TEST REPORT

Applicant:	Shenzhen Hongshengda Optoelectronic Technology Co. , Ltd
Address of Applicant:	3rd Floor, Building 4, No. 161 Xingye Road Fenghuang Community, Fuyong Street, Bao'an District, Shenzhen
Manufacturer:	Shenzhen Hongshengda Optoelectronic Technology Co. , Ltd
Address of Manufacturer：	3rd Floor, Building 4, No. 161 Xingye Road Fenghuang Community, Fuyong Street, Bao'an District, Shenzhen
Product Name:	Smart Mobile Display
Model No.:	HSD-215,D01,D01T,D01A,D01AI,D02,D02T,D02A,D02AI,P01, P01A,P01AI,D01-T,D02-T,HSD-215ZJ,HSD-215ZJD01,HSD-215ZJD02
Trade Mark:	N/A
FCC ID:	2BDTM-HSD215
Applicable standards:	CFR Title 47 Part 15.247
Date of Test:	Jul.04, 2025-Jul.24, 2025
Date of report issued:	Jul.25, 2025

Remark:

The results shown in this test report refer only to the sample(s) tested , this test report cannot be reproduced, except in full without prior written permission of the company.

The report would be invalid without specific stamp of test institute and the signatures of compiler and approver

Prepared By

Shenzhen ETR Standard Technology Co., Ltd.

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Compiled by:	Reviewed by:	Approved by:
Project Engineer	Project Manager	Authorized Signature

Report Revision History		
Report No.	Description	Issue Date
ET-25072212E02	Original	Jul.25, 2025

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1. Test Summary

Test Item	Section	Result	Test by
Antenna requirement	47CRF part 15.203/15.247 (c)	Pass	/
AC Power Line Conducted Emission	47CRF part 15.207	Pass	Jason Huang
Conducted Peak Output Power	47CRF part 15.247 (b)(3)	Pass	Kara Wu
6dB Bandwidth	47CRF part 15.247 (a)(2)	Pass	Kara Wu
Power Spectral Density	47CRF part 15.247 (e)	Pass	Kara Wu
Band Edge	47CRF part 15.247(d) 47CRF part 15.205/15.209	Pass	Kara Wu
Spurious Emission	47CRF part 15.247(d) 47CRF part 15.205/15.209	Pass	Jason Huang

Remarks:

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

2. Test according to ANSI C63.10:2013 and KDB558074 D01 15.247 Meas Guidance v05r02.

3. Note: Compliance determination rules

1).The Compliance determination of test results does not take into account measurement uncertainty. Measurement results are determined based on regulatory limitations or requirements specified by the applicant/manufacturer. If measurement uncertainty is taken into account, the applicant/manufacturer will bear all possible risks of non-compliance.

2).The measurement uncertainty please refer to each test result in the "Measurement Uncertainty"

Measurement Uncertainty

Test Item	Measurement Uncertainty	Notes
Occupied Channel Bandwidth	0.55%	(1)
RF output power, conducted	±0.57 dB	(1)
Power Spectral Density, conducted	±0.61 dB	(1)
Unwanted Emissions, conducted	±0.64 dB	(1)
AC Power Line Conducted Emission	± 2.55 dB	(1)
Radiated emissions 9K-30MHz	±3.79 dB	(1)
Radiated emissions 30M- 1GHz	± 4.24 dB	(1)
Radiated emissions 1GHz-18GHz	± 4.26 dB	(1)
Radiated emissions 18GHz-40GHz	±4.17 dB	(1)
Frequency error	Uc=1X10-7	(1)
Duty Cycle	0.03%	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.		

2. General Information

2.1 General Description of EUT

Product Name:	Smart Mobile Display
Model No.:	HSD-215,D01,D01T,D01A,D01AI,D02,D02T,D02A,D02AI,P01, P01A,P01AI,D01-T,D02-T,HSD-215ZJ,HSD-215ZJD01,HSD-215ZJD02
Difference of model(s)	All models have the same circuit and RF module, except for the model name and color
Test Model:	HSD-215
Hardware version:	V1.0
Software version:	1.0
Sample(s) Status	Engineer sample
Channel numbers:	802.11b/802.11g /802.11n20: 11 802.11n40:7
Channel separation:	5MHz
Modulation technology:	802.11b: Direct Sequence Spread Spectrum (DSSS) 802.11g/802.11n20/802.11n40: Orthogonal Frequency Division Multiplexing (OFDM)
Antenna Type:	FPCB antenna
Antenna gain:	1.99dBi (Note: Antenna information is provided by applicant, Testing lab is not responsible for the accuracy of the information.)
Power supply:	15VDC from adapter with 100-240Vac
Battery:	DC 11.1V 6000mAh
Adapter:	Model: LC36C-150240Z Input:100-240Vac 0.8A Output: 15V/2.4A

For more details, refer to the user's manual of the EUT.

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Test channel	Frequency (MHz)	
	802.11b/802.11g/802.11n20	802.11n40
Lowest channel	2412MHz	2422MHz
Middle channel	2437MHz	2437MHz
Highest channel	2462MHz	2452MHz

2.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode
Remark: For battery operated equipment, the EUT was performed using a new DC 11.1V battery.	

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	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)
Data rate	1Mbps	6Mbps	6.5Mbps	13Mbps

2.3 Description of Support Units

No.	Description	Manufacturer	Model	Serial Number

2.4 Test Facility

Test laboratory:	Shenzhen ETR Standard Technology Co., Ltd.
CNAS Registration Number:	L11864
A2LA Certificate Number:	6640.01
FCC Designation Number:	CN1326
FCC Test Firm Registration:	183064
IC Company Number:	28440
IC CAB identifier:	CN0132
Laboratory location:	No.103, No.10, Phase I, Zone 3, Xinxing Industrial Park, Xinhe, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

2.5 Additional Instructions

Test Software	Engineering mode
Power level setup	Default

3. Test Instruments list

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	Rohde&schwarz	ESCI7	100605	2025.3.06	2026.3.05
2	EMI Test Receiver	Rohde&schwarz	ESCI3	102696	2025.3.06	2026.3.05
3	Loop Antenna	schwarabeck	FMZB 1519 B	FMZB 1519 B	2024.3.22	2026.3.21
4	Broadband antenna	schwarabeck	VULB9168	1064	2024.3.26	2026.3.25
5	Horn antenna	schwarabeck	BBHA9120D	9120D-1145	2024.3.22	2026.3.21
6	amplifier	EMtrace	RP01A	50117	2025.3.06	2026.3.05
7	AMN	schwarabeck	NSLK8127	8127483	2025.3.06	2026.3.05
8	AMN	ETS	3186/2NM	1132	2025.3.06	2026.3.05
9	10dB attenuator	HUBER+SUHNR	10dB	/	2025.3.06	2026.3.05
10	amplifier	Space-Dtronics	EWLAN0118G-P40	19113001	2025.3.06	2026.3.05
11	Filter	Xingbo	XBLBQ-GTA19	210410-3-1	2025.3.06	2026.3.05
12	Spectrum analyzer	KEYSIGHT	N9020A	MY55370280	2025.3.06	2026.3.05
13	Power control box	MWRFtest	MW100-PSB	MW201020JYT	2025.3.06	2026.3.05
14	Power Sensor	Keysight	U2021XA	MY54111006	2025.3.06	2026.3.05
15	amplifier	SKET	LNPA_1840-50 (18-40GHz)	SK2019040302	2025.3.06	2026.3.05
16	Horn antenna	schwarabeck	BBHA 9170	946	2024.3.22	2026.3.21
17	Temp. & Humidity Chamber	Jiecheng Instrument	QA-LP-80	20160705001	2025/3/07	2026/3/06

Note: the calibration interval of the above test instruments is 12 or 24 months and the calibrations are traceable to international system unit (SI).

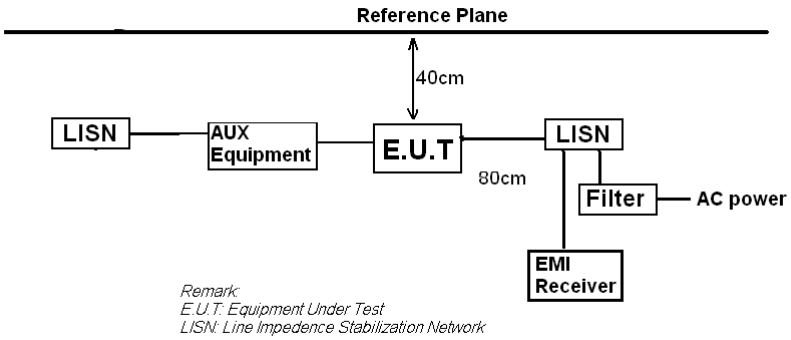
Software Name	Manufacturer	Model	Version
RF test software	MWRFtest	MTS 8310	V2.0.0.0
Conducted test software	EZ-EMC	Farad	Ver.EMC-CON 3A1.1
Radiated test software	EZ-EMC	Farad	Ver.FA-03A2 RE

4. Test results and Measurement Data

4.1 Antenna requirement

Standard requirement:	47CRF Part 15.203 /247(c)
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. **15.247(c) (1)(i) requirement:** (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.	
EUT Antenna:	
The antenna is FPCB antenna, the best case gain of the is 1.99dBi, reference to the Internal photos for details.	

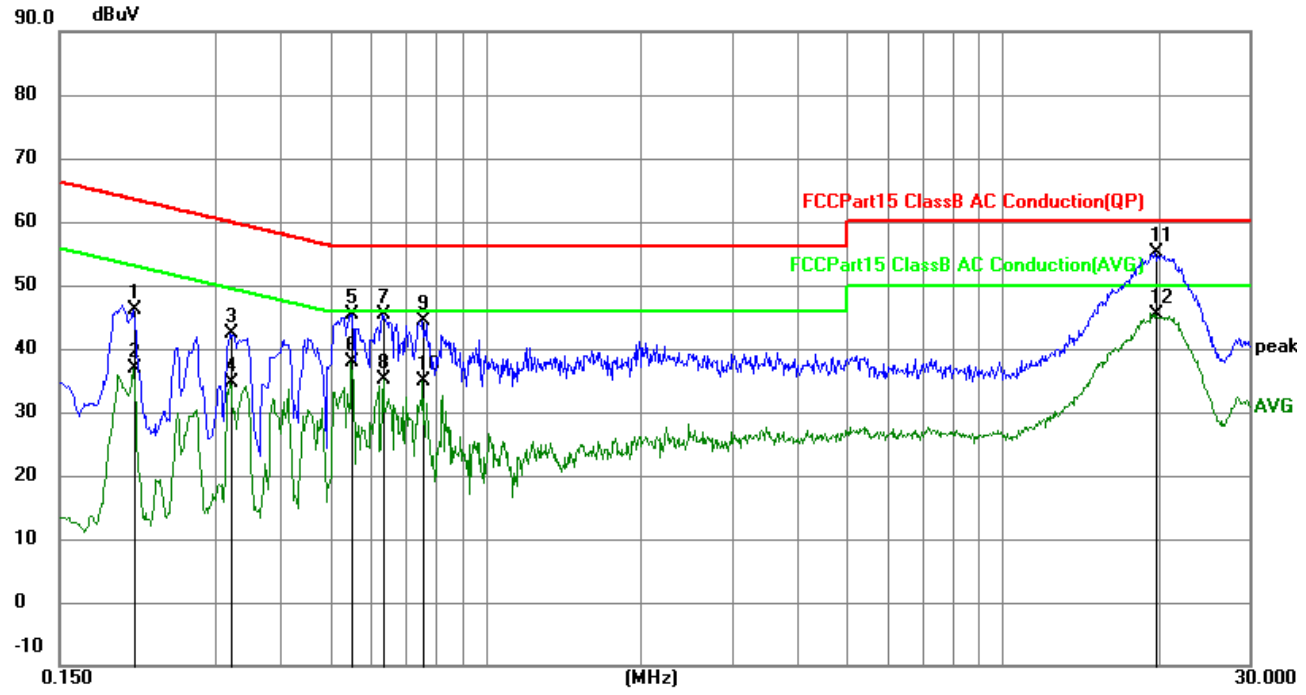
4.2 Conducted Emissions

<table>
<tr><td>Test Requirement:</td><td colspan="6">47CRF part 15.207</td></tr>
<tr><td>Test Method:</td><td colspan="6">ANSI C63.10:2013</td></tr>
<tr><td>Test Frequency Range:</td><td colspan="6">150KHz to 30MHz</td></tr>
<tr><td>Receiver setup:</td><td colspan="6">RBW=9KHz, VBW=30KHz, Sweep time=auto</td></tr>
<tr><td>Limit:</td><td colspan="6">
<table>
<tr><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBuV)</td></tr>
<tr><td>Quasi-peak</td><td>Average</td></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
* Decreases with the logarithm of the frequency.
</td></tr>
<tr><td>Test setup:</td><td colspan="6"> 
</td></tr>
<tr><td>Test procedure:</td><td colspan="6">1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.
2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).
3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement.</td></tr>
<tr><td>Test Instruments:</td><td colspan="6">Refer to section 3.0 for details</td></tr>
<tr><td>Test mode:</td><td colspan="6">Refer to section 2.2 for details</td></tr>
<tr><td>Test environment:</td><td>Temp.:</td><td>22.9°C</td><td>Humid.:</td><td>57%</td><td>Press.:</td><td>1012mbar</td></tr>
<tr><td>Test voltage:</td><td colspan="6">AC 120V, 60Hz</td></tr>
<tr><td>Test results:</td><td colspan="6">Pass</td></tr>
</table>

Remark:
1. Both high voltage and low voltage have been tested, and the report only shows the worst case data with AC 120V/60Hz.
2. All mode have been tested, the report only shows the worst mode of 802.11b (2412MHz)

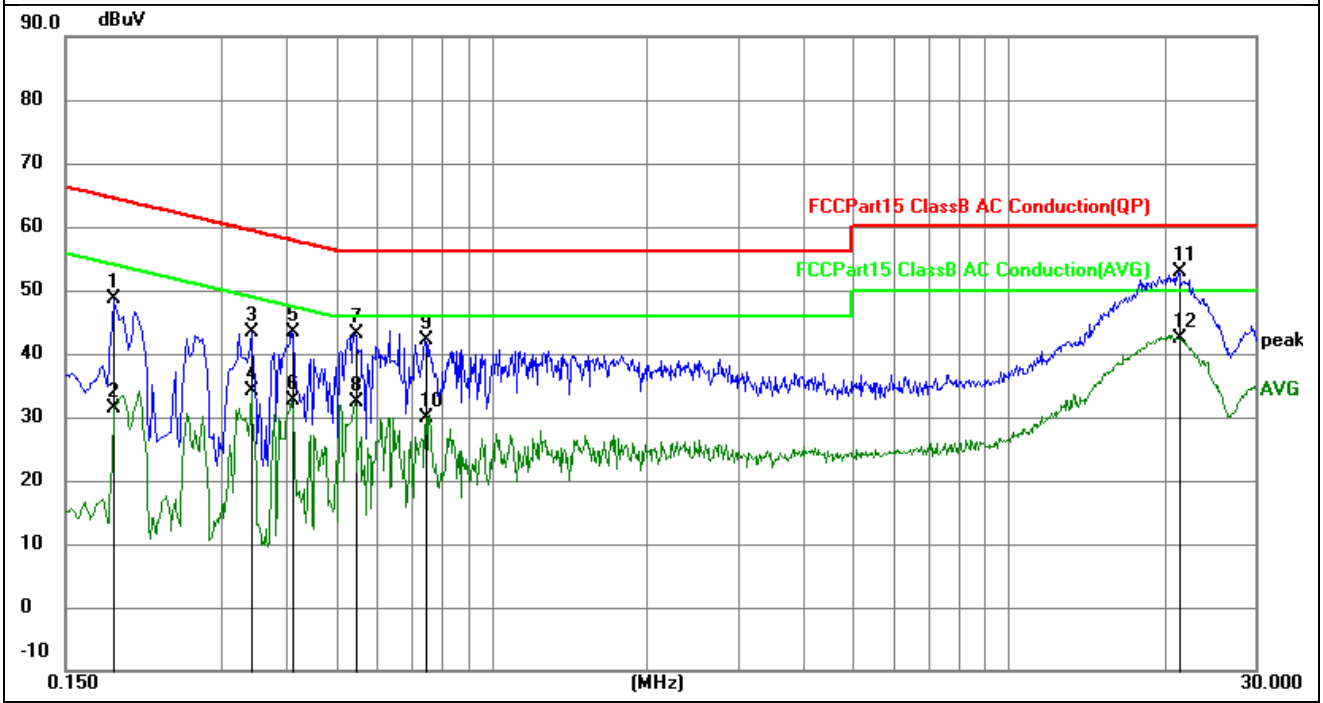
Measurement Result

Line:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2084	36.50	9.71	46.21	63.27	-17.06	QP
2	0.2084	27.05	9.71	36.76	53.27	-16.51	AVG
3	0.3209	32.71	9.73	42.44	59.68	-17.24	QP
4	0.3209	24.99	9.73	34.72	49.68	-14.96	AVG
5	0.5503	35.73	9.74	45.47	56.00	-10.53	QP
6	0.5503	28.18	9.74	37.92	46.00	-8.08	AVG
7	0.6312	35.68	9.74	45.42	56.00	-10.58	QP
8	0.6312	25.37	9.74	35.11	46.00	-10.89	AVG
9	0.7572	34.63	9.75	44.38	56.00	-11.62	QP
10	0.7572	25.05	9.75	34.80	46.00	-11.20	AVG
11	19.7880	45.69	9.37	55.06	60.00	-4.94	QP
12	19.7880	35.90	9.37	45.27	50.00	-4.73	AVG

Neutral:

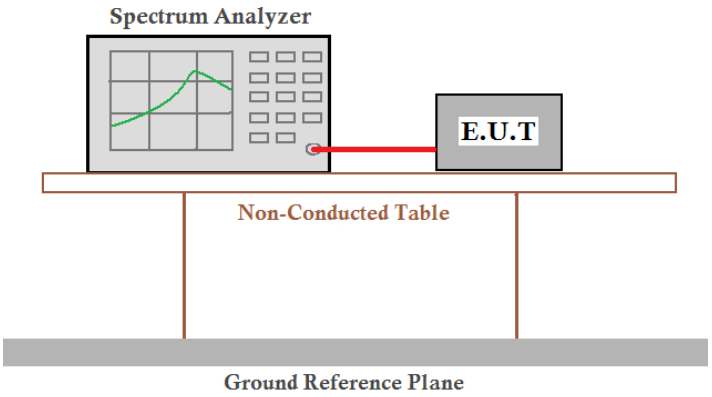


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1859	39.03	9.71	48.74	64.22	-15.48	QP
2	0.1859	21.70	9.71	31.41	54.22	-22.81	AVG
3	0.3435	33.75	9.73	43.48	59.12	-15.64	QP
4	0.3435	24.29	9.73	34.02	49.12	-15.10	AVG
5	0.4108	33.77	9.73	43.50	57.63	-14.13	QP
6	0.4108	23.02	9.73	32.75	47.63	-14.88	AVG
7	0.5459	33.37	9.74	43.11	56.00	-12.89	QP
8	0.5459	22.71	9.74	32.45	46.00	-13.55	AVG
9	0.7439	32.42	9.74	42.16	56.00	-13.84	QP
10	0.7439	20.18	9.74	29.92	46.00	-16.08	AVG
11	21.3313	43.57	9.20	52.77	60.00	-7.23	QP
12	21.3313	33.23	9.20	42.43	50.00	-7.57	AVG

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 =Receiver Read level + LISN Factor + Cable Loss
4. *If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.*

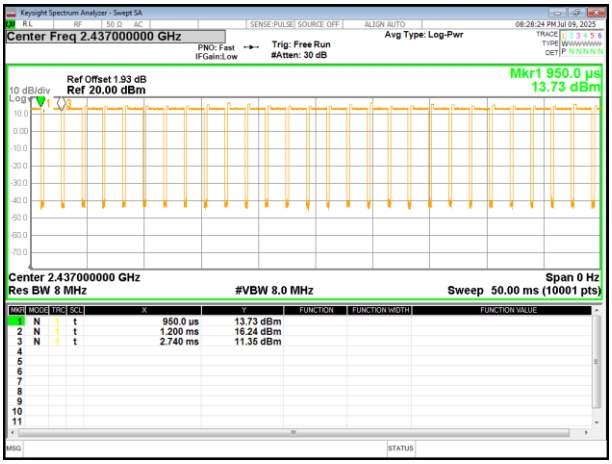
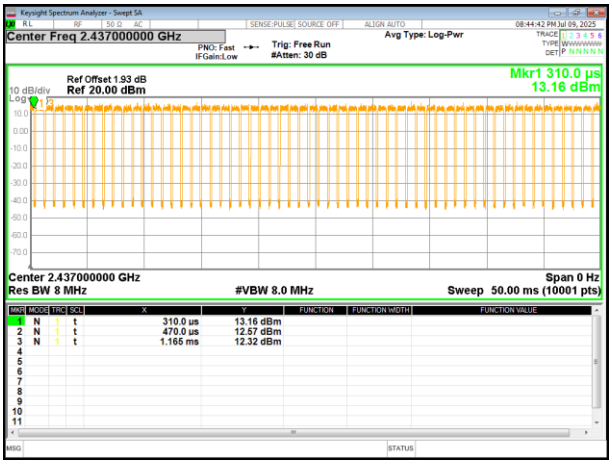
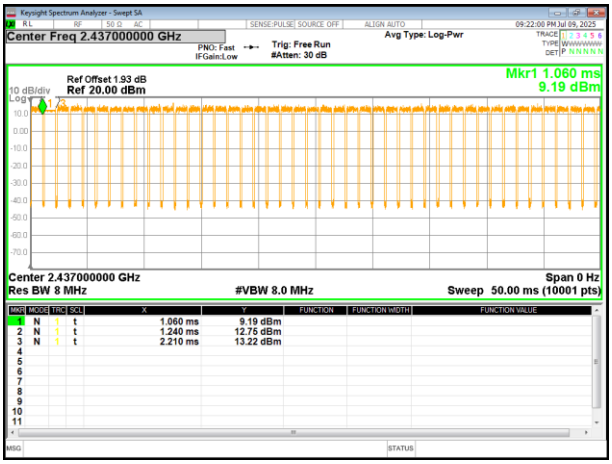
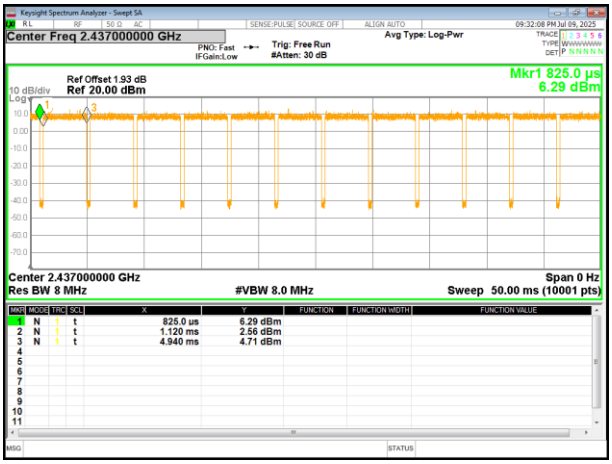
4.3 Duty cycle

Test Method :	ANSI C63.10:2013	
Limit:	/	
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.1°C	Humid.: 63%RH
Test voltage:	11.1V DC	
Test results:	Pass	

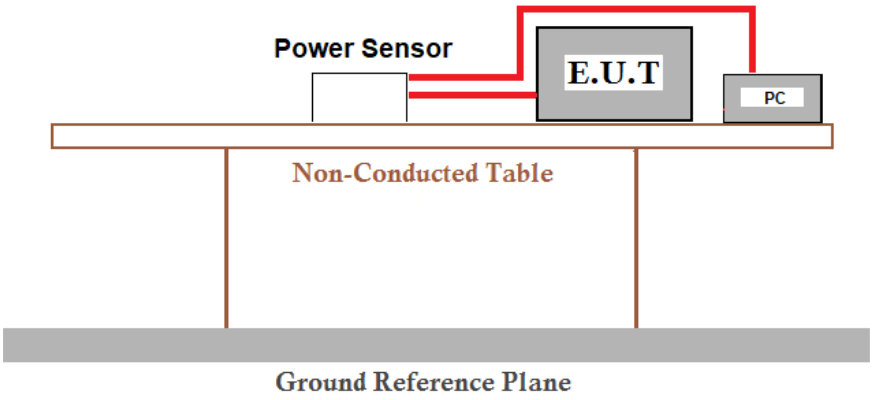
Measurement Result

Mode	Duty cycle (%)	Correction Factor (dB)
802.11b	86.03	0.65
802.11g	81.29	0.90
802.11n(HT20)	84.35	0.74
802.11n(HT40)	92.83	0.32

Test plot as follows:

802.11b	802.11g
	
802.11n20	802.11n40
	

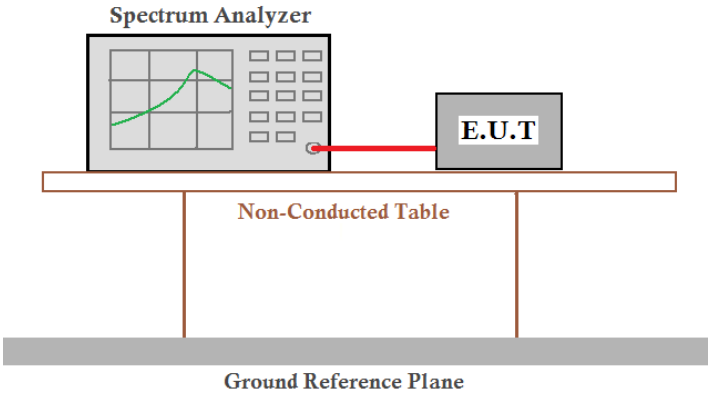
4.4 Peak Conducted Output Power

Test Requirement :	FCC Part15 C Section 15.247 (b)(3)	
Test Method :	ANSI C63.10:2013 and KDB558074 D01 15.247 Meas Guidance v05r02	
Limit:	30dBm for peak conducted output power	
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.1°C	Humid.: 63%RH
Test voltage:	11.1V DC	
Test results:	Pass	

Measurement Result see next page

Test CH	Peak Output Power (dBm)				Limit(dBm)	Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)		
Lowest	14.82	14.55	14.40	13.47	30.00	Pass
Middle	14.65	14.66	14.68	13.54		
Highest	14.54	14.67	14.59	13.72		

4.5 6dB Bandwidth

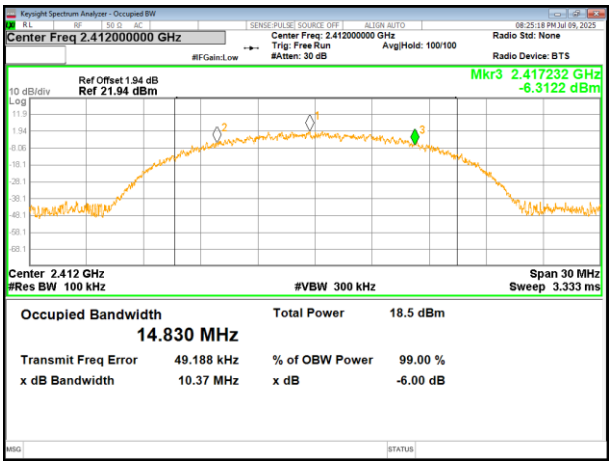
Test Requirement :	47CRF Part 15.247 (a)(2)	
Test Method :	ANSI C63.10:2013	
Limit:	>500KHz	
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.1°C	Humid.: 63%RH
Test voltage:	11.1V DC	
Test results:	Pass	

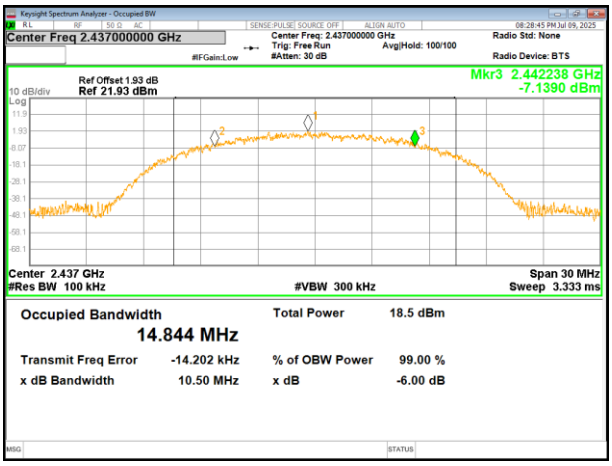
Measurement Result

Test CH	6dB Bandwidth (MHz)				Limit(KHz)	Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)		
Lowest	10.37	16.41	17.64	36.41	>500	Pass
Middle	10.51	16.41	17.59	36.43		
Highest	9.32	16.37	17.61	36.36		

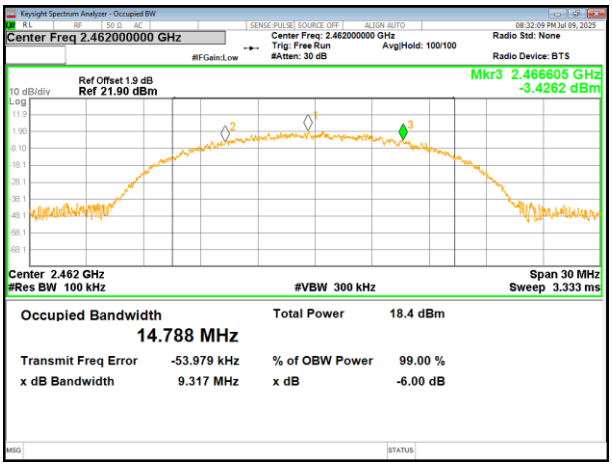
-6 Bandwidth dB Test plot as follows

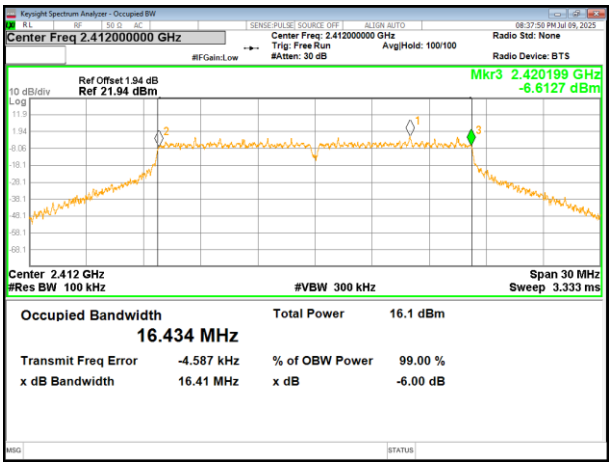
802.11b	Lowest channel	802.11b	Middle channel



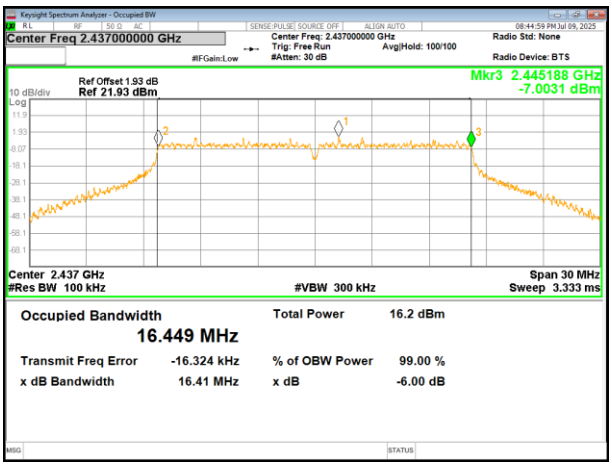


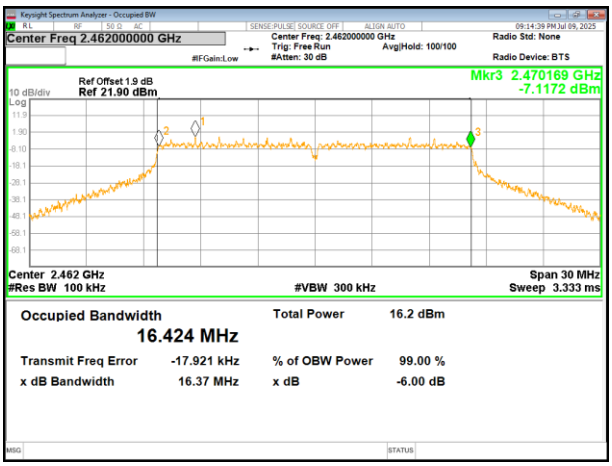
802.11b	Highest channel	802.11g	Lowest channel



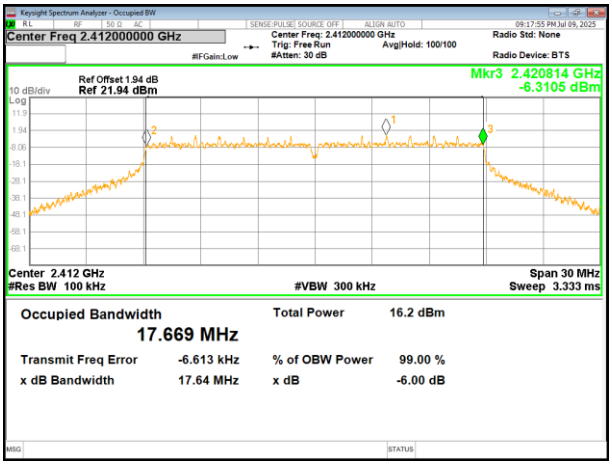


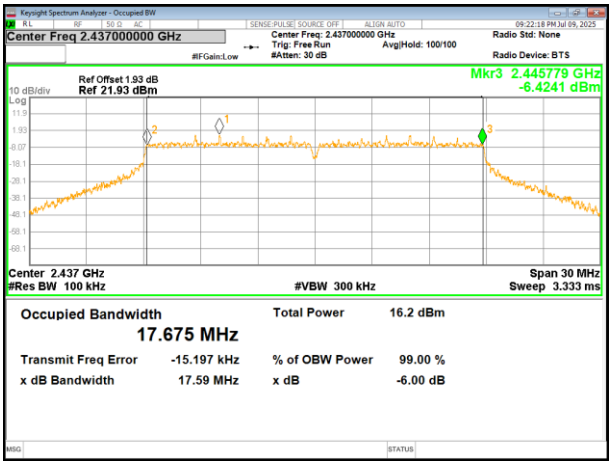
802.11g	Middle channel	802.11g	Highest channel



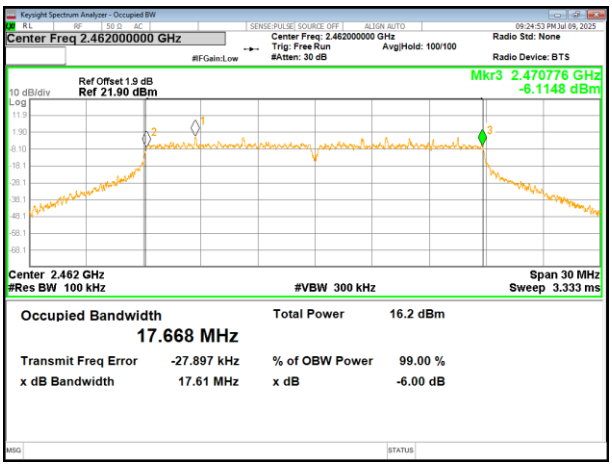


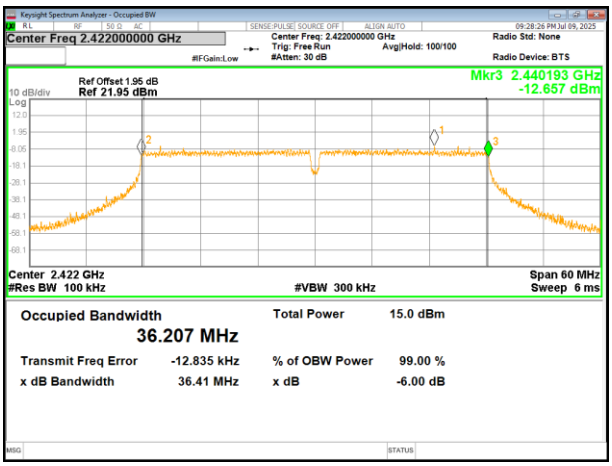
802.11n20	Lowest channel	802.n20	Middle channel



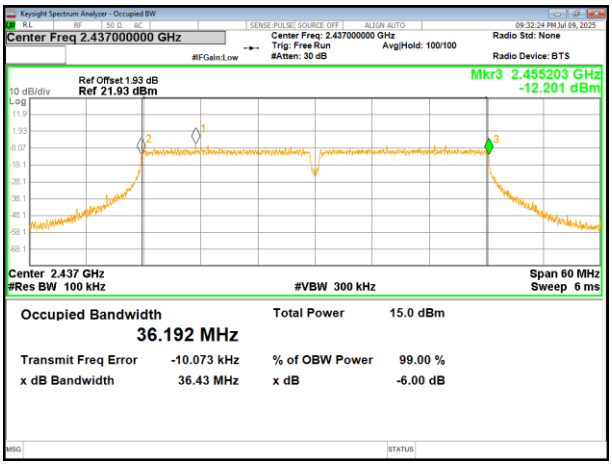


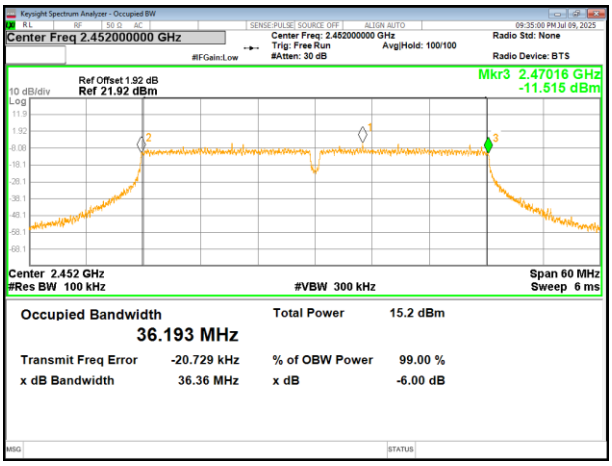
802.11n20	Highest channel	802.11n40	Lowest channel



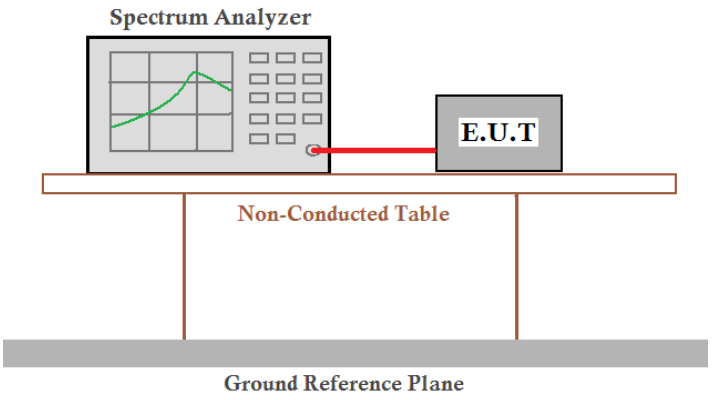


802.11n40	Middle channel	802.11n40	Highest channel





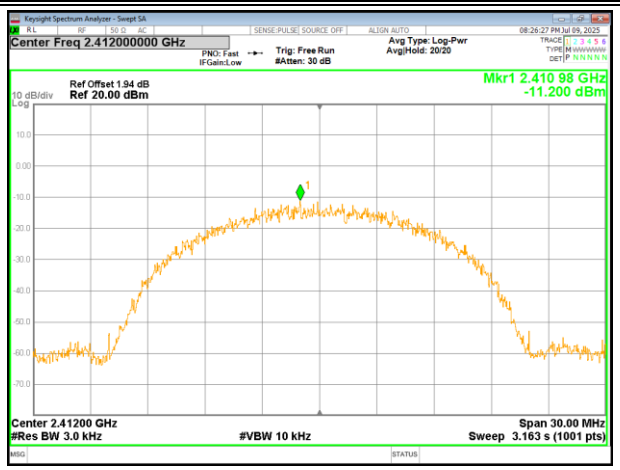
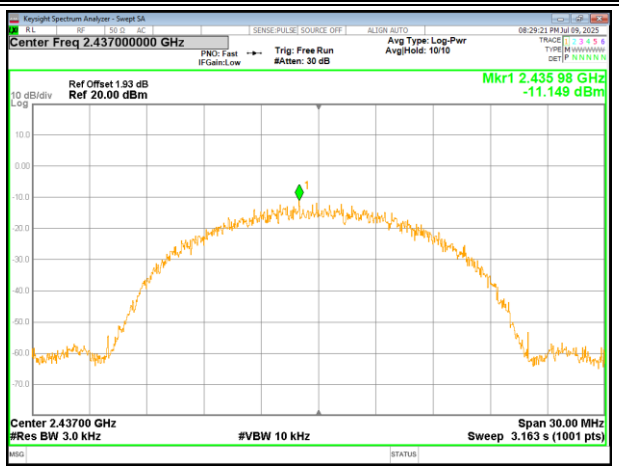
4.6 Power Spectral Density

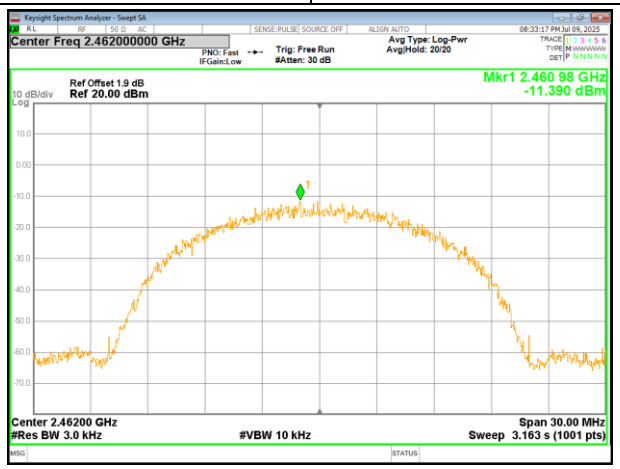
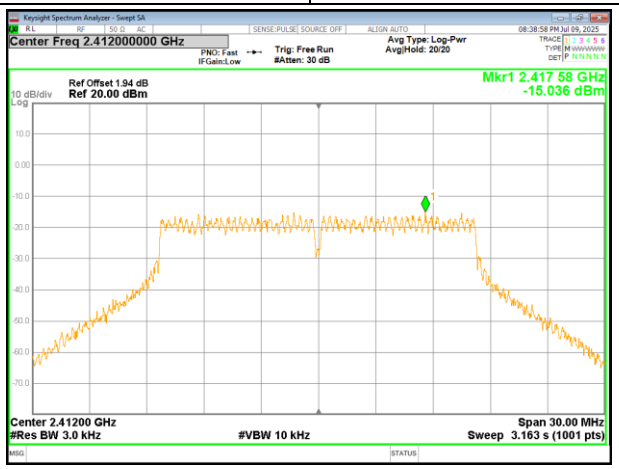
Test Requirement:	47CRF Part 15.247 (e)	
Test Method:	ANSI C63.10:2013 and KDB558074 D01 15.247 Meas Guidance v05r02	
Limit:	8dBm/3kHz	
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.1°C	Humid.: 63%RH
Test voltage:	11.1V DC	
Test results:	Pass	

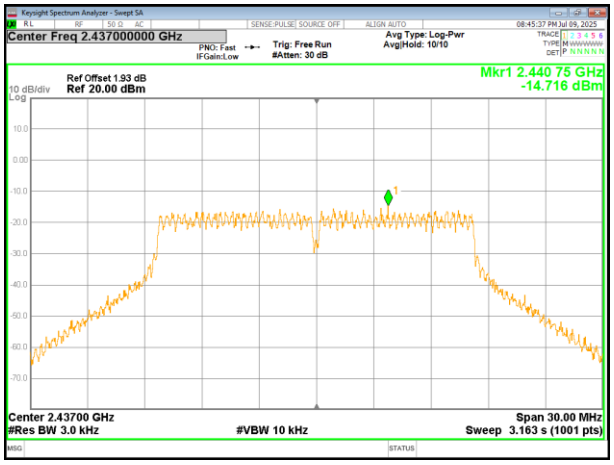
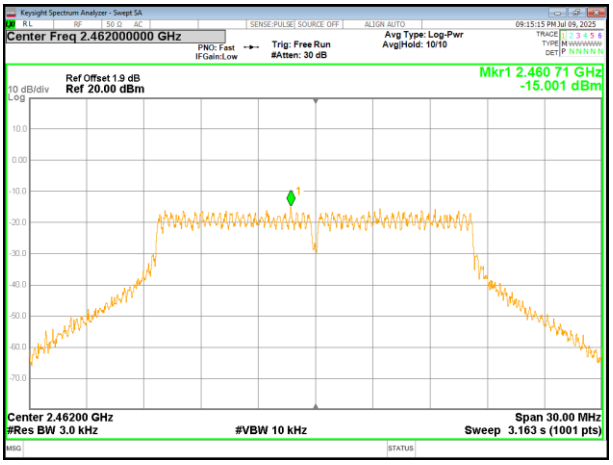
Measurement Result

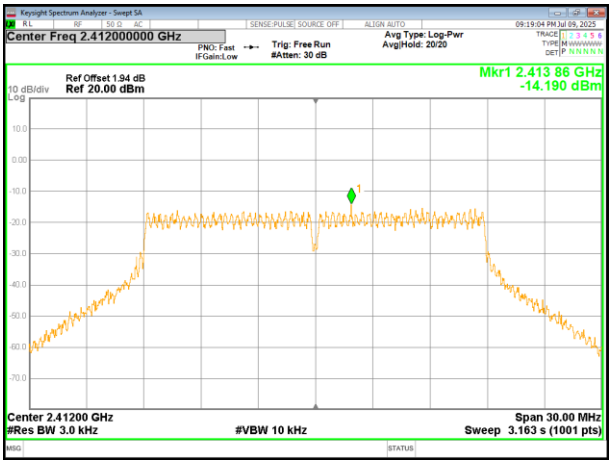
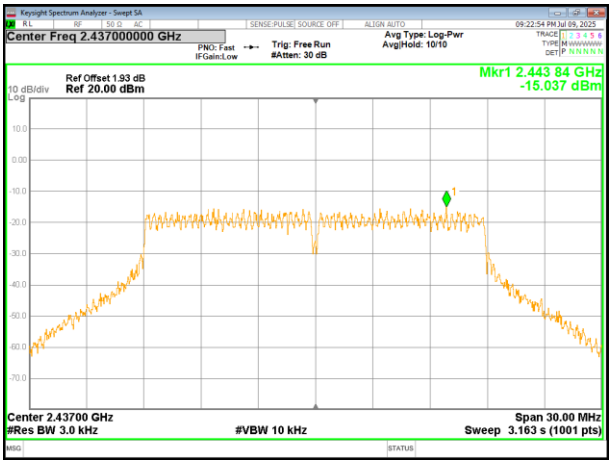
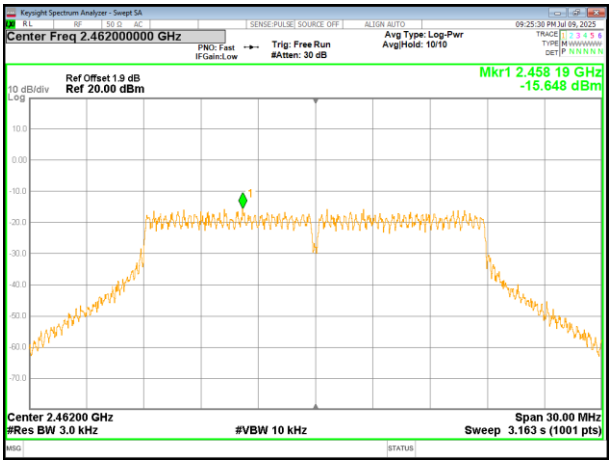
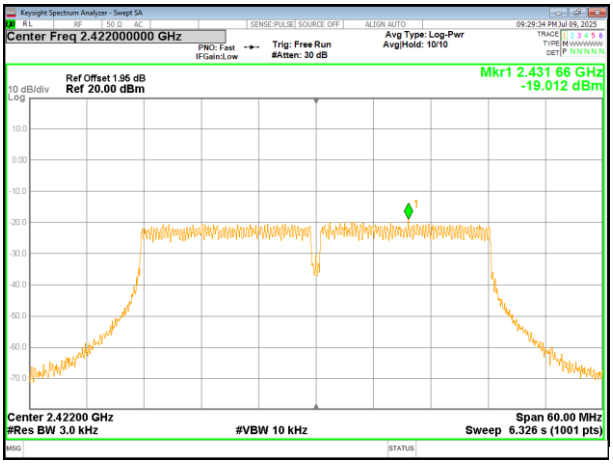
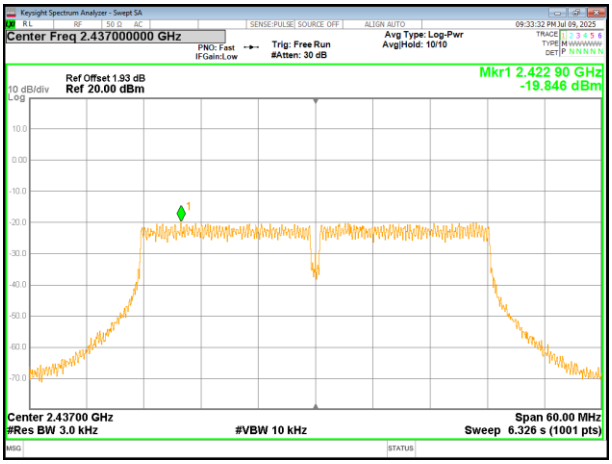
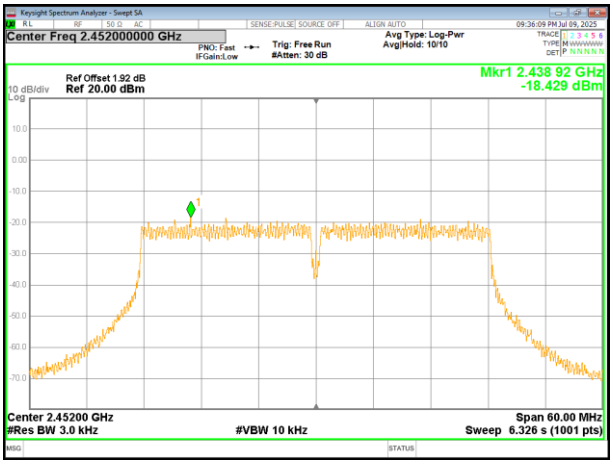
Test CH	Power Spectral Density (dBm/3kHz)				Limit (dBm/3kHz)	Result
	802.11b	802.11g	802.11n20	802.11n40		
Lowest	-11.200	-15.036	-14.190	-19.012	8.00	Pass
Middle	-11.149	-14.716	-15.037	-19.846		
Highest	-11.390	-15.001	-15.648	-18.429		

Test plot as follows:

802.11b	Lowest channel	802.11b	Middle channel
			

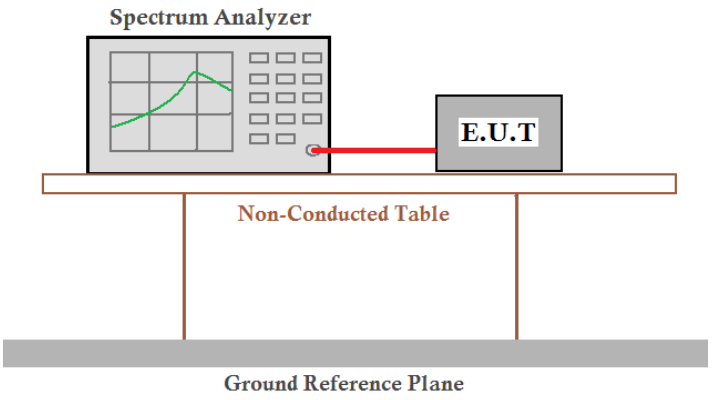
802.11b	Highest channel	802.11g	Lowest channel
			

802.11g	Middle channel	802.11g	Highest channel
			

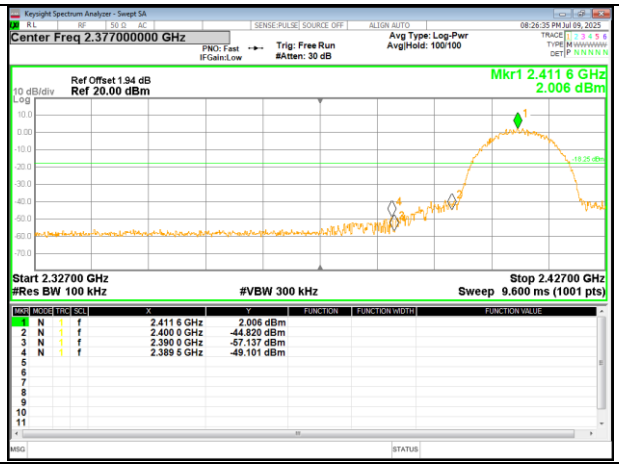
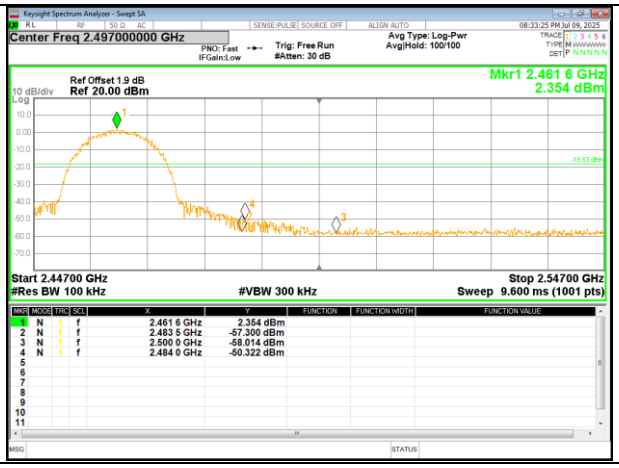
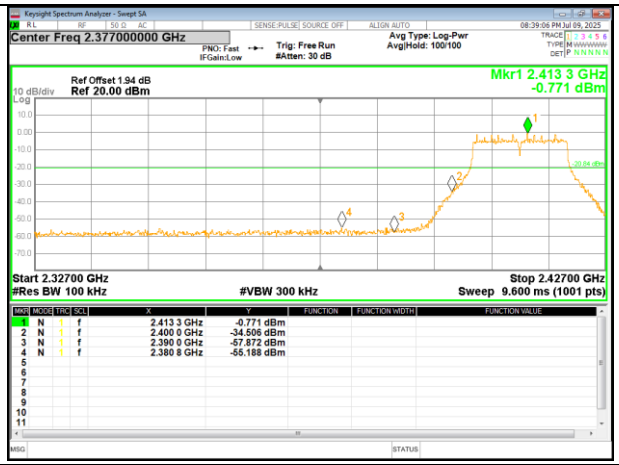
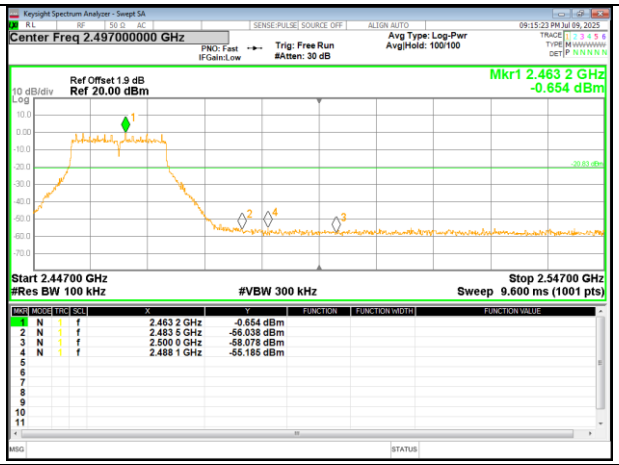
802.11n20	Lowest channel	802.11n20	Middle channel
			
802.11n20	Highest channel	802.11n40	Lowest channel
			
802.11n40	Middle channel	802.11n40	Highest channel
			

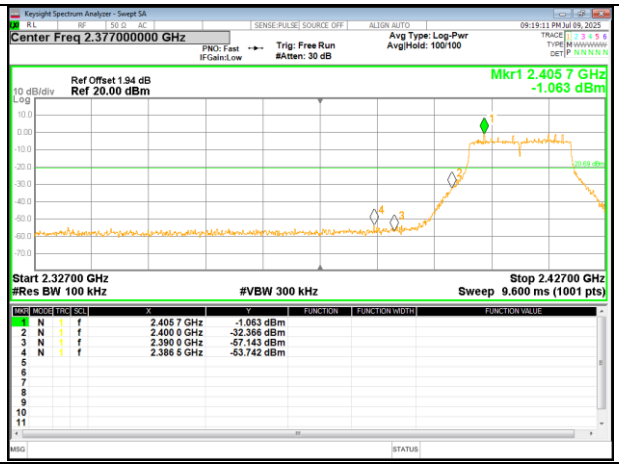
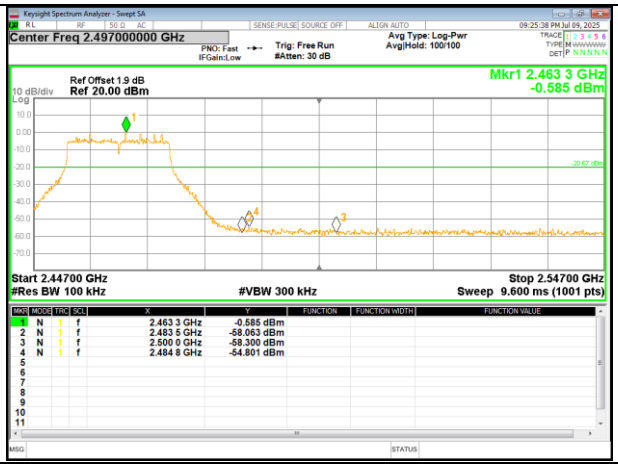
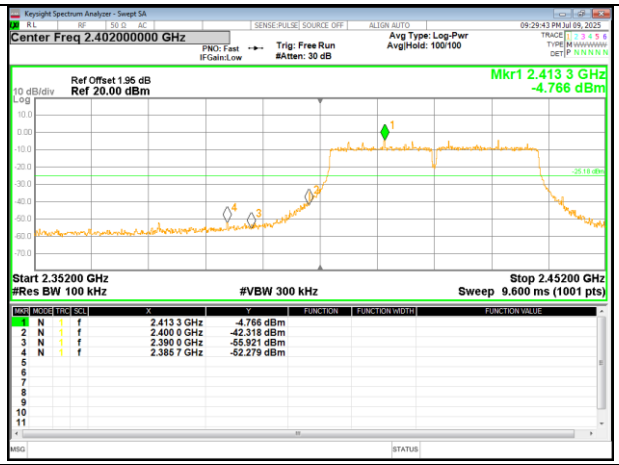
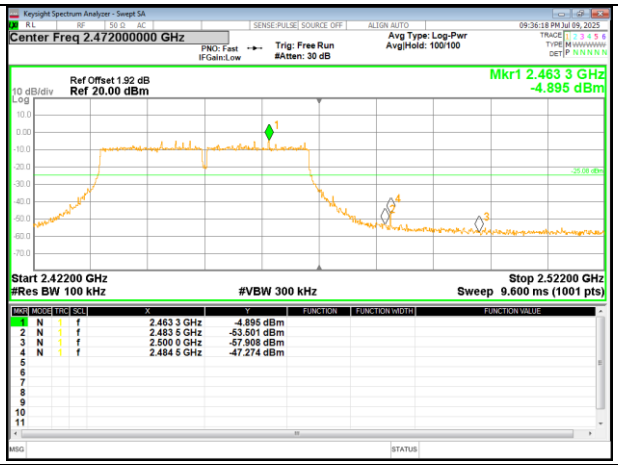
4.7 Band edges

Conducted Emission Method

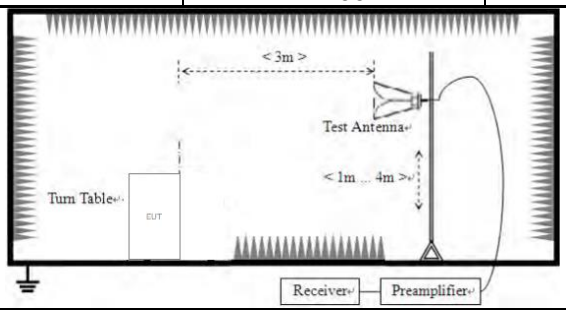
Test Requirement:	47CRF Part 15.247 (d)	
Test Method:	ANSI C63.10	
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.	
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.1°C	Humid.: 63%RH
Test voltage:	11.1V DC	
Test results:	Pass	

Test plot as follows:

Test mode:	802.11b
	
Lowest channel	Highest channel
Test mode:	802.11g
	
Lowest channel	Highest channel

Test mode:	802.11n20
	
Lowest channel	Highest channel
Test mode:	802.11n40
	
Lowest channel	Highest channel

Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td colspan="5">47CRF Part 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td colspan="5">ANSI C63.10: 2013</td></tr>
<tr><td>Test Frequency Range:</td><td colspan="5">All of the restrict bands were tested, only the worst band's (2310MHz to 2500MHz) data was showed.</td></tr>
<tr><td>Test site:</td><td colspan="5">Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td colspan="5"><table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak</td></tr>
<tr><td>Average</td><td>1MHz</td><td>3MHz</td><td>Average</td></tr>
</table></td></tr>
<tr><td>Limit:</td><td colspan="5"><table>
<tr><td colspan="2">Frequency</td><td>Limit (dBuV/m @3m)</td><td>Value</td></tr>
<tr><td colspan="2" rowspan="2">Above 1GHz</td><td>54.00</td><td>Average</td></tr>
<tr><td>74.00</td><td>Peak</td></tr>
</table></td></tr>
<tr><td>Test setup:</td><td colspan="5"> 
</td></tr>
<tr><td>Test Procedure:</td><td colspan="5">1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. 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.
4. 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 and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. 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.
7. The radiation measurements are performed in X, Y, Z axis positioning. And found the Y axis positioning which it is worse case, only the test worst case mode is recorded in the report.</td></tr>
<tr><td>Test Instruments:</td><td colspan="5">Refer to section 3.0 for details</td></tr>
<tr><td>Test mode:</td><td colspan="5">Refer to section 2.2 for details</td></tr>
<tr><td>Test environment:</td><td colspan="3">Temp.: 24.1°C</td><td colspan="2">Humid.: 63%RH</td></tr>
<tr><td>Test voltage:</td><td colspan="5">11.1V DC</td></tr>
<tr><td>Test results:</td><td colspan="5">Pass</td></tr>
</table>

Measurement data:

Test mode:	802.11b	Test channel:	Lowest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	67.10	-13.36	53.74	74.00	-20.26	Horizontal
2390.00	67.00	-13.03	53.97	74.00	-20.03	Horizontal
2310.00	66.83	-13.36	53.47	74.00	-20.53	Vertical
2390.00	69.32	-13.03	56.29	74.00	-17.71	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	59.40	-13.36	46.04	54.00	-7.96	Horizontal
2390.00	59.92	-13.03	46.89	54.00	-7.11	Horizontal
2310.00	59.46	-13.36	46.10	54.00	-7.90	Vertical
2390.00	60.15	-13.03	47.12	54.00	-6.88	Vertical

Test mode:	802.11b	Test channel:	Highest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	69.97	-12.64	57.33	74.00	-16.67	Horizontal
2500.00	68.34	-12.57	55.77	74.00	-18.23	Horizontal
2483.50	70.92	-12.64	58.28	74.00	-15.72	Vertical
2500.00	70.02	-12.57	57.45	74.00	-16.55	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	57.81	-12.64	45.17	54.00	-8.83	Horizontal
2500.00	56.14	-12.57	43.57	54.00	-10.43	Horizontal
2483.50	59.35	-12.64	46.71	54.00	-7.29	Vertical
2500.00	58.17	-12.57	45.60	54.00	-8.40	Vertical

Remarks:

1. *The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.*
2. *Final Level =Receiver Read level + Factor*
3. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

Test mode:	802.11g	Test channel:	Lowest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	66.96	-13.36	53.60	74.00	-20.40	Horizontal
2390.00	67.31	-13.03	54.28	74.00	-19.72	Horizontal
2310.00	66.78	-13.36	53.42	74.00	-20.58	Vertical
2390.00	67.25	-13.03	54.22	74.00	-19.78	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	55.06	-13.36	41.70	54.00	-12.30	Horizontal
2390.00	55.37	-13.03	42.34	54.00	-11.66	Horizontal
2310.00	55.41	-13.36	42.05	54.00	-11.95	Vertical
2390.00	56.45	-13.03	43.42	54.00	-10.58	Vertical

Test mode:	802.11g	Test channel:	Highest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	69.28	-12.64	56.64	74.00	-17.36	Horizontal
2500.00	66.76	-12.57	54.19	74.00	-19.81	Horizontal
2483.50	69.75	-12.64	57.11	74.00	-16.89	Vertical
2500.00	66.82	-12.57	54.25	74.00	-19.75	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	57.50	-12.64	44.86	54.00	-9.14	Horizontal
2500.00	55.37	-12.57	42.80	54.00	-11.20	Horizontal
2483.50	57.23	-12.64	44.59	54.00	-9.41	Vertical
2500.00	54.88	-12.57	42.31	54.00	-11.69	Vertical

Remarks:

1. *The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.*
2. *Final Level =Receiver Read level + Factor*
3. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

Test mode:	802.11n(HT20)	Test channel:	Lowest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	65.70	-13.36	52.34	74.00	-21.66	Horizontal
2390.00	67.31	-13.03	54.28	74.00	-19.72	Horizontal
2310.00	66.64	-13.36	53.28	74.00	-20.72	Vertical
2390.00	69.20	-13.03	56.17	74.00	-17.83	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	54.03	-13.36	40.67	54.00	-13.33	Horizontal
2390.00	55.84	-13.03	42.81	54.00	-11.19	Horizontal
2310.00	54.67	-13.36	41.31	54.00	-12.69	Vertical
2390.00	57.22	-13.03	44.19	54.00	-9.81	Vertical

Test mode:	802.11n(HT20)	Test channel:	Highest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	69.54	-12.64	56.90	74.00	-17.10	Horizontal
2500.00	67.03	-12.57	54.46	74.00	-19.54	Horizontal
2483.50	69.99	-12.64	57.35	74.00	-16.65	Vertical
2500.00	65.97	-12.57	53.40	74.00	-20.60	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	57.40	-12.64	44.76	54.00	-9.24	Horizontal
2500.00	55.33	-12.57	42.76	54.00	-11.24	Horizontal
2483.50	59.35	-12.64	46.71	54.00	-7.29	Vertical
2500.00	54.93	-12.57	42.36	54.00	-11.64	Vertical

Remarks:

1. *The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.*
2. *Final Level =Receiver Read level + Factor*
3. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

Test mode:	802.11n(HT40)	Test channel:	Lowest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	67.04	-13.36	53.68	74.00	-20.32	Horizontal
2390.00	67.54	-13.03	54.51	74.00	-19.49	Horizontal
2310.00	66.76	-13.36	53.40	74.00	-20.60	Vertical
2390.00	68.11	-13.03	55.08	74.00	-18.92	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	55.26	-13.36	41.90	54.00	-12.10	Horizontal
2390.00	86.30	-13.03	73.27	54.00	19.27	Horizontal
2310.00	55.23	-13.36	41.87	54.00	-12.13	Vertical
2390.00	56.51	-13.03	43.48	54.00	-10.52	Vertical

Test mode:	802.11n(HT40)	Test channel:	Highest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	68.94	-12.64	56.30	74.00	-17.70	Horizontal
2500.00	65.60	-12.57	53.03	74.00	-20.97	Horizontal
2483.50	70.10	-12.64	57.46	74.00	-16.54	Vertical
2500.00	66.60	-12.57	54.03	74.00	-19.97	Vertical

Average value:

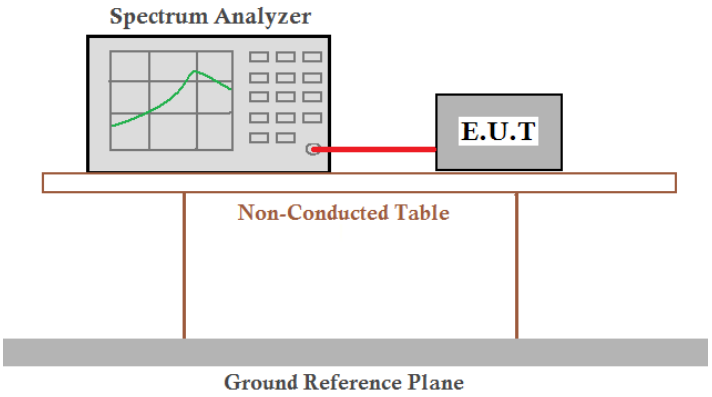
Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	57.29	-12.64	44.65	54.00	-9.35	Horizontal
2500.00	54.12	-12.57	41.55	54.00	-12.45	Horizontal
2483.50	57.81	-12.64	45.17	54.00	-8.83	Vertical
2500.00	55.24	-12.57	42.67	54.00	-11.33	Vertical

Remarks:

1. *The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.*
2. *Final Level =Receiver Read level + Factor*
3. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

4.8 Spurious Emission

Conducted Emission Method

Test Requirement:	47CRF Part 15.247 (d), 47CRF Part 15.209	
Test Method:	ANSI C63.10-2013	
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.	
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.1°C	Humid.: 63%RH
Test voltage:	11.1V DC	
Test results:	Pass	

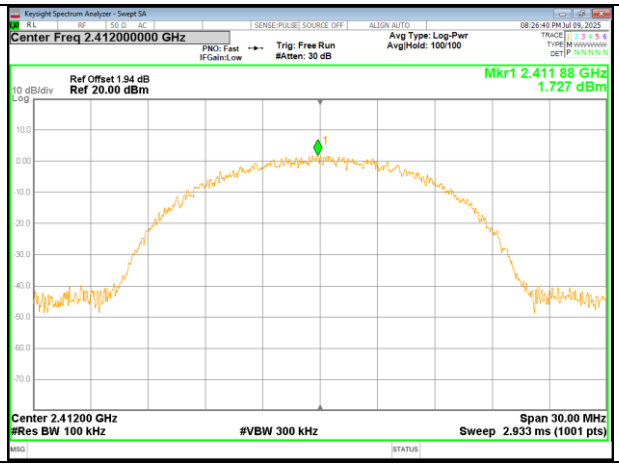
Remark:

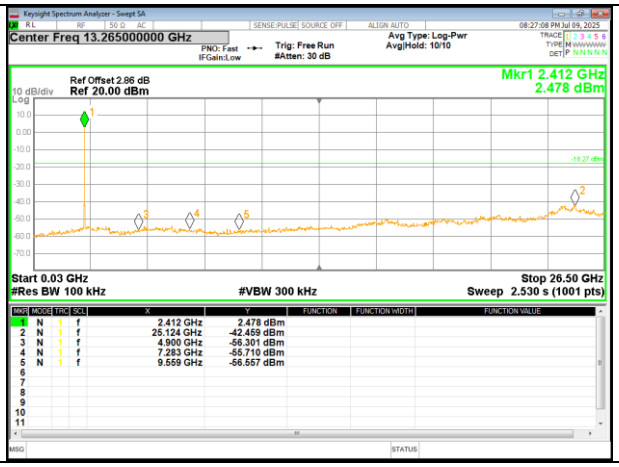
1. Cable loss data included in Offset.

Test plot as follows:

802.11b

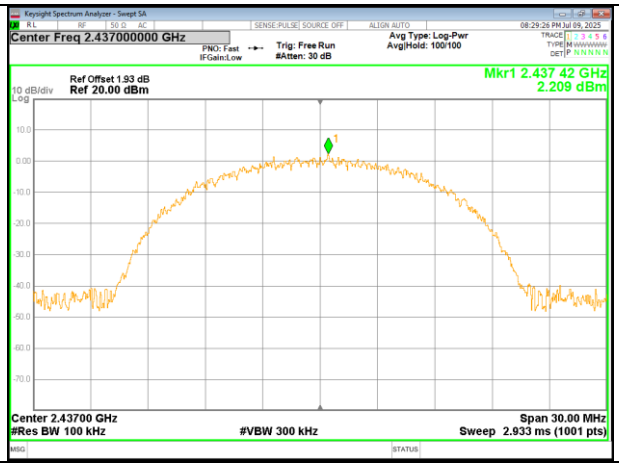
Lowest channel

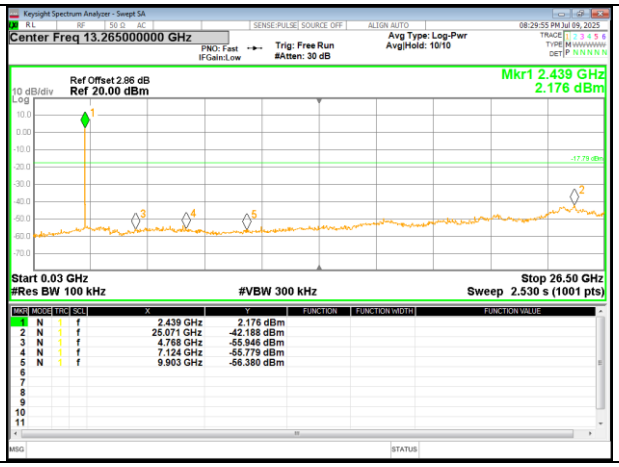




30MHz~25GHz

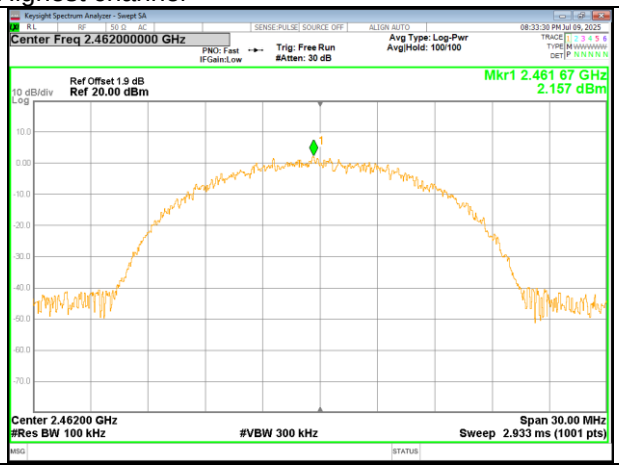
Middle channel

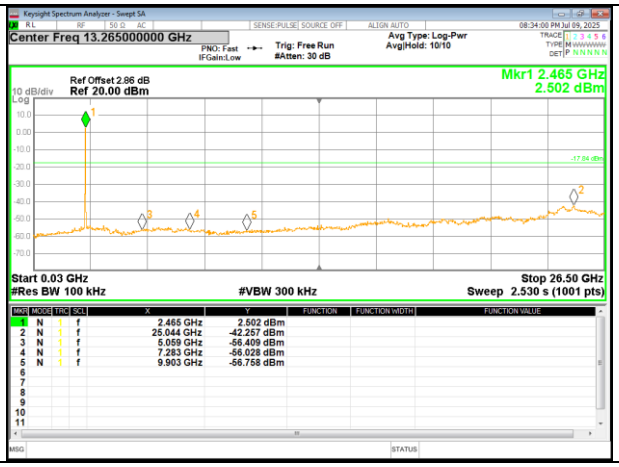




30MHz~25GHz

Highest channel

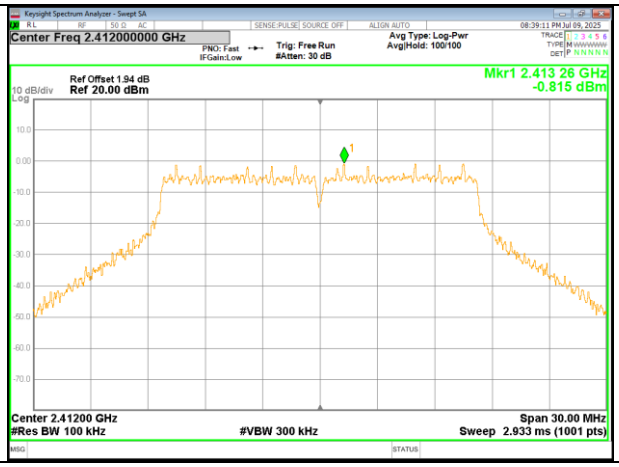


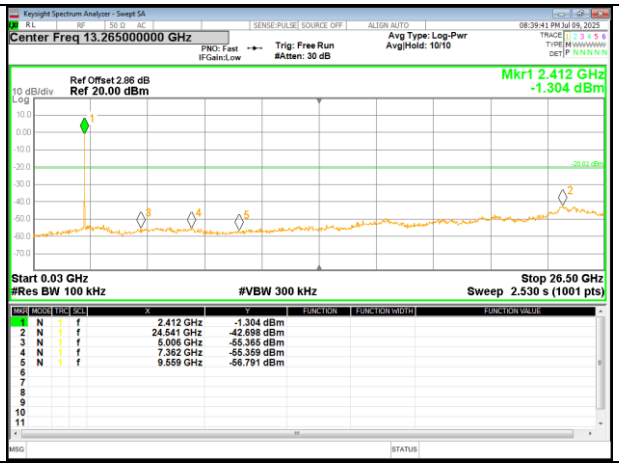


30MHz~25GHz

802.11g

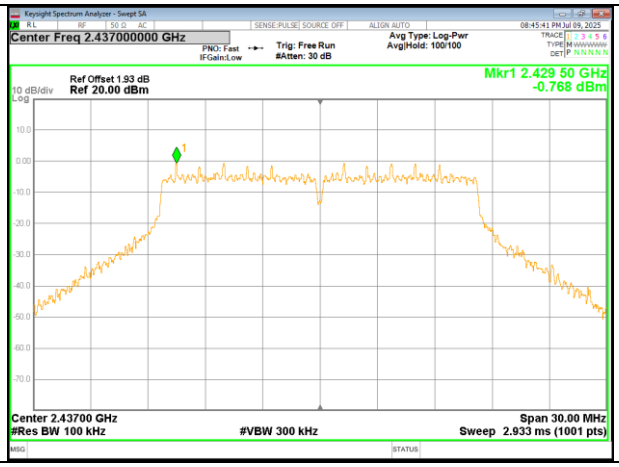
Lowest channel

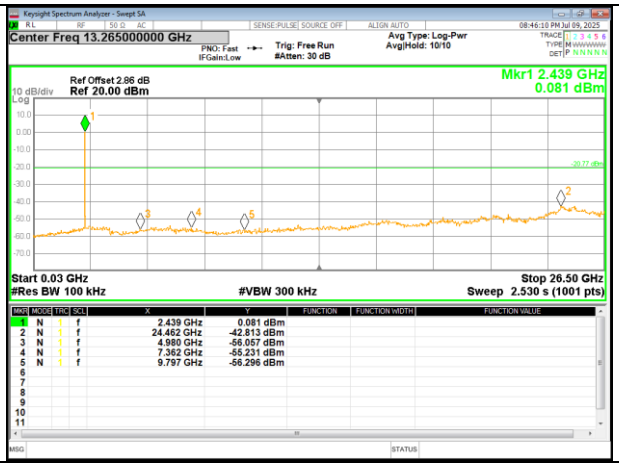




30MHz~25GHz

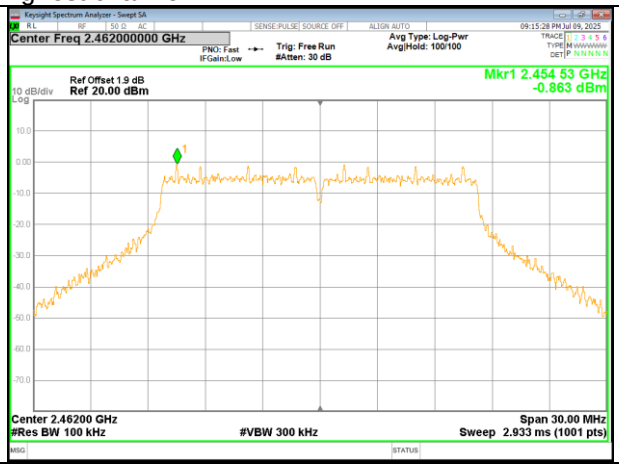
Middle channel

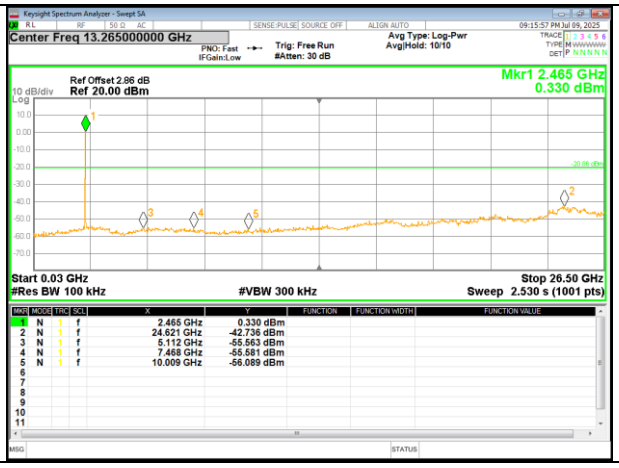




30MHz~25GHz

Highest channel

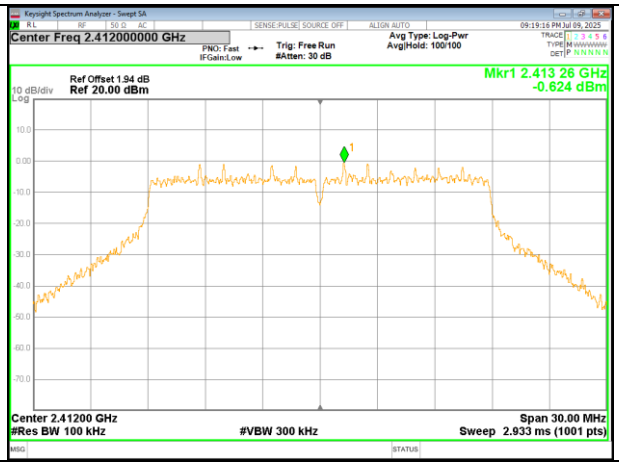


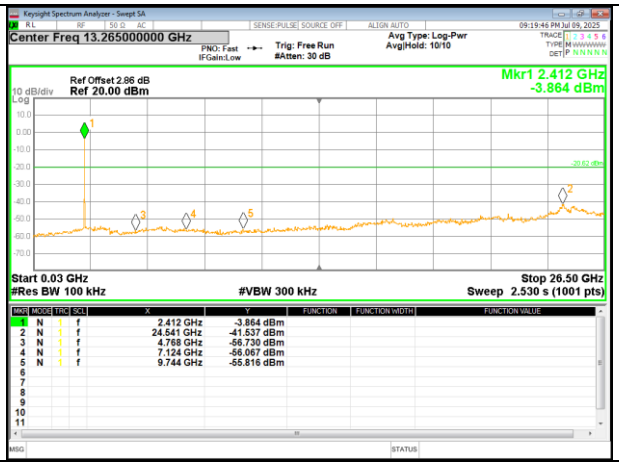


30MHz~25GHz

802.11n20

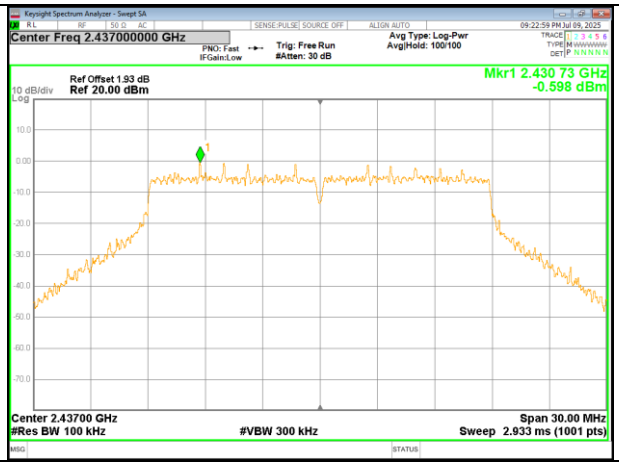
Lowest channel

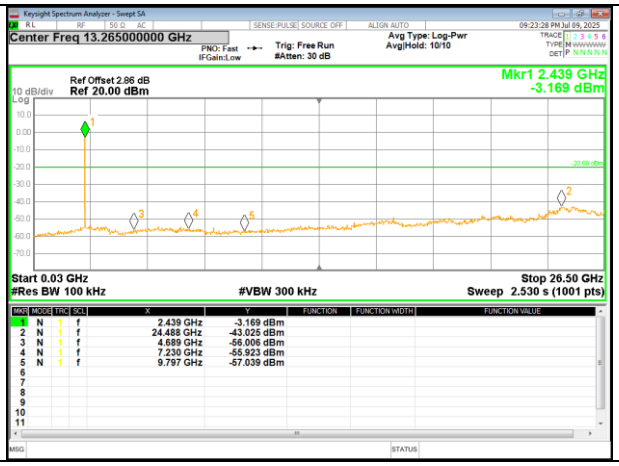




30MHz~25GHz

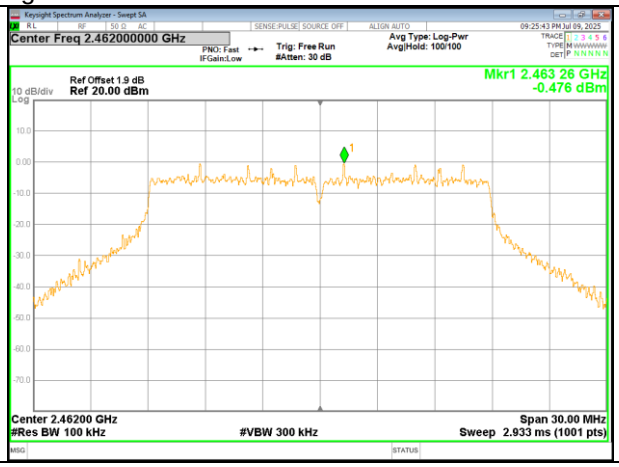
Middle channel

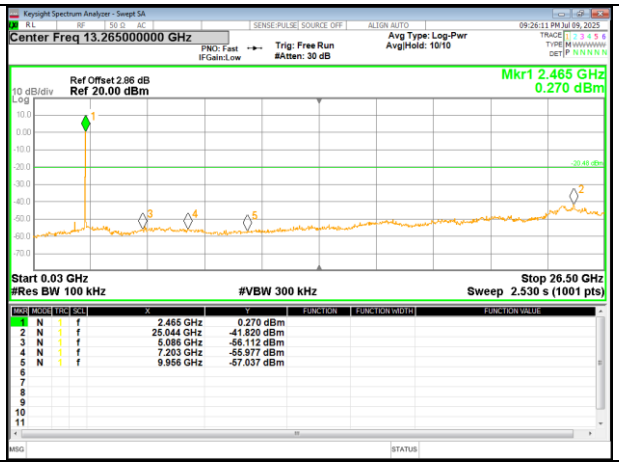




30MHz~25GHz

Highest channel

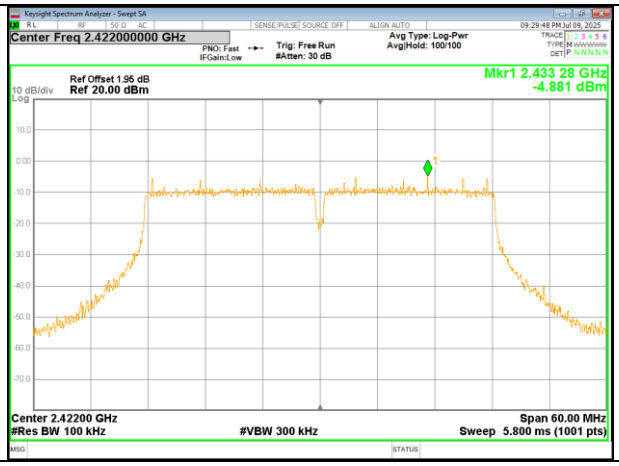


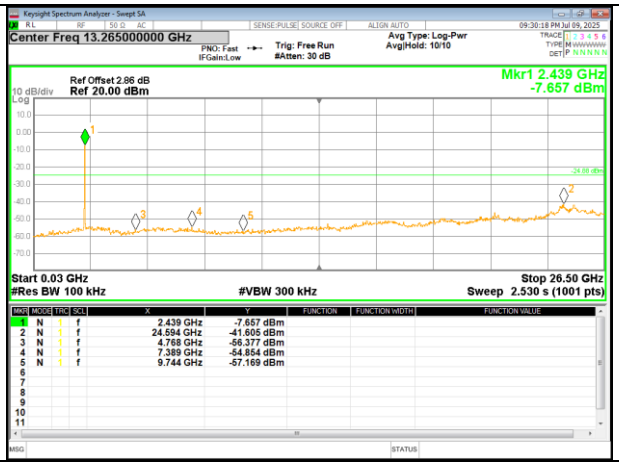


30MHz~25GHz

802.11n40

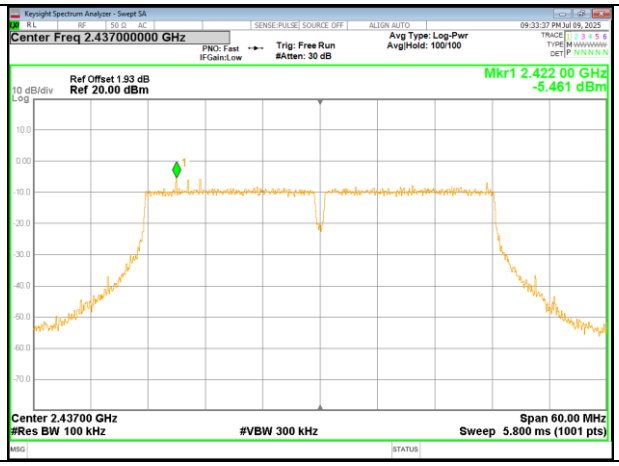
Lowest channel

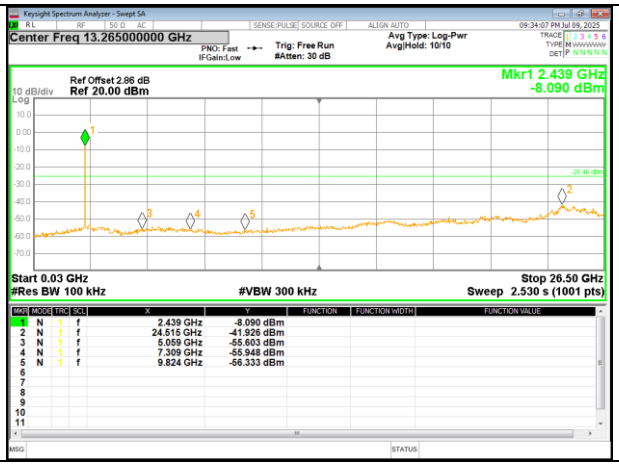




30MHz~25GHz

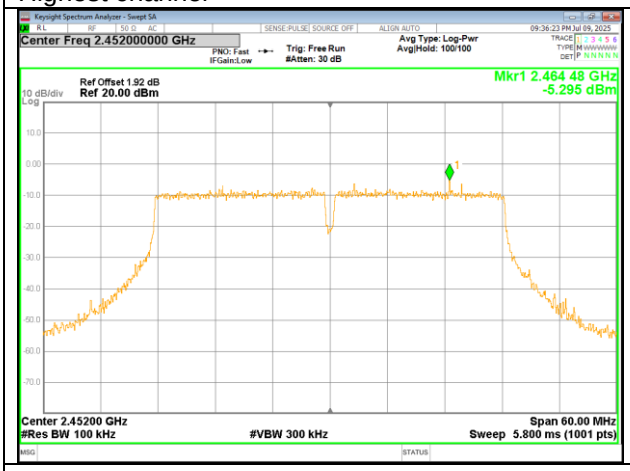
Middle channel

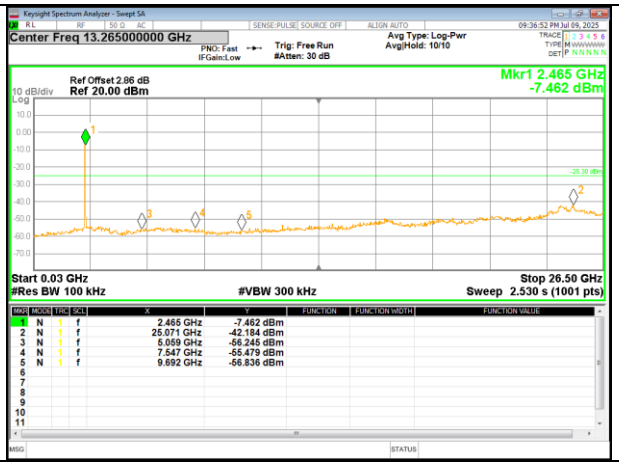




30MHz~25GHz

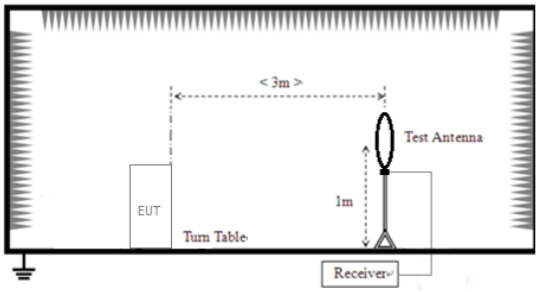
Highest channel

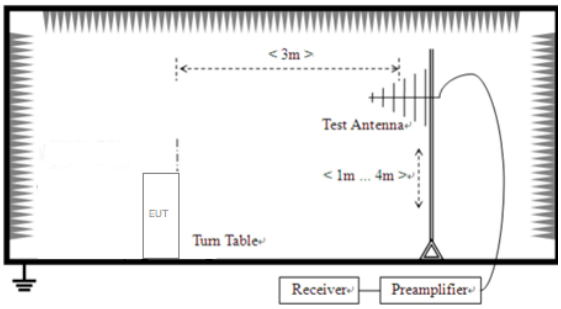




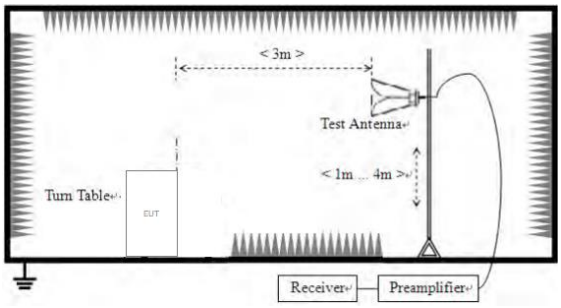
30MHz~25GHz

Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td>47CRF part 15.247(d),47CRF Part 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10: 2013</td></tr>
<tr><td>Test Frequency Range:</td><td>9kHz to 25GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Value</th></tr>
<tr><td>9KHz-150KHz</td><td>Quasi-peak</td><td>200Hz</td><td>600Hz</td><td>Quasi-peak</td></tr>
<tr><td>150KHz-30MHz</td><td>Quasi-peak</td><td>9KHz</td><td>30KHz</td><td>Quasi-peak</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>120KHz</td><td>300KHz</td><td>Quasi-peak</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency</th><th>Limit (uV/m)</th><th>Value</th><th>Measurement Distance</th></tr>
<tr><td>0.009MHz-0.490MHz</td><td>2400/F(KHz)</td><td>QP</td><td>300m</td></tr>
<tr><td>0.490MHz-1.705MHz</td><td>24000/F(KHz)</td><td>QP</td><td>300m</td></tr>
<tr><td>1.705MHz-30MHz</td><td>30</td><td>QP</td><td>30m</td></tr>
<tr><td>30MHz-88MHz</td><td>100</td><td>QP</td><td rowspan="6">3m</td></tr>
<tr><td>88MHz-216MHz</td><td>150</td><td>QP</td></tr>
<tr><td>216MHz-960MHz</td><td>200</td><td>QP</td></tr>
<tr><td>960MHz-1GHz</td><td>500</td><td>QP</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>500</td><td>Average</td></tr>
<tr><td>5000</td><td>Peak</td></tr>
</table>
</td></tr>
<tr><td>Test setup:</td><td>For radiated emissions from 9kHz to 30MHz
 

For radiated emissions from 30MHz to1GHz
 

For radiated emissions above 1GHz</td></tr>
</table>

	
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8m for below 1G and 1.5m for above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. 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. 4. 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 and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. 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.
Test Instruments:	Refer to section 3.0 for details
Test mode:	Refer to section 2.2 for details
Test results:	Pass

Remarks:

1. The report only shows the worst mode.

2. Pre-scan all kind of the place mode (X-axis, Y-(axis, Z-axis), and found the Y-axis which it is worse case.

Measurement data:

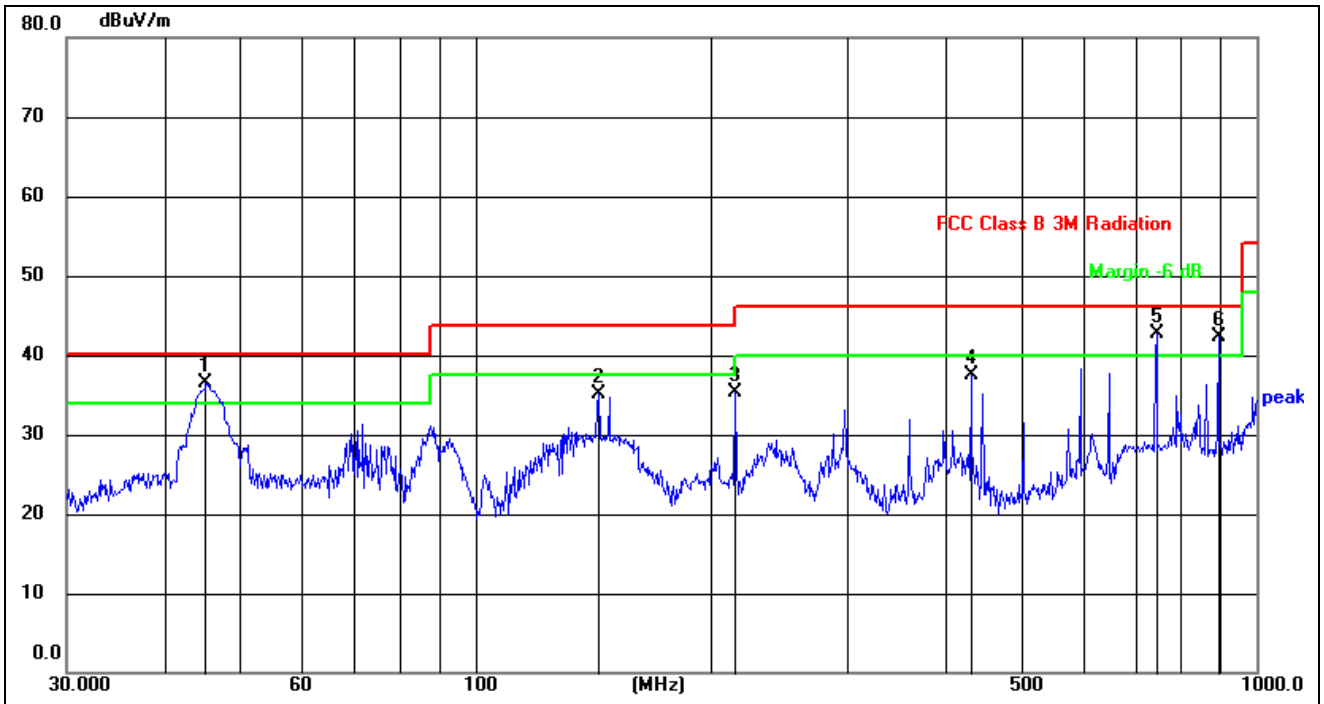
■ **9kHz~30MHz**

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), the test result no need to reported.

■ **Below 1GHz**

All mode has been tested, the report only shows the worst mode of 802.11b (2412MHz).

Test polarization:	Vertical	Test voltage:	DC11.1V From Battery
Temp.:	24.1°C	Humid.:	63%RH



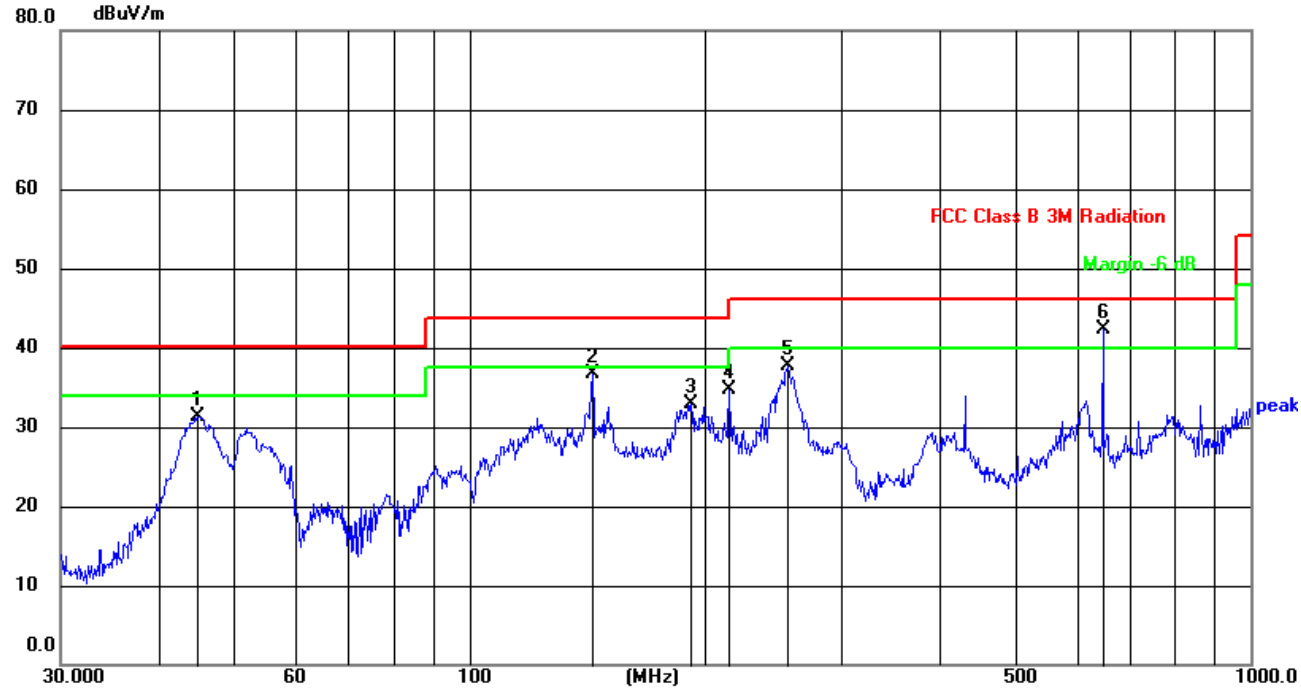
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	45.2165	57.76	-21.21	36.55	40.00	-3.45	QP
2	143.8293	56.24	-21.20	35.04	43.50	-8.46	QP
3	215.2676	58.82	-23.52	35.30	43.50	-8.20	QP
4	431.0314	53.52	-16.09	37.43	46.00	-8.57	QP
5	744.8659	50.85	-8.21	42.64	46.00	-3.36	QP
6	893.8564	47.85	-5.54	42.31	46.00	-3.69	QP

Remarks:

Level =Receiver Reading + Factor

Factor= Antenna Factor + Cable Factor – Preamplifier Factor

Test polarization:	Horizontal	Test voltage:	DC11.1V From Battery
Temp.:	21.4°C	Humid.:	63%RH



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	44.9004	52.58	-21.18	31.40	40.00	-8.60	QP
2	143.8294	57.85	-21.20	36.65	43.50	-6.85	QP
3	192.4183	56.06	-23.17	32.89	43.50	-10.61	QP
4	215.2677	58.23	-23.52	34.71	43.50	-8.79	QP
5	255.6230	59.93	-22.15	37.78	46.00	-8.22	QP
6	647.3855	52.63	-10.38	42.25	46.00	-3.75	QP

Remarks:

Level =Receiver Reading + Factor

Factor= Antenna Factor + Cable Factor – Preamplifier Factor

■ **1GHz-25GHz**

Temp.:	21.4°C	Humid.:	63%RH
Test voltage:	11.1V DC		

Test mode:	802.11b	Test channel:	Lowest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	55.29	-7.66	47.63	74.00	-26.37	Vertical
7236.00	49.87	-1.62	48.25	74.00	-25.75	Vertical
9648.00	48.18	1.27	49.45	74.00	-24.55	Vertical
12060.00	*	--	--	74.00	--	Vertical
14472.00	*	--	--	74.00	--	Vertical
16884.00	*	--	--	74.00	--	Vertical
4824.00	55.63	-7.66	47.97	74.00	-26.03	Horizontal
7236.00	50.97	-1.62	49.35	74.00	-24.65	Horizontal
9648.00	48.70	1.27	49.97	74.00	-24.03	Horizontal
12060.00	*	--	--	74.00	--	Horizontal
14472.00	*	--	--	74.00	--	Horizontal
16884.00	*	--	--	74.00	--	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	43.98	-7.66	36.32	54.00	-17.68	Vertical
7236.00	38.61	-1.62	36.99	54.00	-17.01	Vertical
9648.00	37.87	1.27	39.14	54.00	-14.86	Vertical
12060.00	*	--	--	54.00	--	Vertical
14472.00	*	--	--	54.00	--	Vertical
16884.00	*	--	--	54.00	--	Vertical
4824.00	44.80	-7.66	37.14	54.00	-16.86	Horizontal
7236.00	40.36	-1.62	38.74	54.00	-15.26	Horizontal
9648.00	38.13	1.27	39.40	54.00	-14.60	Horizontal
12060.00	*	--	--	54.00	--	Horizontal
14472.00	*	--	--	54.00	--	Horizontal
16884.00	*	--	--	54.00	--	Horizontal

Remark:

1. *Level = Read level + Factor*
2. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
3. *"*", means this data is the too weak instrument of signal is unable to test.*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

Test mode:	802.11b	Test channel:	Middle

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	55.48	-7.58	47.90	74.00	-26.10	Vertical
7311.00	48.42	-1.40	47.02	74.00	-26.98	Vertical
9748.00	48.71	1.20	49.91	74.00	-24.09	Vertical
12185.00	*	--	--	74.00	--	Vertical
14622.00	*	--	--	74.00	--	Vertical
17059.00	*	--	--	74.00	--	Vertical
4874.00	55.37	-7.58	47.79	74.00	-26.21	Horizontal
7311.00	50.11	-1.40	48.71	74.00	-25.29	Horizontal
9748.00	48.89	1.20	50.09	74.00	-23.91	Horizontal
12185.00	*	--	--	74.00	--	Horizontal
14622.00	*	--	--	74.00	--	Horizontal
17059.00	*	--	--	74.00	--	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	44.52	-7.58	36.94	54.00	-17.06	Vertical
7311.00	38.99	-1.40	37.59	54.00	-16.41	Vertical
9748.00	37.29	1.20	38.49	54.00	-15.51	Vertical
12185.00	*	--	--	54.00	--	Vertical
14622.00	*	--	--	54.00	--	Vertical
17059.00	*	--	--	54.00	--	Vertical
4874.00	45.21	-7.58	37.63	54.00	-16.37	Horizontal
7311.00	40.82	-1.40	39.42	54.00	-14.58	Horizontal
9748.00	37.82	1.20	39.02	54.00	-14.98	Horizontal
12185.00	*	--	--	54.00	--	Horizontal
14622.00	*	--	--	54.00	--	Horizontal
17059.00	*	--	--	54.00	--	Horizontal

Remark:

1. *Level = Read level + Factor*
2. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
3. *"*", means this data is the too weak instrument of signal is unable to test.*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

Test mode:	802.11b	Test channel:	Highest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	55.74	-7.49	48.25	74.00	-25.75	Vertical
7386.00	48.75	-1.18	47.57	74.00	-26.43	Vertical
9848.00	48.61	1.12	49.73	74.00	-24.27	Vertical
12310.00	*	--	--	74.00	--	Vertical
14772.00	*	--	--	74.00	--	Vertical
17234.00	*	--	--	74.00	--	Vertical
4924.00	55.33	-7.49	47.84	74.00	-26.16	Horizontal
7386.00	49.30	-1.18	48.12	74.00	-25.88	Horizontal
9848.00	48.33	1.12	49.45	74.00	-24.55	Horizontal
12310.00	*	--	--	74.00	--	Horizontal
14772.00	*	--	--	74.00	--	Horizontal
17234.00	*	--	--	74.00	--	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	44.54	-7.49	37.05	54.00	-16.95	Vertical
7386.00	38.78	-1.18	37.60	54.00	-16.40	Vertical
9848.00	38.12	1.12	39.24	54.00	-14.76	Vertical
12310.00	*	--	--	54.00	--	Vertical
14772.00	*	--	--	54.00	--	Vertical
17234.00	*	--	--	54.00	--	Vertical
4924.00	44.85	-7.49	37.36	54.00	-16.64	Horizontal
7386.00	40.26	-1.18	39.08	54.00	-14.92	Horizontal
9848.00	37.56	1.12	38.68	54.00	-15.32	Horizontal
12310.00	*	--	--	54.00	--	Horizontal
14772.00	*	--	--	54.00	--	Horizontal
17234.00	*	--	--	54.00	--	Horizontal

Remark:

1. *Level = Read level + Factor*
2. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
3. *"*", means this data is the too weak instrument of signal is unable to test.*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

Test mode:	802.11g	Test channel:	lowest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	55.83	-7.66	48.17	74.00	-25.83	Vertical
7236.00	50.38	-1.62	48.76	74.00	-25.24	Vertical
9648.00	47.85	1.27	49.12	74.00	-24.88	Vertical
12060.00	*	--	--	74.00	--	Vertical
14472.00	*	--	--	74.00	--	Vertical
16884.00	*	--	--	74.00	--	Vertical
4824.00	54.74	-7.66	47.08	74.00	-26.92	Horizontal
7236.00	48.81	-1.62	47.19	74.00	-26.81	Horizontal
9648.00	47.21	1.27	48.48	74.00	-25.52	Horizontal
12060.00	*	--	--	74.00	--	Horizontal
14472.00	*	--	--	74.00	--	Horizontal
16884.00	*	--	--	74.00	--	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	44.71	-7.66	37.05	54.00	-16.95	Vertical
7236.00	38.42	-1.62	36.80	54.00	-17.20	Vertical
9648.00	37.15	1.27	38.42	54.00	-15.58	Vertical
12060.00	*	--	--	54.00	--	Vertical
14472.00	*	--	--	54.00	--	Vertical
16884.00	*	--	--	54.00	--	Vertical
4824.00	44.80	-7.66	37.14	54.00	-16.86	Horizontal
7236.00	40.36	-1.62	38.74	54.00	-15.26	Horizontal
9648.00	38.13	1.27	39.40	54.00	-14.60	Horizontal
12060.00	*	--	--	54.00	--	Horizontal
14472.00	*	--	--	54.00	--	Horizontal
16884.00	*	--	--	54.00	--	Horizontal

Remark:

1. *Level = Read level + Factor*
2. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
3. *"*", means this data is the too weak instrument of signal is unable to test.*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

Test mode:	802.11g	Test channel:	Middle

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	55.63	-7.58	48.05	74.00	-25.95	Vertical
7311.00	50.35	-1.40	48.95	74.00	-25.05	Vertical
9748.00	47.44	1.20	48.64	74.00	-25.36	Vertical
12185.00	*	--	--	74.00	--	Vertical
14622.00	*	--	--	74.00	--	Vertical
17059.00	*	--	--	74.00	--	Vertical
4874.00	55.16	-7.58	47.58	74.00	-26.42	Horizontal
7311.00	50.07	-1.40	48.67	74.00	-25.33	Horizontal
9748.00	47.89	1.20	49.09	74.00	-24.91	Horizontal
12185.00	*	--	--	74.00	--	Horizontal
14622.00	*	--	--	74.00	--	Horizontal
17059.00	*	--	--	74.00	--	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	44.10	-7.58	36.52	54.00	-17.48	Vertical
7311.00	39.74	-1.40	38.34	54.00	-15.66	Vertical
9748.00	37.87	1.20	39.07	54.00	-14.93	Vertical
12185.00	*	--	--	54.00	--	Vertical
14622.00	*	--	--	54.00	--	Vertical
17059.00	*	--	--	54.00	--	Vertical
4874.00	44.31	-7.58	36.73	54.00	-17.27	Horizontal
7311.00	39.18	-1.40	37.78	54.00	-16.22	Horizontal
9748.00	36.69	1.20	37.89	54.00	-16.11	Horizontal
12185.00	*	--	--	54.00	--	Horizontal
14622.00	*	--	--	54.00	--	Horizontal
17059.00	*	--	--	54.00	--	Horizontal

Remark:

1. *Level = Read level + Factor*
2. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
3. *"*", means this data is the too weak instrument of signal is unable to test.*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

Test mode:	802.11g	Test channel:	Highest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	55.67	-7.49	48.18	74.00	-25.82	Vertical
7386.00	49.97	-1.18	48.79	74.00	-25.21	Vertical
9848.00	47.94	1.12	49.06	74.00	-24.94	Vertical
12310.00	*	--	--	74.00	--	Vertical
14772.00	*	--	--	74.00	--	Vertical
17234.00	*	--	--	74.00	--	Vertical
4924.00	56.01	-7.49	48.52	74.00	-25.48	Horizontal
7386.00	48.84	-1.18	47.66	74.00	-26.34	Horizontal
9848.00	47.98	1.12	49.10	74.00	-24.90	Horizontal
12310.00	*	--	--	74.00	--	Horizontal
14772.00	*	--	--	74.00	--	Horizontal
17234.00	*	--	--	74.00	--	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	44.20	-7.49	36.71	54.00	-17.29	Vertical
7386.00	38.49	-1.18	37.31	54.00	-16.69	Vertical
9848.00	37.91	1.12	39.03	54.00	-14.97	Vertical
12310.00	*	--	--	54.00	--	Vertical
14772.00	*	--	--	54.00	--	Vertical
17234.00	*	--	--	54.00	--	Vertical
4924.00	44.54	-7.49	37.05	54.00	-16.95	Horizontal
7386.00	39.57	-1.18	38.39	54.00	-15.61	Horizontal
9848.00	36.95	1.12	38.07	54.00	-15.93	Horizontal
12310.00	*	--	--	54.00	--	Horizontal
14772.00	*	--	--	54.00	--	Horizontal
17234.00	*	--	--	54.00	--	Horizontal

Remark:

1. *Level = Read level + Factor*
2. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
3. *"*", means this data is the too weak instrument of signal is unable to test.*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

Test mode:	802.11n20	Test channel:	Lowest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	54.84	-7.66	47.18	74.00	-26.82	Vertical
7236.00	50.15	-1.62	48.53	74.00	-25.47	Vertical
9648.00	47.84	1.27	49.11	74.00	-24.89	Vertical
12060.00	*	--	--	74.00	--	Vertical
14472.00	*	--	--	74.00	--	Vertical
16884.00	*	--	--	74.00	--	Vertical
4824.00	55.34	-7.66	47.68	74.00	-26.32	Horizontal
7236.00	50.77	-1.62	49.15	74.00	-24.85	Horizontal
9648.00	48.07	1.27	49.34	74.00	-24.66	Horizontal
12060.00	*	--	--	74.00	--	Horizontal
14472.00	*	--	--	74.00	--	Horizontal
16884.00	*	--	--	74.00	--	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	44.70	-7.66	37.04	54.00	-16.96	Vertical
7236.00	39.59	-1.62	37.97	54.00	-16.03	Vertical
9648.00	37.75	1.27	39.02	54.00	-14.98	Vertical
12060.00	*	--	--	54.00	--	Vertical
14472.00	*	--	--	54.00	--	Vertical
16884.00	*	--	--	54.00	--	Vertical
4824.00	45.13	-7.66	37.47	54.00	-16.53	Horizontal
7236.00	40.10	-1.62	38.48	54.00	-15.52	Horizontal
9648.00	37.90	1.27	39.17	54.00	-14.83	Horizontal
12060.00	*	--	--	54.00	--	Horizontal
14472.00	*	--	--	54.00	--	Horizontal
16884.00	*	--	--	54.00	--	Horizontal

Remark:

1. *Level = Read level + Factor*
2. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
3. *"*", means this data is the too weak instrument of signal is unable to test.*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

Test mode:	802.11n20	Test channel:	Middle

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	55.52	-7.58	47.94	74.00	-26.06	Vertical
7311.00	49.50	-1.40	48.10	74.00	-25.90	Vertical
9748.00	47.44	1.20	48.64	74.00	-25.36	Vertical
12185.00	*	--	--	74.00	--	Vertical
14622.00	*	--	--	74.00	--	Vertical
17059.00	*	--	--	74.00	--	Vertical
4874.00	56.18	-7.58	48.60	74.00	-25.40	Horizontal
7311.00	49.34	-1.40	47.94	74.00	-26.06	Horizontal
9748.00	48.20	1.20	49.40	74.00	-24.60	Horizontal
12185.00		--	--	74.00	--	Horizontal
14622.00	*	--	--	74.00	--	Horizontal
17059.00	*	--	--	74.00	--	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	45.20	-7.58	37.62	54.00	-16.38	Vertical
7311.00	38.47	-1.40	37.07	54.00	-16.93	Vertical
9748.00	37.66	1.20	38.86	54.00	-15.14	Vertical
12185.00	*	--	--	54.00	--	Vertical
14622.00	*	--	--	54.00	--	Vertical
17059.00	*	--	--	54.00	--	Vertical
4874.00	44.47	-7.58	36.89	54.00	-17.11	Horizontal
7311.00	39.93	-1.40	38.53	54.00	-15.47	Horizontal
9748.00	36.99	1.20	38.19	54.00	-15.81	Horizontal
12185.00	*	--	--	54.00	--	Horizontal
14622.00	*	--	--	54.00	--	Horizontal
17059.00	*	--	--	54.00	--	Horizontal

Remark:

1. *Level = Read level + Factor*
2. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
3. *"*", means this data is the too weak instrument of signal is unable to test.*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

Test mode:	802.11n20	Test channel:	Highest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	55.45	-7.49	47.96	74.00	-26.04	Vertical
7386.00	49.25	-1.18	48.07	74.00	-25.93	Vertical
9848.00	48.50	1.12	49.62	74.00	-24.38	Vertical
12310.00	*	--	--	74.00	--	Vertical
14772.00	*	--	--	74.00	--	Vertical
17234.00	*	--	--	74.00	--	Vertical
4924.00	54.92	-7.49	47.43	74.00	-26.57	Horizontal
7386.00	48.96	-1.18	47.78	74.00	-26.22	Horizontal
9848.00	47.94	1.12	49.06	74.00	-24.94	Horizontal
12310.00	*	--	--	74.00	--	Horizontal
14772.00	*	--	--	74.00	--	Horizontal
17234.00	*	--	--	74.00	--	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	43.95	-7.49	36.46	54.00	-17.54	Vertical
7386.00	38.41	-1.18	37.23	54.00	-16.77	Vertical
9848.00	37.45	1.12	38.57	54.00	-15.43	Vertical
12310.00	*	--	--	54.00	--	Vertical
14772.00	*	--	--	54.00	--	Vertical
17234.00	*	--	--	54.00	--	Vertical
4924.00	44.37	-7.49	36.88	54.00	-17.12	Horizontal
7386.00	38.59	-1.18	37.41	54.00	-16.59	Horizontal
9848.00	36.95	1.12	38.07	54.00	-15.93	Horizontal
12310.00	*	--	--	54.00	--	Horizontal
14772.00	*	--	--	54.00	--	Horizontal
17234.00	*	--	--	54.00	--	Horizontal

Remark:

1. *Level = Read level + Factor*
2. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
3. *"*", means this data is the too weak instrument of signal is unable to test.*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

Test mode:	802.11n40	Test channel:	Lowest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4844.00	55.32	-7.63	47.69	74.00	-26.31	Vertical
7266.00	50.67	-1.53	49.14	74.00	-24.86	Vertical
9688.00	47.45	1.24	48.69	74.00	-25.31	Vertical
12060.00	*	--	--	74.00	--	Vertical
14472.00	*	--	--	74.00	--	Vertical
16884.00	*	--	--	74.00	--	Vertical
4844.00	56.48	-7.63	48.85	74.00	-25.15	Horizontal
7266.00	49.48	-1.53	47.95	74.00	-26.05	Horizontal
9688.00	47.66	1.24	48.90	74.00	-25.10	Horizontal
12060.00	*	--	--	74.00	--	Horizontal
14472.00	*	--	--	74.00	--	Horizontal
16884.00	*	--	--	74.00	--	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4844.00	45.05	-7.63	37.42	54.00	-16.58	Vertical
7266.00	38.54	-1.53	37.01	54.00	-16.99	Vertical
9688.00	37.10	1.24	38.34	54.00	-15.66	Vertical
12060.00	*	--		54.00		Vertical
14472.00	*	--		54.00		Vertical
16884.00	*	--		54.00		Vertical
4844.00	44.68	-7.63	37.05	54.00	-16.95	Horizontal
7266.00	40.00	-1.53	38.47	54.00	-15.53	Horizontal
9688.00	36.83	1.24	38.07	54.00	-15.93	Horizontal
12060.00	*	--		54.00		Horizontal
14472.00	*	--		54.00		Horizontal
16884.00	*	--		54.00		Horizontal

Remark:

1. *Level = Read level + Factor*
2. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
3. *"*", means this data is the too weak instrument of signal is unable to test.*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

Test mode:	802.11n40	Test channel:	Middle

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	55.57	-7.58	47.99	74.00	-26.01	Vertical
7311.00	50.86	-1.40	49.46	74.00	-24.54	Vertical
9748.00	46.29	1.20	47.49	74.00	-26.51	Vertical
12185.00	*	--	--	74.00	--	Vertical
14622.00	*	--	--	74.00	--	Vertical
17059.00	*	--	--	74.00	--	Vertical
4874.00	54.84	-7.58	47.26	74.00	-26.74	Horizontal
7311.00	49.30	-1.40	47.90	74.00	-26.10	Horizontal
9748.00	46.41	1.20	47.61	74.00	-26.39	Horizontal
12185.00	*	--	--	74.00	--	Horizontal
14622.00	*	--	--	74.00	--	Horizontal
17059.00	*	--	--	74.00	--	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	44.72	-7.58	37.14	54.00	-16.86	Vertical
7311.00	39.15	-1.40	37.75	54.00	-16.25	Vertical
9748.00	36.52	1.20	37.72	54.00	-16.28	Vertical
12185.00	*	--	--	54.00	--	Vertical
14622.00	*	--	--	54.00	--	Vertical
17059.00	*	--	--	54.00	--	Vertical
4874.00	45.41	-7.58	37.83	54.00	-16.17	Horizontal
7311.00	38.51	-1.40	37.11	54.00	-16.89	Horizontal
9748.00	36.63	1.20	37.83	54.00	-16.17	Horizontal
12185.00	*	--	--	54.00	--	Horizontal
14622.00	*	--	--	54.00	--	Horizontal
17059.00	*	--	--	54.00	--	Horizontal

Remark:

1. *Level = Read level + Factor*
2. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
3. *"*", means this data is the too weak instrument of signal is unable to test.*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

Test mode:	802.11n40	Test channel:	Highest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4904.00	55.29	-7.52	47.77	74.00	-26.23	Vertical
7356.00	49.42	-1.26	48.16	74.00	-25.84	Vertical
9808.00	47.55	1.16	48.71	74.00	-25.29	Vertical
12310.00	*	--	--	74.00	--	Vertical
14772.00	*	--	--	74.00	--	Vertical
17234.00	*	--	--	74.00	--	Vertical
4904.00	54.95	-7.52	47.43	74.00	-26.57	Horizontal
7356.00	48.42	-1.26	47.16	74.00	-26.84	Horizontal
9808.00	47.22	1.16	48.38	74.00	-25.62	Horizontal
12310.00	*	--	--	74.00	--	Horizontal
14772.00	*	--	--	74.00	--	Horizontal
17234.00	*	--	--	74.00	--	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4904.00	44.18	-7.52	36.66	54.00	-17.34	Vertical
7356.00	38.66	-1.26	37.40	54.00	-16.60	Vertical
9808.00	36.84	1.16	38.00	54.00	-16.00	Vertical
12310.00	*	--	--	54.00	--	Vertical
14772.00	*	--	--	54.00	--	Vertical
17234.00	*	--	--	54.00	--	Vertical
4904.00	44.08	-7.52	36.56	54.00	-17.44	Horizontal
7356.00	39.79	-1.26	38.53	54.00	-15.47	Horizontal
9808.00	36.24	1.16	37.40	54.00	-16.60	Horizontal
12310.00	*	--	--	54.00	--	Horizontal
14772.00	*	--	--	54.00	--	Horizontal
17234.00	*	--	--	54.00	--	Horizontal

Remark:

1. *Level = Read level + Factor*
2. *Factor =Antenna Factor + Cable Loss – Preamplifier Factor*
3. *"*", means this data is the too weak instrument of signal is unable to test.*
4. *Emissions more than 20 dB below the limit do not need to be reported.*

5. Test Setup Photo

Reference to the file No.: ET-25072212SP for details.

6. EUT Constructional Details

Reference to the file No.: ET-25072212EP and ET-25072212IP for details.

------End------