FCC RADIO TEST REPORT

FCC ID	:	**TX2-RTL8822CE**
Equipment	:	**802.11a/b/g/n/ac RTL8822CE Combo module**
Brand Name	:	**Realtek**
Model Name	:	**RTL8822CE**
Applicant	:	**Realtek Semiconductor Corp. No. 2 Innovation Road II, Hsinchu Science Park Hsinchu 300, Taiwan**
Standard	:	**FCC Part 15 Subpart E §15.407**

The product was received on Sep. 12, 2024 and testing was performed from Sep. 24, 2024 to Oct. 17, 2024. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this partial report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. Wensan Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

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

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History of this test report

Report No.	Version	Description	Issue Date
FR0D1216-04C	01	Initial issue of report	Nov. 11, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.407(a)	Maximum Conducted Output Power	Pass	-
3.2	15.407(b)	Unwanted Emissions	Pass	0.82 dB under the limit at 17385.00 MHz
3.3	15.207	AC Conducted Emission	Pass	9.82 dB under the limit at 0.20 MHz
3.4	15.203	Antenna Requirement	Pass	-

Note: The test plans were defined by manufacturer.

Conformity Assessment Condition:
1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”.
Disclaimer:
The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Yun Huang

Report Producer: Rebecca Wu

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
General Specs	Wi-Fi 2.4GHz 802.11b/g/n/ac and Wi-Fi 5GHz 802.11a/n/ac.
Sample 1	EUT with Host 1
Sample 2	EUT with Host 2
Sample 3	EUT with Host 3
Sample 4	EUT with Host 4
Sample 5	EUT with Host 5
Sample 6	EUT with Host 6
Sample 7	EUT with Host 7
Antenna Type	WLAN: **<Main>**: PIFA Antenna **<Aux.>**: PIFA Antenna

Antenna information		
5725 MHz ~ 5850 MHz	Peak Gain (dBi)	Main: 3.85 Aux.: 4.30

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

The product was installed into Notebook
(Brand Name: Getac, Model Name: S410, S410G4, S410-4012C, S410-4212D, S410-4212E, S410G5 S410Y (Y= 10 characters, Y can be 0-9, a-z, A-Z, “-“, “_” or blank for marketing purpose and no impact safety related critical components and constructions.)) during test, and the host information was recorded in the following table.

Host Information	
Host 1	Host with SKU A
Host 2	Host with SKU B
Host 3	Host with SKU C
Host 4	Host with SKU D
Host 5	Host with SKU E
Host 6	Host with SKU F
Host 7	Host with SKU G

SKU List				
DVT SKUs	**SKU A**	**SKU B**	**SKU C**	**SKU D**
CPU	i5	i5	i5	i5
Display Resolution	FHD	FHD	FHD	FHD
Discrete Graphics	Not Support	Not Support	Not Support	Not Support
Wifi/BT	Support (RTL8822CE) (AX201NGW)	Support (RTL8822CE) (AX201NGW)	Support (RTL8822CE) (AX201NGW)	Support (RTL8822CE) (AX201NGW)
Touch	Not Support	Not Support	Not Support	Not Support
Sunlight Readable	Support	Support	Support	Support
Main Storage	SSD 1TB	SSD 1 TB	SSD 1TB	SSD 1TB
Battery	Main	Main	Main	Main
2nd Storage	2nd Battery	Not Support	2nd Battery	Not Support
Webcam	Support	Support	Support	Support
Smart Card	Support	Support	Support	Support
Option I/O Ports	RS232 + LAN + Fischer	RS232 + LAN + Fischer	RS232 + LAN + Display	S232 + LAN + Fischer
Discrete GPS	Not Support	Not Support	Not Support	Not Support
Finger Print	Not Support	Not Support	Not Support	Not Support
Contactless Smart Card(NFC)	Not Support	Not Support	Not Support	Not Support
LTE	Not Support	Support	Not Support	Not Support

SKU List			
DVT SKUs	**SKU E**	**SKU F**	**SKU G**
CPU	i5	i5	i5
Display Resolution	FHD	FHD	FHD
Discrete Graphics	Not Support	Not Support	Not Support
Wifi/BT	Support (RTL8822CE) (AX201NGW)	Support (RTL8822CE) (AX211NGW)	Support (RTL8822CE) (AX211NGW)
Touch	Not Support	Not Support	Not Support
Sunlight Readable	Support	Support	Support
Main Storage	SSD 1TB	SSD 1TB	SSD 1TB
Battery	Main	Main	Main
2nd Storage	2nd Battery	2nd Battery	2nd Battery
Webcam	Support	Support	Support
Smart Card	Support	Support	Support
Option I/O Ports	RS232 + LAN + Display	RS232 + LAN + Fischer	RS232 + LAN + Fischer
Discrete GPS	Not Support	Support	Not Support
Finger Print	Not Support	Not Support	Not Support
Contactless Smart Card(NFC)	Not Support	Not Support	Not Support
LTE	Not Support	Support	Not Support

1.1.1 Antenna Directional Gain

<For CDD Mode>

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

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

For power measurements on IEEE 802.11 devices,

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

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

For PSD measurements, the directional gain calculation.

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

where

Each antenna is driven by no more than one spatial stream;
N_{SS} = the number of independent spatial streams of data;
N_{ANT} = the total number of antennas
$g_{j,k} = 10^{G_k / 20}$ if the kth antenna is being fed by spatial stream j, or zero if it is not;
G_k is the gain in dBi of the kth antenna.

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

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

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

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

	Chain 1 (dBi)	Chain 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band IV	4.30	3.85	4.30	7.09	0.00	1.09

Calculation example:

If a device has two antenna, $G_{ANT\ Chain1}$= 4.30dBi; $G_{ANT\ Chain2}$=3.85dBi

Directional gain of power measurement = max(4.30, 3.85) + 0 = 4.30 dBi

Directional gain of PSD derived from formula which is

10 x log { { [10^ (4.30 dBi / 20) + 10^ (3.85 dBi / 20)] ^ 2 } / 2 }

= 7.09 dBi

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

1.2 Modification of EUT

No modifications made to the EUT during the testing.

1.3 Testing Location

Test Site	Sporton International Inc. 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.**
	CO05-HY (TAF Code: 1190)
Remark	The AC Conducted Emission test item subcontracted to Sporton International Inc. EMC & Wireless Communications Laboratory.

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.**
	TH05-HY, 03CH11-HY

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

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

Remark:

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

2 Test Configuration of Equipment Under Test

a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz)radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5725-5850 MHz Band 4 (U-NII-3)	149	5745	157	5785
	151*	5755	159*	5795
	153	5765	161	5805
	155#	5775	165	5825

Note:

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

2.2 Test Mode

The SISO mode conducted power is covered by MIMO mode per chain, so only the MIMO mode is tested.

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

MIMO Mode

Modulation	Data Rate
802.11ac VHT40	**MCS0**
802.11ac VHT80	**MCS0**

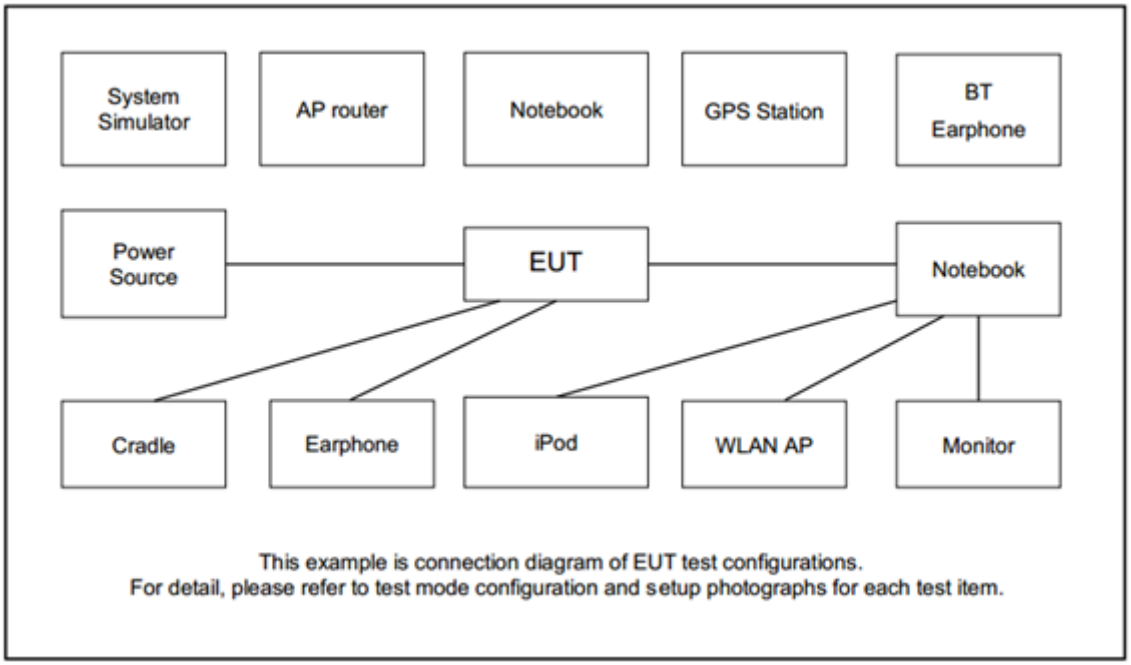
Remark: The conducted power level of each chain in MIMO mode is equal or higher than SISO mode.

Test Cases	
AC Conducted Emission	Mode 1： WLAN (5GHz) Link + AC Adapter for Sample 6
Remark: For Radiated Test Cases, the tests were performed with Sample 6.	

Ch. #		Band IV：5725-5850 MHz	
		802.11ac VHT40	**802.11ac VHT80**
L	**Low**	-	-
M	**Middle**	-	155
H	**High**	159	-

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

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
2.	Notebook	DELL	Latitude 3420	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A
4.	USB HD	ADATA	HV620S-1T	FCC DoC	Shielded, 1.0m	N/A
5.	Router	ASUS	GT-AX6000	MSQ-RTAX5600	N/A	N/A
6.	Router Adapter	Ac Bel	ADH011	NA	N/A	N/A
7.	Earphone	Sony	MH410C	N/A	Unshielded, 1.5m	N/A

2.5 EUT Operation Test Setup

The RF test items, utility “MP Version 0.0001.1020.2018” 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

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

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

3.1.2 Measuring Instruments

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

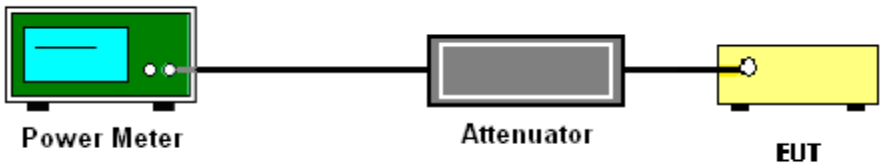
3.1.3 Test Procedures

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.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01

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 5.725-5.85 GHz band:

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

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

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

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

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

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

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

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

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

3.2.2 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 ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

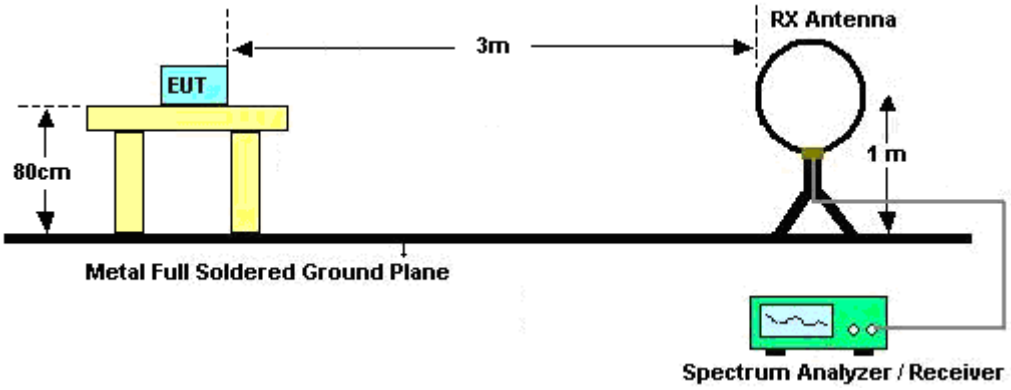
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000 MHz

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

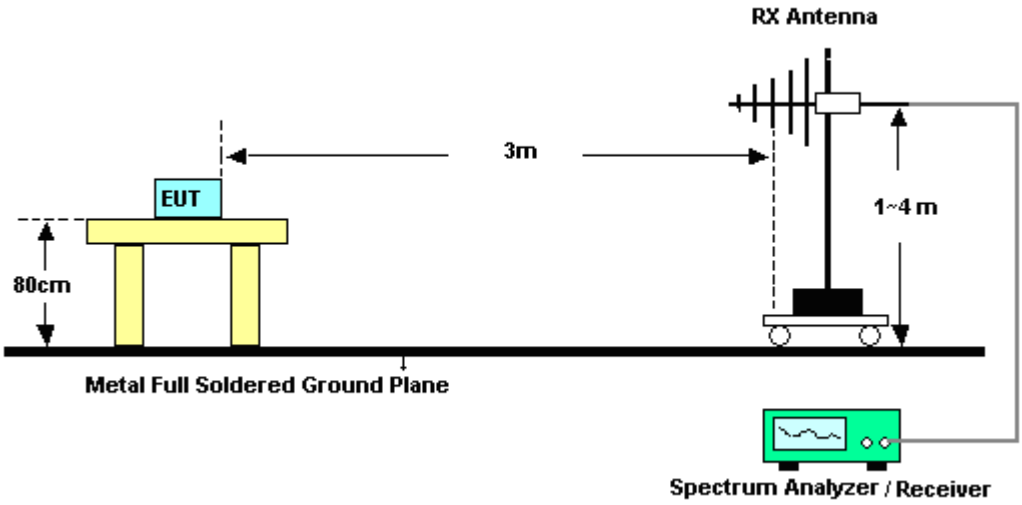
6. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading. When there is no suspected emission found and the emission level is with at least 6 dB margin against QP limit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

3.2.4 Test Setup

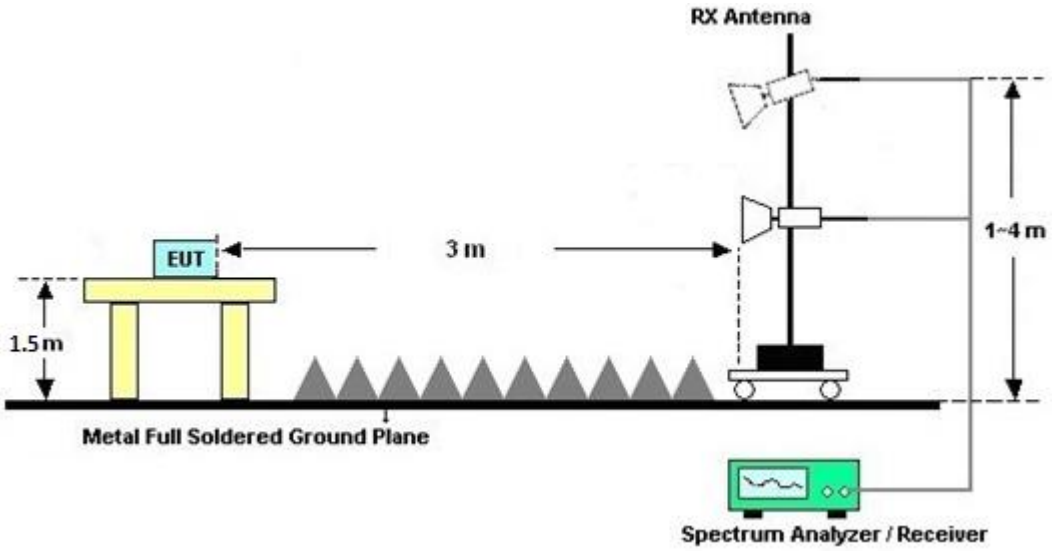
For radiated emissions below 30MHz



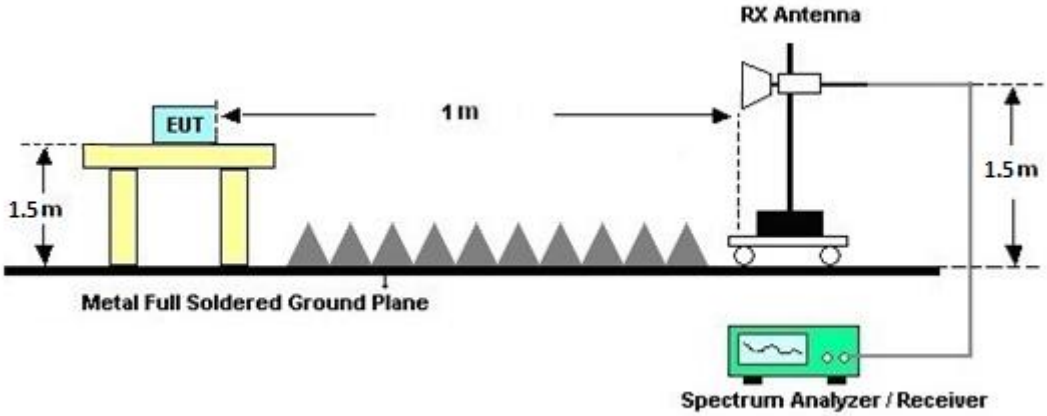
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



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

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

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

3.2.6 Test Result of Radiated Band Edges

Please refer to Appendix C.

3.2.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix C.

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.

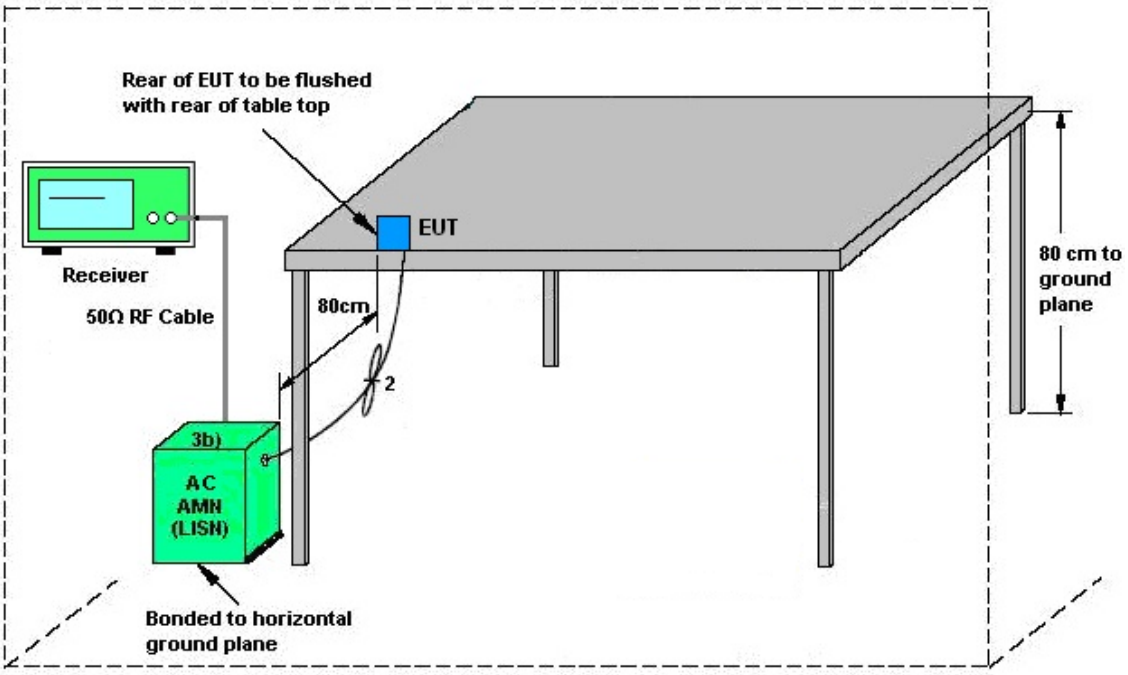
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

3.3.4 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

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, 15.213, 15.217, 15.219, 15.221, or § 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

3.4.2 Antenna Anti-Replacement Construction

Antenna permanently attached.

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Bilog Antenna	TESEQ	CBL 6111D & N-6-06	35414 & AT-N0602	30MHz~1GHz	Oct. 05, 2024	Oct. 14, 2024~ Oct. 17, 2024	Oct. 04, 2025	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-01620	1GHz~18GHz	Aug. 28, 2024	Oct. 14, 2024~ Oct. 17, 2024	Aug. 27, 2025	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	00993	18GHz~40GHz	Nov. 24, 2023	Oct. 14, 2024~ Oct. 17, 2024	Nov. 23, 2024	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Dec. 08, 2023	Oct. 14, 2024~ Oct. 17, 2024	Dec. 07, 2024	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Mar. 25, 2024	Oct. 14, 2024~ Oct. 17, 2024	Mar. 24, 2025	Radiation (03CH11-HY)
Preamplifier	Jet-Power	JPA0118-55-303	17100018000 55007	1GHz~18GHz	Jun. 13, 2024	Oct. 14, 2024~ Oct. 17, 2024	Jun. 12, 2025	Radiation (03CH11-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 07, 2023	Oct. 14, 2024~ Oct. 17, 2024	Dec. 06, 2024	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz~44GHz	Oct. 14, 2024	Oct. 17, 2024	Oct. 13, 2025	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz~44GHz	May 13, 2024	Oct. 14, 2024~ Oct. 16, 2024	May 12, 2025	Radiation (03CH11-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY55420170	20MHz~8.4GHz	Jul. 19, 2024	Oct. 14, 2024~ Oct. 17, 2024	Jul. 18, 2025	Radiation (03CH11-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Oct. 14, 2024~ Oct. 17, 2024	N/A	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Oct. 14, 2024~ Oct. 17, 2024	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Oct. 14, 2024~ Oct. 17, 2024	N/A	Radiation (03CH11-HY)
Software	Audix	E3 6.2009-8-24	RK-001053	N/A	N/A	Oct. 14, 2024~ Oct. 17, 2024	N/A	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804013/2	30M~40G	May 23, 2024	Oct. 14, 2024~ Oct. 17, 2024	May 22, 2025	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30MHz~40GHz	Mar. 06, 2024	Oct. 14, 2024~ Oct. 17, 2024	Mar. 05, 2025	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9K~30M	Mar. 06, 2024	Oct. 14, 2024~ Oct. 17, 2024	Mar. 05, 2025	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	30M~40G	Mar. 06, 2024	Oct. 14, 2024~ Oct. 17, 2024	Mar. 05, 2025	Radiation (03CH11-HY)
Filter	Wainwright	WHKX8-5872.5-6750-18000-40SS	SN3	6.75GHz High Pass Filter	Sep. 10, 2024	Oct. 14, 2024~ Oct. 17, 2024	Sep. 09, 2025	Radiation (03CH11-HY)
Filter	Wainwright	WLK4-1000-1530-8000-40SS	SN11	1.53GHz Low Pass Filter	Sep. 10, 2024	Oct. 14, 2024~ Oct. 17, 2024	Sep. 09, 2025	Radiation (03CH11-HY)
Hygrometer	TECPEL	DTM-303B	TP140325	N/A	Dec. 08, 2023	Oct. 14, 2024~ Oct. 17, 2024	Dec. 07, 2024	Radiation (03CH11-HY)
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 07, 2023	Sep. 24, 2024	Nov. 06, 2024	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	15I00041SNO 10 (NO:248)	10MHz~6GHz	Jan. 10, 2024	Sep. 24, 2024	Jan. 09, 2025	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101566	10Hz~40GHz	Aug. 23, 2024	Sep. 24, 2024	Aug. 22, 2025	Conducted (TH05-HY)
Switch Control Mainframe	Burgeon	ETF-058	EC1300484 (BOX3)	N/A	May 20, 2024	Sep. 24, 2024	May 19, 2025	Conducted (TH05-HY)
Software	Sporton	BTWIFI_Final_version_240513	N/A	Conducted Other Test Item	N/A	Sep. 24, 2024	N/A	Conducted (TH05-HY)

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Sep. 24, 2024	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Dec. 06, 2023	Sep. 24, 2024	Dec. 05, 2024	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Oct. 26, 2023	Sep. 24, 2024	Oct. 25, 2024	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 08, 2023	Sep. 24, 2024	Dec. 07, 2024	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 22, 2023	Sep. 24, 2024	Nov. 21, 2024	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32	N/A	N/A	N/A	Sep. 24, 2024	N/A	Conduction (CO05-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-FN	00691	N/A	Jul. 30, 2024	Sep. 24, 2024	Jul. 29, 2025	Conduction (CO05-HY)
RF Cable	HUBER + SUHNER	RG 214/U	1358175	9kHz~30MHz	Mar. 14, 2024	Sep. 24, 2024	Mar. 13, 2025	Conduction (CO05-HY)

5 Measurement Uncertainty

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.5 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**6.4 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.1 dB**

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

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

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

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

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Eason Huang	Temperature:	21~25	°C
Test Date:	2024/9/24	Relative Humidity:	51~54	%

Remark: For Conducted Test Items, Ant. A means Chain 1 (Aux.) and Ant. B means Chain 2 (Main).

TEST RESULTS DATA
Average Power Table

U-NII-3 MIMO												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant A	Ant B	SUM	Ant A	Ant B	Ant A	Ant B	
VHT40	MCS0	2	159	5795	20.00	20.20	23.11	30.00		4.30		Pass
VHT80	MCS0	2	155	5775	17.30	17.40	20.36	30.00		4.30		Pass

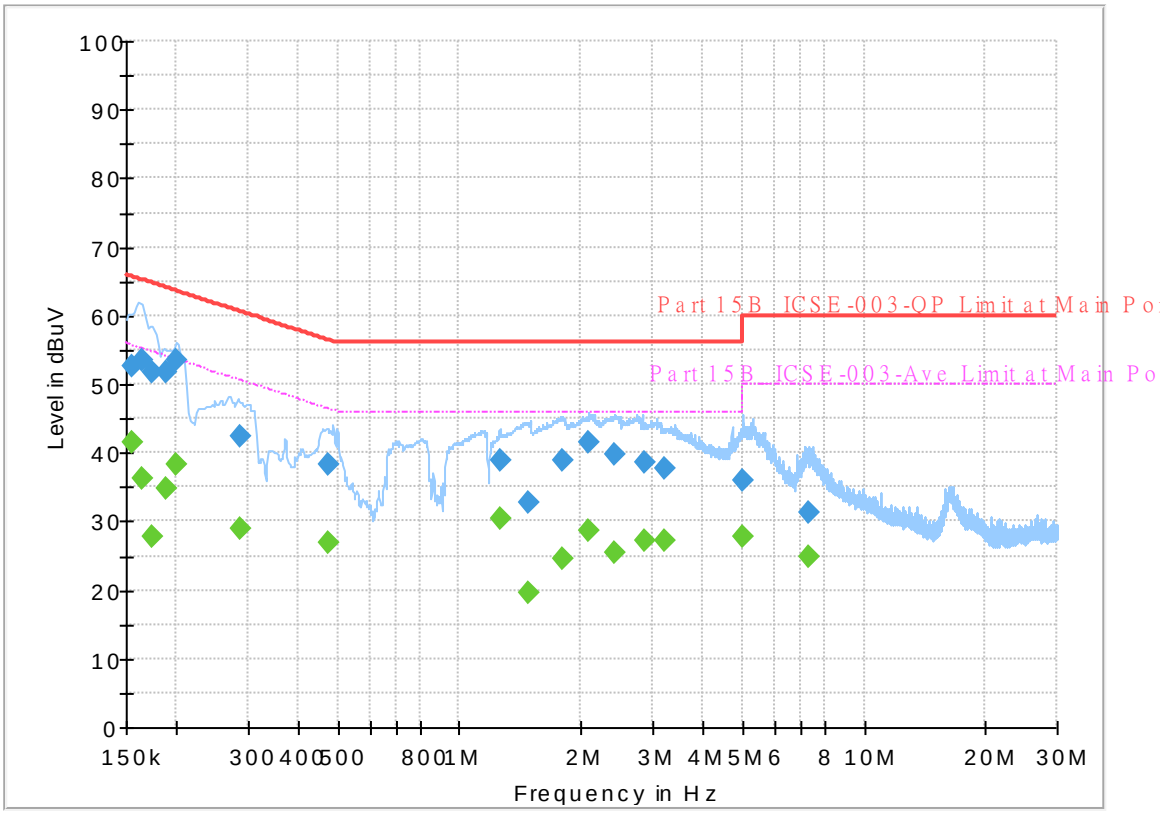
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Calvin Wang	**Temperature :**	23~26℃
		Relative Humidity :	45~55%

EUT Information

Report NO :	0D1216-04
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line

Full Spectrum



Final_Result

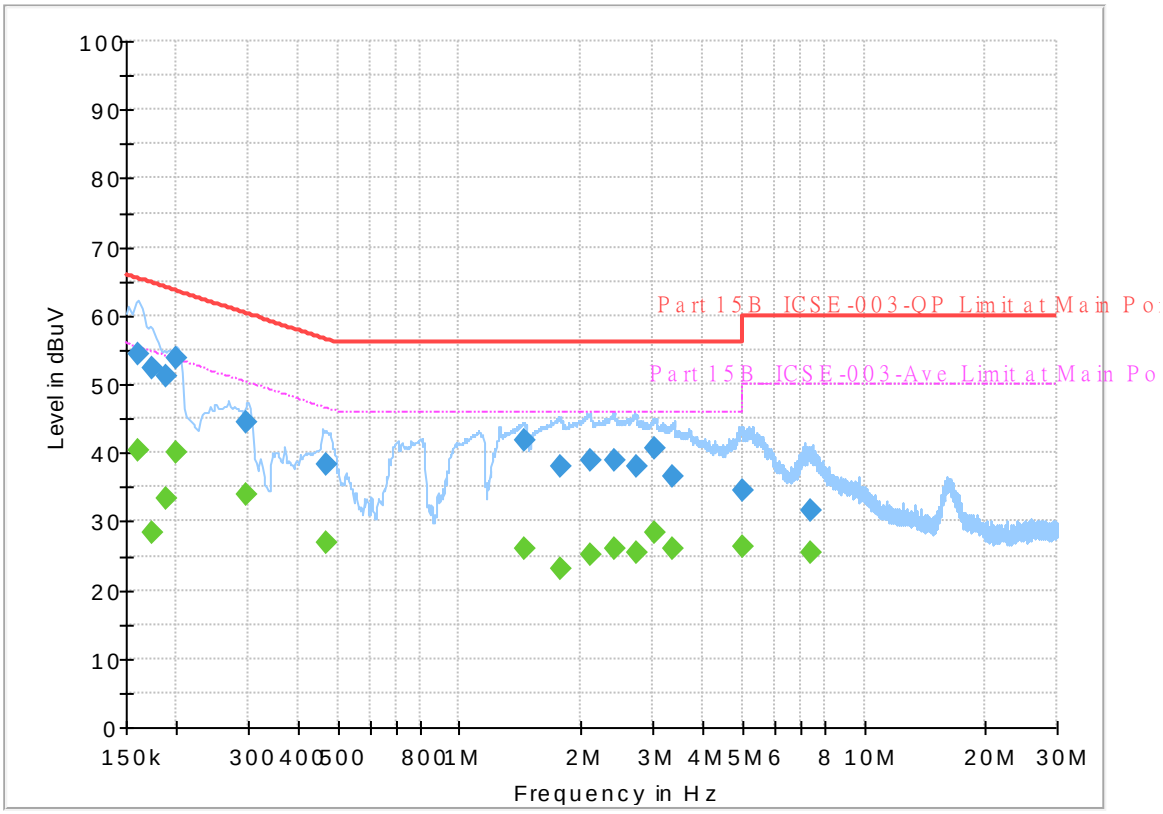
Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.154500	---	41.54	55.75	14.21	L1	OFF	19.8
0.154500	52.57	---	65.75	13.18	L1	OFF	19.8
0.163500	---	36.39	55.28	18.89	L1	OFF	19.8
0.163500	53.48	---	65.28	11.80	L1	OFF	19.8
0.174750	---	27.76	54.73	26.97	L1	OFF	19.8
0.174750	51.82	---	64.73	12.91	L1	OFF	19.8
0.188250	---	34.90	54.11	19.21	L1	OFF	19.8
0.188250	51.75	---	64.11	12.36	L1	OFF	19.8
0.199500	---	38.24	53.63	15.39	L1	OFF	19.8
0.199500	53.60	---	63.63	10.03	L1	OFF	19.8
0.287250	---	29.07	50.60	21.53	L1	OFF	19.8
0.287250	42.35	---	60.60	18.25	L1	OFF	19.8
0.471750	---	26.81	46.48	19.67	L1	OFF	19.8
0.471750	38.17	---	56.48	18.31	L1	OFF	19.8
1.257000	---	30.52	46.00	15.48	L1	OFF	19.8
1.257000	38.92	---	56.00	17.08	L1	OFF	19.8
1.479750	---	19.71	46.00	26.29	L1	OFF	19.8
1.479750	32.72	---	56.00	23.28	L1	OFF	19.8
1.799250	---	24.42	46.00	21.58	L1	OFF	19.8
1.799250	38.98	---	56.00	17.02	L1	OFF	19.8
2.078250	---	28.62	46.00	17.38	L1	OFF	19.8

2.078250	41.39	---	56.00	14.61	L1	OFF	19.8
2.420250	---	25.54	46.00	20.46	L1	OFF	19.8
2.420250	39.73	---	56.00	16.27	L1	OFF	19.8
2.870250	---	27.24	46.00	18.76	L1	OFF	19.8
2.870250	38.47	---	56.00	17.53	L1	OFF	19.8
3.216750	---	27.34	46.00	18.66	L1	OFF	19.8
3.216750	37.70	---	56.00	18.30	L1	OFF	19.8
5.007750	---	27.67	50.00	22.33	L1	OFF	19.8
5.007750	35.93	---	60.00	24.07	L1	OFF	19.8
7.316250	---	24.74	50.00	25.26	L1	OFF	19.9
7.316250	31.14	---	60.00	28.86	L1	OFF	19.9

EUT Information

Report NO :	0D1216-04
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.161250	---	40.36	55.40	15.04	N	OFF	19.8
0.161250	54.49	---	65.40	10.91	N	OFF	19.8
0.174750	---	28.25	54.73	26.48	N	OFF	19.8
0.174750	52.45	---	64.73	12.28	N	OFF	19.8
0.188250	---	33.21	54.11	20.90	N	OFF	19.8
0.188250	51.18	---	64.11	12.93	N	OFF	19.8
0.199500	---	39.97	53.63	13.66	N	OFF	19.8
0.199500	53.81	---	63.63	9.82	N	OFF	19.8
0.298500	---	33.93	50.28	16.35	N	OFF	19.8
0.298500	44.47	---	60.28	15.81	N	OFF	19.8
0.469500	---	26.92	46.52	19.60	N	OFF	19.8
0.469500	38.41	---	56.52	18.11	N	OFF	19.8
1.446000	---	25.93	46.00	20.07	N	OFF	19.8
1.446000	41.70	---	56.00	14.30	N	OFF	19.8
1.772250	---	23.17	46.00	22.83	N	OFF	19.8
1.772250	37.95	---	56.00	18.05	N	OFF	19.8
2.109750	---	25.15	46.00	20.85	N	OFF	19.8
2.109750	39.01	---	56.00	16.99	N	OFF	19.8
2.418000	---	25.90	46.00	20.10	N	OFF	19.8
2.418000	38.88	---	56.00	17.12	N	OFF	19.8
2.742000	---	25.48	46.00	20.52	N	OFF	19.8

2.742000	37.90	---	56.00	18.10	N	OFF	19.8
3.045750	---	28.46	46.00	17.54	N	OFF	19.8
3.045750	40.58	---	56.00	15.42	N	OFF	19.8
3.383250	---	26.11	46.00	19.89	N	OFF	19.8
3.383250	36.48	---	56.00	19.52	N	OFF	19.8
5.032500	---	26.31	50.00	23.69	N	OFF	19.9
5.032500	34.51	---	60.00	25.49	N	OFF	19.9
7.363500	---	25.38	50.00	24.62	N	OFF	19.9
7.363500	31.53	---	60.00	28.47	N	OFF	19.9

Appendix C. Radiated Spurious Emission Test Data

Test Engineer :	Kevin Hsu, Fu Chen, and Troye Hsieh	**Temperature :**	20.1~24.0°C
		Relative Humidity :	43.7~51.3%

Remark: For Radiated Spurious Emission Test Data, Ant. A means Chain 1 (Aux.) and Ant. B means Chain 2 (Main).

Note symbol

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

C1. Radiated Spurious Emission Test Modes

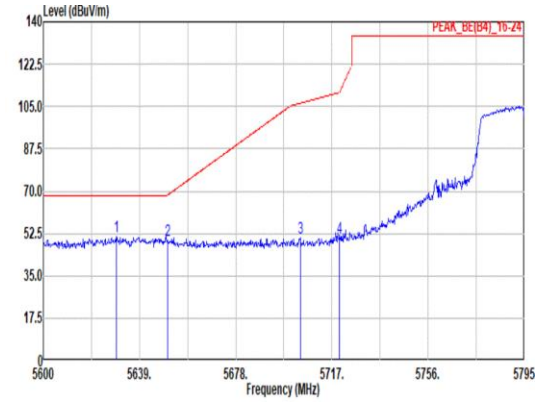
Mode	Band	Band (GHz)	Antenna	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 5	U-NII-3	5.725-5.85	A+B	802.11ac VHT40	159	5795	MCS0	-	-
Mode 6	U-NII-3	5.725-5.85	A+B	802.11ac VHT80	155	5775	MCS0	-	-
Mode 7	U-NII-3	5.725-5.85	A+B	802.11ac VHT40	159	5795	MCS0	-	SHF
Mode 8	U-NII-3	5.725-5.85	A+B	802.11ac VHT40	159	5795	MCS0	-	LF

C2. Summary of each worse mode

Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	RU	Remark
5	802.11ac VHT40	159	5945.66	53.53	68.20	-14.67	H	Peak	Pass	-	Band Edge
	802.11ac VHT40	159	17385.00	67.38	68.20	-0.82	H	Peak	Pass	-	Harmonic
6	802.11ac VHT80	155	5924.63	56.32	68.48	-12.16	H	Peak	Pass	-	Band Edge
	802.11ac VHT80	155	17325.00	62.93	68.20	-5.27	H	Peak	Pass	-	Harmonic
7	SHF	159	38955.34	50.30	54.00	-3.70	V	Avg.	Pass	-	SHF
8	LF	159	30.00	32.51	40.00	-7.49	H	Peak	Pass	-	LF

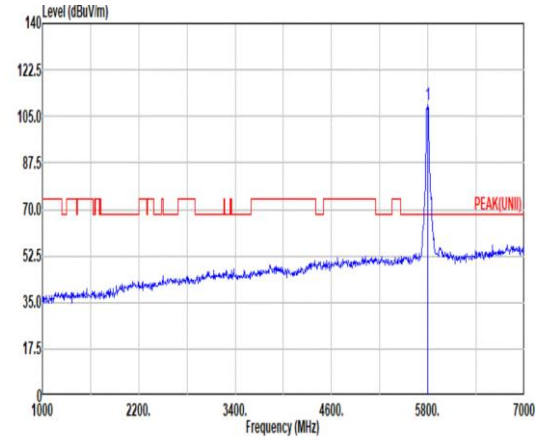
Mode	5	
	Band Edge - L	
	U-NII-3_5.725-5.85_802.11ac VHT40_CH159_5795MHz	
ANT	A+B	
Pol.	Horizontal	Fundamental

Peak



Site : 03CH11-HY
Condition: PEAK_BE(B4)_16-24 3m 9120D_01620_240828 HORIZONTAL
: RBW:1000.000kHz VBW:3000.000kHz SWT:Auto

	Freq	Level	Limit	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBm	dBm	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	5629.64	51.04	68.20	-17.16	40.23	32.92	10.77	32.88	0.00	100	150	PEAK
2	5650.51	49.70	68.58	-18.88	38.81	33.00	10.78	32.89	0.00	100	150	PEAK
3	5704.13	50.96	106.36	-55.40	39.65	33.41	10.81	32.91	0.00	100	150	PEAK
4	5720.12	50.79	111.07	-60.28	39.45	33.44	10.81	32.91	0.00	100	150	PEAK

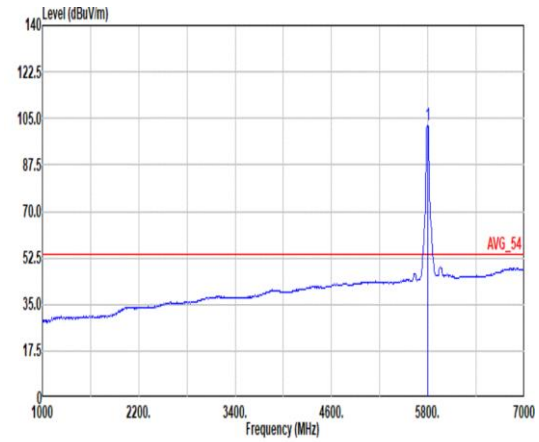


Site : 03CH11-HY
Condition: PEAK(UNII) 3m 9120D_01620_240828 HORIZONTAL
: RBW:1000.000kHz VBW:3000.000kHz SWT:Auto

	Freq	Level	Limit	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBm	dBm	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	5795.00	109.51	------	------	97.90	33.70	10.85	32.94	0.00	100	150	PEAK

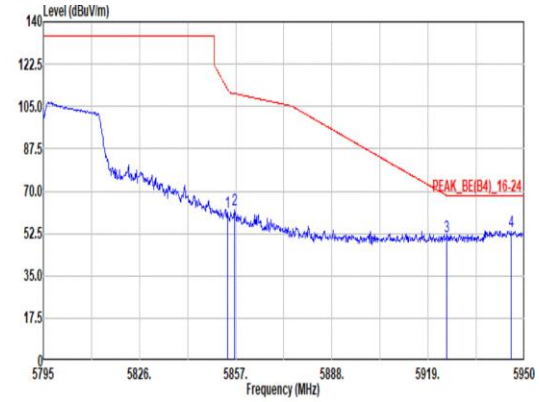
Avg

Blank



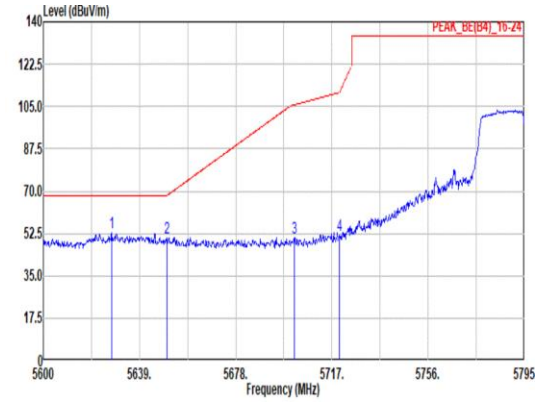
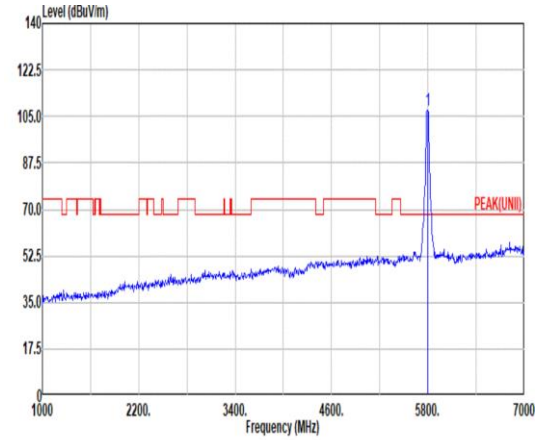
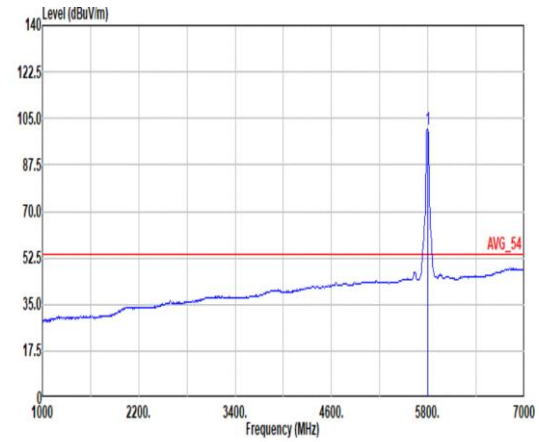
Site : 03CH11-HY
Condition: AVG_54 3m 9120D_01620_240828 HORIZONTAL
: RBW:1000.000kHz VBW:0.010kHz SWT:Auto

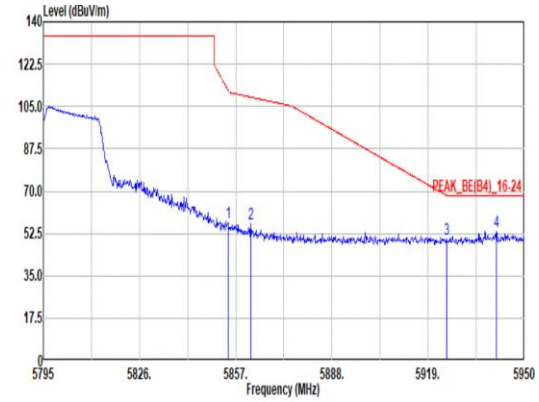
	Freq	Level	Limit	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBm	dBm	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	5795.00	102.39	------	------	90.78	33.70	10.85	32.94	0.00	100	150	AVERAGE

Mode	5	
	Band Edge - R	
	U-NII-3_5.725-5.85_802.11ac VHT40_CH159_5795MHz	
ANT	A+B	
Pol.	Horizontal	Fundamental
Peak		Blank

Site : 03CH11-HY
Condition: PEAK_BE(B4)_16-24 3m 9120D_01620_240828 HORIZONTAL
: RBW:1000.000kHz VBW:3000.000kHz SWT:Auto

	Freq	Level	Limit	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBm	dBm	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	5854.37	61.25	112.25	-51.00	49.31	34.02	10.87	32.95	0.00	100	150	PEAK
2	5856.54	62.26	110.37	-48.11	50.31	34.03	10.87	32.95	0.00	100	150	PEAK
3	5924.89	51.43	68.28	-16.85	39.32	34.20	10.89	32.98	0.00	100	150	PEAK
4	5945.66	53.53	68.20	-14.67	41.41	34.20	10.90	32.98	0.00	100	150	PEAK

Mode	5	
	Band Edge - L	
	U-NII-3_5.725-5.85_802.11ac VHT40_CH159_5795MHz	
ANT	A+B	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(B4)_16-24 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq / Level / Limit / Margin / Read Level / Ant Factor / Cable Loss / Preamp Factor / Aux Factor / APos / TPos / Remark 1 5627.69 52.61 68.20 -15.59 41.81 32.91 10.77 32.88 0.00 234 269 PEAK 2 5650.12 50.82 68.29 -17.47 39.93 33.00 10.78 32.89 0.00 234 269 PEAK 3 5701.79 50.75 105.70 -54.95 39.44 33.40 10.81 32.90 0.00 234 269 PEAK 4 5720.12 52.00 111.07 -59.07 40.66 33.44 10.81 32.91 0.00 234 269 PEAK	 Site : 03CH11-HY Condition: PEAK(UNII) 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq / Level / Limit / Margin / Read Level / Ant Factor / Cable Loss / Preamp Factor / Aux Factor / APos / TPos / Remark 1 5795.00 107.44 ------ ------ 95.83 33.70 10.85 32.94 0.00 234 269 PEAK
Avg	Blank	 Site : 03CH11-HY Condition: AVG_54 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Freq / Level / Limit / Margin / Read Level / Ant Factor / Cable Loss / Preamp Factor / Aux Factor / APos / TPos / Remark 1 5795.00 100.68 ------ ------ 89.07 33.70 10.85 32.94 0.00 234 269 AVERAGE

Mode	5	
	Band Edge - R	
	U-NII-3_5.725-5.85_802.11ac VHT40_CH159_5795MHz	
ANT	A+B	
Pol.	Vertical	Fundamental
Peak		Blank

Site : 03CH11-HY
Condition: PEAK_BE(B4)_16-24 3m 9120D_01620_240828 VERTICAL
: RBW:1000.000kHz VBW:3000.000kHz SWT:Auto

	Freq	Level	Limit	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBm	dBm	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	5854.52	57.26	111.89	-54.63	45.32	34.02	10.87	32.95	0.00	234	269	PEAK
2	5861.96	56.36	108.85	-52.49	44.40	34.05	10.87	32.96	0.00	234	269	PEAK
3	5924.89	49.99	68.28	-18.29	37.88	34.20	10.89	32.98	0.00	234	269	PEAK
4	5941.01	53.45	68.20	-14.75	41.33	34.20	10.90	32.98	0.00	234	269	PEAK

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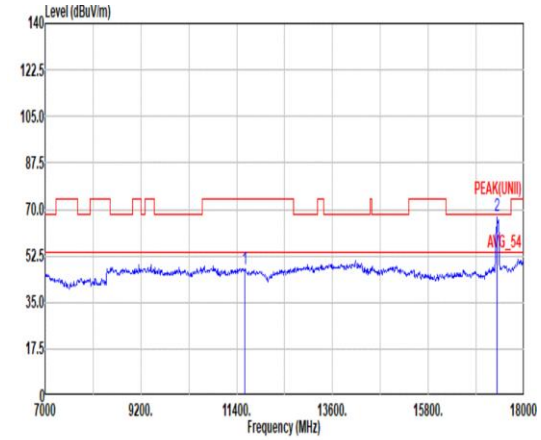
<tr><td colspan="2">Harmonic</td></tr>
<tr><td colspan="2">U-NII-3_5.725-5.85_802.11ac VHT40_CH159_5795MHz</td></tr>
<tr><td>ANT</td><td colspan="2">A+B</td></tr>
<tr><td>Pol.</td><td>Horizontal</td><td>Vertical</td></tr>
<tr><td>Peak
Avg</td><td>


Site : 03CH11-HY
Condition: PEAK(UNII) 3m 9120D_01620_240828 HORIZONTAL
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<tr><th></th><th>Freq</th><th>Level</th><th>Limit</th><th>Margin</th><th>Read Level</th><th>Ant Factor</th><th>Cable Loss</th><th>Preamp Factor</th><th>Aux Factor</th><th>APos</th><th>TPos</th><th>Remark</th></tr>
<tr><td></td><td>MHz</td><td>dBm</td><td>dBm</td><td>dB</td><td>dBuV</td><td>dB/m</td><td>dB</td><td>dB</td><td>dB</td><td>cm</td><td>deg</td><td></td></tr>
<tr><td>1</td><td>11590.00</td><td>47.49</td><td>74.00</td><td>-26.51</td><td>52.33</td><td>38.56</td><td>18.35</td><td>62.12</td><td>0.37</td><td>--</td><td>--</td><td>PEAK</td></tr>
<tr><td>2</td><td>17385.00</td><td>67.38</td><td>68.20</td><td>-0.82</td><td>63.02</td><td>38.50</td><td>23.26</td><td>57.85</td><td>0.45</td><td>107</td><td>125</td><td>PEAK</td></tr>
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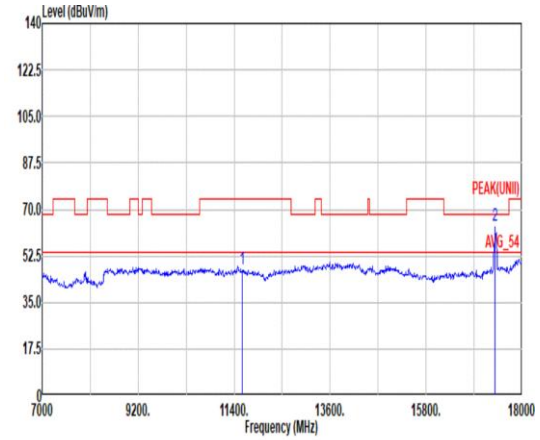

Site : 03CH11-HY
Condition: PEAK(UNII) 3m 9120D_01620_240828 VERTICAL
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<tr><td>1</td><td>11590.00</td><td>47.65</td><td>74.00</td><td>-26.35</td><td>52.49</td><td>38.56</td><td>18.35</td><td>62.12</td><td>0.37</td><td>--</td><td>--</td><td>PEAK</td></tr>
<tr><td>2</td><td>17385.00</td><td>64.00</td><td>68.20</td><td>-4.20</td><td>59.64</td><td>38.50</td><td>23.26</td><td>57.85</td><td>0.45</td><td>397</td><td>238</td><td>PEAK</td></tr>
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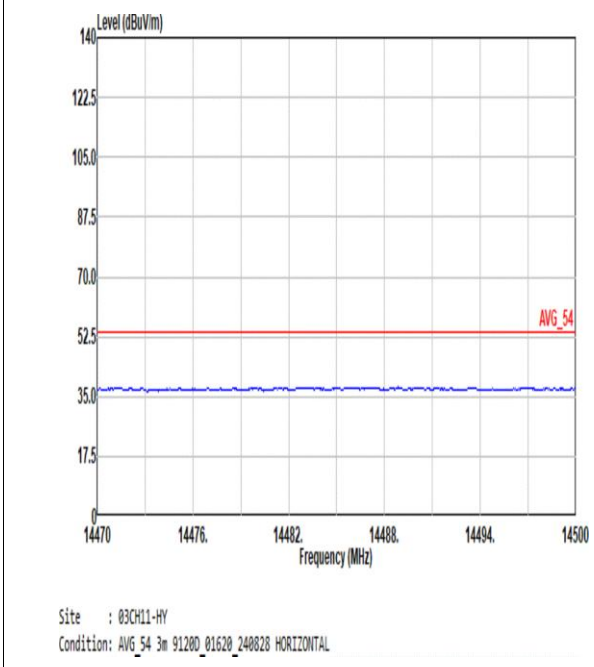
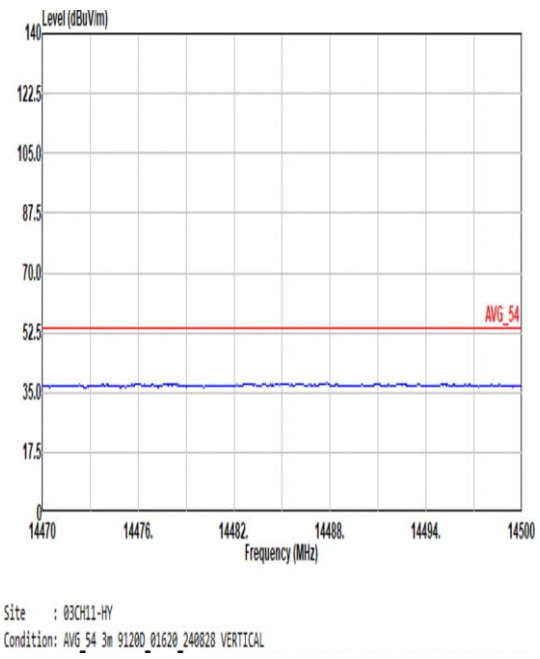
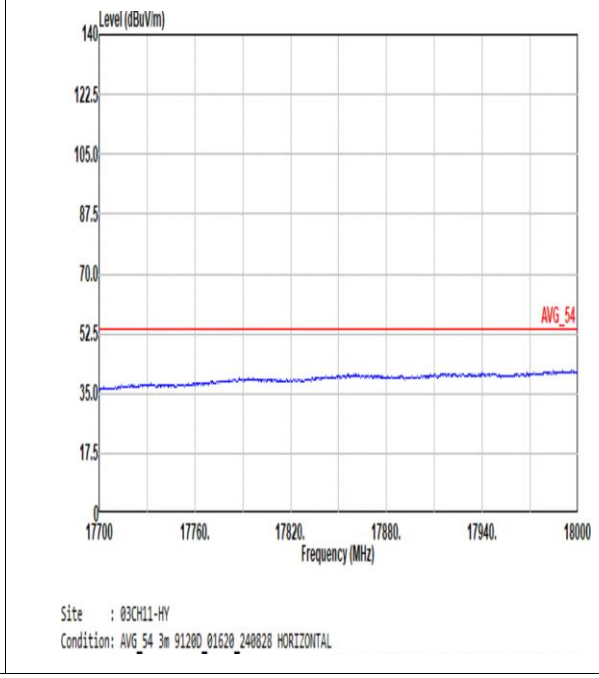
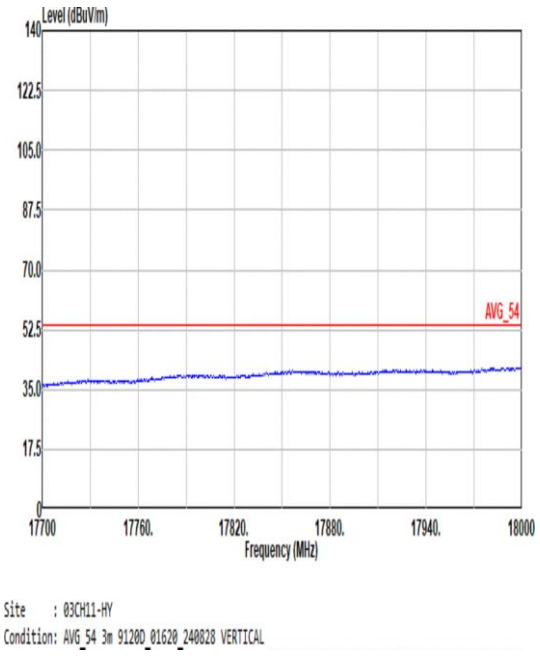
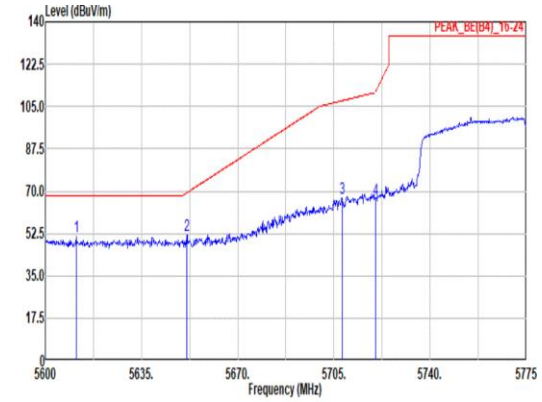
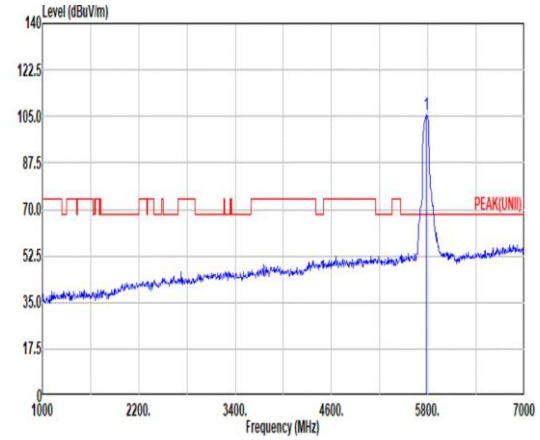
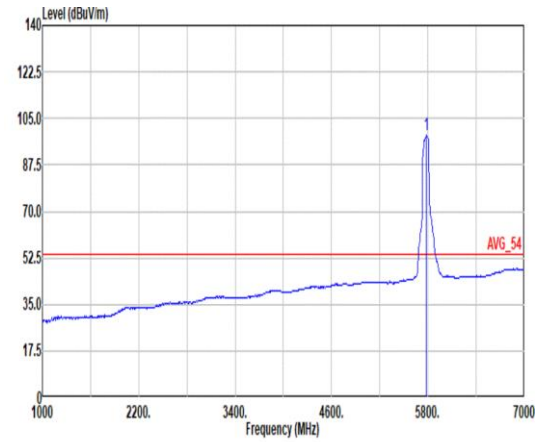
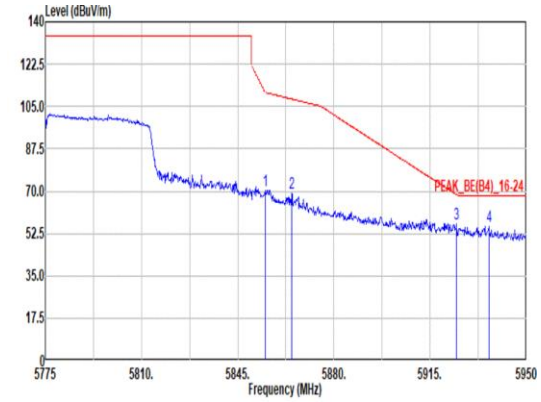
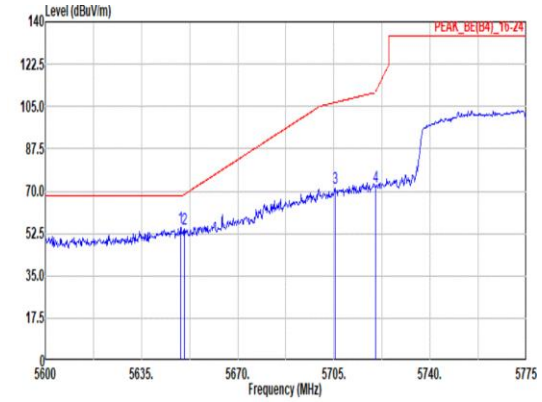
Mode	5	
	Harmonic	
	U-NII-3_5.725-5.85_802.11ac VHT40_CH159_5795MHz	
ANT	A+B	
Pol.	Horizontal	Vertical
14.47G ~14.5G Avg		
17.7G ~18G Avg		

Mode	6	
	Band Edge - L	
	U-NII-3_5.725-5.85_802.11ac VHT80_CH155_5775MHz	
ANT	A+B	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(B4)_16-24 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq / Level / Limit / Margin / Read Level / Ant Factor / Cable Loss / Preamp Factor / Aux Factor / APos / TPos / Remark 1 5611.20 MHz 51.01 dBm 68.20 dBm -17.19 dB 40.28 dBuV 32.84 dB/m 10.77 dB 32.88 dB 0.00 dB 100 cm 100 deg PEAK 2 5651.45 MHz 51.70 dBm 69.28 dBm -17.58 dB 40.80 dBuV 33.01 dB/m 10.78 dB 32.89 dB 0.00 dB 100 cm 100 deg PEAK 3 5707.98 MHz 67.22 dBm 107.44 dBm -40.22 dB 55.90 dBuV 33.42 dB/m 10.81 dB 32.91 dB 0.00 dB 100 cm 100 deg PEAK 4 5720.05 MHz 66.74 dBm 110.91 dBm -44.17 dB 55.40 dBuV 33.44 dB/m 10.81 dB 32.91 dB 0.00 dB 100 cm 100 deg PEAK	 Site : 03CH11-HY Condition: PEAK(UNII) 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq / Level / Limit / Margin / Read Level / Ant Factor / Cable Loss / Preamp Factor / Aux Factor / APos / TPos / Remark 1 5775.00 MHz 105.74 dBm ------ dB ------ dBuV 94.20 dB/m 33.63 10.84 32.93 0.00 100 cm 100 deg PEAK
Avg	Blank	 Site : 03CH11-HY Condition: AVG_54 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Freq / Level / Limit / Margin / Read Level / Ant Factor / Cable Loss / Preamp Factor / Aux Factor / APos / TPos / Remark 1 5775.00 MHz 98.56 dBm ------ dB ------ dBuV 87.02 dB/m 33.63 10.84 32.93 0.00 100 cm 100 deg AVERAGE

Mode	6	
	Band Edge - R	
	U-NII-3_5.725-5.85_802.11ac VHT80_CH155_5775MHz	
ANT	A+B	
Pol.	Horizontal	Fundamental
Peak		Blank

Site : 03CH11-HY
Condition: PEAK_BE(B4)_16-24 3m 9120D_01620_240828 HORIZONTAL
: RBW:1000.000kHz VBW:3000.000kHz SWT:Auto

	Freq	Level	Limit	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBm	dBm	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	5854.98	70.12	110.86	-40.74	58.18	34.02	10.87	32.95	0.00	100	100	PEAK
2	5864.60	68.95	108.11	-39.16	56.98	34.06	10.87	32.96	0.00	100	100	PEAK
3	5924.63	56.32	68.48	-12.16	44.21	34.20	10.89	32.98	0.00	100	100	PEAK
4	5936.35	55.30	68.20	-12.90	43.18	34.20	10.90	32.98	0.00	100	100	PEAK

<table>
<tr><td rowspan="3">Mode</td><td colspan="2">6</td></tr>
<tr><td colspan="2">Band Edge - L</td></tr>
<tr><td colspan="2">U-NII-3_5.725-5.85_802.11ac VHT80_CH155_5775MHz</td></tr>
<tr><td>ANT</td><td colspan="2">A+B</td></tr>
<tr><td>Pol.</td><td>Vertical</td><td>Fundamental</td></tr>
<tr><td>Peak</td><td>


Site : 03CH11-HY
Condition: PEAK_BE(B4)_16-24 3m 9120D_01620_240828 VERTICAL
: RBW:1000.000kHz VBW:3000.000kHz SWT:Auto

	Freq	Level	Limit	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBm	dBm	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	5649.18	54.73	68.20	-13.47	43.84	33.00	10.78	32.89	0.00	400	246	PEAK
2	5650.58	54.38	68.63	-14.25	43.49	33.00	10.78	32.89	0.00	400	246	PEAK
3	5705.35	71.07	106.70	-35.63	59.76	33.41	10.81	32.91	0.00	400	246	PEAK
4	5720.23	72.11	111.31	-39.20	60.77	33.44	10.81	32.91	0.00	400	246	PEAK

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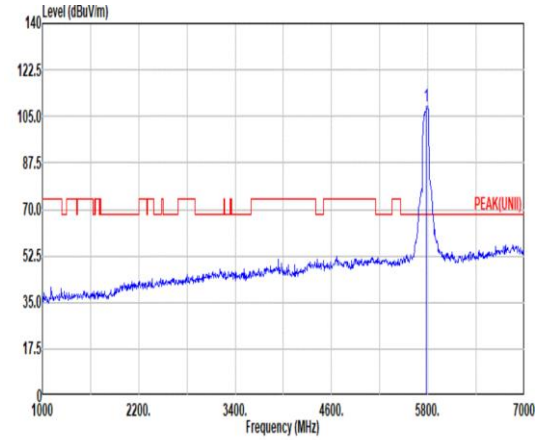

Site : 03CH11-HY
Condition: PEAK(UNII) 3m 9120D_01620_240828 VERTICAL
: RBW:1000.000kHz VBW:3000.000kHz SWT:Auto

	Freq	Level	Limit	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBm	dBm	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	5775.00	109.05	------	------	97.44	33.70	10.85	32.94	0.00	400	246	PEAK

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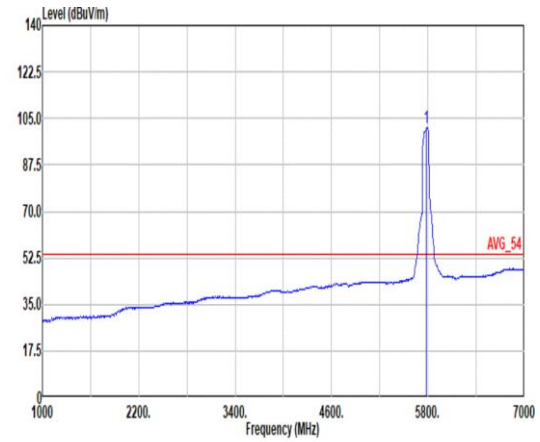

Site : 03CH11-HY
Condition: AVG_54 3m 9120D_01620_240828 VERTICAL
: RBW:1000.000kHz VBW:0.010kHz SWT:Auto

	Freq	Level	Limit	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBm	dBm	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	5775.00	101.44	------	------	89.83	33.70	10.85	32.94	0.00	400	246	AVERAGE

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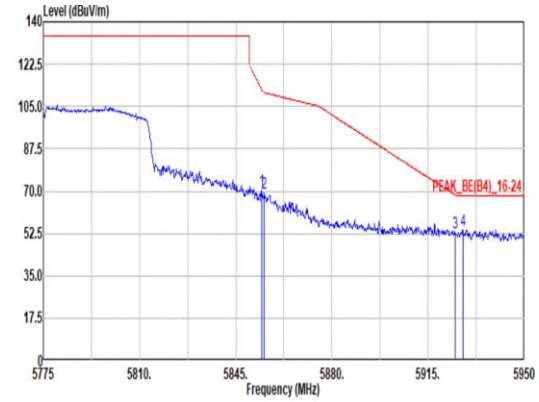
Mode	6	
	Band Edge - R	
	U-NII-3_5.725-5.85_802.11ac VHT80_CH155_5775MHz	
ANT	A+B	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE(B4)_16-24 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq / Level / Limit / Margin / Read Level / Ant Factor / Cable Loss / Preamp Factor / Aux Factor / APos / TPos / Remark 1 5854.45 70.14 112.05 -41.91 58.20 34.02 10.87 32.95 0.00 400 246 PEAK 2 5855.33 69.23 110.71 -41.48 57.29 34.02 10.87 32.95 0.00 400 246 PEAK 3 5924.80 53.01 68.35 -15.34 40.90 34.20 10.89 32.98 0.00 400 246 PEAK 4 5927.60 53.82 68.20 -14.38 41.71 34.20 10.89 32.98 0.00 400 246 PEAK	Blank

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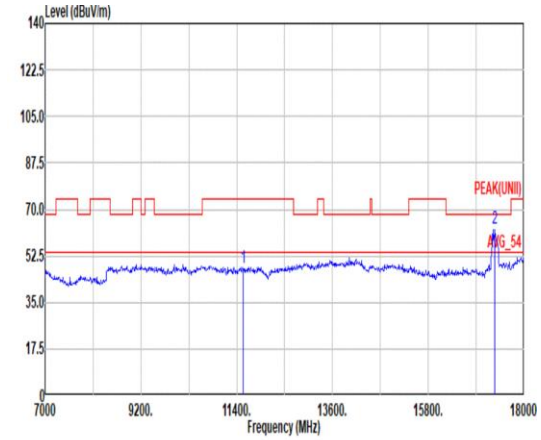
<tr><td>Pol.</td><td>Horizontal</td><td>Vertical</td></tr>
<tr><td>Peak
Avg</td><td>


Site : 03CH11-HY
Condition: PEAK(UNII) 3m 9120D_01620_240828 HORIZONTAL
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<tr><td></td><td>MHz</td><td>dBm</td><td>dBm</td><td>dB</td><td>dBuV</td><td>dB/m</td><td>dB</td><td>dB</td><td>dB</td><td>cm</td><td>deg</td><td></td></tr>
<tr><td>1</td><td>11550.00</td><td>47.92</td><td>74.00</td><td>-26.08</td><td>52.47</td><td>38.80</td><td>18.31</td><td>62.02</td><td>0.36</td><td>--</td><td>--</td><td>PEAK</td></tr>
<tr><td>2</td><td>17325.00</td><td>62.93</td><td>68.20</td><td>-5.27</td><td>58.80</td><td>38.45</td><td>23.23</td><td>58.00</td><td>0.45</td><td>193</td><td>86</td><td>PEAK</td></tr>
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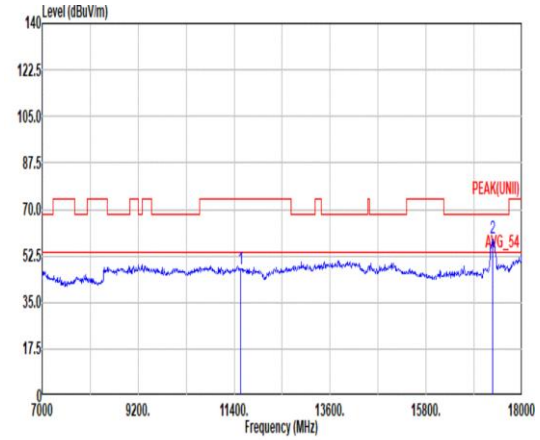

Site : 03CH11-HY
Condition: PEAK(UNII) 3m 9120D_01620_240828 VERTICAL
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<tr><td></td><td>MHz</td><td>dBm</td><td>dBm</td><td>dB</td><td>dBuV</td><td>dB/m</td><td>dB</td><td>dB</td><td>dB</td><td>cm</td><td>deg</td><td></td></tr>
<tr><td>1</td><td>11550.00</td><td>47.66</td><td>74.00</td><td>-26.34</td><td>52.21</td><td>38.80</td><td>18.31</td><td>62.02</td><td>0.36</td><td>--</td><td>--</td><td>PEAK</td></tr>
<tr><td>2</td><td>17325.00</td><td>59.05</td><td>68.20</td><td>-9.15</td><td>54.92</td><td>38.45</td><td>23.23</td><td>58.00</td><td>0.45</td><td>296</td><td>160</td><td>PEAK</td></tr>
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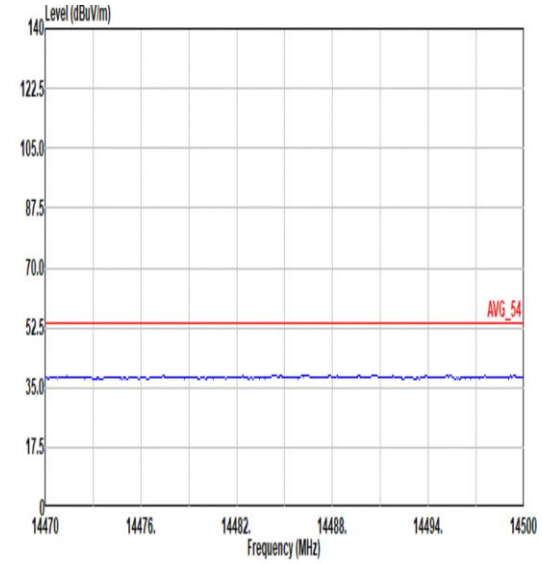
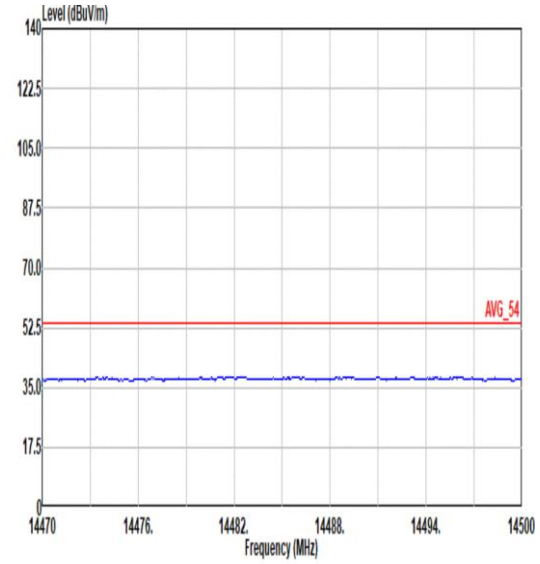
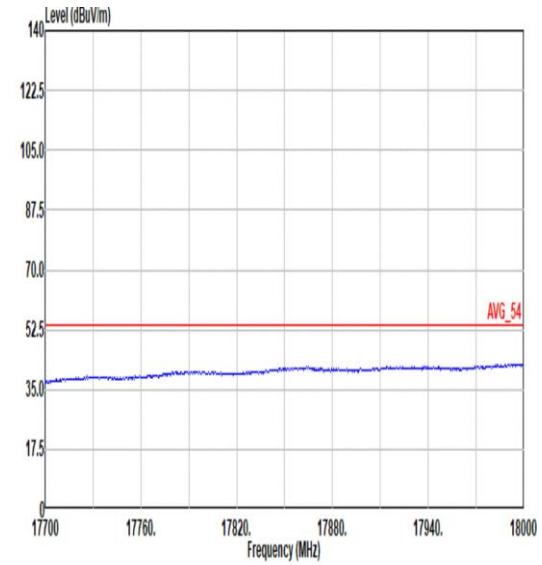
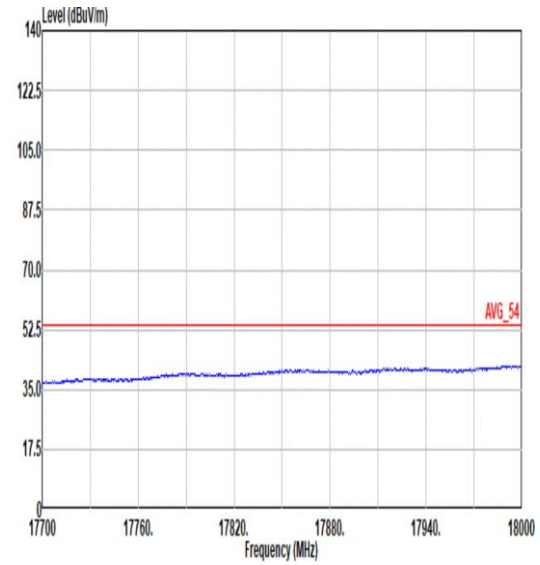
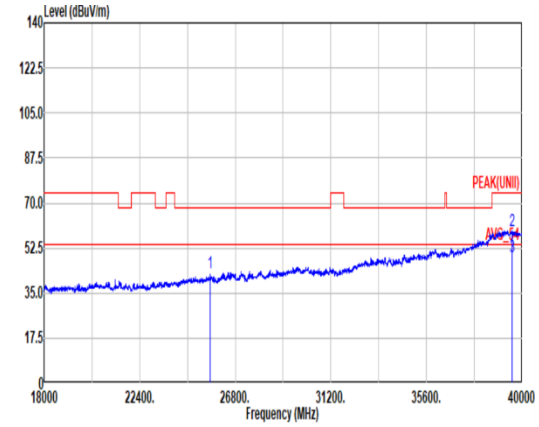
Mode	6	
	Harmonic	
	U-NII-3_5.725-5.85_802.11ac VHT80_CH155_5775MHz	
ANT	A+B	
Pol.	Horizontal	Vertical
14.47G ~14.5G Avg		
17.7G ~18G Avg		

Mode	7	
	SHF	
	U-NII-3_5.725-5.85_802.11ac VHT40_CH159_5795MHz	
ANT	A+B	
Pol.	Horizontal	Vertical

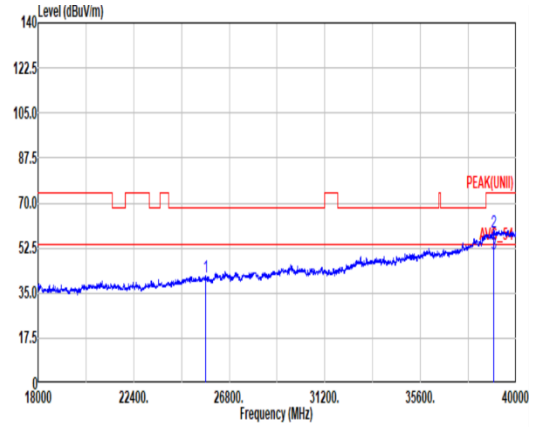
Peak

Avg



Site : 03CH11-HY
Condition: PEAK(UNII) 1m SHF_00993_231124 HORIZONTAL

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	25647.22	42.67	68.20	-25.53	37.85	39.00	28.40	53.04	-9.54	--	--	PEAK
2	39545.00	59.09	74.00	-14.91	38.81	44.36	35.95	50.49	-9.54	100	145	PEAK
3	39545.00	48.90	54.00	-5.10	28.62	44.36	35.95	50.49	-9.54	100	145	AVERAGE



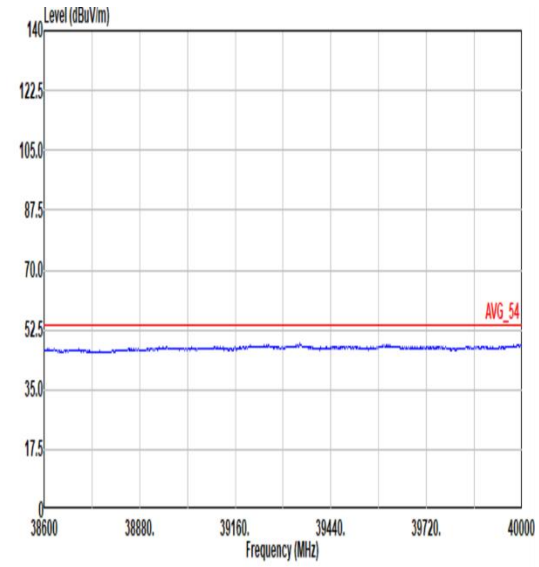
Site : 03CH11-HY
Condition: PEAK(UNII) 1m SHF_00993_231124 VERTICAL

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	25709.86	41.30	68.20	-26.90	36.55	38.92	28.39	53.02	-9.54	--	--	PEAK
2	38955.34	58.77	74.00	-15.23	38.95	43.97	36.48	51.09	-9.54	120	242	PEAK
3	38955.34	50.30	54.00	-3.70	30.48	43.97	36.48	51.09	-9.54	120	242	AVERAGE

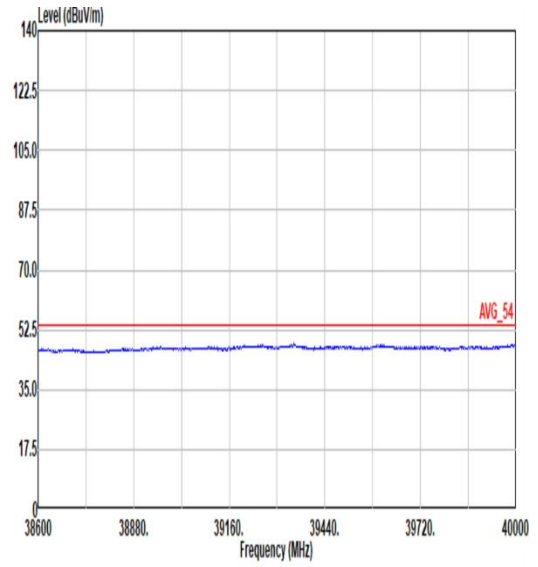
38.6G

~40G

Avg



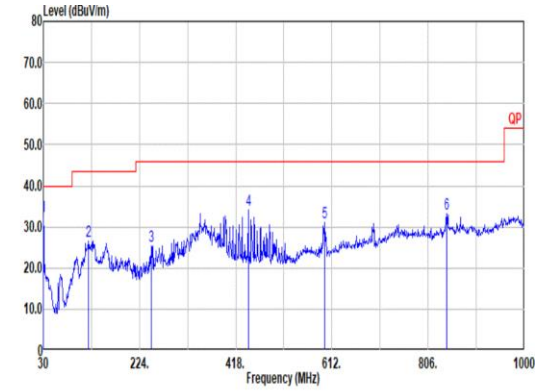
Site : 03CH11-HY
Condition: AVG_54 1m SHF_00993_231124 HORIZONTAL



Site : 03CH11-HY
Condition: AVG_54 1m SHF_00993_231124 VERTICAL

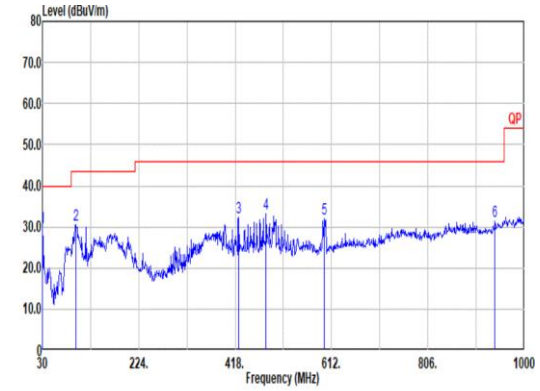
Mode	8	
	LF	
	U-NII-3_5.725-5.85_802.11ac VHT40_CH159_5795MHz	
ANT	A+B	
Pol.	Horizontal	Vertical

QP/ Peak



Site : 03CH11-HY
Condition: QP 3m Bilog_35414_241005 HORIZONTAL

	Freq	Level	Limit	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBm	dBm	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	30.00	32.51	40.00	-7.49	40.05	24.34	0.50	32.46	0.08	--	--	Peak
2	120.21	26.66	43.50	-16.84	39.98	17.50	1.18	32.04	0.04	--	--	Peak
3	248.25	25.46	46.00	-20.54	37.50	18.03	1.93	32.17	0.17	--	--	Peak
4	443.22	34.03	46.00	-11.97	40.26	22.82	2.68	31.84	0.11	--	--	Peak
5	597.45	31.08	46.00	-14.92	34.48	25.69	3.17	32.38	0.12	--	--	Peak
6	842.86	33.25	46.00	-12.75	31.74	29.30	3.73	31.62	0.10	--	--	Peak



Site : 03CH11-HY
Condition: QP 3m Bilog_35414_241005 Vertical

	Freq	Level	Limit	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBm	dBm	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	30.00	29.84	40.00	-10.16	37.38	24.34	0.50	32.46	0.08	--	--	Peak
2	96.93	30.55	43.50	-12.95	46.19	15.64	1.07	32.39	0.04	--	--	Peak
3	424.79	32.32	46.00	-13.68	38.97	22.43	2.62	31.81	0.11	--	--	Peak
4	480.08	33.14	46.00	-12.86	39.10	23.35	2.80	32.23	0.12	--	--	Peak
5	597.45	31.91	46.00	-14.09	35.31	25.69	3.17	32.38	0.12	--	--	Peak
6	940.83	31.49	46.00	-14.51	27.74	30.55	4.07	31.09	0.22	--	--	Peak

Appendix D. Duty Cycle Plots

Chain	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1+2	5GHz 802.11ac VHT40	100.00	-	-	10Hz
1+2	5GHz 802.11ac VHT80	100.00	-	-	10Hz

MIMO <Chain 1+2>

5GHz 802.11ac VHT40	5GHz 802.11ac VHT80