



FCC RADIO TEST REPORT

FCC ID : 2AENP-DWT01
Equipment : Montblanc Digital Paper
Brand Name : Montblanc
Model Name : DWT-01
Applicant : Montblanc-Simplo GmbH
Hellgrundweg 100, 22525, Hamburg, Germany
Manufacturer : Montblanc-Simplo GmbH
Hellgrundweg 100, 22525, Hamburg, Germany
Standard : FCC Part 15 Subpart E §15.407

The product was received on Mar. 15, 2024 and testing was performed from Mar. 25, 2024 to May 21, 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

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issue Date
FR431513F	01	Initial issue of report	Aug. 20, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.403(i)	6dB & 26dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.407(a)	Maximum Conducted Output Power	Pass	-
3.3	15.407(a)	Power Spectral Density	Pass	-
3.4	15.407(b)	Unwanted Emissions	Pass	6.10 dB under the limit at 38.91 MHz
3.5	15.207	AC Conducted Emission	Pass	4.12 dB under the limit at 0.40 MHz
3.6	15.203	Antenna Requirement	Pass	-

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty".

Disclaimer:

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

Reviewed by: Keven Cheng

Report Producer: Ming Chen

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature
General Specs Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n/ac, Wi-Fi 5GHz 802.11a/n/ac, and NFC.
Antenna Type WLAN: PIFA Antenna Bluetooth: PIFA Antenna NFC: FPC Antenna

Antenna information		
5725 MHz ~ 5850 MHz	Peak Gain (dBi)	-0.93

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

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, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No. TH05-HY, CO07-HY, 03CH16-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.
- ♦ 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)
5725-5850 MHz Band 4 (U-NII-3)	149	5745	157	5785
	151*	5755	159*	5795
	153	5765	161	5805
	155 [#]	5775	165	5825

Note:

1. The above Frequency and Channel with "*" are 802.11n HT40 and 802.11ac VHT40.
2. The above Frequency and Channel with "[#]" are 802.11ac VHT80.

2.2 Test 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
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 : Bluetooth Link + WLAN (5GHz) Link + Pen charging + Battery + USB Cable (Charging from Adapter)

Ch. #		Band IV : 5725-5850 MHz			
		802.11a	802.11n HT20	802.11n HT40	802.11ac VHT80
L	Low	149	149	151	-
M	Middle	157	157	-	155
H	High	165	165	159	-

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

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Earphone	Sony	SBH20	PY7-RD0010	N/A	N/A
2.	WLAN AP	ASUS	RT-AC52	MSQ-RTAC4A00	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Notebook	DELL	Latitude 5480	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	Adapter	louis vuitton	LVMC0029	N/A	N/A	N/A
6.	Adapter	MIBO	MB-21244274	N/A	N/A	N/A



2.5 EUT Operation Test Setup

The RF test items, utility "cmd version 10.0.19043.2364" was installed in EUT which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10 dB attenuator.

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

3 Test Result

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

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

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

26dB and 99% Occupied bandwidth are reporting only.

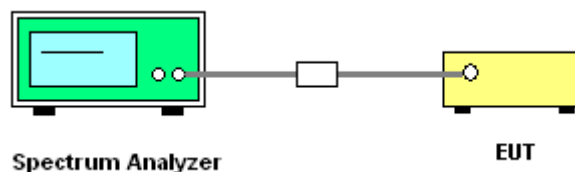
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



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

Please refer to Appendix A.

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

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

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

3.2.2 Measuring Instruments

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

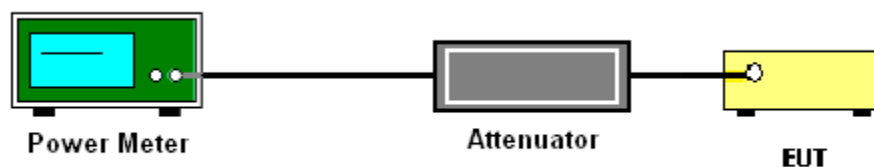
3.2.3 Test Procedures

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

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

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit at its maximum power control level.
3. Measure the average power of the transmitter.
4. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.



3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

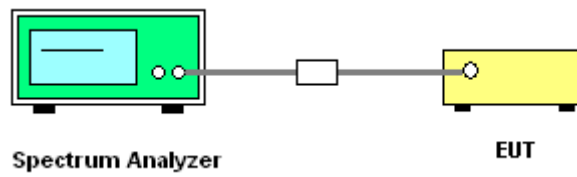
The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section F) Maximum power spectral density.

Method SA-2

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

- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 300kHz.
 - Set VBW $\geq$ 1 MHz.
 - Add $10 \log(500 \text{ kHz}/\text{RBW})$ to the measured result, whereas RBW ($<500 \text{ kHz}$) is the reduced resolution bandwidth of the spectrum analyzer set during measurement
 - Number of points in sweep $\geq 2 \text{ Span} / \text{RBW}$.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 - Add $10 \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add $10 \log(1/0.25) = 6 \text{ dB}$ if the duty cycle is 25 percent.
1. The RF output of EUT is connected to the spectrum analyzer by a low loss cable.
 2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

3.4 Unwanted Emissions Measurement

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

3.4.1 Limit of Unwanted Emissions

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

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

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

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

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

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

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

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

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

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

3.4.2 Measuring Instruments

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

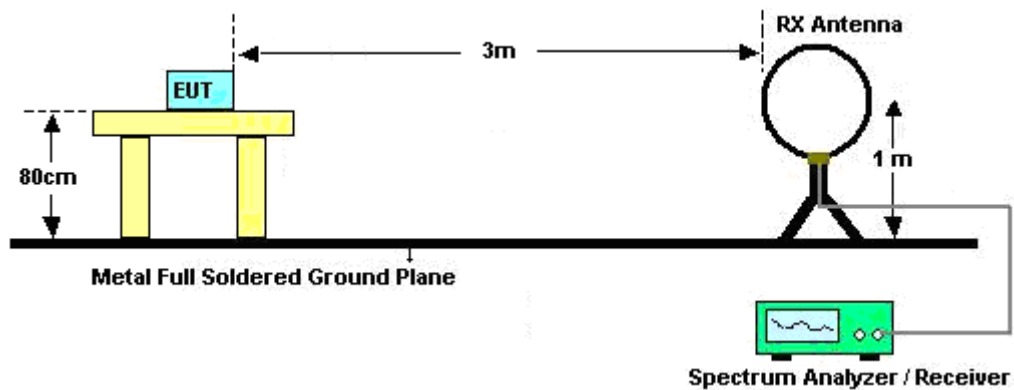
3.4.3 Test Procedures

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

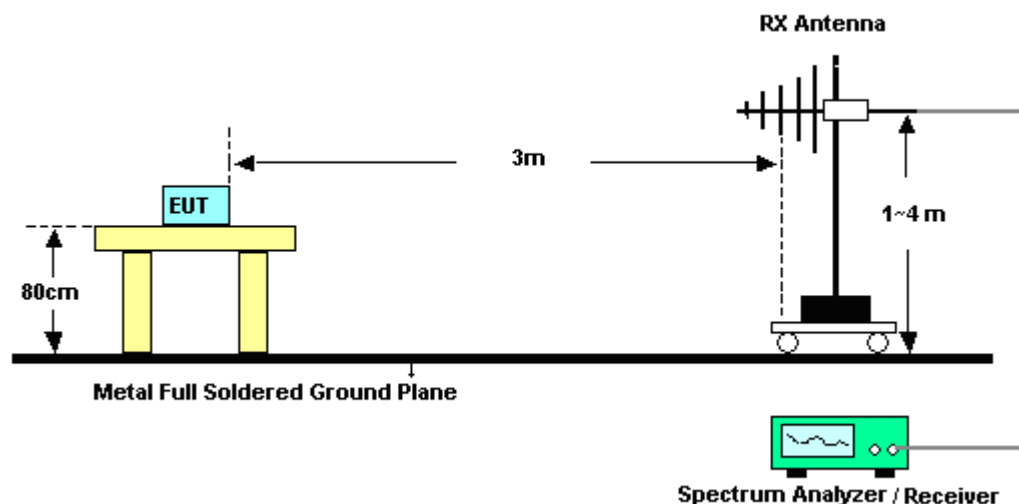
6. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading. When there is no suspected emission found and the emission level is with at least 6 dB margin against QP limit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

3.4.4 Test Setup

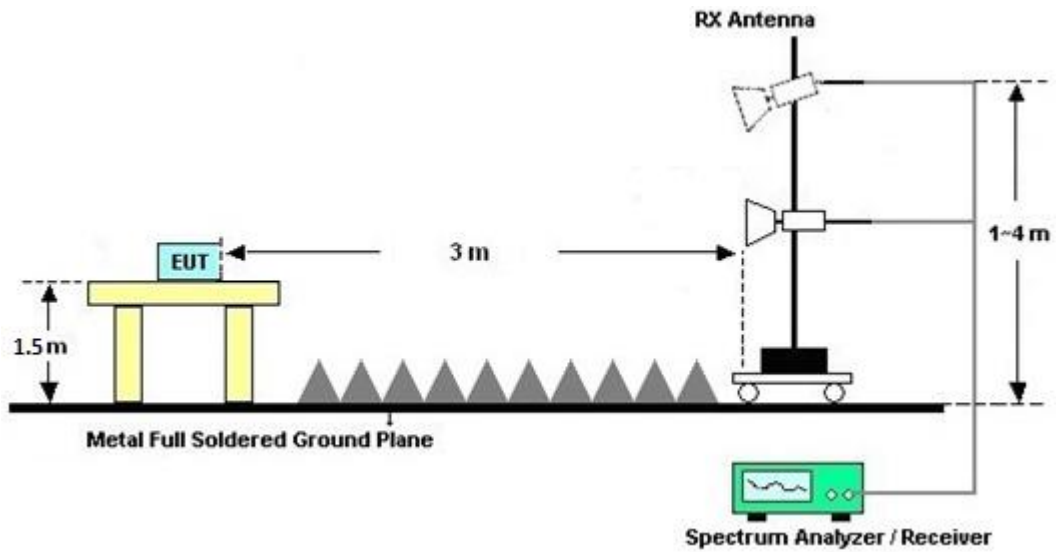
For radiated emissions below 30MHz



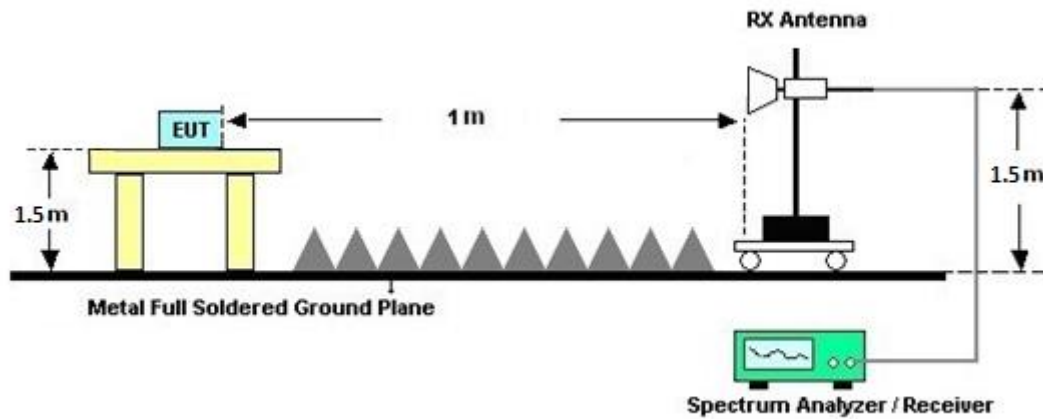
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



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

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

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

3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix C and D.

3.4.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

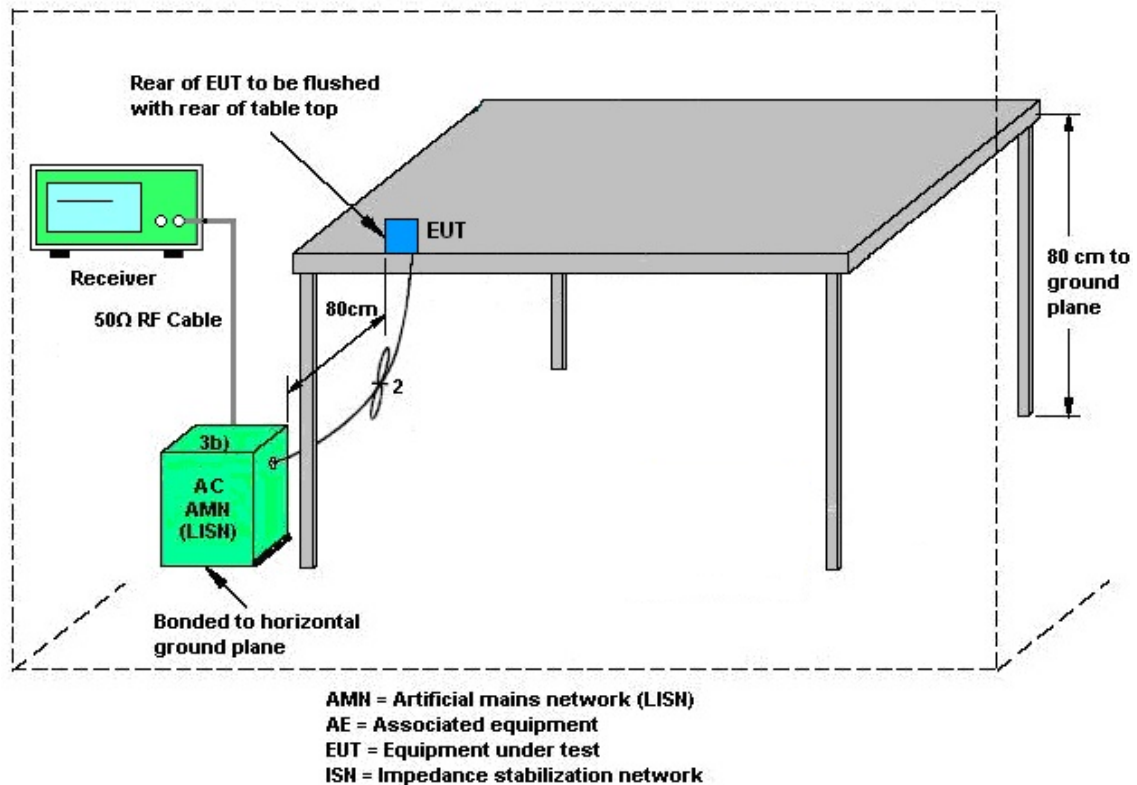
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.6 Antenna Requirements

3.6.1 Standard Applicable

The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

3.6.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.



4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ACPOWER	AFC-11003G	F317040033	N/A	N/A	May 21, 2024	N/A	Conduction (CO07-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	May 21, 2024	N/A	Conduction (CO07-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	9561-F N00373	9kHz~200MHz	Oct. 20, 2023	May 21, 2024	Oct. 19, 2024	Conduction (CO07-HY)
RF Cable	HUBER + SUHNER	RG 214/U	1358175	9kHz~30MHz	Mar. 14, 2024	May 21, 2024	Mar. 13, 2025	Conduction (CO07-HY)
Two-Line V-Network	TESEQ	NNB 51	45051	N/A	Mar. 10, 2024	May 21, 2024	Mar. 09, 2025	Conduction (CO07-HY)
Four-Line V-Network	TESEQ	NNB 52	36122	N/A	Mar. 07, 2024	May 21, 2024	Mar. 06, 2025	Conduction (CO07-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102317	9kHz~3.6GHz	Sep. 20, 2023	May 21, 2024	Sep. 19, 2024	Conduction (CO07-HY)
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 07, 2023	Mar. 25, 2024~ Apr. 09, 2024	Nov. 06, 2024	Conducted (TH05-HY)
Power Sensor	DARE	RPR3008W	RPR8W-2301 017 (NO:20)	10MHz~8GHz	Jul. 26, 2023	Mar. 25, 2024~ Apr. 09, 2024	Jul. 25, 2024	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Aug. 31, 2023	Mar. 25, 2024~ Apr. 09, 2024	Aug. 30, 2024	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL883644	Voltage:0~20V; Current:0~5A	Nov. 20, 2023	Mar. 25, 2024~ Apr. 09, 2024	Nov. 19, 2024	Conducted (TH05-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 12, 2023	Apr. 02, 2024~ Apr. 15, 2024	Sep. 11, 2024	Radiation (03CH16-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA9170	00993	18GHz~40GHz	Nov. 24, 2023	Apr. 02, 2024~ Apr. 15, 2024	Nov. 23, 2024	Radiation (03CH16-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00802N1D01N -06	47020 & 06	30MHz to 1GHz	Oct. 07, 2023	Apr. 02, 2024~ Apr. 15, 2024	Oct. 06, 2024	Radiation (03CH16-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-02038	1G~18GHz	Jul.31,2023	Apr. 02, 2024~ Apr. 15, 2024	Jul.30,2024	Radiation (03CH16-HY)
Amplifier	SONOMA	310N	371607	9kHz~1GHz	Jul. 03, 2023	Apr. 02, 2024~ Apr. 15, 2024	Jul. 02, 2024	Radiation (03CH16-HY)
Preamplifier	Keysight	83017A	MY53270264	1GHz~26.5GHz	Dec. 07, 2023	Apr. 02, 2024~ Apr. 15, 2024	Dec. 06, 2024	Radiation (03CH16-HY)
Preamplifier	EMEC	EM1G18G	060812	1GHz~18GHz	Dec. 25, 2023	Apr. 02, 2024~ Apr. 15, 2024	Dec. 24, 2024	Radiation (03CH16-HY)
Preamplifier	EMEC	EM18G40G	060801	18GHz~40GHz	Jun. 27, 2023	Apr. 02, 2024~ Apr. 15, 2024	Jun. 26, 2024	Radiation (03CH16-HY)
Filter	Wainwright	WLK4-1000-15 30-8000-40SS	SN17	1.53GHz Low Pass Filter	Jan. 15, 2024	Apr. 02, 2024~ Apr. 15, 2024	Jan. 14, 2025	Radiation (03CH16-HY)
Filter	Wainwright	WHKX12-2700 -3000-18000-6 0ST	SN3	3GHz High Pass Filter	Jun. 29, 2023	Apr. 02, 2024~ Apr. 15, 2024	Jun. 28, 2024	Radiation (03CH16-HY)
Filter	Wainwright	WHKX8-5872. 5-6750-18000-40ST	SN27	6.75GHz High Pass Filter	Nov. 13, 2023	Apr. 02, 2024~ Apr. 15, 2024	Nov. 12, 2024	Radiation (03CH16-HY)

**FCC RADIO TEST REPORT****Report No. : FR431513F**

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9K~30M	Mar. 06, 2024	Apr. 02, 2024~ Apr. 15, 2024	Mar. 05, 2025	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102/SUCOFLEX X 104	EC-A5-300-5757,805935/4,802434/4	30MHz~18GHz	Aug. 08, 2023	Apr. 02, 2024~ Apr. 15, 2024	Aug. 07, 2024	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804011/2,804012/2	18-40GHz	Jan. 02, 2024	Apr. 02, 2024~ Apr. 15, 2024	Jan. 01, 2025	Radiation (03CH16-HY)
Software	Audix	E3 6.2009-8-24	RK-001136	N/A	N/A	Apr. 02, 2024~ Apr. 15, 2024	N/A	Radiation (03CH16-HY)
Controller	ChainTek	3000-1	N/A	Control Turn table & Ant Mast	N/A	Apr. 02, 2024~ Apr. 15, 2024	N/A	Radiation (03CH16-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Apr. 02, 2024~ Apr. 15, 2024	N/A	Radiation (03CH16-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Apr. 02, 2024~ Apr. 15, 2024	N/A	Radiation (03CH16-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
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	6.50 dB
--	---------

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

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

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.50 dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.50 dB
--	---------

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Kevin Xiao	Temperature:	21~25	°C
Test Date:	2024/3/25~2024/4/9	Relative Humidity:	51~54	%

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

U-NII-3 single antenna									
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Pass/Fail
					Ant 1	Ant 1	Ant 1		
11a	6Mbps	1	149	5745	16.78	20.14	15.12	0.5	Pass
11a	6Mbps	1	157	5785	16.68	20.14	14.96	0.5	Pass
11a	6Mbps	1	165	5825	16.68	20.22	15.29	0.5	Pass
HT20	MCS0	1	149	5745	17.73	20.52	15.12	0.5	Pass
HT20	MCS0	1	157	5785	17.68	20.48	15.11	0.5	Pass
HT20	MCS0	1	165	5825	17.73	20.51	15.11	0.5	Pass
HT40	MCS0	1	151	5755	36.46	41.42	35.11	0.5	Pass
HT40	MCS0	1	159	5795	36.56	41.52	35.08	0.5	Pass
VHT80	MCS0	1	155	5775	75.16	81.44	75.14	0.5	Pass

TEST RESULTS DATA
Average Power Table

U-NII-3 single antenna								
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	Pass/Fail
					Ant 1	Ant 1	Ant 1	
11a	6Mbps	1	149	5745	14.80	30.00	-0.93	Pass
11a	6Mbps	1	157	5785	14.90	30.00	-0.93	Pass
11a	6Mbps	1	165	5825	14.90	30.00	-0.93	Pass
HT20	MCS0	1	149	5745	14.80	30.00	-0.93	Pass
HT20	MCS0	1	157	5785	14.90	30.00	-0.93	Pass
HT20	MCS0	1	165	5825	14.80	30.00	-0.93	Pass
HT40	MCS0	1	151	5755	14.50	30.00	-0.93	Pass
HT40	MCS0	1	159	5795	14.90	30.00	-0.93	Pass
VHT20	MCS0	1	149	5745	14.70	30.00	-0.93	Pass
VHT20	MCS0	1	157	5785	14.80	30.00	-0.93	Pass
VHT20	MCS0	1	165	5825	14.70	30.00	-0.93	Pass
VHT40	MCS0	1	151	5755	14.40	30.00	-0.93	Pass
VHT40	MCS0	1	159	5795	14.80	30.00	-0.93	Pass
VHT80	MCS0	1	155	5775	14.70	30.00	-0.93	Pass

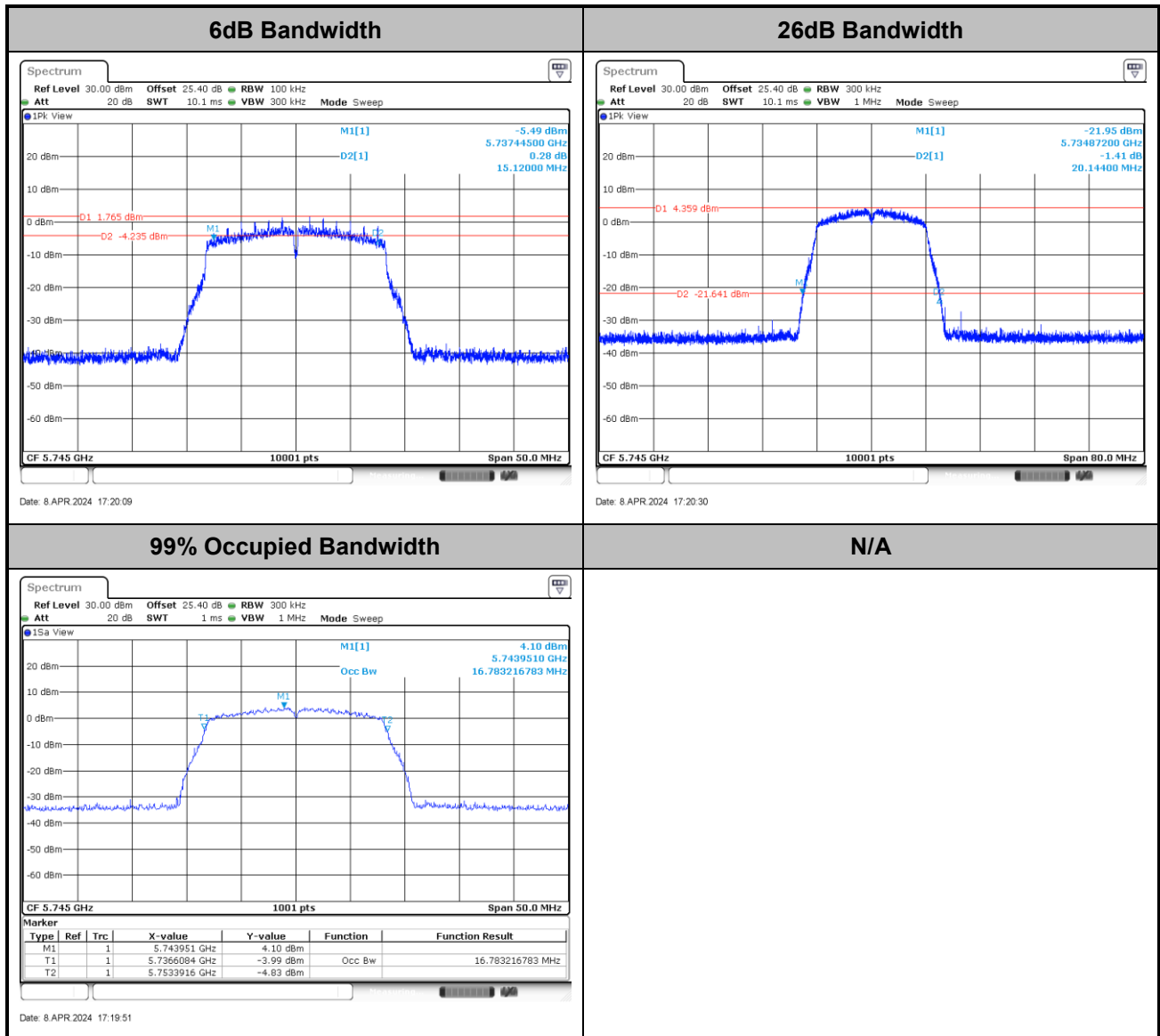
TEST RESULTS DATA
Power Spectral Density

U-NII-3 single antenna											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	10log (500k Hz /RBW) Factor	Average Power Density (dBm/500kHz)		Average PSD Limit (dBm/500kHz)	DG (dBi)	Pass /Fail
					Ant 1	Ant 1	Ant 1	SUM	Ant 1	Ant 1	
11a	6Mbps	1	149	5745	0.15	2.22	1.56		30.00	-0.93	Pass
11a	6Mbps	1	157	5785	0.15	2.22	1.54		30.00	-0.93	Pass
11a	6Mbps	1	165	5825	0.15	2.22	1.61		30.00	-0.93	Pass
HT20	MCS0	1	149	5745	0.15	2.22	1.12		30.00	-0.93	Pass
HT20	MCS0	1	157	5785	0.15	2.22	1.32		30.00	-0.93	Pass
HT20	MCS0	1	165	5825	0.15	2.22	1.22		30.00	-0.93	Pass
HT40	MCS0	1	151	5755	0.29	2.22	-2.13		30.00	-0.93	Pass
HT40	MCS0	1	159	5795	0.29	2.22	-1.81		30.00	-0.93	Pass
VHT80	MCS0	1	155	5775	0.55	2.22	-5.15		30.00	-0.93	Pass

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

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

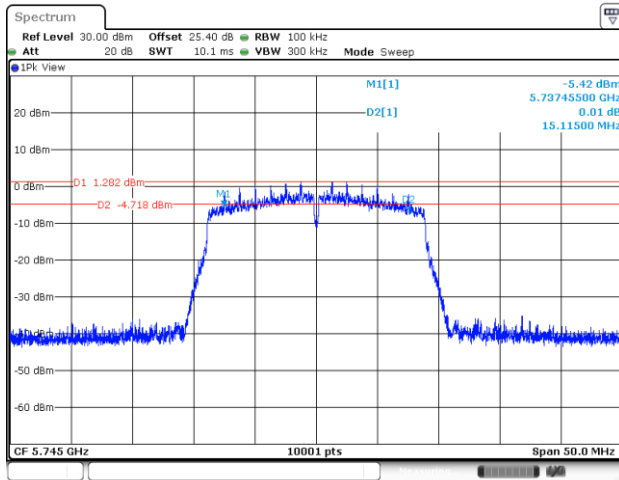
<802.11a>



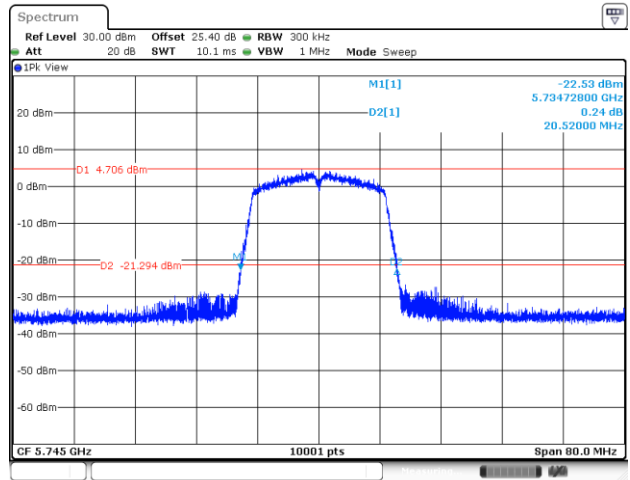


<802.11n HT20>

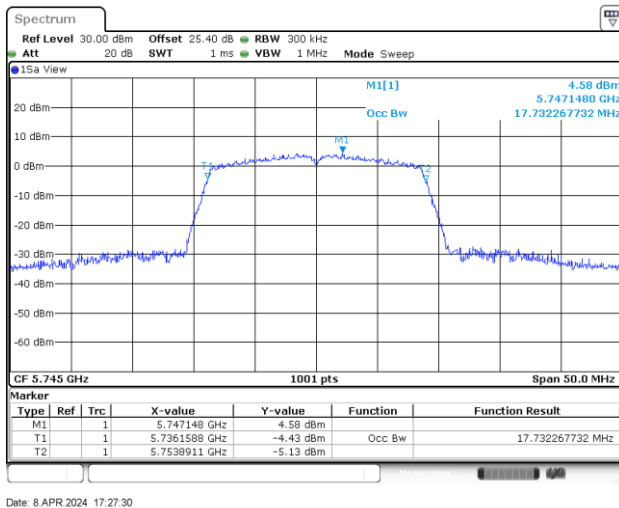
6dB Bandwidth



26dB Bandwidth



99% Occupied Bandwidth

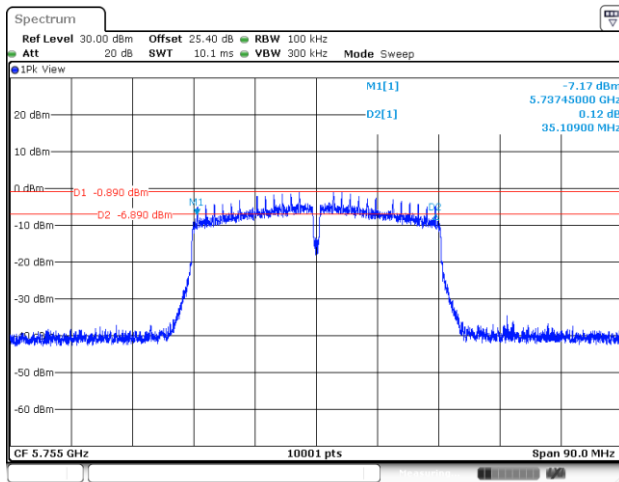


N/A

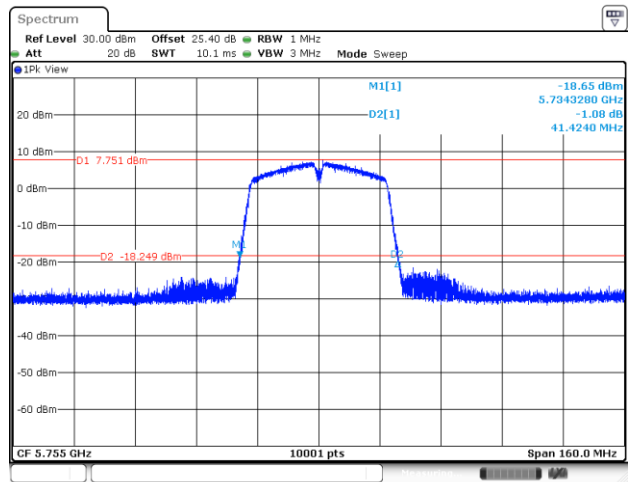


<802.11n HT40>

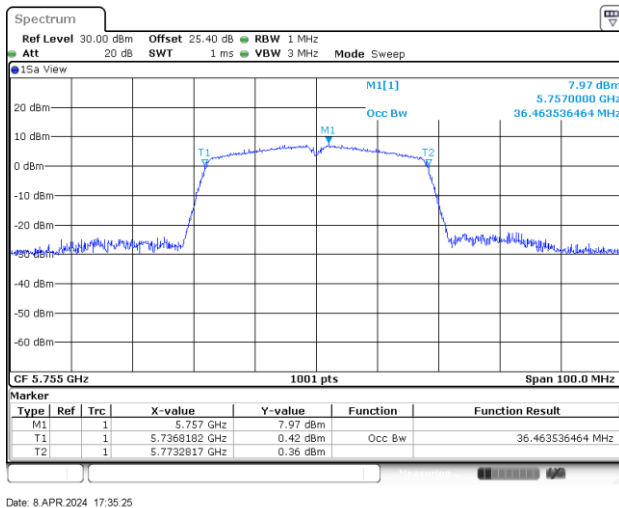
6dB Bandwidth



26dB Bandwidth



99% Occupied Bandwidth

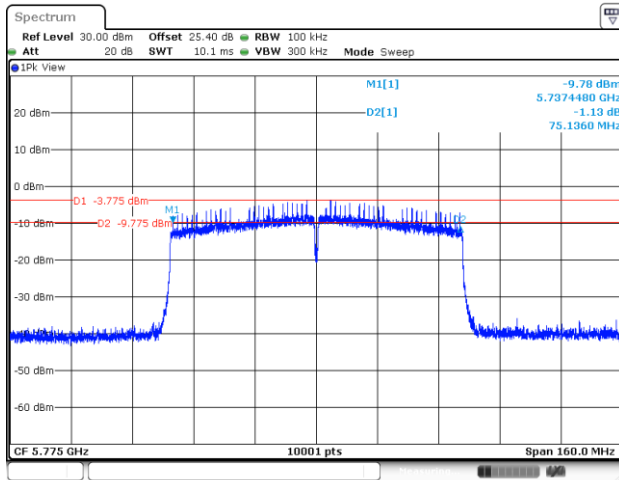


N/A



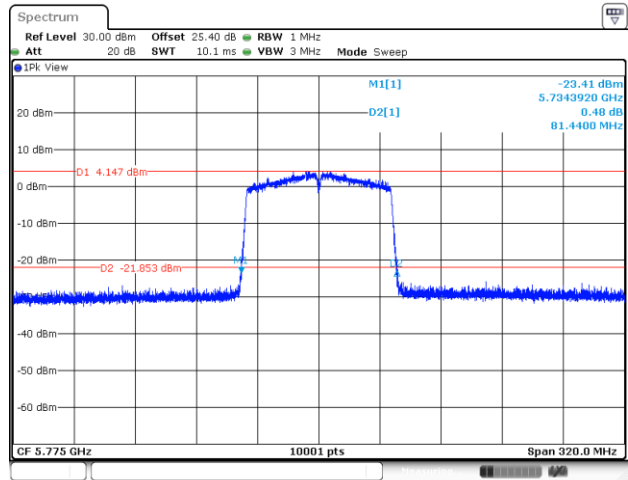
<802.11ac VHT80>

6dB Bandwidth



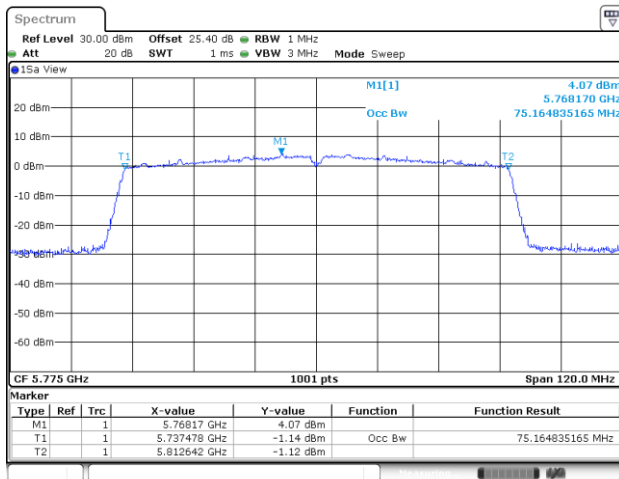
Date: 8 APR 2024 17:40:42

26dB Bandwidth



Date: 8 APR 2024 17:41:03

99% Occupied Bandwidth



Date: 8 APR 2024 17:40:26

N/A

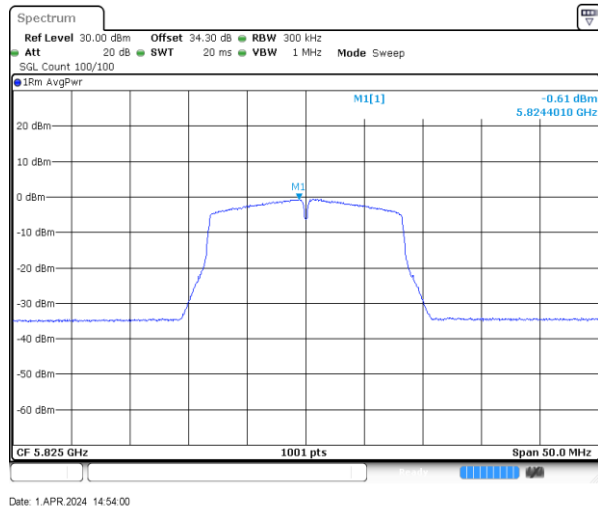


Test Result of Power Spectral Density

<802.11a>

Maximum Power Density Plot (dBm/MHz)

Ant1



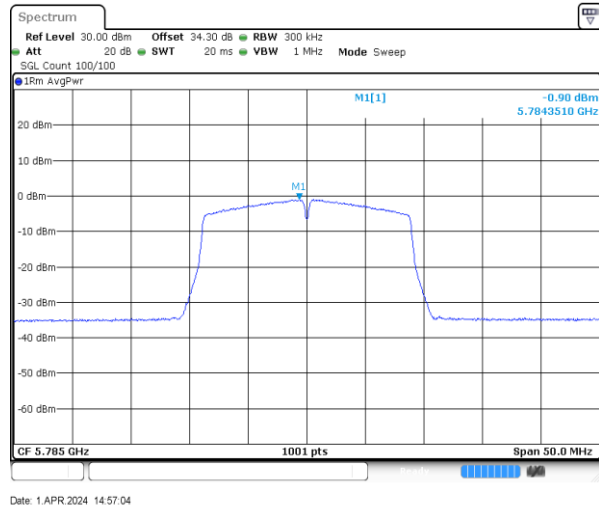
Note: EIRP Power Density (dBm/MHz) = Measured value+ Duty Factor + Directional Gain



<802.11n HT20>

Maximum Power Density Plot (dBm/MHz)

Ant1



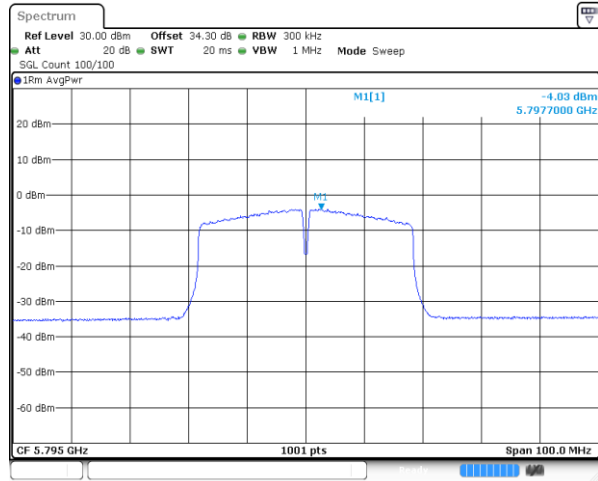
Note: EIRP Power Density (dBm/MHz) = Measured value+ Duty Factor + Directional Gain



<802.11n HT40>

Maximum Power Density Plot (dBm/MHz)

Ant1



Date: 1 APR 2024 15:04:43

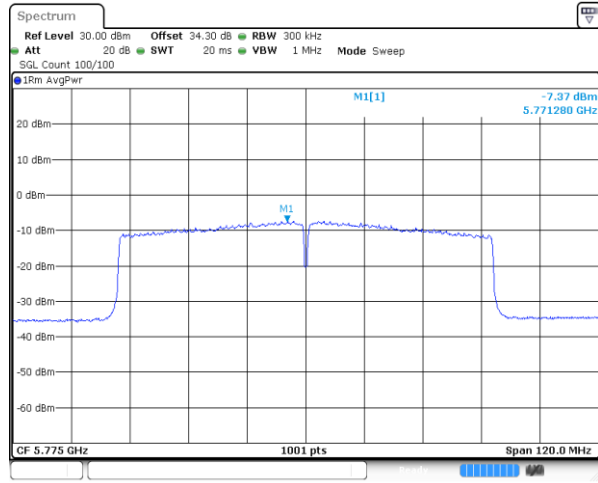
Note: EIRP Power Density (dBm/MHz) = Measured value+ Duty Factor + Directional Gain



<802.11ac VHT80>

Maximum Power Density Plot (dBm/MHz)

Ant1



Note: EIRP Power Density (dBm/MHz) = Measured value+ Duty Factor + Directional Gain



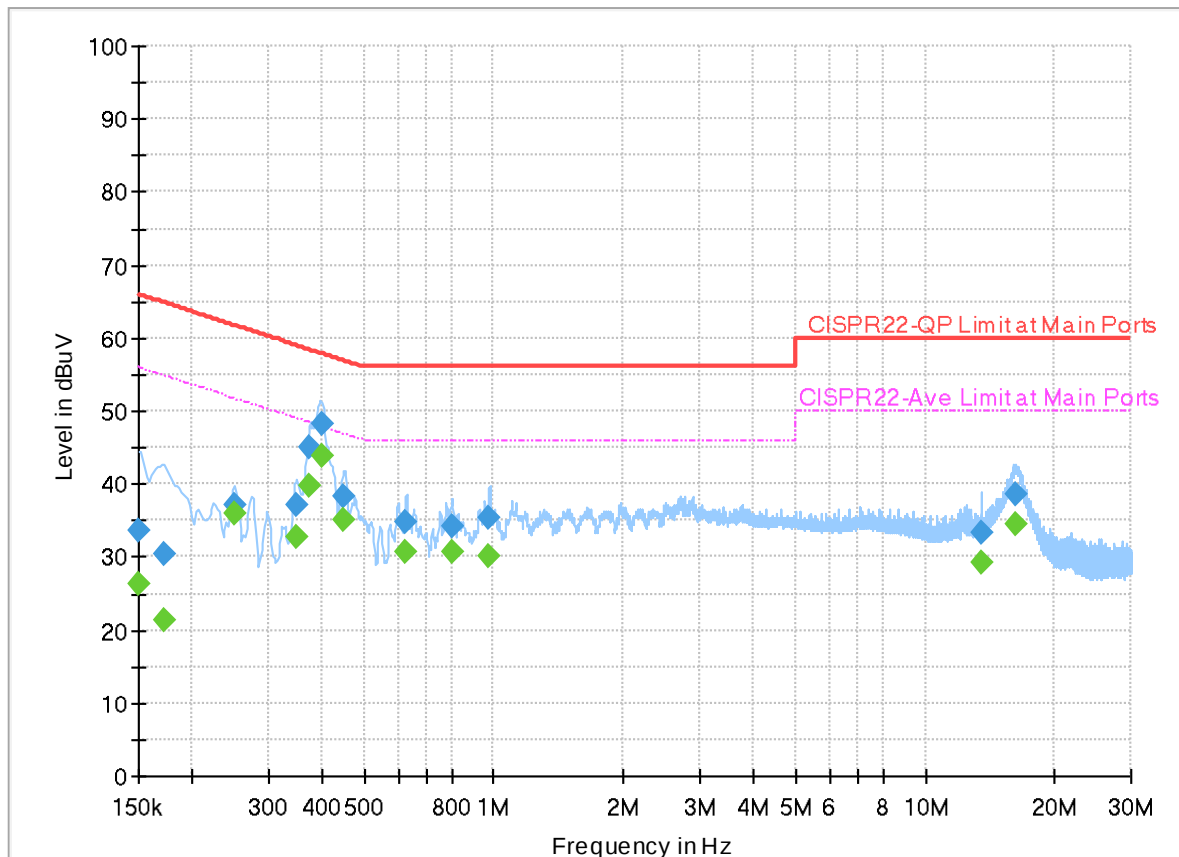
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Louis Chung	Temperature :	20.2~23.9°C
		Relative Humidity :	49.8~56.7%

EUT Information

Report NO : 431513
Test Mode : Mode 1
Test Voltage : 120Vac/60Hz
Phase : Line

Full Spectrum



Final_Result

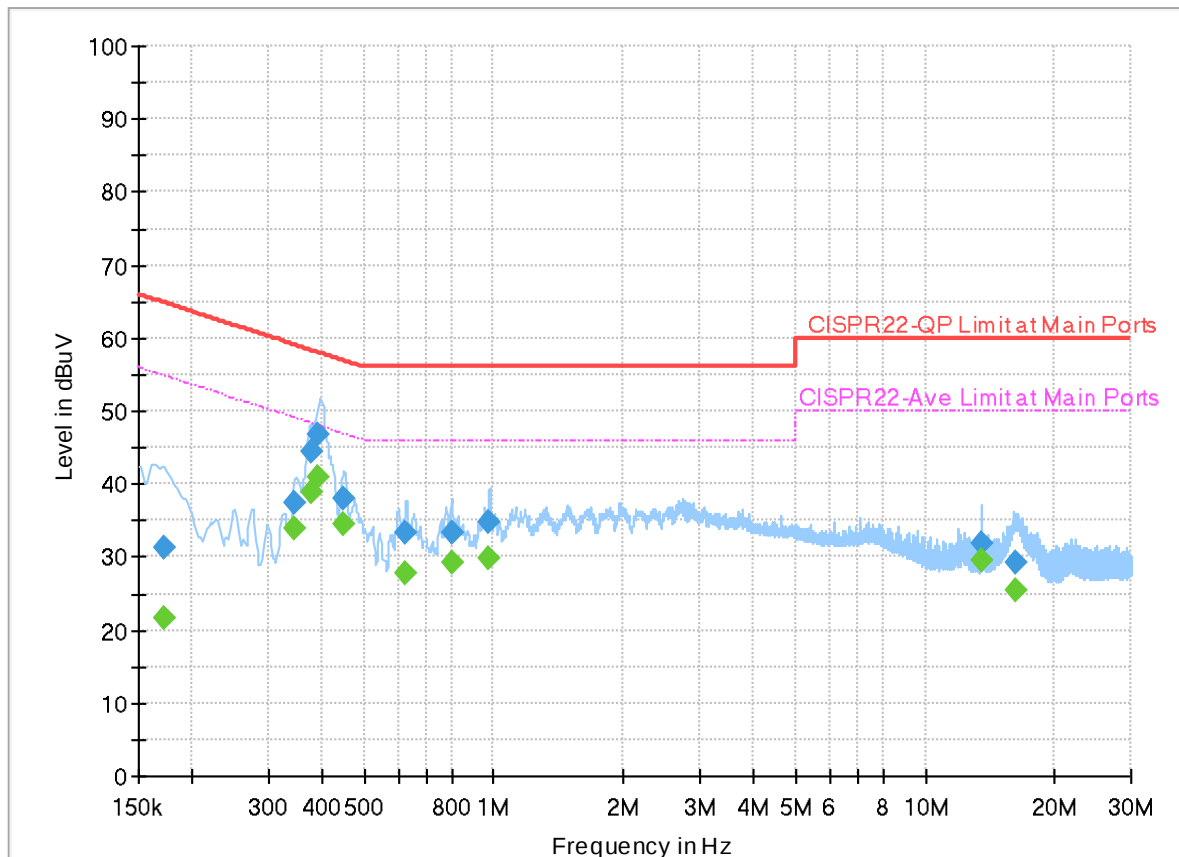
Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150000	---	26.30	56.00	29.70	L1	OFF	19.9
0.150000	33.59	---	66.00	32.41	L1	OFF	19.9
0.171960	---	21.43	54.87	33.44	L1	OFF	19.9
0.171960	30.28	---	64.87	34.59	L1	OFF	19.9
0.250620	---	35.87	51.74	15.87	L1	OFF	19.9
0.250620	37.24	---	61.74	24.50	L1	OFF	19.9
0.349080	---	32.67	48.98	16.31	L1	OFF	19.9
0.349080	37.18	---	58.98	21.80	L1	OFF	19.9
0.374190	---	39.86	48.41	8.55	L1	OFF	19.9
0.374190	44.89	---	58.41	13.52	L1	OFF	19.9
0.398040	---	43.77	47.89	4.12	L1	OFF	19.9
0.398040	48.32	---	57.89	9.57	L1	OFF	19.9
0.447990	---	35.10	46.91	11.81	L1	OFF	19.9
0.447990	38.27	---	56.91	18.64	L1	OFF	19.9
0.626640	---	30.77	46.00	15.23	L1	OFF	19.9
0.626640	34.75	---	56.00	21.25	L1	OFF	19.9
0.801420	---	30.69	46.00	15.31	L1	OFF	19.9
0.801420	34.19	---	56.00	21.81	L1	OFF	19.9
0.976650	---	30.14	46.00	15.86	L1	OFF	19.9

0.976650	35.24	---	56.00	20.76	L1	OFF	19.9
13.562610	---	29.24	50.00	20.76	L1	OFF	20.1
13.562610	33.35	---	60.00	26.65	L1	OFF	20.1
16.205640	---	34.40	50.00	15.60	L1	OFF	20.1
16.205640	38.51	---	60.00	21.49	L1	OFF	20.1

EUT Information

Report NO : 431513
Test Mode : Mode 1
Test Voltage : 120Vac/60Hz
Phase : Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.171330	---	21.61	54.90	33.29	N	OFF	19.9
0.171330	31.25	---	64.90	33.65	N	OFF	19.9
0.345750	---	33.90	49.06	15.16	N	OFF	19.9
0.345750	37.44	---	59.06	21.62	N	OFF	19.9
0.379320	---	38.81	48.29	9.48	N	OFF	19.9
0.379320	44.40	---	58.29	13.89	N	OFF	19.9
0.390750	---	40.99	48.05	7.06	N	OFF	19.9
0.390750	46.69	---	58.05	11.36	N	OFF	19.9
0.447540	---	34.37	46.92	12.55	N	OFF	19.9
0.447540	38.00	---	56.92	18.92	N	OFF	19.9
0.624750	---	27.86	46.00	18.14	N	OFF	19.9
0.624750	33.33	---	56.00	22.67	N	OFF	19.9
0.799350	---	29.18	46.00	16.82	N	OFF	19.9
0.799350	33.39	---	56.00	22.61	N	OFF	19.9
0.977190	---	29.81	46.00	16.19	N	OFF	19.9
0.977190	34.83	---	56.00	21.17	N	OFF	19.9
13.559280	---	29.43	50.00	20.57	N	OFF	20.1
13.559280	31.86	---	60.00	28.14	N	OFF	20.1
16.209960	---	25.52	50.00	24.48	N	OFF	20.2

16.209960	29.33	---	60.00	30.67	N	OFF	20.2
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Appendix C. Radiated Spurious Emission

Test Engineer :	Bill Chang, Gary Guo and Steven Wu	Temperature :	18.2~20.2°C
		Relative Humidity :	54.2~56.1%

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5638.2	55.02	-13.18	68.2	39.5	33.02	11.88	29.38	265	257	P	H
		5697.4	56.57	-46.71	103.28	40.75	33.28	11.93	29.39	265	257	P	H
		5718.4	56.46	-53.89	110.35	40.43	33.48	11.94	29.39	265	257	P	H
		5723.6	57.92	-61.09	119.01	41.82	33.54	11.95	29.39	265	257	P	H
	*	5745	105.13	-	-	88.81	33.75	11.97	29.4	265	257	P	H
	*	5745	98.04	-	-	81.72	33.75	11.97	29.4	265	257	A	H
													H
													H
		5630.4	55.38	-12.82	68.2	39.85	33.04	11.87	29.38	100	181	P	V
		5666	56.34	-23.74	80.08	40.72	33.1	11.9	29.38	100	181	P	V
		5713	55.17	-53.67	108.84	39.19	33.43	11.94	29.39	100	181	P	V
		5722.4	55.21	-61.06	116.27	39.13	33.52	11.95	29.39	100	181	P	V
	*	5745	102.84	-	-	86.52	33.75	11.97	29.4	100	181	P	V
	*	5745	96.02	-	-	79.7	33.75	11.97	29.4	100	181	A	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 157 5785MHz		5635.4	53.82	-14.38	68.2	38.29	33.03	11.88	29.38	249	253	P	H
		5691.6	54.83	-44.18	99.01	39.05	33.25	11.92	29.39	249	253	P	H
		5700	54.69	-50.51	105.2	38.85	33.3	11.93	29.39	249	253	P	H
		5721	54.82	-58.26	113.08	38.75	33.51	11.95	29.39	249	253	P	H
	*	5785	104.98	-	-	88.38	34.01	12	29.41	249	253	P	H
	*	5785	97.94	-	-	81.34	34.01	12	29.41	249	253	A	H
		5851.2	53.58	-65.88	119.46	36.76	34.1	12.14	29.42	249	253	P	H
		5857	55.31	-54.93	110.24	38.45	34.13	12.15	29.42	249	253	P	H
		5893.8	55.81	-35.44	91.25	38.72	34.28	12.24	29.43	249	253	P	H
		5939.8	56.24	-11.96	68.2	38.95	34.38	12.35	29.44	249	253	P	H
													H
													H
		5643	55.49	-12.71	68.2	39.98	33.01	11.88	29.38	100	161	P	V
		5699.6	54.54	-50.37	104.91	38.7	33.3	11.93	29.39	100	161	P	V
		5713.8	54.43	-54.64	109.07	38.44	33.44	11.94	29.39	100	161	P	V
		5724.2	53.57	-66.81	120.38	37.47	33.54	11.95	29.39	100	161	P	V
	*	5785	102.75	-	-	86.15	34.01	12	29.41	100	161	P	V
	*	5785	95.19	-	-	78.59	34.01	12	29.41	100	161	A	V
		5851.4	54.17	-64.84	119.01	37.34	34.11	12.14	29.42	100	161	P	V
		5873.4	55.19	-50.46	105.65	38.23	34.19	12.19	29.42	100	161	P	V
		5882.4	57.46	-42.24	99.7	40.45	34.23	12.21	29.43	100	161	P	V
		5932.4	56.59	-11.61	68.2	39.34	34.36	12.33	29.44	100	161	P	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 165 5825MHz	*	5825	104.96	-	-	88.21	34.1	12.07	29.42	254	258	P	H
	*	5825	98.02	-	-	81.27	34.1	12.07	29.42	254	258	A	H
		5853.6	54.55	-59.44	113.99	37.72	34.11	12.14	29.42	254	258	P	H
		5857	55.56	-54.68	110.24	38.7	34.13	12.15	29.42	254	258	P	H
		5877.2	56.98	-46.59	103.57	40	34.21	12.2	29.43	254	258	P	H
		5930.4	55.4	-12.8	68.2	38.15	34.36	12.33	29.44	254	258	P	H
													H
													H
	*	5825	102.2	-	-	85.45	34.1	12.07	29.42	255	150	P	V
	*	5825	95.46	-	-	78.71	34.1	12.07	29.42	255	150	A	V
		5853.2	55.12	-59.78	114.9	38.29	34.11	12.14	29.42	255	150	P	V
		5857.8	56.08	-53.93	110.01	39.22	34.13	12.15	29.42	255	150	P	V
		5912.8	56.72	-20.48	77.2	39.53	34.33	12.29	29.43	255	150	P	V
		5930	56.26	-11.94	68.2	39.01	34.36	12.33	29.44	255	150	P	V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 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 149 5745MHz		11490	47.84	-26.16	74	56.95	39.18	17.48	65.77	-	-	P	H
		17235	48.75	-19.45	68.2	54.18	38.23	21.95	65.61	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		11490	47.67	-26.33	74	56.78	39.18	17.48	65.77	-	-	P	V
		17235	48.97	-19.23	68.2	54.4	38.23	21.95	65.61	-	-	P	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 157 5785MHz		11570	47.28	-26.72	74	56.53	39.02	17.54	65.81	-	-	P	H
		17355	48.29	-19.91	68.2	53.35	38.42	22	65.48	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		11570	47.81	-26.19	74	57.06	39.02	17.54	65.81	-	-	P	V
		17355	47.06	-21.14	68.2	52.12	38.42	22	65.48	-	-	P	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 165 5825MHz		11650	47.29	-26.71	74	56.93	38.6	17.61	65.85	-	-	P	H
		17475	49.79	-18.41	68.2	54.38	38.7	22.06	65.35	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		11650	47.07	-26.93	74	56.71	38.6	17.61	65.85	-	-	P	V
		17475	49.18	-19.02	68.2	53.77	38.7	22.06	65.35	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												
	3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.												

**Band 4 5725~5850MHz****WIFI 802.11n HT20 (Band Edge @ 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)
802.11n HT20 CH 149 5745MHz		5610.6	56.67	-11.53	68.2	41.1	33.08	11.86	29.37	263	166	P	V
		5677.2	56.15	-32.22	88.37	40.47	33.16	11.91	29.39	263	166	P	V
		5719	60.55	-49.97	110.52	44.5	33.49	11.95	29.39	263	166	P	V
		5724.8	66.63	-55.11	121.74	50.52	33.55	11.95	29.39	263	166	P	V
	*	5745	103.74	-	-	87.42	33.75	11.97	29.4	263	166	P	V
	*	5745	96.67	-	-	80.35	33.75	11.97	29.4	263	166	A	V
													H
													H
		5632.8	56.46	-11.74	68.2	40.93	33.03	11.88	29.38	261	257	P	H
		5679.6	56.41	-33.73	90.14	40.71	33.18	11.91	29.39	261	257	P	H
		5719.8	60.43	-50.31	110.74	44.37	33.5	11.95	29.39	261	257	P	H
		5724	66.47	-53.45	119.92	50.37	33.54	11.95	29.39	261	257	P	H
	*	5745	104.01	-	-	87.69	33.75	11.97	29.4	261	257	P	H
	*	5745	97.13	-	-	80.81	33.75	11.97	29.4	261	257	A	H
													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)
802.11n HT20 CH 157 5785MHz		5605	56.46	-11.74	68.2	40.89	33.09	11.85	29.37	253	256	P	H
		5663.2	56.11	-21.89	78	40.51	33.08	11.9	29.38	253	256	P	H
		5712.4	56.18	-52.49	108.67	40.21	33.42	11.94	29.39	253	256	P	H
		5722.2	55.45	-60.37	115.82	39.37	33.52	11.95	29.39	253	256	P	H
	*	5785	103.58	-	-	86.98	34.01	12	29.41	253	256	P	H
	*	5785	97.39	-	-	80.79	34.01	12	29.41	253	256	A	H
		5850.2	56.41	-65.33	121.74	39.6	34.1	12.13	29.42	253	256	P	H
		5857.2	57.32	-52.86	110.18	40.46	34.13	12.15	29.42	253	256	P	H
		5923.4	57.55	-11.83	69.38	40.32	34.35	12.31	29.43	253	256	P	H
		5942	57.37	-10.83	68.2	40.07	34.38	12.36	29.44	253	256	P	H
													H
													H
		5600.2	55.58	-12.62	68.2	40	33.1	11.85	29.37	271	150	P	V
		5682.6	56.25	-36.11	92.36	40.52	33.2	11.92	29.39	271	150	P	V
		5709.6	56.24	-51.65	107.89	40.29	33.4	11.94	29.39	271	150	P	V
		5724.8	55.29	-66.45	121.74	39.18	33.55	11.95	29.39	271	150	P	V
	*	5785	102.05	-	-	85.45	34.01	12	29.41	271	150	P	V
	*	5785	95.53	-	-	78.93	34.01	12	29.41	271	150	A	V
		5850.6	56.13	-64.7	120.83	39.32	34.1	12.13	29.42	270	148	P	V
		5866.8	57.48	-50.01	107.49	40.56	34.17	12.17	29.42	270	148	P	V
		5889.4	57.89	-36.62	94.51	40.83	34.26	12.23	29.43	270	148	P	V
		5948.4	57.83	-10.37	68.2	40.5	34.4	12.37	29.44	270	148	P	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)
802.11n HT20 CH 165 5825MHz	*	5825	105.48	-	-	88.73	34.1	12.07	29.42	251	256	P	H
	*	5825	97.99	-	-	81.24	34.1	12.07	29.42	251	256	A	H
		5850.2	61.59	-60.15	121.74	44.78	34.1	12.13	29.42	251	256	P	H
		5862.2	58.41	-50.37	108.78	41.52	34.15	12.16	29.42	251	256	P	H
		5879.4	57.38	-44.55	101.93	40.39	34.22	12.2	29.43	251	256	P	H
		5932	57.34	-10.86	68.2	40.09	34.36	12.33	29.44	251	256	P	H
													H
													H
	*	5825	100.84	-	-	84.09	34.1	12.07	29.42	264	148	P	V
	*	5825	94.93	-	-	78.18	34.1	12.07	29.42	264	148	A	V
		5850.2	59.8	-61.94	121.74	42.99	34.1	12.13	29.42	264	148	P	V
		5867.4	58.77	-48.56	107.33	41.84	34.17	12.18	29.42	264	148	P	V
		5886	57.02	-40.01	97.03	39.99	34.24	12.22	29.43	264	148	P	V
		5936.6	57.98	-10.22	68.2	40.71	34.37	12.34	29.44	264	148	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 4 5725~5850MHz****WIFI 802.11n HT20 (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)
802.11n HT20 CH 149 5745MHz		11490	47.86	-26.14	74	56.97	39.18	17.48	65.77	-	-	P	H
		17235	48.7	-19.5	68.2	54.13	38.23	21.95	65.61	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		11490	47.8	-26.2	74	56.91	39.18	17.48	65.77	-	-	P	V
		17235	48.55	-19.65	68.2	53.98	38.23	21.95	65.61	-	-	P	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)
802.11n HT20 CH 157 5785MHz		11570	49.06	-24.94	74	58.31	39.02	17.54	65.81	197	248	P	H
		11570	38.73	-15.27	54	47.98	39.02	17.54	65.81	197	248	A	H
		17355	47.95	-20.25	68.2	53.01	38.42	22	65.48	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		11570	47.19	-26.81	74	56.44	39.02	17.54	65.81	-	-	P	V
		17355	47.48	-20.72	68.2	52.54	38.42	22	65.48	-	-	P	V
													V
													V
													V
													V
													V
													V
													V

[illegible]



Band 4 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 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)
802.11n HT40 CH 151 5755MHz		5646.6	55.89	-12.31	68.2	40.37	33.01	11.89	29.38	256	258	P	H
		5658.6	56.18	-18.41	74.59	40.61	33.05	11.9	29.38	256	258	P	H
		5718.8	61.16	-49.3	110.46	45.11	33.49	11.95	29.39	256	258	P	H
		5722.6	62.44	-54.29	116.73	46.35	33.53	11.95	29.39	256	258	P	H
	*	5755	100.27	-	-	83.87	33.83	11.97	29.4	256	258	P	H
	*	5755	94.07	-	-	77.67	33.83	11.97	29.4	256	258	A	H
		5851.8	55.56	-62.54	118.1	38.73	34.11	12.14	29.42	256	258	P	H
		5859.8	56.91	-52.54	109.45	40.03	34.14	12.16	29.42	256	258	P	H
		5915.8	58.34	-16.64	74.98	41.15	34.33	12.29	29.43	256	258	P	H
		5938	57.03	-11.17	68.2	39.74	34.38	12.35	29.44	256	258	P	H
													H
													H
		5611	55.94	-12.26	68.2	40.37	33.08	11.86	29.37	108	184	P	V
		5698.8	55.51	-48.81	104.32	39.68	33.29	11.93	29.39	108	184	P	V
		5718.6	60.37	-50.04	110.41	44.33	33.49	11.94	29.39	108	184	P	V
		5722.8	63.29	-53.89	117.18	47.2	33.53	11.95	29.39	108	184	P	V
	*	5755	99.39	-	-	82.99	33.83	11.97	29.4	108	184	P	V
	*	5755	92.2	-	-	75.8	33.83	11.97	29.4	108	184	A	V
		5854	56.88	-56.2	113.08	40.04	34.12	12.14	29.42	108	184	P	V
		5862	56.41	-52.43	108.84	39.52	34.15	12.16	29.42	108	184	P	V
		5914.2	56.87	-19.3	76.17	39.68	34.33	12.29	29.43	108	184	P	V
		5947.4	56.73	-11.47	68.2	39.41	34.39	12.37	29.44	108	184	P	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)
802.11n HT40 CH 159 5795MHz		5642.4	55.91	-12.29	68.2	40.39	33.02	11.88	29.38	265	258	P	H
		5666.2	55.04	-25.18	80.22	39.42	33.1	11.9	29.38	265	258	P	H
		5706.4	55.53	-51.46	106.99	39.62	33.36	11.94	29.39	265	258	P	H
		5725	55.88	-66.32	122.2	39.78	33.55	11.95	29.4	265	258	P	H
	*	5795	101.95	-	-	85.28	34.07	12.01	29.41	265	258	P	H
	*	5795	95.23	-	-	78.56	34.07	12.01	29.41	265	258	A	H
		5850.8	59.58	-60.8	120.38	42.77	34.1	12.13	29.42	265	258	P	H
		5873.2	56.8	-48.9	105.7	39.84	34.19	12.19	29.42	265	258	P	H
		5897.8	57.98	-30.31	88.29	40.87	34.29	12.25	29.43	265	258	P	H
		5926.6	57.34	-10.86	68.2	40.11	34.35	12.32	29.44	265	258	P	H
													H
													H
		5600.4	56.55	-11.65	68.2	40.97	33.1	11.85	29.37	110	185	P	V
		5690.4	55.73	-42.39	98.12	39.96	33.24	11.92	29.39	110	185	P	V
		5701.8	56.56	-49.14	105.7	40.7	33.32	11.93	29.39	110	185	P	V
		5724.4	55.44	-65.39	120.83	39.34	33.54	11.95	29.39	110	185	P	V
	*	5795	99.56	-	-	82.89	34.07	12.01	29.41	110	185	P	V
	*	5795	92.05	-	-	75.38	34.07	12.01	29.41	110	185	A	V
		5853.2	55.51	-59.39	114.9	38.68	34.11	12.14	29.42	110	185	P	V
		5871.6	56.84	-49.31	106.15	39.88	34.19	12.19	29.42	110	185	P	V
		5891	57.53	-35.8	93.33	40.47	34.26	12.23	29.43	110	185	P	V
		5929.6	56.71	-11.49	68.2	39.46	34.36	12.33	29.44	110	185	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 4 5725~5850MHz****WIFI 802.11n HT40 (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)
802.11n HT40 CH 151 5755MHz		11510	49.2	-24.8	74	58.3	39.18	17.5	65.78	184	339	P	H
		11510	39.17	-14.83	54	48.27	39.18	17.5	65.78	184	339	A	H
		17265	47.54	-20.66	68.2	52.92	38.23	21.96	65.57	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		11510	48.38	-25.62	74	57.48	39.18	17.5	65.78	100	135	P	V
		11510	39.06	-14.94	54	48.16	39.18	17.5	65.78	100	135	A	V
		17265	47.18	-21.02	68.2	52.56	38.23	21.96	65.57	-	-	P	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)
802.11n HT40 CH 159 5795MHz		11590	47.83	-26.17	74	57.15	38.94	17.12	65.82	-	-	P	H
		17385	47.61	-20.59	68.2	52.49	38.54	21.39	65.44	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		11590	47.85	-26.15	74	57.17	38.94	17.12	65.82	-	-	P	V
		17385	48.48	-19.72	68.2	53.36	38.54	21.39	65.44	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.												



Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 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)
802.11ac VHT80 CH 155 5775MHz		5626.8	55.54	-12.66	68.2	40	33.05	11.87	29.38	245	251	P	H
		5682	59.2	-32.72	91.92	43.48	33.19	11.92	29.39	245	251	P	H
		5719	61.84	-48.68	110.52	45.79	33.49	11.95	29.39	245	251	P	H
		5721.6	61.38	-53.07	114.45	45.3	33.52	11.95	29.39	245	251	P	H
	*	5775	98.74	-	-	82.21	33.95	11.99	29.41	245	251	P	H
	*	5775	91.62	-	-	75.09	33.95	11.99	29.41	245	251	A	H
		5850.8	59.28	-61.1	120.38	42.47	34.1	12.13	29.42	245	251	P	H
		5863.6	60.91	-47.48	108.39	44.01	34.15	12.17	29.42	245	251	P	H
		5876.6	59.75	-44.26	104.01	42.77	34.21	12.2	29.43	245	251	P	H
		5932	56.89	-11.31	68.2	39.64	34.36	12.33	29.44	245	251	P	H
													H
													H
		5644.2	55.83	-12.37	68.2	40.31	33.01	11.89	29.38	262	164	P	V
		5692.4	59.63	-39.97	99.6	43.85	33.25	11.92	29.39	262	164	P	V
		5713	60.7	-48.14	108.84	44.72	33.43	11.94	29.39	262	164	P	V
		5720.4	60.85	-50.86	111.71	44.79	33.5	11.95	29.39	262	164	P	V
	*	5775	96.66	-	-	80.13	33.95	11.99	29.41	262	164	P	V
	*	5775	89.79	-	-	73.26	33.95	11.99	29.41	262	164	A	V
		5851.2	57.26	-62.2	119.46	40.44	34.1	12.14	29.42	262	164	P	V
		5859.2	57.22	-52.4	109.62	40.34	34.14	12.16	29.42	262	164	P	V
		5875	57.04	-48.16	105.2	40.08	34.2	12.19	29.43	262	164	P	V
		5935	56.47	-11.73	68.2	39.2	34.37	12.34	29.44	262	164	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

[illegible]

Band 4 5725~5850MHz

Emission below 1GHz

5GHz WIFI 802.11n HT20 (LF @ 3m)

[illegible]





Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is Margin limit line.
P/A	Peak or Av
H/V	Horizontal or Vertical



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

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					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 149 5745MHz		5650	55.45	-12.75	68.2	54.51	32.22	4.58	35.86	103	308	P	H

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)
 = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
 = 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)
 = 55.45 (dBμV/m)
2. Margin(dB)
 = Level(dBμV/m) – Limit Line(dBμV/m)
 = 55.45(dBμV/m) – 68.2(dBμV/m)
 = -12.75 (dB)

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



Appendix D. Radiated Spurious Emission Plots

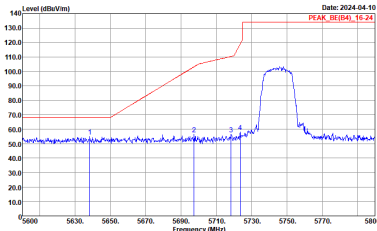
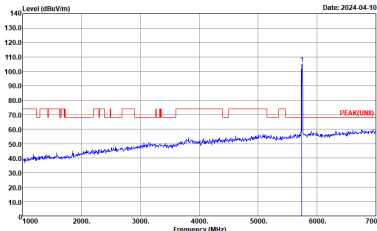
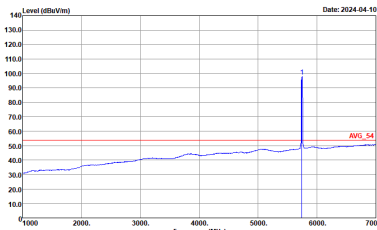
Test Engineer :	Bill Chang, Gary Guo and Steven Wu	Temperature :	18.2~20.2°C
		Relative Humidity :	54.2~56.1%

Note symbol

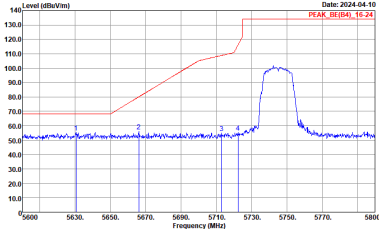
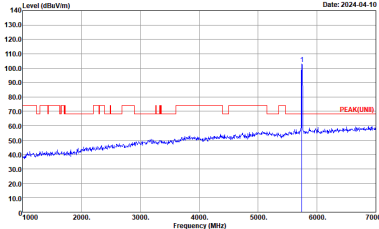
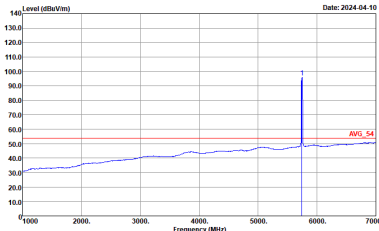
-L	Low channel location
-R	High channel location



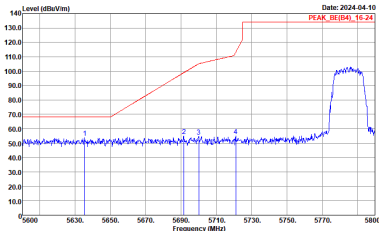
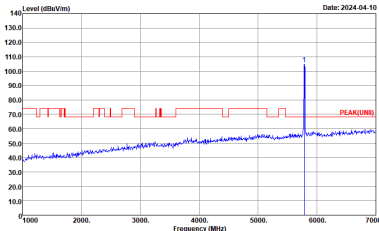
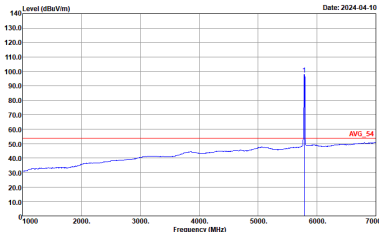
Band 4 - 5725~5850MHz
WIFI 802.11a (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE(B4)_16-24 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(LNB) 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:0.750KHz SWT:Auto

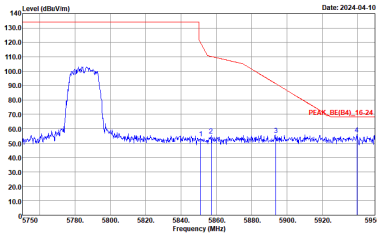


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE(94)_16-24 3m 91200_02038_230714 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 VERTICAL : RBW:1000.000KHz VBW:0.750KHz SWT:Auto

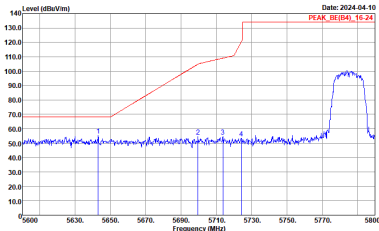
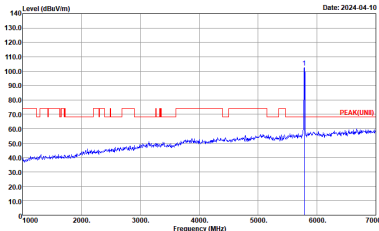
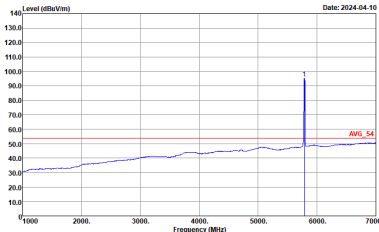


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE(B4)_16-24 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(LINE) 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:0.750KHz SWT:Auto

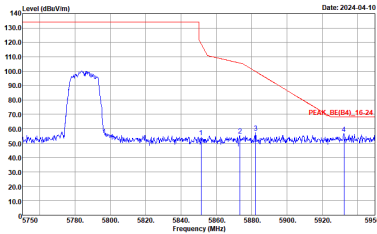


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1	Horizontal	Fundamental
Peak	 Site : 09CH16-HV Condition : PEAK_802.11a_16-24 91200_02038_230714 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank

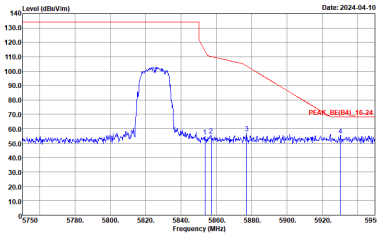
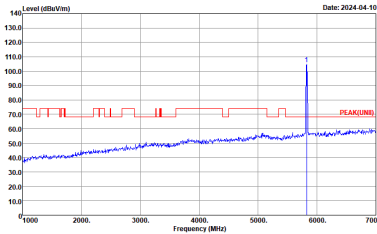
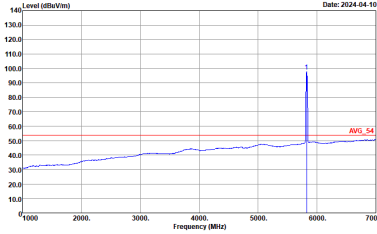


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE(B4)_16-24 3m 91200_02038_230714 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(LINE) 3m 91200_02038_230714 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 VERTICAL RBW:1000.000KHz VBW:0.750KHz SWT:Auto

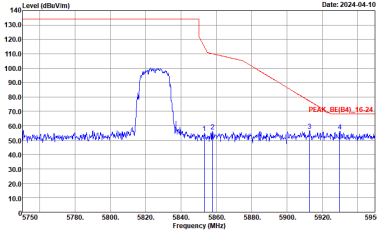
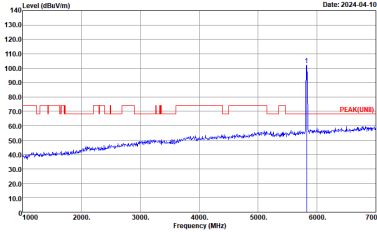
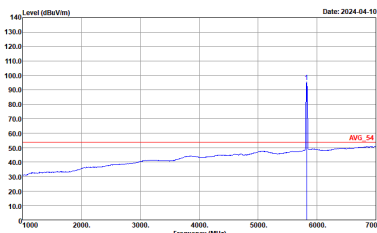


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1	Vertical	Fundamental
Peak	 Site : 09CH16-HV Condition : PEAK_B4(B4)_16-24 3m 91200_02038_230714 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank



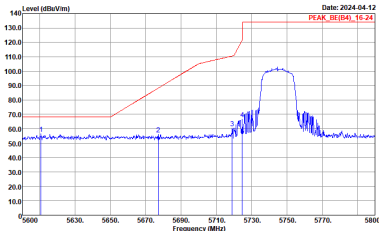
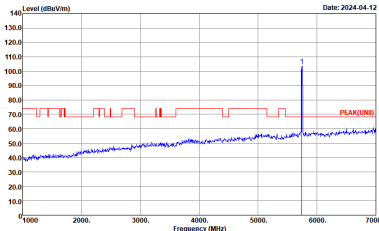
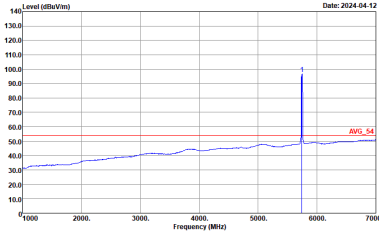
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_802.11a_16-24 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(FUND) 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:0.750KHz SWT:Auto



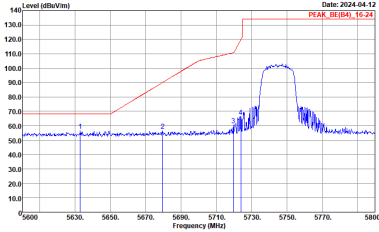
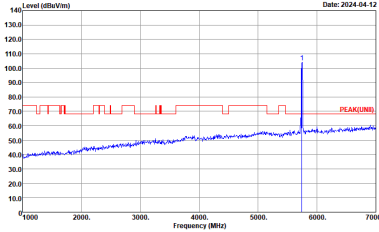
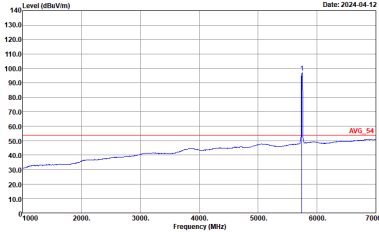
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_802.11a_16-24 3m 91200_02038_230714 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(FUND) 3m 91200_02038_230714 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 VERTICAL RBW:1000.000KHz VBW:0.750KHz SWT:Auto



Band 4 5725~5850MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE(B4)_16-24 3m 91200_02038_230714 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 VERTICAL : RBW:1000.000KHz VBW:0.820KHz SWT:Auto

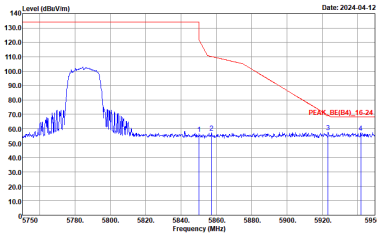


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE(94)_16-24 3m 91200_02038_230714 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 HORIZONTAL : RBW:1000.000KHz VBW:0.820KHz SWT:Auto

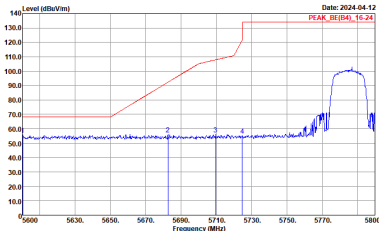
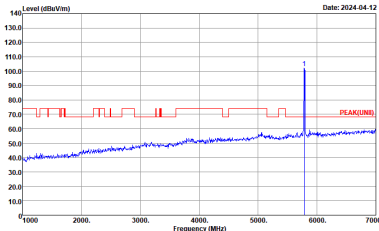
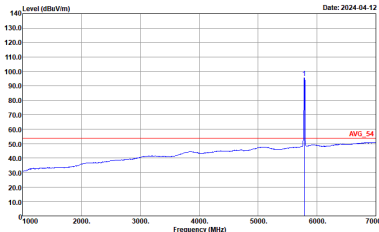


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Fundamental
Peak	Site : 03CH16-HY Condition : PEAK_BE(B4)_16-24 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH16-HY Condition : PEAK(LINE) 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:0.820KHz SWT:Auto

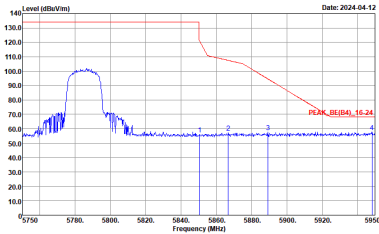


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH16-HV Condition : PEAK_06(04)_16-24 3m 91200_02038_230714 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank

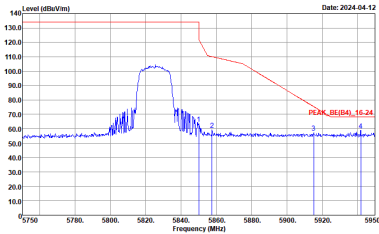
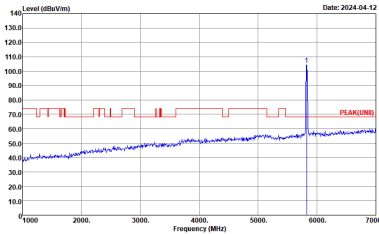
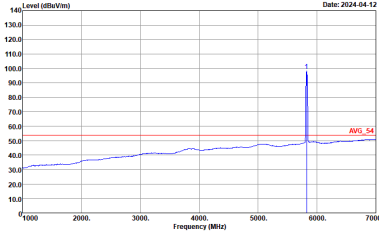


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Vertical	Fundamental
Peak	 Level (dBuV/m) Frequency (MHz) Date: 2024-04-12 PEAK_BE(B4)_16-24 Site : 03CH16-HY Condition : PEAK_BE(B4)_16-24 3m 91200_02038_230714 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Level (dBuV/m) Frequency (MHz) Date: 2024-04-12 PEAK(LINE) Site : 03CH16-HY Condition : PEAK(LINE) 3m 91200_02038_230714 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Level (dBuV/m) Frequency (MHz) Date: 2024-04-12 AVG_54 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 VERTICAL RBW:1000.000KHz VBW:0.820KHz SWT:Auto

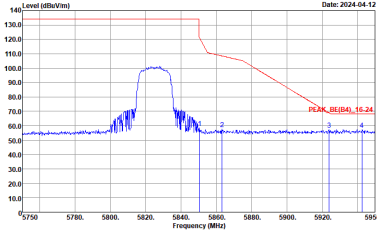
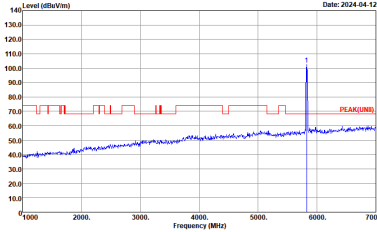
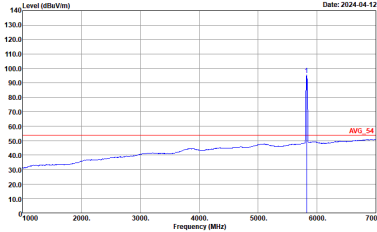


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH16-HV Condition : PEAK_B4_16-24 3m 91200_02038_230714 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank



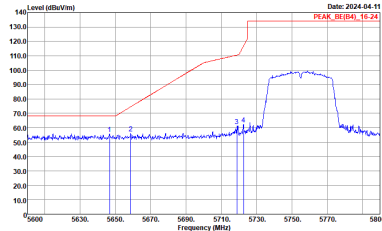
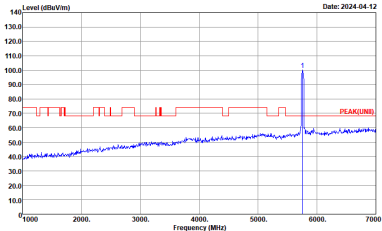
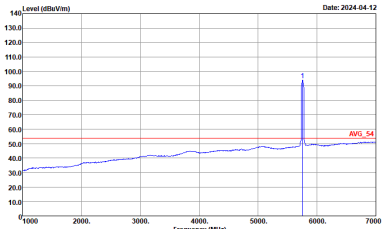
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_802.11n_16-24 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK_802.11n_16-24 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:0.820KHz SWT:Auto



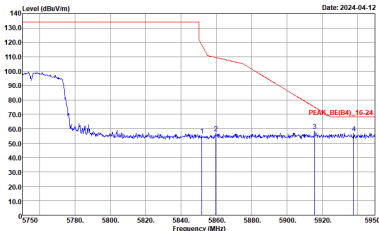
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_802.11n HT20 CH165 5825MHz VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(FUND) 3m 91200_02038_230714 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto
Avg	Left blank	 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 VERTICAL RBW:1000.000kHz VBW:0.820kHz SWT:Auto



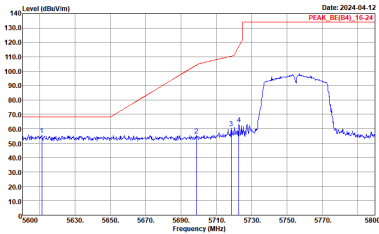
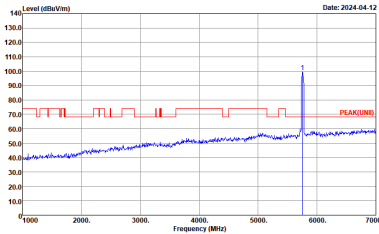
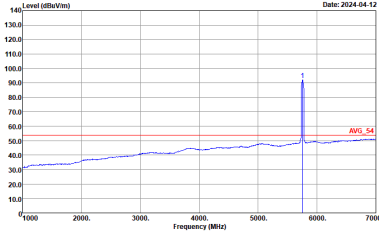
Band 4 5725~5850MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE(84)_16-24 3m 91200_02038_230714 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 HORIZONTAL : RBW:1000.000KHz VBW:1600KHz SWT:Auto

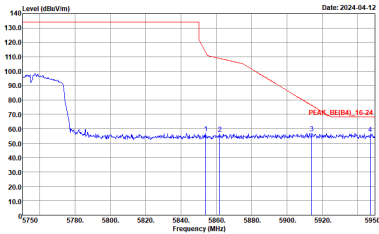


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH16-HV Condition : PEAK_802.11n_16-24 3m 91200_02038_230714 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank

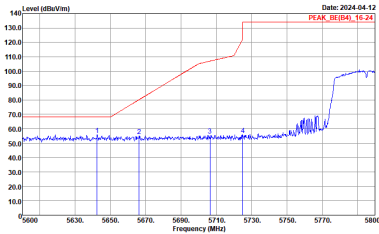
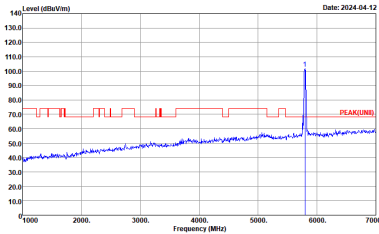
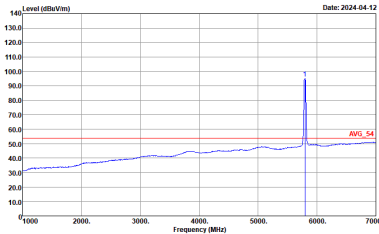


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE(94)_16-24 3m 91200_02038_230714 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 VERTICAL : RBW:1000.000KHz VBW:1600KHz SWT:Auto



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH16-HV Condition : PEAK_01(04)_16-24 3m 91200_02038_230714 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank

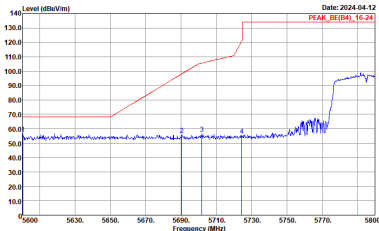
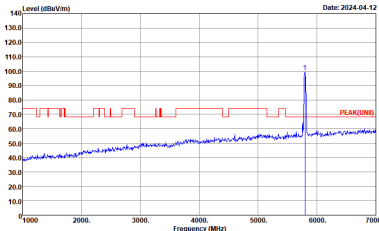
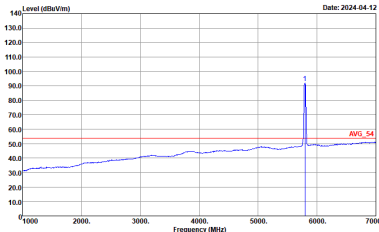


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE(B4)_16-24 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(LINE) 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 HORIZONTAL RBW:1000.000KHz VBW:1600KHz SWT:Auto

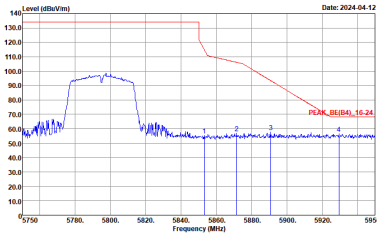


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Fundamental
Peak	Site : 03CH16-HV Condition : PEAK_80(84)_16-24 3m 91200_02038_230714 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank



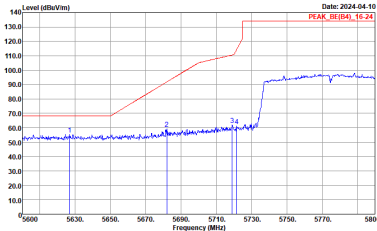
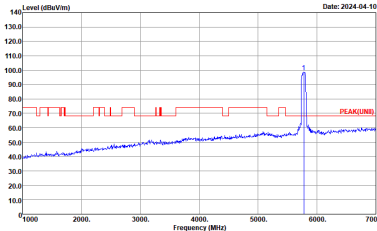
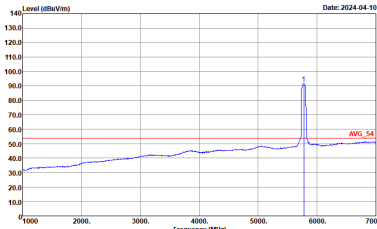
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Vertical	Fundamental
Peak	 Level (dBuV/m) Frequency (MHz) Date: 2024-04-12 PEAK_BE(B4)_16-24 Site : 03CH16-HY Condition : PEAK_BE(B4)_16-24 3m 91200_02038_230714 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Level (dBuV/m) Frequency (MHz) Date: 2024-04-12 PEAK(LINE) Site : 03CH16-HY Condition : PEAK(LINE) 3m 91200_02038_230714 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Level (dBuV/m) Frequency (MHz) Date: 2024-04-12 AVG_54 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 VERTICAL RBW:1000.000KHz VBW:1600KHz SWT:Auto



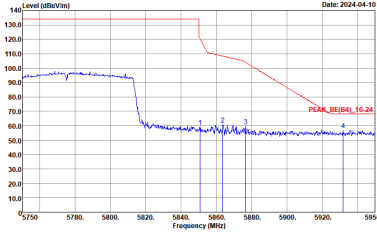
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Vertical	Fundamental
Peak	 Site : 09CH16-HV Condition : PEAK_06(04)_16-24 3m 91200_02038_230714 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank



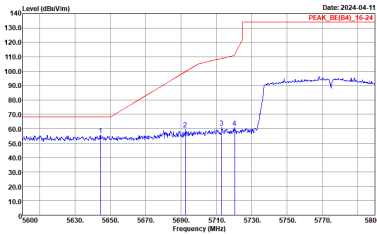
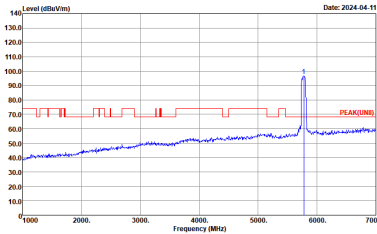
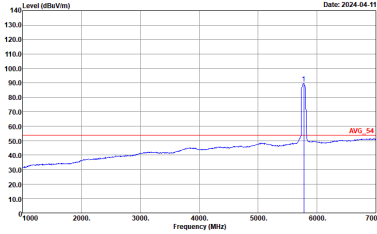
Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE(84)_16-24 3m 91200_02038_230714 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(UNI) 3m 91200_02038_230714 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH16-HY Condition : AVG_24 3m 91200_02038_230714 HORIZONTAL : RBW:1000.000KHz VBW:3.300KHz SWT:Auto

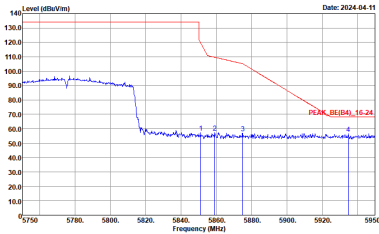


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH16-HV Condition : : PEAK_BE(94)_16-24 91200_02038_230714 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank



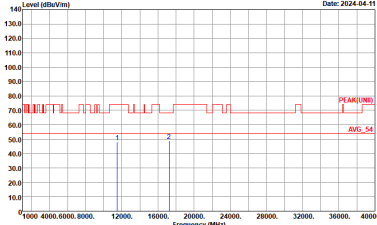
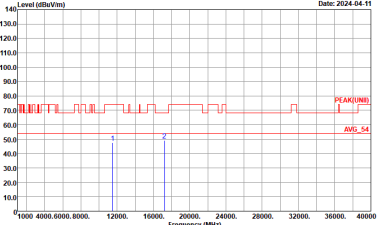
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE(B4)_15-24 3m 91200_02038_230714 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(LINE) 3m 91200_02038_230714 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH16-HY Condition : AVG_54 3m 91200_02038_230714 VERTICAL RBW:1000.000KHz VBW:3.000KHz SWT:Auto



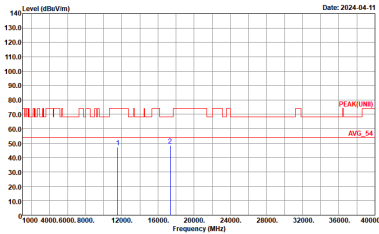
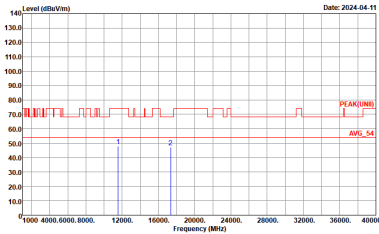
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH16-HV Condition : PEAK_B4_16-24 3m 91200_02038_230714 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank



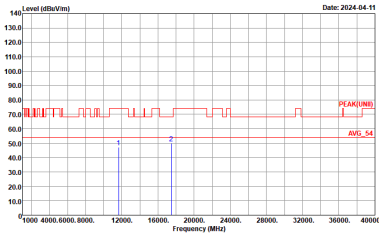
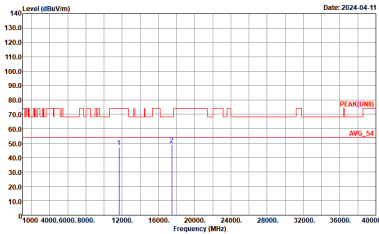
Band 4 - 5725~5850MHz
WIFI 802.11a (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH16-HY Condition : PEAK(UNB) 3m 91200_02038_230714 HORIZONTAL :	 Site : 03CH16-HY Condition : PEAK(UNB) 3m 91200_02038_230714 VERTICAL :



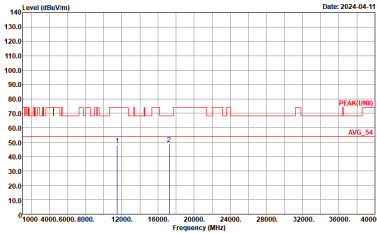
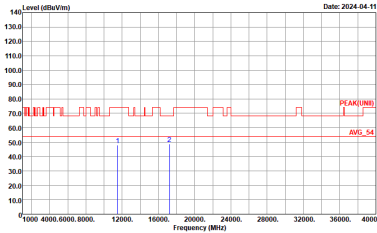
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 HORIZONTAL :	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 VERTICAL :



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 HORIZONTAL :	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 VERTICAL :



Band 4 5725~5850MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 HORIZONTAL :	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 VERTICAL :



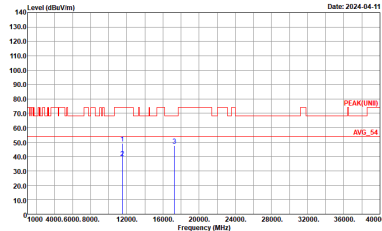
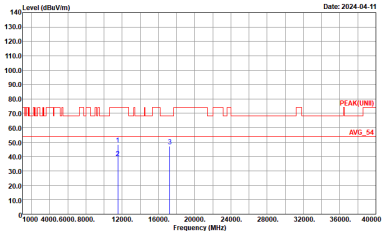
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Vertical
Peak Avg.		



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Vertical
Peak Avg.	Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 HORIZONTAL	Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 VERTICAL



Band 4 5725~5850MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 HORIZONTAL :	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 VERTICAL :



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Vertical
Peak Avg.	Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 HORIZONTAL :	Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 VERTICAL :



Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Horizontal	Vertical
Peak Avg.	Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 HORIZONTAL :	Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02038_230714 VERTICAL :



Emission below 1GHz
5GHz WIFI 802.11n HT20 (LF @ 3m)

WIFI	5GHz WIFI	
ANT	802.11n HT20 LF	
1	Horizontal	Vertical
QP / Peak	Level (dBuV/m) Date: 2024-04-12 Site : 03CH16-HY Condition : QP 3m BIL06_47020_231007_H HORIZONTAL	Level (dBuV/m) Date: 2024-04-12 Site : 03CH16-HY Condition : QP 3m BIL06_47020_231007_H VERTICAL

Appendix E. Duty Cycle Plots

Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
802.11a	96.94	1392	0.7184	750Hz
5GHz 802.11n HT20	96.73	1300	0.7692	820Hz
5GHz 802.11n HT40	93.64	648	1.5432	1.6KHz
5GHz 802.11ac VHT80	88.04	324	3.0864	3.3KHz

