FCC TEST REPORT

FCC ID:2A36M-SHM-MT910EM

Applicant:	**Shenzhen Anjia Information Technology Co., Ltd.**
Address:	No. 13,Anye Road,Anliang Community, Yuanshan Street,Longgang District, Shenzhen, Guangdong, China
Manufacturer:	**Shenzhen Anjia Information Technology Co., Ltd.**
Address:	No. 13,Anye Road,Anliang Community, Yuanshan Street,Longgang District, Shenzhen, Guangdong, China
EUT:	**Intelligent camera**
Trade Mark:	SightSys
Model Number:	SHM-MT910EM STY-MT910EM, T910A, T910EM
Date of Receipt:	May. 20, 2025
Test Date:	May. 20, 2025 to May. 27, 2025
Date of Report:	May. 27, 2025
Prepared By:	Shenzhen DL Testing Technology Co., Ltd.
Address:	101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1 Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China
Applicable Standards:	FCC CFR Title 47 Part 15 Subpart E Section 15.407 ANSI C63.10:2013 KDB 789033 D02 v02r01
Test Result:	Pass
Report Number:	DLE-250605021R

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.

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1. VERSION

Report No.	Version	Description	Approved
DLE-250605021R	Rev.01	Initial issue of report	May. 27, 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(a)	AC Power Line Conducted Emission	PASS	
789033 D02 General U-NII	Duty Cycle	PASS	
15.205(a) 15.209(a) 15.407(b)(4) 15.407(b)(8) 2.1051	Radiated Emissions and Band Edge	PASS	
15.407 (e)	26dB Emission Bandwidth and 6dB Occupied Bandwidth	PASS	
15.407 (a)(3) i	Maximum Conducted Output Power	PASS	
15.407 (a)(3) i	Power Spectral Density	PASS	
15.407(g)	Frequency Stability	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 identifier: CN0118

2.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ± 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℃

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Product Name:	Intelligent camera	
Model No.:	SHM-MT910EM	
Serial Model:	STY-MT910EM, T910A, T910EM	
Model Different:	All the model are the same circuit and RF module,Only the model name different.	
Sample ID	E-1	
Sample(s) Status:	Engineer sample	
Product Description:	IEEE 802.11 WLAN Mode Supported	☒ 802.11a/n
	Data Rate	802.11a: 6/9/12/24/18/36/48/54Mbit/s; 802.11n: MCS0-MCS7;
	Modulation	802.11a/n: Orthogonal Frequency Division Multiplexing(OFDM)
	Operating Frequency Range	☒ 5745-5825 MHz for 802.11a/n (20M) ☒ 5755-5795 MHz for 802.11n (40M)
	Number of Channels	☒ 5 channels for 802.11a/n (20M) in the 5745-5825MHz band; ☒ 2 channels for 802.11n (40M) in the 5755-5795 MHz band;
Channel List:	Please refer to the Note 2.	
Antenna Type:	FPC Antenna	
Antenna Gain:	3.41dBi	
Power Supply:	Input: 12.0V⎓2.0A	
AC/DC Adapter:	Input: 100-240V ~ 50/60Hz, 0.5A Max Output: 12.0V⎓2.0A	
AC/DC Adapter Model:	YLT-120200	

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

802.11a/n (20MHz) Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	153	5765	157	5785	161	5805
165	5825	-	-	-	-	-	-

802.11n (40MHz) Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795	-	-	-	-

3.2 DESCRIPTION OF TEST MODES

Pretest Mode	Description
Mode 1	802.11a/n (20M) CH149 / CH157 / CH 165
Mode 2	802.11n (40M) CH 151 / CH 159

Final Test Mode	For Conducted
	Description
Mode 1	802.11a/n (20M) CH149 / CH157 / CH 165
Mode 2	802.11n (40M) CH 151 / CH 159

Final Test Mode	For Radiated
	Description
Mode 1	802.11a/n (20M) CH149 / CH157 / CH 165
Mode 2	802.11n (40M) CH 151 / CH 159

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.	

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

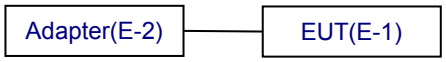
Pre-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	802.11a	802.11n20	802.11n40
Data rate	6Mbps	MCS0(HT0)	MCS0(HT0)

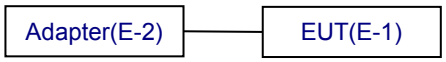
Test Software	CMD
Power level setup	Default

3.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

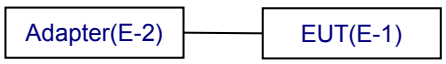
Conducted Emission



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	Intelligent camera	SightSys	SHM-MT910EM	N/A	EUT
E-2	AC/DC Adapter	SightSys	YLT-120200	N/A	Auxiliary

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

Conduction Emissions Test

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	LISN	R&S	ENV216	101471	N/A	Sep. 30, 2024	Sep. 29, 2025
2	LISN	CYBERTEK	EM5040A	E1850400149	N/A	Sep. 30, 2024	Sep. 29, 2025
3	Test Cable	N/A	C-01	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
4	EMI Test Receiver	R&S	ESCI3	101393	4.42 SP3	Sep. 29, 2024	Sep. 28, 2025
5	EMC Software	Frad	EZ-EMC	Ver.EMC-CON 3A1.1	N/A	\	\

Radiation Emissions & Radiation Spurious Emissions Test

Item	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	N9020A	MY55370835	A.17.05	Sep. 29, 2024	Sep. 28, 2025
2	Spectrum Analyzer (10kHz-39.9GHz)	R&S	FSV40-N	100363	1.71 SP2	Sep. 30, 2024	Sep. 29, 2025
3	EMI Test Receiver (9kHz-7GHz)	R&S	ESCI7	100969	4.32	Sep. 29, 2024	Sep. 28, 2025
4	Bilog Antenna (30MHz-1500MHz)	Schwarzbeck	VULB9168	00877	N/A	Sep. 30, 2024	Sep. 29, 2025
5	Horn Antenna (1GHz-18GHz)	Agilent	AH-118	071145	N/A	Sep. 30, 2024	Sep. 29, 2025
6	Horn Antenna (15GHz-40GHz)	A.H.System	SAS-574	588	N/A	Sep. 30, 2024	Sep. 29, 2025
7	Loop Antenna	TESEQ	HLA6121	58357	N/A	Oct. 11, 2024	Oct. 10, 2025
8	Amplifier (30-1000MHz)	EM Electronics	EM330 Amplifier	60747	N/A	Sep. 29, 2024	Sep. 28, 2025
9	Amplifier (1GHz-26.5GHz)	HuiPu	8449B	3008A00315	N/A	Sep. 29, 2024	Sep. 28, 2025
10	Amplifier (500MHz-40GHz)	QuanJuDa	DLE-161	097	N/A	Sep. 30, 2024	Sep. 29, 2025
11	Test Cable	N/A	R-01	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
12	Test Cable	N/A	R-02	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
13	Test Cable	N/A	R-03	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
14	D.C. Power Supply	LongWei	TPR-6405D	GQ7516	N/A	Sep. 29, 2024	Sep. 28, 2025
15	EMC Software	Frad	EZ-EMC	Ver.EMC-CON 3A1.1	N/A	\	\
16	Turntable	MF	MF-7802BS	N/A	N/A	\	\
17	Antenna tower	MF	MF-7802BS	N/A	N/A	\	\

RF Conducted Test

Item	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	N9020A	MY55370835	A.17.05	Sep. 29, 2024	Sep. 28, 2025
2	Spectrum Analyzer (10kHz-39.9GHz)	R&S	FSV40-N	100363	1.71 SP2	Sep. 30, 2024	Sep. 29, 2025
3	Test Cable	N/A	RF-01	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
4	Test Cable	N/A	RF-02	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
5	Test Cable	N/A	RF-03	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
6	ESG Signal Generator	Agilent	E4421B	GB40051203	B.03.84	Sep. 29, 2024	Sep. 28, 2025
7	Signal Generator	Agilent	N5182A	MY47420215	A.01.87	Sep. 29, 2024	Sep. 28, 2025
8	Magnetic Field Probe Tester	Narda	ELT-400	0-0344	N/A	Sep. 29, 2024	Sep. 28, 2025
9	Van der Hoofden measuring head	Schwarzbeck Mess-elektron ik	VDHH 9502	9502-039	N/A	Sep. 30, 2024	Sep. 29, 2025
10	Wideband Radio Communication Test	R&S	CMW500	106504	V 3.7.22	Sep. 30, 2024	Sep. 29, 2025
11	MWRF Power Meter Test system	MW	MW100-RF CB	10371	N/A	Sep. 29, 2024	Sep. 28, 2025
12	Power Meter	KEYSIGHT	N1912AP	926431	A.05.00	Sep. 29, 2024	Sep. 28, 2025
13	D.C. Power Supply	LongWei	TPR-6405D	GQ7516	N/A	Sep. 29, 2024	Sep. 28, 2025
14	RF Software	MW	MTS8310	V2.0.0.0	N/A	\	\

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2013
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

a. 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.

b. 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.

c. 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.

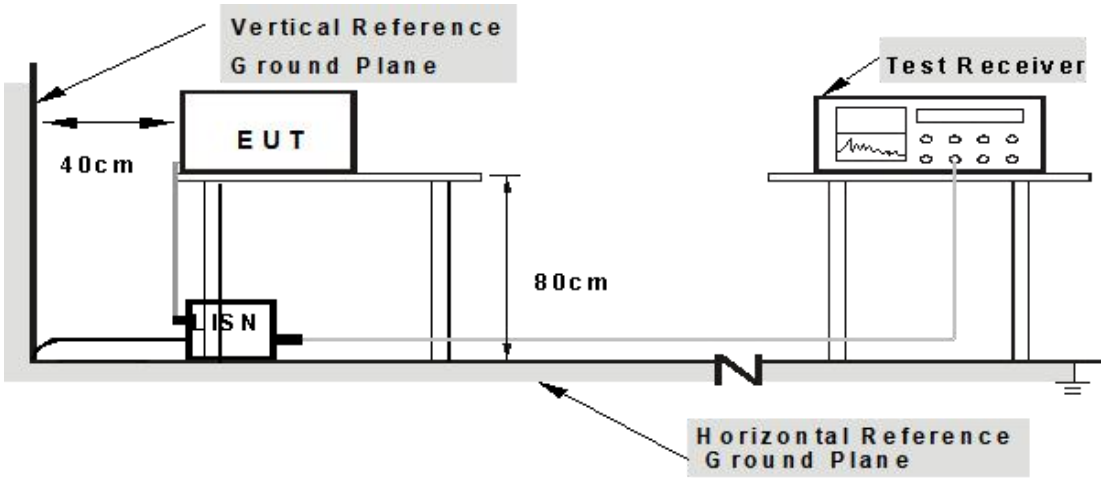
d. LISN at least 80 cm from nearest part of EUT chassis.

e. 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



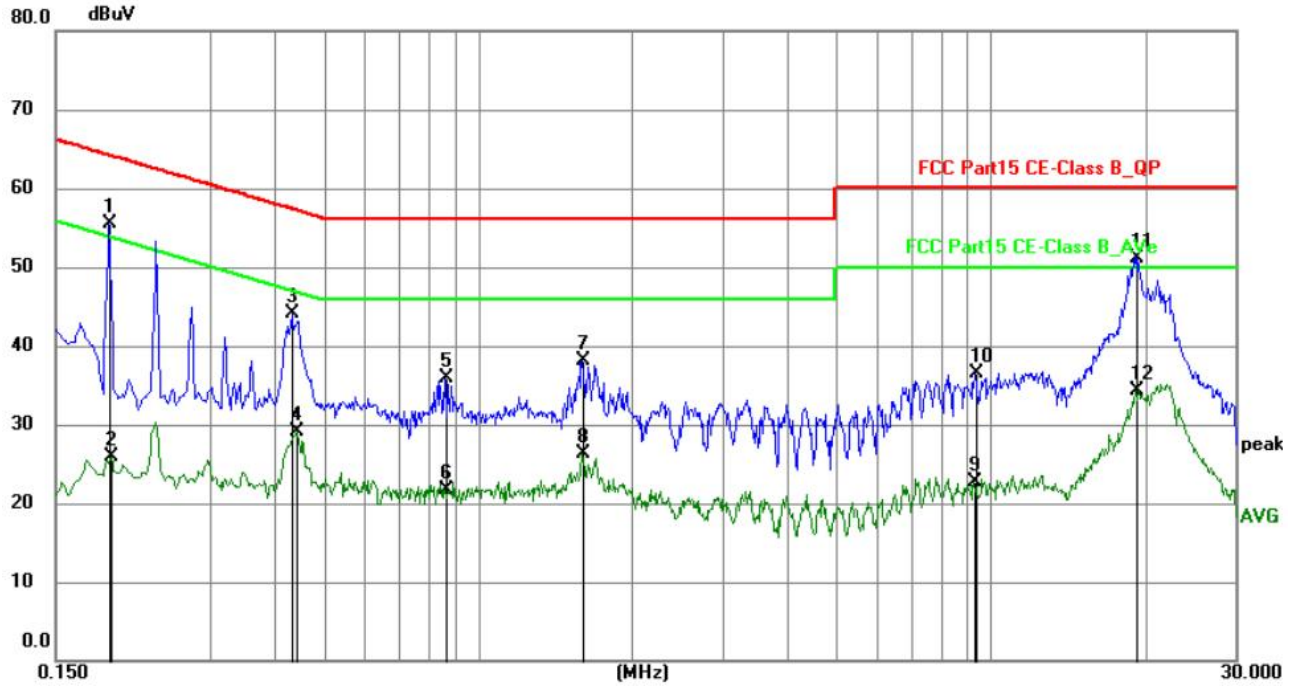
Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

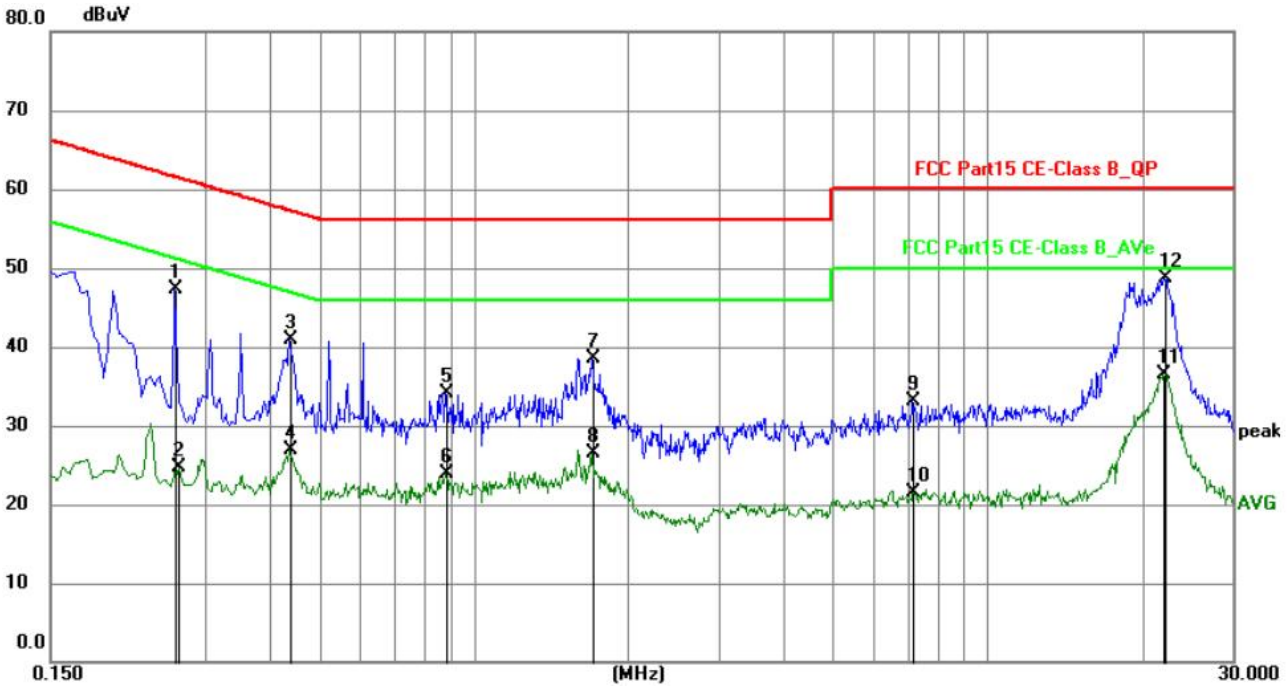
Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	L
Test Voltage:	AC 120V/60Hz	Test Mode:	802.11n20 - 5745MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1905	35.17	20.34	55.51	64.01	-8.50	QP	P	
2	0.1922	5.50	20.35	25.85	53.94	-28.09	AVG	P	
3	0.4334	23.77	20.32	44.09	57.19	-13.10	QP	P	
4	0.4425	8.84	20.31	29.15	47.01	-17.86	AVG	P	
5	0.8649	15.64	20.30	35.94	56.00	-20.06	QP	P	
6	0.8649	1.39	20.30	21.69	46.00	-24.31	AVG	P	
7	1.5987	17.79	20.30	38.09	56.00	-17.91	QP	P	
8	1.5987	5.94	20.30	26.24	46.00	-19.76	AVG	P	
9	9.2804	2.21	20.44	22.65	50.00	-27.35	AVG	P	
10	9.3390	16.05	20.44	36.49	60.00	-23.51	QP	P	
11	19.1310	30.69	20.51	51.20	60.00	-8.80	QP	P	
12	19.1310	13.72	20.51	34.23	50.00	-15.77	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. Final Level = Reading level + Correct Factor.
4. Correct Factor = Lisn factor+ Cable loss factor + limiter factor.
5. Margin = Measurement Level-Limit.
6. The test data shows only the worst case TX 802.11n20 - 5745MHz.

Temperature:	26℃	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	Remark
1	0.2625	27.04	20.36	47.40	61.35	-13.95	QP	P	
2	0.2670	4.40	20.35	24.75	51.21	-26.46	AVG	P	
3	0.4380	20.54	20.31	40.85	57.10	-16.25	QP	P	
4	0.4380	6.58	20.31	26.89	47.10	-20.21	AVG	P	
5	0.8830	13.81	20.30	34.11	56.00	-21.89	QP	P	
6	0.8830	3.56	20.30	23.86	46.00	-22.14	AVG	P	
7	1.7016	18.28	20.30	38.58	56.00	-17.42	QP	P	
8	1.7016	6.21	20.30	26.51	46.00	-19.49	AVG	P	
9	7.1745	12.63	20.40	33.03	60.00	-26.97	QP	P	
10	7.1745	1.18	20.40	21.58	50.00	-28.42	AVG	P	
11	21.9570	15.89	20.58	36.47	50.00	-13.53	AVG	P	
12	22.1722	28.07	20.59	48.66	60.00	-11.34	QP	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. Final Level = Reading level + Correct Factor.
4. Correct Factor = Lisn factor+ Cable loss factor + limiter factor.
5. Margin = Measurement Level-Limit.
6. The test data shows only the worst case TX 802.11n20 - 5745MHz.

4.2 RADIATED EMISSION AND BAND EDGE MEASUREMENT

4.2.1 APPLICABLE STANDARD

According to FCC Part 15.407(b)(4)(i) and 15.205(a) and 15.209(a).

4.2.2 CONFORMANCE LIMIT

According to FCC Part 15.407(b)(1) Undesirable emission limits. Except as shown in paragraph (b)(10) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits.
(4) For transmitters operating solely in the 5.725-5.850 GHz band:
(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Frequency Range	Peak	Average
All emissions shall be limited	68.20 (dBuV/m)	54 (dBuV/m)
Band edge ± 75 MHz	105.20 (dBuV/m)	54 (dBuV/m)
Band edge ± 25 MHz	110.80 (dBuV/m)	54 (dBuV/m)
Band edge ± 5 MHz	122.20 (dBuV/m)	54 (dBuV/m)

According to FCC Part 15.407(b)(10): 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 Part15.205, 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			

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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

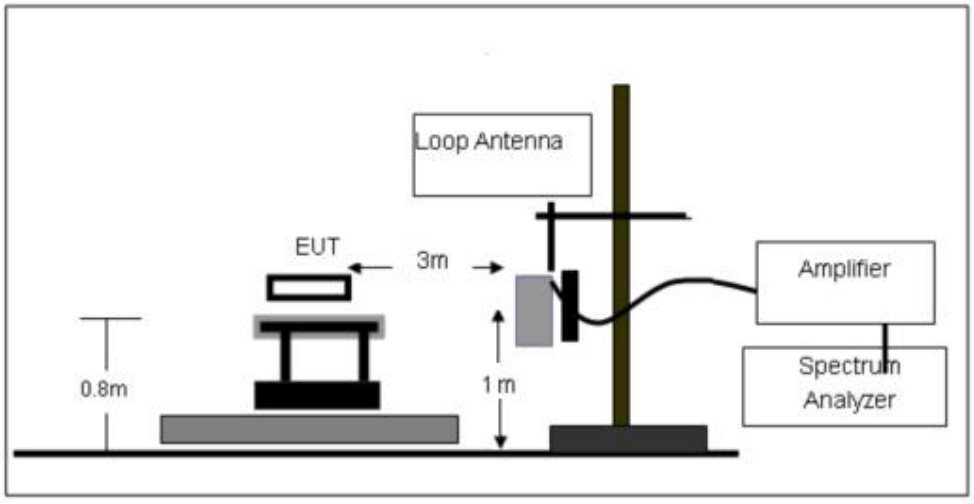
Remark: 1. Emission level in dBuV/m = 20 log (uV/m);
2. Measurement was performed at an antenna to the closed point of EUT distance of meters;
3. Distance extrapolation factor =40log(Specific distance/ test distance)(dB);
4. Limit line=Specific limits(dBuV) + distance extrapolation factor.
5. Emission level in dBuV/m = (dBm) + 95.2 .

4.2.3 MEASURING INSTRUMENTS

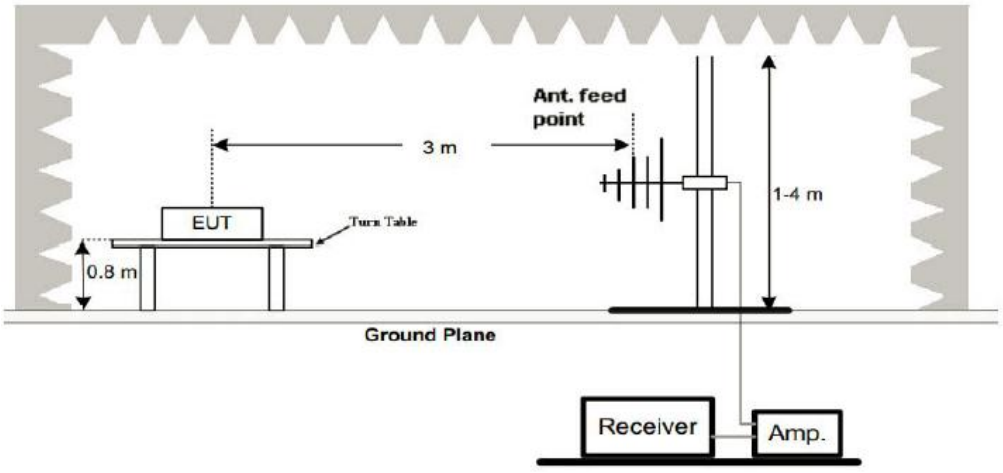
The Measuring equipment is listed in the section 3.5 of this test report.

4.2.4 TEST CONFIGURATION

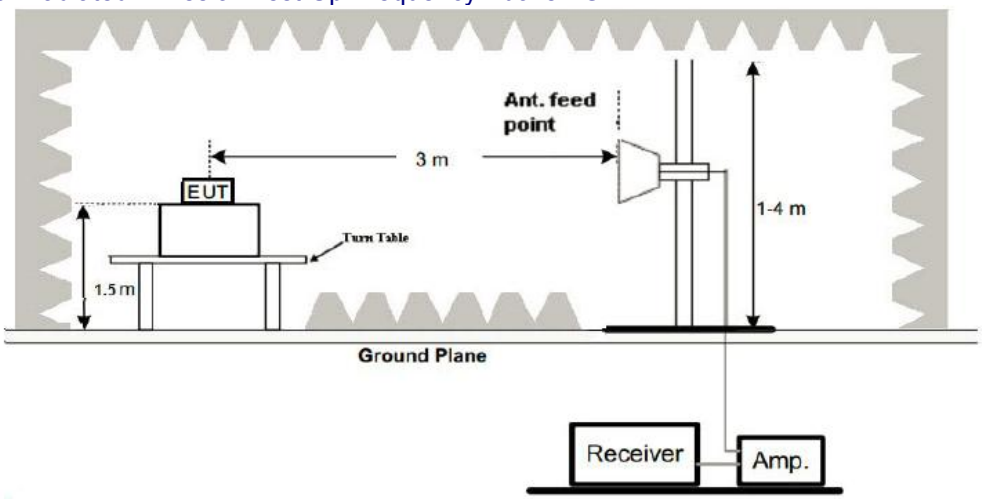
1.For radiated emissions below 30MHz



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 C63.10-2013. The test distance is 3m.The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 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

a. 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.
b. 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.
c. 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.
d. 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.
e. 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.
f. 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*lg(100 [kHz]/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.

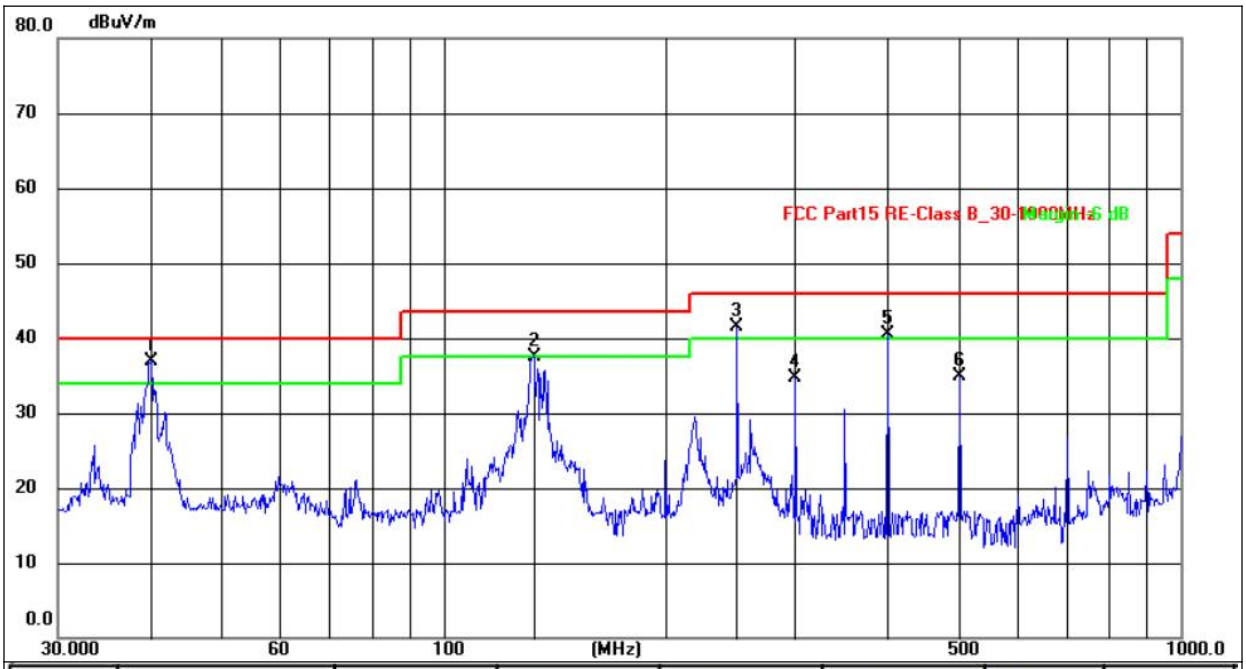
4.2.6 RADIATED EMISSION TEST RESULT

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:

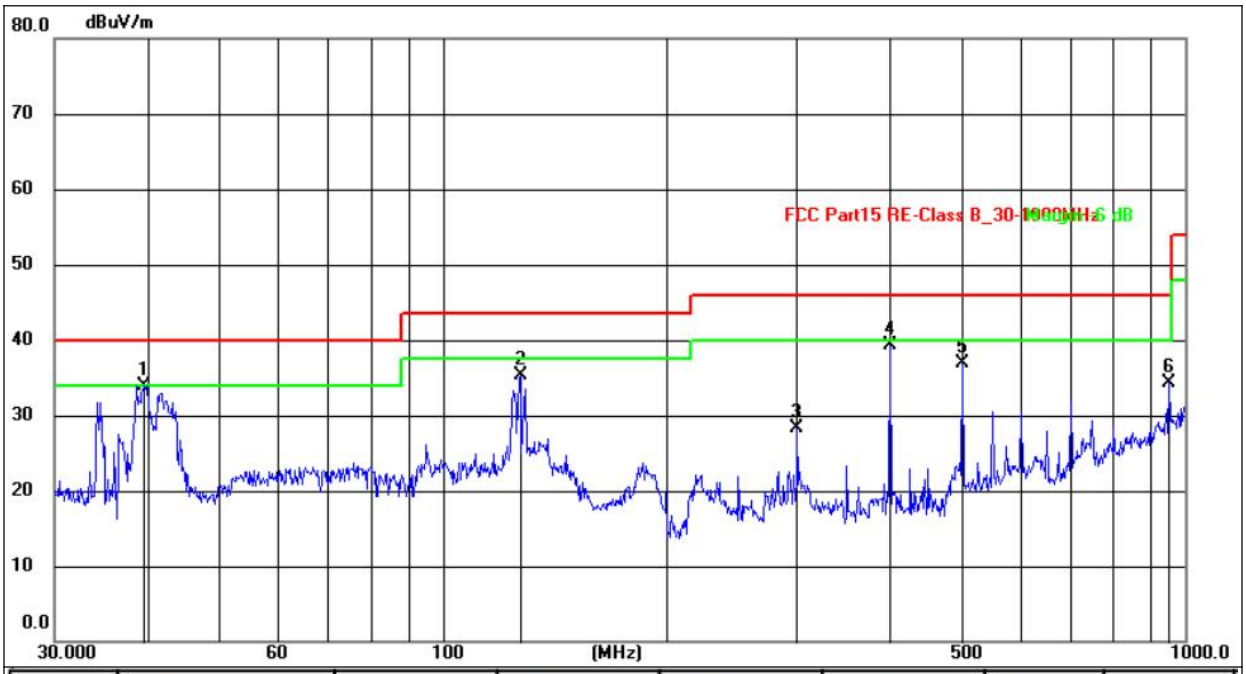
Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	Horizontal
Test Voltage:	DC 12V	Test Mode :	TX 802.11n20 - 5745MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	40.1347	50.90	-14.03	36.87	40.00	-3.13	QP
2	132.6850	54.83	-17.36	37.47	43.50	-6.03	QP
3	250.3009	57.08	-15.54	41.54	46.00	-4.46	QP
4	300.3672	51.30	-16.55	34.75	46.00	-11.25	QP
5	400.4318	56.53	-16.04	40.49	46.00	-5.51	QP
6	501.1788	45.96	-11.00	34.96	46.00	-11.04	QP

Notes:
1. An initial pre-scan was performed on the peak detector.
2. Quasi - Peak measurement were performed at the frequencies with maximized peak emission.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Final Level = Reading level + Correct Factor.
5. Correct Factor = Antenna factor+ Cable loss factor - Amplifier factor.
6. Margin = Measurement Level-Limit.
7. The test data shows only the worst case TX 802.11n20 - 5745MHz.

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	DC 12V	Test Mode :	TX 802.11n20 - 5745MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	39.5756	50.81	-16.82	33.99	40.00	-6.01	QP
2	127.2176	56.33	-21.04	35.29	43.50	-8.21	QP
3	300.3672	46.19	-17.89	28.30	46.00	-17.70	QP
4	400.4318	53.78	-14.51	39.27	46.00	-6.73	QP
5	501.1788	47.81	-10.94	36.87	46.00	-9.13	QP
6	952.0937	34.38	-0.17	34.21	46.00	-11.79	QP

Notes:
1. An initial pre-scan was performed on the peak detector.
2. Quasi - Peak measurement were performed at the frequencies with maximized peak emission.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Final Level = Reading level + Correct Factor.
5. Correct Factor = Antenna factor+ Cable loss factor - Amplifier factor.
6. Margin = Measurement Level-Limit.
7. The test data shows only the worst case TX 802.11n20 - 5745MHz.

Between 1GHz – 40GHz:

Temperature :	26℃	Relative Humidity :	54%
Pressure :	1010 hPa	Test Voltage :	DC 12V
Test Mode :	802.11a/ n20/ n40		

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)	Detector Type
Low Channel:5745MHz									
V	11490.00	49.53	30.55	5.77	24.66	49.41	74.00	-24.59	PK
V	11490.00	38.81	30.55	5.77	24.66	38.69	54.00	-15.31	AV
V	17235.00	50.99	30.33	6.32	24.55	51.53	68.20	-16.67	PK
V	17235.00	41.78	30.33	6.32	24.55	42.32	54.00	-11.68	AV
V	22980.00	53.15	30.85	7.45	24.69	54.44	74.00	-19.56	PK
V	22980.00	43.46	30.85	7.45	24.69	44.75	54.00	-9.25	AV
V	28725.00	55.78	31.02	8.99	25.57	59.32	68.20	-8.88	PK
V	28725.00	46.18	31.02	8.99	25.57	49.72	54.00	-4.28	AV
H	11490.00	49.24	30.55	5.77	24.66	49.12	74.00	-24.88	PK
H	11490.00	39.10	30.55	5.77	24.66	38.98	54.00	-15.02	AV
H	17235.00	50.62	30.33	6.32	24.55	51.16	68.20	-17.04	PK
H	17235.00	41.33	30.33	6.32	24.55	41.87	54.00	-12.13	AV
H	22980.00	52.93	30.85	7.45	24.69	54.22	74.00	-19.78	PK
H	22980.00	42.94	30.85	7.45	24.69	44.23	54.00	-9.77	AV
H	28725.00	55.25	31.02	8.99	25.57	58.79	68.20	-9.41	PK
H	28725.00	46.37	31.02	8.99	25.57	49.91	54.00	-4.09	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)	Detector Type
Middle Channel:5785MHz									
V	11570.00	48.39	30.55	5.77	24.66	48.27	74.00	-25.73	PK
V	11570.00	37.26	30.55	5.77	24.66	37.14	54.00	-16.86	AV
V	17355.00	49.58	30.33	6.32	24.55	50.12	68.20	-18.08	PK
V	17355.00	40.38	30.33	6.32	24.55	40.92	54.00	-13.08	AV
V	23140.00	52.24	30.85	7.45	24.69	53.53	68.20	-14.67	PK
V	23140.00	41.94	30.85	7.45	24.69	43.23	54.00	-10.77	AV
V	28925.00	53.76	31.02	8.99	25.57	57.30	68.20	-10.90	PK
V	28925.00	43.66	31.02	8.99	25.57	47.20	54.00	-6.80	AV
H	11570.00	48.15	30.55	5.77	24.66	48.03	74.00	-25.97	PK
H	11570.00	37.76	30.55	5.77	24.66	37.64	54.00	-16.36	AV
H	17355.00	49.39	30.33	6.32	24.55	49.93	68.20	-18.27	PK
H	17355.00	39.58	30.33	6.32	24.55	40.12	54.00	-13.88	AV
H	23140.00	51.77	30.85	7.45	24.69	53.06	68.20	-15.14	PK
H	23140.00	42.21	30.85	7.45	24.69	43.50	54.00	-10.50	AV
H	28925.00	54.25	31.02	8.99	25.57	57.79	68.20	-10.41	PK
H	28925.00	44.19	31.02	8.99	25.57	47.73	54.00	-6.27	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)	Detector Type
High Channel:5825MHz									
V	11650.00	48.15	30.55	5.77	24.66	48.03	74.00	-25.97	PK
V	11650.00	37.64	30.55	5.77	24.66	37.52	54.00	-16.48	AV
V	17475.00	49.58	30.33	6.32	24.55	50.12	68.20	-18.08	PK
V	17475.00	39.56	30.33	6.32	24.55	40.10	54.00	-13.90	AV
V	23300.00	51.68	30.85	7.45	24.69	52.97	68.20	-15.23	PK
V	23300.00	41.90	30.85	7.45	24.69	43.19	54.00	-10.81	AV
V	29125.00	53.84	31.02	8.99	25.57	57.38	68.20	-10.82	PK
V	29125.00	43.76	31.02	8.99	25.57	47.30	54.00	-6.70	AV
H	11650.00	48.53	30.55	5.77	24.66	48.41	74.00	-25.59	PK
H	11650.00	37.45	30.55	5.77	24.66	37.33	54.00	-16.67	AV
H	17475.00	50.14	30.33	6.32	24.55	50.68	68.20	-17.52	PK
H	17475.00	39.63	30.33	6.32	24.55	40.17	54.00	-13.83	AV
H	23300.00	51.65	30.85	7.45	24.69	52.94	68.20	-15.26	PK
H	23300.00	41.65	30.85	7.45	24.69	42.94	54.00	-11.06	AV
H	29125.00	53.99	31.02	8.99	25.57	57.53	68.20	-10.67	PK
H	29125.00	43.97	31.02	8.99	25.57	47.51	54.00	-6.49	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-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel:5745MHz									
V	11490.00	49.59	30.55	5.77	24.66	49.47	74.00	-24.53	PK
V	11490.00	38.93	30.55	5.77	24.66	38.81	54.00	-15.19	AV
V	17235.00	50.21	30.33	6.32	24.55	50.75	68.20	-17.45	PK
V	17235.00	40.75	30.33	6.32	24.55	41.29	54.00	-12.71	AV
V	22980.00	53.86	30.85	7.45	24.69	55.15	74.00	-18.85	PK
V	22980.00	43.35	30.85	7.45	24.69	44.64	54.00	-9.36	AV
V	28725.00	55.86	31.02	8.99	25.57	59.40	68.20	-8.80	PK
V	28725.00	46.15	31.02	8.99	25.57	49.69	54.00	-4.31	AV
H	11490.00	49.55	30.55	5.77	24.66	49.43	74.00	-24.57	PK
H	11490.00	38.81	30.55	5.77	24.66	38.69	54.00	-15.31	AV
H	17235.00	51.10	30.33	6.32	24.55	51.64	68.20	-16.56	PK
H	17235.00	40.83	30.33	6.32	24.55	41.37	54.00	-12.63	AV
H	22980.00	53.96	30.85	7.45	24.69	55.25	74.00	-18.75	PK
H	22980.00	43.59	30.85	7.45	24.69	44.88	54.00	-9.12	AV
H	28725.00	55.12	31.02	8.99	25.57	58.66	68.20	-9.54	PK
H	28725.00	45.91	31.02	8.99	25.57	49.45	54.00	-4.55	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)	Detector Type
Middle Channel:5785MHz									
V	11570.00	47.87	30.55	5.77	24.66	47.75	74.00	-26.25	PK
V	11570.00	37.68	30.55	5.77	24.66	37.56	54.00	-16.44	AV
V	17355.00	49.70	30.33	6.32	24.55	50.24	68.20	-17.96	PK
V	17355.00	39.46	30.33	6.32	24.55	40.00	54.00	-14.00	AV
V	23140.00	51.99	30.85	7.45	24.69	53.28	68.20	-14.92	PK
V	23140.00	41.97	30.85	7.45	24.69	43.26	54.00	-10.74	AV
V	28925.00	53.72	31.02	8.99	25.57	57.26	68.20	-10.94	PK
V	28925.00	43.63	31.02	8.99	25.57	47.17	54.00	-6.83	AV
H	11570.00	47.90	30.55	5.77	24.66	47.78	74.00	-26.22	PK
H	11570.00	37.66	30.55	5.77	24.66	37.54	54.00	-16.46	AV
H	17355.00	49.49	30.33	6.32	24.55	50.03	68.20	-18.17	PK
H	17355.00	40.48	30.33	6.32	24.55	41.02	54.00	-12.98	AV
H	23140.00	52.13	30.85	7.45	24.69	53.42	68.20	-14.78	PK
H	23140.00	41.58	30.85	7.45	24.69	42.87	54.00	-11.13	AV
H	28925.00	54.96	31.02	8.99	25.57	58.50	68.20	-9.70	PK
H	28925.00	43.85	31.02	8.99	25.57	47.39	54.00	-6.61	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)	Detector Type
High Channel:5825MHz									
V	11650.00	48.73	30.55	5.77	24.66	48.61	74.00	-25.39	PK
V	11650.00	37.27	30.55	5.77	24.66	37.15	54.00	-16.85	AV
V	17475.00	49.15	30.33	6.32	24.55	49.69	68.20	-18.51	PK
V	17475.00	40.21	30.33	6.32	24.55	40.75	54.00	-13.25	AV
V	23300.00	52.71	30.85	7.45	24.69	54.00	68.20	-14.20	PK
V	23300.00	42.36	30.85	7.45	24.69	43.65	54.00	-10.35	AV
V	29125.00	54.04	31.02	8.99	25.57	57.58	68.20	-10.62	PK
V	29125.00	43.70	31.02	8.99	25.57	47.24	54.00	-6.76	AV
H	11650.00	48.17	30.55	5.77	24.66	48.05	74.00	-25.95	PK
H	11650.00	37.59	30.55	5.77	24.66	37.47	54.00	-16.53	AV
H	17475.00	50.46	30.33	6.32	24.55	51.00	68.20	-17.20	PK
H	17475.00	40.57	30.33	6.32	24.55	41.11	54.00	-12.89	AV
H	23300.00	52.27	30.85	7.45	24.69	53.56	68.20	-14.64	PK
H	23300.00	41.57	30.85	7.45	24.69	42.86	54.00	-11.14	AV
H	29125.00	54.67	31.02	8.99	25.57	58.21	68.20	-9.99	PK
H	29125.00	44.14	31.02	8.99	25.57	47.68	54.00	-6.32	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.

802.11n40

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)	Detector Type
Low Channel:5755MHz									
V	11510.00	49.33	30.55	5.77	24.66	49.21	74.00	-24.79	PK
V	11510.00	38.33	30.55	5.77	24.66	38.21	54.00	-15.79	AV
V	17265.00	50.28	30.33	6.32	24.55	50.82	68.20	-17.38	PK
V	17265.00	40.77	30.33	6.32	24.55	41.31	54.00	-12.69	AV
V	23020.00	53.29	30.85	7.45	24.69	54.58	74.00	-19.42	PK
V	23020.00	43.78	30.85	7.45	24.69	45.07	54.00	-8.93	AV
V	28775.00	56.27	31.02	8.99	25.57	59.81	68.20	-8.39	PK
V	28775.00	44.94	31.02	8.99	25.57	48.48	54.00	-5.52	AV
H	11510.00	49.53	30.55	5.77	24.66	49.41	74.00	-24.59	PK
H	11510.00	39.13	30.55	5.77	24.66	39.01	54.00	-14.99	AV
H	17265.00	50.75	30.33	6.32	24.55	51.29	68.20	-16.91	PK
H	17265.00	41.38	30.33	6.32	24.55	41.92	54.00	-12.08	AV
H	23020.00	53.94	30.85	7.45	24.69	55.23	74.00	-18.77	PK
H	23020.00	43.80	30.85	7.45	24.69	45.09	54.00	-8.91	AV
H	28775.00	55.87	31.02	8.99	25.57	59.41	68.20	-8.79	PK
H	28775.00	45.84	31.02	8.99	25.57	49.38	54.00	-4.62	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)	Detector Type
Middle Channel:5795MHz									
V	11590.00	49.30	30.55	5.77	24.66	49.18	74.00	-24.82	PK
V	11590.00	38.78	30.55	5.77	24.66	38.66	54.00	-15.34	AV
V	17385.00	51.18	30.33	6.32	24.55	51.72	68.20	-16.48	PK
V	17385.00	40.67	30.33	6.32	24.55	41.21	54.00	-12.79	AV
V	23180.00	53.67	30.85	7.45	24.69	54.96	74.00	-19.04	PK
V	23180.00	43.40	30.85	7.45	24.69	44.69	54.00	-9.31	AV
V	28975.00	55.46	31.02	8.99	25.57	59.00	68.20	-9.20	PK
V	28975.00	46.18	31.02	8.99	25.57	49.72	54.00	-4.28	AV
H	11590.00	49.66	30.55	5.77	24.66	49.54	74.00	-24.46	PK
H	11590.00	39.53	30.55	5.77	24.66	39.41	54.00	-14.59	AV
H	17385.00	51.35	30.33	6.32	24.55	51.89	68.20	-16.31	PK
H	17385.00	41.89	30.33	6.32	24.55	42.43	54.00	-11.57	AV
H	23180.00	54.18	30.85	7.45	24.69	55.47	74.00	-18.53	PK
H	23180.00	43.83	30.85	7.45	24.69	45.12	54.00	-8.88	AV
H	28975.00	55.54	31.02	8.99	25.57	59.08	68.20	-9.12	PK
H	28975.00	46.29	31.02	8.99	25.57	49.83	54.00	-4.17	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.

4.2.7 RADIATED BAND EDGE TEST RESULT

Temperature :	26℃	Relative Humidity :	54%
Pressure :	1010 hPa	Test Voltage :	DC 12V
Test Mode :	TX - 802.11a & n20 & n40		

802.11a

Polar (H/V)	Frequency	Meter Reading	Pre-amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel:5745MHz									
V	5700.00	64.50	30.45	8.77	38.66	81.48	110.80	-29.32	PK
V	5700.00	30.93	30.45	8.77	38.66	47.91	54.00	-6.09	AV
V	5725.00	74.96	30.45	8.77	38.66	91.94	122.20	-30.26	PK
V	5725.00	31.86	30.45	8.77	38.66	48.84	54.00	-5.16	AV
H	5700.00	64.49	30.45	8.77	38.66	81.47	110.80	-29.33	PK
H	5700.00	31.51	30.45	8.77	38.66	48.49	54.00	-5.51	AV
H	5725.00	74.47	30.45	8.77	38.66	91.45	122.20	-30.75	PK
H	5725.00	30.70	30.45	8.77	38.66	47.68	54.00	-6.32	AV

Polar (H/V)	Frequency	Meter Reading	Pre-amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
High Channel:5825MHz									
V	5850.00	65.93	30.45	8.77	38.66	82.91	122.20	-39.29	PK
V	5850.00	31.32	30.45	8.77	38.66	48.30	54.00	-5.70	AV
V	5875.00	65.28	30.45	8.77	38.66	82.26	110.80	-28.54	PK
V	5875.00	31.03	30.45	8.77	38.66	48.01	54.00	-5.99	AV
H	5850.00	66.28	30.45	8.77	38.66	83.26	122.20	-38.94	PK
H	5850.00	31.56	30.45	8.77	38.66	48.54	54.00	-5.46	AV
H	5875.00	63.93	30.45	8.77	38.66	80.91	110.80	-29.89	PK
H	5875.00	31.24	30.45	8.77	38.66	48.22	54.00	-5.78	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-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel:5745MHz									
V	5700.00	64.47	30.45	8.77	38.66	81.45	110.80	-29.35	PK
V	5700.00	30.88	30.45	8.77	38.66	47.86	54.00	-6.14	AV
V	5725.00	63.12	30.45	8.77	38.66	80.10	122.20	-42.10	PK
V	5725.00	31.47	30.45	8.77	38.66	48.45	54.00	-5.55	AV
H	5700.00	63.79	30.45	8.77	38.66	80.77	110.80	-30.03	PK
H	5700.00	30.44	30.45	8.77	38.66	47.42	54.00	-6.58	AV
H	5725.00	65.14	30.45	8.77	38.66	82.12	122.20	-40.08	PK
H	5725.00	31.75	30.45	8.77	38.66	48.73	54.00	-5.27	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)	Detector Type
High Channel:5825MHz									
V	5850.00	65.33	30.45	8.77	38.66	82.31	122.20	-39.89	PK
V	5850.00	31.87	30.45	8.77	38.66	48.85	54.00	-5.15	AV
V	5875.00	65.18	30.45	8.77	38.66	82.16	110.80	-28.64	PK
V	5875.00	30.79	30.45	8.77	38.66	47.77	54.00	-6.23	AV
H	5850.00	65.84	30.45	8.77	38.66	82.82	122.20	-39.38	PK
H	5850.00	31.88	30.45	8.77	38.66	48.86	54.00	-5.14	AV
H	5875.00	64.61	30.45	8.77	38.66	81.59	110.80	-29.21	PK
H	5875.00	31.05	30.45	8.77	38.66	48.03	54.00	-5.97	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.

802.11n40

Polar (H/V)	Frequency	Meter Reading	Pre-amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel:5755MHz									
V	5700.00	64.67	30.45	8.77	38.66	81.65	110.80	-29.15	PK
V	5700.00	30.93	30.45	8.77	38.66	47.91	54.00	-6.09	AV
V	5725.00	63.16	30.45	8.77	38.66	80.14	122.20	-42.06	PK
V	5725.00	32.11	30.45	8.77	38.66	49.09	54.00	-4.91	AV
H	5700.00	63.50	30.45	8.77	38.66	80.48	110.80	-30.32	PK
H	5700.00	30.62	30.45	8.77	38.66	47.60	54.00	-6.40	AV
H	5725.00	65.33	30.45	8.77	38.66	82.31	122.20	-39.89	PK
H	5725.00	31.97	30.45	8.77	38.66	48.95	54.00	-5.05	AV

Polar (H/V)	Frequency	Meter Reading	Pre-amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
High Channel:5795MHz									
V	5850.00	65.63	30.45	8.77	38.66	82.61	122.20	-39.59	PK
V	5850.00	31.33	30.45	8.77	38.66	48.31	54.00	-5.69	AV
V	5875.00	65.27	30.45	8.77	38.66	82.25	110.80	-28.55	PK
V	5875.00	30.53	30.45	8.77	38.66	47.51	54.00	-6.49	AV
H	5850.00	65.85	30.45	8.77	38.66	82.83	122.20	-39.37	PK
H	5850.00	31.86	30.45	8.77	38.66	48.84	54.00	-5.16	AV
H	5875.00	64.34	30.45	8.77	38.66	81.32	110.80	-29.48	PK
H	5875.00	31.45	30.45	8.77	38.66	48.43	54.00	-5.57	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(a) (3) (i)

(1) Power limits:

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 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:

a) Set RBW ≥ 1/T, where T is defined in section II.B.I.a).

b) Set VBW ≥ 3 RBW.

c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10log(1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.

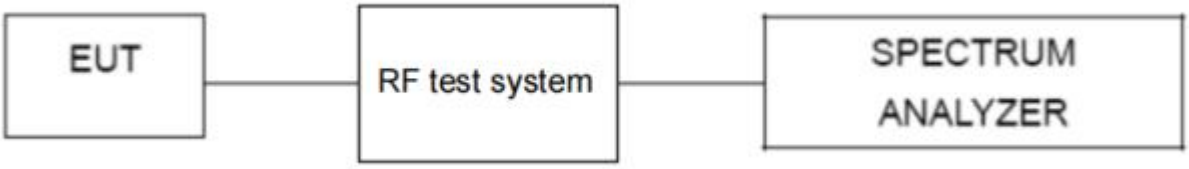
e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

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 chapter 3, Unless otherwise a special operating condition is specified in the follows during the testing.

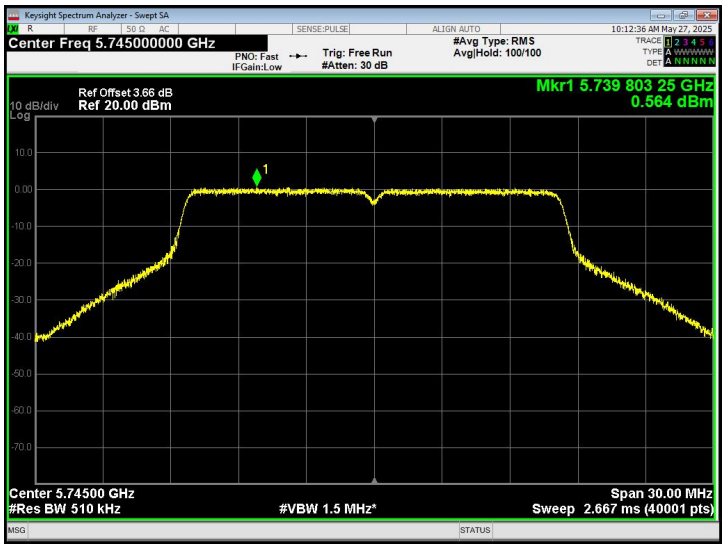
5.6 TEST RESULTS

Temperature :	26 ℃	Relative Humidity :	54%
Pressure :	1015 hPa	Test Voltage :	DC 12V
Test Band :	5.8G		

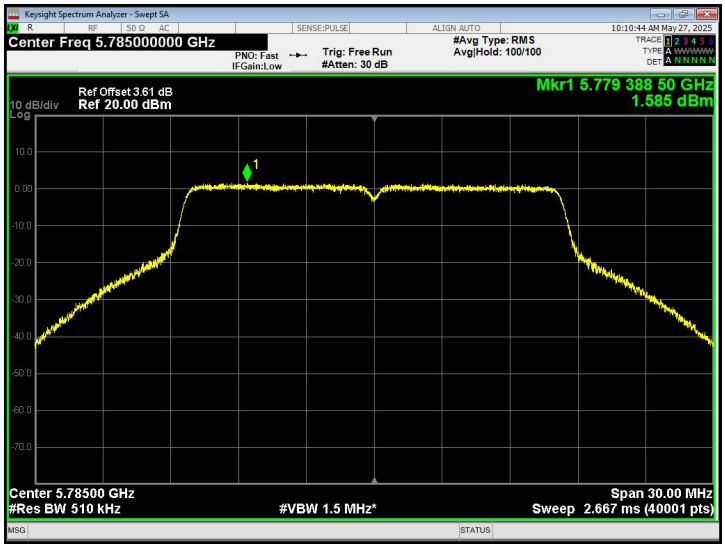
Test mode	Test Channel (MHz)	PSD (dBm/500kHz)	Duty Cycle Factor (dB)	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Result
802.11a	5745	0.564	0.10	0.664	30	Pass
	5785	1.585	0.10	1.685	30	Pass
	5825	1.932	0.10	2.032	30	Pass
802.11n20	5745	0.618	0.05	0.668	30	Pass
	5785	-0.054	0.05	-0.004	30	Pass
	5825	0.466	0.05	0.516	30	Pass
802.11n40	5755	-3.255	0.05	-3.205	30	Pass
	5795	-2.706	0.05	-2.656	30	Pass
Note: Total PSD = PSD + Duty Cycle Factor.						

802.11a

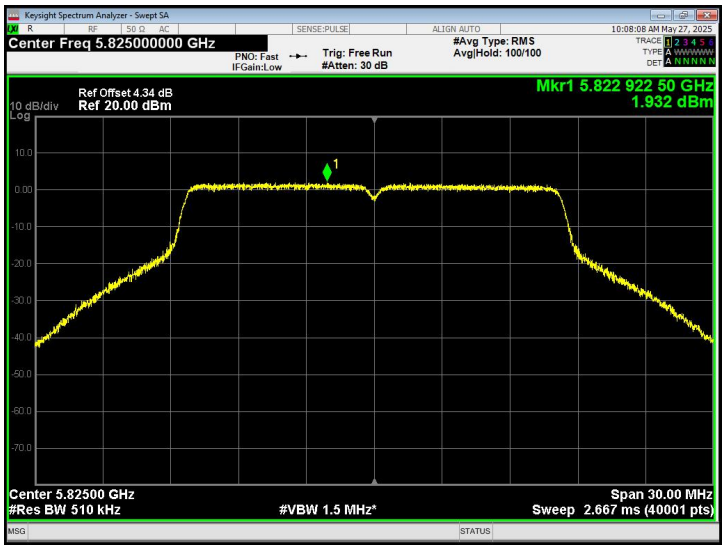
CH149



CH157

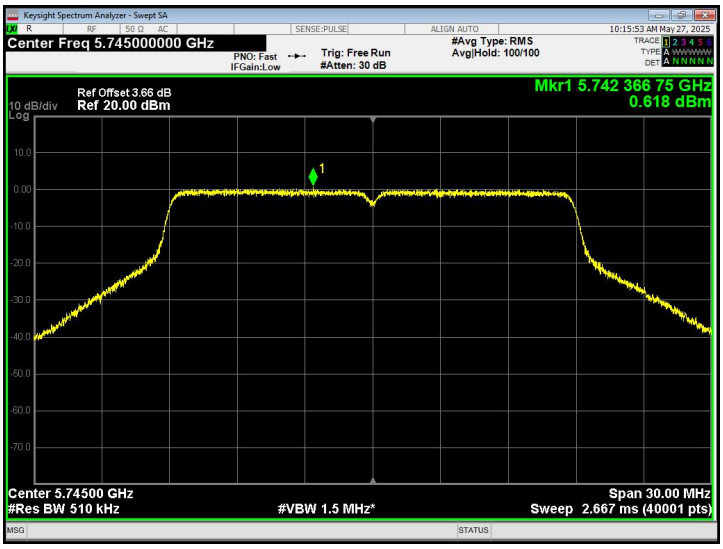


CH165

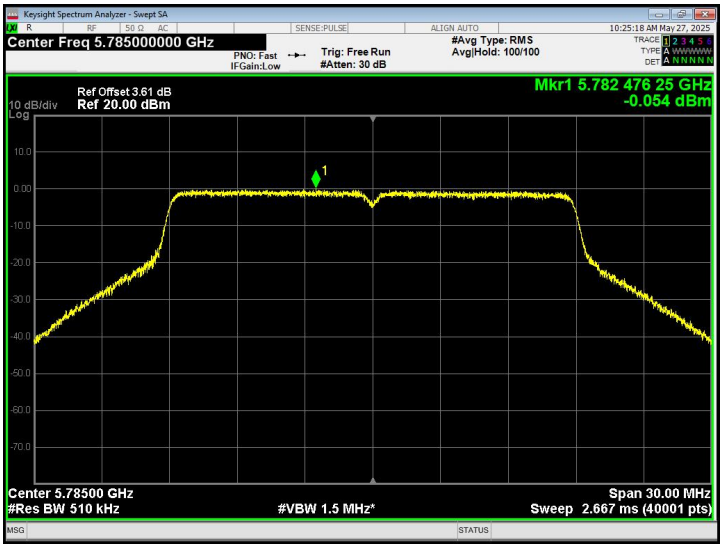


802.11n20

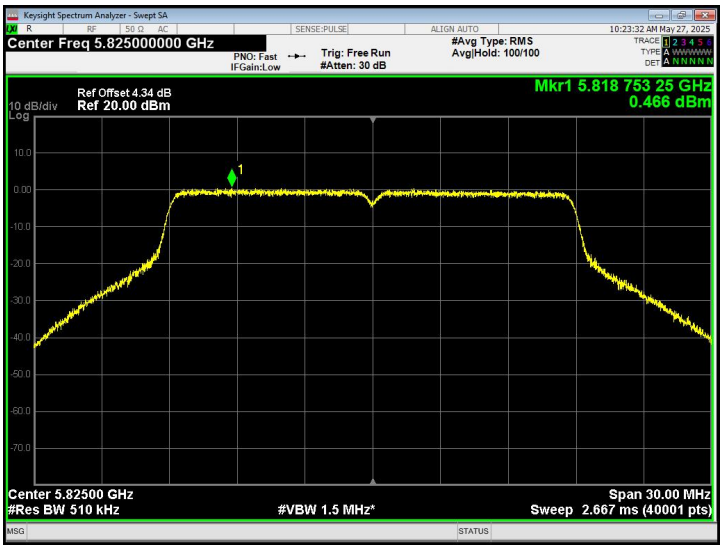
CH149



CH157

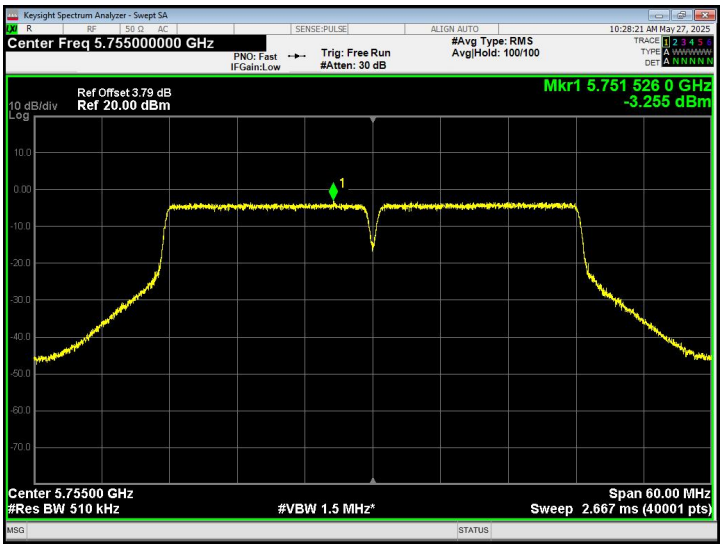


CH165

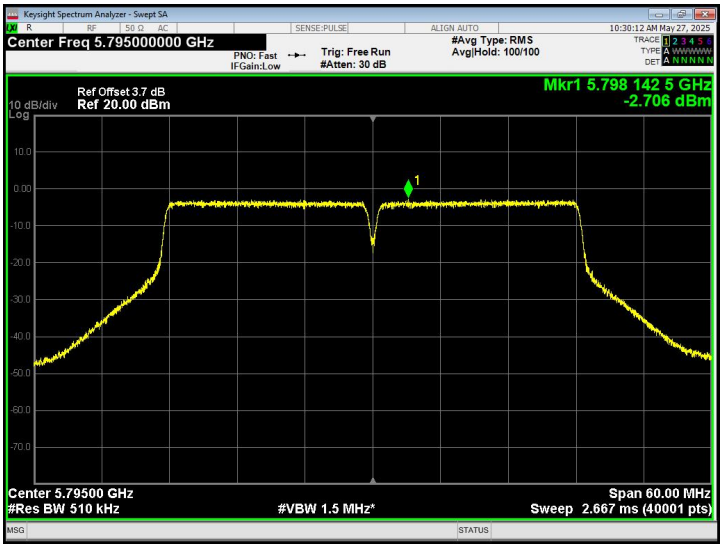


802.11n40

CH151



CH159



6. 26DB EMISSION BANDWIDTH & 6DB OCCUPIED BANDWIDTH

6.1 APPLIED PROCEDURES / LIMIT

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.

6.2 TEST PROCEDURE

The following procedure shall be used for measuring 6dB Occupied Bandwidth:

The procedure for this method is as follows:

a) Set RBW = 100KHz.

b) Set the VBW > RBW.

c) Detector = Peak.

d) Trace mode = max hold.

e) 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.

The following procedure shall be used for measuring 26dB Emission bandwidth:

The procedure for this method is as follows:

a) Set RBW = approximately 1% of the emission bandwidth.

b) Set the VBW > RBW.

c) Detector = peak.

d) Trace mode = max hold.

e) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

6.3 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of chapter 3, Unless otherwise a special operating condition is specified in the follows during the testing.

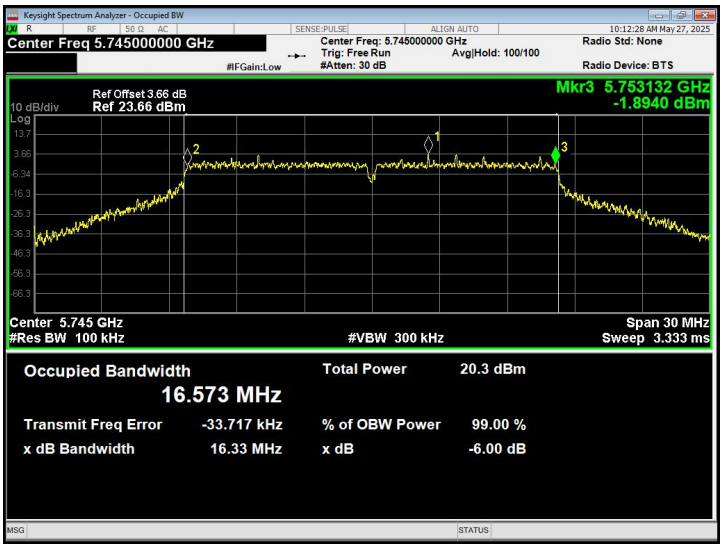
6.4 TEST RESULTS

Temperature :	26 ℃	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 12V
Test Band :	5.8G		

Test Mode	Test Channel (MHz)	6dB Bandwidth (MHz)	26dB Bandwidth (MHz)	6dB Limit (kHz)	Result
802.11a	5745	16.33	22.61	>500	Pass
	5785	16.32	23.27		
	5825	16.32	22.62		
802.11n20	5745	17.65	23.18	>500	Pass
	5785	17.59	23.42		
	5825	17.62	22.90		
802.11n40	5755	36.34	43.49	>500	Pass
	5795	36.31	43.98		

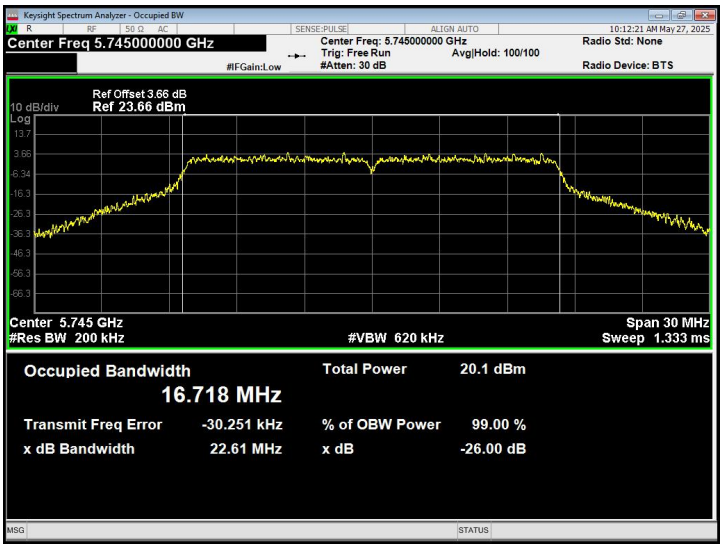
802.11a

6dB Bandwidth plot on channel 149

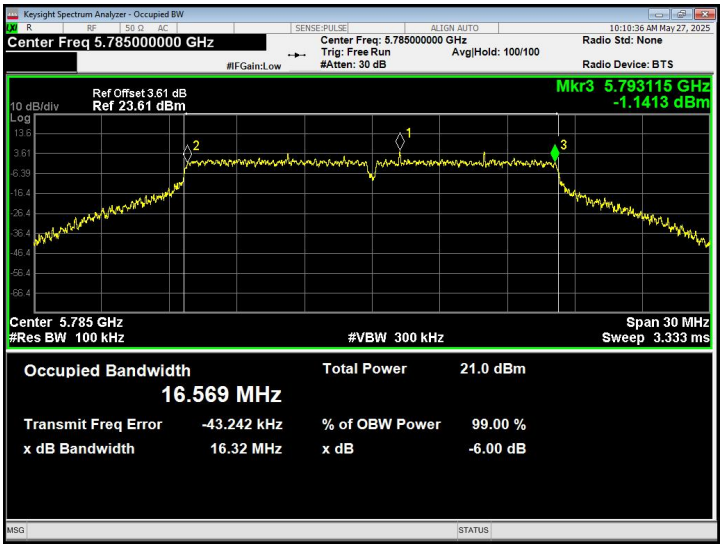


802.11a

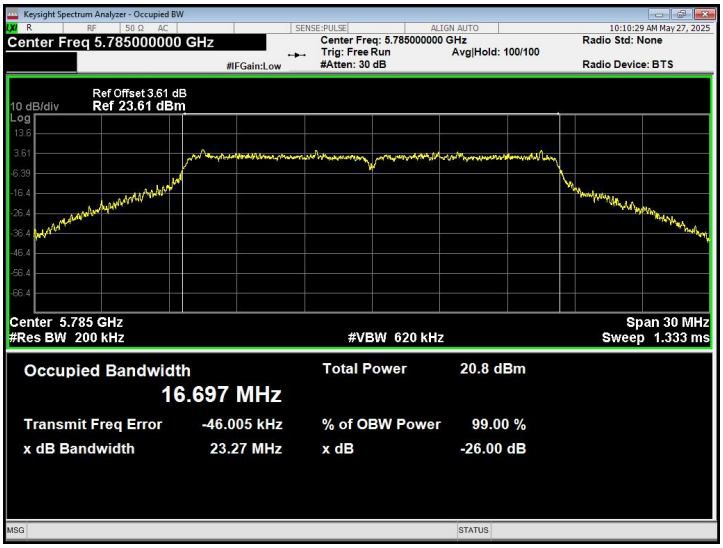
26dB Bandwidth plot on channel 149



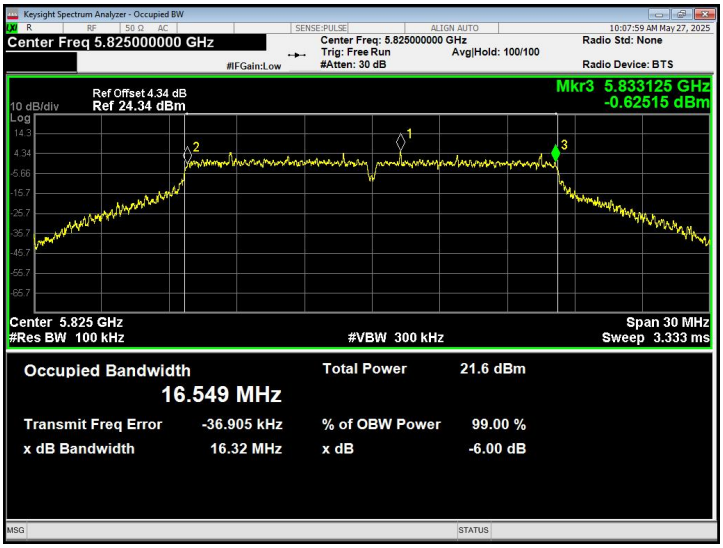
6dB Bandwidth plot on channel 157



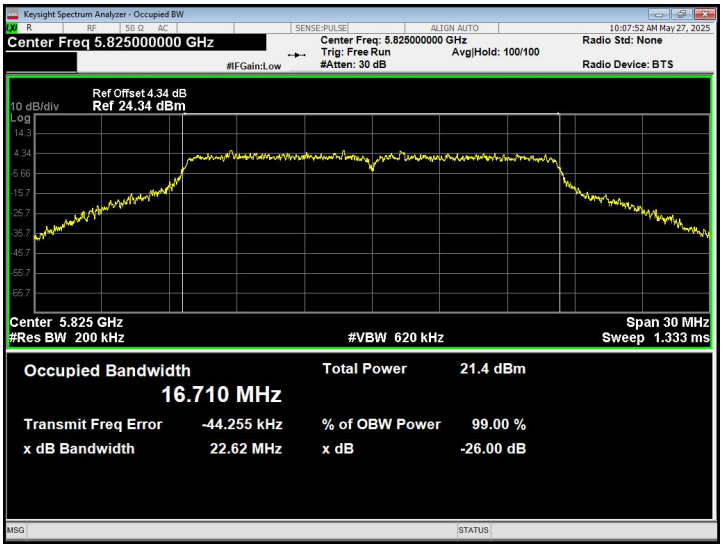
26dB Bandwidth plot on channel 157



6dB Bandwidth plot on channel 165

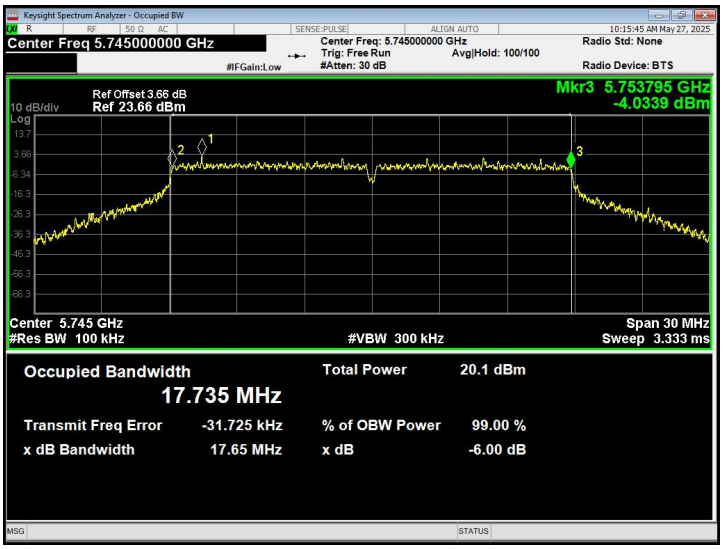


26dB Bandwidth plot on channel 165



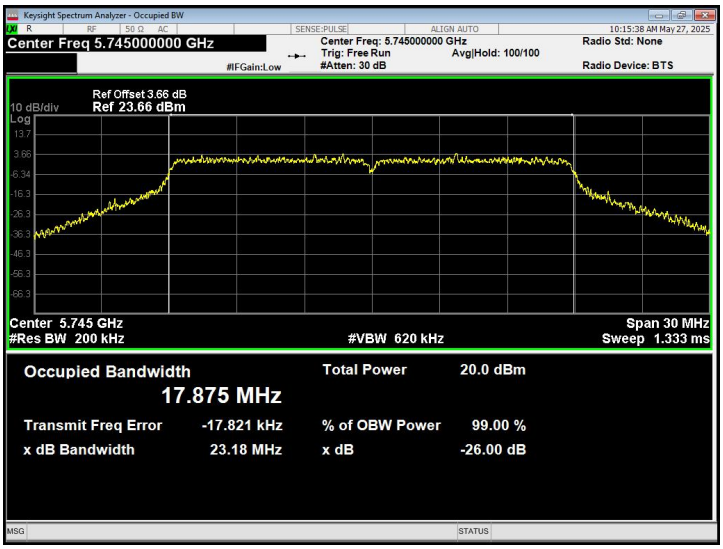
802.11n20

6dB Bandwidth plot on channel 149

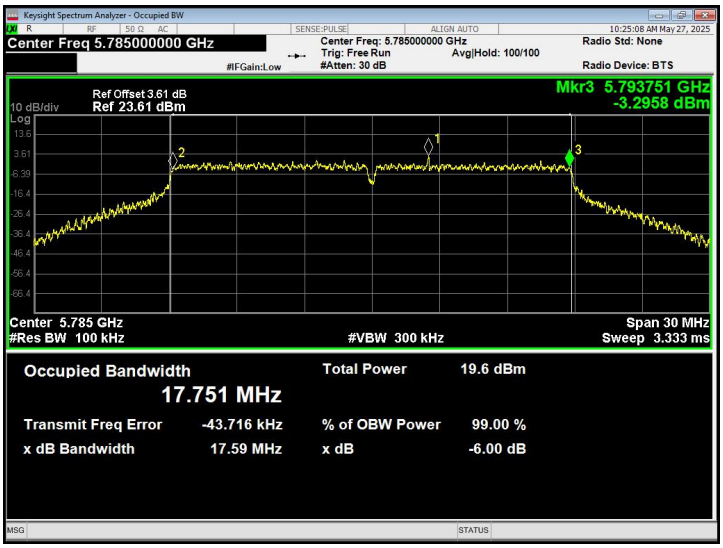


802.11n20

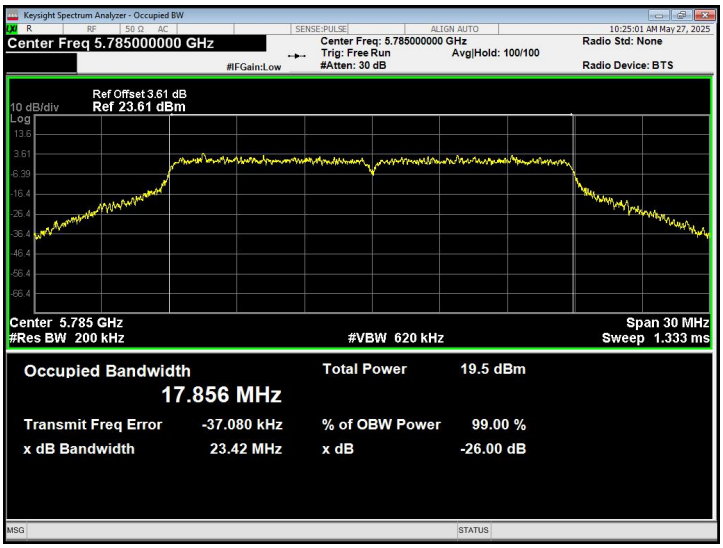
26dB Bandwidth plot on channel 149



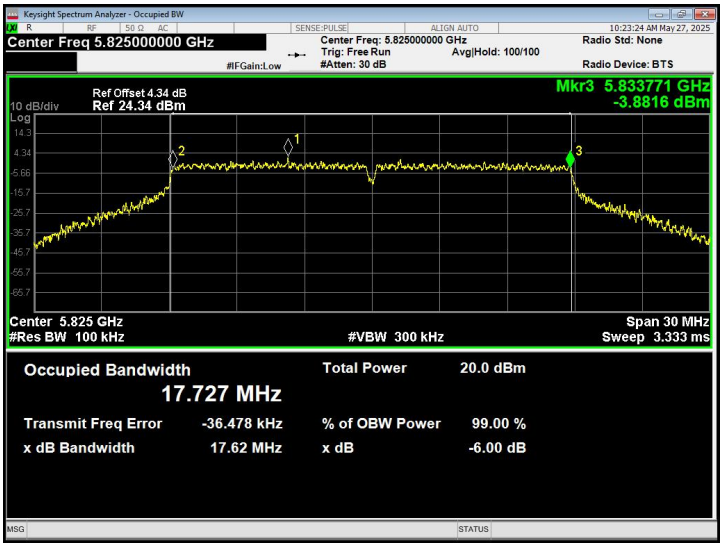
6dB Bandwidth plot on channel 157



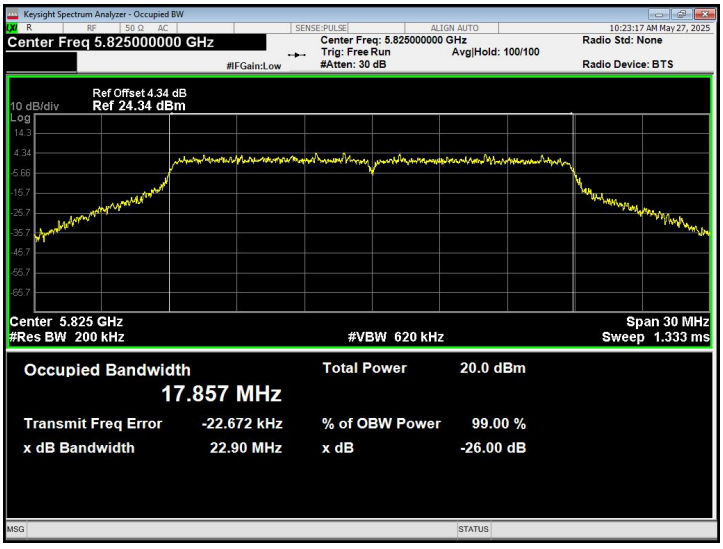
26dB Bandwidth plot on channel 157



6dB Bandwidth plot on channel 165

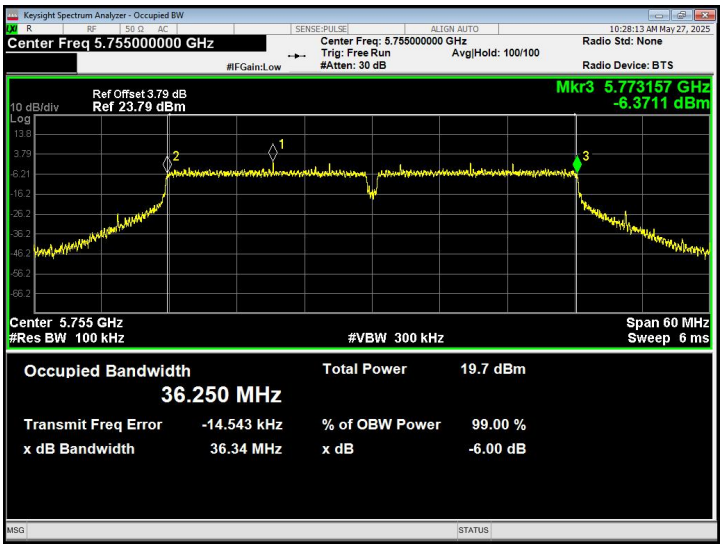


26dB Bandwidth plot on channel 165



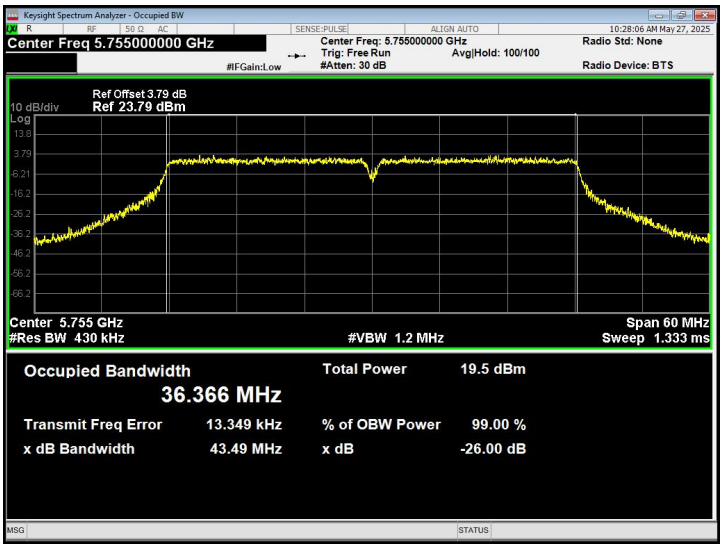
802.11n40

6dB Bandwidth plot on channel 151

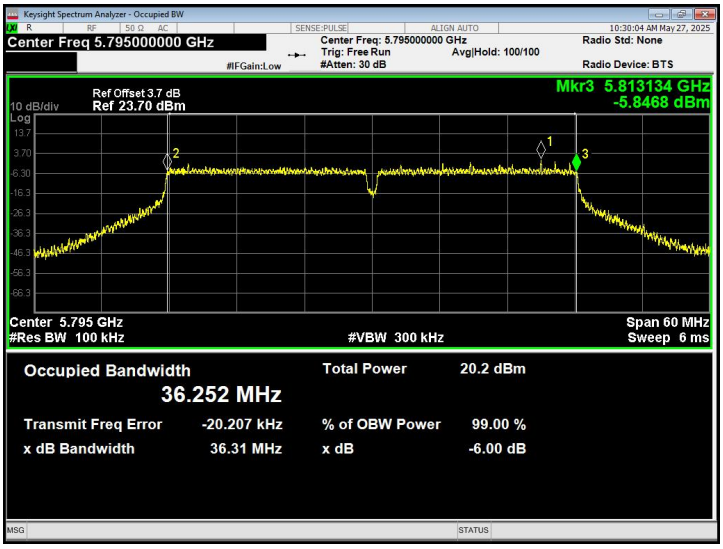


802.11n40

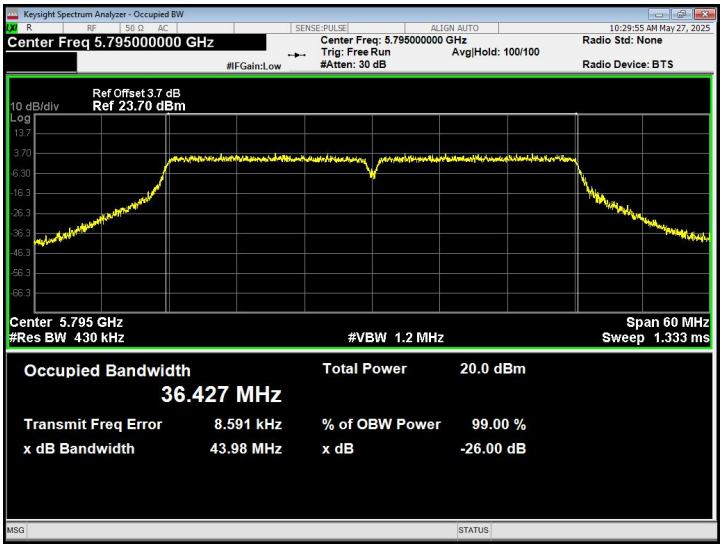
26dB Bandwidth plot on channel 151



6dB Bandwidth plot on channel 159



26dB Bandwidth plot on channel 159



7. MAXIMUM CONDUCTED OUTPUT POWER

7.1 PPLIED PROCEDURES / LIMIT

According to FCC §15.407 (a)(3)(i)
The maximum conduced output power should not exceed:

Frequency Band(MHz)	Limit
5725~5850	1W

7.2 TEST PROCEDURE

According 789033 D02 General UNII Test Procedures New Rules v02r01.
EUT Measurement using a Power Meter (PM)

a) Method PM (Measurement using an RF average power meter):
(i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the following conditions are satisfied:

- The EUT is configured to transmit continuously or to transmit with a constant duty cycle.
- At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.
- The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.

(ii) If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in II.B.

(iii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.

(iv) Adjust the measurement in dBm by adding 10 log (1/x) where x is the duty cycle (e.g., 10 log (1/0.25) if the duty cycle is 25%).

b) Method PM-G (Measurement using a gated RF average power meter):
Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP

7.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of chapter 3, Unless otherwise a special operating condition is specified in the follows during the testing.

7.6 TEST RESULTS

Temperature :	26 ℃	Relative Humidity :	54%
Pressure :	1012 hPa	Test Voltage :	DC 12V
Test Band :	5.8G		

Test Mode	Frequency (MHz)	Output Power (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)	Limit (dBm)	Result
802.11 a	5745	14.276	0.10	14.376	30	Pass
	5785	15.171	0.10	15.271	30	Pass
	5825	15.683	0.10	15.783	30	Pass
802.11 n20	5745	14.285	0.05	14.335	30	Pass
	5785	13.825	0.05	13.875	30	Pass
	5825	14.277	0.05	14.327	30	Pass
802.11 n40	5755	13.765	0.05	13.815	30	Pass
	5795	14.213	0.05	14.263	30	Pass
Note: Total Power = Output Power + Duty Cycle Factor.						

8. FREQUENCY STABILITY MEASUREMENT

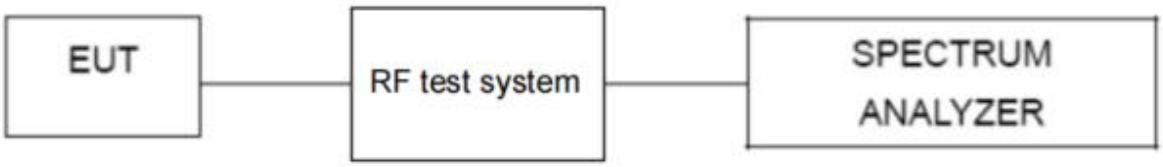
8.1 LIMIT

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.

8.2 TEST PROCEDURES

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. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 106 ppm.
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°C~70°C.

8.3 TEST SETUP LAYOUT



8.4 EUT OPERATION DURING TEST

The EUT tested system was configured as the statements of chapter 3, Unless otherwise a special operating condition is specified in the follows during the testing.

8.5 TEST RESULTS

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1012 hPa	Test Voltage ：	DC 12V
Note: Note: All channels have been tested, and only the worst test data is recorded in this report.			

Extreme temperature frequency stability:

Reference Frequency: 802.11a - 5745MHz			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Measured Frequency (MHz)	Deviation (ppm)
70	12	5744.970	-5.146
60	12	5744.977	-4.026
50	12	5744.967	-5.800
40	12	5744.959	-7.087
30	12	5744.979	-3.701
25	12	5744.974	-4.453
10	12	5744.972	-4.897
0	12	5744.964	-6.232
-10	12	5744.974	-4.509
-20	12	5744.968	-5.654

Reference Frequency: 802.11n20 - 5745MHz			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Measured Frequency (MHz)	Deviation (ppm)
70	12	5744.979	-3.679
60	12	5744.979	-3.725
50	12	5744.972	-4.794
40	12	5744.970	-5.218
30	12	5744.980	-3.540
25	12	5744.972	-4.875
10	12	5744.965	-6.054
0	12	5744.972	-4.897
-10	12	5744.978	-3.836
-20	12	5744.960	-6.915

Reference Frequency: 802.11n40 - 5755MHz			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Measured Frequency (MHz)	Deviation (ppm)
70	12	5754.964	-6.208
60	12	5754.957	-7.461
50	12	5754.975	-4.263
40	12	5754.979	-3.660
30	12	5754.971	-5.116
25	12	5754.975	-4.413
10	12	5754.967	-5.653
0	12	5754.977	-4.067
-10	12	5754.978	-3.851
-20	12	5754.952	-8.339

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1012 hPa	Test Voltage ：	DC 12V
Note: Note: All channels have been tested, and only the worst test data is recorded in this report.			

Extreme voltage frequency stability:

Reference Frequency: 802.11a - 5745MHz			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Measured Frequency (MHz)	Deviation (ppm)
25	13.8	5744.975	-4.358
25	12.6	5744.979	-3.617
25	12	5744.980	-3.552
25	11.4	5744.980	-3.483
25	10.2	5744.970	-5.180

Reference Frequency: 802.11n20 - 5745MHz			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Measured Frequency (MHz)	Deviation (ppm)
25	13.8	5744.969	-5.426
25	12.6	5744.975	-4.389
25	12	5744.969	-5.439
25	11.4	5744.974	-4.531
25	10.2	5744.970	-5.227

Reference Frequency: 802.11n40 - 5755MHz			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Measured Frequency (MHz)	Deviation (ppm)
25	13.8	5754.970	-5.265
25	12.6	5754.971	-5.123
25	12	5754.971	-5.123
25	11.4	5754.955	-7.763
25	10.2	5754.968	-5.604

9. DUTY CYCLE

9.1 APPLIED PROCEDURES / LIMIT

Measurements of duty cycle and transmission duration shall be performed using one of the following techniques:

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

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

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

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

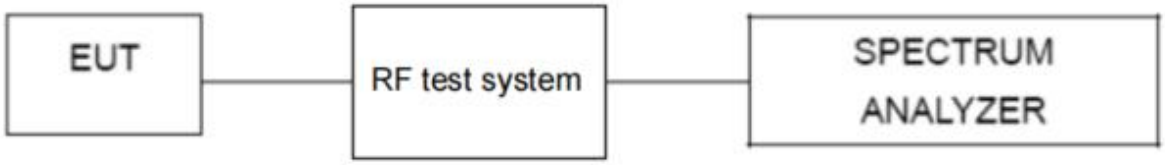
3) Set VBW ≥ RBW. Set detector = peak or average.

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

9.2 DEVIATION FROM STANDARD

No deviation.

9.3 TEST SETUP



9.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of chapter 3, Unless otherwise a special operating condition is specified in the follows during the testing.

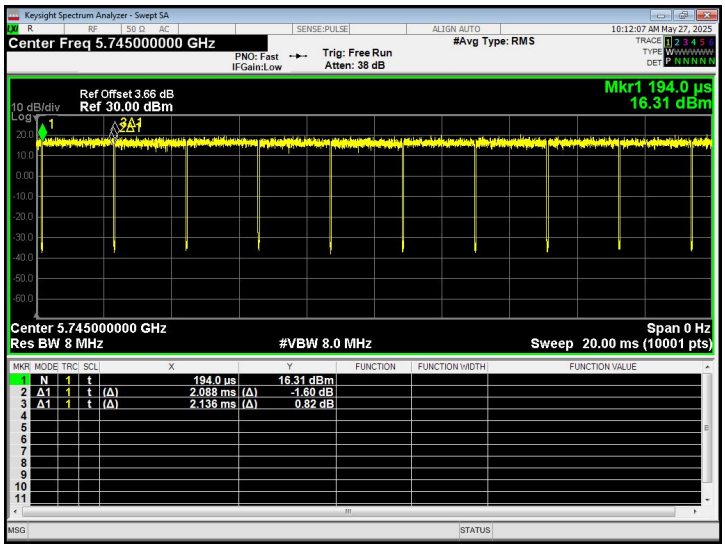
9.5 TEST RESULTS

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1012 hPa	Test Voltage ：	DC 12V
Note: All channels have been tested, and only the worst test data is recorded in this report.			

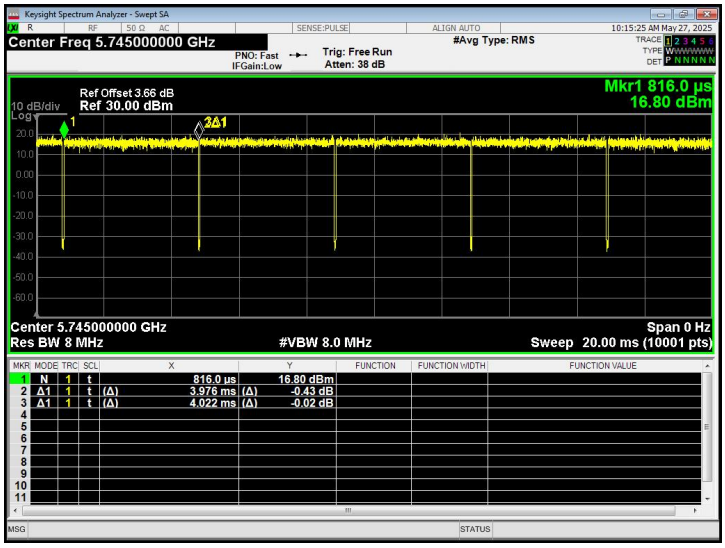
Test Mode	Frequency (MHz)	Duty Cycle (%)	Factor (dB)	Result
802.11a	5745	97.75	0.10	Pass
802.11n20	5745	98.86	0.05	Pass
802.11n40	5755	98.88	0.05	Pass

Note: Duty Cycle= Ton /Total*100%
Duty Cycle Correction Factor = 10log (1/Duty Cycle)

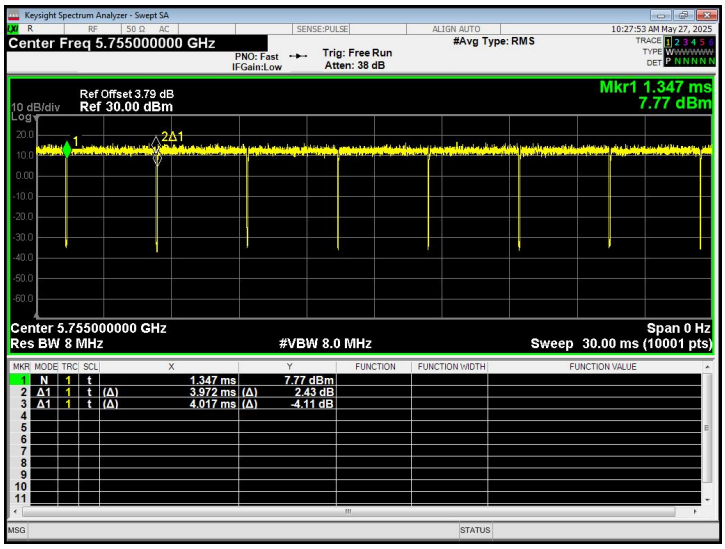
802.11a - 5745MHz



802.11n20 - 5745MHz



802.11n40 - 5755MHz



Note: All channel have been tested, and the report only reflects the worst case data.

10. ANTENNA REQUIREMENT

Standard requirement:	FCC Part15 C Section 15.203
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.	
EUT Antenna:	
The antenna is FPC Antenna, the best case gain of the antenna is 3.41dBi, reference to the appendix II for details	

11. TEST SETUP PHOTO

Reference to the appendix I for details.

12. EUT CONSTRUCTIONAL DETAILS

Reference to the appendix II for details.

※※※※※ END OF REPORT ※※※※※