FCC RADIO TEST REPORT

FCC ID	:	TVE-3417T0695A
Equipment	:	Network Security Gateway
Brand Name	:	FORTINET
Model Name	:	FortiWiFi 80F-2R-POExxxxxx, FORTIWIFI-80F-2R-POExxxxxx, FWF-80F-2R-POExxxxxx, FortiWiFi 81F-2R-POExxxxxx, FORTIWIFI-81F-2R-POExxxxxx, FWF-81F-2R-POExxxxxx, FortiWiFi 80F-2R-3G4G-POExxxxxx, FORTIWIFI-80F-2R-3G4G-POExxxxxx, FWF-80F-2R-3G4G-POExxxxxx, FortiWiFi 81F-2R-3G4G-POExxxxxx, FORTIWIFI-81F-2R-3G4G-POExxxxxx, FWF-81F-2R-3G4G-POExxxxxx (where "x" can be used "A-Z", or "0-9", or "-", or blank for software purposes or marketing purposes only)
Marketing Name	:	FortiWiFi 80F-2R-POE, FortiWiFi 81F-2R-POE, FortiWiFi 80F-2R-3G4G-POE, FortiWiFi 81F-2R-3G4G-POE
Applicant	:	Fortinet Inc. 899 KIFER RD SUNNYVALE CA 94086 UNITED STATES
Manufacturer	:	Fortinet Inc. 899 KIFER RD SUNNYVALE CA 94086 UNITED STATES
Standard	:	FCC Part 15 Subpart E §15.407

The product was received on Feb. 10, 2021 and testing was started from Mar. 11, 2021 and completed on Apr. 27, 2021. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

Louis Wu

Approved by: Louis Wu

Sporton International Inc. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FR121023-01	01	Initial issue of report	Apr. 25, 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	Under limit 0.19 dB at 5350.080 MHz
3.3	15.207	AC Conducted Emission	Pass	Under limit 5.13 dB at 10.028 MHz
3.4	15.203 15.407(a)	Antenna Requirement	Pass	-

Note:

1. Not required means after assessing, test items are not necessary to carry out.
2. This is a variant report by adding SKU (Model Name: FWF-81F-2R-3G4G-POE). All the test cases were performed on original report which can be referred to Sporton Report Number FR111826-01. Based on the original report, the test cases were verified.

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
1. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification. 2. The purpose of different model name is for marketing segmentation.

Reviewed by: Yun Huang

Report Producer: Amy Chen

1 General Description

1.1 Product Feature of Equipment Under Test

Bluetooth-LE, Wi-Fi 2.4GHz 802.11b/g/n/ac/ax and Wi-Fi 5GHz 802.11a/n/ac/ax.

Product Specification subjective to this standard	
Antenna Type	**WLAN:** <Ant. 1> Dipole Antenna <Ant. 2> Dipole Antenna <Ant. 3> Dipole Antenna **Bluetooth - LE:** <Ant. 4> PIFA Antenna

Antenna information		
5250 MHz ~ 5350 MHz	Peak Gain (dBi)	Ant. 1: 2.60 Ant. 2: 2.60 Ant. 3: 2.60
5470 MHz ~ 5725 MHz	Peak Gain (dBi)	Ant. 1: 2.01 Ant. 2: 2.01 Ant. 3: 2.01

Remark: The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.

1.2 Modification of EUT

No modifications are made to the EUT during all test items.

1.3 Testing Location

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	**Sporton Site No.**
	TH02-HY, CO05-HY

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

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	03CH16-HY (TAF Code: 3786)
Remark	The Radiated Emission test item subcontracted to Sporton International Inc. Wensan Laboratory.

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

FCC designation No.: TW1190 and TW3786

1.4 Applicable Standards

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

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

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. The TAF code is not including all the FCC KDB listed without accreditation.
3. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). 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 in two degrees (Ant. Horizontal and Ant. Vertical), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and find Ant. Vertical as worst plane.

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)
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

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
Straddle Channel	138#	5690	144	5720
	142*	5710		

Note:

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

2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

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

MIMO 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
802.11ax HE20	MCS0
802.11ax HE40	MCS0
802.11ax HE80	MCS0

Remark: The device have support beamforming function in 802.11 ac/ax mode, the manufacturer defines worst case were Non Beamforming, other test items only test worst case and documented.

Test Cases	
AC Conducted Emission	Mode 1 : WLAN (5GHz) Link + Bluetooth Link + Adapter*2 Mode 2 : WLAN (5GHz) Idle + Bluetooth Idle + Adapter*2
Remark: The worst case of conducted emission is mode 2; only the test data of it was reported.	

<Ant. 2>

Ch. #		Band II：5250-5350 MHz
		802.11n HT20
L	Low	52
M	Middle	-
H	High	-

Ch. #		Band III：5470-5725MHz
		802.11n HT40
L	Low	-
M	Middle	-
H	High	134

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

MIMO <Ant. 1+3>

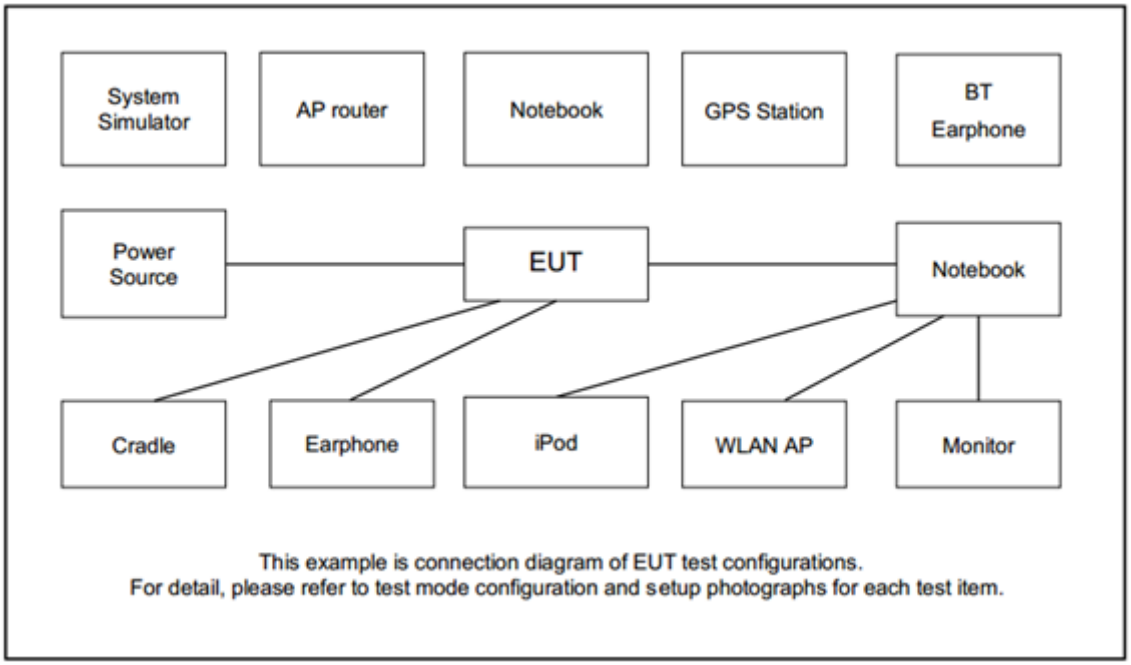
Ch. #		Band II：5250-5350 MHz
		802.11ax HE20
L	Low	-
M	Middle	-
H	High	64

Ch. #		Band II：5250-5350 MHz
		802.11ax HE40
L	Low	54
M	Middle	-
H	High	-

Ch. #		Band III：5470-5725MHz
		802.11ax HE80
L	Low	106
M	Middle	-
H	High	-

Remark: For radiation spurious emission, the final modulation and the worst data rate was reference 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.	Phone	SAMSUNG	SM-A730F/DS	A3LSMA730F	N/A	N/A
2.	Notebook	Dell	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8m

2.5 EUT Operation Test Setup

The RF test items, utility “QSPR Version 5.0-00196” 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 5.25–5.725 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.

For Straddle Channel, according to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, if the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

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

See list of measuring equipment of this test report.

3.1.3 Test Procedures

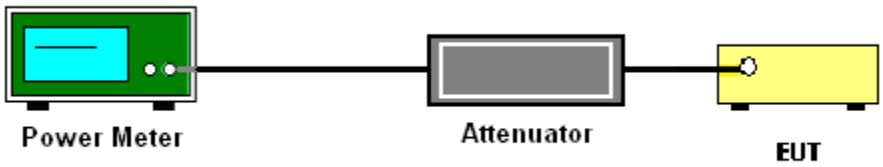
The testing follows Method PM-G of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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.

For Straddle Channel, according to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, if the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

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 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 fallen in restricted bands shall comply with the general field strength limits as below table:

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

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

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

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

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

(i) Sections 15.407(b)(1-3) specifies the unwanted emissions limit for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of −27 dBm/MHz.
(ii) Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are based on the use of a peak detector.

3.2.2 Measuring Instruments

See list of measuring equipment of 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 ≥ 3 MHz
- Detector = Peak
- Sweep time = auto
- Trace mode = max hold

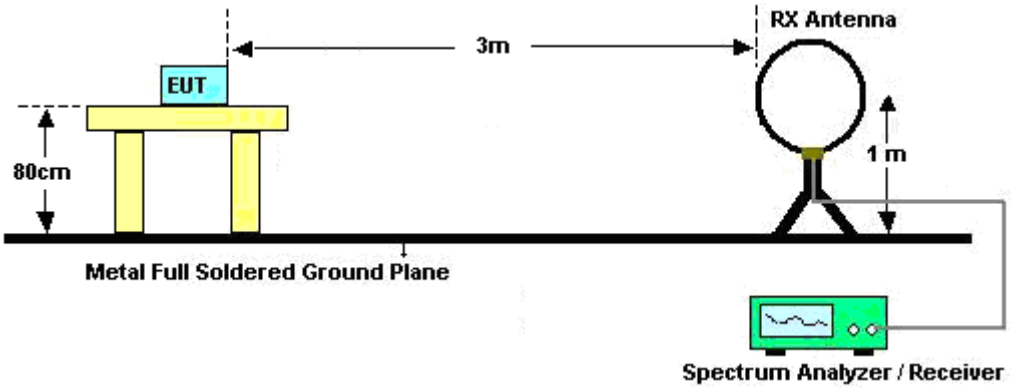
(3) Procedures for Average Unwanted Emissions Measurements Above 1000 MHz

- RBW = 1 MHz
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
- VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

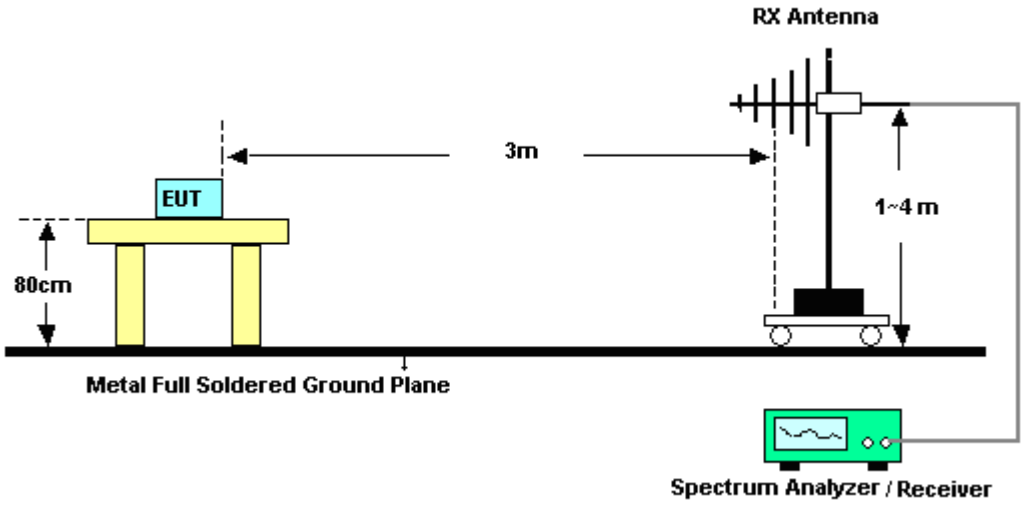
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband 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 was 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. For testing below 1 GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1 GHz, the emission level of the EUT in peak mode was 20 dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.2.4 Test Setup

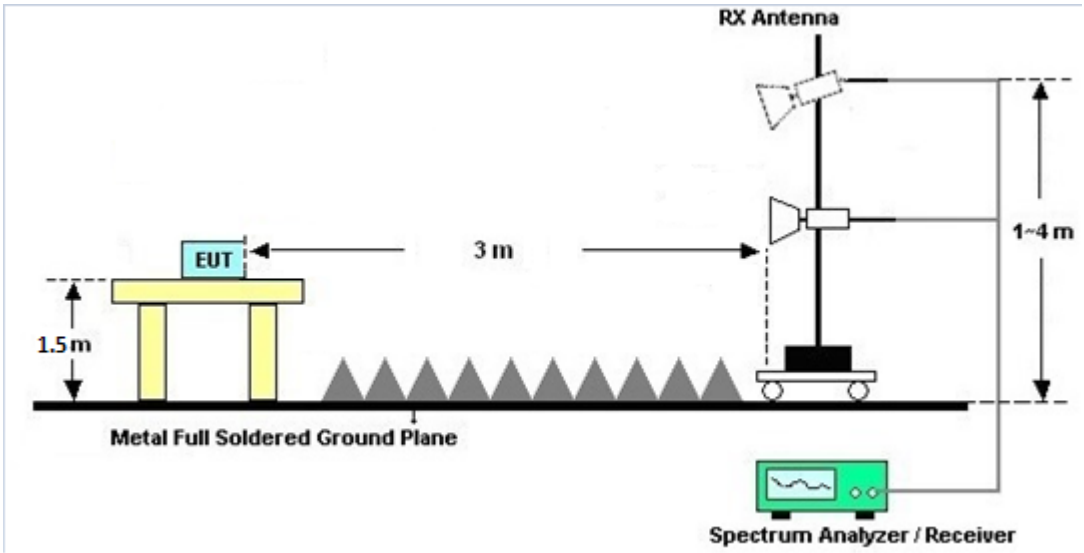
For radiated emissions below 30MHz



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 started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was 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 Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.2.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

3.3 AC Conducted Emission Measurement

3.3.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

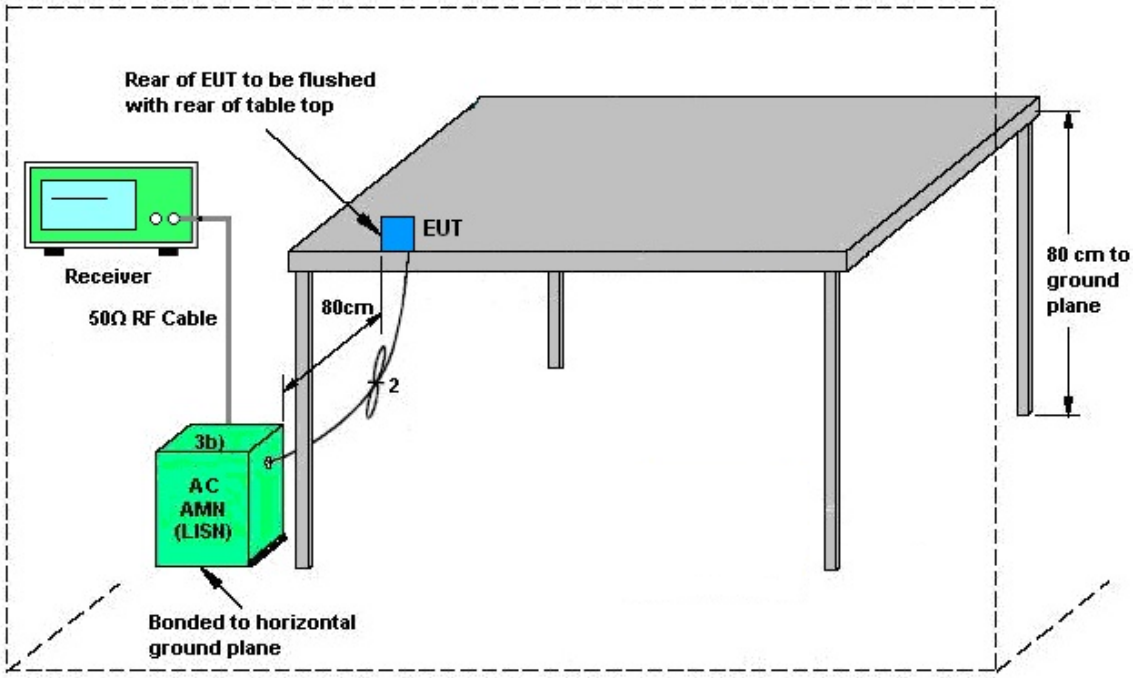
3.3.2 Measuring Instruments

See list of measuring equipment of this test report.

3.3.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was 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 sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.3.4 Test Setup



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

3.3.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.4 Antenna Requirements

3.4.1 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.

3.4.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.4.3 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
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Jul. 14, 2020	Apr. 16, 2021	Jul. 13, 2021	Radiation (03CH16-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00802N1D01N-06	47020 & 06	30MHz to 1GHz	Oct. 11, 2020	Apr. 16, 2021	Oct. 10, 2021	Radiation (03CH16-HY)
Amplifier	SONOMA	310N	371607	9kHz~1G	Sep. 30, 2020	Apr. 16, 2021	Sep. 29, 2021	Radiation (03CH16-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1522	1G~18GHz	Sep. 29, 2020	Apr. 16, 2021	Sep. 28, 2021	Radiation (03CH16-HY)
Amplifier	EMCI	EMC051845SE	980729	1-18GHz	Jul. 10, 2020	Apr. 16, 2021	Jul. 09, 2021	Radiation (03CH16-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170576	18GHz ~40GHz	May 22, 2020	Apr. 16, 2021	May 21, 2021	Radiation (03CH16-HY)
Preamplifier	Keysight	83017A	MY53270264	1GHz~26.5GHz	Dec. 10, 2020	Apr. 16, 2021	Dec. 09, 2021	Radiation (03CH16-HY)
EMI Test Receiver	Keysight	N9038A	MY59053012	3Hz~26.5GHz	Nov. 18, 2020	Apr. 16, 2021	Nov. 17, 2021	Radiation (03CH16-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Jan. 15, 2021	Apr. 16, 2021	Jan. 14, 2022	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY11680/4PE	NA	Aug. 29, 2020	Apr. 16, 2021	Aug. 28, 2021	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY11688/4PE	NA	Aug. 29, 2020	Apr. 16, 2021	Aug. 28, 2021	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	EC-A5-300-5757	NA	Aug. 29, 2020	Apr. 16, 2021	Aug. 28, 2021	Radiation (03CH16-HY)
Software	Audix	E3 6.2009-8-24	RK-001136	N/A	N/A	Apr. 16, 2021	N/A	Radiation (03CH16-HY)
Controller	ChainTek	3000-1	N/A	Control Turn table & Ant Mast	N/A	Apr. 16, 2021	N/A	Radiation (03CH16-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Apr. 16, 2021	N/A	Radiation (03CH16-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Apr. 16, 2021	N/A	Radiation (03CH16-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Apr. 22, 2021	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Nov. 30, 2020	Apr. 22, 2021	Nov. 29, 2021	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 18, 2020	Apr. 22, 2021	Nov. 17, 2021	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 16, 2020	Apr. 22, 2021	Nov. 15, 2021	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Apr. 22, 2021	N/A	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Feb. 25, 2021	Apr. 22, 2021	Feb. 24, 2022	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	260260	N/A	Dec. 31, 2020	Apr. 22, 2021	Dec. 30, 2021	Conduction (CO05-HY)

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	Testo	608-H1	34893241	N/A	Mar. 03, 2021	Mar. 11, 2021~ Apr. 27, 2021	Mar. 02, 2022	Conducted (TH02-HY)
Power Sensor	DARE	RPR3006W	16I00054SNO10	10MHz~6GHz	Dec. 16, 2020	Mar. 11, 2021~ Apr. 27, 2021	Dec. 15, 2021	Conducted (TH02-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101566	10Hz ~ 40GHz	Jul. 22, 2020	Mar. 11, 2021~ Apr. 27, 2021	Jul. 21, 2021	Conducted (TH02-HY)
Switch Box & RF Cable	EM Electronics	EMSW18SE	SW200302	N/A	Mar. 17, 2020	Mar. 11, 2021~ Mar. 12, 2021	Mar. 16, 2021	Conducted (TH02-HY)
Switch Box & RF Cable	EM Electronics	EMSW18SE	SW200302	N/A	Mar. 17, 2021	Apr. 27, 2021	Mar. 16, 2022	Conducted (TH02-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.3 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.5 dB**

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**6.3 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.7 dB**

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Shiming Liu	Temperature:	21.5	°C
Test Date:	2021/3/11~2021/4/27	Relative Humidity:	55.3	%

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 2	Ant 2	Ant 2		
11a	6Mpbs	1	52	5260	21.10	23.98	2.60	30	Pass
11a	6Mpbs	1	60	5300	19.90	23.98	2.60	30	Pass
11a	6Mpbs	1	64	5320	17.90	23.98	2.60	30	Pass
HT20	MCS0	1	52	5260	21.40	23.98	2.60	30	Pass
HT20	MCS0	1	60	5300	19.40	23.98	2.60	30	Pass
HT20	MCS0	1	64	5320	17.60	23.98	2.60	30	Pass
HT40	MCS0	1	54	5270	18.20	23.98	2.60	30	Pass
HT40	MCS0	1	62	5310	16.00	23.98	2.60	30	Pass
VHT20	MCS0	1	52	5260	21.30	23.98	2.60	30	Pass
VHT20	MCS0	1	60	5300	19.30	23.98	2.60	30	Pass
VHT20	MCS0	1	64	5320	17.50	23.98	2.60	30	Pass
VHT40	MCS0	1	54	5270	18.10	23.98	2.60	30	Pass
VHT40	MCS0	1	62	5310	15.90	23.98	2.60	30	Pass
VHT80	MCS0	1	58	5290	6.90	23.98	2.60	30	Pass

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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 2	Ant 2	Ant 2		
11a	6Mpbs	1	100	5500	18.10	23.98	2.01	30	Pass
11a	6Mpbs	1	116	5580	20.90	23.98	2.01	30	Pass
11a	6Mpbs	1	140	5700	17.00	23.98	2.01	30	Pass
HT20	MCS0	1	100	5500	18.10	23.98	2.01	30	Pass
HT20	MCS0	1	116	5580	21.00	23.98	2.01	30	Pass
HT20	MCS0	1	140	5700	16.90	23.98	2.01	30	Pass
HT40	MCS0	1	102	5510	16.80	23.98	2.01	30	Pass
HT40	MCS0	1	110	5550	19.00	23.98	2.01	30	Pass
HT40	MCS0	1	134	5670	18.70	23.98	2.01	30	Pass
VHT20	MCS0	1	100	5500	18.00	23.98	2.01	30	Pass
VHT20	MCS0	1	116	5580	20.90	23.98	2.01	30	Pass
VHT20	MCS0	1	140	5700	16.80	23.98	2.01	30	Pass
VHT40	MCS0	1	102	5510	16.70	23.98	2.01	30	Pass
VHT40	MCS0	1	110	5550	18.90	23.98	2.01	30	Pass
VHT40	MCS0	1	134	5670	18.60	23.98	2.01	30	Pass
VHT80	MCS0	1	106	5530	14.30	23.98	2.01	30	Pass
VHT80	MCS0	1	122	5610	18.30	23.98	2.01	30	Pass

FCC Band III straddle channel 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 2	Ant 2	Ant 2		
11a	6Mpbs	1	144	5720	20.50	23.98	2.01	30	Pass
HT20	MCS0	1	144	5720	20.60	23.98	2.01	30	Pass
HT40	MCS0	1	142	5710	21.40	23.98	2.01	30	Pass
VHT20	MCS0	1	144	5720	20.50	23.98	2.01	30	Pass
VHT40	MCS0	1	142	5710	21.30	23.98	2.01	30	Pass
VHT80	MCS0	1	138	5690	20.80	23.98	2.01	30	Pass

<CDD Mode>

TEST RESULTS DATA
Average Power Table

FCC Band II MIMO													
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 1	Ant 3	SUM	Ant 1	Ant 3	Ant 1	Ant 3		
11a	6Mbps	2	52	5260	17.70	17.30	20.51	23.98		2.60		30	Pass
11a	6Mbps	2	60	5300	17.80	17.10	20.47	23.98		2.60		30	Pass
11a	6Mbps	2	64	5320	17.80	17.30	20.57	23.98		2.60		30	Pass
HT20	MCS0	2	52	5260	17.00	16.70	19.86	23.98		2.60		30	Pass
HT20	MCS0	2	60	5300	17.10	16.40	19.77	23.98		2.60		30	Pass
HT20	MCS0	2	64	5320	17.00	16.60	19.81	23.98		2.60		30	Pass
HT40	MCS0	2	54	5270	20.60	20.20	23.41	23.98		2.60		30	Pass
HT40	MCS0	2	62	5310	18.40	17.90	21.17	23.98		2.60		30	Pass
VHT20	MCS0	2	52	5260	16.90	16.60	19.76	23.98		2.60		30	Pass
VHT20	MCS0	2	60	5300	17.00	16.30	19.67	23.98		2.60		30	Pass
VHT20	MCS0	2	64	5320	16.90	16.50	19.71	23.98		2.60		30	Pass
VHT40	MCS0	2	54	5270	20.50	20.10	23.31	23.98		2.60		30	Pass
VHT40	MCS0	2	62	5310	18.30	17.80	21.07	23.98		2.60		30	Pass
VHT80	MCS0	2	58	5290	17.20	16.70	19.97	23.98		2.60		30	Pass

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TEST RESULTS DATA
Average Power Table

FCC Band III MIMO													
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 1	Ant 3	SUM	Ant 1	Ant 3	Ant 1	Ant 3		
11a	6Mbps	2	100	5500	17.60	17.20	20.41	23.98		2.01		30	Pass
11a	6Mbps	2	116	5580	17.60	17.30	20.46	23.98		2.01		30	Pass
11a	6Mbps	2	140	5700	18.50	17.30	20.95	23.98		2.01		30	Pass
HT20	MCS0	2	100	5500	16.70	16.50	19.61	23.98		2.01		30	Pass
HT20	MCS0	2	116	5580	16.90	16.70	19.81	23.98		2.01		30	Pass
HT20	MCS0	2	140	5700	17.80	16.60	20.25	23.98		2.01		30	Pass
HT40	MCS0	2	102	5510	20.50	20.00	23.27	23.98		2.01		30	Pass
HT40	MCS0	2	110	5550	20.80	20.10	23.47	23.98		2.01		30	Pass
HT40	MCS0	2	134	5670	20.30	20.10	23.21	23.98		2.01		30	Pass
VHT20	MCS0	2	100	5500	16.60	16.40	19.51	23.98		2.01		30	Pass
VHT20	MCS0	2	116	5580	16.80	16.60	19.71	23.98		2.01		30	Pass
VHT20	MCS0	2	140	5700	17.70	16.50	20.15	23.98		2.01		30	Pass
VHT40	MCS0	2	102	5510	20.20	19.90	23.06	23.98		2.01		30	Pass
VHT40	MCS0	2	110	5550	20.70	20.00	23.37	23.98		2.01		30	Pass
VHT40	MCS0	2	134	5670	20.20	20.00	23.11	23.98		2.01		30	Pass
VHT80	MCS0	2	106	5530	17.50	16.40	20.00	23.98		2.01		30	Pass
VHT80	MCS0	2	122	5610	20.50	19.80	23.17	23.98		2.01		30	Pass

FCC Band III straddle channel MIMO													
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 1	Ant 3	SUM	Ant 1	Ant 3	Ant 1	Ant 3		
11a	6Mbps	2	144	5720	18.30	17.30	20.84	23.98		2.01		30	Pass
HT20	MCS0	2	144	5720	17.10	16.10	19.64	23.98		2.01		30	Pass
HT40	MCS0	2	142	5710	20.50	19.70	23.13	23.98		2.01		30	Pass
VHT20	MCS0	2	144	5720	17.00	16.00	19.54	23.98		2.01		30	Pass
VHT40	MCS0	2	142	5710	20.40	19.60	23.03	23.98		2.01		30	Pass
VHT80	MCS0	2	138	5690	20.70	19.50	23.15	23.98		2.01		30	Pass

TEST RESULTS DATA
Average Power Table

FCC Band II MIMO														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
						Ant 1	Ant 3	SUM	Ant 1	Ant 3	Ant 1	Ant 3		
HE20	MCS0	2	52	5260	Full	17.10	16.80	19.96	23.98		2.60		30	Pass
HE20	MCS0	2	60	5300	Full	17.20	16.50	19.87	23.98		2.60		30	Pass
HE20	MCS0	2	64	5320	Full	17.10	16.70	19.91	23.98		2.60		30	Pass
HE40	MCS0	2	54	5270	Full	20.70	20.30	23.51	23.98		2.60		30	Pass
HE40	MCS0	2	62	5310	Full	18.50	18.00	21.27	23.98		2.60		30	Pass
HE80	MCS0	2	58	5290	Full	17.30	16.80	20.07	23.98		2.60		30	Pass

TEST RESULTS DATA
Average Power Table

FCC Band III MIMO														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
						Ant 1	Ant 3	SUM	Ant 1	Ant 3	Ant 1	Ant 3		
HE20	MCS0	2	100	5500	Full	16.80	16.60	19.71	23.98		2.01		30	Pass
HE20	MCS0	2	116	5580	Full	17.00	16.80	19.91	23.98		2.01		30	Pass
HE20	MCS0	2	140	5700	Full	17.90	16.70	20.35	23.98		2.01		30	Pass
HE40	MCS0	2	102	5510	Full	20.60	20.10	23.37	23.98		2.01		30	Pass
HE40	MCS0	2	110	5550	Full	20.90	20.20	23.57	23.98		2.01		30	Pass
HE40	MCS0	2	134	5670	Full	20.40	20.20	23.31	23.98		2.01		30	Pass
HE80	MCS0	2	106	5530	Full	17.60	16.50	20.10	23.98		2.01		30	Pass
HE80	MCS0	2	122	5610	Full	20.60	19.90	23.27	23.98		2.01		30	Pass

FCC Band III straddle channel MIMO														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
						Ant 1	Ant 3	SUM	Ant 1	Ant 3	Ant 1	Ant 3		
HE20	MCS0	2	144	5720	Full	17.20	16.20	19.74	23.98		2.01		30	Pass
HE40	MCS0	2	142	5710	Full	20.60	19.80	23.23	23.98		2.01		30	Pass
HE80	MCS0	2	138	5690	Full	20.80	19.60	23.25	23.98		2.01		30	Pass

<TXBF Mode>

TEST RESULTS DATA
Average Power Table

FCC Band II MIMO													
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 1	Ant 3	SUM	Ant 1	Ant 3	Ant 1	Ant 3		
VHT20	MCS0	2	52	5260	16.80	16.50	19.66	23.98		5.61		30	Pass
VHT20	MCS0	2	60	5300	16.90	16.20	19.57	23.98		5.61		30	Pass
VHT20	MCS0	2	64	5320	16.80	16.40	19.61	23.98		5.61		30	Pass
VHT40	MCS0	2	54	5270	20.40	20.00	23.21	23.98		5.61		30	Pass
VHT40	MCS0	2	62	5310	18.20	17.70	20.97	23.98		5.61		30	Pass
VHT80	MCS0	2	58	5290	17.10	16.60	19.87	23.98		5.61		30	Pass

TEST RESULTS DATA
Average Power Table

FCC Band III MIMO													
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 1	Ant 3	SUM	Ant 1	Ant 3	Ant 1	Ant 3		
VHT20	MCS0	2	100	5500	16.50	16.30	19.41	23.98		5.02		30	Pass
VHT20	MCS0	2	116	5580	16.70	16.50	19.61	23.98		5.02		30	Pass
VHT20	MCS0	2	140	5700	17.60	16.40	20.05	23.98		5.02		30	Pass
VHT40	MCS0	2	102	5510	20.10	19.80	22.96	23.98		5.02		30	Pass
VHT40	MCS0	2	110	5550	20.60	19.90	23.27	23.98		5.02		30	Pass
VHT40	MCS0	2	134	5670	20.10	19.90	23.01	23.98		5.02		30	Pass
VHT80	MCS0	2	106	5530	17.40	16.30	19.90	23.98		5.02		30	Pass
VHT80	MCS0	2	122	5610	20.40	19.70	23.07	23.98		5.02		30	Pass

FCC Band III straddle channel MIMO													
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 1	Ant 3	SUM	Ant 1	Ant 3	Ant 1	Ant 3		
VHT20	MCS0	2	144	5720	16.90	15.90	19.44	23.98		5.02		30	Pass
VHT40	MCS0	2	142	5710	20.30	19.50	22.93	23.98		5.02		30	Pass
VHT80	MCS0	2	138	5690	20.60	19.40	23.05	23.98		5.02		30	Pass

TEST RESULTS DATA
Average Power Table

FCC Band II MIMO														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
						Ant 1	Ant 3	SUM	Ant 1	Ant 3	Ant 1	Ant 3		
HE20	MCS0	2	52	5260	Full	17.00	16.70	19.86	23.98		5.61		30	Pass
HE20	MCS0	2	60	5300	Full	17.10	16.40	19.77	23.98		5.61		30	Pass
HE20	MCS0	2	64	5320	Full	17.00	16.60	19.81	23.98		5.61		30	Pass
HE40	MCS0	2	54	5270	Full	20.60	20.20	23.41	23.98		5.61		30	Pass
HE40	MCS0	2	62	5310	Full	18.40	17.90	21.17	23.98		5.61		30	Pass
HE80	MCS0	2	58	5290	Full	17.20	16.70	19.97	23.98		5.61		30	Pass

TEST RESULTS DATA
Average Power Table

FCC Band III MIMO														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
						Ant 1	Ant 3	SUM	Ant 1	Ant 3	Ant 1	Ant 3		
HE20	MCS0	2	100	5500	Full	16.70	16.50	19.61	23.98		5.02		30	Pass
HE20	MCS0	2	116	5580	Full	16.90	16.70	19.81	23.98		5.02		30	Pass
HE20	MCS0	2	140	5700	Full	17.80	16.60	20.25	23.98		5.02		30	Pass
HE40	MCS0	2	102	5510	Full	20.50	20.00	23.27	23.98		5.02		30	Pass
HE40	MCS0	2	110	5550	Full	20.80	20.10	23.47	23.98		5.02		30	Pass
HE40	MCS0	2	134	5670	Full	20.30	20.10	23.21	23.98		5.02		30	Pass
HE80	MCS0	2	106	5530	Full	17.50	16.40	20.00	23.98		5.02		30	Pass
HE80	MCS0	2	122	5610	Full	20.50	19.80	23.17	23.98		5.02		30	Pass

FCC Band III straddle channel MIMO														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
						Ant 1	Ant 3	SUM	Ant 1	Ant 3	Ant 1	Ant 3		
HE20	MCS0	2	144	5720	Full	17.10	16.10	19.64	23.98		5.02		30	Pass
HE40	MCS0	2	142	5710	Full	20.50	19.70	23.13	23.98		5.02		30	Pass
HE80	MCS0	2	138	5690	Full	20.70	19.50	23.15	23.98		5.02		30	Pass

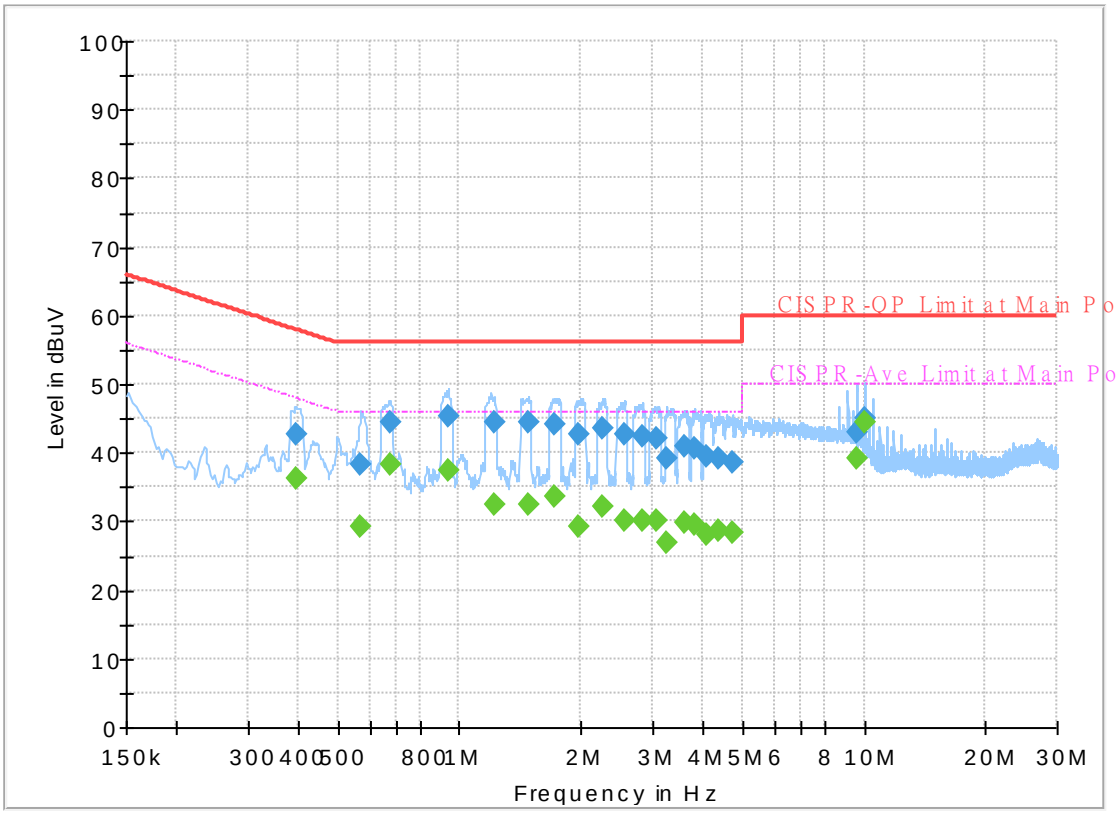
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Howard Huang	**Temperature :**	23~26℃
		Relative Humidity :	40~50%

EUT Information

Report NO :	121023-01
Test Mode :	Mode 2
Test Voltage :	120Vac/60Hz
Phase :	Line

Full Spectrum



Final_Result

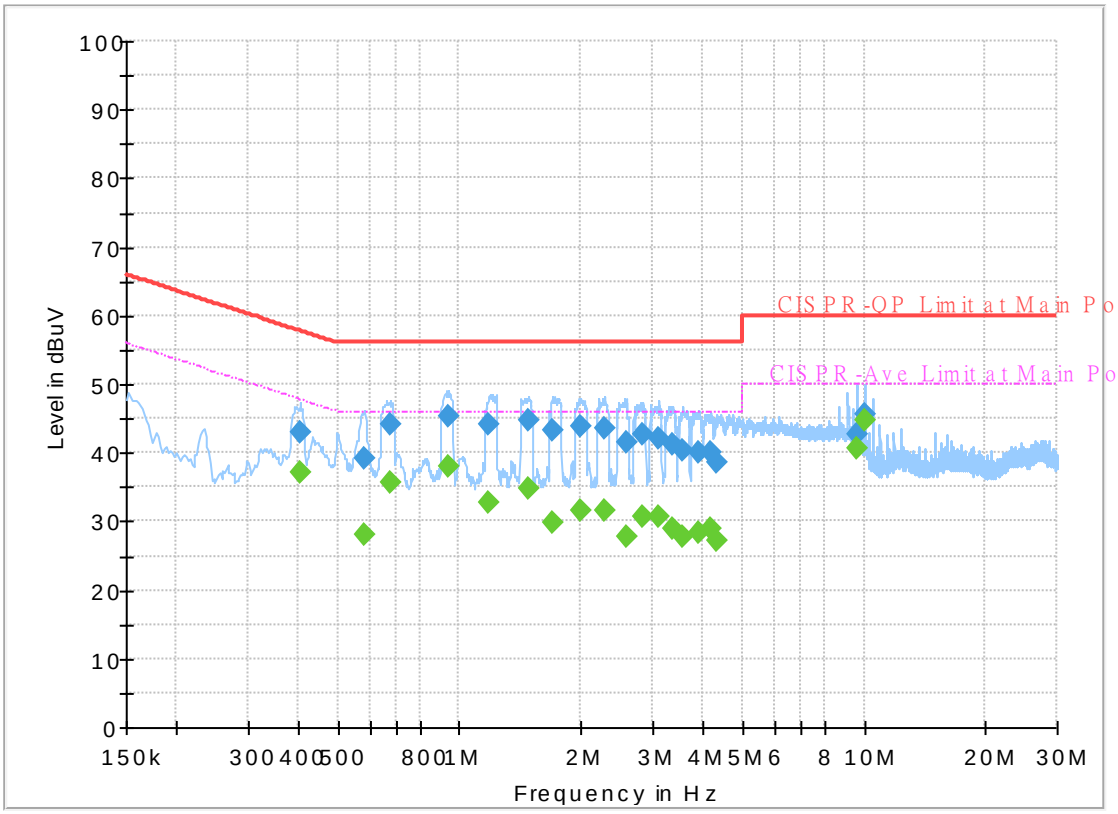
Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.393000	---	36.28	48.00	11.72	L1	OFF	19.7
0.393000	42.63	---	58.00	15.37	L1	OFF	19.7
0.570750	---	29.19	46.00	16.81	L1	OFF	19.9
0.570750	38.25	---	56.00	17.75	L1	OFF	19.9
0.672000	---	38.19	46.00	7.81	L1	OFF	20.0
0.672000	44.54	---	56.00	11.46	L1	OFF	20.0
0.937500	---	37.35	46.00	8.65	L1	OFF	20.2
0.937500	45.28	---	56.00	10.72	L1	OFF	20.2
1.214250	---	32.60	46.00	13.40	L1	OFF	20.3
1.214250	44.58	---	56.00	11.42	L1	OFF	20.3
1.482000	---	32.59	46.00	13.41	L1	OFF	20.2
1.482000	44.30	---	56.00	11.70	L1	OFF	20.2
1.725000	---	33.61	46.00	12.39	L1	OFF	20.2
1.725000	44.25	---	56.00	11.75	L1	OFF	20.2
1.965750	---	29.11	46.00	16.89	L1	OFF	20.2
1.965750	42.69	---	56.00	13.31	L1	OFF	20.2
2.258250	---	32.20	46.00	13.80	L1	OFF	20.2
2.258250	43.51	---	56.00	12.49	L1	OFF	20.2
2.559750	---	30.10	46.00	15.90	L1	OFF	20.2
2.559750	42.74	---	56.00	13.26	L1	OFF	20.2
2.825250	---	30.11	46.00	15.89	L1	OFF	20.1

2.825250	42.35	---	56.00	13.65	L1	OFF	20.1
3.088500	---	30.08	46.00	15.92	L1	OFF	20.1
3.088500	42.03	---	56.00	13.97	L1	OFF	20.1
3.264000	---	26.89	46.00	19.11	L1	OFF	20.1
3.264000	39.14	---	56.00	16.86	L1	OFF	20.1
3.588000	---	29.75	46.00	16.25	L1	OFF	20.1
3.588000	40.96	---	56.00	15.04	L1	OFF	20.1
3.822000	---	29.48	46.00	16.52	L1	OFF	20.1
3.822000	40.52	---	56.00	15.48	L1	OFF	20.1
4.074000	---	28.09	46.00	17.91	L1	OFF	20.1
4.074000	39.36	---	56.00	16.64	L1	OFF	20.1
4.389000	---	28.61	46.00	17.39	L1	OFF	20.1
4.389000	39.23	---	56.00	16.77	L1	OFF	20.1
4.710750	---	28.22	46.00	17.78	L1	OFF	20.1
4.710750	38.72	---	56.00	17.28	L1	OFF	20.1
9.570750	---	39.29	50.00	10.71	L1	OFF	20.2
9.570750	43.07	---	60.00	16.93	L1	OFF	20.2
10.025250	---	44.53	50.00	5.47	L1	OFF	20.2
10.025250	44.94	---	60.00	15.06	L1	OFF	20.2

EUT Information

Report NO :	121023-01
Test Mode :	Mode 2
Test Voltage :	120Vac/60Hz
Phase :	Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.404250	---	37.21	47.77	10.56	N	OFF	19.8
0.404250	43.06	---	57.77	14.71	N	OFF	19.8
0.582000	---	27.98	46.00	18.02	N	OFF	20.0
0.582000	39.23	---	56.00	16.77	N	OFF	20.0
0.674250	---	35.63	46.00	10.37	N	OFF	20.1
0.674250	44.24	---	56.00	11.76	N	OFF	20.1
0.937500	---	37.90	46.00	8.10	N	OFF	20.3
0.937500	45.35	---	56.00	10.65	N	OFF	20.3
1.182750	---	32.76	46.00	13.24	N	OFF	20.3
1.182750	44.22	---	56.00	11.78	N	OFF	20.3
1.477500	---	34.78	46.00	11.22	N	OFF	20.3
1.477500	44.76	---	56.00	11.24	N	OFF	20.3
1.704750	---	29.73	46.00	16.27	N	OFF	20.3
1.704750	43.20	---	56.00	12.80	N	OFF	20.3
1.997250	---	31.52	46.00	14.48	N	OFF	20.3
1.997250	43.78	---	56.00	12.22	N	OFF	20.3
2.276250	---	31.64	46.00	14.36	N	OFF	20.2
2.276250	43.47	---	56.00	12.53	N	OFF	20.2
2.575500	---	27.81	46.00	18.19	N	OFF	20.2
2.575500	41.57	---	56.00	14.43	N	OFF	20.2
2.836500	---	30.74	46.00	15.26	N	OFF	20.2

2.836500	42.59	---	56.00	13.41	N	OFF	20.2
3.093000	---	30.61	46.00	15.39	N	OFF	20.1
3.093000	42.11	---	56.00	13.89	N	OFF	20.1
3.376500	---	28.98	46.00	17.02	N	OFF	20.1
3.376500	41.24	---	56.00	14.76	N	OFF	20.1
3.545250	---	27.69	46.00	18.31	N	OFF	20.1
3.545250	40.27	---	56.00	15.73	N	OFF	20.1
3.914250	---	28.39	46.00	17.61	N	OFF	20.1
3.914250	40.04	---	56.00	15.96	N	OFF	20.1
4.157250	---	29.06	46.00	16.94	N	OFF	20.1
4.157250	39.93	---	56.00	16.07	N	OFF	20.1
4.337250	---	27.27	46.00	18.73	N	OFF	20.1
4.337250	38.57	---	56.00	17.43	N	OFF	20.1
9.570750	---	40.61	50.00	9.39	N	OFF	20.2
9.570750	42.69	---	60.00	17.31	N	OFF	20.2
10.027500	---	44.87	50.00	5.13	N	OFF	20.2
10.027500	45.54	---	60.00	14.46	N	OFF	20.2

Appendix C. Radiated Spurious Emission

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

Band 2 - 5250~5350MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 2	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 52 5260MHz		5129.54	55.35	-18.65	74	40.2	31.8	13.02	29.67	294	33	P	H
		5120.02	46.76	-7.24	54	31.62	31.8	13.01	29.67	294	33	A	H
	*	5260	112.98	-	-	98.17	31.28	13.22	29.69	294	33	P	H
	*	5260	104.65	-	-	89.84	31.28	13.22	29.69	294	33	A	H
		5440.56	58.18	-15.82	74	42.86	31.54	13.5	29.72	294	33	P	H
		5439.84	48.37	-5.63	54	33.05	31.54	13.5	29.72	294	33	A	H
		5088.06	56.49	-17.51	74	41.43	31.75	12.97	29.66	349	249	P	V
		5120.02	48.06	-5.94	54	32.92	31.8	13.01	29.67	349	249	A	V
	*	5260	116.91	-	-	102.1	31.28	13.22	29.69	349	249	P	V
	*	5260	107.43	-	-	92.62	31.28	13.22	29.69	349	249	A	V
		5440.32	60.53	-13.47	74	45.21	31.54	13.5	29.72	349	249	P	V
		5439.84	52.52	-1.48	54	37.2	31.54	13.5	29.72	349	249	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 2	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 52 5260MHz		10520	47.33	-20.87	68.2	44.22	39.8	19.49	56.18	100	0	P	H
		15780	51.3	-22.7	74	46.04	37.32	23.4	55.46	100	53	P	H
		15780	41.28	-12.72	54	36.02	37.32	23.4	55.46	100	53	A	H
													H
		10520	47.12	-21.08	68.2	44.01	39.8	19.49	56.18	100	0	P	V
		15780	52.04	-21.96	74	46.78	37.32	23.4	55.46	103	341	P	V
		15780	42.11	-11.89	54	36.85	37.32	23.4	55.46	103	341	A	V
													V
													V

Remark

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

Band 3 - 5470~5725MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 2	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 HT40 CH 134 5670MHz		5422.1	55.98	-18.02	74	40.78	31.43	13.49	29.72	294	25	P	H
		5462	57.32	-10.88	68.2	41.9	31.62	13.52	29.72	294	25	P	H
		5439.95	48.59	-5.41	54	33.27	31.54	13.5	29.72	294	25	A	H
	*	5670	103.06	-	-	87.51	31.64	13.7	29.79	294	25	P	H
	*	5670	95.08	-	-	79.53	31.64	13.7	29.79	294	25	A	H
		5731.05	61.87	-6.33	68.2	46.04	31.89	13.76	29.82	294	25	P	H
		5430.85	58.13	-15.87	74	42.86	31.49	13.5	29.72	352	254	P	V
		5460	56.81	-11.39	68.2	41.39	31.62	13.52	29.72	352	254	P	V
		5439.95	51.53	-2.47	54	36.21	31.54	13.5	29.72	352	254	A	V
	*	5670	110.7	-	-	95.15	31.64	13.7	29.79	352	254	P	V
	*	5670	102.96	-	-	87.41	31.64	13.7	29.79	352	254	A	V
		5727.9	67.49	-0.71	68.2	51.68	31.87	13.76	29.82	352	254	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 2	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)
		11340	47.78	-26.22	74	43.56	39.82	20	55.6	100	0	P	H
		17010	49.2	-19	68.2	40.04	40.49	25.08	56.41	100	0	P	H
802.11n													H
HT40													H
CH 134		11340	48.22	-25.78	74	44	39.82	20	55.6	100	0	P	V
5670MHz		17010	49.56	-18.64	68.2	40.4	40.49	25.08	56.41	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 2	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		5431.6	54.73	-19.27	74	39.46	31.49	13.5	29.72	303	26	P	H
		5469.76	58.05	-10.15	68.2	42.61	31.64	13.53	29.73	303	26	P	H
		5459.68	45.76	-8.24	54	30.34	31.62	13.52	29.72	303	26	A	H
	*	5530	97.28	-	-	81.8	31.64	13.58	29.74	303	26	P	H
	*	5530	87.86	-	-	72.38	31.64	13.58	29.74	303	26	A	H
		5743.58	53.95	-14.25	68.2	38.04	31.96	13.77	29.82	303	26	P	H
		5457.04	56.38	-17.62	74	40.97	31.61	13.52	29.72	348	253	P	V
		5469.04	64.8	-3.4	68.2	49.36	31.64	13.53	29.73	348	253	P	V
		5459.68	49.23	-4.77	54	33.81	31.62	13.52	29.72	348	253	A	V
	*	5530	102.31	-	-	86.83	31.64	13.58	29.74	348	253	P	V
	*	5530	94.08	-	-	78.6	31.64	13.58	29.74	348	253	A	V
		5732.555	54.7	-13.5	68.2	38.86	31.9	13.76	29.82	348	253	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 2	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)
		11060	47.54	-26.46	74	43.47	40.04	19.79	55.76	100	0	P	H
		16590	48.03	-20.17	68.2	40.05	39.36	24.45	55.83	100	0	P	H
802.11ac													H
VHT80													H
CH 106		11060	47.39	-26.61	74	43.32	40.04	19.79	55.76	100	0	P	V
5530MHz		16590	47.54	-20.66	68.2	39.56	39.36	24.45	55.83	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

WIFI 802.11n HT40 (LF @ 3m)

WIFI Ant. 2	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 HT40 LF		91.11	27.76	-15.74	43.5	44.15	14.79	1.46	32.64	-	-	P	H
		333.61	31.47	-14.53	46	40.88	20.01	3.07	32.49	-	-	P	H
		451.95	38.93	-7.07	46	44.56	23.29	3.6	32.52	100	0	P	H
		671.17	38.1	-7.9	46	39.67	26.45	4.46	32.48	-	-	P	H
		788.54	34.11	-11.89	46	34	28.03	4.89	32.81	-	-	P	H
		912.7	34.25	-11.75	46	31.64	29.49	5.34	32.22	-	-	P	H
													H
													H
													H
													H
													H
													H
		54.25	26.5	-13.5	40	45.62	12.68	1.03	32.83	100	34	Q	V
		159.01	27.85	-15.65	43.5	41.91	16.7	2.02	32.78	-	-	P	V
		442.25	34.81	-11.19	46	40.58	23.16	3.56	32.49	-	-	P	V
		615.88	31.83	-14.17	46	34.25	25.94	4.27	32.63	-	-	P	V
		729.37	38.78	-7.22	46	38.93	27.74	4.65	32.54	-	-	P	V
		897.18	38.73	-7.27	46	36.73	29.14	5.29	32.43	-	-	P	V
													V
													V
													V
													V
													V
													V

Remark

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

Band 2 5250~5350MHz

WIFI 802.11ax HE20 Full (Band Edge @ 3m)

WIFI Ant. 1+3	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)
	*	5320	117.45	-	-	102.66	31.16	13.33	29.7	200	57	P	H
	*	5320	106.58	-	-	91.79	31.16	13.33	29.7	200	57	A	H
		5350.56	55.74	-18.26	74	40.97	31.1	13.38	29.71	200	57	P	H
		5350.08	46.04	-7.96	54	31.27	31.1	13.38	29.71	200	57	A	H
802.11ax													H
HE20 Full													H
CH 64	*	5320	121.47	-	-	106.68	31.16	13.33	29.7	212	89	P	V
5320MHz	*	5320	110.71	-	-	95.92	31.16	13.33	29.7	212	89	A	V
		5352.32	62.38	-11.62	74	47.6	31.11	13.38	29.71	212	89	P	V
		5350.24	51.55	-2.45	54	36.78	31.1	13.38	29.71	212	89	A	V
													V
													V

Remark

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

Band 2 5250~5350MHz

WIFI 802.11ax HE20 Full (Harmonic @ 3m)

WIFI Ant. 1+3	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)
		10640	48.68	-25.32	74	45.42	39.8	19.55	56.09	100	0	P	H
		15960	45.27	-28.73	74	39.91	37.32	23.53	55.49	100	0	P	H
802.11ax													H
HE20 Full													H
CH 64		10640	51.12	-22.88	74	47.86	39.8	19.55	56.09	100	335	P	V
5320MHz		10640	41.96	-12.04	54	38.7	39.8	19.55	56.09	100	335	A	V
		15960	45.24	-28.76	74	39.88	37.32	23.06	55.49	100	0	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

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

WIFI Ant. 1+3	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)
		5130.9	54.64	-19.36	74	39.49	31.8	13.02	29.67	197	49	P	H
		5144.84	44.88	-9.12	54	29.71	31.8	13.04	29.67	197	49	A	H
	*	5270	116.76	-	-	101.95	31.26	13.24	29.69	197	49	P	H
	*	5270	106.86	-	-	92.05	31.26	13.24	29.69	197	49	A	H
802.11ax		5352.48	58.29	-15.71	74	43.51	31.11	13.38	29.71	197	49	P	H
HE40 Full		5355.12	49.44	-4.56	54	34.64	31.12	13.39	29.71	197	49	A	H
CH 54		5140.76	56.49	-17.51	74	41.32	31.8	13.04	29.67	201	90	P	V
5270MHz		5143.14	46.49	-7.51	54	31.32	31.8	13.04	29.67	201	90	A	V
	*	5270	120.97	-	-	106.16	31.26	13.24	29.69	201	90	P	V
	*	5270	111.3	-	-	96.49	31.26	13.24	29.69	201	90	A	V
		5356.32	63.12	-10.88	74	48.31	31.13	13.39	29.71	201	90	P	V
		5350.08	53.81	-0.19	54	39.04	31.1	13.38	29.71	201	90	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11ax HE40 Full (Harmonic @ 3m)

WIFI Ant. 1+3	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)
		10540	46.91	-21.29	68.2	43.78	39.8	19.5	56.17	100	0	P	H
		15810	46.83	-27.17	74	41.55	37.32	23.42	55.46	100	0	P	H
802.11ax													H
HE40 Full													H
CH 54		10540	48.03	-20.17	68.2	44.9	39.8	19.5	56.17	100	0	P	V
5270MHz		15810	46.04	-27.96	74	40.76	37.32	23.42	55.46	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

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

WIFI Ant. 1+3	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)
		5453.2	56.72	-17.28	74	41.31	31.61	13.52	29.72	400	336	P	H
		5466.4	55.73	-12.47	68.2	40.29	31.63	13.53	29.72	400	336	P	H
		5456.8	47.03	-6.97	54	31.62	31.61	13.52	29.72	400	336	A	H
	*	5530	106.04	-	-	90.56	31.64	13.58	29.74	400	336	P	H
802.11ax	*	5530	95.76	-	-	80.28	31.64	13.58	29.74	400	336	A	H
HE80 Full		5737.595	54.3	-13.9	68.2	38.43	31.93	13.76	29.82	400	336	P	H
CH 106		5453.68	62.88	-11.12	74	47.47	31.61	13.52	29.72	400	4	P	V
5530MHz		5470	63.9	-4.3	68.2	48.46	31.64	13.53	29.73	400	4	P	V
		5459.92	53.56	-0.44	54	38.14	31.62	13.52	29.72	400	4	A	V
	*	5530	110.67	-	-	95.19	31.64	13.58	29.74	400	4	P	V
	*	5530	101.31	-	-	85.83	31.64	13.58	29.74	400	4	A	V
		5764.37	54.65	-13.55	68.2	38.69	32	13.79	29.83	400	4	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 5470~5725MHz

WIFI 802.11ax HE80 Full (Harmonic @ 3m)

WIFI Ant. 1+3	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)
		11060	47.36	-26.64	74	43.29	40.04	19.79	55.76	100	0	P	H
		16590	46.44	-21.76	68.2	38.46	39.36	24.45	55.83	100	0	P	H
802.11ax													H
HE80 Full													H
CH 106		11060	47.34	-26.66	74	43.27	40.04	19.79	55.76	100	0	P	V
5530MHz		16590	47.53	-20.67	68.2	39.55	39.36	24.45	55.83	100	0	P	V
													V
													V

Remark

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

Emission below 1GHz

WIFI 802.11ax HE40 Full (LF @ 3m)

WIFI Ant. 1+3	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)
802.11ax HE40 Full LF		94.02	29.13	-14.37	43.5	45.02	15.26	1.48	32.63	-	-	P	H
		333.61	32.01	-13.99	46	41.42	20.01	3.07	32.49	-	-	P	H
		499.48	34.06	-11.94	46	38.79	24.15	3.78	32.66	-	-	P	H
		632.37	33.3	-12.7	46	35.18	26.38	4.32	32.58	-	-	P	H
		713.85	37.91	-8.09	46	38.83	26.92	4.62	32.46	100	0	P	H
		896.21	35.32	-10.68	46	33.33	29.14	5.29	32.44	-	-	P	H
													H
													H
													H
													H
													H
													H
		54.25	25.89	-14.11	40	45.01	12.68	1.03	32.83	100	34	Q	V
		332.64	27.11	-18.89	46	36.55	19.98	3.07	32.49	-	-	P	V
		435.46	32.47	-13.53	46	38.37	23.03	3.54	32.47	-	-	P	V
		599.39	38.2	-7.8	46	41	25.65	4.22	32.67	-	-	P	V
		745.86	39.14	-6.86	46	38.93	28.13	4.69	32.61	-	-	P	V
		910.76	32.9	-13.1	46	30.34	29.48	5.33	32.25	-	-	P	V
													V
													V
													V
													V
													V
													V

Remark

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

Note symbol

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

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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		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 D. Radiated Spurious Emission Plots

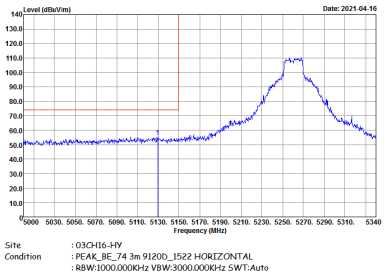
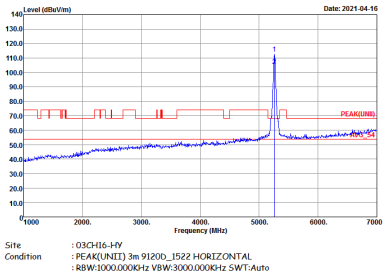
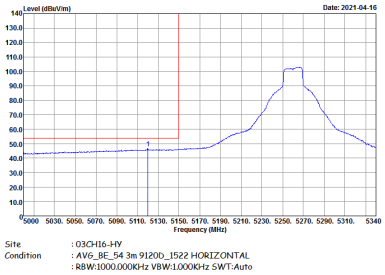
Test Engineer :	Karl Hou, Caster Liao, and Andy Yang	**Temperature :**	20~25°C
		Relative Humidity :	50~60%

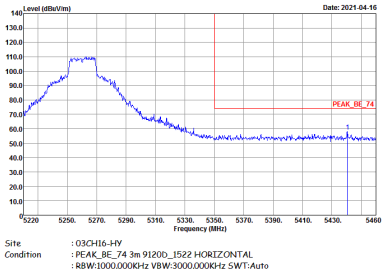
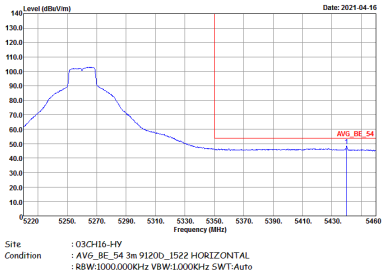
Note symbol

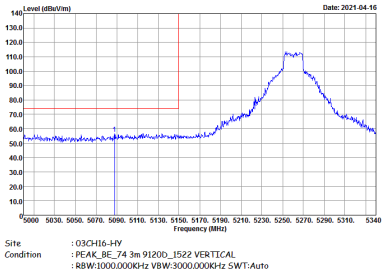
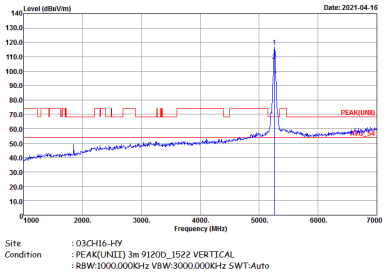
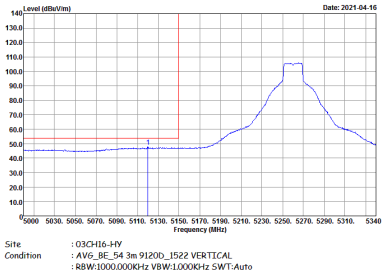
-L	**Low channel location**
-R	**High channel location**

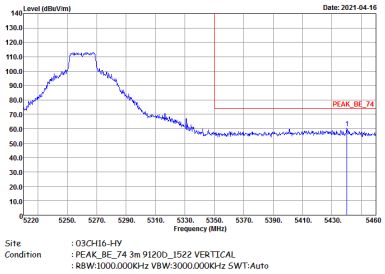
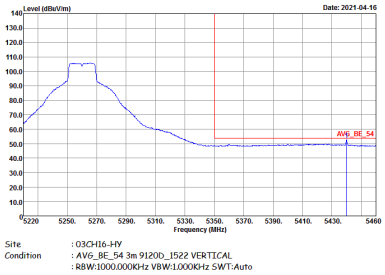
Band 2 - 5250~5350MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - L	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

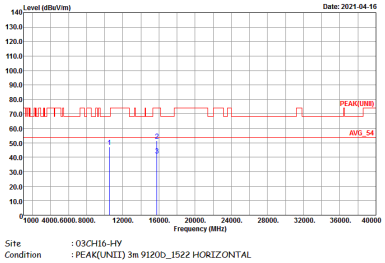
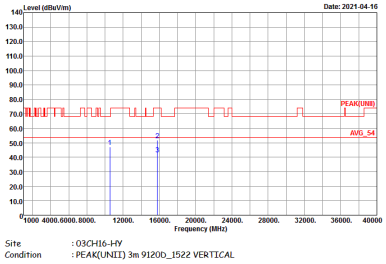
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

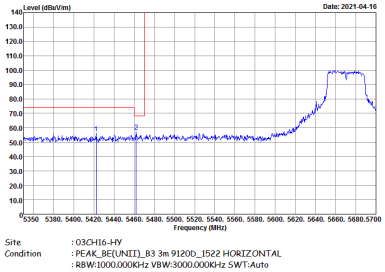
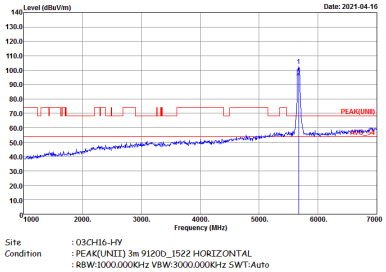
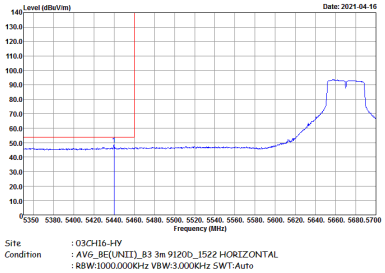
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - R	
2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

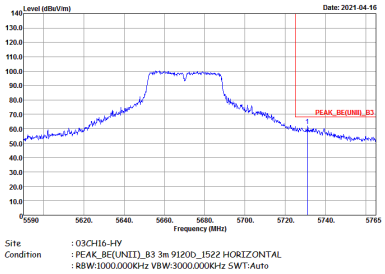
Band 2 - 5250~5350MHz

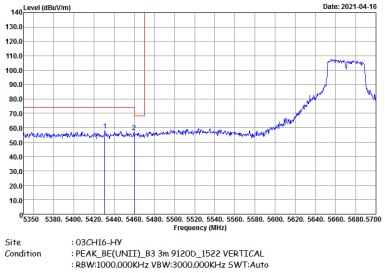
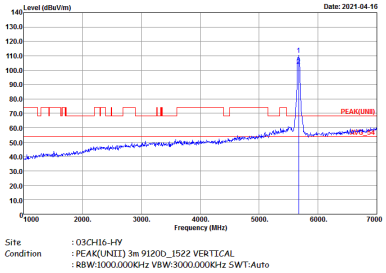
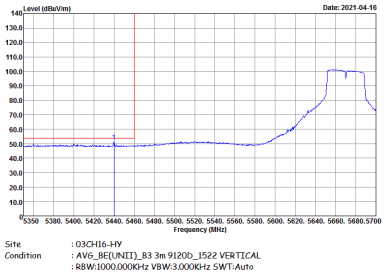
WIFI 802.11n HT20 (Harmonic @ 3m)

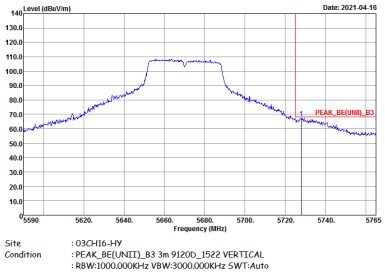
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT20 CH52 5260MHz	
2	Horizontal	Vertical
Peak Avg.		

Band 3 - 5470~5725MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

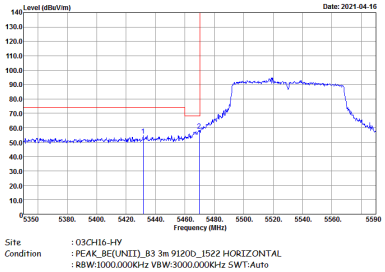
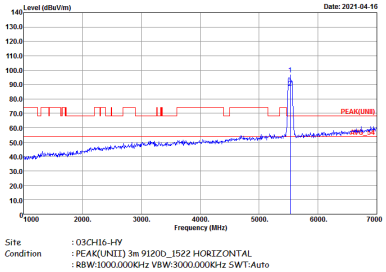
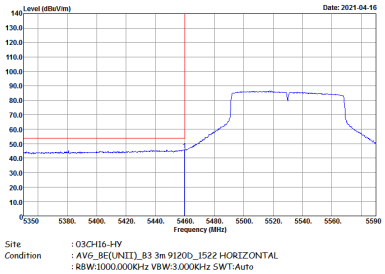
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - L	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

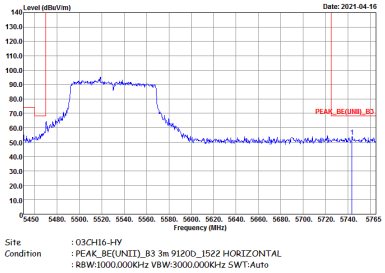
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - R	
2	Horizontal	Fundamental
Peak		Left blank

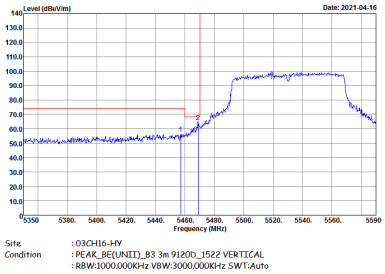
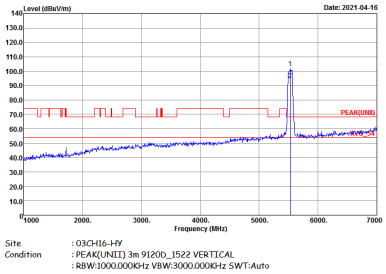
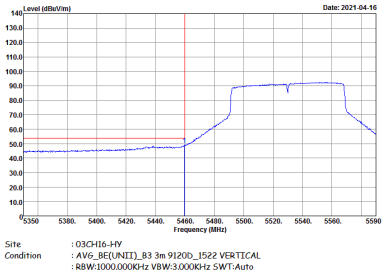
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

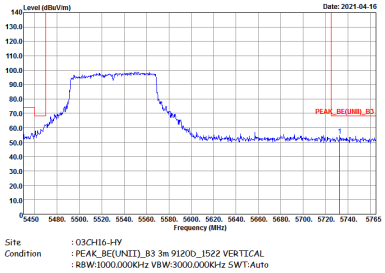
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - R	
2	Vertical	Fundamental
Peak		Left blank

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	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

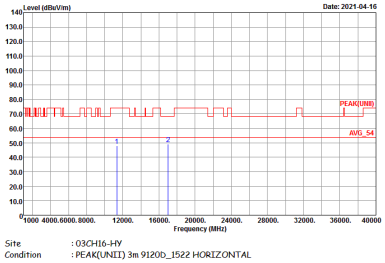
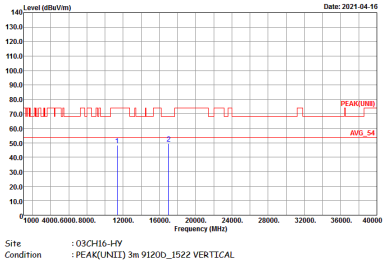
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
2	Horizontal	Fundamental
Peak		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
2	Vertical	Fundamental
Peak		Left blank

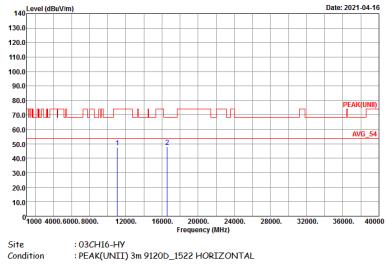
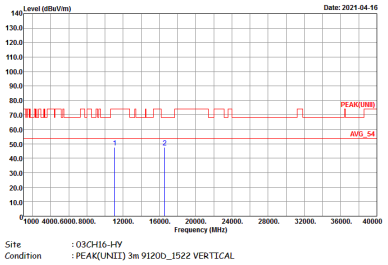
Band 3 - 5470~5725MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

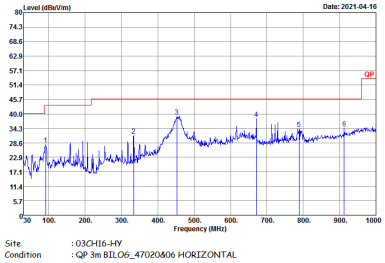
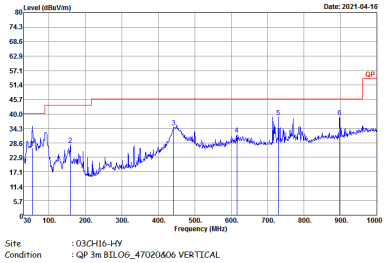
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT40 CH134 5670MHz	
2	Horizontal	Vertical
Peak Avg.		

Band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

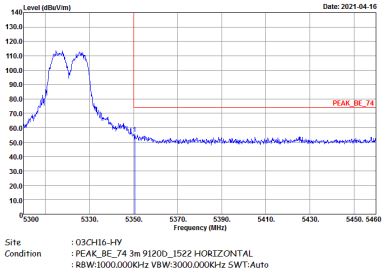
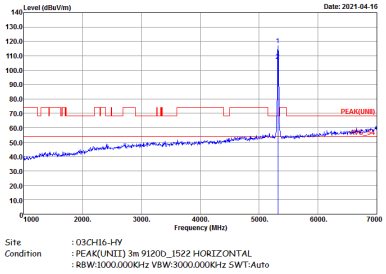
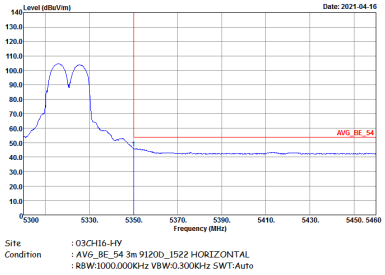
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz	
2	Horizontal	Vertical
Peak Avg.		

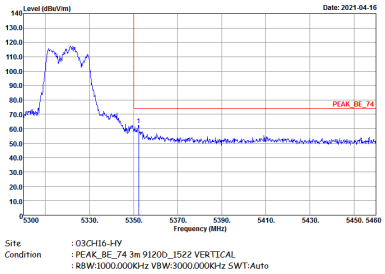
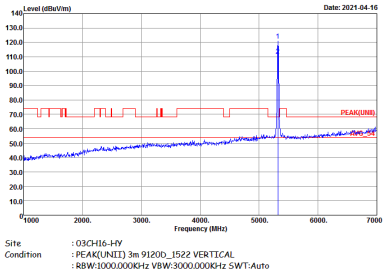
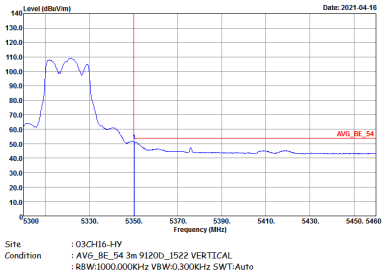
Emission below 1GHz
5GHz WIFI 802.11n HT40 (LF)

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

Band 2 - 5250~5350MHz

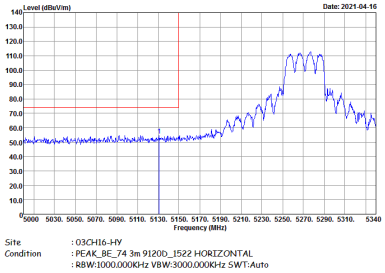
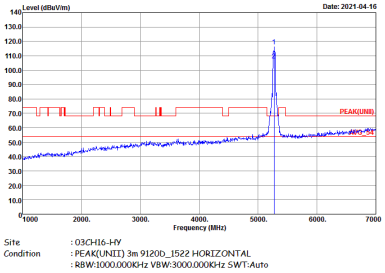
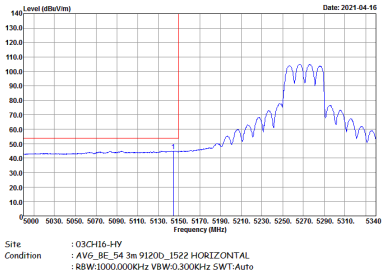
WIFI 802.11ax HE20 Full (Band Edge @ 3m)

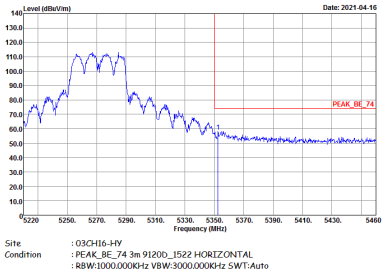
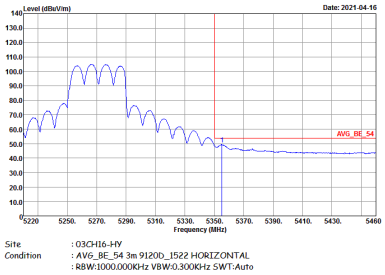
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH64 5320MHz	
1+3	Horizontal	Fundamental
Peak		
Avg.		Left blank

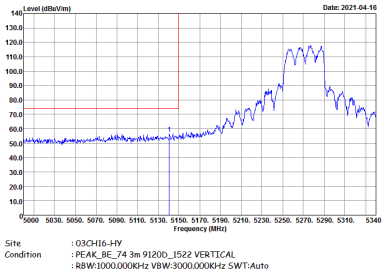
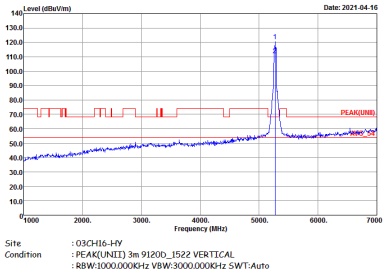
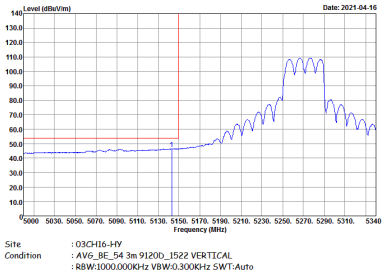
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH64 5320MHz	
1+3	Vertical	Fundamental
Peak	 Site : 03CH16-HV Condition : PEAK_BE_74 3m 9120D_1522 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH16-HV Condition : PEAK(UNII) 3m 9120D_1522 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH16-HV Condition : AVG_BE_54 3m 9120D_1522 VERTICAL : RBW:1000.000KHz VBW:0.300KHz SWT:Auto	Left blank

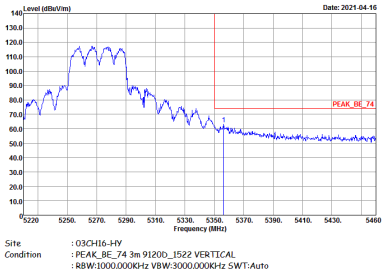
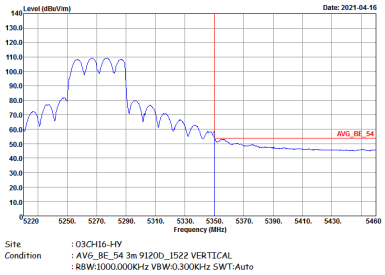
Band 2 - 5250~5350MHz

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

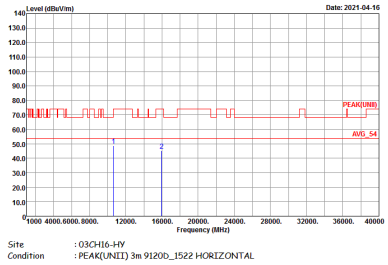
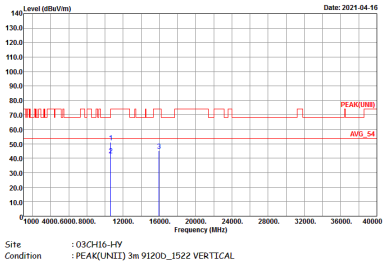
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH54 5270 - L	
1+3	Horizontal	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH54 5270 - R	
1+3	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH54 5270 - L	
1+3	Vertical	Fundamental
Peak		
Avg.		Left blank

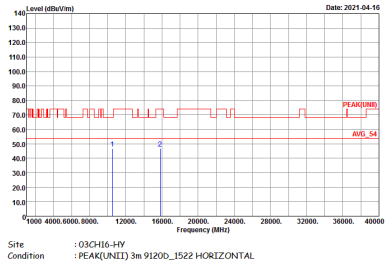
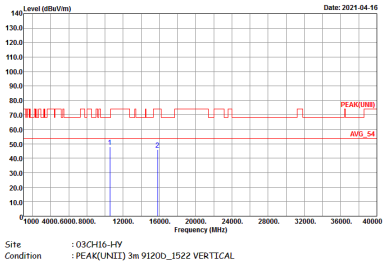
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH54 5270 - R	
1+3	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 2 5250~5350MHz
WIFI 802.11ax HE20 Full (Harmonic @ 3m)

WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH64 5320MHz	
1+3	Horizontal	Vertical
Peak Avg.		

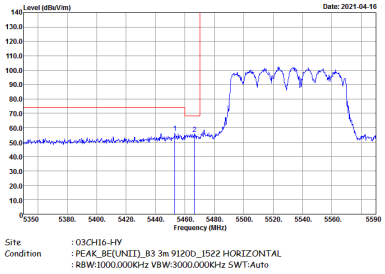
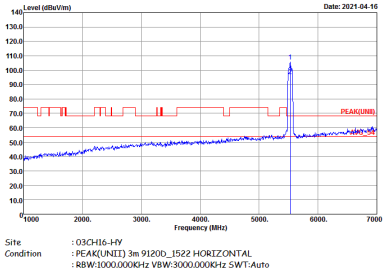
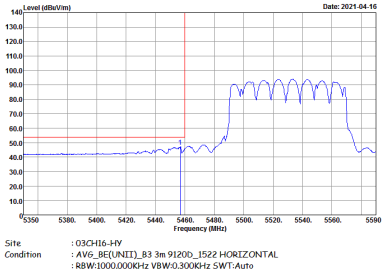
Band 2 - 5250~5350MHz

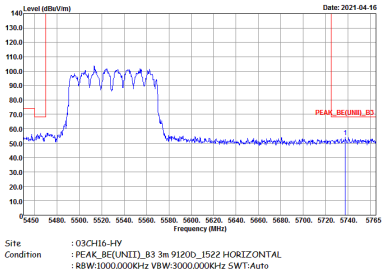
WIFI 802.11ax HE40 Full (Harmonic @ 3m)

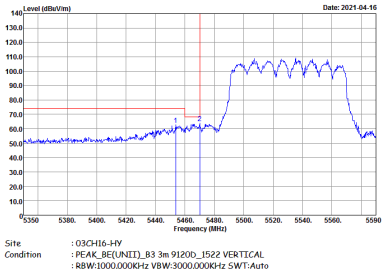
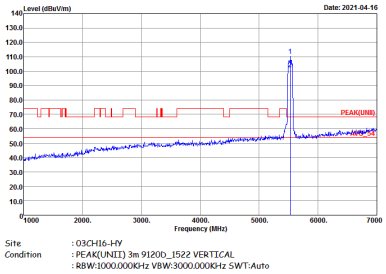
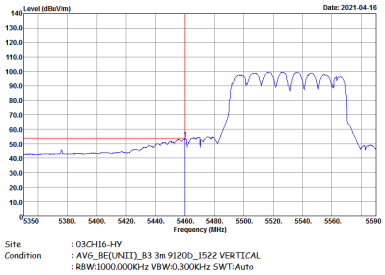
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11ax HE40 Full CH54 5270	
1+3	Horizontal	Vertical
Peak Avg.		

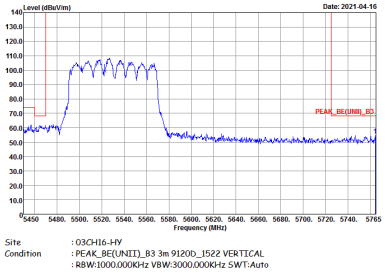
Band 3 - 5470~5725MHz

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

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH106 5530MHz - L	
1+3	Horizontal	Fundamental
Peak		
Avg.		Left blank

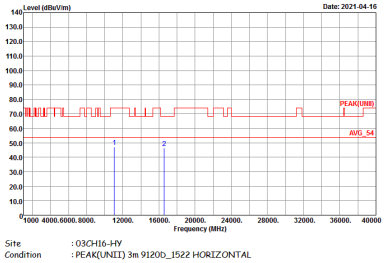
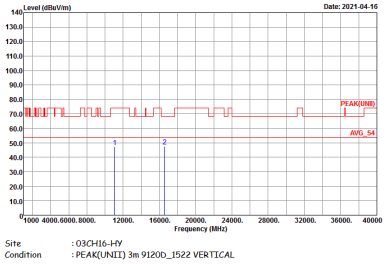
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH106 5530MHz - R	
1+3	Horizontal	Fundamental
Peak		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH106 5530MHz - L	
1+3	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH106 5530MHz - R	
1+3	Vertical	Fundamental
Peak		Left blank

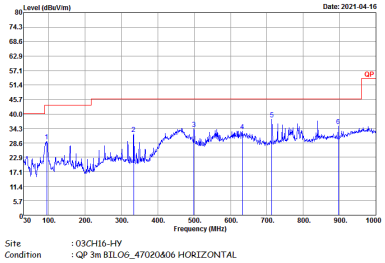
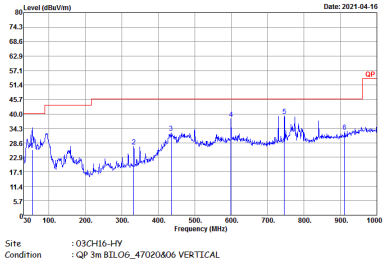
Band 3 - 5470~5725MHz

WIFI 802.11ax HE80 Full (Harmonic @ 3m)

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11ax HE80 Full CH106 5530MHz	
1+3	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

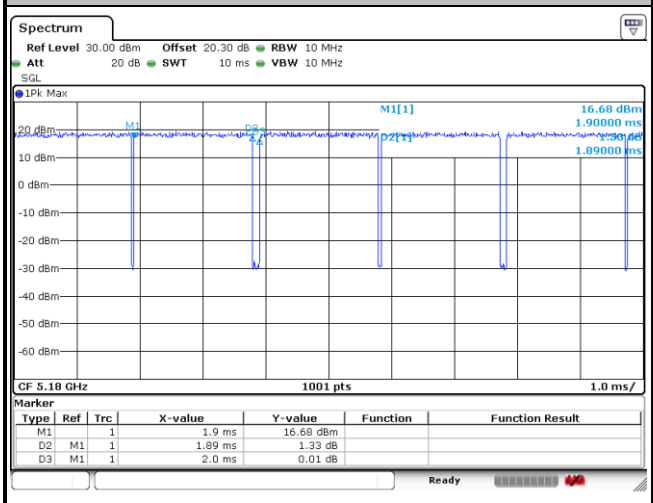
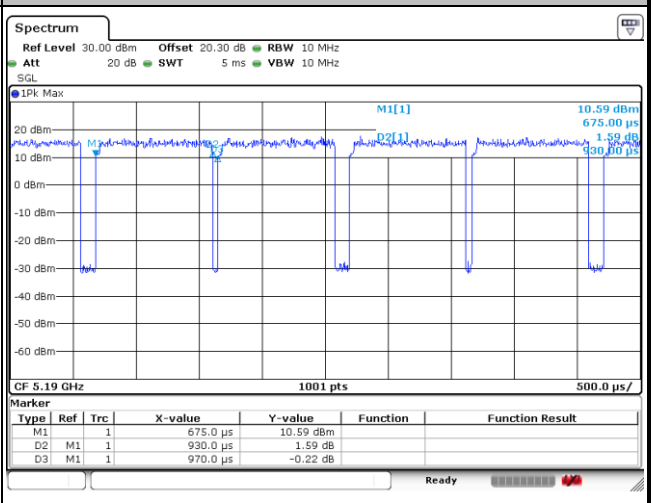
5GHz WIFI 802.11ax HE40 Full (LF)

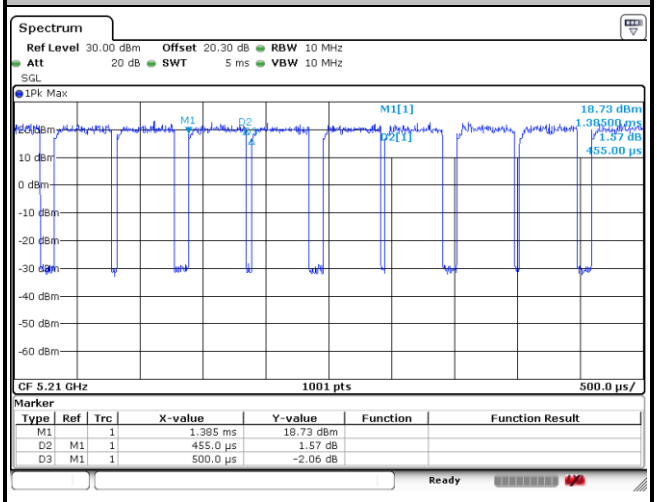
WIFI	5GHz WIFI	
ANT	802.11ax HE40 Full LF	
1+3	Horizontal	Vertical
QP / Peak		

Appendix E. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
2	5GHz 802.11n HT20	94.50	1890	0.53	1kHz
2	5GHz 802.11n HT40	95.88	930	1.08	3kHz
2	5GHz 802.11ac VHT80	91.00	455	2.20	3kHz
1+3	5GHz 802.11ax HE20 Full RU for Ant. 1	96.12	5445	0.18	300Hz
1+3	5GHz 802.11ax HE20 Full RU for Ant. 3	96.21	5465	0.18	300Hz
1+3	5GHz 802.11ax HE40 Full RU for Ant. 1	96.14	5480	0.18	300Hz
1+3	5GHz 802.11ax HE40 Full RU for Ant. 3	95.61	5440	0.18	300Hz
1+3	5GHz 802.11ax HE80 Full RU for Ant. 1	93.80	5450	0.18	300Hz
1+3	5GHz 802.11ax HE80 Full RU for Ant. 3	93.81	5460	0.18	300Hz

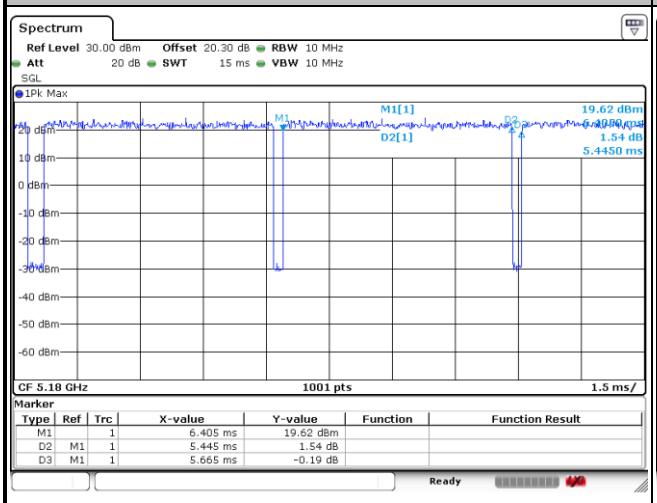
<Ant. 2>

802.11n HT20	802.11n HT40
	

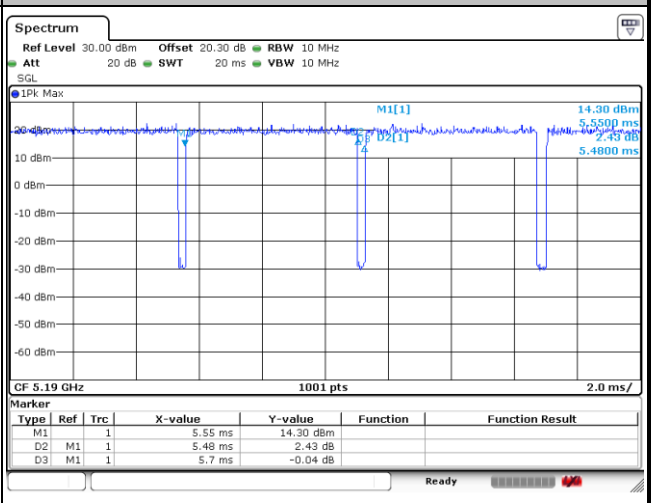
802.11ac VHT80


MIMO <Ant. 1>

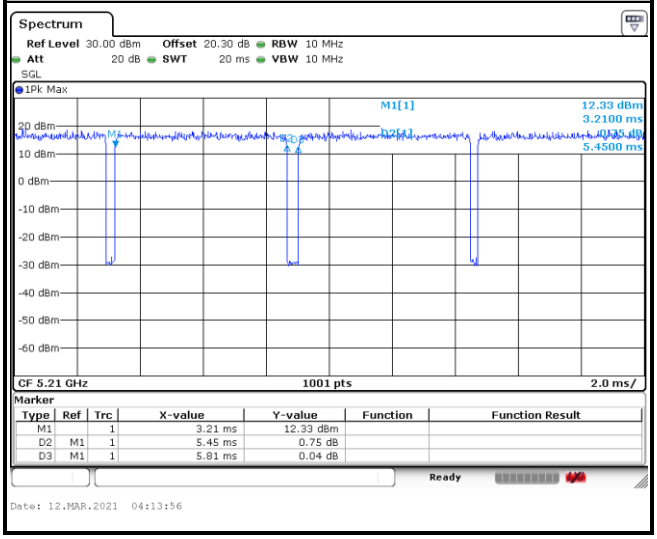
802.11ax HE20 Full RU



802.11ax HE40 Full RU

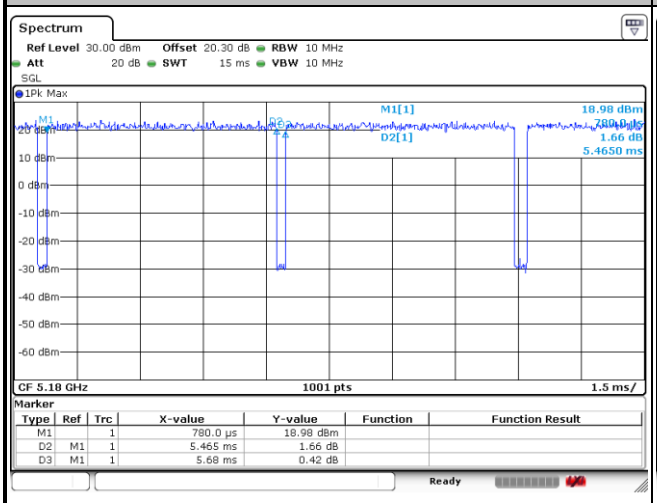


802.11ax HE80 Full RU

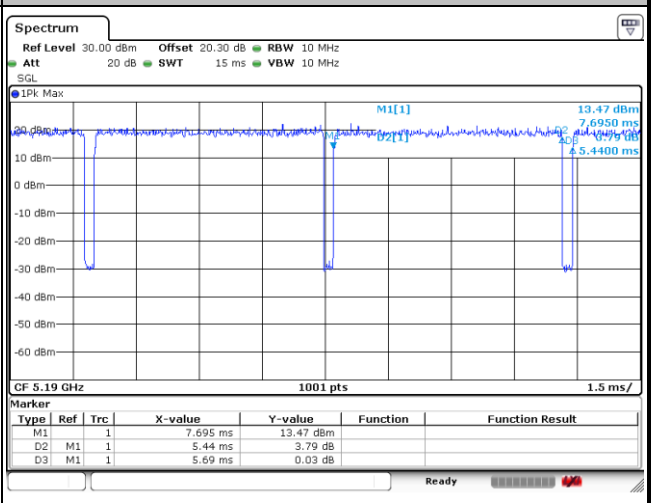


MIMO <Ant. 3>

802.11ax HE20 Full RU



802.11ax HE40 Full RU



802.11ax HE80 Full RU