TEST REPORT

Product	:	WIFI Module
Trade mark	:	GSD
Model/Type reference	:	W5LM2001
Serial Number	:	N/A
Report Number	:	EED32L00320702
FCC ID	:	2AC23-W5L
Date of Issue	:	Dec. 06, 2019
Test Standards	:	47 CFR Part 15 Subpart E
Test result	:	PASS

Prepared for:

Hui Zhou Gaoshengda Technology Co.,LTD
NO.75 Zhongkai Development Area, Huizhou, Guangdong, China

Prepared by:

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	Ware Xin		Kevin Yang
Date:	Dec. 06, 2019		Check No.: 3096383329

CENTRE TESTING INTERNATIONAL GROUP CO.,LTD. Report Seal

2 Version

Version No.	Date	Description
00	Dec. 06, 2019	Original

3 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15 Subpart C Section 15.203	ANSI C63.10-2013	PASS
AC Power Line Conducted Emission	47 CFR Part 15 Subpart E Section 15.407 (b)(6)	ANSI C63.10-2013	PASS
Conducted Output Power and transmit power control mechanism	47 CFR Part 15 Subpart E Section 15.407 (a)(1)(2)(4)(h)(1)	ANSI C63.10-2013	PASS
26dB emission bandwidth	47 CFR Part 15 Subpart E Section 15.407 (a)(1)(2)	ANSI C63.10-2013	PASS
Peak Power Spectral Density	47 CFR Part 15 Subpart E Section 15.407 (a)(1)(2)(5)	ANSI C63.10-2013	PASS
Peak power excursion	47 CFR Part 15 Subpart E Section 15.407 (a)(6)	ANSI C63.10-2013	PASS
Frequency stability	47 CFR Part 15 Subpart E Section 15.407 (g)	ANSI C63.10-2013	PASS
Conducted Band-edge Measurements	47 CFR Part 15 Subpart E Section 15.407(b)(1)to(6)	ANSI C63.10-2013	PASS
Dynamic Frequency Selection	47 CFR Part 15 Subpart E Section 15.407 (h)	KDB905462 D02	N/A
Operation in the absence of information to the transmit	47 CFR Part 15 Subpart E Section 15.407 (c)	47 CFR Part 15 Subpart E	PASS
Unwanted Emissions that fall Outside of the Restricted Bands	47 CFR Part 15 Subpart E Section 15.407 (b)(1)(2)(3)(5)	ANSI C63.10-2013	PASS
Unwanted Emissions in the Restricted Bands	47 CFR Part 15 Subpart E Section 15.407 (b)(6)(7)(8)	ANSI C63.10-2013	PASS
Restricted bands around fundamental frequency (Radiated Emission)	47 CFR Part 15 Subpart E Section 15.407 (b)(6)(7)(8)	ANSI C63.10-2013	PASS

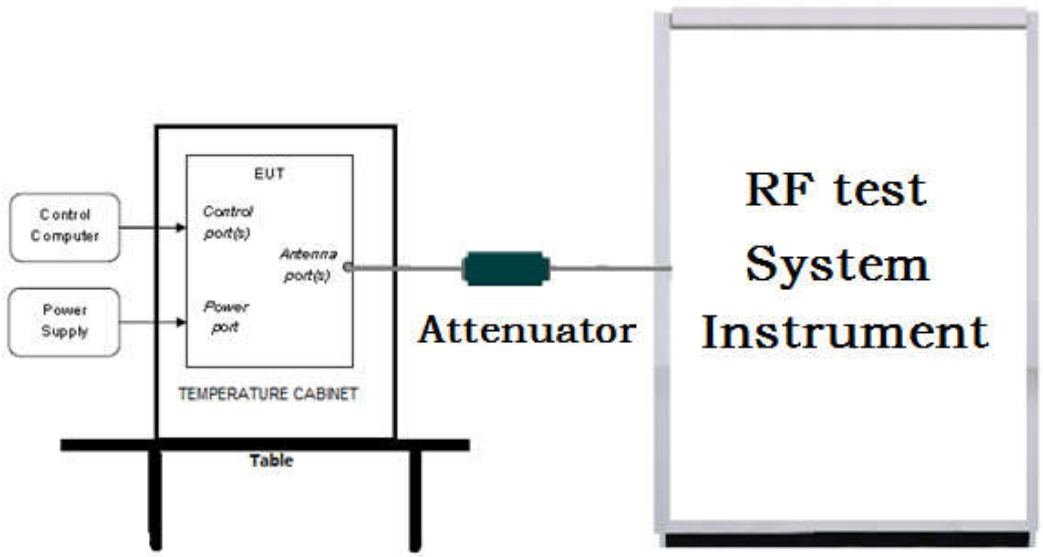
Remark:
The tested sample(s) and the sample information are provided by the client.
Tx: In this whole report Tx (or tx) means Transmitter.
Rx: In this whole report Rx (or rx) means Receiver.
RF: In this whole report RF means Radiated Frequency.
CH: In this whole report CH means channel.
Volt: In this whole report Volt means Voltage.
Temp: In this whole report Temp means Temperature.
Humid: In this whole report Humid means humidity.
Press: In this whole report Press means Pressure.
N/A: In this whole report not application

4 Content

5 Test Requirement

5.1 Test setup

5.1.1 For Conducted test setup



5.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

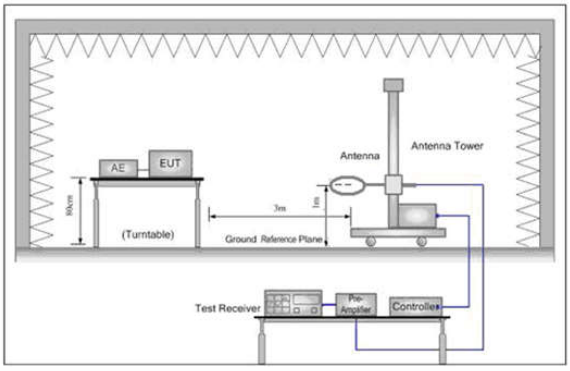


Figure 1. Below 30MHz

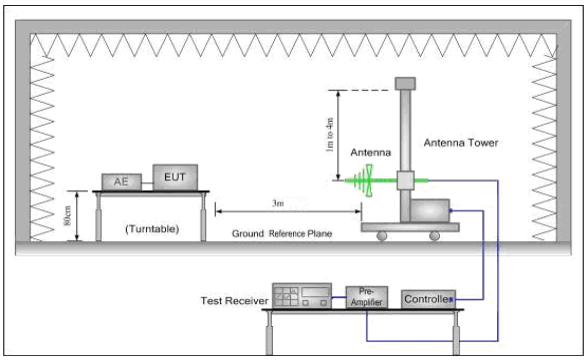


Figure 2. 30MHz to 1GHz

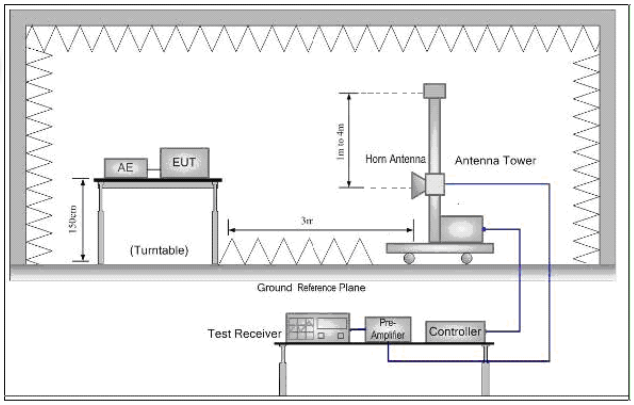
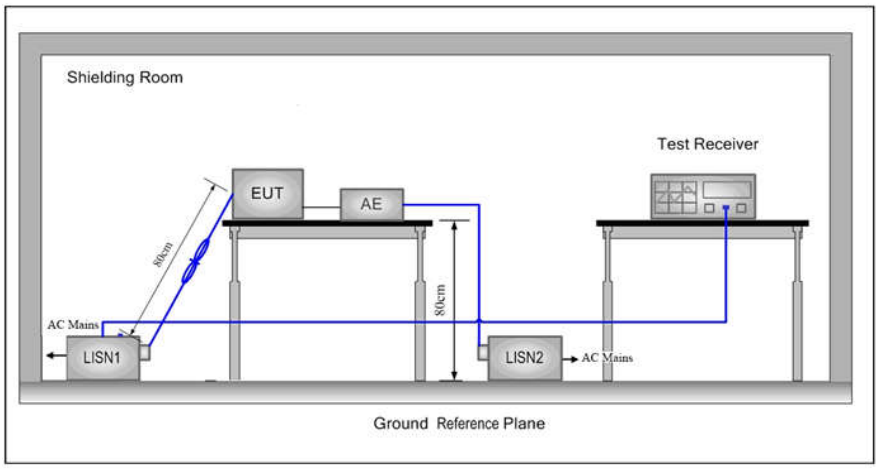


Figure 3. Above 1GHz

5.1.3 For Conducted Emissions test setup

Conducted Emissions setup



5.2 Test Environment

Operating Environment:	
Temperature:	23.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010mbar

5.3 Test Condition

Test channel:

Test Mode	Tx/Rx	RF Channel		
		Low(L)	Middle(cm)	High(H)
802.11a/n/ac(HT20)	5150MHz ~5250 MHz	Channel 36	Channel 44	Channel 48
		5180MHz	5220MHz	5240MHz
802.11a/n/ac(HT20)	5250MHz ~5350 MHz	Channel 52	Channel 56	Channel 64
		5260MHz	5280MHz	5320MHz
802.11a/n/ac(HT20)	5470MHz ~5600 MHz	Channel 100	Channel108	Channel116
		5500MHz	5600MHz	5580MHz
802.11a/n/ac(HT20)	5650MHz ~5725 MHz	Channel 132	Channel136	Channel140
		5660MHz	5680MHz	5700MHz
802.11a/n/ac(HT20)	5725MHz ~5850 MHz	Channel 149	Channel157	Channel165
		5745MHz	5785MHz	5825MHz
802.11n/ac(HT40)	5150MHz ~5250 MHz	Channel 38	N/A	Channel 46
		5190MHz	N/A	5230MHz
802.11n/ac(HT40)	5250MHz ~5350 MHz	Channel54	N/A	Channel62
		5270MHz	N/A	5310MHz
802.11n/ac(HT40)	5470MHz ~5600 MHz	Channel 102	N/A	Channel 110
		5510MHz	N/A	5550MHz
802.11n/ac(HT40)	5650MHz ~5725 MHz	Channel 134	N/A	N/A
		5670MHz	N/A	N/A
802.11n/ac(HT40)	5725MHz ~5850 MHz	Channel 151	N/A	Channel 159
		5755MHz	N/A	5795MHz
802.11ac(HT80)	5150MHz ~5250 MHz	Channel 42	N/A	N/A
		5210MHz	N/A	N/A
802.11ac(HT80)	5250MHz ~5350 MHz	Channel58	N/A	N/A

		5290MHz	N/A	N/A
802.11ac(HT80)	5470MHz ~5600 MHz	Channel 106	N/A	N/A
		5530MHz	N/A	N/A
802.11ac(HT80)	5725MHz ~5850 MHz	Channel 155	N/A	N/A
		5775MHz	N/A	N/A

6 General Information

6.1 Client Information

Applicant:	Hui Zhou Gaoshengda Technology Co.,LTD
Address of Applicant:	NO.75 Zhongkai Development Area,Huizhou,Guangdong, China
Manufacturer:	Hui Zhou Gaoshengda Technology Co.,LTD
Address of Manufacturer:	NO.75 Zhongkai Development Area,Huizhou,Guangdong, China
Factory:	Hui Zhou Gaoshengda Technology Co.,LTD
Address of Factory:	NO.75 Zhongkai Development Area,Huizhou,Guangdong, China

6.2 General Description of EUT

Product Name:	WIFI Module
Model No.(EUT):	W5LM2001
Trade Mark:	GSD
EUT Supports Radios application:	IEEE 802.11 a/b/g/n(HT20)(HT40)/ac(VHT20)(VHT40)(VHT80): 2412MHz to 2462MHz, 5150MHz to 5250MHz, 5725MHz to 5850MHz.
Power Supply:	DC 3.3V
Sample Received Date:	Oct. 31, 2019
Sample tested Date:	Oct. 31, 2019 to Nov. 25, 2019

6.3 Product Specification subjective to this standard

Operation Frequency:	IEEE 802.11a/n/ac(HT20): 5180MHz ~5240 MHz IEEE802.11a/n/ac(HT20): 5745MHz ~5825 MHz IEEE802.11n/ac(HT40) 5190MHz ~5230 MHz IEEE802.11n/ac(HT40) 5755MHz ~5795 MHz IEEE802.11ac(HT80) 5210 IEEE802.11ac(HT80) 5775
Channel Numbers:	IEEE 802.11a/n/ac(HT20): 5180MHz ~5240 MHz / 4 channel IEEE802.11a/n/ac(HT20): 5745MHz ~5825 MHz / 5 channel IEEE802.11n/ac(HT40) 5190MHz ~5230 MHz/ 2 channel IEEE802.11n/ac(HT40) 5755MHz ~5795 MHz / 2 channel IEEE802.11ac(HT80) 5210 / 1 channel IEEE802.11ac(HT80) 5775 /1 channel
Type of Modulation:	DSSS,OFDM
Test Power Grade:	Reference Table
Test Software of EUT:	MT7688 QA 0.0.2.6
Antenna Type and Gain:	PIFA antenna, Gain: 2.67dBi
Test Voltage:	DC 3.3V

Operation Frequency each of channel

For 802.11a/n/ac(HT20) Operation in the 5180 ~ 5240 band							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	40	5200MHz	44	5220MHz	48	5240MHz

For 802.11a/n/ac(HT20) Operation in the 5745MHz ~5825 MHz band							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745MHz	153	5765MHz	157	5785MHz	161	5805MHz
165	5825MHz	N/A	N/A	N/A	N/A	N/A	N/A

For 802.11n/ac(HT40) Operation in the5190MHz ~5230MHz band			
Channel	Frequency	Channel	Frequency
38	5190MHz	46	5230MHz

For 802.11n/ac(HT40) Operation in the 5755MHz ~5795 MHz band					
Channel	Frequency	Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz	N/A	N/A

For 802.11ac(HT80) Operation in the 5210 MHz band					
Channel	Frequency	Channel	Frequency	Channel	Frequency
42	5210MHz	N/A	N/A	N/A	N/A

For 802.11ac(HT80) Operation in the 5775 MHz band					
Channel	Frequency	Channel	Frequency	Channel	Frequency
155	5775MHz	N/A	N/A	N/A	N/A

6.4 Description of Support Units

The EUT has been tested independently

6.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd
Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China
Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385
No tests were sub-contracted.
FCC Designation No.: CN1164

6.6 Deviation from Standards

None.

6.7 Abnormalities from Standard Conditions

None.

6.8 Other Information Requested by the Customer

None.

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

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.9×10^{-8}
2	RF power, conducted	0.46dB (30MHz-1GHz)
		0.55dB (1GHz-18GHz)
3	Radiated Spurious emission test	4.5dB (30MHz-1GHz)
		4.8dB (1GHz-12.75GHz)
4	Conduction emission	3.5dB (9kHz to 150kHz)
		3.1dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	3.8%
7	DC power voltages	0.026%

7 Equipment List

RF test system					
Equipment	**Manufacturer**	**Mode No.**	**Serial Number**	**Cal. Date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
Signal Generator	Keysight	E8257D	MY53401106	03-01-2019	02-29-2020
Spectrum Analyzer	Keysight	N9010A	MY54510339	03-01-2019	02-29-2020
Attenuator	HuaXiang	SHX370	15040701	03-01-2019	02-29-2020
Signal Generator	Keysight	N5181A	MY46240094	03-01-2019	02-29-2020
Signal Generator	Keysight	N5182B	MY53051549	03-01-2019	02-29-2020
Temperature/ Humidity Indicator	biaozhi	HM10	1804186	07-26-2019	07-25-2020
High-pass filter	Sinoscite	FL3CX03WG18 NM12-0398-002	---	01-09-2019	01-08-2020
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX01CA09 CL12-0395-001	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX01CA08 CL12-0393-001	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX02CA04 CL12-0396-002	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX02CA03 CL12-0394-001	---	01-09-2019	01-08-2020
Communicati on test set	R&S	CMW500	107929	04-28-2019	04-27-2020
DC Power	Keysight	E3642A	MY54426035	03-01-2019	02-29-2020
PC-1	Lenovo	R4960d	---	03-01-2019	02-29-2020
BT&WI-FI Automatic control	R&S	OSP120	101374	03-01-2019	02-29-2020
RF control unit	JS Tonscend	JS0806-2	15860006	03-01-2019	02-29-2020
RF control unit	JS Tonscend	JS0806-1	15860004	03-01-2019	02-29-2020
RF control unit	JS Tonscend	JS0806-4	158060007	03-01-2019	02-29-2020
BT&WI-FI Automatic test software	JS Tonscend	JSTS1120-2	---	03-01-2019	02-29-2020
high-low temperature test chamber	DongGuangQi nZhuo	LK-80GA	QZ20150611 879	03-01-2019	02-29-2020

Conducted disturbance Test					
Equipment	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
Receiver	R&S	ESCI	100435	05-20-2019	05-19-2020
Temperature/ Humidity Indicator	Defu	TH128	/	06-14-2019	06-13-2020
Communication test set	Agilent	E5515C	GB47050534	03-01-2019	02-28-2022
Communication test set	R&S	CMW500	102898	01-18-2019	01-17-2020
LISN	R&S	ENV216	100098	05-08-2019	05-07-2020
LISN	schwarzbeck	NNLK8121	8121-529	05-08-2019	05-07-2020
Voltage Probe	R&S	ESH2-Z3 0299.7810.56	100042	06-13-2017	06-12-2020
Current Probe	R&S	EZ-17 816.2063.03	100106	05-20-2019	05-19-2020
ISN	TESEQ	ISN T800	30297	01-16-2019	01-15-2020
Barometer	changchun	DYM3	1188	06-20-2019	06-19-2020

3M Semi/full-anechoic Chamber					
Equipment	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
3M Chamber & Accessory Equipment	TDK	SAC-3	---	05-24-2019	05-23-2022
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	9163-401	12-21-2018	12-20-2019
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	9163-618	07-26-2019	07-25-2020
Microwave Preamplifier	Agilent	8449B	3008A02425	07-12-2019	07-11-2020
Microwave Preamplifier	Tonscend	EMC051845SE	980380	01-16-2019	01-15-2020
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1869	04-25-2018	04-24-2021
Horn Antenna	ETS-LINDGREN	3117	00057410	06-05-2018	06-04-2021
Double ridge horn antenna	A.H.SYSTEMS	SAS-574	374	06-05-2018	06-04-2021
Pre-amplifier	A.H.SYSTEMS	PAP-1840-60	6041.6042	07-26-2019	07-25-2020
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	04-25-2018	04-24-2021
Spectrum Analyzer	R&S	FSP40	100416	04-28-2019	04-27-2020
Receiver	R&S	ESCI	100435	05-20-2019	05-19-2020
Receiver	R&S	ESCI7	100938-003	10-21-2019	10-20-2020
Multi device Controller	maturo	NCD/070/10711112	---	01-09-2019	01-08-2020
Signal Generator	Agilent	E4438C	MY45095744	03-01-2019	02-29-2020
Signal Generator	Keysight	E8257D	MY53401106	03-01-2019	02-29-2020
Temperature/ Humidity Indicator	Shanghai qixiang	HM10	1804298	07-26-2019	07-25-2020
Communication test set	Agilent	E5515C	GB47050534	03-01-2019	02-28-2022
Cable line	Fulai(7M)	SF106	5219/6A	01-09-2019	01-08-2020
Cable line	Fulai(6M)	SF106	5220/6A	01-09-2019	01-08-2020
Cable line	Fulai(3M)	SF106	5216/6A	01-09-2019	01-08-2020
Cable line	Fulai(3M)	SF106	5217/6A	01-09-2019	01-08-2020
High-pass filter	Sinoscite	FL3CX03WG18NM12-0398-002	---	01-09-2019	01-08-2020
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX01CA09CL12-0395-001	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX01CA08CL12-0393-001	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX02CA04CL12-0396-002	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX02CA03CL12-0394-001	---	01-09-2019	01-08-2020

3M full-anechoic Chamber					
Equipment	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
RSE Automatic test software	JS Tonscend	JS36-RSE	10166	06-19-2019	06-18-2020
Receiver	Keysight	N9038A	MY57290136	03-27-2019	03-26-2020
Spectrum Analyzer	Keysight	N9020B	MY57111112	03-27-2019	03-26-2020
Spectrum Analyzer	Keysight	N9030B	MY57140871	03-27-2019	03-26-2020
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-075	04-25-2018	04-24-2021
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	04-25-2018	04-24-2021
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-1148	04-25-2018	04-24-2021
Horn Antenna	Schwarzbeck	BBHA 9170	9170-832	04-25-2018	04-24-2021
Horn Antenna	Schwarzbeck	BBHA 9170	9170-829	04-25-2018	04-24-2021
Communication Antenna	Schwarzbeck	CLSA 0110L	1014	02-14-2019	02-13-2020
Biconical antenna	Schwarzbeck	VUBA 9117	9117-381	04-25-2018	04-24-2021
Horn Antenna	ETS-LINDGREN	3117	00057407	07-10-2018	07-09-2021
Preamplifier	EMCI	EMC184055SE	980596	05-22-2019	5-21-2020
Communication test set	R&S	CMW500	102898	01-18-2019	01-17-2020
Preamplifier	EMCI	EMC001330	980563	05-08-2019	05-07-2020
Preamplifier	Agilent	8449B	3008A02425	07-12-2019	07-11-2020
Temperature/ Humidity Indicator	biaozhi	GM1360	EE1186631	04-30-2019	04-29-2020
Signal Generator	KEYSIGHT	E8257D	MY53401106	03-01-2019	02-29-2020
Fully Anechoic Chamber	TDK	FAC-3	---	01-17-2018	01-16-2021
Filter bank	JS Tonscend	JS0806-F	188060094	04-10-2018	04-09-2021
Cable line	Times	SFT205-NMSM-2.50M	394812-0001	01-09-2019	01-08-2020
Cable line	Times	SFT205-NMSM-2.50M	394812-0002	01-09-2019	01-08-2020
Cable line	Times	SFT205-NMSM-2.50M	394812-0003	01-09-2019	01-08-2020
Cable line	Times	SFT205-NMSM-2.50M	393495-0001	01-09-2019	01-08-2020
Cable line	Times	EMC104-NMNM-1000	SN160710	01-09-2019	01-08-2020
Cable line	Times	SFT205-NMSM-3.00M	394813-0001	01-09-2019	01-08-2020
Cable line	Times	SFT205-NMNM-1.50M	381964-0001	01-09-2019	01-08-2020
Cable line	Times	SFT205-NMSM-7.00M	394815-0001	01-09-2019	01-08-2020
Cable line	Times	HF160-KMKM-3.00M	393493-0001	01-09-2019	01-08-2020

8 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	FCC Part15E	Subpart C-Intentional Radiators
2	ANSI C63.10-2013	American National Standard for Testing Unlicesed Wireless Devices
3	KDB789033 D02 General UNII Test Procedures New Rules v01	Guidelines for compliance testing of unlicensed national information infrastructure (U-NII) device part 15 subpart E

Test Results List:

Test Requirement	Test method	Test item	Verdict	Note
Part15E Section 15.407 (a)(1)(2)(4)(h)(1)	KDB789033 D02v01	Conducted Output Power and transmit power control mechanism	PASS	Appendix B)
Part15E Section 15.407 (a)(1)(2)	KDB789033 D02v01	26dB Occupied Bandwidth	PASS	Appendix A)
Part15E Section 15.407 (a)(1)(2)(5)	KDB789033 D02v01	Power Spectral Density	PASS	Appendix C)
Part15E Section 15.407 (a)(6)	KDB789033 D02v01	Peak power excursion	PASS	Appendix D)
Part15E Section 15.407 (g)	KDB789033 D02v01	Frequency stability	PASS	Appendix E)
Part15C Section 15.203	ANSI C63.10	Antenna Requirement	PASS	Appendix F)
Part15E Section 15.407 (c)	Section 15.407	Operation in the absence of information to the transmit	PASS	Appendix G)
Part15E Section 15.407 (b)(6)	ANSI C63.10	AC Power Line Conducted Emission	PASS	Appendix H)
Part15E Section 15.407 (b)(6)(7)(8)	KDB789033 D02v01	Restricted bands around fundamental frequency (Radiated Emission)	PASS	Appendix I)
Part15E Section 15.407 (b)(6)(7)(8)	KDB789033 D02v01	Unwanted Emissions in the Restricted Bands	PASS	Appendix J)
Part15E Section 15.407 (b)(1)(2)(3)(5)	KDB789033 D02v01	Unwanted Emissions that fall Outside of the Restricted Bands	PASS	Appendix K)
47 CFR Part 15 Subpart E Section 15.407 (h)	KDB905462 D02	Dynamic Frequency Selection	PASS	Appendix L)

Duty Cycle

Directional Antenna Gain
The TX chains are correlated, the antenna gain is equal among the chains.
Employs an antennathat operates simultaneously onmultiple directional beams using the same frequency channels. No carrier aggregation techniques.
The directional gainis:

Antenna 0 Gain(dBi)	Antenna 0 Gain(dBi)	Correlated Chains DirectionalGain(dBi)
3	3	6.01

Duty Cycle

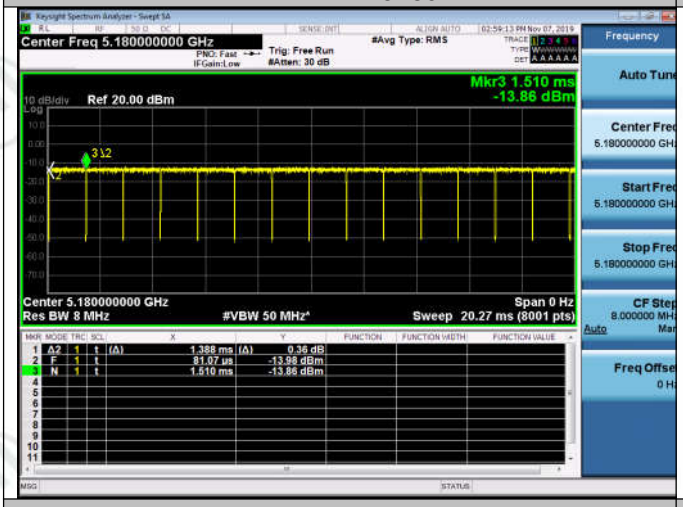
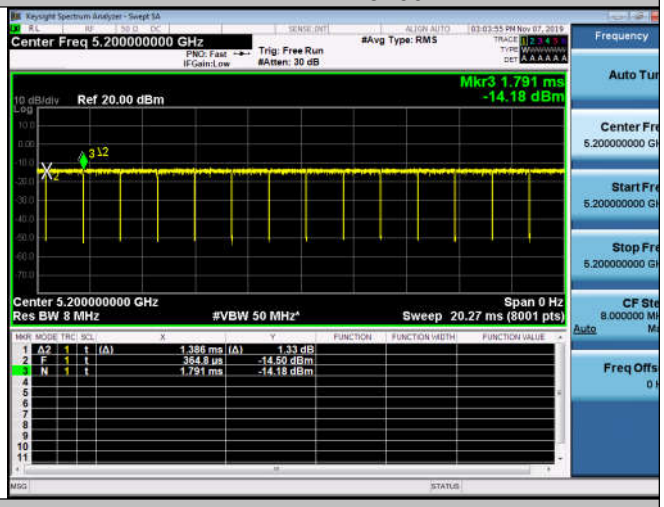
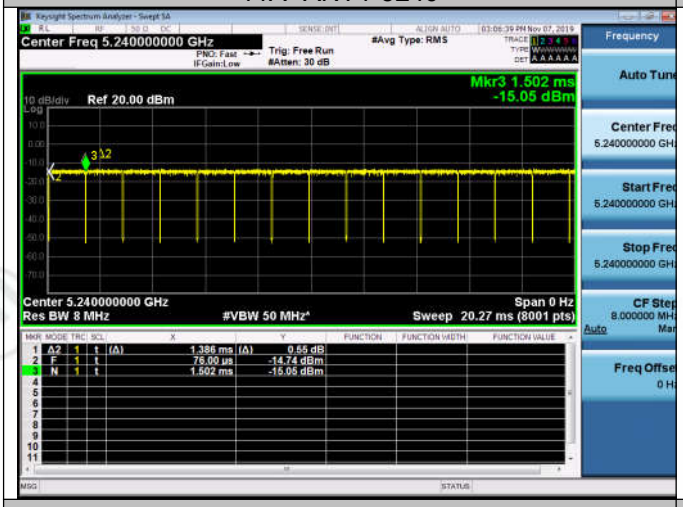
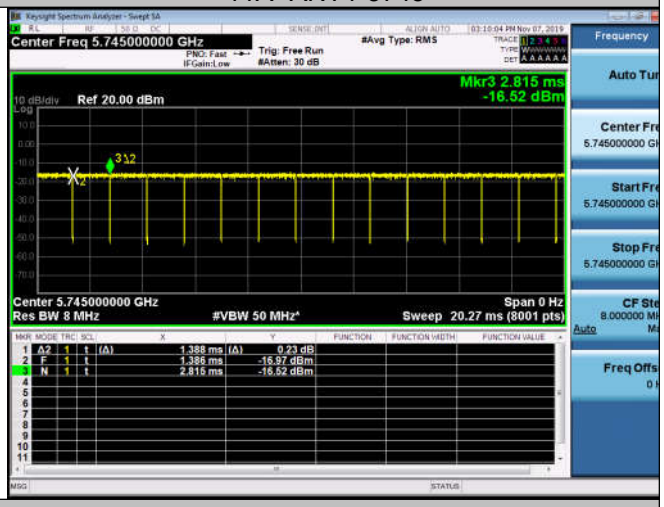
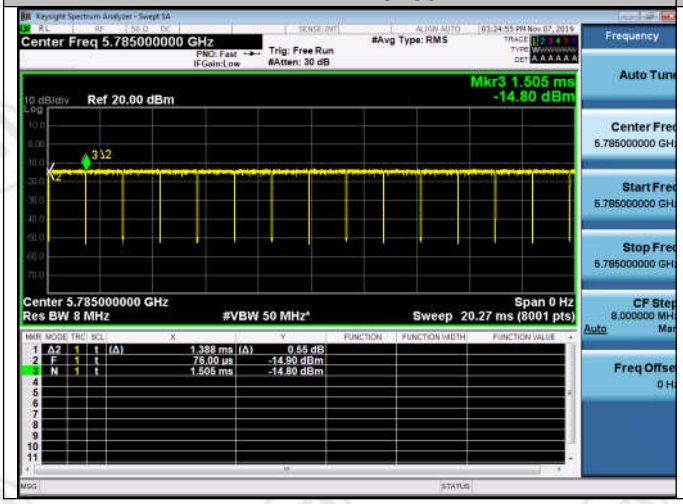
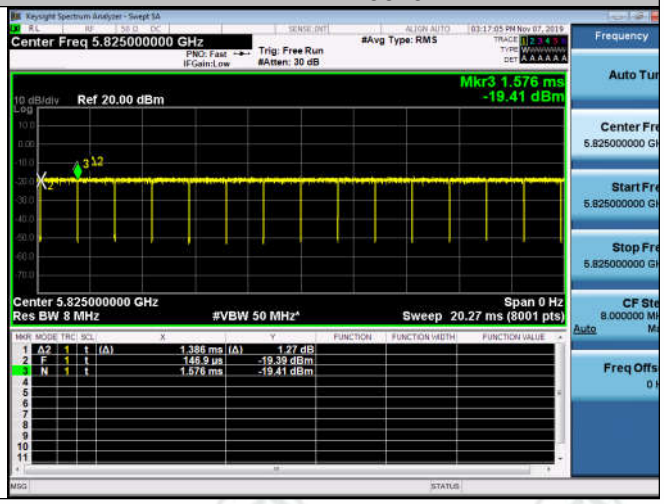
ANT1			
Test Mode	**Channel**	**Duty Cycle[%]**	**Verdict**
11A	5180	97.16	PASS
11A	5200	97.16	PASS
11A	5240	97.16	PASS
11A	5745	97.16	PASS
11A	5785	97.16	PASS
11A	5825	96.99	PASS
11N20SISO	5180	96.96	PASS
11N20SISO	5200	96.96	PASS
11N20SISO	5240	96.96	PASS
11N20SISO	5745	96.96	PASS
11N20SISO	5785	96.96	PASS
11N20SISO	5825	96.96	PASS
11N40SISO	5190	94.05	PASS
11N40SISO	5230	94.07	PASS
11N40SISO	5755	94.07	PASS
11N40SISO	5795	94.07	PASS
11N20MIMO	5180	96.96	PASS
11N20MIMO	5200	96.96	PASS
11N20MIMO	5240	96.96	PASS
11N20MIMO	5745	96.96	PASS

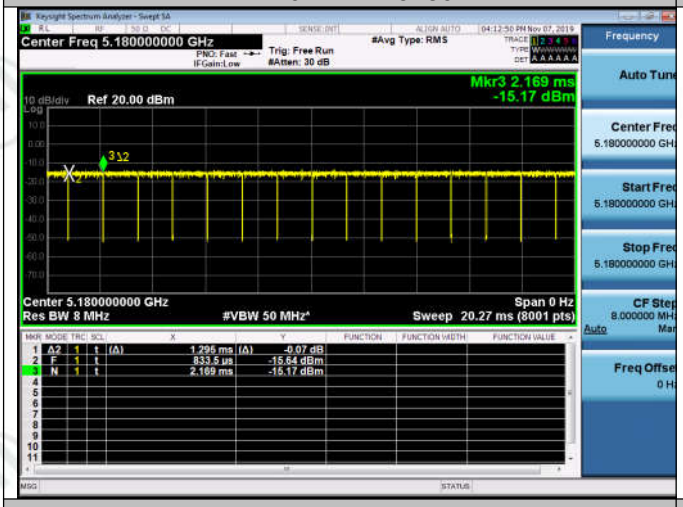
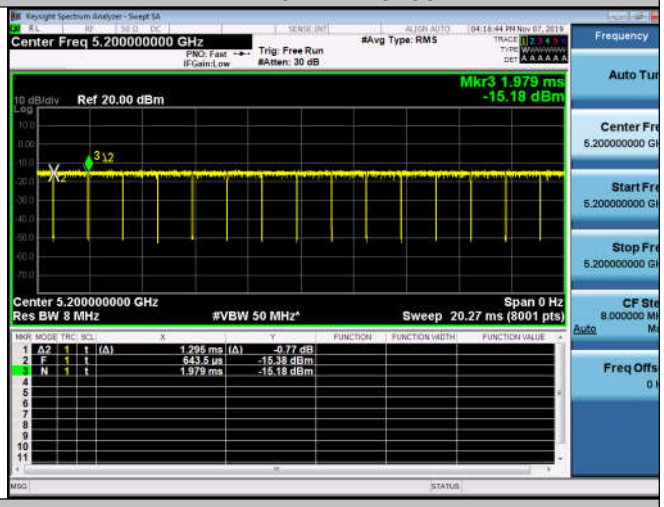
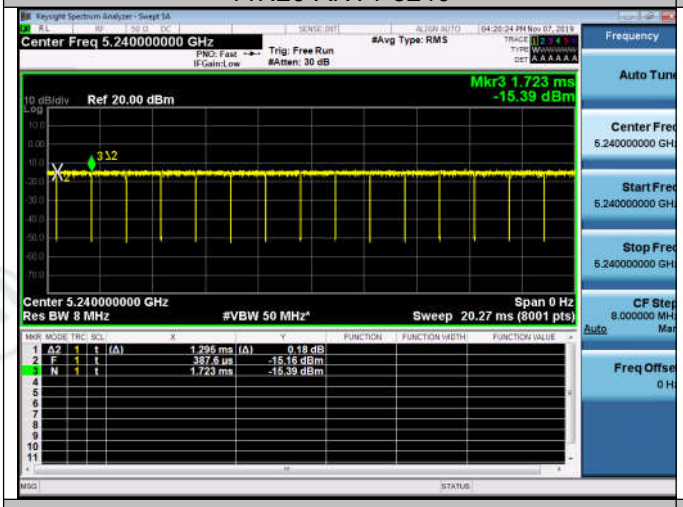
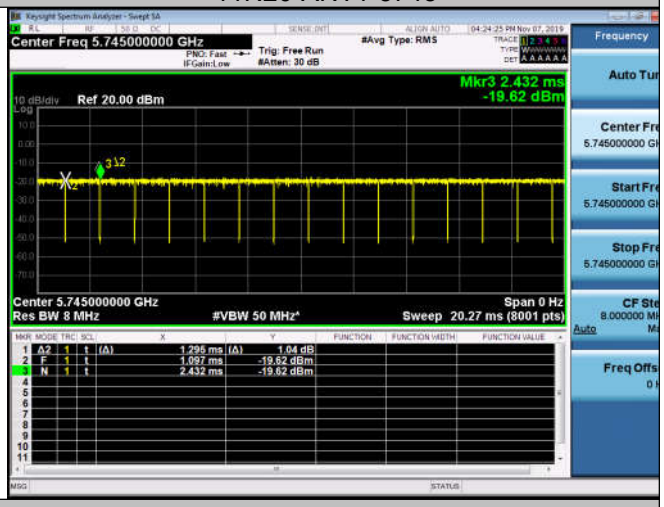
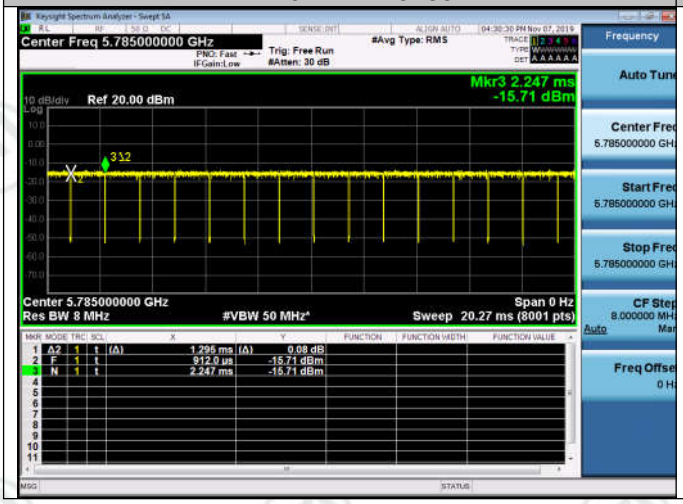
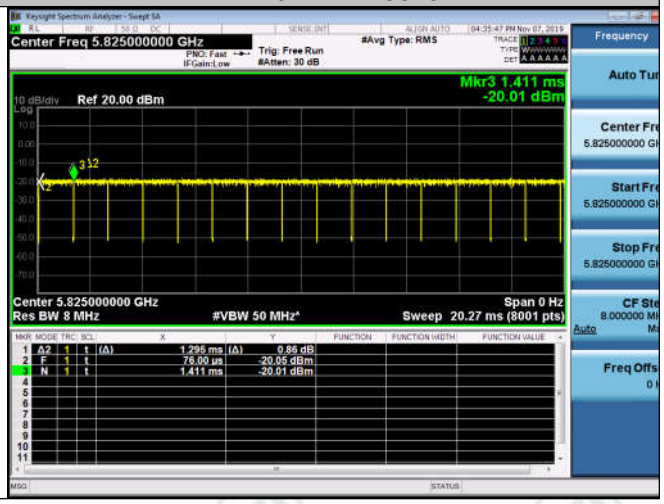
11N20MIMO	5785	96.96	PASS
11N20MIMO	5825	96.78	PASS
11N40MIMO	5190	94.07	PASS
11N40MIMO	5230	94.07	PASS
11N40MIMO	5755	94.07	PASS
11N40MIMO	5795	94.07	PASS

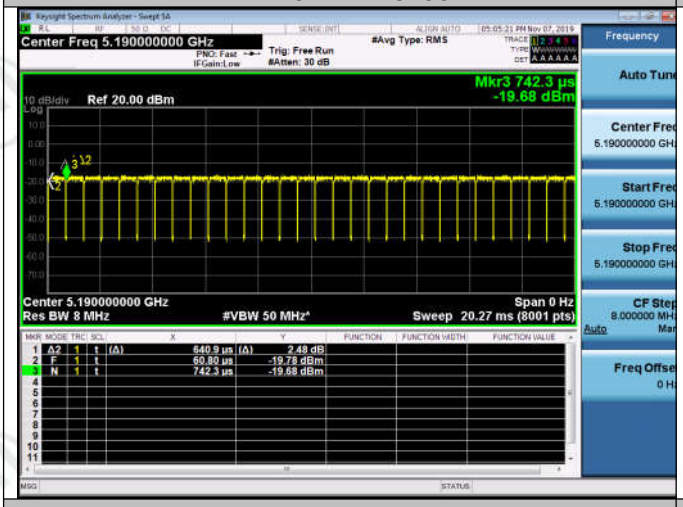
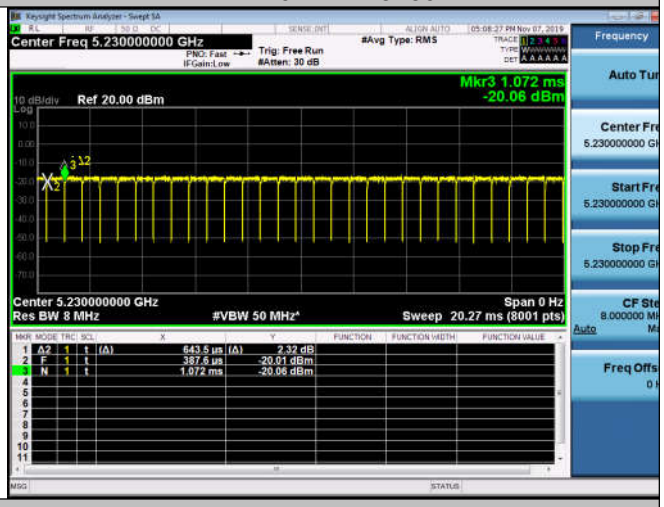
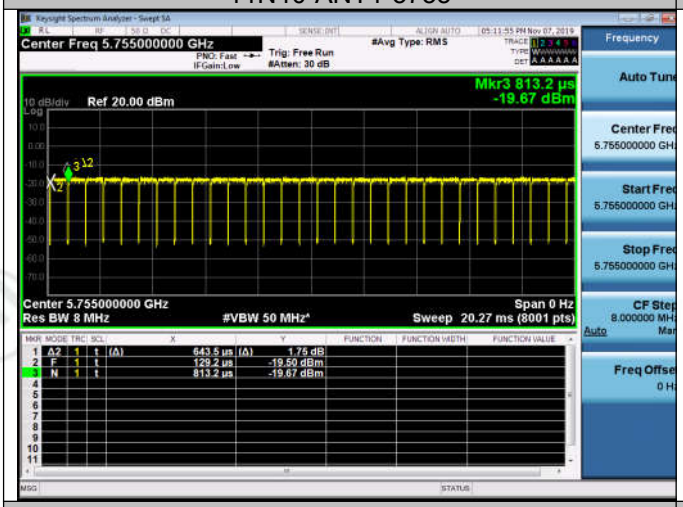
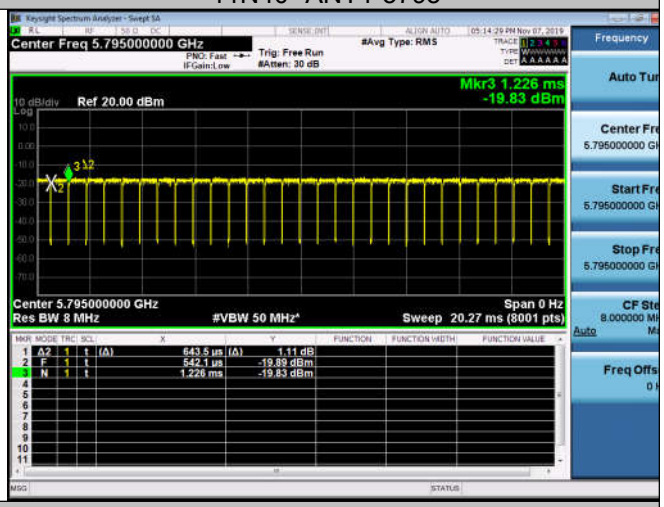
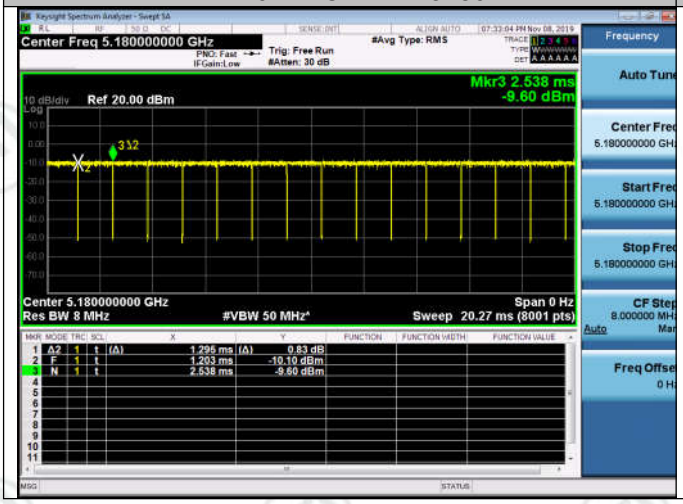
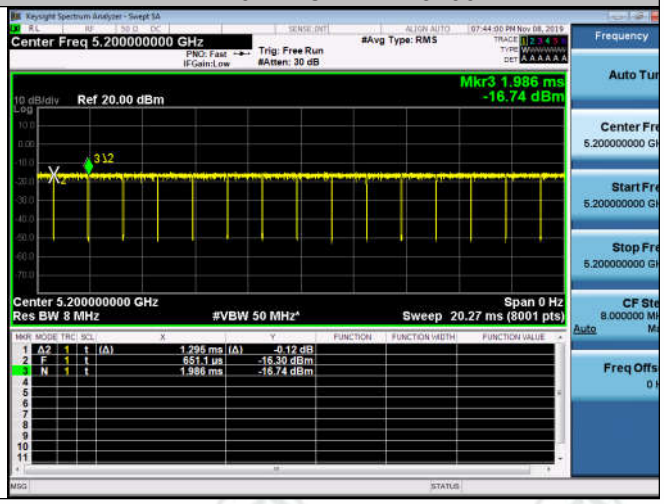
ANT2			
Test Mode	**Channel**	**Duty Cycle[%]**	**Verdict**
11A	5180	97.16	PASS
11A	5200	97.16	PASS
11A	5240	97.16	PASS
11A	5745	97.16	PASS
11A	5785	97.16	PASS
11A	5825	97.16	PASS
11N20SISO	5180	96.96	PASS
11N20SISO	5200	96.96	PASS
11N20SISO	5240	96.96	PASS
11N20SISO	5745	96.96	PASS
11N20SISO	5785	96.96	PASS
11N20SISO	5825	96.97	PASS
11N40SISO	5190	94.07	PASS
11N40SISO	5230	94.07	PASS
11N40SISO	5755	94.07	PASS
11N40SISO	5795	94.07	PASS
11N20MIMO	5180	96.96	PASS
11N20MIMO	5200	96.96	PASS
11N20MIMO	5240	96.96	PASS
11N20MIMO	5745	96.96	PASS
11N20MIMO	5785	96.96	PASS
11N20MIMO	5825	96.97	PASS

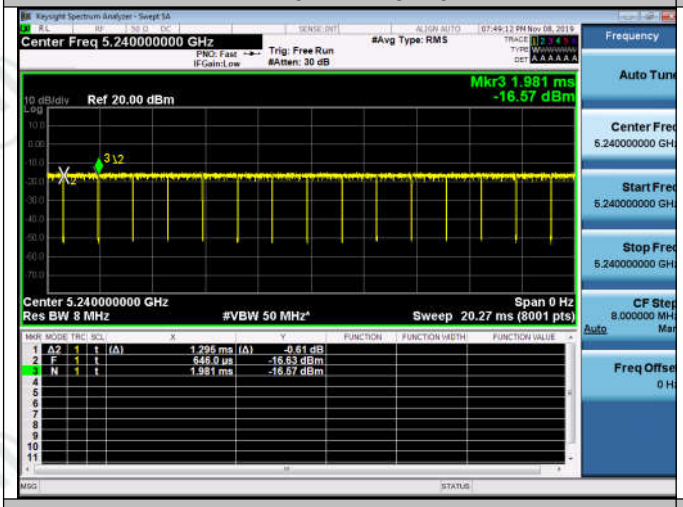
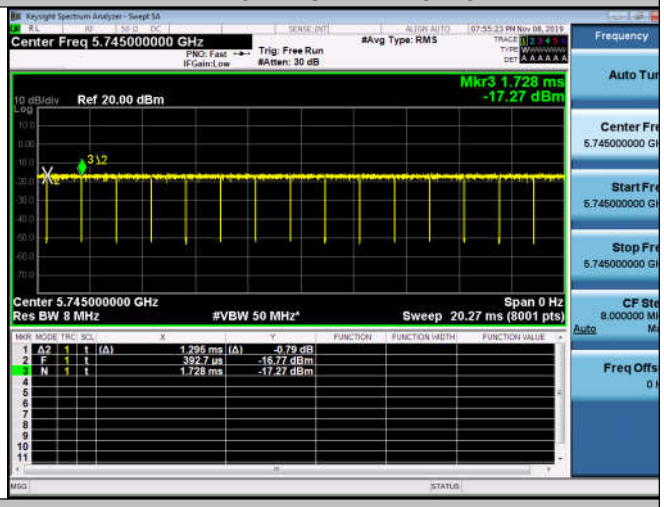
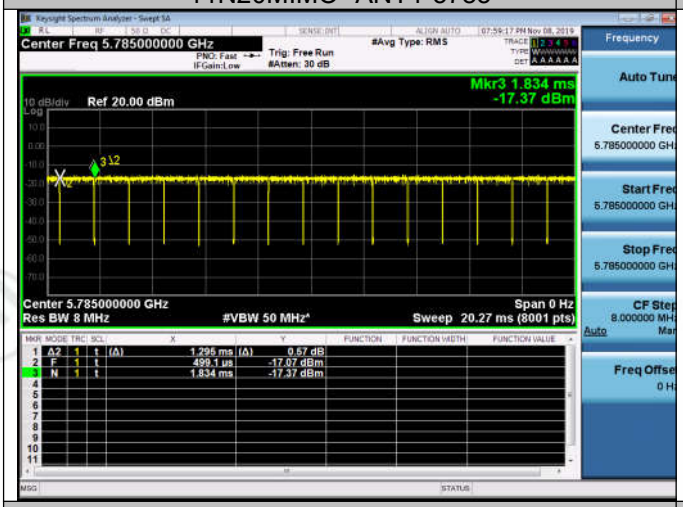
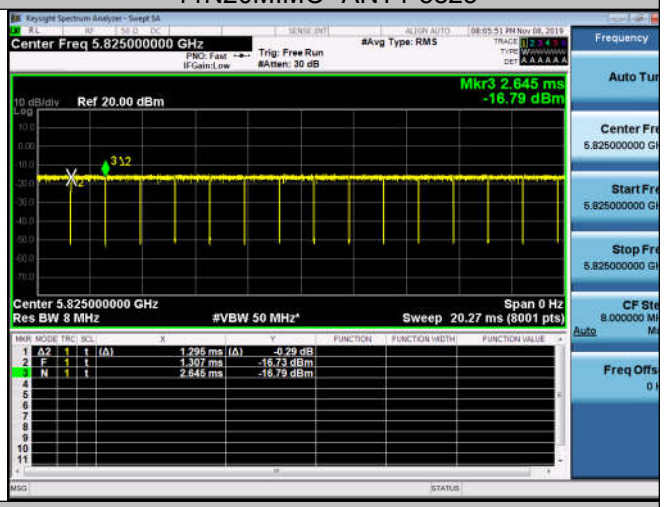
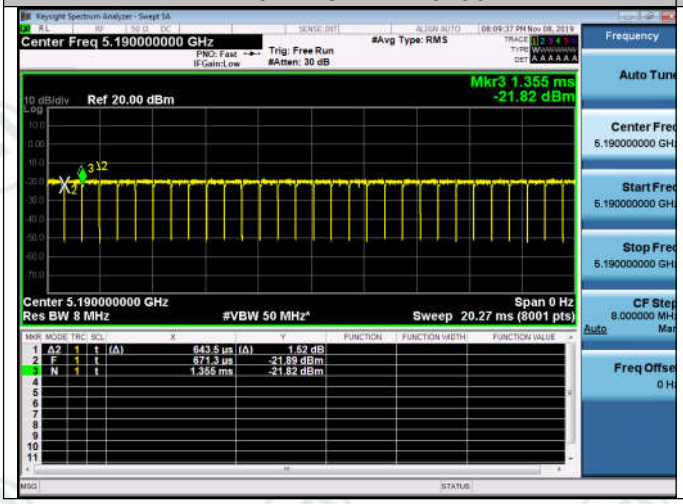
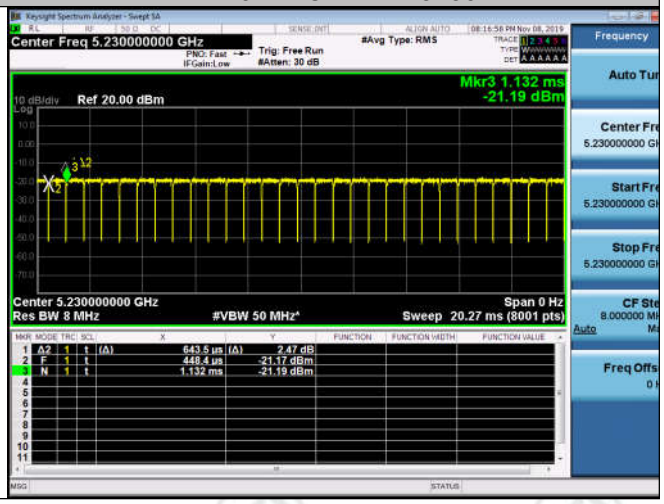
11N40MIMO	5190	58.66	PASS
11N40MIMO	5230	94.07	PASS
11N40MIMO	5755	94.05	PASS
11N40MIMO	5795	94.05	PASS

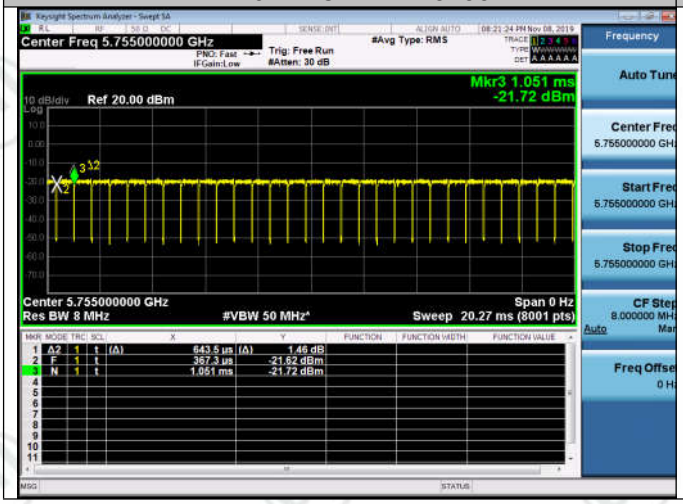
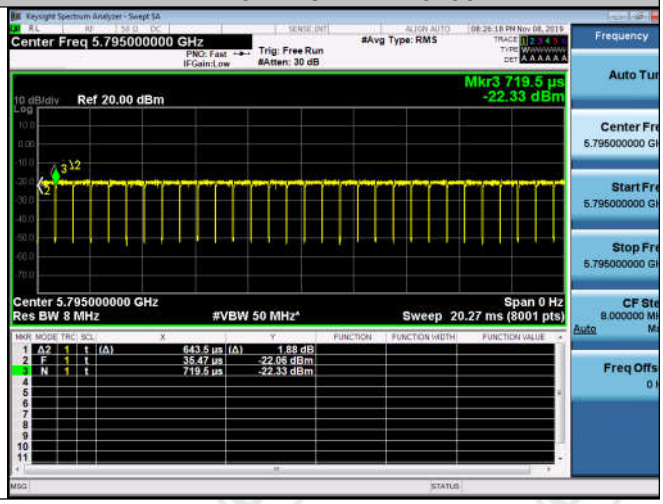
Duty Cycle Test Graph

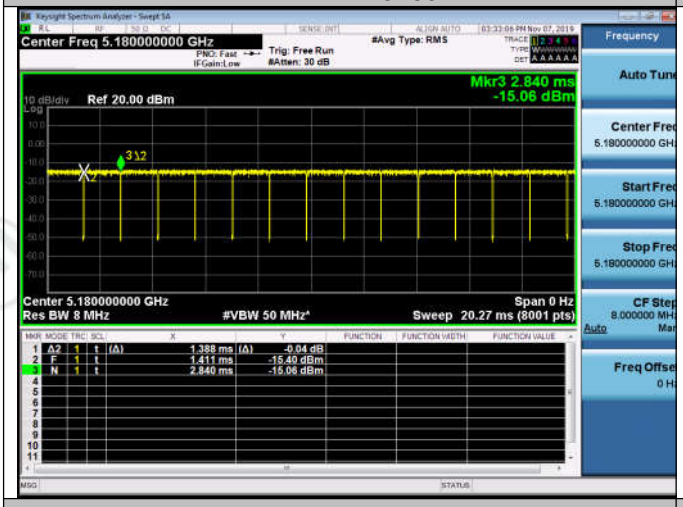
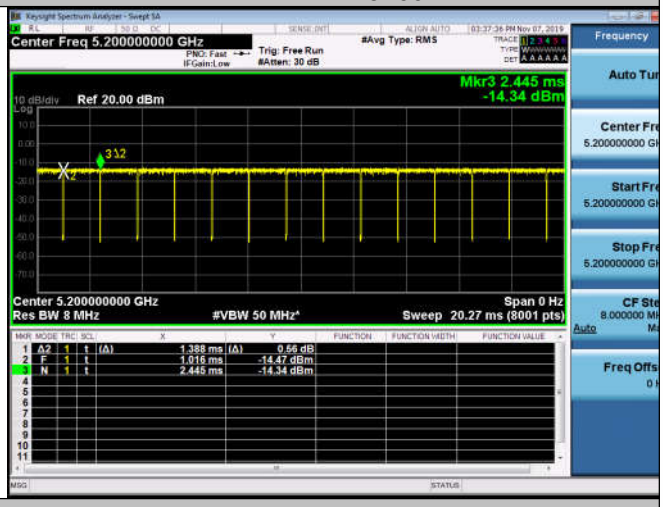
11A -ANT1-5180	11A -ANT1-5200
	
11A -ANT1-5240	11A -ANT1-5745
	
11A -ANT1-5785	11A -ANT1-5825
	

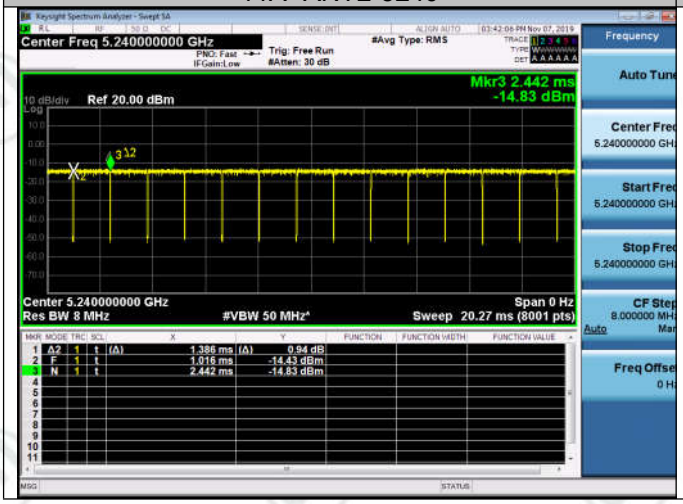
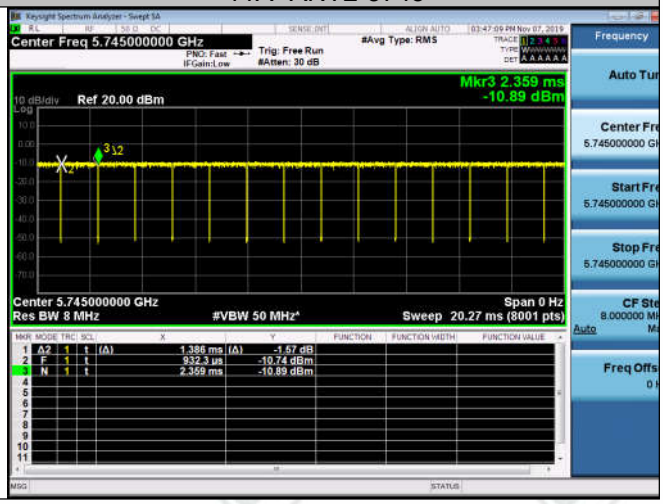
11N20 -ANT1-5180	11N20-ANT1-5200
	
11N20-ANT1-5240	11N20-ANT1-5745
	
11N20 -ANT1-5785	11N20 -ANT1-5825
	

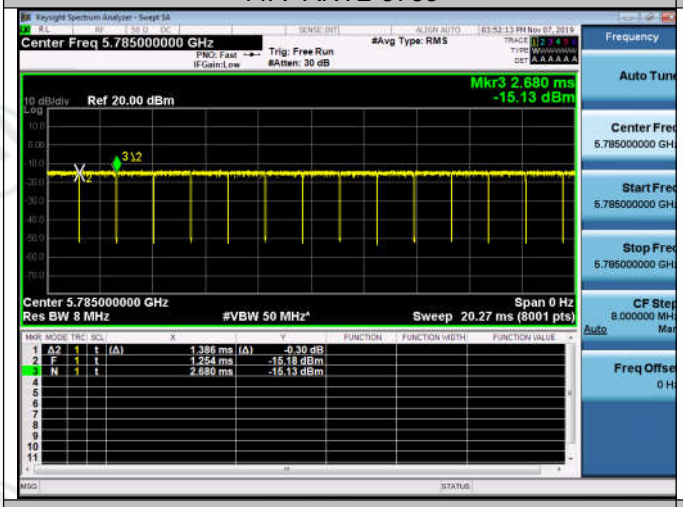
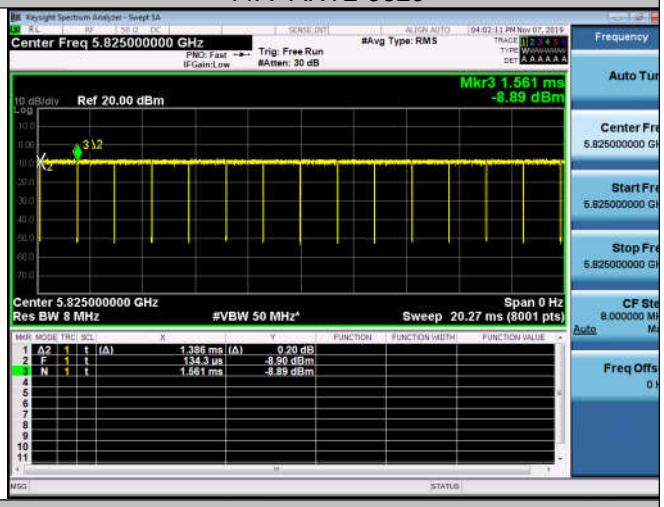
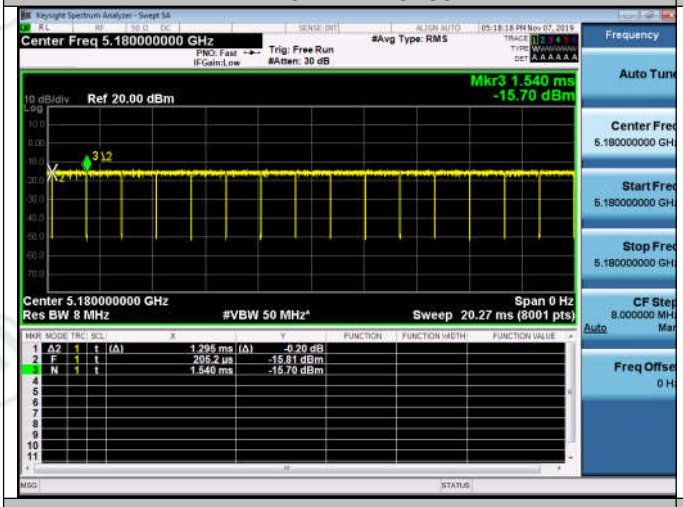
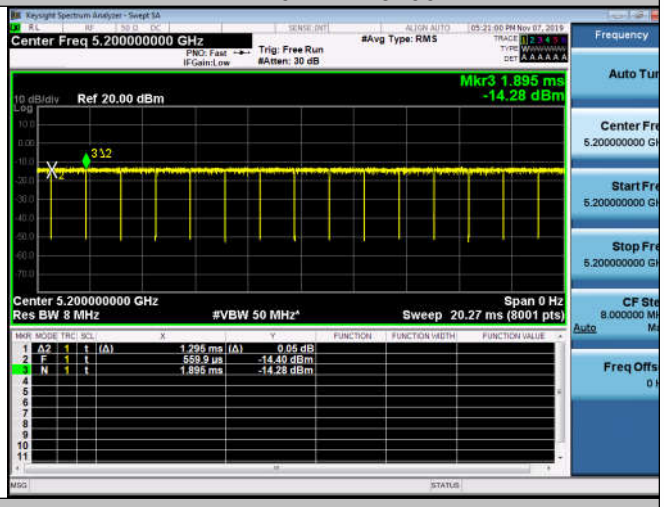
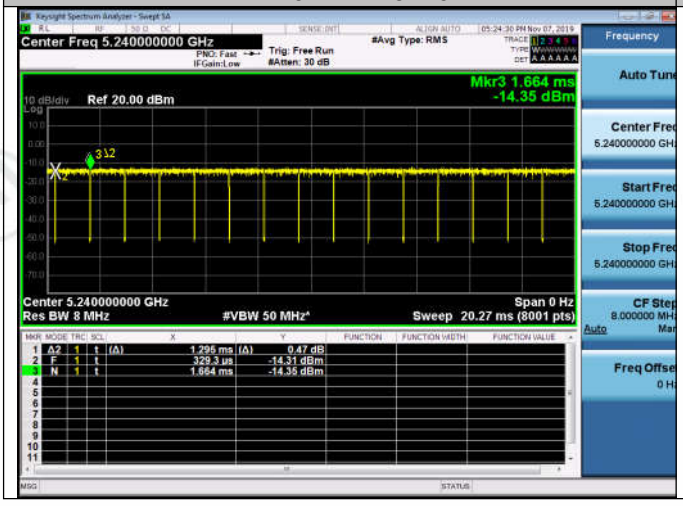
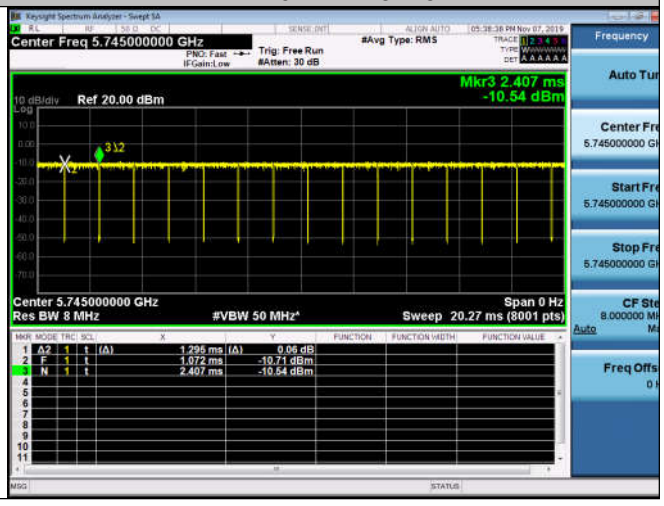
11N40-ANT1-5190	11N40-ANT1-5230
	
11N40-ANT1-5755	11N40 -ANT1-5795
	
11N20MIMO-ANT1-5180	11N20MIMO -ANT1-5200
	

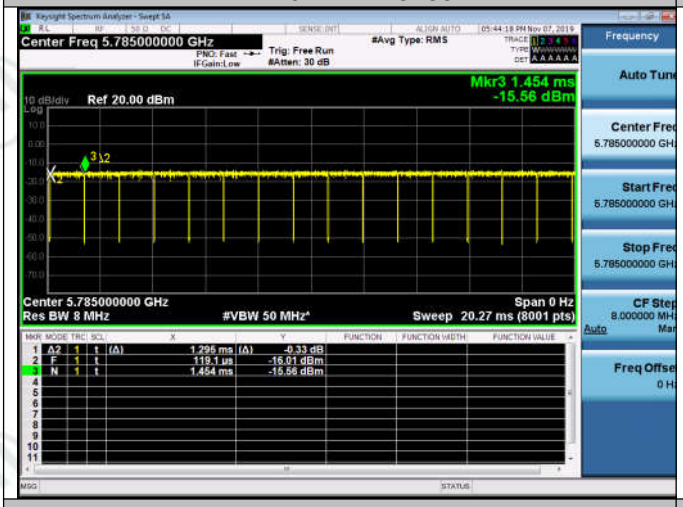
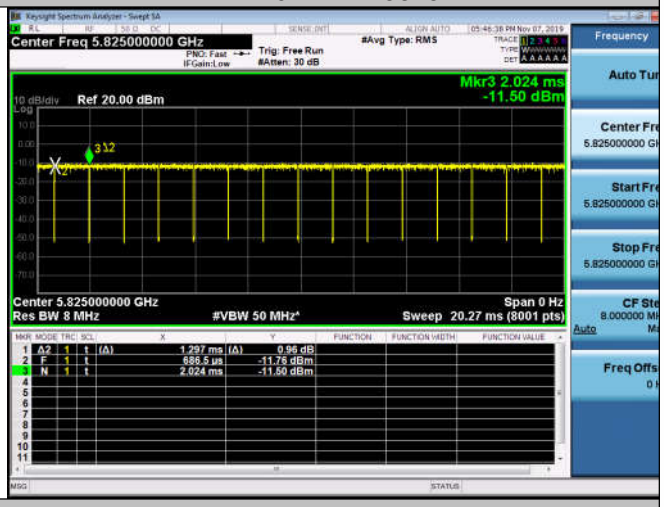
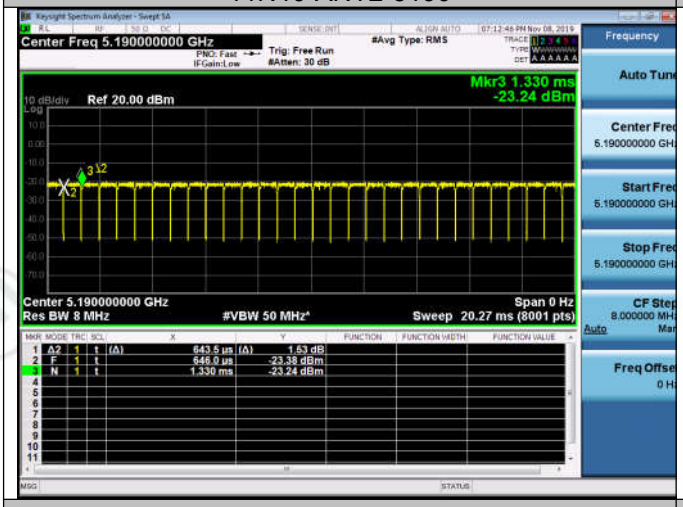
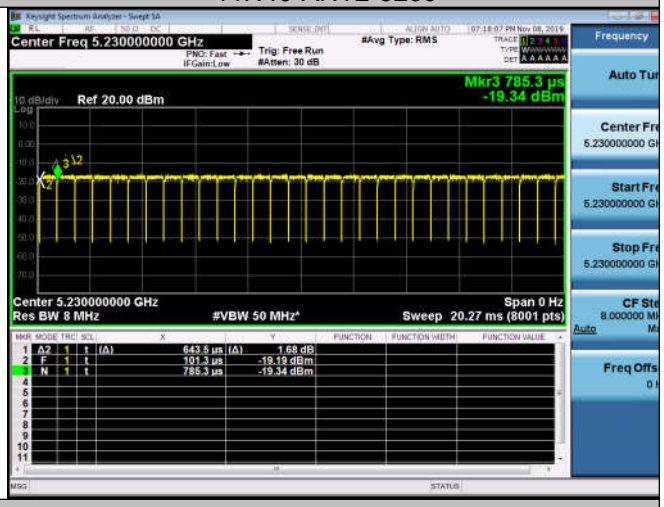
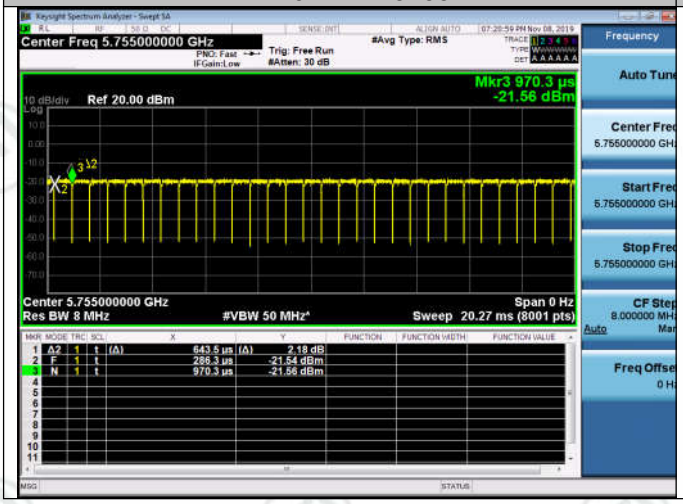
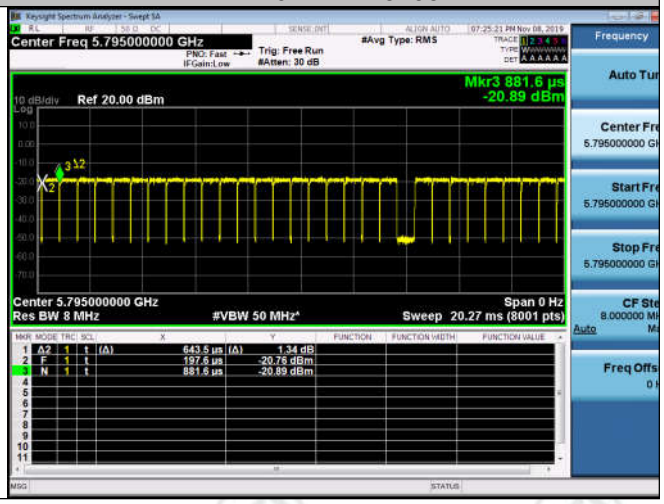
11N20-ANT1-5240	11N20MIMO -ANT1-5745
	
11N20MIMO -ANT1-5785	11N20MIMO -ANT1-5825
	
11N40MIMO-ANT1-5190	11N40MIMO -ANT1-5230
	

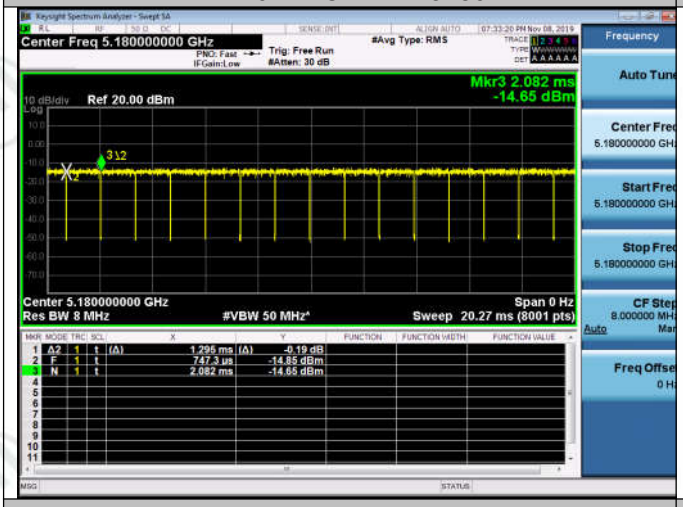
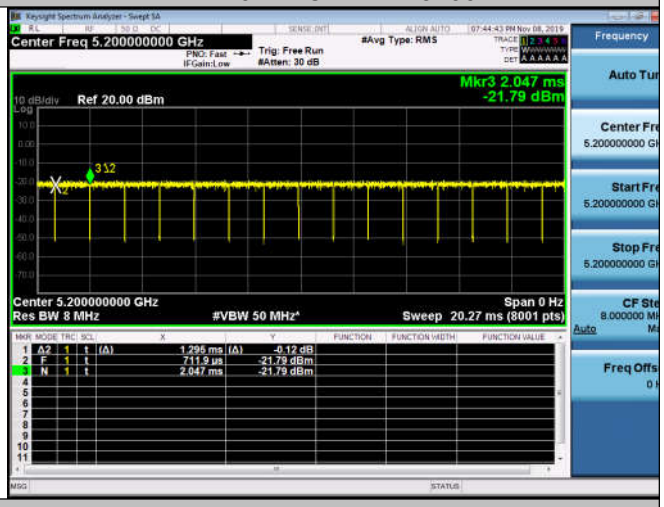
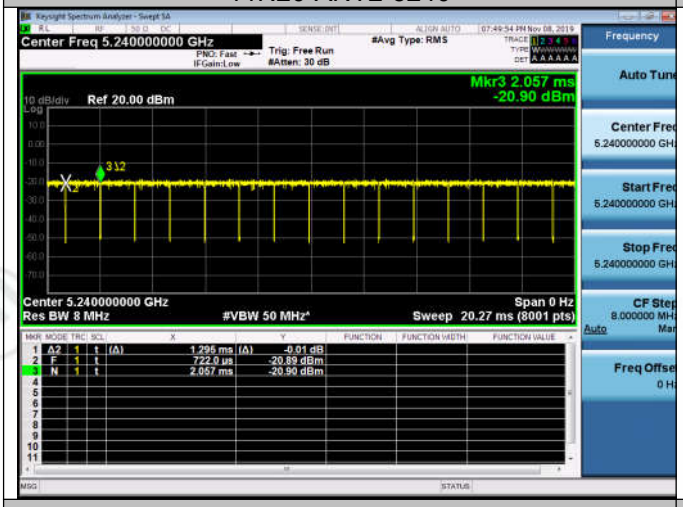
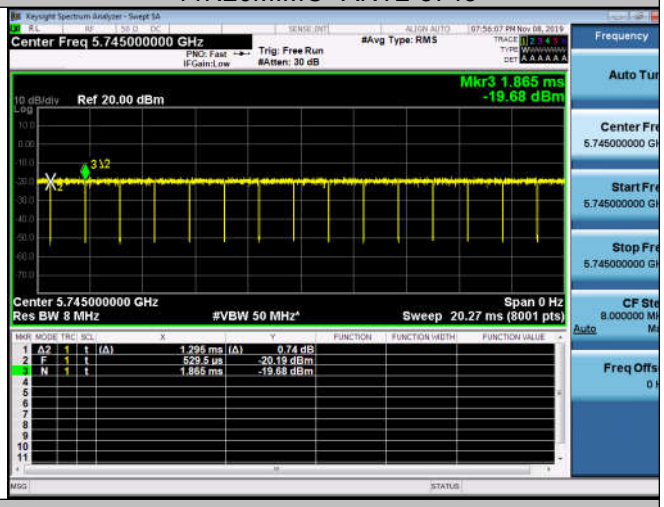
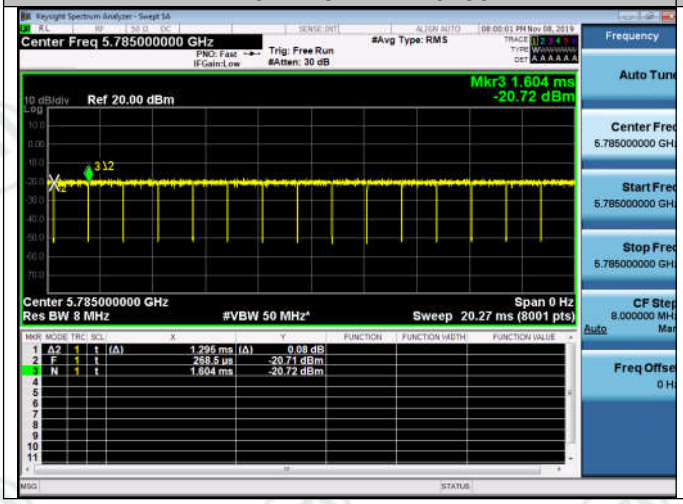
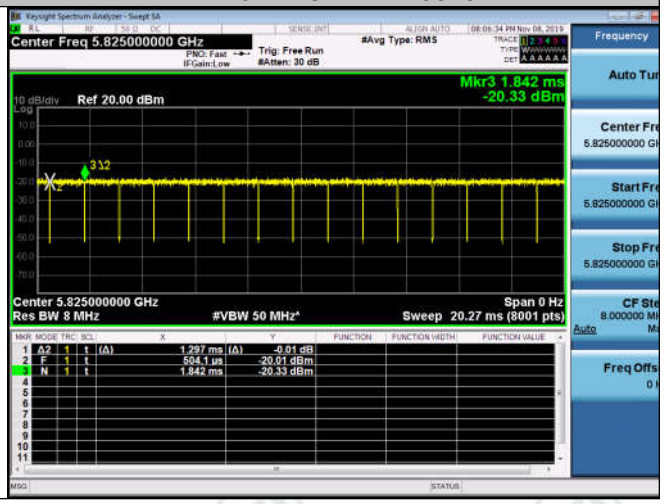
11N40MIMO -ANT1-5755	11N40MIMO -ANT1-5795
	

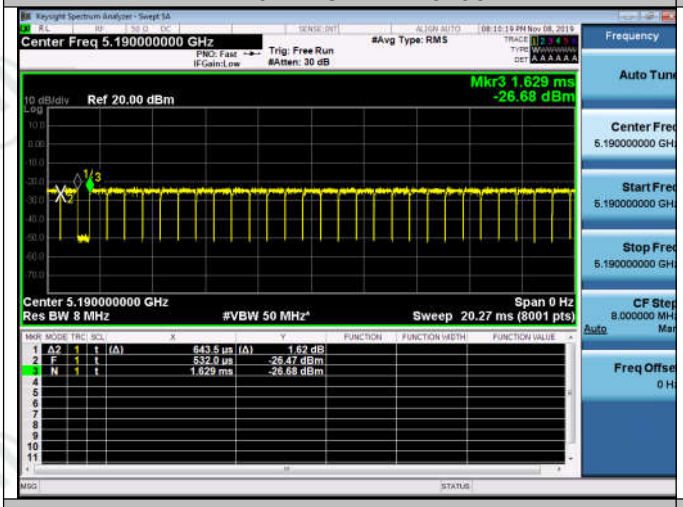
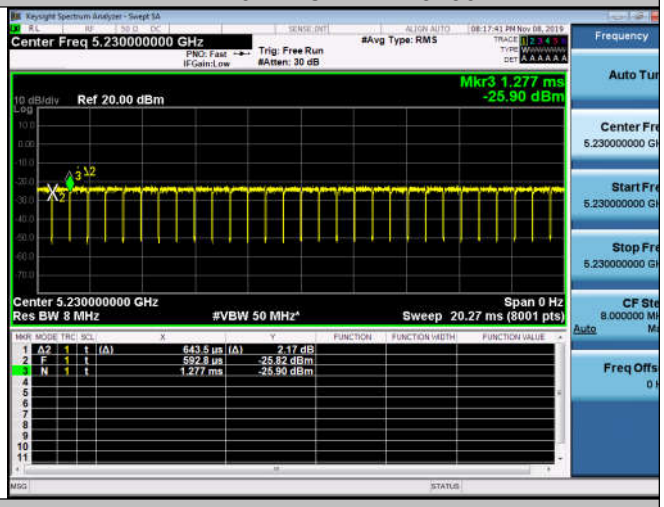
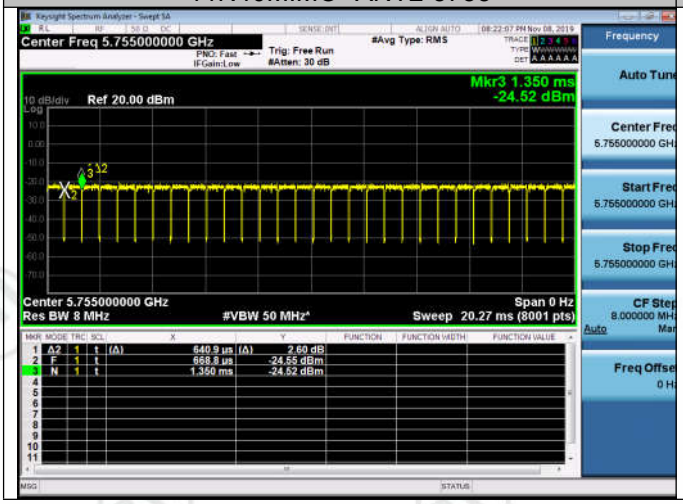
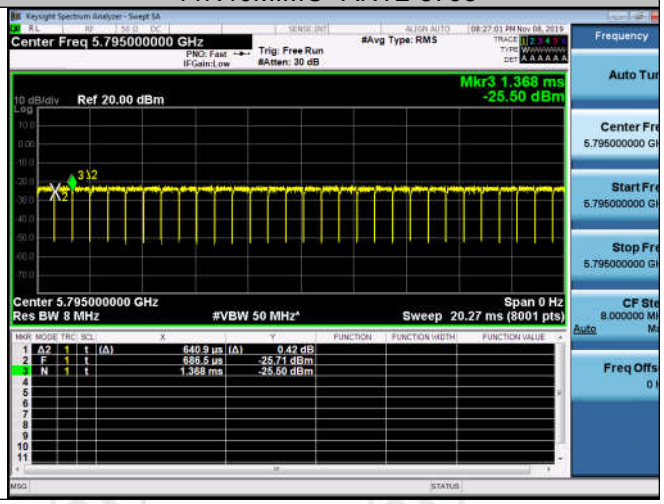
11A -ANT2-5180	11A -ANT2-5200
	

11A -ANT2-5240	11A -ANT2-5745
	

11A -ANT2-5785	11A -ANT2-5825
	
11N20 -ANT2-5180	11N20-ANT2-5200
	
11N20-ANT2-5240	11N20-ANT2-5745
	

11N20 -ANT2-5785	11N20 -ANT2-5825
	
11N40-ANT2-5190	11N40-ANT2-5230
	
11N40-ANT2-5755	11N40 -ANT2-5795
	

11N20MIMO-ANT2-5180	11N20MIMO -ANT2-5200
	
11N20-ANT2-5240	11N20MIMO -ANT2-5745
	
11N20MIMO -ANT2-5785	11N20MIMO -ANT2-5825
	

11N40MIMO-ANT2-5190	11N40MIMO -ANT2-5230
	
11N40MIMO -ANT2-5755	**11N40MIMO -ANT2-5795**
	

Appendix A): Emission Bandwidth

Result Table For EBW

Test Mode	Antenna	Channel	EBW[MHz]	Verdict
11A	Ant1	5180	19.90	PASS
11A	Ant2	5180	19.63	PASS
11A	Ant1	5200	19.43	PASS
11A	Ant2	5200	19.60	PASS
11A	Ant1	5240	19.55	PASS
11A	Ant2	5240	19.67	PASS
11A	Ant1	5745	10.64	PASS
11A	Ant2	5745	16.34	PASS
11A	Ant1	5785	14.92	PASS
11A	Ant2	5785	14.91	PASS
11A	Ant1	5825	10.09	PASS
11A	Ant2	5825	12.79	PASS
Test Mode	**Antenna**	**Channel**	**EBW[MHz]**	**Verdict**
11N20SISO	Ant1	5180	20.08	PASS
11N20SISO	Ant2	5180	20.21	PASS
11N20SISO	Ant1	5200	20.10	PASS
11N20SISO	Ant2	5200	19.95	PASS
11N20SISO	Ant1	5240	19.81	PASS
11N20SISO	Ant2	5240	20.05	PASS
11N20SISO	Ant1	5745	13.51	PASS
11N20SISO	Ant2	5745	17.57	PASS
11N20SISO	Ant1	5785	13.85	PASS
11N20SISO	Ant2	5785	13.05	PASS
11N20SISO	Ant1	5825	16.74	PASS
11N20SISO	Ant2	5825	17.10	PASS
11N40SISO	Ant1	5190	40.73	PASS
11N40SISO	Ant2	5190	40.56	PASS
11N40SISO	Ant1	5230	40.79	PASS

11N40SISO	Ant2	5230	40.80	PASS
11N40SISO	Ant1	5755	28.98	PASS
11N40SISO	Ant2	5755	33.87	PASS
11N40SISO	Ant1	5795	32.45	PASS
11N40SISO	Ant2	5795	35.61	PASS

Result Table For OBW

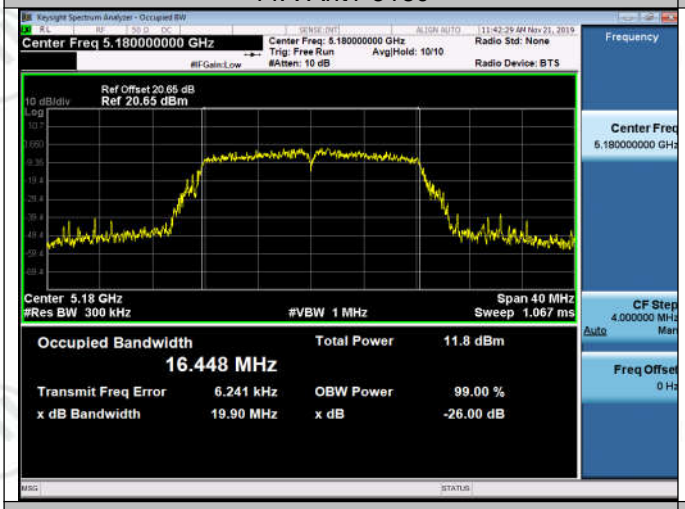
Test Mode	Antenna	Channel	OBW[MHz]	Verdict
11A	Ant1	5180	16.385	PASS
11A	Ant2	5180	16.371	PASS
11A	Ant1	5200	16.424	PASS
11A	Ant2	5200	16.359	PASS
11A	Ant1	5240	16.426	PASS
11A	Ant2	5240	16.367	PASS
11A	Ant1	5745	16.459	PASS
11A	Ant2	5745	16.457	PASS
11A	Ant1	5785	16.364	PASS
11A	Ant2	5785	16.508	PASS
11A	Ant1	5825	16.511	PASS
11A	Ant2	5825	16.425	PASS
Test Mode	**Antenna**	**Channel**	**OBW[MHz]**	**Verdict**
11N20SISO	Ant1	5180	17.558	PASS
11N20SISO	Ant2	5180	17.537	PASS
11N20SISO	Ant1	5200	17.583	PASS
11N20SISO	Ant2	5200	17.570	PASS
11N20SISO	Ant1	5240	17.581	PASS
11N20SISO	Ant2	5240	17.541	PASS
11N20SISO	Ant1	5745	17.524	PASS
11N20SISO	Ant2	5745	17.564	PASS
11N20SISO	Ant1	5785	17.607	PASS
11N20SISO	Ant2	5785	17.557	PASS

11N20SISO	Ant1	5825	17.645	PASS
11N20SISO	Ant2	5825	17.535	PASS
11N40SISO	Ant1	5190	36.057	PASS
11N40SISO	Ant2	5190	36.026	PASS
11N40SISO	Ant1	5230	36.073	PASS
11N40SISO	Ant2	5230	35.995	PASS
11N40SISO	Ant1	5755	36.282	PASS
11N40SISO	Ant2	5755	36.323	PASS
11N40SISO	Ant1	5795	36.210	PASS
11N40SISO	Ant2	5795	36.285	PASS

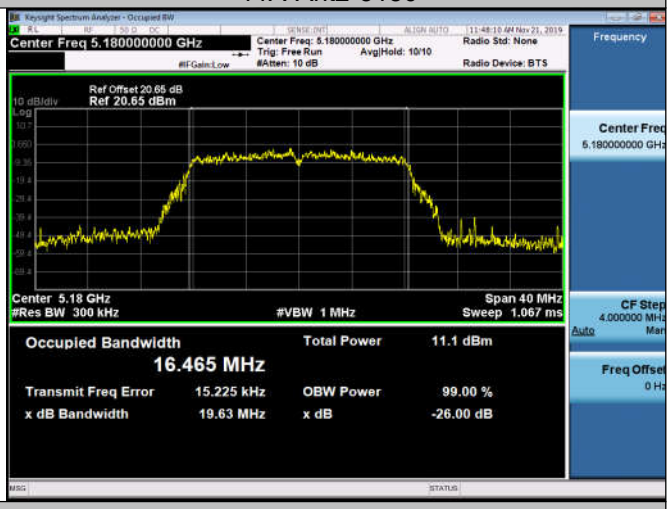
Test Graph

x dB Down Bandwidth(EBW)

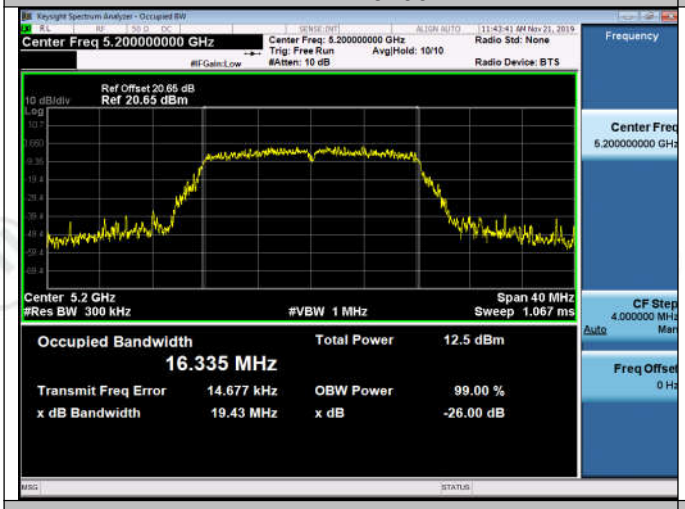
11A-Ant1-5180



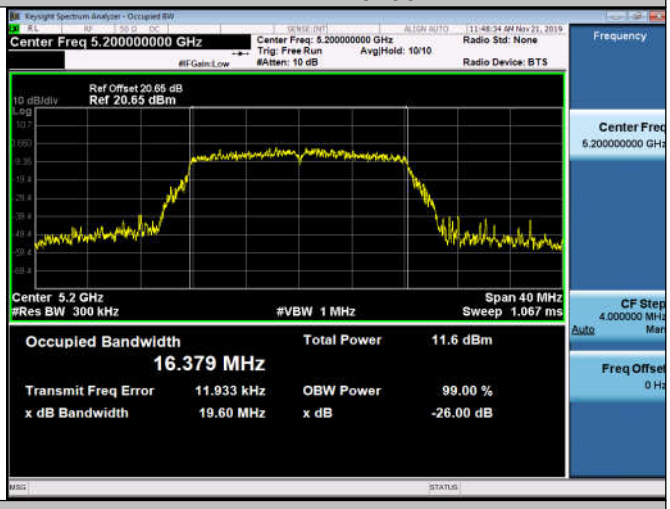
11A-Ant2-5180



11A-Ant1-5200



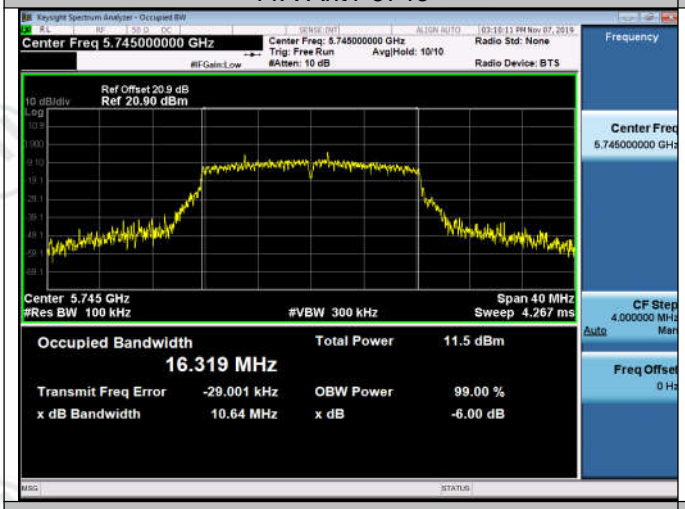
11A-Ant2-5200



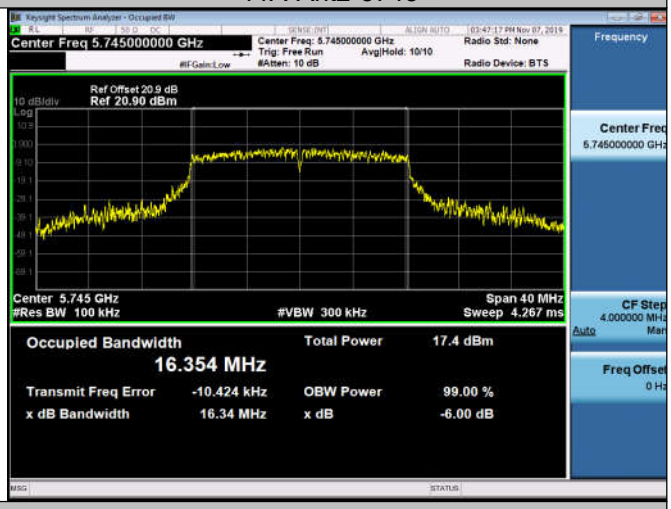
11A-Ant1-5240

11A-Ant2-5240

11A-Ant1-5745

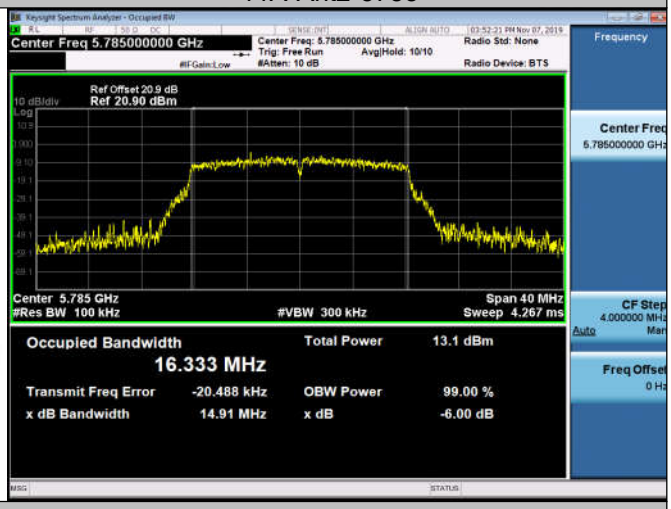


11A-Ant2-5745

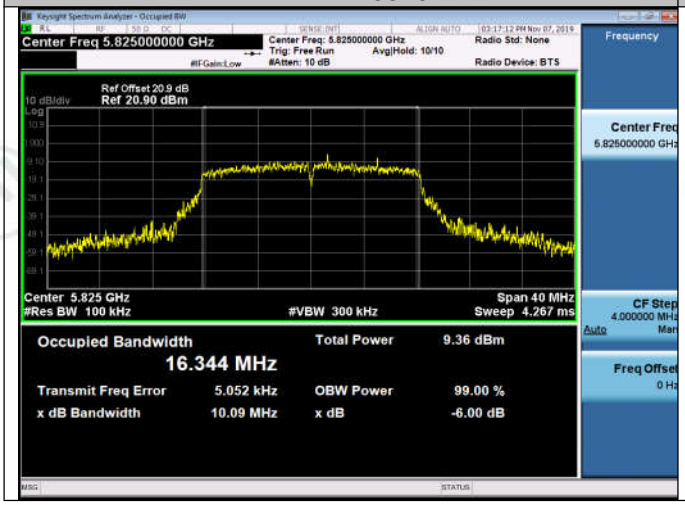


11A-Ant1-5785

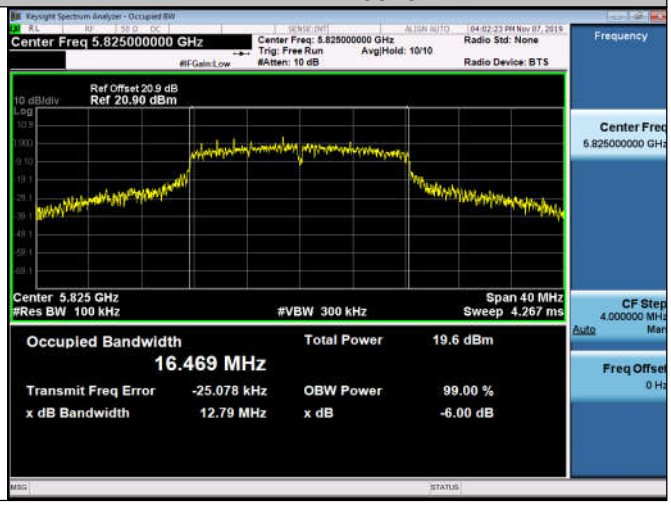
11A-Ant2-5785



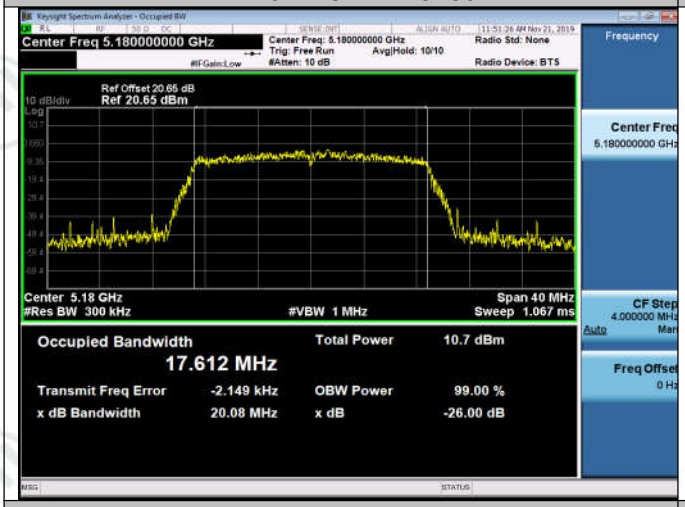
11A-Ant1-5825



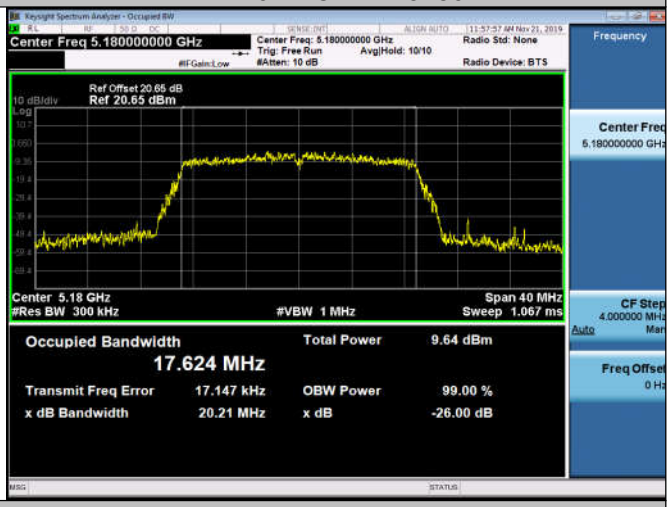
11A-Ant2-5825



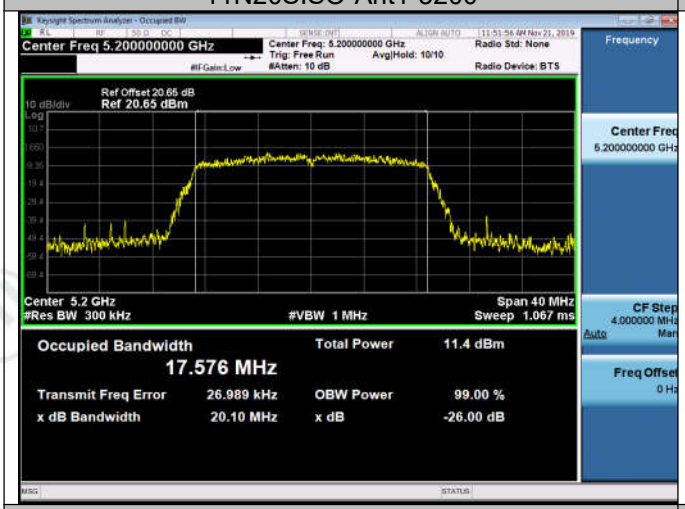
11N20SISO-Ant1-5180



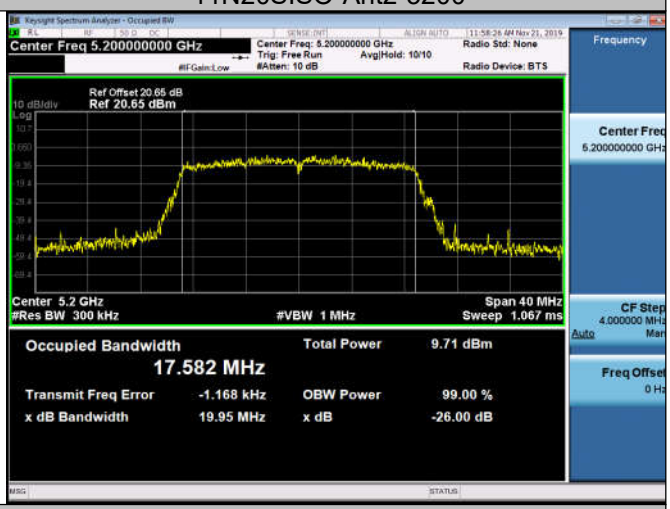
11N20SISO-Ant2-5180



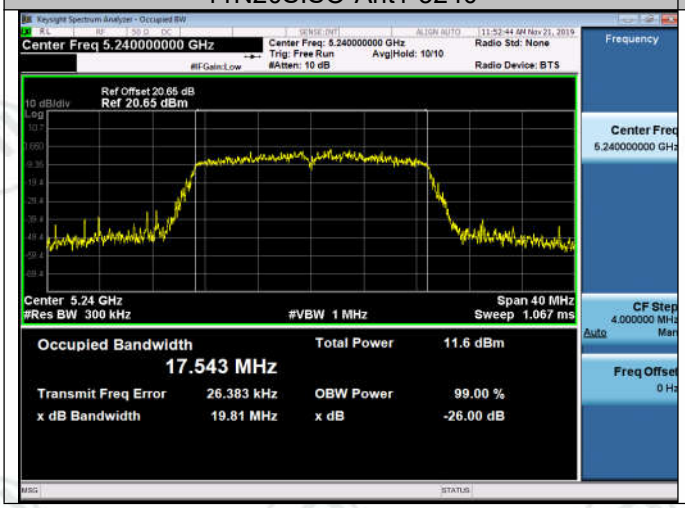
11N20SISO-Ant1-5200



11N20SISO-Ant2-5200



11N20SISO-Ant1-5240



11N20SISO-Ant2-5240