TCT 通测检测 TESTING CENTRE TECHNOLOGY

TEST REPORT

FCC ID: 2AQOO-N15I581T

Product: Notebook

Model No.: WWN15I5-8BK1T

Additional Model No.: WWN15I5-8WH1T, WWN15I5-8PK1T, WWN15I5-8SL1T, WWN15I5-8BL1T, WWN15I5-8T1T, WWN15I5-8GO1T, WWN15I5-4BK256

Trade Mark: THOMSON

Report No.: TCT200928E029

Issued Date: Oct. 27, 2020

Issued for:

GROUPSFIT

80/84 route de la Liberation, PONTAULT COMBAULT 77340, France

Issued By:

Shenzhen Tongce Testing Lab.

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1. Test Certification

Product:	Notebook
Model No.:	WWN15I5-8BK1T
Additional Model:	WWN15I5-8WH1T, WWN15I5-8PK1T, WWN15I5-8SL1T, WWN15I5-8BL1T, WWN15I5-8T1T, WWN15I5-8GO1T, WWN15I5-4BK256
Trade Mark:	**THOMSON**
Applicant:	GROUPSFIT
Address:	80/84 route de la Liberation, PONTAULT COMBAULT 77340, France
Manufacturer:	GROUPSFIT
Address:	80/84 route de la Liberation, PONTAULT COMBAULT 77340, France
Date of Test:	Sep. 29, 2020 – Oct. 26, 2020
Applicable Standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247 FCC KDB 558074 D01 15.247 Meas Guidance v05r02 ANSI C63.10:2013

The above equipment has been tested by Shenzhen Tongce Testing Lab. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By:	Brews Xu	***Date:***	***Oct. 26, 2020***
	Brews Xu		
Reviewed By:	Beryl Zhao	***Date:***	***Oct. 27, 2020***
	Beryl Zhao		
Approved By:	Tomsin	***Date:***	***Oct. 27, 2020***
	Tomsin		

2. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203/§15.247 (c)	PASS
AC Power Line Conducted Emission	§15.207	PASS
Conducted Peak Output Power	§15.247 (b)(3)	PASS
6dB Emission Bandwidth	§15.247 (a)(2)	PASS
Power Spectral Density	§15.247 (e)	PASS
Band Edge	§15.247(d)	PASS
Spurious Emission	§15.205/§15.209	PASS

Note:

1. PASS: Test item meets the requirement.

2. Fail: Test item does not meet the requirement.

3. N/A: Test case does not apply to the test object.

4. The test result judgment is decided by the limit of test standard.

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3. EUT Description

Product:	Notebook
Model No.:	WWN15I5-8BK1T
Additional Model:	WWN15I5-8WH1T, WWN15I5-8PK1T, WWN15I5-8SL1T, WWN15I5-8BL1T, WWN15I5-8T1T, WWN15I5-8GO1T, WWN15I5-4BK256
Trade Mark:	**THOMSON**
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g/802.11n(HT20)) 2422MHz~2452MHz (802.11n(HT40))
Channel Separation:	5MHz
Number of Channel:	11 for 802.11b/802.11g/802.11n(HT20) 7 for 802.11n(HT40)
Modulation Technology: (IEEE 802.11b)	Direct Sequence Spread Spectrum (DSSS)
Modulation Technology: (IEEE 802.11g/802.11n)	Orthogonal Frequency Division Multiplexing(OFDM)
Data speed (IEEE 802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps
Data speed (IEEE 802.11n):	Up to 300Mbps
Antenna Type:	Internal Antenna
Antenna Gain:	2.2dBi
Power Supply:	Rechargeable Li-polymer battery DC 7.6V
AC adapter:	Adapter Information: MODEL: JHD-AD065B-190300BA-A INPUT: AC 100-240V, 50/60Hz, 1.5A OUTPUT: DC 19.0V, 3.0A, 57.0W
Remark:	All models above are identical in interior structure, electrical circuits and components, just model names are different for the marketing requirement.

Note: *The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.*

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Operation Frequency each of channel For 802.11b/g/n(HT20)

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	--	--

Operation Frequency each of channel For 802.11n (HT40)

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
--	--	4	2427MHz	7	2442MHz	--	--
--	--	5	2432MHz	8	2447MHz	--	--
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:

802.11b/802.11g/802.11n (HT20)

Channel	Frequency
The lowest channel	2412MHz
The middle channel	2437MHz
The Highest channel	2462MHz

802.11n (HT40)

Channel	Frequency
The lowest channel	2422MHz
The middle channel	2437MHz
The Highest channel	2452MHz

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4. General Information

4.1. Test environment and mode

Operating Environment:		
Condition	Conducted Emission	Radiated Emission
Temperature:	25.0 °C	25.0 °C
Humidity:	55 % RH	55 % RH
Atmospheric Pressure:	1010 mbar	1010 mbar
Test Mode:		
Engineering mode:	Keep the EUT in continuous transmitting by select channel and modulations with Fully-charged battery	
The sample was placed 0.8m & 1.5m for the measurement below & above 1GHz above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case(Z axis) are shown in Test Results of the following pages.		

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:	
Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.	
Mode	Data rate
802.11b	1Mbps
802.11g	6Mbps
802.11n(H20)	6.5Mbps
802.11n(H40)	13.5Mbps
Final Test Mode:	
Operation mode:	Keep the EUT in continuous transmitting with modulation
1. For WIFI function, the engineering test program was provided and enabled to make EUT continuous transmit/receive. 2.According to ANSI C63.10 standards, the test results are both the “worst case” and “worst setup” 1Mbps for 802.11b, 6Mbps for 802.11g, 6.5Mbps for 802.11n(H20), 13.5Mbps for 802.11(H40). Duty cycle setting during the transmission is 98.46% with maximum power setting for all modulations.	

4.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
Notebook Computer	XiaoXin CHAO5000	PF0WZYD9	/	Lenovo

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.

2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

3. For conducted measurements (Output Power, 6dB Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

5. Facilities and Accreditations

5.1. Facilities

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

- FCC - Registration No.: 645098

  Shenzhen Tongce Testing Lab

  The 3m Semi-anechoic chamber has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

  The 3m Semi-anechoic chamber of Shenzhen TCT Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

5.2. Location

Shenzhen Tongce Testing Lab

Address: 1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong, Baoan District, Shenzhen, Guangdong, China

TEL: +86-755-27673339

5.3. Measurement Uncertainty

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

No.	Item	MU
1	Conducted Emission	±2.56dB
2	RF power, conducted	±0.12dB
3	Spurious emissions, conducted	±0.11dB
4	All emissions, radiated(<1G)	±3.92dB
5	All emissions, radiated(>1G)	±4.28dB
6	Temperature	±0.1°C
7	Humidity	±1.0%

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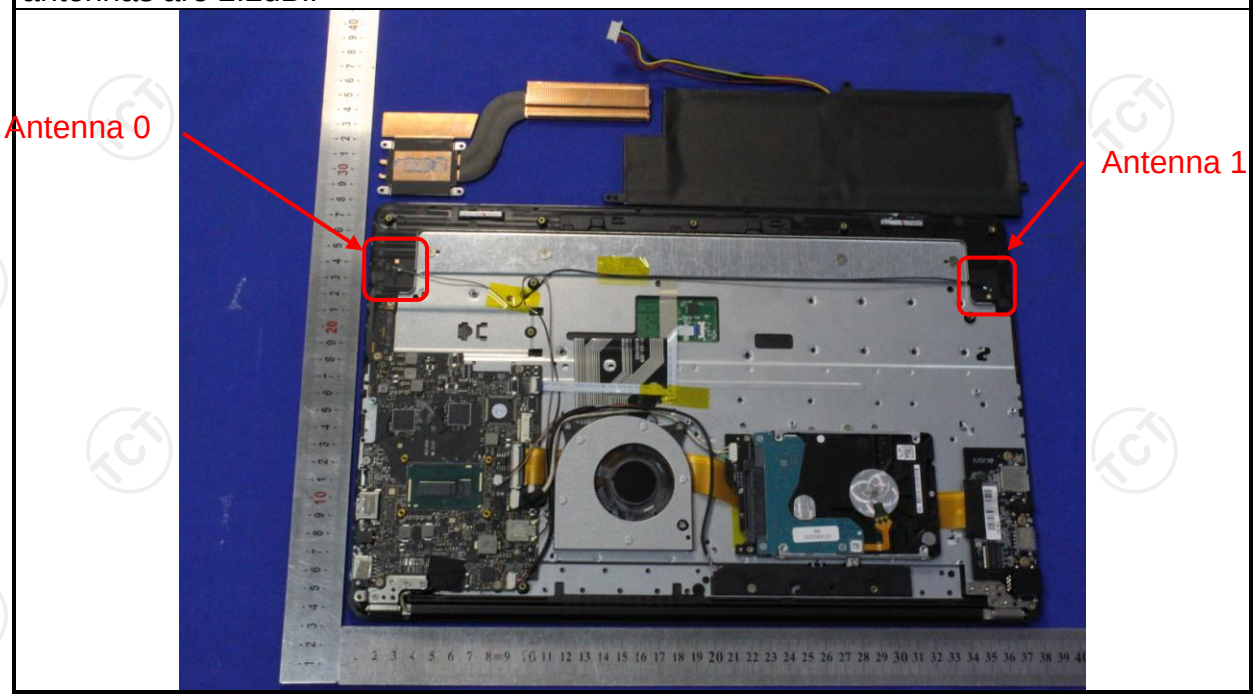
6. Test Results and Measurement Data

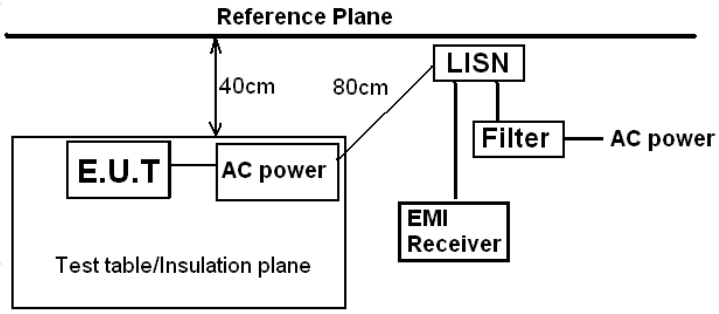
6.1. Antenna requirement

Standard requirement:	FCC Part15 C 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(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.	
E.U.T Antenna:	
The WIFI antennas are internal antennas, and the best case gains of the both antennas are 2.2dBi.	



6.2. Conducted Emission

6.2.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2013
Frequency Range:	150 kHz to 30 MHz
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto
Limits:	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
Test Setup:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*
Test Mode:	Charging + transmitting with modulation
Test Procedure:	1. The E.U.T is 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.
Test Result:	PASS

6.2.2. Test Instruments

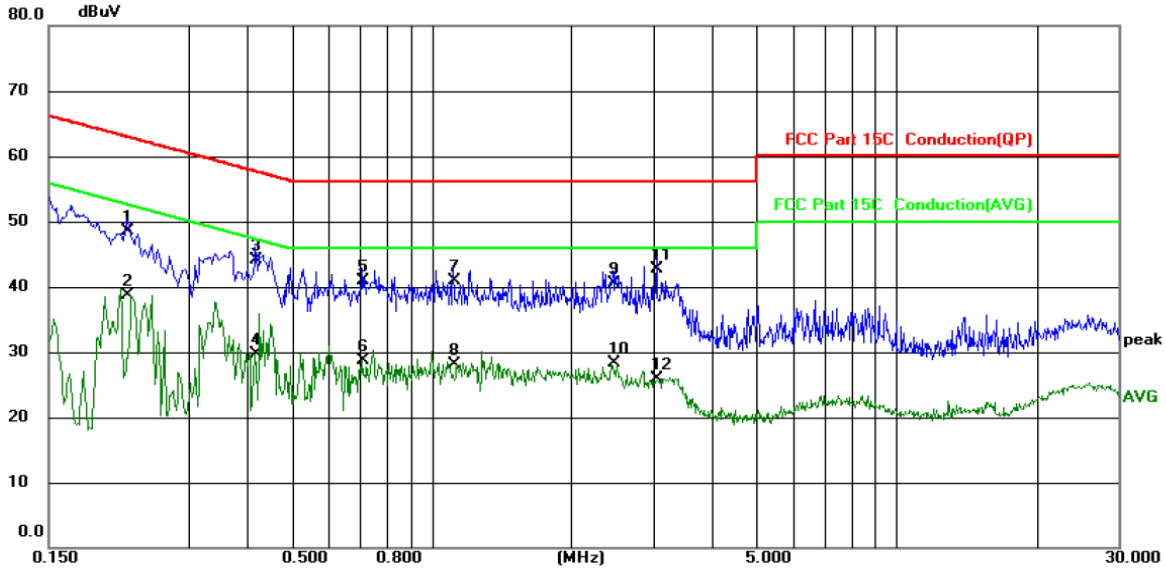
Conducted Emission Shielding Room Test Site (843)				
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Test Receiver	R&S	ESCI3	100898	Jul. 27, 2021
LISN-2	Schwarzbeck	NSLK 8126	8126453	Sep. 11, 2021
Line-5	TCT	CE-05	N/A	Sep. 02, 2021
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A

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

6.2.3. Test data

Please refer to following diagram for individual

Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)



Site | Phase: L1 | Temperature: 25 (C)

Limit: FCC Part 15C Conduction(QP) | Power: AC 120V/60Hz | Humidity: 55 %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2220	38.40	10.13	48.53	62.74	-14.21	QP	
2		0.2220	28.56	10.13	38.69	52.74	-14.05	AVG	
3		0.4180	34.05	10.13	44.18	57.49	-13.31	QP	
4		0.4180	19.63	10.13	29.76	47.49	-17.73	AVG	
5		0.7100	30.82	10.12	40.94	56.00	-15.06	QP	
6		0.7100	18.68	10.12	28.80	46.00	-17.20	AVG	
7		1.1140	30.79	10.12	40.91	56.00	-15.09	QP	
8		1.1140	18.02	10.12	28.14	46.00	-17.86	AVG	
9		2.4580	30.44	10.12	40.56	56.00	-15.44	QP	
10		2.4580	18.22	10.12	28.34	46.00	-17.66	AVG	
11	*	3.0460	32.58	10.13	42.71	56.00	-13.29	QP	
12		3.0460	15.74	10.13	25.87	46.00	-20.13	AVG	

Note:

Freq. = Emission frequency in MHz

Reading level (dBμV) = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement (dBμV) = Reading level (dBμV) + Corr. Factor (dB)

Limit (dBμV) = Limit stated in standard

Margin (dB) = Measurement (dBμV) – Limits (dBμV)

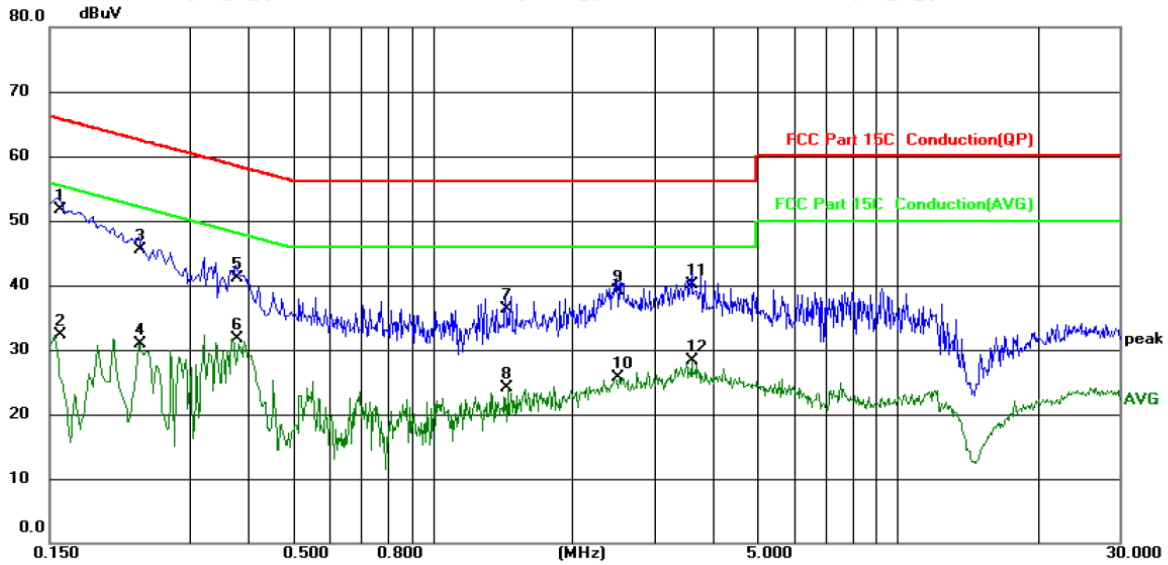
Q.P. =Quasi-Peak

AVG =average

Any value more than 10dB below limit have not been specifically reported.

** is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.*

Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



Site | Phase: N | Temperature: 25 (C)

Limit: FCC Part 15C Conduction(QP) | Power: AC 120V/60Hz | Humidity: 55 %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1580	41.68	10.12	51.80	65.57	-13.77	QP	
2		0.1580	22.11	10.12	32.23	55.57	-23.34	AVG	
3		0.2340	35.36	10.13	45.49	62.31	-16.82	QP	
4		0.2340	20.72	10.13	30.85	52.31	-21.46	AVG	
5		0.3780	31.00	10.13	41.13	58.32	-17.19	QP	
6		0.3780	21.58	10.13	31.71	48.32	-16.61	AVG	
7		1.4340	26.25	10.12	36.37	56.00	-19.63	QP	
8		1.4340	14.07	10.12	24.19	46.00	-21.81	AVG	
9		2.4900	28.95	10.12	39.07	56.00	-16.93	QP	
10		2.4900	15.58	10.12	25.70	46.00	-20.30	AVG	
11		3.6140	29.94	10.13	40.07	56.00	-15.93	QP	
12		3.6140	18.22	10.13	28.35	46.00	-17.65	AVG	

Note:

Freq. = Emission frequency in MHz

Reading level (dBμV) = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement (dBμV) = Reading level (dBμV) + Corr. Factor (dB)

Limit (dBμV) = Limit stated in standard

Margin (dB) = Measurement (dBμV) – Limits (dBμV)

Q.P. =Quasi-Peak

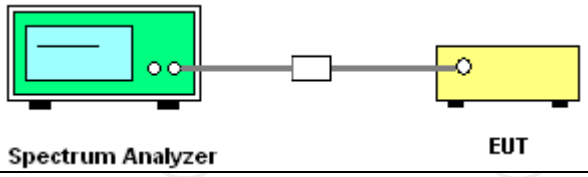
AVG =average

Any value more than 10dB below limit have not been specifically reported.

** is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.*

6.3. Maximum Conducted (Average) Output Power

6.3.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	KDB 558074 D01 v05r02, KDB662911 D01 v02r01
Limit:	30dBm
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Measure the conducted output power and record the results in the test report.
Test Result:	PASS

6.3.2. Test Instruments

RF Test Room				
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	N9020A	MY49100619	Sep. 11, 2021
RF Cable (9KHz-26.5GHz)	TCT	RE-06	N/A	Sep. 11, 2021
Antenna Connector	TCT	RFC-01	N/A	Sep. 11, 2021

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

6.3.3. Test Data

Configuration IEEE 802.11b/ Antenna 0+Antenna 1				
Test channel	Maximum Conducted (Average) Output Power (dBm)		Limit (dBm)	Result
	Antenna 0	Antenna 1		
Lowest	14.10	13.33	30	PASS
Middle	14.20	13.60	30	PASS
Highest	13.74	13.83	30	PASS

Configuration IEEE 802.11g/ Antenna 0+Antenna 1				
Test channel	Maximum Conducted (Average) Output Power (dBm)		Limit (dBm)	Result
	Antenna 0	Antenna 1		
Lowest	12.79	11.93	30	PASS
Middle	12.66	12.69	30	PASS
Highest	12.32	12.23	30	PASS

Configuration IEEE 802.11n(H20)/ Antenna 0+Antenna 1					
Test channel	Maximum Conducted (Average) Output Power (dBm)			Limit (dBm)	Result
	Antenna 0	Antenna 1	Total		
Lowest	11.86	11.39	14.64	30	PASS
Middle	12.72	12.56	15.65	30	PASS
Highest	12.30	11.70	15.02	30	PASS

Configuration IEEE 802.11n(H40)/ Antenna 0+Antenna 1					
Test channel	Maximum Conducted (Average) Output Power (dBm)			Limit (dBm)	Result
	Antenna 0	Antenna 1	Total		
Lowest	12.33	11.71	15.04	30	PASS
Middle	12.35	13.12	15.76	30	PASS
Highest	12.23	12.04	15.15	30	PASS

***Note*:**

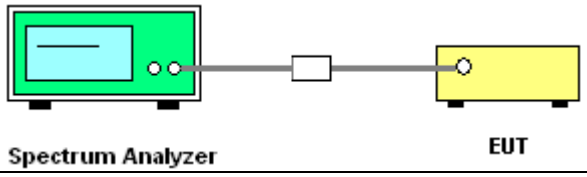
G_{ANT} = 2.2dBi, Array Gain= 10log(NANT)= 3.01dBi

Directional Gain=G_{ANT} + Array Gain= 5.21dBi < 6dBi, So limit=30dBm

Refer to Appendix A: Test Result of Conducted Test

6.4. Emission Bandwidth

6.4.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	KDB 558074 D01 v05r02
Limit:	>500kHz
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. Set to the maximum power setting and enable the EUT transmit continuously. 2. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz. 3. Measure and record the results in the test report.
Test Result:	PASS

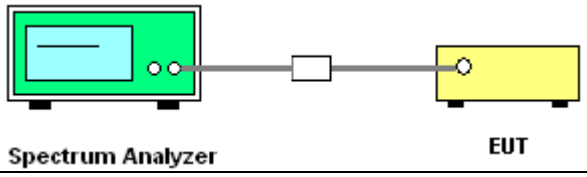
6.4.2. Test Instruments

RF Test Room				
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	N9020A	MY49100619	Sep. 11, 2021
RF Cable (9KHz-26.5GHz)	TCT	RE-06	N/A	Sep. 11, 2021
Antenna Connector	TCT	RFC-01	N/A	Sep. 11, 2021

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

6.5. Power Spectral Density

6.5.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	KDB 558074
Limit:	The average power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW): 3 kHz ≤ RBW ≤ 100 kHz. Video bandwidth VBW ≥ 3 x RBW. Set the span to at least 1.5 times the OBW. 4. Detector = RMS, Sweep time = auto couple. 5. Employ trace averaging (RMS) mode over a minimum of 100 traces. Use the peak marker function to determine the maximum power level. 6. Measure and record the results in the test report.
Test Result:	PASS

6.5.2. Test Instruments

RF Test Room				
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	N9020A	MY49100619	Sep. 11, 2021
RF Cable (9KHz-26.5GHz)	TCT	RE-06	N/A	Sep. 11, 2021
Antenna Connector	TCT	RFC-01	N/A	Sep. 11, 2021

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

6.5.3. Test data

Configuration IEEE 802.11b/ Antenna 0, Antenna 1				
Test channel	AVG Power Spectral Density (dBm/3kHz)		Limit (dBm/3kHz)	Result
	Antenna 0	Antenna 1		
Lowest	-18.67	-18.93	8	PASS
Middle	-17.68	-18.77	8	PASS
Highest	-18.4	-18.71	8	PASS

Configuration IEEE 802.11g/ Antenna 0, Antenna 1				
Test channel	AVG Power Spectral Density (dBm/3kHz)		Limit (dBm/3kHz)	Result
	Antenna 0	Antenna 1		
Lowest	-20.93	-21.79	8	PASS
Middle	-21.20	-21.30	8	PASS
Highest	-21.55	-21.63	8	PASS

Configuration IEEE 802.11n (HT20)/ Antenna 0, Antenna 1					
Test channel	AVG Power Spectral Density (dBm/3kHz)			Limit (dBm/3kHz)	Result
	Antenna 0	Antenna 1	Total		
Lowest	-21.76	-22.29	-19.01	8	PASS
Middle	-21.36	-21.36	-18.35	8	PASS
Highest	-21.64	-22.35	-18.97	8	PASS

Configuration IEEE 802.11n (HT40)/ Antenna 0, Antenna 1					
Test channel	AVG Power Spectral Density (dBm/3kHz)			Limit (dBm/3kHz)	Result
	Antenna 0	Antenna 1	Total		
Lowest	-24.62	-25.29	-21.93	8	PASS
Middle	-24.84	-23.79	-21.27	8	PASS
Highest	-24.83	-24.83	-21.82	8	PASS

Note:

G_{ANT} = 2.2dBi, Array Gain= 10log(NANT)= 3.01dBi

Directional Gain=G_{ANT} + Array Gain= 5.21dBi < 6dBi, So limit=8dBm/3kHz

Refer to Appendix A: Test Result of Conducted Test

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6.6. Conducted Band Edge and Spurious Emission Measurement

6.6.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074
Limit:	In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement and radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d). 4. Measure and record the results in the test report. 5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
Test Result:	PASS

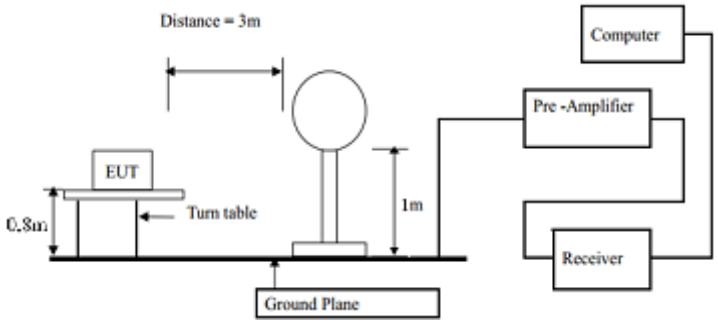
6.6.2. Test Instruments

RF Test Room				
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	N9020A	MY49100619	Sep. 11, 2021
RF Cable (9KHz-26.5GHz)	TCT	RE-06	N/A	Sep. 11, 2021
Antenna Connector	TCT	RFC-01	N/A	Sep. 11, 2021

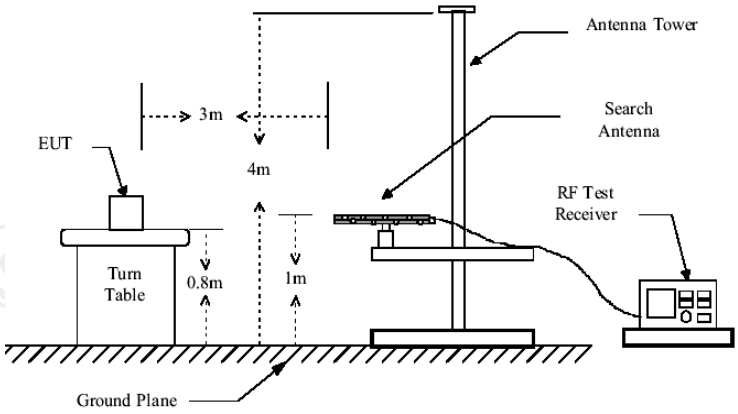
Note: *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

6.7. Radiated Spurious Emission Measurement

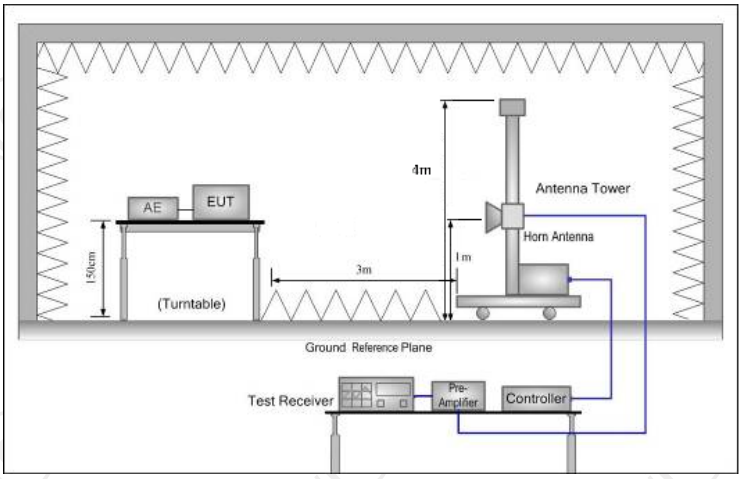
6.7.1. Test Specification

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10: 2013</td></tr>
<tr><td>Frequency Range:</td><td>9 kHz to 25 GHz</td></tr>
<tr><td>Measurement Distance:</td><td>3 m</td></tr>
<tr><td>Antenna Polarization:</td><td>Horizontal & Vertical</td></tr>
<tr><td>Operation mode:</td><td>Transmitting mode with modulation</td></tr>
<tr><td>Receiver Setup:</td><td>
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td>9kHz- 150kHz</td><td>Quasi-peak</td><td>200Hz</td><td>1kHz</td><td>Quasi-peak Value</td></tr>
<tr><td>150kHz-30MHz</td><td>Quasi-peak</td><td>9kHz</td><td>30kHz</td><td>Quasi-peak Value</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>120KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td>Frequency</td><td>Field Strength (microvolts/meter)</td><td>Measurement Distance (meters)</td></tr>
<tr><td>0.009-0.490</td><td>2400/F(KHz)</td><td>300</td></tr>
<tr><td>0.490-1.705</td><td>24000/F(KHz)</td><td>30</td></tr>
<tr><td>1.705-30</td><td>30</td><td>30</td></tr>
<tr><td>30-88</td><td>100</td><td>3</td></tr>
<tr><td>88-216</td><td>150</td><td>3</td></tr>
<tr><td>216-960</td><td>200</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>3</td></tr>
</table>
<table>
<tr><td>Frequency</td><td>Field Strength (microvolts/meter)</td><td>Measurement Distance (meters)</td><td>Detector</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>500</td><td>3</td><td>Average</td></tr>
<tr><td>5000</td><td>3</td><td>Peak</td></tr>
</table>
</td></tr>
<tr><td>Test setup:</td><td>For radiated emissions below 30MHz
 

30MHz to 1GHz</td></tr>
</table>



Above 1GHz



Test Procedure:

1. For the radiated emission test below 1GHz:
The EUT was placed on a turntable with 0.8 meter above ground. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high PASS filter are used for the test in order to get better signal level.
For the radiated emission test above 1GHz:
Place the measurement antenna on a turntable with 1.5 meter above ground, which is away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which

	maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane. 3. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level 4. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported. 5. Use the following spectrum analyzer settings: (1) Span shall wide enough to fully capture the emission being measured; (2) Set RBW=120 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold; (3) Set RBW = 1 MHz, VBW= 3MHz for f >1 GHz for peak measurement. For average measurement: 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.
Test results:	PASS

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6.7.2. Test Instruments

Radiated Emission Test Site (966)				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Test Receiver	ROHDE&SCHWARZ	ESIB7	100197	Jul. 27, 2021
Spectrum Analyzer	ROHDE&SCHWARZ	FSQ40	200061	Sep. 11, 2021
Pre-amplifier	EM Electronics Corporation CO.,LTD	EM30265	07032613	Sep. 02, 2021
Pre-amplifier	HP	8447D	2727A05017	Sep. 02, 2021
Loop antenna	ZHINAN	ZN30900A	12024	Sep. 11, 2021
Broadband Antenna	Schwarzbeck	VULB9163	340	Sep. 04, 2022
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Sep. 04, 2022
Horn Antenna	A-INFO	LB-180400-KF	J211020657	Sep. 04, 2022
Antenna Mast	Keleto	RE-AM	N/A	N/A
Line-4	TCT	RE-high-04	N/A	Sep. 02, 2021
Line-8	TCT	RE-01	N/A	Sep. 02, 2021
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A

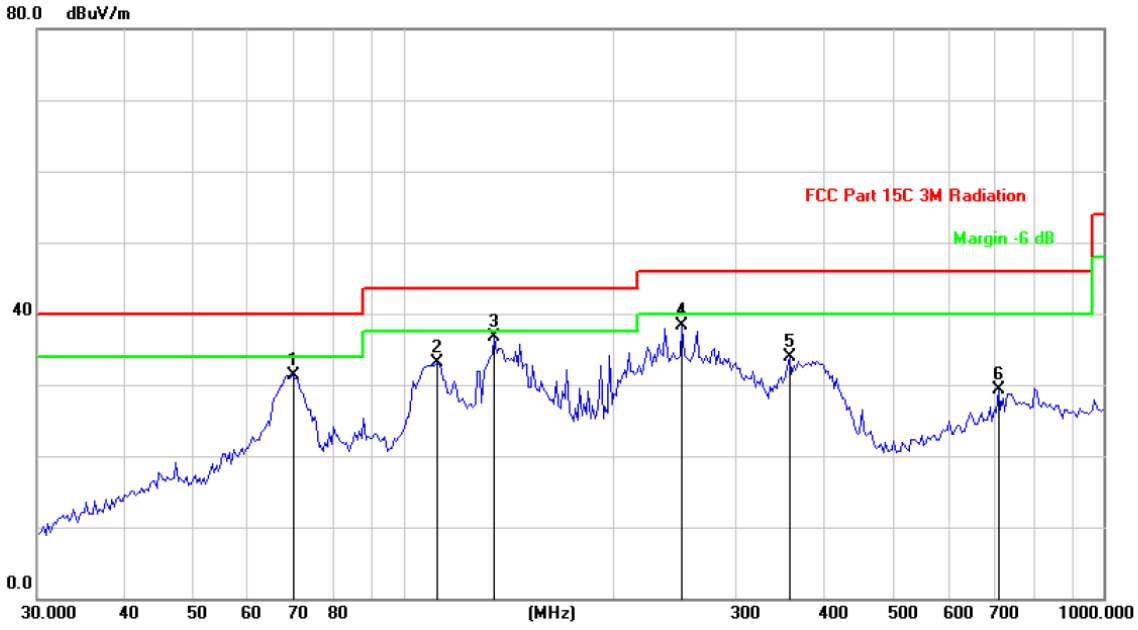
Note: *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

6.7.3. Test Data

Please refer to following diagram for individual

Below 1GHz

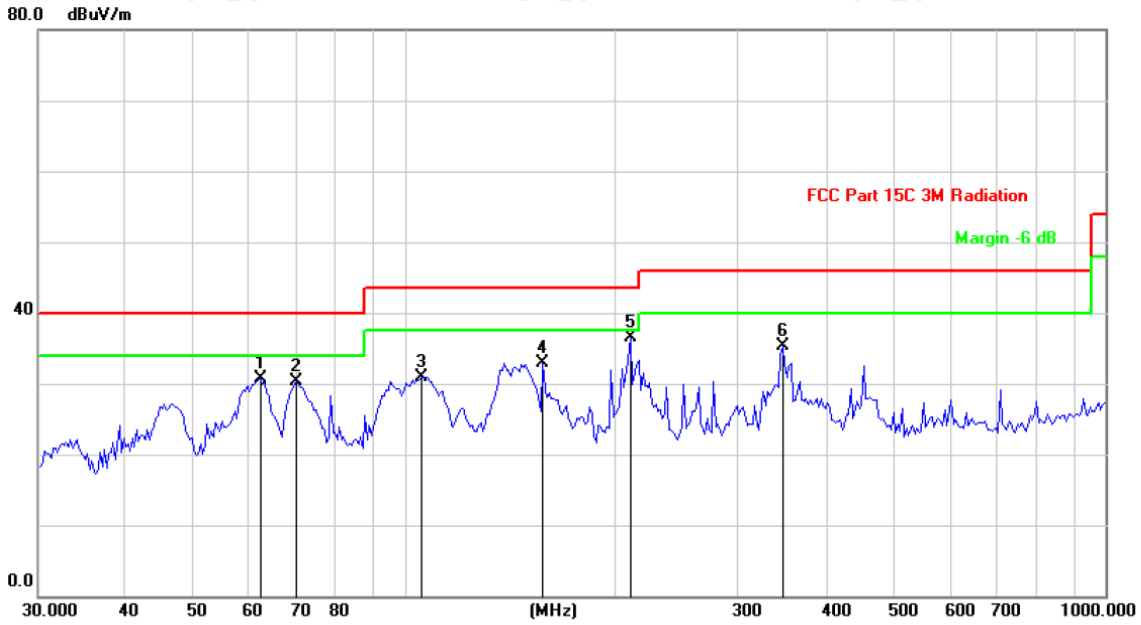
Horizontal:



Site	Polarization: *Horizontal*	Temperature: 25
Limit: FCC Part 15C 3M Radiation	Power: AC 120V/60Hz	Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		69.7179	46.95	-15.55	31.40	40.00	-8.60	peak
2		111.6397	42.37	-9.31	33.06	43.50	-10.44	peak
3	*	134.9643	52.38	-15.75	36.63	43.50	-6.87	peak
4		250.4858	50.85	-12.55	38.30	46.00	-7.70	peak
5		355.9397	43.54	-9.60	33.94	46.00	-12.06	peak
6		708.6941	34.59	-5.30	29.29	46.00	-16.71	peak

Vertical:



Site

Limit: FCC Part 15C 3M Radiation

Polarization: *Vertical*

Power: AC 120V/60Hz

Temperature: 25

Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		62.3038	43.92	-13.13	30.79	40.00	-9.21	peak
2		70.2095	45.93	-15.65	30.28	40.00	-9.72	peak
3		105.5369	39.47	-8.49	30.98	43.50	-12.52	peak
4		157.5286	48.84	-15.91	32.93	43.50	-10.57	peak
5	*	210.1294	50.26	-13.72	36.54	43.50	-6.96	peak
6		346.0740	45.16	-9.78	35.38	46.00	-10.62	peak

Note: *1.The low frequency, which started from 9KHz~30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported*

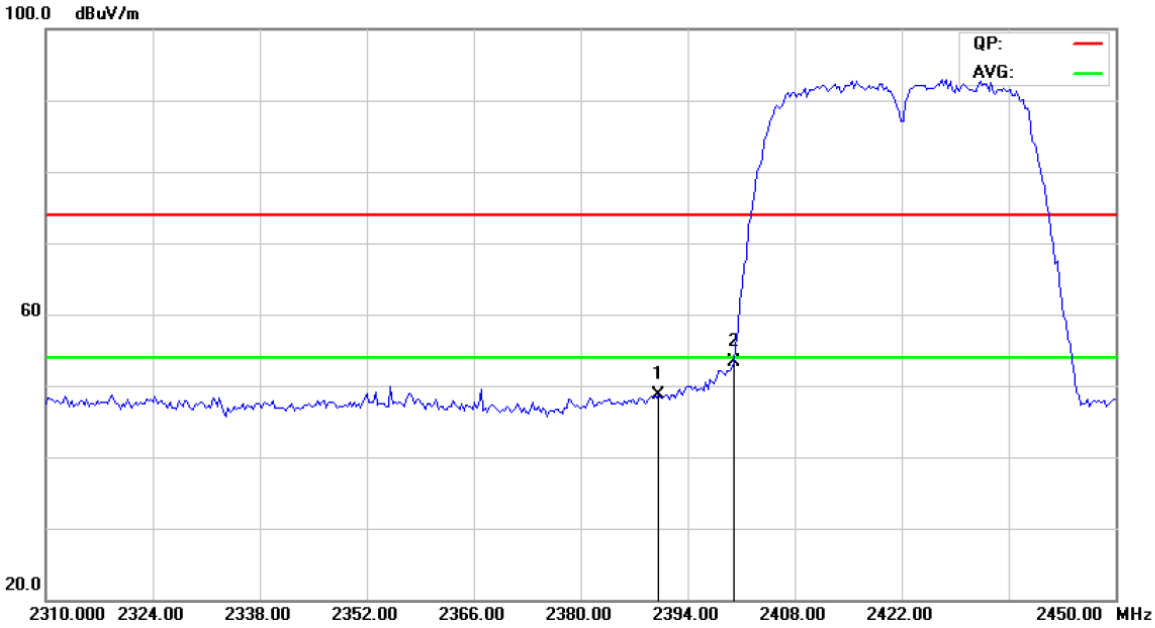
2. Measurements were conducted in all three channels (high, middle, low) and all modulation(802.11b, 802.11g, 802.11n(HT20), 802.11n(HT40)), and the worst case Mode (middle channel and 802.11n(HT40)) was submitted only.

3. Freq. = Emission frequency in MHz
Measurement (dBμV/m) = Reading level (dBμV) + Corr. Factor (dB)
Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
Limit (dBμV/m) = Limit stated in standard
Margin (dB) = Measurement (dBμV/m) – Limits (dBμV/m)
Any value more than 10dB below limit have not been specifically reported.
** is meaning the worst frequency has been tested in the test frequency range*

Test Result of Radiated Spurious at Band edges

Lowest channel 2422:

Horizontal:



Site

Limit: FCC part 15 (PK)

Polarization: *Horizontal*

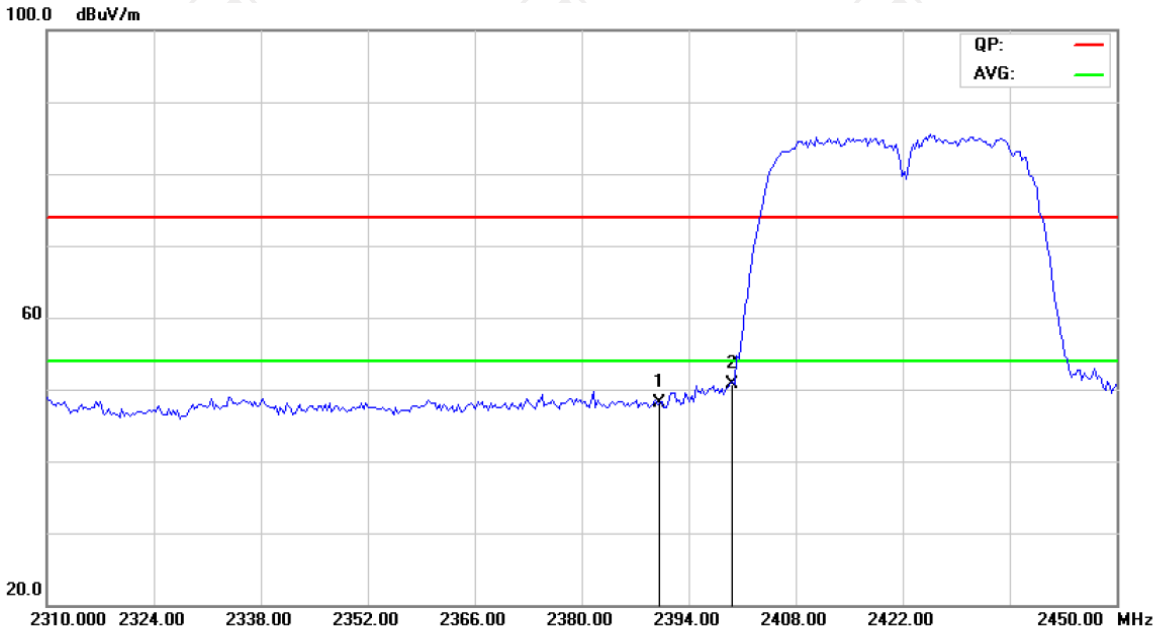
Power:

Temperature: 25 (C)

Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		2390.000	61.78	-13.15	48.63	74.00	-25.37	peak
2	*	2400.000	66.50	-13.12	53.38	74.00	-20.62	peak

Vertical:



Site | Polarization: *Vertical* | Temperature: 25 (C)

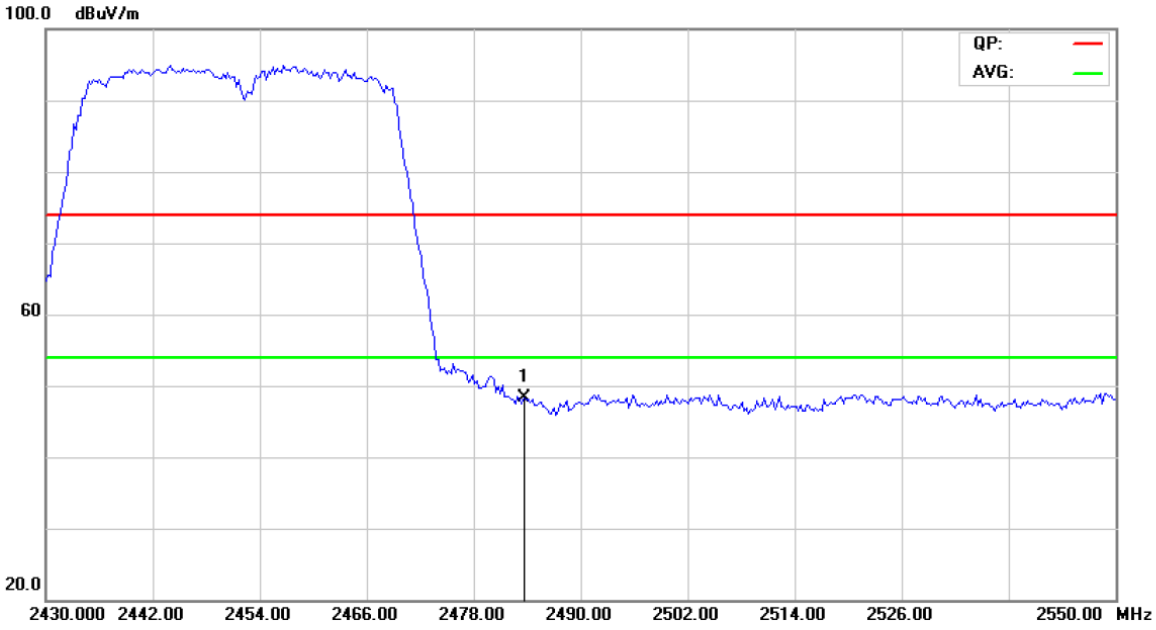
Limit: FCC part 15 (PK) | Power: | Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		2390.000	61.28	-13.15	48.13	74.00	-25.87	peak
2	*	2400.000	63.75	-13.12	50.63	74.00	-23.37	peak

Note: *Measurements were conducted in all two channels (high, low) and all modulation (802.11b, 802.11g, 802.11n(HT20), 802.11n(HT40)), and the worst case Mode 802.11n(HT40)*

Highest channel 2452:

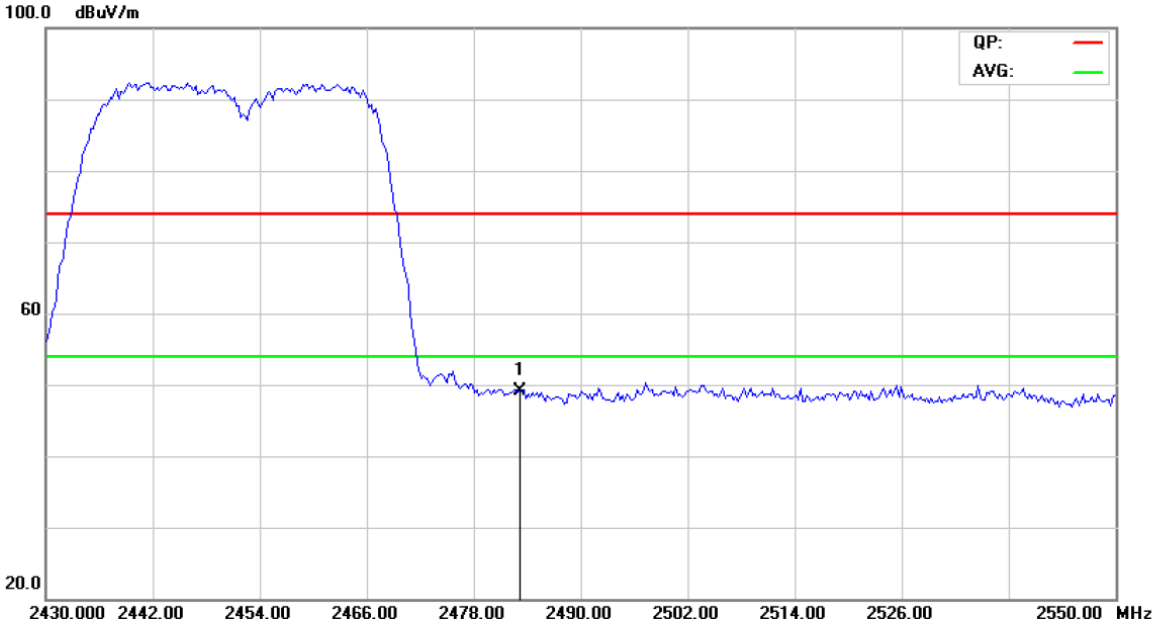
Horizontal:



Site	Polarization: *Horizontal*	Temperature: 25 (C)
Limit: FCC part 15 (PK)	Power:	Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	*	2483.500	61.12	-12.84	48.28	74.00	-25.72	peak

Vertical:



Site	Polarization: *Vertical*	Temperature: 25 (C)
Limit: FCC part 15 (PK)	Power:	Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	*	2483.000	61.94	-12.84	49.10	74.00	-24.90	peak

Note:

1. *Peak Final Emission Level=Peak Reading + Correction Factor;*
2. *Correction Factor= Antenna Factor + Cable loss – Pre-amplifier*
3. *Measurements were conducted in all modulation(802.11b, 802.11g, 802.11n(HT20), 802.11n(HT40)), and the worst case Mode 802.11n(HT40)) was submitted only.*

Above 1GHz

Modulation Type: 802.11b

Low channel: 2412 MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
					Peak (dBµV/m)	AV (dBµV/m)			
4824	H	48.55	---	0.75	49.30	---	74	54	-4.70
7236	H	40.00	---	9.87	49.87	---	74	54	-4.13
---	H	---	---	---	---	---	---	---	---
4824	V	48.37	---	0.75	49.12	---	74	54	-4.88
7236	V	39.49	---	9.87	49.36	---	74	54	-4.64
---	V	---	---	---	---	---	---	---	---

Middle channel: 2437MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
					Peak (dBµV/m)	AV (dBµV/m)			
4874	H	48.50	---	0.97	49.47	---	74	54	-4.53
7311	H	41.14	---	9.83	50.97	---	74	54	-3.03
---	H	---	---	---	---	---	---	---	---
4874	V	48.07	---	0.97	49.04	---	74	54	-4.96
7311	V	41.36	---	9.83	51.19	---	74	54	-2.81
---	V	---	---	---	---	---	---	---	---

High channel: 2462 MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
					Peak (dBµV/m)	AV (dBµV/m)			
4924	H	48.97	---	1.18	50.15	---	74	54	-3.85
7386	H	38.50	---	10.07	48.57	---	74	54	-5.43
---	H	---	---	---	---	---	---	---	---
4924	V	48.70	---	1.18	49.88	---	74	54	-4.12
7386	V	37.95	---	10.07	48.02	---	74	54	-5.98
---	V	---	---	---	---	---	---	---	---

Note:

1. *Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier*
2. *Margin (dB) = Emission Level (Peak) (dBµV/m)-Average limit (dBµV/m)*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
4. *Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 25GHz.*
5. *Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.*
6. *802.11b is SISO mode and the worst case Antenna (ANT0) was submitted only.*

Modulation Type: 802.11g

Low channel: 2412 MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
4824	H	48.11	---	0.75	48.86	---	74	54	-5.14
7236	H	39.88	---	9.87	49.75	---	74	54	-4.25
---	H	---	---	---	---	---	---	---	---
4824	V	48.33	---	0.75	49.08	---	74	54	-4.92
7236	V	40.19	---	9.87	50.06	---	74	54	-3.94
---	V	---	---	---	---	---	---	---	---

Middle channel: 2437MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
4874	H	47.90	---	0.97	48.87	---	74	54	-5.13
7311	H	40.87	---	9.83	50.70	---	74	54	-3.30
---	H	---	---	---	---	---	---	---	---
4874	V	48.16	---	0.97	49.13	---	74	54	-4.87
7311	V	41.43	---	9.83	51.26	---	74	54	-2.74
---	V	---	---	---	---	---	---	---	---

High channel: 2462 MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
4924	H	48.54	---	1.18	49.72	---	74	54	-4.28
7386	H	37.82	---	10.07	47.89	---	74	54	-6.11
---	H	---	---	---	---	---	---	---	---
4924	V	48.86	---	1.18	50.04	---	74	54	-3.96
7386	V	37.78	---	10.07	47.85	---	74	54	-6.15
---	V	---	---	---	---	---	---	---	---

Note:

7. *Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier*
8. *Margin (dB) = Emission Level (Peak) (dBμV/m)-Average limit (dBμV/m)*
9. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
10. *Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 25GHz.*
11. *Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.*
12. *802.11b is SISO mode and the worst case Antenna (ANT0) was submitted only.*

Modulation Type: 802.11n (HT20)

Low channel: 2412 MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
4824	H	48.69	---	0.75	49.44	---	74	54	-4.56
7236	H	39.48	---	9.87	49.35	---	74	54	-4.65
---	H	---	---	---	---	---	---	---	---
4824	V	48.65	---	0.75	49.40	---	74	54	-4.60
7236	V	40.00	---	9.87	49.87	---	74	54	-4.13
---	V	---	---	---	---	---	---	---	---

Middle channel: 2437MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
4874	H	48.25	---	0.97	49.22	---	74	54	-4.78
7311	H	40.95	---	9.83	50.78	---	74	54	-3.22
---	H	---	---	---	---	---	---	---	---
4874	V	48.36	---	0.97	49.33	---	74	54	-4.67
7311	V	41.07	---	9.83	50.90	---	74	54	-3.10
---	V	---	---	---	---	---	---	---	---

High channel: 2462 MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
4924	H	49.28	---	1.18	50.46	---	74	54	-3.54
7386	H	38.32	---	10.07	48.39	---	74	54	-5.61
---	H	---	---	---	---	---	---	---	---
4924	V	48.90	---	1.18	50.08	---	74	54	-3.92
7386	V	38.23	---	10.07	48.30	---	74	54	-5.70
---	V	---	---	---	---	---	---	---	---

Note:

1. *Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier*
2. *Margin (dB) = Emission Level (Peak) (dBμV/m)-Average limit (dBμV/m)*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
4. *Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 25GHz.*
5. *Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.*
6. *802.11n(HT20) is MIMO mode.*

Modulation Type: 802.11n (HT40)

Low channel: 2422 MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
					Peak (dBµV/m)	AV (dBµV/m)			
4844	H	45.00	---	0.75	45.75	---	74	54	-8.25
7266	H	38.15	---	9.87	48.02	---	74	54	-5.98
---	H	---	---	---	---	---	---	---	---
4824	V	44.94	---	0.75	45.69	---	74	54	-8.31
7236	V	38.56	---	9.87	48.43	---	74	54	-5.57
---	V	---	---	---	---	---	---	---	---

Middle channel: 2437MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
					Peak (dBµV/m)	AV (dBµV/m)			
4874	H	41.96	---	0.97	42.93	---	74	54	-11.07
7311	H	34.25	---	9.83	44.08	---	74	54	-9.92
---	H	---	---	---	---	---	---	---	---
4874	V	43.72	---	0.97	44.69	---	74	54	-9.31
7311	V	36.97	---	9.83	46.80	---	74	54	-7.20
---	V	---	---	---	---	----	---	---	---

High channel: 2452 MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
					Peak (dBµV/m)	AV (dBµV/m)			
4904	H	45.17	---	1.18	46.35	---	74	54	-7.65
7356	H	35.87	---	10.07	45.94	---	74	54	-8.06
---	H	---	---	---	---	---	---	---	---
4904	V	44.47	---	1.18	45.65	---	74	54	-8.35
7356	V	36.22	---	10.07	46.29	---	74	54	-7.71
---	V	---	---	---	---	---	---	---	---

Note:

1. *Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier*
2. *Margin (dB) = Emission Level (Peak) (dBµV/m)-Average limit (dBµV/m)*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
4. *Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 25GHz.*
5. *Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.*
6. *802.11n(HT40) is MIMO mode.*

Appendix A: Test Result of Conducted Test

DTS Bandwidth

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11B	Ant1	2412	10.160	2406.920	2417.080	0.5	PASS
	Ant2	2412	10.160	2406.920	2417.080	0.5	PASS
	Ant1	2437	10.160	2431.920	2442.080	0.5	PASS
	Ant2	2437	10.160	2431.920	2442.080	0.5	PASS
	Ant1	2462	10.200	2456.880	2467.080	0.5	PASS
	Ant2	2462	10.200	2456.880	2467.080	0.5	PASS
11G	Ant1	2412	16.560	2403.720	2420.280	0.5	PASS
	Ant2	2412	16.600	2403.680	2420.280	0.5	PASS
	Ant1	2437	16.600	2428.680	2445.280	0.5	PASS
	Ant2	2437	16.600	2428.680	2445.280	0.5	PASS
	Ant1	2462	16.600	2453.680	2470.280	0.5	PASS
	Ant2	2462	16.560	2453.680	2470.240	0.5	PASS
11N20SISO	Ant1	2412	17.680	2403.160	2420.840	0.5	PASS
	Ant2	2412	17.720	2403.120	2420.840	0.5	PASS
	Ant1	2437	17.720	2428.120	2445.840	0.5	PASS
	Ant2	2437	17.720	2428.120	2445.840	0.5	PASS
	Ant1	2462	17.720	2453.120	2470.840	0.5	PASS
	Ant2	2462	17.680	2453.160	2470.840	0.5	PASS
11N40SISO	Ant1	2422	36.480	2403.760	2440.240	0.5	PASS
	Ant2	2422	36.480	2403.760	2440.240	0.5	PASS
	Ant1	2437	36.560	2418.680	2455.240	0.5	PASS
	Ant2	2437	36.480	2418.760	2455.240	0.5	PASS
	Ant1	2452	36.560	2433.680	2470.240	0.5	PASS
	Ant2	2452	36.560	2433.680	2470.240	0.5	PASS

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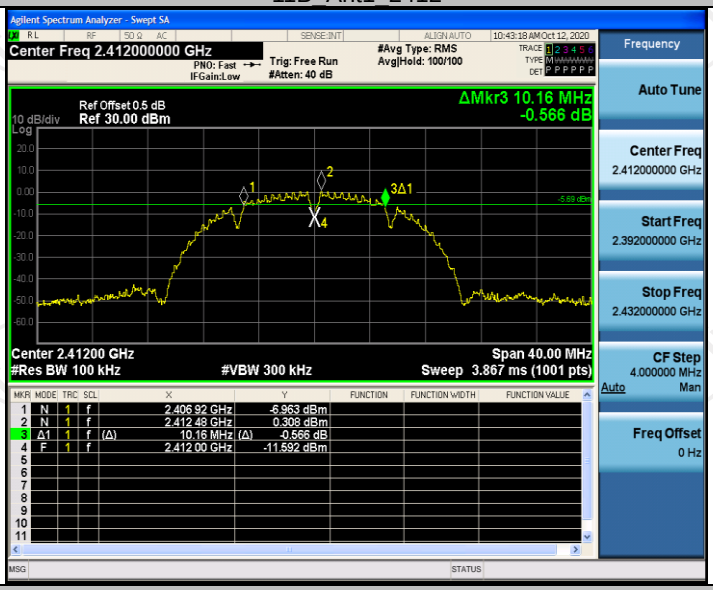
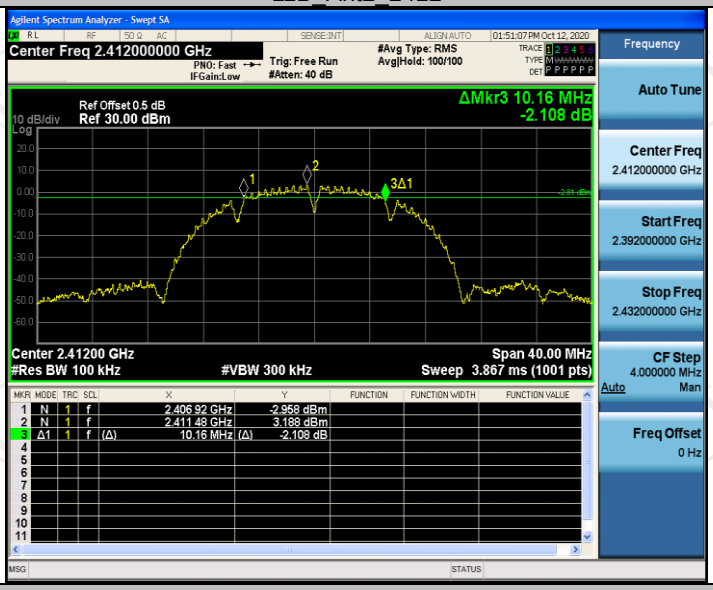
Test Graphs

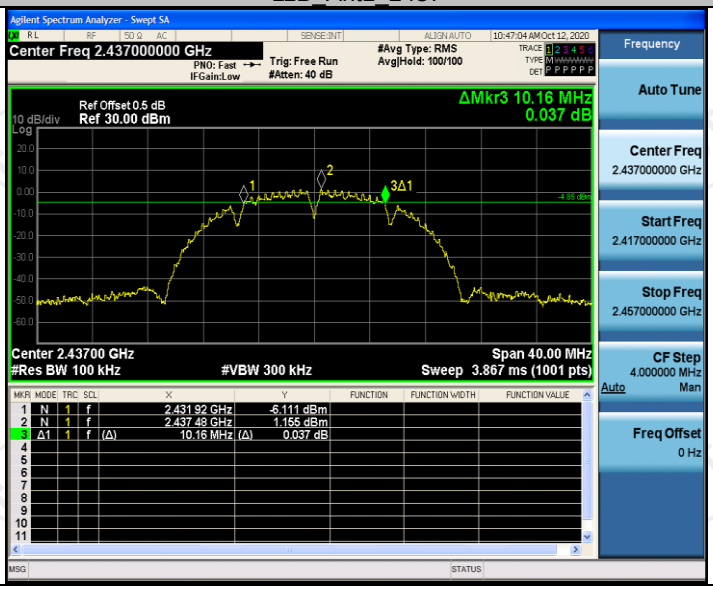
11B_Ant1_2412



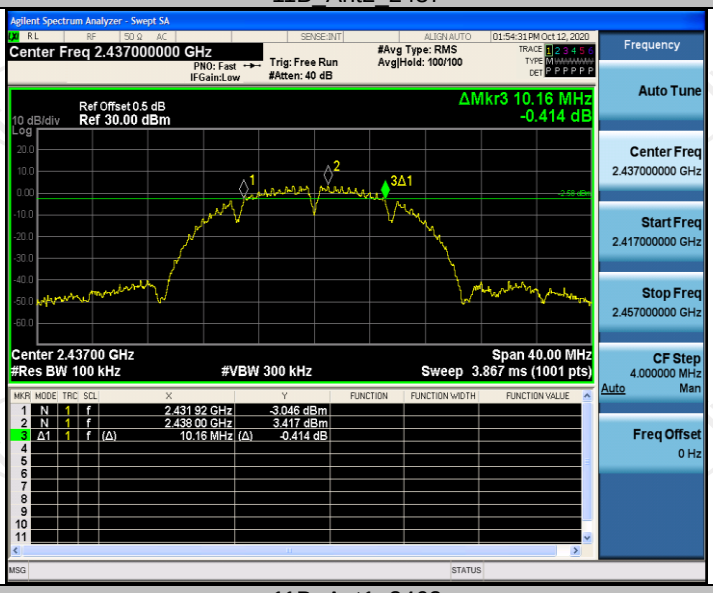
11B_Ant2_2412



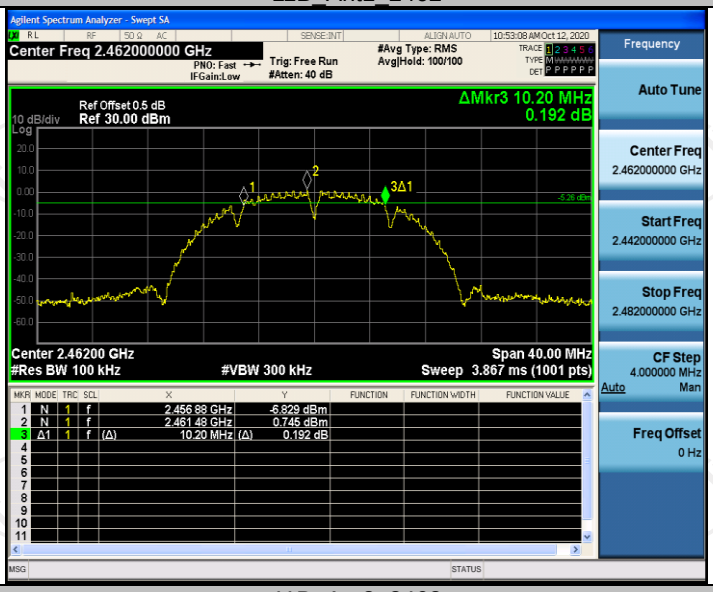
11B_Ant1_2437



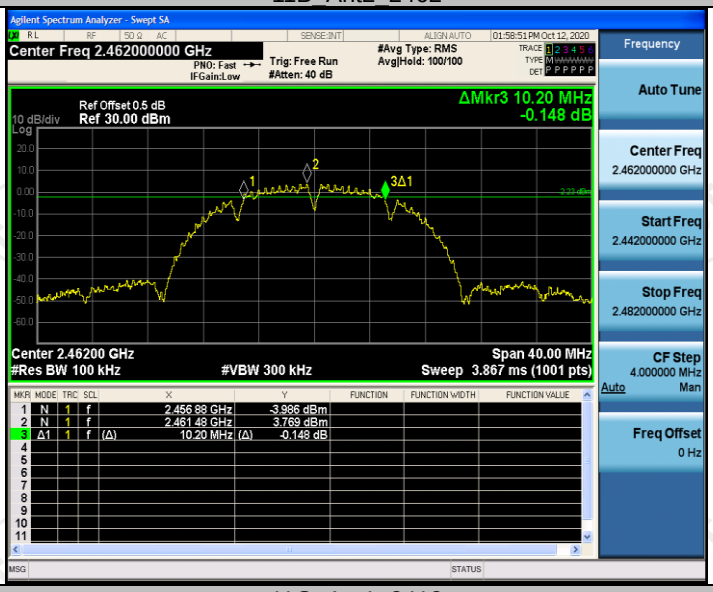
11B_Ant2_2437



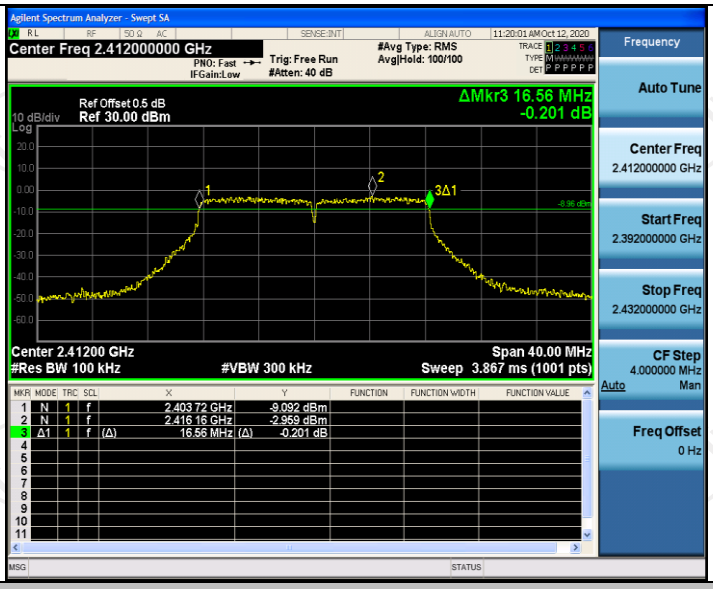
11B_Ant1_2462



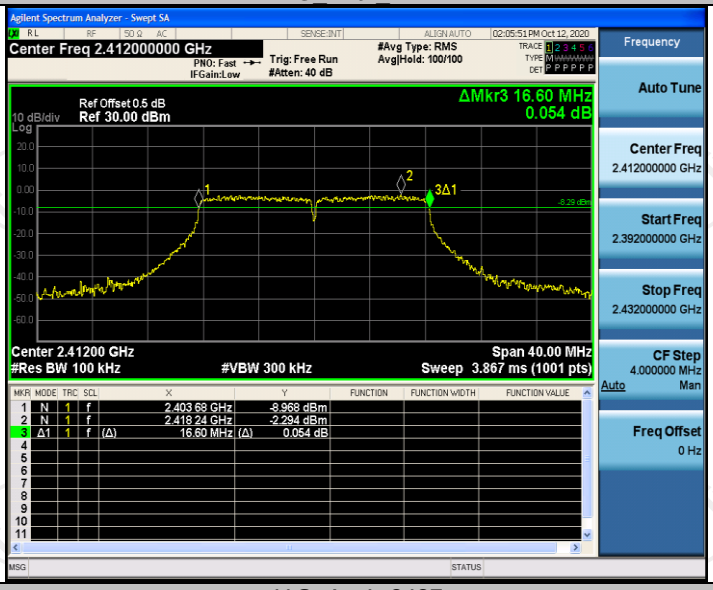
11B_Ant2_2462



11G_Ant1_2412



11G_Ant2_2412



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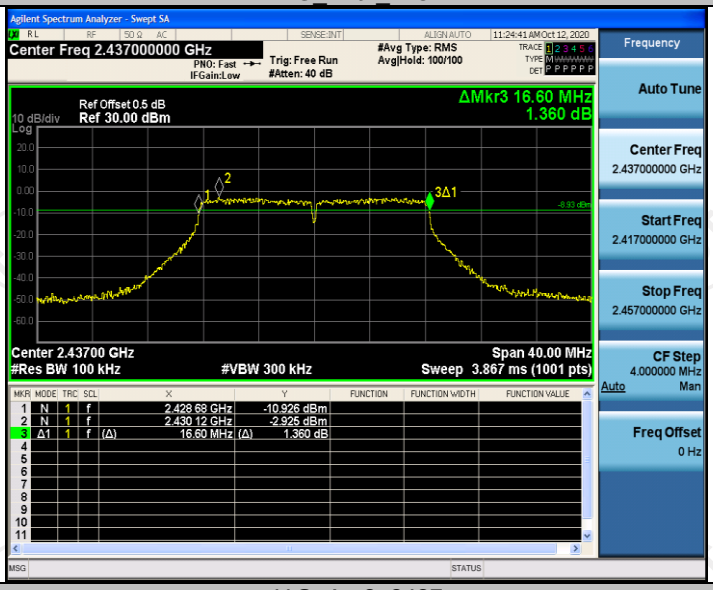

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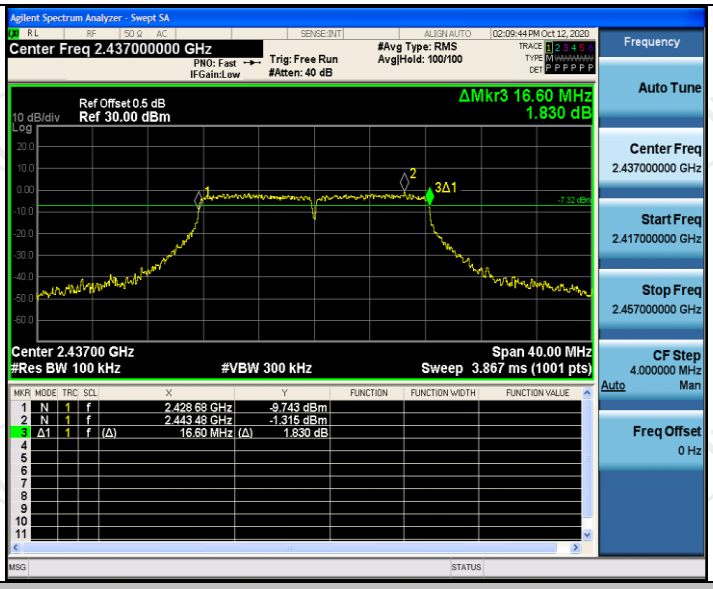

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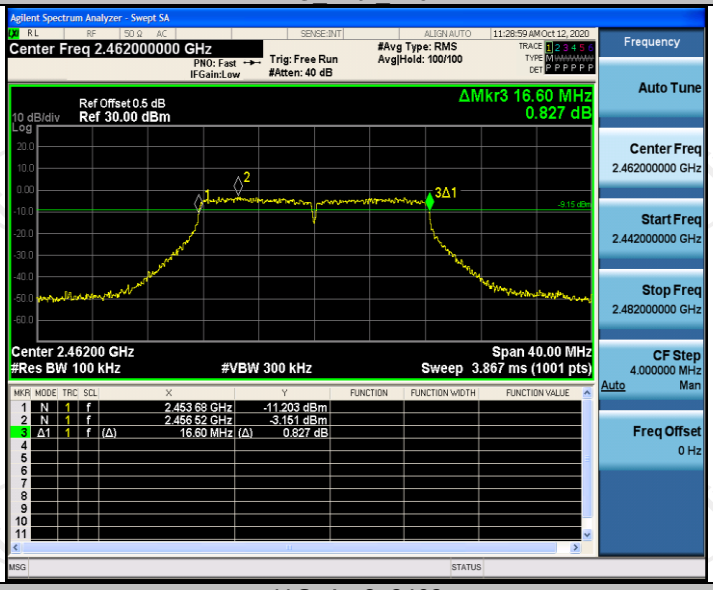

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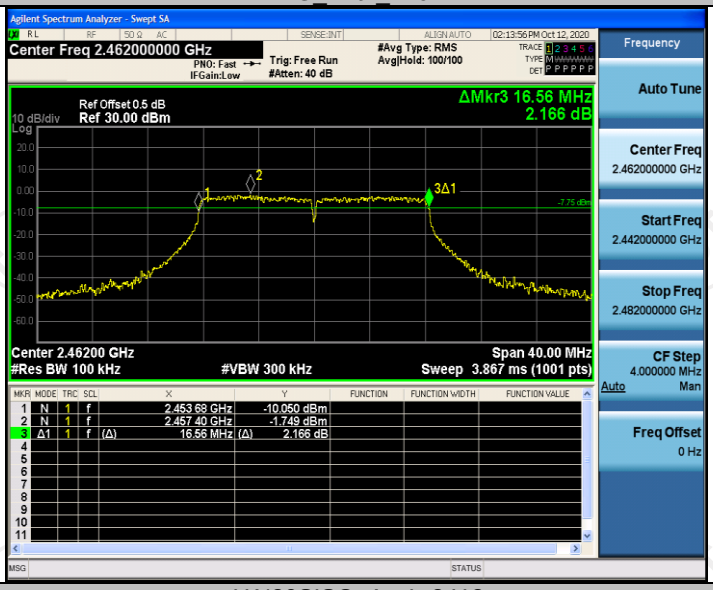
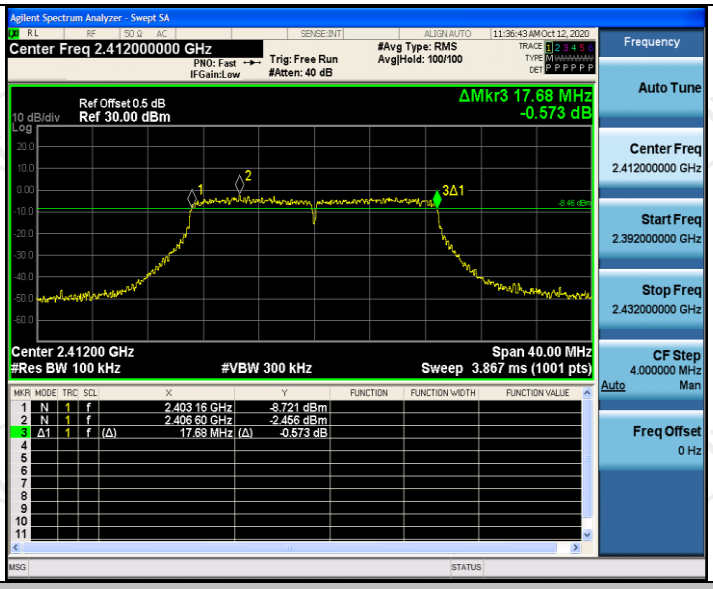


11N20SISO_Ant1_2412



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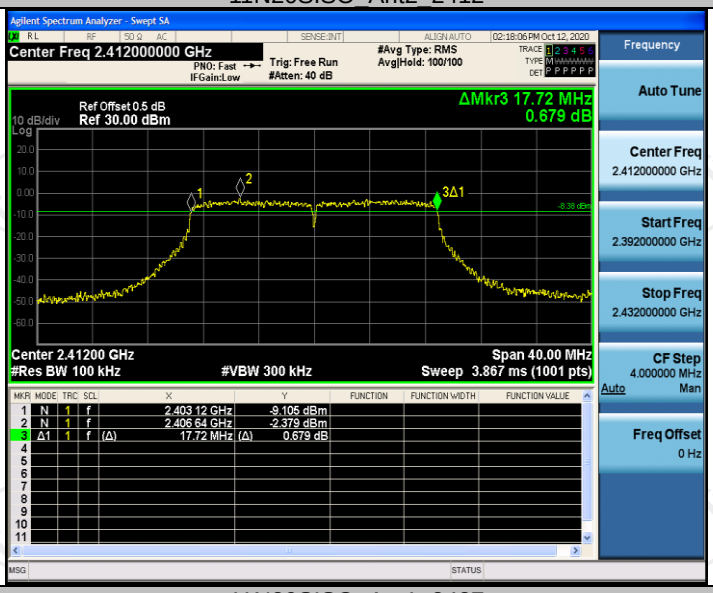

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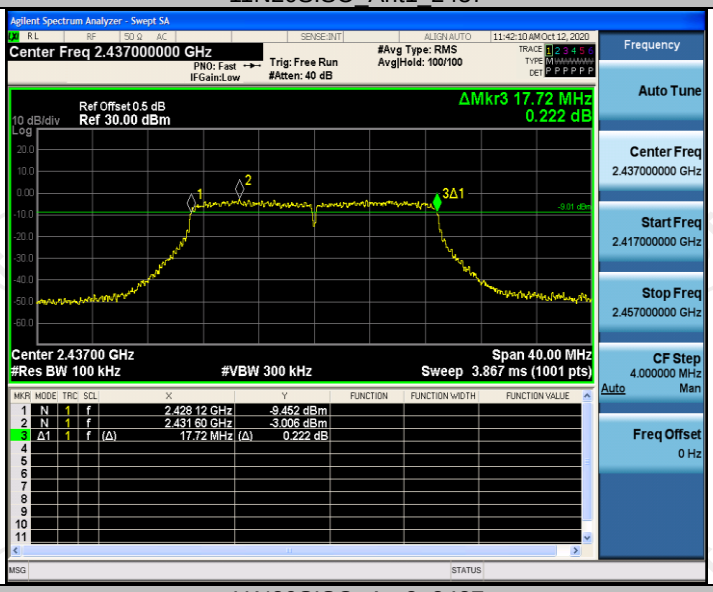
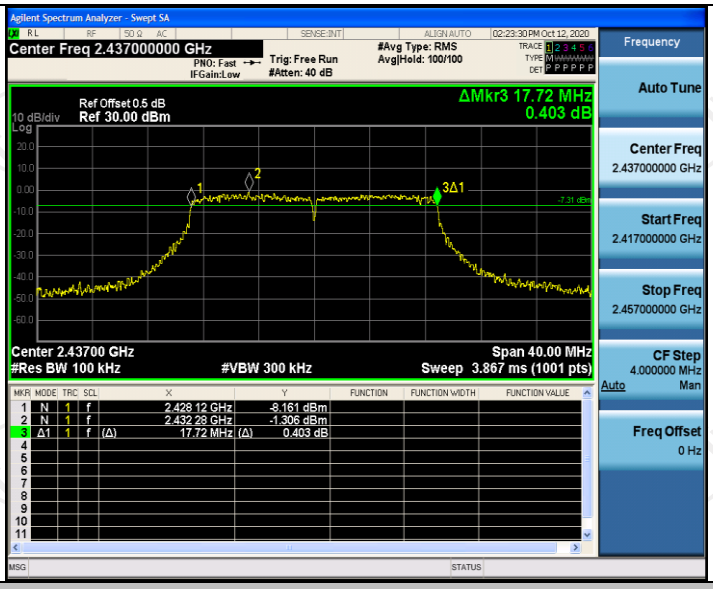


11N20SISO_Ant2_2437



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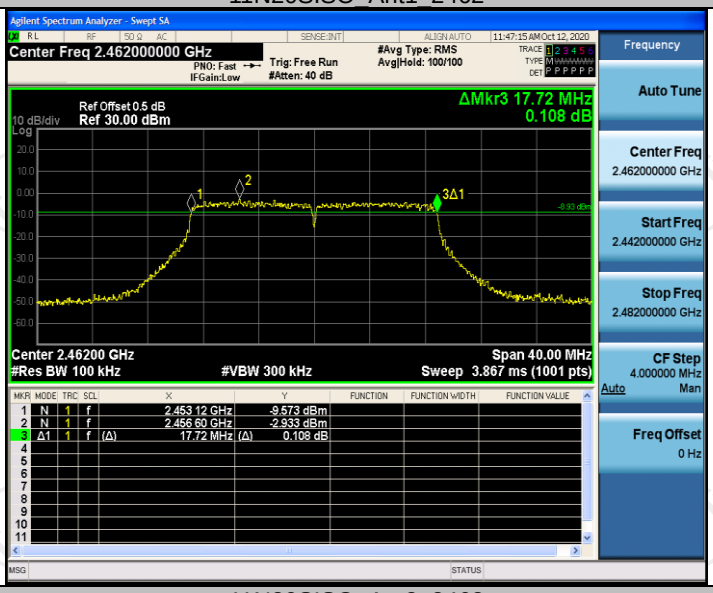

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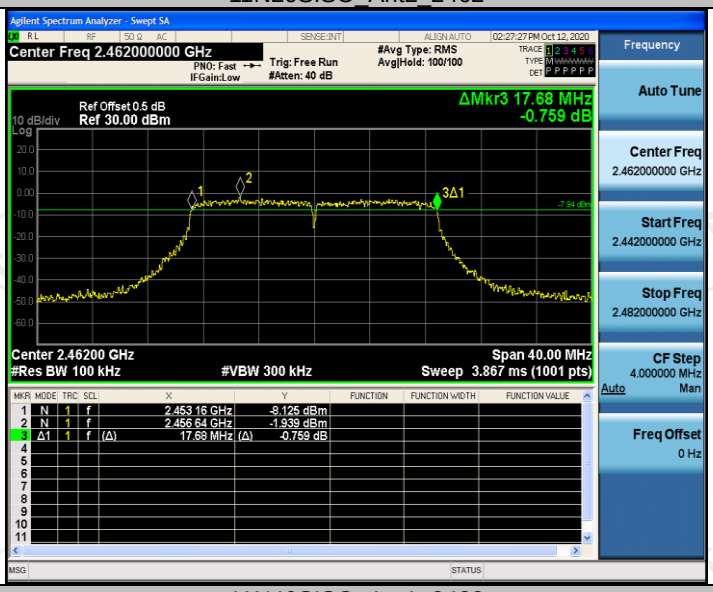
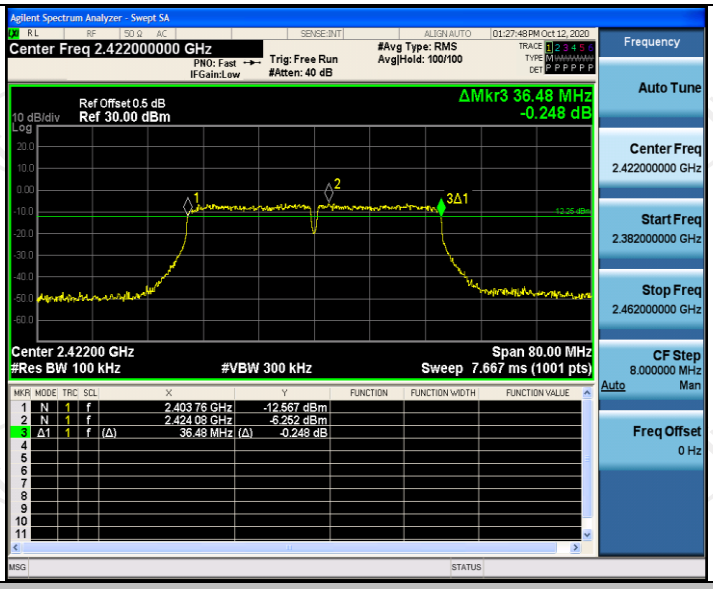
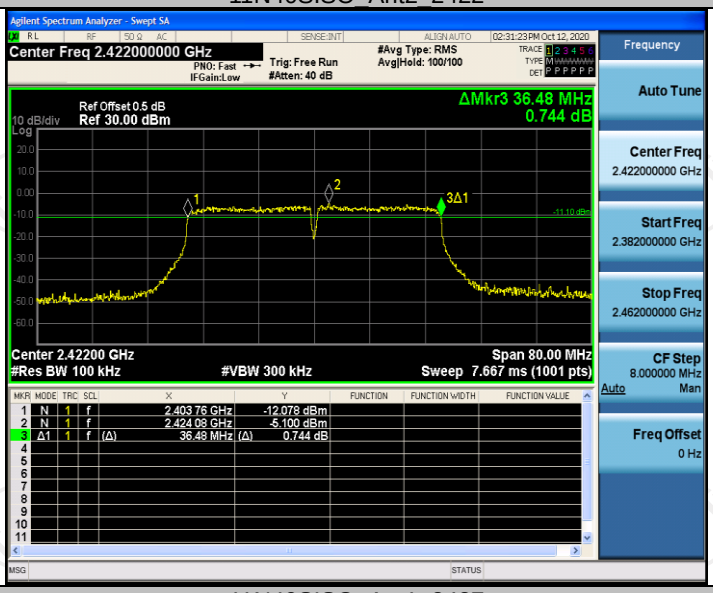


11N40SISO_Ant1_2422



11N40SISO_Ant2_2422



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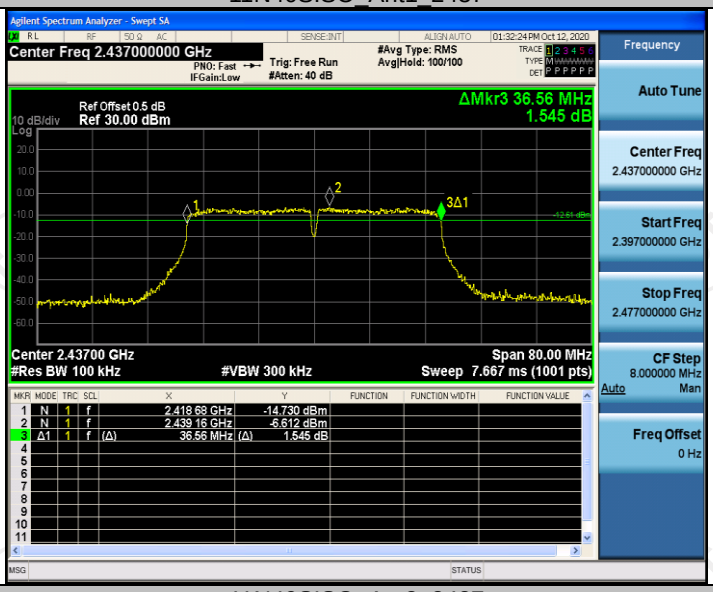

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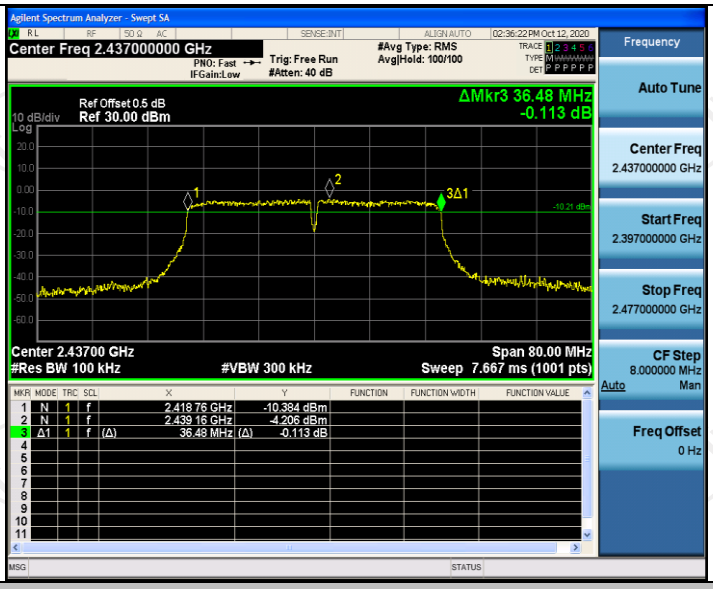
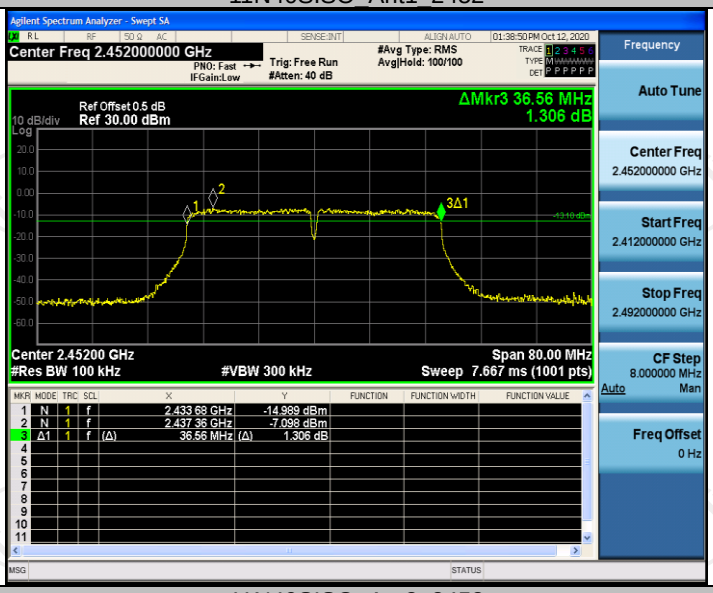
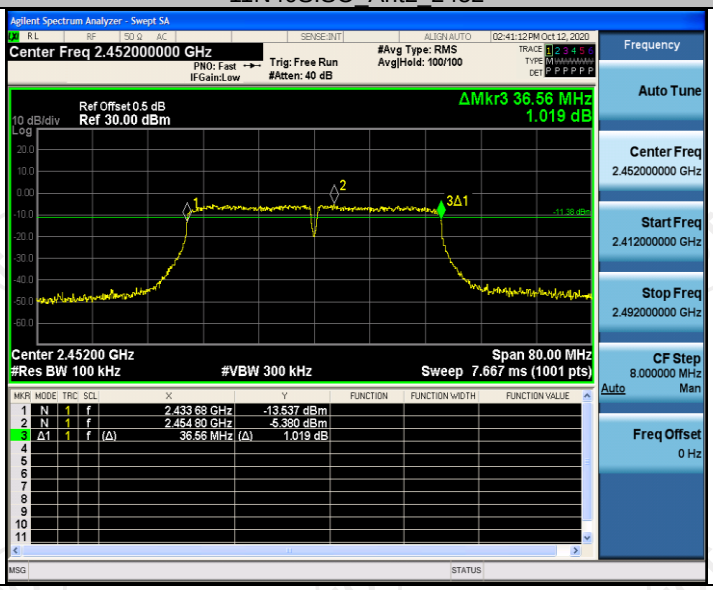


11N40SISO_Ant1_2452



11N40SISO_Ant2_2452



Occupied Channel Bandwidth

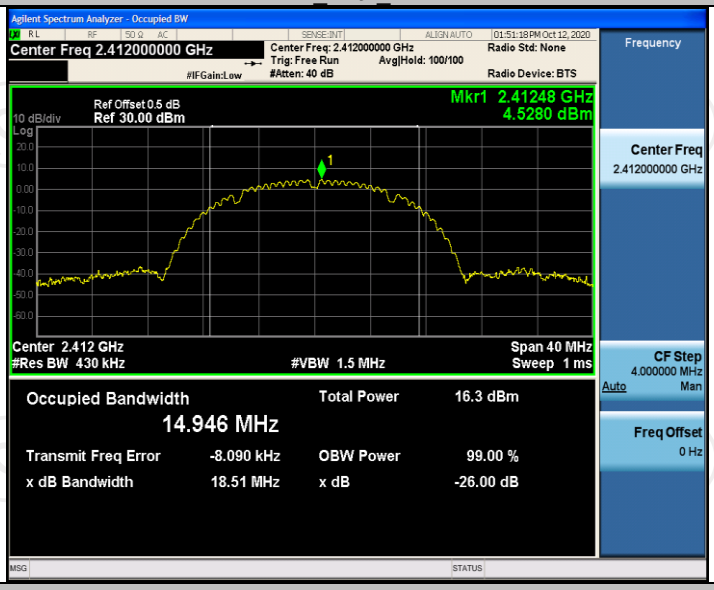
Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11B	Ant1	2412	14.953	2404.494	2419.447	---	PASS
	Ant2	2412	14.946	2404.519	2419.465	---	PASS
	Ant1	2437	14.921	2429.520	2444.441	---	PASS
	Ant2	2437	14.924	2429.514	2444.438	---	PASS
	Ant1	2462	14.934	2454.486	2469.420	---	PASS
	Ant2	2462	14.925	2454.479	2469.404	---	PASS
11G	Ant1	2412	16.833	2403.539	2420.372	---	PASS
	Ant2	2412	16.879	2403.498	2420.377	---	PASS
	Ant1	2437	16.974	2428.404	2445.378	---	PASS
	Ant2	2437	16.904	2428.461	2445.365	---	PASS
	Ant1	2462	16.969	2453.400	2470.369	---	PASS
	Ant2	2462	16.802	2453.568	2470.370	---	PASS
11N20SISO	Ant1	2412	17.912	2403.002	2420.914	---	PASS
	Ant2	2412	17.861	2403.068	2420.929	---	PASS
	Ant1	2437	17.855	2428.042	2445.897	---	PASS
	Ant2	2437	17.822	2428.069	2445.891	---	PASS
	Ant1	2462	17.844	2453.042	2470.886	---	PASS
	Ant2	2462	17.890	2453.020	2470.910	---	PASS
11N40SISO	Ant1	2422	36.330	2403.826	2440.156	---	PASS
	Ant2	2422	36.327	2403.861	2440.188	---	PASS
	Ant1	2437	36.261	2418.908	2455.169	---	PASS
	Ant2	2437	36.286	2418.880	2455.166	---	PASS
	Ant1	2452	36.334	2433.840	2470.174	---	PASS
	Ant2	2452	36.302	2433.821	2470.123	---	PASS

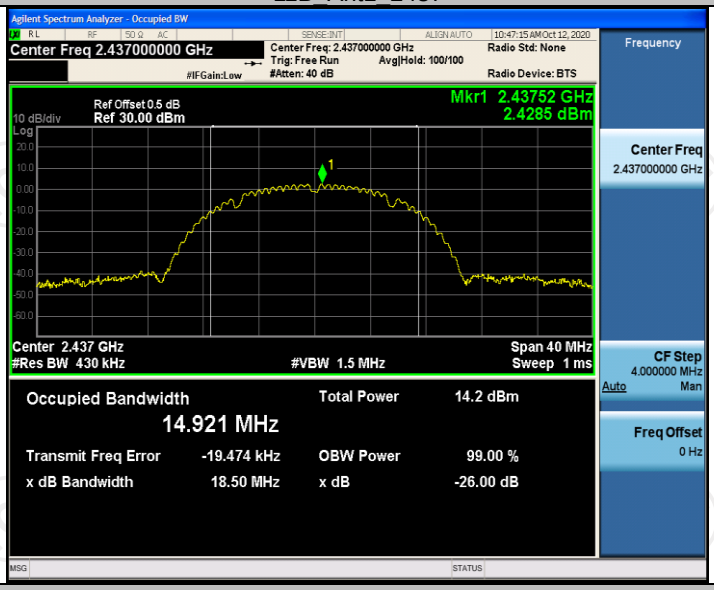
Test Graphs

11B_Ant1_2412

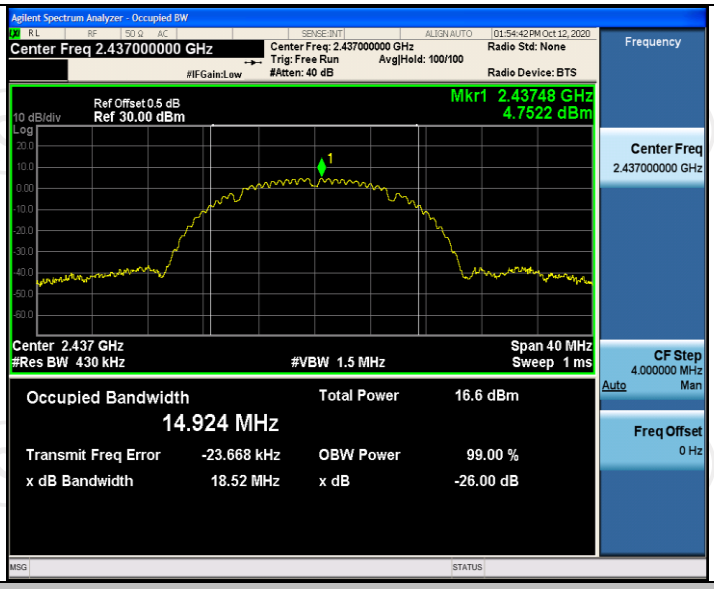
11B_Ant2_2412



11B_Ant1_2437

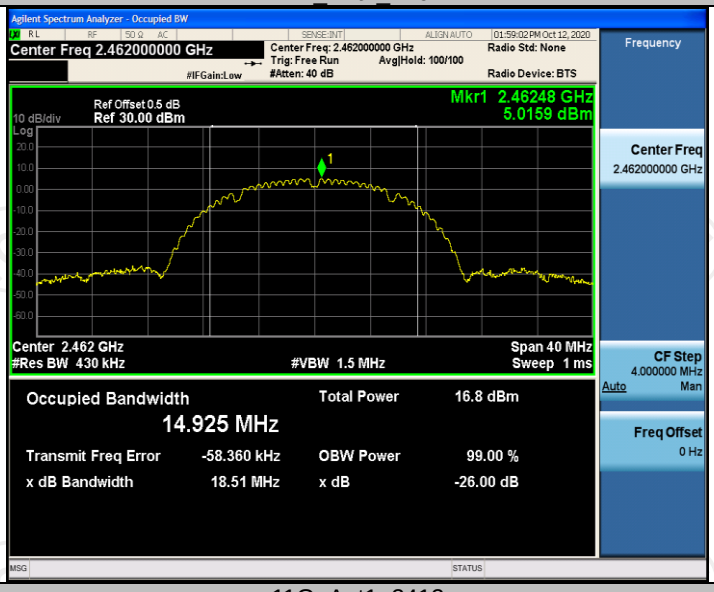


11B_Ant2_2437

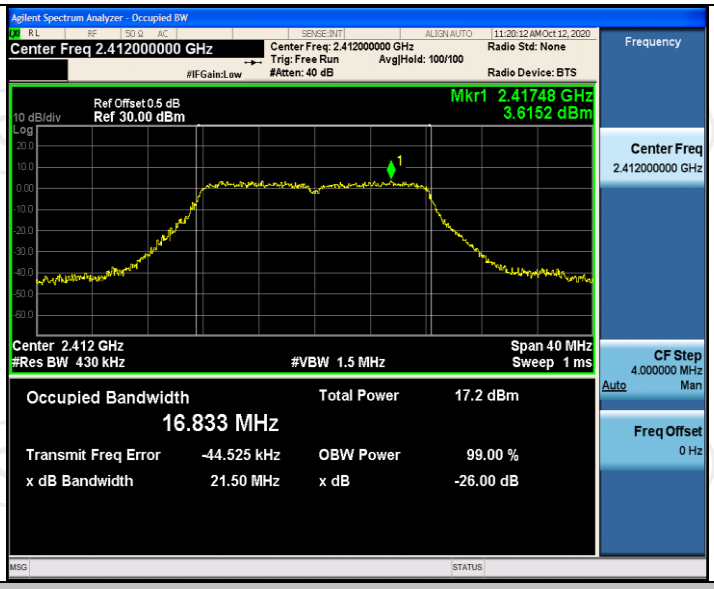


11B_Ant1_2462

11B_Ant2_2462

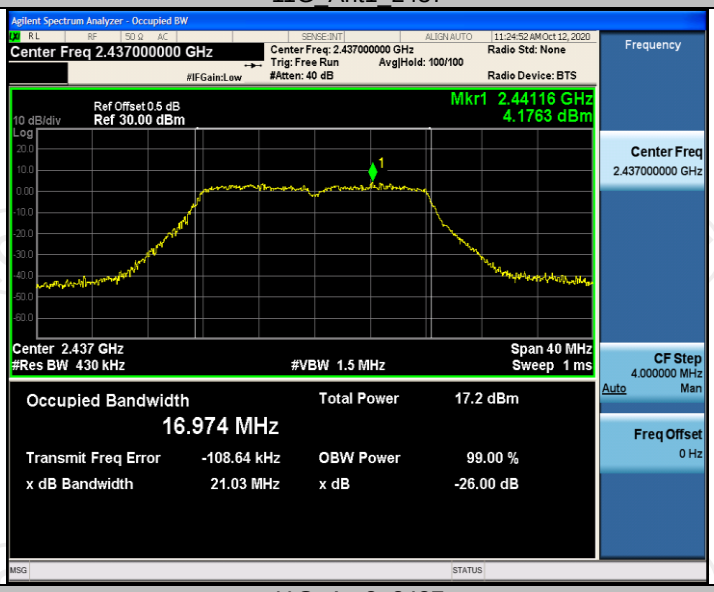


11G_Ant1_2412

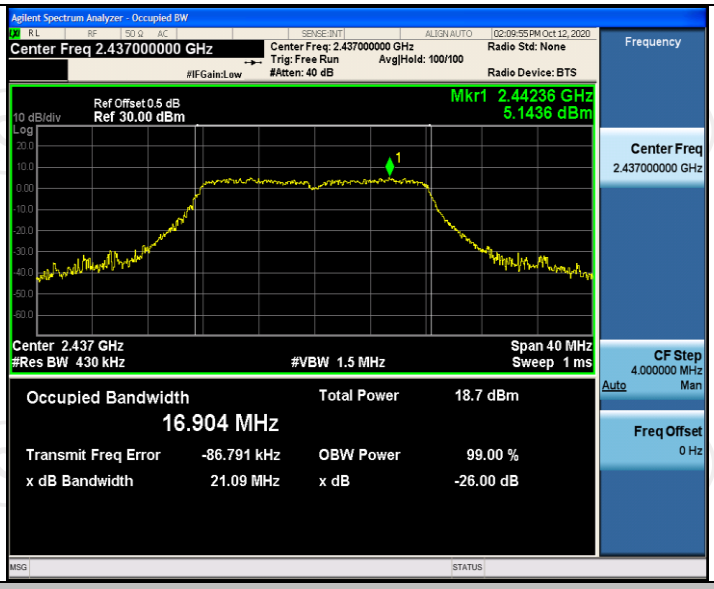


11G_Ant2_2412

11G_Ant1_2437



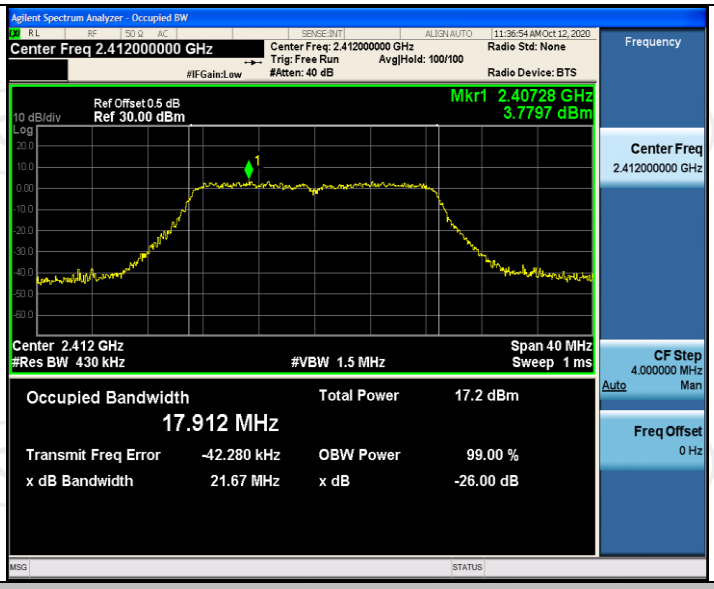
11G_Ant2_2437



11G_Ant1_2462

11G_Ant2_2462

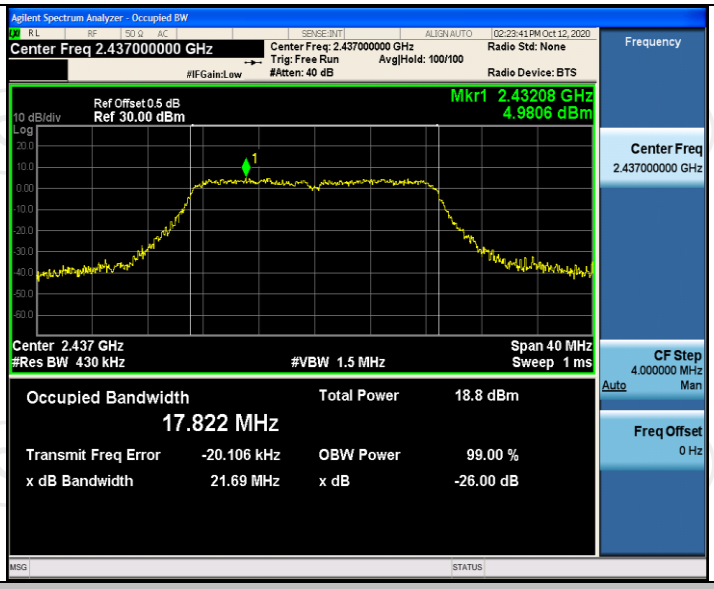
11N20SISO_Ant1_2412



11N20SISO_Ant2_2412

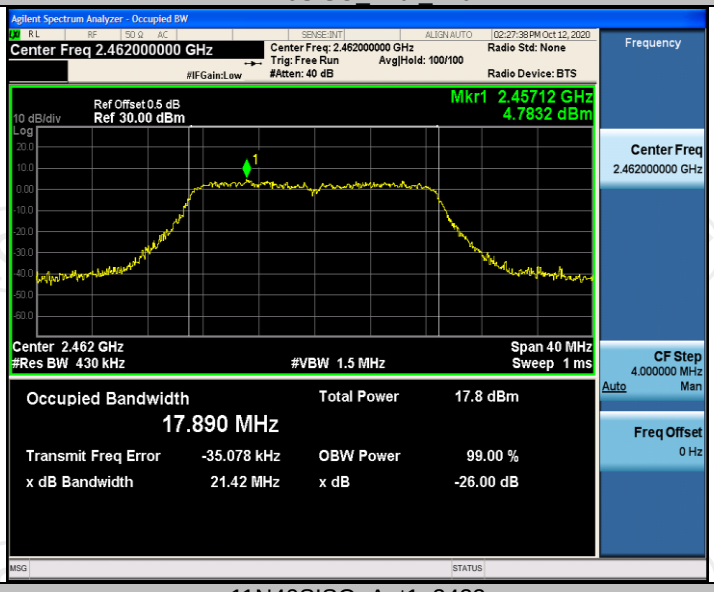
11N20SISO_Ant1_2437

11N20SISO_Ant2_2437

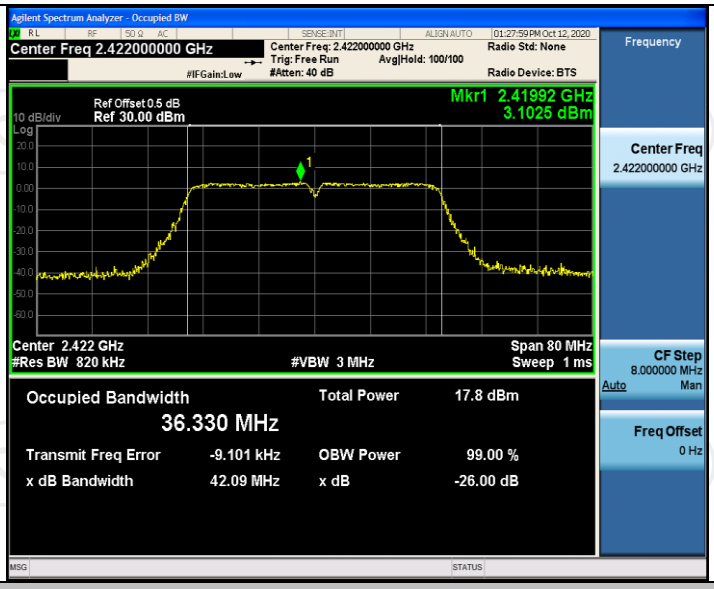


11N20SISO_Ant1_2462

11N20SISO_Ant2_2462



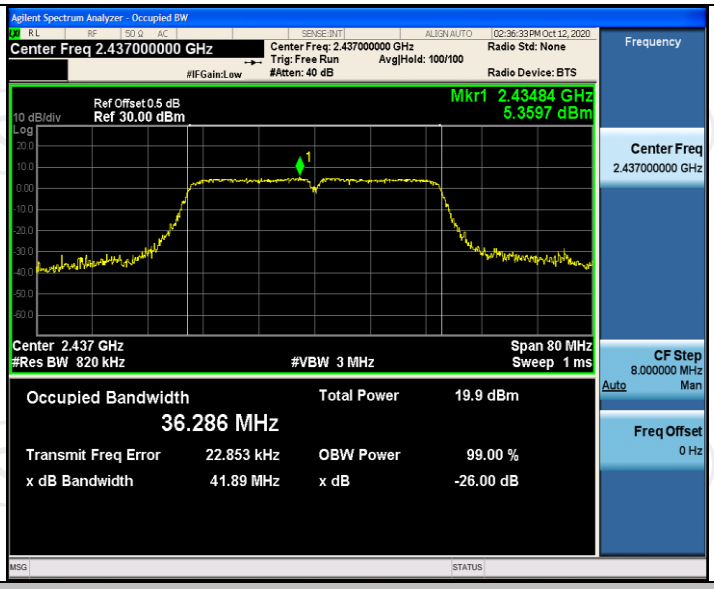
11N40SISO_Ant1_2422



11N40SISO_Ant2_2422

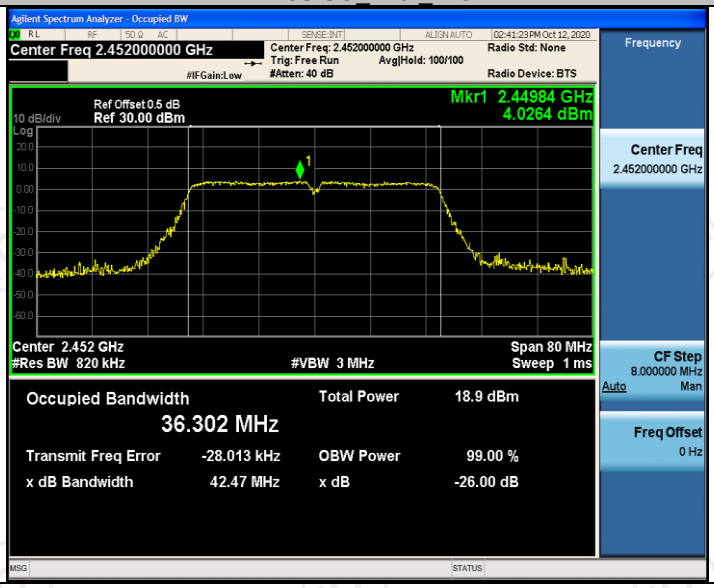
11N40SISO_Ant1_2437

11N40SISO_Ant2_2437



11N40SISO_Ant1_2452

11N40SISO_Ant2_2452



Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	14.10	<=30	PASS
	Ant2	2412	13.33	<=30	PASS
	Ant1	2437	14.20	<=30	PASS
	Ant2	2437	13.60	<=30	PASS
	Ant1	2462	13.74	<=30	PASS
	Ant2	2462	13.83	<=30	PASS
11G	Ant1	2412	12.79	<=30	PASS
	Ant2	2412	11.93	<=30	PASS
	Ant1	2437	12.66	<=30	PASS
	Ant2	2437	12.69	<=30	PASS
	Ant1	2462	12.32	<=30	PASS
	Ant2	2462	12.23	<=30	PASS
11N20SISO	Ant1	2412	11.86	<=30	PASS
	Ant2	2412	11.39	<=30	PASS
	Ant1	2437	12.72	<=30	PASS
	Ant2	2437	12.56	<=30	PASS
	Ant1	2462	12.30	<=30	PASS
	Ant2	2462	11.70	<=30	PASS
11N40SISO	Ant1	2422	12.33	<=30	PASS
	Ant2	2422	11.71	<=30	PASS
	Ant1	2437	12.35	<=30	PASS
	Ant2	2437	13.12	<=30	PASS
	Ant1	2452	12.23	<=30	PASS
	Ant2	2452	12.04	<=30	PASS

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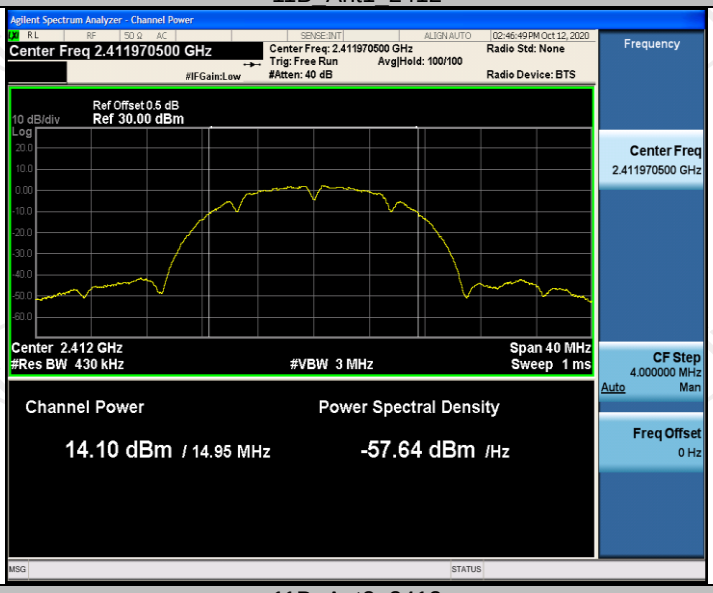
Test Graphs

11B_Ant1_2412



11B_Ant2_2412

11B_Ant1_2437