FCC TEST REPORT

FCC ID: 2ATPH-JS-WI-2-4

On Behalf of

JUGANU Ltd.

RF PCBAs

Model No.: JS-WI-2.4

Prepared for	:	JUGANU Ltd.
Address	:	1 Yahadut Canada St. Or Yehuda, 6037501 Israel

Prepared By	:	Shenzhen Alpha Product Testing Co., Ltd.
Address	:	Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

Report Number	:	A2403279-C01-R04
Date of Receipt	:	March 29, 2024
Date of Test	:	March 29, 2024 – January 8, 2026
Date of Report	:	January 8, 2026
Version Number	:	V0
Test Result	**:**	**Pass**

TABLE OF CONTENTS

TEST REPORT DECLARATION

Applicant	:	JUGANU Ltd.
Address	:	1 Yahadut Canada St. Or Yehuda, 6037501 Israel
Manufacturer	:	JUGANU Ltd.
Address	:	1 Yahadut Canada St. Or Yehuda, 6037501 Israel
EUT Description	:	RF PCBAs
		(A) Model No. : JS-WI-2.4
		(B) Trademark : Juganu

Measurement Standard Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits both conducted and radiated emissions. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....:	Yannis Wen Project Engineer	Yannis Wen
Approved by (name + signature).....:	Jack Xu Project Manager	Jack Xu
Date of issue.....:	January 8, 2026	

Revision History

Revision	Issue Date	Revisions	Revised By
V0	January 8, 2026	Initial released Issue	Yannis Wen

1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below:

Test Item	Standards Paragraph	Result
Conducted Emission	FCC Part 15: 15.207	N/A
6dB Bandwidth	FCC PART 15:15.247(a)(2)	P
Output Power	FCC Part 15: 15.247(b)(3)	P
Radiated Spurious Emission	FCC Part 15: 15.209, FCC Part 15: 15.247(d)	P
Conducted Spurious & Band Edge Emission	FCC Part 15: 15.247(d)	P
Power Spectral Density	FCC PART 15:15.247(e)	P
Radiated Band Edge Emission	FCC Part 15: 15.247(d)	P
Antenna Requirement	FCC Part 15: 15.203	P
Note:	1. P is an abbreviation for Pass. 2. F is an abbreviation for Fail. 3. N/A is an abbreviation for Not Applicable.	

1. Pass: The EUT complies with the essential requirements in the standard.

2. The conclusion of this test report is judged by actual test data without considering measurement uncertainty.

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT Name	:	RF PCBAs
Model No.	:	JS-WI-2.4
DIFF.	:	N/A
Power supply	:	AC 120V/60Hz

2.4G WIFI	:	
Operation frequency	:	2412MHz-2462MHz for IEEE 802.11 b, g. n/HT20, ax20, 2422MHz~2452MHz for IEEE802.11n/HT40, ax40
Channel No.	:	802.11b/802.11g /802.11n(HT20)/802.11ax20: 11 802.11(HT40)/802.11ax40: 7
Modulation type	:	IEEE 802.11b: DSSS(CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ax: OFDMA (64QAM, 16QAM, QPSK, BPSK, 256QAM, 1024QAM)
Antenna Type	:	PCB antenna, Maximum Gain is 5.74dBi (Antenna information is provided by applicant.)
Software version	:	V1.0
Hardware version	:	V1.0
Intend use environment	:	Residential, commercial and light industrial environment

Remark:
1. The worst-case simultaneous transmission configuration was evaluated with no non-compliance found. Results in this report are only for 2.4G Wi-Fi function, and there is no other transmitter involved.
2. In this report, the main test model is JS-WI-2.4, and the main test model serial number is A0000001

2.2. Accessories of Device (EUT)

Accessories : N/A

Manufacturer : N/A

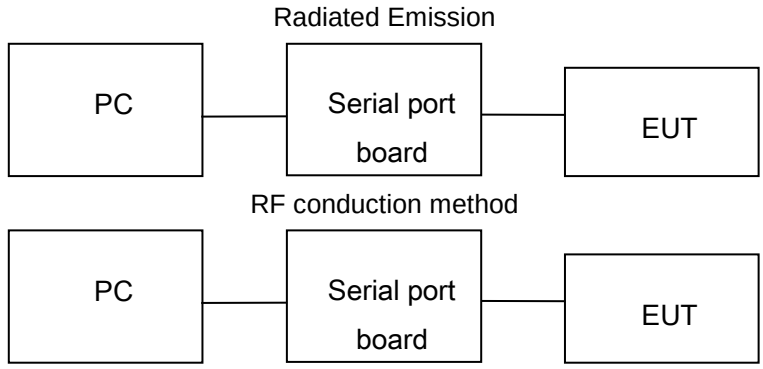
Model : N/A

Ratings : N/A

2.3. Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification or SDOC
1	Notebook PC	Lenovo	ThinkPad L14	N/A	N/A

2.4. Block Diagram of Test



2.5. Test Mode Description

Duty cycle :100%Keeping TX			
Mode	**data rate (Mbps)(see Note)**	**Channel**	**Frequency (MHz)**
IEEE 802.11b	1	Low :CH1	2412
	1	Middle: CH6	2437
	1	High: CH11	2462
IEEE 802.11g	6	Low :CH1	2412
	6	Middle: CH6	2437
	6	High: CH11	2462
IEEE 802.11 n/HT20	6.5	Low :CH1	2412
	6.5	Middle: CH6	2437
	6.5	High: CH11	2462
IEEE 802.11 n/HT40	13	Low :CH3	2422
	13	Middle: CH6	2437
	13	High: CH9	2452
IEEE 802.11 ax 20	6.5	Low :CH1	2412
	6.5	Middle: CH6	2437
	6.5	High: CH11	2462
IEEE 802.11 ax 40	13	Low :CH3	2422
	13	Middle: CH6	2437
	13	High: CH9	2452
Note: 1.According exploratory test, EUT will have maximum output power in those data rate. So those data rate were used for all test. 2. Using QRCT V4.0 testing software to control EUT work in Continuous TX mode, and select test channel, wireless mode, the power level of the test is set to default.			

Channel list:					
For IEEE 802.11b, g, n/HT20, ax20, n/HT40, ax40					
Channel	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**
CH1	2412	CH5	2432	CH9	2452
CH2	2417	CH6	2437	CH10	2457
CH3	2422	CH7	2442	CH11	2462
CH4	2427	CH8	2447		

2.6. Test Conditions

Items	Required	Actual
Temperature range:	15-35℃	24℃
Humidity range:	25-75%	56%
Pressure range:	86-106kPa	98kPa

2.7. Test Facility

Shenzhen Alpha Product Testing Co., Ltd

Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103,
Shenzhen, Guangdong, China

June 21, 2018 File on Federal Communication Commission
Registration Number: 293961
Designation Number: CN1236

July 15, 2019 Certificated by IC
Registration Number: 12135A
CAB identified: CN0085

2.8. Measurement Uncertainty

(95% confidence levels, k=2)

Item	**Uncertainty**
Uncertainty for Power point Conducted Emissions Test	1.63dB
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	3.5dB
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.74dB(Polarize: V)
	3.76dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	3.77dB(Polarize: V)
	3.80dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (18GHz to 40GHz)	4.31 dB(Polarize: V)
	4.30 dB(Polarize: H)
Uncertainty for radio frequency	5.06×10^{-8}GHz
Uncertainty for conducted RF Power	0.40dB
Uncertainty for temperature	0.2℃
Uncertainty for humidity	1%
Uncertainty for DC and low frequency voltages	0.06%

Software Information			
Test Item	Software Name	Manufacturer	Version
RE	EZ-EMC	Farad	Alpha-3A1
CE	EZ-EMC	Farad	Alpha-3A1
RF-CE	MTS 8310	MWRFtest	V2.0.0.0

2.9. Test Equipment List

Equipment	Manufacturer	Model No.	Firmware version	Serial No.	Last Cal.	Cal. Due day
9*6*6 anechoic chamber	CHENYU	9*6*6	/	N/A	2025.03.09	4Year
4*4*3 Shielded room	CHENYU	4*4*3	/	N/A	2025.03.09	4Year
Spectrum analyzer	ROHDE&SCHWARZ	FSV40-N	2.3	102137	2025.08.04	1Year
Spectrum analyzer	Agilent	N9020A	A.14.16	MY499100060	2025.08.04	1Year
Spectrum analyzer	Keysight	N9020A	A.19.05	MY54500254	2025.08.04	1Year
CMW500	ROHDE&SCHWARZ	CMW500	V 3.7.20	1201.0002K50 -149889-wL	2025.08.04	1Year
CMW500	ROHDE&SCHWARZ	CMW500	V 3.7.22	1201.0002K50 -117239-sM	2025.08.04	1Year
UXM 5G Base Wireless Test Platform	Keysight	E5175E	1.8.1.2908 2(NR)(LTE)	MY62226130	2025.03.06	1Year
Test Receiver	ROHDE&SCHWARZ	ESR	2.28 SP1	1316.3003K03 -102082-Wa	2025.08.04	1Year
Test Receiver	ROHDE&SCHWARZ	ESCI	4.42 SP1	101165	2025.08.04	1Year
Bilog Antenna	SCHWARZBECK	VULB 9168	/	VULB 9168#627	2025.08.11	2Year
Horn Antenna	SCHWARZBECK	BBHA 9120 D	/	2106	2025.08.11	2Year
Loop Antenna	SCHWARZBECK	FMZB 1519B	/	00128	2025.08.11	2Year
RF Cable	Resenberger	Cable 1	/	RE1	2025.08.04	1Year
RF Cable	Resenberger	Cable 2	/	RE2	2025.08.04	1Year
RF Cable	Resenberger	Cable 3	/	CE1	2025.08.04	1Year
Amplifier	HP	HP8347A	/	2834A00455	2025.08.04	1Year
Amplifier	Agilent	8449B	/	3008A02664	2025.08.04	1Year
L.I.S.N.#1	SCHWARZBECK	NSLK8126	/	8126-466	2025.08.04	1Year
L.I.S.N.#2	ROHDE&SCHWARZ	ENV216	/	101043	2025.08.04	1Year
Horn Antenna	SCHWARZBECK	BBHA 9170	/	00946	2025.08.11	2Year
Preamplifier	SKET	LNPA_1840-5 0	/	SK201810180 1	2025.08.04	1 Year
Vector Signal Generator	Agilent	N5182A	/	MY49060042	2025.08.04	1 Year
Vector Signal Generator	Agilent	N5172B	2.02	MY51350397	2025.08.04	1 Year
Power Meter	Agilent	E4419B	/	GB40202122	2025.08.04	1 Year
Power Sensor	Agilent	E9300A	/	MY41496628	2025.08.04	1 Year
Power Sensor	Agilent	E9304A	/	MY41496815	2025.08.04	1 Year
Power Sensor	DARE	RPR3006W		15100041SNO 91	2025.08.04	1 Year
Power Sensor	DARE	RPR3006W		15100041SNO 92	2025.08.04	1 Year
Temp. & Humid. Chamber	Teelong	TL-HW408S	/	TL-20191205- 01	2025.07.14	1 Year
Electronic Thermo-Hygrometer	S.H.Qixiang	HTC-1	/	N/A	2025.08.04	1 Year
Switching Mode Power Supply	JUNKE	JK12010S	/	20140927-6	2025.08.04	1 Year
Adjustable attenuator	MWRFtest	N/A	/	N/A	N/A	N/A
10dB Attenuator	Mini-Circuits	DC-6G	/	N/A	N/A	N/A

3. SPURIOUS EMISSION

3.1. Test Limits

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])

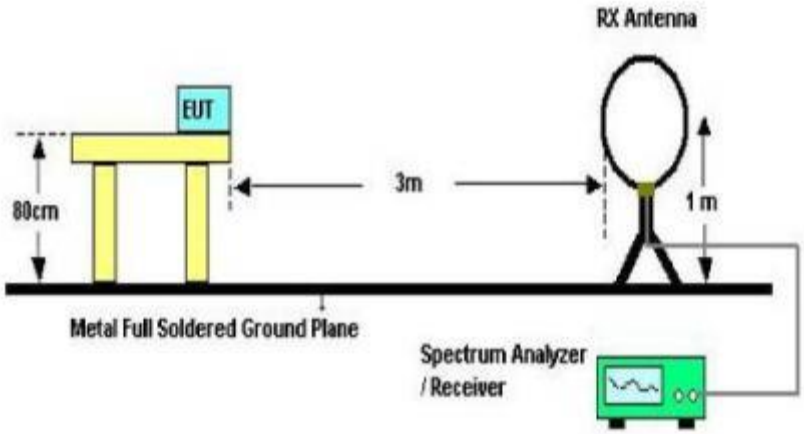
15.209 Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
0.009-0.490	300	2400/F(KHz)	/
0.490-1.705	30	24000/F(KHz)	/
1.705-30	30	30	29.5
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	
Note 1: The peak limit is 20 dB higher than the average limit			
Note 2: Peak limit applies (AVG limit + 20 dB) as well as RSS-247 Section 5.5			

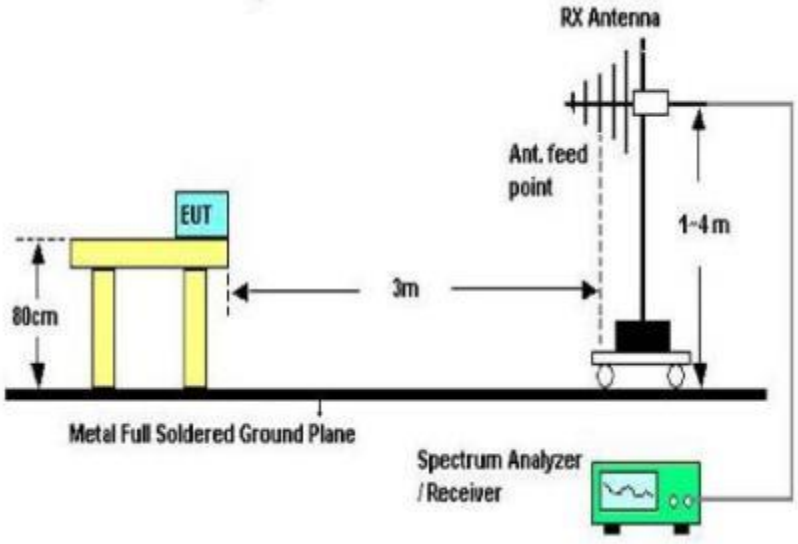
3.2. Test Procedure

The measuring distance of 3m shall be used for measurements at frequency up to 1GH and above 1GHz. The EUT was placed on a rotating 0.8 m high above ground for below 1GHz and 1.5m high for above1GHz testing, the table was rotated 360 degrees to determine the position of the highest radiation The Test antenna shall vary between 1m and 4m, both Horizontal and Vertical antenna are set of make measurement.
The initial step in collecting radiated emission data is a spectrum analyzer Peak detector mode pre-scanning the measurement frequency range. Significant Peaks are then marked. and then Quasi Peak Detector mode premeasured
If Peak value comply with QP limit below 1GHz, the EUT deemed to comply with QP limit. But the Peak value and average value both need to comply with applicable limit above 1GHz.
For the actual test configuration, please see the test setup photo.

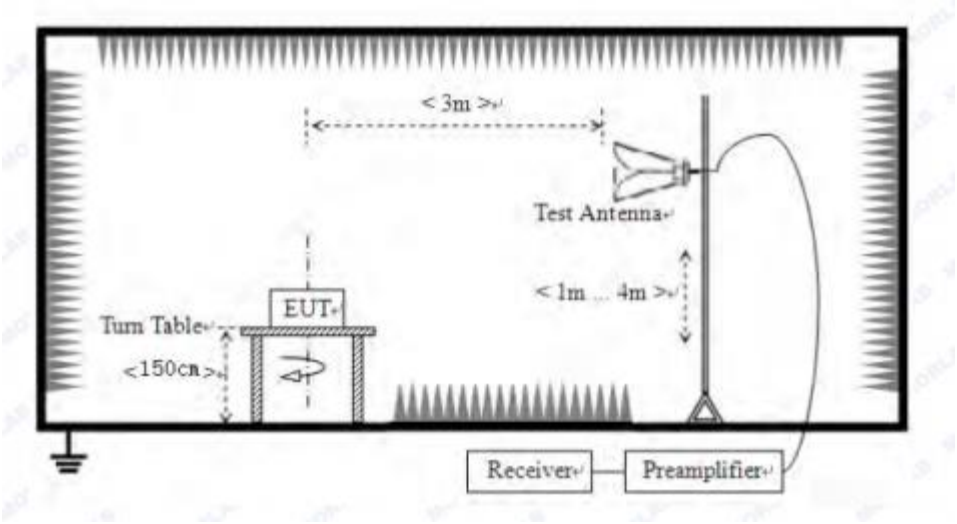
3.3. Test Setup



Below 30MHz Test Setup



Above 30MHz Test Setup



Above 1GHz Test Setup

3.4. Test Results

Test Condition
Continual Transmitting in maximum power.

9KHz~150KHz	RBW200Hz	VBW1KHz
150KHz~30MHz	RBW9KHz	VBW 30KHz
30MHZ~1GHz	RBW120KHz	VBW 300KHz
Above1GHz	RBW1MHz	VBW 3MHz

We have scanned the EUT from 9kHz up to the 10th harmonic of the fundamental.

Detailed information please see the following page.

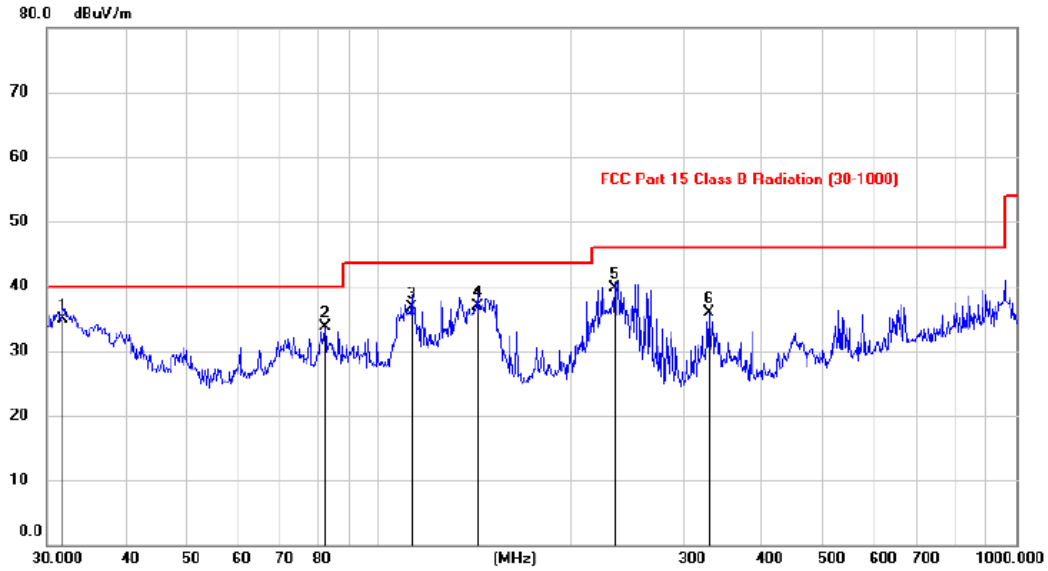
From 9KHz to 30MHz: Conclusion: PASS

Note: 1.The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

2. Except for mode b/g, other modes test the MIMO status.
3. All antennas have been tested, only the worst data of each pattern is reflected.

From 30MHz to 1000MHz: Conclusion: PASS

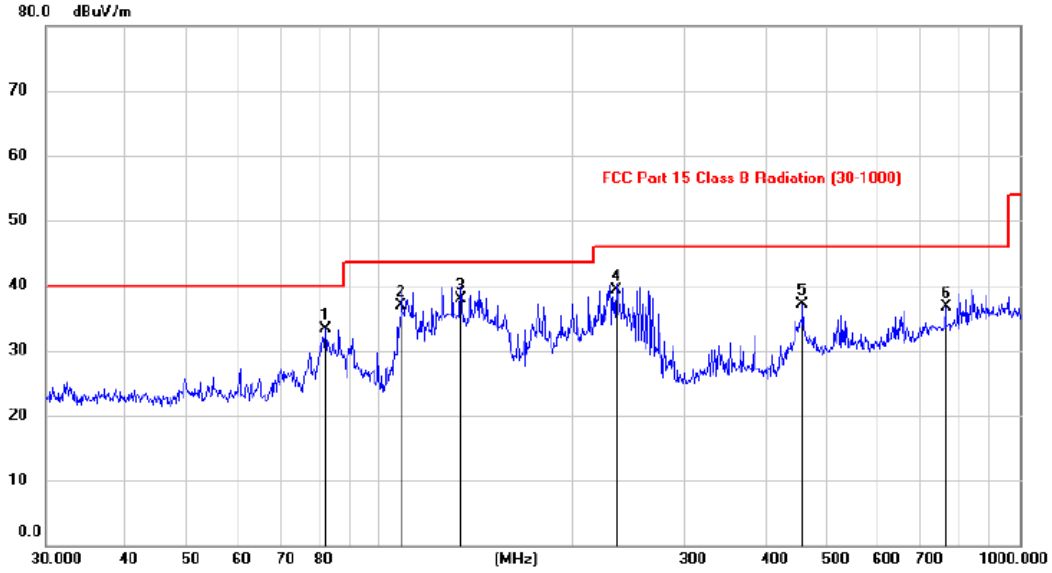
Vertical:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	31.9247	21.26	13.60	34.86	40.00	-5.14	QP			
2		82.1473	23.84	9.92	33.76	40.00	-6.24	peak			
3		112.4321	24.62	12.12	36.74	43.50	-6.76	QP			
4		142.6741	22.32	14.51	36.83	43.50	-6.67	QP			
5		234.9634	27.37	12.43	39.80	46.00	-6.20	QP			
6		330.1175	21.12	14.82	35.94	46.00	-10.06	peak			

Note:1. *:Maximum data; x:Over limit; !:over margin.
2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Horizontal:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		82.1281	23.44	9.92	33.36	40.00	-6.64	peak			
2		108.1020	25.25	11.64	36.89	43.50	-6.61	QP			
3	*	134.0568	24.08	13.88	37.96	43.50	-5.54	QP			
4		234.9634	26.79	12.43	39.22	46.00	-6.78	QP			
5		458.3636	19.44	17.64	37.08	46.00	-8.92	peak			
6		768.0294	13.96	22.68	36.64	46.00	-9.36	peak			

Note:1. *:Maximum data; x:Over limit; !:over margin.
2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Remark: All modes have been tested, and only worst data of b mode, Channel 2412MHz was listed in this report.

From 1G-25GHz

Test Mode: IEEE 802.11ax20 TX Low									
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824	43.31	V	33.95	10.18	34.26	53.18	74	-20.82	PK
4824	35.42	V	33.95	10.18	34.26	45.29	54	-8.71	AV
7236	/	/	/	/	/	/	/	/	/
9648	/	/	/	/	/	/	/	/	/
4824	42.69	H	33.95	10.18	34.26	52.56	74	-21.44	PK
4824	35.18	H	33.95	10.18	34.26	45.05	54	-8.95	AV
7236	/	/	/	/	/	/	/	/	/
9648	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11ax20 TX Mid									
4874	46.71	V	33.93	10.2	34.29	56.55	74	-17.45	PK
4874	33.18	V	33.93	10.2	34.29	43.02	54	-10.98	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
4874	44.65	H	33.93	10.2	34.29	54.49	74	-19.51	PK
4874	33.06	H	33.93	10.2	34.29	42.90	54	-11.10	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11ax20 TX High									
4924	44.97	V	33.98	10.22	34.25	54.92	74	-19.08	PK
4924	34.38	V	33.98	10.22	34.25	44.33	54	-9.67	AV
7386	/	/	/	/	/	/	/	/	/
9848	/	/	/	/	/	/	/	/	/
4924	48.88	H	33.98	10.22	34.25	58.83	74	-15.17	PK
4924	34.86	H	33.98	10.22	34.25	44.81	54	-9.19	AV
7386	/	/	/	/	/	/	/	/	/
9848	/	/	/	/	/	/	/	/	/

Note:

1, Result = Read level + Antenna factor + cable loss-Amp factor

2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

Test Mode: IEEE 802.11ax40 TX Low									
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4844	43.50	V	33.95	10.18	34.26	53.37	74	-20.63	PK
4844	35.41	V	33.95	10.18	34.26	45.28	54	-8.72	AV
7266	/	/	/	/	/	/	/	/	/
9688	/	/	/	/	/	/	/	/	/
4844	45.10	H	33.95	10.18	34.26	54.97	74	-19.03	PK
4844	36.93	H	33.95	10.18	34.26	46.80	54	-7.20	AV
7266	/	/	/	/	/	/	/	/	/
9688	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802. 11ax40 TX Mid									
4874	44.22	V	33.93	10.2	34.29	54.06	74	-19.94	PK
4874	31.61	V	33.93	10.2	34.29	41.45	54	-12.55	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
4874	44.59	H	33.93	10.2	34.29	54.43	74	-19.57	PK
4874	35.46	H	33.93	10.2	34.29	45.30	54	-8.70	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802. 11ax40 TX High									
4904	46.32	V	33.98	10.22	34.25	56.27	74	-17.73	PK
4904	35.71	V	33.98	10.22	34.25	45.66	54	-8.34	AV
7356	/	/	/	/	/	/	/	/	/
9808	/	/	/	/	/	/	/	/	/
4904	46.80	H	33.98	10.22	34.25	56.75	74	-17.25	PK
4904	34.35	H	33.98	10.22	34.25	44.30	54	-9.70	AV
7356	/	/	/	/	/	/	/	/	/
9808	/	/	/	/	/	/	/	/	/

Note:

1, Result = Read level + Antenna factor + cable loss-Amp factor

2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

Test Mode: IEEE 802.11b TX Low									
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824	43.49	V	33.95	10.18	34.26	53.36	74	-20.64	PK
4824	33.45	V	33.95	10.18	34.26	43.32	54	-10.68	AV
7236	/	/	/	/	/	/	/	/	/
9648	/	/	/	/	/	/	/	/	/
4824	43.12	H	33.95	10.18	34.26	52.99	74	-21.01	PK
4824	35.50	H	33.95	10.18	34.26	45.37	54	-8.63	AV
7236	/	/	/	/	/	/	/	/	/
9648	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11b TX Mid									
4874	45.48	V	33.93	10.2	34.29	55.32	74	-18.68	PK
4874	31.11	V	33.93	10.2	34.29	40.95	54	-13.05	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
4874	47.04	H	33.93	10.2	34.29	56.88	74	-17.12	PK
4874	33.56	H	33.93	10.2	34.29	43.40	54	-10.60	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11b TX High									
4924	44.48	V	33.98	10.22	34.25	54.43	74	-19.57	PK
4924	36.79	V	33.98	10.22	34.25	46.74	54	-7.26	AV
7386	/	/	/	/	/	/	/	/	/
9848	/	/	/	/	/	/	/	/	/
4924	47.41	H	33.98	10.22	34.25	57.36	74	-16.64	PK
4924	35.11	H	33.98	10.22	34.25	45.06	54	-8.94	AV
7386	/	/	/	/	/	/	/	/	/
9848	/	/	/	/	/	/	/	/	/

Note:

1, Result = Read level + Antenna factor + cable loss-Amp factor

2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

Test Mode: IEEE 802.11g TX Low									
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824	43.85	V	33.95	10.18	34.26	53.72	74	-20.28	PK
4824	37.17	V	33.95	10.18	34.26	47.04	54	-6.96	AV
7236	/	/	/	/	/	/	/	/	/
9648	/	/	/	/	/	/	/	/	/
4824	43.70	H	33.95	10.18	34.26	53.57	74	-20.43	PK
4824	36.55	H	33.95	10.18	34.26	46.42	54	-7.58	AV
7236	/	/	/	/	/	/	/	/	/
9648	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11g TX Mid									
4874	46.79	V	33.93	10.2	34.29	56.63	74	-17.37	PK
4874	31.25	V	33.93	10.2	34.29	41.09	54	-12.91	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
4874	46.47	H	33.93	10.2	34.29	56.31	74	-17.69	PK
4874	32.43	H	33.93	10.2	34.29	42.27	54	-11.73	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11g TX High									
4924	47.83	V	33.98	10.22	34.25	57.78	74	-16.22	PK
4924	35.76	V	33.98	10.22	34.25	45.71	54	-8.29	AV
7386	/	/	/	/	/	/	/	/	/
9848	/	/	/	/	/	/	/	/	/
4924	46.31	H	33.98	10.22	34.25	56.26	74	-17.74	PK
4924	35.65	H	33.98	10.22	34.25	45.60	54	-8.40	AV
7386	/	/	/	/	/	/	/	/	/
9848	/	/	/	/	/	/	/	/	/

Note:

1, Result = Read level + Antenna factor + cable loss-Amp factor

2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

Test Mode: IEEE 802.11n HT20 TX Low									
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824	45.54	V	33.95	10.18	34.26	55.41	74	-18.59	PK
4824	37.42	V	33.95	10.18	34.26	47.29	54	-6.71	AV
7236	/	/	/	/	/	/	/	/	/
9648	/	/	/	/	/	/	/	/	/
4824	43.50	H	33.95	10.18	34.26	53.37	74	-20.63	PK
4824	36.19	H	33.95	10.18	34.26	46.06	54	-7.94	AV
7236	/	/	/	/	/	/	/	/	/
9648	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11n HT20 TX Mid									
4874	44.60	V	33.93	10.2	34.29	54.44	74	-19.56	PK
4874	33.08	V	33.93	10.2	34.29	42.92	54	-11.08	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
4874	45.80	H	33.93	10.2	34.29	55.64	74	-18.36	PK
4874	35.59	H	33.93	10.2	34.29	45.43	54	-8.57	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11n HT20 TX High									
4924	46.46	V	33.98	10.22	34.25	56.41	74	-17.59	PK
4924	37.29	V	33.98	10.22	34.25	47.24	54	-6.76	AV
7386	/	/	/	/	/	/	/	/	/
9848	/	/	/	/	/	/	/	/	/
4924	47.61	H	33.98	10.22	34.25	57.56	74	-16.44	PK
4924	35.07	H	33.98	10.22	34.25	45.02	54	-8.98	AV
7386	/	/	/	/	/	/	/	/	/
9848	/	/	/	/	/	/	/	/	/

Note:

1, Result = Read level + Antenna factor + cable loss-Amp factor

2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

Test Mode: IEEE 802.11n HT40 TX Low									
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4844	44.39	V	33.95	10.18	34.26	54.26	74	-19.74	PK
4844	34.28	V	33.95	10.18	34.26	44.15	54	-9.85	AV
7266	/	/	/	/	/	/	/	/	/
9688	/	/	/	/	/	/	/	/	/
4844	44.69	H	33.95	10.18	34.26	54.56	74	-19.44	PK
4844	36.97	H	33.95	10.18	34.26	46.84	54	-7.16	AV
7266	/	/	/	/	/	/	/	/	/
9688	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11n HT40 TX Mid									
4874	43.39	V	33.93	10.2	34.29	53.23	74	-20.77	PK
4874	31.23	V	33.93	10.2	34.29	41.07	54	-12.93	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
4874	47.96	H	33.93	10.2	34.29	57.80	74	-16.20	PK
4874	35.51	H	33.93	10.2	34.29	45.35	54	-8.65	AV
7311	/	/	/	/	/	/	/	/	/
9748	/	/	/	/	/	/	/	/	/
Test Mode: IEEE 802.11n HT40 TX High									
4904	44.60	V	33.98	10.22	34.25	54.55	74	-19.45	PK
4904	34.81	V	33.98	10.22	34.25	44.76	54	-9.24	AV
7356	/	/	/	/	/	/	/	/	/
9808	/	/	/	/	/	/	/	/	/
4904	48.99	H	33.98	10.22	34.25	58.94	74	-15.06	PK
4904	35.45	H	33.98	10.22	34.25	45.40	54	-8.60	AV
7356	/	/	/	/	/	/	/	/	/
9808	/	/	/	/	/	/	/	/	/

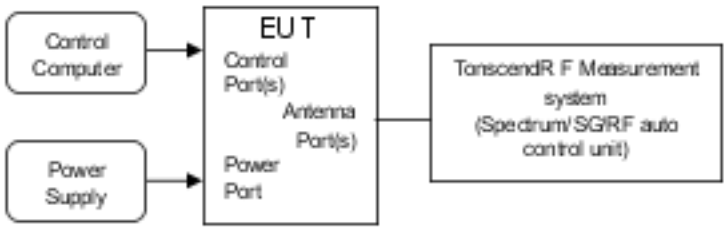
Note:

1, Result = Read level + Antenna factor + cable loss-Amp factor

2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

4. RF CONDUCTED SPURIOUS EMISSIONS

4.1. Block diagram of test setup



4.2. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20dB.
In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

4.3. Test procedure

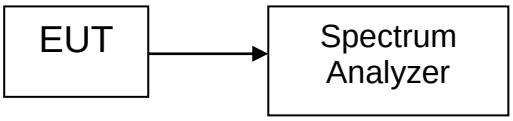
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz. The detector is set to Peak. The trace mode is max hold.

4.4. Test result

Please refer to 2.4GWIFI ANT 1 Annex, 2.4GWIFI ANT 2 Annex, 2.4GWIFI ANT 3 Annex, and 2.4GWIFI ANT 4 Annex for Conducted RF Spurious Emission items.

5. DUTY CYCLE

5.1. Block diagram of test setup



5.2. Test Procedure

Details see the ANSI C63.10-2020

5.2.1 A diode detector and an oscilloscope that together have a sufficiently short response time to permit accurate measurements of the ON and OFF times of the transmitted signal.

5.2.2 The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:

a) Set the center frequency of the instrument to the center frequency of the transmission.

b) Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value.

c) Set VBW ≥ RBW. Set detector = peak or average.

d) The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if T ≤ 16.7 us.)

5.3. Test Results

Pass.

Please refer to 2.4GWIFI ANT 1 Annex, 2.4GWIFI ANT 2 Annex, 2.4GWIFI ANT 3 Annex, and 2.4GWIFI ANT 4 Annex for Duty Cycle items.

6. MAXIMUM CONDUCTED OUTPUT POWER

6.1. Test limits

Please refer RSS-247 & FCC PART 15: 15.247.

Regulation 15.247(b) The limit of Maximum Peak Output Power Measurement is 1 W(30dBm)

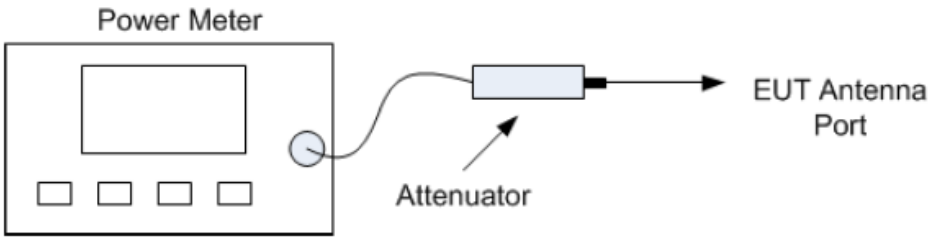
6.2. Test Procedure

6.2.1 Place the EUT on the table and connected to a power meter. The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detectoe.

6.2.2 At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.

6.2.3 Measure out each mode and each bands peak output power of EUT

6.3. Test Setup



6.4. Test Results

PASS

Detailed information please see the following page.

Condition	Mode	TX Type	Frequency (MHz)	Maximum conducted output power						Verdict
				ANT1	ANT2	ANT3	ANT4	MIMO	Limit (dBm)	
NVNT	ax20	MIMO	2412	15.355	15.483	15.471	15.109	21.378	24.24	Pass
NVNT	ax20	MIMO	2437	16.186	15.636	15.946	15.785	21.913	24.24	Pass
NVNT	ax20	MIMO	2462	15.203	14.874	14.652	14.745	20.894	24.24	Pass
NVNT	ax40	MIMO	2422	16.226	15.813	15.797	16.295	22.060	24.24	Pass
NVNT	ax40	MIMO	2437	15.668	15.585	16.021	16.247	21.909	24.24	Pass
NVNT	ax40	MIMO	2452	16.004	16.611	14.877	14.970	21.697	24.24	Pass
NVNT	b	SISO	2412	24.123	23.846	24.653	25.769	/	30	Pass
NVNT	b	SISO	2437	25.540	25.644	24.004	24.423	/	30	Pass
NVNT	b	SISO	2462	24.637	23.881	24.472	24.181	/	30	Pass
NVNT	g	SISO	2412	21.889	22.799	21.921	22.867	/	30	Pass
NVNT	g	SISO	2437	22.034	22.465	21.714	22.406	/	30	Pass
NVNT	g	SISO	2462	21.623	21.305	21.904	21.156	/	30	Pass
NVNT	n20	MIMO	2412	18.836	19.501	16.179	15.833	23.899	24.24	Pass
NVNT	n20	MIMO	2437	17.073	18.005	17.239	15.268	23.026	24.24	Pass
NVNT	n20	MIMO	2462	15.549	16.709	15.157	16.423	22.025	24.24	Pass
NVNT	n40	MIMO	2422	17.853	18.075	17.710	18.060	23.948	24.24	Pass
NVNT	n40	MIMO	2437	18.220	18.167	17.989	18.151	24.154	24.24	Pass
NVNT	n40	MIMO	2452	17.855	18.059	17.913	18.323	24.062	24.24	Pass

Note: 1. Directional gain=11.76dBi, so the Conducted Power Limit need to reduce 5.76.

7. POWER SPECTRAL DENSITY

7.1. Test limits

7.1.1 Please refer RSS-247 & FCC PART 15: 15.247.

7.1.2 For direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

7.1.3 The direct sequence operating of the hybrid system, with the frequency hopping operation turned off, shall comply with the power density requirements of paragraph (d) of this section.

7.2. Test Procedure

Details see the ANSI C63.10-2020

7.2.1 Place the EUT on the table and set it in transmitting mode.

7.2.2 Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

7.2.3 Set analyzer center frequency to DTS channel center frequency.

7.2.4 Set span to > 1.5 times the OBW.

7.2.5 Set RBW to: 3 kHz $\leqslant$ RBW $\leqslant$ 100 kHz.

7.2.6 Set VBW $\geqslant$ [3 * RBW].

7.2.7 Detector = power averaging (rms)

7.2.8 Ensure that the number of measurement points in the sweep $\geqslant$ [2 * span / RBW].

7.2.9 Sweep time = auto couple.

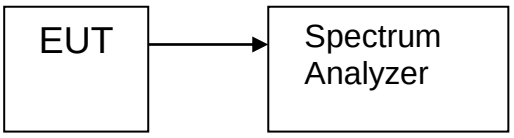
7.2.10 Employ trace averaging (rms) mode over a minimum of 100 traces.

7.2.11 Use the peak marker function to determine the maximum amplitude level.

7.2.12 If the measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat (note that this might require zooming in on the emission of interest and reducing the span to meet the minimum measurement point requirement as the RBW is reduced).

7.2.13 Repeat the above procedure until the measurements for all frequencies are completed.

7.3. Test Setup



7.4. Test Results

ANT1

Condition	Mode	Frequency (MHz)	Antenna	Conduct PSD (dBm/3KHz)	Duty Factor (dB)	Total PSD (dBm/3KHz)	Limit (dBm/3KHz)	Verdict
NVNT	ax20	2412	Ant1	-14.815	1.11	-13.705	8	Pass
NVNT	ax20	2437	Ant1	-15.07	1.11	-13.96	8	Pass
NVNT	ax20	2462	Ant1	-16.27	1.1	-15.17	8	Pass
NVNT	ax40	2422	Ant1	-18.58	1.11	-17.47	8	Pass
NVNT	ax40	2437	Ant1	-18.676	1.11	-17.566	8	Pass
NVNT	ax40	2452	Ant1	-18.463	1.12	-17.343	8	Pass
NVNT	b	2412	Ant1	-9.546	0.17	-9.376	8	Pass
NVNT	b	2437	Ant1	-7.738	0.05	-7.688	8	Pass
NVNT	b	2462	Ant1	-9.121	0.06	-9.061	8	Pass
NVNT	g	2412	Ant1	-11.67	0.33	-11.34	8	Pass
NVNT	g	2437	Ant1	-11.327	0.33	-10.997	8	Pass
NVNT	g	2462	Ant1	-12.478	0.33	-12.148	8	Pass
NVNT	n20	2412	Ant1	-12.614	0.95	-11.664	8	Pass
NVNT	n20	2437	Ant1	-12.054	0.96	-11.094	8	Pass
NVNT	n20	2462	Ant1	-14.62	0.94	-13.68	8	Pass
NVNT	n40	2422	Ant1	-17.013	1.18	-15.833	8	Pass
NVNT	n40	2437	Ant1	-17.347	1.11	-16.237	8	Pass
NVNT	n40	2452	Ant1	-17.472	1.12	-16.352	8	Pass

ANT2

Condition	Mode	Frequency (MHz)	Antenna	Conduct PSD (dBm/3KHz)	Duty Factor (dB)	Total PSD (dBm/3KHz)	Limit (dBm/3KHz)	Verdict
NVNT	ax20	2412	Ant2	-15.129	1.11	-14.019	8	Pass
NVNT	ax20	2437	Ant2	-14.91	1.1	-13.81	8	Pass
NVNT	ax20	2462	Ant2	-15.77	1.1	-14.67	8	Pass
NVNT	ax40	2422	Ant2	-17.909	1.12	-16.789	8	Pass
NVNT	ax40	2437	Ant2	-18.534	1.14	-17.394	8	Pass
NVNT	ax40	2452	Ant2	-18.749	1.12	-17.629	8	Pass
NVNT	b	2412	Ant2	-9.429	0.05	-9.379	8	Pass
NVNT	b	2437	Ant2	-7.739	0.06	-7.679	8	Pass
NVNT	b	2462	Ant2	-9.603	0.07	-9.533	8	Pass
NVNT	g	2412	Ant2	-11.938	0.35	-11.588	8	Pass
NVNT	g	2437	Ant2	-11.049	0.34	-10.709	8	Pass
NVNT	g	2462	Ant2	-12.874	0.33	-12.544	8	Pass
NVNT	n20	2412	Ant2	-13.113	0.96	-12.153	8	Pass
NVNT	n20	2437	Ant2	-12.623	0.95	-11.673	8	Pass
NVNT	n20	2462	Ant2	-14.611	0.95	-13.661	8	Pass
NVNT	n40	2422	Ant2	-17.122	1.11	-16.012	8	Pass
NVNT	n40	2437	Ant2	-17.364	1.14	-16.224	8	Pass
NVNT	n40	2452	Ant2	-17.398	1.16	-16.238	8	Pass

ANT3

Condition	Mode	Frequency (MHz)	Antenna	Conduct PSD (dBm/3KHz)	Duty Factor (dB)	Total PSD (dBm/3KHz)	Limit (dBm/3KHz)	Verdict
NVNT	ax20	2412	Ant3	-15.092	1.1	-13.992	8	Pass
NVNT	ax20	2437	Ant3	-15.001	1.11	-13.891	8	Pass
NVNT	ax20	2462	Ant3	-16.429	1.16	-15.269	8	Pass
NVNT	ax40	2422	Ant3	-18.186	1.11	-17.076	8	Pass
NVNT	ax40	2437	Ant3	-18.446	1.12	-17.326	8	Pass
NVNT	ax40	2452	Ant3	-18.791	1.16	-17.631	8	Pass
NVNT	b	2412	Ant3	-9.198	0.05	-9.148	8	Pass
NVNT	b	2437	Ant3	-8.657	0.05	-8.607	8	Pass
NVNT	b	2462	Ant3	-9.333	0.06	-9.273	8	Pass
NVNT	g	2412	Ant3	-11.96	0.34	-11.62	8	Pass
NVNT	g	2437	Ant3	-11.446	0.34	-11.106	8	Pass
NVNT	g	2462	Ant3	-12.355	0.33	-12.025	8	Pass
NVNT	n20	2412	Ant3	-12.524	0.96	-11.564	8	Pass
NVNT	n20	2437	Ant3	-12.634	0.95	-11.684	8	Pass
NVNT	n20	2462	Ant3	-13.792	0.95	-12.842	8	Pass
NVNT	n40	2422	Ant3	-17.517	1.11	-16.407	8	Pass
NVNT	n40	2437	Ant3	-17.347	1.11	-16.237	8	Pass
NVNT	n40	2452	Ant3	-17.71	1.12	-16.59	8	Pass

ANT4

Condition	Mode	Frequency (MHz)	Antenna	Conduct PSD (dBm/3KHz)	Duty Factor (dB)	Total PSD (dBm/3KHz)	Limit (dBm/3KHz)	Verdict
NVNT	ax20	2412	Ant4	-15.319	1.11	-14.209	8	Pass
NVNT	ax20	2437	Ant4	-15.057	1.11	-13.947	8	Pass
NVNT	ax20	2462	Ant4	-16.341	1.11	-15.231	8	Pass
NVNT	ax40	2422	Ant4	-18.522	1.13	-17.392	8	Pass
NVNT	ax40	2437	Ant4	-18.463	1.12	-17.343	8	Pass
NVNT	ax40	2452	Ant4	-18.647	1.11	-17.537	8	Pass
NVNT	b	2412	Ant4	-7.215	0.07	-7.145	8	Pass
NVNT	b	2437	Ant4	-8.735	0.05	-8.685	8	Pass
NVNT	b	2462	Ant4	-8.909	0.05	-8.859	8	Pass
NVNT	g	2412	Ant4	-12.017	0.32	-11.697	8	Pass
NVNT	g	2437	Ant4	-11.374	0.32	-11.054	8	Pass
NVNT	g	2462	Ant4	-12.738	0.33	-12.408	8	Pass
NVNT	n20	2412	Ant4	-13.031	0.94	-12.091	8	Pass
NVNT	n20	2437	Ant4	-12.46	0.95	-11.51	8	Pass
NVNT	n20	2462	Ant4	-13.687	0.95	-12.737	8	Pass
NVNT	n40	2422	Ant4	-17.342	1.13	-16.212	8	Pass
NVNT	n40	2437	Ant4	-17.339	1.16	-16.179	8	Pass
NVNT	n40	2452	Ant4	-17.522	1.15	-16.372	8	Pass

MIMO

Condition	Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3KHz)						Verdict
				ANT1	ANT2	ANT3	ANT4	MIMO	Limit	
NVNT	ax20	MIMO	2412	-13.705	-14.019	-13.992	-14.209	-7.957	2.24	Pass
NVNT	ax20	MIMO	2437	-13.96	-13.81	-13.891	-13.947	-7.881	2.24	Pass
NVNT	ax20	MIMO	2462	-15.17	-14.67	-15.269	-15.231	-9.058	2.24	Pass
NVNT	ax40	MIMO	2422	-17.47	-16.789	-17.076	-17.392	-11.153	2.24	Pass
NVNT	ax40	MIMO	2437	-17.566	-17.394	-17.326	-17.343	-11.386	2.24	Pass
NVNT	ax40	MIMO	2452	-17.343	-17.629	-17.631	-17.537	-11.513	2.24	Pass
NVNT	b	SISO	2412	-9.376	-9.379	-9.148	-7.145	/	2.24	Pass
NVNT	b	SISO	2437	-7.688	-7.679	-8.607	-8.685	/	2.24	Pass
NVNT	b	SISO	2462	-9.061	-9.533	-9.273	-8.859	/	2.24	Pass
NVNT	g	SISO	2412	-11.34	-11.588	-11.62	-11.697	/	2.24	Pass
NVNT	g	SISO	2437	-10.997	-10.709	-11.106	-11.054	/	2.24	Pass
NVNT	g	SISO	2462	-12.148	-12.544	-12.025	-12.408	/	2.24	Pass
NVNT	n20	MIMO	2412	-11.664	-12.153	-11.564	-12.091	-5.840	2.24	Pass
NVNT	n20	MIMO	2437	-11.094	-11.673	-11.684	-11.51	-5.463	2.24	Pass
NVNT	n20	MIMO	2462	-13.68	-13.661	-12.842	-12.737	-7.187	2.24	Pass
NVNT	n40	MIMO	2422	-15.833	-16.012	-16.407	-16.212	-10.090	2.24	Pass
NVNT	n40	MIMO	2437	-16.237	-16.224	-16.237	-16.179	-10.199	2.24	Pass
NVNT	n40	MIMO	2452	-16.352	-16.238	-16.59	-16.372	-10.366	2.24	Pass

Note: 1. Directional gain=11.76dBi, so the Conducted Power Limit need to reduce 5.76.

8. BANDWIDTH

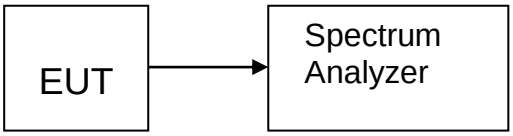
8.1. Test limits

Please refer FCC PART 15: 15.247
For direct sequence systems, the minimum 6dB bandwidth shall be at least 500 kHz.

8.2. Test Procedure

Details see the ANSI C63.10-2020
a) The bandwidth is measured at an amplitude level reduced 6dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.
b) The test receiver set RBW =1-5%BW, VBW≥3*RBW, Sweep time set auto, detail see the test plot for 99% Bandwidth and 6dB Bandwidth.
c) The test receiver set RBW = 100kHZ, VBW⩾3*RBW =300kHz, Sweep time set auto, detail see the test plot for 6dB Bandwidth.

8.3. Test Setup



8.4. Test Results

Please refer to 2.4GWIFI ANT 1 Annex, 2.4GWIFI ANT 2 Annex, 2.4GWIFI ANT 3 Annex, and 2.4GWIFI ANT 4 Annex for -6dB Bandwidth.

9. BAND EDGE(RADIATED)

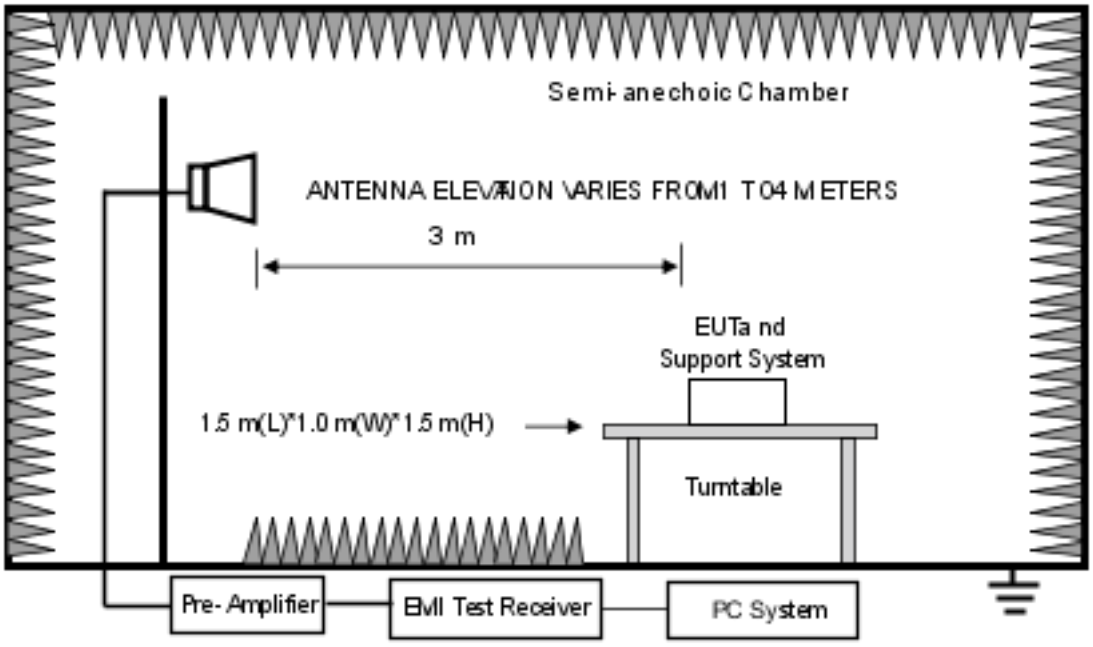
9.1. Test limits

Please refer RSS-GEN & FCC PART 15: 15.247

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

9.2. Block diagram of test setup



9.3. Test Procedure

Details see the ANSI C63.10-2020

9.3.1 Put the EUT on a 1.5m high table, power on the EUT. Emissions were scanned and measured rotating the EUT to 360 degrees, Find the maximum Emission

9.3.2 Check the spurious emissions out of band.

9.3.3 RBW 1MHz , VBW 3MHz , peak detector for peak value , RBW 1MHz , VBW 3MHz , RMS detector for AV value.

All restriction band and non- restriction band have been tested, only worse case is reported.

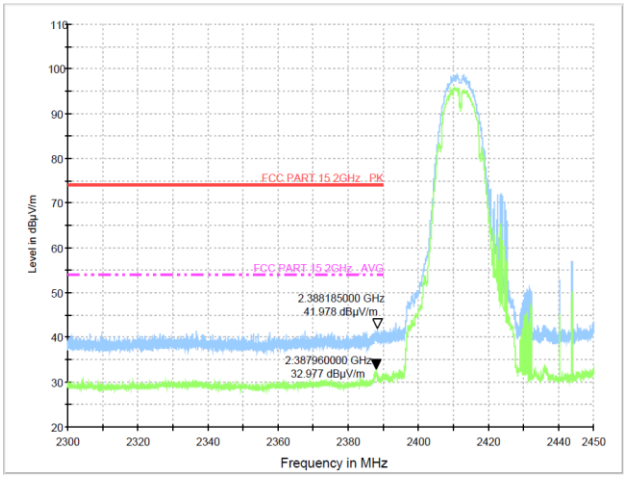
9.4. Test Results

PASS.

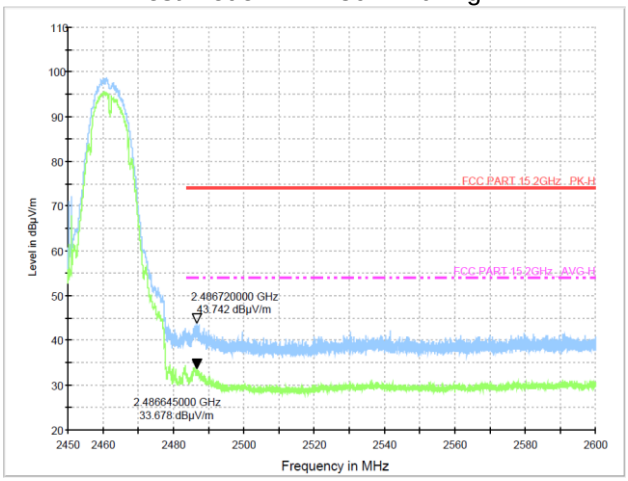
Note: Except for mode b/g, other modes test the MIMO status.

Detailed information please see the following page.

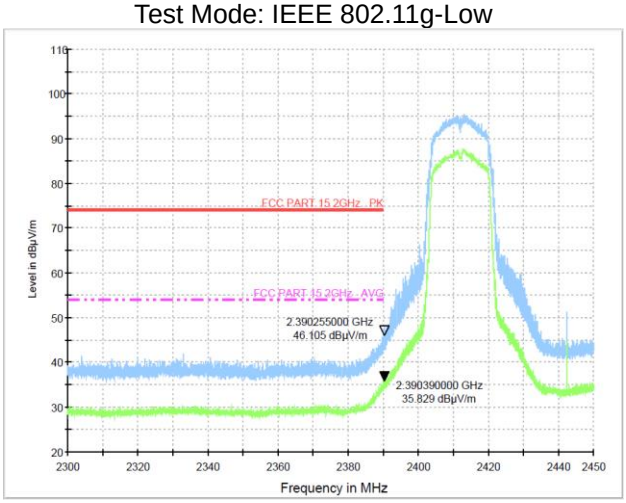
Test Mode: IEEE 802.11b-Low



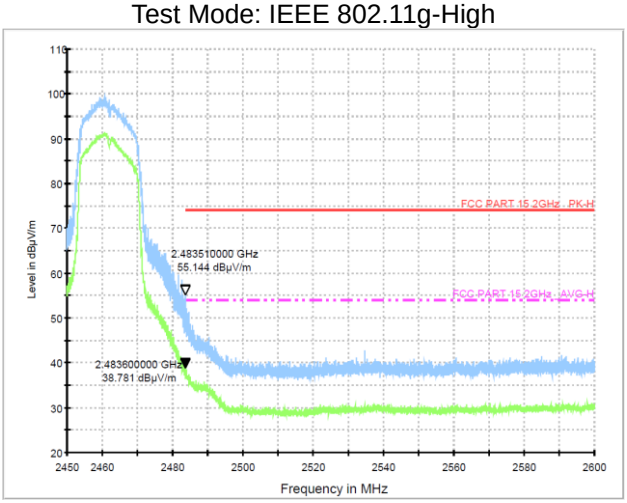
Test Mode: IEEE 802.11b-High



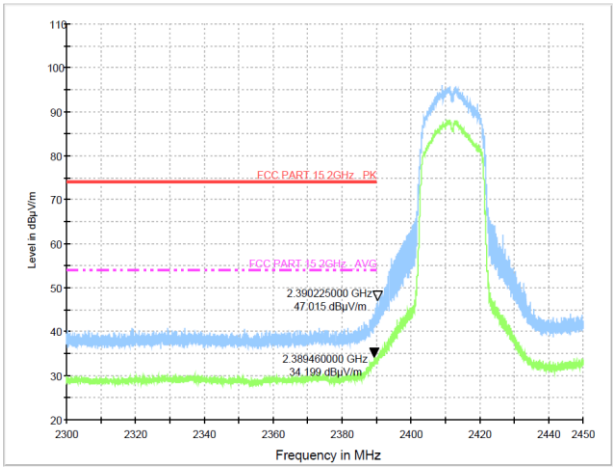
Test Mode: IEEE 802.11g-Low



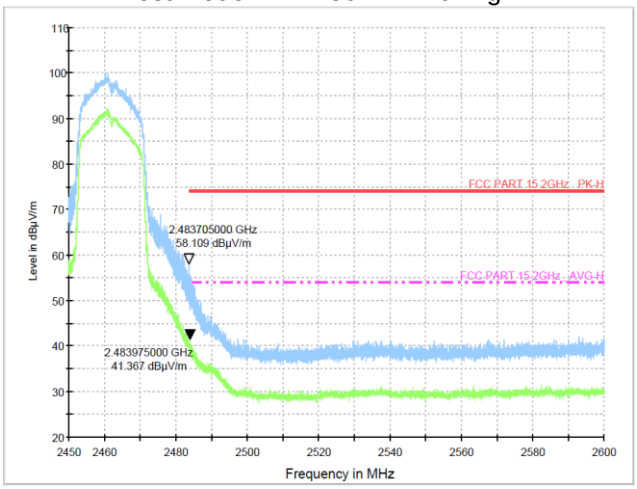
Test Mode: IEEE 802.11g-High



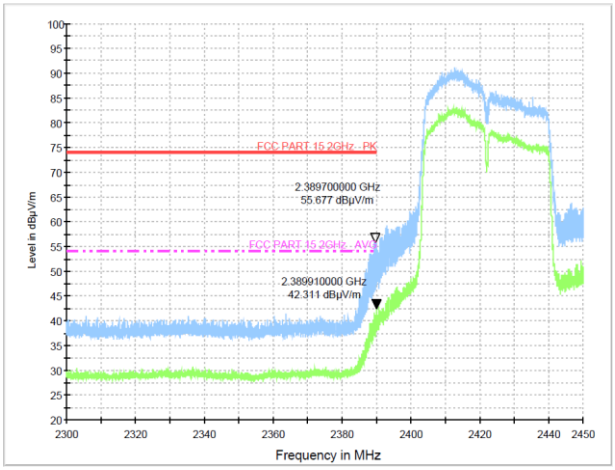
Test Mode: IEEE 802.11n20-Low



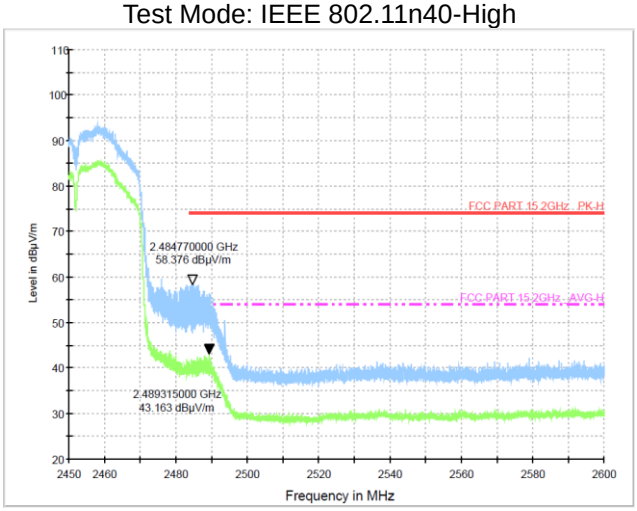
Test Mode: IEEE 802.11n20-High



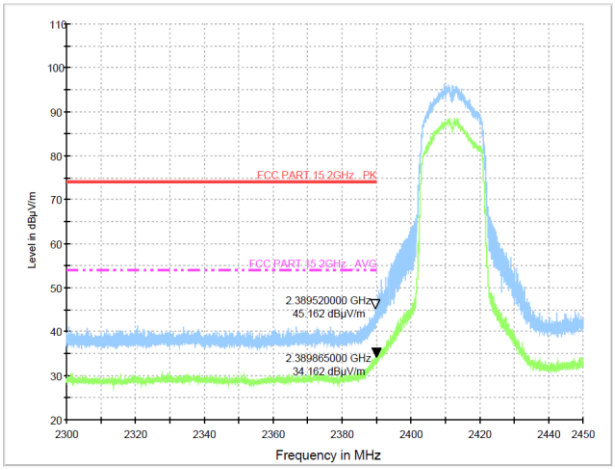
Test Mode: IEEE 802.11n40-Low



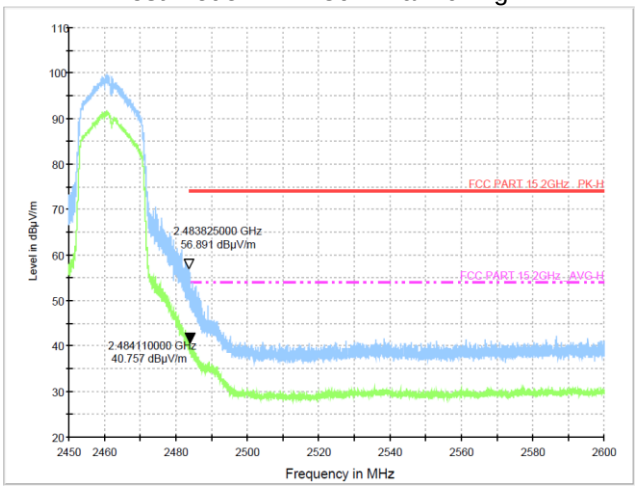
Test Mode: IEEE 802.11n40-High



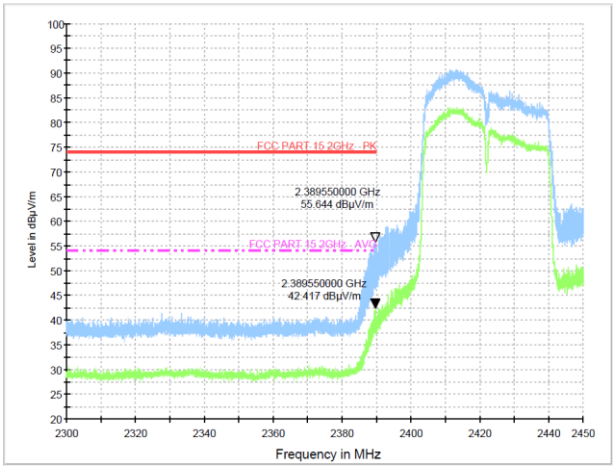
Test Mode: IEEE 802.11ax20-Low



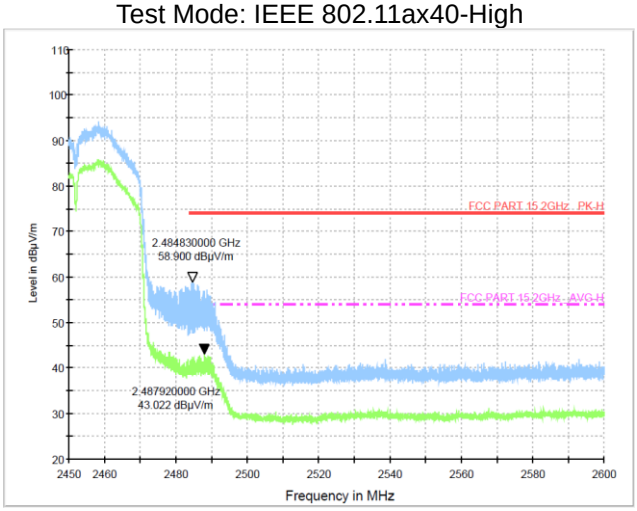
Test Mode: IEEE 802.11ax20-High



Test Mode: IEEE 802.11ax40-Low



Test Mode: IEEE 802.11ax40-High

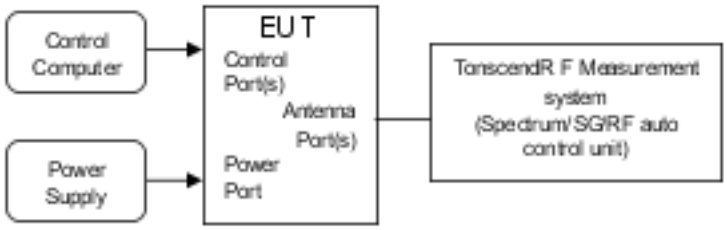


10. BAND EDGE (CONDUCTED)

10.1.Test limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

10.2.Block diagram of test setup



10.3.Test Procedure

Details see the ANSI C63.10-2020
10.3.1. Place the EUT on the table and set it in transmitting mode.
10.3.2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
10.3.3. Set center frequency of spectrum analyzer = operating frequency.
10.3.4. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz. The detector is set to Peak. The trace mode is max hold.
10.3.5. Repeat above procedures until all frequency measured were complete.

10.4.Test Results

Please refer to 2.4GWIFI ANT 1 Annex, 2.4GWIFI ANT 2 Annex, 2.4GWIFI ANT 3 Annex, and 2.4GWIFI ANT 4 Annex for Band Edge items.

11. ANTENNA REQUIREMENT

11.1.Standard Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

11.2.Antenna Connected Construction

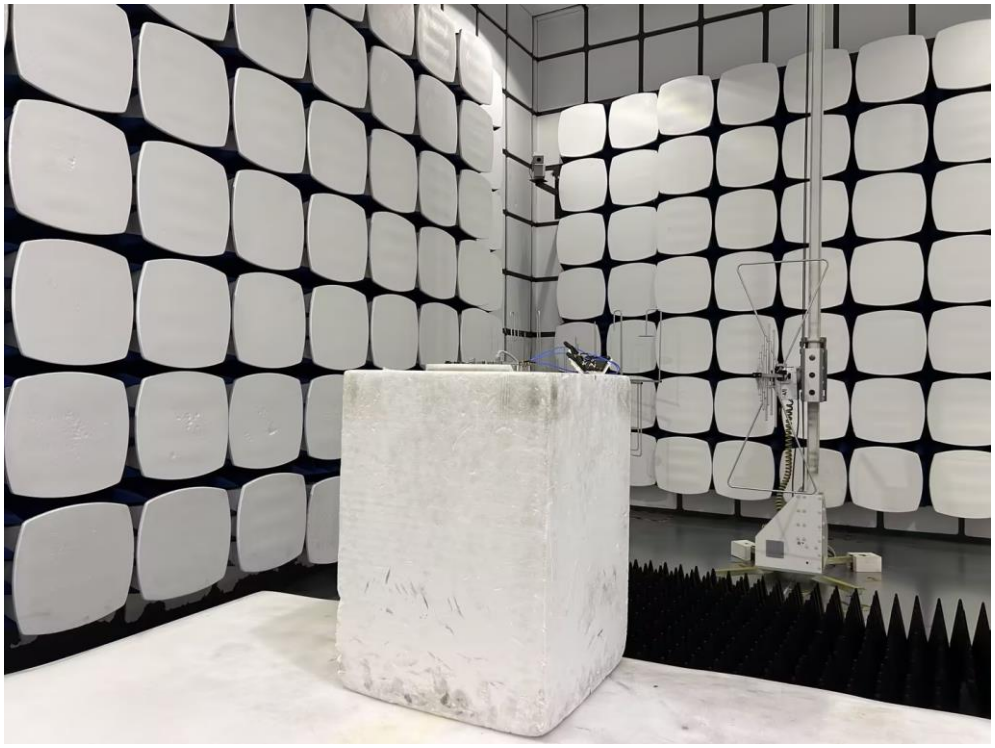
The antenna connector is unique antenna and no consideration of replacement. Please see EUT photo for details.

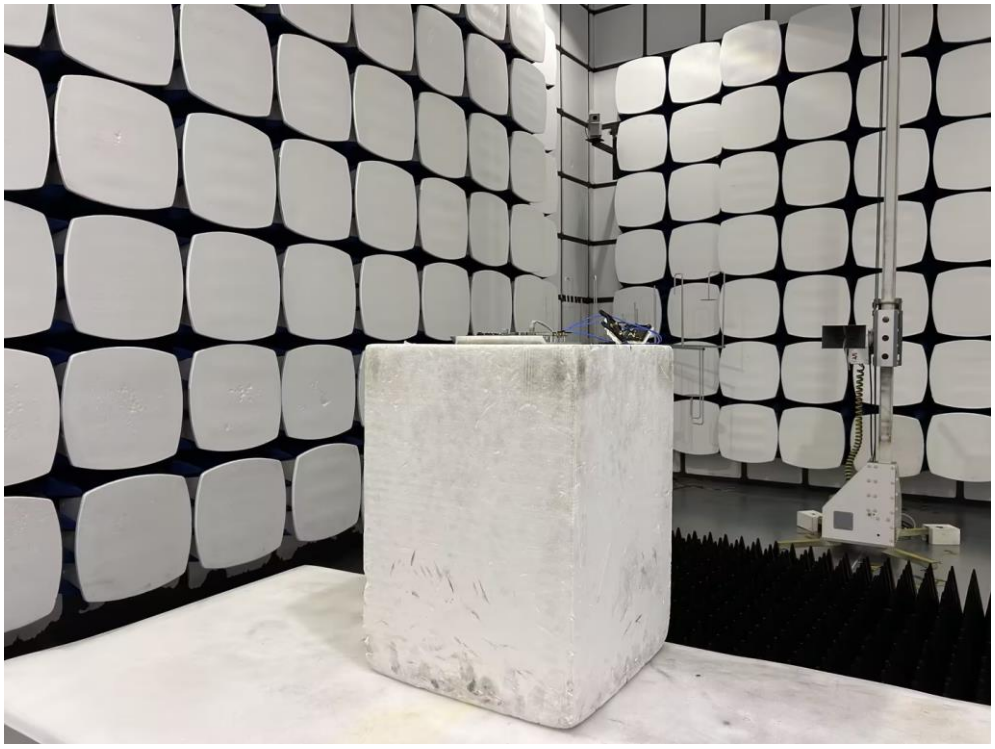
11.3.Results

The EUT antenna is PCB antenna. It complies with the standard requirement.

12. TEST SETUP PHOTO

12.1. **Photos of Radiated emission**





------END OF REPORT------