FCC Part 15E Test Report
FCC ID: 2BM5Q-RE1203

Applicant:	Shenzhen Ruiweishi Technology Co., Ltd
Address:	301 Ruiweishi Technology, 3rd Floor, Weifeng Building, No. 77 Pinglong West Road, Pinghu Street, Longgang District, Shenzhen
Manufacturer:	Shenzhen Ruiweishi Technology Co., Ltd
Address:	301 Ruiweishi Technology, 3rd Floor, Weifeng Building, No. 77 Pinglong West Road, Pinghu Street, Longgang District, Shenzhen
EUT:	Wireless network card
Trade Mark:	N/A
Model Number:	USB WIFI adapter card RE-1203, RE-1204, RE-1205, RE-1206
Date of Receipt:	Nov. 25, 2024
Test Date:	Nov. 25, 2024 - Jan. 07, 2025
Date of Report:	Jan. 07, 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 PART 15 E 15.407 ANSI C63.10:2013
Test Result:	Pass
Report Number:	DL-241125050ER

Prepared (Test Engineer):	Alisa Song
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.. 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	Conducted Emission	N/A	
15.407(b), 15.209	Radiated Spurious Emission	PASS	
15.407 (b)	Band Edge Emission	PASS	
15.407 (a)	Average Output Power	PASS	
15.407 (a)	Power Spectral Density	PASS	
15.407(e)	6dB bandwidth	PASS	
15.407(g)	Frequency Stability	PASS	
15.407(c)	Transmission in case of Absence of Information	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

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

Test lab: Shenzhen DL Testing Technology Co., Ltd.

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

FCC Test Firm Registration Number: 854456
Designation Number: CN1307
IC Registered No.: 27485
CAB ID.: CN0118

1.1. 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	Conducted Emission Test	±2.56dB
2	RF power,conducted	±0.42dB
3	Spurious emissions,conducted	±2.76dB
4	All emissions,radiated(<1G)	±3.65dB
5	All emissions,radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%
8	Bandwidth	±0.2%
9	Power Spectral Density	±2.45dBm
10	Frequency Stability	±0.3MHz
11	DUTY CYCLE	±0.53dB

2.. GENERAL INFORMATION

2.1. GENERAL DESCRIPTION OF EUT

Product Name:	Wireless network card
Trademark	N/A
Model No.:	USB WIFI adapter card RE-1203, RE-1204, RE-1205, RE-1206
Model Difference	All models are same as the samples except model name and shape of appearance, they have the same structure and circuit.
Operation Frequency:	5745-5825MHz(802.11a/n/ac(HT20)) 5755-5795MHz(802.11n/ac(HT40)) 5775MHz (802.11ac(HT80))
Channel numbers:	See channel list
Channel separation:	20MHz/40MHz/80MHz
Modulation technology:	64QAM, 16QAM, QPSK, BPSK for OFDM
Rate of Transmitter	802.11a: 6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps,54Mbps 802.11n: Up to 500Mbps 802.11ac: up to 867Mbps
Antenna Type:	Built-in Antenna
Antenna gain:	5.17dBi
Power supply:	DC 5V from USB

Note:

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

2.The EUT’s all information provided by client.

2. Channel List

Channel List for 802.11a/n(HT20)/ac(HT20)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	161	5805
153	5765	165	5825
157	5785		

Channel List for 802.11n(HT40)/ac(HT40)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795

Channel List for 802.11ac(HT80)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
155	5775	/	/

2.1.1. DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

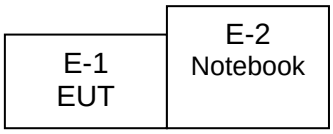
For Conducted Emission		
Pretest Mode	Channel	Band 4
Mode 1	802.11a/n/acHT20	CH149, CH157, CH165
Mode 2	802.11n/acHT40	CH151, CH159
Mode 3	802.11acHT80	CH155
Mode 4	Link Mode	

For Radiated Emission		
Pretest Mode	Channel	Band 4
Mode 1	802.11a/n/acHT20	CH149, CH157, CH165
Mode 2	802.11n/acHT40	CH151, CH159
Mode 3	802.11acHT80	CH155
Mode 4	Link Mode	

Note: 1. The measurements are performed at the highest, middle, lowest available channels.
2. 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.

2.2. BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



2.3. 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	Model/Type No.	Series No.	Note
E-1	Wireless network card	USB WIFI adapter card	N/A	EUT
E-2	Notebook	310S-14AST	N/A	LENOVO

Item	Shielded Type	Ferrite Core	Length	Note

Note:

(1) For detachable type I/O cable should be specified the length in cm in『Length』column.

2.4. TABLE OF PARAMETERS OF TEST SOFTWARE SETTING

During testing, channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the end product.

Max output power Setting				
Test software Version	Test program: WiFi Test V1.0.1			
Mode	802.11a	802.11n HT20	802.11n HT40	802.11ac HT20/HT40/HT80
Data Rate	6Mbps	MSC0	MSC0	MSC0
Power Setting of Softwave	60	60	66	66

2.5. 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	Nov. 01, 2024	Oct. 31, 2025
2	Test Receiver (9kHz-7GHz)	R&S	ESRP7	101393	Nov. 01, 2024	Oct. 31, 2025
3	Bilog Antenna (30MHz-1GHz)	R&S	VULB9162	00306	Nov. 01, 2024	Oct. 31, 2025
4	Horn Antenna (1GHz-18GHz)	Schwarzbeck	BBHA9120D	02139	Nov. 01, 2024	Oct. 31, 2025
5	Horn Antenna (18GHz-40GHz)	A.H. Systems	SAS-574	588	Nov. 01, 2024	Oct. 31, 2025
6	Amplifier (9KHz-6GHz)	Schwarzbeck	BBV9743B	00153	Nov. 01, 2024	Oct. 31, 2025
7	Amplifier (1GHz-18GHz)	EMEC	EM01G8GA	00270	Nov. 01, 2024	Oct. 31, 2025
8	Amplifier (18GHz-40GHz)	Quanjuda	DLE-161	97	Nov. 01, 2024	Oct. 31, 2025
9	Loop Antenna (9KHz-30MHz)	Schwarzbeck	FMZB1519B	00014	Nov. 01, 2024	Oct. 31, 2025
10	RF cables1 (9kHz-1GHz)	ChengYu	966	004	Nov. 01, 2024	Oct. 31, 2025
11	RF cables2 (1GHz-40GHz)	ChengYu	966	003	Nov. 01, 2024	Oct. 31, 2025
12	Antenna connector	Florida RF Labs	N/A	RF 01#	Nov. 01, 2024	Oct. 31, 2025
13	Power probe	KEYSIGHT	U2021XA	MY55210018	Nov. 01, 2024	Oct. 31, 2025
14	Signal Analyzer 9kHz-26.5GHz	Agilent	N9020A	MY55370280	Nov. 01, 2024	Oct. 31, 2025
15	Test Receiver 20kHz-40GHz	R&S	ESU 40	100376	Nov. 01, 2024	Oct. 31, 2025
16	D.C. Power Supply	LongWei	PS-305D	010964729	Nov. 01, 2024	Oct. 31, 2025

Conduction Test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	843 Shielded Room	ChengYu	843 Room	843	Nov. 05, 2023	Nov. 04, 2026
2	EMI Receiver	R&S	ESR	101421	Nov. 01, 2024	Oct. 31, 2025
3	LISN	R&S	ENV216	102417	Nov. 01, 2024	Oct. 31, 2025
4	843 Cable 1#	ChengYu	CE Cable	001	Nov. 01, 2024	Oct. 31, 2025

Other

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

3.. EMC EMISSION TEST

3.1. CONDUCTED EMISSION MEASUREMENT

3.1.1. POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

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

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.1.2. 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.

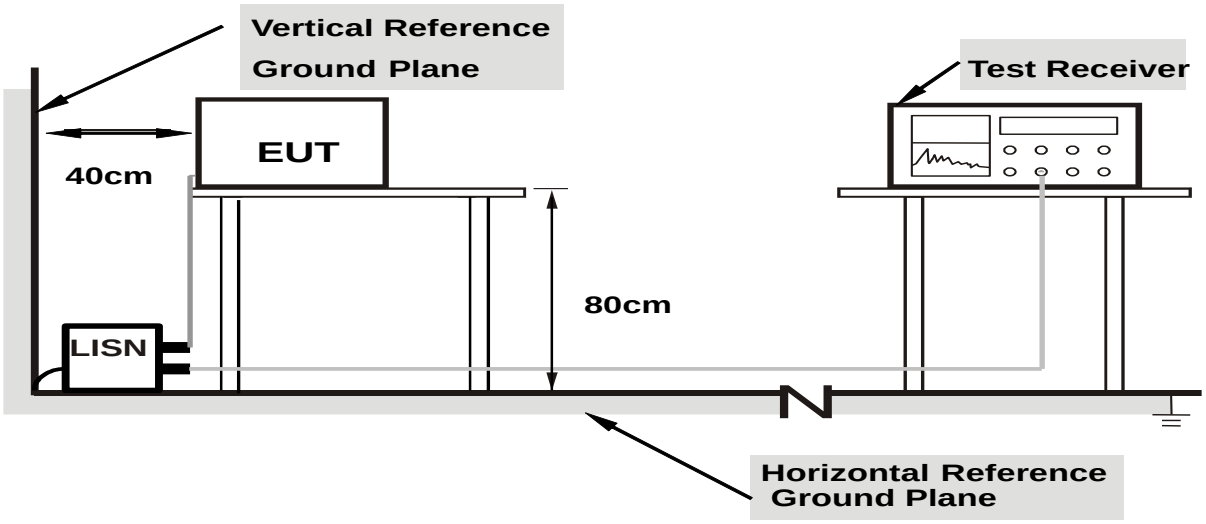
d. LISN at least 80 cm from nearest part of EUT chassis.

e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3. DEVIATION FROM TEST STANDARD

No deviation

3.1.4. 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

3.1.5. 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.
We pretest AC 5V and AC 230V, the worst voltage was AC 5V and the data recording in the report.

3.1.6. TEST RESULTS

The EUT is powered by DC, no requirements for this item.

3.2. RADIATED EMISSION MEASUREMENT

3.2.1. RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

15.407(b)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:

(1)For transmitters operating in the 5.15-5.25GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2)For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(3)For transmitters operating in the 5.47-5.725GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(4)For transmitters operating solely in the 5.725-5.850GHz band:
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 to10dBm/MHzat25 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.

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	40GHz
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

3.2.2. TEST PROCEDURE

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre.
h. Test the EUT in the lowest channel, the middle channel, the Highest channel

Note:

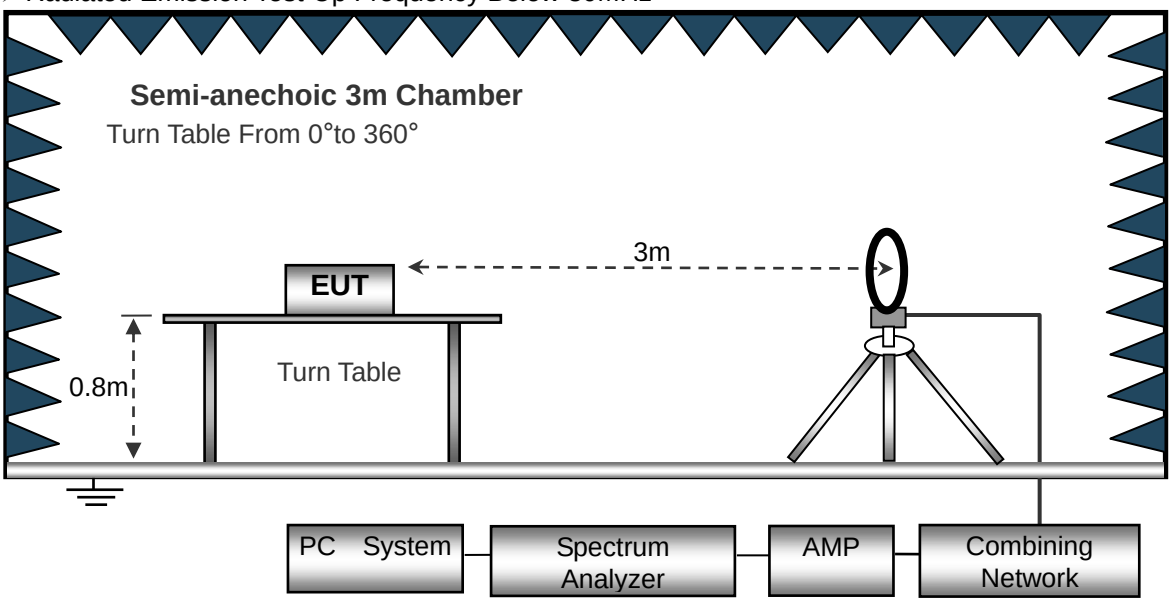
Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

3.2.3. DEVIATION FROM TEST STANDARD

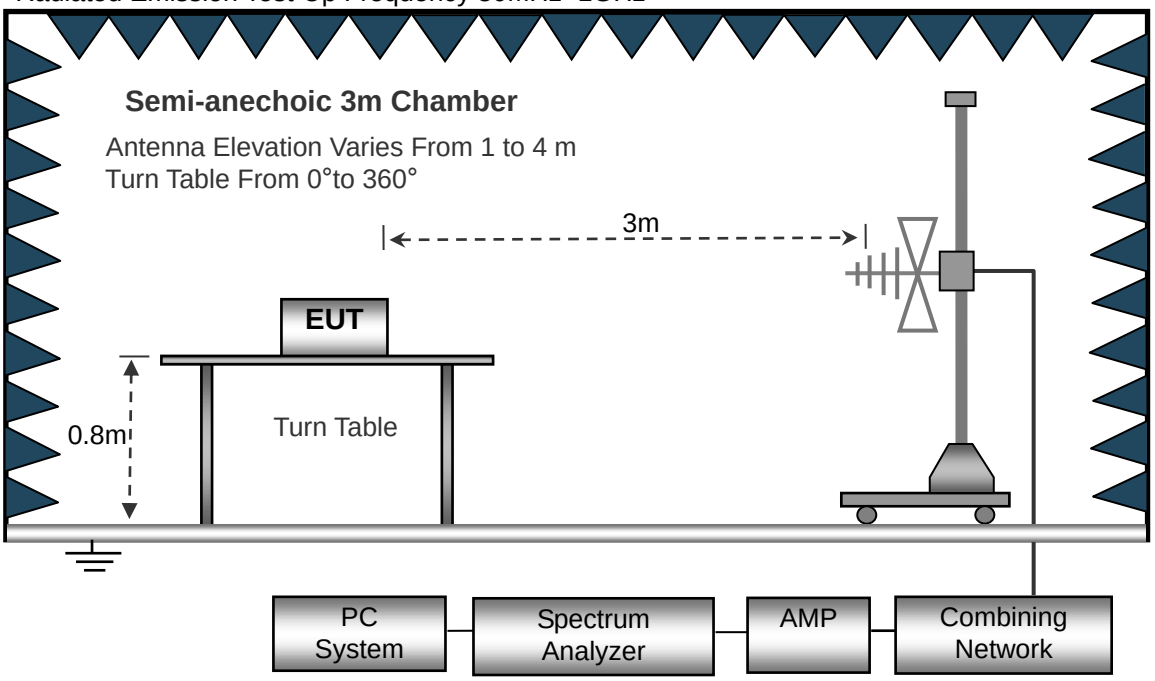
No deviation

3.2.4. TEST SETUP

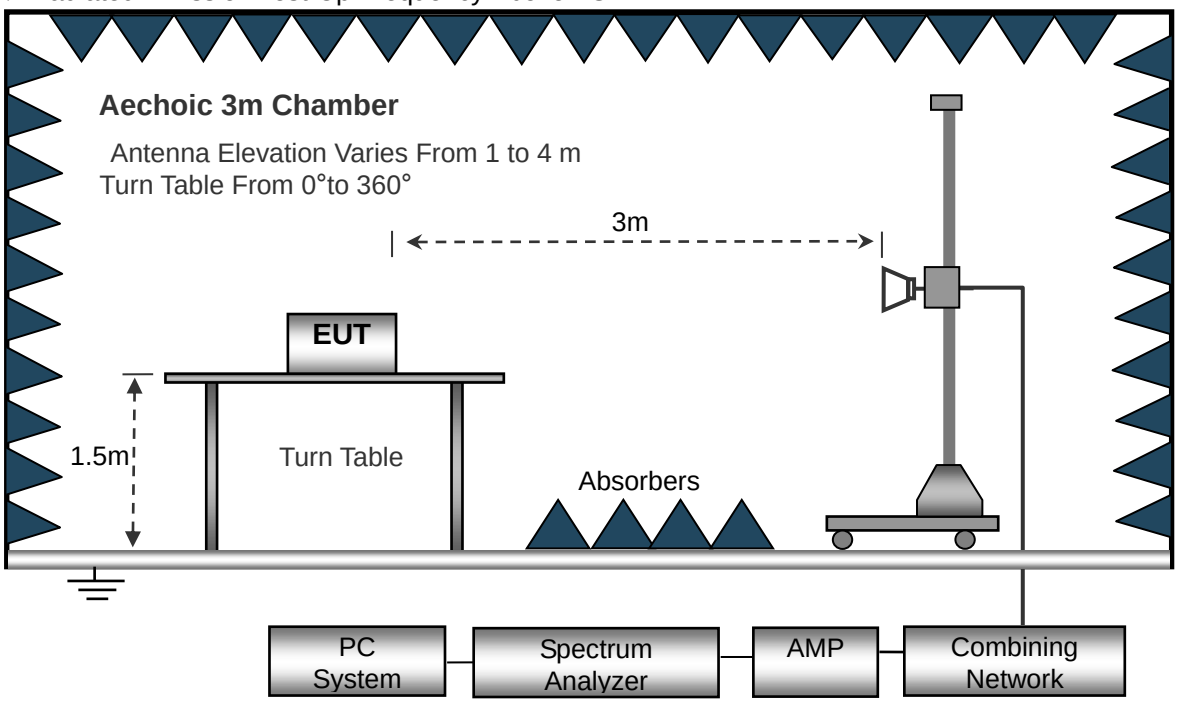
（A）Radiated Emission Test-Up Frequency Below 30MHz



（B）Radiated Emission Test-Up Frequency 30MHz~1GHz



（C）Radiated Emission Test-Up Frequency Above 1GHz



3.2.5. EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

3.2.6. TEST RESULTS (Between 9KHz – 30 MHz)

Temperature:	20℃	Relative Humidtity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5V
Test Mode :	Mode 4	Polarization :	--

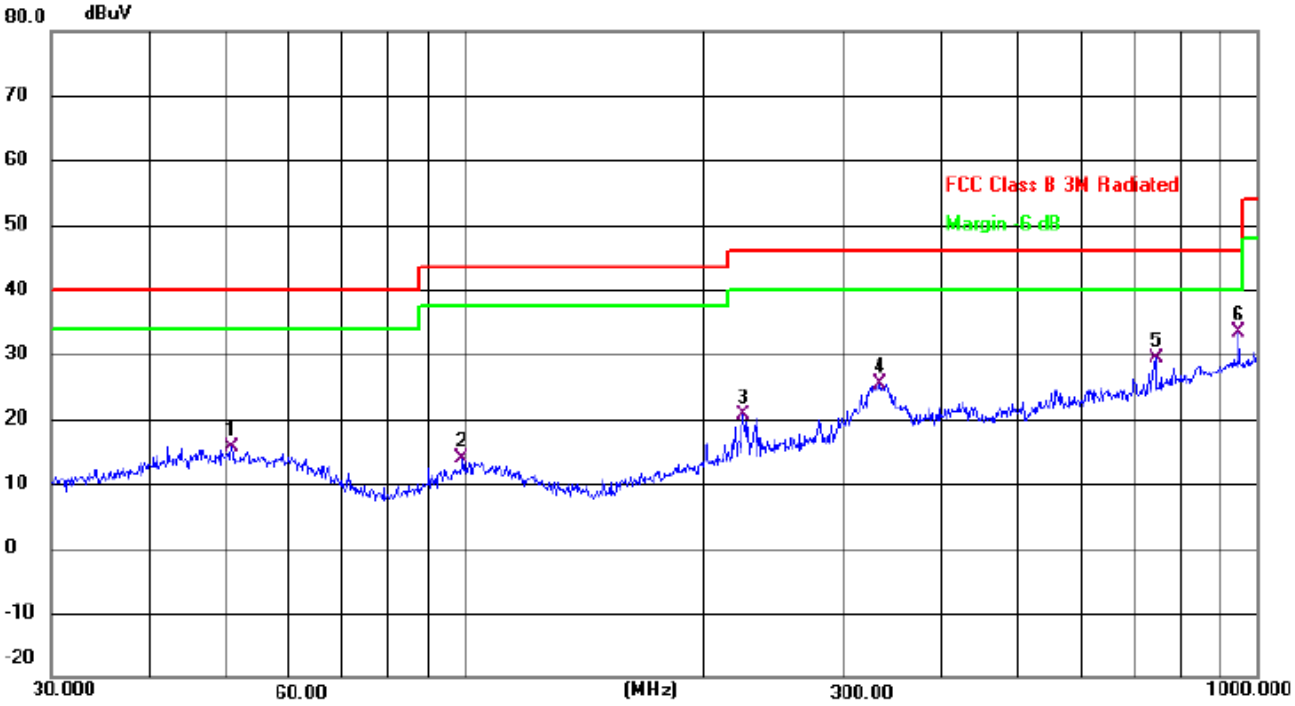
Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

NOTE:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
Distance extrapolation factor =40 log (specific distance/test distance)(dB);
Limit line = specific limits(dBuv) + distance extrapolation factor.

3.2.7. TEST RESULTS (Between 30MHz – 1GHz)

Temperature:	26℃	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Horizontal
Test Voltage :	DC 5V		
Test Mode :	Mode 4		



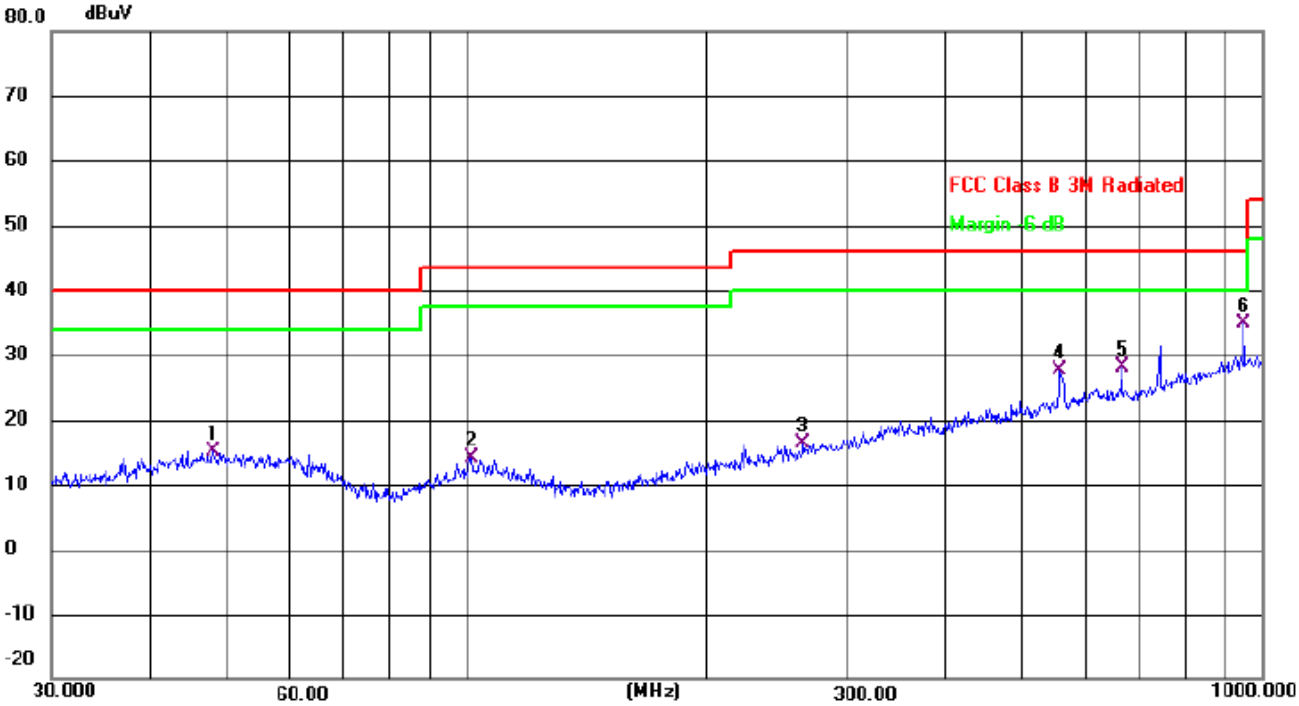
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	
		MHz	dBuV	dB	dBuV	dB	dB	Detector
1		50.7635	28.54	-12.91	15.63	40.00	-24.37	QP
2		99.1796	28.98	-15.01	13.97	43.50	-29.53	QP
3		224.5192	34.59	-14.05	20.54	46.00	-25.46	QP
4		333.6865	36.57	-11.18	25.39	46.00	-20.61	QP
5		744.8659	32.61	-3.25	29.36	46.00	-16.64	QP
6	*	948.7608	33.59	-0.27	33.32	46.00	-12.68	QP

Remark:

Correct Factor = Cable loss + Antenna factor – Preamplifier;

Level = Reading Level + Correct Factor; Margin = Level - Limit;

Temperature:	26℃	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Vertical
test voltage :	DC 5V		
Test Mode :	Mode 4		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	
		MHz	dBuV	dB	dBuV	dB	dB	Detector
1		47.9939	28.31	-13.14	15.17	40.00	-24.83	QP
2		101.2883	28.89	-14.80	14.09	43.50	-29.41	QP
3		264.7456	29.30	-12.84	16.46	46.00	-29.54	QP
4		556.7743	33.73	-5.98	27.75	46.00	-18.25	QP
5		665.8034	32.43	-4.41	28.02	46.00	-17.98	QP
6	*	948.7608	35.07	-0.27	34.80	46.00	-11.20	QP

Remark:

Correct Factor = Cable loss + Antenna factor – Preamplifier;

Level = Reading Level + Correct Factor; Margin = Level - Limit;

3.2.8. TEST RESULTS (1ghz~40ghZ)

802.11a band 4

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5745									
V	11490	54.57	49.05	15.3	37.39	58.21	74	-15.79	PK
V	11490	41.12	49.05	15.3	37.39	44.76	54	-9.24	AV
V	17235	55.54	49.16	15.27	40.45	62.1	68.2	-6.10	PK
V	17235	40.36	49.16	15.27	40.45	46.92	54	-7.08	AV
H	11490	52.68	49.05	15.3	37.39	56.32	74	-17.68	PK
H	11490	42.16	49.05	15.3	37.39	45.8	54	-8.20	AV
H	17235	51.15	49.16	15.27	40.45	57.71	68.2	-10.49	PK
H	17235	40.21	49.16	15.27	40.45	46.77	54	-7.23	AV
operation frequency:5785									
V	11570	51.36	49.09	15.34	37.42	55.03	74	-18.97	PK
V	11570	41.85	49.09	15.34	37.42	45.52	54	-8.48	AV
V	17355	50.54	49.18	15.29	40.47	57.12	68.2	-11.08	PK
V	17355	40.63	49.18	15.29	40.47	47.21	54	-6.79	AV
H	11570	50.75	49.09	15.34	37.42	54.42	74	-19.58	PK
H	11570	42.32	49.09	15.34	37.42	45.99	54	-8.01	AV
H	17355	48.56	49.18	15.29	40.47	55.14	68.2	-13.06	PK
H	17355	40.84	49.18	15.29	40.47	47.42	54	-6.58	AV
operation frequency:5825									
V	11650	52.36	49.11	15.37	37.46	56.08	74	-17.92	PK
V	11650	41.28	49.11	15.37	37.46	45	54	-9.00	AV
V	17475	49.52	49.21	15.34	40.51	56.16	68.2	-12.04	PK
V	17475	40.36	49.21	15.34	40.51	47	54	-7.00	AV
H	11650	57.54	49.11	15.37	31.31	55.11	74	-18.89	PK
H	11650	48.74	49.11	15.37	31.31	46.31	54	-7.69	AV
H	17475	49.33	49.21	15.34	40.51	55.97	68.2	-12.23	PK
H	17475	40.52	49.21	15.34	40.51	47.16	54	-6.84	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.

802.11n HT20

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5745									
V	11490	49.21	49.05	15.3	37.39	52.85	74	-21.15	PK
V	11490	42.36	49.05	15.3	37.39	46	54	-8.00	AV
V	17235	48.64	49.16	15.27	40.45	55.2	68.2	-13.00	PK
V	17235	40.85	49.16	15.27	40.45	47.41	54	-6.59	AV
H	11490	49.33	49.05	15.3	37.39	52.97	74	-21.03	PK
H	11490	41.84	49.05	15.3	37.39	45.48	54	-8.52	AV
H	17235	48.18	49.16	15.27	40.45	54.74	68.2	-13.46	PK
H	17235	40.63	49.16	15.27	40.45	47.19	54	-6.81	AV
operation frequency:5785									
V	11570	52.25	49.09	15.34	37.42	55.92	74	-18.08	PK
V	11570	42.62	49.09	15.34	37.42	46.29	54	-7.71	AV
V	17355	49.55	49.18	15.29	40.47	56.13	68.2	-12.07	PK
V	17355	40.63	49.18	15.29	40.47	47.21	54	-6.79	AV
H	11570	49.24	49.09	15.34	37.42	52.91	74	-21.09	PK
H	11570	43.86	49.09	15.34	37.42	47.53	54	-6.47	AV
H	17355	49.64	49.18	15.29	40.47	56.22	68.2	-11.98	PK
H	17355	40.67	49.18	15.29	40.47	47.25	54	-6.75	AV
operation frequency:5825									
V	11650	51.63	49.11	15.37	37.46	55.35	74	-18.65	PK
V	11650	41.55	49.11	15.37	37.46	45.27	54	-8.73	AV
V	17475	48.86	49.21	15.34	40.51	55.5	68.2	-12.70	PK
V	17475	40.38	49.21	15.34	40.51	47.02	54	-6.98	AV
H	11650	57.16	49.11	15.37	31.31	54.73	74	-19.27	PK
H	11650	44.55	49.11	15.37	31.31	42.12	54	-11.88	AV
H	17475	49.74	49.21	15.34	40.51	56.38	68.2	-11.82	PK
H	17475	40.36	49.21	15.34	40.51	47	54	-7.00	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.

802.11n HT40

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5755									
V	11510	49.52	49.07	15.33	37.41	53.19	74	-20.81	PK
V	11510	41.33	49.07	15.33	37.41	45	54	-9.00	AV
V	17265	49.14	49.17	15.28	40.46	55.71	68.2	-12.49	PK
V	17265	40.65	49.17	15.28	40.46	47.22	54	-6.78	AV
H	11510	48.25	49.07	15.33	37.41	51.92	74	-22.08	PK
H	11510	41.13	49.07	15.33	37.41	44.8	54	-9.20	AV
H	17265	49.54	49.17	15.28	40.46	56.11	68.2	-12.09	PK
H	17265	40.38	49.17	15.28	40.46	46.95	54	-7.05	AV
operation frequency:5795									
V	11590	49.26	49.11	15.37	37.46	52.98	74	-21.02	PK
V	11590	41.48	49.11	15.37	37.46	45.2	54	-8.80	AV
V	17385	48.26	49.21	15.34	40.51	54.9	68.2	-13.30	PK
V	17385	40.74	49.21	15.34	40.51	47.38	54	-6.62	AV
H	11590	57.85	49.11	15.37	31.31	55.42	74	-18.58	PK
H	11590	44.33	49.11	15.37	31.31	41.9	54	-12.10	AV
H	17385	48.25	49.21	15.34	40.51	54.89	68.2	-13.31	PK
H	17385	40.63	49.21	15.34	40.51	47.27	54	-6.73	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.

802.11ac HT20

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5745									
V	11490	49.14	49.05	15.3	37.39	52.78	74	-21.22	PK
V	11490	42.56	49.05	15.3	37.39	46.2	54	-7.80	AV
V	17235	48.47	49.16	15.27	40.45	55.03	68.2	-13.17	PK
V	17235	40.56	49.16	15.27	40.45	47.12	54	-6.88	AV
H	11490	48.24	49.05	15.3	37.39	51.88	74	-22.12	PK
H	11490	41.56	49.05	15.3	37.39	45.2	54	-8.80	AV
H	17235	48.88	49.16	15.27	40.45	55.44	68.2	-12.76	PK
H	17235	40.63	49.16	15.27	40.45	47.19	54	-6.81	AV
operation frequency:5785									
V	11570	48.55	49.09	15.34	37.42	52.22	74	-21.78	PK
V	11570	41.48	49.09	15.34	37.42	45.15	54	-8.85	AV
V	17355	49.56	49.18	15.29	40.47	56.14	68.2	-12.06	PK
V	17355	40.65	49.18	15.29	40.47	47.23	54	-6.77	AV
H	11570	49.35	49.09	15.34	37.42	53.02	74	-20.98	PK
H	11570	43.31	49.09	15.34	37.42	46.98	54	-7.02	AV
H	17355	49.85	49.18	15.29	40.47	56.43	68.2	-11.77	PK
H	17355	40.56	49.18	15.29	40.47	47.14	54	-6.86	AV
operation frequency:5825									
V	11650	49.65	49.11	15.37	37.46	53.37	74	-20.63	PK
V	11650	41.93	49.11	15.37	37.46	45.65	54	-8.35	AV
V	17475	48.38	49.21	15.34	40.51	55.02	68.2	-13.18	PK
V	17475	40.16	49.21	15.34	40.51	46.8	54	-7.20	AV
H	11650	57.14	49.11	15.37	31.31	54.71	74	-19.29	PK
H	11650	44.66	49.11	15.37	31.31	42.23	54	-11.77	AV
H	17475	48.62	49.21	15.34	40.51	55.26	68.2	-12.94	PK
H	17475	40.35	49.21	15.34	40.51	46.99	54	-7.01	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.

802.11ac HT40

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5755									
V	11510	49.21	49.07	15.33	37.41	52.88	74	-21.12	PK
V	11510	42.56	49.07	15.33	37.41	46.23	54	-7.77	AV
V	17265	48.85	49.17	15.28	40.46	55.42	68.2	-12.78	PK
V	17265	41.63	49.17	15.28	40.46	48.2	54	-5.80	AV
H	11510	48.65	49.07	15.33	37.41	52.32	74	-21.68	PK
H	11510	42.14	49.07	15.33	37.41	45.81	54	-8.19	AV
H	17265	48.13	49.17	15.28	40.46	54.7	68.2	-13.50	PK
H	17265	40.32	49.17	15.28	40.46	46.89	54	-7.11	AV
operation frequency:5795									
V	11590	49.36	49.11	15.37	37.46	53.08	74	-20.92	PK
V	11590	41.68	49.11	15.37	37.46	45.4	54	-8.60	AV
V	17385	48.76	49.21	15.34	40.51	55.4	68.2	-12.80	PK
V	17385	40.45	49.21	15.34	40.51	47.09	54	-6.91	AV
H	11590	57.21	49.11	15.37	31.31	54.78	74	-19.22	PK
H	11590	44.63	49.11	15.37	31.31	42.2	54	-11.80	AV
H	17385	48.87	49.21	15.34	40.51	55.51	68.2	-12.69	PK
H	17385	40.16	49.21	15.34	40.51	46.8	54	-7.20	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.

802.11ac HT80

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5775									
V	11550	48.25	49.07	15.33	37.41	51.92	74	-22.08	PK
V	11550	42.36	49.07	15.33	37.41	46.03	54	-7.97	AV
V	17325	49.63	49.17	15.28	40.46	56.2	68.2	-12.00	PK
V	17325	40.15	49.17	15.28	40.46	46.72	54	-7.28	AV
H	11550	48.34	49.07	15.33	37.41	52.01	74	-21.99	PK
H	11550	41.83	49.07	15.33	37.41	45.5	54	-8.50	AV
H	17325	48.58	49.17	15.28	40.46	55.15	68.2	-13.05	PK
H	17325	40.26	49.17	15.28	40.46	46.83	54	-7.17	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.

3.3 CONDUCTED BAND EMISSION MEASUREMENT

3.3.1 TEST REQUIREMENT:

FCC Part15 C Section 15.209 and 15.407

(4) For transmitters operating in the 5.725-5.85 GHz band: 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 10dBm/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.

Spectrum Parameter	Setting	
Attenuation	Auto	
Start Frequency	5150MHz	5725MHz
Stop Frequency	5250MHz	5850MHz
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average	

3.3.2 TEST PROCEDURE

Test method: FCC KDB 789033 G)& Parts 15.407(b)(4) & 15.209(a)

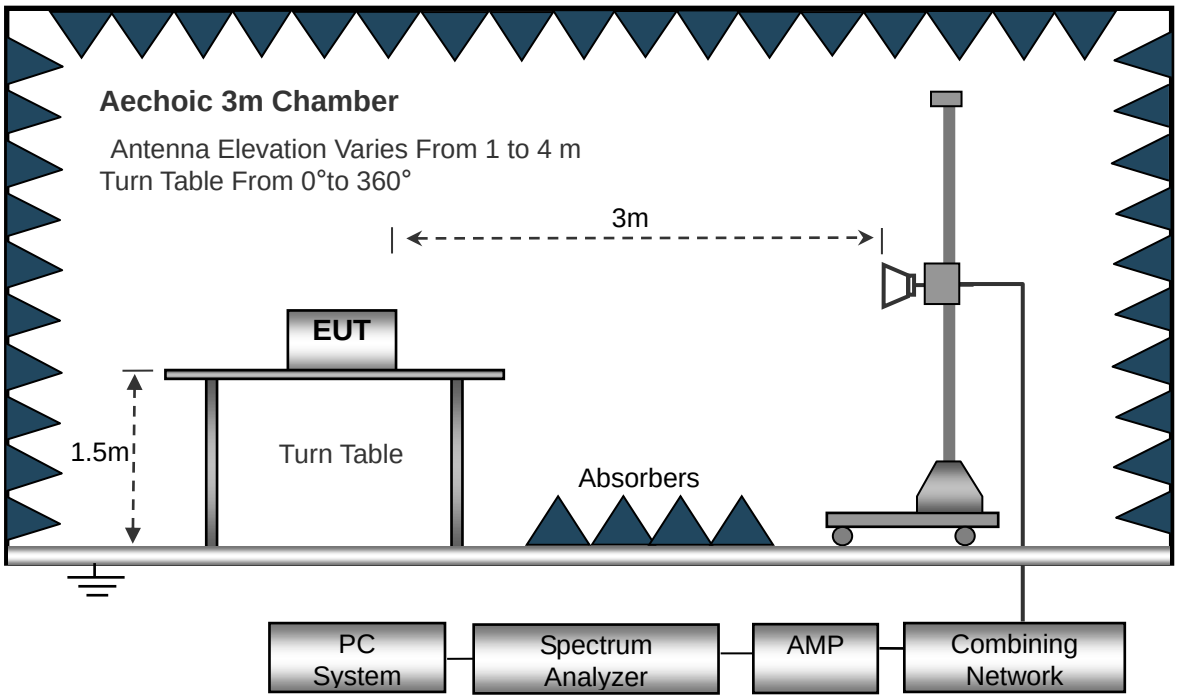
The unwanted emission limits in both the restricted and nonrestricted bands are based on radiated measurements; however, as an altemative, antenna-port conducted measurements in conjunction with cabinet emissions tests are permitted to deterine compliance provided that the following steps are performed:
a) Cabinet emissions measurements-A radiated test shall be performed to confirm that cabinet emissions are below the emission limits. For the cabinet-emission measurements the antenna may be replaced by a termination matching the nominal impedance of the antenna.
b) Impedance matching-Conducted tests shall be performed using equipment that matches the nominal impedance of the antenna assembly used with the EUT.
c) EIRP calculation--A value representative of an upper bound on out-of-band antenna gain (in dBi) shall be added to the measured antenna-port conducted emission power to compute EIRP within the specified measurement bandwidth.(For emissions in the restricted bands,additional calculations are required to convert EIRP to field strength at the specified distance.) The upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands, or 2 dBi,whichever is greater.
However, for devices that operate in multiple bands using the same transmit antenna, the highest gain of the antenna within the operating band nearest to the out-of-band frequency being measured may be used, in lieu of the overall highest gain, when measuring emissions at frequencies within 20% of the absolute frequency at the nearest edge of that band, but in no case shall a value less than 2 dBi be selected.
d) EIRP adjustments for multiple outputs--For devices with multiple outputs occupying the same or overlapping frequency ranges in the same band (e.g, MIMO or beamforming devices), compute the total EIRP as follows:
1)Compute EIRP for each output, as described in step c).
2) Follow the procedures specified in Clause 14 for summing emissions across the outputs, or adjustingemission levels measured on individual outputs by [10 log (NANr)], where NANr is the number ofoutputs.
3)Add the array gain term specified in 14.4.4 for out-of-band and spurious signals.[99]

3.3.3 DEVIATION FROM TEST STANDARD

No deviation

3.3.4 TEST SETUP

Radiated versus conducted measurements:

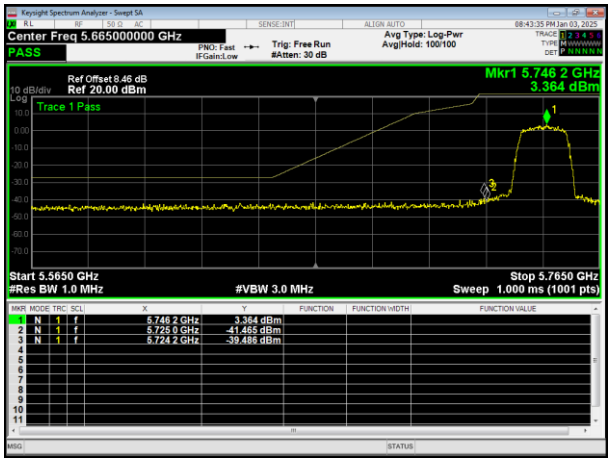
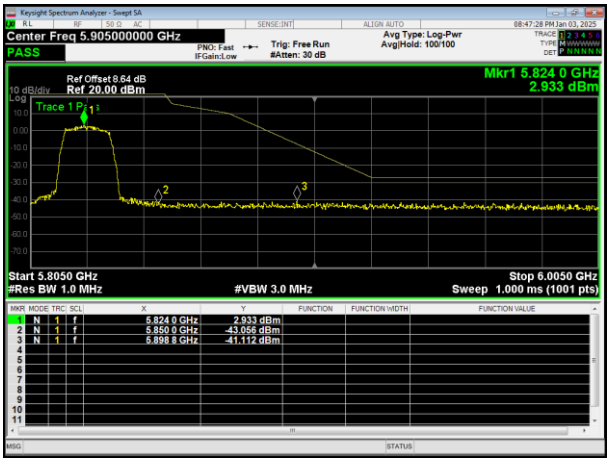


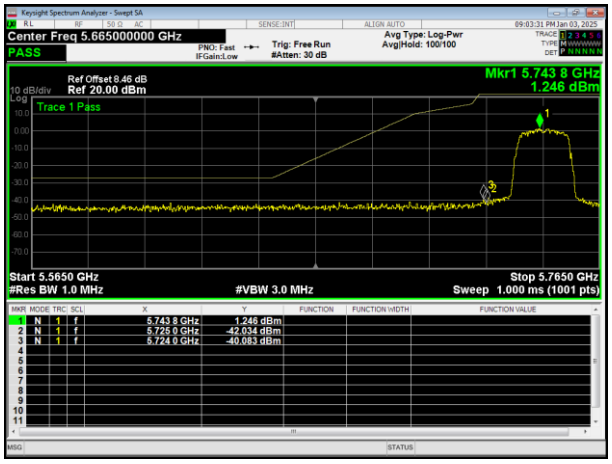
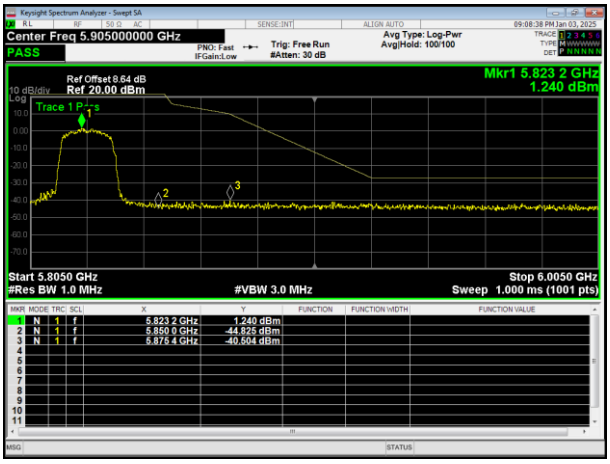
3.3.5 EUT OPERATING CONDITIONS

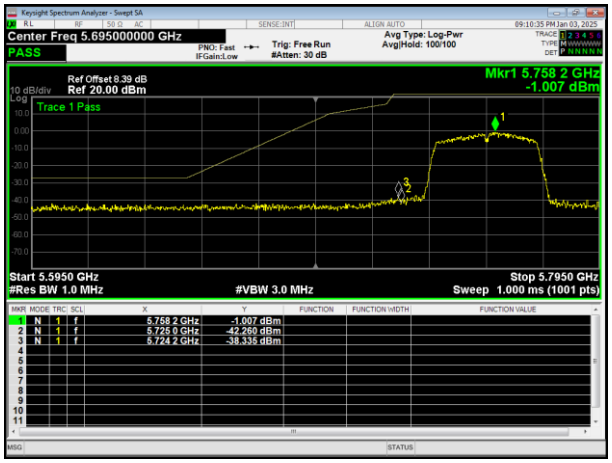
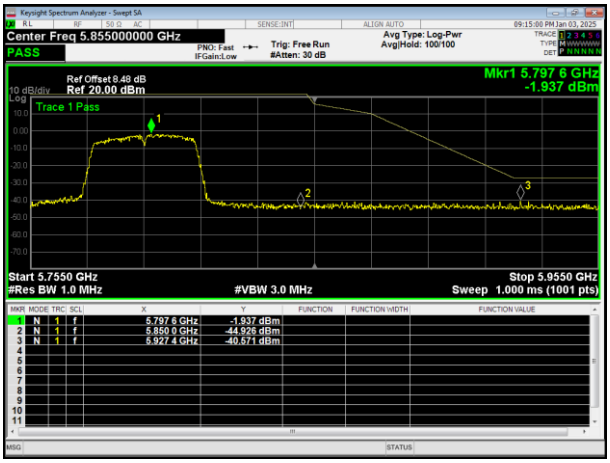
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

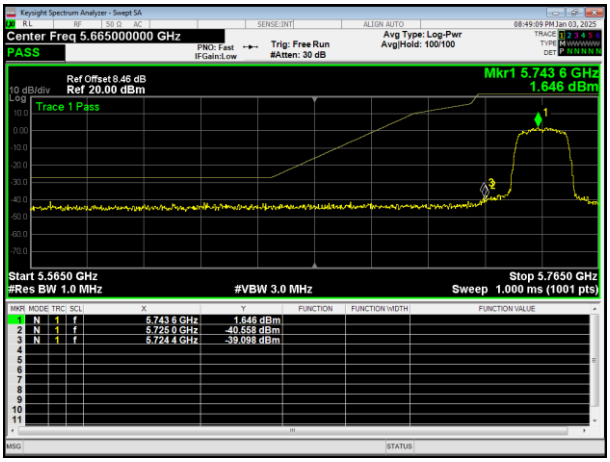
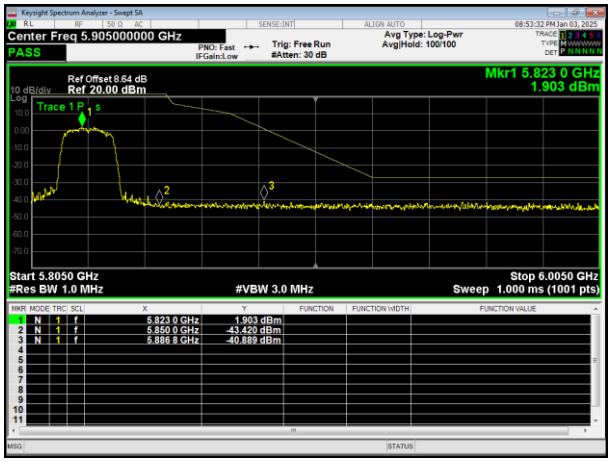
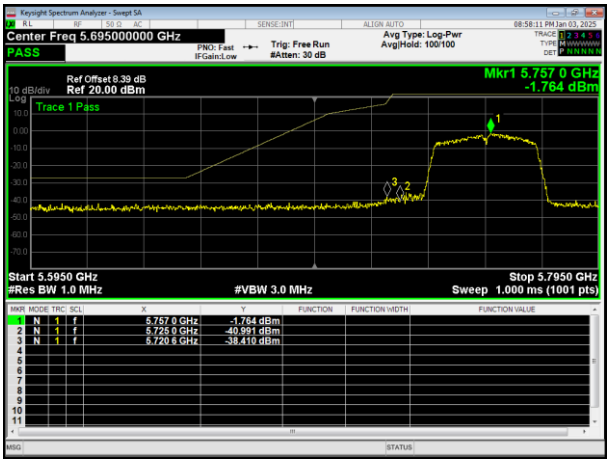
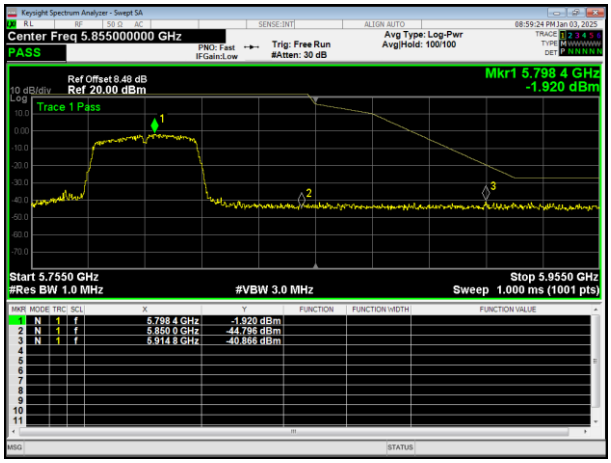
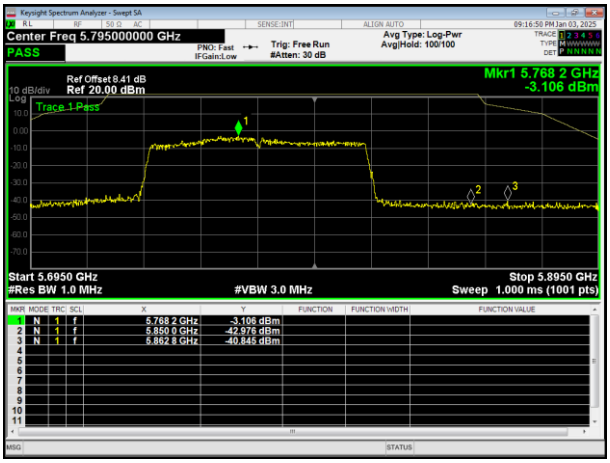
3.3.6 TEST RESULT

The antenna gain is compensated in the test data.
The product has passed radiated emission testing per ANSI C63.10 Section 12.7.4.2 using a 50-ohm termination cabinet, achieving a compliance margin >20dB, with conducted spurious emission data in the report.

802.11a	
	
5745MHz	5825MHz

802.11ac HT20	
	
5745MHz	5825MHz

802.11ac HT40	
	
5755MHz	5795MHz

802.11n HT20	
	
5745MHz	5825MHz
802.11n HT40	
	
5755MHz	5795MHz
802.11ac HT80	
	
5775MHz	

4.. AVERAGE OUTPUT POWER

4.1. APPLIED PROCEDURES / LIMIT

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

4.1.1. TEST PROCEDURE

a. Method SA-2 uses trace averaging across ON and OFF times of the EUT transmissions, followed by duty cycle correction. The procedure for this method is as follows:
a) Measure the duty cycle D of the transmitter output signal as described in 12.2.
b) Set span to encompass the entire 26 dB EBW or 99% OBW of the signal.
c) Set RBW=1MHz
d) Set VBW≥3 MHz
e) Number of points in sweep ≥ [2 x span / RBW]. (This gives bin-to-bin spacing ≤RBW / 2, so that narrowband signals are not lost between frequency bins.)
f) Sweep time- auto.
g) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
h) Do not use sweep triggering. Allow the sweep to “free run.”
i) Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed such that the average accurately represents the true average over the ON and OFF periods of the transmitter.
j) Compute power by integrating the spectrum across the 26 dB EBW or 99% OBW of the signal using the instrument’s band power measurement function with band limits set equal to the EBW or OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at 1 MHz intervals extending across the 26 dB EBW or 99%OBW of the spectrum.
k) Add [10 log (1 / D)], where D is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the ON and OFF times of the transmission). For example, add [10 log (1 / 0.25)] = 6 dB if the duty cycle is 25%.

4.1.2. DEVIATION FROM STANDARD

No deviation.

4.1.3. TEST SETUP

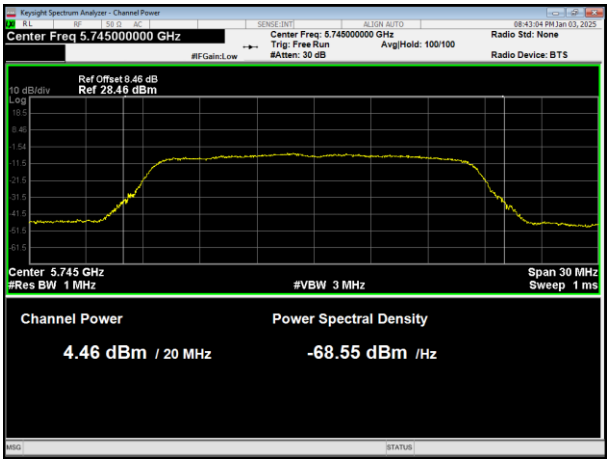
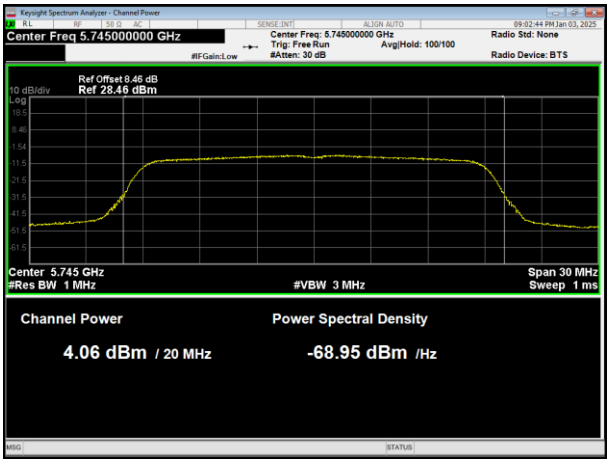
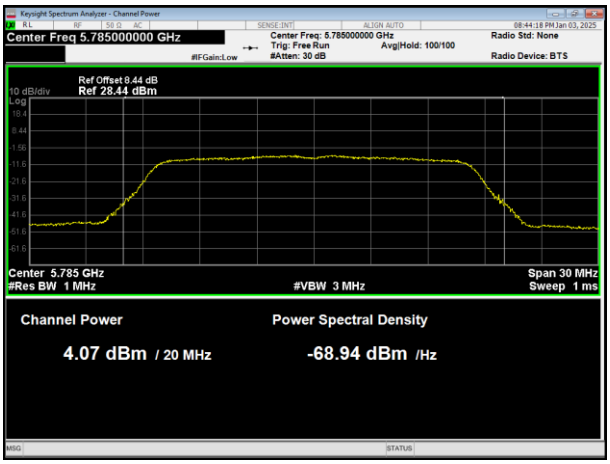
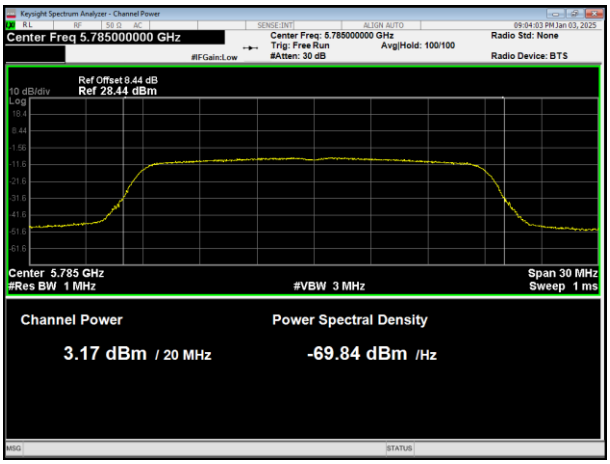
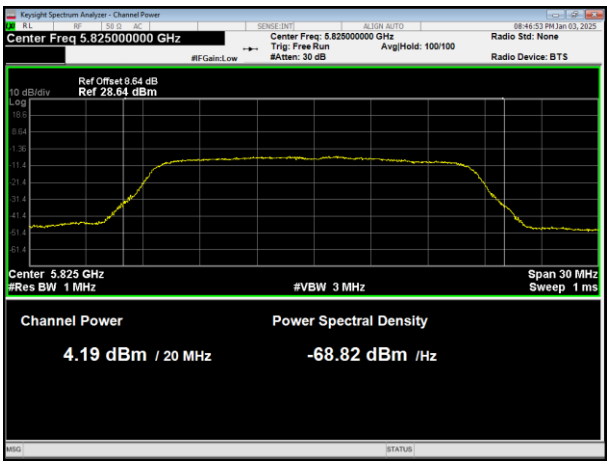
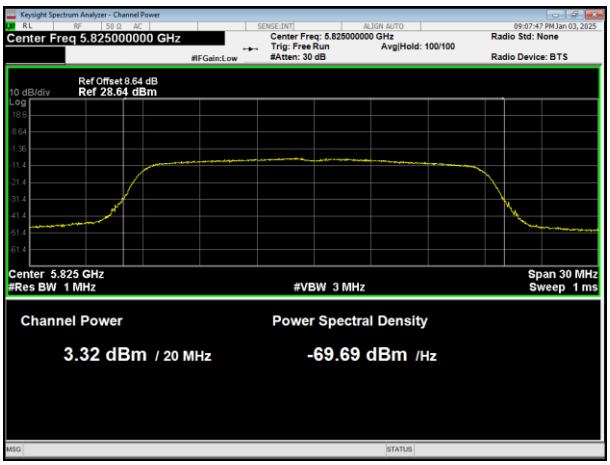
4.1.4. EUT OPERATION CONDITIONS

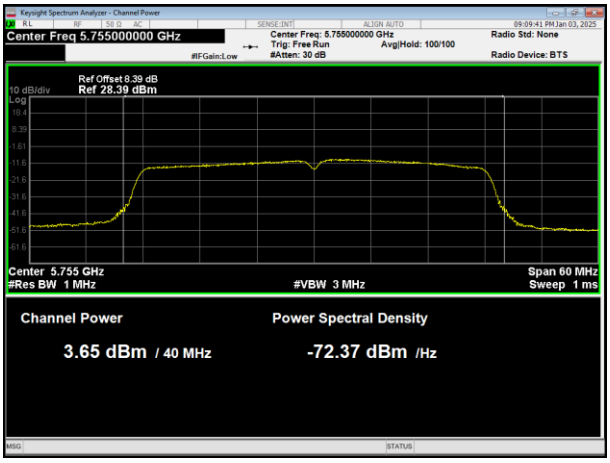
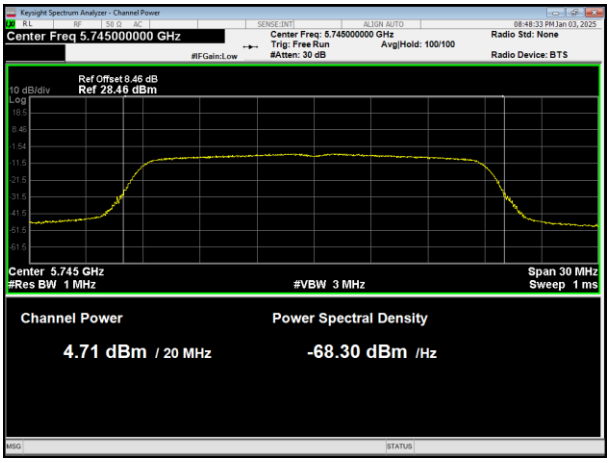
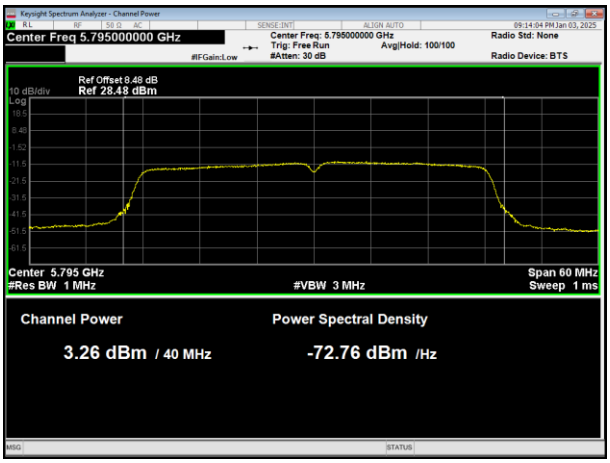
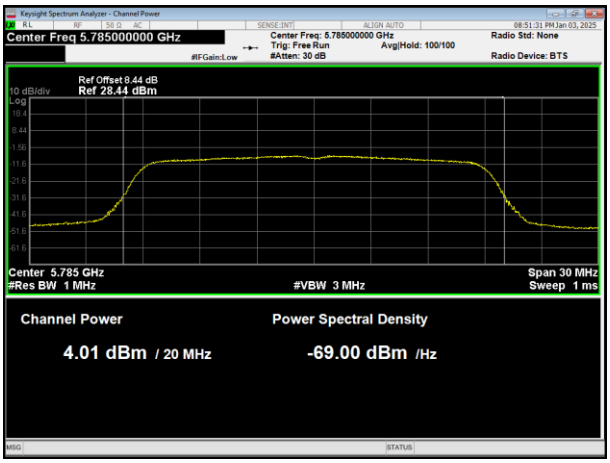
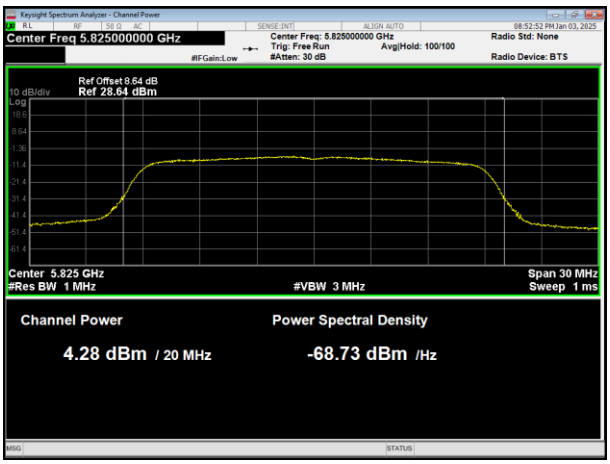
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

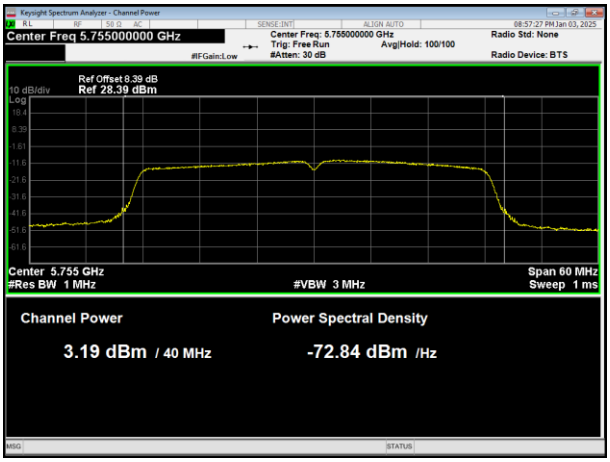
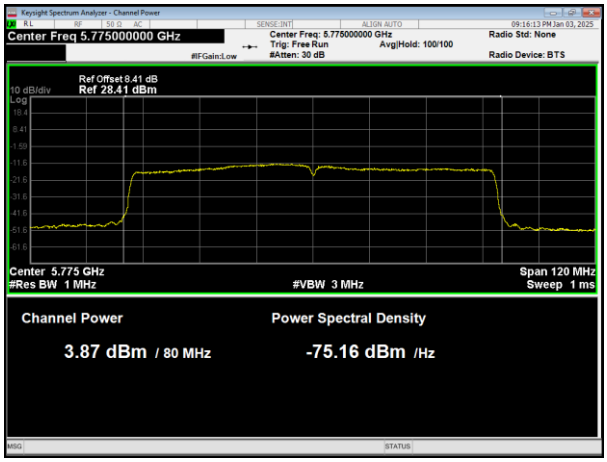
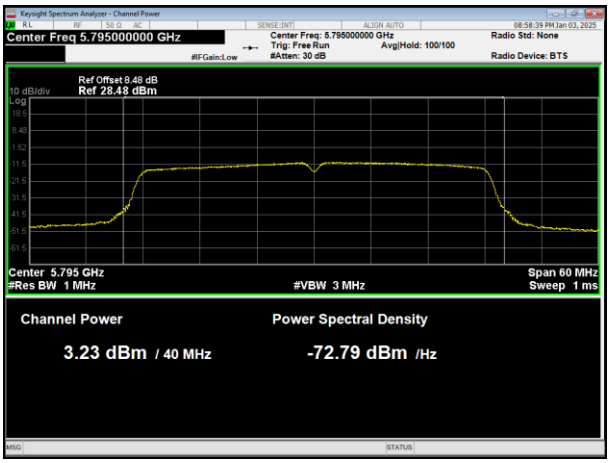
4.1.5. TEST RESULTS

Temperature:	25 ℃	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	DC 5V

Mode	Test Channel	Average Output Power (dBm)	Duty factor (dB)	Total Output Power(dB)	LIMIT (dBm)
802.11a	Low	4.461	1.12	5.581	30
	Middle	4.07	0.87	4.94	30
	High	4.188	1.06	5.248	30
802.11ac HT20	Low	4.057	0.13	4.187	30
	Middle	3.169	0.13	3.299	30
	High	3.316	0.16	3.476	30
802.11ac HT40	Low	3.654	0.32	3.974	30
	High	3.258	0.32	3.578	30
802.11ac HT80	/	3.871	0.5	4.371	30
802.11n HT20	Low	4.712	0.13	4.842	30
	Middle	4.015	0.13	4.145	30
	High	4.276	0.13	4.406	30
802.11n HT40	Low	3.185	0.26	3.445	30
	High	3.233	0.32	3.553	30

802.11a	802.11ac HT20
	
5745MHz	5745MHz
	
5785MHz	5785MHz
	
5825MHz	5825MHz

802.11ac HT40	802.11n HT20
	
5755MHz	5745MHz
	
5795MHz	5785MHz
	
	5825MHz

802.11n HT40	802.11ac HT80
	
5755MHz	5775MHz
	
5795MHz	

5.. POWER SPECTRAL DENSITY TEST

5.1. APPLIED PROCEDURES / LIMIT

In addition, the maximum power spectral density shall not exceed 30 dBm in any 500 kHz band.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	= the frequency band of operation
RB	RBW ≥ 1MHz for band 1 RBW ≥ 510KHz for band 4
VB	VBW ≥ 3RBW
Detector	RMS (i.e., power averaging).
Trace	Max Hold
Sweep Time	Auto

5.1.1. TEST PROCEDURE

1. Place the EUT on the table and set it in transmitting mode.
2. The testing follows FCC KDB 789033 D02.
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.
4. For U-NII1, U-NII-2A, U-NII-2C Band:
Set RBW=1MHz, VBW=3MHz, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)
For U-NII-3 Band:
Set RBW=510 kHz, VBW=3*RBW, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)
5. User the cursor on spectrum to peak search the highest level of trace
6. Record the max. reading and add 10 log(1/duty cycle).
we test all antennas, the antenna 1 was worst mode and the data recording in the report.
7. Duty factor Reference is made to the test results in Section 7.1.5.

5.1.2. DEVIATION FROM STANDARD

No deviation.

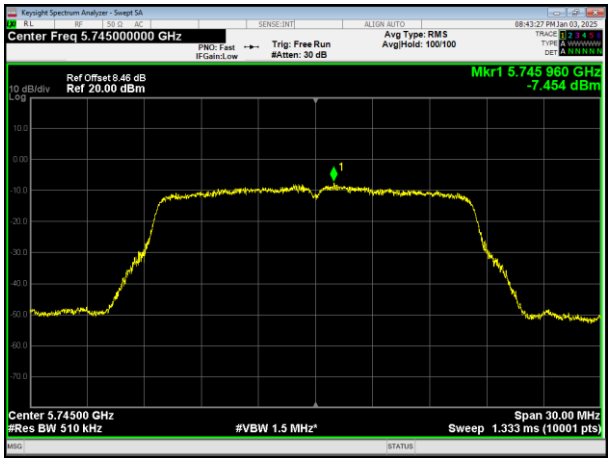
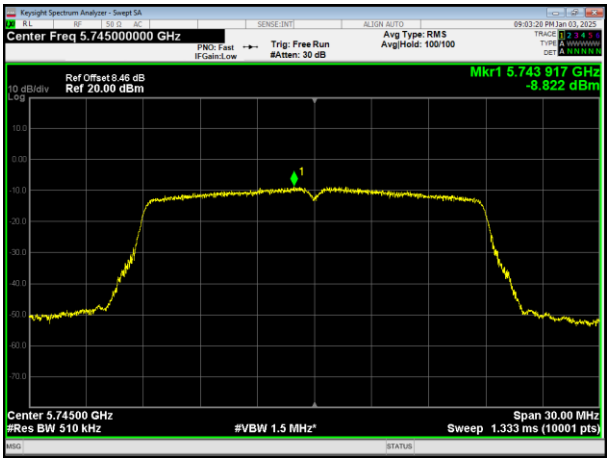
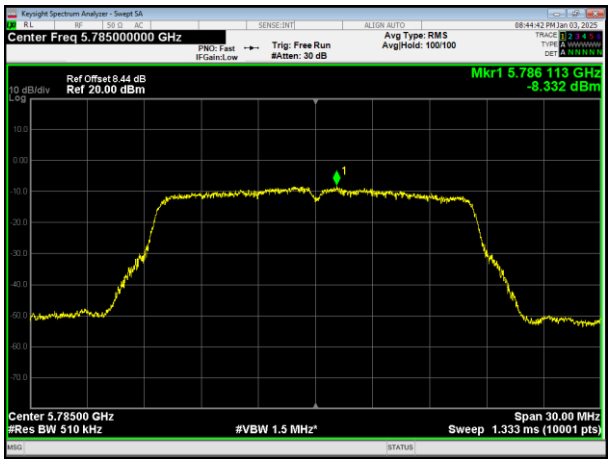
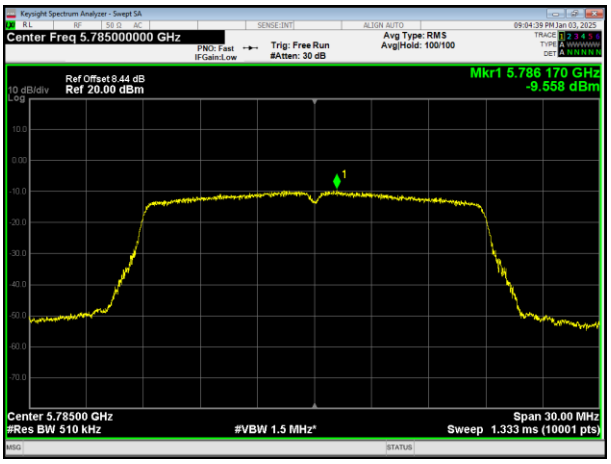
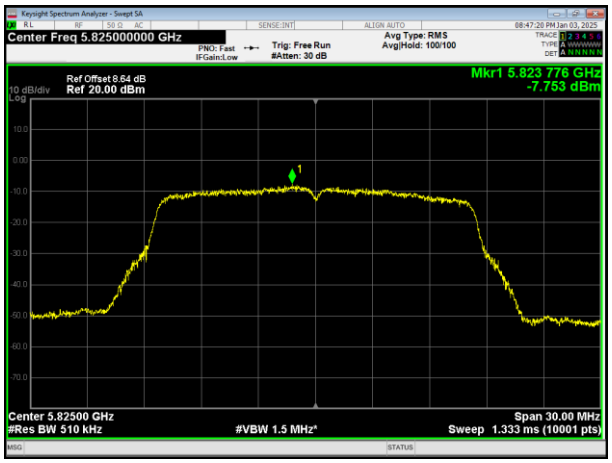
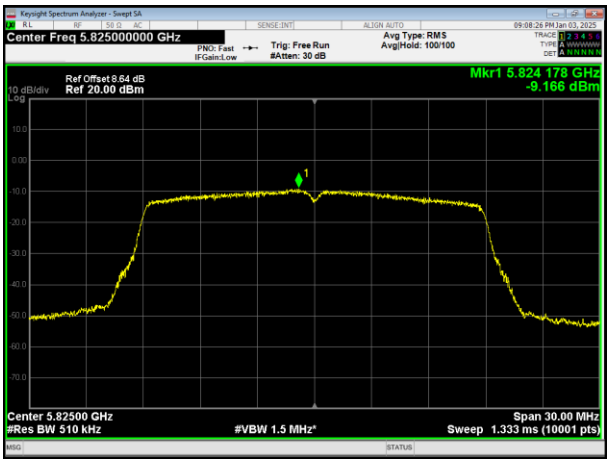
5.1.3. TEST SETUP

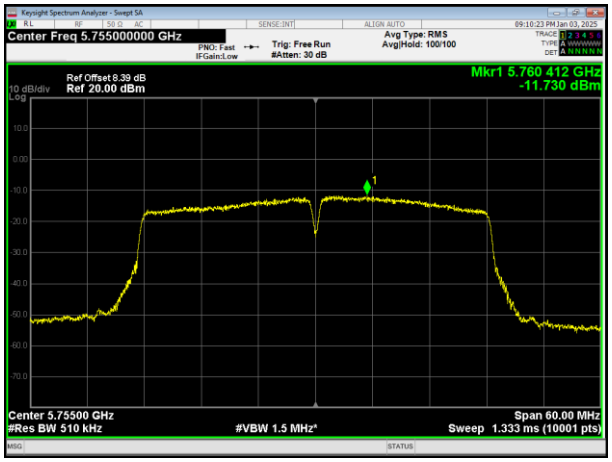
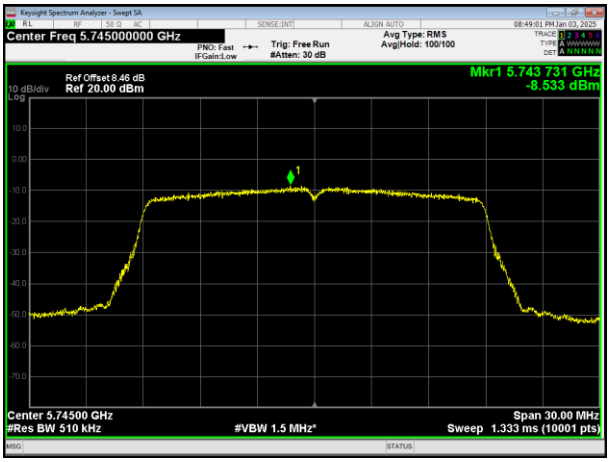
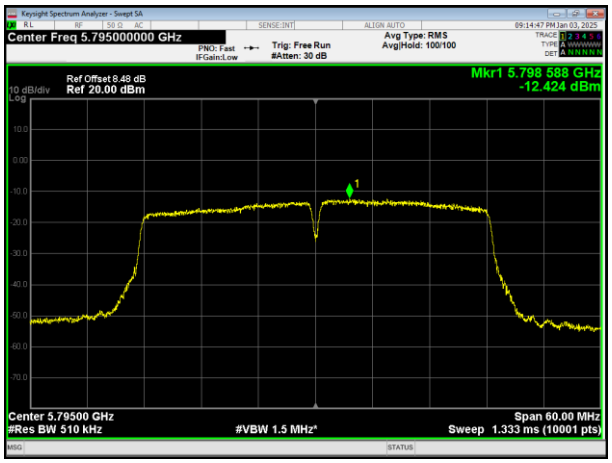
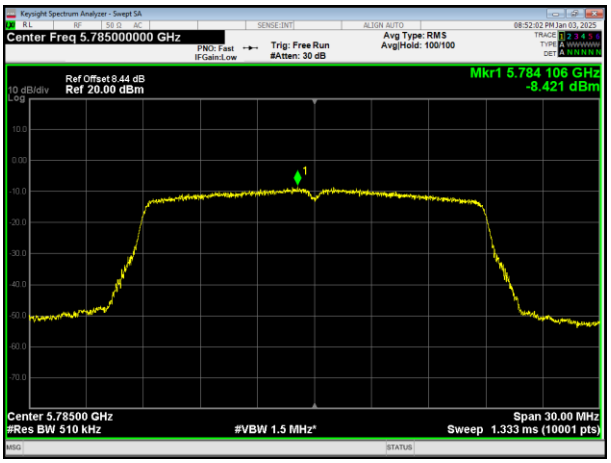
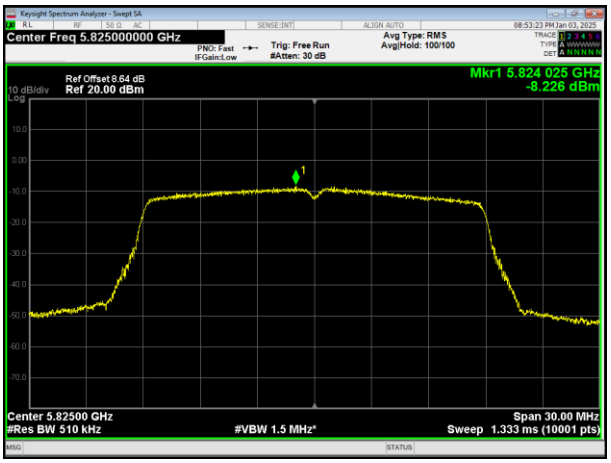
5.1.4. EUT OPERATION CONDITIONS

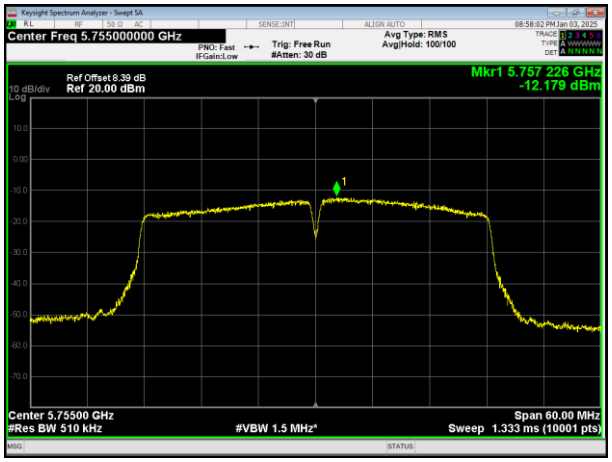
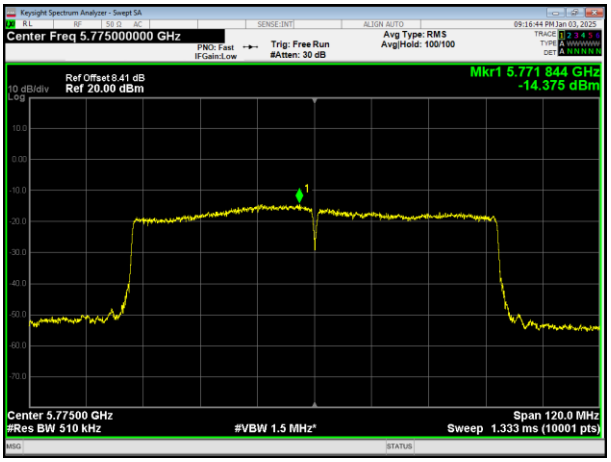
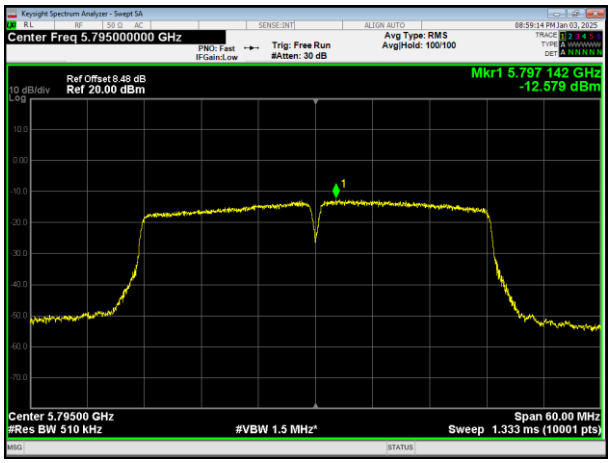
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.5. TEST RESULTS

	Mode	Test Channel	Reading Level (dBm)	Duty factor (dB)	PSD (dBm/ 500kHz)	Limit (dBm/ 500kHz)	Result
Band4	802.11a	Low	-7.454	1.12	-6.334	30.00	PASS
		Middle	-8.332	0.87	-7.462	30.00	PASS
		High	-7.753	1.06	-6.693	30.00	PASS
	802.11ac20	Low	-8.822	0.13	-8.692	30.00	PASS
		Middle	-9.558	0.13	-9.428	30.00	PASS
		High	-9.166	0.16	-9.006	30.00	PASS
	802.11ac40	Low	-11.73	0.32	-11.41	30.00	PASS
		High	-12.424	0.32	-12.104	30.00	PASS
	802.11ac80	/	-14.375	0.5	-13.875	30.00	PASS
	802.11n20	Low	-8.533	0.13	-8.403	30.00	PASS
		Middle	-8.421	0.13	-8.291	30.00	PASS
		High	-8.226	0.13	-8.096	30.00	PASS
	802.11n40	Low	-12.179	0.26	-11.919	30.00	PASS
		High	-12.579	0.32	-12.259	30.00	PASS

802.11a	802.11ac HT20
	
5745MHz	5745MHz
	
5785MHz	5785MHz
	
5825MHz	5825MHz

802.11ac HT40	802.11n HT20
	
5755MHz	5745MHz
	
5795MHz	5785MHz
	
	5825MHz

802.11n HT40	802.11ac HT80
	
5755MHz	5775MHz
	
5795MHz	

6.. 6DB BANDWIDTH TEST

6.1. APPLIED PROCEDURES / LIMIT

There is no limit bandwidth for U-NII-1, U-NII-2-A and U-NII-2-C. The minimum of 6dB Bandwidth measurement is 0.5 MHz for U-NII-3

6.1.1. TEST PROCEDURE

6dB Bandwidth	
Spectrum Parameters	Setting
RBW	100KHz
VBW	300KHz
Span	30MHz(20MHz Bandwidth mode) 60MHz(40MHz Bandwidth mode) 120MHz(80MHz Bandwidth mode)
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

6.1.2. DEVIATION FROM STANDARD

No deviation.

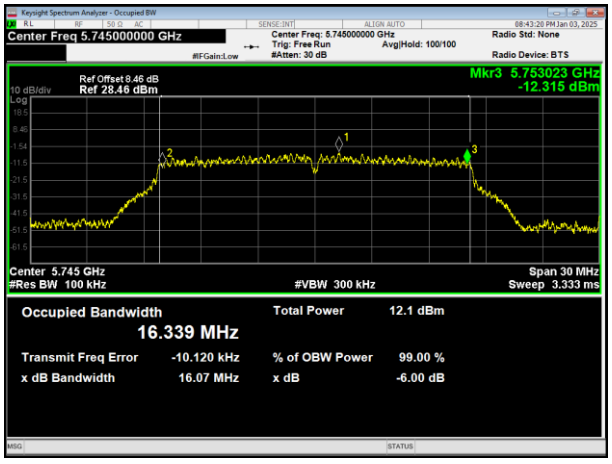
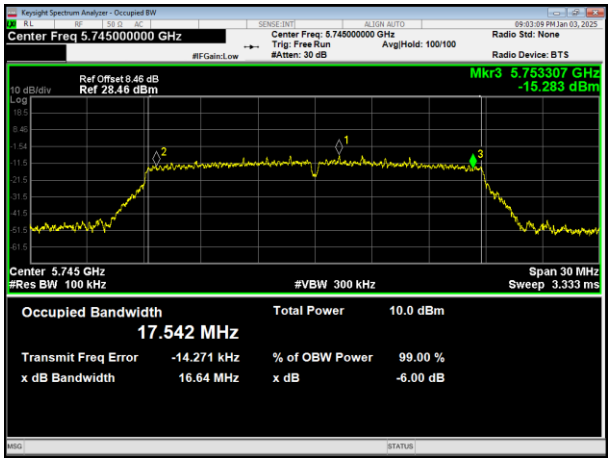
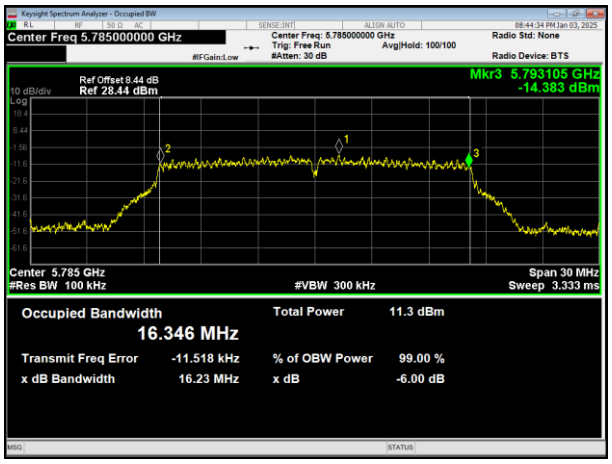
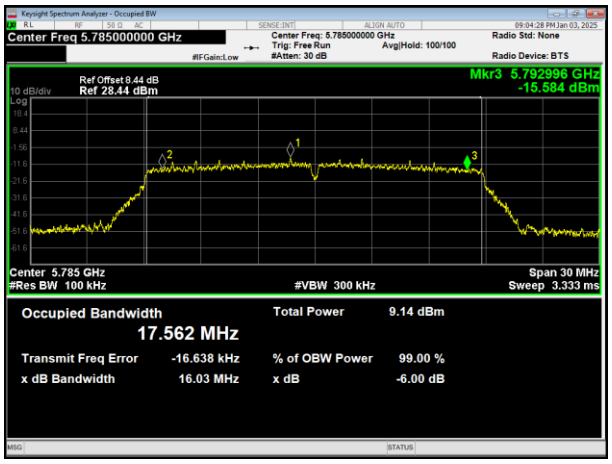
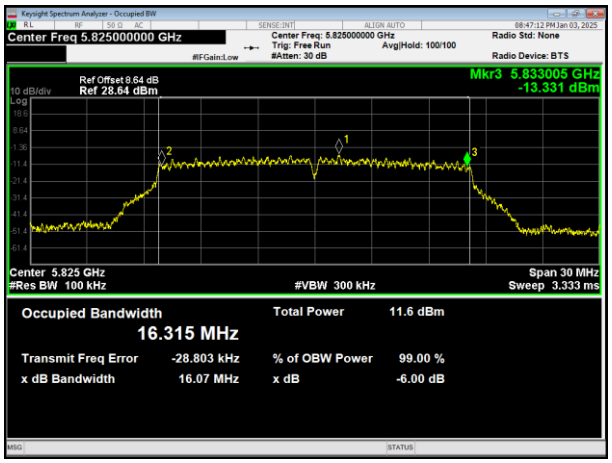
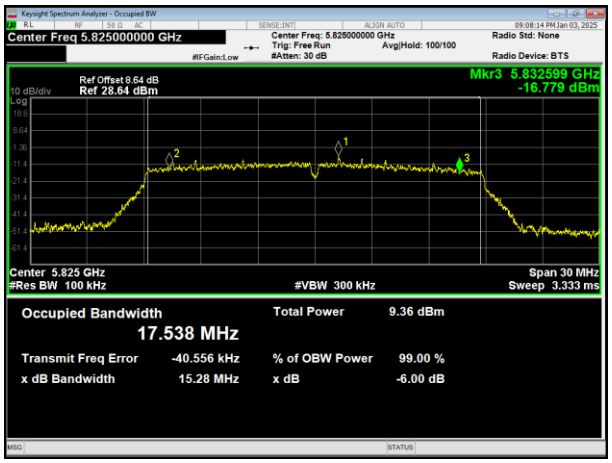
6.1.3. TEST SETUP

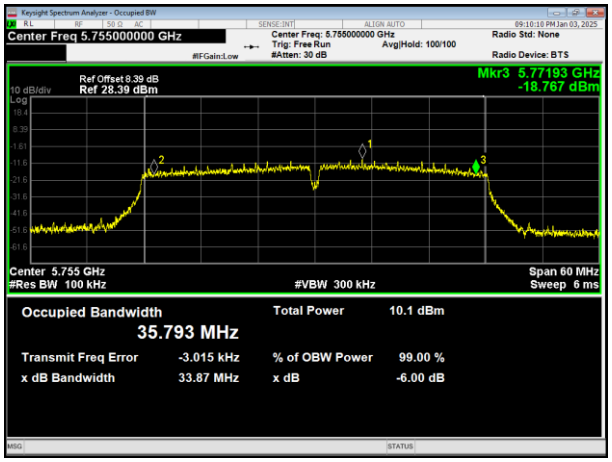
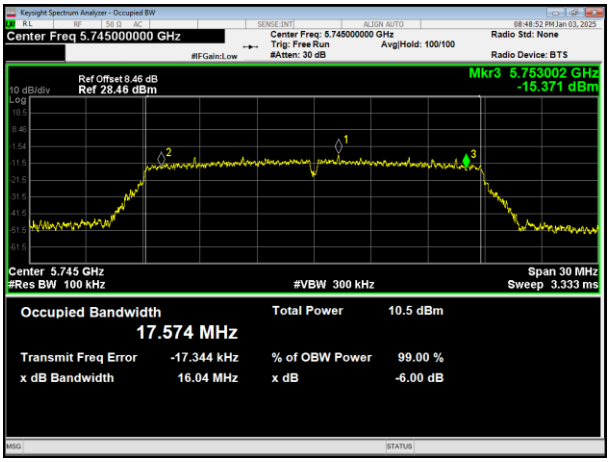
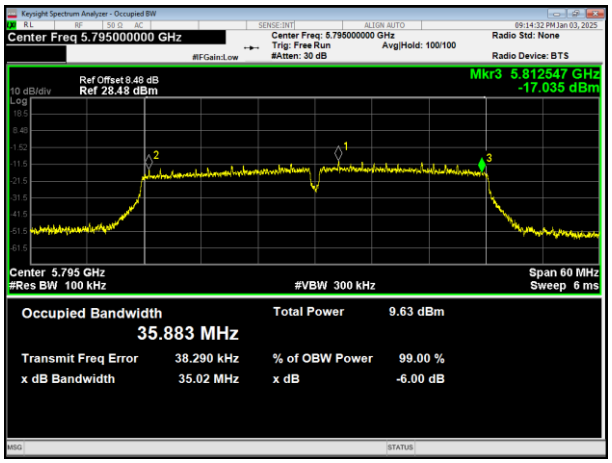
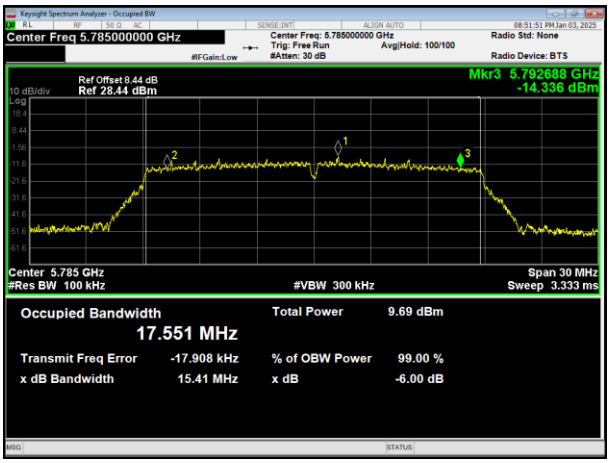
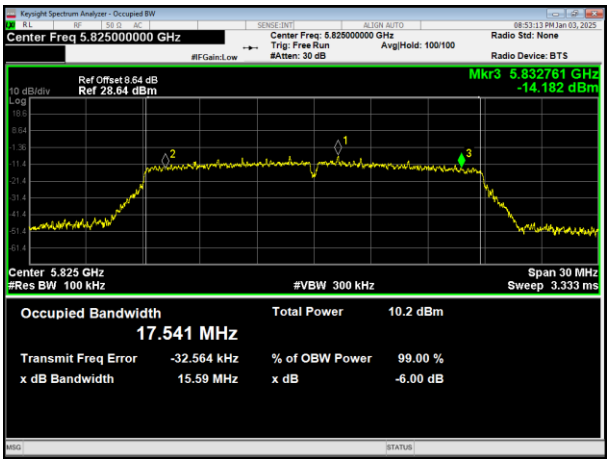
6.1.4. EUT OPERATION CONDITIONS

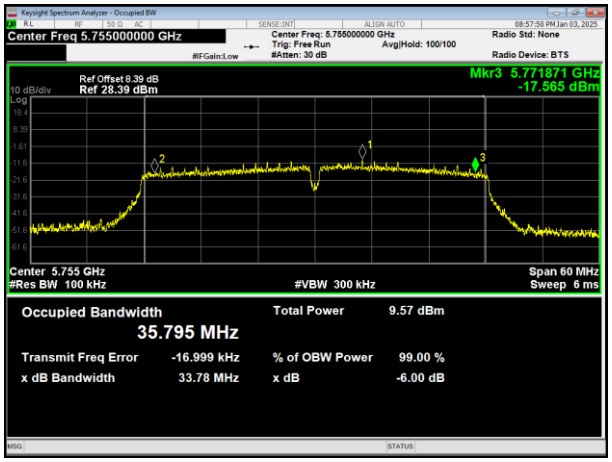
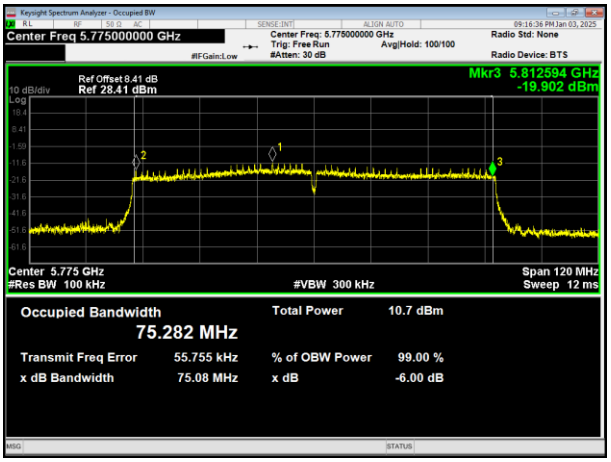
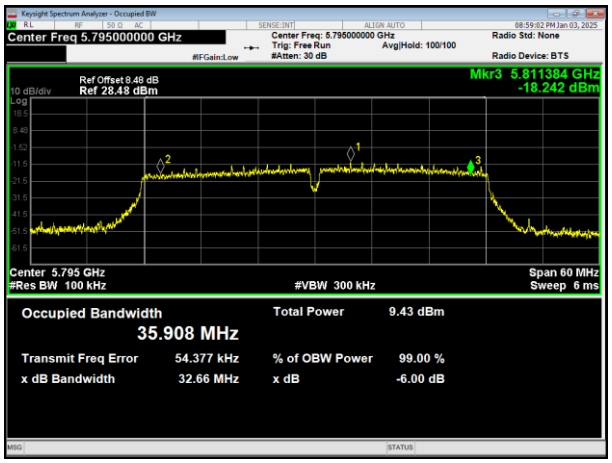
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.5. TEST RESULTS

		Test Channel	6dB Bandwidth (MHz)	6dB Bandwidth Limit (MHz)	Result
Band 4	802.11a	Low	16.066	>0.5	Pass
		Middle	16.232	>0.5	Pass
		High	16.068	>0.5	Pass
	802.11ac HT20	Low	16.643	>0.5	Pass
		Middle	16.026	>0.5	Pass
		High	15.279	>0.5	Pass
	802.11ac HT40	Low	33.867	>0.5	Pass
		High	35.018	>0.5	Pass
	802.11ac HT80	/	75.077	>0.5	Pass
	802.11n HT20	Low	16.038	>0.5	Pass
		Middle	15.412	>0.5	Pass
		High	15.587	>0.5	Pass
	802.11n HT40	Low	33.776	>0.5	Pass
		High	32.66	>0.5	Pass

802.11a	802.11ac HT20
	
5745MHz	5745MHz
	
5785MHz	5785MHz
	
5825MHz	5825MHz

802.11ac HT40	802.11n HT20
	
5755MHz	5745MHz
	
5795MHz	5785MHz
	
	5825MHz

802.11n HT40	802.11ac HT80
	
5755MHz	5775MHz
	
5795MHz	

7.. DUTY CYCLE TEST SIGNAL

7.1. APPLIED PROCEDURES / LIMIT

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle. All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

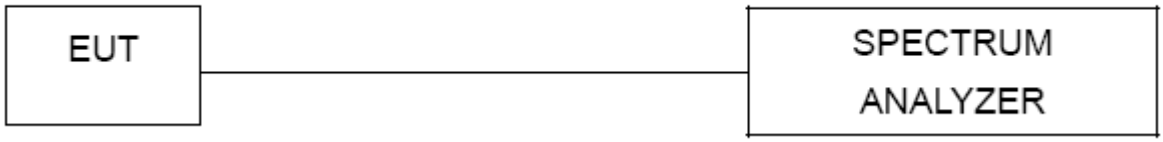
7.1.1. TEST PROCEDURE

1. Set RBW = 1 MHz.
2. Set the video bandwidth (VBW) ≥RBW.
3. Detector = Peak.
4. Sweep = auto couple.
5. Allow the trace to stabilize.
6. Span=0

7.1.2. DEVIATION FROM STANDARD

No deviation.

7.1.3. TEST SETUP

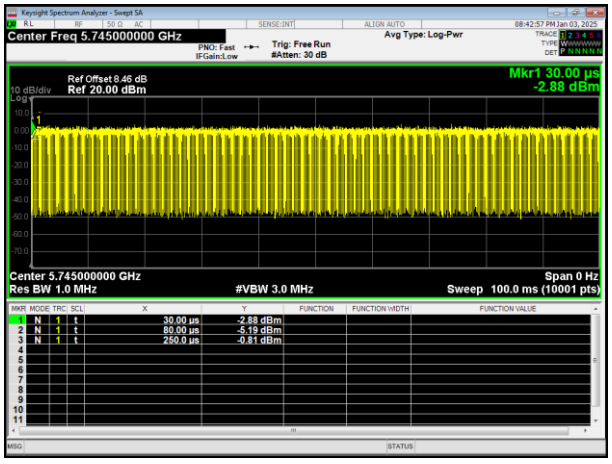
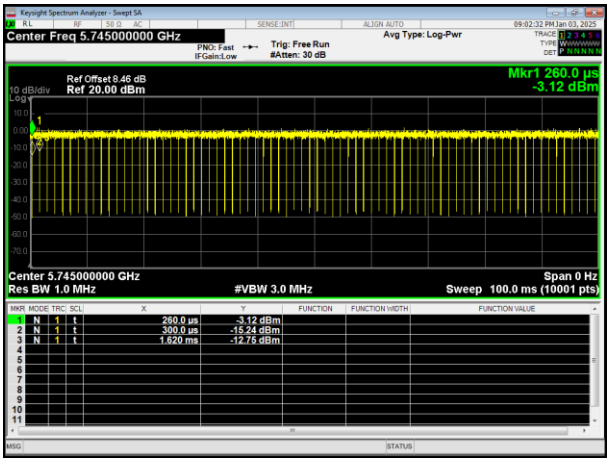
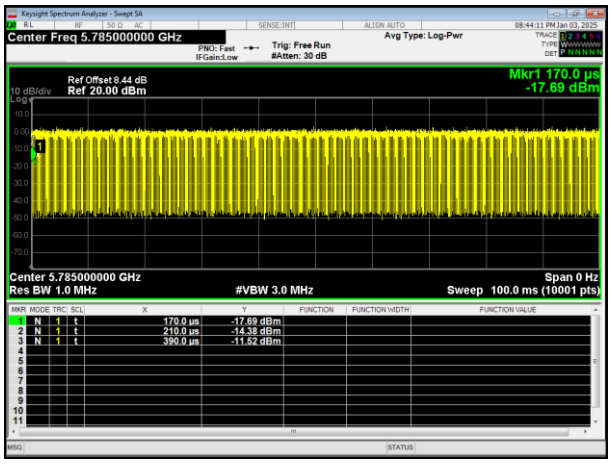
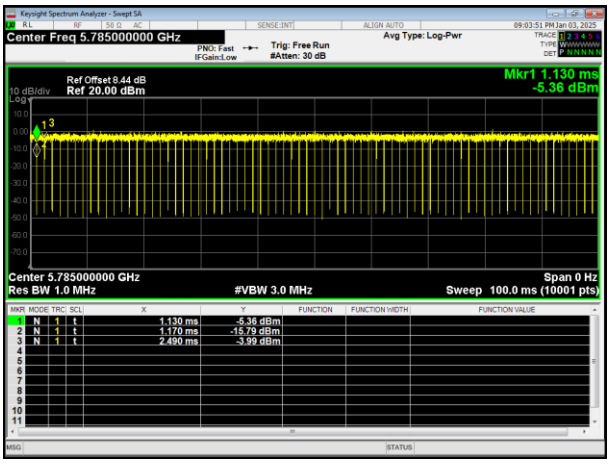
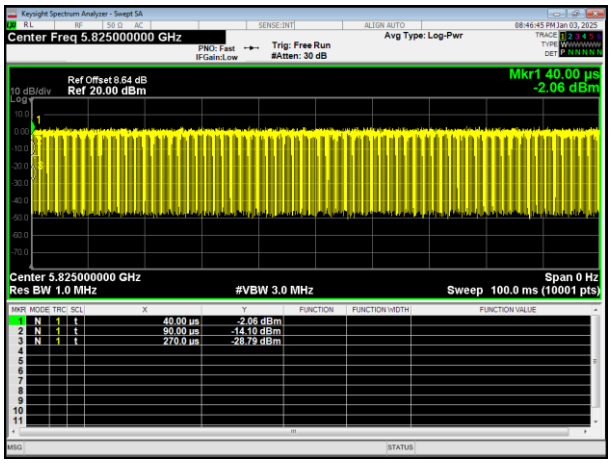
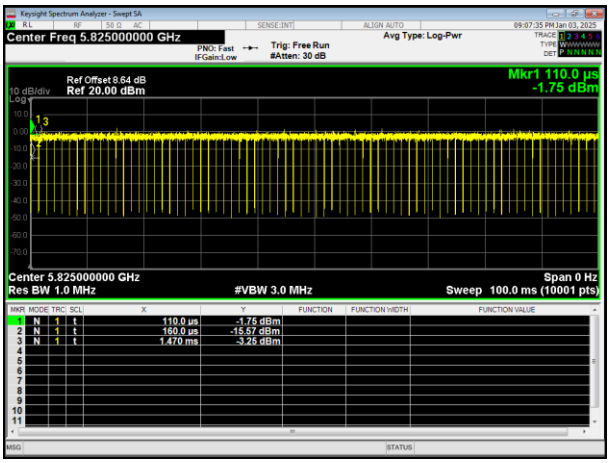


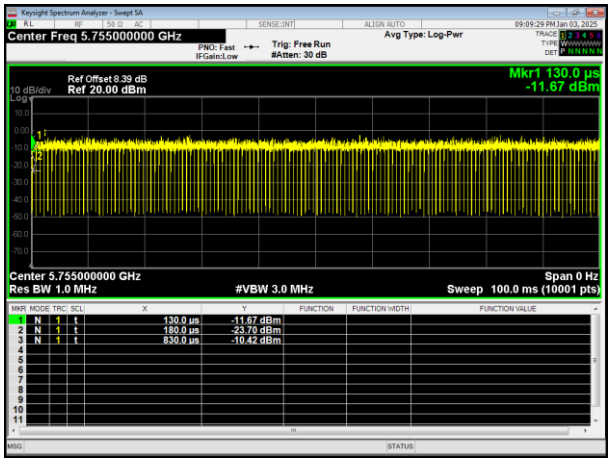
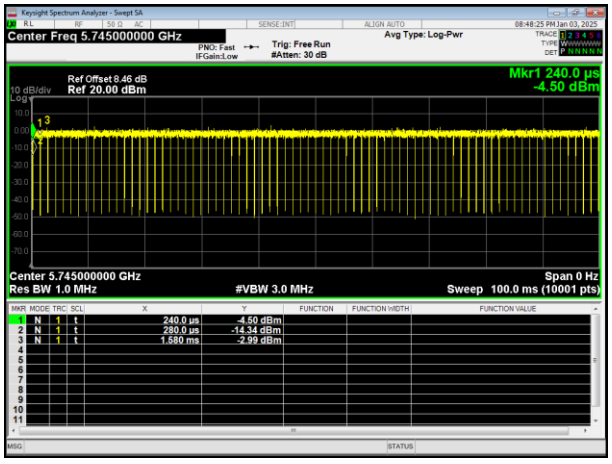
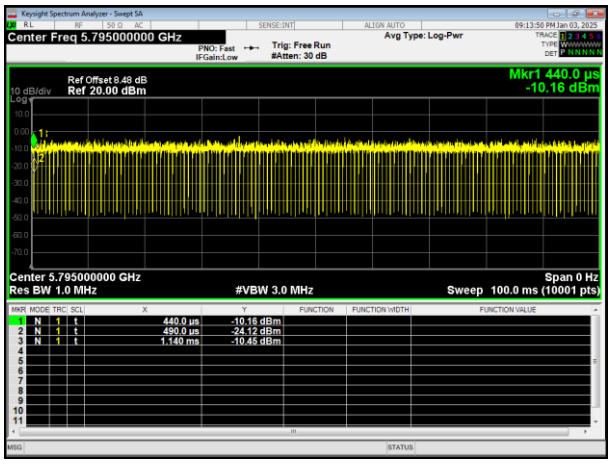
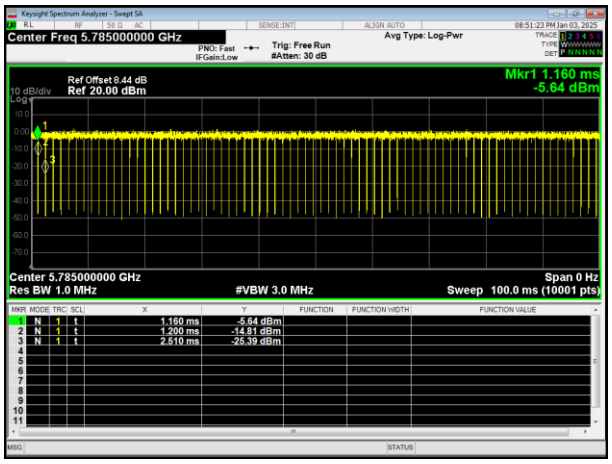
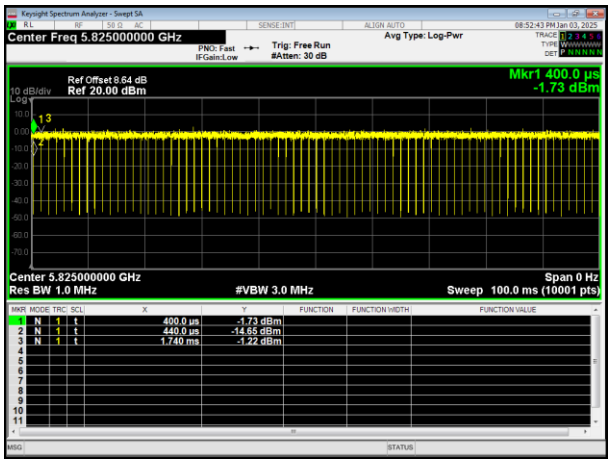
7.1.4. EUT OPERATION CONDITIONS

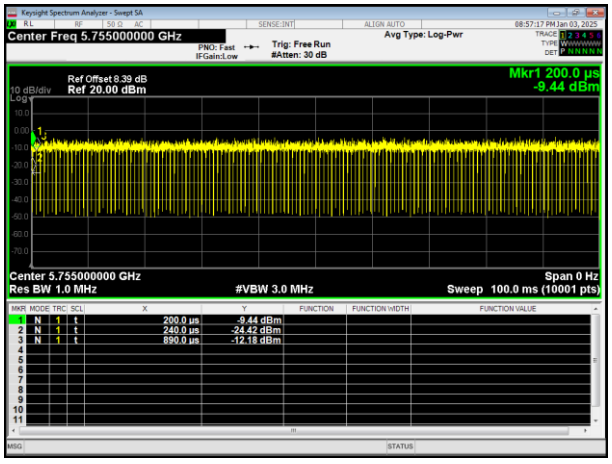
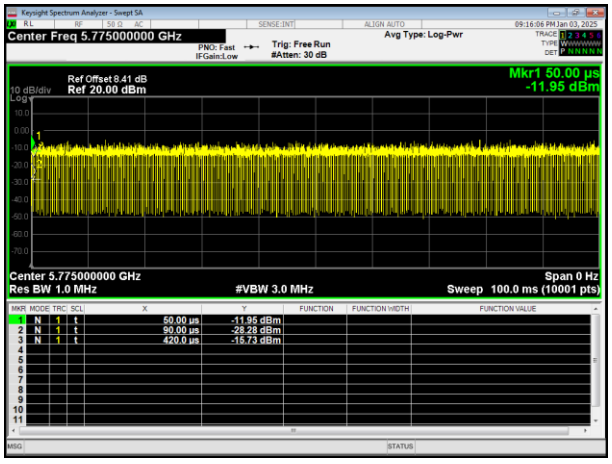
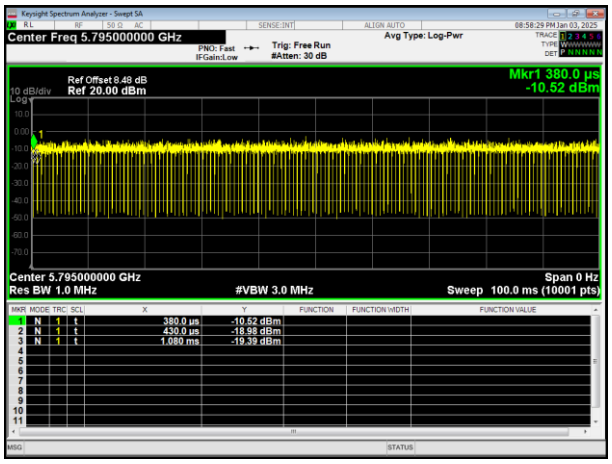
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

7.1.5. TEST RESULTS

Operation Mode			Duty Cycle(%)	Duty Fator (dB) 10 * log (1/ Duty cycle)
Band 4	802.11a	Low	77.27	1.12
		Middle	81.82	0.87
		High	78.26	1.06
	802.11ac HT20	Low	97.06	0.13
		Middle	97.06	0.13
		High	96.32	0.16
	802.11ac HT40	Low	92.86	0.32
		High	92.86	0.32
	802.11ac HT80	/	89.19	0.5
	802.11n HT20	Low	97.01	0.13
		Middle	97.04	0.13
		High	97.01	0.13
	802.11n HT40	Low	94.2	0.26
		High	92.86	0.32

802.11a	802.11ac HT20
	
5745MHz	5745MHz
	
5785MHz	5785MHz
	
5825MHz	5825MHz

802.11ac HT40	802.11n HT20
	
5755MHz	5745MHz
	
5795MHz	5785MHz
	
	5825MHz

802.11n HT40	802.11ac HT80
	
5755MHz	5775MHz
	
5795MHz	

8.. FREQUENCY STABILITY

8.1. APPLIED PROCEDURES / LIMIT

Manufacturers 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.

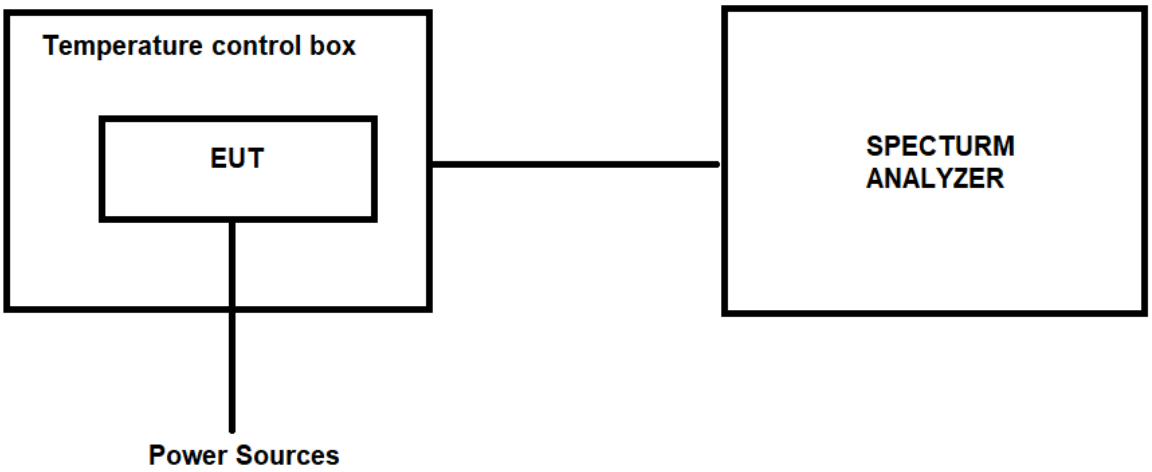
8.1.1. TEST PROCEDURE

1. The EUT was placed inside temperature chamber and powered and powered by nominal DC voltage.
2. Set EUT as normal operation.
3. Turn the EUT on and couple its output to spectrum.
4. Turn the EUT off and set the chamber to the highest temperature specified.
5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT and measure the operating frequency.
6. Repeat step with the temperature chamber set to the lowest temperature.

8.1.2. DEVIATION FROM STANDARD

No deviation.

8.1.3. TEST SETUP



8.1.4. EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

8.1.5. TEST RESULTS

Test Voltage	Test Temp.	Measured Frequency (MHz)	Spectrum Frequency (MHz)			Δ Frequency (MHz)		
			802.11a	802.11n HT20	802.11ac HT20	802.11a	802.11n HT20	802.11ac HT20
5.5V	-20℃	5745	5745.0022	5745.0005	5745.0013	0.3829	0.0870	0.2263
		5785	5785.0033	5785.0013	5785.0025	0.5704	0.2247	0.4322
		5825	5825.0015	5825.0055	5825.0036	0.2575	0.9442	0.6180
4.5V		5745	5745.0033	5745.0006	5745.0042	0.5744	0.1044	0.7311
		5785	5785.0014	5785.0044	5785.0001	0.2420	0.7606	0.0173
		5825	5825.0021	5825.0052	5825.0006	0.3605	0.8927	0.1030
5V	25℃	5745	5745.0036	5745.0033	5745.0032	0.6266	0.5744	0.5570
		5785	5785.0042	5785.0031	5785.0004	0.7260	0.5359	0.0691
		5825	5825.0036	5825.0016	5825.0016	0.6180	0.2747	0.2747
5.5V	50℃	5745	5745.0044	5745.0054	5745.0035	0.7659	0.9399	0.6092
		5785	5785.0026	5785.0038	5785.0006	0.4494	0.6569	0.1037
		5825	5825.0015	5825.0003	5825.0014	0.2575	0.0515	0.2403
4.5V	50℃	5745	5745.0013	5745.0004	5745.0005	0.2263	0.0696	0.0870
		5785	5785.0001	5785.0006	5785.0013	0.0173	0.1037	0.2247
		5825	5825.0003	5825.0007	5825.0027	0.0515	0.1202	0.4635

Test Voltage	Test Temp.	Measured Frequency (MHz)	Spectrum Frequency (MHz)		Δ Frequency (MHz)	
			802.11n HT40	802.11ac HT40	802.11n HT40	802.11ac HT40
5.5V	-20℃	5755	5755.0013	5755.0005	0.2259	0.0869
		5795	5795.0005	5795.0006	0.0863	0.1035
4.5V		5755	5755.0016	5755.0004	0.2780	0.0695
		5795	5795.0005	5795.0015	0.0863	0.2588
5V	25℃	5755	5755.0052	5755.0013	0.9036	0.2259
		5795	5795.0005	5795.0008	0.0863	0.1381
5.5V	50℃	5755	5755.0016	5755.0003	0.2780	0.0521
		5795	5795.0004	5795.0055	0.0690	0.9491
4.5V	50℃	5755	5755.0058	5755.0012	1.0078	0.2085
		5795	5795.0006	5795.0036	0.1035	0.6212

Test Voltage	Test Temp.	Measured Frequency (MHz)	Spectrum Frequency (MHz)	Δ Frequency (MHz)
			802.11ac HT80	802.11ac HT80
5.5V	-20℃	5775	5775.0023	0.3983
4.5V		5775	5775.0034	0.5887
5V	25℃	5775	5775.0046	0.7965
5.5V	50℃	5775	5775.0005	0.0866
4.5V	50℃	5775	5775.0006	0.1039

9.. TRANSMISSION IN THE ABSENCE OF DATA

9.1. STANDARD REQUIREMENT

According to §15.407(c)

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

9.2. TEST RESULT

No non-compliance noted:
Refer to the theory of operation.

10.. ANTENNA REQUIREMENT

10.1. STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

10.2. EUT ANTENNA

The EUT antenna is Built-in Antenna, It comply with the standard requirement.

11.. TEST SEUUP PHOTO

Reference to the appendix I for details.

12.. EUT PHOTO

Reference to the appendix II for details.

※※※※※ END OF REPORT ※※※※※