TEST REPORT

Applicant Name :	Xunison Inc
Address :	11720 Amber Park Dr.Suite 160 Atlanta, GA 30009 United States
Report Number :	RA221215-61882E-RF-00A
FCC ID:	2BAT3D50

Test Standard (s)

FCC PART 15.247

Sample Description

Product Type:	Xunison Hub
Model No.:	D50
Multiple Model(s) No.:	N/A
Trade Mark:	XUNISON
Date Received:	2022/12/15
Report Date:	2023/06/02

Test Result:	Pass*

* In the configuration tested, the EUT complied with the standards above.

Prepared and Checked By:

Nick Fang

EMC Engineer

Approved By:

Candy Li

EMC Engineer

Note: This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★ ".
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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	RA221215-61882E-RF-00A	Original Report	2023/06/02

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Frequency Range	Wi-Fi: 2412-2462MHz
Maximum Conducted Average Output Power	17.76dBm
Modulation Technique	Wi-Fi: DSSS, OFDM, OFDMA
Antenna Specification*	ANT 0: 5.0dBi, ANT 1: 5.0dBi (provided by the applicant)
Voltage Range	DC 12V from adapter
Sample serial number	1ZF6 for Conducted and Radiated Emissions Test (Assigned by ATC)
Sample/EUT Status	Good condition
Adapter 1 Information	Model: AS2406A-1202000DM Input: AC 100-240V, 50/60Hz, 0.8A MAX Output: DC 12.0V, 2.0A, 24.0W
Adapter 2 Information	Model: AS2406A-1202000US Input: AC 100-240V, 50/60Hz, 0.8A MAX Output: DC 12.0V, 2000mA
Adapter 3 Information	Model: RD1202000-C55-154MG Input: AC 100-240V, 50/60Hz, 1.0A MAX Output: DC 12.0V, 2.0A

Objective

This test report is in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commission's rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

And KDB 558074 D01 15.247 Meas Guidance v05r02.

All emissions measurement was performed at Shenzhen Accurate Technology Co., Ltd. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		5%
RF Frequency		$0.082*10^{-7}$
RF output power, conducted		0.73dB
Unwanted Emission, conducted		1.6dB
AC Power Lines Conducted Emissions		2.72dB
Emissions, Radiated	9kHz - 30MHz	2.66dB
	30MHz - 1GHz	4.28dB
	1GHz - 18GHz	4.98dB
	18GHz - 26.5GHz	5.06dB
	26.5GHz - 40GHz	4.72dB
Temperature		1℃
Humidity		6%
Supply voltages		0.4%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 708358, the FCC Designation No.: CN1189. Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 429 7.01.

Listed by Innovation, Science and Economic Development Canada (ISEDC), the Registration Number is 5077A.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

For Wi-Fi mode, total 11 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432	/	/
6	2437	/	/
7	2442	/	/

802.11b, 802.11g, 802.11n-HT20, 802.11ax-HEW20 mode was tested with Channel 1, 6 and 11.
802.11n-HT40, 802.11ax-HEW40 mode was tested with Channel 3, 6 and 9.

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

"QPST; RU: Hawkeye-OFDMA-ReferenceOnly_LP_forCustomer.exe"* software was used to test and power level as below:

Mode	Data rate	Power Level		
		Low Channel	Middle Channel	High Channel
802.11b	1Mbps	11	11	11
802.11g	6Mbps	11	11	11
802.11n-HT20	MCS0	11	11	11
802.11n-HT40	MCS0	11	11	11

Test Mode	Data rate	RuSize	RuIndex	Power Level*		
				Low Channel	Middle Channel	High Channel
11AX20	MCS0	26Tone	RU0	4	4	4
		52Tone	RU37	7	7	7
		106Tone	RU53	10	10	10
		242Tone	RU61	11	11	11
11AX40	MCS0	26Tone	RU0	1	1	1
		52Tone	RU37	4	4	4
		106Tone	RU56	7	7	7
		242Tone	RU61	10	10	10
		484Tone	RU65	11	11	11

The software and power level was provided by applicant.

The two antenna port has same power level setting.

EUT support SISO/MIMO for all modes, according to pre-scan, the worst case MIMO was test and recorded in report.

Support Equipment List and Details

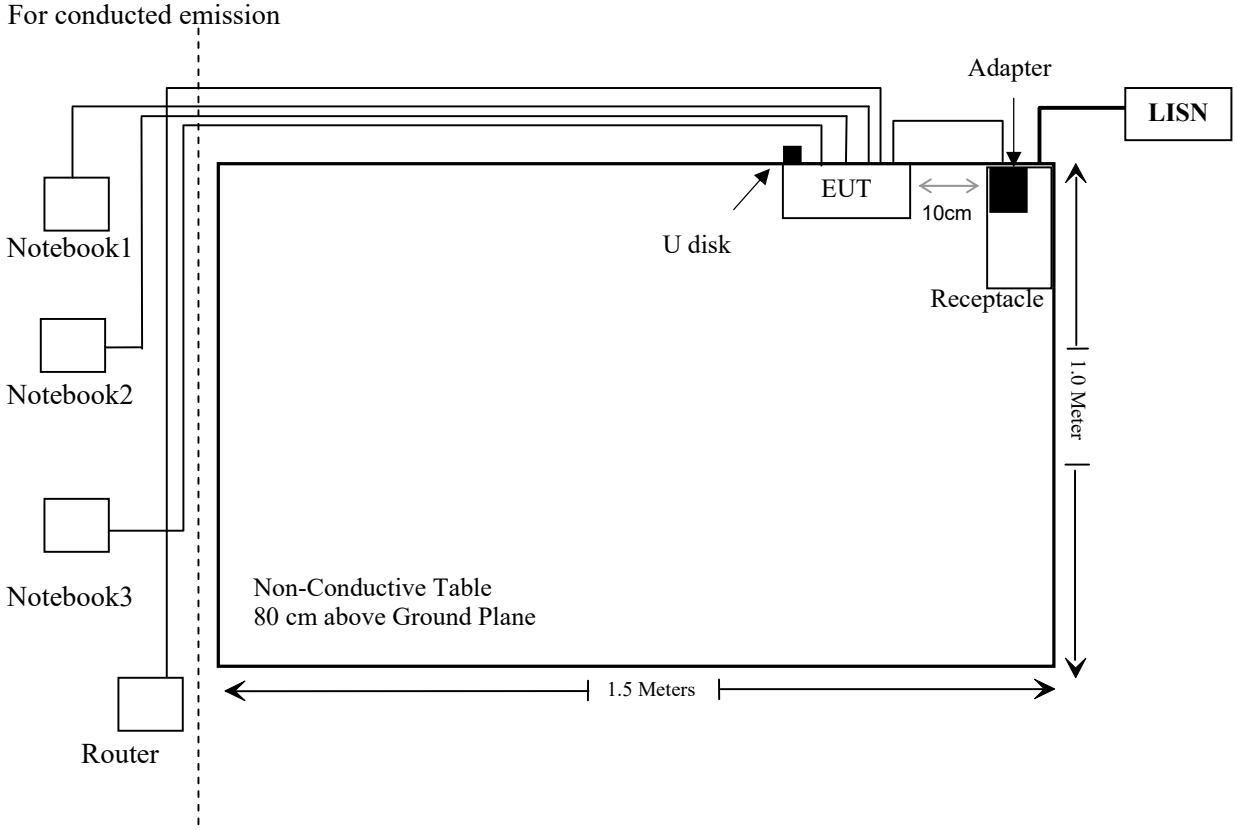
Manufacturer	Description	Model	Serial Number
DELL	Note Book1	Latitude E4710	PC201911252059
DELL	Note Book2	Latitude E4710	PC201911252060
DELL	Note Book3	Latitude E4710	PC201911252061
HUAWEI	Router	WS5100	A4933FEF1D01
Kingston	U-disk	DTKN	100008447371

External I/O Cable

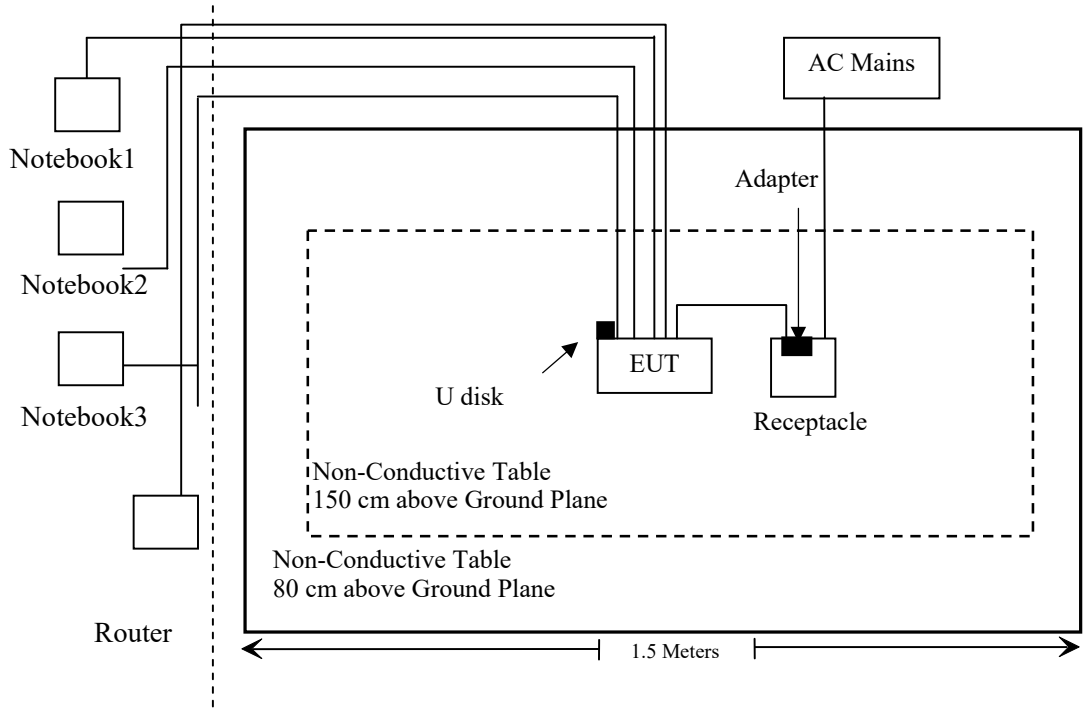
Cable Description	Length (m)	From Port	To
Un-shielded detachable RJ45 cable	8.0	EUT	NoteBook1
Un-shielded detachable RJ45 cable	8.0	EUT	NoteBook2
Un-shielded detachable RJ45 cable	8.0	EUT	NoteBook3
Un-shielded detachable RJ45 cable	8.0	EUT	Router
Unshielded Un-detachable DC cable	1.8	Adapter	EUT

Block Diagram of Test Setup

For conducted emission



For Radiated Emissions:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result	Remark
§15.247 (i) & §1.1307 (b) (3) & §2.1091	RF Exposure	Compliance	--
§15.203	Antenna Requirement	Compliant	--
§15.207 (a)	AC Line Conducted Emissions	Compliant	--
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliant	--
§15.247 (a)(2)	6 dB Emission Bandwidth & Occupied Bandwidth	--	See Note
§15.247(b)(3)	Maximum Conducted Output Power	Compliant	--
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	--	See Note
§15.247(e)	Power Spectral Density	--	See Note

Note:
1: The manufacturer declared the EUT is identical to their certified product (model: D50 Home, FCC ID: 2BAT3D50H), which granted on 2023/06/01, except a ZigBee module was removed. So the data please refer to the RA221215-61881E-RF-00B.
2: The RF output power was spot checked and it's consistently with the reference device.
3: The ATC is responsible for all the information provided in this report, except when information is provided by the customer as identified in this report.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted Emissions Test					
Rohde& Schwarz	EMI Test Receiver	ESCI	100784	2022/11/25	2023/11/24
Rohde & Schwarz	L.I.S.N.	ENV216	101314	2022/11/25	2023/11/24
Anritsu Corp	50 Coaxial Switch	MP59B	6100237248	2022/12/07	2023/12/06
Unknown	RF Coaxial Cable	No.17	N0350	2022/11/25	2023/11/24
Conducted Emission Test Software: e3 19821b (V9)					
Radiated Emissions Test					
Rohde& Schwarz	Test Receiver	ESR	102725	2022/11/25	2023/11/24
Rohde&Schwarz	Spectrum Analyzer	FSV40	101949	2022/11/25	2023/11/24
SONOMA INSTRUMENT	Amplifier	310 N	186131	2022/11/08	2023/11/07
A.H. Systems, inc.	Preamplifier	PAM-0118P	135	2022/11/08	2023/11/07
Quinstar	Amplifier	QLW-18405536-J0	15964001002	2022/11/08	2023/11/07
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2021/07/06	2024/07/05
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-1067	2022/11/30	2025/11/29
Schwarzbeck	HORN ANTENNA	BBHA9170	9170-359	2022/12/26	2025/12/25
Radiated Emission Test Software: e3 19821b (V9)					
Unknown	RF Coaxial Cable	No.10	N050	2022/11/25	2023/11/24
Unknown	RF Coaxial Cable	No.11	N1000	2022/11/25	2023/11/24
Unknown	RF Coaxial Cable	No.12	N040	2022/11/25	2023/11/24
Unknown	RF Coaxial Cable	No.13	N300	2022/11/25	2023/11/24
Unknown	RF Coaxial Cable	No.14	N800	2022/11/25	2023/11/24
Unknown	RF Coaxial Cable	No.15	N600	2022/11/25	2023/11/24
Unknown	RF Coaxial Cable	No.16	N650	2022/11/25	2023/11/24
RF Conducted Test					
WEINSCHEL	10dB Attenuator	5324	AU 3842	2022/11/25	2023/11/24
Agilent	USB wideband power sensor	U2021XA	MY54250003	2022/06/27	2023/06/26
Unknown	RF Coaxial Cable	No.31	RF-01	Each time	Each time

*** Statement of Traceability:** Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §15.247 (I) & §1.1307 (B) (3) & §2.1091- MPE-BASED EXEMPTION

Applicable Standard

According to subpart 1.1307 (b) (3) and subpart 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

According to KDB 447498 D04 Interim General RF Exposure Guidance

MPE-Based Exemption:

General frequency and separation-distance dependent MPE-based effective radiated power(ERP) thresholds are in Table B.1 [Table 1 of § 1.1307(b)(1)(i)(C)] to support an exemptionfrom further evaluation from 300 kHz through 100 GHz.

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source frequency (MHz)	Threshold ERP (watts)
0.3-1.34	1,920 R^2.
1.34-30	3,450 R^2/f^2.
30-300	3.83 R^2.
300-1,500	0.0128 R^2f.
1,500-100,000	19.2R^2.

Ris the minimum separation distance in meters
f = frequency in MHz

For multiple RF sources: Multiple RF sources are exempt if:

in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation:

$$\sum_{i=1}^{a} \frac{P_i}{P_{th,i}} + \sum_{j=1}^{b} \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^{c} \frac{Evaluated_k}{Exposure\ Limit_k} \leq 1$$

Result

Mode	Frequency (MHz)	Tune up conducted power	Antenna Gain		ERP		Evaluation Distance (m)	ERP Limit (W)
		(dBm)	(dBi)	(dBd)	(dBm)	(W)		
2.4G Wi-Fi	2412-2462	18.0	5	2.85	20.85	0.122	0.2	0.768
5G Wi-Fi	5150-5250	19.0	5	2.85	21.85	0.153	0.2	0.768
	5250-5350	21.0	5	2.85	23.85	0.243	0.2	0.768
	5470-5725	21.0	5	2.85	23.85	0.243	0.2	0.768
	5725-5850	20.0	5	2.85	22.85	0.193	0.2	0.768

Note: 1. The tune up conducted power and antenna gain was declared by the applicant.
2. The 2.4G Wi-Fi and 5G Wi-Fi can Simultaneous transmitting
3. 0dBd=2.15dBi

Simultaneous transmitting consideration (worst case):

The ratio=$ERP_{2.4G\ Wi\text{-}Fi}$/limit+$ERP_{5G\ Wi\text{-}Fi}$/limit
=0.122 /0.768+0.243/0.768=0.475＜1.0, so simultaneous exposure is compliant.

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

Result: Compliant.

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, 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 user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.
And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has two internal antennas for 2.4G Wi-Fi which were permanently attached, fulfill the requirement of this section. Please refer to the EUT photos.

ANT	Antenna type	Antenna Gain (dBi)	Frequency range (GHz)
0	FPC	5.0	2.4-2.5
1	FPC	5.0	2.4-2.5

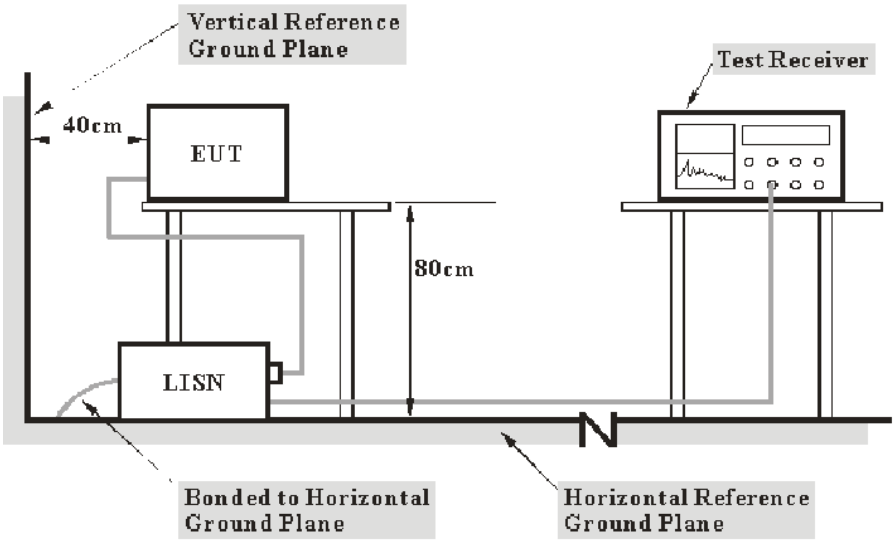
Result: Compliance.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the device was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All final data was recorded in the Quasi-peak and average detection mode.

Transd Factor & Margin Calculation

The Transd factor is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

Transd Factor = LISN VDF + Cable Loss

The "**Over Limit**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a over limit of -7 dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

Over Limit = level – Limit
Level= reading level+ Transd Factor

Test Data

Environmental Conditions

Temperature:	23 ℃
Relative Humidity:	49~52 %
ATM Pressure:	101.0 kPa

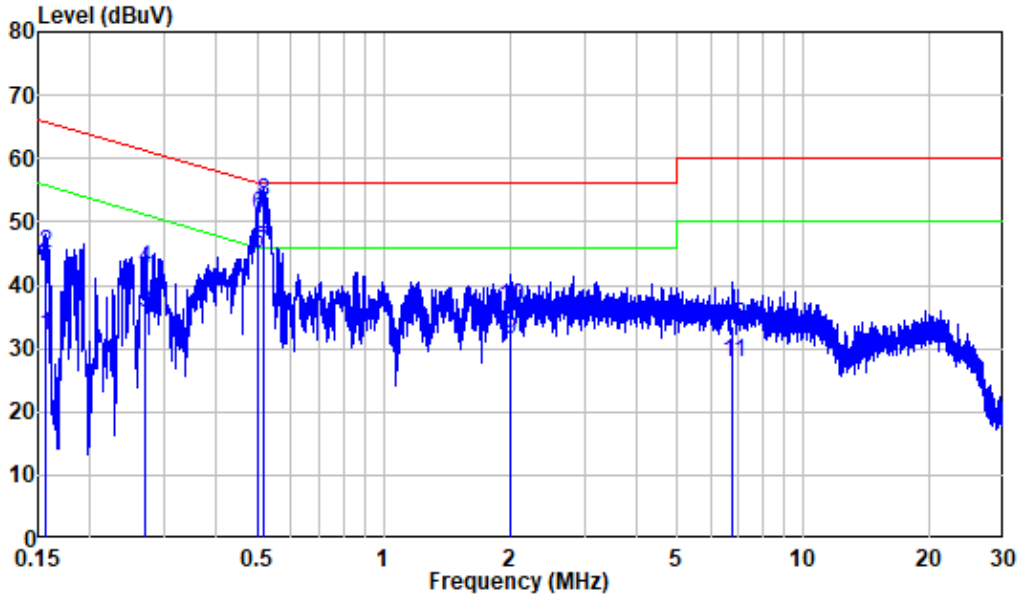
The testing was performed by Lipa Wu on 2023-02-04 and 2023-03-14.

EUT operation mode: Transmitting

Wi-Fi: (Worst case is 802.11b mode, Low Channel)

Adapter 1

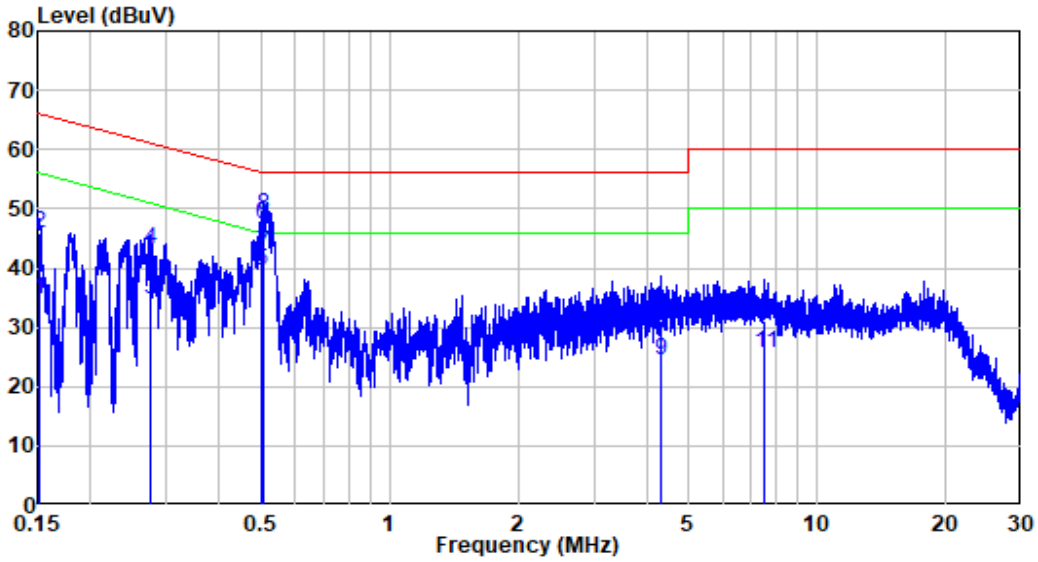
AC 120V/60 Hz, Line



Site : Shielding Room
Condition: Line
Job No. : RA221215-61882E-RF
Mode : 2.4G WIFI&Transmitting
Power : AC 120V 60Hz

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.156	9.90	22.19	32.09	55.69	-23.60	Average
2	0.156	9.90	34.96	44.86	65.69	-20.83	QP
3	0.270	9.87	25.62	35.49	51.11	-15.62	Average
4	0.270	9.87	32.83	42.70	61.11	-18.41	QP
5	0.500	9.80	35.13	44.93	46.00	-1.07	Average
6	0.500	9.80	41.34	51.14	56.00	-4.86	QP
7	0.516	9.82	35.89	45.71	46.00	-0.29	Average
8	0.516	9.82	43.31	53.13	56.00	-2.87	QP
9	2.007	9.92	21.48	31.40	46.00	-14.60	Average
10	2.007	9.92	26.59	36.51	56.00	-19.49	QP
11	6.787	9.97	17.89	27.86	50.00	-22.14	Average
12	6.787	9.97	23.43	33.40	60.00	-26.60	QP

AC 120V/60 Hz, Neutral

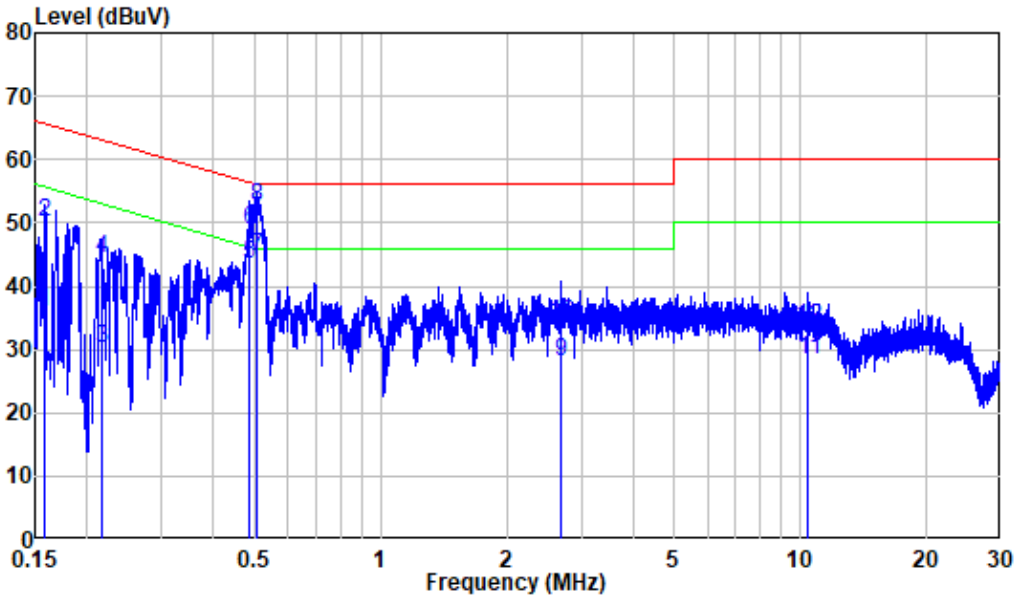


Site : Shielding Room
Condition: Neutral
Job No. : RA221215-61882E-RF
Mode : 2.4G WIFI&Transmitting
Power : AC 120V 60Hz

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.151	9.80	24.91	34.71	55.94	-21.23	Average
2	0.151	9.80	36.20	46.00	65.94	-19.94	QP
3	0.274	9.83	24.82	34.65	50.98	-16.33	Average
4	0.274	9.83	33.41	43.24	60.98	-17.74	QP
5	0.500	9.90	29.52	39.42	46.00	-6.58	Average
6	0.500	9.90	37.42	47.32	56.00	-8.68	QP
7	0.507	9.90	32.64	42.54	46.00	-3.46	Average
8	0.507	9.90	39.04	48.94	56.00	-7.06	QP
9	4.312	9.87	14.68	24.55	46.00	-21.45	Average
10	4.312	9.87	21.17	31.04	56.00	-24.96	QP
11	7.526	10.06	15.51	25.57	50.00	-24.43	Average
12	7.526	10.06	20.92	30.98	60.00	-29.02	QP

Adapter 2

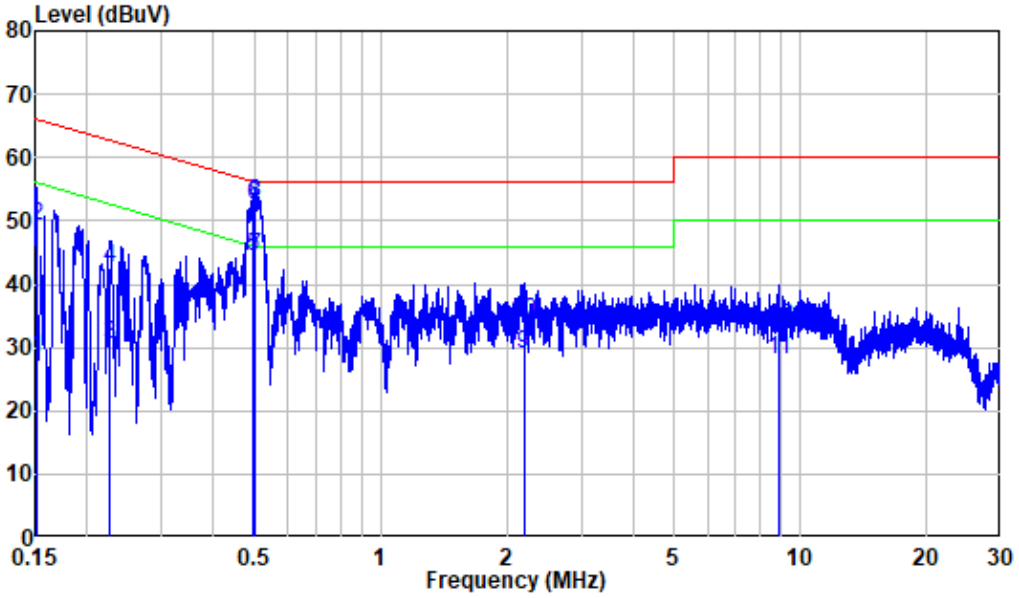
AC 120V/60 Hz, Line



Site : Shielding Room
Condition: Line
Job No. : RA221215-61882E-RF
Mode : 2.4G WIFI(AS2406A-1202000US)
Power : AC 120V 60Hz

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.158	10.10	25.79	35.89	55.55	-19.66	Average
2	0.158	10.10	39.94	50.04	65.55	-15.51	QP
3	0.216	10.10	19.97	30.07	52.99	-22.92	Average
4	0.216	10.10	34.14	44.24	62.99	-18.75	QP
5	0.486	10.10	33.43	43.53	46.23	-2.70	Average
6	0.486	10.10	38.82	48.92	56.23	-7.31	QP
7	0.506	10.10	34.66	44.76	46.00	-1.24	Average
8	0.506	10.10	42.54	52.64	56.00	-3.36	QP
9	2.684	10.41	17.72	28.13	46.00	-17.87	Average
10	2.684	10.41	23.64	34.05	56.00	-21.95	QP
11	10.439	12.50	15.97	28.47	50.00	-21.53	Average
12	10.439	12.50	20.96	33.46	60.00	-26.54	QP

AC 120V/60 Hz, Neutral

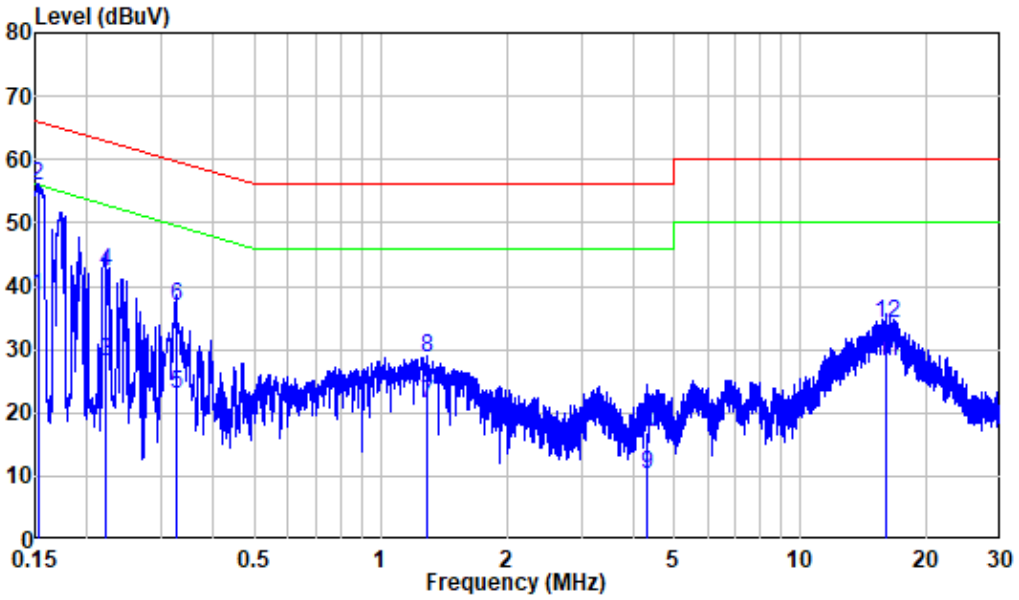


Site : Shielding Room
Condition: Neutral
Job No. : RA221215-61882E-RF
Mode : 2.4G WIFI(AS2406A-1202000US)
Power : AC 120V 60Hz

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.151	10.30	17.96	28.26	55.94	-27.68	Average
2	0.151	10.30	38.82	49.12	65.94	-16.82	QP
3	0.227	10.31	20.31	30.62	52.56	-21.94	Average
4	0.227	10.31	32.27	42.58	62.56	-19.98	QP
5	0.497	10.40	33.89	44.29	46.05	-1.76	Average
6	0.497	10.40	42.01	52.41	56.05	-3.64	QP
7	0.503	10.39	33.91	44.30	46.00	-1.70	Average
8	0.503	10.39	42.53	52.92	56.00	-3.08	QP
9	2.190	10.06	18.97	29.03	46.00	-16.97	Average
10	2.190	10.06	24.19	34.25	56.00	-21.75	QP
11	8.852	11.85	16.29	28.14	50.00	-21.86	Average
12	8.852	11.85	21.39	33.24	60.00	-26.76	QP

Adapter 3

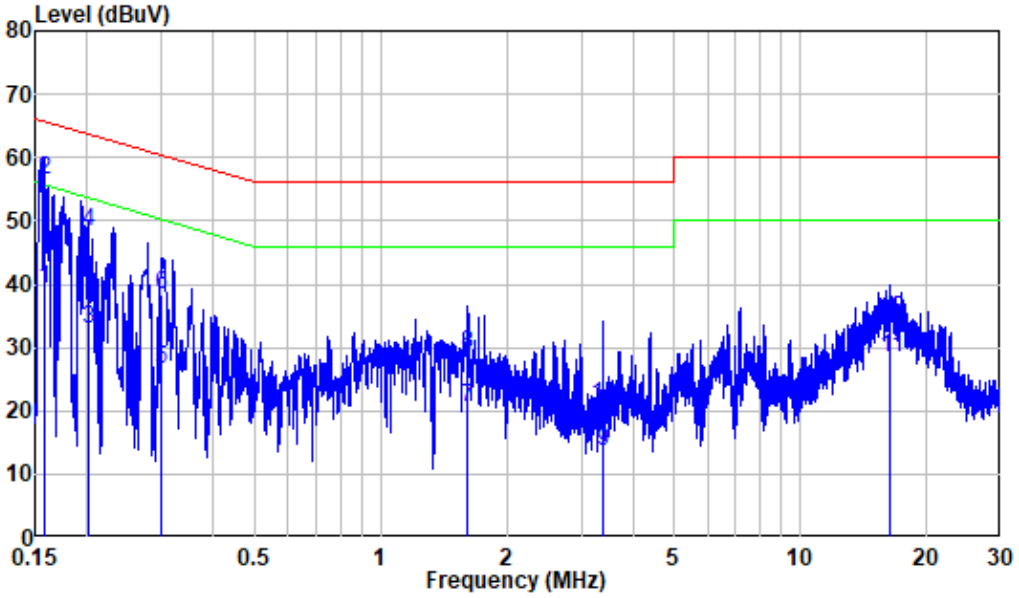
AC 120V/60 Hz, Line



Site : Shielding Room
Condition: Line
Job No. : RA221215-61882E-RF
Mode : 2.4G WIFI(RD1202000-C55-154MG)
Power : AC 120V 60Hz

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.152	10.10	28.31	38.41	55.87	-17.46	Average
2	0.152	10.10	45.80	55.90	65.87	-9.97	QP
3	0.222	10.10	17.85	27.95	52.75	-24.80	Average
4	0.222	10.10	32.28	42.38	62.75	-20.37	QP
5	0.326	10.10	12.98	23.08	49.54	-26.46	Average
6	0.326	10.10	26.66	36.76	59.54	-22.78	QP
7	1.289	10.25	11.29	21.54	46.00	-24.46	Average
8	1.289	10.25	18.50	28.75	56.00	-27.25	QP
9	4.309	10.63	-0.46	10.17	46.00	-35.83	Average
10	4.309	10.63	6.33	16.96	56.00	-39.04	QP
11	16.044	14.49	13.47	27.96	50.00	-22.04	Average
12	16.044	14.49	19.56	34.05	60.00	-25.95	QP

AC 120V/60 Hz, Neutral



Site : Shielding Room
Condition: Neutral
Job No. : RA221215-61882E-RF
Mode : 2.4G WIFI(RD1202000-C55-154MG)
Power : AC 120V 60Hz

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.159	10.30	28.97	39.27	55.54	-16.27	Average
2	0.159	10.30	46.21	56.51	65.54	-9.03	QP
3	0.201	10.30	22.51	32.81	53.59	-20.78	Average
4	0.201	10.30	38.00	48.30	63.59	-15.29	QP
5	0.301	10.34	16.17	26.51	50.21	-23.70	Average
6	0.301	10.34	27.90	38.24	60.21	-21.97	QP
7	1.603	9.99	10.63	20.62	46.00	-25.38	Average
8	1.603	9.99	19.09	29.08	56.00	-26.92	QP
9	3.375	10.26	3.47	13.73	46.00	-32.27	Average
10	3.375	10.26	10.65	20.91	56.00	-35.09	QP
11	16.366	14.56	13.71	28.27	50.00	-21.73	Average
12	16.366	14.56	19.87	34.43	60.00	-25.57	QP

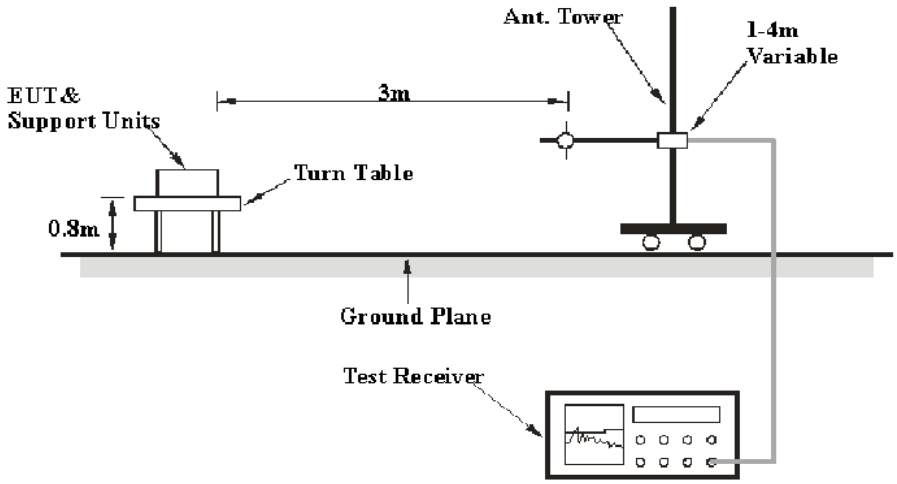
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

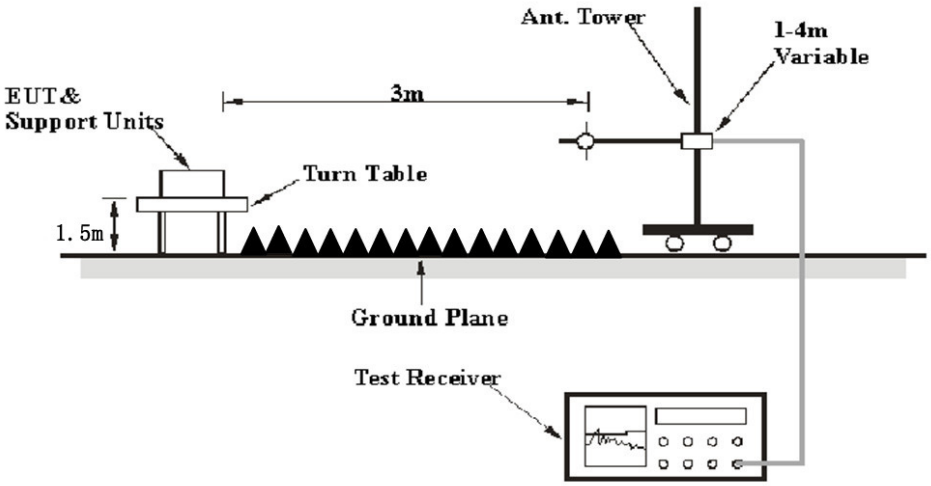
FCC §15.247 (d); §15.209; §15.205;

EUT Setup

Below 1 GHz:



Above 1GHz:



The radiated emission performed in the 3 meters, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, FCC 15.247, RSS-247, RSS-Gen limits.

EMI Test Receiver & Spectrum Analyzer Setup

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
30 MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz Note 1	/	Average
	1MHz	＞1/T Note 2	/	Average

Note 1: when duty cycle is no less than 98%
Note 2: when duty cycle is less than 98%

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1 GHz, peak and Average detection modes for frequencies above 1 GHz.

Factor & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain

The "**Over Limit or Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a overlimit/margin of -7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin/Over Limit = Corrected Amplitude/Level-Limit
Corrected Amplitude/Level = Reading + Corrected Factor

Test Data

Environmental Conditions

Temperature:	24~24.5 °C
Relative Humidity:	50~56 %
ATM Pressure:	101.0 kPa

The testing was performed by Jimi Zheng on 2023-02-03 and 2023-03-14 for below 1GHz and on 2023-02-17 for above 1GHz.

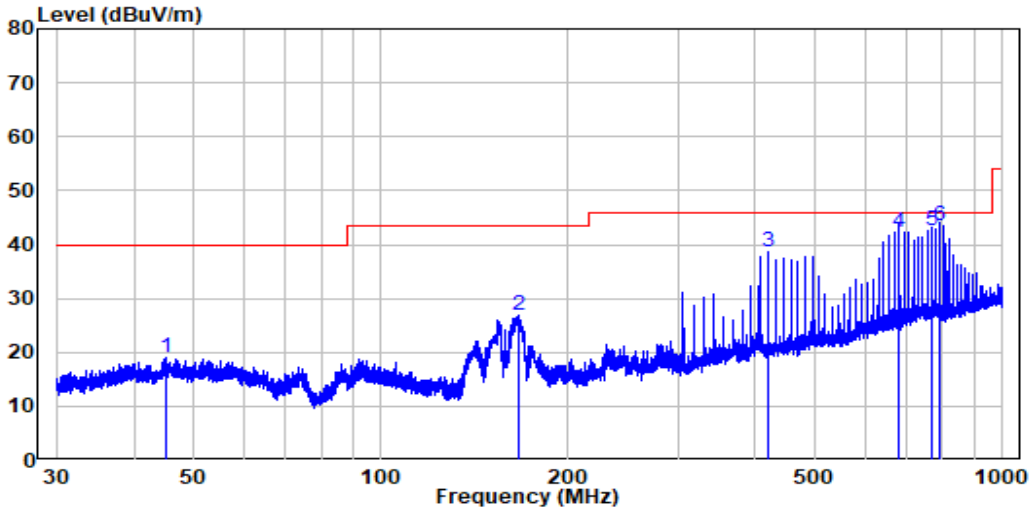
EUT operation mode: Transmitting

30MHz-1GHz: (Worst case is 802.11b mode, low Channel)

Note: When the test result of peak was less than the limit of QP more than 6dB, just peak value were recorded.

Adapter 1

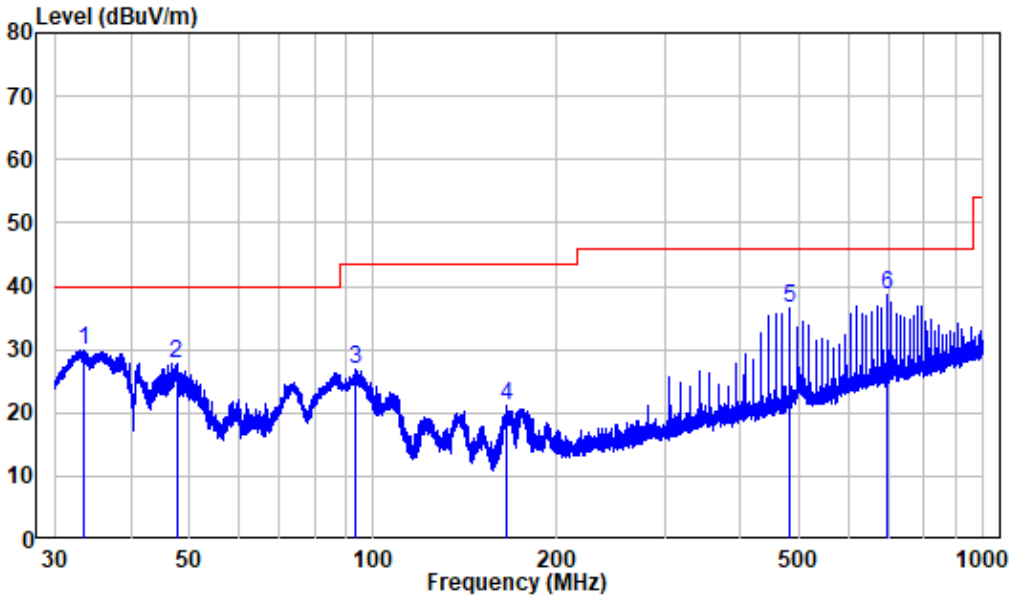
Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No. : RA221215-61882E-RF
Test Mode: 2.4G WIFI Transmitting

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	44.920	-9.94	28.99	19.05	40.00	-20.95	Peak
2	166.287	-13.95	40.77	26.82	43.50	-16.68	Peak
3	418.741	-6.16	44.90	38.74	46.00	-7.26	Peak
4	681.452	-1.51	43.81	42.30	46.00	-3.70	QP
5	768.748	-0.25	42.81	42.56	46.00	-3.44	QP
6	793.744	-0.21	43.69	43.48	46.00	-2.52	QP

Vertical

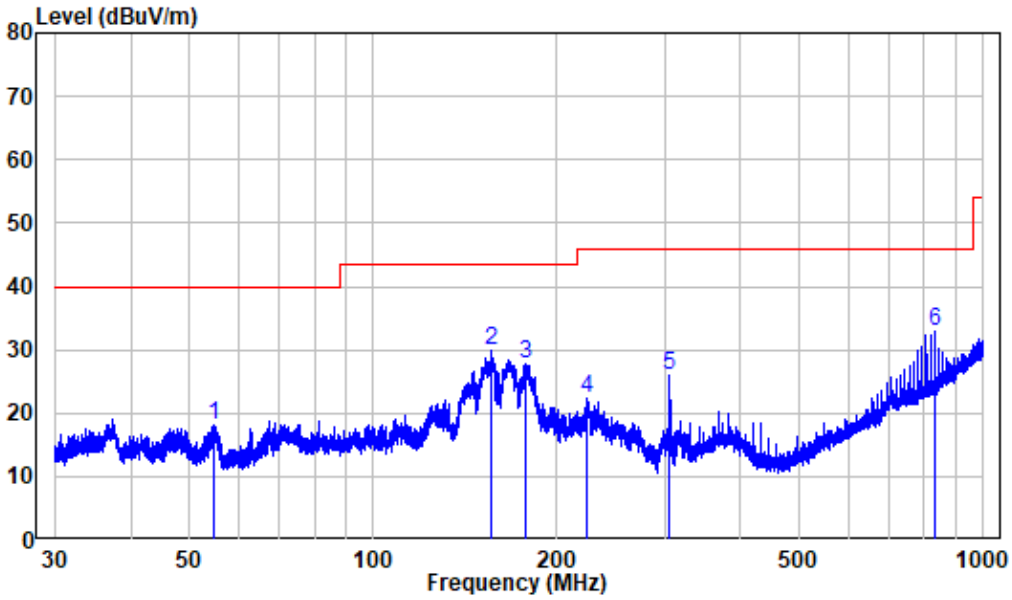


Site : chamber
Condition: 3m VERTICAL
Job No. : RA221215-61882E-RF
Test Mode: 2.4G WIFI Transmitting

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	33.416	-11.95	41.89	29.94	40.00	-10.06	Peak
2	47.554	-10.00	37.91	27.91	40.00	-12.09	Peak
3	93.645	-12.80	39.67	26.87	43.50	-16.63	Peak
4	165.850	-14.00	35.13	21.13	43.50	-22.37	Peak
5	481.371	-4.96	41.58	36.62	46.00	-9.38	Peak
6	693.809	-1.53	40.22	38.69	46.00	-7.31	Peak

Adapter 2

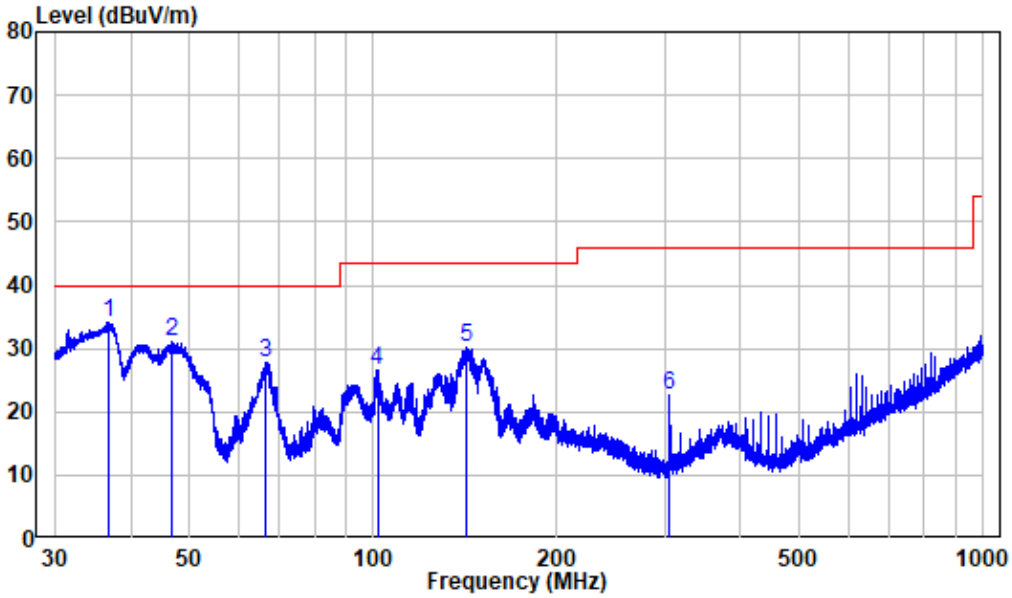
Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No. : RA221215-61882E-RF
Test Mode: 2.4G WIFI
Adapter : AS2406A-1202000US

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	54.859	-14.13	32.13	18.00	40.00	-22.00	Peak
2	156.115	-10.32	40.12	29.80	43.50	-13.70	Peak
3	177.743	-10.37	38.08	27.71	43.50	-15.79	Peak
4	224.126	-11.42	33.85	22.43	46.00	-23.57	Peak
5	306.216	-15.29	41.17	25.88	46.00	-20.12	Peak
6	831.493	-3.45	36.40	32.95	46.00	-13.05	Peak

Vertical

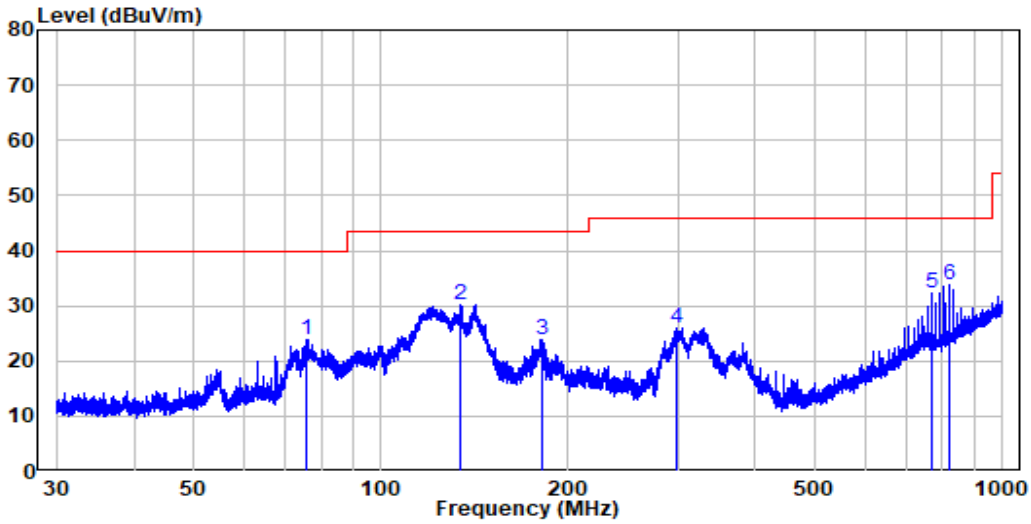


Site : chamber
Condition: 3m VERTICAL
Job No. : RA221215-61882E-RF
Test Mode: 2.4G WIFI
Adapter : AS2406A-1202000US

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	36.911	-14.47	48.46	33.99	40.00	-6.01	Peak
2	46.687	-14.30	45.41	31.11	40.00	-8.89	Peak
3	66.586	-13.80	41.58	27.78	40.00	-12.22	Peak
4	101.511	-12.08	38.70	26.62	43.50	-16.88	Peak
5	141.951	-10.54	40.73	30.19	43.50	-13.31	Peak
6	306.351	-15.29	37.90	22.61	46.00	-23.39	Peak

Adapter 3

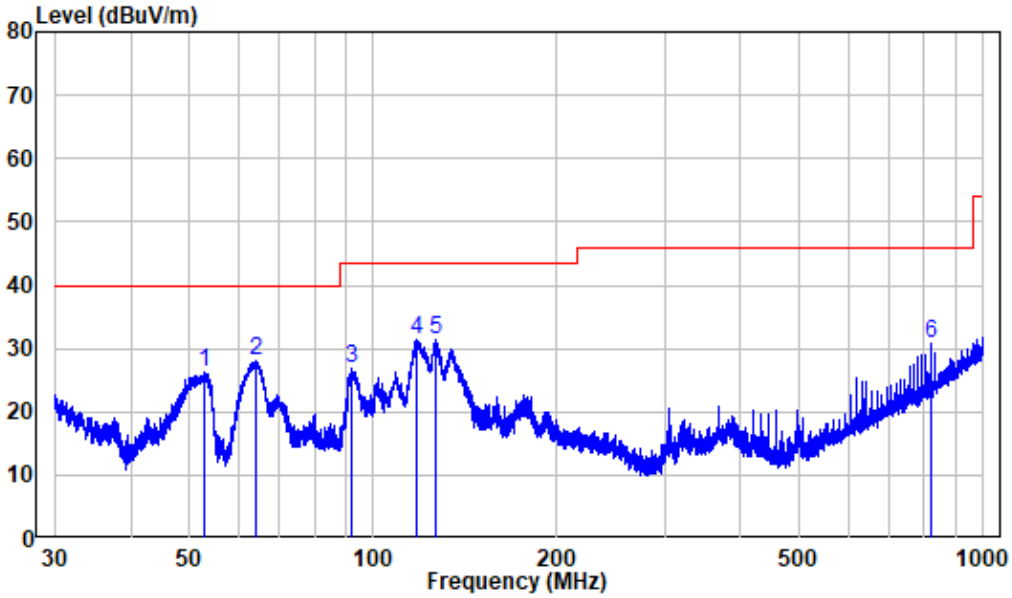
Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No. : RA221215-61882E-RF
Test Mode: 2.4G WIFI
Adapter : RD1202000-C55-154MG

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	76.011	-13.42	37.28	23.86	40.00	-16.14	Peak
2	134.500	-10.57	40.81	30.24	43.50	-13.26	Peak
3	181.442	-10.35	34.27	23.92	43.50	-19.58	Peak
4	298.268	-15.68	41.70	26.02	46.00	-19.98	Peak
5	768.748	-5.20	37.49	32.29	46.00	-13.71	Peak
6	818.834	-3.73	37.53	33.80	46.00	-12.20	Peak

Vertical



Site : chamber
Condition: 3m VERTICAL
Job No. : RA221215-61882E-RF
Test Mode: 2.4G WIFI
Adapter : RD1202000-C55-154MG

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	52.969	-14.17	40.37	26.20	40.00	-13.80	Peak
2	64.039	-13.75	41.83	28.08	40.00	-11.92	Peak
3	92.139	-12.30	39.27	26.97	43.50	-16.53	Peak
4	118.031	-11.16	42.41	31.25	43.50	-12.25	Peak
5	126.163	-10.78	42.11	31.33	43.50	-12.17	Peak
6	818.834	-3.73	34.49	30.76	46.00	-15.24	Peak

1-25 GHz: worst case MIMO, adapter 1

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave.		Height (m)	Polar (H/V)				
802.11b									
Low Channel(2412MHz)									
2310	62.32	PK	13	1.4	H	-7.24	55.08	74	-18.92
2310	47.18	AV	13	1.4	H	-7.24	39.94	54	-14.06
2310	61.66	PK	100	1.6	V	-7.24	54.42	74	-19.58
2310	48.48	AV	100	1.6	V	-7.24	41.24	54	-12.76
2390	63.35	PK	242	1.4	H	-7.22	56.13	74	-17.87
2390	53.28	AV	242	1.4	H	-7.22	46.06	54	-7.94
2390	63.97	PK	61	1.8	V	-7.22	56.75	74	-17.25
2390	53.97	AV	61	1.8	V	-7.22	46.75	54	-7.25
4824	61.62	PK	36	2.2	H	-3.52	58.10	74	-15.90
4824	52.25	AV	36	2.2	H	-3.52	48.73	54	-5.27
4824	59.76	PK	206	2.3	V	-3.52	56.24	74	-17.76
4824	51.49	AV	206	2.3	V	-3.52	47.97	54	-6.03
Middle Channel(2437MHz)									
4874	62.19	PK	316	1.6	H	-3.42	58.77	74	-15.23
4874	55.41	AV	316	1.6	H	-3.42	51.99	54	-2.01
4874	50.01	PK	272	1.8	V	-3.42	46.59	74	-27.41
4874	52.97	AV	272	1.8	V	-3.42	49.55	54	-4.45
High Channel(2462MHz)									
2483.5	66.02	PK	113	2.2	H	-7.20	58.82	74	-15.18
2483.5	52.56	AV	113	2.2	H	-7.20	45.36	54	-8.64
2483.5	54.69	PK	62	1	V	-7.20	47.49	74	-26.51
2483.5	51.94	AV	62	1	V	-7.20	44.74	54	-9.26
2500	63.68	PK	39	1.3	H	-7.18	56.5	74	-17.50
2500	49.53	AV	39	1.3	H	-7.18	42.35	54	-11.65
2500	63.40	PK	282	1.6	V	-7.18	56.22	74	-17.78
2500	49.51	AV	282	1.6	V	-7.18	42.33	54	-11.67
4924	61.63	PK	173	1.4	H	-3.16	58.47	74	-15.53
4924	55.13	AV	173	1.4	H	-3.16	51.97	54	-2.03
4924	61.30	PK	194	1.9	V	-3.16	58.14	74	-15.86
4924	52.89	AV	194	1.9	V	-3.16	49.73	54	-4.27

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave.		Height (m)	Polar (H/V)				
802.11g									
Low Channel(2412MHz)									
2310	62.20	PK	338	1.1	H	-7.24	54.96	74	-19.04
2310	48.18	AV	338	1.1	H	-7.24	40.94	54	-13.06
2310	61.81	PK	63	2	V	-7.24	54.57	74	-19.43
2310	48.19	AV	63	2	V	-7.24	40.95	54	-13.05
2390	63.65	PK	333	2.2	H	-7.22	56.43	74	-17.57
2390	52.28	AV	333	2.2	H	-7.22	45.06	54	-8.94
2390	64.91	PK	224	1.8	V	-7.22	57.69	74	-16.31
2390	52.14	AV	224	1.8	V	-7.22	44.92	54	-9.08
4824	59.49	PK	171	1.4	H	-3.52	55.97	74	-18.03
4824	46.95	AV	171	1.4	H	-3.52	43.43	54	-10.57
4824	59.13	PK	163	1.9	V	-3.52	55.61	74	-18.39
4824	46.81	AV	163	1.9	V	-3.52	43.29	54	-10.71
Middle Channel(2437MHz)									
4874	59.59	PK	300	2	H	-3.42	56.17	74	-17.83
4874	46.46	AV	300	2	H	-3.42	43.04	54	-10.96
4874	60.19	PK	353	2.4	V	-3.42	56.77	74	-17.23
4874	47.37	AV	353	2.4	V	-3.42	43.95	54	-10.05
High Channel(2462MHz)									
2483.5	73.48	PK	326	1.5	H	-7.20	66.28	74	-7.72
2483.5	53.48	AV	326	1.5	H	-7.20	46.28	54	-7.72
2483.5	67.07	PK	210	2.3	V	-7.20	59.87	74	-14.13
2483.5	52.40	AV	210	2.3	V	-7.20	45.2	54	-8.80
2500	63.67	PK	192	1.1	H	-7.18	56.49	74	-17.51
2500	50.24	AV	192	1.1	H	-7.18	43.06	54	-10.94
2500	63.75	PK	60	1.6	V	-7.18	56.57	74	-17.43
2500	50.07	AV	60	1.6	V	-7.18	42.89	54	-11.11
4924	60.89	PK	111	2	H	-3.16	57.73	74	-16.27
4924	47.35	AV	111	2	H	-3.16	44.19	54	-9.81
4924	58.62	PK	235	2.3	V	-3.16	55.46	74	-18.54
4924	45.86	AV	235	2.3	V	-3.16	42.70	54	-11.30

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave.		Height (m)	Polar (H/V)				
802.11n20									
Low Channel(2412MHz)									
2310	62.31	PK	296	1.6	H	-7.24	55.07	74	-18.93
2310	47.18	AV	296	1.6	H	-7.24	39.94	54	-14.06
2310	62.12	PK	139	1.7	V	-7.24	54.88	74	-19.12
2310	47.38	AV	139	1.7	V	-7.24	40.14	54	-13.86
2390	64.08	PK	253	1.6	H	-7.22	56.86	74	-17.14
2390	50.22	AV	253	1.6	H	-7.22	43.00	54	-11.00
2390	64.47	PK	350	1.5	V	-7.22	57.25	74	-16.75
2390	50.19	AV	350	1.5	V	-7.22	42.97	54	-11.03
4824	59.37	PK	70	1.1	H	-3.52	55.85	74	-18.15
4824	46.05	AV	70	1.1	H	-3.52	42.53	54	-11.47
4824	59.83	PK	256	1.5	V	-3.52	56.31	74	-17.69
4824	45.73	AV	256	1.5	V	-3.52	42.21	54	-11.79
Middle Channel(2437MHz)									
4874	60.17	PK	307	2.5	H	-3.42	56.75	74	-17.25
4874	46.57	AV	307	2.5	H	-3.42	43.15	54	-10.85
4874	60.84	PK	338	1.6	V	-3.42	57.42	74	-16.58
4874	46.92	AV	338	1.6	V	-3.42	43.5	54	-10.50
High Channel(2462MHz)									
2483.5	68.16	PK	238	1.2	H	-7.20	60.96	74	-13.04
2483.5	52.87	AV	238	1.2	H	-7.20	45.67	54	-8.33
2483.5	67.22	PK	193	2.1	V	-7.20	60.02	74	-13.98
2483.5	52.76	AV	193	2.1	V	-7.20	45.56	54	-8.44
2500	65.51	PK	47	2.3	H	-7.18	58.33	74	-15.67
2500	51.25	AV	47	2.3	H	-7.18	44.07	54	-9.93
2500	64.18	PK	53	2.1	V	-7.18	57	74	-17.00
2500	50.46	AV	53	2.1	V	-7.18	43.28	54	-10.72
4924	59.63	PK	246	1.7	H	-3.16	56.47	74	-17.53
4924	47.86	AV	246	1.7	H	-3.16	44.70	54	-9.30
4924	60.89	PK	155	1.1	V	-3.16	57.73	74	-16.27
4924	48.03	AV	155	1.1	V	-3.16	44.87	54	-9.13

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave.		Height (m)	Polar (H/V)				
802.11n40									
Low Channel(2422MHz)									
2310	62.36	PK	55	1	H	-7.24	55.12	74	-18.88
2310	48.25	AV	55	1	H	-7.24	41.01	54	-12.99
2310	61.77	PK	315	1.1	V	-7.24	54.53	74	-19.47
2310	47.72	AV	315	1.1	V	-7.24	40.48	54	-13.52
2390	72.40	PK	341	1.4	H	-7.22	65.18	74	-8.82
2390	54.92	AV	341	1.4	H	-7.22	47.70	54	-6.30
2390	67.20	PK	13	1.4	V	-7.22	59.98	74	-14.02
2390	52.54	AV	13	1.4	V	-7.22	45.32	54	-8.68
4844	58.96	PK	356	2.2	H	-3.54	55.42	74	-18.58
4844	45.20	AV	356	2.2	H	-3.54	41.66	54	-12.34
4844	59.02	PK	244	1.5	V	-3.54	55.48	74	-18.52
4844	45.80	AV	244	1.5	V	-3.54	42.26	54	-11.74
Middle Channel(2437MHz)									
4874	60.00	PK	314	1.4	H	-3.42	56.58	74	-17.42
4874	45.33	AV	314	1.4	H	-3.42	41.91	54	-12.09
4874	59.84	PK	161	1.5	V	-3.42	56.42	74	-17.58
4874	45.49	AV	161	1.5	V	-3.42	42.07	54	-11.93
High Channel(2452MHz)									
2483.5	72.77	PK	193	1.2	H	-7.20	65.57	74	-8.43
2483.5	56.67	AV	193	1.2	H	-7.20	49.47	54	-4.53
2483.5	69.87	PK	12	2.1	V	-7.20	62.67	74	-11.33
2483.5	54.79	AV	12	2.1	V	-7.20	47.59	54	-6.41
2500	65.18	PK	341	2.2	H	-7.18	58	74	-16.00
2500	50.37	AV	341	2.2	H	-7.18	43.19	54	-10.81
2500	63.75	PK	281	1.8	V	-7.18	56.57	74	-17.43
2500	49.90	AV	281	1.8	V	-7.18	42.72	54	-11.28
4904	59.30	PK	21	2.1	H	-3.26	56.04	74	-17.96
4904	44.43	AV	21	2.1	H	-3.26	41.17	54	-12.83
4904	58.39	PK	308	1.5	V	-3.26	55.13	74	-18.87
4904	44.54	AV	308	1.5	V	-3.26	41.28	54	-12.72

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave.		Height (m)	Polar (H/V)				
802.11ax20(worst case 242Tone)									
Low Channel(2412MHz)									
2310	62.31	PK	193	1.3	H	-7.24	55.07	74	-18.93
2310	47.81	AV	193	1.3	H	-7.24	40.57	54	-13.43
2310	62.23	PK	75	1.1	V	-7.24	54.99	74	-19.01
2310	47.92	AV	75	1.1	V	-7.24	40.68	54	-13.32
2390	63.97	PK	115	2.5	H	-7.22	56.75	74	-17.25
2390	50.14	AV	115	2.5	H	-7.22	42.92	54	-11.08
2390	63.29	PK	195	1.3	V	-7.22	56.07	74	-17.93
2390	50.43	AV	195	1.3	V	-7.22	43.21	54	-10.79
4824	58.57	PK	165	1.7	H	-3.52	55.05	74	-18.95
4824	43.47	AV	165	1.7	H	-3.52	39.95	54	-14.05
4824	58.46	PK	26	2.1	V	-3.52	54.94	74	-19.06
4824	43.64	AV	26	2.1	V	-3.52	40.12	54	-13.88
Middle Channel(2437MHz)									
4874	64.10	PK	53	2	H	-3.42	60.68	74	-13.32
4874	44.83	AV	53	2	H	-3.42	41.41	54	-12.59
4874	62.69	PK	151	1.6	V	-3.42	59.27	74	-14.73
4874	45.70	AV	151	1.6	V	-3.42	42.28	54	-11.72
High Channel(2462MHz)									
2483.5	68.10	PK	4	2.1	H	-7.20	60.9	74	-13.10
2483.5	53.37	AV	4	2.1	H	-7.20	46.17	54	-7.83
2483.5	67.07	PK	89	2.2	V	-7.20	59.87	74	-14.13
2483.5	52.55	AV	89	2.2	V	-7.20	45.35	54	-8.65
2500	63.86	PK	120	1.9	H	-7.18	56.68	74	-17.32
2500	49.84	AV	120	1.9	H	-7.18	42.66	54	-11.34
2500	63.74	PK	268	2.1	V	-7.18	56.56	74	-17.44
2500	51.08	AV	268	2.1	V	-7.18	43.9	54	-10.10
4924	62.63	PK	30	1.1	H	-3.16	59.47	74	-14.53
4924	44.76	AV	30	1.1	H	-3.16	41.60	54	-12.40
4924	61.61	PK	190	1.3	V	-3.16	58.45	74	-15.55
4924	45.93	AV	190	1.3	V	-3.16	42.77	54	-11.23

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave.		Height (m)	Polar (H/V)				
802.11ax40(worst case 484Tone)									
Low Channel(2422MHz)									
2310	62.31	PK	236	1.6	H	-7.24	55.07	74	-18.93
2310	47.80	AV	236	1.6	H	-7.24	40.56	54	-13.44
2310	62.20	PK	45	1.2	V	-7.24	54.96	74	-19.04
2310	48.23	AV	45	1.2	V	-7.24	40.99	54	-13.01
2390	65.09	PK	247	2.3	H	-7.22	57.87	74	-16.13
2390	50.89	AV	247	2.3	H	-7.22	43.67	54	-10.33
2390	65.77	PK	31	2	V	-7.22	58.55	74	-15.45
2390	50.95	AV	31	2	V	-7.22	43.73	54	-10.27
4844	57.92	PK	42	1.9	H	-3.54	54.38	74	-19.62
4844	44.59	AV	42	1.9	H	-3.54	41.05	54	-12.95
4844	57.68	PK	111	2.2	V	-3.54	54.14	74	-19.86
4844	43.56	AV	111	2.2	V	-3.54	40.02	54	-13.98
Middle Channel(2437MHz)									
4874	59.11	PK	115	1.3	H	-3.42	55.69	74	-18.31
4874	43.76	AV	115	1.3	H	-3.42	40.34	54	-13.66
4874	57.53	PK	250	1.1	V	-3.42	54.11	74	-19.89
4874	43.59	AV	250	1.1	V	-3.42	40.17	54	-13.83
High Channel(2452MHz)									
2483.5	69.88	PK	146	1.2	H	-7.20	62.68	74	-11.32
2483.5	55.11	AV	146	1.2	H	-7.20	47.91	54	-6.09
2483.5	69.02	PK	69	1.8	V	-7.20	61.82	74	-12.18
2483.5	53.28	AV	69	1.8	V	-7.20	46.08	54	-7.92
2500	64.35	PK	75	2.4	H	-7.18	57.17	74	-16.83
2500	49.76	AV	75	2.4	H	-7.18	42.58	54	-11.42
2500	63.84	PK	328	1.7	V	-7.18	56.66	74	-17.34
2500	49.67	AV	328	1.7	V	-7.18	42.49	54	-11.51
4904	57.81	PK	113	1.7	H	-3.26	54.55	74	-19.45
4904	43.67	AV	113	1.7	H	-3.26	40.41	54	-13.59
4904	58.62	PK	25	2.4	V	-3.26	55.36	74	-18.64
4904	44.13	AV	25	2.4	V	-3.26	40.87	54	-13.13

Note:

Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor

Absolute Level (Corrected Amplitude） = Factor + Reading

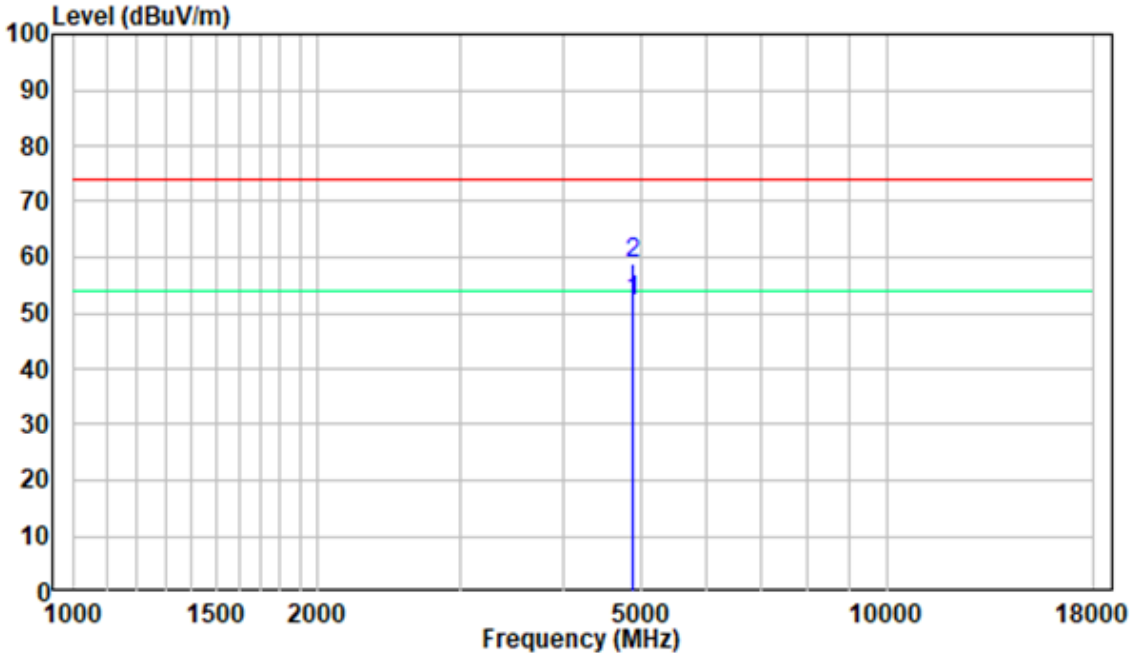
Margin = Absolute Level - Limit

The other spurious emission which is 20dB below to the limit was not recorded.

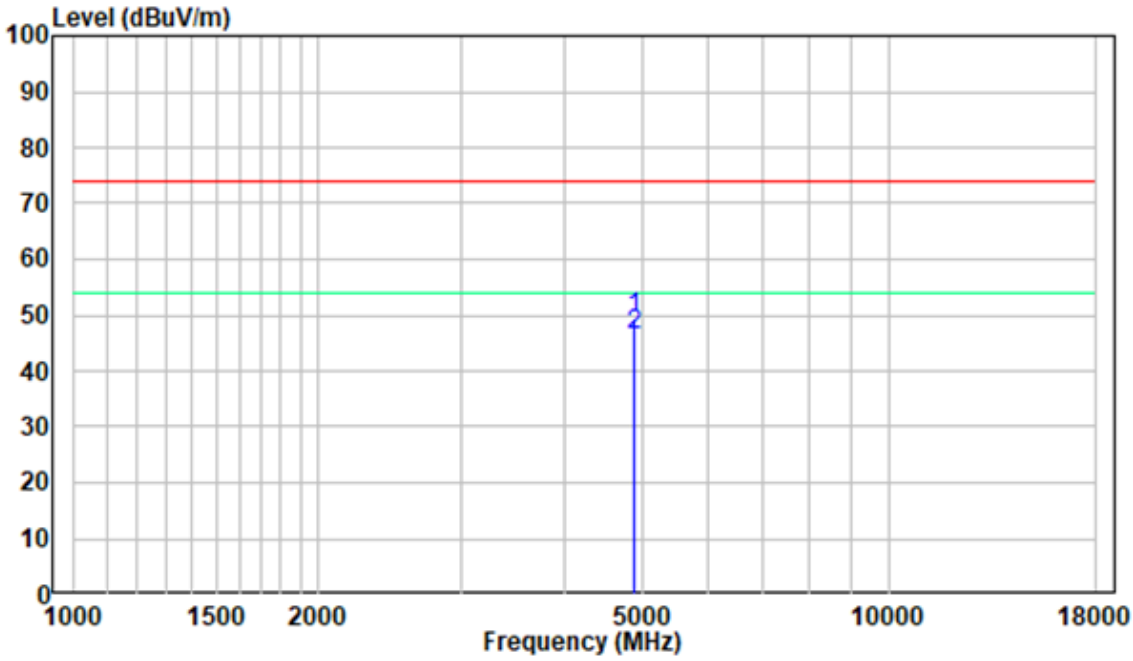
1-18 GHz:

Pre-scan Plots:

802.11 b Middle Channel
Horizontal



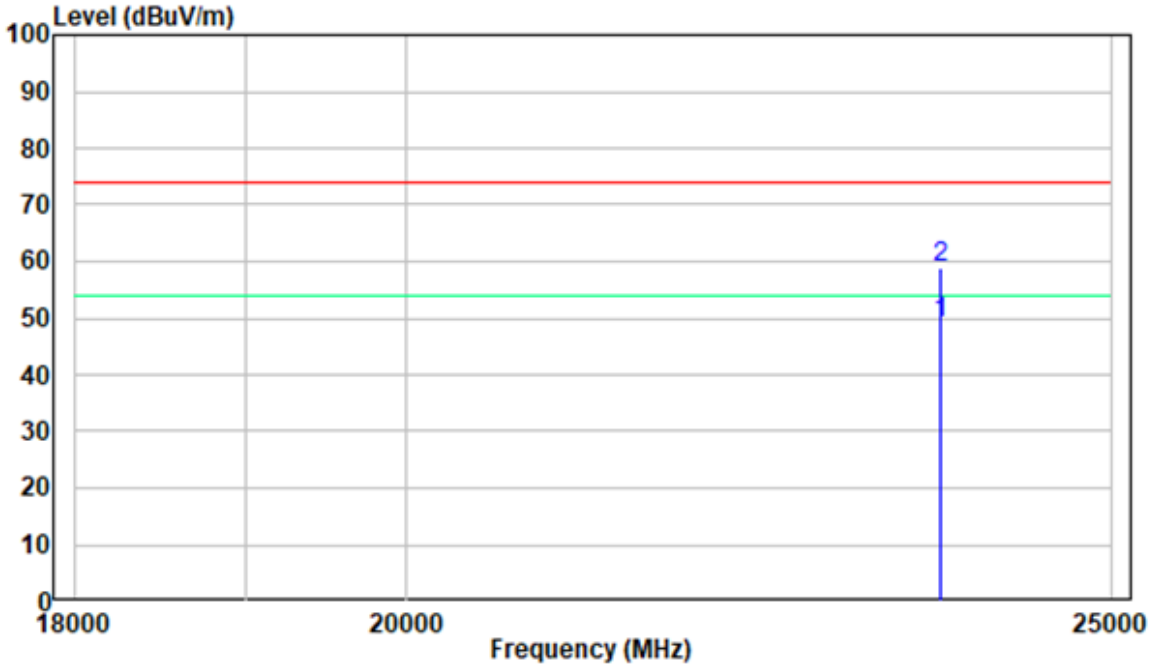
Vertical



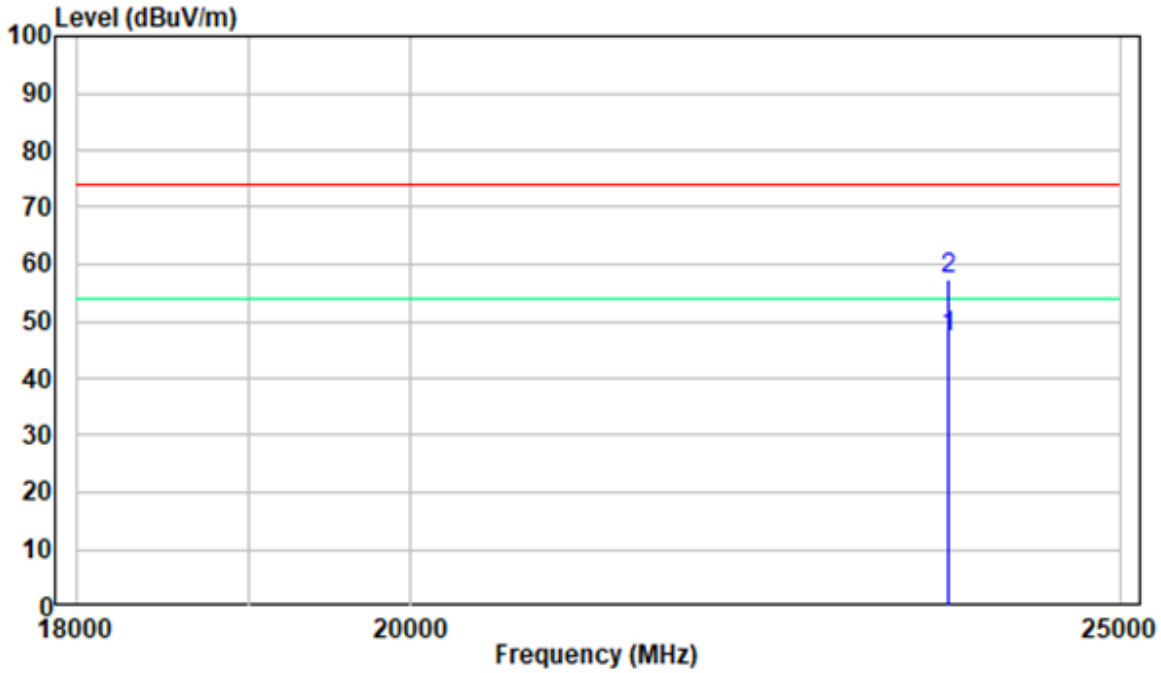
18 -25GHz:

Pre-scan Plots:

802.11 b Middle Channel
Horizontal



Vertical



FCC §15.247(b) (3) - MAXIMUM CONDUCTED OUTPUT POWER

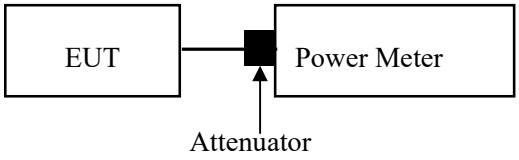
Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

Test Procedure

Test Method: ANSI C63.10-2013 Clause 11.9.2.3.2

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.
3. Add a correction factor to the display.



Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	51 %
ATM Pressure:	101.0 kPa

The testing was performed by Nick Fang on 2023-02-18.

EUT operation mode: Transmitting

Test Result: Compliant.

Test Mode	Antenna	Frequency [MHz]	Average Power[dBm]	Conducted Limit[dBm]	Verdict
11B-CDD	Ant0	2412	13.99	≤30.00	PASS
	Ant1	2412	14.01	≤30.00	PASS
	total	2412	17.01	≤30.00	PASS
	Ant0	2437	14.04	≤30.00	PASS
	Ant1	2437	14.34	≤30.00	PASS
	total	2437	17.20	≤30.00	PASS
	Ant0	2462	14.61	≤30.00	PASS
	Ant1	2462	13.96	≤30.00	PASS
	total	2462	17.31	≤30.00	PASS
11G-CDD	Ant0	2412	14.50	≤30.00	PASS
	Ant1	2412	14.31	≤30.00	PASS
	total	2412	17.42	≤30.00	PASS
	Ant0	2437	14.63	≤30.00	PASS
	Ant1	2437	14.21	≤30.00	PASS
	total	2437	17.44	≤30.00	PASS
	Ant0	2462	14.30	≤30.00	PASS
	Ant1	2462	14.30	≤30.00	PASS
	total	2462	17.31	≤30.00	PASS
11N20MIMO	Ant0	2412	14.01	≤30.00	PASS
	Ant1	2412	14.24	≤30.00	PASS
	total	2412	17.14	≤30.00	PASS
	Ant0	2437	14.23	≤30.00	PASS
	Ant1	2437	14.16	≤30.00	PASS
	total	2437	17.21	≤30.00	PASS
	Ant0	2462	14.79	≤30.00	PASS
	Ant1	2462	14.71	≤30.00	PASS
	total	2462	17.76	≤30.00	PASS
11N40MIMO	Ant0	2422	14.53	≤30.00	PASS
	Ant1	2422	14.31	≤30.00	PASS
	total	2422	17.43	≤30.00	PASS
	Ant0	2437	14.37	≤30.00	PASS
	Ant1	2437	14.71	≤30.00	PASS
	total	2437	17.55	≤30.00	PASS
	Ant0	2452	14.81	≤30.00	PASS
	Ant1	2452	14.66	≤30.00	PASS
	total	2452	17.75	≤30.00	PASS
11AX20MIMO	Ant0	2412	14.16	≤30.00	PASS
	Ant1	2412	14.27	≤30.00	PASS
	total	2412	17.22	≤30.00	PASS
	Ant0	2437	14.13	≤30.00	PASS
	Ant1	2437	14.83	≤30.00	PASS
	total	2437	17.50	≤30.00	PASS
	Ant0	2462	14.19	≤30.00	PASS
	Ant1	2462	14.12	≤30.00	PASS
	total	2462	17.18	≤30.00	PASS
11AX40MIMO	Ant0	2422	14.14	≤30.00	PASS
	Ant1	2422	14.52	≤30.00	PASS
	total	2422	17.34	≤30.00	PASS
	Ant0	2437	14.11	≤30.00	PASS
	Ant1	2437	14.12	≤30.00	PASS
	total	2437	17.13	≤30.00	PASS
	Ant0	2452	14.33	≤30.00	PASS
	Ant1	2452	14.22	≤30.00	PASS
	total	2452	17.29	≤30.00	PASS

802.11AX Partial RU:

Test Mode	Antenna	Frequency[MHz]	Ru Size	Ru Index	Average Power[dBm]	Conducted Limit[dBm]	Verdict
11AX20MIMO	Ant0	2412	26Tone	RU0	4.45	≤30.00	PASS
			52Tone	RU37	7.53	≤30.00	PASS
			106Tone	RU53	11.18	≤30.00	PASS
	Ant1	2412	26Tone	RU0	4.42	≤30.00	PASS
			52Tone	RU37	7.35	≤30.00	PASS
			106Tone	RU53	10.53	≤30.00	PASS
	total	2412	26Tone	RU0	7.45	≤30.00	PASS
			52Tone	RU37	10.45	≤30.00	PASS
			106Tone	RU53	13.88	≤30.00	PASS
	Ant0	2437	26Tone	RU0	4.44	≤30.00	PASS
			52Tone	RU37	7.44	≤30.00	PASS
			106Tone	RU53	10.56	≤30.00	PASS
	Ant1	2437	26Tone	RU0	4.47	≤30.00	PASS
			52Tone	RU37	7.63	≤30.00	PASS
			106Tone	RU53	10.55	≤30.00	PASS
	total	2437	26Tone	RU0	7.47	≤30.00	PASS
			52Tone	RU37	10.55	≤30.00	PASS
			106Tone	RU53	13.57	≤30.00	PASS
	Ant0	2462	26Tone	RU0	4.99	≤30.00	PASS
			52Tone	RU37	7.74	≤30.00	PASS
			106Tone	RU53	11.02	≤30.00	PASS
	Ant1	2462	26Tone	RU0	4.16	≤30.00	PASS
			52Tone	RU37	7.66	≤30.00	PASS
			106Tone	RU53	11.23	≤30.00	PASS
	total	2462	26Tone	RU0	7.61	≤30.00	PASS
			52Tone	RU37	10.71	≤30.00	PASS
			106Tone	RU53	14.14	≤30.00	PASS
11AX40MIMO	Ant0	2422	26Tone	RU0	1.36	≤30.00	PASS
			52Tone	RU37	4.49	≤30.00	PASS
			106Tone	RU53	7.35	≤30.00	PASS
			242Tone	RU61	10.97	≤30.00	PASS
	Ant1	2422	26Tone	RU0	1.66	≤30.00	PASS
			52Tone	RU37	4.63	≤30.00	PASS
			106Tone	RU53	7.88	≤30.00	PASS
			242Tone	RU61	10.69	≤30.00	PASS
	total	2422	26Tone	RU0	4.52	≤30.00	PASS
			52Tone	RU37	7.57	≤30.00	PASS
			106Tone	RU53	10.63	≤30.00	PASS
			242Tone	RU61	13.84	≤30.00	PASS
	Ant0	2437	26Tone	RU0	1.68	≤30.00	PASS
			52Tone	RU37	4.79	≤30.00	PASS
			106Tone	RU53	7.69	≤30.00	PASS
			242Tone	RU61	10.69	≤30.00	PASS
	Ant1	2437	26Tone	RU0	1.12	≤30.00	PASS
			52Tone	RU37	4.32	≤30.00	PASS
			106Tone	RU53	7.53	≤30.00	PASS
			242Tone	RU61	10.53	≤30.00	PASS
	total	2437	26Tone	RU0	4.42	≤30.00	PASS
			52Tone	RU37	7.57	≤30.00	PASS
			106Tone	RU53	10.62	≤30.00	PASS
			242Tone	RU61	13.62	≤30.00	PASS
	Ant0	2452	26Tone	RU0	1.33	≤30.00	PASS
			52Tone	RU37	4.36	≤30.00	PASS
			106Tone	RU53	7.39	≤30.00	PASS
			242Tone	RU61	10.39	≤30.00	PASS
	Ant1	2452	26Tone	RU0	1.36	≤30.00	PASS
			52Tone	RU37	4.39	≤30.00	PASS

			106Tone	RU53	7.65	≤30.00	PASS
			242Tone	RU61	10.67	≤30.00	PASS
	total	2452	26Tone	RU0	4.36	≤30.00	PASS
			52Tone	RU37	7.39	≤30.00	PASS
			106Tone	RU53	10.53	≤30.00	PASS
			242Tone	RU61	13.54	≤30.00	PASS

Note:
The device employs CDD for MIMO
Directional Gain=G_{ANT} + *Array Gain*
For Output Power measurement on 802.11 devices,
Array Gain=0dB for N_{ANT}≤4
G_{ANT}=5dBi, N_{ANT}=2
Directional Gain=5dBi<6dBi

******* END OF REPORT *******