



FCC TEST REPORT

FCC ID:2BMR6-W30

Product : Window Cam W30
Model Name : W30, W30A, W30B, W30C, W30D, W30F, W30G, W30M,
W30S, W30W
Brand : N/A
Report No. : NCT26037367XE1-3

Prepared for

MEGA MULTIMEDIA AI, INC.

6565 Sunset Blvd Ste 402, Los Angeles, CA 90028 United States

Prepared by

Shenzhen NCT Testing Technology Co., Ltd.

**A101, B2, Fuqiao 6th Area, xintian Community, Fuhai Street, Baoan District, Shenzhen,
China**

TEL: 400-8868-419

1 TEST RESULT CERTIFICATION

Applicant's name : MEGA MULTIMEDIA AI, INC.
Address : 6565 Sunset Blvd Ste 402, Los Angeles, CA 90028 United States
Manufacture's name : MEGA MULTIMEDIA AI, INC.
Address : 6565 Sunset Blvd Ste 402, Los Angeles, CA 90028 United States
Product name : Window Cam W30
Model name : W30, W30A, W30B, W30C, W30D, W30F, W30G, W30M, W30S, W30W
Standards : FCC CFR47 Part 15 Section 15.407
Test procedure : ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024
KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
Test Date : Sept. 07, 2026 to Sept. 21, 2026
Date of Issue : Sept. 21, 2026

This device described above has been tested by NCT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

This report shall not be reproduced except in full, without the written approval of NCT, this document may be altered or revised by NCT, personal only, and shall be noted in the revision of the document.

Prepared by:

Shine Wu

Shine Wu

Reviewer:

Keven Wu

Keven Wu

Approved:

Henry Wang

Henry Wang



Contents

Page

1 TEST RESULT CERTIFICATION	2
2 TEST SUMMARY	5
3 TEST FACILITY	6
4 GENERAL INFORMATION	7
4.1 GENERAL DESCRIPTION OF E.U.T.	7
4.2 TEST SETUP CONFIGURATION	9
4.3 TEST MODE	9
5 EQUIPMENT DURING TEST	10
5.1 EQUIPMENTS LIST	10
5.2 MEASUREMENT UNCERTAINTY	12
5.3 DESCRIPTION OF SUPPORT UNITS	12
6 CONDUCTED EMISSION	13
6.1 E.U.T. OPERATION	13
6.2 EUT SETUP	13
6.3 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	14
6.4 MEASUREMENT PROCEDURE:	14
6.5 CONDUCTED EMISSION LIMIT	14
6.6 MEASUREMENT DESCRIPTION	14
6.7 CONDUCTED EMISSION TEST RESULT	14
7 RADIATED SPURIOUS EMISSIONS	17
7.1 EUT OPERATION	17
7.2 TEST SETUP	18
7.3 SPECTRUM ANALYZER SETUP	19
7.4 TEST PROCEDURE	20
7.5 SUMMARY OF TEST RESULTS	21
8 POWER SPECTRAL DENSITY TEST	36
8.1 TEST STANDARD AND LIMIT	36
8.2 TEST SETUP	37
8.3 TEST PROCEDURE	37

8.4 TEST DATA.....	38
9 26DB & 6DB & 99% EMISSION BANDWIDTH TEST	39
9.1 TEST STANDARD.....	39
9.2 TEST SETUP	39
9.3 TEST PROCEDURE.....	39
9.4 TEST DATA.....	42
10 MAXIMUM CONDUCTED OUTPUT POWER	43
10.1 TEST STANDARD AND LIMIT	43
10.2 TEST SETUP	43
10.3 TEST PROCEDURE.....	43
10.4 TEST DATA	45
11 OUT OF BAND EMISSIONS AND SPURIOUS EMISSION.....	46
11.1 TEST STANDARD AND LIMIT	46
11.2 TEST SETUP	46
11.3 TEST PROCEDURE.....	46
11.4 TEST DATA	46
12 FREQUENCY STABILITY MEASUREMENT	47
12.1 TEST STANDARD AND LIMIT	47
12.2 TEST SETUP	47
12.3 TEST PROCEDURE.....	47
12.4 TEST DATA	47
13 ANTENNA REQUIREMENT	48
13.1 TEST STANDARD AND REQUIREMENT	48
13.2 ANTENNA CONNECTED CONSTRUCTION	48
14 TEST SETUP & EUT PHOTOGRAPH.....	49

2 Test Summary

FCC Part15 (15.407), Subpart E			
Standard Section	Test Item	Judgment	Remark
15.407(b), 15.209	Radiated Spurious Emission	PASS	
15.207	Conducted Emission	PASS	
15.407 (a) 15.407 (e)	99%, 6dB and 26dB Bandwidth	PASS	
15.407 (a)	Maximum Conducted Output Power	PASS	
15.407(b)	Band Edge	PASS	
15.407 (a)	Power Spectral Density	PASS	
15.407(g)	Frequency Stability	PASS	
15.203	Antenna Requirement	PASS	

Remark:

1. "N/A" denotes test is not applicable in this Test Report.

3 TEST FACILITY

Site Description

EMC Lab. : Accredited by CNAS

The Certificate Registration Number is L8251

Designation Number: CN1347

Test Firm Registration Number: 894804

Accredited by A2LA

The Certificate Registration Number is 6837.01

Accredited by Industry Canada

The Conformity Assessment Body Identifier is CN0150

Company Number: 30806

Name of Firm : Shenzhen NCT Testing Technology Co., Ltd.

Site Location : A101, B2, Fuqiao 6th Area, xintian Community, Fuhai Street, Baoan District, Shenzhen, China

4 General Information

4.1 General Description of E.U.T.

Product Name:	Window Cam W30
Model No.:	W30
Sample ID:	NCT26037367X-001
Sample(s) Status:	Engineer sample
Series Model:	W30A, W30B, W30C, W30D, W30F, W30G, W30M, W30S, W30W
Model Different.:	Only differ by Product appearance color and model name.
Operation Frequency:	WIFI 5.2G: 5150MHz~5250MHz WIFI 5.8G: 5725MHz~5850MHz
Modulation type:	OFDM with BPSK/QPSK/16QAM/64QAM for 802.11a/n OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11ac OFDMA with BPSK/QPSK/16QAM/64QAM/256QAM/1024QAM for 802.11ax
Antenna Type:	Internal Antenna
Antenna gain:	4.13 dBi @5150MHz~5250MHz, 4.13 dBi @5725MHz~5850MHz
Power supply:	DC 5V from adapter input AC 120V/60Hz
Adapter:	Model: BS05A-0501000US Input: 100-240V~ 50/60Hz 0.25A Max Output: 5V/1000mA
Hardware Version:	N/A
Software Version:	N/A
Channel Puncturing Function:	☐ Supported ☒ Unspported
Support RU:	☒ Full RU ☐ Partial RU
Remark:	The Antenna gain is provided by customer from Antenna spec. and the laboratory will not be responsible for the accumulated calculation results which covers the information provided by the applicant.

☒Wifi 5G with U-NII - 1

Frequency and Channel list for 802.11a/n (HT20)/802.11ac (VHT20)/802.11ax(H20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220		
40	5200	48	5240		

Frequency and Channel list for 802.11n (HT40)/ 802.11ac (VHT40)/802.11ax(HE40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190				
46	5230				

☒Wifi 5G with U-NII - 3

Frequency and Channel list for 802.11a/n (HT20)/802.11ac (VHT20)/802.11ax(HE20):

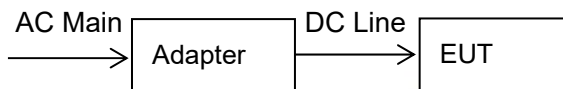
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	157	5785	165	5825
153	5765	161	5805		

Frequency and Channel list for 802.11n (HT40)/ 802.11ac (VHT40)/802.11ax(HE40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755				
159	5795				

4.2 Test Setup Configuration

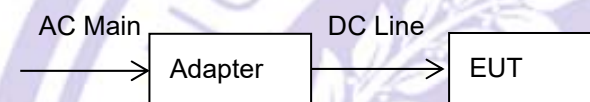
Radiated Emission



Conducted Emission



Radiated Spurious



Conducted Spurious



4.3 Test Mode

Transmitting mode	Keep the EUT in continuously transmitting mode.
Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.	

Test Software	wifi_test_v1.0
Power level setup	10dBm

5 Equipment During Test

5.1 Equipments List

Conducted emission Test Equipment

Name	Model No.	Serial No.	Manufacturer	Date of Cal.	Due Date
944 Shielded Room	944 Room	/	EMToni	2025/1/17	2028/1/16
EMI Test Receiver	ESPI	101604	Rohde & Schwarz	2026/6/05	2027/6/04
limiator	ESH3-Z2	NA	Ronde&Schwarz	2026/6/05	2027/6/04
Attenuation	PCL-10dB	221126	HTEC	2026/6/05	2027/6/04
LISN	ENV 216	102796	Rohde & Schwarz	2026/6/05	2027/6/04
LISN	VN1-13S	004023	CRANAGE	2026/6/05	2027/6/04
Cable	RG223-1500MM	NA	RG	2026/6/05	2027/6/04

Radiated emission & Radio Frequency Test Equipment

Name	Model No.	Serial No.	Manufacturer	Date of Cal.	Due Date
966 Shielded Room	966 Room	/	EMToni	2025/1/17	2028/1/16
EMI Test Receiver	ESCI	101178	Rohde & Schwarz	2026/6/05	2027/6/04
Amplifi (30MHz-1GHz)	BBV 9743 B	00374	SCHWARZBECK	2026/6/05	2027/6/04
Power Meter	ML2495A	10084	Anritu	2026/6/05	2027/6/04
Bilog Antenna (30MHz-1GHz)	VULB9162	00473	SCHWARZBECK	2026/3/07	2027/3/06
Horn antenna (1GHz-18GHz)	BBHA 9120 D	02622	SCHWARZBECK	2026/3/07	2027/3/06
Pream plifier (1GHz-18GHz)	BBV 9718D	0024	SCHWARZBECK	2026/3/07	2027/3/06
Spectrum Analyze (10Hz-40GHz)	FSV 40	100952	Rohde & Schwarz	2026/6/05	2027/6/04
Pream plifier (18GHz-40GHz)	BBV 9721	0056	SCHWARZBECK	2026/6/05	2027/6/04
Double Ridge Guide Horn Antenna (18GHz- 40GHz)	SAS-574	588	A.H.System	2026/6/05	2027/6/04
Loop Antenna (9KHz-30MHz)	FMZB1519B	014	SCHWARZBECK	2026/6/05	2027/6/04

Comprehensive tester	CWM500	104995	Rohde & Schwarz	2026/6/05	2027/6/04
Amplifier (9KHz-30MHz)	BBV 9745	00109	SCHWARZBECK	2026/6/05	2027/6/04
MXG Signal Analyzer	N9020A	MY50510202	Agilent	2026/6/05	2027/6/04
MXG Vector Signal Generator	N5182A	MY50140020	Agilent	2026/6/05	2027/6/04
MXG Analog Signal Generator	N5181A	MY47420919	Agilent	2026/6/05	2027/6/04
Power Sensor	TR1029-2	512364	Techoy	2026/6/05	2027/6/04
constant temperature and humidity chamber	OJN-9606	/	Zhongheng	2026/6/05	2027/6/04
RF Swith	TR1029-1	512364	Techoy	2026/6/05	2027/6/04
Cable	DA800-4000MM	NA	DA	2026/6/05	2027/6/04
Cable	DA800-11000MM	NA	DA	2026/6/05	2027/6/04

Other

Item	Name	Manufacturer	Model	Software version
1	EMC Conduction Test System	FALA	EZ-EMC	Ver.EMC-CON 3A1.1+
2	EMC radiation test system	FALA	EZ-EMC	Ver.FA-03A2 RE+
3	RF test system	TACHOY	RFTTest	V1.0.0
4	RF communication test system	TACHOY	RFTTest	V1.0.0

5.2 Measurement Uncertainty

Parameter	Uncertainty
RF output power, conducted	±1.0dB
Power Spectral Density, conducted	±2.2dB
Radio Frequency	± 1 x 10 ⁻⁶
Bandwidth	± 1.5 x 10 ⁻⁶
Time	±2%
Duty Cycle	±2%
Temperature	±1°C
Humidity	±5%
DC and low frequency voltages	±3%
Conducted Emissions (150kHz~30MHz)	±3.64dB
Radiated Emission(9KHz~30MHz)	±4.51dB
Radiated Emission(30MHz~1GHz)	±5.03dB
Radiated Emission(1GHz~25GHz)	±4.74dB
Radiated Emission(25GHz~40GHz)	±3.38dB
Remark: The coverage Factor (k=2), and measurement Uncertainty for a level of Confidence of 95%	

5.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Window Cam W30	N/A	W30	N/A	EUT
E-2	AC/DC ADAPTER	/	BS05A-0501000US	N/A	Auxiliary

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

6 Conducted Emission

Test Requirement: : FCC CFR 47 Part 15 Section 15.207

Test Method: : ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024

Test Result: : PASS

Frequency Range: : 150kHz to 30MHz

Class/Severity: : Class B

Detector: : Peak for pre-scan (9kHz Resolution Bandwidth)

6.1 E.U.T. Operation

Operating Environment:

Temperature: : 26 °C

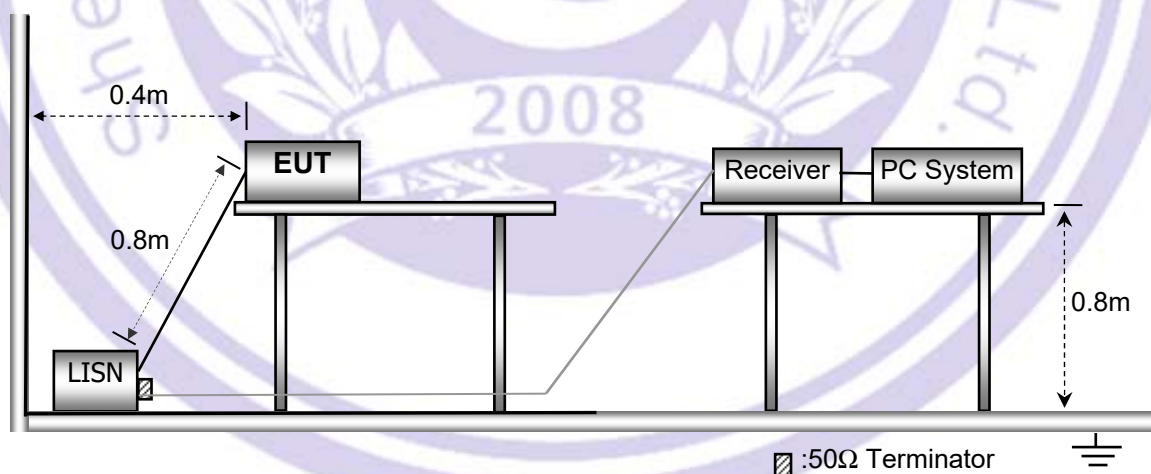
Humidity: : 54 % RH

Atmospheric Pressure: : 101.12 kPa

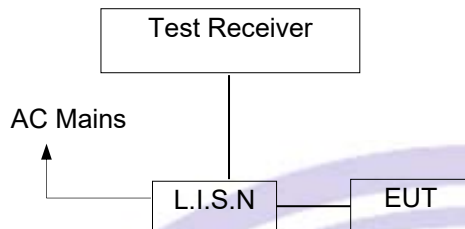
Test Voltage : AC 120V/60Hz

6.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024



6.3 Test SET-UP (Block Diagram of Configuration)



6.4 Measurement Procedure:

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured was complete.

6.5 Conducted Emission Limit

Conducted Emission

Frequency (MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note:

1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

6.6 Measurement Description

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

6.7 Conducted Emission Test Result

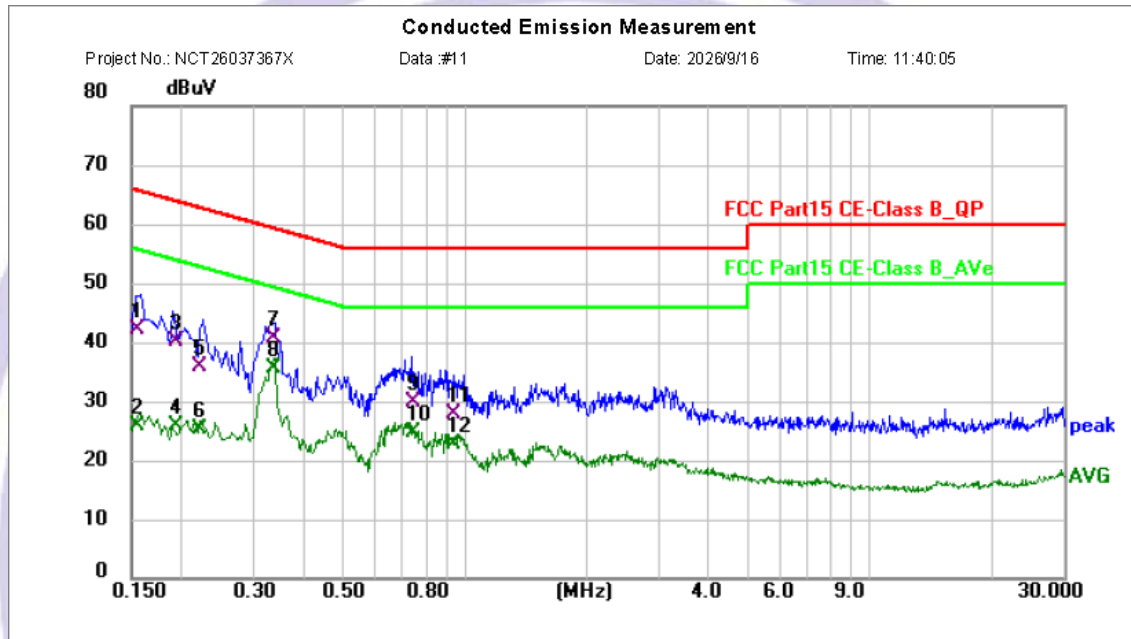
Pass

Conducted emission at both 120V & 240V is assessed, and emission at 120V represents the worst case. All the modulation modes were tested the data of the worst mode (802.11a, Lowest channel 5180MHz) are recorded in the following pages and the others modulation methods do not exceed the limits.

Site: LAB
Limit: FCC Part15 CE-Class B_QP
EUT: Window Cam W330
M/N: W30
Mode: 802.11a, Lowest channel
Note:

Phase: L1
Power: AC120V/60Hz

Temperature: 26 °C
Humidity: 54 %RH

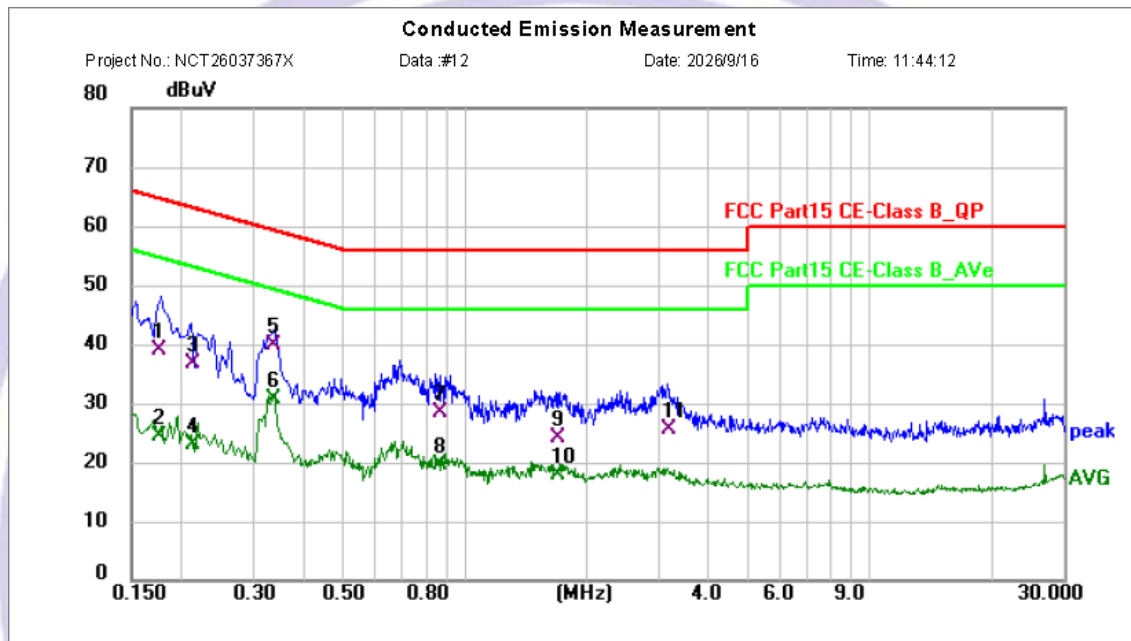


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1547	22.43	19.70	42.13	65.74	-23.61	QP
2	0.1547	6.21	19.70	25.91	55.74	-29.83	AVG
3	0.1924	20.12	19.91	40.03	63.93	-23.90	QP
4	0.1924	5.96	19.91	25.87	53.93	-28.06	AVG
5	0.2222	15.99	19.95	35.94	62.74	-26.80	QP
6	0.2222	5.40	19.95	25.35	52.74	-27.39	AVG
7	0.3354	20.68	19.95	40.63	59.32	-18.69	QP
8 *	0.3354	15.57	19.95	35.52	49.32	-13.80	AVG
9	0.7453	9.77	20.05	29.82	56.00	-26.18	QP
10	0.7453	4.75	20.05	24.80	46.00	-21.20	AVG
11	0.9372	8.02	19.95	27.97	56.00	-28.03	QP
12	0.9372	2.83	19.95	22.78	46.00	-23.22	AVG

Site: LAB
Limit: FCC Part15 CE-Class B_QP
EUT: Window Cam W330
M/N: W30
Mode: 802.11a, Lowest channel
Note:

Phase: **N**
Power: AC120V/60Hz

Temperature: 26 °C
Humidity: 54 %RH



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1751	19.08	19.79	38.87	64.71	-25.84	QP
2	0.1751	4.68	19.79	24.47	54.71	-30.24	AVG
3	0.2133	16.90	19.91	36.81	63.08	-26.27	QP
4	0.2133	3.10	19.91	23.01	53.08	-30.07	AVG
5	0.3350	19.85	19.90	39.75	59.33	-19.58	QP
6 *	0.3350	10.92	19.90	30.82	49.33	-18.51	AVG
7	0.8667	8.64	19.93	28.57	56.00	-27.43	QP
8	0.8667	-0.27	19.93	19.66	46.00	-26.34	AVG
9	1.7024	4.28	19.91	24.19	56.00	-31.81	QP
10	1.7024	-1.97	19.91	17.94	46.00	-28.06	AVG
11	3.1798	5.54	19.99	25.53	56.00	-30.47	QP

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Measurement Level = Reading level + Correct Factor

7 Radiated Spurious Emissions

Test Requirement : FCC CFR47 Part 15 Section 15.209 & 15.407
Test Method : ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024
Test Result : PASS
Measurement Distance : 3m
Limit : See the follow table

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	$2400/F(\text{kHz})$	300	$10000 * 2400/F(\text{kHz})$	$20\log^{(2400/F(\text{kHz}))} + 80$
0.490 ~ 1.705	$24000/F(\text{kHz})$	30	$100 * 24000/F(\text{kHz})$	$20\log^{(24000/F(\text{kHz}))} + 40$
1.705 ~ 30	30	30	$100 * 30$	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

7.1 EUT Operation

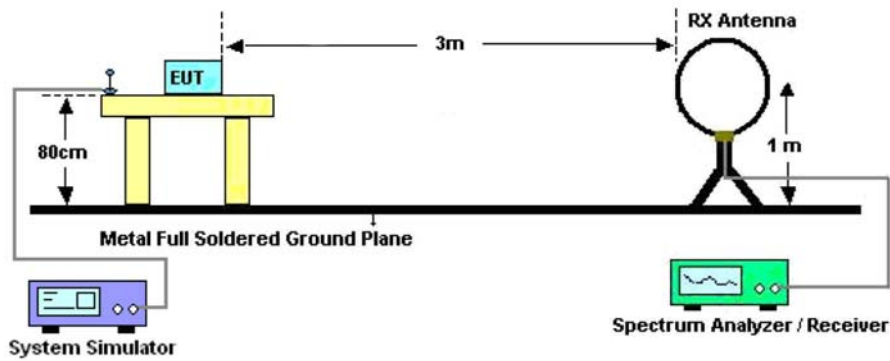
Operating Environment:

Temperature : 24.5 °C
Humidity : 55.5% RH
Atmospheric Pressure : 101.3kPa
Test Voltage : AC 120V60Hz

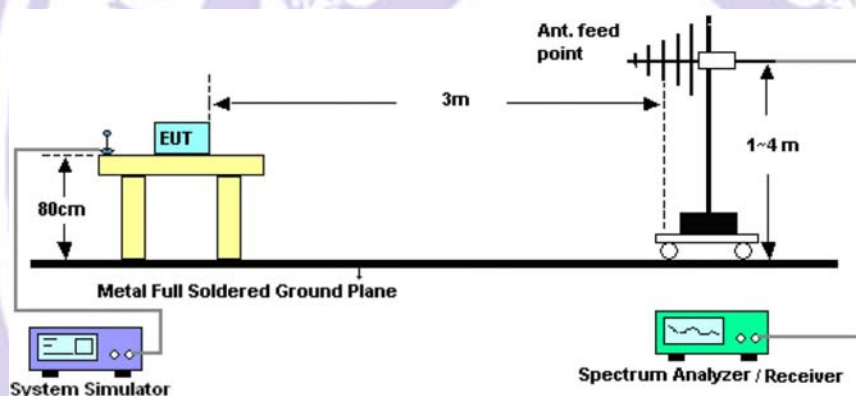
7.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site

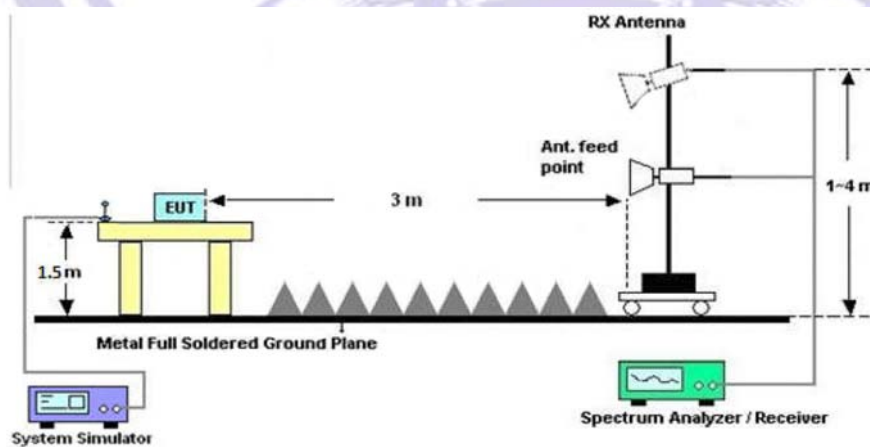
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



7.3 Spectrum Analyzer Setup

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

7.4 Test Procedure

1. The testing follows the guidelines in Spurious Radiated Emissions of ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024.
2. Below 1000MHz, The EUT was placed on a turn table which is 0.8m above ground plane. And above 1000MHz, The EUT was placed on a styrofoam table which is 1.5m above ground plane.
3. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (From 1m to 4m) and turntable (from 0 degree to 360 degree) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
5. Set to the maximum power setting and enable the EUT transmit continuously.
6. Final measurement (Above 1GHz): The frequency range will be divided into different sub ranges depending of the frequency range of the used horn antenna. The EMI Receiver set to peak and average mode and a resolution bandwidth of 1MHz. The measurement will be performed in horizontal and vertical polarization of the measuring antenna and while rotating the EUT in its vertical axis in the range of 0 degree to 360 degree in order to have the antenna inside the cone of radiation.
7. Test Procedure of measurement (For Above 1GHz):
 - 1) Monitor the frequency range at horizontal polarization and move the antenna over all sides of the EUT(if necessary move the EUT to another orthogonal axis).
 - 2) Change the antenna polarization and repeat 1) with vertical polarization.
 - 3) Make a hardcopy of the spectrum.
 - 4) Measure the frequency of the detected emissions with a lower span and resolution bandwidth to increase the accuracy and note the frequency value.
 - 5) Change the analyser mode to Clear/ Write and found the cone of emission.
 - 6) Rotate and move the EUT, so that the measuring distance can be enlarged to 3m and the antenna will be still inside the cone of emission.
 - 7) Measure the level of the detected frequency with the correct resolution bandwidth, with the antenna polarization and azimuth and the peak and average detector, which causes the maximum emission.
 - 8) Repeat steps 1) to 7) for the next antenna spot if the EUT is larger than the antenna beamwidth.
7. The radiation measurements are tested under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the X position. So the data shown was the X position only.

7.5 Summary of Test Results

Test Frequency: 9KHz-30MHz

Freq. (MHz)	Ant. Pol. H/V	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)
--	--	--	--	>20

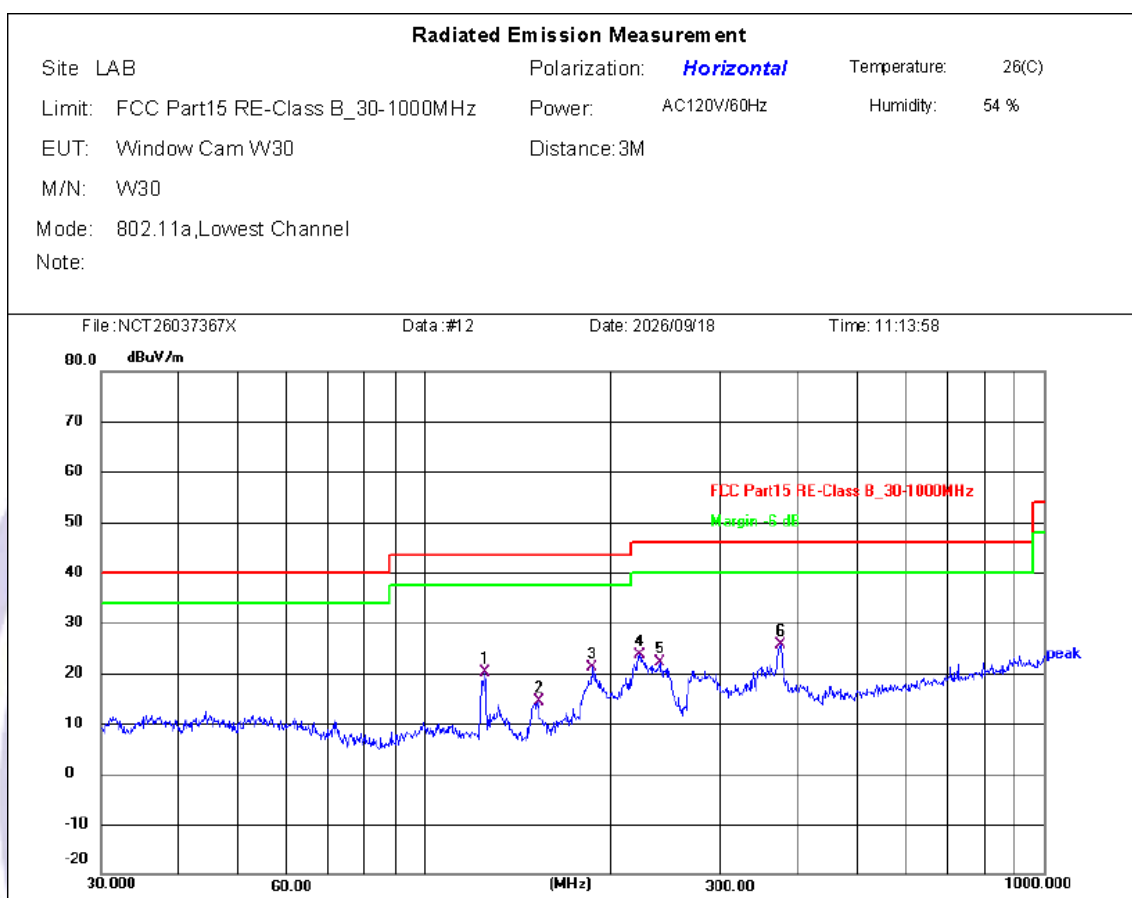
Note:

The amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

Distance extrapolation factor = $40\log(\text{Specific distance} / \text{test distance})$ (dB);
Limit line = Specific limits (dBuV) + distance extrapolation factor.

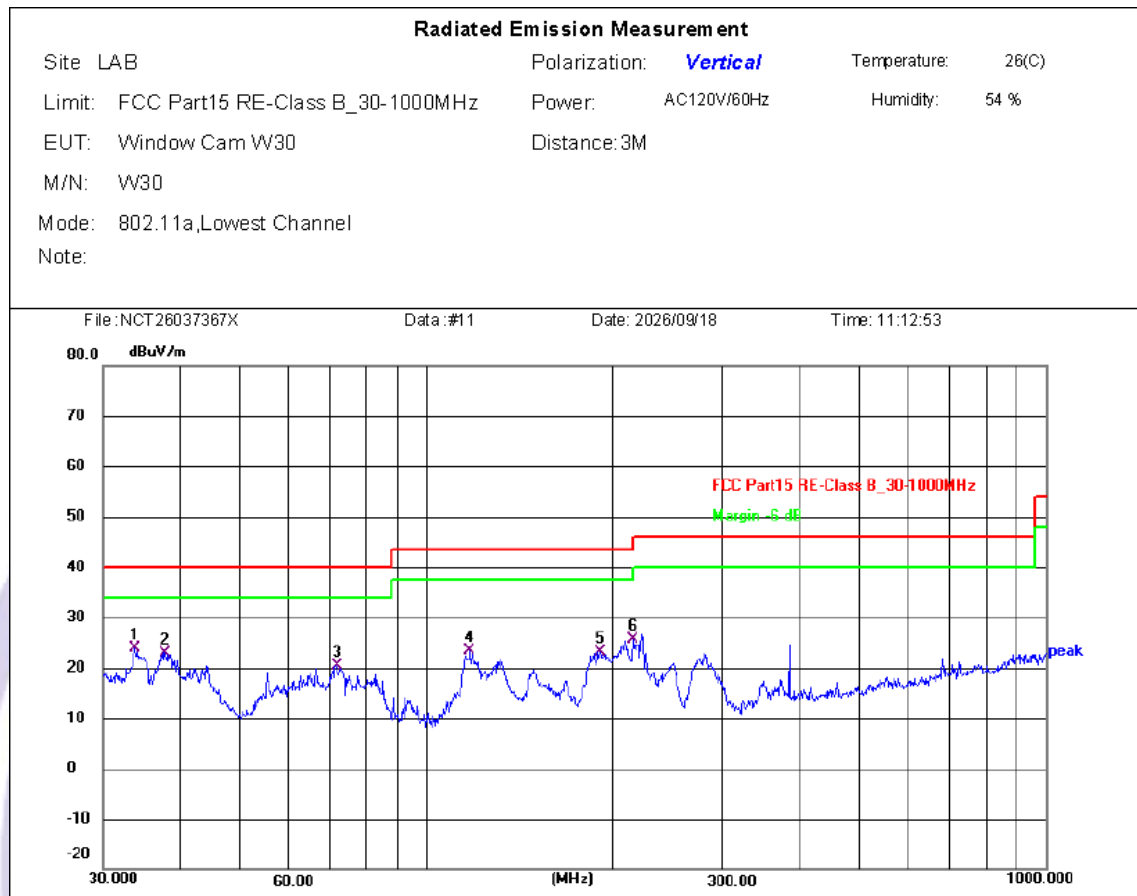
Test Frequency: 30MHz ~ 1GHz

Please refer to the following test plots, Low Channel Worst case (802.11a, Low Channel 5180MHz) for record:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	125.0065	38.81	-18.57	20.24	43.50	-23.26	QP
2	152.8641	33.96	-19.52	14.44	43.50	-29.06	QP
3	185.7882	38.63	-17.51	21.12	43.50	-22.38	QP
4	222.1697	39.44	-15.93	23.51	46.00	-22.49	QP
5	239.1472	37.54	-15.47	22.07	46.00	-23.93	QP
6	374.8225	37.91	-12.29	25.62	46.00	-20.38	QP

Remark: Emission Level = Reading + Cable Loss + ANT Factor - AMP Factor



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	33.7986	40.52	-16.63	23.89	40.00	-16.11	QP
2	37.8121	38.62	-15.79	22.83	40.00	-17.17	QP
3	71.5805	39.00	-18.57	20.43	40.00	-19.57	QP
4	117.3602	40.67	-17.34	23.33	43.50	-20.17	QP
5	190.4050	40.44	-17.22	23.22	43.50	-20.28	QP
6	215.2678	41.71	-16.18	25.53	43.50	-17.97	QP

Remark: Emission Level = Reading + Cable Loss + ANT Factor - AMP Factor

Test Frequency: From 1GHz to 40GHz

All the modes have been tested, and only the data of the worst mode 802.11 a is presented.

802.11a

Polar	Frequency	Meter Reading	Pre-amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
(H/V)	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel:5745MHz									
V	11490	46.72	32.29	8.39	38.90	61.72	74.00	-12.28	PK
V	11490	26.33	32.29	8.39	38.90	41.33	54.00	-12.67	AV
V	17235	40.44	31.19	9.62	40.37	59.24	68.20	-8.96	PK
V	17235	23.60	31.19	9.62	40.37	42.40	54.00	-11.60	AV
V	22980	42.10	27.02	7.20	38.98	61.26	74.00	-12.74	PK
V	22980	19.78	27.02	7.20	38.98	38.94	54.00	-15.06	AV
V	28725	43.63	27.10	7.56	40.18	64.27	68.20	-3.93	PK
V	28725	22.97	27.10	7.56	40.18	43.61	54.00	-10.39	AV
H	11490	48.57	32.29	8.39	38.90	63.57	74.00	-10.43	PK
H	11490	27.27	32.29	8.39	38.90	42.27	54.00	-11.73	AV
H	17235	44.36	31.19	9.62	40.37	63.16	68.20	-5.04	PK
H	17235	22.56	31.19	9.62	40.37	41.36	54.00	-12.64	AV
H	22980	43.33	27.02	7.20	38.98	62.49	74.00	-11.51	PK
H	22980	21.52	27.02	7.20	38.98	40.68	54.00	-13.32	AV
H	28725	43.05	27.10	7.56	40.18	63.69	68.20	-4.51	PK
H	28725	21.01	27.10	7.56	40.18	41.65	54.00	-12.35	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
Middle Channel:5785MHz									
V	11570	42.78	32.26	8.48	38.90	57.90	74.00	-16.10	PK
V	11570	23.50	32.26	8.48	38.90	38.62	54.00	-15.38	AV
V	17355	39.22	31.08	9.67	40.61	58.42	68.20	-9.78	PK
V	17355	21.06	31.08	9.67	40.61	40.26	54.00	-13.74	AV
V	23140	38.51	27.03	7.24	39.03	57.75	68.20	-10.45	PK
V	23140	21.11	27.03	7.24	39.03	40.35	54.00	-13.65	AV
V	28925	37.40	27.10	7.58	40.34	58.22	68.20	-9.98	PK
V	28925	18.51	27.10	7.58	40.34	39.33	54.00	-14.67	AV
H	11570	41.48	32.26	8.48	38.90	56.60	74.00	-17.40	PK
H	11570	24.14	32.26	8.48	38.90	39.26	54.00	-14.74	AV
H	17355	39.99	31.08	9.67	40.61	59.19	68.20	-9.01	PK
H	17355	20.41	31.08	9.67	40.61	39.61	54.00	-14.39	AV
H	23140	38.48	27.03	7.24	39.03	57.72	68.20	-10.48	PK
H	23140	17.71	27.03	7.24	39.03	36.95	54.00	-17.05	AV
H	28925	38.41	27.10	7.58	40.34	59.23	68.20	-8.97	PK
H	28925	18.03	27.10	7.58	40.34	38.85	54.00	-15.15	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
High Channel:5825MHz									
V	11650	44.99	32.23	8.56	38.90	60.22	74.00	-13.78	PK
V	11650	27.30	32.23	8.56	38.90	42.53	54.00	-11.47	AV
V	17475	43.17	30.97	9.73	40.85	62.78	68.20	-5.42	PK
V	17475	26.10	30.97	9.73	40.85	45.71	54.00	-8.29	AV
V	23300	38.71	27.03	7.26	39.06	58.00	68.20	-10.20	PK
V	23300	23.77	27.03	7.26	39.06	43.06	54.00	-10.94	AV
V	29125	37.28	27.10	7.61	40.40	58.19	68.20	-10.01	PK
V	29125	23.37	27.10	7.61	40.40	44.28	54.00	-9.72	AV
H	11650	42.61	32.23	8.56	38.90	57.84	74.00	-16.16	PK
H	11650	26.14	32.23	8.56	38.90	41.37	54.00	-12.63	AV
H	17475	39.48	30.97	9.73	40.85	59.09	68.20	-9.11	PK
H	17475	27.22	30.97	9.73	40.85	46.83	54.00	-7.17	AV
H	23300	45.76	27.03	7.26	39.06	65.05	68.20	-3.15	PK
H	23300	24.84	27.03	7.26	39.06	44.13	54.00	-9.87	AV
H	29125	33.46	27.10	7.61	40.40	54.37	68.20	-13.83	PK
H	29125	24.43	27.10	7.61	40.40	45.34	54.00	-8.66	AV

802.11a

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
Low Channel:5180MHz									
V	10360	41.15	32.70	7.72	38.59	54.76	68.20	-13.44	PK
V	10360	25.61	32.70	7.72	38.59	39.22	54.00	-14.78	AV
V	15540	46.34	31.74	9.44	39.29	63.33	74.00	-10.67	PK
V	15540	17.06	31.74	9.44	39.29	34.05	54.00	-19.95	AV
V	20720	39.27	26.93	6.64	37.94	56.92	74.00	-17.08	PK
V	20720	16.72	26.93	6.64	37.94	34.37	54.00	-19.63	AV
V	25900	36.94	27.10	7.90	39.32	57.06	68.20	-11.14	PK
V	25900	19.70	27.10	7.90	39.32	39.82	54.00	-14.18	AV
H	10360	38.79	32.70	7.72	38.59	52.40	68.20	-15.80	PK
H	10360	23.52	32.70	7.72	38.59	37.13	54.00	-16.87	AV
H	15540	38.84	31.74	9.44	39.29	55.83	74.00	-18.17	PK
H	15540	22.82	31.74	9.44	39.29	39.81	54.00	-14.19	AV
H	20720	39.98	26.93	6.64	37.94	57.63	74.00	-16.37	PK
H	20720	17.81	26.93	6.64	37.94	35.46	54.00	-18.54	AV
H	25900	40.31	27.10	7.90	39.32	60.43	68.20	-7.77	PK
H	25900	22.38	27.10	7.90	39.32	42.50	54.00	-11.50	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
Middle Channel:5200MHz									
V	10400	40.68	32.69	7.73	38.62	54.34	68.20	-13.86	PK
V	10400	24.24	32.69	7.73	38.62	37.90	54.00	-16.10	AV
V	15600	39.55	31.72	9.45	39.28	56.56	74.00	-17.44	PK
V	15600	17.58	31.72	9.45	39.28	34.59	54.00	-19.41	AV
V	20800	39.29	26.93	6.73	37.96	57.05	74.00	-16.95	PK
V	20800	19.59	26.93	6.73	37.96	37.35	54.00	-16.65	AV
V	26000	36.08	27.10	7.94	39.30	56.22	68.20	-11.98	PK
V	26000	16.21	27.10	7.94	39.30	36.35	54.00	-17.65	AV
H	10400	43.85	32.69	7.73	38.62	57.51	68.20	-10.69	PK
H	10400	20.88	32.69	7.73	38.62	34.54	54.00	-19.46	AV
H	15600	40.28	31.72	9.45	39.28	57.29	74.00	-16.71	PK
H	15600	18.62	31.72	9.45	39.28	35.63	54.00	-18.37	AV
H	20800	37.76	26.93	6.73	37.96	55.52	74.00	-18.48	PK
H	20800	18.82	26.93	6.73	37.96	36.58	54.00	-17.42	AV
H	26000	35.92	27.10	7.94	39.30	56.06	68.20	-12.14	PK
H	26000	17.79	27.10	7.94	39.30	37.93	54.00	-16.07	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
High Channel:5240MHz									
V	10480	40.67	32.66	7.74	38.68	54.43	68.20	-13.77	PK
V	10480	22.55	32.66	7.74	38.68	36.31	54.00	-17.69	AV
V	15720	39.75	31.68	9.48	39.26	56.81	74.00	-17.19	PK
V	15720	17.07	31.68	9.48	39.26	34.13	54.00	-19.87	AV
V	20960	40.60	26.94	6.91	37.99	58.56	74.00	-15.44	PK
V	20960	17.80	26.94	6.91	37.99	35.76	54.00	-18.24	AV
V	26200	37.85	27.10	7.89	39.50	58.14	68.20	-10.06	PK
V	26200	14.50	27.10	7.89	39.50	34.79	54.00	-19.21	AV
H	10480	42.60	32.66	7.74	38.68	56.36	68.20	-11.84	PK
H	10480	21.20	32.66	7.74	38.68	34.96	54.00	-19.04	AV
H	15720	39.77	31.68	9.48	39.26	56.83	74.00	-17.17	PK
H	15720	17.51	31.68	9.48	39.26	34.57	54.00	-19.43	AV
H	20960	40.23	26.94	6.91	37.99	58.19	74.00	-15.81	PK
H	20960	20.75	26.94	6.91	37.99	38.71	54.00	-15.29	AV
H	26200	33.65	27.10	7.89	39.50	53.94	68.20	-14.26	PK
H	26200	17.63	27.10	7.89	39.50	37.92	54.00	-16.08	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss - Pre-amplifier, Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
4. The worst mode is 802.11a, only the worst data is recorded.

Restricted bands:

Frequency	Meter Reading	antenna Factor	cable loss	preamp factor	Emission Level	Limit	Margin	Polar	Detector Type	Result
(MHz)	(dBuV/m)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(H/V)		
802.11a:5180MHz										
5150	51.81	33.14	5.29	33.88	56.36	74.00	-17.64	V	PK	Pass
5150	34.29	33.14	5.29	33.88	38.84	54.00	-15.16	V	AV	Pass
5145	53.25	33.14	5.29	33.88	57.80	74.00	-16.20	V	PK	Pass
5145	34.98	33.14	5.29	33.88	39.53	54.00	-14.47	V	AV	Pass
5150	53.39	33.14	5.29	33.88	57.94	74.00	-16.06	H	PK	Pass
5150	35.13	33.14	5.29	33.88	39.68	54.00	-14.32	H	AV	Pass
5145	51.51	33.14	5.29	33.88	56.06	74.00	-17.94	H	PK	Pass
5145	33.83	33.14	5.29	33.88	38.38	54.00	-15.62	H	AV	Pass
802.11a:5240MHz										
5350	53.77	33.06	5.44	33.72	58.55	74.00	-15.45	V	PK	Pass
5350	35.93	33.06	5.44	33.72	40.71	54.00	-13.29	V	AV	Pass
5370	52.04	33.05	5.45	33.70	56.84	74.00	-17.16	V	PK	Pass
5370	34.43	33.05	5.45	33.70	39.23	54.00	-14.77	V	AV	Pass
5350	55.75	33.06	5.44	33.72	60.53	74.00	-13.47	H	PK	Pass
5350	36.83	33.06	5.44	33.72	41.61	54.00	-12.39	H	AV	Pass
5370	52.72	33.05	5.45	33.70	57.52	74.00	-16.48	H	PK	Pass
5370	34.08	33.05	5.45	33.70	38.88	54.00	-15.12	H	AV	Pass
802.11n20:5180MHz										
5150	53.12	33.14	5.29	33.88	57.67	74.00	-16.33	V	PK	Pass
5150	35.33	33.14	5.29	33.88	39.88	54.00	-14.12	V	AV	Pass
5145	51.68	33.14	5.29	33.88	56.23	74.00	-17.77	V	PK	Pass
5145	35.13	33.14	5.29	33.88	39.68	54.00	-14.32	V	AV	Pass
5150	54.13	33.14	5.29	33.88	58.68	74.00	-15.32	H	PK	Pass
5150	36.58	33.14	5.29	33.88	41.13	54.00	-12.87	H	AV	Pass
5145	51.91	33.14	5.29	33.88	56.46	74.00	-17.54	H	PK	Pass
5145	34.49	33.14	5.29	33.88	39.04	54.00	-14.96	H	AV	Pass

802.11n20:5240MHz										
5350	54.62	33.06	5.44	33.72	59.40	74.00	-14.60	V	PK	Pass
5350	37.06	33.06	5.44	33.72	41.84	54.00	-12.16	V	AV	Pass
5370	50.46	33.05	5.45	33.70	55.26	68.20	-12.94	V	PK	Pass
5370	34.12	33.05	5.45	33.70	38.92	54.00	-15.08	V	AV	Pass
5350	54.38	33.06	5.44	33.72	59.16	74.00	-14.84	H	PK	Pass
5350	40.67	33.06	5.44	33.72	45.45	54.00	-8.55	H	AV	Pass
5370	52.62	33.05	5.45	33.70	57.42	68.20	-10.78	H	PK	Pass
5370	37.33	33.05	5.45	33.70	42.13	54.00	-11.87	H	AV	Pass
802.11ac20:5180MHz										
5150	54.08	33.14	5.29	33.88	58.63	74.00	-15.37	V	PK	Pass
5150	36.10	33.14	5.29	33.88	40.65	54.00	-13.35	V	AV	Pass
5145	52.26	33.14	5.29	33.88	56.81	74.00	-17.19	V	PK	Pass
5145	36.30	33.14	5.29	33.88	40.85	54.00	-13.15	V	AV	Pass
5150	53.86	33.14	5.29	33.88	58.41	74.00	-15.59	H	PK	Pass
5150	36.63	33.14	5.29	33.88	41.18	54.00	-12.82	H	AV	Pass
5145	51.87	33.14	5.29	33.88	56.42	74.00	-17.58	H	PK	Pass
5145	37.31	33.14	5.29	33.88	41.86	54.00	-12.14	H	AV	Pass
802.11ac20:5240MHz										
5350	53.92	33.06	5.44	33.72	58.70	74.00	-15.30	V	PK	Pass
5350	38.39	33.06	5.44	33.72	43.17	54.00	-10.83	V	AV	Pass
5370	50.99	33.05	5.45	33.70	55.79	68.20	-12.41	V	PK	Pass
5370	36.81	33.05	5.45	33.70	41.61	54.00	-12.39	V	AV	Pass
5350	54.46	33.06	5.44	33.72	59.24	74.00	-14.76	H	PK	Pass
5350	43.13	33.06	5.44	33.72	47.91	54.00	-6.09	H	AV	Pass
5370	54.33	33.05	5.45	33.70	59.13	68.20	-9.07	H	PK	Pass
5370	37.90	33.05	5.45	33.70	42.70	54.00	-11.30	H	AV	Pass
802.11n40:5190MHz										
5150	54.05	33.14	5.29	33.88	58.60	74.00	-15.40	V	PK	Pass
5150	39.32	33.14	5.29	33.88	43.87	54.00	-10.13	V	AV	Pass
5145	50.98	33.14	5.29	33.88	55.53	74.00	-18.47	V	PK	Pass
5145	36.79	33.14	5.29	33.88	41.34	54.00	-12.66	V	AV	Pass
5150	54.54	33.14	5.29	33.88	59.09	74.00	-14.91	H	PK	Pass
5150	42.13	33.14	5.29	33.88	46.68	54.00	-7.32	H	AV	Pass
5145	53.50	33.14	5.29	33.88	58.05	74.00	-15.95	H	PK	Pass
5145	37.33	33.14	5.29	33.88	41.88	54.00	-12.12	H	AV	Pass

802.11n40:5230MHz										
5350	55.76	33.06	5.44	33.72	60.54	74.00	-13.46	V	PK	Pass
5350	36.78	33.06	5.44	33.72	41.56	54.00	-12.44	V	AV	Pass
5370	54.34	33.05	5.45	33.70	59.14	74.00	-14.86	V	PK	Pass
5370	33.94	33.05	5.45	33.70	38.74	54.00	-15.26	V	AV	Pass
5350	53.00	33.06	5.44	33.72	57.78	74.00	-16.22	H	PK	Pass
5350	42.15	33.06	5.44	33.72	46.93	54.00	-7.07	H	AV	Pass
5370	52.63	33.05	5.45	33.70	57.43	74.00	-16.57	H	PK	Pass
5370	33.27	33.05	5.45	33.70	38.07	54.00	-15.93	H	AV	Pass
802.11ac40:5190MHz										
5150	54.50	33.14	5.29	33.88	59.05	74.00	-14.95	V	PK	Pass
5150	36.02	33.14	5.29	33.88	40.57	54.00	-13.43	V	AV	Pass
5145	51.58	33.14	5.29	33.88	56.13	74.00	-17.87	V	PK	Pass
5145	34.48	33.14	5.29	33.88	39.03	54.00	-14.97	V	AV	Pass
5150	55.49	33.14	5.29	33.88	60.04	74.00	-13.96	H	PK	Pass
5150	37.98	33.14	5.29	33.88	42.53	54.00	-11.47	H	AV	Pass
5145	52.90	33.14	5.29	33.88	57.45	74.00	-16.55	H	PK	Pass
5145	33.65	33.14	5.29	33.88	38.20	54.00	-15.80	H	AV	Pass
802.11ac40:5230MHz										
5350	53.36	33.06	5.44	33.72	58.14	74.00	-15.86	V	PK	Pass
5350	36.26	33.06	5.44	33.72	41.04	54.00	-12.96	V	AV	Pass
5370	51.52	33.05	5.45	33.70	56.32	74.00	-17.68	V	PK	Pass
5370	34.88	33.05	5.45	33.70	39.68	54.00	-14.32	V	AV	Pass
5350	54.00	33.06	5.44	33.72	58.78	74.00	-15.22	H	PK	Pass
5350	36.33	33.06	5.44	33.72	41.11	54.00	-12.89	H	AV	Pass
5370	51.68	33.05	5.45	33.70	56.48	74.00	-17.52	H	PK	Pass
5370	34.29	33.05	5.45	33.70	39.09	54.00	-14.91	H	AV	Pass
802.11ax:5180MHz										
5150	57.16	33.14	5.29	33.88	61.71	74.00	-12.29	V	PK	Pass
5150	39.36	33.14	5.29	33.88	43.91	54.00	-10.09	V	AV	Pass
5145	53.91	33.14	5.29	33.88	58.46	74.00	-15.54	V	PK	Pass
5145	38.58	33.14	5.29	33.88	43.13	54.00	-10.87	V	AV	Pass
5150	56.21	33.14	5.29	33.88	60.76	74.00	-13.24	H	PK	Pass
5150	42.84	33.14	5.29	33.88	47.39	54.00	-6.61	H	AV	Pass
5145	55.33	33.14	5.29	33.88	59.88	74.00	-14.12	H	PK	Pass
5145	38.73	33.14	5.29	33.88	43.28	54.00	-10.72	H	AV	Pass

802.11ax:5240MHz										
5350	56.73	33.06	5.44	33.72	61.51	74.00	-12.49	V	PK	Pass
5350	36.81	33.06	5.44	33.72	41.59	54.00	-12.41	V	AV	Pass
5370	56.80	33.05	5.45	33.70	61.60	68.20	-6.60	V	PK	Pass
5370	33.55	33.05	5.45	33.70	38.35	54.00	-15.65	V	AV	Pass
5350	55.06	33.06	5.44	33.72	59.84	74.00	-14.16	H	PK	Pass
5350	43.21	33.06	5.44	33.72	47.99	54.00	-6.01	H	AV	Pass
5370	54.78	33.05	5.45	33.70	59.58	68.20	-8.62	H	PK	Pass
5370	33.81	33.05	5.45	33.70	38.61	54.00	-15.39	H	AV	Pass
802.11ax40:5190MHz										
5150	57.44	33.14	5.29	33.88	61.99	74.00	-12.01	V	PK	Pass
5150	36.24	33.14	5.29	33.88	40.79	54.00	-13.21	V	AV	Pass
5145	52.81	33.14	5.29	33.88	57.36	74.00	-16.64	V	PK	Pass
5145	36.80	33.14	5.29	33.88	41.35	54.00	-12.65	V	AV	Pass
5150	56.15	33.14	5.29	33.88	60.70	74.00	-13.30	H	PK	Pass
5150	37.29	33.14	5.29	33.88	41.84	54.00	-12.16	H	AV	Pass
5145	53.45	33.14	5.29	33.88	58.00	74.00	-16.00	H	PK	Pass
5145	36.28	33.14	5.29	33.88	40.83	54.00	-13.17	H	AV	Pass
802.11ax40:5230MHz										
5350	54.48	33.06	5.44	33.72	59.26	74.00	-14.74	V	PK	Pass
5350	36.01	33.06	5.44	33.72	40.79	54.00	-13.21	V	AV	Pass
5370	53.30	33.05	5.45	33.70	58.10	74.00	-15.90	V	PK	Pass
5370	35.73	33.05	5.45	33.70	40.53	54.00	-13.47	V	AV	Pass
5350	54.96	33.06	5.44	33.72	59.74	74.00	-14.26	H	PK	Pass
5350	38.20	33.06	5.44	33.72	42.98	54.00	-11.02	H	AV	Pass
5370	53.63	33.05	5.45	33.70	58.43	74.00	-15.57	H	PK	Pass
5370	34.94	33.05	5.45	33.70	39.74	54.00	-14.26	H	AV	Pass

Remark:

- Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
- If peak below the average limit, the average emission was no test.
- The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Frequency	Meter Reading	antenna Factor	cable loss	preamp factor	Emission Level	EIRP	Limit	Polar (H/V)	Detector Type	Result
(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV/m)	(dBm)	(dBm)			
802.11a										
5720.00	50.63	33.33	5.70	33.42	56.24	-38.96	15.60	V	PK	Pass
5725.00	56.14	33.34	5.70	33.42	61.76	-33.44	27.00	V	PK	Pass
5850.00	56.14	33.64	5.78	33.32	62.24	-32.96	27.00	V	PK	Pass
5855.00	49.93	33.64	5.78	33.32	56.03	-39.17	15.60	V	PK	Pass
5720.00	53.94	33.33	5.70	33.42	59.55	-35.65	15.60	H	PK	Pass
5725.00	52.72	33.34	5.70	33.42	58.34	-36.86	27.00	H	PK	Pass
5850.00	50.55	33.64	5.78	33.32	56.65	-38.55	27.00	H	PK	Pass
5855.00	50.39	33.64	5.78	33.32	56.49	-38.71	15.60	H	PK	Pass
802.11n20										
5720.00	51.97	33.33	5.70	33.42	57.58	-37.62	15.60	V	PK	Pass
5725.00	51.99	33.34	5.70	33.42	57.61	-37.59	27.00	V	PK	Pass
5850.00	50.35	33.64	5.78	33.32	56.45	-38.75	27.00	V	PK	Pass
5855.00	53.67	33.64	5.78	33.32	59.77	-35.43	15.60	V	PK	Pass
5720.00	50.86	33.33	5.70	33.42	56.47	-38.73	15.60	H	PK	Pass
5725.00	46.57	33.34	5.70	33.42	52.19	-43.01	27.00	H	PK	Pass
5850.00	49.48	33.64	5.78	33.32	55.58	-39.62	27.00	H	PK	Pass
5855.00	50.06	33.64	5.78	33.32	56.16	-39.04	15.60	H	PK	Pass
802.11ac20										
5720.00	50.51	33.33	5.70	33.42	56.12	-39.08	15.60	V	PK	Pass
5725.00	54.95	33.34	5.70	33.42	60.57	-34.63	27.00	V	PK	Pass
5850.00	54.33	33.64	5.78	33.32	60.43	-34.77	27.00	V	PK	Pass
5855.00	53.54	33.64	5.78	33.32	59.64	-35.56	15.60	V	PK	Pass
5720.00	49.52	33.33	5.70	33.42	55.13	-40.07	15.60	H	PK	Pass
5725.00	52.81	33.34	5.70	33.42	58.43	-36.77	27.00	H	PK	Pass
5850.00	52.19	33.64	5.78	33.32	58.29	-36.91	27.00	H	PK	Pass
5855.00	52.51	33.64	5.78	33.32	58.61	-36.59	15.60	H	PK	Pass
802.11ax20										
5720.00	52.91	33.33	5.70	33.42	58.52	-36.68	15.60	V	PK	Pass
5725.00	54.35	33.34	5.70	33.42	59.97	-35.23	27.00	V	PK	Pass
5850.00	56.93	33.64	5.78	33.32	63.03	-32.17	27.00	V	PK	Pass
5855.00	52.44	33.64	5.78	33.32	58.54	-36.66	15.60	V	PK	Pass
5720.00	53.12	33.33	5.70	33.42	58.73	-36.47	15.60	H	PK	Pass
5725.00	51.11	33.34	5.70	33.42	56.73	-38.47	27.00	H	PK	Pass
5850.00	50.99	33.64	5.78	33.32	57.09	-38.11	27.00	H	PK	Pass
5855.00	50.11	33.64	5.78	33.32	56.21	-38.99	15.60	H	PK	Pass

802.11n40										
5720.00	52.46	33.33	5.70	33.42	58.07	-37.13	15.60	V	PK	Pass
5725.00	54.97	33.34	5.70	33.42	60.59	-34.61	27.00	V	PK	Pass
5850.00	54.66	33.64	5.78	33.32	60.76	-34.44	27.00	V	PK	Pass
5855.00	51.89	33.64	5.78	33.32	57.99	-37.21	15.60	V	PK	Pass
5720.00	51.95	33.33	5.70	33.42	57.56	-37.64	15.60	H	PK	Pass
5725.00	51.78	33.34	5.70	33.42	57.40	-37.80	27.00	H	PK	Pass
5850.00	52.49	33.64	5.78	33.32	58.59	-36.61	27.00	H	PK	Pass
5855.00	48.56	33.64	5.78	33.32	54.66	-40.54	15.60	H	PK	Pass
802.11ac40										
5720.00	51.06	33.33	5.70	33.42	56.67	-38.53	15.60	V	PK	Pass
5725.00	58.17	33.34	5.70	33.42	63.79	-31.41	27.00	V	PK	Pass
5850.00	54.66	33.64	5.78	33.32	60.76	-34.44	27.00	V	PK	Pass
5855.00	52.79	33.64	5.78	33.32	58.89	-36.31	15.60	V	PK	Pass
5720.00	47.95	33.33	5.70	33.42	53.56	-41.64	15.60	H	PK	Pass
5725.00	52.88	33.34	5.70	33.42	58.50	-36.70	27.00	H	PK	Pass
5850.00	51.49	33.64	5.78	33.32	57.59	-37.61	27.00	H	PK	Pass
5855.00	48.66	33.64	5.78	33.32	54.76	-40.44	15.60	H	PK	Pass
802.11ax40										
5720.00	49.36	33.33	5.70	33.42	54.97	-40.23	15.60	V	PK	Pass
5725.00	56.27	33.34	5.70	33.42	61.89	-33.31	27.00	V	PK	Pass
5850.00	58.86	33.64	5.78	33.32	64.96	-30.24	27.00	V	PK	Pass
5855.00	49.89	33.64	5.78	33.32	55.99	-39.21	15.60	V	PK	Pass
5720.00	50.25	33.33	5.70	33.42	55.86	-39.34	15.60	H	PK	Pass
5725.00	52.68	33.34	5.70	33.42	58.30	-36.90	27.00	H	PK	Pass
5850.00	50.79	33.64	5.78	33.32	56.89	-38.31	27.00	H	PK	Pass
5855.00	52.06	33.64	5.78	33.32	58.16	-37.04	15.60	H	PK	Pass

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier.
2. EIRP[dBm]= Emission Level[dBAV/m]-95.2.
3. If peak below the average limit, the average emission was no test.
4. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

8 POWER SPECTRAL DENSITY TEST

8.1 Test Standard and Limit

According to FCC §15.407(3)

(1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum

power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, 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, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated

transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

8.2 Test Setup



8.3 Test Procedure

Notwithstanding that some regulatory requirements refer to peak power spectral density (PPSD), in some cases the intent is to measure the maximum value of the time average of the power spectral density during a period of continuous transmission. The procedure for this method is as follows:

a) Create an average power spectrum for the EUT operating mode being tested by following the instructions in 12.4.2 for measuring maximum conducted output power using a spectrum analyzer or EMI receiver; that is, select the appropriate test method (SA-1, SA-2, SA-3, or their respective alternatives) and apply it up to, but not including, the step labeled, "Compute power...." (This procedure is required even if the maximum conducted output power measurement was performed using the power meter method PM.)

b) Use the peak search function on the instrument to find the peak of the spectrum.

c) Make the following corrections to the peak value of the spectrum, if applicable:

1) If method SA-2 or SA-2A was used, then add $[10 \log (1 / D)]$, where D is the duty cycle, to the peak of the spectrum.

2) If method SA-3A was used and the linear mode was used in step h) of 12.4.2.7, add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.

d) The result is the PPSD.

e) The procedure in item a) through item c) requires the use of 1 MHz resolution bandwidth to satisfy the 1 MHz measurement bandwidth specified by some regulatory authorities.⁸⁵ This requirement also permits use of resolution bandwidths less than 1 MHz "provided that the measured power is integrated to show the total power over the measurement bandwidth" (i.e., 1 MHz). If

measurements are performed using a reduced resolution bandwidth and integrated over 1 MHz bandwidth, the following adjustments to the procedures apply:

- 1) Set $RBW \geq 1 / T$, where T is defined in 12.2 a).
- 2) Set $VBW \geq [3 \times RBW]$.
- 3) Care shall be taken such that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

8.4 Test Data

Please see the attachment for the data.



9 26DB & 6DB & 99% Emission Bandwidth Test

9.1 Test Standard

Test Standard	FCC Part15 C Section 15.407
	The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band, the minimum bandwidth 6 dB bandwidth of U-NII devices shall be at least 500KHz. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

9.2 Test Setup



9.3 Test Procedure

Emission bandwidth:

The emission bandwidth (EBW) is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least the specified amount below the maximum level of the modulated carrier.

The following procedure shall be used for measurement of the bandwidth for millimeter-wave devices:

a) Use the following spectrum analyzer settings:

- 1) Span equal to approximately 1.5 times the EBW, centered on the carrier frequency
- 2) RBW, prefer 1% to 5% of EBW

3) VBW approximately $3 \times \text{RBW}$

4) Set the reference level of the instrument as required to reduce the chance of the signal amplitude exceeding the maximum spectrum analyzer input mixer level for linear operation.

See guidance provided in 4.1.6.

5) Sweep = No faster than coupled (auto) time.

6) Detector function = peak.

7) Trace = max-hold.

b) The EUT shall be transmitting at its maximum data rate. Allow the trace to stabilize.

c) Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure the specified dB down one side of the emission.

d) Reset the marker-delta function, and move the marker to the other side of the emission, until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth. The spectral envelope can cross the “-X dB amplitude” at multiple points. The lowest or highest frequency shall be selected as the frequencies that are the farthest away from the center frequency at which the spectral envelope crosses the “-X dB amplitude.”

e) The EBW shall be reported by providing plot(s) of the measuring instrument display, to include markers depicting the relevant frequency and amplitude information (e.g., marker table). The frequency and amplitude axis and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

f) Repeat this test for each modulation scheme using the guidance of 5.6.2.1.

Occupied bandwidth:

The following procedure shall be used for measuring 99% power bandwidth: Use the following spectrum analyzer settings:

1) Span equal to approximately 1.5 times the OBW, centered on the carrier frequency

2) RBW, prefer 1% to 5% of OBW

3) VBW approximately $3 \times \text{RBW}$

4) Set the reference level of the instrument as required to reduce the chance of the signal amplitude exceeding the maximum spectrum analyzer input mixer level for linear operation.

See guidance provided in 4.1.6.

5) Sweep = No faster than coupled (auto) time.

6) Detector function = peak.

7) Trace = max-hold.

b) The EUT shall be transmitting at its maximum data rate. Allow the trace to stabilize.

c) If the instrument does not have a 99% OBW function, recover the trace data points and sum directly in linear power terms. Place the recovered amplitude data points, beginning at the lowest frequency, in a running sum until 0.5% of the total is reached. Record that frequency as the lower OBW frequency. Repeat the process until 99.5% of the total is reached and record that frequency as the upper OBW frequency. The 99% power OBW can be determined by computing the difference these two frequencies.

d) The OBW shall be reported and plot(s) of the measuring instrument display shall be provided with the test report. The frequency and amplitude axis and scale shall be clearly labeled. Tabular data can be reported in addition to the plot(s).

e) Repeat this test for each modulation scheme using the guidance of 5.6.2.1.

The following procedure shall be used for measuring this bandwidth:

a) Set RBW = 100 kHz.

b) Set the video bandwidth (VBW) $\geq 3 \times \text{RBW}$.

c) Detector = Peak.

d) Trace mode = max-hold.

e) Sweep = No faster than coupled (auto) time.

f) Allow the trace to stabilize.

g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB

relative to the maximum level measured in the fundamental emission.

NOTE—The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.

9.4 Test Data

Please see the attachment for the data.



10 Maximum Conducted Output Power

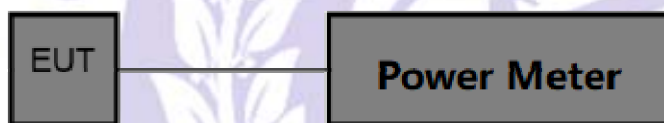
10.1 Test Standard and Limit

According to FCC §15.407

For an outdoor access point operating in the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

For the band 5.725–5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

10.2 Test Setup



10.3 Test Procedure

The EUT was directly connected to the Power meter

1. Device Configuration

If possible, configure or modify the operation of the EUT so that it transmits continuously at its maximum power control level (see section II.B.).

The intent is to test at 100 percent duty cycle; however a small reduction in duty cycle (to no lower than 98 percent) is permitted if required by the EUT for amplitude control purposes. Manufacturers are expected to provide software to the test lab to permit such continuous operation.

b) If continuous transmission (or at least 98 percent duty cycle) cannot be achieved due to hardware limitations (e.g., overheating), the EUT shall be operated at its maximum power control level with the transmit duration as long as possible and the duty cycle as high as possible.

2. Measurement using a Spectrum Analyzer or EMI Receiver (SA)

Measurement of maximum conducted output power using a spectrum analyzer requires integrating the spectrum across a frequency span that encompasses, at a minimum, either the EBW or the 99-percent occupied bandwidth of the signal.¹ However, the EBW must be used to determine bandwidth dependent limits on maximum conducted output power in accordance with § 15.407(a).

a) The test method shall be selected as follows: (i) Method SA-1 or SA-1 Alternative (averaging with the EUT transmitting at full power throughout each sweep) shall be applied if either of the following conditions can be satisfied:

- The EUT transmits continuously (or with a duty cycle ≥ 98 percent).
- Sweep triggering or gating can be implemented in a way that the device transmits at the maximum power control level throughout the duration of each of the instrument sweeps to be averaged. This condition can generally be achieved by triggering the instrument's sweep if the duration of the sweep (with the analyzer configured as in Method SA-1, below) is equal to or shorter than the duration T of each transmission from the EUT and if those transmissions exhibit full power throughout their durations.

(ii) Method SA-2 or SA-2 Alternative (averaging across on and off times of the EUT transmissions, followed by duty cycle correction) shall be applied if the conditions of (i) cannot be achieved and the transmissions exhibit a constant duty cycle during the measurement duration. Duty cycle will be considered to be constant if variations are less than ± 2 percent.

(iii) Method SA-3 (RMS detection with max hold) or SA-3 Alternative (reduced VBW with max hold) shall be applied if the conditions of (i) and (ii) cannot be achieved.

b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep): (i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.

(ii) Set RBW = 1 MHz.

(iii) Set VBW ≥ 3 MHz.

(iv) Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is $\leq$ RBW/2, so that narrowband signals are not lost between frequency bins.)

(v) Sweep time = auto.

(vi) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.

(vii) If transmit duty cycle < 98 percent, use a video trigger with the trigger level set to enable triggering only

on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 percent, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run”.

(viii) Trace average at least 100 traces in power averaging (i.e., RMS) mode.

(ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum

10.4 Test Data

Please see the attachment for the data.

11 Out of Band Emissions and Spurious Emission

11.1 Test Standard and Limit

According to FCC §15.407(b)

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

11.2 Test Setup



11.3 Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

11.4 Test Data

Note: The conducted spurious emissions test has compensated for the maximum line loss measurement, and the recorded data represents the worst-case scenario.

Please see the attachment for the data.

12 Frequency Stability Measurement

12.1 Test Standard and Limit

FCC

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification).

12.2 Test Setup



12.3 Test Procedure

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. f_c is declaring of channel frequency. Then the frequency error formula is $(f_c - f)/f_c \times 10^6$ ppm and the limit is less than ± 20 ppm (IEEE 802.11n specification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.
7. Extreme temperature is $-20^\circ\text{C} \sim 50^\circ\text{C}$.

12.4 Test Data

Please see the attachment for the data.

13 Antenna Requirement

13.1 Test Standard and Requirement

Test Standard	FCC Part15 Section 15.203
Requirement	1) 15.203 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, 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.

13.2 Antenna Connected Construction

The antenna is Internal Antenna, the Max gain of the antennas is 4.13 dBi @5150MHz~5250MHz, 4.13 dBi @5725MHz~5850MHz, reference to the attachment for details.

14 TEST SETUP & EUT PHOTOGRAPH

Please see the attachment for details.

----- End of Report -----

