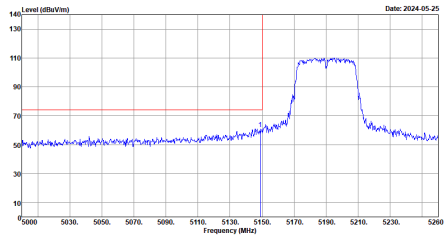
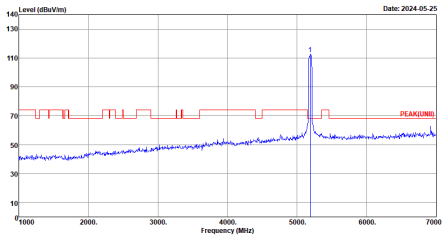
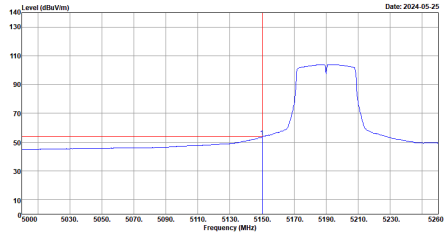
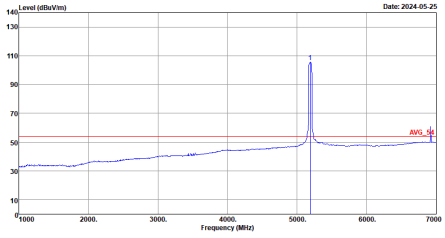
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		

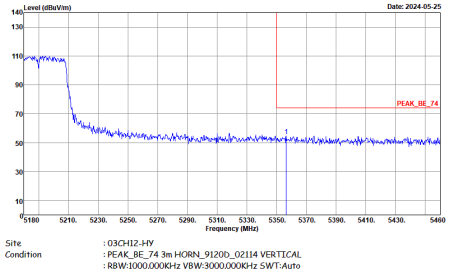
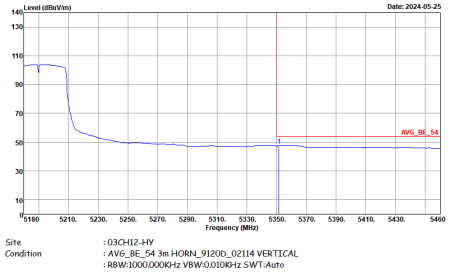
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

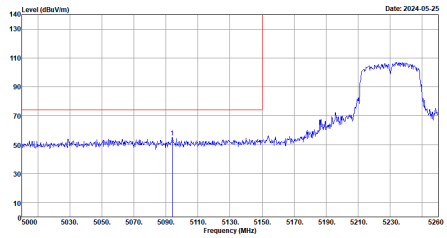
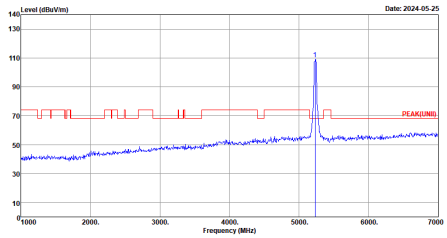
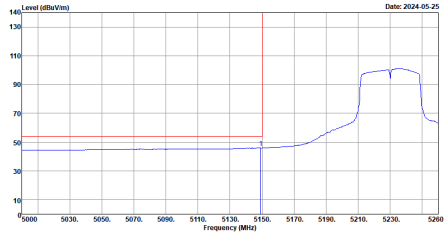
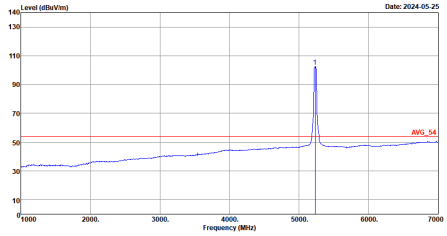
Band 1 5150~5250MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

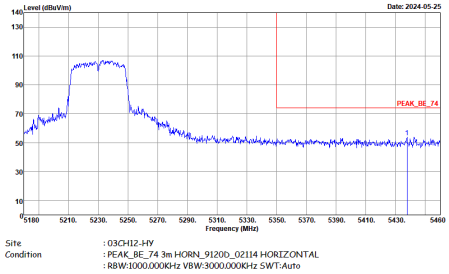
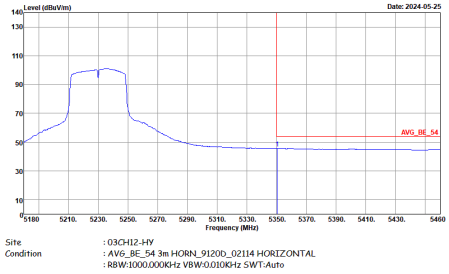
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

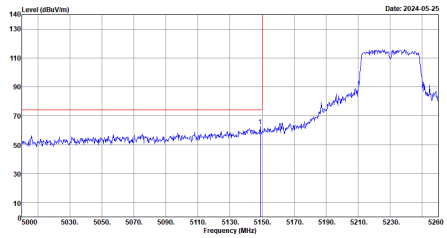
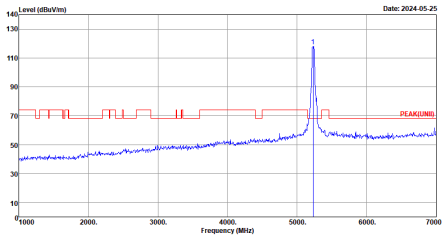
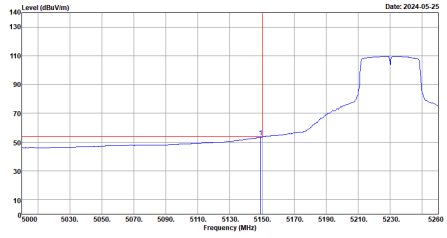
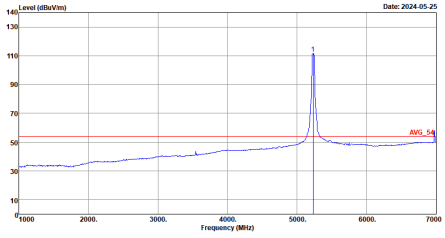
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

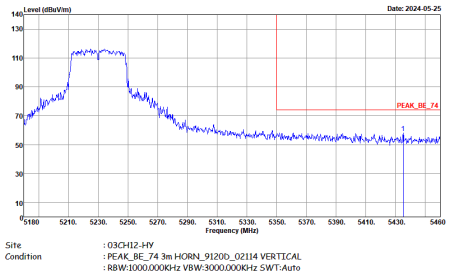
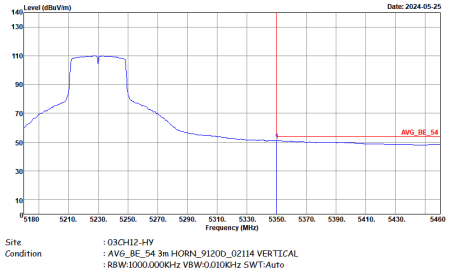
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

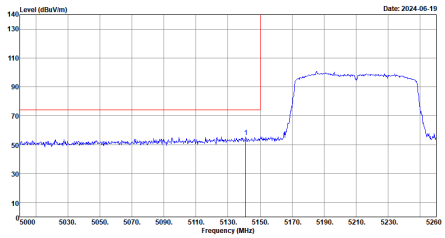
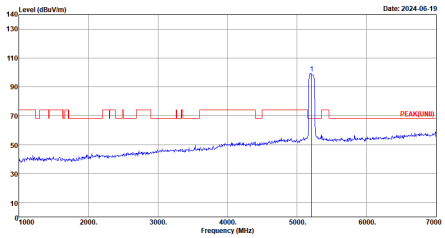
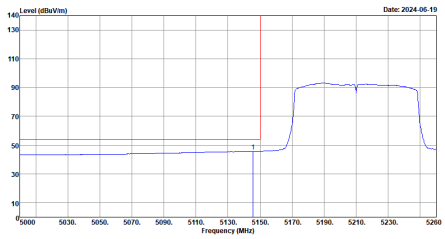
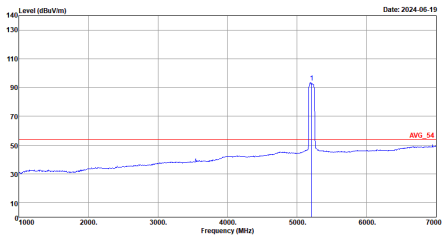
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

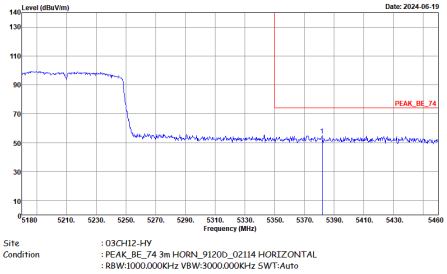
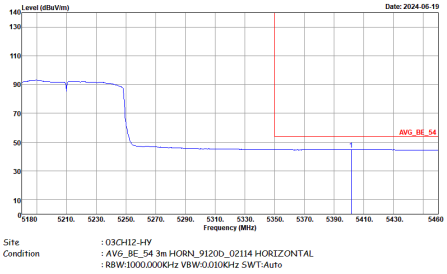
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		

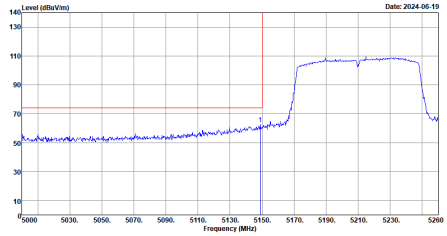
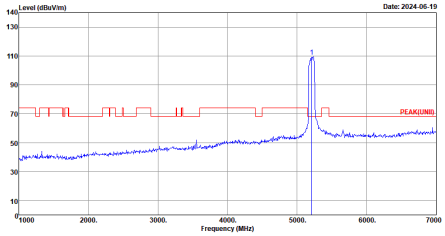
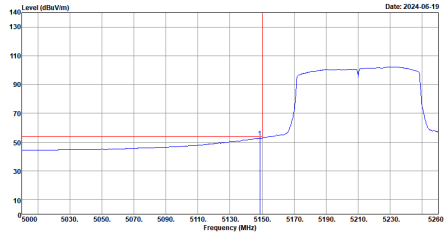
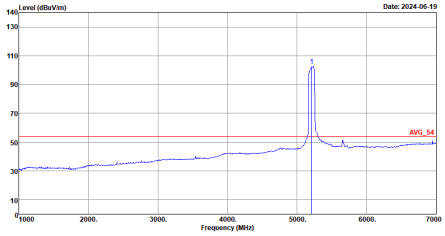
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

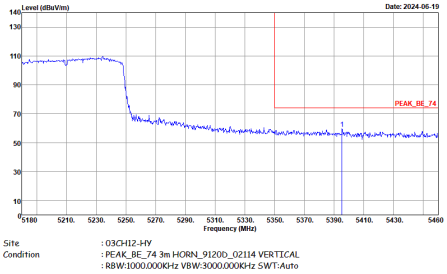
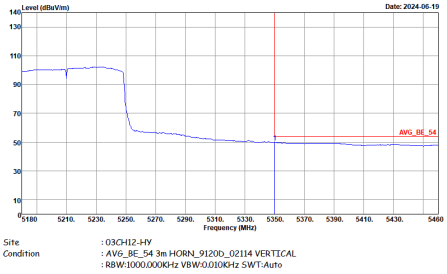
Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

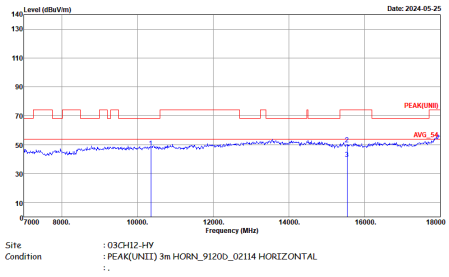
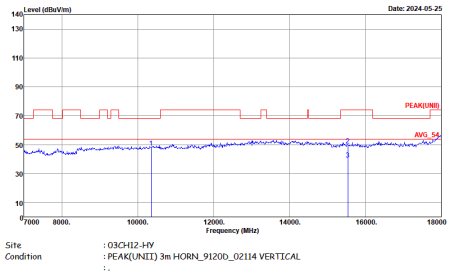
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNII) 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

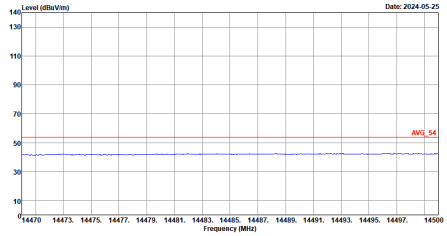
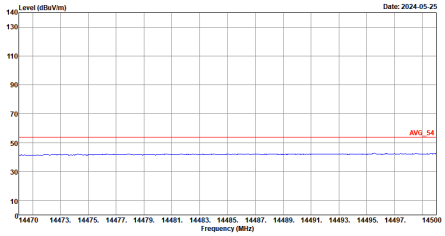
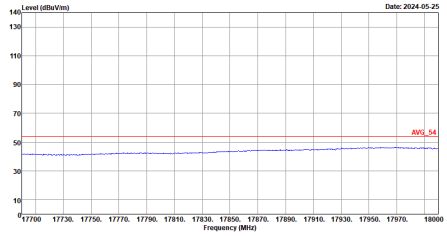
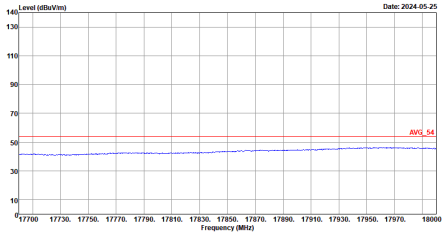
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

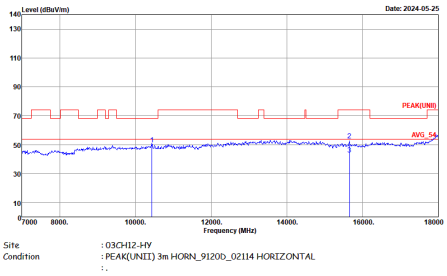
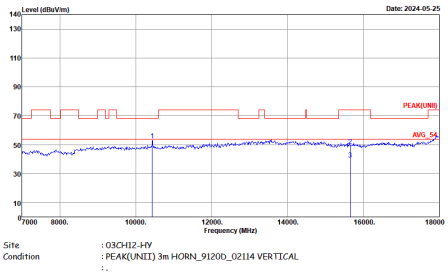
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNII) 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

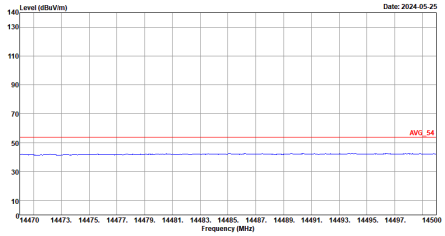
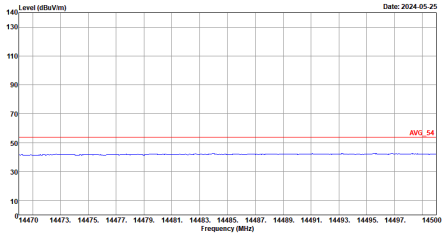
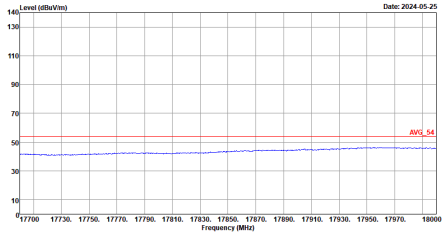
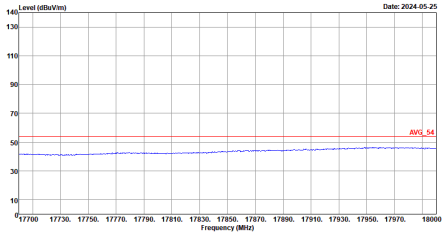
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

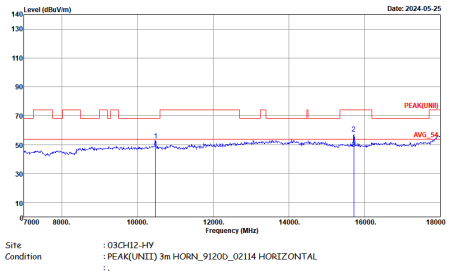
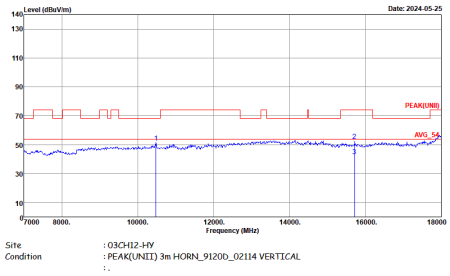
Band 1 5150~5250MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

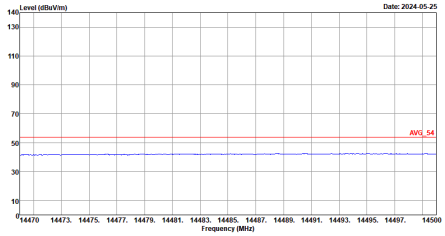
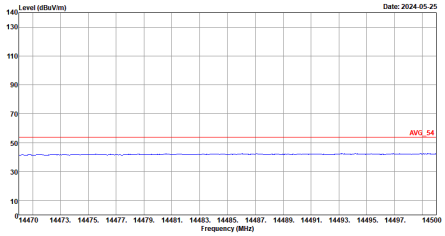
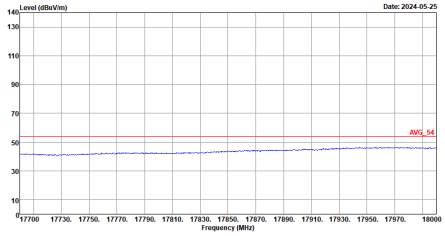
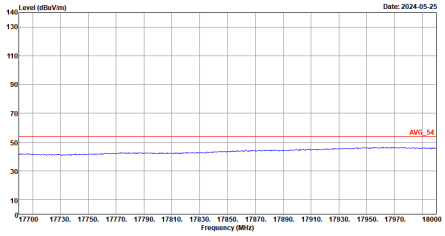
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1+2	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH44 5220MHz	
1+2	Horizontal	Vertical
Peak Avg.		

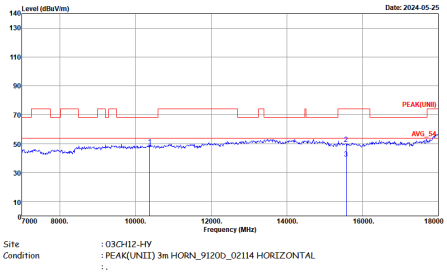
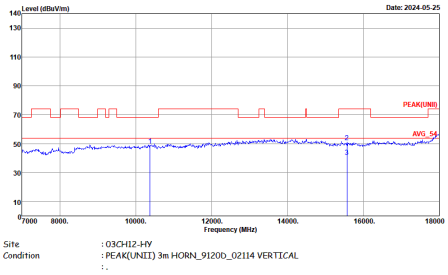
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH44 5220MHz	
1+2	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg.		

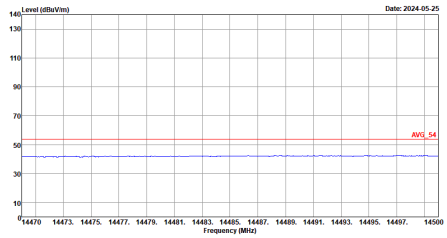
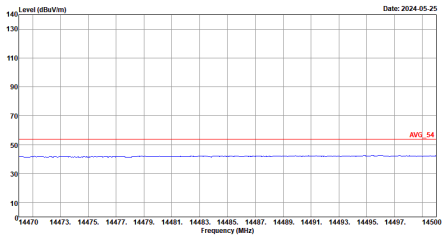
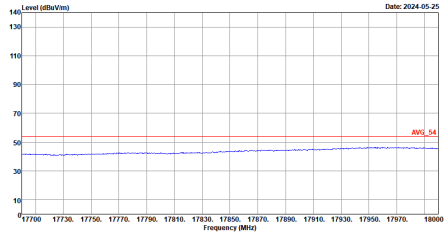
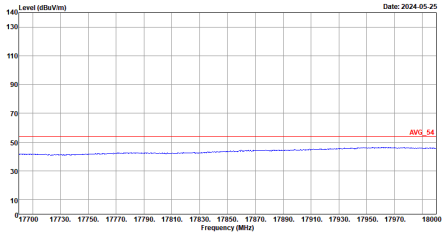
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH48 5240MHz	
1+2	Horizontal	Vertical
Peak Avg.		

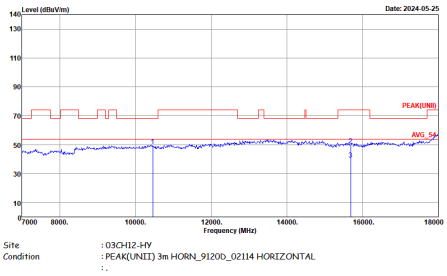
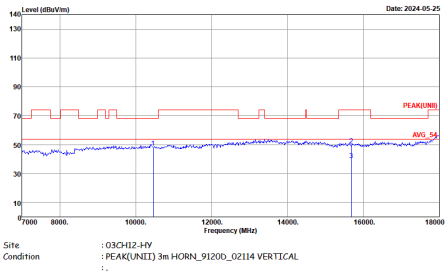
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH48 5240MHz	
1+2	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg.		

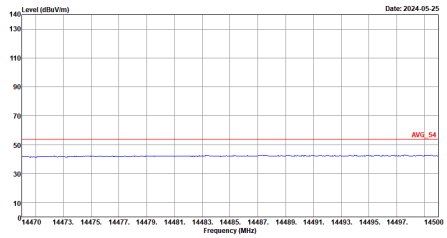
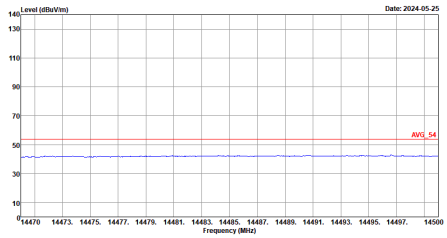
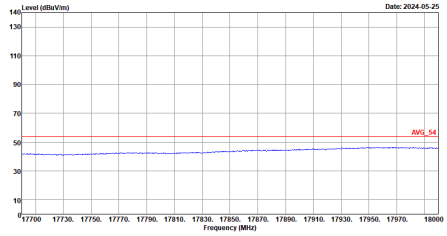
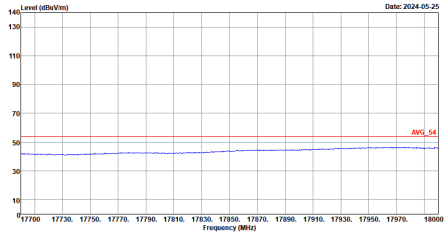
Band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH38 5190MHz	
1+2	Horizontal	Vertical
Peak Avg.		

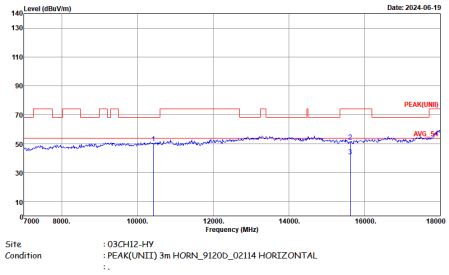
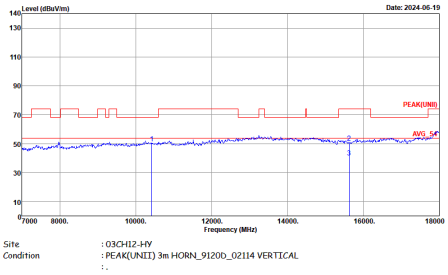
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH38 5190MHz	
1+2	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg.		

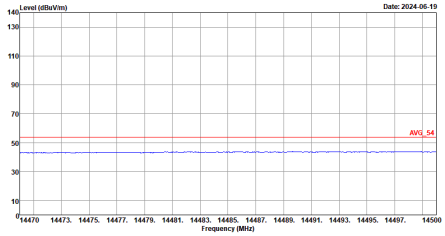
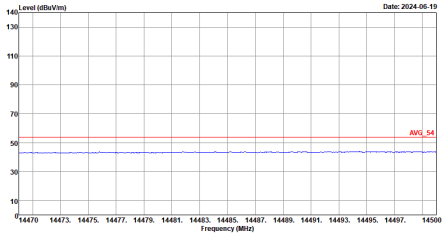
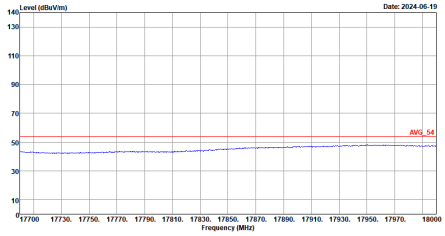
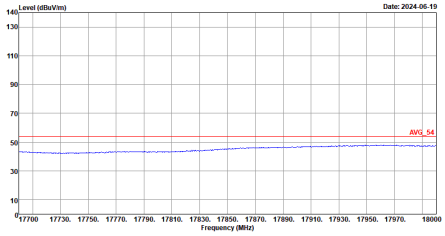
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH46 5230MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH46 5230MHz	
1+2	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg.		

Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

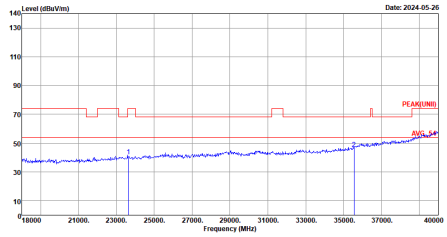
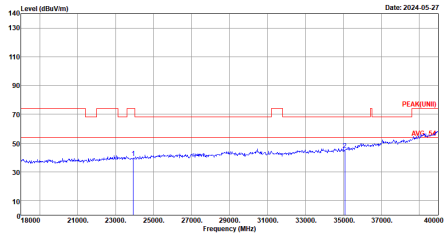
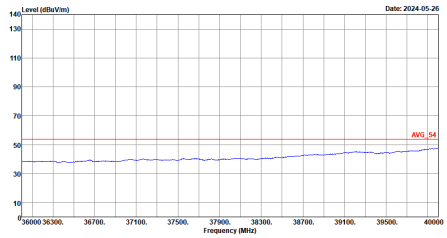
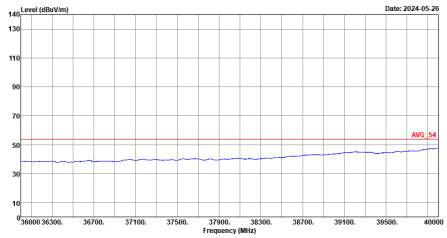
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz	
1+2	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg.		

Band 1 5150~5250MHz

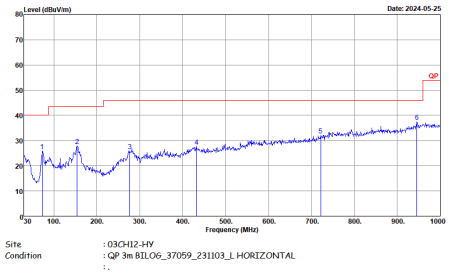
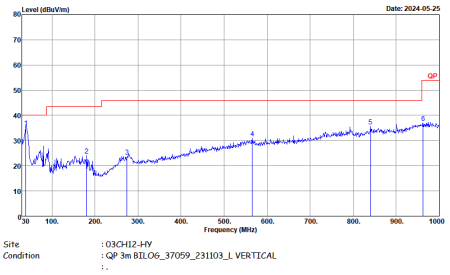
Emission above 18GHz

5GHz WIFI 802.11n HT40 (SHF @ 1m)

WIFI	5GHz WIFI	
ANT	802.11n HT40 SHF	
1+2	Horizontal	Vertical
Peak		
36G ~40G Avg.		

Emission below 1GHz

5GHz WIFI 802.11n HT40 (LF)

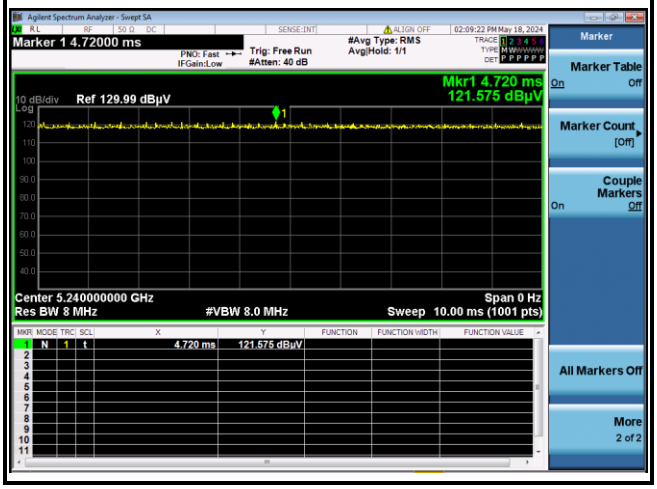
WIFI	5GHz WIFI	
ANT	802.11n HT40 LF	
1+2	Horizontal	Vertical
QP / Peak		

Appendix E. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1	802.11a	100.00	-	-	10Hz
2	802.11a	100.00	-	-	10Hz
1+2	802.11n HT20	100.00	-	-	10Hz
1+2	802.11n HT40	100.00	-	-	10Hz
1+2	802.11ac VHT80	100.00	-	-	10Hz

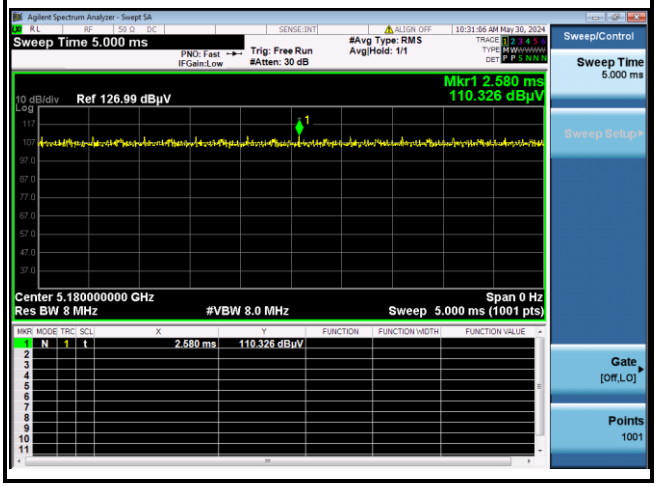
<Ant. 1>

802.11a

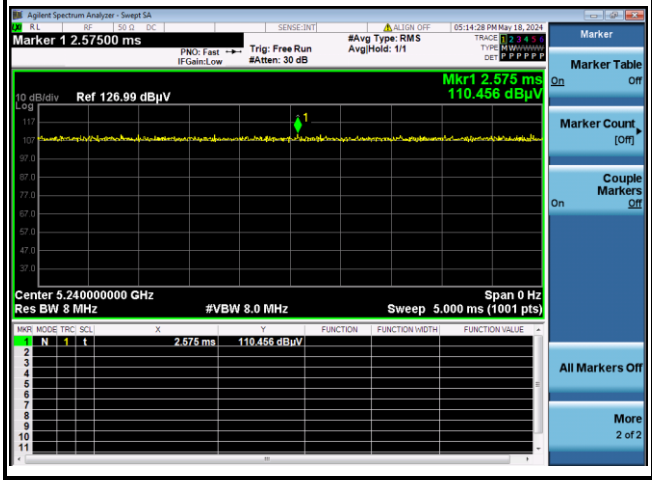
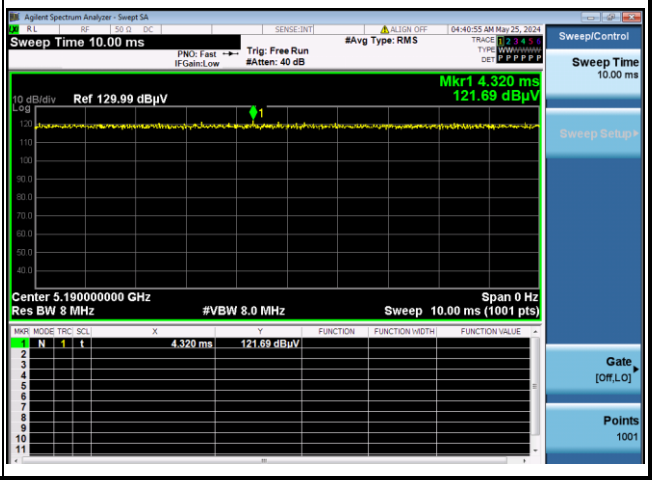
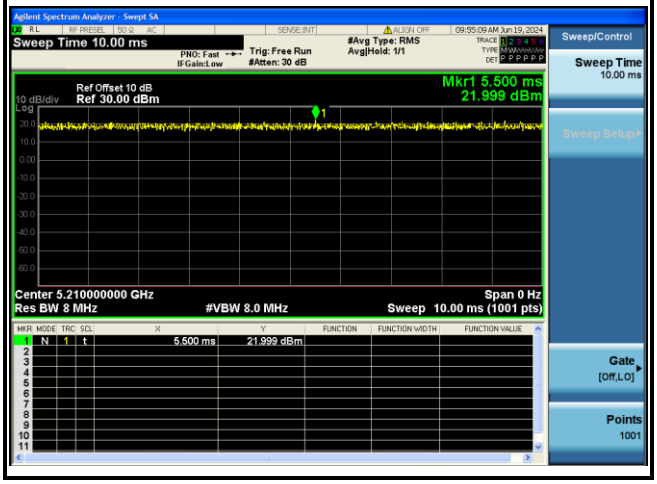


<Ant. 2>

802.11a



MIMO <Ant. 1+2>

802.11n HT20	802.11n HT40
	

802.11ac VHT80