FCC RADIO TEST REPORT

FCC ID	:	B32P6302
Equipment	:	Point of Sales Terminal
Brand Name	:	Verifone
Model Name	:	P630-2
Applicant	:	Verifone, Inc. 1400 West Stanford Ranch Road Suite 150 Rocklin CA 95765 USA
Manufacturer	:	Verifone, Inc.
Standard	:	FCC Part 15 Subpart E §15.407

The product was received on Aug. 05, 2022 and testing was performed from Aug. 16, 2022 to Sep. 05, 2022. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this 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
FR0O2036-03F	01	Initial issue of report	Sep. 23, 2022

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.403(i)	6dB & 26dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.407(a)	Maximum Conducted Output Power	Pass	-
3.3	15.407(a)	Power Spectral Density	Pass	-
3.4	15.407(b)	Unwanted Emissions	Pass	4.90 dB under the limit at 11490.000 MHz
3.5	15.207	AC Conducted Emission	Pass	17.50 dB under the limit at 0.373 MHz
3.6	15.203 15.407(a)	Antenna Requirement	Pass	-

Declaration of Conformity:

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

Comments and Explanations:

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

Reviewed by: Yun Huang

Report Producer: Ming Chen

1 General Description

1.1 Product Feature of Equipment Under Test

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

Product Feature	
Antenna Type	WLAN: PIFA Antenna Bluetooth: PIFA Antenna NFC: Loop Antenna

Antenna information		
5725 MHz ~ 5850 MHz	Peak Gain (dBi)	3.98

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

1.2 Modification of EUT

No modifications made to the EUT during the testing.

1.3 Testing Location

Test Site	Sporton International Inc. 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 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, 03CH15-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.
- ANSI C63.10-2013

Remark:

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

2 Test Configuration of Equipment Under Test

a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and only the worst case emissions were reported in this report.

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

2.1 Carrier Frequency and Channel

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

Note: The above Frequency and Channel with "*" are 802.11n HT40 and 802.11ac VHT80

2.2 Test Mode

The power for 802.11ac mode is smaller than 802.11n mode, so all other conducted and radiated test is covered by 802.11n mode.

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

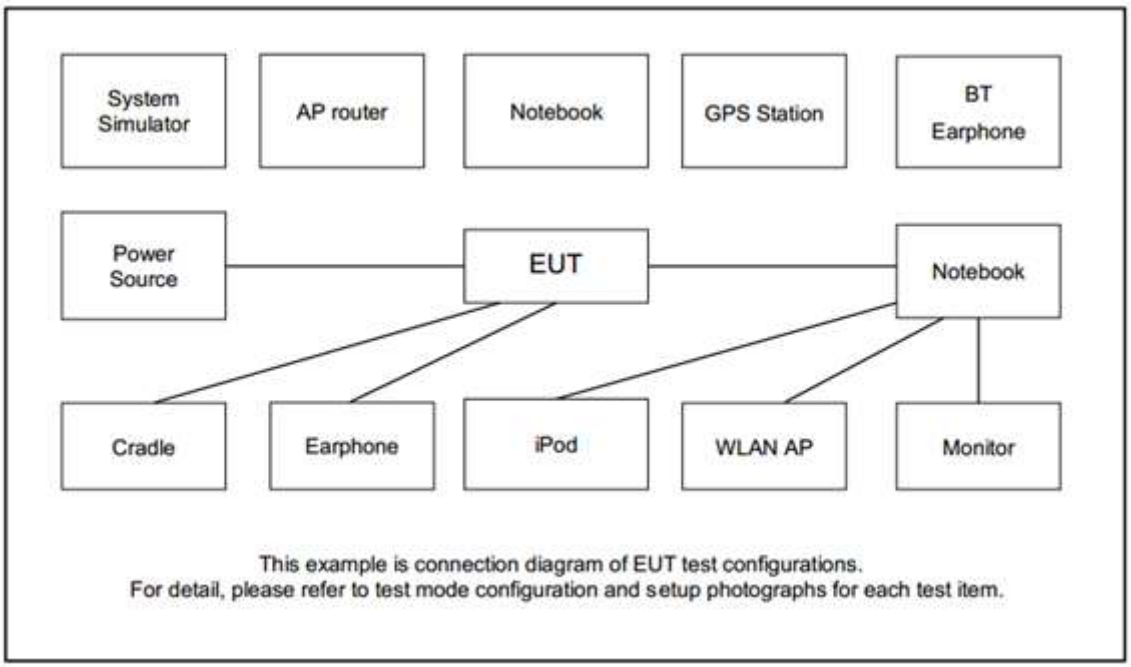
Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20 (Covered by HT20)	MCS0
802.11ac VHT40 (Covered by HT40)	MCS0
802.11ac VHT80	MCS0

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

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

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

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
2.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
3.	Notebook	Dell	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	SAM Card	N/A	N/A	N/A	N/A	N/A
5.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A
6.	RJ45 Cable	N/A	N/A	N/A	Unshielded, 1.2 m	N/A
7.	USB Cable	N/A	N/A	N/A	Unshielded, 1.0 m	N/A
8.	Mini USB Cable	N/A	N/A	N/A	Unshielded, 1.0 m	N/A
9.	RS232 Cable	N/A	N/A	N/A	Unshielded, 1.2 m	N/A

2.5 EUT Operation Test Setup

The RF test items, utility “QRCT 4.0.00201.0” was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example :

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

Offset = RF cable loss + attenuator factor.

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

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

3 Test Result

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

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

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

26dB and 99% Occupied bandwidth are reporting only.

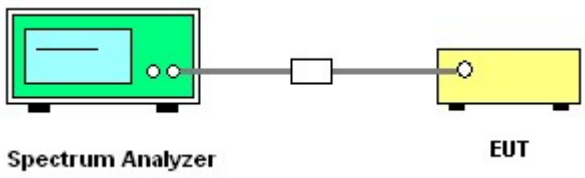
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

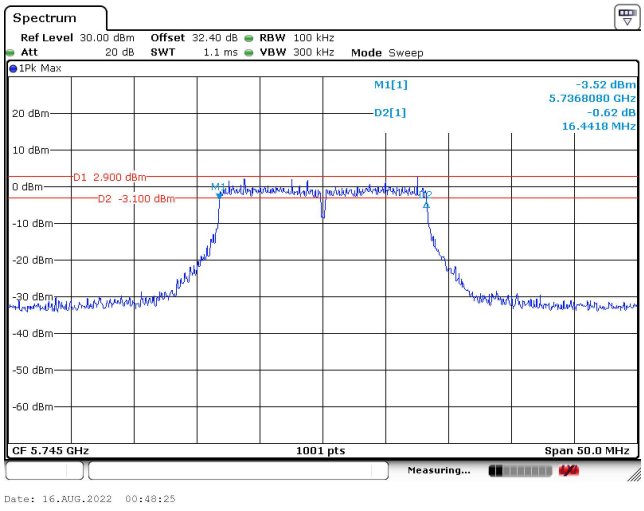
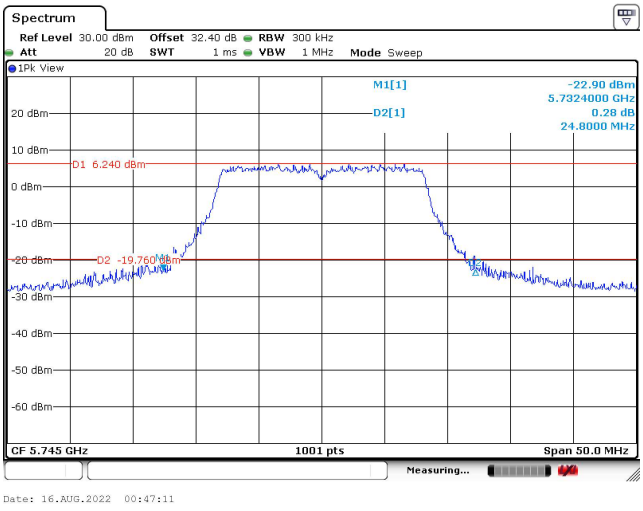
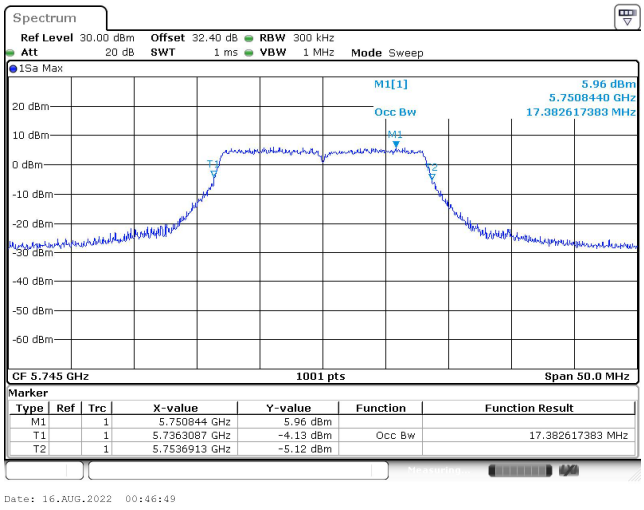
3.1.4 Test Setup



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

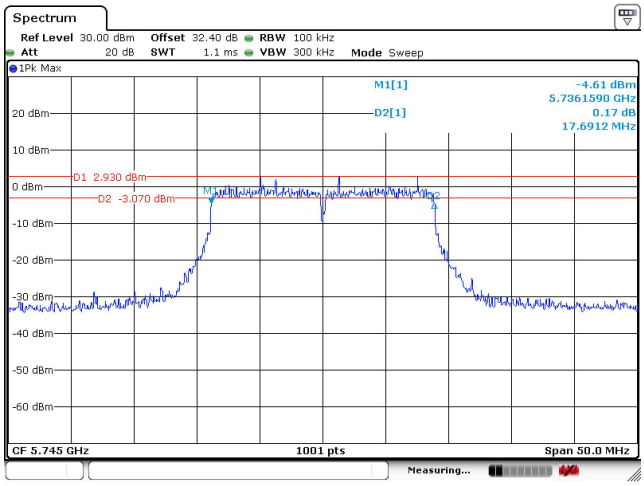
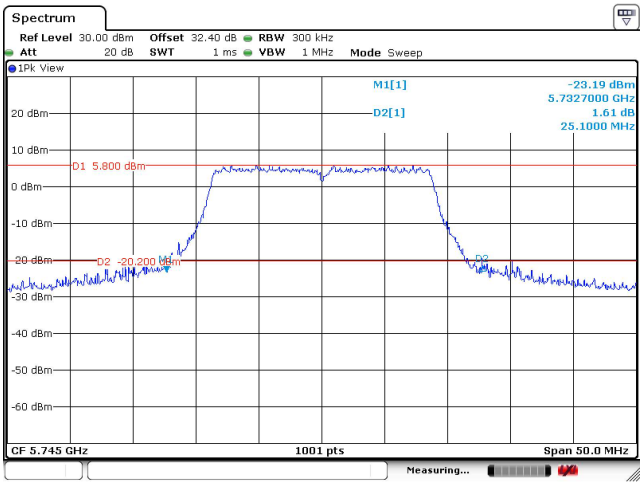
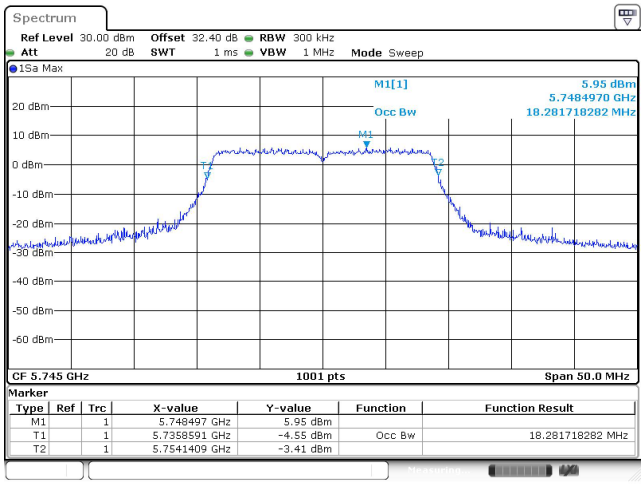
Please refer to Appendix A.

<802.11a>

6dB Bandwidth	26dB Bandwidth
	
99% Occupied Bandwidth	**NA**
	

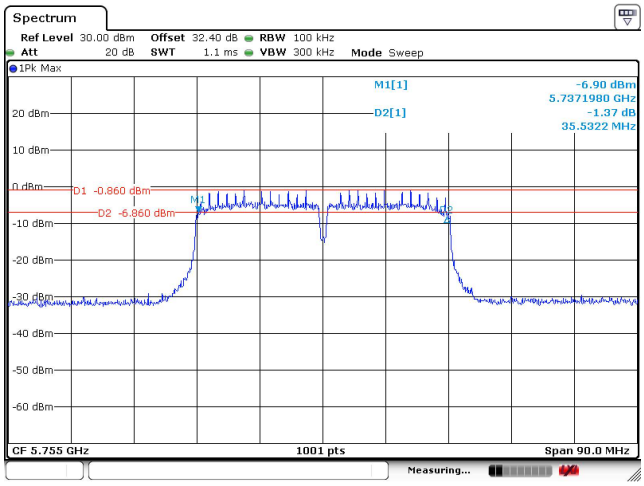
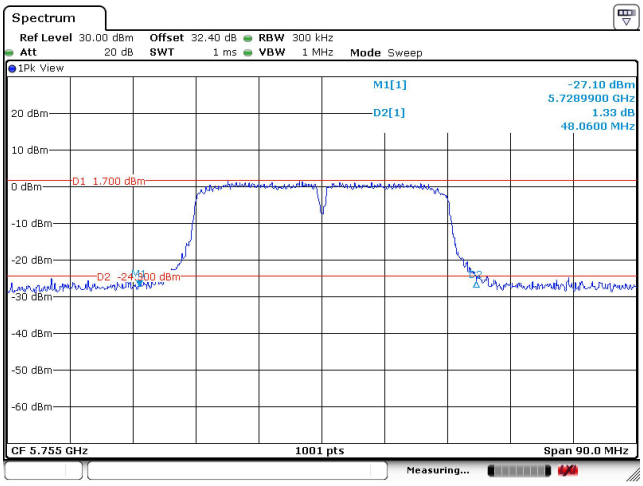
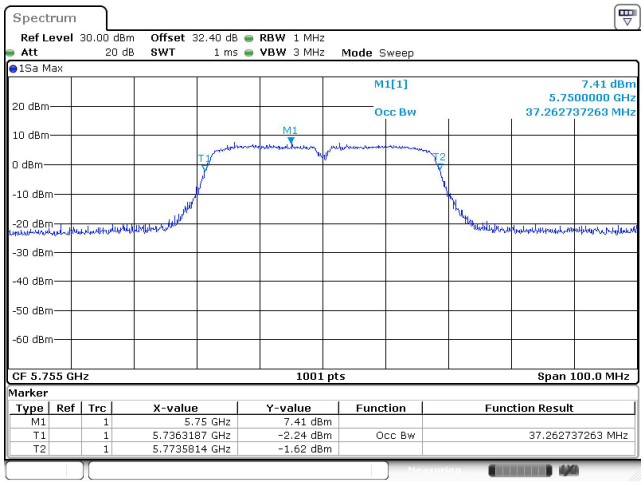
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<802.11n HT20>

6dB Bandwidth	26dB Bandwidth
	
99% Occupied Bandwidth	**NA**
	

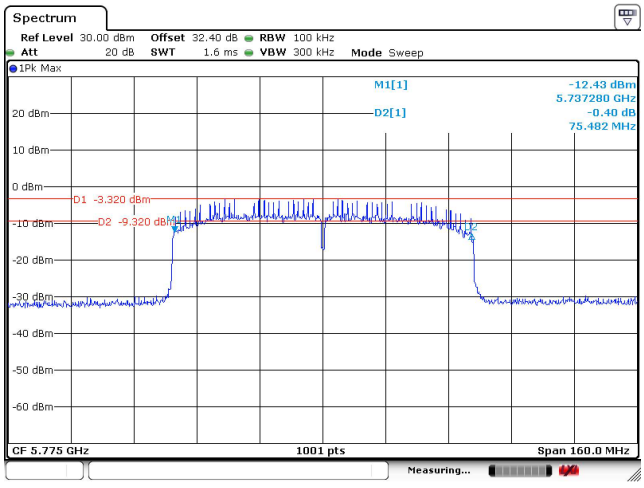
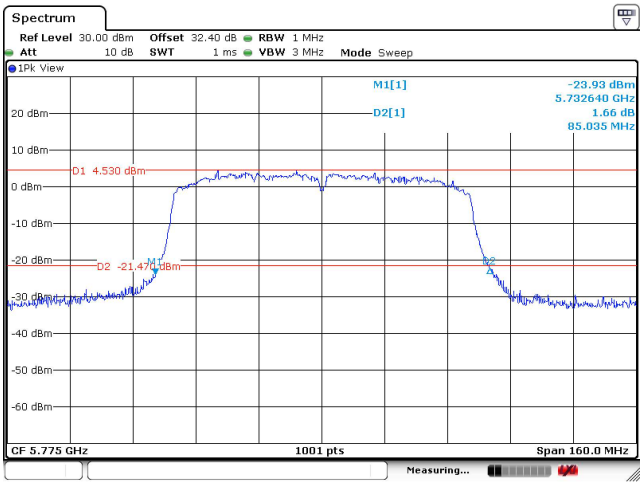
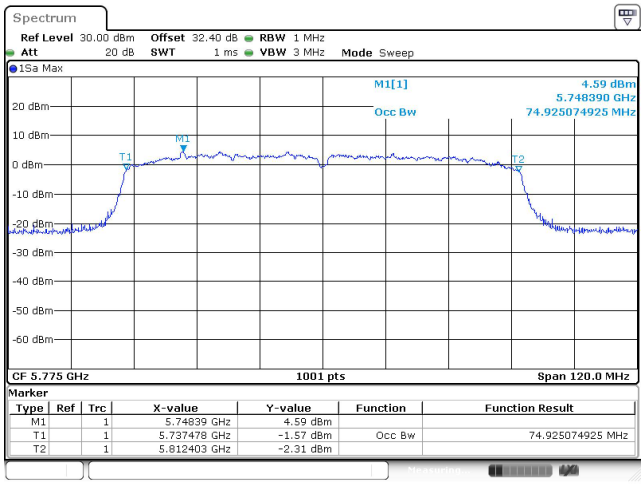
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<802.11n HT40>

6dB Bandwidth	26dB Bandwidth
	
99% Occupied Bandwidth	**NA**
	

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

<802.11ac VHT80>

6dB Bandwidth	26dB Bandwidth
	
99% Occupied Bandwidth	**NA**
	

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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

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

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

3.2.2 Measuring Instruments

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

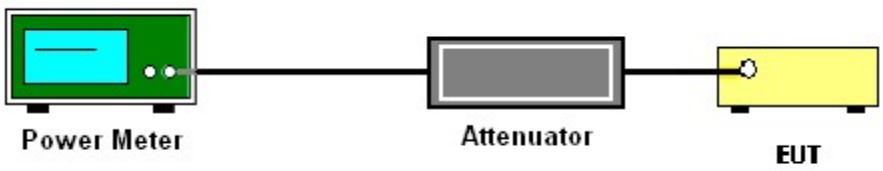
3.2.3 Test Procedures

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

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

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

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

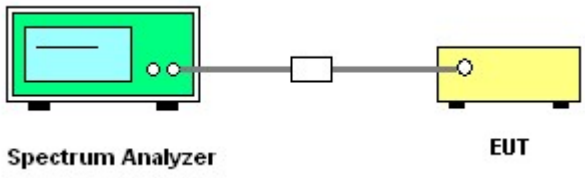
 # Method SA-3 #

(power averaging (rms) detection with max hold):

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz.
- Set VBW ≥ 1 MHz.
- Number of points in sweep ≥ 2 Span / RBW.
- Add 10 log (500 kHz/RBW) to the measured result, whereas RBW (<500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement
- Sweep time ≤ (number of points in sweep) × 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.
  Detector = power averaging (rms).
- Trace mode = max hold.
- Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

1. The RF output of EUT is connected to the spectrum analyzer by a low loss cable.
2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

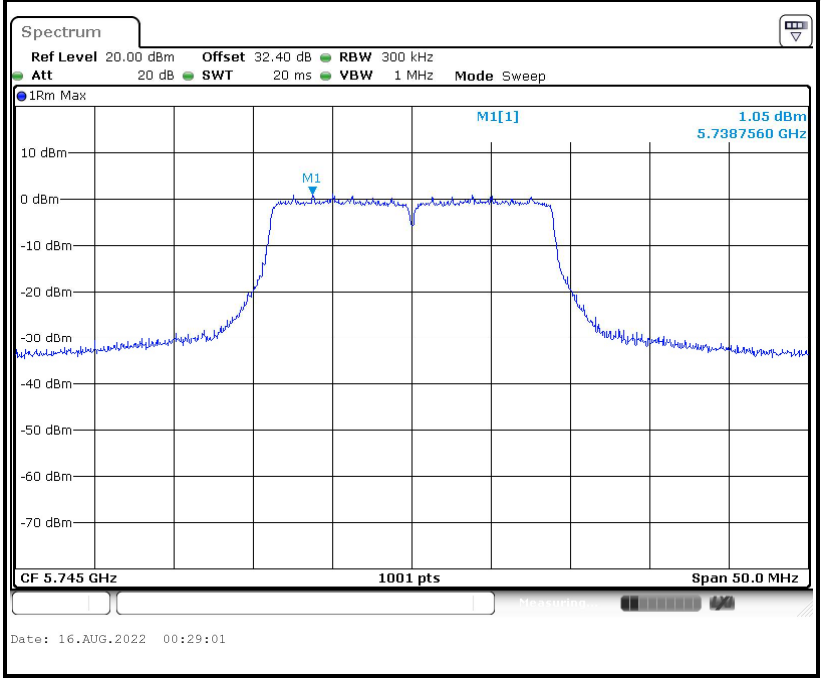
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Maximum Power Density Plot (dBm/300kHz)



3.4 Unwanted Emissions Measurement

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

3.4.1 Limit of Unwanted Emissions

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

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

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

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

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

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

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

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

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

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

3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000 MHz

   - RBW = 120 kHz
   - VBW = 300 kHz
   - Detector = Peak
   - Trace mode = max hold

   (2) 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

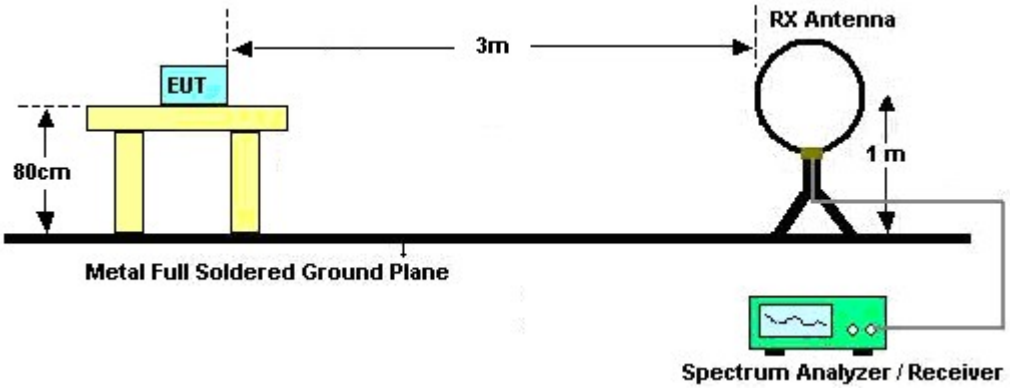
   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. 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 "-"..

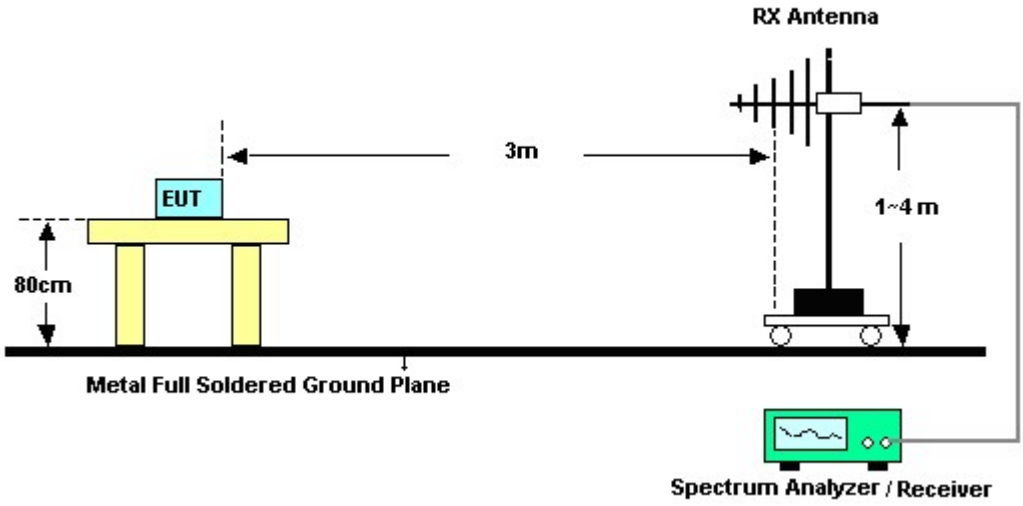
7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies.
   When there is no suspected emission found and the harmonic emission level is with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

3.4.4 Test Setup

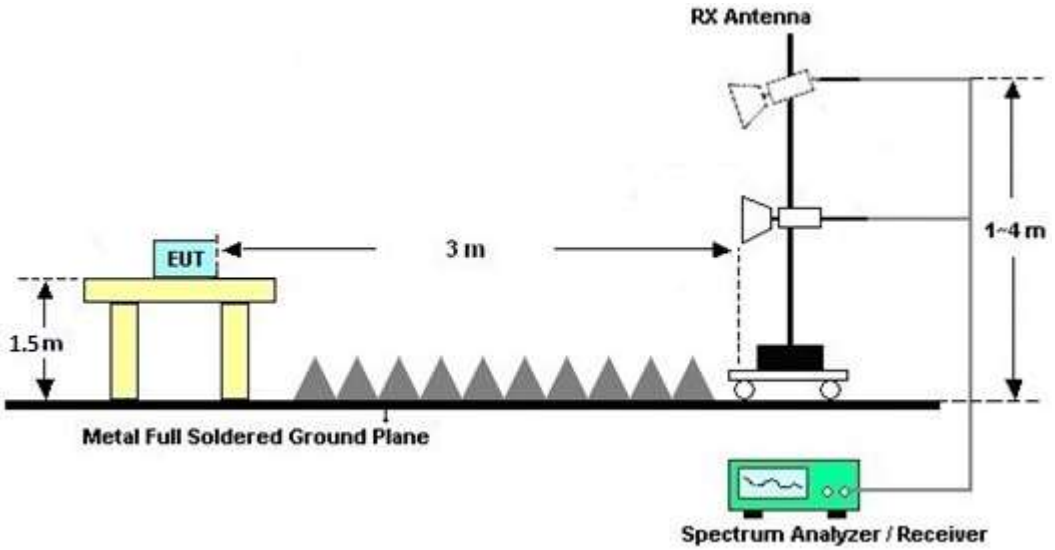
For radiated emissions below 30MHz



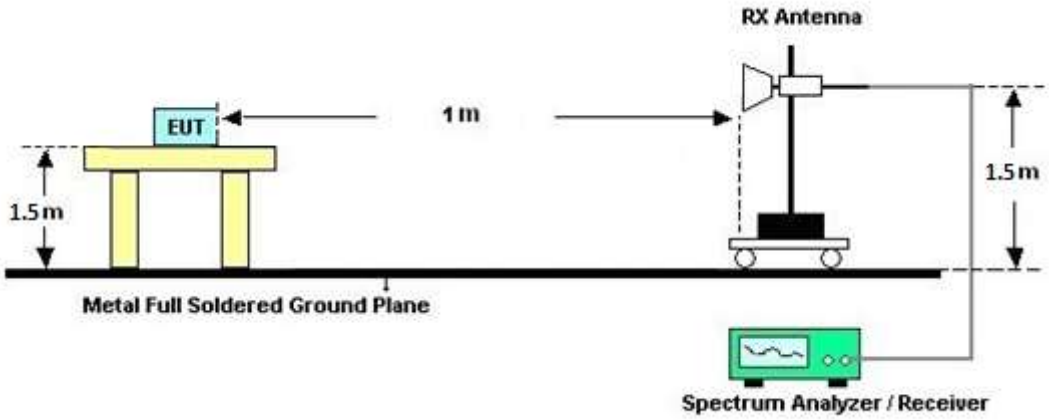
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



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

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

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

3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix C and D.

3.4.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

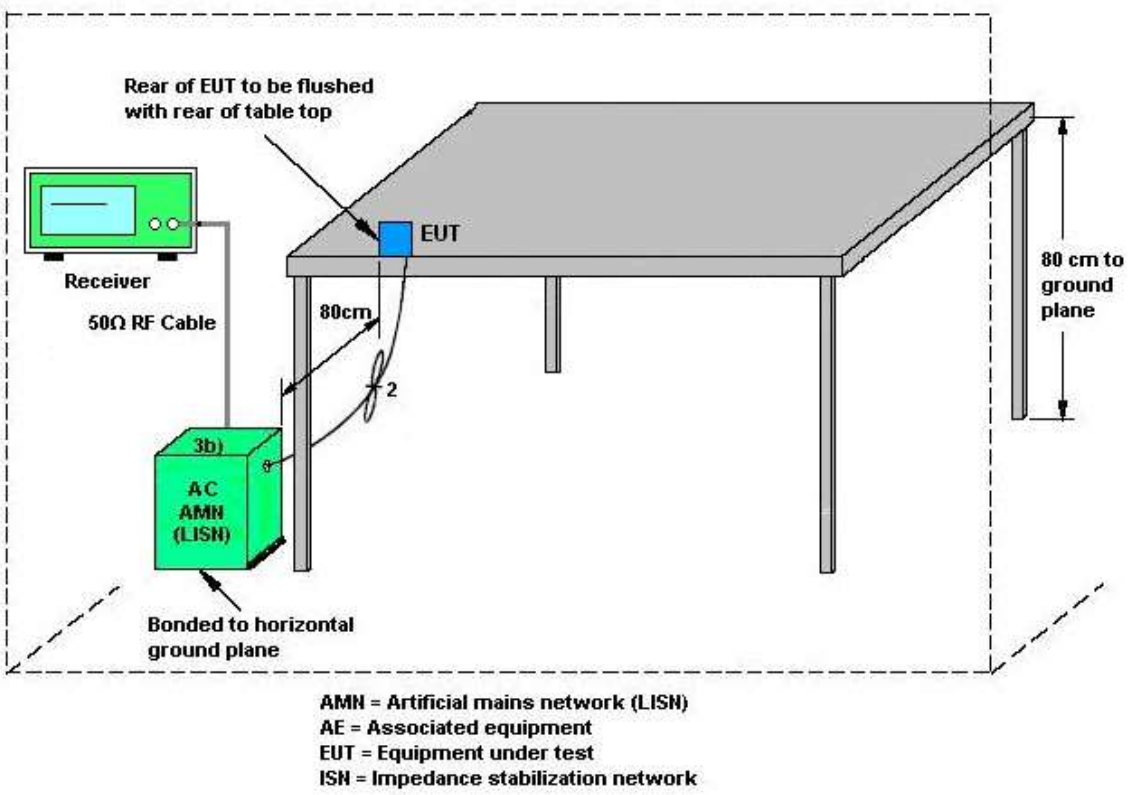
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



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

3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.6 Antenna Requirements

3.6.1 Standard Applicable

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

3.6.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 09, 2021	Aug. 31, 2022~ Sep. 05, 2022	Sep. 08, 2022	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N -06	41912 & 05	30MHz~1GHz	Feb. 06, 2022	Aug. 31, 2022~ Sep. 05, 2022	Feb. 05, 2023	Radiation (03CH15-HY)
Amplifier	SONOMA	310N	363440	9kHz~1GHz	Dec. 27, 2021	Aug. 31, 2022~ Sep. 05, 2022	Dec. 26, 2022	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-02294	1GHz~18GHz	Jun. 23, 2022	Aug. 31, 2022~ Sep. 05, 2022	Jun. 22, 2023	Radiation (03CH15-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	00993	18GHz~40GHz	Nov. 30, 2021	Aug. 31, 2022~ Sep. 05, 2022	Nov. 29, 2022	Radiation (03CH15-HY)
Amplifier	EMEC	EM1G18G	060837	1GHz~18GHz	Sep. 02, 2021	Aug. 31, 2022	Sep. 01, 2022	Radiation (03CH15-HY)
Amplifier	EMEC	EM1G18G	060837	1GHz~18GHz	Sep. 01, 2022	Sep. 01, 2022~ Sep. 05, 2022	Aug. 31, 2023	Radiation (03CH15-HY)
Preamplifier	EM Electronics	EM01G18G	060803	1GHz-18GHz	Dec. 16, 2021	Aug. 31, 2022~ Sep. 05, 2022	Dec. 15, 2022	Radiation (03CH15-HY)
Preamplifier	EMEC	EM18G40G	060802	18-40GHz	Mar. 08, 2022	Aug. 31, 2022~ Sep. 05, 2022	Mar. 07, 2023	Radiation (03CH15-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY54130085	20MHz~8.4GHz	Oct. 21, 2021	Aug. 31, 2022~ Sep. 05, 2022	Oct. 20, 2022	Radiation (03CH15-HY
Spectrum Analyzer	Keysight	N9010	MY54200485	10Hz~44GHz	May 07, 2022	Aug. 31, 2022~ Sep. 05, 2022	May 06, 2023	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Aug. 31, 2022~ Sep. 05, 2022	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Aug. 31, 2022~ Sep. 05, 2022	N/A	Radiation (03CH15-HY)
Software	Audix	E3 6.2009-8-24 (k5)	RK-000451	N/A	N/A	Aug. 31, 2022~ Sep. 05, 2022	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104, 102E	MY36980/4, MY9838/4PE, 508405/2E	30MHz~18G	Nov. 15, 2021	Aug. 31, 2022~ Sep. 05, 2022	Nov. 14, 2022	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804011/2,804 012/2	30MHz-40GHz	Jan. 04, 2022	Aug. 31, 2022~ Sep. 05, 2022	Jan. 03, 2023	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 10, 2022	Aug. 31, 2022~ Sep. 05, 2022	Mar. 09, 2023	Radiation (03CH15-HY)
Filter	Wainwright	WLJ4-1000-15 30-6000-40ST	SN4	1.53GHz Low Pass Filter	Jul. 08, 2022	Aug. 31, 2022~ Sep. 05, 2022	Jul. 07, 2023	Radiation (03CH15-HY)
Filter	Wainwright	WHKX8-5872. 5-6750-18000- 40ST	SN6	6.75GHz High Pass Filter	Jul. 08, 2022	Aug. 31, 2022~ Sep. 05, 2022	Jul. 07, 2023	Radiation (03CH15-HY)
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 16, 2021	Aug. 16, 2022	Nov. 15, 2022	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	15I00041SNO 10 (NO:248)	10MHz~6GHz	Dec. 29, 2021	Aug. 16, 2022	Dec. 28, 2022	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101566	10Hz~40GHz	Aug. 30, 2021	Aug. 16, 2022	Aug. 29, 2022	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	Aug. 24, 2022	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Dec. 01, 2021	Aug. 24, 2022	Nov. 30, 2022	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 17, 2021	Aug. 24, 2022	Nov. 16, 2022	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 03, 2021	Aug. 24, 2022	Dec. 02, 2022	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32	N/A	N/A	N/A	Aug. 24, 2022	N/A	Conduction (CO05-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	00691	N/A	Aug. 01, 2022	Aug. 24, 2022	Jul. 31, 2023	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	260260	N/A	Dec. 30, 2021	Aug. 24, 2022	Dec. 29, 2022	Conduction (CO05-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.1 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.8 dB

Uncertainty of Radiated Emission Measurement (1000 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))	5.6 dB

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Shiming Liu	Temperature:	21~25	°C
Test Date:	2022/8/16	Relative Humidity:	51~54	%

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

Band IV single antenna												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		6 dB Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	149	5745	17.38	-	24.80	-	16.44	-	0.5	Pass
11a	6Mbps	1	157	5785	17.28	-	23.15	-	16.44	-	0.5	Pass
11a	6Mbps	1	165	5825	17.28	-	22.85	-	16.44	-	0.5	Pass
HT20	MCS0	1	149	5745	18.28	-	25.10	-	17.69	-	0.5	Pass
HT20	MCS0	1	157	5785	18.23	-	29.10	-	17.74	-	0.5	Pass
HT20	MCS0	1	165	5825	18.28	-	24.30	-	17.64	-	0.5	Pass
HT40	MCS0	1	151	5755	37.26	-	48.06	-	35.53	-	0.5	Pass
HT40	MCS0	1	159	5795	37.36	-	46.53	-	35.35	-	0.5	Pass
VHT80	MCS0	1	155	5775	74.93	-	85.04	-	75.48	-	0.5	Pass

TEST RESULTS DATA
Average Power Table

Band IV single antenna												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	13.70	-	-	30.00	-	3.98	-	Pass
11a	6Mbps	1	157	5785	13.10	-	-	30.00	-	3.98	-	Pass
11a	6Mbps	1	165	5825	12.80	-	-	30.00	-	3.98	-	Pass
HT20	MCS0	1	149	5745	13.80	-	-	30.00	-	3.98	-	Pass
HT20	MCS0	1	157	5785	13.10	-	-	30.00	-	3.98	-	Pass
HT20	MCS0	1	165	5825	12.70	-	-	30.00	-	3.98	-	Pass
HT40	MCS0	1	151	5755	12.70	-	-	30.00	-	3.98	-	Pass
HT40	MCS0	1	159	5795	12.10	-	-	30.00	-	3.98	-	Pass
VHT20	MCS0	1	149	5745	13.20	-	-	30.00	-	3.98	-	Pass
VHT20	MCS0	1	157	5785	12.70	-	-	30.00	-	3.98	-	Pass
VHT20	MCS0	1	165	5825	12.20	-	-	30.00	-	3.98	-	Pass
VHT40	MCS0	1	151	5755	12.30	-	-	30.00	-	3.98	-	Pass
VHT40	MCS0	1	159	5795	11.70	-	-	30.00	-	3.98	-	Pass
VHT80	MCS0	1	155	5775	11.90	-	-	30.00	-	3.98	-	Pass

TEST RESULTS DATA
Power Spectral Density

Band IV single antenna														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	2.22	-	3.18	-	-	30.00	-	3.98	-	Pass
11a	6Mbps	1	157	5785	2.22	-	3.11	-	-	30.00	-	3.98	-	Pass
11a	6Mbps	1	165	5825	2.22	-	2.38	-	-	30.00	-	3.98	-	Pass
HT20	MCS0	1	149	5745	2.22	-	3.27	-	-	30.00	-	3.98	-	Pass
HT20	MCS0	1	157	5785	2.22	-	3.09	-	-	30.00	-	3.98	-	Pass
HT20	MCS0	1	165	5825	2.22	-	2.41	-	-	30.00	-	3.98	-	Pass
HT40	MCS0	1	151	5755	2.22	-	-0.49	-	-	30.00	-	3.98	-	Pass
HT40	MCS0	1	159	5795	2.22	-	-1.24	-	-	30.00	-	3.98	-	Pass
VHT80	MCS0	1	155	5775	2.22	-	-3.28	-	-	30.00	-	3.98	-	Pass

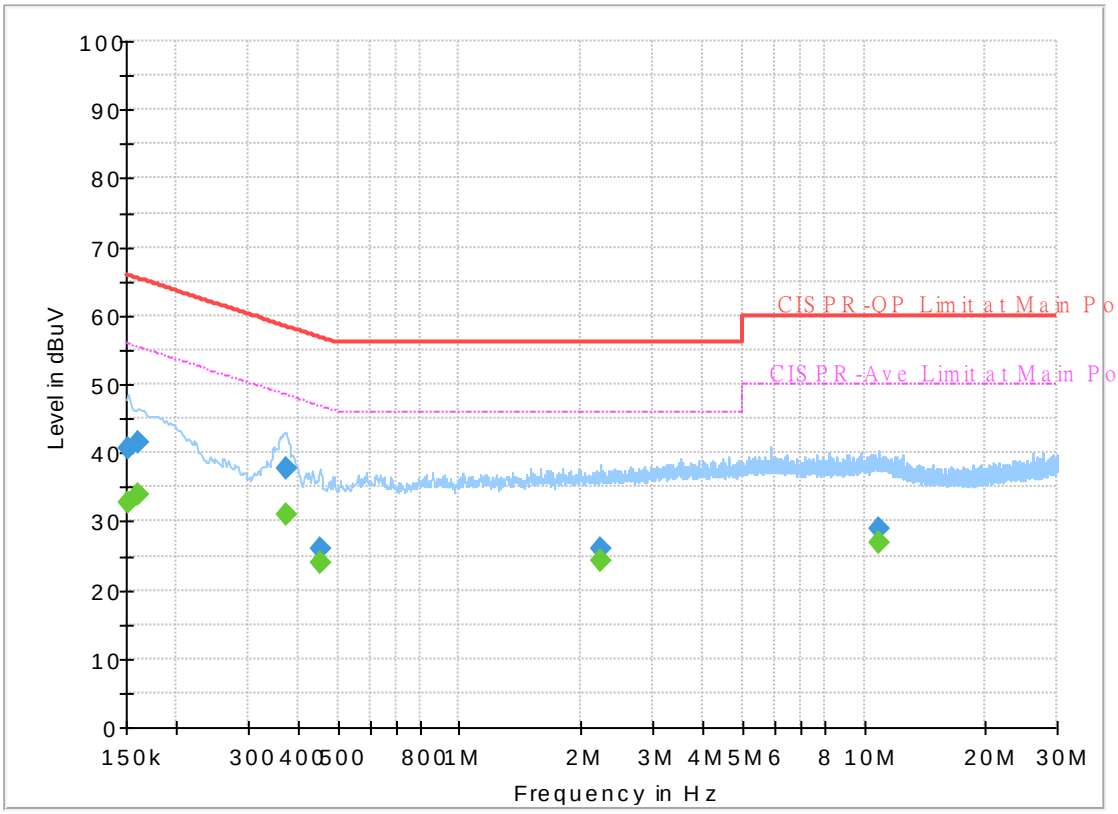
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Tom Lee	**Temperature :**	23~26℃
		Relative Humidity :	45~55%

EUT Information

Report NO :	0O2036-03
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line

Full Spectrum



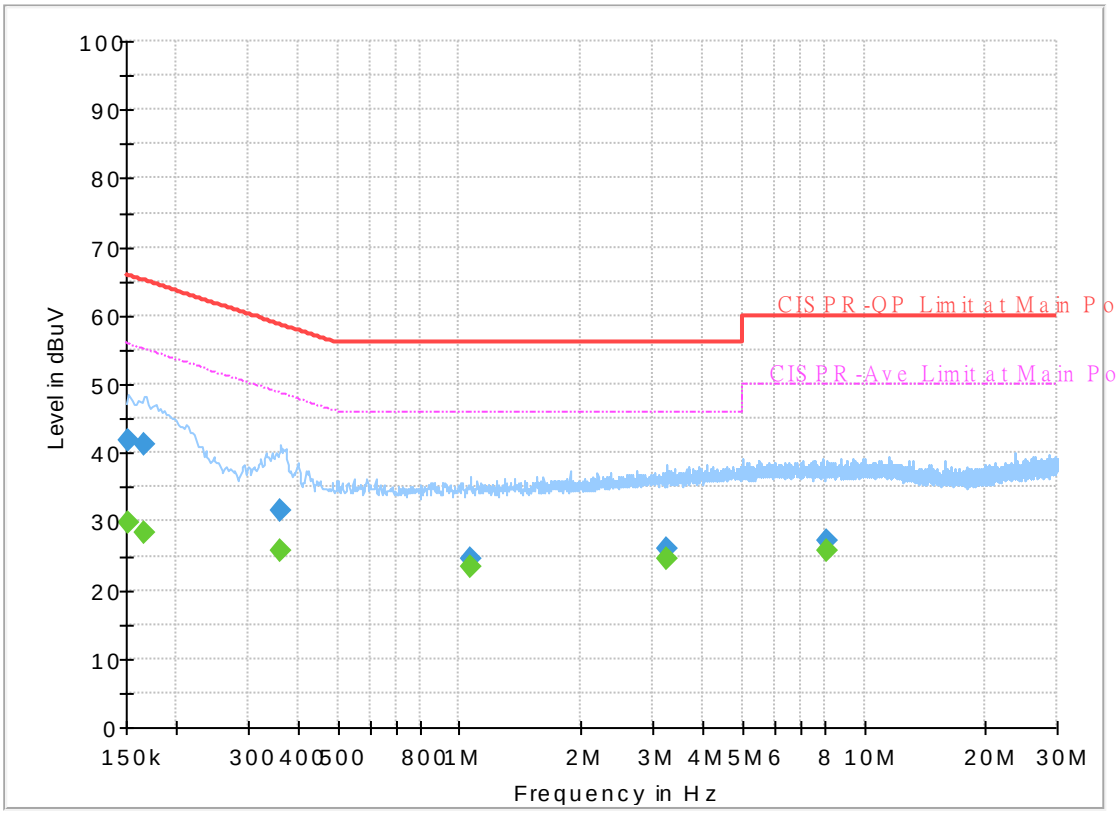
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	32.75	55.88	23.13	L1	OFF	19.8
0.152250	40.57	---	65.88	25.31	L1	OFF	19.8
0.161250	---	34.01	55.40	21.39	L1	OFF	19.8
0.161250	41.64	---	65.40	23.76	L1	OFF	19.8
0.372750	---	30.94	48.44	17.50	L1	OFF	19.8
0.372750	37.82	---	58.44	20.62	L1	OFF	19.8
0.451500	---	23.92	46.85	22.93	L1	OFF	19.8
0.451500	26.13	---	56.85	30.72	L1	OFF	19.8
2.242500	---	24.32	46.00	21.68	L1	OFF	19.9
2.242500	26.12	---	56.00	29.88	L1	OFF	19.9
10.882500	---	26.78	50.00	23.22	L1	OFF	20.3
10.882500	29.06	---	60.00	30.94	L1	OFF	20.3

EUT Information

Report NO :	0O2036-03
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)
0.152250	---	29.96	55.88	25.92	N	OFF	19.8
0.152250	41.79	---	65.88	24.09	N	OFF	19.8
0.165750	---	28.45	55.17	26.72	N	OFF	19.8
0.165750	41.13	---	65.17	24.04	N	OFF	19.8
0.361500	---	25.67	48.69	23.02	N	OFF	19.8
0.361500	31.72	---	58.69	26.97	N	OFF	19.8
1.063500	---	23.29	46.00	22.71	N	OFF	19.9
1.063500	24.64	---	56.00	31.36	N	OFF	19.9
3.237000	---	24.61	46.00	21.39	N	OFF	20.0
3.237000	26.03	---	56.00	29.97	N	OFF	20.0
8.049750	---	25.70	50.00	24.30	N	OFF	20.2
8.049750	27.20	---	60.00	32.80	N	OFF	20.2

Appendix C. Radiated Spurious Emission

Test Engineer :	Leo Li and Bigshow Wang	Temperature :	22.1~23.1°C
		Relative Humidity :	55~60%

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5609.6	48.39	-19.81	68.2	42.57	33.02	9.52	36.72	296	56	P	H
		5692.8	54.94	-44.95	99.89	48.49	33.61	9.56	36.72	296	56	P	H
		5719.6	68.11	-42.58	110.69	61.44	33.82	9.57	36.72	296	56	P	H
		5724.8	77.71	-44.03	121.74	71	33.85	9.58	36.72	296	56	P	H
	*	5745	109.79	-	-	102.95	33.97	9.59	36.72	296	56	P	H
	*	5745	102.76	-	-	95.92	33.97	9.59	36.72	296	56	A	H
													H
													H
		5638.2	49.14	-19.06	68.2	43.24	33.08	9.54	36.72	100	68	P	V
		5692	52.72	-46.58	99.3	46.28	33.6	9.56	36.72	100	68	P	V
		5718.8	65.76	-44.7	110.46	59.1	33.81	9.57	36.72	100	68	P	V
		5723.8	70.69	-48.77	119.46	63.99	33.84	9.58	36.72	100	68	P	V
	*	5745	106.62	-	-	99.78	33.97	9.59	36.72	100	68	P	V
	*	5745	99.26	-	-	92.42	33.97	9.59	36.72	100	68	A	V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
	*	5825	108.33	-	-	101.2	34.2	9.64	36.71	302	55	P	H
	*	5825	100.99	-	-	93.86	34.2	9.64	36.71	302	55	A	H
		5850.8	64.09	-56.29	120.38	56.92	34.2	9.68	36.71	302	55	P	H
		5857.2	65.48	-44.7	110.18	58.29	34.21	9.69	36.71	302	55	P	H
		5877	52.87	-50.84	103.71	45.62	34.25	9.71	36.71	302	55	P	H
		5936	48.82	-19.38	68.2	41.58	34.16	9.79	36.71	302	55	P	H
													H
802.11a													H
CH 165	*	5825	105.9	-	-	98.77	34.2	9.64	36.71	100	64	P	V
5825MHz	*	5825	98.41	-	-	91.28	34.2	9.64	36.71	100	64	A	V
		5852.6	63.55	-52.72	116.27	56.37	34.21	9.68	36.71	100	64	P	V
		5855.4	58.98	-51.71	110.69	51.8	34.21	9.68	36.71	100	64	P	V
		5877.2	51.47	-52.1	103.57	44.22	34.25	9.71	36.71	100	64	P	V
		5946.2	48.34	-19.86	68.2	41.12	34.12	9.81	36.71	100	64	P	V
													V
													V
													V

Remark

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

Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		11490	54.87	-19.13	74	60.19	39	13.51	57.83	187	323	P	H
		11490	49.1	-4.9	54	54.42	39	13.51	57.83	187	323	A	H
		17235	51.37	-16.83	68.2	56.66	38	16.54	59.83	-	-	P	H
													H
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													H
		11490	52.59	-21.41	74	57.89	39	13.51	57.81	182	347	P	V
		11490	44.74	-9.26	54	50.04	39	13.51	57.81	182	347	A	V
		17235	50.44	-17.76	68.2	55.44	38	16.54	59.54	-	-	P	V
													V
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WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11650	52.36	-21.64	74	57.77	38.7	13.6	57.71	186	328	P	H
		11650	45.3	-8.7	54	50.71	38.7	13.6	57.71	186	328	A	H
		17475	52.91	-15.29	68.2	57.73	38.45	16.69	59.96	-	-	P	H
													H
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802.11a CH 165 5825MHz		11650	47.59	-26.41	74	52.97	38.7	13.6	57.68	-	-	P	V
		17475	52.37	-15.83	68.2	56.92	38.45	16.69	59.69	-	-	P	V
													V
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Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5634.6	48.06	-20.14	68.2	42.17	33.07	9.54	36.72	300	50	P	H
		5693.4	55.2	-45.13	100.33	48.74	33.62	9.56	36.72	300	50	P	H
		5720	68.39	-42.41	110.8	61.72	33.82	9.57	36.72	300	50	P	H
		5724.6	77.76	-43.53	121.29	71.05	33.85	9.58	36.72	300	50	P	H
	*	5745	109.39	-	-	102.55	33.97	9.59	36.72	300	50	P	H
	*	5745	102.26	-	-	95.42	33.97	9.59	36.72	300	50	A	H
802.11n													H
HT20													H
CH 149		5603.4	48.25	-19.95	68.2	42.44	33.01	9.52	36.72	100	66	P	V
5745MHz		5693.2	52.98	-47.21	100.19	46.52	33.62	9.56	36.72	100	66	P	V
		5718.4	67.55	-42.8	110.35	60.89	33.81	9.57	36.72	100	66	P	V
		5724.6	72.4	-48.89	121.29	65.69	33.85	9.58	36.72	100	66	P	V
	*	5745	106.44	-	-	99.6	33.97	9.59	36.72	100	66	P	V
	*	5745	99.22	-	-	92.38	33.97	9.59	36.72	100	66	A	V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5639.8	48.13	-20.07	68.2	42.23	33.08	9.54	36.72	299	47	P	H
		5697	49.02	-53.97	102.99	42.52	33.66	9.56	36.72	299	47	P	H
		5718	49.28	-60.96	110.24	42.62	33.81	9.57	36.72	299	47	P	H
		5721.2	48.98	-64.56	113.54	42.3	33.83	9.57	36.72	299	47	P	H
	*	5785	108.51	-	-	101.48	34.14	9.6	36.71	299	47	P	H
	*	5785	101.53	-	-	94.5	34.14	9.6	36.71	299	47	A	H
		5852.42	49.5	-67.18	116.68	42.33	34.2	9.68	36.71	299	47	P	H
		5859.595	48.93	-60.58	109.51	41.73	34.22	9.69	36.71	299	47	P	H
		5890.345	49.28	-44.53	93.81	41.98	34.28	9.73	36.71	299	47	P	H
		5942.825	48.79	-19.41	68.2	41.57	34.13	9.8	36.71	299	47	P	H
802.11n													H
HT20													H
CH 157		5642	47.92	-20.28	68.2	42.02	33.08	9.54	36.72	100	63	P	V
5785MHz		5679.6	48.43	-41.71	90.14	42.13	33.46	9.56	36.72	100	63	P	V
		5720	48.93	-61.87	110.8	42.26	33.82	9.57	36.72	100	63	P	V
		5724.6	46.67	-74.62	121.29	39.96	33.85	9.58	36.72	100	63	P	V
	*	5785	106.07	-	-	99.04	34.14	9.6	36.71	100	63	P	V
	*	5785	98.95	-	-	91.92	34.14	9.6	36.71	100	63	A	V
		5850.37	48.42	-72.94	121.36	41.25	34.2	9.68	36.71	100	63	P	V
		5865.54	48.77	-59.08	107.85	41.55	34.23	9.7	36.71	100	63	P	V
		5921.505	49.51	-21.27	70.78	42.24	34.21	9.77	36.71	100	63	P	V
		5925.605	48.94	-19.26	68.2	41.67	34.2	9.78	36.71	100	63	P	V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
	*	5825	107.48	-	-	100.35	34.2	9.64	36.71	302	50	P	H
	*	5825	100.72	-	-	93.59	34.2	9.64	36.71	302	50	A	H
		5852	66.42	-51.22	117.64	59.25	34.2	9.68	36.71	302	50	P	H
		5856.2	61.95	-48.51	110.46	54.76	34.21	9.69	36.71	302	50	P	H
		5877	53.34	-50.37	103.71	46.09	34.25	9.71	36.71	302	50	P	H
		5944	49.1	-19.1	68.2	41.89	34.12	9.8	36.71	302	50	P	H
802.11n													H
HT20													H
CH 165	*	5825	105.63	-	-	98.5	34.2	9.64	36.71	100	63	P	V
5825MHz	*	5825	98.33	-	-	91.2	34.2	9.64	36.71	100	63	A	V
		5850.4	63.62	-57.67	121.29	56.45	34.2	9.68	36.71	100	63	P	V
		5855.4	58.54	-52.15	110.69	51.36	34.21	9.68	36.71	100	63	P	V
		5877.6	52.11	-51.16	103.27	44.85	34.26	9.71	36.71	100	63	P	V
		5935.6	48.97	-19.23	68.2	41.73	34.16	9.79	36.71	100	63	P	V
													V
													V

Remark

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

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11490	54.44	-19.56	74	59.76	39	13.51	57.83	187	324	P	H
		11490	48.96	-5.04	54	54.28	39	13.51	57.83	187	324	A	H
		17235	51.51	-16.69	68.2	56.8	38	16.54	59.83	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
802.11n													H
HT20													H
CH 149		11490	52.26	-21.74	74	57.56	39	13.51	57.81	187	346	P	V
5745MHz		11490	44.47	-9.53	54	49.77	39	13.51	57.81	187	346	A	V
		17235	50.39	-17.81	68.2	55.39	38	16.54	59.54	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11570	53.88	-20.12	74	59.31	38.79	13.55	57.77	183	325	P	H
		11570	46.87	-7.13	54	52.3	38.79	13.55	57.77	183	325	A	H
		17355	52.3	-15.9	68.2	57.41	38.17	16.61	59.89	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
802.11n													H
HT20													H
CH 157		11570	51.61	-22.39	74	57.01	38.79	13.55	57.74	171	346	P	V
5785MHz		11570	43.5	-10.5	54	48.9	38.79	13.55	57.74	171	346	A	V
		17355	50.89	-17.31	68.2	55.72	38.17	16.61	59.61	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11650	52.64	-21.36	74	58.05	38.7	13.6	57.71	186	328	P	H
		11650	45.34	-8.66	54	50.75	38.7	13.6	57.71	186	328	A	H
		17475	53.41	-14.79	68.2	58.23	38.45	16.69	59.96	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
802.11n													H
HT20													H
CH 165		11650	47.64	-26.36	74	53.02	38.7	13.6	57.68	-	-	P	V
5825MHz		17475	52.35	-15.85	68.2	56.9	38.45	16.69	59.69	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5648.2	50.76	-17.44	68.2	44.84	33.1	9.54	36.72	288	75	P	H
		5699.8	60.22	-44.83	105.05	53.68	33.7	9.56	36.72	288	75	P	H
		5720	70.49	-40.31	110.8	63.82	33.82	9.57	36.72	288	75	P	H
		5723.4	72.48	-46.07	118.55	65.78	33.84	9.58	36.72	288	75	P	H
	*	5755	105.7	-	-	98.8	34.02	9.59	36.71	288	75	P	H
	*	5755	98.46	-	-	91.56	34.02	9.59	36.71	288	75	A	H
		5853.24	48.21	-66.6	114.81	41.03	34.21	9.68	36.71	288	75	P	H
		5856.93	50.26	-60	110.26	43.07	34.21	9.69	36.71	288	75	P	H
		5907.155	50.02	-31.35	81.37	42.71	34.27	9.75	36.71	288	75	P	H
		5942.415	49.12	-19.08	68.2	41.9	34.13	9.8	36.71	288	75	P	H
802.11n													H
HT40													H
CH 151		5648.6	49.09	-19.11	68.2	43.17	33.1	9.54	36.72	100	94	P	V
5755MHz		5697.6	57.94	-45.49	103.43	51.43	33.67	9.56	36.72	100	94	P	V
		5717.8	68.15	-42.03	110.18	61.49	33.81	9.57	36.72	100	94	P	V
		5722.4	68.92	-47.35	116.27	62.23	33.83	9.58	36.72	100	94	P	V
	*	5755	102.5	-	-	95.6	34.02	9.59	36.71	100	94	P	V
	*	5755	95.38	-	-	88.48	34.02	9.59	36.71	100	94	A	V
		5854.265	47.92	-64.55	112.47	40.74	34.21	9.68	36.71	100	94	P	V
		5863.08	49.19	-59.35	108.54	41.97	34.23	9.7	36.71	100	94	P	V
		5877.225	50.1	-53.45	103.55	42.85	34.25	9.71	36.71	100	94	P	V
		5933.6	48.64	-19.56	68.2	41.39	34.17	9.79	36.71	100	94	P	V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5628.6	48.76	-19.44	68.2	42.89	33.06	9.53	36.72	108	36	P	H
		5688.8	50.45	-46.49	96.94	44.04	33.57	9.56	36.72	108	36	P	H
		5712.8	49.87	-58.92	108.79	43.24	33.78	9.57	36.72	108	36	P	H
		5724.2	53.58	-66.8	120.38	46.87	33.85	9.58	36.72	108	36	P	H
	*	5795	104.18	-	-	97.1	34.18	9.61	36.71	108	36	P	H
	*	5795	96.69	-	-	89.61	34.18	9.61	36.71	108	36	A	H
		5852.625	57.55	-58.66	116.21	50.37	34.21	9.68	36.71	108	36	P	H
		5861.85	53.41	-55.47	108.88	46.21	34.22	9.69	36.71	108	36	P	H
		5900.595	50.02	-36.2	86.22	42.68	34.3	9.75	36.71	108	36	P	H
		5927.655	49.17	-19.03	68.2	41.91	34.19	9.78	36.71	108	36	P	H
802.11n													H
HT40													H
CH 159		5622	48.54	-19.66	68.2	42.69	33.04	9.53	36.72	100	94	P	V
5795MHz		5691.6	50.28	-48.73	99.01	43.84	33.6	9.56	36.72	100	94	P	V
		5712.8	49.69	-59.1	108.79	43.06	33.78	9.57	36.72	100	94	P	V
		5725	56.88	-65.32	122.2	50.17	33.85	9.58	36.72	100	94	P	V
	*	5795	101.7	-	-	94.62	34.18	9.61	36.71	100	94	P	V
	*	5795	94.6	-	-	87.52	34.18	9.61	36.71	100	94	A	V
		5851.805	54.88	-63.2	118.08	47.71	34.2	9.68	36.71	100	94	P	V
		5856.11	53.12	-57.37	110.49	45.93	34.21	9.69	36.71	100	94	P	V
		5900.8	49.67	-36.4	86.07	42.33	34.3	9.75	36.71	100	94	P	V
		5936.88	48.88	-19.32	68.2	41.65	34.15	9.79	36.71	100	94	P	V
													V
													V

Remark

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

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11510	54.29	-19.71	74	59.61	38.97	13.52	57.81	301	283	P	H
		11510	47.26	-6.74	54	52.58	38.97	13.52	57.81	301	283	A	H
		17263	50.39	-17.81	68.2	55.68	38	16.55	59.84	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
802.11n													H
HT40													H
CH 151		11510	53.44	-20.56	74	58.74	38.97	13.52	57.79	174	346	P	V
5755MHz		11510	45.12	-8.88	54	50.42	38.97	13.52	57.79	174	346	A	V
		17265	49.09	-19.11	68.2	54.1	38	16.55	59.56	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11590	54.26	-19.74	74	59.72	38.73	13.57	57.76	301	308	P	H
		11590	47.27	-6.73	54	52.73	38.73	13.57	57.76	301	308	A	H
		17385	52.46	-15.74	68.2	57.48	38.26	16.63	59.91	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
802.11n													H
HT40													H
CH 159		11590	52.31	-21.69	74	57.74	38.73	13.57	57.73	159	345	P	V
5795MHz		11590	43.98	-10.02	54	49.41	38.73	13.57	57.73	159	345	A	V
		17385	51.98	-16.22	68.2	56.72	38.26	16.63	59.63	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5648.6	52.08	-16.12	68.2	46.16	33.1	9.54	36.72	293	49	P	H
		5692.4	63	-36.6	99.6	56.55	33.61	9.56	36.72	293	49	P	H
		5718.2	67.8	-42.5	110.3	61.14	33.81	9.57	36.72	293	49	P	H
		5723	69.26	-48.38	117.64	62.56	33.84	9.58	36.72	293	49	P	H
	*	5775	102.79	-	-	95.8	34.1	9.6	36.71	293	49	P	H
	*	5775	94.68	-	-	87.69	34.1	9.6	36.71	293	49	A	H
		5853.445	62.84	-51.5	114.34	55.66	34.21	9.68	36.71	293	49	P	H
		5855.29	62.15	-48.57	110.72	54.97	34.21	9.68	36.71	293	49	P	H
		5878.455	55.15	-47.48	102.63	47.88	34.26	9.72	36.71	293	49	P	H
		5934.83	49.54	-18.66	68.2	42.3	34.16	9.79	36.71	293	49	P	H
802.11ac													H
VHT80													H
CH 155		5648.6	49.99	-18.21	68.2	44.07	33.1	9.54	36.72	100	62	P	V
5775MHz		5692.4	61.3	-38.3	99.6	54.85	33.61	9.56	36.72	100	62	P	V
		5718.2	66.01	-44.29	110.3	59.35	33.81	9.57	36.72	100	62	P	V
		5722.8	67.18	-50	117.18	60.48	33.84	9.58	36.72	100	62	P	V
	*	5775	99.85	-	-	92.86	34.1	9.6	36.71	100	62	P	V
	*	5775	91.9	-	-	84.91	34.1	9.6	36.71	100	62	A	V
		5853.445	60.19	-54.15	114.34	53.01	34.21	9.68	36.71	100	62	P	V
		5857.34	59.92	-50.22	110.14	52.73	34.21	9.69	36.71	100	62	P	V
		5878.455	54.5	-48.13	102.63	47.23	34.26	9.72	36.71	100	62	P	V
		5934.625	49	-19.2	68.2	41.76	34.16	9.79	36.71	100	62	P	V
													V
													V

Remark

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

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11550	53.5	-20.5	74	58.89	38.85	13.54	57.78	290	307	P	H
		11550	47.81	-6.19	54	53.2	38.85	13.54	57.78	290	307	A	H
		17325	49.65	-18.55	68.2	54.85	38.08	16.6	59.88	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
802.11ac													H
VHT80													H
CH 155		11550	47.89	-26.11	74	53.26	38.85	13.54	57.76	-	-	P	V
5775MHz		17325	48.71	-19.49	68.2	53.63	38.08	16.6	59.6	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.

Emission above 18GHz

WIFI 802.11a (SHF @ 1m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		23392	39.69	-34.31	74	57.41	38.84	-2.47	54.09	-	-	P	H
		39231.5	46.04	-27.96	74	58.73	44.42	-0.5	56.61	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
802.11a													H
SHF		25568	39.84	-34.16	74	57.04	38.9	-3	53.1	-	-	P	V
		39188	47.97	-26.03	74	60.9	44.23	-0.51	56.65	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.

Emission below 1GHz

5GHz WIFI 802.11a (LF @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		54.25	32.25	-7.75	40	51.3	12.58	0.93	32.56	-	-	P	H
		69.77	25.59	-14.41	40	44.83	12.24	1.03	32.51	-	-	P	H
		124.09	24.21	-19.29	43.5	38.01	17.38	1.34	32.52	-	-	P	H
		134.76	25.12	-18.38	43.5	38.71	17.44	1.48	32.51	-	-	P	H
		278.32	28.73	-17.27	46	40.41	18.7	2.04	32.42	-	-	P	H
		956.35	33.4	-12.6	46	29.81	30.93	3.83	31.17	-	-	P	H
													H
													H
													H
													H
													H
802.11a													H
LF		51.34	31.24	-8.76	40	49.29	13.6	0.92	32.57	-	-	P	V
		70.74	24.86	-15.14	40	44.04	12.29	1.04	32.51	-	-	P	V
		91.11	27.89	-15.61	43.5	44.5	14.72	1.13	32.46	-	-	P	V
		152.22	25.82	-17.68	43.5	39.81	16.9	1.58	32.47	-	-	P	V
		849.65	31.46	-14.54	46	31.03	28.83	3.56	31.96	-	-	P	V
		956.35	33.05	-12.95	46	29.46	30.93	3.83	31.17	-	-	P	V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against limit line.
3. The emission position marked as “-” means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only.

Note symbol

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

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

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		11213	48.14	-25.86	74	59.06	39.72	17.65	68.29	-	-	P	H
		11213	37.67	-16.33	54	48.59	39.72	17.65	68.29	-	-	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. Margin(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 11213MHz:

1. Level(dBμV/m)

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

= 39.72(dB/m) + 17.65(dB) + 59.06(dBμV) – 68.29 (dB)

= 48.14 (dBμV/m)

2. Margin(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 48.14(dBμV/m) – 74(dBμV/m)

= -25.86(dB)

For Average Limit @ 11213MHz:

1. Level(dBμV/m)

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

= 39.72(dB/m) + 17.65(dB) + 48.59(dBμV) – 68.29 (dB)

= 37.67 (dBμV/m)

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

= 37.67(dBμV/m) – 54(dBμV/m)

= -16.33(dB)

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

Appendix D. Radiated Spurious Emission Plots

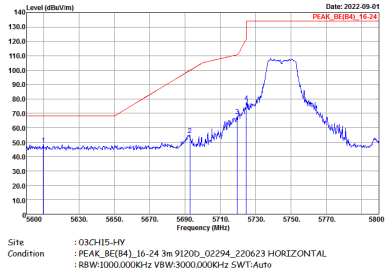
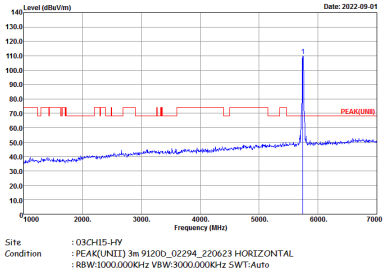
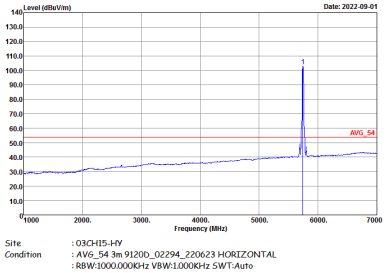
Test Engineer :	Leo Li and Bigshow Wang	**Temperature :**	22.1~23.1°C
		Relative Humidity :	55~60%

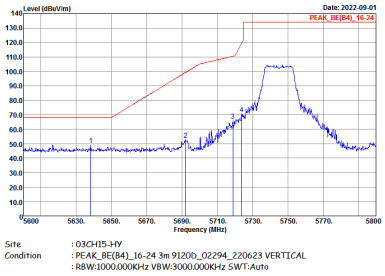
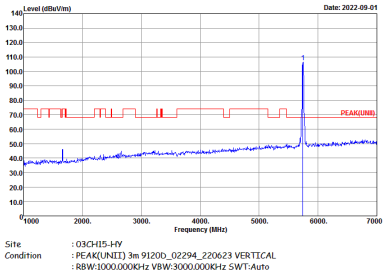
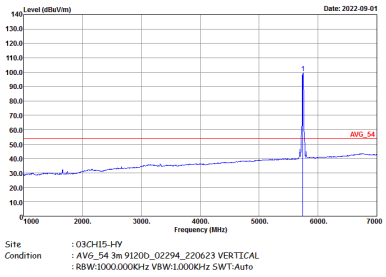
Note symbol

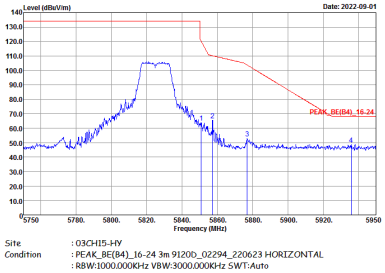
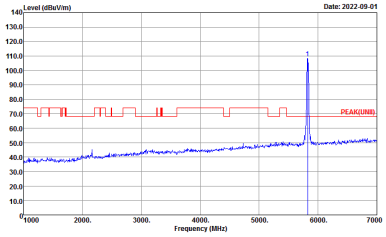
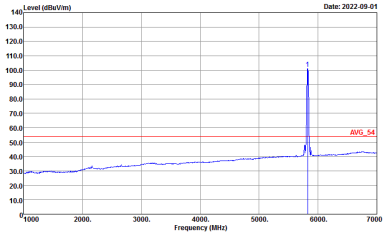
-L	**Low channel location**
-R	**High channel location**

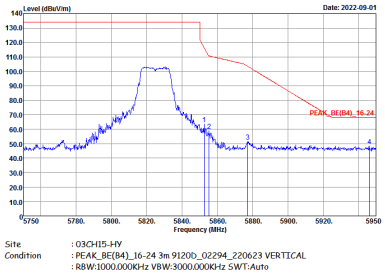
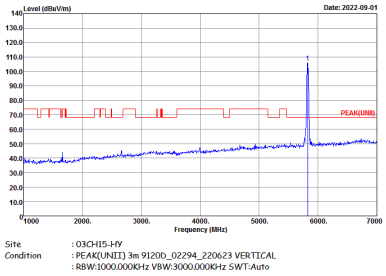
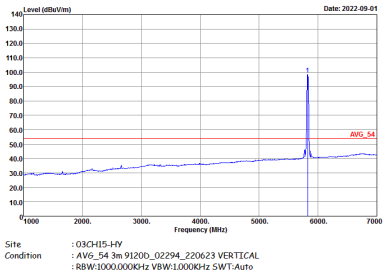
Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

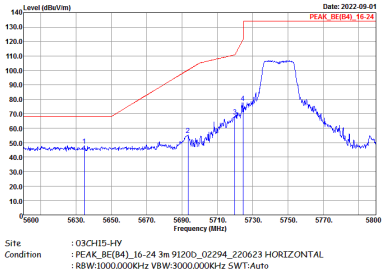
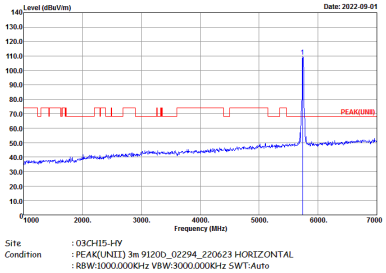
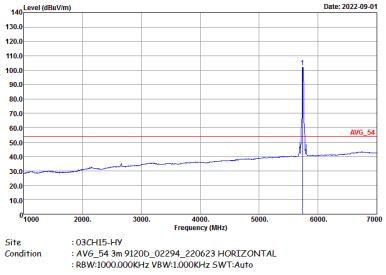
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Fundamental
Peak		
Avg	Left blank	

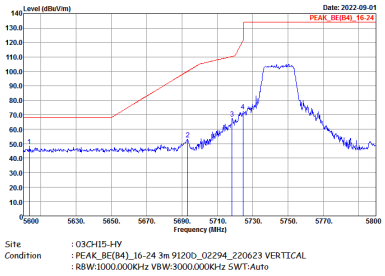
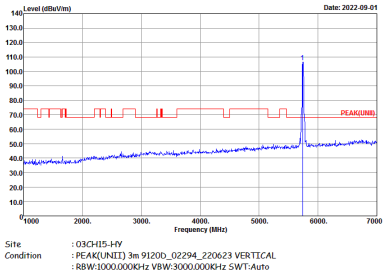
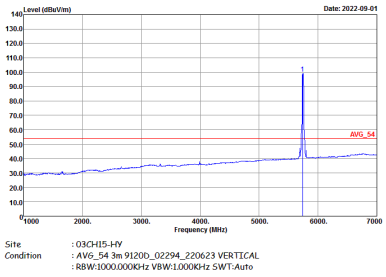
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1	Vertical	Fundamental
Peak		
Avg	Left blank	

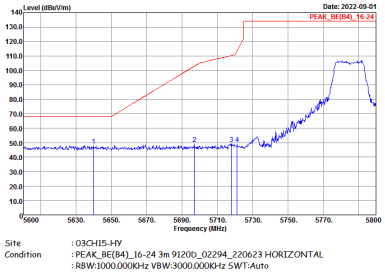
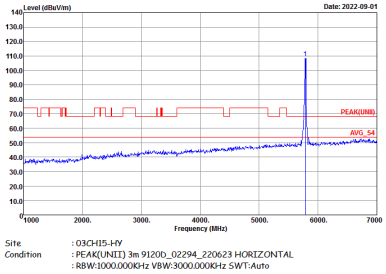
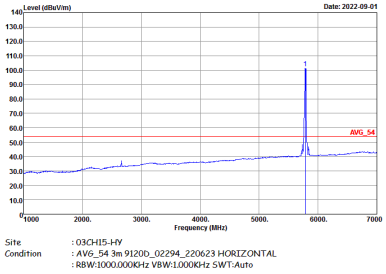
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 9120D_02294_220623 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH15-HY Condition : PEAK(UNII) 3m 9120D_02294_220623 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH15-HY Condition : AVG_54 3m 9120D_02294_220623 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto

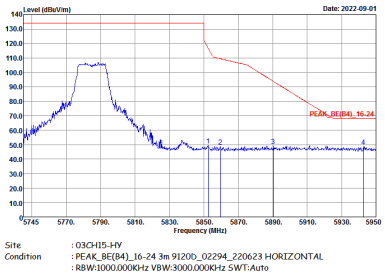
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1	Vertical	Fundamental
Peak		
Avg	Left blank	

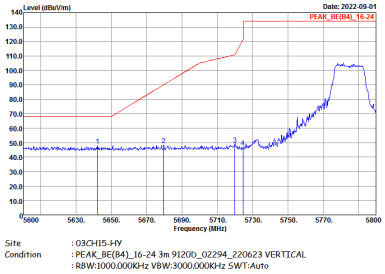
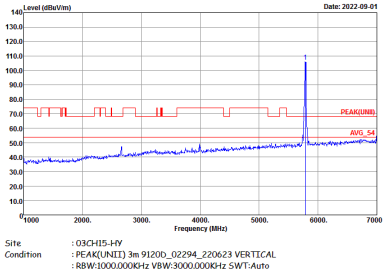
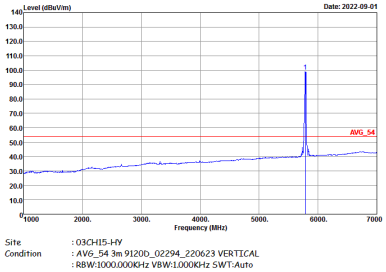
Band 4 5725~5850MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

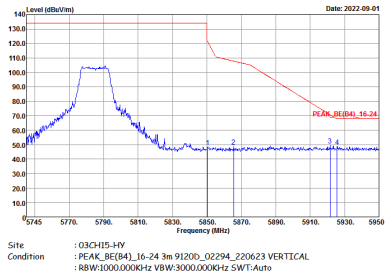
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Fundamental
Peak		
Avg	Left blank	

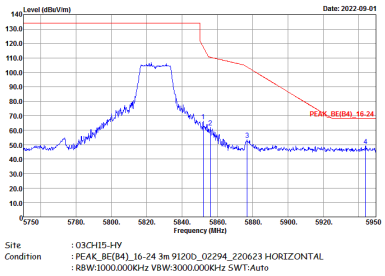
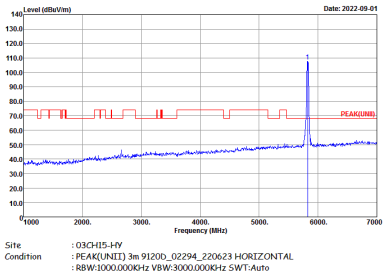
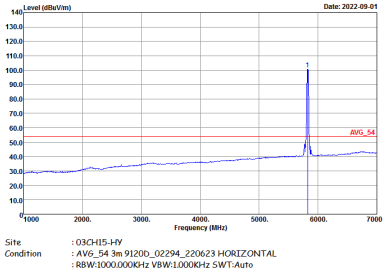
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Vertical	Fundamental
Peak		
Avg	Left blank	

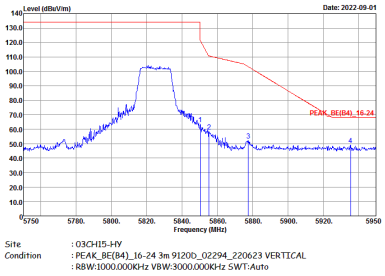
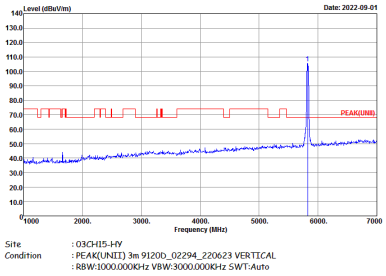
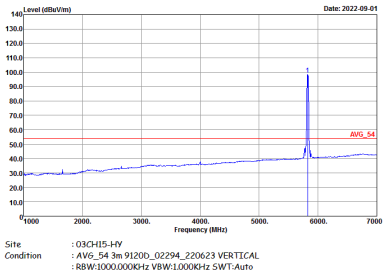
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Fundamental
Peak		
Avg	Left blank	

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Fundamental
Peak		Left blank

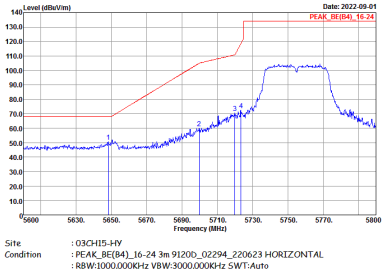
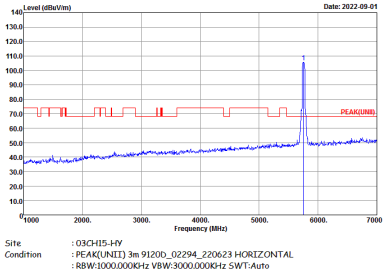
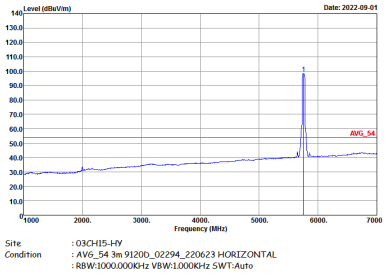
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Vertical	Fundamental
Peak		
Avg	Left blank	

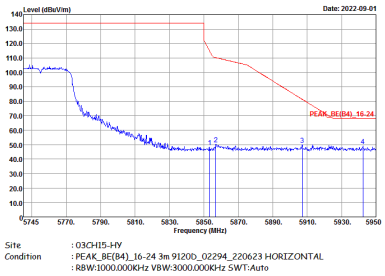
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Vertical	Fundamental
Peak		Left blank

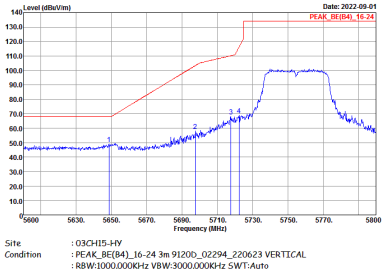
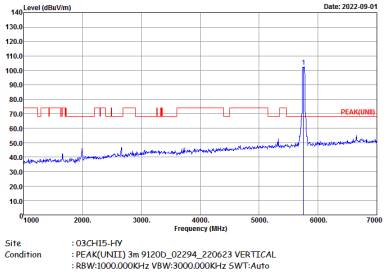
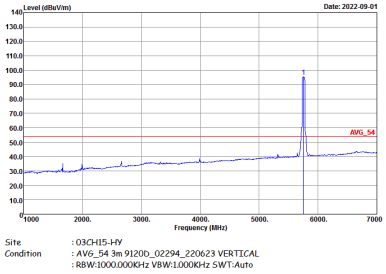
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Fundamental
Peak		
Avg	Left blank	

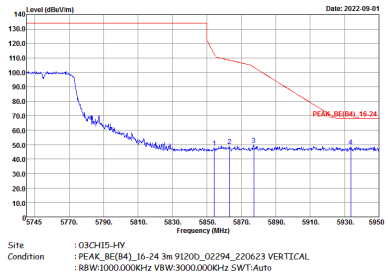
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Vertical	Fundamental
Peak		
Avg	Left blank	

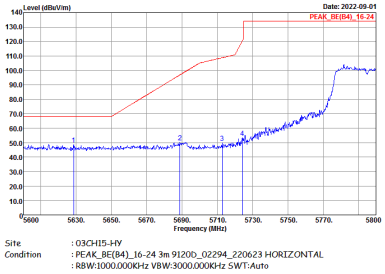
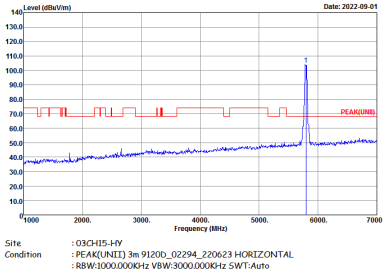
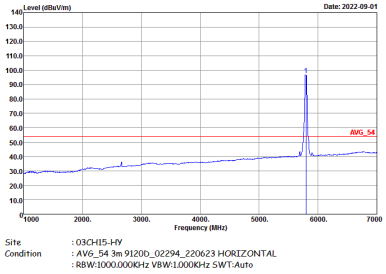
Band 4 5725~5850MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

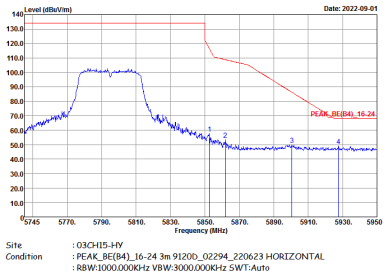
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Fundamental
Peak		
Avg	Left blank	

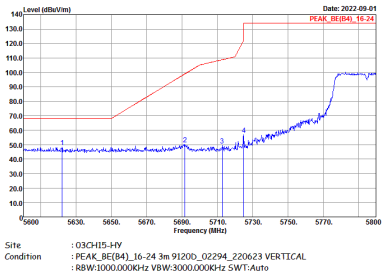
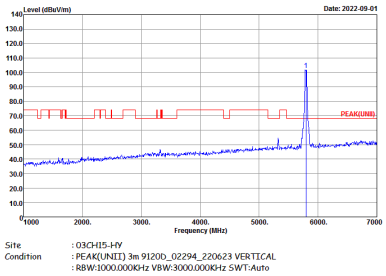
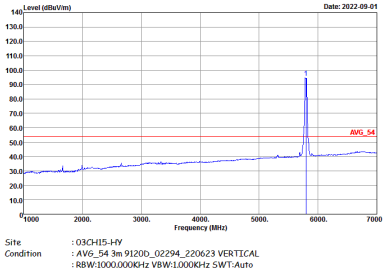
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Fundamental
Peak		Left blank

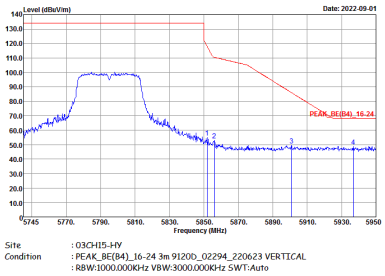
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Vertical	Fundamental
Peak		
Avg	Left blank	

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Vertical	Fundamental
Peak		Left blank

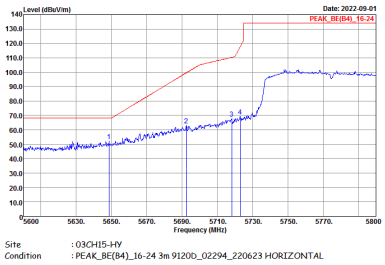
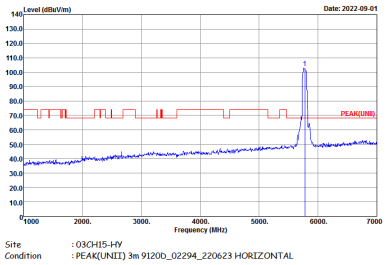
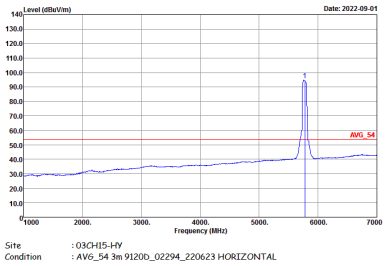
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Fundamental
Peak		
Avg	Left blank	

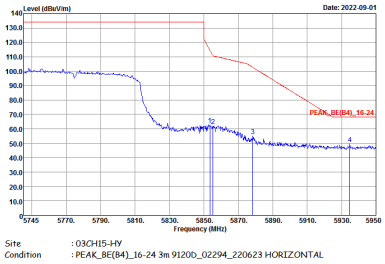
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Fundamental
Peak		Left blank

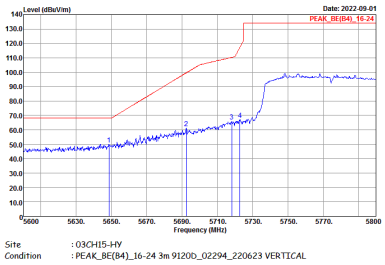
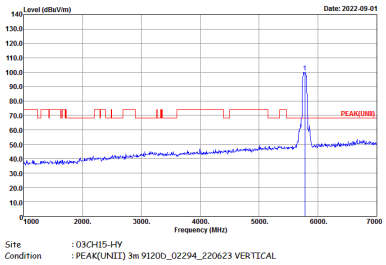
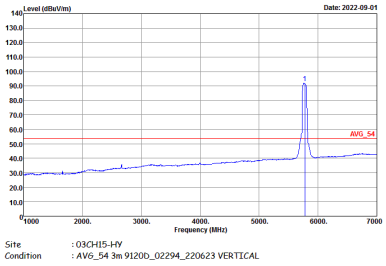
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Vertical	Fundamental
Peak		
Avg	Left blank	

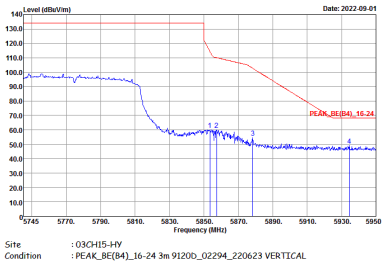
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Vertical	Fundamental
Peak		Left blank

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

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Horizontal	Fundamental
Peak		
Avg	Left blank	

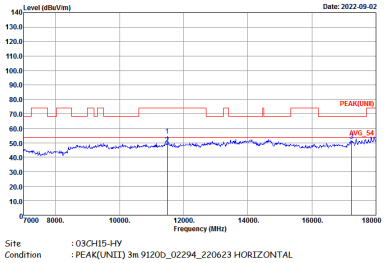
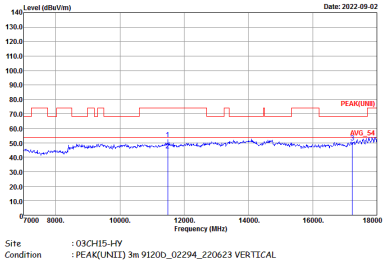
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Horizontal	Fundamental
Peak		Left blank

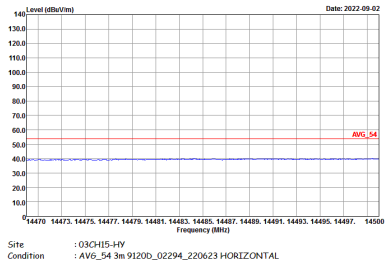
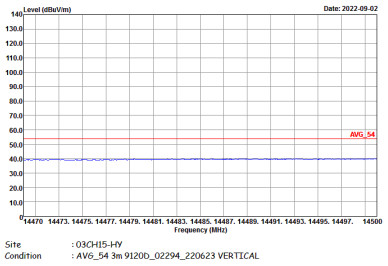
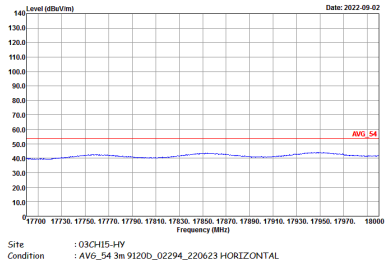
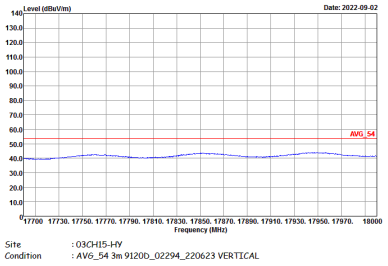
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Vertical	Fundamental
Peak		
Avg	Left blank	

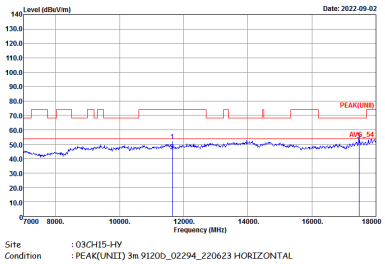
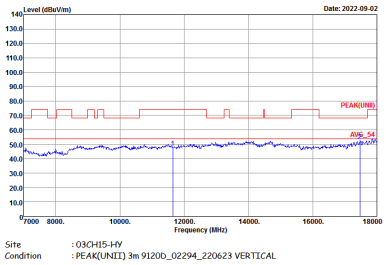
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Vertical	Fundamental
Peak		Left blank

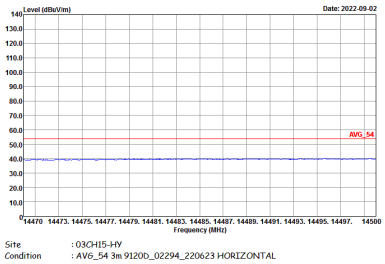
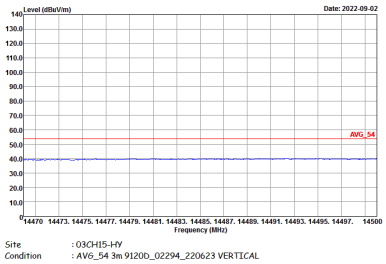
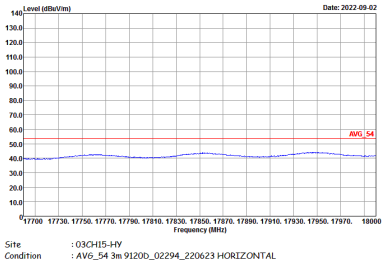
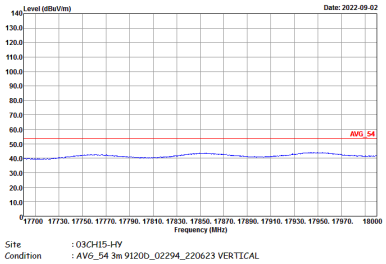
Band 4 - 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

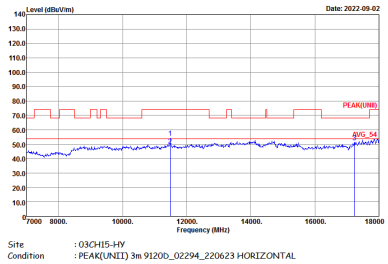
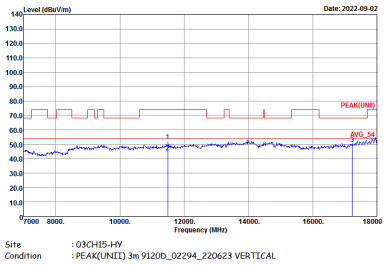
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Vertical
Peak Avg.		

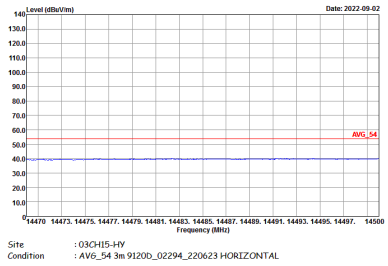
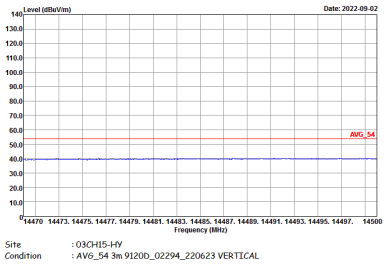
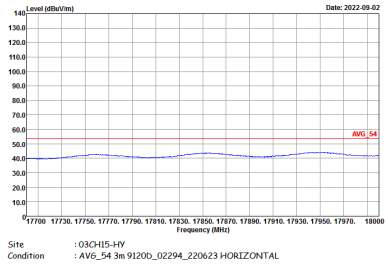
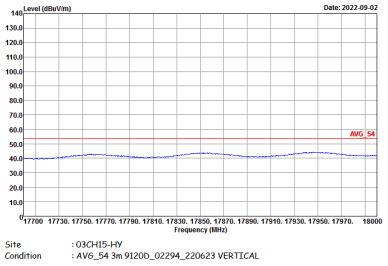
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

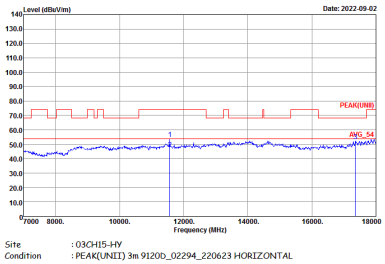
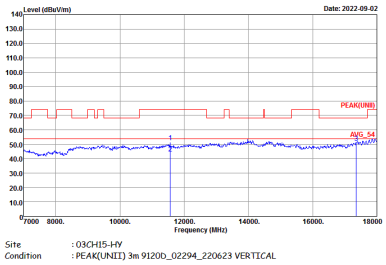
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Vertical
Peak Avg.		

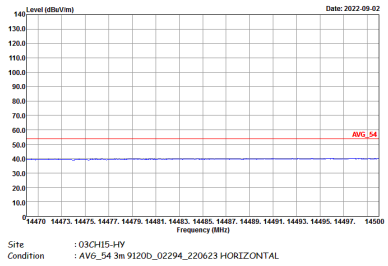
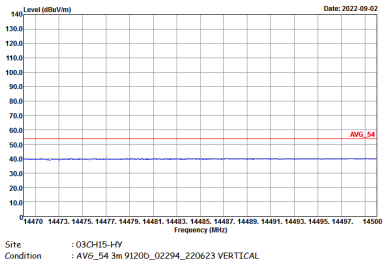
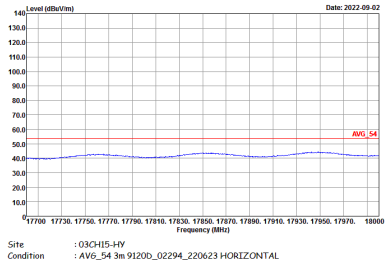
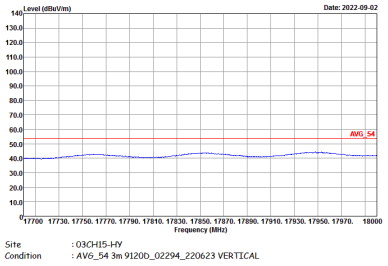
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

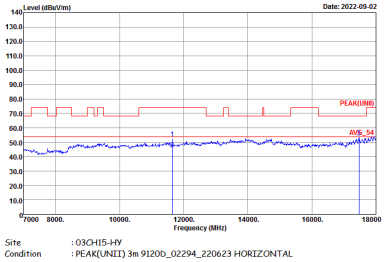
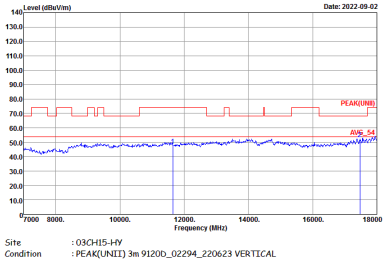
Band 4 5725~5850MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

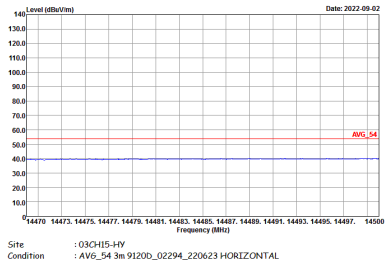
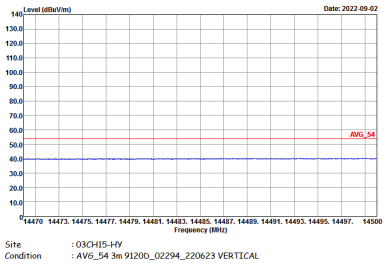
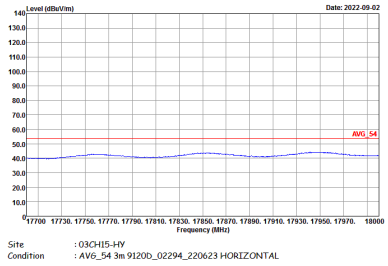
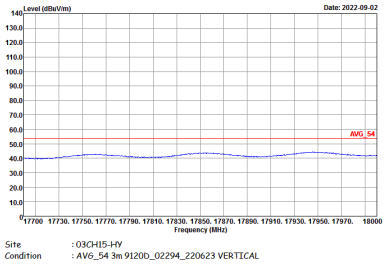
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

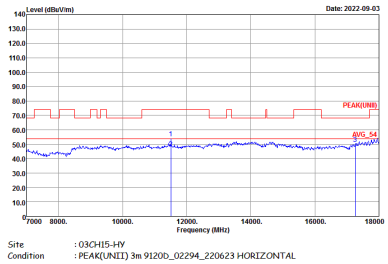
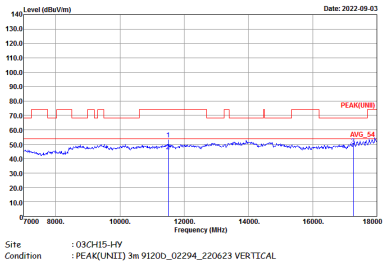
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Vertical
Peak Avg.		

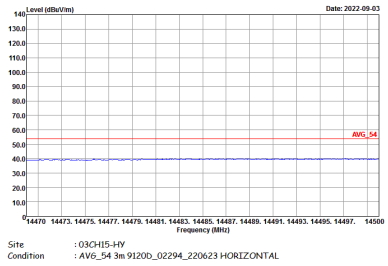
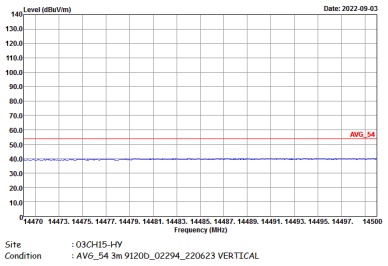
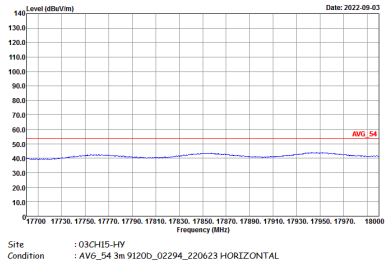
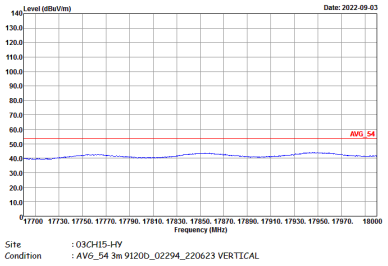
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

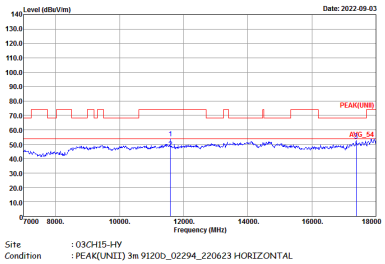
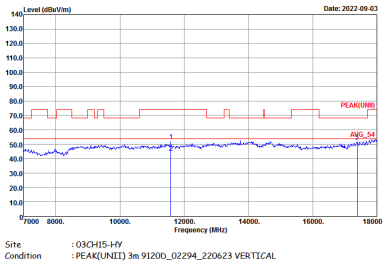
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Vertical
Peak Avg.		

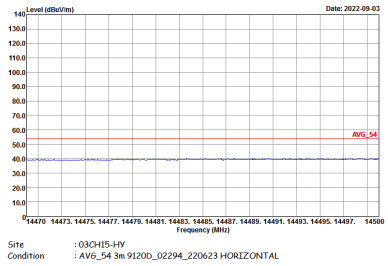
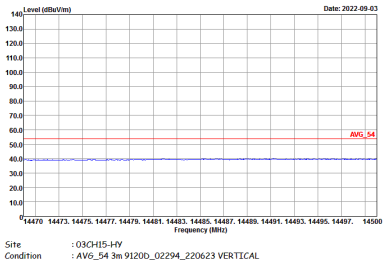
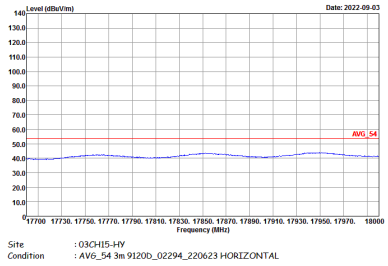
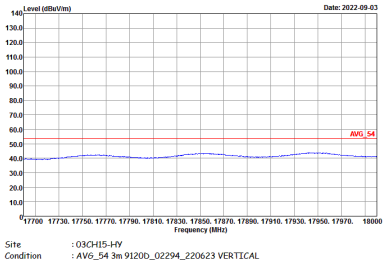
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

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

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Vertical
Peak Avg.		

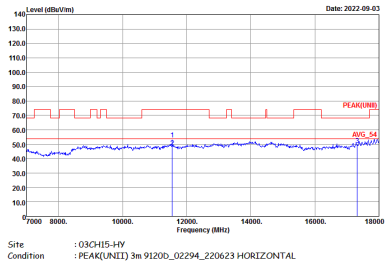
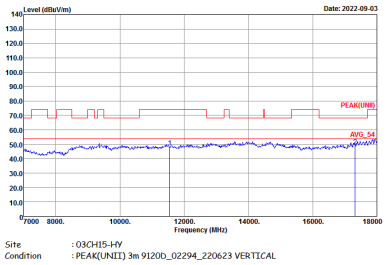
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

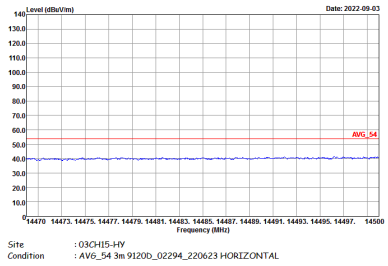
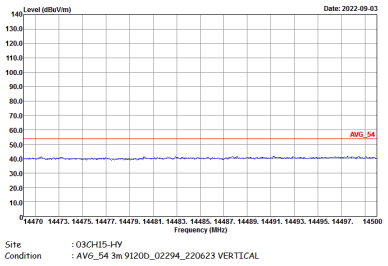
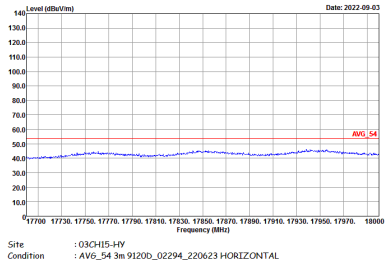
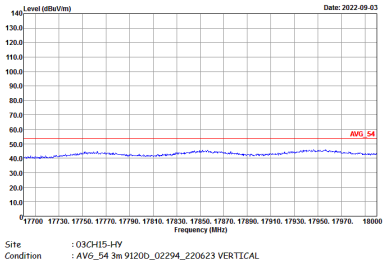
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

Band 4 5725~5850MHz

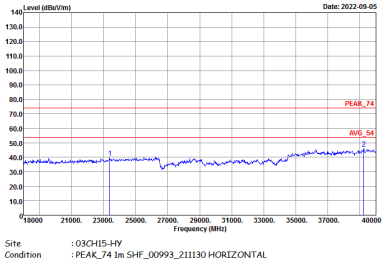
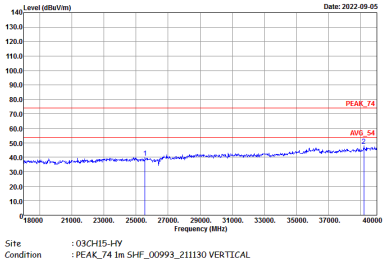
WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

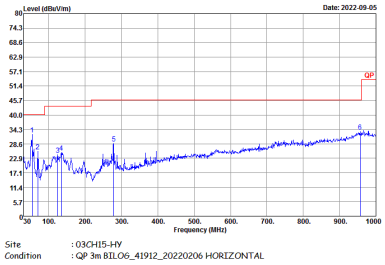
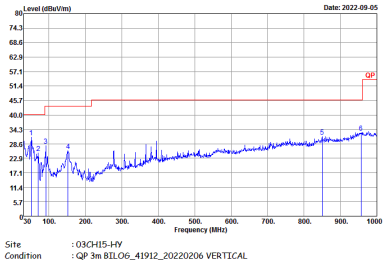
Emission above 18GHz

5GHz WIFI 802.11a (SHF @ 1m)

WIFI	5GHz WIFI	
ANT	802.11a SHF	
1	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

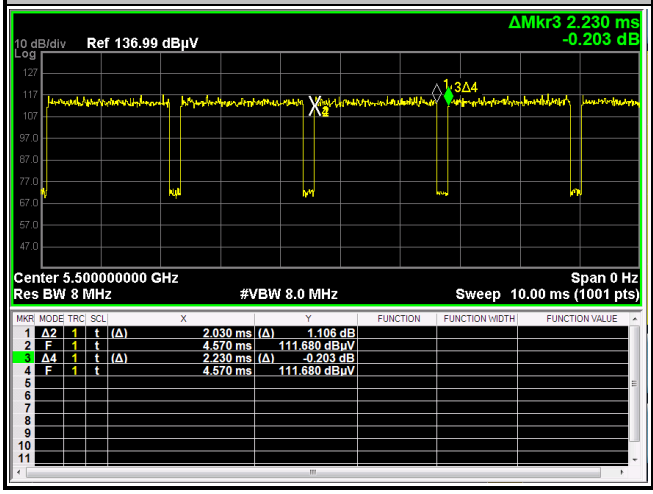
5GHz WIFI 802.11a (LF @ 3m)

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

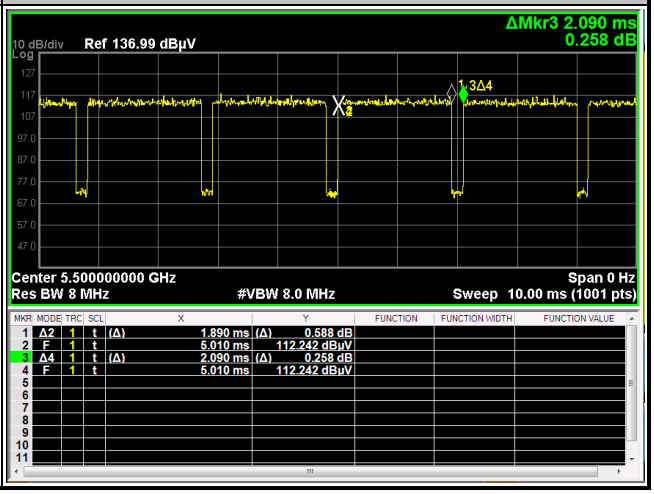
Appendix E. Duty Cycle Plots

Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
802.11a	91.03	2030	0.49	1kHz
5GHz 802.11n HT20	90.43	1890	0.53	1kHz
5GHz 802.11n HT40	88.37	1520	0.66	1kHz
5GHz 802.11ac VHT80	55.36	248	4.03	10kHz

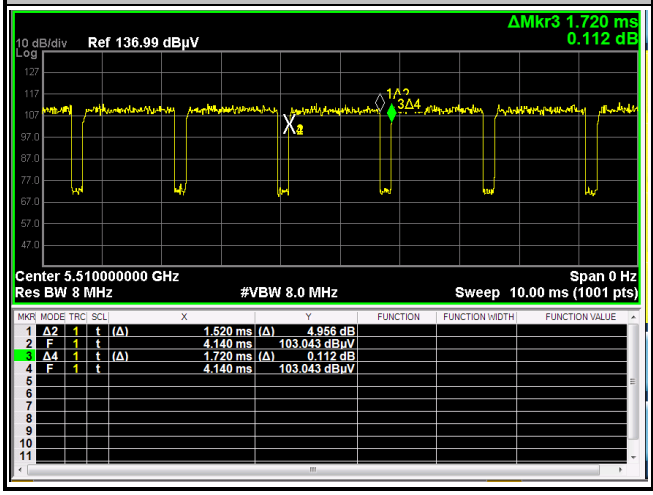
802.11a



802.11n HT20



802.11n HT40



802.11ac VHT80