FCC Test Report

Application No.:	DNT2409120062R1673-02715
Applicant:	Jiangxi Gao Su Da Digital Technology Co.,Ltd
Address of Applicant:	Luxi Industry park , Pingxiang City , Jiangxi Province ,China
EUT Description:	LED TV
Model No.:	TV-240SD, TV-320SD, TV-130SD, TV-170SD, TV-190SD
FCC ID:	2BK66-G001
Power Supply	AC 100-240V 50/60Hz & DC12V (3.5A) Compatibility
Trade Mark:	AUDIOBOX
Standards:	47 CFR FCC Part 2, Subpart J 47 CFR Part 15, Subpart C ANSI C63.10: 2013
Date of Receipt:	2024/9/21
Date of Test:	2024/9/22 to 2024/9/27
Date of Issue:	2024/10/9
Test Result:	**PASS**

Prepared By: Wayne.Lin (Testing Engineer)

Reviewed By: Pencils.Chen (Project Engineer)

Approved By: Jerse Zhan (Manager)

Note: If there is any objection to the results in this report, please submit a written inquiry to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp, and is issued by the company in accordance with the requirements of the "Conditions of Issuance of Test Reports" printed in the attached page. Unless otherwise stated, the results presented in this report only apply to the samples tested this time. Partial reproduction of this report is not allowed unless approved by the company in writing.

Report Revise Record

Dongguan DN Testing Co., Ltd.

Add: No. 1, West Fourth Street, Xingfa South Road, Wusha Community, Chang 'an Town, Dongguan City, Guangdong P.R.China

Web: www.dn-testing.com Tel:+86-769-88087383 E-mail: service@dn-testing.com

Report Version	Revise Time	Issued Date	Valid Version	Notes
V2.0	/	Oct.9, 2024	Valid	Original Report

1 Test Summary

No.	Description of Test Item	FCC Standard Section	Results
1	6dB Bandwidth &26dB Bandwidth & 99% Occupied Bandwidth	15.407(a) 15.407(e)	PASS
2	Maximum Conducted Output Power	15.407(a)	PASS
3	Peak Power Spectral Density	15.407(a)	PASS
4	Unwanted Emissions and Band Edge	15.205 15.209 15.407(b)	PASS
5	Frequency Stability	15.407(g)	PASS
6	AC Power Line Conducted Emissions	15.207 15.407(b)(9)	PASS
7	Antenna Requirement	15.203	PASS

Note:
1. “N/A” denotes test is not applicable in this test report.

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2 General Information

2.1 Test Location

Company:	Dongguan DN Testing Co., Ltd
Address:	No. 1, West Fourth Street, South Xinfa Road, Wusha Liwu, Chang ' an Town, Dongguan City, Guangdong P.R.China
Test engineer:	Wayne Lin

2.2 General Description of EUT

Manufacturer:	Jiangxi Gao Su Da Digital Technology Co.,Ltd
Address of Manufacturer:	Luxi Industry park , Pingxiang City , Jiangxi Province ,China
EUT Description:	LED TV
Test Model No.:	TV-240SD
Additional Model(s):	TV-320SD, TV-130SD, TV-170SD, TV-190SD
Power Supply:	AC 100-240V 50/60Hz & DC12V (3.5A) Compatibility
Trade Mark:	AUDIOBOX
Hardware Version:	V1.0
Software Version:	V1.0
Chip Type:	RTL8822CU
Serial number	PR2409120062R1673
IEEE 802.11 WLAN Mode Supported	☒ 802.11a (20 MHz channel bandwidth), ☒ 802.11n (20 MHz channel bandwidth) ☒ 802.11n (40 MHz channel bandwidth),
Operation Frequency:	EEE 802.11n(HT20/40): 5150MHz to 5250MHz
Type of Modulation:	OFDM/OFDMA
Sample Type:	☐ Portable Device, ☐ Module,☒ Mobile Device
Antenna Type:	☐ External, ☒ Integrated
Antenna Ports	☒ Ant 1, ☐ Ant 2, ☐ Ant 3
Smart System	☒ SISO (for 802.11a/n), ☐ MIMO (for 802.11n/ac/ax), ☐ Diversity (for 802.11a).
Antenna Gain*:	☒ Provided by applicant
	1.93dBi
RF Cable*:	☒ Provided by applicant
	0.5dB(0.6~1GHz); 0.8dB(1.4~2GHz); 1.0dB(2.1~2.7GHz); 1.5dB(3~4GHz); 1.8dB(4.4~6GHz);

Remark:

*All models are just color differences, motherboard, PCB circuit board, chip, electronic components, appearance is all the same.

*Since the above data and/or information is provided by the applicant relevant results or conclusions of this report are only made for these data and/or information , DNT is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.

2.3 Channel List

Band	Mode	Channel	Frequency (MHz)
U-NII-1	IEEE 802.11a & n HT20	36	5180
		40	5200
		44	5220
		48	5240
	IEEE 802.11n HT40	38	5190
		46	5230

Remark:

In FCC 15.31, for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table, and the selected channel to perform the test as below:

Frequency Range of Operation Operating Frequency Range (in each Band)	Number of Measurement Frequencies Required	Location of Measurement Frequency in Band of Operation
1 MHz or less	1	centre
1 MHz to 10 MHz	2	1 near high end, 1 near low end
Greater than 10 MHz	3	1 near high end, 1 near centre

For UNII Band I:

Mode	Channel	Frequency(MHz)
IEEE 802.11a/n 20MHz	The Lowest channel	5180
	The Middle channel	5200
	The Highest channel	5240
IEEE 802.11n 40MHz	The Lowest channel	5190
	The Highest channel	5230

2.4 Test Environment and Mode

Operating Environment:	
Temperature:	20~25.0 ˚C
Humidity:	45~56 % RH
Atmospheric Pressure:	101.0~101.30 KPa
Test mode:	
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.

2.5 Power Setting of Test Software

Software Name	MP Tool		
Frequency(MHz)	5180	5200	5240
11A	Default	Default	Default
11N20	Default	Default	Default
Frequency(MHz)	5190	5230	
11N40	Default	Default	

2.6 Description of Support Units

The EUT has been tested independent unit.

2.7 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

Lab A:

• FCC, USA

Designation Number: CN1348

• A2LA (Certificate No. 7050.01)

DONGGUAN DN TESTING CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 7050.01.

• Innovation, Science and Economic Development Canada

DONGGUAN DN TESTING CO., LTD. EMC Laboratory has been recognized by ISED as an accredited testing laboratory. CAB identifier is CN0149.

IC#: 30755.

2.8 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	DTS Bandwidth	±0.0196%
2	Maximum Conducted Output Power	±0.686 dB
3	Maximum Power Spectral Density Level	±0.743 dB
4	Band-edge Compliance	±1.328 dB
5	Unwanted Emissions In Non-restricted Freq Bands	9KHz-1GHz:±0.746dB 1GHz-26GHz: ±1.328dB

No.	Item	Measurement Uncertainty
1	Conduction Emission	± 3.0dB (150kHz to 30MHz)
2	Radiated Emission	± 4.8dB (Below 1GHz)
		± 4.8dB (1GHz to 6GHz)
		± 4.5dB (6GHz to 18GHz)
		± 5.02dB (Above 18GHz)

2.9 Equipment List

For Connect EUT Antenna Terminal Test					
Description	Manufacturer	Model	Serial Number	Cal date	Due date
Signal Generator	Keysight	N5181A-6G	MY48180415	2023-10-25	2024-10-24
Signal Generator	Keysight	N5182B	MY57300617	2023-10-25	2024-10-24
Power supply	Keysight	E3640A	ZB2022656	2023-10-25	2024-10-24
Radio Communication Tester	R&S	CMW500	105082	2023-10-25	2024-10-24
Spectrum Analyzer	Aglient	N9010A	MY52221458	2023-10-25	2024-10-24
BT/WIFI Test Software	Tonscend	JS1120 V3.1.83	NA	NA	NA
RF Control Unit	Tonscend	JS0806-2	22F8060581	NA	NA
Power Sensor	Anritsu	ML2495A	2129005	2023-10-25	2024-10-24
Pulse Power Sensor	Anritsu	MA2411B	1911397	2023-10-25	2024-10-24
temperature and humidity box	SCOTEK	SCD-C40-80PRO	6866682020008	2023-10-25	2024-10-24

Test Equipment for Conducted Emission					
Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
Receiver	R&S	ESCI3	101152	2023-10-24	2024-10-23
LISN	R&S	ENV216	102874	2023-10-24	2024-10-23
ISN	R&S	ENY81-CA6	1309.8590.03	2023-10-24	2024-10-23

Test Equipment for Radiated Emission(30MHz-1000MHz)					
Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
Receiver	R&S	ESR7	102497	2023-10-24	2024-10-23
Test Software	ETS-LINDGREN	TiLE-FULL	NA	NA	NA
RF Cable	ETS-LINDGREN	RFC-NMS-100-NMS-350-IN	NA	2023-10-24	2024-10-23
Log periodic antenna	ETS-LINDGREN	VULB 9168	01475	2023-10-24	2024-10-23
Pre-amplifier	Schwarzbeck	BBV9743B	00423	2023-10-24	2024-10-23

Test Equipment for Radiated Emission(Above 1000MHz)					
Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
Frequency analyser	Keysight	N9010A	MY52221458	2023-10-24	2024-10-23
RF Cable	ETS-LINDGREN	RFC-NMS-100-NMS-350-IN	NA	2023-10-24	2024-10-23
Horn Antenna	ETS-LINDGREN	3117	00252567	2023-10-24	2024-10-23
Double ridged waveguide antenna	ETS-LINDGREN	3116C	00251780	2023-10-24	2024-10-23
Test Software	ETS-LINDGREN	TiLE-FULL	NA	NA	NA
Pre-amplifier	ETS-LINDGREN	3117-PA	252567	2023-10-24	2024-10-23
Pre-amplifier	ETS-LINDGREN	3116C-PA	251780	2023-10-24	2024-10-23

3 Test results and Measurement Data

3.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 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(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	
The rod antenna is externally connected to the motherboard and no consideration of replacement. The best case gain of the antenna is 1.93dBi.	

3.2 Duty Cycle

Refer to section : **Appendix A**

Note:

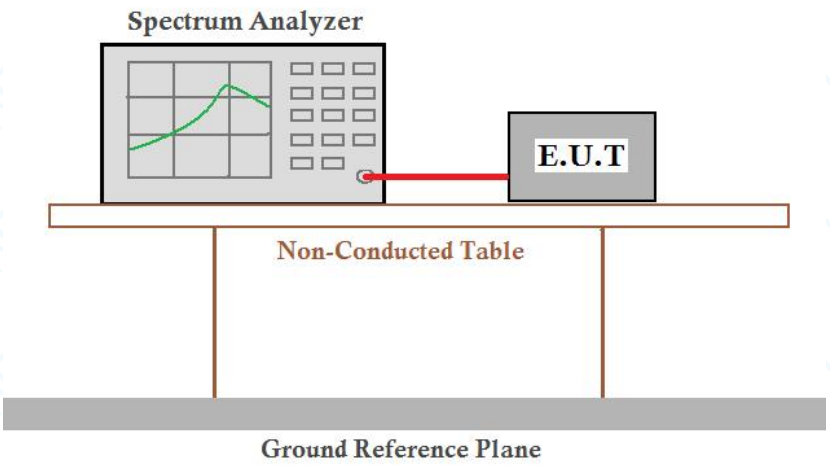
1.If duty cycle <98 %, the conducted average output power and average power spectral density should be add duty factor.

2.If duty cycle ⩾ 98 %,the EUT is consider to be transmitting continuously,the conducted average output power and average power spectral density no need to add duty factor(consider to be zero).

3.The conducted peak output power and peak power spectral density no need to consider duty factor.

4.The on-time time is transmission duration(T).

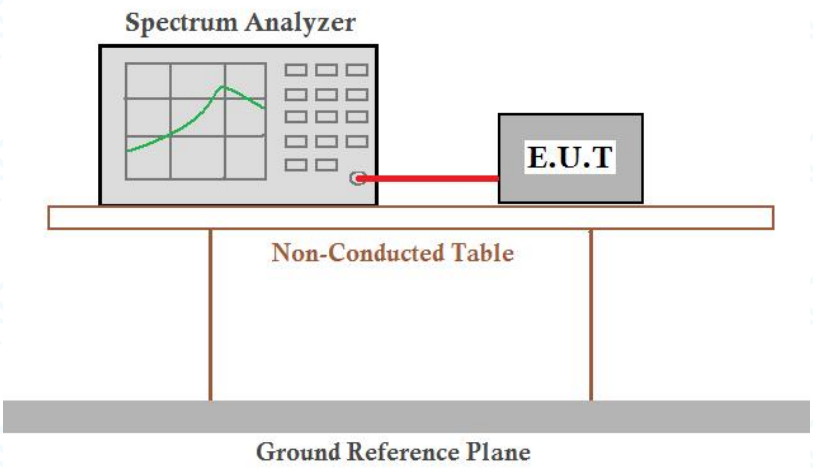
3.3 26dB Emission Bandwidth

Test Requirement:	47 CFR Part 15 Section 15.407(a)
Test Method:	ANSI C63.10: 2013
Test Setup:	
Instruments Used:	Refer to section 6 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20) ; MCS0 of rate is the worst case of 802.11n(HT40); Only the worst case is recorded in the report.
Limit	

Band	Frequency (MHz)	Test Item	Limit
U-NII-1	5150-5250	26dB Bandwidth&99% Occupied Bandwidth	N/A
U-NII-2A	5250-5350	26dB Bandwidth&99% Occupied Bandwidth	N/A
U-NII-2C	5470-5725	26dB Bandwidth&99% Occupied Bandwidth	N/A
U-NII-3	5725-5850	6dB Bandwidth&99% Occupied Bandwidth	6dB Bandwidth≥ 500KHz

The detailed test data see:**Appendix B**

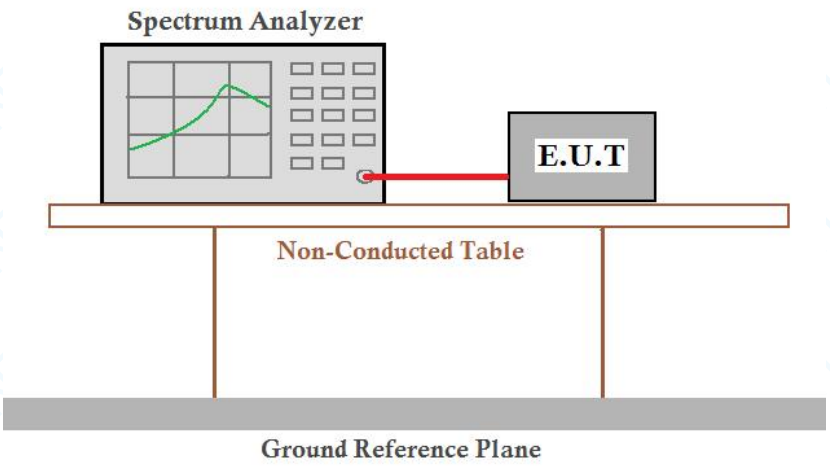
3.4 DTS (6 dB) Bandwidth

Test Requirement:	47 CFR Part 15 Section 15.407(e)
Test Method:	ANSI C63.10: 2013
Test Setup:	
Instruments Used:	Refer to section 2.9 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20) ; MCS0 of rate is the worst case of 802.11n(HT40);
Limit:	

Band	Frequency (MHz)	Test Item	Limit
U-NII-1	5150-5250	26dB Bandwidth&99% Occupied Bandwidth	N/A
U-NII-2A	5250-5350	26dB Bandwidth&99% Occupied Bandwidth	N/A
U-NII-2C	5470-5725	26dB Bandwidth&99% Occupied Bandwidth	N/A
U-NII-3	5725-5850	6dB Bandwidth&99% Occupied Bandwidth	6dB Bandwidth≥ 500KHz

Test Results:	NA

3.5 99% Occupied Bandwidth

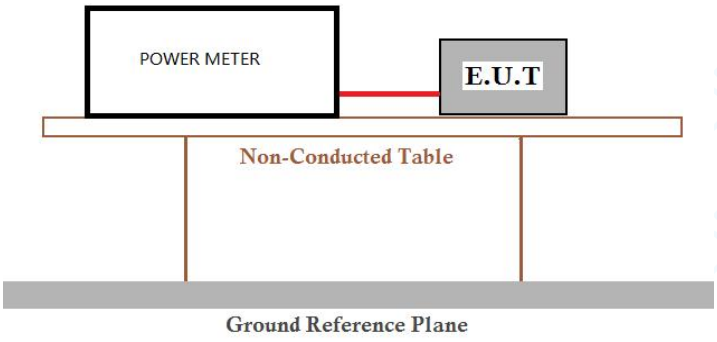
Test Requirement:	47 CFR Part 15 Section 15.407(a)
Test Method:	ANSI C63.10: 2013
Test Setup:	
Instruments Used:	Refer to section 6 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20) ; MCS0 of rate is the worst case of 802.11n(HT40); Only the worst case is recorded in the report.
Limit:	

Band	Frequency (MHz)	Test Item	Limit
U-NII-1	5150-5250	26dB Bandwidth&99% Occupied Bandwidth	N/A
U-NII-2A	5250-5350	26dB Bandwidth&99% Occupied Bandwidth	N/A
U-NII-2C	5470-5725	26dB Bandwidth&99% Occupied Bandwidth	N/A
U-NII-3	5725-5850	6dB Bandwidth&99% Occupied Bandwidth	6dB Bandwidth≥ 500KHz

Test Results:	Pass

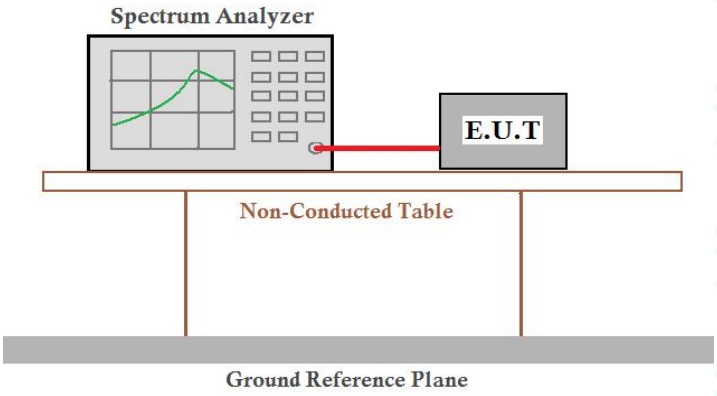
The detailed test data see: **Appendix C**

3.6 Conducted Output Power

Test Requirement:	47 CFR Part 15 Section 15.407(a)	
Test Method:	ANSI C63.10 :2013	
Test Setup:		
Test Instruments:	Refer to section 2.9 for details	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20) ; MCS0 of rate is the worst case of 802.11n(HT40);	
Limit:	Frequency Band	Limit
	5150-5250MHz	Not exceed 250mW(24dBm)
	5250-5350MHz	The lesser of 250mW(24dBm) or 11+ 10logB
	5470-5725MHz	The lesser of 250mW(24dBm) or 11+ 10logB
	5725-5850MHz	Not exceed 1W(30dBm)
Test Results:	Pass	

The detailed test data see: **Appendix D**

3.7 Power Spectral Density

Test Requirement:	47 CFR Part 15 Section 15.407(a)	
Test Method:	ANSI C63.10: 2013 KDB 789033 D02 v02r01, Section F.	
Test Setup:		
Test Instruments:	Refer to section 2.9 for details	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20) ; MCS0 of rate is the worst case of 802.11n(HT40);	
Limit:	Frequency Band	Limit
	5150-5250MHz	The power spectral density less than 11dBm/1MHz
	5250-5350MHz	The power spectral density less than 11dBm/1MHz
	5470-5725MHz	The power spectral density less than 11dBm/1MHz
	5725-5850MHz	The power spectral density less than <30dBm/500KHz
Test Results:	Pass	

The detailed test data see: **Appendix E**

3.8 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15 Section 15.407(b)				
Test Method:	ANSI C63.10: 2013				
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz (DC⩾0.98) ⩾1/T (DC<0.98)	Average
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
	Remark: 15.35(b),Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.				

Test Setup:	

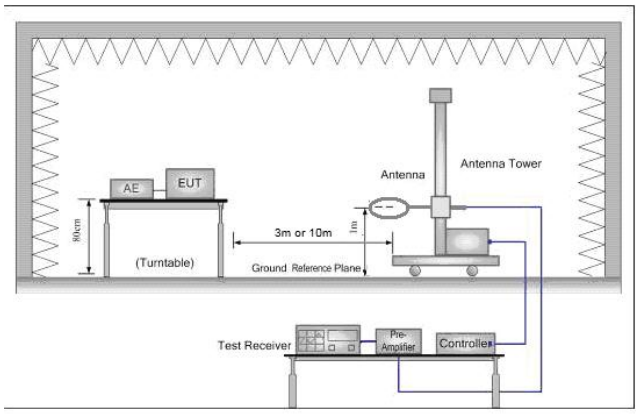


Figure 1. Below 30MHz

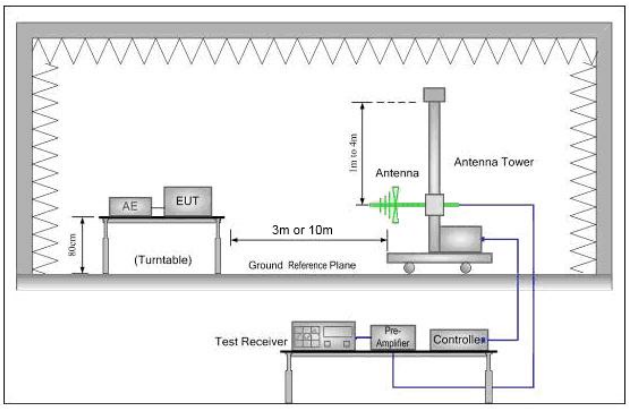


Figure 2. 30MHz to 1GHz

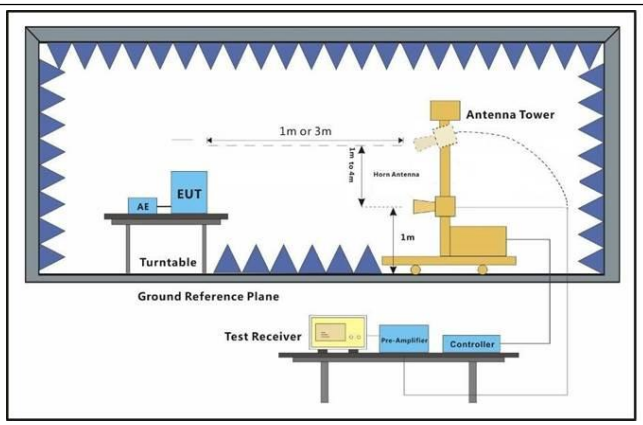


Figure 3. Above 1 GHz

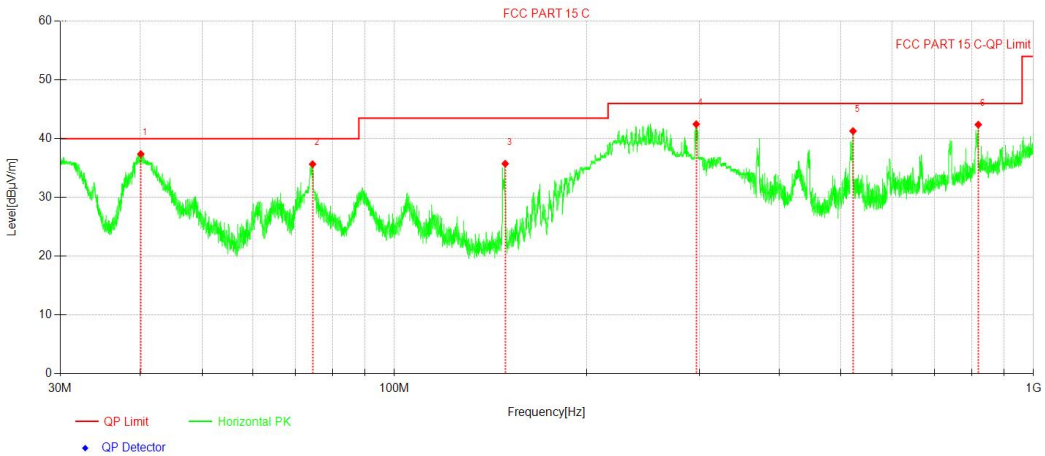
Test Procedure:	a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 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 c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. d. 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. e. 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. f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. g. 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. h. Test the EUT in the lowest channel, the middle channel ,the Highest channel. i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case. j. Repeat above procedures until all frequencies measured was complete.
Test Configuration:	Measurements Below 1000MHz

	• RBW = 120 kHz • VBW = 300 kHz • Detector = Peak • Trace mode = max hold Peak Measurements Above 1000 MHz • RBW = 1 MHz • VBW ⩾ 3 MHz • Detector = Peak • Sweep time = auto • Trace mode = max hold Average Measurements Above 1000MHz • RBW = 1 MHz • VBW = 10 Hz, when duty cycle is no less than 98 percent. • VBW ⩾ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates. Charge + Transmitting mode.
Final Test Mode:	Pretest the EUT at Transmitting mode. Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20) ; MCS0 of rate is the worst case of 802.11n(HT40); For below 1GHz, through Pre-scan, find the the worst case. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 2.9 for details
Test Results:	Pass

Test data

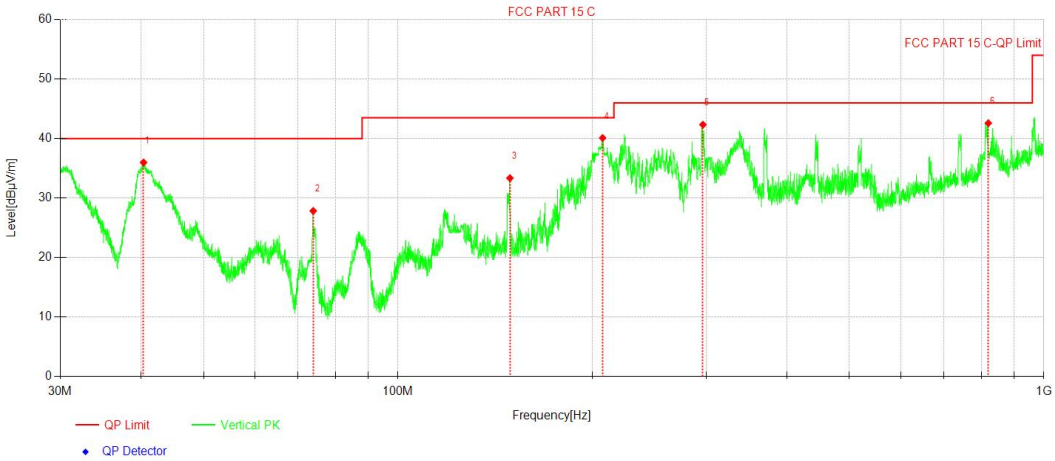
For 30-1000MHz

Horizontal:



NO.	Freq. [MHz]	Reading Level [dBμV]	Correct Factor [dB/m]	Result Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]
1	40.10	46.13	-8.75	37.38	40.00	2.62	100	10
2	74.47	46.73	-11.07	35.66	40.00	4.34	100	10
3	149.06	43.68	-7.94	35.74	43.50	7.76	100	5
4	296.70	49.56	-7.09	42.47	46.00	3.53	100	0
5	521.98	42.48	-1.18	41.30	46.00	4.70	100	31
6	819.69	37.62	4.78	42.40	46.00	3.60	100	20

Vertical :

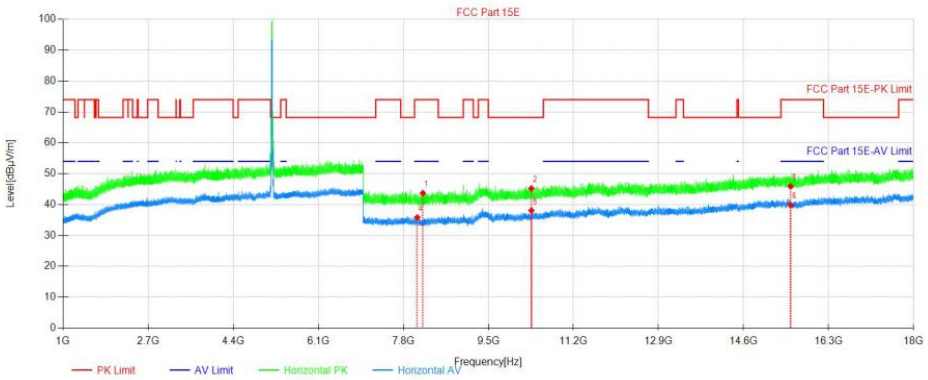


NO.	Freq. [MHz]	Reading Level [dBμV]	Correct Factor [dB/m]	Result Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]
1	40.37	44.70	-8.72	35.98	40.00	4.02	100	209
2	73.92	38.77	-10.94	27.83	40.00	12.17	100	43
3	149.06	41.29	-7.94	33.35	43.50	10.15	200	237
4	207.41	51.11	-11.00	40.11	43.50	3.39	100	314
5	296.59	49.43	-7.09	42.34	46.00	3.66	100	360
6	820.27	37.80	4.79	42.59	46.00	3.41	100	360

For above 1GHz

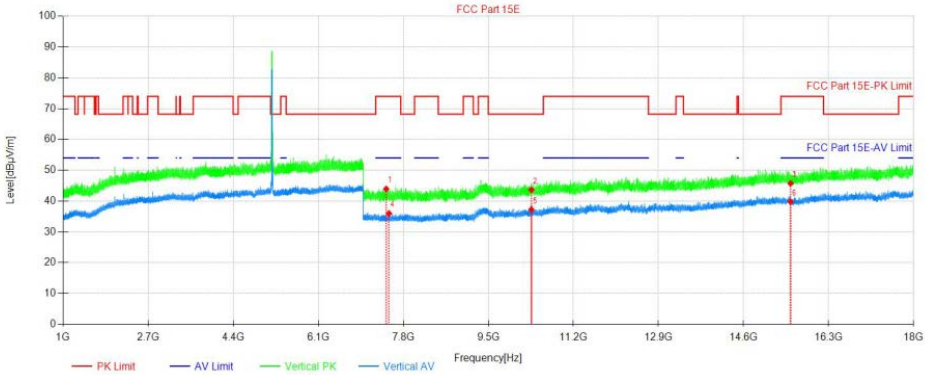
11A 5180MHz

Horizontal:



NO.	Freq. [MHz]	Reading Level [dBμV]	Correct Factor [dB/m]	Result Level [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	8191.56	45.81	-2.11	43.70	74.00	30.30	150	176	PK
2	10360.41	44.81	0.40	45.21	68.20	22.99	150	65	PK
3	15540.30	40.39	5.56	45.95	74.00	28.05	150	3	PK
4	8079.80	37.58	-1.74	35.84	54.00	18.16	150	34	AV
6	15540.30	34.34	5.56	39.90	54.00	14.10	150	176	AV

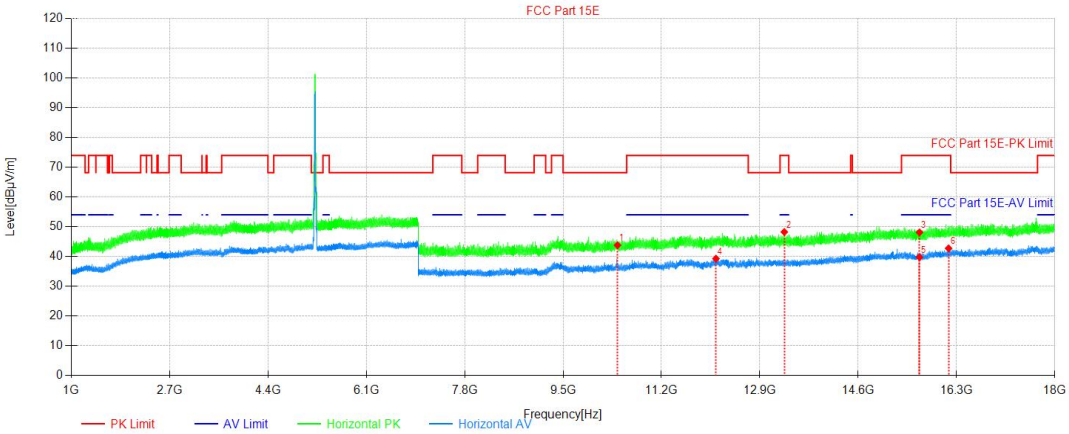
Vertical:



NO.	Freq. [MHz]	Reading Level [dBμV]	Correct Factor [dB/m]	Result Level [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	7458.93	45.08	-1.15	43.93	74.00	30.07	150	82	PK
2	10360.41	43.26	0.40	43.66	68.20	24.54	150	97	PK
3	15540.30	40.20	5.56	45.76	74.00	28.24	150	3	PK
4	7514.380	37.18	-1.18	36.00	54.00	18.00	150	180	AV
5	10360.41	36.84	0.40	37.24	54	16.76	150	34	AV
6	15540.01	34.27	5.56	39.83	54.00	14.17	150	66	AV

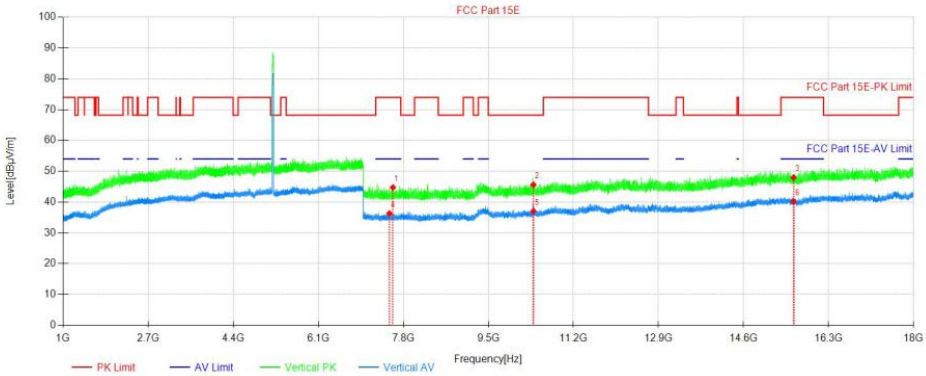
11A 5200MHz

Horizontal:



NO.	Freq. [MHz]	Reading Level [dBμV]	Correct Factor [dB/m]	Result Level [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	7573.78	45.50	-1.21	44.29	74.00	29.71	150	0	PK
2	10400.01	46.08	0.36	46.44	68.20	21.76	150	162	PK
3	15600.14	41.61	5.43	47.04	74.00	26.96	150	191	PK
4	7617.34	37.55	-1.20	36.35	54.00	17.65	150	297	AV
5	10400.01	36.42	0.36	36.78	54.00	17.22	150	222	AV
6	15600.14	34.13	5.43	39.56	54.00	14.44	150	282	AV

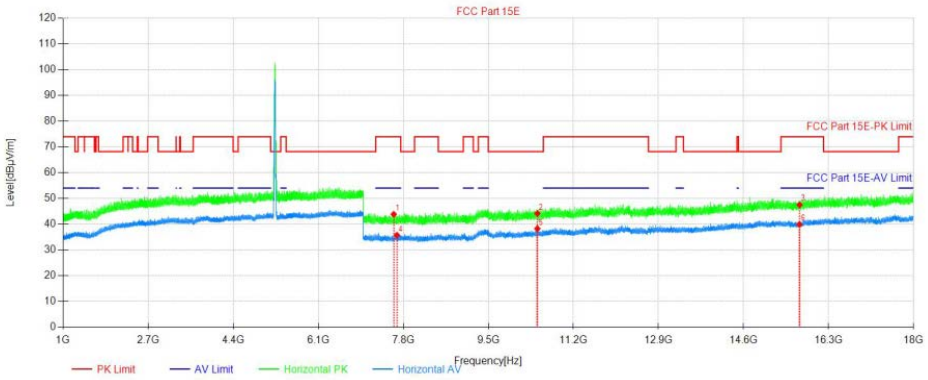
Vertical:



NO.	Freq. [MHz]	Reading Level [dBμV]	Correct Factor [dB/m]	Result Level [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	7593.58	45.97	-1.23	44.74	74.00	29.26	150	35	PK
2	10400.01	45.27	0.36	45.63	68.20	22.57	150	288	PK
3	15600.14	42.54	5.43	47.97	74.00	26.03	150	144	PK
4	7521.42	37.47	-1.18	36.29	54.00	17.71	150	224	AV
5	10400.01	36.67	0.36	37.03	54.00	16.97	150	288	AV
6	15600.14	34.79	5.43	40.22	54.00	13.78	150	302	AV

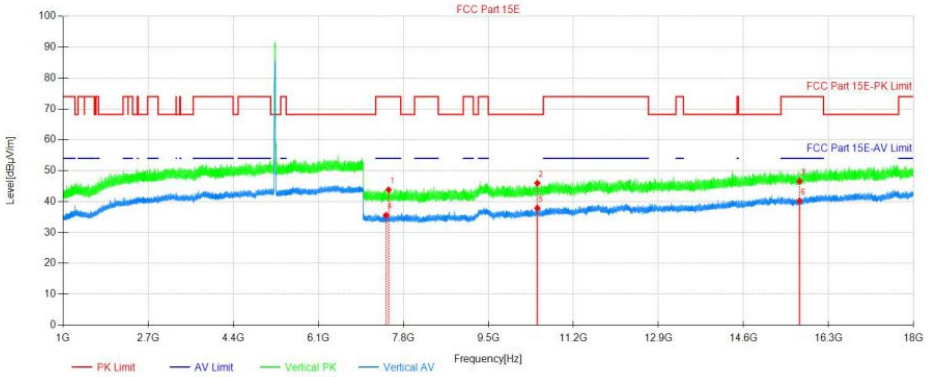
11A 5240MHz

Horizontal:



NO.	Freq. [MHz]	Reading Level [dBμV]	Correct Factor [dB/m]	Result Level [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	7608.98	45.06	-1.21	43.85	74.00	30.15	150	133	PK
2	10480.09	43.68	0.47	44.15	68.20	24.05	150	54	PK
3	15720.26	42.17	5.35	47.52	74.00	26.48	150	133	PK
4	7672.346	36.84	-1.13	35.71	54.00	18.29	150	21	AV
5	10480.09	37.79	0.47	38.26	54.00	15.74	150	54	AV
6	15720.26	34.54	5.35	39.89	54.00	14.11	150	37	AV

Vertical:



NO.	Freq. [MHz]	Reading Level [dBμV]	Correct Factor [dB/m]	Result Level [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	7506.02	45.00	-1.17	43.83	74.00	30.17	150	34	PK
2	10480.09	45.50	0.47	45.97	68.20	22.23	150	163	PK
3	15720.26	41.21	5.35	46.56	74.00	27.44	150	34	PK
4	7455.41	36.74	-1.14	35.60	54.00	18.40	150	148	AV
5	10480.09	37.40	0.47	37.87	54.00	16.13	150	82	AV
6	15720.26	34.82	5.35	40.17	54.00	13.83	150	163	AV

Note:

1. The Measurement (Result Level) is calculated by Reading Level adding the Correct Factor(maybe including Ant.Factor and the Cable Factor etc.), The basic equation is as follows:

   Result Level= Reading Level + Correct Factor(including Ant.Factor, Cable Factor etc.)

2. The amplitude of 9KHz to 30MHz spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

3. The amplitude of 18GHz to 40GHz spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be report.

4. All channels had been pre-test, 802.11a is the worst case, only the worst case was reported.

3.9 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15 Section 15.407(b)		
Test Method:	ANSI C63.10: 2013		
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)		
Limit:	Frequency	Limit (dBuV/m)	Remark
	30MHz-88MHz	40.0	Quasi-peak
	88MHz-216MHz	43.5	Quasi-peak
	216MHz-960MHz	46.0	Quasi-peak
	960MHz-1GHz	54.0	Quasi-peak
	Above 1GHz	54.0	Average Value
		74.0	Peak Value

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])

Test Setup:

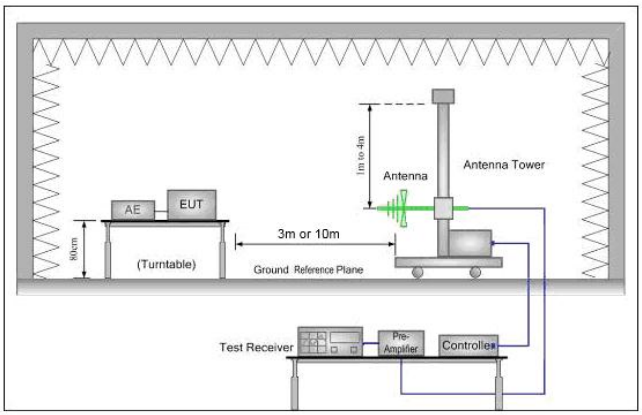


Figure 1. 30MHz to 1GHz

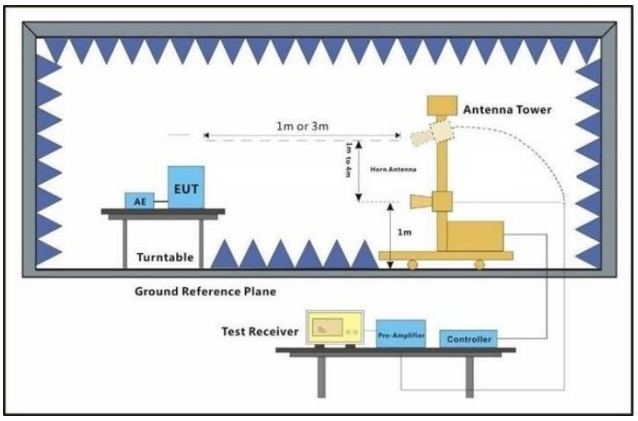
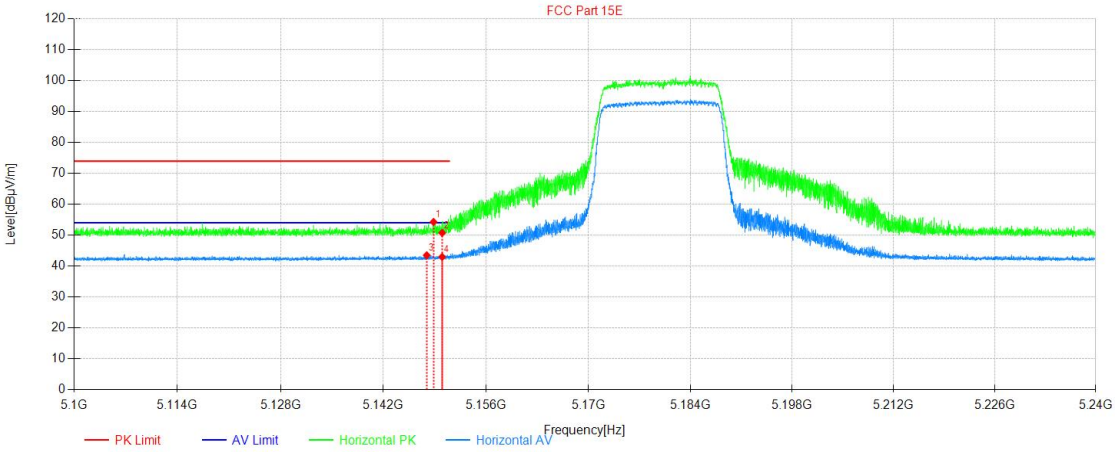


Figure 2. Above 1 GHz

Test Procedure:	a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 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. c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. d. 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. e. 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 rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. g. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel h. Test the EUT in the lowest channel , the Highest channel i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode,And found the X axis positioning which it is worse case. j. Repeat above procedures until all frequencies measured was complete.
Test Configuration:	Measurements Below 1000MHz • RBW = 120 kHz • VBW = 300 kHz • Detector = Peak • Trace mode = max hold Peak Measurements Above 1000 MHz • RBW = 1 MHz • VBW ⩾ 3 MHz • Detector = Peak • Sweep time = auto • Trace mode = max hold Average Measurements Above 1000MHz • RBW = 1 MHz • VBW = 10 Hz, when duty cycle is no less than 98 percent. • VBW ⩾ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates. Transmitting mode.
Final Test Mode:	Pretest the EUT at Charge + Transmitting mode. Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20) ; MCS0 of rate is the worst case of 802.11n(HT40); Only the worst case is recorded in the report.
Instruments Used:	Refer to section 2.9 for details
Test Results:	Pass

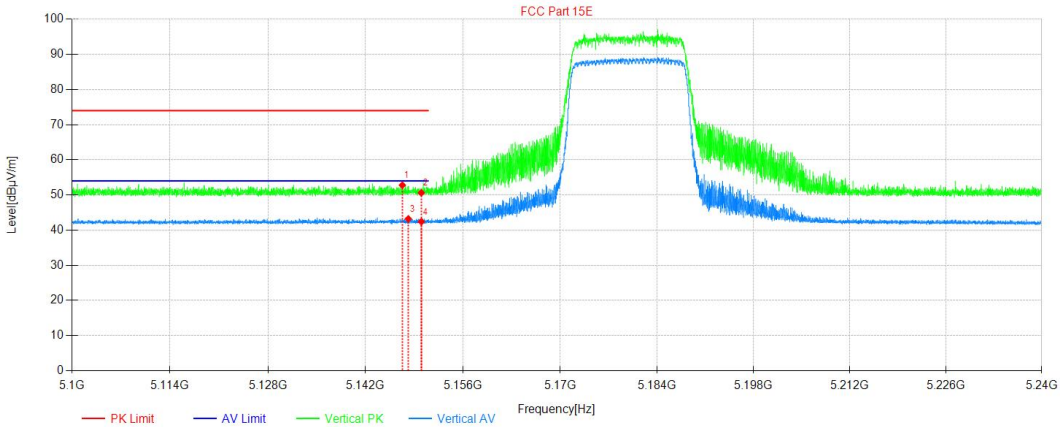
Test Date
11A 5180MHz

Horizontal:



NO.	Freq. [MHz]	Reading Level [dBμV]	Correct Factor [dB/m]	Result Level [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5148.83	49.28	5.01	54.29	74.00	19.71	150	104	PK
2	5150.01	45.74	5.01	50.75	74.00	23.25	150	112	PK
3	5147.91	38.47	5.01	43.48	54.00	10.52	150	33	AV
4	5150.01	37.96	5.01	42.97	54.00	11.03	150	58	AV

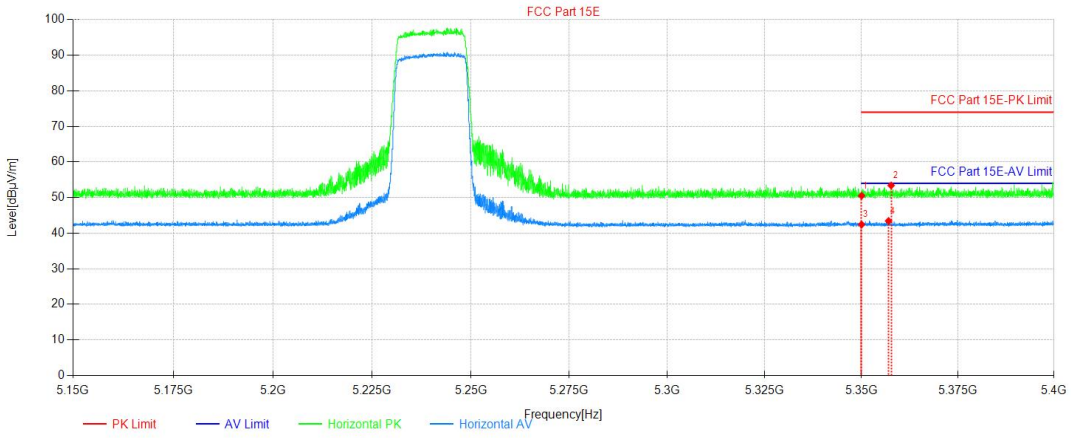
Vertical:



NO.	Freq. [MHz]	Reading Level [dBμV]	Correct Factor [dB/m]	Result Level [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5147.28	47.79	5.00	52.79	74.00	21.21	150	177	PK
2	5150.01	45.60	5.01	50.61	74.00	23.39	150	0	PK
3	5148.13	38.19	5.01	43.20	54.00	10.80	150	240	AV
4	5150.01	37.38	5.01	42.39	54.00	11.61	150	64	AV

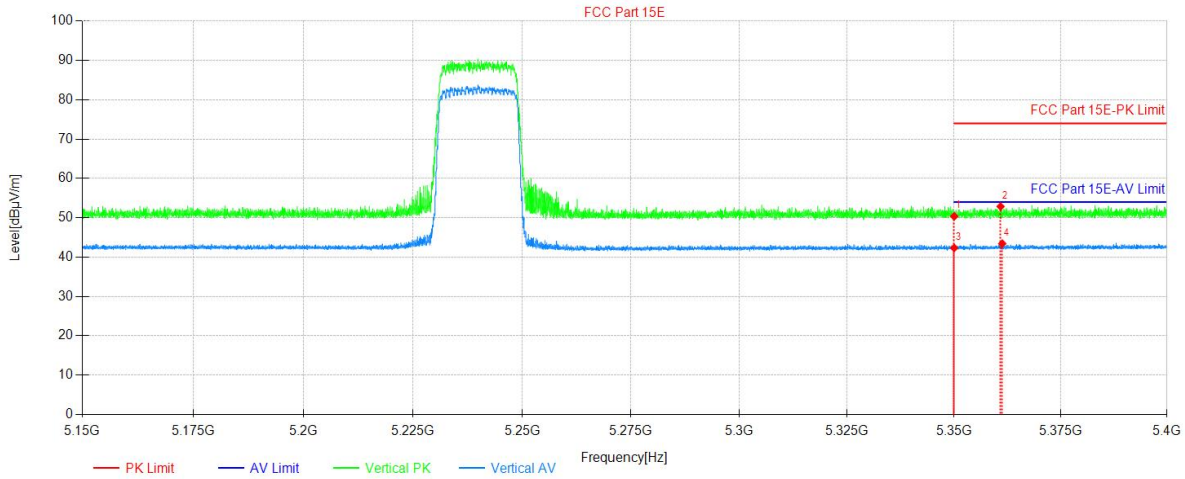
11A 5240MHz

Horizontal:



NO.	Freq. [MHz]	Reading Level [dBμV]	Correct Factor [dB/m]	Result Level [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5350.02	45.36	5.15	50.51	74.00	23.49	150	164	PK
2	5357.67	48.27	5.14	53.41	74.00	20.59	150	257	PK
3	5350.02	37.28	5.15	42.43	54.00	11.57	150	11	AV
4	5356.99	38.30	5.14	43.44	54.00	10.56	150	177	AV

Vertical:



NO.	Freq. [MHz]	Reading Level [dBμV]	Correct Factor [dB/m]	Result Level [dBμV/m]	AV Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector
1	5350.02	45.22	5.15	50.37	74.00	23.63	150	307	PK
2	5360.87	47.73	5.13	52.86	74.00	21.14	150	91	PK
3	5350.02	37.18	5.15	42.33	54.00	11.67	150	0	AV
4	5361.27	38.31	5.13	43.44	54.00	10.56	150	269	AV

1. The Measurement (Result Level) is calculated by Reading Level adding the Correct Factor(maybe including Ant.Factor and the Cable Factor etc.), The basic equation is as follows:

Result Level= Reading Level + Correct Factor(including Ant.Factor, Cable Factor etc.)

2. All channels had been pre-test, 802.11a is the worst case, only the worst case was reported.

3.10 AC Power Line Conducted Emissions

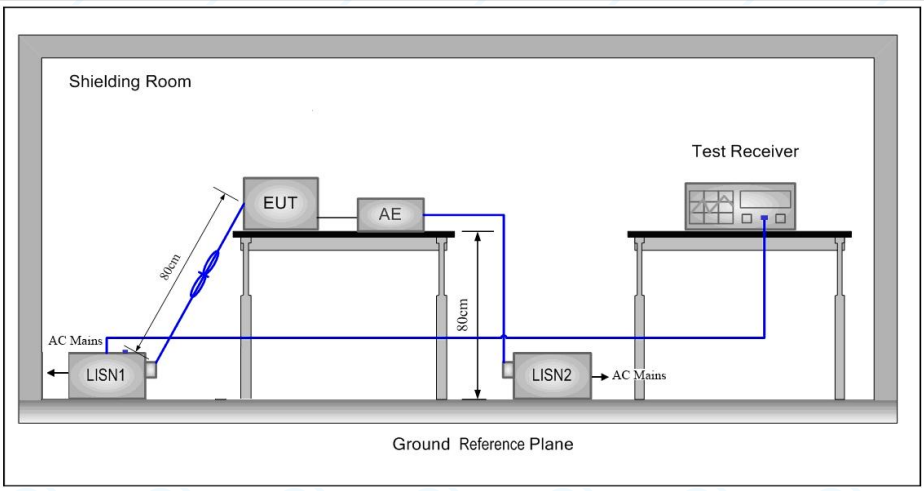
Test Requirement:	47 CFR Part 15 Section 15.407(b)
Test Method:	ANSI C63.10: 2013
Test Frequency Range:	150kHz to 30MHz
Limit:	

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
* Decreases with the logarithm of the frequency.		

Test Procedure:

1) The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. 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.

Test Setup:



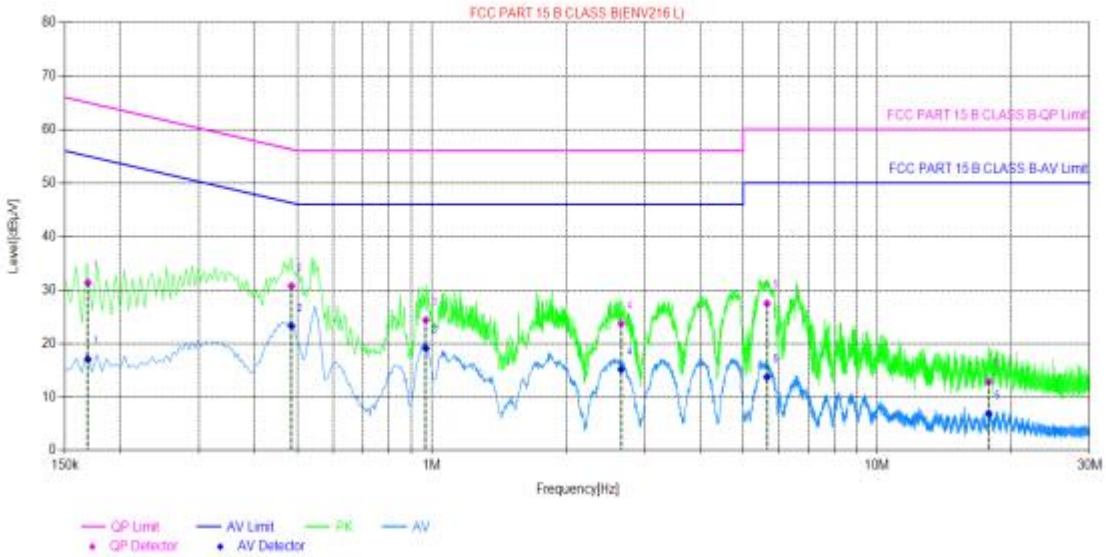
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates at lowest, middle and highest channel. Charge + Transmitting mode.
Final Test Mode:	Through Pre-scan, find the 6.5Mbps of rate of 802.11n(HT20) at lowest

	channel is the worst case. Charge + Transmitting mode. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 2.9 for details
Test Results:	Pass

Measurement Data

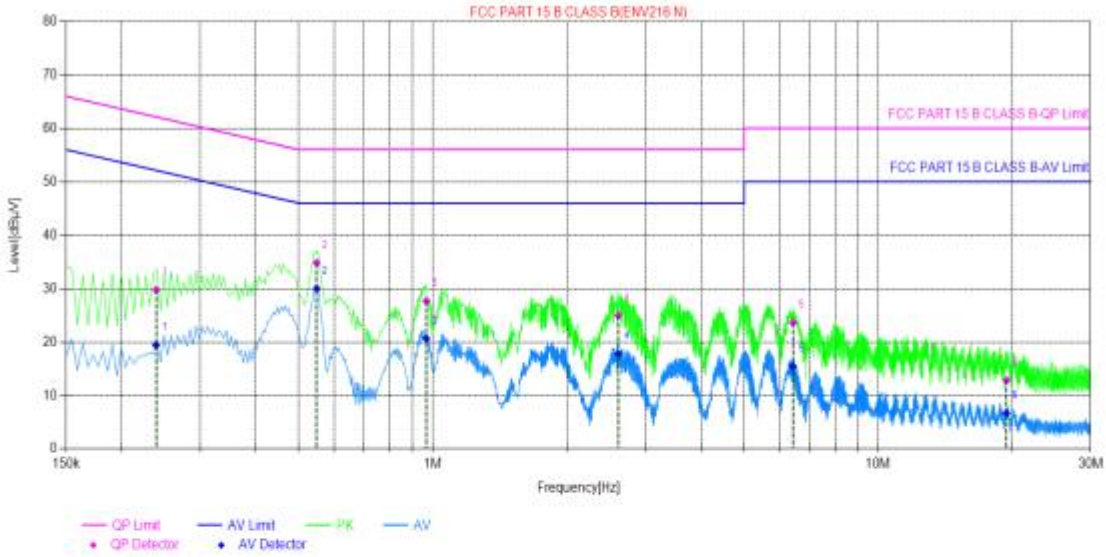
An initial pre-scan was performed on the live and neutral lines with peak detector.
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Live Line:



Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	Verdict
1	0.1688	9.91	31.34	65.02	33.68	17.01	55.02	38.01	PASS
2	0.4836	9.86	30.75	56.28	25.53	23.27	46.28	23.01	PASS
3	0.9691	9.72	24.37	56.00	31.63	19.08	46.00	26.92	PASS
4	2.6604	9.73	23.70	56.00	32.30	15.14	46.00	30.86	PASS
5	5.6562	9.81	27.47	60.00	32.53	13.73	50.00	36.27	PASS
6	17.7930	10.06	12.84	60.00	47.16	6.89	50.00	43.11	PASS

Neutral Line:



Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	Verdict
1	0.2390	9.87	29.78	62.13	32.35	19.42	52.13	32.71	PASS
2	0.5484	9.75	34.84	56.00	21.16	30.00	46.00	16.00	PASS
3	0.9664	9.70	27.67	56.00	28.33	20.67	46.00	25.33	PASS
4	2.6082	9.83	24.98	56.00	31.02	17.82	46.00	28.18	PASS
5	6.4369	9.98	23.63	60.00	36.37	15.45	50.00	34.55	PASS
6	19.4163	10.05	12.83	60.00	47.17	6.68	50.00	43.32	PASS

Remark:

1. The 802.11A is the worse case.
2. The following Quasi-Peak and Average measurements were performed on the EUT:
3. The Measurement (Result Level) is calculated by Reading Level adding the Correct Factor(maybe including LISN Factor and the Cable Factor etc.), The basic equation is as follows:

Result Level= Reading Level + Correct Factor(including LISN Factor, Cable Factor etc.)

4 Appendix

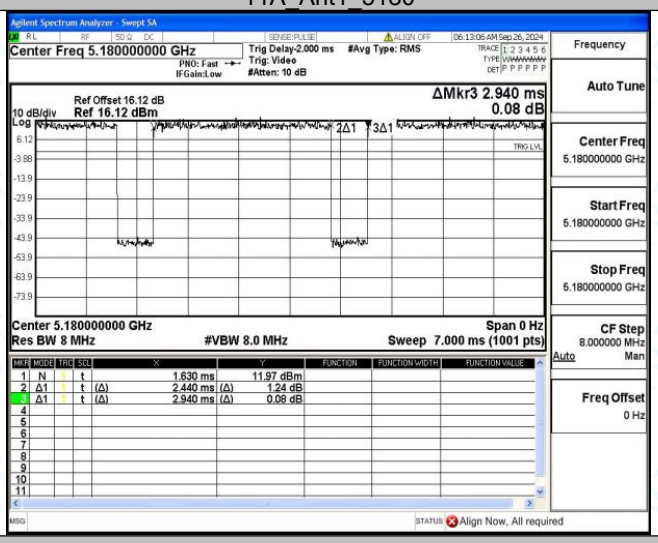
Appendix A: Duty Cycle

Test Result

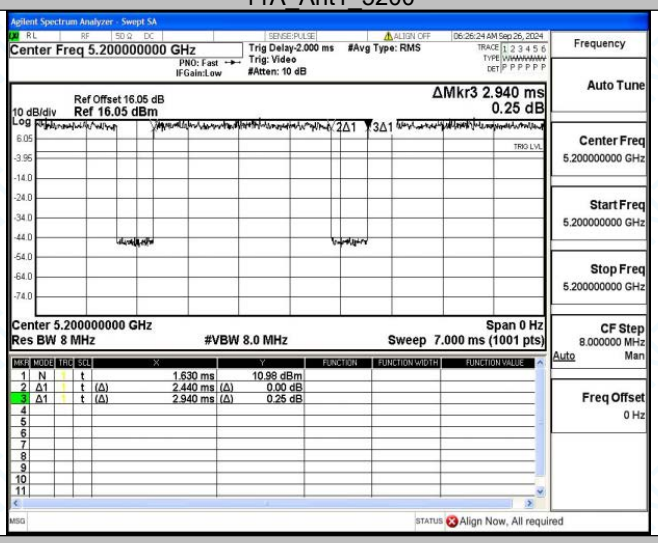
TestMode	Antenna	Freq(MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11A	Ant1	5180	2.44	2.94	82.99	---	---
		5200	2.44	2.94	82.99	---	---
		5240	2.44	2.93	83.28	---	---
11N20SISO	Ant1	5180	12.34	12.86	95.96	---	---
		5200	12.34	12.85	96.03	---	---
		5240	12.34	12.85	96.03	---	---
11N40SISO	Ant1	5190	5.96	6.46	92.26	---	---
		5230	5.96	6.46	92.26	---	---

Test Graphs

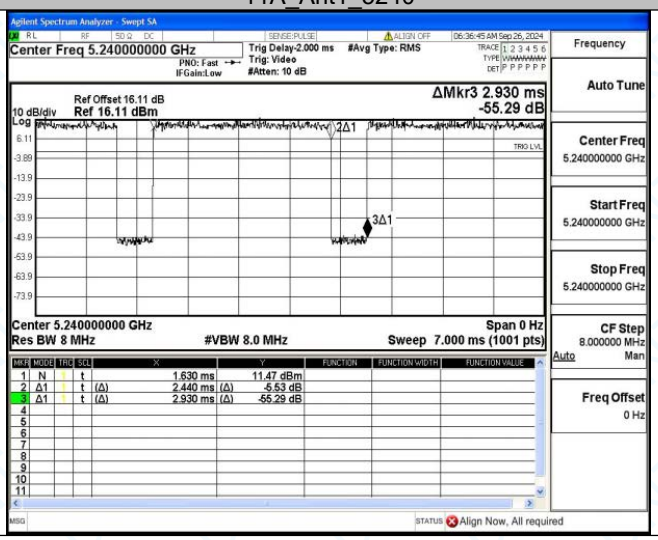
11A_Ant1_5180



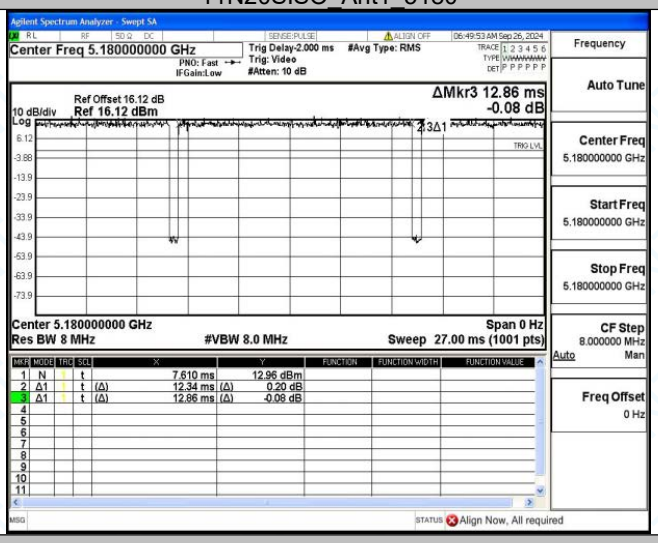
11A_Ant1_5200



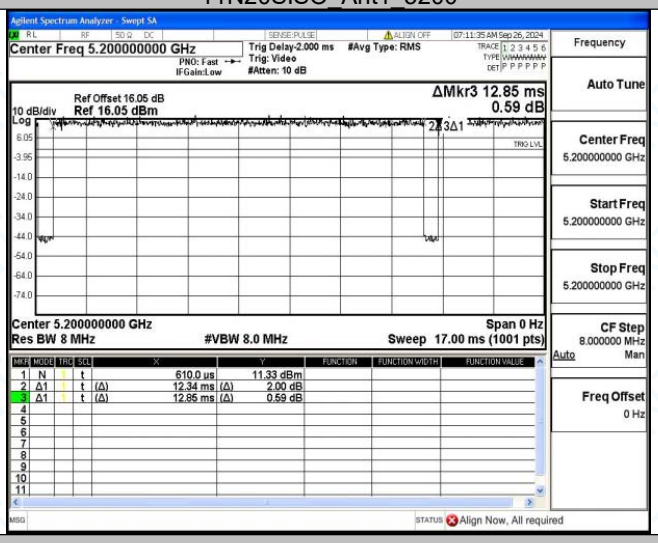
11A_Ant1_5240



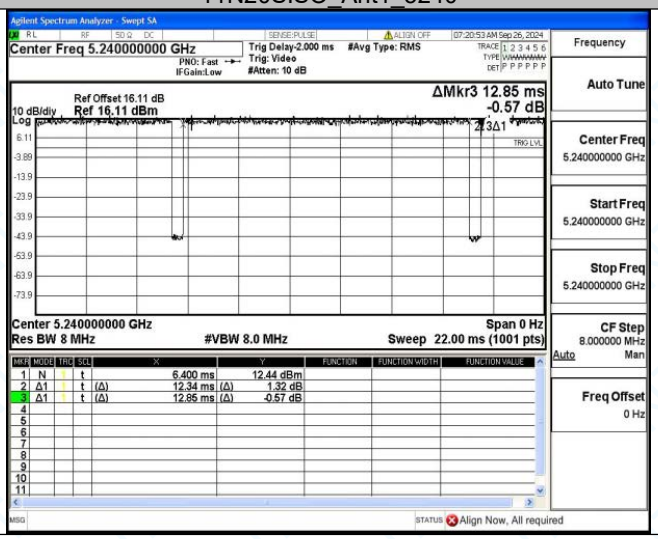
11N20SISO_Ant1_5180



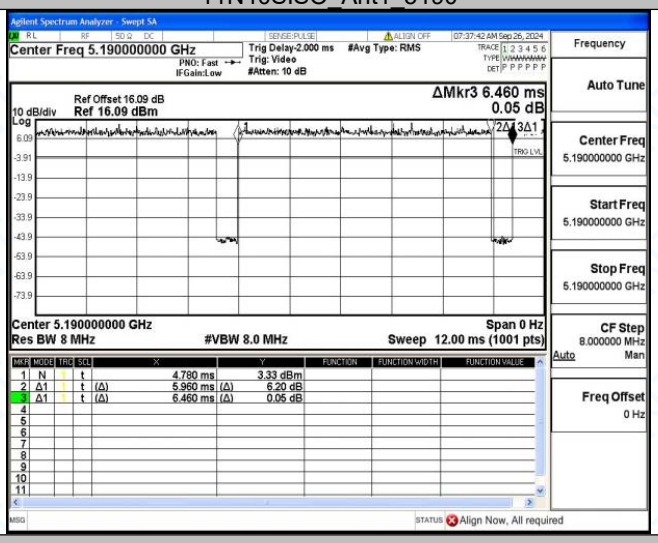
11N20SISO_Ant1_5200



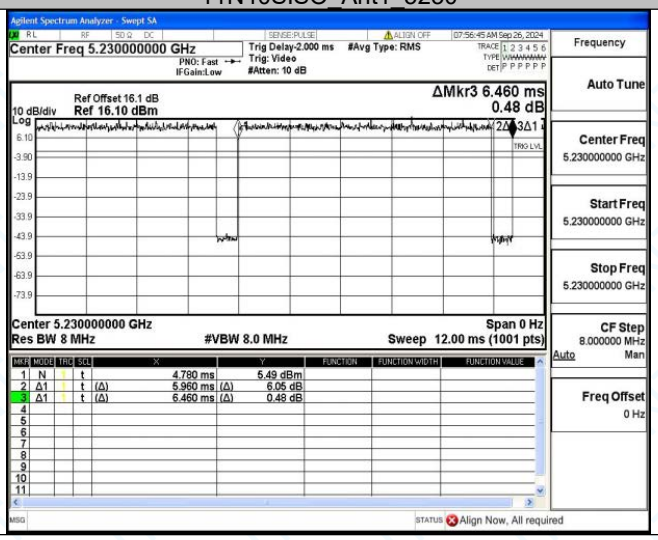
11N20SISO_Ant1_5240



11N40SISO_Ant1_5190



11N40SISO_Ant1_5230



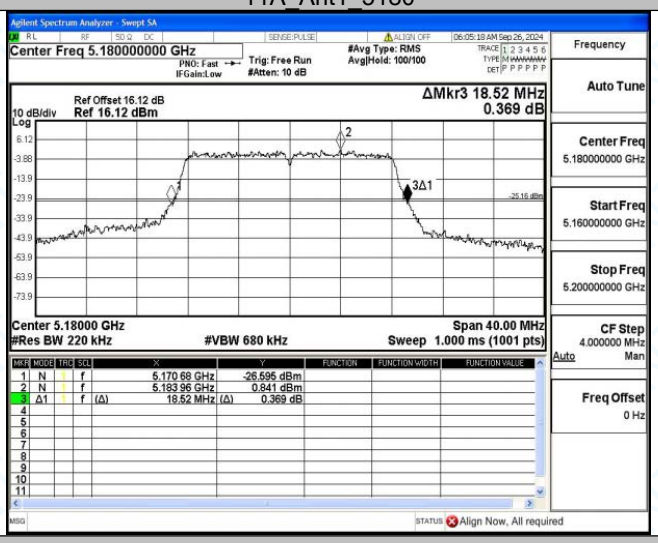
Appendix B: 26dB Emission Bandwidth

Test Result

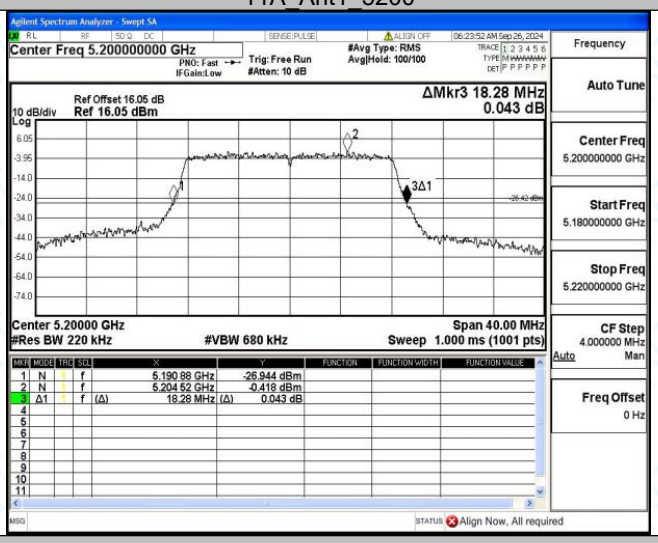
TestMode	Antenna	Freq(MHz)	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	18.520	5170.680	5189.200	---	---
		5200	18.280	5190.880	5209.160	---	---
		5240	18.440	5230.800	5249.240	---	---
11N20SISO	Ant1	5180	19.440	5170.280	5189.720	---	---
		5200	19.680	5190.200	5209.880	---	---
		5240	19.520	5230.200	5249.720	---	---
11N40SISO	Ant1	5190	40.960	5169.520	5210.480	---	---
		5230	40.480	5209.600	5250.080	---	---

Test Graphs

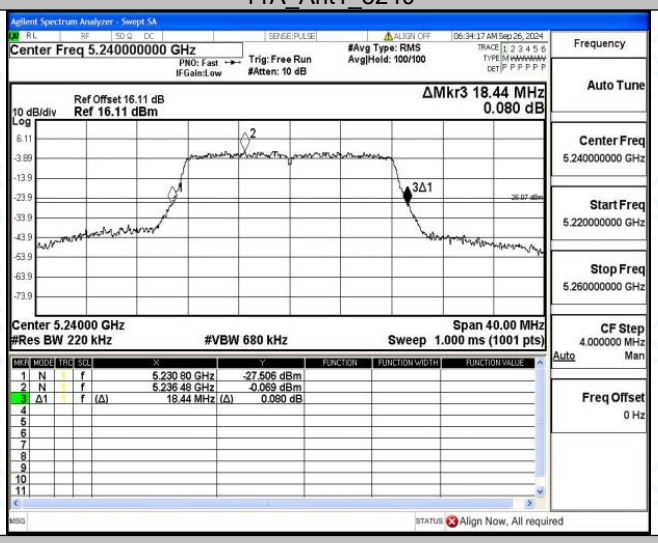
11A_Ant1_5180



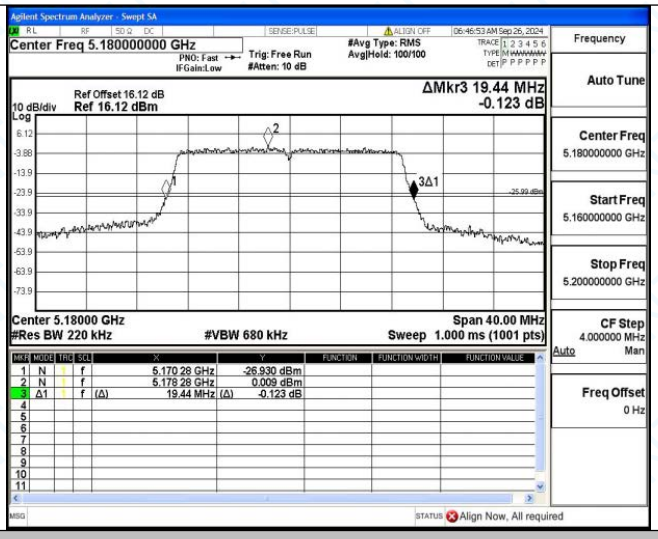
11A_Ant1_5200



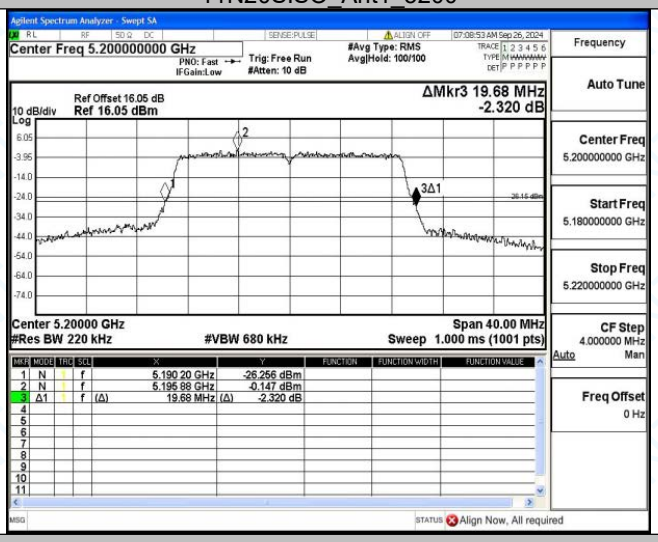
11A_Ant1_5240



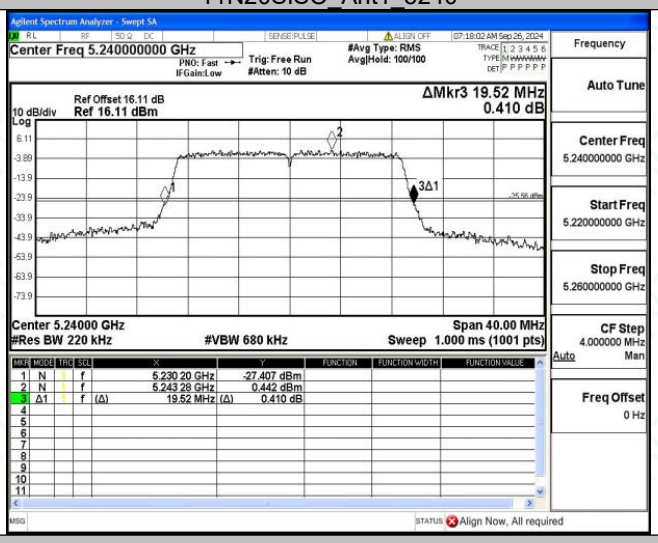
11N20SISO_Ant1_5180



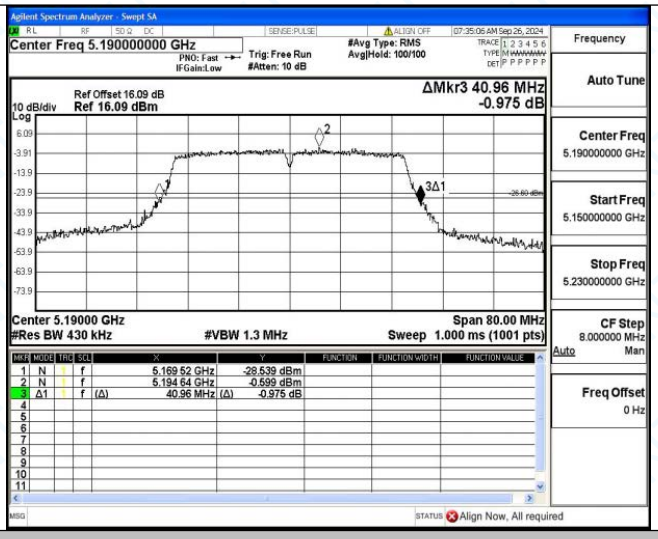
11N20SISO_Ant1_5200



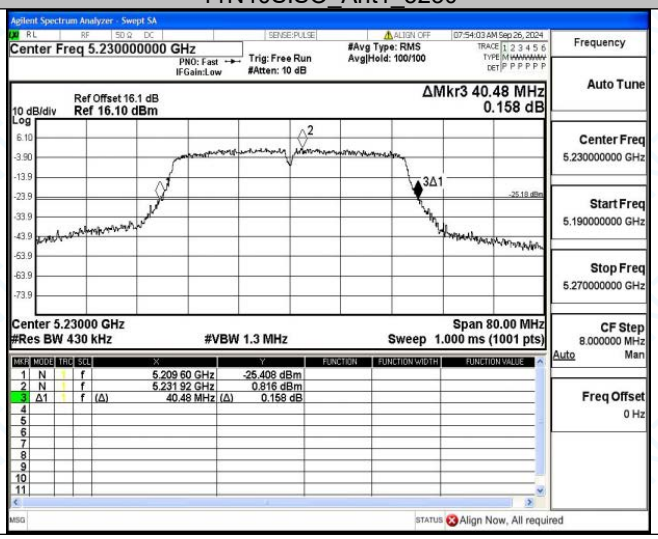
11N20SISO_Ant1_5240



11N40SISO_Ant1_5190



11N40SISO_Ant1_5230



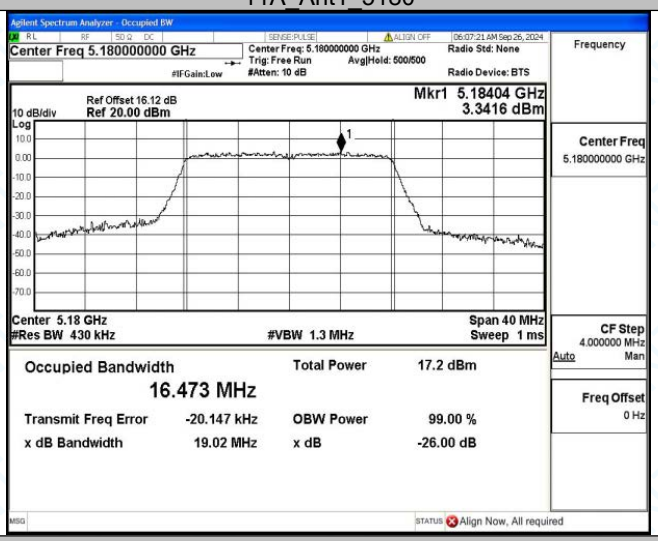
Appendix C:Occupied channel bandwidth

Test Result

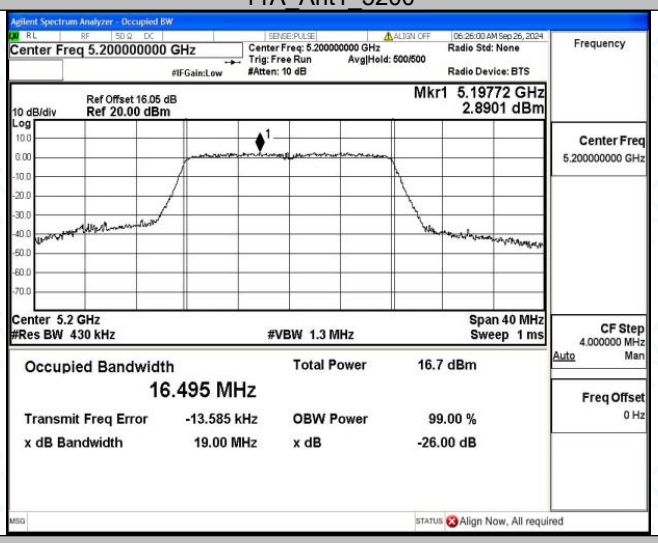
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	16.473	5171.7434	5188.2164	---	---
		5200	16.495	5191.7389	5208.2339	---	---
		5240	16.491	5231.7321	5248.2231	---	---
11N20SISO	Ant1	5180	17.621	5171.1645	5188.7855	---	---
		5200	17.627	5191.1717	5208.7987	---	---
		5240	17.638	5231.1514	5248.7894	---	---
11N40SISO	Ant1	5190	36.369	5171.8234	5208.1924	---	---
		5230	36.370	5211.7730	5248.1430	---	---

Test Graphs

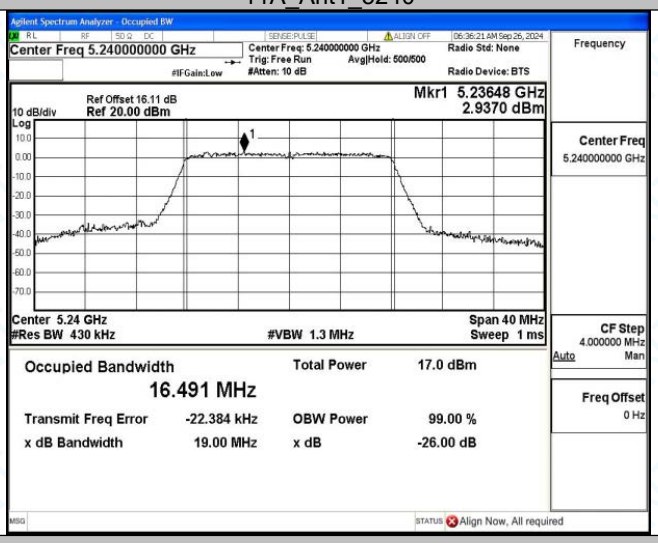
11A_Ant1_5180



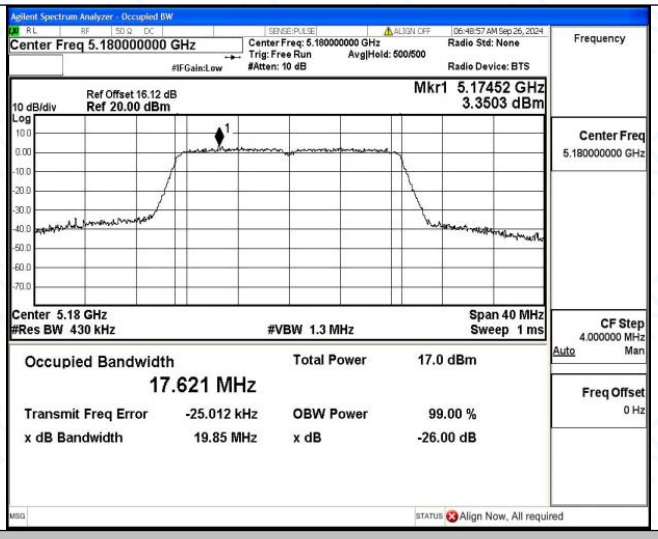
11A_Ant1_5200



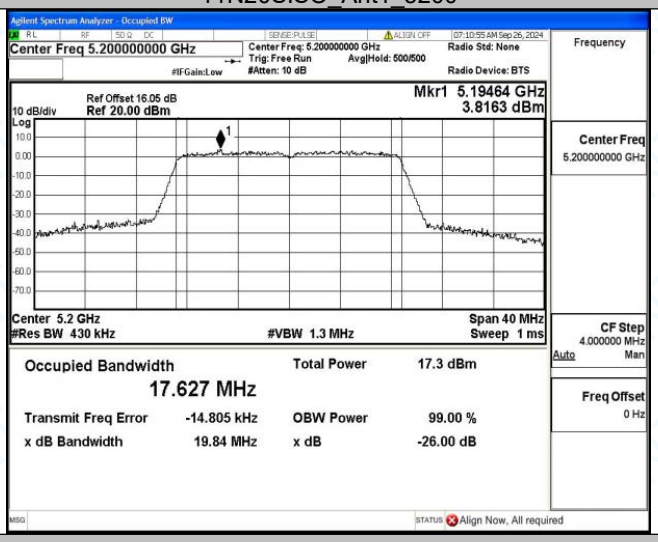
11A_Ant1_5240



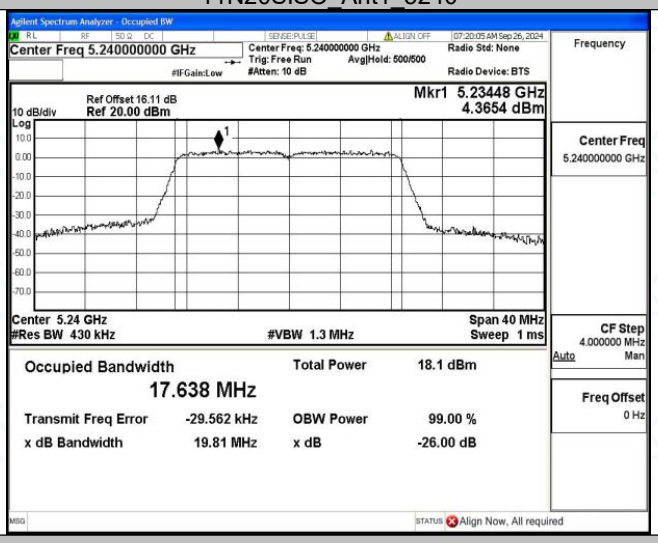
11N20SISO_Ant1_5180



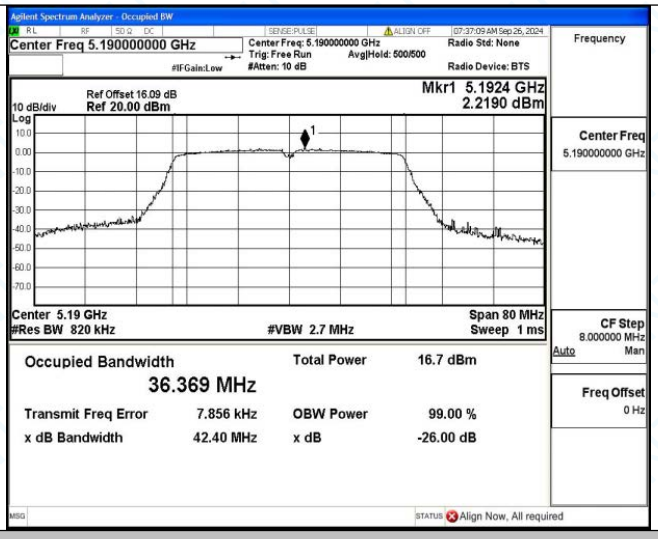
11N20SISO_Ant1_5200



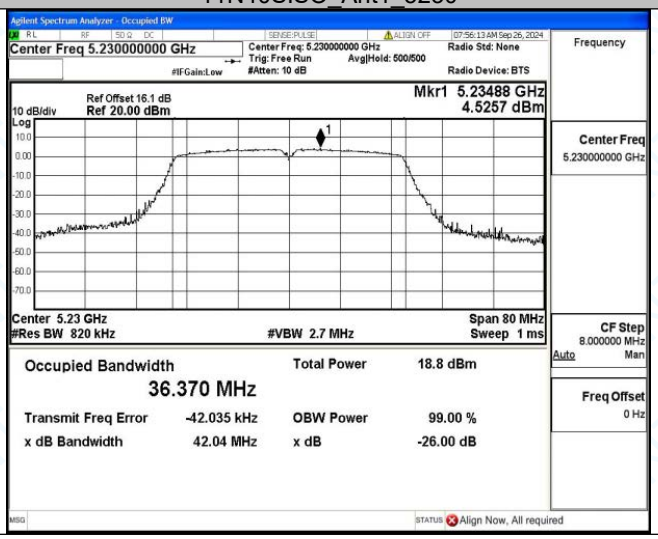
11N20SISO_Ant1_5240



11N40SISO_Ant1_5190



11N40SISO_Ant1_5230



Appendix D: Maximum conducted output power

Test Result

Test Mode	Antenna	Freq(MHz)	Channel Power [dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]
11A	Ant1	5180	10.03	82.99	0.81	10.84	≤23.98
		5200	9.18	82.99	0.81	9.99	≤23.98
		5240	9.81	83.28	0.79	10.60	≤23.98
11N20SISO	Ant1	5180	9.94	95.96	0.18	10.12	≤23.98
		5200	10.48	96.03	0.18	10.66	≤23.98
		5240	11.19	96.03	0.18	11.37	≤23.98
11N40SISO	Ant1	5190	9.09	92.26	0.35	9.44	≤23.98
		5230	11.33	92.26	0.35	11.68	≤23.98

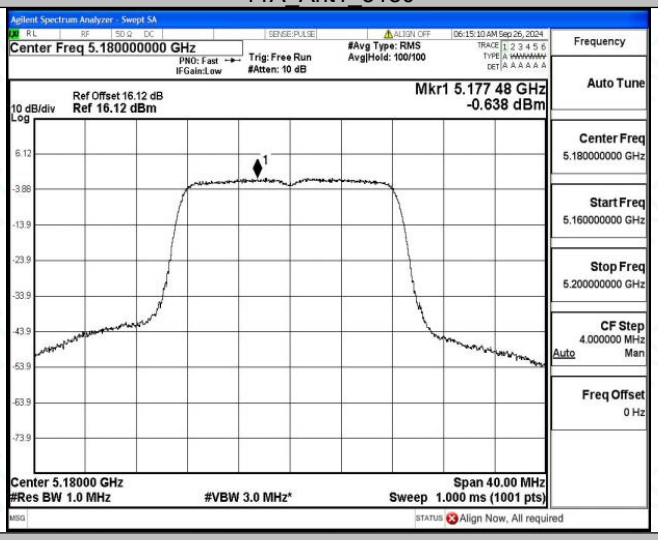
Appendix E: Maximum power spectral density

Test Result

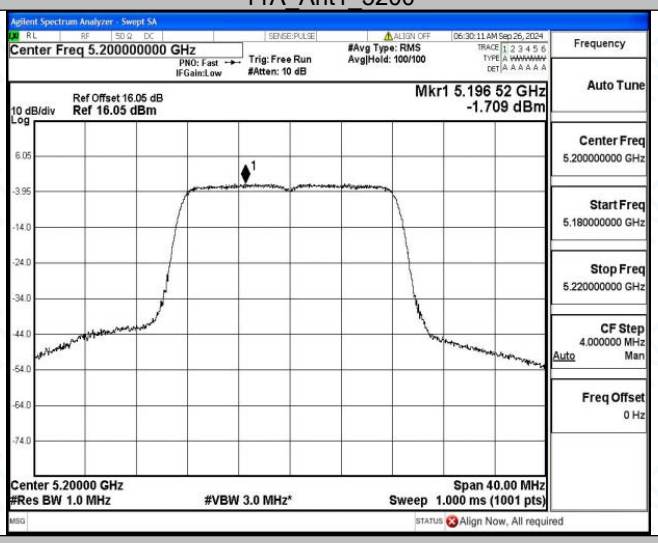
TestMode	Antenna	Freq(MHz)	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	0.17	≤11.00	PASS
		5200	-0.90	≤11.00	PASS
		5240	-0.24	≤11.00	PASS
11N20SISO	Ant1	5180	-1.26	≤11.00	PASS
		5200	-0.66	≤11.00	PASS
		5240	0.30	≤11.00	PASS
11N40SISO	Ant1	5190	-4.13	≤11.00	PASS
		5230	-2.28	≤11.00	PASS

Test Graphs

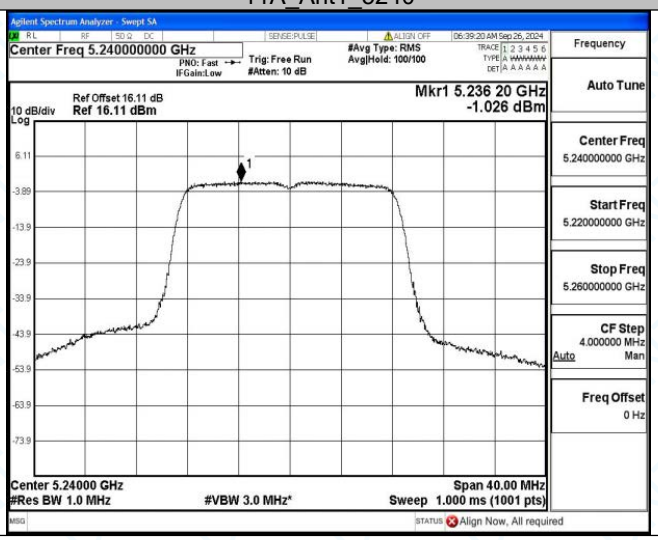
11A_Ant1_5180



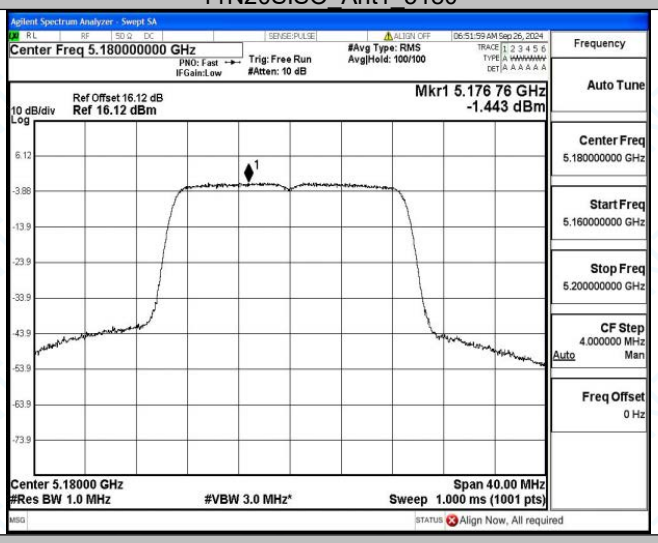
11A_Ant1_5200



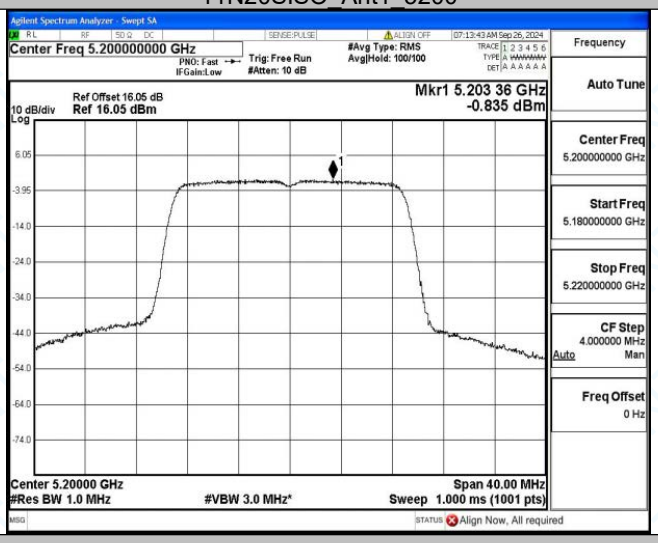
11A_Ant1_5240



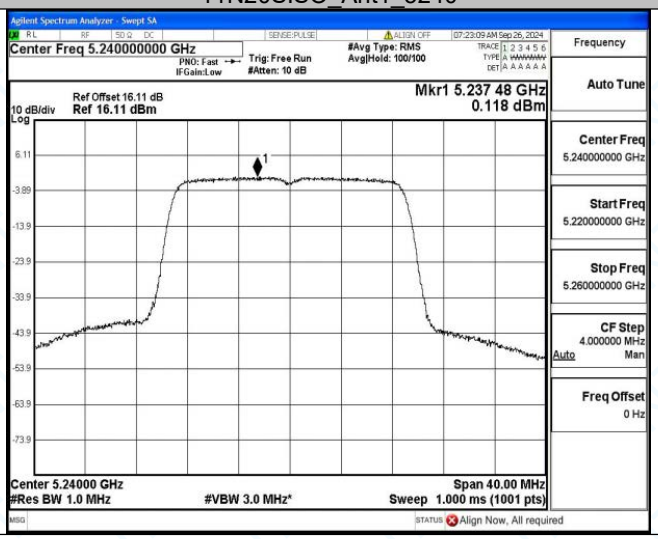
11N20SISO_Ant1_5180



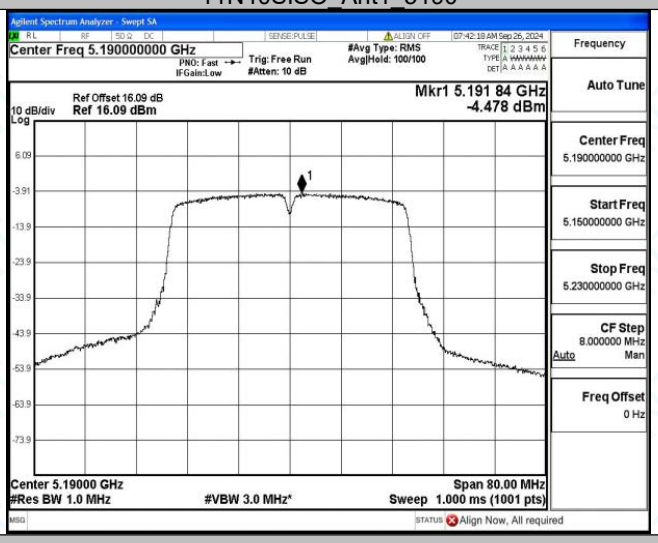
11N20SISO_Ant1_5200



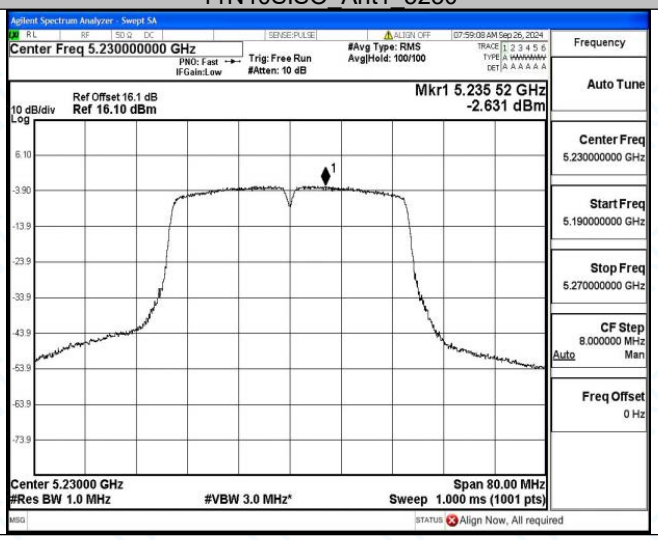
11N20SISO_Ant1_5240



11N40SISO_Ant1_5190



11N40SISO_Ant1_5230



Appendix F: Frequency Stability

Test Result

Voltage								
TestMode	Antenna	Freq(MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	NT	-20000.00	-3.861004	20	PASS
			LV	NT	-20000.00	-3.861004	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5200	NV	NT	-20000.00	-3.846154	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	-20000.00	-3.846154	20	PASS
		5240	NV	NT	-20000.00	-3.816794	20	PASS
			LV	NT	-40000.00	-7.633588	20	PASS
			HV	NT	-20000.00	-3.816794	20	PASS
11N20SISO	Ant1	5180	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5200	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5240	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
11N40SISO	Ant1	5190	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5230	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS

Temperature								
TestMode	Antenna	Freq(MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	-30	-20000.00	-3.861004	20	PASS
			NV	-20	-20000.00	-3.861004	20	PASS
			NV	-10	-20000.00	-3.861004	20	PASS
			NV	0	-20000.00	-3.861004	20	PASS
			NV	10	-20000.00	-3.861004	20	PASS
			NV	20	-20000.00	-3.861004	20	PASS
			NV	30	-20000.00	-3.861004	20	PASS
			NV	40	-20000.00	-3.861004	20	PASS
			NV	50	-20000.00	-3.861004	20	PASS
		5200	NV	-30	-20000.00	-3.846154	20	PASS
			NV	-20	-20000.00	-3.846154	20	PASS
			NV	-10	-20000.00	-3.846154	20	PASS
			NV	0	-20000.00	-3.846154	20	PASS
			NV	10	-20000.00	-3.846154	20	PASS
			NV	20	-20000.00	-3.846154	20	PASS
			NV	30	-20000.00	-3.846154	20	PASS
			NV	40	-20000.00	-3.846154	20	PASS
			NV	50	-20000.00	-3.846154	20	PASS
		5240	NV	-30	-20000.00	-3.816794	20	PASS
			NV	-20	-20000.00	-3.816794	20	PASS
			NV	-10	-20000.00	-3.816794	20	PASS
			NV	0	-20000.00	-3.816794	20	PASS
			NV	10	-20000.00	-3.816794	20	PASS
			NV	20	-20000.00	-3.816794	20	PASS
			NV	30	-20000.00	-3.816794	20	PASS
			NV	40	-20000.00	-3.816794	20	PASS
			NV	50	-20000.00	-3.816794	20	PASS
11N20SISO	Ant1	5180	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS

			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
		5200	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
		5240	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
11N40SISO	Ant1	5190	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
		5230	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS

The End Report