



FCC Part 15C Test Report

FCC ID:2BCES-CD8R544F2

Applicant: Beijing Cozyla Technology Ltd.
Address: Room 2022, 2nd Floor, No. 6 Chuangye Road, Shangdi Information Industry Base, Haidian District, Beijing PRC 100085 China.
Manufacturer: SHEN ZHEN NST INDUSTRY AND TRADE CO.,LTD
Address: Floor1-5, Building 2, Baolong Specialized and Sophisticated Industrial Park, No.16 Baolong Third Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China
EUT: Cozyla Calendar+ 2
Trade Mark: Cozyla
Model Number: Cozyla CD-8R544F2
Cozyla CD-8R544FX (X=0, 1, 3-9)
Date of Receipt: Sep. 18, 2025
Test Date: Sep. 18, 2025 to Oct. 05, 2025
Date of Report: Oct. 05, 2025
Prepared By: Shenzhen DL Testing Technology Co., Ltd.
Address: 101-201, Building C, Shuanghuan, No.8, Baoqing Roa Baolong Industrial Zone, Baolong Street, Longgang Shenzhen, Guangdong, China.
Applicable Standards: FCC CFR Title 47 Part 15 Subpart E Section 15.407
ANSI C63.10:2020
KDB 789033 D02 v02r01
Test Result: Pass
Report Number: DLE-2509280013R

Prepared (Test Engineer):

Dimon Tan

Reviewer (Supervisor):

Jack Bu

Approved (Manager):

Jade Yang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.



Table of Contents

Page

1. VERSION.....	4
2.SUMMARY OF TEST RESULTS.....	5
2.1 TEST FACILITY	6
2.2 MEASUREMENT UNCERTAINTY	6
3. GENERAL INFORMATION	7
3.1 GENERAL DESCRIPTION OF EUT	7
3.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	10
3.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE).....	10
3.5 EQUIPMENTS LIST FOR ALL TEST ITEMS.....	11
4.EMC EMISSION TEST	12
4.1 CONDUCTED EMISSION MEASUREMENT	12
4.1.1 POWER LINE CONDUCTED EMISSION LIMITS.....	12
4.1.2 TEST PROCEDURE	12
4.1.3 DEVIATION FROM TEST STANDARD.....	12
4.1.4 TEST SETUP	13
4.1.5 EUT OPERATING CONDITIONS.....	13
4.1.6 TEST RESULT	14
4.2 RADIATED EMISSION MEASUREMENT.....	18
4.2.1 APPLICABLE STANDARD.....	18
4.2.2 CONFORMANCE LIMIT	18
4.2.3 MEASURING INSTRUMENTS.....	18
4.2.4 TEST CONFIGURATION	19
4.2.5 TEST PROCEDURE	20
4.2.6 TEST RESULT	21
5.POWER SPECTRAL DENSITY TEST	37
5.1 APPLIED PROCEDURES / LIMIT	37
5.2 TEST PROCEDURE	38
5.3 DEVIATION FROM STANDARD.....	38
5.4 TEST SETUP	38
5.5 EUT OPERATION CONDITIONS.....	38
5.6 TEST RESULTS.....	39
6. 26DB EMISSION BANDWIDTH & 6DB OCCUPIED BANDWIDTH	47
6.1 APPLIED PROCEDURES / LIMIT	47
6.2 TEST PROCEDURE	47
6.3 EUT OPERATION CONDITIONS.....	47
6.4 TEST RESULTS.....	48
7.MAXIMUM CONDUCTED OUTPUT POWER	56
7.1 PPLIED PROCEDURES / LIMIT	56
7.2 TEST PROCEDURE	56
7.3 DEVIATION FROM STANDARD.....	56
7.4 TEST SETUP	56
7.5 EUT OPERATION CONDITIONS.....	56
7.6 TEST RESULTS.....	57



Table of Contents

Page

8.OUT OF BAND EMISSIONS	59
8.1 APPLICABLE STANDARD	59
8.2 TEST PROCEDURE	59
8.3 DEVIATION FROM STANDARD	59
8.4 TEST SETUP	59
8.5 EUT OPERATION CONDITIONS.....	59
8.6 TEST RESULTS	59
9.SPURIOUS RF CONDUCTED EMISSIONS	64
9.1 CONFORMANCE LIMIT	64
9.2 MEASURING INSTRUMENTS.....	64
9.3 TEST SETUP	64
9.4 TEST PROCEDURE	64
9.5 TEST RESULTS	64
10.FREQUENCY STABILITY MEASUREMENT	71
10.1 LIMIT	71
10.2 TEST PROCEDURES	71
10.3 TEST SETUP LAYOUT	71
10.4 EUT OPERATION DURING TEST	71
10.5 TEST RESULTS	71
11. DUTY CYCLE	82
11.1 APPLIED PROCEDURES / LIMIT	82
11.2 DEVIATION FROM STANDARD	82
11.3 TEST SETUP.....	82
12.ANTENNA REQUIREMENT	91
13. TEST SETUP PHOTO	92
14. EUT CONSTRUCTIONAL DETAILS	92

**1. VERSION**

Report No.	Version	Description	Approved
DLE-2509280013R	Rev.01	Initial issue of report	Oct. 05, 2025

**2.SUMMARY OF TEST RESULTS**

Test procedures according to the technical standards:

FCC Part15 (15.407) , Subpart E			
Standard Section	Test Item	Judgment	Remark
15.207	AC Power Line Conducted Emission	PASS	
789033 D02 General U-NII	Duty Cycle	PASS	
15.209(a) 15.407 (b)(1) 15.407 (b)(4) 15.407 (b)(8)	Spurious Radiated Emissions	PASS	
15.407 (a) 15.1049 15.407(e)	26dB Emission Bandwidth & 6dB Occupied Bandwidth	PASS	
15.407 (a)(1) 15.407 (a)(3)	Maximum Conducted Output Power	PASS	
2.1051, 15.407(b)(1) 15.407(b)(4)	Band Edge	PASS	
15.407 (a)(1) 15.407 (a)(3)	Power Spectral Density	PASS	
2.1051, 15.407(b)	Spurious Emissions at Antenna Terminals	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

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



2.1 TEST FACILITY

Shenzhen DL Testing Technology Co., Ltd.

Add. : 101-201, Building C, Shuanghuan, No.8, Baoqing Roa Baolong Industrial Zone, Baolong Street, Longgang Shenzhen, Guangdong, China.

FCC Test Firm Registration Number: 854456

Designation Number: CN1307

IC Registered No.: 27485

CAB ID.: CN0118

2.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$ · where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$ · providing a level of confidence of approximately 95 % .

No.	Item	Uncertainty
1	3m camber Radiated spurious emission(9KHz-30MHz)	U=4.5dB
2	3m camber Radiated spurious emission(30MHz-1GHz)	U=4.8dB
3	3m chamber Radiated spurious emission(1GHz-6GHz)	U=4.9dB
4	3m chamber Radiated spurious emission(6GHz-40GHz)	U=5.0dB
5	Conducted disturbance	U=3.2dB
6	RF Band Edge	U=1.68dB
7	RF power conducted	U=1.86dB
8	RF conducted Spurious Emission	U=2.2dB
9	RF Occupied Bandwidth	U=1.8MHz
10	RF Power Spectral Density	U=1.75dB
11	humidity uncertainty	U=5.3%
12	Temperature uncertainty	U=0.59°C



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Product Name:	Cozyla Calendar+ 2	
Model No.:	Cozyla CD-8R544F2	
Serial Model:	Cozyla CD-8R544FX (X=0, 1, 3-9)	
Model Different.:	All the model are the same circuit and RF module, except model names and appearance color.	
Sample(s) Status:	Engineer sample	
Product Description	IEEE 802.11 WLAN Mode Supported	☒ 802.11a/n/ac (20MHz channel bandwidth) ☒ 802.11ac/n (40MHz channel bandwidth) ☒ 802.11ac (80MHz channel bandwidth)
	Data Rate	802.11a 802.11n(HT20/HT40):MCS0-MCS7; 802.11ac(VHT20/VHT40/VHT80):MCS0-MCS9
	Modulation	OFDM with BPSK / QPSK / 16-QAM / 64-QAM for 802.11a/n; OFDM with BPSK / QPSK / 16-QAM / 64-QAM / 256-QAM for 802.11ac;
	Operating Frequency Range	☒ 5180-5240MHz for 802.11a/n20/ac20; ☒ 5190-5230MHz for 802.11ac40/n40; ☒ 5210MHz for 802.11 ac80. ☒ 5745-5825 MHz for 802.11a/n20/ac20; ☒ 5755-5795 MHz for 802.11ac40/n40; ☒ 5775MHz for 802.11 ac80.
	Number of Channels	☒ 4 channels for 802.11a/n20/ac20 in the 5180-5240MHz band ; ☒ 2 channels for 802.11 ac40/n40 in the 5190-5230 MHz band ; ☒ 1 channels for 802.11 ac80 in the 5210MHz band. ☒ 5 channels for 802.11a/n20/ac20 in the 5745-5825MHz band ; ☒ 2 channels for 802.11 ac40/n40 in the 5755-5795 MHz band ; ☒ 1 channels for 802.11 ac80 in the 5775MHz band
Channel List	Please refer to the Note 2.	
Antenna Type:	PIFA antenna	
Antenna gain:	5.2G: 2.14dBi 5.8G: 3.47dBi	
Power Supply:	Input: 12V=== 5A From Adapter	
Adapter:	Model: NO.: SOY-1200500US-523-A Input: 100-240V~ 50/60Hz 1.7A Max Output: 12V=== 5A	

Note:

For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



802.11a/n/ac(20MHz) Frequency Channel for 5.2G							
Channel	Frequenc y (MHz)	Channel	Frequenc y (MHz)	Channel	Frequenc y (MHz)	Channel	Frequenc y (MHz)
36	5180	44	5200	40	5220	48	5240

802.11n/ac(40MHz) Frequency Channel for 5.2G							
Channel	Frequenc y (MHz)	Channel	Frequenc y (MHz)	Channel	Frequenc y (MHz)	Channel	Frequenc y (MHz)
38	5190	46	5230	-	-	-	-

802.11ac (80MHz) Frequency Channel for 5.2G	
Channel	Frequency (MHz)
42	5210

802.11a/n/ac(20 MHz) Frequency Channel for 5.8G							
Channel	Frequenc y (MHz)	Channel	Frequenc y (MHz)	Channel	Frequenc y (MHz)	Channel	Frequenc y (MHz)
149	5745	153	5765	157	5785	161	5805
165	5825	-	-	-	-	-	-

802.11n/ac(40MHz) Frequency Channel for 5.8G					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795	-	-

802.11ac (80MHz) Frequency Channel for 5.8G	
Channel	Frequency (MHz)
155	5775



3.2 DESCRIPTION OF TEST MODES

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	EngineerMode V3.0
Power level setup	Default

Pretest Mode	Description
Mode 1	802.11a/n20/ac20 CH 36/ CH 40/ CH 48 for 5.2G 802.11a/n20/ac20 CH149/ CH157/ CH 165 for 5.8G
Mode 2	802.11n 40/ac 40 CH38/ CH 46 for 5.2G 802.11n 40/ac 40 CH 151 / CH 159 for 5.8G
Mode 3	802.11 ac80 CH 42 for 5.2G 802.11 ac80 CH 155 for 5.8G

For Conducted Emission	
Final Test Mode	Description
Mode 1	802.11a/n20/ac20 CH 36/ CH 40/ CH 48 for 5.2G 802.11a/n20/ac20 CH149/ CH157/ CH 165 for 5.8G
Mode 2	802.11n 40/ac 40 CH38/ CH 46 for 5.2G 802.11n 40/ac 40 CH 151 / CH 159 for 5.8G
Mode 3	802.11 ac80 CH 42 for 5.2G 802.11 ac80 CH 155 for 5.8G

For Radiated Emission	
Final Test Mode	Description
Mode 1	802.11a/n20/ac20 CH 36/ CH 40/ CH 48 for 5.2G 802.11a/n20/ac20 CH149/ CH157/ CH 165 for 5.8G
Mode 2	802.11n 40/ac 40 CH38/ CH 46 for 5.2G 802.11n 40/ac 40 CH 151 / CH 159 for 5.8G
Mode 3	802.11 ac80 CH 42 for 5.2G 802.11 ac80 CH 155 for 5.8G

Note:

(1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.



3.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

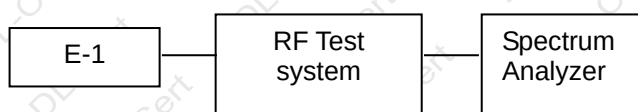
Conducted Emission



Radiated Emission



Conducted Spurious



3.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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	Cozyla Calendar+ 2	Cozyla	Cozyla CD-8R544F2	N/A	EUT
A1	AC/DC Adapter	N/A	SOY-1200500US-523-A	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

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.



3.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation test, Band-edge test and 6db bandwidth test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	Agilent	E4408B	MY50140780	Oct. 25, 2025	Oct. 24, 2026
2	Test Receiver (9kHz-7GHz)	R&S	ESRP7	101393	Oct. 25, 2025	Oct. 24, 2026
3	Bilog Antenna (30MHz-1GHz)	R&S	VULB9162	00306	Oct. 27, 2025	Oct. 24, 2026
4	Horn Antenna (1GHz-18GHz)	Schwarzbeck	BBHA9120D	02139	Oct. 27, 2025	Oct. 24, 2026
5	Horn Antenna (18GHz-40GHz)	A.H. Systems	SAS-574	588	Oct. 25, 2025	Oct. 24, 2026
6	Amplifier (9KHz-6GHz)	Schwarzbeck	BBV9743B	00153	Oct. 25, 2025	Oct. 24, 2026
7	Amplifier (1GHz-18GHz)	EMEC	EM01G8GA	00270	Oct. 25, 2025	Oct. 24, 2026
8	Amplifier (18GHz-40GHz)	Quanjuda	DLE-161	97	Oct. 25, 2025	Oct. 24, 2026
9	Loop Antenna (9KHz-30MHz)	Schwarzbeck	FMZB1519B	00014	Oct. 25, 2025	Oct. 24, 2026
10	RF cables1 (9kHz-1GHz)	ChengYu	966	004	Oct. 25, 2025	Oct. 24, 2026
11	RF cables2 (1GHz-40GHz)	ChengYu	966	003	Oct. 25, 2025	Oct. 24, 2026
12	Antenna connector	Florida RF Labs	N/A	RF 01#	Oct. 25, 2025	Oct. 24, 2026
13	Power probe	KEYSIGHT	U2021XA	MY55210018	Oct. 25, 2025	Oct. 24, 2026
14	Signal Analyzer 9kHz-26.5GHz	Agilent	N9020A	MY55370280	Oct. 25, 2025	Oct. 24, 2026
15	Test Receiver 20kHz-40GHz	R&S	ESU 40	100376	Oct. 25, 2025	Oct. 24, 2026
16	D.C. Power Supply	LongWei	PS-305D	010964729	Oct. 25, 2025	Oct. 24, 2026
17	Power meter	KEYSIGHT	N1912AP	926431	Oct. 25, 2025	Oct. 24, 2026

Conduction Test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	843 Shielded Room	YIHENG	843 Room	843	Nov. 05, 2023	Nov. 04, 2026
2	EMI Receiver	R&S	ESR	101421	Oct. 25, 2025	Oct. 24, 2026
3	LISN	R&S	ENV216	102417	Oct. 25, 2025	Oct. 24, 2026
4	843 Cable 1#	ChengYu	CE Cable	001	Oct. 25, 2025	Oct. 24, 2026

Other

Item	Name	Manufacturer	Model	Software version
1	EMC Conduction Test System	FALA	EZ_EMCC	EMC-CON 3A1.1
2	EMC radiation test system	FALA	EZ_EMCC	FA-03A2
3	RF test system	MAIWEI	MTS8310	2.0.0.0
4	RF communication test system	MAIWEI	MTS8200	2.0.0.0



4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2020
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

4.1.1 POWER LINE CONDUCTED EMISSION Limits

FREQUENCY (MHz)	Limit (dBuV)		Standard
	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) *Decreases with the logarithm of the frequency.

4.1.2 TEST PROCEDURE

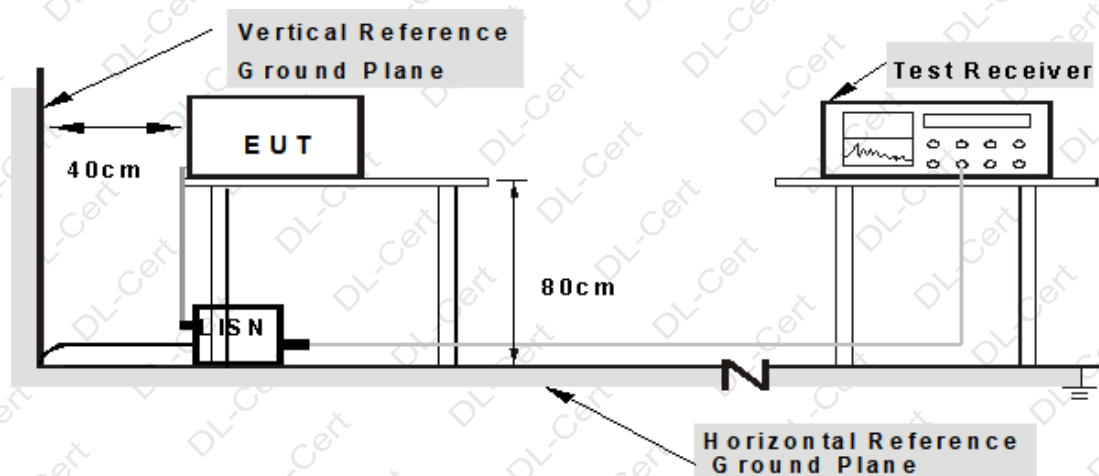
- The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation



4.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

4.1.5 EUT OPERATING CONDITIONS

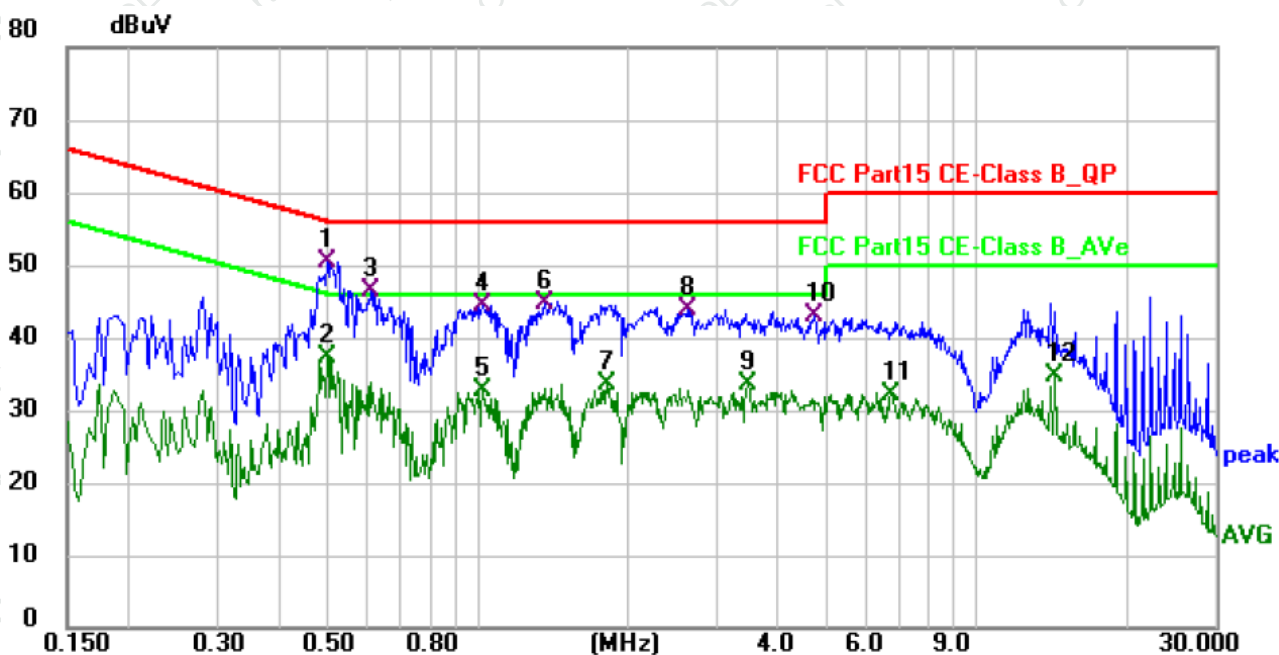
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



4.1.6 TEST RESULT

5.2G:

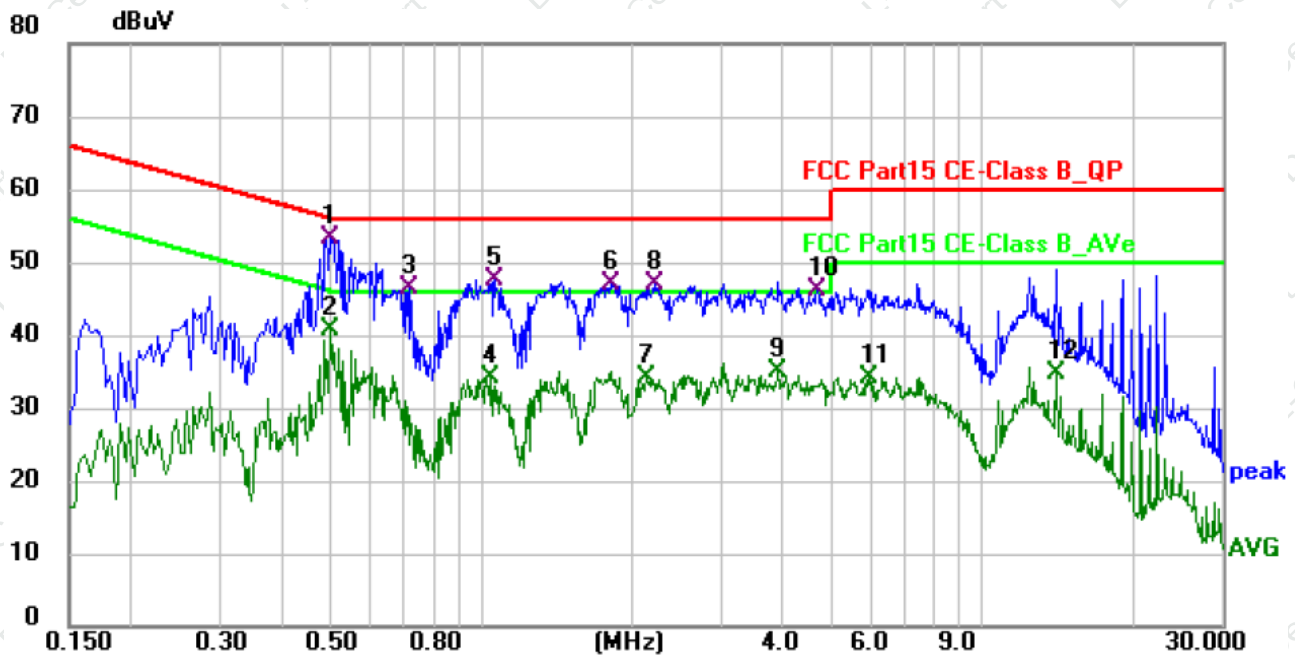
Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	L
Test Voltage:	AC 120V/60Hz	Test Mode:	802.11n20 - 5180MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1 *	0.4980	40.76	9.72	50.48	56.03	-5.55	QP	P
2	0.4980	27.58	9.72	37.30	46.03	-8.73	AVG	P
3	0.6100	36.66	9.72	46.38	56.00	-9.62	QP	P
4	1.0260	34.76	9.72	44.48	56.00	-11.52	QP	P
5	1.0260	23.10	9.72	32.82	46.00	-13.18	AVG	P
6	1.3660	34.94	9.72	44.66	56.00	-11.34	QP	P
7	1.8140	23.93	9.74	33.67	46.00	-12.33	AVG	P
8	2.6500	34.22	9.74	43.96	56.00	-12.04	QP	P
9	3.4820	23.70	9.74	33.44	46.00	-12.56	AVG	P
10	4.7100	33.17	9.76	42.93	56.00	-13.07	QP	P
11	6.7020	22.42	9.78	32.20	50.00	-17.80	AVG	P
12	14.3660	24.88	9.85	34.73	50.00	-15.27	AVG	P



Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	N
Test Voltage:	AC 120V/60Hz	Test Mode:	802.11n20 - 5180MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1 *	0.4980	43.67	9.71	53.38	56.03	-2.65	QP	P
2	0.4980	30.92	9.71	40.63	46.03	-5.40	AVG	P
3	0.7220	36.58	9.71	46.29	56.00	-9.71	QP	P
4	1.0380	24.34	9.71	34.05	46.00	-11.95	AVG	P
5	1.0620	37.85	9.71	47.56	56.00	-8.44	QP	P
6	1.8220	37.30	9.73	47.03	56.00	-8.97	QP	P
7	2.1260	24.46	9.73	34.19	46.00	-11.81	AVG	P
8	2.2260	37.39	9.73	47.12	56.00	-8.88	QP	P
9	3.9020	25.20	9.74	34.94	46.00	-11.06	AVG	P
10	4.6779	36.40	9.75	46.15	56.00	-9.85	QP	P
11	5.9420	24.33	9.76	34.09	50.00	-15.91	AVG	P
12	14.0620	24.89	9.84	34.73	50.00	-15.27	AVG	P

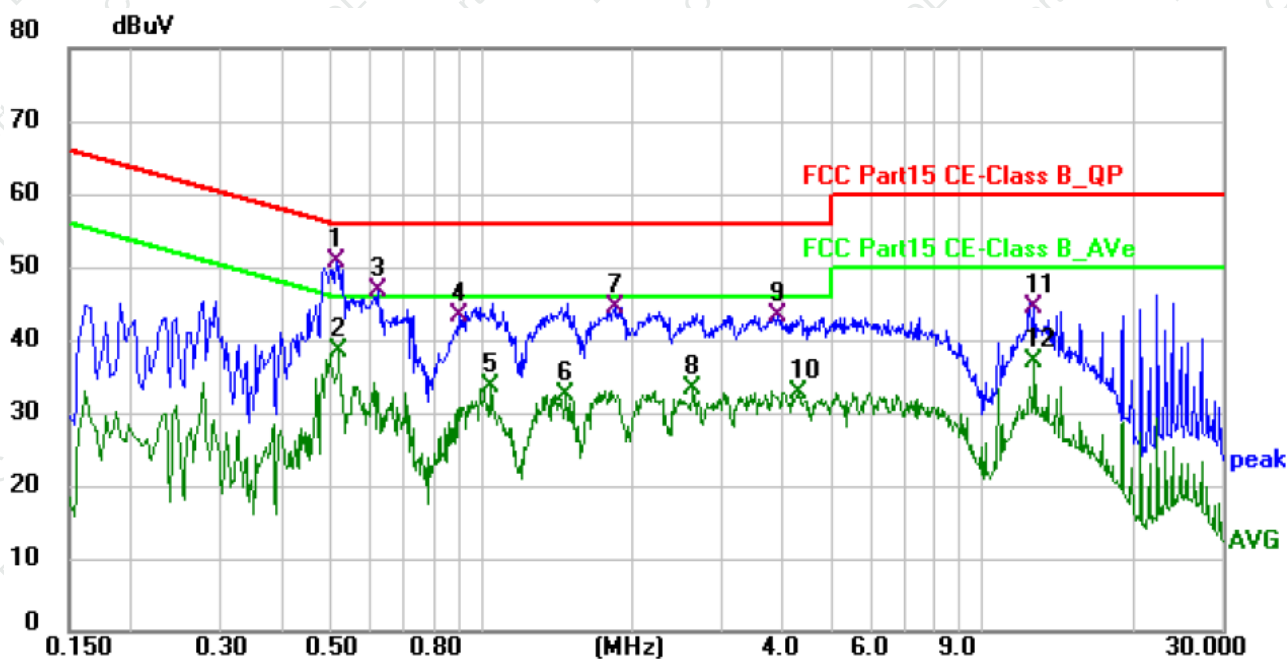
Notes:

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
4. The test data shows only the worst case 802.11n20 - 5180MHz.



5.8G:

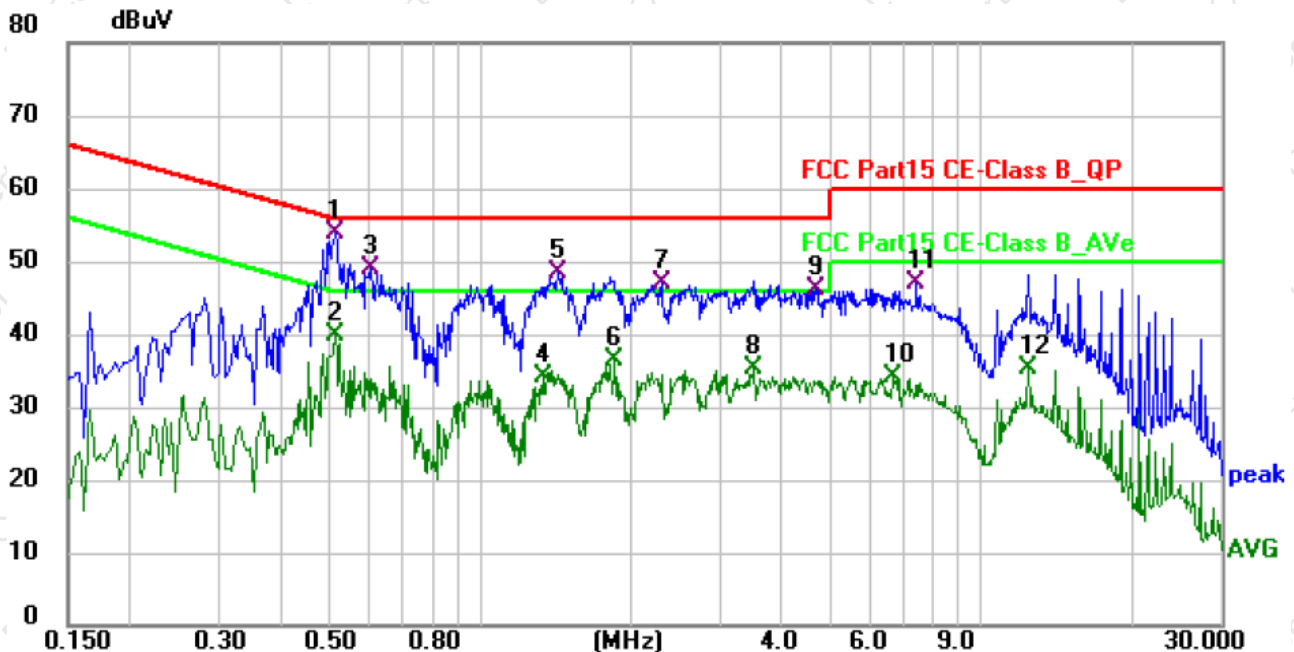
Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	L
Test Voltage:	AC 120V/60Hz	Test Mode:	802.11n20 - 5745MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1 *	0.5140	41.07	9.72	50.79	56.00	-5.21	QP	P
2	0.5180	28.68	9.72	38.40	46.00	-7.60	AVG	P
3	0.6220	37.00	9.72	46.72	56.00	-9.28	QP	P
4	0.9020	33.47	9.72	43.19	56.00	-12.81	QP	P
5	1.0460	23.83	9.72	33.55	46.00	-12.45	AVG	P
6	1.4740	22.74	9.73	32.47	46.00	-13.53	AVG	P
7	1.8460	34.74	9.74	44.48	56.00	-11.52	QP	P
8	2.6380	23.61	9.74	33.35	46.00	-12.65	AVG	P
9	3.8900	33.54	9.75	43.29	56.00	-12.71	QP	P
10	4.2819	22.87	9.76	32.63	46.00	-13.37	AVG	P
11	12.6780	34.63	9.83	44.46	60.00	-15.54	QP	P
12	12.6780	27.07	9.83	36.90	50.00	-13.10	AVG	P



Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	N
Test Voltage:	AC 120V/60Hz	Test Mode:	802.11n20 - 5745MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1 *	0.5140	44.16	9.71	53.87	56.00	-2.13	QP	P
2	0.5140	30.14	9.71	39.85	46.00	-6.15	AVG	P
3	0.6020	39.30	9.71	49.01	56.00	-6.99	QP	P
4	1.3380	24.53	9.71	34.24	46.00	-11.76	AVG	P
5	1.4299	38.62	9.72	48.34	56.00	-7.66	QP	P
6	1.8540	26.77	9.73	36.50	46.00	-9.50	AVG	P
7	2.3060	37.20	9.73	46.93	56.00	-9.07	QP	P
8	3.5100	25.44	9.73	35.17	46.00	-10.83	AVG	P
9	4.6900	36.47	9.75	46.22	56.00	-9.78	QP	P
10	6.6900	24.25	9.77	34.02	50.00	-15.98	AVG	P
11	7.4460	37.35	9.77	47.12	60.00	-12.88	QP	P
12	12.4060	25.49	9.82	35.31	50.00	-14.69	AVG	P

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
4. The test data shows only the worst case 802.11n20 - 5745MHz.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 APPLICABLE STANDARD

According to FCC Part 15.407(d) and 15.209

4.2.2 CONFORMANCE LIMIT

According to FCC Part 15.407(b)(7): 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)).

According to FCC Part 15.205, Restricted bands

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	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	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)
13.36-13.41			

Restricted Frequency(MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance
0.009~0.490	2400/F(KHz)	20 log (uV/m)	300
0.490~1.705	2400/F(KHz)	20 log (uV/m)	30
1.705~30.0	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Limits of Radiated Emission Measurement(Above 1000MHz)

Frequency(MHz)	Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Remark :1. Emission level in dBuV/m=20 log (uV/m)

2. Measurement was performed at an antenna to the closed point of EUT distance of meters.

3. Distance extrapolation factor =40log(Specific distance/ test distance)(dB);

Limit line=Specific limits(dBuV) + distance extrapolation factor.

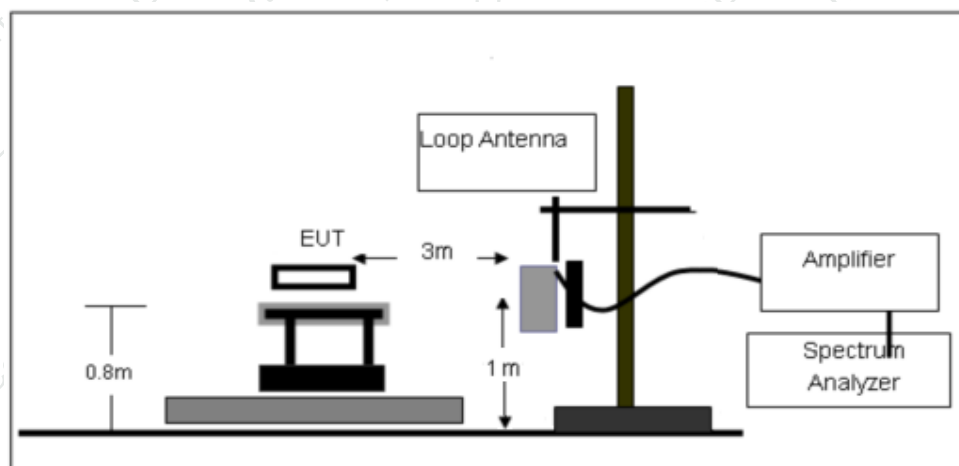
4.2.3 MEASURING INSTRUMENTS

The Measuring equipment is listed in the section 6.3 of this test report.

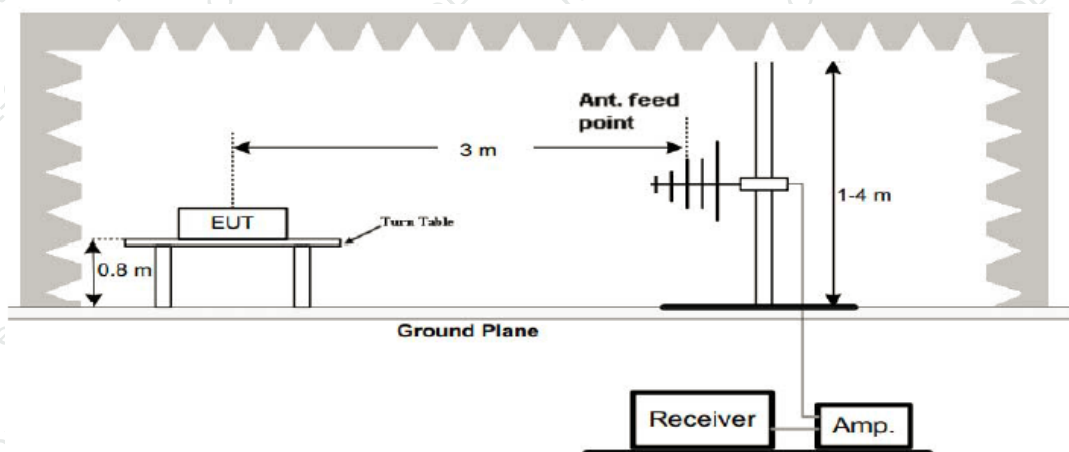


4.2.4 TEST CONFIGURATION

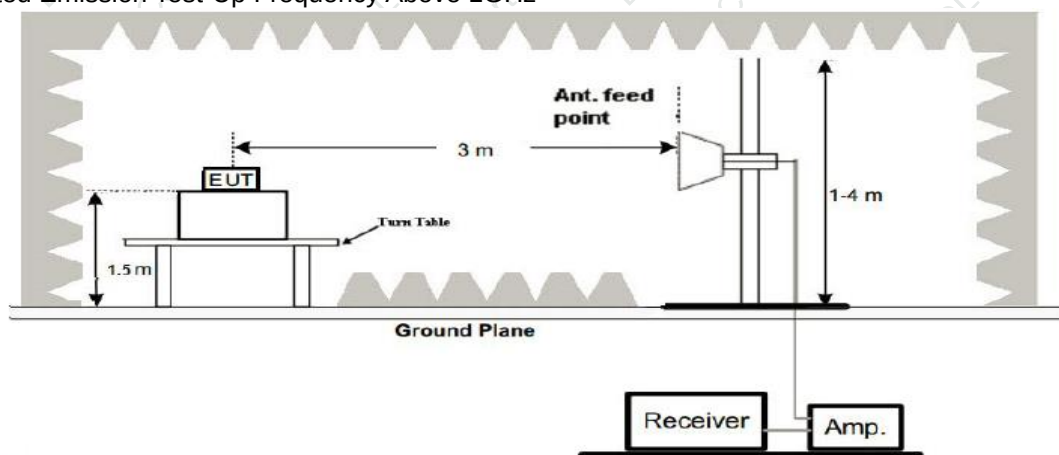
1. For radiated emissions below 30MHz



2. For radiated emissions from 30MHz to 1000MHz



3. Radiated Emission Test-Up Frequency Above 1GHz





4.2.5 TEST PROCEDURE

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10-2020. The test distance is 3m. The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2020 and CAN/CSA-CEI/IEC CISPR 22.

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205.

It must be performed with the highest gain of each type of antenna proposed for use with the EUT.

Use the following spectrum analyzer settings:

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

- The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- The initial step in collecting conducted 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 re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item – EUT Test Photos.

Note:

Both horizontal and vertical antenna polarities were tested

and performed pretest to three orthogonal axis. The worst case emissions were reported

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	QP	120 kHz	300 kHz
Above 1000	Peak	1 MHz	1 MHz
	Average	1 MHz	10 Hz

Note: for the frequency ranges below 30 MHz, a narrower RBW is used for these ranges but the measured value should add a RBW correction factor (RBWCF) where $RBWCF [dB] = 10 \cdot \lg(100 [kHz] / \text{narrower RBW} [kHz])$, the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.



4.2.6 TEST RESULT

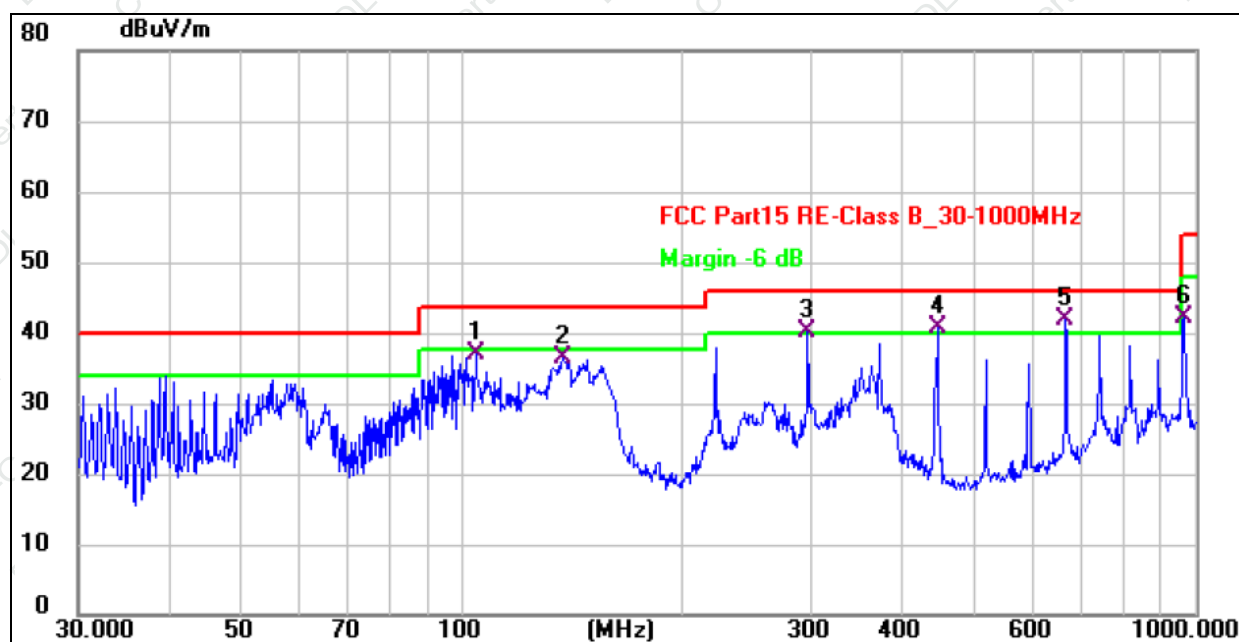
Between 9KHz – 30MHz

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Between 30MHz – 1GHz

5.2G:

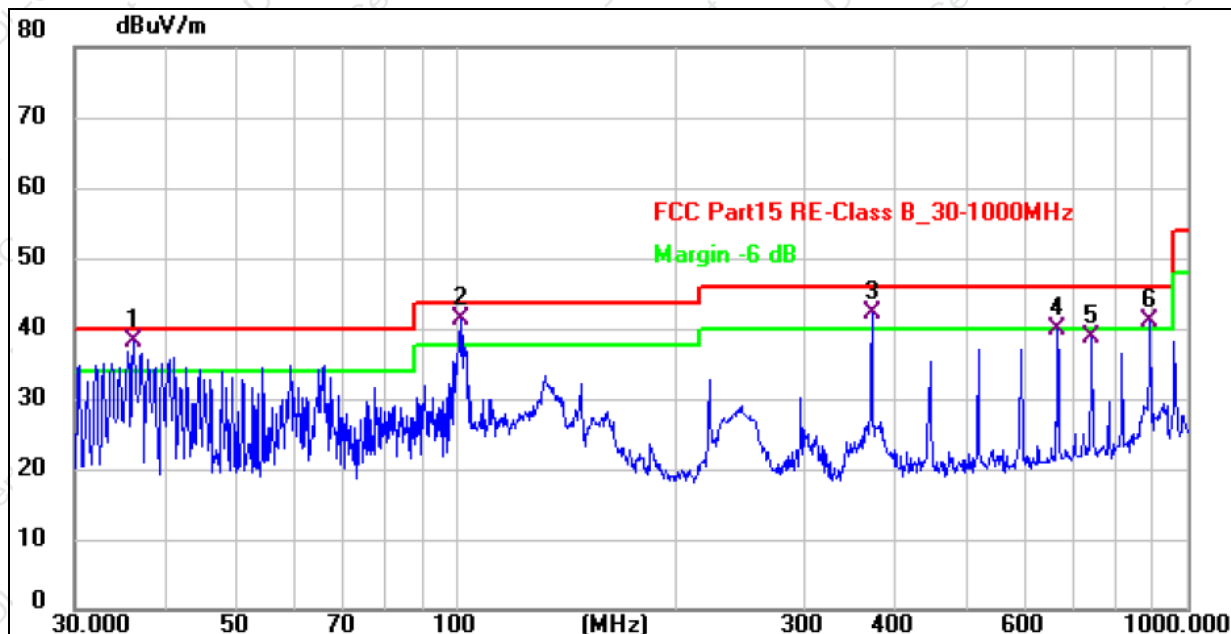
Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	Horizontal
Test Voltage:	AC 120V/60Hz	Test Mode :	TX 802.11n20 - 5180MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	104.5360	53.65	-16.75	36.90	43.50	-6.60	QP
2	137.9030	50.30	-13.93	36.37	43.50	-7.13	QP
3 !	296.1836	54.98	-14.90	40.08	46.00	-5.92	QP
4 !	444.8514	52.72	-12.04	40.68	46.00	-5.32	QP
5 *	665.8034	50.07	-8.25	41.82	46.00	-4.18	QP
6	965.5420	46.30	-4.18	42.12	54.00	-11.88	QP



Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	AC 120V/60Hz	Test Mode :	TX 802.11n20 - 5180MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	36.2540	51.66	-13.65	38.01	40.00	-1.99	QP
2 !	101.2883	58.38	-17.04	41.34	43.50	-2.16	QP
3 !	370.7022	55.74	-13.55	42.19	46.00	-3.81	QP
4	665.8034	48.07	-8.25	39.82	46.00	-6.18	QP
5	742.2586	45.83	-7.18	38.65	46.00	-7.35	QP
6 !	890.7277	46.19	-5.23	40.96	46.00	-5.04	QP

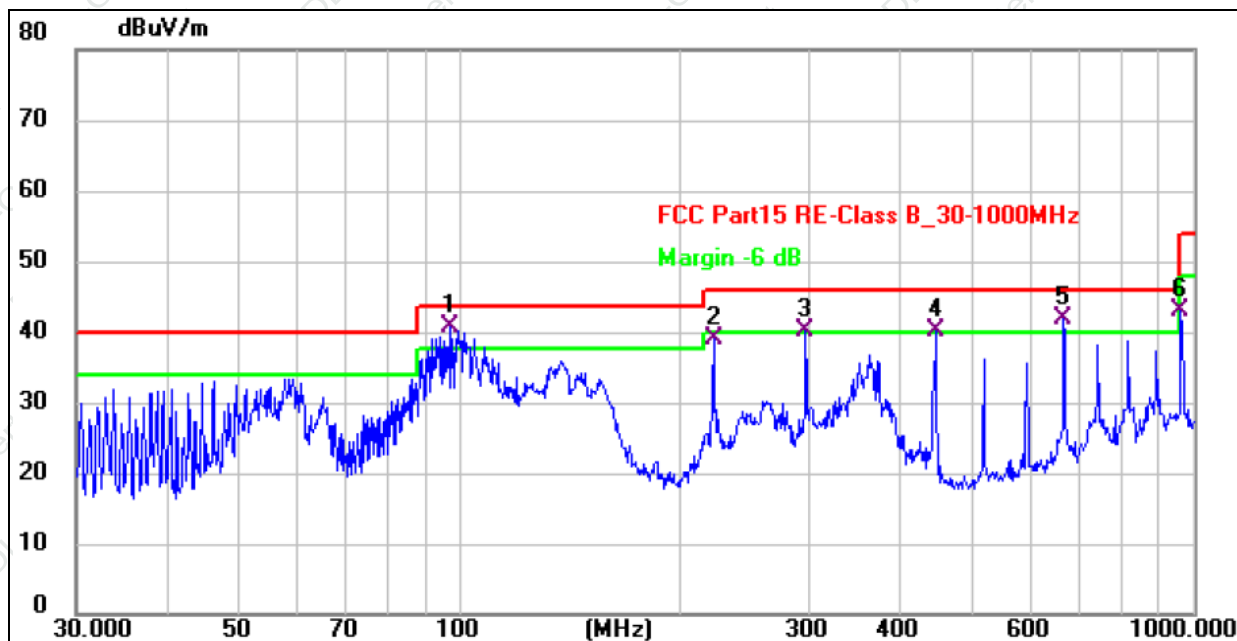
Remarks:

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.
- 3.All modes were tested, and only the worst test data was recorded is 802.11n20 - 5180MHz.



5.8G:

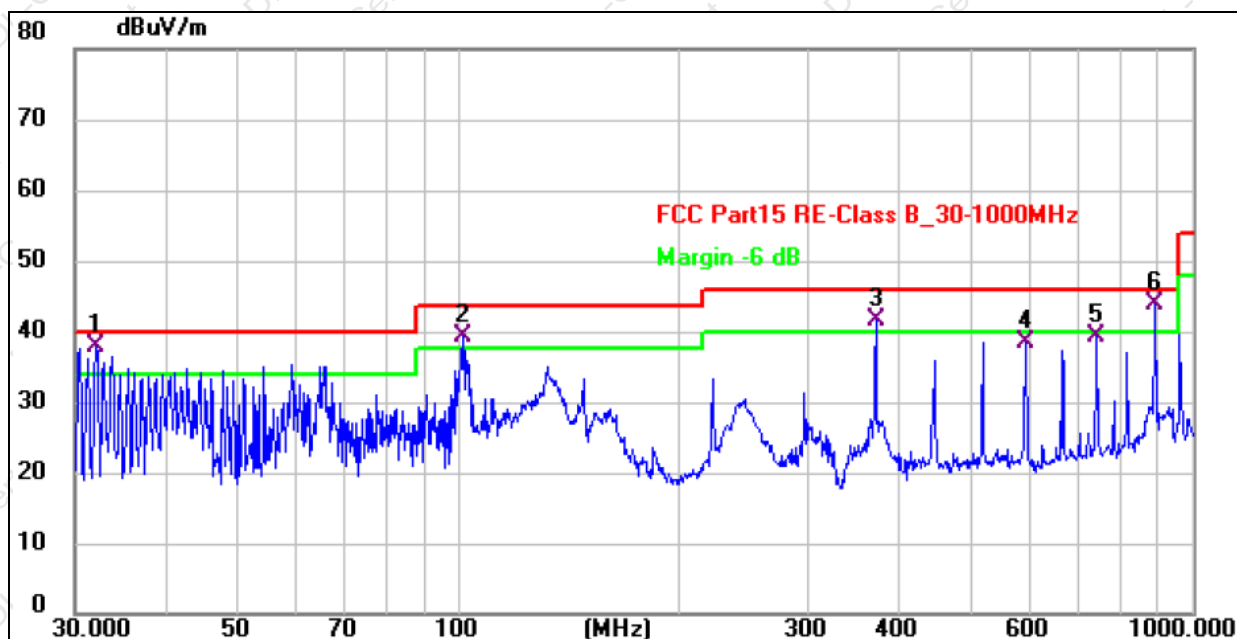
Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	Horizontal
Test Voltage:	AC 120V/60Hz	Test Mode :	TX 802.11n20 - 5745MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	97.1148	58.15	-17.37	40.78	43.50	-2.72	QP
2	222.1697	55.66	-16.71	38.95	46.00	-7.05	QP
3 !	296.1836	54.98	-14.90	40.08	46.00	-5.92	QP
4 !	444.8514	52.22	-12.04	40.18	46.00	-5.82	QP
5 !	665.8034	50.07	-8.25	41.82	46.00	-4.18	QP
6	962.1621	47.21	-4.21	43.00	54.00	-11.00	QP



Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	AC 120V/60Hz	Test Mode :	TX 802.11n20 - 5745MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 !	32.0667	51.74	-13.93	37.81	40.00	-2.19	QP
2 !	101.2883	56.38	-17.04	39.34	43.50	-4.16	QP
3 !	370.7022	55.24	-13.55	41.69	46.00	-4.31	QP
4	593.0496	48.04	-9.54	38.50	46.00	-7.50	QP
5	742.2586	46.33	-7.18	39.15	46.00	-6.85	QP
6 *	890.7277	49.19	-5.23	43.96	46.00	-2.04	QP

Remarks:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. All modes were tested, and only the worst test data was recorded is 802.11n20 - 5745MHz.



Between 1GHz – 40GHz

Temperature :	26°C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	5.2G TX - 802.11a/ n20/ ac20/ n40/ ac40/ac80		
Note: All patterns have been tested, and only the worst test data recorded in this report is 802.11a/n20/ac20.			

802.11a

Polar (H/V)	Frequency	Meter Reading	Pre-ampl ifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	
Low Channel:5180MHz									
V	5150.00	41.30	30.45	8.77	38.66	58.28	74.00	-15.72	PK
V	5150.00	29.98	30.45	8.77	38.66	46.96	54.00	-7.04	AV
V	10360.00	52.48	30.55	5.77	24.66	52.36	74.00	-21.64	PK
V	10360.00	43.11	30.55	5.77	24.66	42.99	54.00	-11.01	AV
V	15540.00	53.74	30.33	6.32	24.55	54.28	74.00	-19.72	PK
V	15540.00	42.66	30.33	6.32	24.55	43.20	54.00	-10.80	AV
V	20720.00	49.91	30.85	7.45	24.69	51.20	74.00	-22.80	PK
V	20720.00	42.88	30.85	7.45	24.69	44.17	54.00	-9.83	AV
V	25900.00	52.01	31.02	8.99	25.57	55.55	74.00	-18.45	PK
V	25900.00	42.66	31.02	8.99	25.57	46.20	54.00	-7.80	AV
H	5150.00	41.72	30.45	8.77	38.66	58.70	74.00	-15.30	PK
H	5150.00	29.96	30.45	8.77	38.66	46.94	54.00	-7.06	AV
H	10360.00	50.17	30.55	5.77	24.66	50.05	74.00	-23.95	PK
H	10360.00	42.63	30.55	5.77	24.66	42.51	54.00	-11.49	AV
H	15540.00	53.36	30.33	6.32	24.55	53.90	74.00	-20.10	PK
H	15540.00	43.26	30.33	6.32	24.55	43.80	54.00	-10.20	AV
H	20720.00	51.70	30.85	7.45	24.69	52.99	74.00	-21.01	PK
H	20720.00	42.85	30.85	7.45	24.69	44.14	54.00	-9.86	AV
H	25900.00	50.05	31.02	8.99	25.57	53.59	74.00	-20.41	PK
H	25900.00	42.40	31.02	8.99	25.57	45.94	54.00	-8.06	AV

Polar (H/V)	Frequency	Meter Reading	Pre-ampl ifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	
Middle Channel:5200MHz									
V	5150.00	42.25	30.45	8.77	38.66	59.23	74.00	-14.77	PK
V	5150.00	28.61	30.45	8.77	38.66	45.59	54.00	-8.41	AV
V	10400.00	52.07	30.55	5.77	24.66	51.95	74.00	-22.05	PK
V	10400.00	41.89	30.55	5.77	24.66	41.77	54.00	-12.23	AV
V	15600.00	53.04	30.33	6.32	24.55	53.58	74.00	-20.42	PK
V	15600.00	43.04	30.33	6.32	24.55	43.58	54.00	-10.42	AV
V	20800.00	49.41	30.85	7.45	24.69	50.70	74.00	-23.30	PK
V	20800.00	41.71	30.85	7.45	24.69	43.00	54.00	-11.00	AV
V	26000.00	51.87	31.02	8.99	25.57	55.41	74.00	-18.59	PK
V	26000.00	42.70	31.02	8.99	25.57	46.24	54.00	-7.76	AV
H	5150.00	40.97	30.45	8.77	38.66	57.95	74.00	-16.05	PK
H	5150.00	29.35	30.45	8.77	38.66	46.33	54.00	-7.67	AV



Shenzhen DL Testing Technology Co., Ltd.

Report No.: DLE-2509280013R

H	10400.00	50.02	30.55	5.77	24.66	49.90	74.00	-24.10	PK
H	10400.00	41.44	30.55	5.77	24.66	41.32	54.00	-12.68	AV
H	15600.00	51.46	30.33	6.32	24.55	52.00	74.00	-22.00	PK
H	15600.00	41.55	30.33	6.32	24.55	42.09	54.00	-11.91	AV
H	20800.00	50.80	30.85	7.45	24.69	52.09	74.00	-21.91	PK
H	20800.00	43.20	30.85	7.45	24.69	44.49	54.00	-9.51	AV
H	26000.00	49.85	31.02	8.99	25.57	53.39	74.00	-20.61	PK
H	26000.00	43.55	31.02	8.99	25.57	47.09	54.00	-6.91	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampli fier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
High Channel:5240MHz									
V	5350.00	40.87	30.45	8.77	38.66	57.85	74.00	-16.15	PK
V	5350.00	30.21	30.45	8.77	38.66	47.19	54.00	-6.81	AV
V	10480.00	51.27	30.55	5.77	24.66	51.15	74.00	-22.85	PK
V	10480.00	42.11	30.55	5.77	24.66	41.99	54.00	-12.01	AV
V	15720.00	52.57	30.33	6.32	24.55	53.11	74.00	-20.89	PK
V	15720.00	42.40	30.33	6.32	24.55	42.94	54.00	-11.06	AV
V	20960.00	49.20	30.85	7.45	24.69	50.49	74.00	-23.51	PK
V	20960.00	42.49	30.85	7.45	24.69	43.78	54.00	-10.22	AV
V	26200.00	51.34	31.02	8.99	25.57	54.88	74.00	-19.12	PK
V	26200.00	41.74	31.02	8.99	25.57	45.28	54.00	-8.72	AV
H	5350.00	42.04	30.45	8.77	38.66	59.02	74.00	-14.98	PK
H	5350.00	30.41	30.45	8.77	38.66	47.39	54.00	-6.61	AV
H	10480.00	50.40	30.55	5.77	24.66	50.28	74.00	-23.72	PK
H	10480.00	42.46	30.55	5.77	24.66	42.34	54.00	-11.66	AV
H	15720.00	52.18	30.33	6.32	24.55	52.72	74.00	-21.28	PK
H	15720.00	43.17	30.33	6.32	24.55	43.71	54.00	-10.29	AV
H	20960.00	51.64	30.85	7.45	24.69	52.93	74.00	-21.07	PK
H	20960.00	43.84	30.85	7.45	24.69	45.13	54.00	-8.87	AV
H	26200.00	50.08	31.02	8.99	25.57	53.62	74.00	-20.38	PK
H	26200.00	42.93	31.02	8.99	25.57	46.47	54.00	-7.53	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.

**802.11n20**

Polar (H/V)	Frequency	Meter Reading	Pre-ampl ifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	
Low Channel:5180MHz									
V	5150.00	41.27	30.45	8.77	38.66	58.25	74.00	-15.75	PK
V	5150.00	29.99	30.45	8.77	38.66	46.97	54.00	-7.03	AV
V	10360.00	52.22	30.55	5.77	24.66	52.10	74.00	-21.90	PK
V	10360.00	42.45	30.55	5.77	24.66	42.33	54.00	-11.67	AV
V	15540.00	53.62	30.33	6.32	24.55	54.16	74.00	-19.84	PK
V	15540.00	42.42	30.33	6.32	24.55	42.96	54.00	-11.04	AV
V	20720.00	49.14	30.85	7.45	24.69	50.43	74.00	-23.57	PK
V	20720.00	42.51	30.85	7.45	24.69	43.80	54.00	-10.20	AV
V	25900.00	51.25	31.02	8.99	25.57	54.79	74.00	-19.21	PK
V	25900.00	43.04	31.02	8.99	25.57	46.58	54.00	-7.42	AV
H	5150.00	41.66	30.45	8.77	38.66	58.64	74.00	-15.36	PK
H	5150.00	30.31	30.45	8.77	38.66	47.29	54.00	-6.71	AV
H	10360.00	49.94	30.55	5.77	24.66	49.82	74.00	-24.18	PK
H	10360.00	42.78	30.55	5.77	24.66	42.66	54.00	-11.34	AV
H	15540.00	52.97	30.33	6.32	24.55	53.51	74.00	-20.49	PK
H	15540.00	43.62	30.33	6.32	24.55	44.16	54.00	-9.84	AV
H	20720.00	51.22	30.85	7.45	24.69	52.51	74.00	-21.49	PK
H	20720.00	42.99	30.85	7.45	24.69	44.28	54.00	-9.72	AV
H	25900.00	50.29	31.02	8.99	25.57	53.83	74.00	-20.17	PK
H	25900.00	42.19	31.02	8.99	25.57	45.73	54.00	-8.27	AV

Polar (H/V)	Frequency	Meter Reading	Pre-ampl ifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	
Middle Channel:5200MHz									
V	5150.00	42.56	30.45	8.77	38.66	59.54	74.00	-14.46	PK
V	5150.00	28.98	30.45	8.77	38.66	45.96	54.00	-8.04	AV
V	10400.00	52.73	30.55	5.77	24.66	52.61	74.00	-21.39	PK
V	10400.00	42.12	30.55	5.77	24.66	42.00	54.00	-12.00	AV
V	15600.00	54.20	30.33	6.32	24.55	54.74	74.00	-19.26	PK
V	15600.00	41.69	30.33	6.32	24.55	42.23	54.00	-11.77	AV
V	20800.00	49.16	30.85	7.45	24.69	50.45	74.00	-23.55	PK
V	20800.00	43.29	30.85	7.45	24.69	44.58	54.00	-9.42	AV
V	26000.00	52.25	31.02	8.99	25.57	55.79	74.00	-18.21	PK
V	26000.00	42.80	31.02	8.99	25.57	46.34	54.00	-7.66	AV
H	5150.00	41.87	30.45	8.77	38.66	58.85	74.00	-15.15	PK
H	5150.00	29.72	30.45	8.77	38.66	46.70	54.00	-7.30	AV
H	10400.00	49.10	30.55	5.77	24.66	48.98	74.00	-25.02	PK
H	10400.00	42.60	30.55	5.77	24.66	42.48	54.00	-11.52	AV
H	15600.00	51.79	30.33	6.32	24.55	52.33	74.00	-21.67	PK
H	15600.00	42.86	30.33	6.32	24.55	43.40	54.00	-10.60	AV
H	20800.00	50.92	30.85	7.45	24.69	52.21	74.00	-21.79	PK
H	20800.00	43.37	30.85	7.45	24.69	44.66	54.00	-9.34	AV
H	26000.00	49.41	31.02	8.99	25.57	52.95	74.00	-21.05	PK
H	26000.00	43.09	31.02	8.99	25.57	46.63	54.00	-7.37	AV



Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampli fier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
High Channel:5240MHz									
V	5350.00	40.66	30.45	8.77	38.66	57.64	74.00	-16.36	PK
V	5350.00	30.09	30.45	8.77	38.66	47.07	54.00	-6.93	AV
V	10480.00	52.30	30.55	5.77	24.66	52.18	74.00	-21.82	PK
V	10480.00	42.04	30.55	5.77	24.66	41.92	54.00	-12.08	AV
V	15720.00	53.07	30.33	6.32	24.55	53.61	74.00	-20.39	PK
V	15720.00	42.58	30.33	6.32	24.55	43.12	54.00	-10.88	AV
V	20960.00	48.97	30.85	7.45	24.69	50.26	74.00	-23.74	PK
V	20960.00	41.23	30.85	7.45	24.69	42.52	54.00	-11.48	AV
V	26200.00	50.76	31.02	8.99	25.57	54.30	74.00	-19.70	PK
V	26200.00	42.41	31.02	8.99	25.57	45.95	54.00	-8.05	AV
H	5350.00	40.48	30.45	8.77	38.66	57.46	74.00	-16.54	PK
H	5350.00	29.87	30.45	8.77	38.66	46.85	54.00	-7.15	AV
H	10480.00	49.86	30.55	5.77	24.66	49.74	74.00	-24.26	PK
H	10480.00	42.62	30.55	5.77	24.66	42.50	54.00	-11.50	AV
H	15720.00	51.46	30.33	6.32	24.55	52.00	74.00	-22.00	PK
H	15720.00	41.43	30.33	6.32	24.55	41.97	54.00	-12.03	AV
H	20960.00	51.34	30.85	7.45	24.69	52.63	74.00	-21.37	PK
H	20960.00	43.15	30.85	7.45	24.69	44.44	54.00	-9.56	AV
H	26200.00	50.15	31.02	8.99	25.57	53.69	74.00	-20.31	PK
H	26200.00	42.52	31.02	8.99	25.57	46.06	54.00	-7.94	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.

**802.11ac20**

Polar (H/V)	Frequency	Meter Reading	Pre-ampl ifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	
Low Channel:5180MHz									
V	5150.00	41.93	30.45	8.77	38.66	58.91	74.00	-15.09	PK
V	5150.00	30.15	30.45	8.77	38.66	47.13	54.00	-6.87	AV
V	10360.00	52.53	30.55	5.77	24.66	52.41	74.00	-21.59	PK
V	10360.00	43.06	30.55	5.77	24.66	42.94	54.00	-11.06	AV
V	15540.00	53.22	30.33	6.32	24.55	53.76	74.00	-20.24	PK
V	15540.00	42.71	30.33	6.32	24.55	43.25	54.00	-10.75	AV
V	20720.00	49.30	30.85	7.45	24.69	50.59	74.00	-23.41	PK
V	20720.00	42.72	30.85	7.45	24.69	44.01	54.00	-9.99	AV
V	25900.00	51.01	31.02	8.99	25.57	54.55	74.00	-19.45	PK
V	25900.00	42.58	31.02	8.99	25.57	46.12	54.00	-7.88	AV
H	5150.00	41.11	30.45	8.77	38.66	58.09	74.00	-15.91	PK
H	5150.00	29.38	30.45	8.77	38.66	46.36	54.00	-7.64	AV
H	10360.00	49.62	30.55	5.77	24.66	49.50	74.00	-24.50	PK
H	10360.00	42.76	30.55	5.77	24.66	42.64	54.00	-11.36	AV
H	15540.00	52.63	30.33	6.32	24.55	53.17	74.00	-20.83	PK
H	15540.00	43.44	30.33	6.32	24.55	43.98	54.00	-10.02	AV
H	20720.00	50.90	30.85	7.45	24.69	52.19	74.00	-21.81	PK
H	20720.00	42.76	30.85	7.45	24.69	44.05	54.00	-9.95	AV
H	25900.00	49.75	31.02	8.99	25.57	53.29	74.00	-20.71	PK
H	25900.00	42.29	31.02	8.99	25.57	45.83	54.00	-8.17	AV

Polar (H/V)	Frequency	Meter Reading	Pre-ampl ifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	
Middle Channel:5200MHz									
V	5150.00	41.51	30.45	8.77	38.66	58.49	74.00	-15.51	PK
V	5150.00	29.33	30.45	8.77	38.66	46.31	54.00	-7.69	AV
V	10400.00	52.26	30.55	5.77	24.66	52.14	74.00	-21.86	PK
V	10400.00	43.61	30.55	5.77	24.66	43.49	54.00	-10.51	AV
V	15600.00	53.62	30.33	6.32	24.55	54.16	74.00	-19.84	PK
V	15600.00	42.84	30.33	6.32	24.55	43.38	54.00	-10.62	AV
V	20800.00	49.52	30.85	7.45	24.69	50.81	74.00	-23.19	PK
V	20800.00	42.56	30.85	7.45	24.69	43.85	54.00	-10.15	AV
V	26000.00	50.79	31.02	8.99	25.57	54.33	74.00	-19.67	PK
V	26000.00	41.95	31.02	8.99	25.57	45.49	54.00	-8.51	AV
H	5150.00	40.76	30.45	8.77	38.66	57.74	74.00	-16.26	PK
H	5150.00	30.28	30.45	8.77	38.66	47.26	54.00	-6.74	AV
H	10400.00	50.05	30.55	5.77	24.66	49.93	74.00	-24.07	PK
H	10400.00	41.48	30.55	5.77	24.66	41.36	54.00	-12.64	AV
H	15600.00	51.56	30.33	6.32	24.55	52.10	74.00	-21.90	PK
H	15600.00	42.12	30.33	6.32	24.55	42.66	54.00	-11.34	AV
H	20800.00	50.60	30.85	7.45	24.69	51.89	74.00	-22.11	PK
H	20800.00	42.88	30.85	7.45	24.69	44.17	54.00	-9.83	AV
H	26000.00	49.17	31.02	8.99	25.57	52.71	74.00	-21.29	PK
H	26000.00	42.41	31.02	8.99	25.57	45.95	54.00	-8.05	AV



Polar (H/V)	Frequency	Meter Reading	Pre-ampli fier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	
High Channel:5240MHz									
V	5350.00	40.38	30.45	8.77	38.66	57.36	74.00	-16.64	PK
V	5350.00	28.89	30.45	8.77	38.66	45.87	54.00	-8.13	AV
V	10480.00	51.35	30.55	5.77	24.66	51.23	74.00	-22.77	PK
V	10480.00	42.12	30.55	5.77	24.66	42.00	54.00	-12.00	AV
V	15720.00	52.98	30.33	6.32	24.55	53.52	74.00	-20.48	PK
V	15720.00	42.07	30.33	6.32	24.55	42.61	54.00	-11.39	AV
V	20960.00	48.76	30.85	7.45	24.69	50.05	74.00	-23.95	PK
V	20960.00	42.55	30.85	7.45	24.69	43.84	54.00	-10.16	AV
V	26200.00	52.44	31.02	8.99	25.57	55.98	74.00	-18.02	PK
V	26200.00	42.13	31.02	8.99	25.57	45.67	54.00	-8.33	AV
H	5350.00	40.90	30.45	8.77	38.66	57.88	74.00	-16.12	PK
H	5350.00	30.02	30.45	8.77	38.66	47.00	54.00	-7.00	AV
H	10480.00	48.81	30.55	5.77	24.66	48.69	74.00	-25.31	PK
H	10480.00	43.11	30.55	5.77	24.66	42.99	54.00	-11.01	AV
H	15720.00	52.79	30.33	6.32	24.55	53.33	74.00	-20.67	PK
H	15720.00	41.89	30.33	6.32	24.55	42.43	54.00	-11.57	AV
H	20960.00	50.97	30.85	7.45	24.69	52.26	74.00	-21.74	PK
H	20960.00	42.40	30.85	7.45	24.69	43.69	54.00	-10.31	AV
H	26200.00	50.56	31.02	8.99	25.57	54.10	74.00	-19.90	PK
H	26200.00	42.28	31.02	8.99	25.57	45.82	54.00	-8.18	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.



Temperature :	26°C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	5.8G TX - 802.11a/ n20/ ac20/ n40/ ac40/ac80		
Note: All patterns have been tested, and only the worst test data recorded in this report is 802.11a/n20/ac20.			

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:5745MHz									
V	11490.00	50.63	30.55	5.77	24.66	50.51	74.00	-23.49	PK
V	11490.00	43.37	30.55	5.77	24.66	43.25	54.00	-10.75	AV
V	17235.00	51.18	30.33	6.32	24.55	51.72	74.00	-22.28	PK
V	17235.00	43.28	30.33	6.32	24.55	43.82	54.00	-10.18	AV
V	22980.00	49.20	30.85	7.45	24.69	50.49	74.00	-23.51	PK
V	22980.00	41.76	30.85	7.45	24.69	43.05	54.00	-10.95	AV
V	28725.00	52.90	31.02	8.99	25.57	56.44	74.00	-17.56	PK
V	28725.00	42.47	31.02	8.99	25.57	46.01	54.00	-7.99	AV
H	11490.00	51.52	30.55	5.77	24.66	51.40	74.00	-22.60	PK
H	11490.00	42.61	30.55	5.77	24.66	42.49	54.00	-11.51	AV
H	17235.00	52.92	30.33	6.32	24.55	53.46	74.00	-20.54	PK
H	17235.00	43.33	30.33	6.32	24.55	43.87	54.00	-10.13	AV
H	22980.00	52.26	30.85	7.45	24.69	53.55	74.00	-20.45	PK
H	22980.00	43.53	30.85	7.45	24.69	44.82	54.00	-9.18	AV
H	28725.00	52.16	31.02	8.99	25.57	55.70	74.00	-18.30	PK
H	28725.00	42.40	31.02	8.99	25.57	45.94	54.00	-8.06	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	11570.00	49.44	30.55	5.77	24.66	49.32	74.00	-24.68	PK
V	11570.00	41.84	30.55	5.77	24.66	41.72	54.00	-12.28	AV
V	17355.00	48.42	30.33	6.32	24.55	48.96	74.00	-25.04	PK
V	17355.00	41.47	30.33	6.32	24.55	42.01	54.00	-11.99	AV
V	23140.00	50.31	30.85	7.45	24.69	51.60	74.00	-22.40	PK
V	23140.00	41.25	30.85	7.45	24.69	42.54	54.00	-11.46	AV
V	28925.00	48.44	31.02	8.99	25.57	51.98	74.00	-22.02	PK
V	28925.00	41.36	31.02	8.99	25.57	44.90	54.00	-9.10	AV
H	11570.00	48.78	30.55	5.77	24.66	48.66	74.00	-25.34	PK
H	11570.00	41.89	30.55	5.77	24.66	41.77	54.00	-12.23	AV
H	17355.00	52.83	30.33	6.32	24.55	53.37	74.00	-20.63	PK
H	17355.00	41.08	30.33	6.32	24.55	41.62	54.00	-12.38	AV
H	23140.00	50.61	30.85	7.45	24.69	51.90	74.00	-22.10	PK
H	23140.00	41.70	30.85	7.45	24.69	42.99	54.00	-11.01	AV
H	28925.00	48.35	31.02	8.99	25.57	51.89	74.00	-22.11	PK
H	28925.00	41.71	31.02	8.99	25.57	45.25	54.00	-8.75	AV



Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampli fier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Type
High Channel:5825MHz									
V	11650.00	50.14	30.55	5.77	24.66	50.02	74.00	-23.98	PK
V	11650.00	41.71	30.55	5.77	24.66	41.59	54.00	-12.41	AV
V	17475.00	48.13	30.33	6.32	24.55	48.67	74.00	-25.33	PK
V	17475.00	40.96	30.33	6.32	24.55	41.50	54.00	-12.50	AV
V	23300.00	49.23	30.85	7.45	24.69	50.52	74.00	-23.48	PK
V	23300.00	41.62	30.85	7.45	24.69	42.91	54.00	-11.09	AV
V	29125.00	51.84	31.02	8.99	25.57	55.38	74.00	-18.62	PK
V	29125.00	41.00	31.02	8.99	25.57	44.54	54.00	-9.46	AV
H	11650.00	50.56	30.55	5.77	24.66	50.44	74.00	-23.56	PK
H	11650.00	41.05	30.55	5.77	24.66	40.93	54.00	-13.07	AV
H	17475.00	50.95	30.33	6.32	24.55	51.49	74.00	-22.51	PK
H	17475.00	41.41	30.33	6.32	24.55	41.95	54.00	-12.05	AV
H	23300.00	51.93	30.85	7.45	24.69	53.22	74.00	-20.78	PK
H	23300.00	41.15	30.85	7.45	24.69	42.44	54.00	-11.56	AV
H	29125.00	48.01	31.02	8.99	25.57	51.55	74.00	-22.45	PK
H	29125.00	41.90	31.02	8.99	25.57	45.44	54.00	-8.56	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.

**802.11n20**

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampl ifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Type
Low Channel:5745MHz									
V	11490.00	50.07	30.55	5.77	24.66	49.95	74.00	-24.05	PK
V	11490.00	42.92	30.55	5.77	24.66	42.80	54.00	-11.20	AV
V	17235.00	52.47	30.33	6.32	24.55	53.01	74.00	-20.99	PK
V	17235.00	42.35	30.33	6.32	24.55	42.89	54.00	-11.11	AV
V	22980.00	49.88	30.85	7.45	24.69	51.17	74.00	-22.83	PK
V	22980.00	42.28	30.85	7.45	24.69	43.57	54.00	-10.43	AV
V	28725.00	52.24	31.02	8.99	25.57	55.78	74.00	-18.22	PK
V	28725.00	43.46	31.02	8.99	25.57	47.00	54.00	-7.00	AV
H	11490.00	51.71	30.55	5.77	24.66	51.59	74.00	-22.41	PK
H	11490.00	42.35	30.55	5.77	24.66	42.23	54.00	-11.77	AV
H	17235.00	53.01	30.33	6.32	24.55	53.55	74.00	-20.45	PK
H	17235.00	42.70	30.33	6.32	24.55	43.24	54.00	-10.76	AV
H	22980.00	51.14	30.85	7.45	24.69	52.43	74.00	-21.57	PK
H	22980.00	42.74	30.85	7.45	24.69	44.03	54.00	-9.97	AV
H	28725.00	51.55	31.02	8.99	25.57	55.09	74.00	-18.91	PK
H	28725.00	42.50	31.02	8.99	25.57	46.04	54.00	-7.96	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampl ifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Type
Middle Channel:5785MHz									
V	11570.00	49.19	30.55	5.77	24.66	49.07	74.00	-24.93	PK
V	11570.00	41.91	30.55	5.77	24.66	41.79	54.00	-12.21	AV
V	17355.00	48.48	30.33	6.32	24.55	49.02	74.00	-24.98	PK
V	17355.00	41.74	30.33	6.32	24.55	42.28	54.00	-11.72	AV
V	23140.00	50.65	30.85	7.45	24.69	51.94	74.00	-22.06	PK
V	23140.00	41.16	30.85	7.45	24.69	42.45	54.00	-11.55	AV
V	28925.00	48.30	31.02	8.99	25.57	51.84	74.00	-22.16	PK
V	28925.00	41.54	31.02	8.99	25.57	45.08	54.00	-8.92	AV
H	11570.00	48.69	30.55	5.77	24.66	48.57	74.00	-25.43	PK
H	11570.00	41.66	30.55	5.77	24.66	41.54	54.00	-12.46	AV
H	17355.00	53.01	30.33	6.32	24.55	53.55	74.00	-20.45	PK
H	17355.00	41.41	30.33	6.32	24.55	41.95	54.00	-12.05	AV
H	23140.00	50.47	30.85	7.45	24.69	51.76	74.00	-22.24	PK
H	23140.00	41.76	30.85	7.45	24.69	43.05	54.00	-10.95	AV
H	28925.00	48.29	31.02	8.99	25.57	51.83	74.00	-22.17	PK
H	28925.00	41.74	31.02	8.99	25.57	45.28	54.00	-8.72	AV



Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampli fier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Type
High Channel:5825MHz									
V	11650.00	50.05	30.55	5.77	24.66	49.93	74.00	-24.07	PK
V	11650.00	41.50	30.55	5.77	24.66	41.38	54.00	-12.62	AV
V	17475.00	48.12	30.33	6.32	24.55	48.66	74.00	-25.34	PK
V	17475.00	41.51	30.33	6.32	24.55	42.05	54.00	-11.95	AV
V	23300.00	49.53	30.85	7.45	24.69	50.82	74.00	-23.18	PK
V	23300.00	41.12	30.85	7.45	24.69	42.41	54.00	-11.59	AV
V	29125.00	51.88	31.02	8.99	25.57	55.42	74.00	-18.58	PK
V	29125.00	41.01	31.02	8.99	25.57	44.55	54.00	-9.45	AV
H	11650.00	50.76	30.55	5.77	24.66	50.64	74.00	-23.36	PK
H	11650.00	41.12	30.55	5.77	24.66	41.00	54.00	-13.00	AV
H	17475.00	51.14	30.33	6.32	24.55	51.68	74.00	-22.32	PK
H	17475.00	41.35	30.33	6.32	24.55	41.89	54.00	-12.11	AV
H	23300.00	52.36	30.85	7.45	24.69	53.65	74.00	-20.35	PK
H	23300.00	41.49	30.85	7.45	24.69	42.78	54.00	-11.22	AV
H	29125.00	48.12	31.02	8.99	25.57	51.66	74.00	-22.34	PK
H	29125.00	41.50	31.02	8.99	25.57	45.04	54.00	-8.96	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.



802.11ac20

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampl ifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Type
Low Channel:5745MHz									
V	11490.00	51.54	30.55	5.77	24.66	51.42	74.00	-22.58	PK
V	11490.00	43.11	30.55	5.77	24.66	42.99	54.00	-11.01	AV
V	17235.00	52.33	30.33	6.32	24.55	52.87	74.00	-21.13	PK
V	17235.00	43.21	30.33	6.32	24.55	43.75	54.00	-10.25	AV
V	22980.00	49.39	30.85	7.45	24.69	50.68	74.00	-23.32	PK
V	22980.00	41.66	30.85	7.45	24.69	42.95	54.00	-11.05	AV
V	28725.00	53.34	31.02	8.99	25.57	56.88	74.00	-17.12	PK
V	28725.00	42.54	31.02	8.99	25.57	46.08	54.00	-7.92	AV
H	11490.00	50.78	30.55	5.77	24.66	50.66	74.00	-23.34	PK
H	11490.00	42.78	30.55	5.77	24.66	42.66	54.00	-11.34	AV
H	17235.00	54.10	30.33	6.32	24.55	54.64	74.00	-19.36	PK
H	17235.00	43.37	30.33	6.32	24.55	43.91	54.00	-10.09	AV
H	22980.00	50.97	30.85	7.45	24.69	52.26	74.00	-21.74	PK
H	22980.00	42.62	30.85	7.45	24.69	43.91	54.00	-10.09	AV
H	28725.00	51.38	31.02	8.99	25.57	54.92	74.00	-19.08	PK
H	28725.00	43.88	31.02	8.99	25.57	47.42	54.00	-6.58	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampl ifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Type
Middle Channel:5785MHz									
V	11570.00	49.44	30.55	5.77	24.66	49.32	74.00	-24.68	PK
V	11570.00	41.60	30.55	5.77	24.66	41.48	54.00	-12.52	AV
V	17355.00	48.32	30.33	6.32	24.55	48.86	74.00	-25.14	PK
V	17355.00	41.58	30.33	6.32	24.55	42.12	54.00	-11.88	AV
V	23140.00	50.77	30.85	7.45	24.69	52.06	74.00	-21.94	PK
V	23140.00	41.18	30.85	7.45	24.69	42.47	54.00	-11.53	AV
V	28925.00	48.67	31.02	8.99	25.57	52.21	74.00	-21.79	PK
V	28925.00	41.60	31.02	8.99	25.57	45.14	54.00	-8.86	AV
H	11570.00	48.90	30.55	5.77	24.66	48.78	74.00	-25.22	PK
H	11570.00	41.57	30.55	5.77	24.66	41.45	54.00	-12.55	AV
H	17355.00	53.15	30.33	6.32	24.55	53.69	74.00	-20.31	PK
H	17355.00	41.12	30.33	6.32	24.55	41.66	54.00	-12.34	AV
H	23140.00	50.46	30.85	7.45	24.69	51.75	74.00	-22.25	PK
H	23140.00	41.51	30.85	7.45	24.69	42.80	54.00	-11.20	AV
H	28925.00	48.30	31.02	8.99	25.57	51.84	74.00	-22.16	PK
H	28925.00	41.93	31.02	8.99	25.57	45.47	54.00	-8.53	AV



Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampli fier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Type
High Channel:5825MHz									
V	11650.00	50.36	30.55	5.77	24.66	50.24	74.00	-23.76	PK
V	11650.00	41.61	30.55	5.77	24.66	41.49	54.00	-12.51	AV
V	17475.00	48.29	30.33	6.32	24.55	48.83	74.00	-25.17	PK
V	17475.00	41.45	30.33	6.32	24.55	41.99	54.00	-12.01	AV
V	23300.00	49.34	30.85	7.45	24.69	50.63	74.00	-23.37	PK
V	23300.00	41.42	30.85	7.45	24.69	42.71	54.00	-11.29	AV
V	29125.00	51.88	31.02	8.99	25.57	55.42	74.00	-18.58	PK
V	29125.00	41.00	31.02	8.99	25.57	44.54	54.00	-9.46	AV
H	11650.00	50.53	30.55	5.77	24.66	50.41	74.00	-23.59	PK
H	11650.00	41.26	30.55	5.77	24.66	41.14	54.00	-12.86	AV
H	17475.00	51.17	30.33	6.32	24.55	51.71	74.00	-22.29	PK
H	17475.00	41.69	30.33	6.32	24.55	42.23	54.00	-11.77	AV
H	23300.00	52.24	30.85	7.45	24.69	53.53	74.00	-20.47	PK
H	23300.00	41.31	30.85	7.45	24.69	42.60	54.00	-11.40	AV
H	29125.00	48.12	31.02	8.99	25.57	51.66	74.00	-22.34	PK
H	29125.00	41.88	31.02	8.99	25.57	45.42	54.00	-8.58	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.



5. POWER SPECTRAL DENSITY TEST

5.1 APPLIED PROCEDURES / LIMIT

According to FCC §15.407(3)

Power limits:

(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.



5.2 TEST PROCEDURE

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

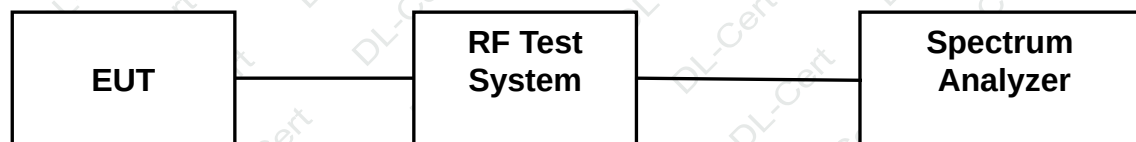
- Set $RBW \geq 1/T$, where T is defined in section II.B.I.a).
- Set $VBW \geq 3$ RBW.
- If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/RBW)$ to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
- If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10\log(1\text{MHz}/RBW)$ to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.
- Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 KHz for the sections 5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 5.4 Unless otherwise a special operating condition is specified in the follows during the testing.



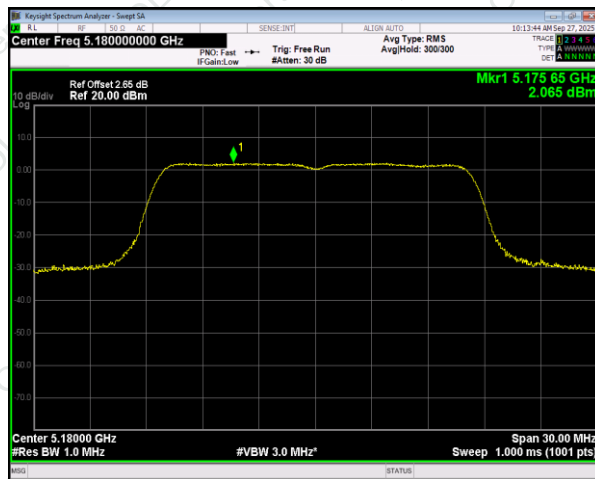
5.6 TEST RESULTS

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1015 hPa	Test Voltage :	AC 120V/60Hz
Test Band :	5.2G		

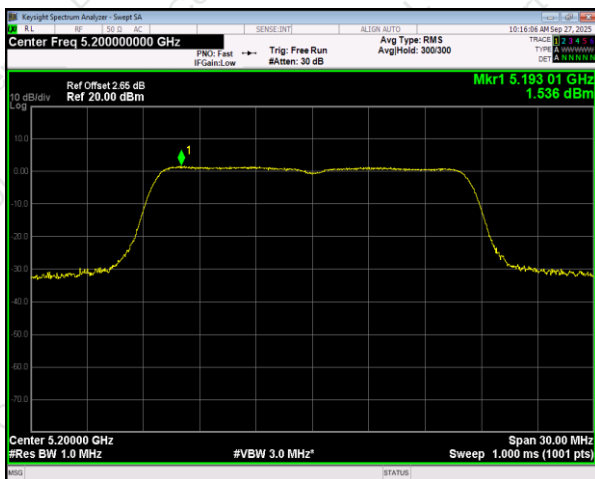
5.2G						
Test mode	Test Channel (MHz)	PSD (dBm)	duty cycle Factor (dB)	Total PSD (dBm)	Limit (dBm/MHz)	Result
802.11a	5180	2.07	0.43	2.50	11	Pass
	5200	1.54	0.43	1.97	11	Pass
	5240	1.31	0.43	1.74	11	Pass
802.11n20	5180	1.7	0.63	2.33	11	Pass
	5200	1.37	0.63	2.00	11	Pass
	5240	1.09	0.63	1.72	11	Pass
802.11n40	5190	-0.96	1.01	0.05	11	Pass
	5230	-1.68	1.01	-0.67	11	Pass
802.11ac20	5180	1.88	0.53	2.41	11	Pass
	5200	1.42	0.53	1.95	11	Pass
	5240	0.92	0.53	1.45	11	Pass
802.11ac40	5190	-0.82	0.94	0.12	11	Pass
	5230	-2.13	0.94	-1.19	11	Pass
802.11ac80	5210	-6.12	1.91	-4.21	11	Pass
Note: duty cycle Factor see page 84						



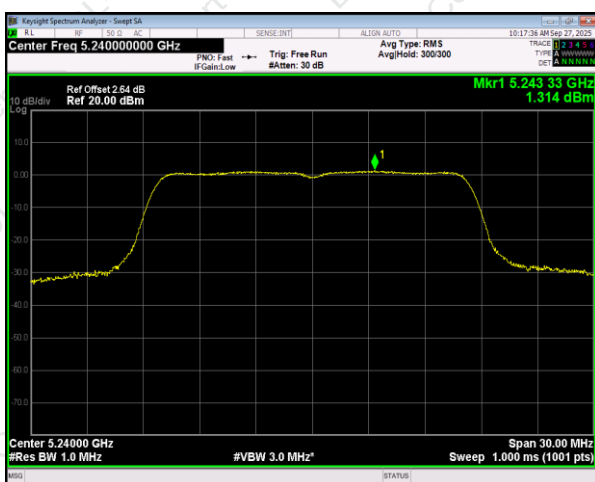
(802.11a) PSD plot on channel 36



(802.11a) PSD plot on channel 40

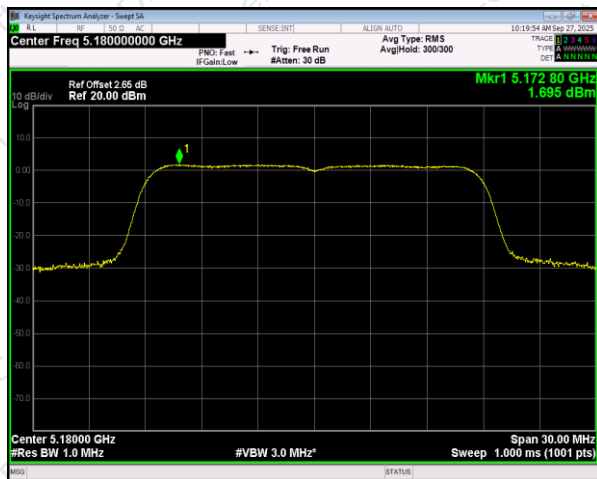


(802.11a) PSD plot on channel 48





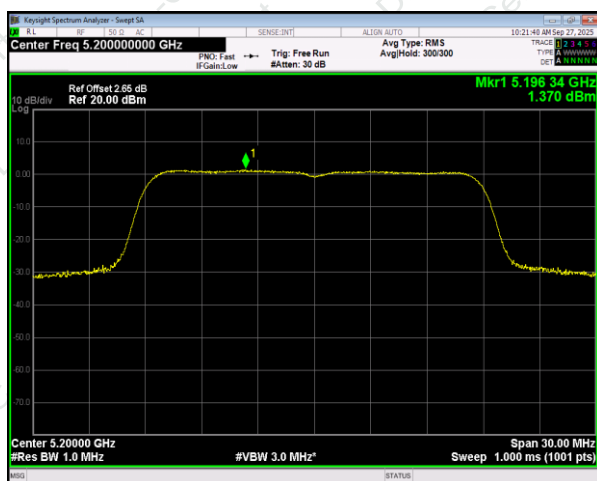
(802.11n20) PSD plot on channel 36



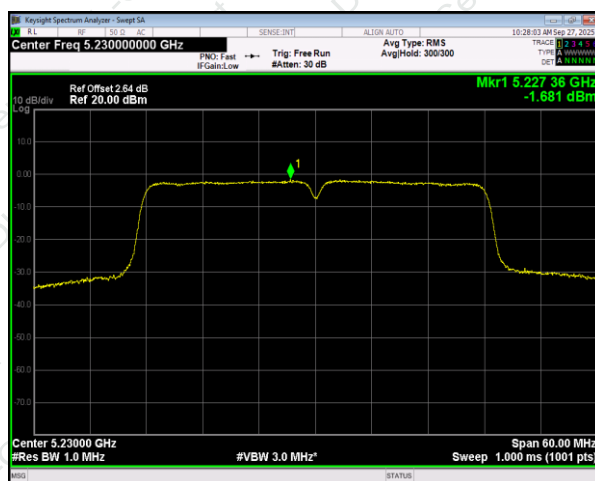
(802.11n40) PSD plot on channel 38



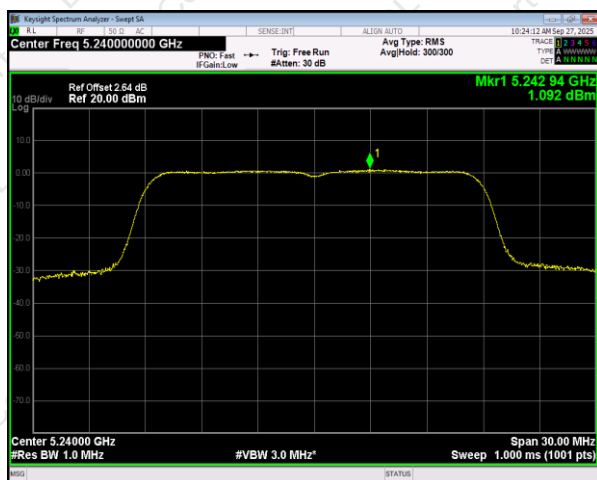
(802.11n20) PSD plot on channel 40



(802.11n40) PSD plot on channel 46

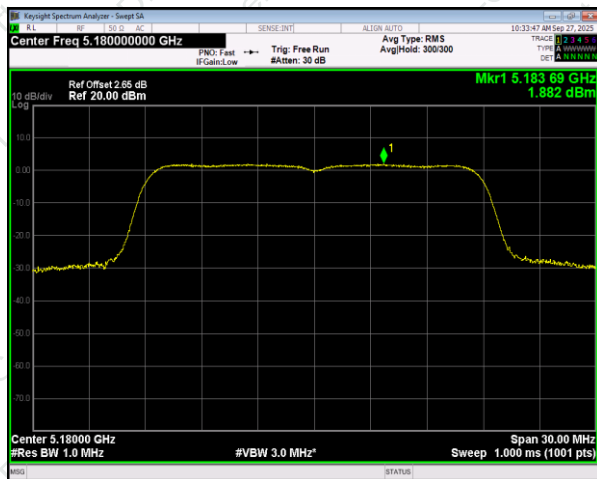


(802.11n20) PSD plot on channel 48

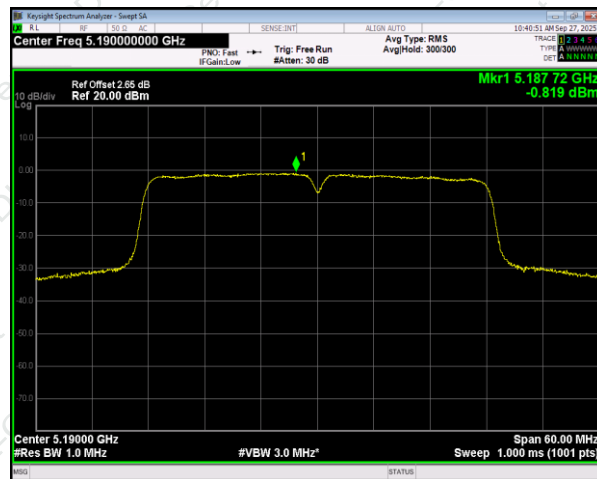




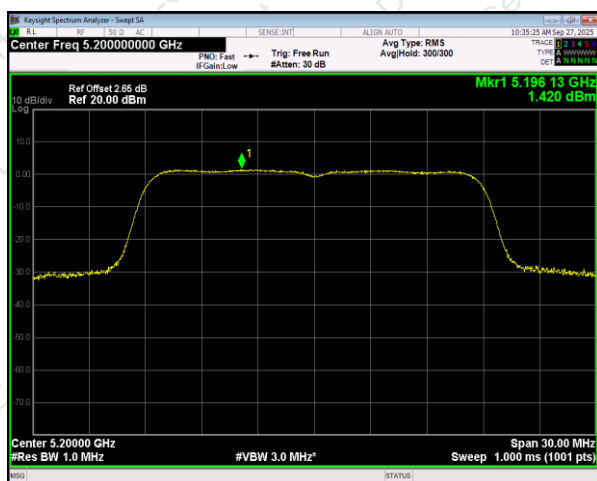
(802.11ac20) PSD plot on channel 36



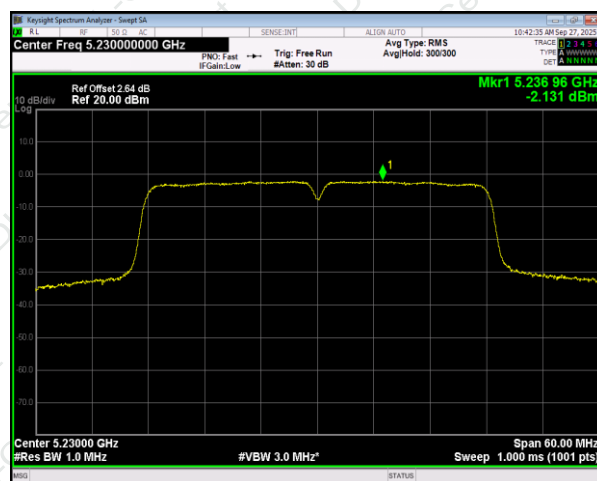
(802.11ac40) PSD plot on channel 38



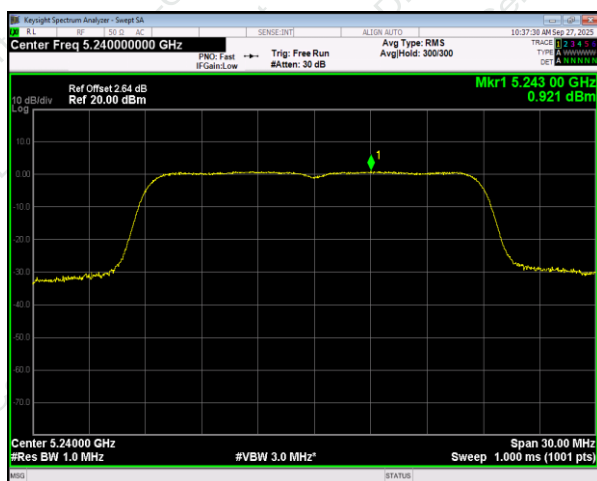
(802.11ac20) PSD plot on channel 40



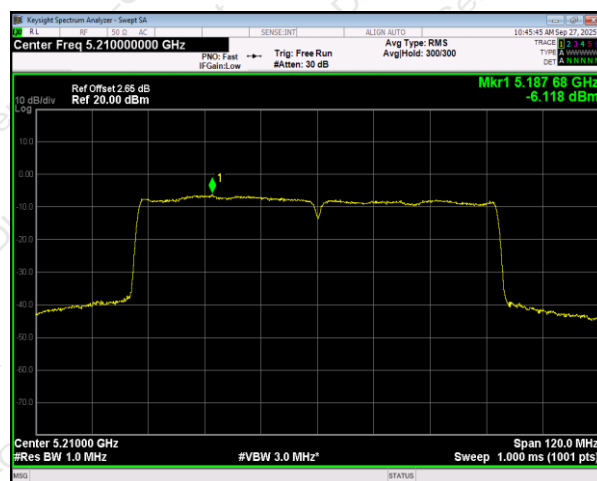
(802.11ac40) PSD plot on channel 46



(802.11ac20) PSD plot on channel 48



(802.11ac80) PSD plot on channel 42



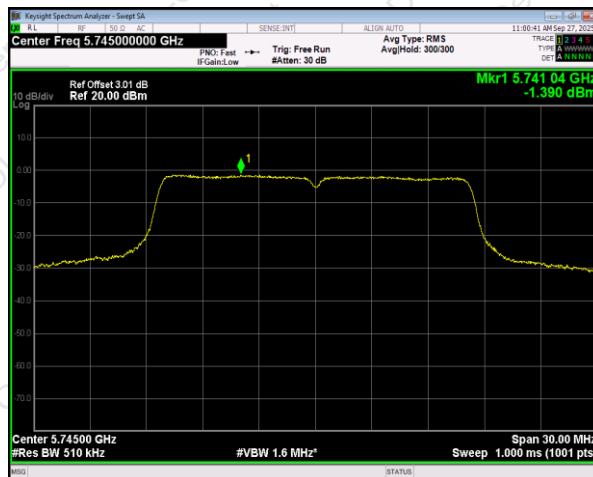


Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1015 hPa	Test Voltage :	AC 120V/60Hz
Test Band :	5.8G		

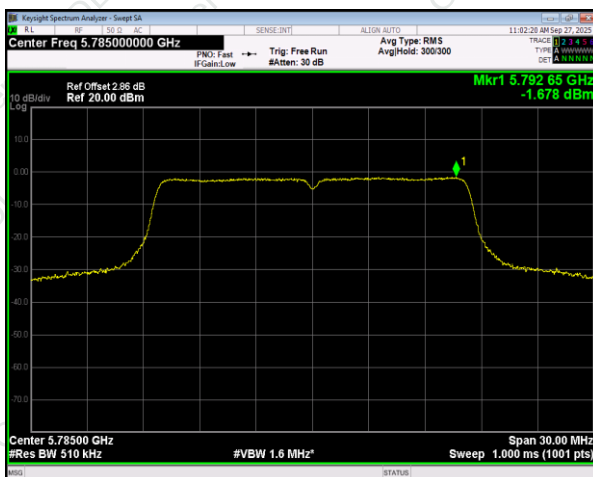
5.8G						
Test mode	Test Channel (MHz)	PSD (dBm/510kHz)	duty cycle Factor (dB)	Total PSD (dBm)	Limit (dBm/500kHz)	Result
802.11a	5745	-1.39	0.45	-0.94	30	Pass
	5785	-1.68	0.45	-1.23	30	Pass
	5825	-1.61	0.45	-1.16	30	Pass
802.11n20	5745	-1.69	0.53	-1.16	30	Pass
	5785	-1.98	0.53	-1.45	30	Pass
	5825	-1.78	0.53	-1.25	30	Pass
802.11n40	5755	-5.22	0.95	-4.27	30	Pass
	5795	-4.53	0.95	-3.58	30	Pass
802.11ac20	5745	-1.79	0.53	-1.26	30	Pass
	5785	-2.02	0.53	-1.49	30	Pass
	5825	-1.87	0.53	-1.34	30	Pass
802.11ac40	5755	-5.25	0.94	-4.31	30	Pass
	5795	-4.49	0.94	-3.55	30	Pass
802.11ac80	5775	-8.51	1.71	-6.80	30	Pass
Note: duty cycle Factor see page 88						



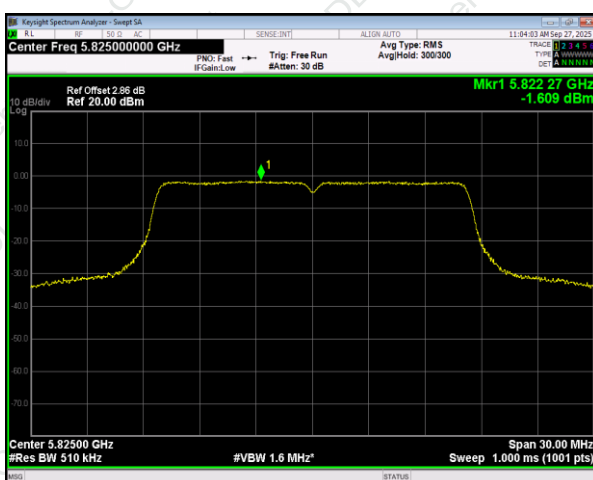
(802.11a) PSD plot on channel 149



(802.11a) PSD plot on channel 157

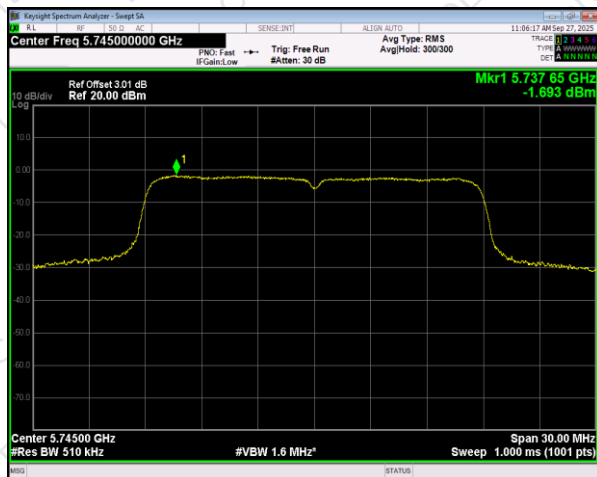


(802.11a) PSD plot on channel 165





(802.11n20) PSD plot on channel 149



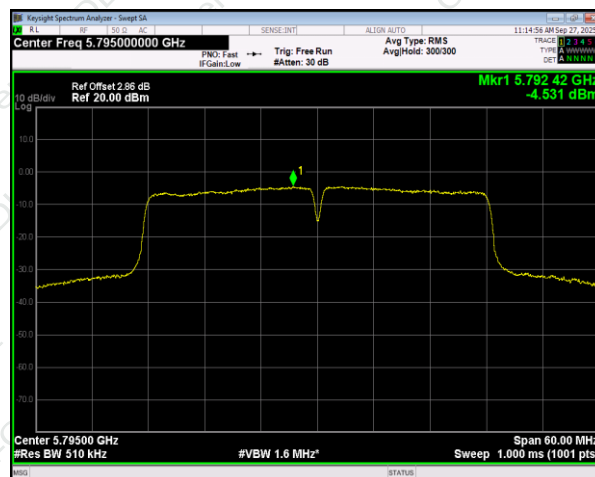
(802.11n40) PSD plot on channel 151



(802.11n20) PSD plot on channel 157



(802.11n40) PSD plot on channel 159



(802.11n20) PSD plot on channel 165

