



FCC RADIO TEST REPORT

FCC ID : APYHRO00310
Equipment : Smart phone
Brand Name : SHARP
Model Name : APYHRO00310
Applicant : SHARP CORPORATION
1 Takumi-cho, Sakai-ku, Sakai City
Osaka, Japan 590-8522
Manufacturer : SHARP CORPORATION
1 Takumi-Cho, Sakai-Ku, Sakai-Shi,
Osaka 590-8522, Japan
Standard : FCC Part 15 Subpart E §15.407

The product was received on Jan. 17, 2022 and testing was performed from Feb. 25, 2022 to Mar. 11, 2022. 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 variant 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.

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
FR211502-01E	01	Initial issue of report	Mar. 18, 2022

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
-	15.403(i)	26dB Bandwidth	Not Required	-
-	2.1049	99% Occupied Bandwidth	Not Required	-
3.1	15.407(a)	Maximum Conducted Output Power	Pass	-
-	15.407(a)	Power Spectral Density	Not Required	-
3.2	15.407(b)	Unwanted Emissions	Pass	3.09 dB under the limit at 5150.000 MHz
-	15.207	AC Conducted Emission	Not Required	-
3.3	15.203 15.407(a)	Antenna Requirement	Pass	-

Note:

- Not required means after assessing, test items are not necessary to carry out.
- The RF circuit, output power level and antenna performance is the same in WLAN function across all two FCC ID APYHRO00309 and APYHRO00310, since the change, only verify RF output power and radiated spurious emission test data the worst mode was reported in this report.

Declaration of Conformity:

- The test results (PASS/FAIL) with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
- The measurement uncertainty please refer to this report "Uncertainty of Evaluation".

Comments and Explanations:

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

Reviewed by: Keven Cheng

Report Producer: Tina Chuang

1 General Description

1.1 Product Feature of Equipment Under Test

GSM/WCDMA/LTE, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n/ac, Wi-Fi 5GHz 802.11a/n/ac, NFC and GNSS

Product Feature	
Antenna Type	WWAN <Ant. 0>: Monopole Antenna <Ant. 1>: PIFA Antenna <Ant. 2>: Monopole Antenna WLAN: Loop Antenna Bluetooth: Loop Antenna GPS / Glonass / BDS / Galileo: PIFA Antenna NFC: Loop Antenna

Antenna information		
5150 MHz ~ 5250 MHz	Peak Gain (dBi)	-0.19
5250 MHz ~ 5350 MHz	Peak Gain (dBi)	-0.19
5470 MHz ~ 5725 MHz	Peak Gain (dBi)	0.49

Remark: The EUT's information above is declared by manufacturer. Please refer to Comments and Explanations 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, 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.
3. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: 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 find X plane as worst plane.

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		
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5250-5350 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	58 [#]	5290		
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5470-5725 MHz Band 3 (U-NII-2C)	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	106 [#]	5530	134*	5670
	108	5540	136	5680
	110*	5550	140	5700



Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
TDWR Channel	118*	5590	124	5620
	120	5600	126*	5630
	122 [#]	5610	128	5640

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 final test modes consider the modulation and the worst data rates as 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	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

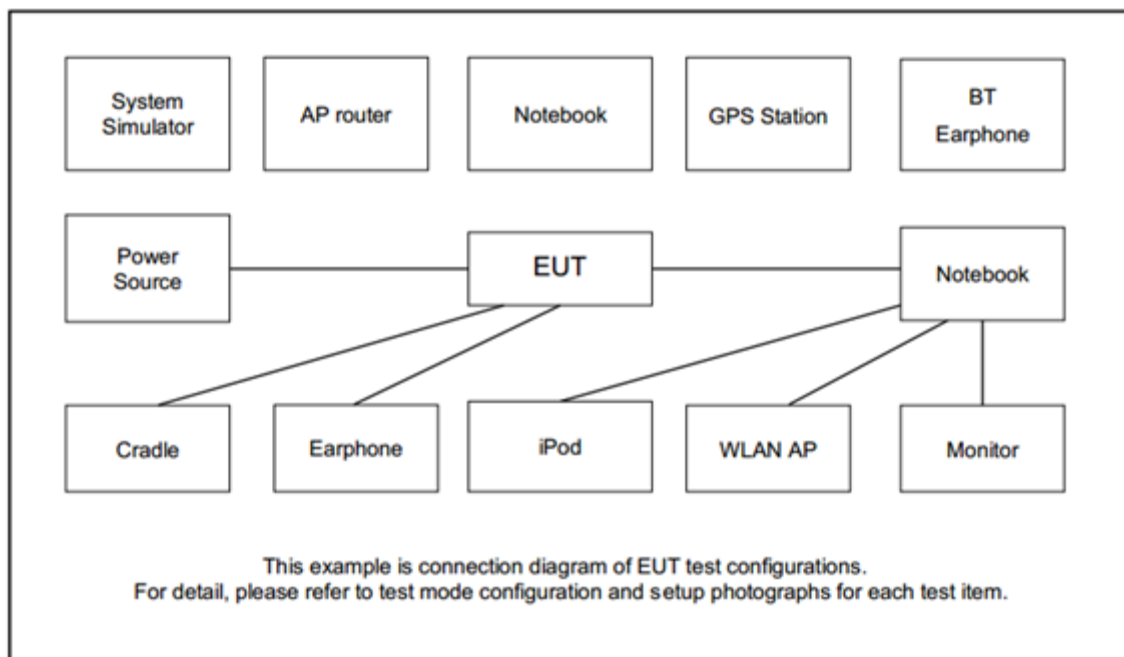
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz
		802.11n HT20	802.11n HT20
L	Low	36	-
M	Middle	44	-
H	High	-	64

Ch. #		Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11ac VHT80	802.11ac VHT80
L	Low	-	106
M	Middle	58	-
H	High	-	-

Ch. #		Band III : 5470-5725MHz
		802.11a
L	Low	-
M	Middle	-
H	High	140

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.	Earphone	Nokia	WH-108	FCC DoC	Unshielded, 1.5m	N/A

2.5 EUT Operation Test Setup

The RF test items, utility "QRCT v3.0.298" 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.

3 Test Result

3.1 Maximum Conducted Output Power Measurement

3.1.1 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.

For the 5.25–5.725 GHz bands:

■ The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz.

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.

3.1.2 Measuring Instruments

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

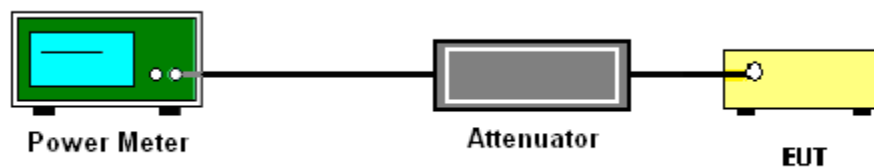
3.1.3 Test Procedures

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.

3.1.4 Test Setup



3.1.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.2 Unwanted Emissions Measurement

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

3.2.1 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.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/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.

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

EIRP (dBm)	Field Strength at 3m (dB μ V/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.

3.2.2 Measuring Instruments

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

3.2.3 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

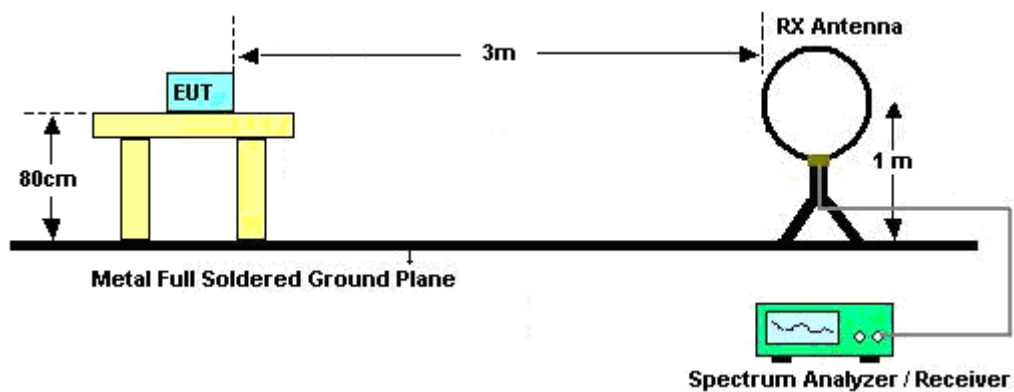
(3) Procedures for Average Unwanted Emissions Measurements Above 1000 MHz

- 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.

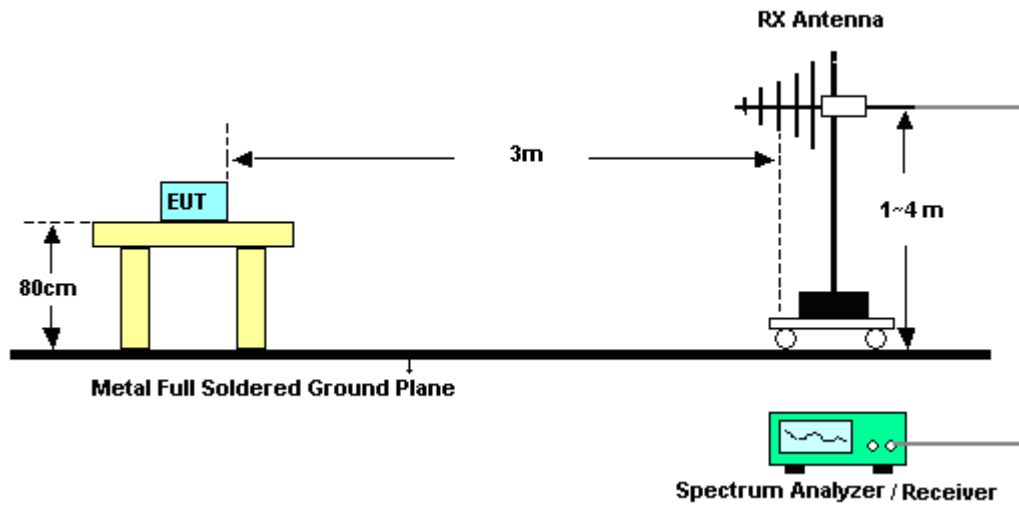
2. The EUT is placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
3. The EUT is set 3 meters away from the receiving antenna which is mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna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

3.2.4 Test Setup

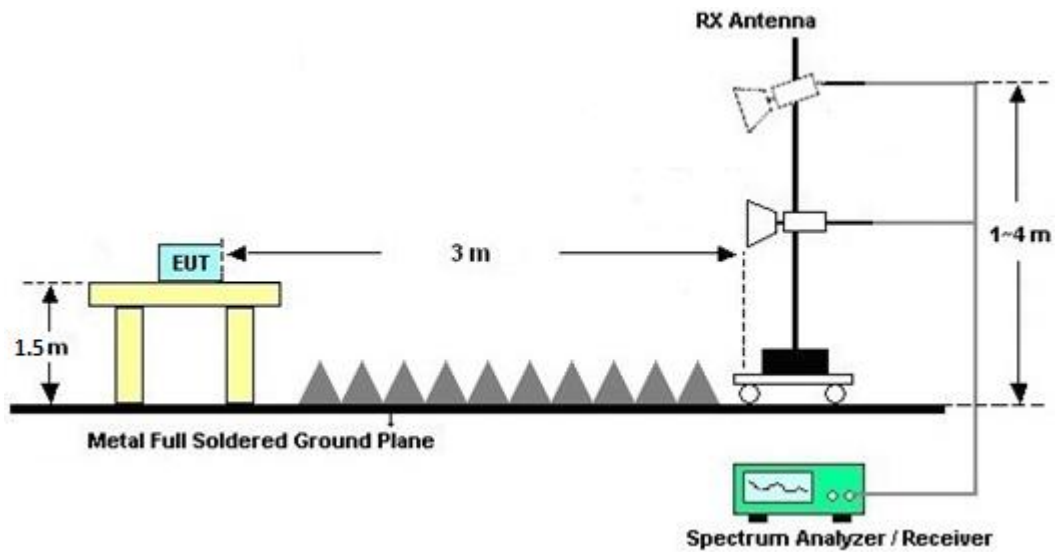
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated test above 1GHz



**3.2.5 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.

3.2.6 Test Results of Radiated Spurious Emissions (above 18GHz)

For frequency above 18GHz, the pre-scanned result is 20dB lower than the limit line is not reported.

3.2.7 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.2.8 Duty Cycle

Please refer to Appendix D.

3.2.9 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic)

Please refer to Appendix B and C.



3.3 Antenna Requirements

3.3.1 Standard Applicable

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.3.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	TECEP	DTM-303A	TP201996	N/A	Nov. 16, 2021	Feb. 25, 2022~ Mar. 02, 2022	Nov. 15, 2022	Conducted (TH05-HY)
Power Meter	DARE	RPR3006W	16I00054SNO 12 (NO:113)	10MHz~6GHz	Dec. 16, 2021	Feb. 25, 2022~ Mar. 02, 2022	Dec. 15, 2022	Conducted (TH05-HY)
Power Meter	Anritsu	ML2495A	932001	N/A	Sep. 30, 2021	Feb. 25, 2022~ Mar. 02, 2022	Sep. 29, 2022	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	846202	300MHz~40GHz	Sep. 30, 2021	Feb. 25, 2022~ Mar. 02, 2022	Sep. 29, 2022	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101566	10Hz~40GHz	Aug. 30, 2021	Feb. 25, 2022~ Mar. 02, 2022	Aug. 29, 2022	Conducted (TH05-HY)
Switch Control Manframe	E-IUSTRUMENT	ETF-1405-0	EC1900067 (BOX7)	N/A	Aug. 12, 2021	Feb. 25, 2022~ Mar. 02, 2022	Aug. 11, 2022	Conducted (TH05-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 07, 2021	Mar. 04, 2022~ Mar. 11, 2022	Sep. 06, 2022	Radiation (03CH16-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00802N1D01N -06	47020 & 06	30MHz to 1GHz	Oct. 09, 2021	Mar. 04, 2022~ Mar. 11, 2022	Oct. 08, 2022	Radiation (03CH16-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-02114	1G~18GHz	Aug. 04, 2021	Mar. 04, 2022~ Mar. 11, 2022	Aug. 03, 2022	Radiation (03CH16-HY)
Amplifier	SONOMA	310N	371607	9kHz~1G	Jul. 05, 2021	Mar. 04, 2022~ Mar. 11, 2022	Jul. 04, 2022	Radiation (03CH16-HY)
Amplifier	EMCI	EMC051845S E	980729	1-18GHz	Jul. 09, 2021	Mar. 04, 2022~ Mar. 11, 2022	Jul. 08, 2022	Radiation (03CH16-HY)
Preamplifier	Keysight	83017A	MY53270264	1GHz~26.5GHz	Dec. 09, 2021	Mar. 04, 2022~ Mar. 11, 2022	Dec. 08, 2022	Radiation (03CH16-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY57290111	3Hz~26.5GHz	Dec. 15, 2021	Mar. 04, 2022~ Mar. 11, 2022	Dec. 14, 2022	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY11680/4P E	NA	Aug. 28, 2021	Mar. 04, 2022~ Mar. 11, 2022	Aug. 27, 2022	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY11688/4P E	NA	Aug. 28, 2021	Mar. 04, 2022~ Mar. 11, 2022	Aug. 27, 2022	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	EC-A5-300-5 757	NA	Aug. 28, 2021	Mar. 04, 2022~ Mar. 11, 2022	Aug. 27, 2022	Radiation (03CH16-HY)
Software	Audix	E3 6.2009-8-24	RK-001136	N/A	N/A	Mar. 04, 2022~ Mar. 11, 2022	N/A	Radiation (03CH16-HY)
Controller	ChainTek	3000-1	N/A	Control Turn table & Ant Mast	N/A	Mar. 04, 2022~ Mar. 11, 2022	N/A	Radiation (03CH16-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Mar. 04, 2022~ Mar. 11, 2022	N/A	Radiation (03CH16-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Mar. 04, 2022~ Mar. 11, 2022	N/A	Radiation (03CH16-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.8 dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.2 dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.8 dB
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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Hank Hsu	Temperature:	21~25	°C
Test Date:	2022/2/25~2022/3/2	Relative Humidity:	51~54	%

TEST RESULTS DATA
Average Power Table

FCC Band I single antenna												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 4	Ant 5	SUM	Ant 4	Ant 5	Ant 4	Ant 5	
11a	6Mbps	1	36	5180	18.40	-		24.00	-	-0.19	-	Pass
11a	6Mbps	1	44	5220	18.60	-		24.00	-	-0.19	-	Pass
11a	6Mbps	1	48	5240	18.20	-		24.00	-	-0.19	-	Pass
HT20	MCS0	1	36	5180	18.10	-		24.00	-	-0.19	-	Pass
HT20	MCS0	1	44	5220	18.40	-		24.00	-	-0.19	-	Pass
HT20	MCS0	1	48	5240	18.10	-		24.00	-	-0.19	-	Pass
HT40	MCS0	1	38	5190	13.60	-		24.00	-	-0.19	-	Pass
HT40	MCS0	1	46	5230	18.40	-		24.00	-	-0.19	-	Pass
VHT20	MCS0	1	36	5180	18.00	-		24.00	-	-0.19	-	Pass
VHT20	MCS0	1	44	5220	18.30	-		24.00	-	-0.19	-	Pass
VHT20	MCS0	1	48	5240	18.00	-		24.00	-	-0.19	-	Pass
VHT40	MCS0	1	38	5190	13.50	-		24.00	-	-0.19	-	Pass
VHT40	MCS0	1	46	5230	18.30	-		24.00	-	-0.19	-	Pass
VHT80	MCS0	1	42	5210	12.50	-		24.00	-	-0.19	-	Pass

TEST RESULTS DATA
Average Power Table

FCC Band II single antenna													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 4	Ant 5	SUM	Ant 4	Ant 5	Ant 4	Ant 5		
11a	6Mbps	1	52	5260	18.40	-		23.98	-	-0.19	-	30	Pass
11a	6Mbps	1	60	5300	18.40	-		23.98	-	-0.19	-	30	Pass
11a	6Mbps	1	64	5320	18.30	-		23.98	-	-0.19	-	30	Pass
HT20	MCS0	1	52	5260	18.30	-		23.98	-	-0.19	-	30	Pass
HT20	MCS0	1	60	5300	18.30	-		23.98	-	-0.19	-	30	Pass
HT20	MCS0	1	64	5320	18.10	-		23.98	-	-0.19	-	30	Pass
HT40	MCS0	1	54	5270	18.40	-		23.98	-	-0.19	-	30	Pass
HT40	MCS0	1	62	5310	13.20	-		23.98	-	-0.19	-	30	Pass
VHT20	MCS0	1	52	5260	18.20	-		23.98	-	-0.19	-	30	Pass
VHT20	MCS0	1	60	5300	18.20	-		23.98	-	-0.19	-	30	Pass
VHT20	MCS0	1	64	5320	18.00	-		23.98	-	-0.19	-	30	Pass
VHT40	MCS0	1	54	5270	18.30	-		23.98	-	-0.19	-	30	Pass
VHT40	MCS0	1	62	5310	13.10	-		23.98	-	-0.19	-	30	Pass
VHT80	MCS0	1	58	5290	12.50	-		23.98	-	-0.19	-	30	Pass

TEST RESULTS DATA
Average Power Table

FCC Band III single antenna													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 4	Ant 5	SUM	Ant 4	Ant 5	Ant 4	Ant 5		
11a	6Mbps	1	100	5500	18.40	-		23.98	-	0.49	-	30	Pass
11a	6Mbps	1	116	5580	18.40	-		23.98	-	0.49	-	30	Pass
11a	6Mbps	1	140	5700	18.50	-		23.98	-	0.49	-	30	Pass
HT20	MCS0	1	100	5500	18.20	-		23.98	-	0.49	-	30	Pass
HT20	MCS0	1	116	5580	18.30	-		23.98	-	0.49	-	30	Pass
HT20	MCS0	1	140	5700	18.40	-		23.98	-	0.49	-	30	Pass
HT40	MCS0	1	102	5510	15.20	-		23.98	-	0.49	-	30	Pass
HT40	MCS0	1	110	5550	18.70	-		23.98	-	0.49	-	30	Pass
HT40	MCS0	1	134	5670	18.40	-		23.98	-	0.49	-	30	Pass
VHT20	MCS0	1	100	5500	18.10	-		23.98	-	0.49	-	30	Pass
VHT20	MCS0	1	116	5580	18.20	-		23.98	-	0.49	-	30	Pass
VHT20	MCS0	1	140	5700	18.30	-		23.98	-	0.49	-	30	Pass
VHT40	MCS0	1	102	5510	15.10	-		23.98	-	0.49	-	30	Pass
VHT40	MCS0	1	110	5550	18.60	-		23.98	-	0.49	-	30	Pass
VHT40	MCS0	1	134	5670	18.30	-		23.98	-	0.49	-	30	Pass
VHT80	MCS0	1	106	5530	11.10	-		23.98	-	0.49	-	30	Pass
VHT80	MCS0	1	122	5610	18.30	-		23.98	-	0.49	-	30	Pass



Appendix B. Radiated Spurious Emission

Test Engineer :	Andy Yang, Karl Hou and Wilson Wu	Temperature :	20~25°C
		Relative Humidity :	50~60%

Band 1 - 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
4		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 36 5180MHz		5147.16	62.55	-11.45	74	47.06	32.92	12.03	29.46	102	224	P	H
		5150	50.91	-3.09	54	35.44	32.9	12.03	29.46	102	224	A	H
	*	5180	110.13	-	-	94.56	32.96	12.08	29.47	102	224	P	H
	*	5180	102.32	-	-	86.75	32.96	12.08	29.47	102	224	A	H
													H
													H
		5149.24	55.3	-18.7	74	39.83	32.9	12.03	29.46	396	175	P	V
		5149.76	45.82	-8.18	54	30.35	32.9	12.03	29.46	396	175	A	V
	*	5180	106.28	-	-	90.71	32.96	12.08	29.47	396	175	P	V
	*	5180	98.15	-	-	82.58	32.96	12.08	29.47	396	175	A	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 HT20 (Harmonic @ 3m)

WIFI Ant. 4	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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 44 5220MHz		10440	47.91	-20.29	68.2	45.88	38.66	18.91	55.54	-	-	P	H
		10883	47.56	-26.44	74	45.1	38.87	18.99	55.4	-	-	P	H
		10883	38.41	-15.59	54	35.95	38.87	18.99	55.4	-	-	A	H
		14491	48.69	-25.31	74	40.87	40.4	21.75	54.33	-	-	P	H
		14491	39.93	-14.07	54	32.11	40.4	21.75	54.33	-	-	A	H
		15660	47.35	-26.65	74	41.61	37.86	22.74	54.86	-	-	P	H
		17945	53.37	-20.63	74	41.92	42.56	25.45	56.56	-	-	P	H
		17945	43.83	-10.17	54	32.38	42.56	25.45	56.56	-	-	A	H
													H
													H
													H
													H
		10440	47.31	-20.89	68.2	45.28	38.66	18.91	55.54	-	-	P	V
		10880	47.91	-26.09	74	45.44	38.88	18.99	55.4	-	-	P	V
		10880	38.23	-15.77	54	35.76	38.88	18.99	55.4	-	-	A	V
		14491	48.47	-25.53	74	40.65	40.4	21.75	54.33	-	-	P	V
		14491	40.15	-13.85	54	32.33	40.4	21.75	54.33	-	-	A	V
		15660	47.82	-26.18	74	42.08	37.86	22.74	54.86	-	-	P	V
		17945	54.47	-19.53	74	43.02	42.56	25.45	56.56	-	-	P	V
		17945	43.89	-10.11	54	32.44	42.56	25.45	56.56	-	-	A	V
													V
													V
													V
													V

Band 2 - 5250~5350MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 4	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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 64 5320MHz		10640	50.35	-23.65	74	47.86	39	18.95	55.46	100	305	P	H
		10640	38.98	-15.02	54	36.49	39	18.95	55.46	100	305	A	H
		10880	47.2	-26.8	74	44.73	38.88	18.99	55.4	-	-	P	H
		10880	38.25	-15.75	54	35.78	38.88	18.99	55.4	-	-	A	H
		14491	48.25	-25.75	74	40.43	40.4	21.75	54.33	-	-	P	H
		14491	39.71	-14.29	54	31.89	40.4	21.75	54.33	-	-	A	H
		15960	46.86	-27.14	74	41.51	37.72	22.95	55.32	-	-	P	H
		17989	53.59	-20.41	74	41.79	42.91	25.48	56.59	-	-	P	H
		17989	43.92	-10.08	54	32.12	42.91	25.48	56.59	-	-	A	H
													H
													H
													H
		10640	47.86	-26.14	74	45.37	39	18.95	55.46	-	-	P	V
		10883	48.72	-25.28	74	46.26	38.87	18.99	55.4	-	-	P	V
		10883	38.12	-15.88	54	35.66	38.87	18.99	55.4	-	-	A	V
		14491	49.46	-24.54	74	41.64	40.4	21.75	54.33	-	-	P	V
		14491	40.09	-13.91	54	32.27	40.4	21.75	54.33	-	-	A	V
		15960	46.08	-27.92	74	40.73	37.72	22.95	55.32	-	-	P	V
		17978	53.2	-20.8	74	41.5	42.82	25.47	56.59	-	-	P	V
		17978	43.79	-10.21	54	32.09	42.82	25.47	56.59	-	-	A	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.												
	4. The emission level close to 18GHz is checked that the average emission level is noise floor only.												



Band 2 5250~5350MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 4	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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 58 5290MHz		5149.94	54.02	-19.98	74	38.55	32.9	12.03	29.46	100	228	P	H
		5104.38	44.55	-9.45	54	28.86	33.17	11.96	29.44	100	228	A	H
	*	5290	99.07	-	-	83.17	32.98	12.42	29.5	100	228	P	H
	*	5290	91.11	-	-	75.21	32.98	12.42	29.5	100	228	A	H
		5387.04	57.16	-16.84	74	41.07	32.87	12.75	29.53	100	228	P	H
		5350.32	49.12	-4.88	54	33.22	32.8	12.62	29.52	100	228	A	H
		5088.06	54.08	-19.92	74	38.48	33.1	11.94	29.44	380	164	P	V
		5090.1	44.53	-9.47	54	28.91	33.12	11.94	29.44	380	164	A	V
	*	5290	95.18	-	-	79.28	32.98	12.42	29.5	380	164	P	V
	*	5290	87.32	-	-	71.42	32.98	12.42	29.5	380	164	A	V
		5374.8	53.68	-20.32	74	37.66	32.85	12.7	29.53	380	164	P	V
		5350.8	44.85	-9.15	54	28.95	32.8	12.62	29.52	380	164	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz
WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 4	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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 140 5700MHz		10883	47.54	-26.46	74	45.08	38.87	18.99	55.4	-	-	P	H
		10883	38.4	-15.6	54	35.94	38.87	18.99	55.4	-	-	A	H
		11400	47.6	-26.4	74	44.28	39.2	19.19	55.07	-	-	P	H
		14491	48.06	-25.94	74	40.24	40.4	21.75	54.33	-	-	P	H
		14491	40.23	-13.77	54	32.41	40.4	21.75	54.33	-	-	A	H
		17100	47.07	-21.13	68.2	39.74	37.7	25.03	55.4	-	-	P	H
		17978	54.25	-19.75	74	42.55	42.82	25.47	56.59	-	-	P	H
		17978	43.9	-10.1	54	32.2	42.82	25.47	56.59	-	-	A	H
													H
													H
													H
													H
		10880	47.61	-26.39	74	45.14	38.88	18.99	55.4	-	-	P	V
		10880	38.03	-15.97	54	35.56	38.88	18.99	55.4	-	-	A	V
		11400	50.12	-23.88	74	46.8	39.2	19.19	55.07	100	298	P	V
		11400	39.04	-14.96	54	35.72	39.2	19.19	55.07	100	298	A	V
		14491	49.2	-24.8	74	41.38	40.4	21.75	54.33	-	-	P	V
		14491	40.09	-13.91	54	32.27	40.4	21.75	54.33	-	-	A	V
		17100	47.43	-20.77	68.2	40.1	37.7	25.03	55.4	-	-	P	V
		17868	53.68	-20.32	74	42.95	41.82	25.42	56.51	-	-	P	V
		17868	43.49	-10.51	54	32.76	41.82	25.42	56.51	-	-	A	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.												
	4. The emission level close to 18GHz is checked that the average emission level is noise floor only.												



Band 3 - 5470~5725MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 4	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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 106 5530MHz		5459.92	56.56	-17.44	74	40.42	32.88	12.82	29.56	101	229	P	H
		5467.36	57.6	-10.6	68.2	41.47	32.87	12.82	29.56	101	229	P	H
		5459.92	48.14	-5.86	54	32	32.88	12.82	29.56	101	229	A	H
	*	5530	97.52	-	-	81.45	32.8	12.85	29.58	101	229	P	H
	*	5530	89.9	-	-	73.83	32.8	12.85	29.58	101	229	A	H
		5749.88	54.74	-13.46	68.2	37.79	33.6	12.96	29.61	101	229	P	H
		5441.68	55.08	-18.92	74	38.92	32.9	12.81	29.55	386	166	P	V
		5468.8	54.73	-13.47	68.2	38.61	32.86	12.82	29.56	386	166	P	V
		5427.76	45.07	-8.93	54	28.92	32.9	12.8	29.55	386	166	A	V
	*	5530	94.95	-	-	78.88	32.8	12.85	29.58	386	166	P	V
	*	5530	87.26	-	-	71.19	32.8	12.85	29.58	386	166	A	V
		5753.03	54.9	-13.3	68.2	37.95	33.61	12.96	29.62	386	166	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

WIFI 802.11n HT20 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
4		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 LF		149.31	21.01	-22.49	43.5	33.68	17.27	2.32	32.26	-	-	P	H
		256.01	22.59	-23.41	46	32.52	19.42	2.9	32.25	-	-	P	H
		358.83	23.77	-22.23	46	31.98	20.75	3.3	32.26	-	-	P	H
		562.53	27.62	-18.38	46	29.83	26.07	4.17	32.45	-	-	P	H
		759.44	30.77	-15.23	46	30.18	28.16	4.75	32.32	-	-	P	H
		863.23	33.19	-12.81	46	30.89	29.01	5.13	31.84	-	-	P	H
													H
													H
													H
													H
													H
													H
		60.07	25.84	-14.16	40	44.75	11.99	1.39	32.29	-	-	P	V
		187.14	22.94	-20.56	43.5	37.91	14.83	2.43	32.23	-	-	P	V
		291.9	21.14	-24.86	46	31.15	19.22	3.05	32.28	-	-	P	V
		561.56	27.7	-18.3	46	29.91	26.08	4.15	32.44	-	-	P	V
		717.73	29.8	-16.2	46	30.52	27.03	4.62	32.37	-	-	P	V
		796.3	33.2	-12.8	46	32.6	27.97	4.89	32.26	-	-	P	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 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	Peak or Average
H/V	Horizontal or Vertical



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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	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)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	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 @ 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. Over Limit(dB)
 = Level(dBμV/m) – Limit Line(dBμV/m)
 = 55.45(dBμV/m) – 74(dBμV/m)
 = -18.55(dB)

For Average 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) + 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 C. Radiated Spurious Emission Plots

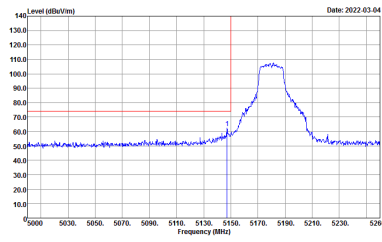
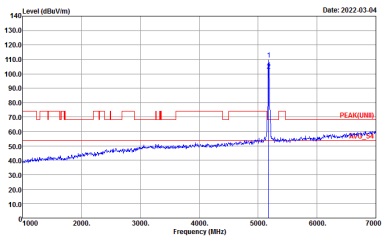
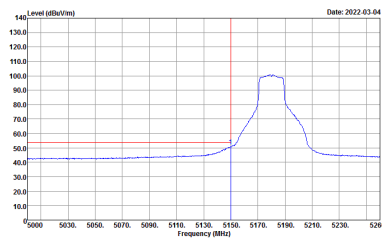
Test Engineer :	Andy Yang, Karl Hou and Wilson Wu	Temperature :	20~25°C
		Relative Humidity :	50~60%

Note symbol

-L	Low channel location
-R	High channel location



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

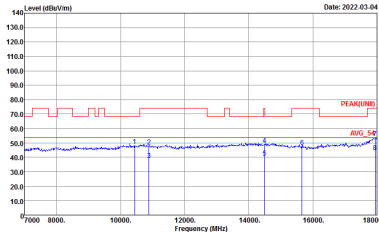
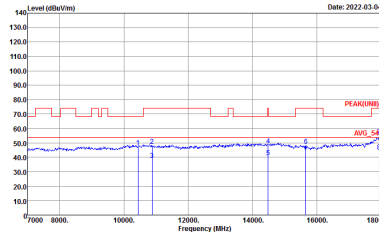
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
4	Horizontal	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE_74 3m 91200_02114_210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(FUND) 3m 91200_02114_210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH16-HY Condition : AVG_BE_54 3m 91200_02114_210804 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	Left blank



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
4	Vertical	Fundamental
Peak	Site : 03CH16-HY Condition : PEAK_BE_74 3m 91200_02114_210804 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH16-HY Condition : PEAK(FUND) 3m 91200_02114_210804 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH16-HY Condition : AVG_BE_54 3m 91200_02114_210804 VERTICAL RBW:1000.000KHz VBW:1000KHz SWT:Auto	Left blank

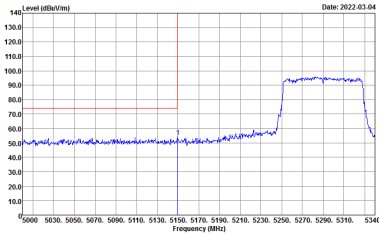
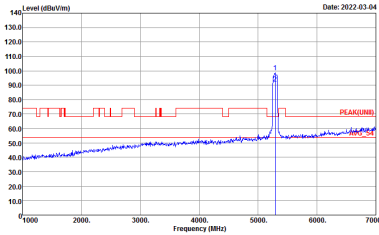
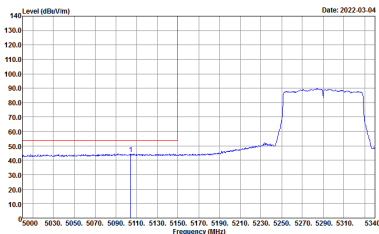


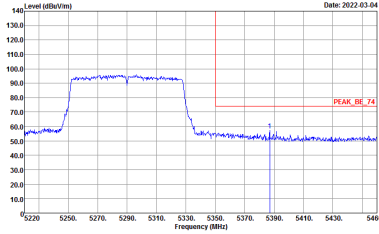
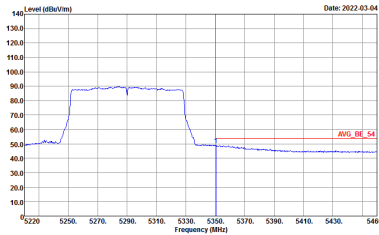
Band 1 5150~5250MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH44 5220MHz	
4	Horizontal	Vertical
Peak Avg.	 Site : 03CHI6-HY Condition : PEAK(UNIT) 3m 91200_02114_210804 HORIZONTAL Detector : Peak	 Site : 03CHI6-HY Condition : PEAK(UNIT) 3m 91200_02114_210804 VERTICAL Detector : Peak

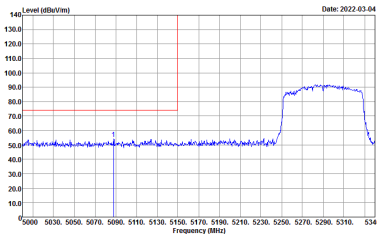
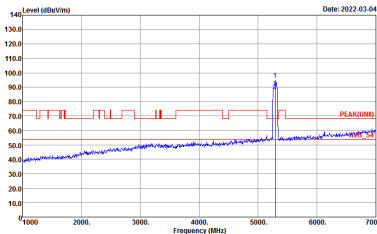
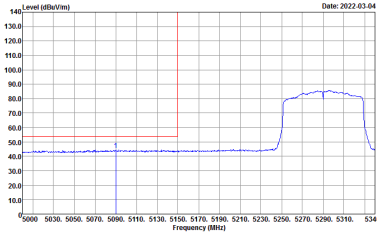


Band 2 - 5250~5350MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

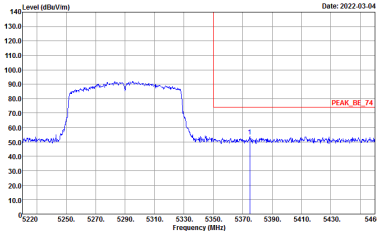
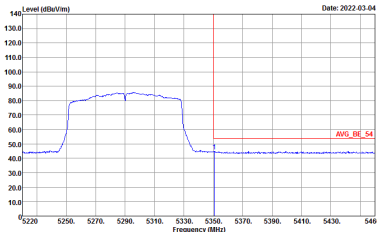
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - L	
4	Horizontal	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE_74 3m 91200_02114_210804 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(FUND) 3m 91200_02114_210804 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH16-HY Condition : AVG_BE_54 3m 91200_02114_210804 HORIZONTAL RBW:1000.000KHz VBW:3.000KHz SWT:Auto	Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - R	
4	Horizontal	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE_74 3m 91200_02114_210804 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH16-HY Condition : AVG_BE_54 3m 91200_02114_210804 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank



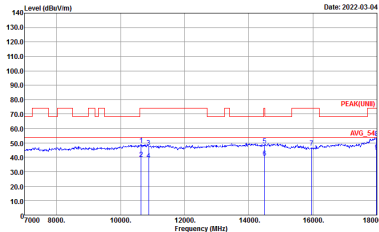
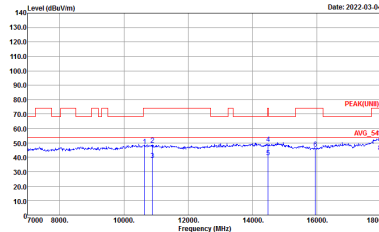
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - L	
4	Vertical	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_9C_74 3m 91200_02114_210804 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(LINE) 3m 91200_02114_210804 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH16-HY Condition : AVG_BE_54 3m 91200_02114_210804 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank



WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - R	
4	Vertical	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE_74 3m 91200_02114_210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH16-HY Condition : AVG_BE_54 3m 91200_02114_210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank

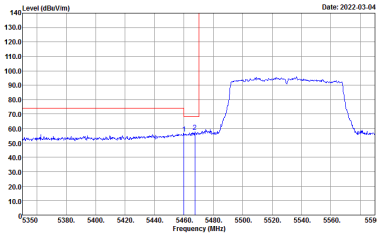
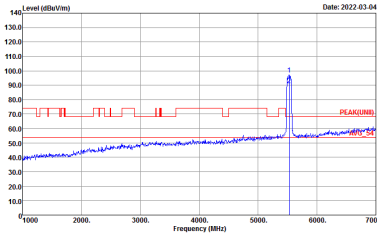
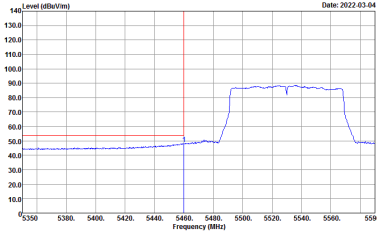


Band 2 - 5250~5350MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

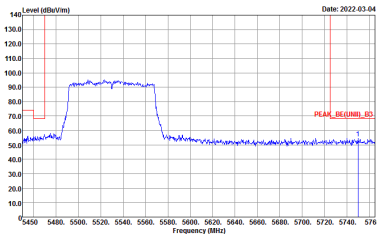
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
4	Horizontal	Vertical
Peak Avg.	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02114_210804 HORIZONTAL Detector : Peak	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02114_210804 VERTICAL Detector : Peak



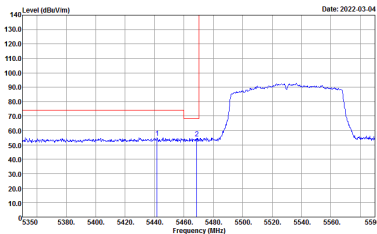
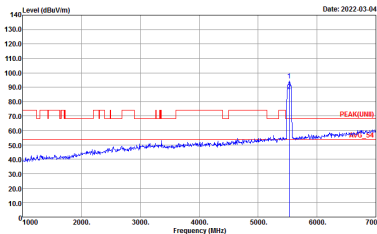
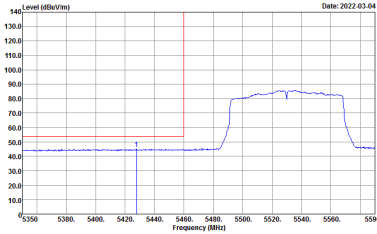
Band 3 - 5470~5725MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - L	
4	Horizontal	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE(UNIT)_B3 3m 91200_02114_210804 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02114_210804 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH16-HY Condition : AVG_BE(UNIT)_B3 3m 91200_02114_210804 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank

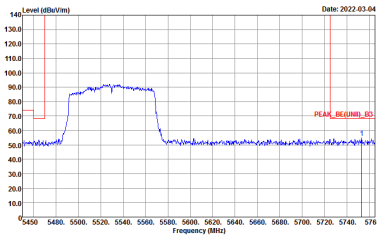


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
4	Horizontal	Fundamental
Peak	 Site: 03CH16-HY Condition: :PEAK_SE(UNIT)_B3 3m 91200_02114_210804 HORIZONTAL :RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Date: 2022-03-04	Left blank



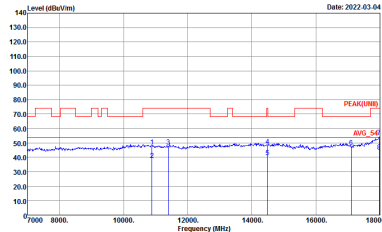
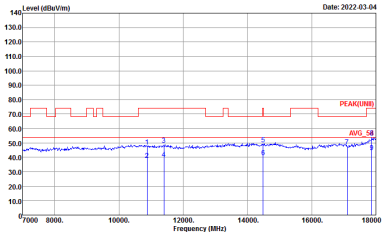
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - L	
4	Vertical	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_BE(UNIT)_B3 3m 91200_02114_210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HY Condition : PEAK(UNIT)_3m 91200_02114_210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH16-HY Condition : AVG_BE(UNIT)_B3 3m 91200_02114_210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank



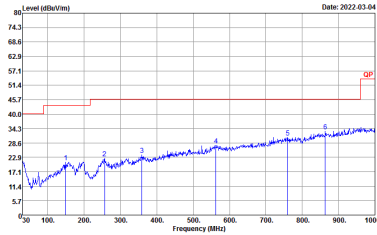
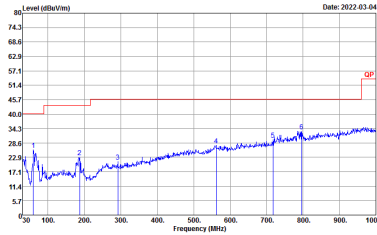
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
4	Vertical	Fundamental
Peak	 Site : 03CH16-HY Condition : PEAK_06(UNIT)_B3 3m 91200_02114_210804 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank



Band 3 5470~5725MHz
WIFI 802.11a (Harmonic @ 3m)

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH140 5700MHz	
4	Horizontal	Vertical
Peak Avg.	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02114_210804 HORIZONTAL Detector : Peak	 Site : 03CH16-HY Condition : PEAK(UNIT) 3m 91200_02114_210804 VERTICAL Detector : Peak

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

WIFI	5GHz WIFI	
ANT	802.11n HT20 LF	
4	Horizontal	Vertical
QP / Peak	 Site : 03CH16-HY Condition : QP 3m BIL06_47020_211009 HORIZONTAL Detector : Peak	 Site : 03CH16-HY Condition : QP 3m BIL06_47020_211009 VERTICAL Detector : Peak



Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
802.11a	98.10	-	-	10Hz
5GHz 802.11n HT20	98.47	-	-	10Hz
5GHz 802.11ac VHT80	92.40	462	2.16	3kHz

