

TEST REPORT

Product : Grid Pad 15
Trade mark : Smartbox
Model/Type reference : GP15A
Serial Number : N/A
Report Number : EED32M00138903
FCC ID : 2APXM-GP15A
Date of Issue : Aug.10, 2020
Test Standards : 47 CFR Part 15Subpart C
Test result : PASS

Prepared for:

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Date:

Aug.10, 2020

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Check No.:3096327781



2 Version

Version No.	Date	Description
00	Aug.10, 2020	Original

3 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15 Subpart C Section 15.203/15.247 (c)	ANSI C63.10-2013	PASS
AC Power Line Conducted Emission	47 CFR Part 15 Subpart C Section 15.207	ANSI C63.10-2013	PASS
Conducted Peak Output Power	47 CFR Part 15 Subpart C Section 15.247 (b)(3)	ANSI C63.10-2013	PASS
6dB Occupied Bandwidth	47 CFR Part 15 Subpart C Section 15.247 (a)(2)	ANSI C63.10-2013	PASS
Power Spectral Density	47 CFR Part 15 Subpart C Section 15.247 (e)	ANSI C63.10-2013	PASS
Band-edge for RF Conducted Emissions	47 CFR Part 15 Subpart C Section 15.247(d)	ANSI C63.10-2013	PASS
RF Conducted Spurious Emissions	47 CFR Part 15 Subpart C Section 15.247(d)	ANSI C63.10-2013	PASS
Radiated Spurious Emissions	47 CFR Part 15 Subpart C Section 15.205/15.209	ANSI C63.10-2013	PASS
Restricted bands around fundamental frequency (Radiated Emission)	47 CFR Part 15 Subpart C Section 15.205/15.209	ANSI C63.10-2013	PASS

Remark:

Test according to ANSI C63.4-2014 & ANSI C63.10-2013.

The tested sample(s) and the sample information are provided by the client.

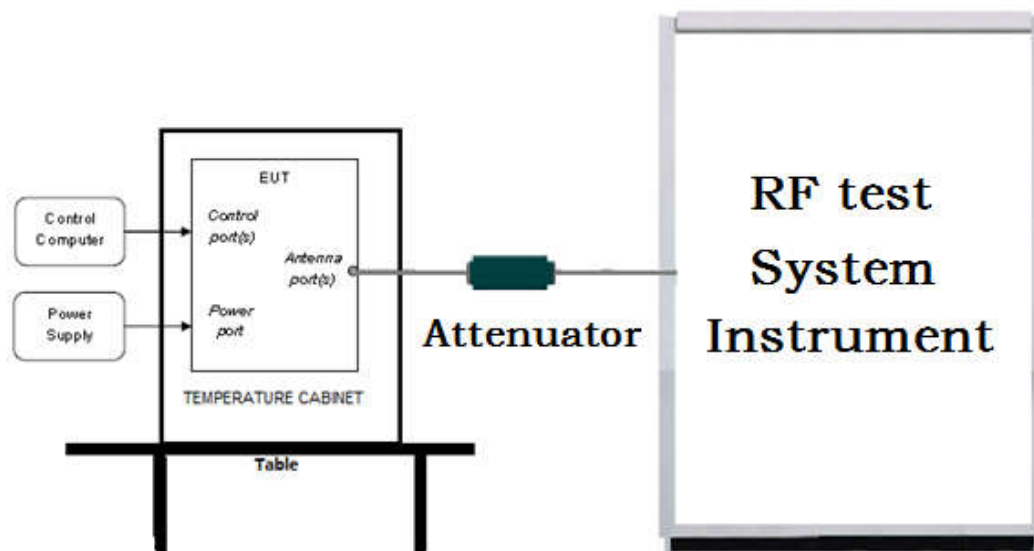
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5 Test Requirement

5.1 Test setup

5.1.1 For Conducted test setup



5.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

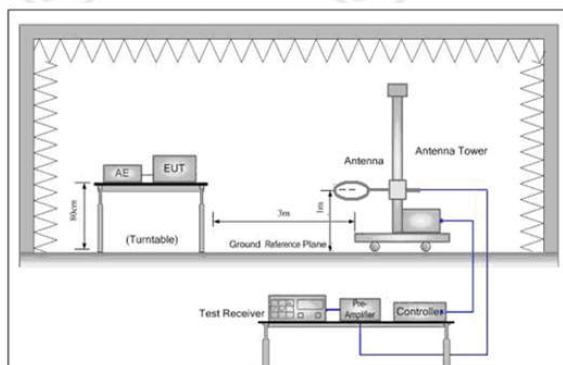


Figure 1. Below 30MHz

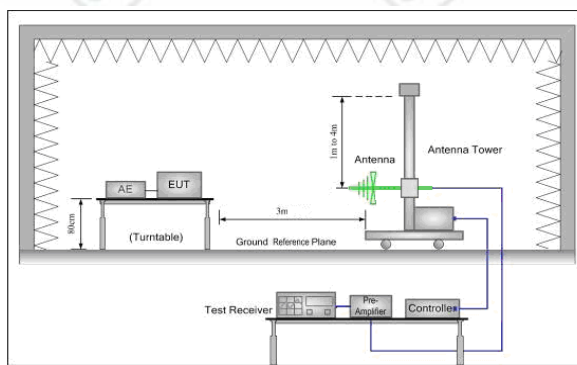


Figure 2. 30MHz to 1GHz

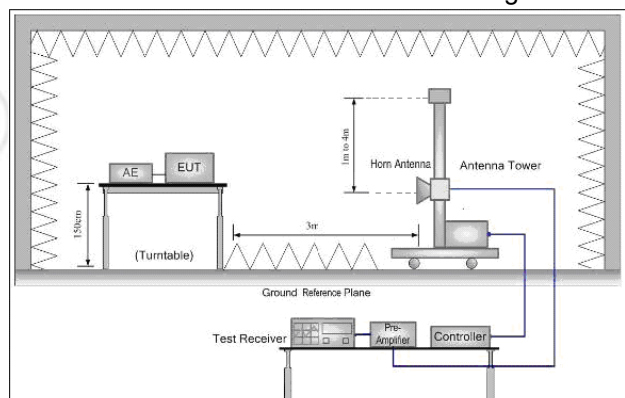
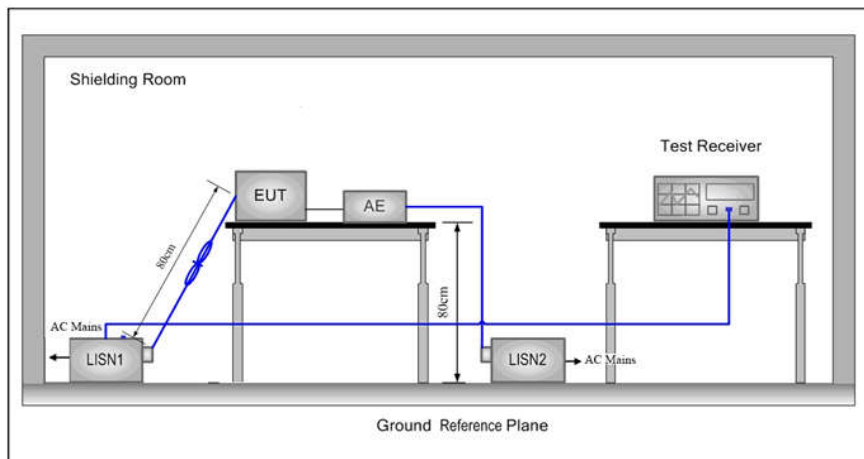


Figure 3. Above 1GHz

5.1.3 For Conducted Emissions test setup

Conducted Emissions setup



5.2 Test Environment

Operating Environment:	
Temperature:	23 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010mbar

5.3 Test Condition

Test channel:

Test Mode	Tx/Rx	RF Channel		
		Low(L)	Middle(M)	High(H)
802.11b/g/n(HT20)	2412MHz ~2462 MHz	Channel 1	Channel 6	Channel11
		2412MHz	2437MHz	2462MHz
802.11n(HT40)	2422MHz ~2452 MHz	Channel 3	Channel 6	Channel 9
		2422MHz	2437MHz	2452MHz
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.			

Test mode:

Pre-scan under all rate at lowest channel

Mode	802.11b							
Data Rate	1Mbps	2Mbps	5.5Mbps	11Mbps				
Power(dBm)	18.15	18.12	18.10	18.07				
Mode	802.11g							
Data Rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
Power(dBm)	17.13	17.10	17.07	17.03	17.00	16.98	16.95	16.93
Mode	802.11n (HT20)							
Data Rate	6.5Mbps	13Mbps	19.5Mbps	26Mbps	39Mbps	52Mbps	58.5Mbps	65Mbps
Power(dBm)	16.21	16.19	16.15	16.12	16.10	16.07	16.05	16.03
Mode	802.11n (HT40)							
Data Rate	13.5Mbps	27Mbps	40.5Mbps	54Mbps	81Mbps	108Mbps	121.5Mbps	135Mbps
Power(dBm)	15.57	15.55	15.52	15.50	15.47	15.45	15.43	15.40

Through Pre-scan, 1Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g; 6.5Mbps of rate is the worst case of 802.11n(HT20); 13.5Mbps of rate is the worst case of 802.11n(HT40).

6 General Information

6.1 Client Information

Applicant:	Smartbox Assistive Technology Limited
Address of Applicant:	Ysobel House, Enigma Commercial Centre, Sandys Road, Malvern, Worcestershire, UK WR14 1JJ
Manufacturer:	Smartbox Assistive Technology Limited
Address of Manufacturer:	Ysobel House, Enigma Commercial Centre, Sandys Road, Malvern, Worcestershire, UK WR14 1JJ
Factory:	Estone Technology LTD
Address of Factory:	2F, Building No.1, Jia'an Industrial Park, No.2 Long Chang Road, Bao'an, Shenzhen 518101, China.

6.2 General Description of EUT

Product Name:	Grid Pad 15	
Model No.(EUT):	GP15A	
Trade Mark:	Smartbox	
EUT Supports Radios application:	802.11b/g/n(HT20)(HT40): 2412MHz ~2462 MHz	
Power Supply:	AC Adapter	MODEL:MANGO40S-12BB-ES INPUT:100-240V~,50/60Hz ,1.0A Max OUTPUT:12V---3.33A
	Battery	Model:5080115P Capacity:10000mAh/74Wh Nominal Voltage:7.4V--- Limited Charge Voltage:8.4V---
Sample Received Date:	May. 22, 2020	
Sample tested Date:	May. 22, 2020 to Jul. 17, 2020	

6.3 Product Specification subjective to this standard

Operation Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz IEEE 802.11n(HT40): 2422MHz to 2452MHz
Channel Numbers:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels IEEE 802.11n HT40: 7 Channels
Channel Separation:	5MHz
Type of Modulation:	OFDM,DSSS
Test Power Grade:	Reference Table 1
Test Software of EUT:	DRTU
Antenna Type and Gain:	Type: PCB antenna Gain: 1.99 dBi
Test Voltage:	Battery 7.4V

Operation Frequency each of channel(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(802.11n HT40)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
3	2422MHz	6	2437MHz	9	2452MHz		
4	2427MHz	7	2442MHz				
5	2432MHz	8	2447MHz				

Table1:

Power Setting-1TX					
Mode	Channel	Frequency	Data Rate	Power Setting	
				chain0	chain1
b	1	2412	1 Mbps	18	18
	6	2437		18	18
	11	2462		18	18.25
g	1	2412	6 Mbps	11.75	12.5
	6	2437		11.75	12
	11	2462		11.75	12
n20	1	2412	MCS 0	11	11
	6	2437		11	10.5
	11	2462		11	11
n40	3	2422	MCS 0	9.5	9.5
	6	2437		9.5	9.5
	9	2452		9.5	9.5

Power Setting-MIMO					
Mode	Channel	Frequency	Data Rate	Power Setting	
				chain0	chain1
n20	1	2412	MCS 8	7.5	7.5
	6	2437		7.5	7.5
	11	2462		7.5	7.5
n40	3	2422	MCS 8	7	7
	6	2437		7	7
	9	2452		7	7

6.4 Description of Support Units

The EUT has been tested with associated equipment below

Associated equipment name		Manufacture	model	S/N serial number	Supplied by	Certification
AE1	Notebook	DELL	DELL 3490	D245DX2	DELL	CE&FCC

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	4.3dB (30MHz-1GHz)
		4.5dB (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)
Spectrum Analyzer	Keysight	N9010A	MY54510339	02-17-2020	02-16-2021
Signal Generator	Keysight	N5182B	MY53051549	02-17-2020	02-16-2021
Temperature/ Humidity Indicator	biaozhi	HM10	1804186	07-26-2019	07-25-2020
High-pass filter	Sinoscite	FL3CX03WG18N M12-0398-002	---	---	---
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	---	---
DC Power	Keysight	E3642A	MY56376072	02-17-2020	02-16-2021
PC-1	Lenovo	R4960d	---	---	---
BT&WI-FI Automatic control	R&S	OSP120	101374	02-17-2020	02-16-2021
RF control unit	JS Tonscend	JS0806-2	158060006	02-17-2020	02-16-2021
BT&WI-FI Automatic test software	JS Tonscend	JS1120-3	---	---	---

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	04-28-2020	04-27-2021
Temperature/ Humidity Indicator	Defu	TH128	/	---	---
LISN	R&S	ENV216	100098	03-05-2020	03-04-2021
Barometer	changchun	DYM3	1188	---	---

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	9163-618	07-26-2019	07-25-2020
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	04-25-2018	04-24-2021
Receiver	R&S	ESCI7	100938-003	10-21-2019	10-20-2020
Multi device Controller	maturo	NCD/070/107 11112	---	---	---
Temperature/ Humidity Indicator	Shanghai qixiang	HM10	1804298	07-26-2019	07-25-2020
Cable line	Fulai(7M)	SF106	5219/6A	---	---
Cable line	Fulai(6M)	SF106	5220/6A	---	---
Cable line	Fulai(3M)	SF106	5216/6A	---	---
Cable line	Fulai(3M)	SF106	5217/6A	---	---

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	---	---
Receiver	Keysight	N9038A	MY57290136	03-05-2020	03-04-2021
Spectrum Analyzer	Keysight	N9020B	MY57111112	03-05-2020	03-04-2021
Spectrum Analyzer	Keysight	N9030B	MY57140871	03-05-2020	03-04-2021
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	ETS-LINDGREN	3117	00057407	07-10-2018	07-09-2021
Preamplifier	EMCI	EMC184055SE	980596	05-20-2020	05-19-2021
Preamplifier	EMCI	EMC001330	980563	04-22-2020	04-21-2021
Preamplifier	JS Tonscend	980380	EMC051845 SE	01-09-2020	01-08-2021
Temperature/ Humidity Indicator	biaozhi	GM1360	EE1186631	04-27-2020	04-26-2021
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	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0002	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0003	---	---
Cable line	Times	SFT205-NMSM-2.50M	393495-0001	---	---
Cable line	Times	EMC104-NMNM-1000	SN160710	---	---
Cable line	Times	SFT205-NMSM-3.00M	394813-0001	---	---
Cable line	Times	SFT205-NMNM-1.50M	381964-0001	---	---
Cable line	Times	SFT205-NMSM-7.00M	394815-0001	---	---
Cable line	Times	HF160-KMKM-3.00M	393493-0001	---	---

8 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	FCC Part15C	Subpart C-Intentional Radiators
2	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

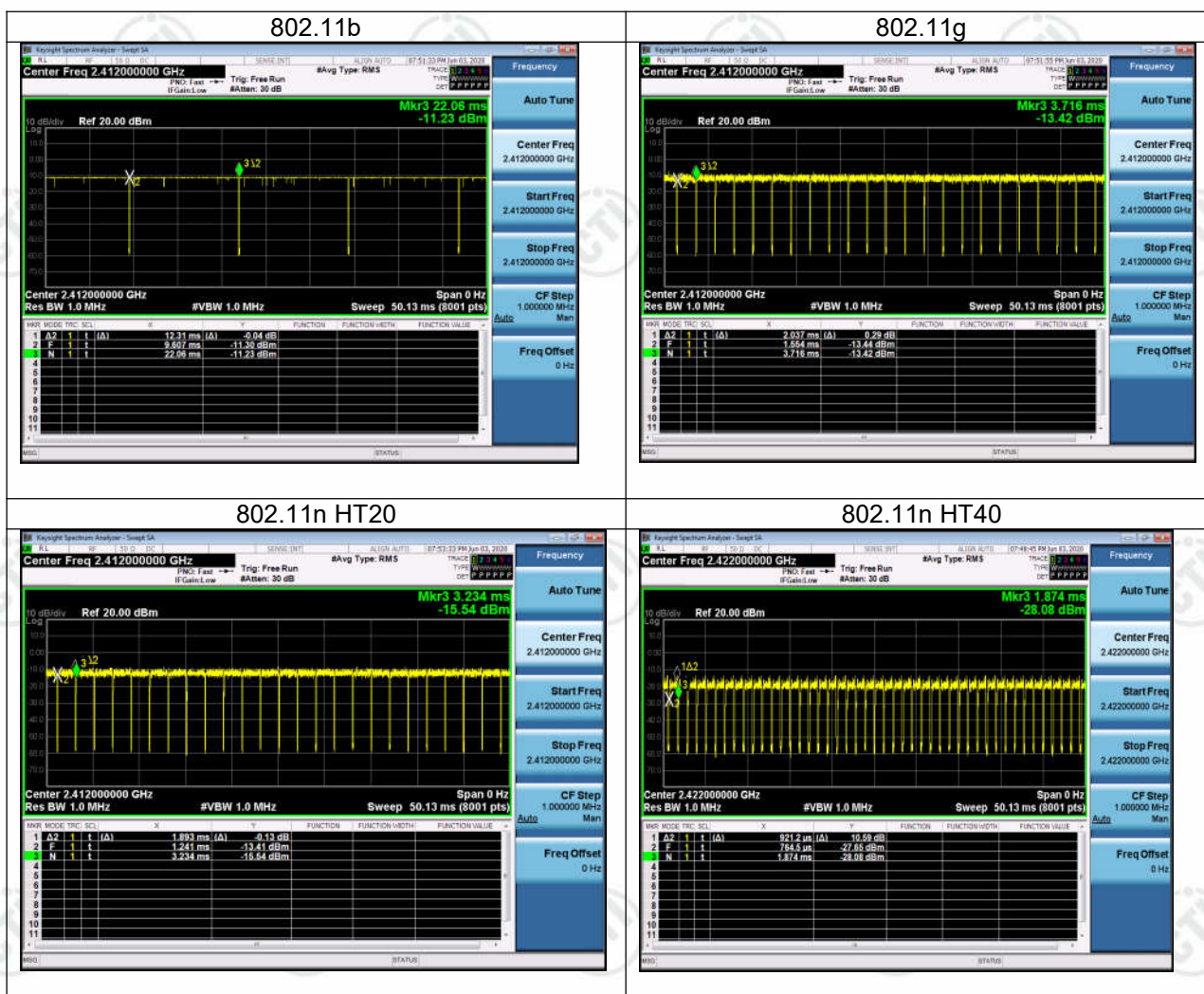
Test Results List:

Test Requirement	Test method	Test item	Verdict	Note
Part15C Section 15.247 (b)(3)	ANSI C63.10	Conducted Peak Output Power	PASS	Appendix A)
Part15C Section 15.247 (a)(2)	ANSI C63.10	6dB Occupied Bandwidth	PASS	Appendix B)
Part15C Section 15.247(d)	ANSI C63.10	Band-edge for RF Conducted Emissions	PASS	Appendix C)
Part15C Section 15.247(d)	ANSI C63.10	RF Conducted Spurious Emissions	PASS	Appendix D)
Part15C Section 15.247 (e)	ANSI C63.10	Power Spectral Density	PASS	Appendix E)
Part15C Section 15.203/15.247 (c)	ANSI C63.10	Antenna Requirement	PASS	Appendix F)
Part15C Section 15.207	ANSI C63.10	AC Power Line Conducted Emission	PASS	Appendix G)
Part15C Section 15.205/15.209	ANSI C63.10	Restricted bands around fundamental frequency (Radiated Emission)	PASS	Appendix H)
Part15C Section 15.205/15.209	ANSI C63.10	Radiated Spurious Emissions	PASS	Appendix I)

DUTY CYCLE

ANT1

Duty Cycle			
Configuration	TX ON(ms)	TX ALL(ms)	Duty Cycle(%)
802.11b	12.31	12.44	98.95%
802.11g	2.037	2.1616	94.24%
802.11n HT20	1.893	1.9931	94.98%
802.11n HT40	0.9212	1.1095	83.03%



ANT2

Duty Cycle			
Configuration	TX ON(ms)	TX ALL(ms)	Duty Cycle(%)
802.11b	12.31	12.453	98.85%
802.11g	2.037	2.162	94.22%
802.11n HT20	1.893	1.993	94.98%
802.11n HT40	0.9212	1.1095	83.03%

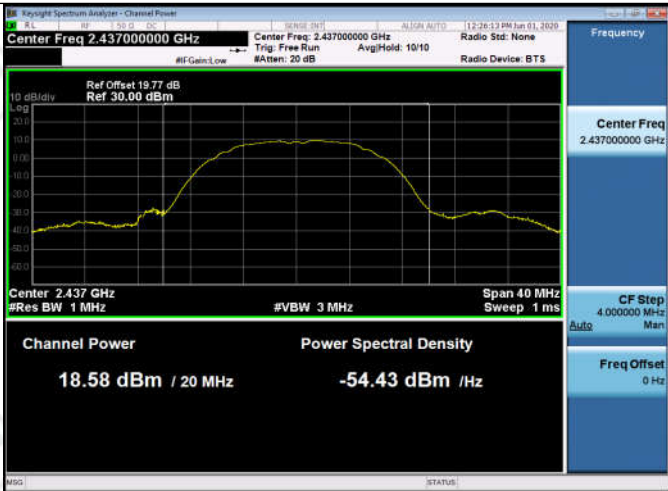
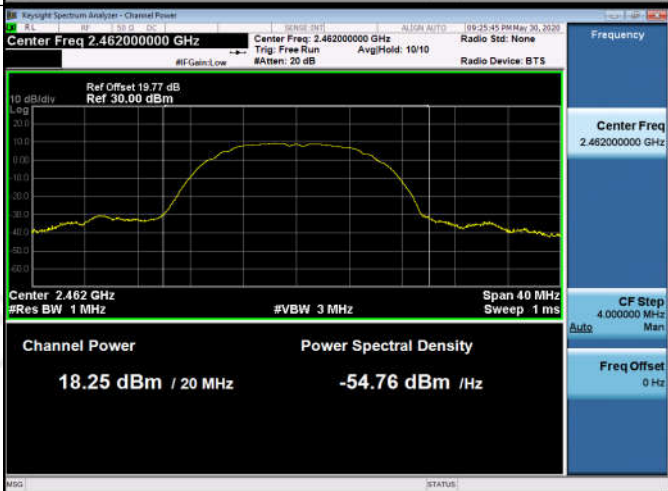
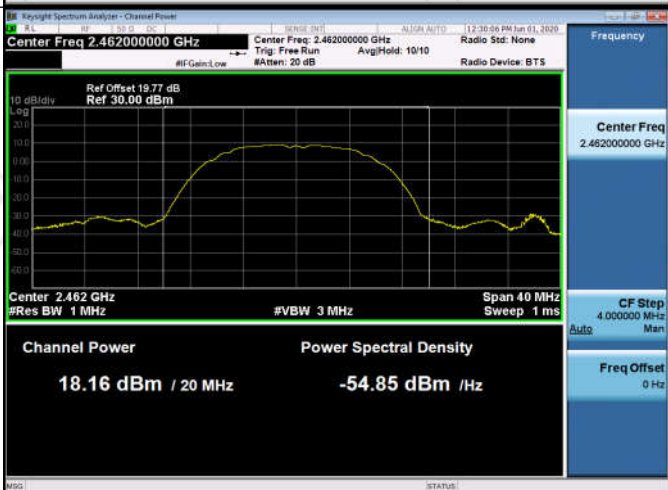


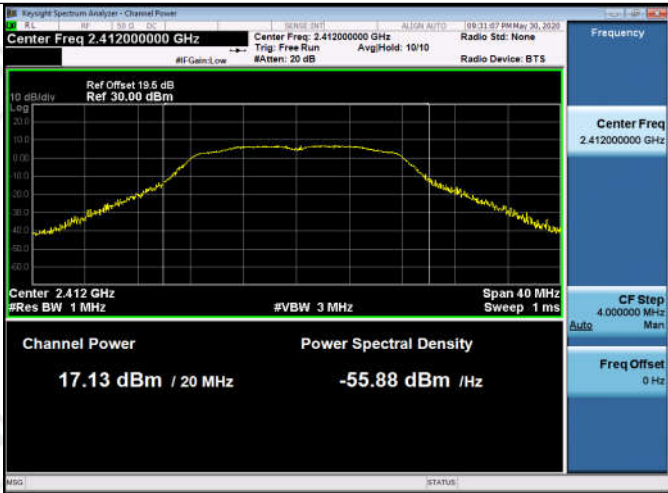
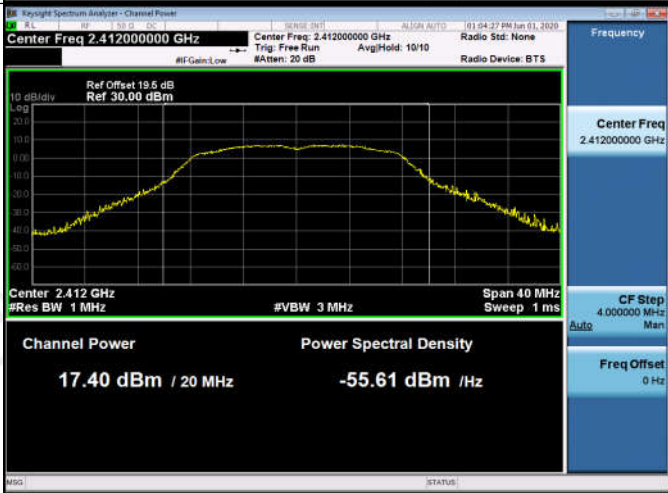
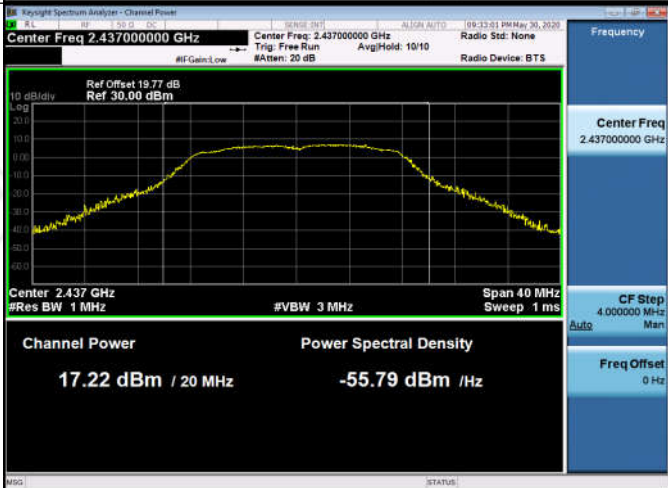
Appendix A): Conducted Peak Output Power Result Table

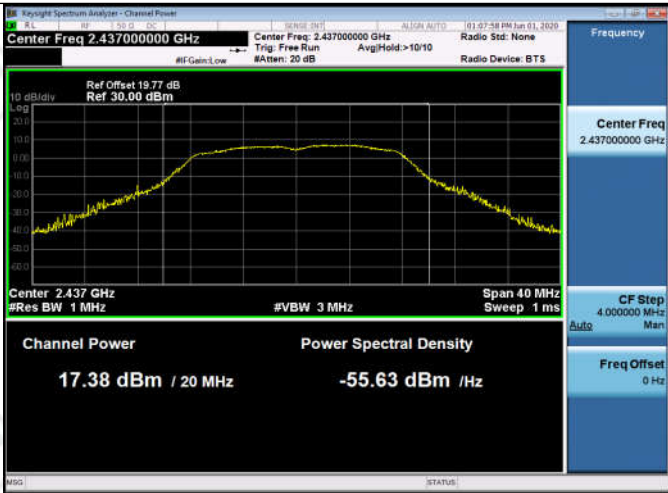
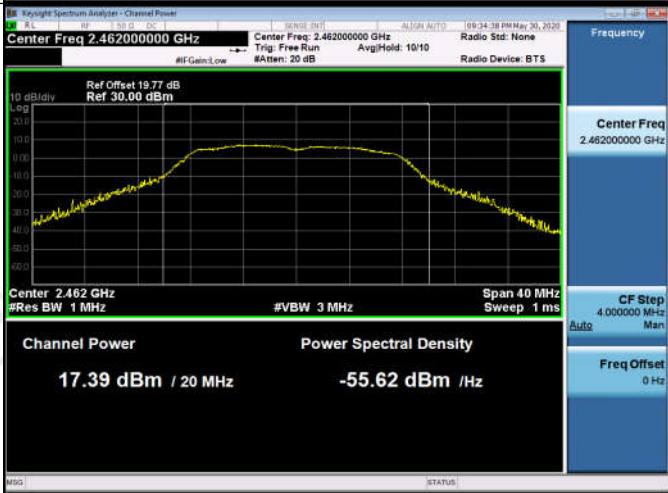
Mode	Antenna	Channel	Conducted Peak Output Power [dBm]	Verdict
11B	Ant1	LCH	18.15	PASS
11B	Ant2	LCH	18.21	PASS
11B	Ant1	MCH	18.42	PASS
11B	Ant2	MCH	18.58	PASS
11B	Ant1	HCH	18.25	PASS
11B	Ant2	HCH	18.16	PASS
11G	Ant1	LCH	17.13	PASS
11G	Ant2	LCH	17.4	PASS
11G	Ant1	MCH	17.22	PASS
11G	Ant2	MCH	17.38	PASS
11G	Ant1	HCH	17.39	PASS
11G	Ant2	HCH	17.2	PASS
11N20SISO	Ant1	LCH	16.21	PASS
11N20SISO	Ant2	LCH	16.09	PASS
11N20SISO	Ant1	MCH	16.37	PASS
11N20SISO	Ant2	MCH	16.02	PASS
11N20SISO	Ant1	HCH	16.52	PASS
11N20SISO	Ant2	HCH	16.36	PASS
11N20MIMO	Ant1	LCH	12.94	PASS
11N20MIMO	Ant2	LCH	13.03	PASS
11N20MIMO	Ant1+2	LCH	16.00	PASS
11N20MIMO	Ant1	MCH	13.12	PASS
11N20MIMO	Ant2	MCH	13.48	PASS
11N20MIMO	Ant1+2	MCH	16.31	PASS
11N20MIMO	Ant1	HCH	13.24	PASS
11N20MIMO	Ant2	HCH	13.32	PASS
11N20MIMO	Ant1+2	HCH	16.29	PASS
11N40SISO	Ant1	LCH	15.57	PASS
11N40SISO	Ant2	LCH	15.44	PASS
11N40SISO	Ant1	MCH	15.3	PASS
11N40SISO	Ant2	MCH	15.07	PASS
11N40SISO	Ant1	HCH	15.36	PASS
11N40SISO	Ant2	HCH	15.14	PASS
11N40MIMO	Ant1	LCH	12.65	PASS
11N40MIMO	Ant2	LCH	12.88	PASS
11N40MIMO	Ant1+2	LCH	15.78	PASS
11N40MIMO	Ant1	MCH	12.47	PASS
11N40MIMO	Ant2	MCH	12.15	PASS
11N40MIMO	Ant1+2	MCH	15.32	PASS
11N40MIMO	Ant1	HCH	12.61	PASS
11N40MIMO	Ant2	HCH	12.24	PASS
11N40MIMO	Ant1+2	HCH	15.44	PASS

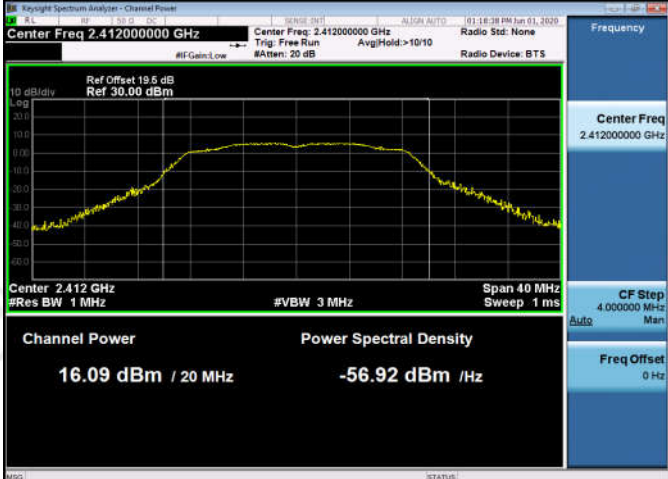
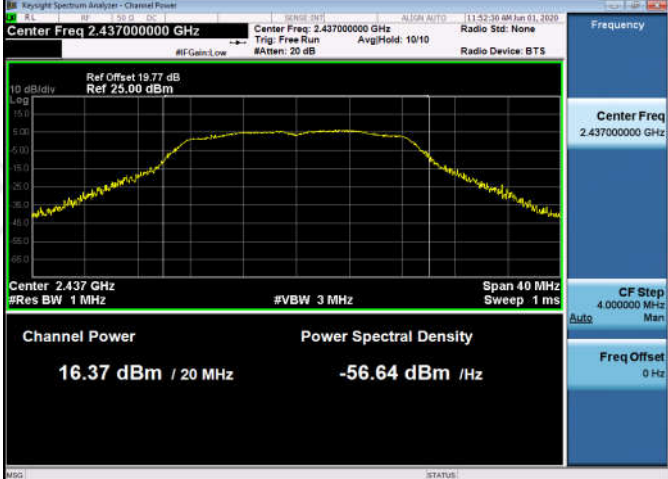
Test Graph

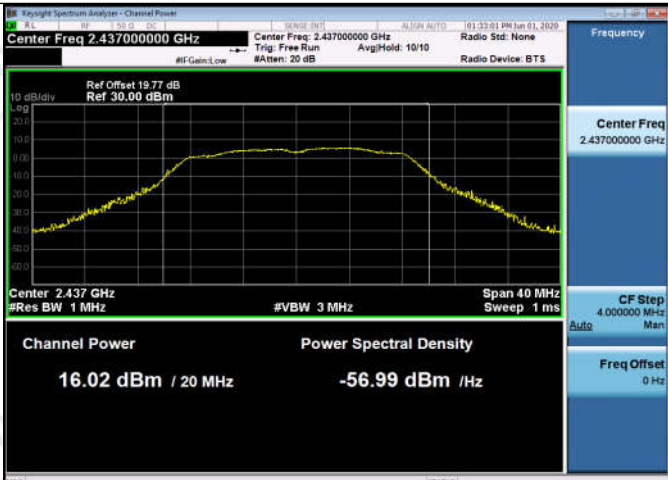
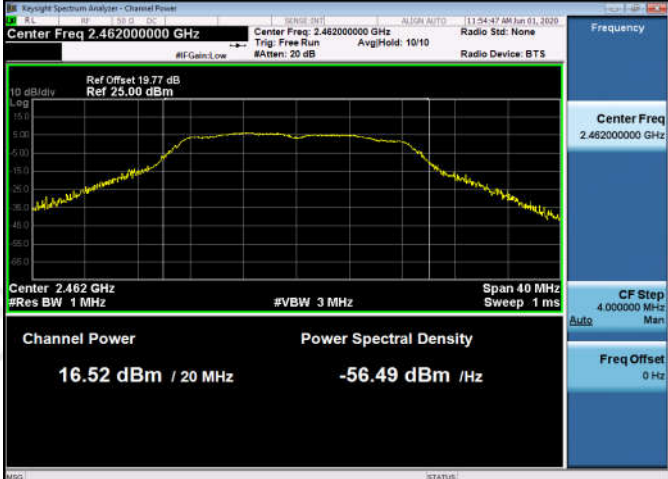


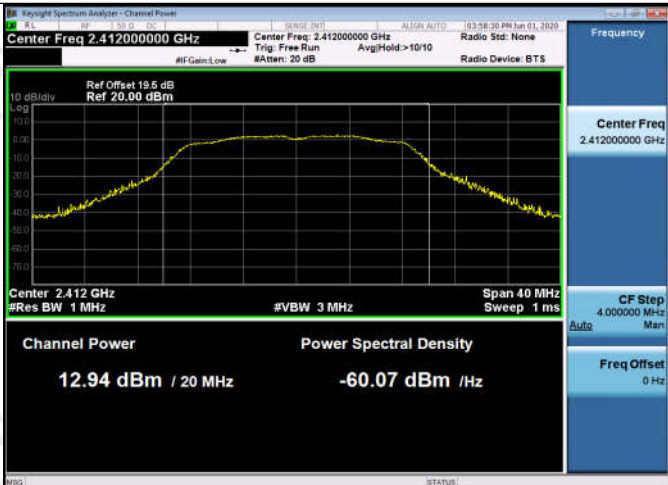
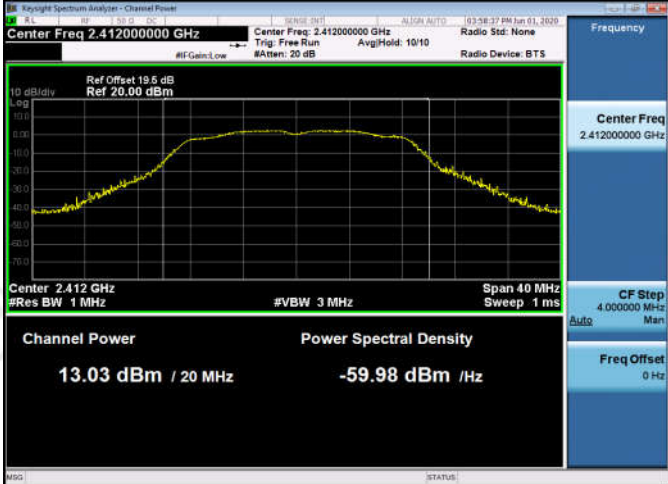
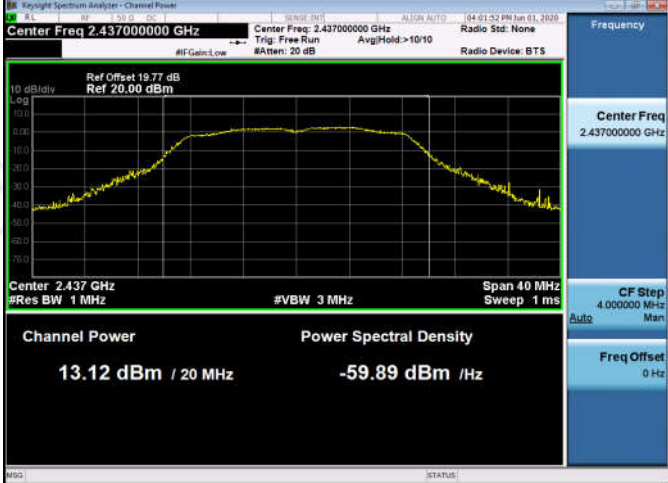
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11B/HCH_Ant1	
11B/HCH_Ant2	

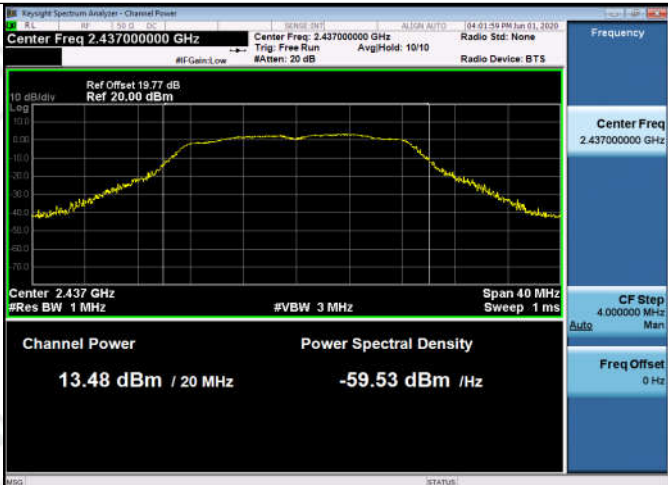
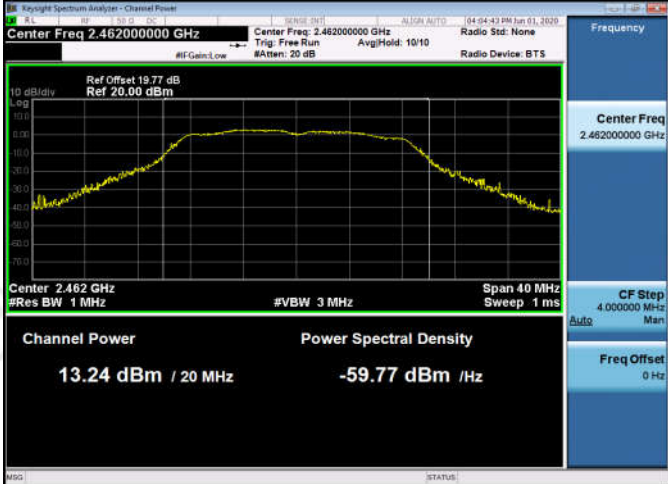
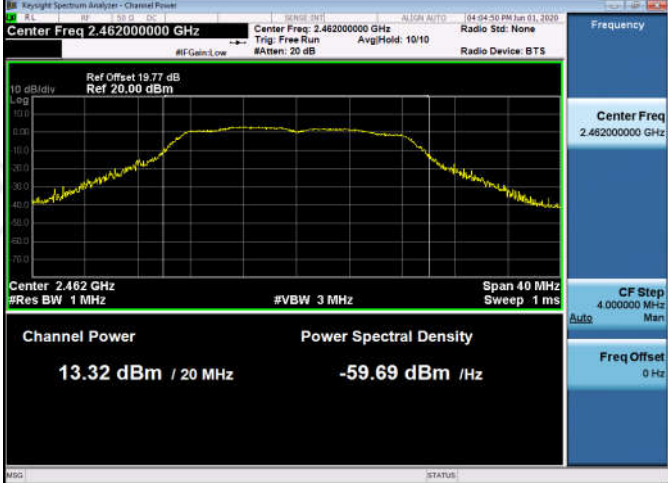
11G/LCH_Ant1	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.412000000 GHz Ref Offset 19.6 dB Ref 30.00 dBm Center 2.412 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 17.13 dBm / 20 MHz Power Spectral Density -55.88 dBm / Hz Frequency Center Freq 2.412000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz
11G/LCH_Ant2	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.412000000 GHz Ref Offset 19.6 dB Ref 30.00 dBm Center 2.412 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 17.40 dBm / 20 MHz Power Spectral Density -55.61 dBm / Hz Frequency Center Freq 2.412000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz
11G/MCH_Ant1	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.437000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.437 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 17.22 dBm / 20 MHz Power Spectral Density -55.79 dBm / Hz Frequency Center Freq 2.437000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz

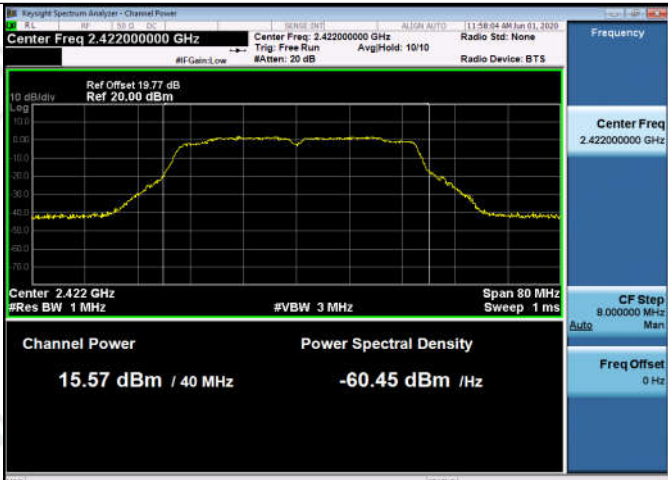
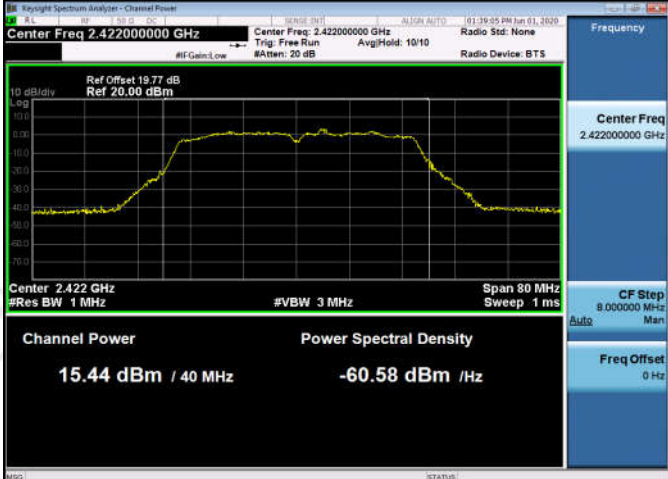
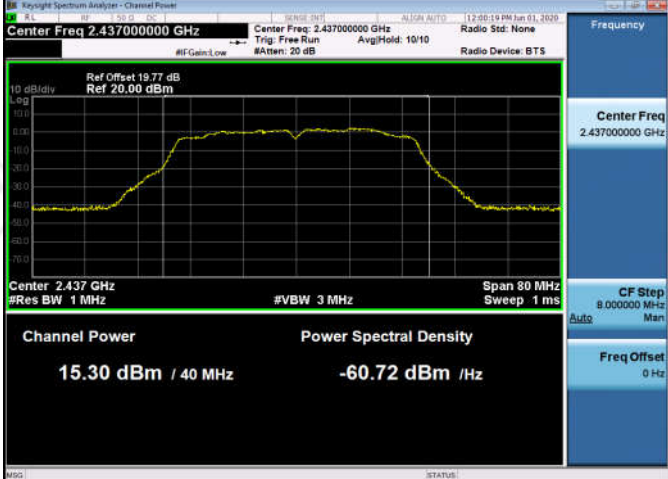
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11G/HCH_Ant1	
11G/HCH_Ant2	

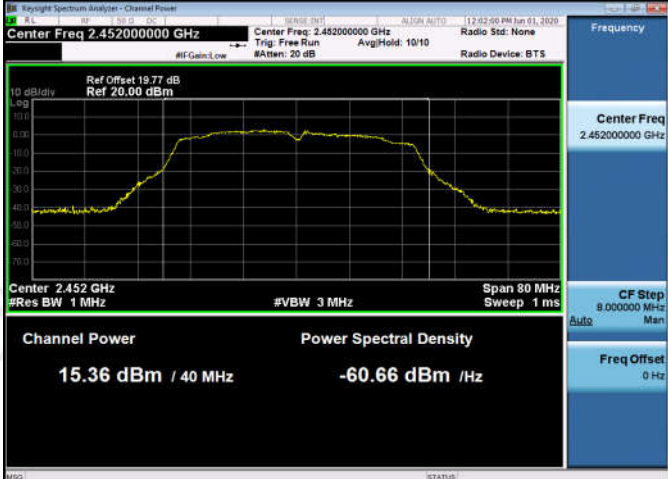
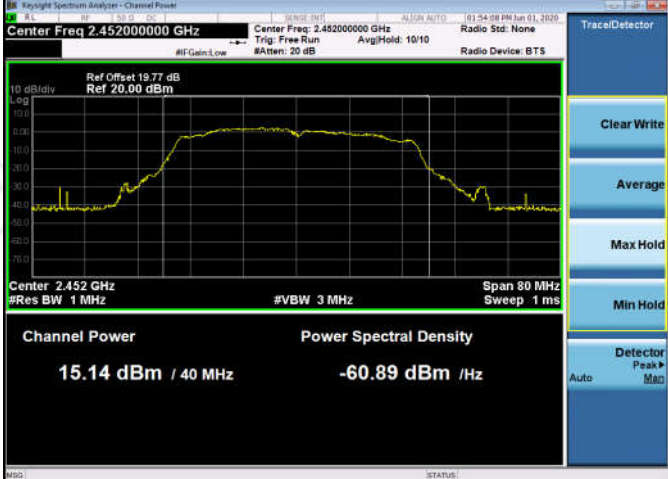
11N20SISO/LCH_Ant1	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.412000000 GHz Ref Offset 19.6 dB Ref 25.00 dBm Center 2.412 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 16.21 dBm / 20 MHz Power Spectral Density -56.80 dBm / Hz
11N20SISO/LCH_Ant2	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.412000000 GHz Ref Offset 19.6 dB Ref 30.00 dBm Center 2.412 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 16.09 dBm / 20 MHz Power Spectral Density -56.92 dBm / Hz
11N20SISO/MCH_Ant1	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.437000000 GHz Ref Offset 19.77 dB Ref 25.00 dBm Center 2.437 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 16.37 dBm / 20 MHz Power Spectral Density -56.64 dBm / Hz

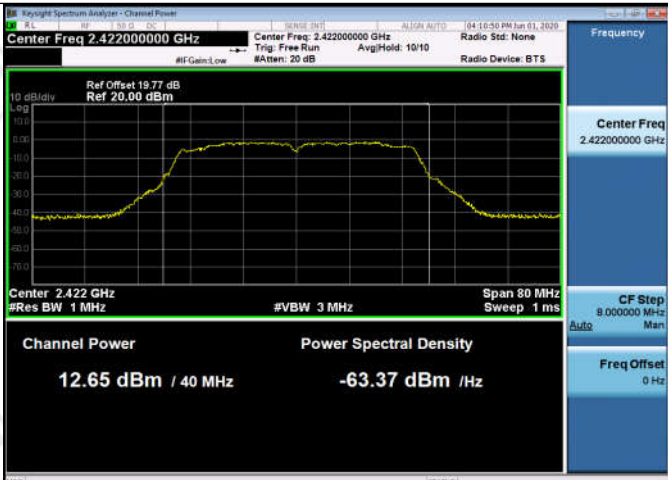
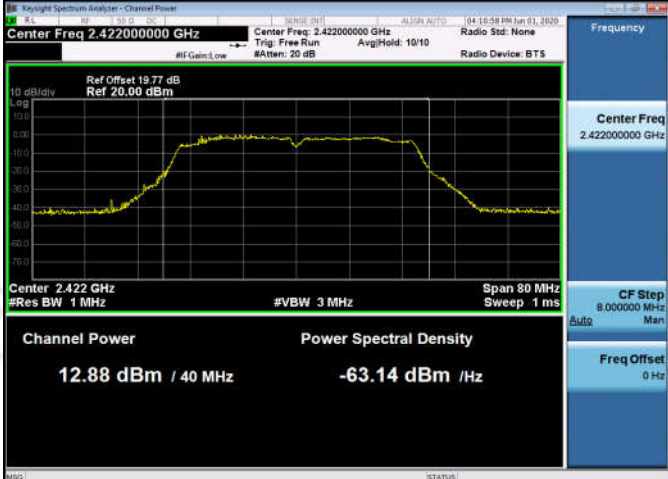
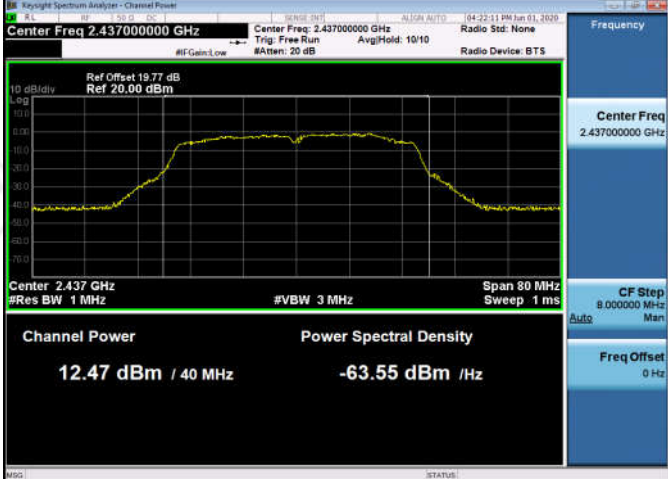
11N20SISO/MCH_Ant2	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.437000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.437 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 16.02 dBm / 20 MHz Power Spectral Density -56.99 dBm / Hz
11N20SISO/HCH_Ant1	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.462000000 GHz Ref Offset 19.77 dB Ref 25.00 dBm Center 2.462 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 16.52 dBm / 20 MHz Power Spectral Density -56.49 dBm / Hz
11N20SISO/HCH_Ant2	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.462000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.462 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 16.36 dBm / 20 MHz Power Spectral Density -56.66 dBm / Hz

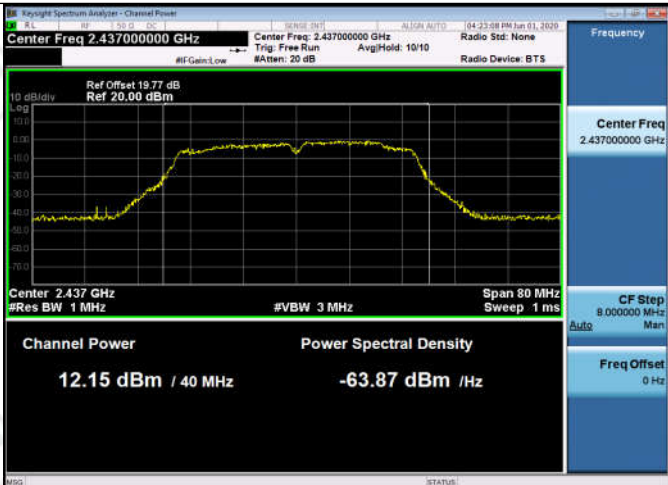
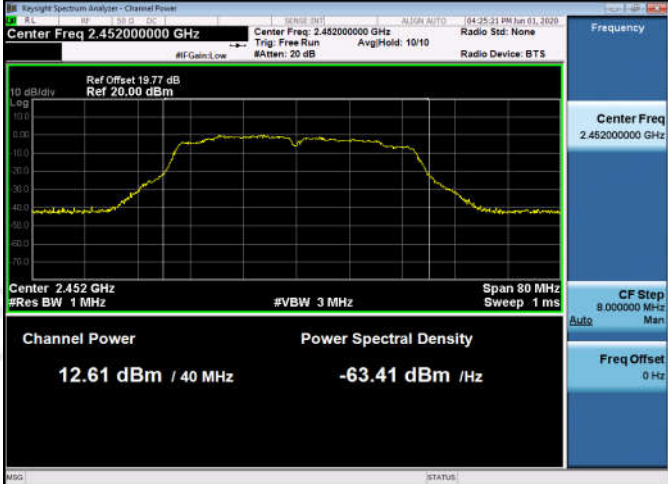
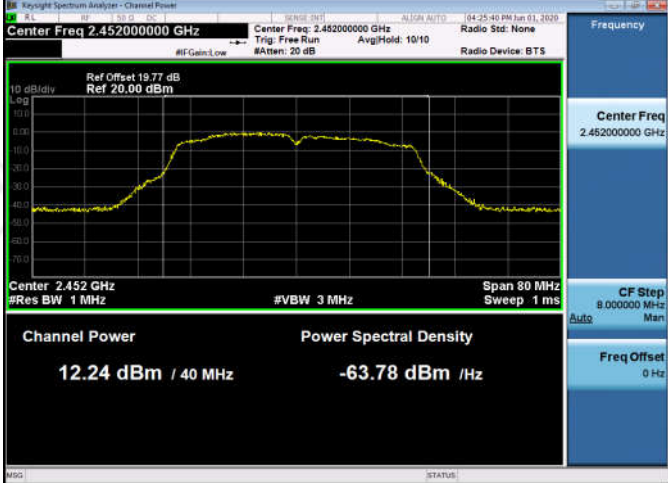
11N20MIMO/LCH_Ant1	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.412000000 GHz Ref Offset 19.6 dB Ref 20.00 dBm Center 2.412 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 12.94 dBm / 20 MHz Power Spectral Density -60.07 dBm / Hz Frequency Center Freq 2.412000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz
11N20MIMO/LCH_Ant2	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.412000000 GHz Ref Offset 19.6 dB Ref 20.00 dBm Center 2.412 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 13.03 dBm / 20 MHz Power Spectral Density -59.98 dBm / Hz Frequency Center Freq 2.412000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz
11N20MIMO/MCH_Ant1	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.437000000 GHz Ref Offset 19.77 dB Ref 20.00 dBm Center 2.437 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 13.12 dBm / 20 MHz Power Spectral Density -59.89 dBm / Hz Frequency Center Freq 2.437000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz

11N20MIMO/MCH_Ant2	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.437000000 GHz Ref Offset 19.77 dB Ref 20.00 dBm Center 2.437 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 13.48 dBm / 20 MHz Power Spectral Density -59.53 dBm / Hz Frequency Center Freq 2.437000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz
11N20MIMO/HCH_Ant1	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.462000000 GHz Ref Offset 19.77 dB Ref 20.00 dBm Center 2.462 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 13.24 dBm / 20 MHz Power Spectral Density -59.77 dBm / Hz Frequency Center Freq 2.462000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz
11N20MIMO/HCH_Ant2	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.462000000 GHz Ref Offset 19.77 dB Ref 20.00 dBm Center 2.462 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 13.32 dBm / 20 MHz Power Spectral Density -59.69 dBm / Hz Frequency Center Freq 2.462000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz

11N40SISO/LCH_Ant1	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.422000000 GHz Ref Offset 19.77 dB Ref 20.00 dBm Center 2.422 GHz #Res BW 1 MHz #VBW 3 MHz Span 80 MHz Sweep 1 ms Channel Power 15.57 dBm / 40 MHz Power Spectral Density -60.45 dBm / Hz Frequency Center Freq 2.422000000 GHz CF Step 8.000000 MHz Freq Offset 0 Hz
11N40SISO/LCH_Ant2	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.422000000 GHz Ref Offset 19.77 dB Ref 20.00 dBm Center 2.422 GHz #Res BW 1 MHz #VBW 3 MHz Span 80 MHz Sweep 1 ms Channel Power 15.44 dBm / 40 MHz Power Spectral Density -60.58 dBm / Hz Frequency Center Freq 2.422000000 GHz CF Step 8.000000 MHz Freq Offset 0 Hz
11N40SISO/MCH_Ant1	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.437000000 GHz Ref Offset 19.77 dB Ref 20.00 dBm Center 2.437 GHz #Res BW 1 MHz #VBW 3 MHz Span 80 MHz Sweep 1 ms Channel Power 15.30 dBm / 40 MHz Power Spectral Density -60.72 dBm / Hz Frequency Center Freq 2.437000000 GHz CF Step 8.000000 MHz Freq Offset 0 Hz

11N40SISO/MCH_Ant2	
11N40SISO/HCH_Ant1	
11N40SISO/HCH_Ant2	

11N40MIMO/LCH_Ant1	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.422000000 GHz Ref Offset 19.77 dB Ref 20.00 dBm Center 2.422 GHz #Res BW 1 MHz #VBW 3 MHz Span 80 MHz Sweep 1 ms Channel Power 12.65 dBm / 40 MHz Power Spectral Density -63.37 dBm / Hz
11N40MIMO/LCH_Ant2	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.422000000 GHz Ref Offset 19.77 dB Ref 20.00 dBm Center 2.422 GHz #Res BW 1 MHz #VBW 3 MHz Span 80 MHz Sweep 1 ms Channel Power 12.88 dBm / 40 MHz Power Spectral Density -63.14 dBm / Hz
11N40MIMO/MCH_Ant1	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.437000000 GHz Ref Offset 19.77 dB Ref 20.00 dBm Center 2.437 GHz #Res BW 1 MHz #VBW 3 MHz Span 80 MHz Sweep 1 ms Channel Power 12.47 dBm / 40 MHz Power Spectral Density -63.55 dBm / Hz

11N40MIMO/MCH_Ant2	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.437000000 GHz Ref Offset 19.77 dB Ref 20.00 dBm Center 2.437 GHz #Res BW 1 MHz #VBW 3 MHz Span 80 MHz Sweep 1 ms Channel Power 12.15 dBm / 40 MHz Power Spectral Density -63.87 dBm / Hz
11N40MIMO/HCH_Ant1	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.452000000 GHz Ref Offset 19.77 dB Ref 20.00 dBm Center 2.452 GHz #Res BW 1 MHz #VBW 3 MHz Span 80 MHz Sweep 1 ms Channel Power 12.61 dBm / 40 MHz Power Spectral Density -63.41 dBm / Hz
11N40MIMO/HCH_Ant2	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.452000000 GHz Ref Offset 19.77 dB Ref 20.00 dBm Center 2.452 GHz #Res BW 1 MHz #VBW 3 MHz Span 80 MHz Sweep 1 ms Channel Power 12.24 dBm / 40 MHz Power Spectral Density -63.78 dBm / Hz

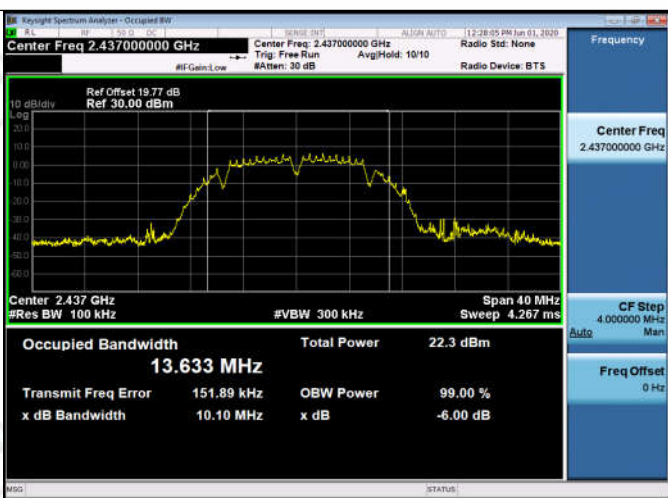
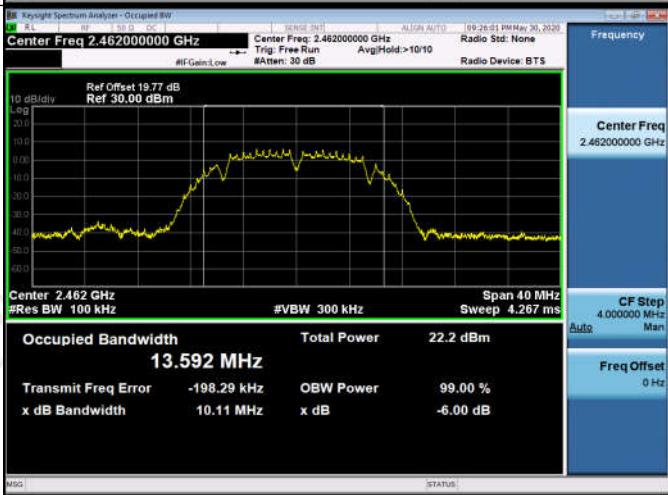
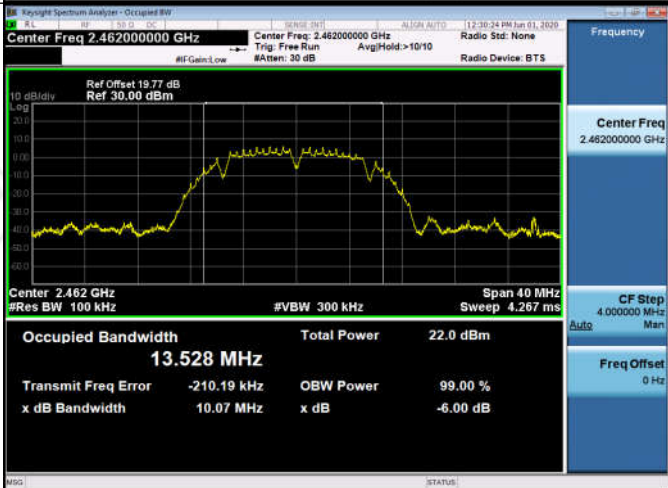
Appendix B): 6dB Occupied Bandwidth

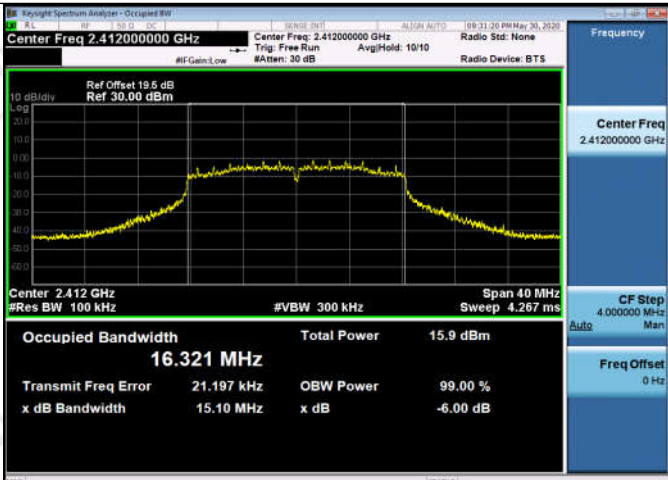
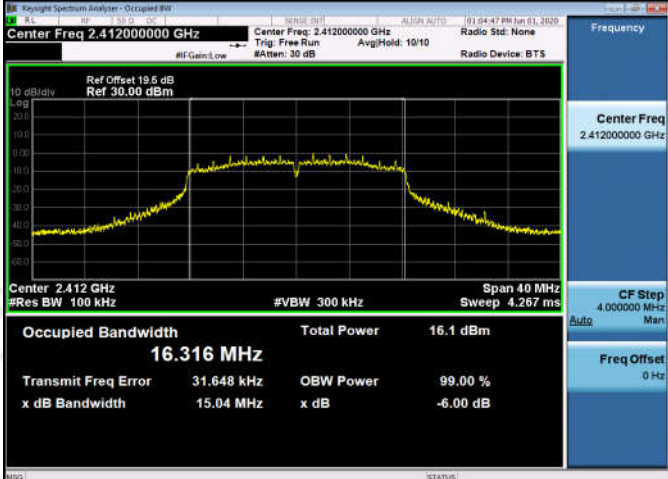
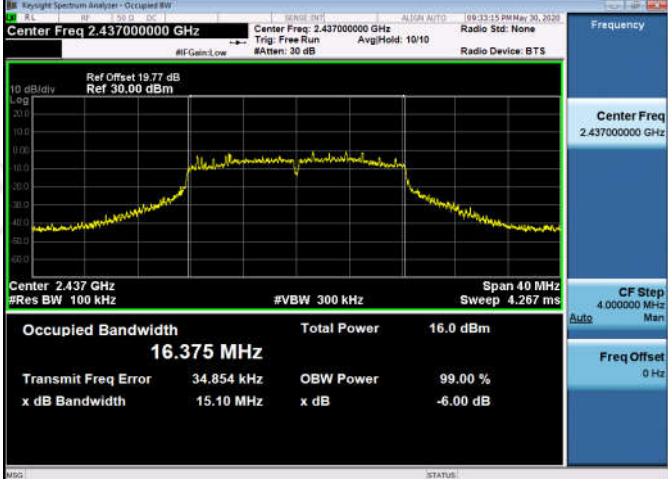
Result Table

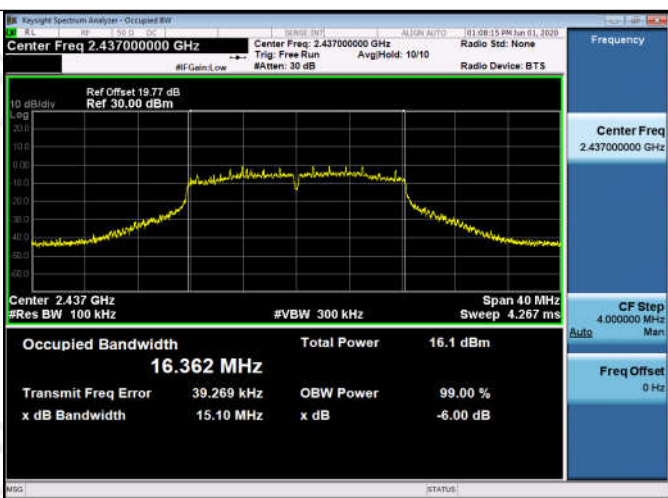
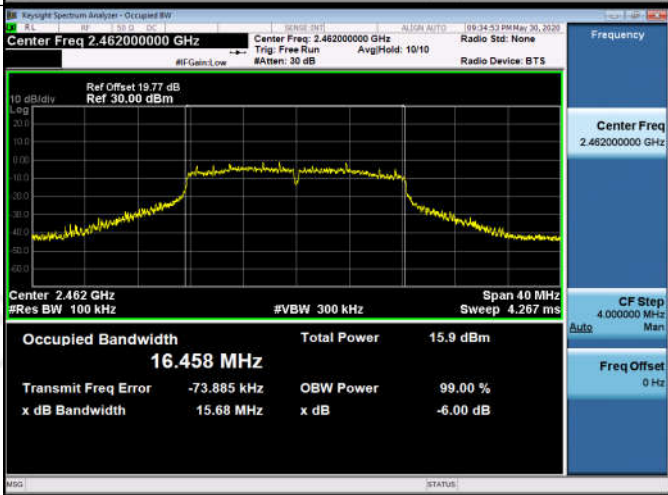
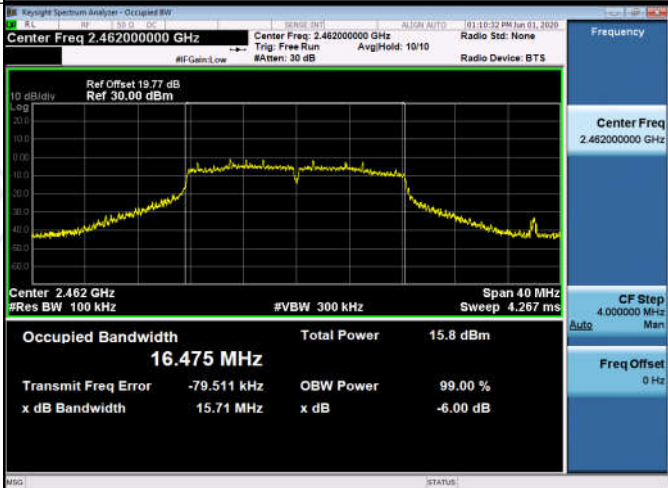
Mode	Antenna	Channel	6dB Bandwidth [MHz]	99% OBW [MHz]	Verdict
11B	Ant1	LCH	10.10	13.513	PASS
11B	Ant2	LCH	10.10	13.436	PASS
11B	Ant1	MCH	10.11	13.514	PASS
11B	Ant2	MCH	10.10	13.633	PASS
11B	Ant1	HCH	10.11	13.592	PASS
11B	Ant2	HCH	10.07	13.528	PASS
11G	Ant1	LCH	15.10	16.321	PASS
11G	Ant2	LCH	15.04	16.316	PASS
11G	Ant1	MCH	15.10	16.375	PASS
11G	Ant2	MCH	15.10	16.362	PASS
11G	Ant1	HCH	15.68	16.458	PASS
11G	Ant2	HCH	15.71	16.475	PASS
11N20SISO	Ant1	LCH	15.08	17.522	PASS
11N20SISO	Ant2	LCH	13.83	17.537	PASS
11N20SISO	Ant1	MCH	15.11	17.582	PASS
11N20SISO	Ant2	MCH	15.28	17.581	PASS
11N20SISO	Ant1	HCH	16.32	17.642	PASS
11N20SISO	Ant2	HCH	15.00	17.635	PASS
11N40SISO	Ant1	LCH	35.06	35.993	PASS
11N40SISO	Ant2	LCH	35.37	36.016	PASS
11N40SISO	Ant1	MCH	35.03	35.862	PASS
11N40SISO	Ant2	MCH	32.59	35.844	PASS
11N40SISO	Ant1	HCH	30.39	35.785	PASS
11N40SISO	Ant2	HCH	28.85	35.796	PASS

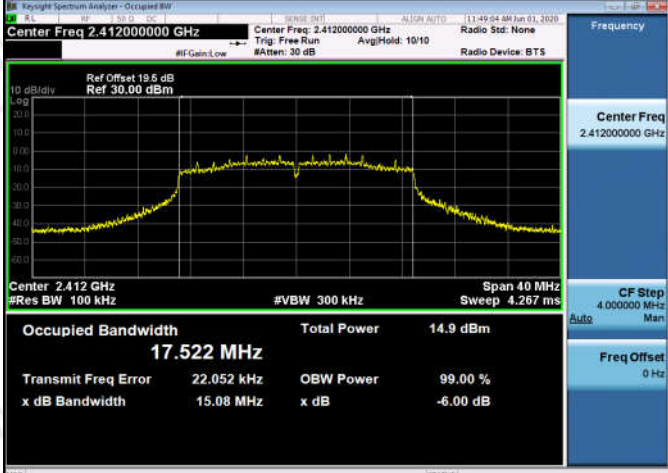
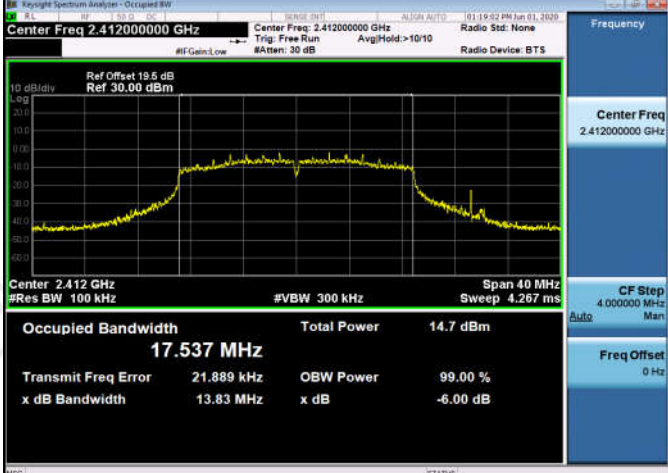
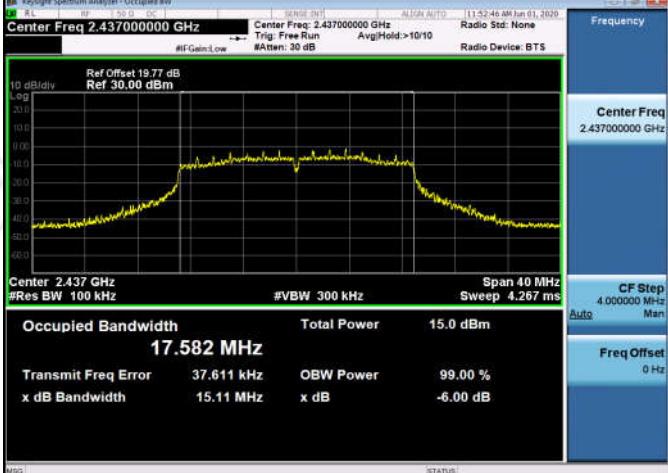
Test Graph

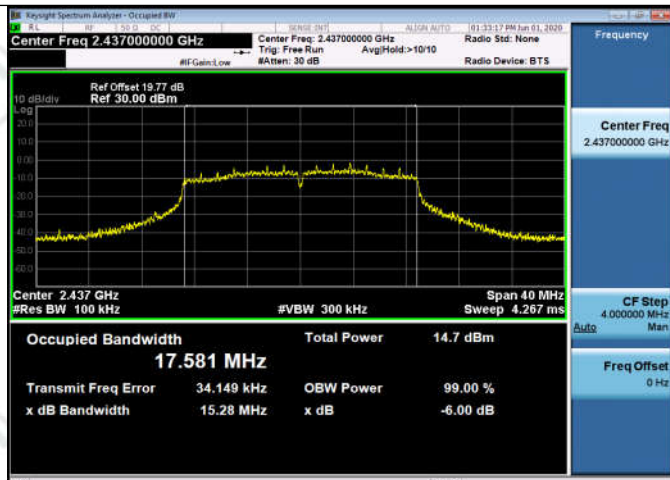
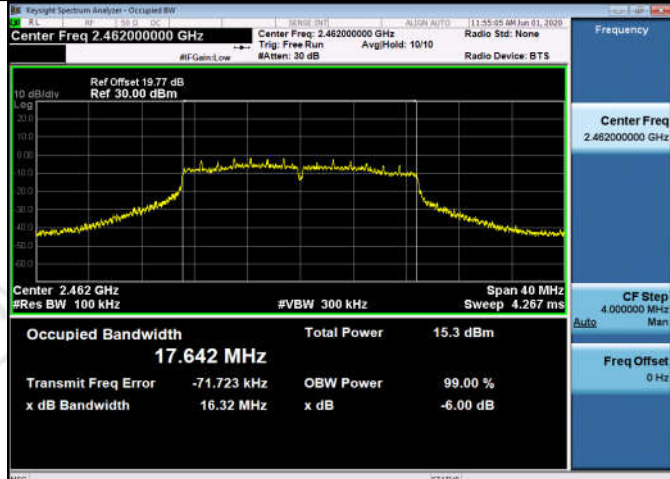
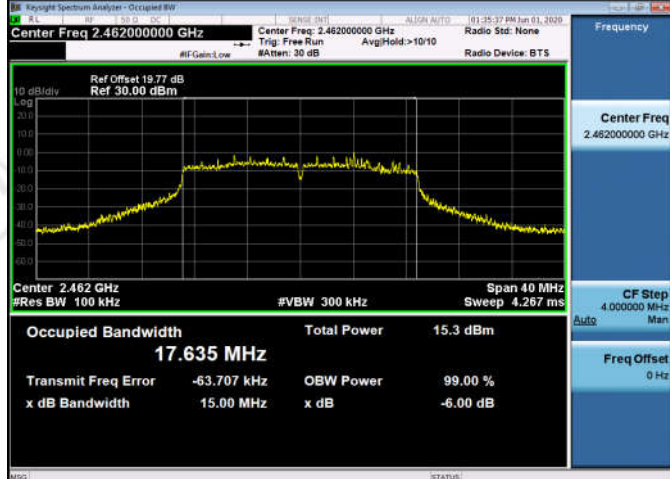


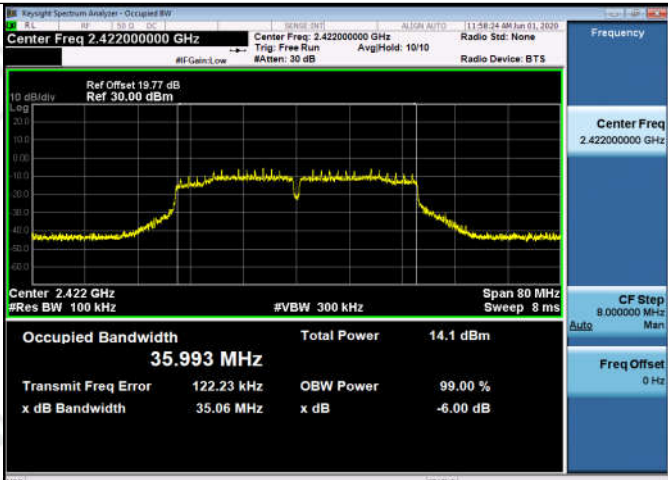
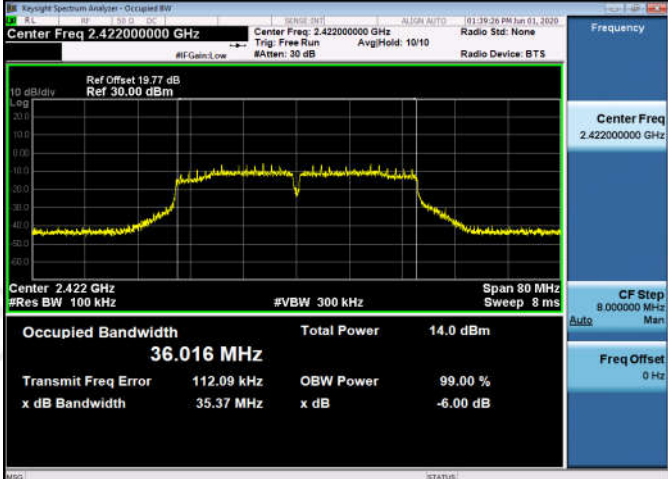
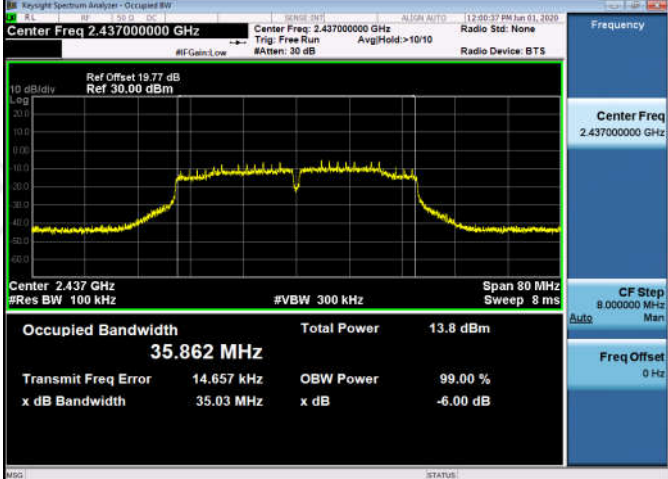
11B/MCH_Ant2	 Keynote Spectrum Analyzer - Occupied BW Center Freq 2.437000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.437 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms Occupied Bandwidth 13.633 MHz Total Power 22.3 dBm Transmit Freq Error 151.89 kHz OBW Power 99.00 % x dB Bandwidth 10.10 MHz x dB -6.00 dB Radio Device: BTS
11B/HCH_Ant1	 Keynote Spectrum Analyzer - Occupied BW Center Freq 2.462000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.462 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms Occupied Bandwidth 13.592 MHz Total Power 22.2 dBm Transmit Freq Error -198.29 kHz OBW Power 99.00 % x dB Bandwidth 10.11 MHz x dB -6.00 dB Radio Device: BTS
11B/HCH_Ant2	 Keynote Spectrum Analyzer - Occupied BW Center Freq 2.462000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.462 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms Occupied Bandwidth 13.528 MHz Total Power 22.0 dBm Transmit Freq Error -210.19 kHz OBW Power 99.00 % x dB Bandwidth 10.07 MHz x dB -6.00 dB Radio Device: BTS

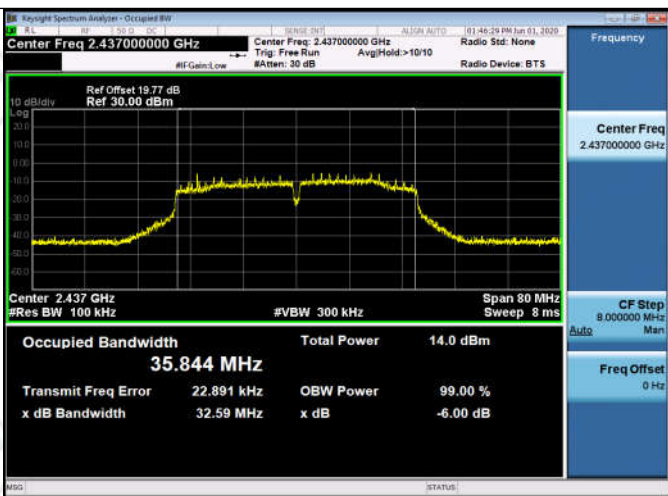
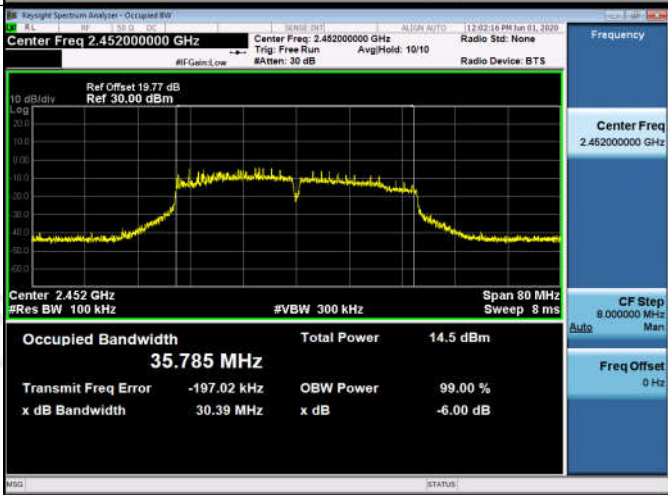
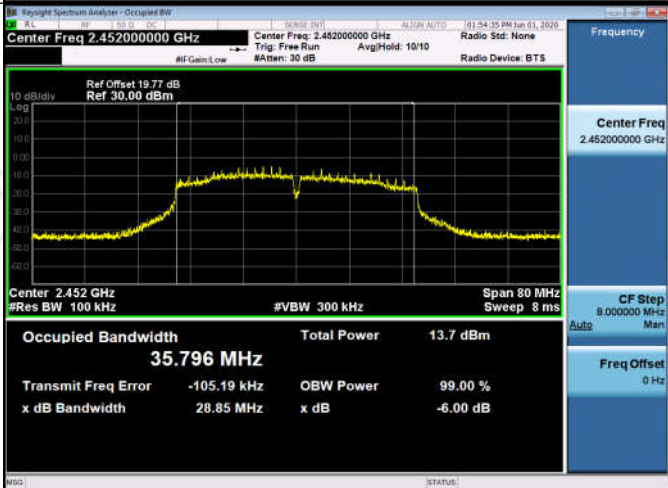
11G/LCH_Ant1	 Keynote Spectrum Analyzer - Occupied BW Center Freq 2.412000000 GHz Ref Offset 19.6 dB Ref 30.00 dBm Center 2.412 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms Occupied Bandwidth 16.321 MHz Total Power 15.9 dBm Transmit Freq Error 21.197 kHz OBW Power 99.00 % x dB Bandwidth 15.10 MHz x dB -6.00 dB
11G/LCH_Ant2	 Keynote Spectrum Analyzer - Occupied BW Center Freq 2.412000000 GHz Ref Offset 19.6 dB Ref 30.00 dBm Center 2.412 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms Occupied Bandwidth 16.316 MHz Total Power 16.1 dBm Transmit Freq Error 31.648 kHz OBW Power 99.00 % x dB Bandwidth 15.04 MHz x dB -6.00 dB
11G/MCH_Ant1	 Keynote Spectrum Analyzer - Occupied BW Center Freq 2.437000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.437 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms Occupied Bandwidth 16.375 MHz Total Power 16.0 dBm Transmit Freq Error 34.854 kHz OBW Power 99.00 % x dB Bandwidth 15.10 MHz x dB -6.00 dB

11G/MCH_Ant2	 Keynote Spectrum Analyzer - Occupied BW Center Freq 2.437000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.437 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms Occupied Bandwidth 16.362 MHz Total Power 16.1 dBm Transmit Freq Error 39.269 kHz OBW Power 99.00 % x dB Bandwidth 15.10 MHz x dB -6.00 dB Frequency 2.437000000 GHz CF Step 4.000000 MHz Freq Offset 0 Hz
11G/HCH_Ant1	 Keynote Spectrum Analyzer - Occupied BW Center Freq 2.462000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.462 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms Occupied Bandwidth 16.458 MHz Total Power 15.9 dBm Transmit Freq Error -73.885 kHz OBW Power 99.00 % x dB Bandwidth 15.68 MHz x dB -6.00 dB Frequency 2.462000000 GHz CF Step 4.000000 MHz Freq Offset 0 Hz
11G/HCH_Ant2	 Keynote Spectrum Analyzer - Occupied BW Center Freq 2.462000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.462 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms Occupied Bandwidth 16.475 MHz Total Power 15.8 dBm Transmit Freq Error -79.511 kHz OBW Power 99.00 % x dB Bandwidth 15.71 MHz x dB -6.00 dB Frequency 2.462000000 GHz CF Step 4.000000 MHz Freq Offset 0 Hz

11N20SISO/LCH_Ant1	 Keynote Spectrum Analyzer - Occupied BW Center Freq 2.412000000 GHz Ref Offset 19.5 dB Ref 30.00 dBm Center 2.412 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms Occupied Bandwidth 17.522 MHz Total Power 14.9 dBm Transmit Freq Error 22.052 kHz OBW Power 99.00 % x dB Bandwidth 15.08 MHz x dB -6.00 dB
11N20SISO/LCH_Ant2	 Keynote Spectrum Analyzer - Occupied BW Center Freq 2.412000000 GHz Ref Offset 19.5 dB Ref 30.00 dBm Center 2.412 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms Occupied Bandwidth 17.537 MHz Total Power 14.7 dBm Transmit Freq Error 21.889 kHz OBW Power 99.00 % x dB Bandwidth 13.83 MHz x dB -6.00 dB
11N20SISO/MCH_Ant1	 Keynote Spectrum Analyzer - Occupied BW Center Freq 2.437000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.437 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms Occupied Bandwidth 17.582 MHz Total Power 15.0 dBm Transmit Freq Error 37.611 kHz OBW Power 99.00 % x dB Bandwidth 15.11 MHz x dB -6.00 dB

11N20SISO/MCH_Ant2	 Keyight Spectrum Analyzer - Occupied BW Center Freq 2.437000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.437 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms <table><tr><td>Occupied Bandwidth</td><td>Total Power</td><td>14.7 dBm</td></tr><tr><td>17.581 MHz</td><td></td><td></td></tr><tr><td>Transmit Freq Error</td><td>34.149 kHz</td><td>OBW Power 99.00 %</td></tr><tr><td>x dB Bandwidth</td><td>15.28 MHz</td><td>x dB -6.00 dB</td></tr></table>	Occupied Bandwidth	Total Power	14.7 dBm	17.581 MHz			Transmit Freq Error	34.149 kHz	OBW Power 99.00 %	x dB Bandwidth	15.28 MHz	x dB -6.00 dB
Occupied Bandwidth	Total Power	14.7 dBm											
17.581 MHz													
Transmit Freq Error	34.149 kHz	OBW Power 99.00 %											
x dB Bandwidth	15.28 MHz	x dB -6.00 dB											
11N20SISO/HCH_Ant1	 Keyight Spectrum Analyzer - Occupied BW Center Freq 2.462000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.462 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms <table><tr><td>Occupied Bandwidth</td><td>Total Power</td><td>15.3 dBm</td></tr><tr><td>17.642 MHz</td><td></td><td></td></tr><tr><td>Transmit Freq Error</td><td>-71.723 kHz</td><td>OBW Power 99.00 %</td></tr><tr><td>x dB Bandwidth</td><td>16.32 MHz</td><td>x dB -6.00 dB</td></tr></table>	Occupied Bandwidth	Total Power	15.3 dBm	17.642 MHz			Transmit Freq Error	-71.723 kHz	OBW Power 99.00 %	x dB Bandwidth	16.32 MHz	x dB -6.00 dB
Occupied Bandwidth	Total Power	15.3 dBm											
17.642 MHz													
Transmit Freq Error	-71.723 kHz	OBW Power 99.00 %											
x dB Bandwidth	16.32 MHz	x dB -6.00 dB											
11N20SISO/HCH_Ant2	 Keyight Spectrum Analyzer - Occupied BW Center Freq 2.462000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.462 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms <table><tr><td>Occupied Bandwidth</td><td>Total Power</td><td>15.3 dBm</td></tr><tr><td>17.635 MHz</td><td></td><td></td></tr><tr><td>Transmit Freq Error</td><td>-63.707 kHz</td><td>OBW Power 99.00 %</td></tr><tr><td>x dB Bandwidth</td><td>15.00 MHz</td><td>x dB -6.00 dB</td></tr></table>	Occupied Bandwidth	Total Power	15.3 dBm	17.635 MHz			Transmit Freq Error	-63.707 kHz	OBW Power 99.00 %	x dB Bandwidth	15.00 MHz	x dB -6.00 dB
Occupied Bandwidth	Total Power	15.3 dBm											
17.635 MHz													
Transmit Freq Error	-63.707 kHz	OBW Power 99.00 %											
x dB Bandwidth	15.00 MHz	x dB -6.00 dB											

11N40SISO/LCH_Ant1	 Keynote Spectrum Analyzer - Occupied BW Center Freq 2.422000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.422 GHz #Res BW 100 kHz #VBW 300 kHz Span 80 MHz Sweep 8 ms Occupied Bandwidth 35.993 MHz Total Power 14.1 dBm Transmit Freq Error 122.23 kHz OBW Power 99.00 % x dB Bandwidth 35.06 MHz x dB -6.00 dB
11N40SISO/LCH_Ant2	 Keynote Spectrum Analyzer - Occupied BW Center Freq 2.422000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.422 GHz #Res BW 100 kHz #VBW 300 kHz Span 80 MHz Sweep 8 ms Occupied Bandwidth 36.016 MHz Total Power 14.0 dBm Transmit Freq Error 112.09 kHz OBW Power 99.00 % x dB Bandwidth 35.37 MHz x dB -6.00 dB
11N40SISO/MCH_Ant1	 Keynote Spectrum Analyzer - Occupied BW Center Freq 2.437000000 GHz Ref Offset 19.77 dB Ref 30.00 dBm Center 2.437 GHz #Res BW 100 kHz #VBW 300 kHz Span 80 MHz Sweep 8 ms Occupied Bandwidth 35.862 MHz Total Power 13.8 dBm Transmit Freq Error 14.657 kHz OBW Power 99.00 % x dB Bandwidth 35.03 MHz x dB -6.00 dB

11N40SISO/MCH_Ant2	
11N40SISO/HCH_Ant1	
11N40SISO/HCH_Ant2	

Appendix C): Band-edge for RF Conducted Emissions Result Table

Mode	Antenna	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	Ant1	LCH	5.861	-49.054	-24.14	PASS
11B	Ant2	LCH	5.799	-49.272	-24.2	PASS
11B	Ant1	HCH	5.968	-47.182	-24.03	PASS
11B	Ant2	HCH	5.915	-45.294	-24.09	PASS
11G	Ant1	LCH	-0.869	-49.819	-30.87	PASS
11G	Ant2	LCH	-0.666	-49.473	-30.67	PASS
11G	Ant1	HCH	-0.893	-49.535	-30.89	PASS
11G	Ant2	HCH	-1.418	-49.905	-31.42	PASS
11N20SISO	Ant1	LCH	-2.106	-50.508	-32.11	PASS
11N20SISO	Ant2	LCH	-1.977	-48.896	-31.98	PASS
11N20SISO	Ant1	HCH	-1.289	-49.540	-31.29	PASS
11N20SISO	Ant2	HCH	-2.328	-50.718	-32.33	PASS
11N40SISO	Ant1	LCH	-5.745	-50.455	-35.75	PASS
11N40SISO	Ant2	LCH	-6.278	-50.286	-36.28	PASS
11N40SISO	Ant1	HCH	-6.423	-49.703	-36.42	PASS
11N40SISO	Ant2	HCH	-6.786	-49.392	-36.79	PASS

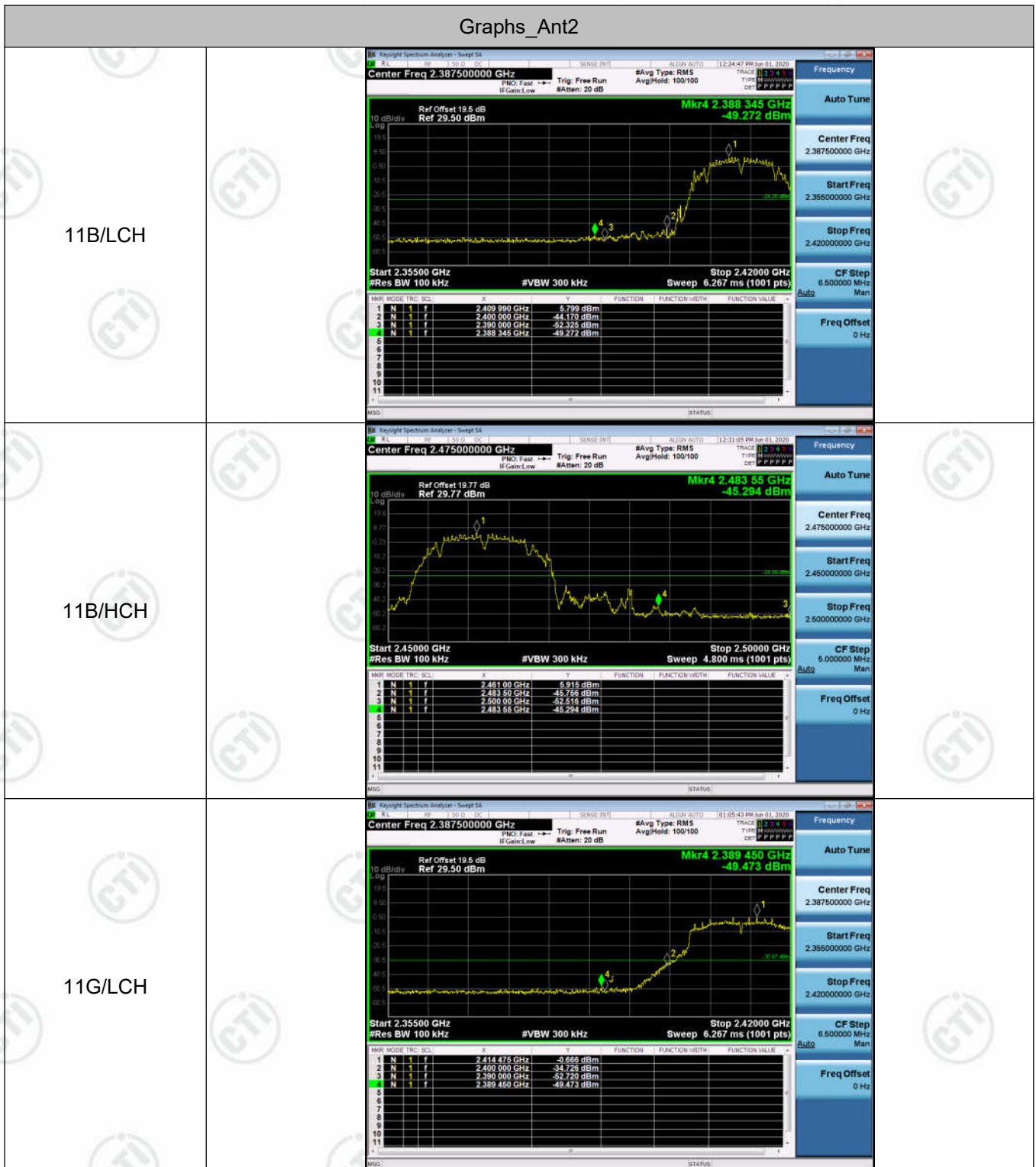
11G/LCH

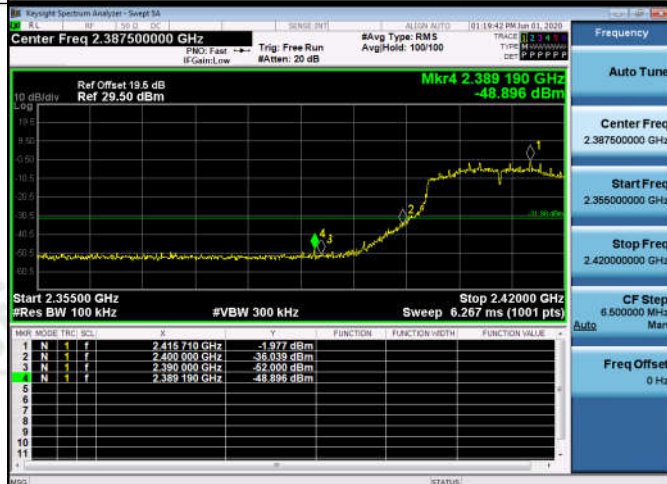


11G/HCH	Keyight Spectrum Analyzer - Sweep SA Center Freq 2.475000000 GHz Ref Offset 19.77 dB Ref 29.77 dBm Mkr4 2.498 70 GHz -49.535 dBm Start 2.450000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.500000 GHz Sweep 4.800 ms (1001 pts) <table><tr><th>MARK</th><th>MODE</th><th>TRIG</th><th>SCN</th><th>F</th><th>M</th><th>FUNCTION</th><th>FUNCTION-HEX</th><th>FUNCTION-VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>2.468 25 GHz</td><td>-0.893 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>2.483 50 GHz</td><td>-51.393 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>2.500 00 GHz</td><td>-53.198 dBm</td><td></td><td></td><td></td></tr><tr><td>4</td><td>N</td><td>1</td><td>f</td><td>2.498 70 GHz</td><td>-49.535 dBm</td><td></td><td></td><td></td></tr></table> Frequency Auto Tune Center Freq 2.475000000 GHz Start Freq 2.450000000 GHz Stop Freq 2.500000000 GHz CF Step 5.000000 MHz Man Freq Offset 0 Hz	MARK	MODE	TRIG	SCN	F	M	FUNCTION	FUNCTION-HEX	FUNCTION-VALUE	1	N	1	f	2.468 25 GHz	-0.893 dBm				2	N	1	f	2.483 50 GHz	-51.393 dBm				3	N	1	f	2.500 00 GHz	-53.198 dBm				4	N	1	f	2.498 70 GHz	-49.535 dBm			
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11N20SISO/LCH	Keyight Spectrum Analyzer - Sweep SA Center Freq 2.387500000 GHz Ref Offset 19.5 dB Ref 29.50 dBm Mkr4 2.365 205 GHz -50.508 dBm Start 2.355000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.420000 GHz Sweep 6.267 ms (1001 pts) <table><tr><th>MARK</th><th>MODE</th><th>TRIG</th><th>SCN</th><th>F</th><th>M</th><th>FUNCTION</th><th>FUNCTION-HEX</th><th>FUNCTION-VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>2.410 705 GHz</td><td>-2.106 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>2.400 000 GHz</td><td>-35.848 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>2.390 000 GHz</td><td>-53.224 dBm</td><td></td><td></td><td></td></tr><tr><td>4</td><td>N</td><td>1</td><td>f</td><td>2.365 205 GHz</td><td>-50.508 dBm</td><td></td><td></td><td></td></tr></table> Frequency Auto Tune Center Freq 2.387500000 GHz Start Freq 2.355000000 GHz Stop Freq 2.420000000 GHz CF Step 6.500000 MHz Man Freq Offset 0 Hz	MARK	MODE	TRIG	SCN	F	M	FUNCTION	FUNCTION-HEX	FUNCTION-VALUE	1	N	1	f	2.410 705 GHz	-2.106 dBm				2	N	1	f	2.400 000 GHz	-35.848 dBm				3	N	1	f	2.390 000 GHz	-53.224 dBm				4	N	1	f	2.365 205 GHz	-50.508 dBm			
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Hotline: 400-6788-333 www.cti-cert.com E-mail: info@cti-cert.com Complaint call: 0755-33681700 Complaint E-mail: complaint@cti-cert.com

Graphs_Ant2



11G/HCH	 Keynote Spectrum Analyzer - Sweep SA Center Freq 2.475000000 GHz Ref Offset 19.77 dB Ref 29.77 dBm Mkr4 2.49940 GHz -49.905 dBm Start 2.450000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.500000 GHz Sweep 4.800 ms (1001 pts) <table><tr><th>MNR</th><th>MODE</th><th>TRG</th><th>SCN</th><th>F</th><th>dBm</th><th>FUNCTION</th><th>FUNCTION-MATH</th><th>FUNCTION-VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>2.45820 GHz</td><td>-1.418 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>2.48350 GHz</td><td>-52.322 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>2.50000 GHz</td><td>-54.288 dBm</td><td></td><td></td><td></td></tr><tr><td>4</td><td>N</td><td>1</td><td>f</td><td>2.49940 GHz</td><td>-49.905 dBm</td><td></td><td></td><td></td></tr></table>	MNR	MODE	TRG	SCN	F	dBm	FUNCTION	FUNCTION-MATH	FUNCTION-VALUE	1	N	1	f	2.45820 GHz	-1.418 dBm				2	N	1	f	2.48350 GHz	-52.322 dBm				3	N	1	f	2.50000 GHz	-54.288 dBm				4	N	1	f	2.49940 GHz	-49.905 dBm			
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11N40SISO/LCH

Keynote Spectrum Analyzer - Sweep SA

Center Freq 2.387500000 GHz

Ref Offset 19.77 dB
Ref 29.77 dBm

Mkr4 2.363 255 GHz
-50.286 dBm

Start 2.35500 GHz
#Res BW 100 kHz

#VBW 300 kHz

Stop 2.42000 GHz
Sweep 6.267 ms (1001 pts)

MNR	MODE	TRC	SCL	F	FUNCTION	FUNCTION-MATH	FUNCTION-VALUE
1	N	1	f	2.413 240 GHz	-6.278 dBm		
2	N	1	f	2.400 000 GHz	-39.138 dBm		
3	N	1	f	2.390 000 GHz	-52.513 dBm		
4	N	1	f	2.363 255 GHz	-50.286 dBm		

11N40SISO/HCH

Keynote Spectrum Analyzer - Sweep SA

Center Freq 2.475000000 GHz

Ref Offset 19.77 dB
Ref 29.77 dBm

Mkr4 2.488 80 GHz
-49.392 dBm

Start 2.45000 GHz
#Res BW 100 kHz

#VBW 300 kHz

Stop 2.50000 GHz
Sweep 4.800 ms (1001 pts)

MNR	MODE	TRC	SCL	F	FUNCTION	FUNCTION-MATH	FUNCTION-VALUE
1	N	1	f	2.464 50 GHz	-4.786 dBm		
2	N	1	f	2.483 50 GHz	-52.420 dBm		
3	N	1	f	2.500 00 GHz	-54.293 dBm		
4	N	1	f	2.488 80 GHz	-49.392 dBm		

Appendix D): RF Conducted Spurious Emissions Result Table

Mode	Antenna	Channel	Pref [dBm]	Puw[dBm]	Verdict
11B	Ant1	LCH	5.87	<Limit	PASS
11B	Ant2	LCH	5.995	<Limit	PASS
11B	Ant1	MCH	6.19	<Limit	PASS
11B	Ant2	MCH	6.307	<Limit	PASS
11B	Ant1	HCH	6.1	<Limit	PASS
11B	Ant2	HCH	5.919	<Limit	PASS
11G	Ant1	LCH	-0.818	<Limit	PASS
11G	Ant2	LCH	-0.83	<Limit	PASS
11G	Ant1	MCH	-0.54	<Limit	PASS
11G	Ant2	MCH	-0.357	<Limit	PASS
11G	Ant1	HCH	-0.804	<Limit	PASS
11G	Ant2	HCH	-0.795	<Limit	PASS
11N20SISO	Ant1	LCH	-1.486	<Limit	PASS
11N20SISO	Ant2	LCH	-1.785	<Limit	PASS
11N20SISO	Ant1	MCH	-1.631	<Limit	PASS
11N20SISO	Ant2	MCH	-1.658	<Limit	PASS
11N20SISO	Ant1	HCH	-1.49	<Limit	PASS
11N20SISO	Ant2	HCH	-1.645	<Limit	PASS
11N40SISO	Ant1	LCH	-5.693	<Limit	PASS
11N40SISO	Ant2	LCH	-5.712	<Limit	PASS
11N40SISO	Ant1	MCH	-5.221	<Limit	PASS
11N40SISO	Ant2	MCH	-5.057	<Limit	PASS
11N40SISO	Ant1	HCH	-4.814	<Limit	PASS
11N40SISO	Ant2	HCH	-4.76	<Limit	PASS

Test Graph

