`

FCC Test Report
(Class II Permissive Change)

Product Name	WAH0001
Model No	QI-150P
FCC ID	2AOV3QI-150P

Applicant	Hitachi Information & Telecommunication Engineering, Ltd.
Address	Queen's Tower B 22F, 2-3-3, Minatomirai, Nishi-ku, Yokohama 220-6122, Japan

Date of Receipt	May. 10, 2018
Issued Date	Jul. 16, 2018
Report No.	1850118R-RFUSP06V00
Report Version	V1.0

Testing Laboratory
3023

The test results relate only to the samples tested.
The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
This report must not be used to claim product endorsement by TAF or any agency of the government.
The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.

Test Report

Issued Date: Jul. 16, 2018
Report No.: 1850118R-RFUSP06V00

Product Name	WAH0001
Applicant	Hitachi Information & Telecommunication Engineering, Ltd.
Address	Queen's Tower B 22F, 2-3-3, Minatomirai, Nishi-ku, Yokohama 220-6122, Japan
Manufacturer	Hitachi Information & Telecommunication Engineering, Ltd.
Model No.	QI-150P
FCC ID.	2AOV3QI-150P
EUT Rated Voltage	DC 3.3V
EUT Test Voltage	DC 3.3V
Trade Name	Hitachi Information & Telecommuniation Engineering, Ltd
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E: 2017 ANSI C63.4: 2014, ANSI C63.10: 2013 789033 D02 General UNII Test Procedures New Rules v02
Test Result	Complied

Documented By : Anny Chou

(Senior Adm. Specialist / Anny Chou)

Tested By : Paul Jiang

(Engineer / Paul Jiang)

Approved By :

(Director / Vincent Lin)

`

TABLE OF CONTENTS

	Description	Page
1.	**GENERAL INFORMATION**	**4**
1.1.	EUT Description	4
1.2.	Operational Description	7
1.3.	Tested System Datails	8
1.4.	Configuration of tested System	8
1.5.	EUT Exercise Software	8
1.6.	Test Facility	9
1.7.	List of Test Equipment	10
2.	**Maximun conducted output power**	**11**
2.1.	Test Setup	11
2.2.	Limits	11
2.3.	Test Procedure	13
2.4.	Uncertainty	13
2.5.	Test Result of Maximum conducted output power	14
3.	**Radiated Emission**	**56**
3.1.	Test Setup	56
3.2.	Limits	58
3.3.	Test Procedure	59
3.4.	Uncertainty	60
3.5.	Test Result of Radiated Emission	61
4.	**Band Edge**	**119**
4.1.	Test Setup	119
4.2.	Limits	120
4.3.	Test Procedure	120
4.4.	Uncertainty	121
4.5.	Test Result of Band Edge	122
5.	**Duty Cycle**	**163**
5.1.	Test Setup	163
5.2.	Test Procedure	163
5.3.	Uncertainty	163
5.4.	Test Result of Duty Cycle	164
6.	**EMI Reduction Method During Compliance Testing**	**167**

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	WAH0001
Trade Name	Hitachi Information & Telecommuniation Engineering, Ltd
FCC ID.	2AOV3QI-150P
Model No.	QI-150P
Frequency Range	802.11a/n-20MHz: 5180-5320MHz, 5500-5700MHz, 5745-5825MHz 802.11n-40MHz: 5190-5310, 5510-5670MHz, 5755-5795MHz 802.11ac-20MHz: 5720, 802.11ac-40MHz: 5710 802.11ac-80MHz: 5210-5290MHz, 5530-5690MHz, 5775MHz
Number of Channels	802.11a/n-20MHz: 25; 802.11n-40MHz: 12 802.11ac-20MHz: 25, 802.11ac-40MHz: 12, 802.11ac-80MHz: 6
Data Rate	802.11a: 6 - 54Mbps 802.11n: up to 300Mbps 802.11ac-80MHz: up to 866.7MHz
Channel Control	Auto
Type of Modulation	802.11a/n/ac:OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM
Antenna type	Dipole Antenna
Antenna Gain	Refer to the table “Antenna List”

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	STAF	T17-002-1054	Dipole Antenna	1.35dBi For 5.15~5.25GHz 2.51dBi For 5.25~5.35GHz 2.52dBi For 5.47~5.725GHz 2.87dBi For 5.725~5.825GHz

Note: The antenna of EUT is conform to FCC 15.203

802.11a/n-20MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 36:	5180 MHz	Channel 40:	5200 MHz	Channel 44:	5220 MHz	Channel 48:	5240 MHz
Channel 52:	5260 MHz	Channel 56:	5280 MHz	Channel 60:	5300 MHz	Channel 64:	5320 MHz
Channel 100:	5500 MHz	Channel 104:	5520 MHz	Channel 108:	5540 MHz	Channel 112:	5560 MHz
Channel 116:	5580 MHz	Channel 120:	5600 MHz	Channel 124:	5620 MHz	Channel 128:	5640 MHz
Channel 132:	5660 MHz	Channel 136:	5680 MHz	Channel 140:	5700 MHz	Channel 144:	5720 MHz
Channel 149:	5745 MHz	Channel 153:	5765 MHz	Channel 157:	5785 MHz	Channel 161:	5805 MHz
Channel 165:	5825 MHz						

802.11n-40MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 38:	5190 MHz	Channel 46:	5230 MHz	Channel 54:	5270 MHz	Channel 62:	5310 MHz
Channel 102:	5510 MHz	Channel 110:	5550 MHz	Channel 118:	5590 MHz	Channel 126:	5630 MHz
Channel 134:	5670 MHz	Channel 151:	5755 MHz	Channel 159:	5795 MHz		

802.11ac-20MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 36:	5180 MHz	Channel 40:	5200 MHz	Channel 44:	5220 MHz	Channel 48:	5240 MHz
Channel 52:	5260 MHz	Channel 56:	5280 MHz	Channel 60:	5300 MHz	Channel 64:	5320 MHz
Channel 100:	5500 MHz	Channel 104:	5520 MHz	Channel 108:	5540 MHz	Channel 112:	5560 MHz
Channel 116:	5580 MHz	Channel 120:	5600 MHz	Channel 124:	5620 MHz	Channel 128:	5640 MHz
Channel 132:	5660 MHz	Channel 136:	5680 MHz	Channel 140:	5700 MHz	Channel 144:	5720 MHz
Channel 149:	5745 MHz	Channel 153:	5765 MHz	Channel 157:	5785 MHz	Channel 161:	5805 MHz
Channel 165:	5825 MHz						

802.11ac-40MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 38:	5190 MHz	Channel 46:	5230 MHz	Channel 54:	5270 MHz	Channel 62:	5310 MHz
Channel 102:	5510 MHz	Channel 110:	5550 MHz	Channel 118:	5590 MHz	Channel 126:	5630 MHz
Channel 134:	5670 MHz	Channel 142:	5710 MHz	Channel 151:	5755 MHz	Channel 159:	5795 MHz

802.11ac-80MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 42:	5210 MHz	Channel 58:	5290 MHz	Channel 106:	5530 MHz	Channel 122:	5610 MHz
Channel 138:	5690 MHz	Channel 155:	5775 MHz				

Note:

1. This EUT is a WAH0001 with a built-in WiGig、WLAN and Bluetooth transceiver, this report for WLAN 5GHz.
2. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart E for Unlicensed National Information Infrastructure devices.
3. This is to request a Class II permissive change for FCC ID: 2AOV3QI-150P, originally granted on 07/25/2018.

   The major change filed under this application is:

   Change #1: Reduce the Output Power through firmware(only reduce Bluetooth Output Power, WLAN Output Power haven't changes), All other hardware is identical with original granted.

   #2: Addition one new antenna(WLAN and Bluetooth), the antenna type is different, the antenna gain is lower than the original application.

Test Mode	Mode 1: Transmit (802.11a) Mode 2: Transmit (802.11ac-20BW) Mode 3: Transmit (802.11ac-40BW) Mode 4: Transmit (802.11ac-80BW)

`

1.2. Operational Description

The EUT is a WAH0001 with a built-in 2.4GHz and 5GHz WLAN transceiver. This device provided four kinds of transmitting speed 1, 2, 5.5 and 11Mbps and the device of RF carrier is DBPSK, DQPSK and CCK (IEEE 802.11b). The device provided of eight kinds of transmitting speed 6, 9, 12, 18, 24, 36, 48 and 54Mbps the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11a/g).

The device provided of eight kinds of transmitting speed 14.4,28.9,43.3,57.8,86.7,115.6,130 and 144.4Mbps in 802.11n(20M-BW) mode and 30,60,90,120,180,240,270 and 300 Mbps(40M-BW) and 65,130,195,260,390,520,585,650,780 and 866.7Mbps in 802.11ac(80BW) mode the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM and 256 QAM (IEEE 802.11n/ac), the IEEE 802.11n/ac is Multiple In, Multiple Out" (MIMO) technology.

The device adapts direct sequence spread spectrum modulation. The antenna provides diversity function to improve the receiving function and the antennas to support 2(Transmit) × 2(Receive) MIMO technology.

This WAH0001, compliant with IEEE 802.11a/b/g/n/ac, is a high-efficiency Wireless LAN adapter. It allows your computer to connect to a wireless network and to share resources, such as files or printers without being bound to the network wires. Operation in 2.4GHz Direst Sequence Spread Spectrum (DSSS) and Orthogonal Frequency Division Multiplexing (OFDM) radio transmission, the WAH0001 Wired Equivalent Protection (WEP) algorithm is used. In addition, its standard compliance ensures that it can communicate with any IEEE 802.11a/b/g/n/ac network.

The Device no radar detection and no ad-hoc operation in the DFS band, another information please refer to users manual.

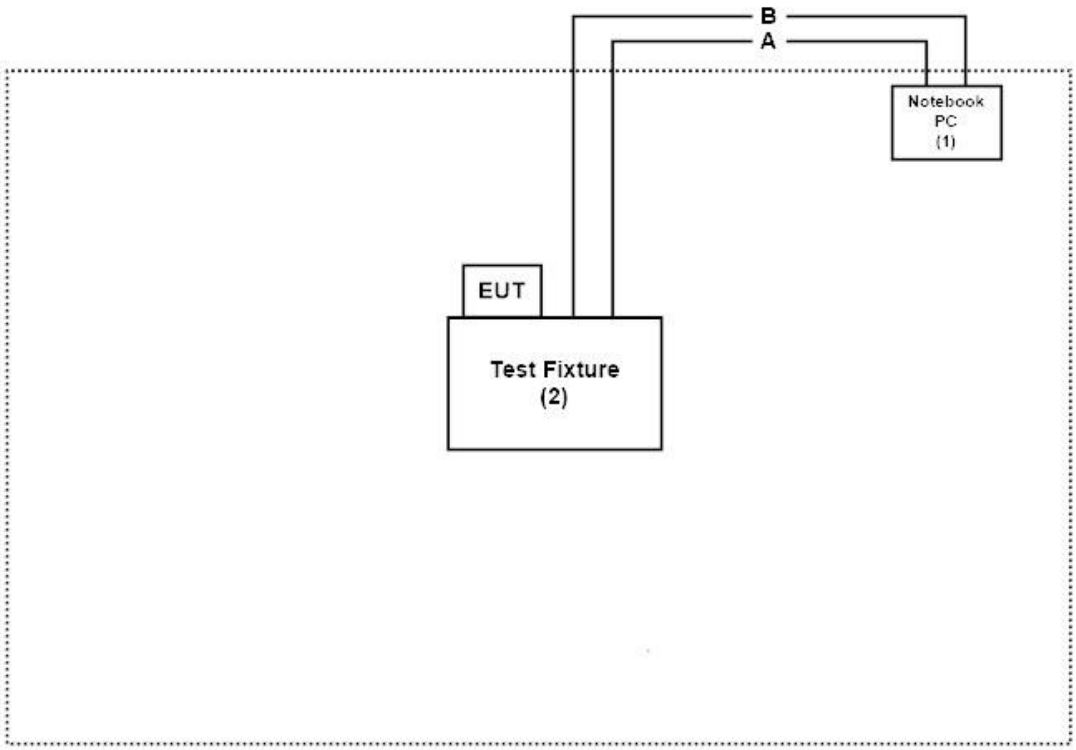
1.3. Tested System Datails

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	Latitude E5440	B6TYTZ1	Non-shielded, 1.8m
2	Test Fixture	Hitachi Information & Telecommuniation Engineering, Ltd	N/A	N/A	Non-shielded, 1.8m

Signal Cable Type		Signal cable Description
A	LAN Cable	Non-shielded, 3m
B	USB Cable	Shielded, 1.2m

1.4. Configuration of tested System



1.5. EUT Exercise Software

(1) Setup the EUT as shown on 1.4

(2) Execute “Qualcomm v3.0.244.0” program on the EUT.

(3) Configure the test mode, the test channel, and the data rate.

(4) Start the continuous transmission.

(5) Verify that the EUT works properly.

`

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site:
http://www.dekra.com.tw/english/about/certificates.aspx?bval=5
The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: http://www.dekra.com.tw/index_en.aspx

Site Description: Accredited by TAF
Accredited Number: 3023

Site Name: DEKRA Testing and Certification Co., Ltd
Site Address: No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451, Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : info.tw@dekra.com

FCC Accreditation Number: TW3023

`

1.7. List of Test Equipment

For Conducted measurements /CB3/SR8

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
	Temperature Chamber	WIT GROUP	TH-1S-B	EQ-201-00146	2018/2/12	2019/2/11
X	Spectrum Analyzer	Agilent	N9010A	MY48030495	2017/10/13	2018/10/12
X	Peak Power Analyzer	Keysight	8990B	MY51000410	2017/7/19	2018/7/18
X	Wideband Power Sensor	Keysight	N1923A	MY56080003	2018/7/6	2019/7/5
X	Wideband Power Sensor	Keysight	N1923A	MY56080004	2018/7/6	2019/7/5
	EMI Test Receiver	R&S	ESCS 30	100369	2017/11/7	2018/11/6
	LISN	R&S	ESH3-Z5	836679/017	2018/2/9	2019/2/8
	LISN	R&S	ENV216	100097	2018/2/9	2019/2/8
	Coaxial Cable	DEKRA	RG 400	LC018-RG	2018/6/22	2019/6/21

For Radiated measurements /Site3/CB8

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
X	Spectrum Analyzer	R&S	FSP40	100170	2018/3/12	2019/3/11
	Loop Antenna	Teseq	HLA6121	37133	2017/10/13	2018/10/12
X	Bilog Antenna	Schaffner Chase	CBL6112B	2707	2018/6/25	2019/6/24
X	Coaxial Cable	DEKRA	RG 214	LC003-RG	2018/6/15	2019/6/14
X	Pre-Amplifier	Jet-Power	JPA-10M1G33	170101000330010	2017/7/19	2018/7/18
X	Horn Antenna	ETS-Lindgren	3117	00135205	2018/5/3	2019/5/2
X	Pre-Amplifier	EMCI	EMC012630SE	980210	2018/4/10	2019/4/9
X	Coaxial Cable	QuieTek	SF-106	LC035/37/41-SF LC038-SF,LC037-SF	2018/6/21	2019/6/20
	Amplifier + Cable	EMCI	EMC184045SE	980370	2018/3/21	2019/3/20
	Horn Antenna	Com-Power	AH-840	101043	2018/1/9	2019/1/8
X	Filter	MicroTRON	BRM50701	019	2017/11/21	2018/11/20
	Filter	Microwave Circuits	N0257881	36681	2018/1/22	2019/1/21

Note:

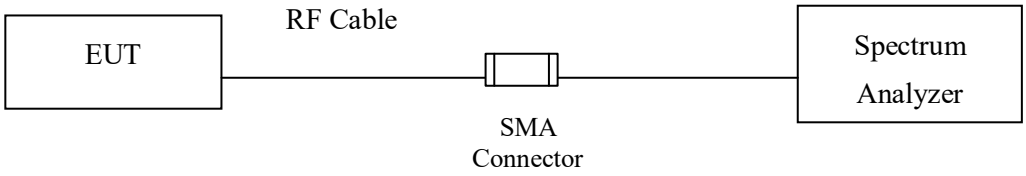
1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
   Test Software version :QuieTek EMI 2.0 V2.1.113.

`

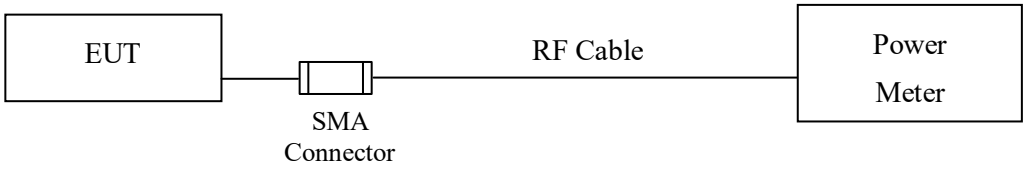
2. Maximun conducted output power

2.1. Test Setup

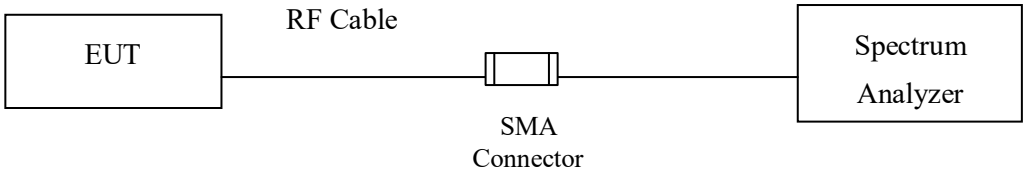
99% Occupied Bandwidth



Conduction Power Measurement (for 802.11an)



Conduction Power Measurement (for 802.11ac)



2.2. Limits

2.2.1. For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition. If transmitting antennas of directional gain greater than 6 dBi

are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-topoint U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

2.2.2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

2.2.3. For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

`

2.3. Test Procedure

As an alternative to FCC KDB-789033, the EUT maximum conducted output power was measured with an average power meter employing a video bandwidth greater the 6dB BW of the emission under test. Maximum conducted output power was read directly from the meter across all data rates, and across three channels within each sub-band. Special care was used to make sure that the EUT was transmitting in continuous mode. This method exceeds the limitations of FCC KDB-789033, and provides more accurate measurements.

802.11an (BW≦40MHz) Maximum conducted output power using KDB 789033 section E)3)b) Method PM-G (Measurement using a gated RF average power meter)
Note: the power meter have a video bandwidth that is greater than or equal to the measurement bandwidth, (Anritsu/ MA2411B video bandwidth: 65MHz)

802.11ac (BW=80MHz) Maximum conducted output power using KDB 789033 section E)2)b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep).

When transmitted signals consist of two or more non-contiguous spectrum segments (e.g., 80+80 MHz mode) or when a single spectrum segment of a transmission crosses the boundary between two adjacent U-NII bands, KDB 644545 D03 section D) procedure is used for measurements.

2.4. Uncertainty

± 1.62 dB

`

2.5. Test Result of Maximum conducted output power

Product : WAH0001
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Date : 2018/07/09
Test Mode : Mode 1: Transmit (802.11a)

CHAIN A

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	13.68	--	--	--	--	--	--	--	<24dBm
40	5200	15.32	15.29	12.24	12.20	12.17	12.13	12.07	12.02	<24dBm
48	5240	15.52	--	--	--	--	--	--	--	<24dBm
52	5260	15.58	--	--	--	--	--	--	--	<24dBm
60	5300	15.36	15.34	15.29	15.25	15.23	15.19	15.16	15.11	<24dBm
64	5320	12.51	--	--	--	--	--	--	--	<24dBm
100	5500	11.32	--	--	--	--	--	--	--	<24dBm
120	5600	14.51	14.47	14.42	14.39	14.36	14.33	14.28	14.26	<24dBm
140	5700	10.21	--	--	--	--	--	--	--	<24dBm
144(Band3)	5720	10.94	10.87	10.82	10.74	10.68	10.60	10.53	10.46	<24dBm
144(Band4)	5720	3.70	3.64	3.58	3.51	3.44	3.41	3.34	3.27	<30dBm
149	5745	12.38	--	--	--	--	--	--	--	<30dBm
157	5785	14.34	14.31	14.27	14.23	14.21	14.17	14.12	14.09	<30dBm
165	5825	13.32	--	--	--	--	--	--	--	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

CHAIN B

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	12.34	--	--	--	--	--	--	--	<24dBm
40	5200	14.42	14.38	14.32	14.29	14.24	14.22	14.17	14.13	<24dBm
48	5240	14.38	--	--	--	--	--	--	--	<24dBm
52	5260	14.61	--	--	--	--	--	--	--	<24dBm
60	5300	14.51	14.46	14.43	14.39	14.33	14.29	14.24	14.21	<24dBm
64	5320	11.43	--	--	--	--	--	--	--	<24dBm
100	5500	11.5	--	--	--	--	--	--	--	<24dBm
120	5600	15.34	15.31	15.27	15.22	15.19	15.15	15.12	15.07	<24dBm
140	5700	11.76	--	--	--	--	--	--	--	<24dBm
144(Band3)	5720	10.85	10.81	10.74	10.68	10.63	10.57	10.53	10.47	<24dBm
144(Band4)	5720	3.38	3.34	3.28	3.24	3.18	3.14	3.11	3.04	<30dBm
149	5745	13.98	--	--	--	--	--	--	--	<30dBm
157	5785	16.01	15.97	15.92	15.89	15.85	15.82	15.78	15.76	<30dBm
165	5825	14.53	--	--	--	--	--	--	--	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

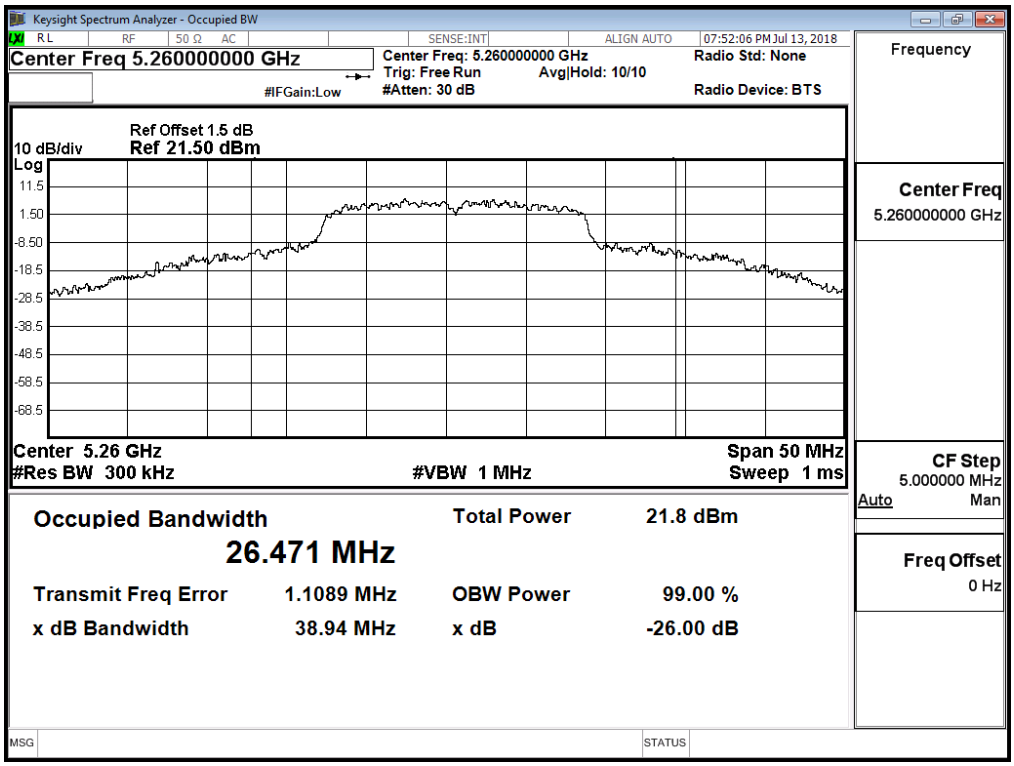
Maximum conducted output power Measurement:

(CHAIN A+ B)

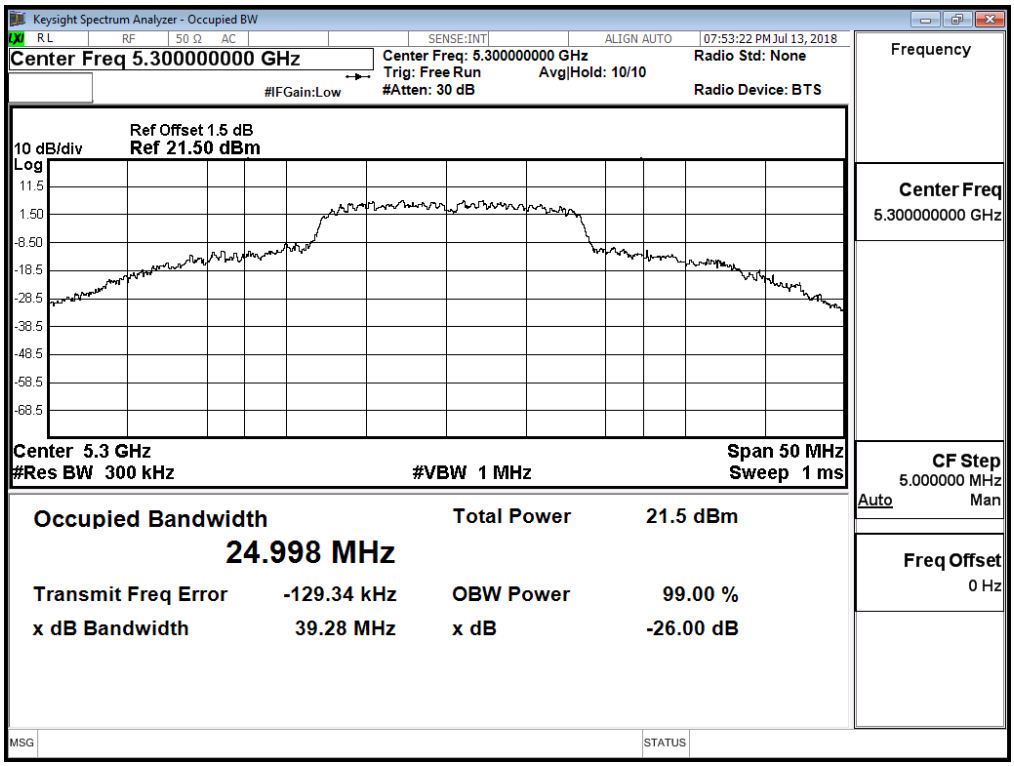
Channel Number	Frequency	99% Bandwidth	Chain A Power	Chain B Power	Output Power	Output Power Limit	
	(MHz)	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	dBm+10log(BW)
36	5180		13.68	12.34	16.07	24	
40	5200		15.32	14.42	17.90	24	
48	5240		15.52	14.38	18.00	24	
52	5260	16.810	15.58	14.61	18.13	24	23.26
60	5300	18.713	15.36	14.51	17.97	24	23.72
64	5320	16.312	12.51	11.43	15.01	24	23.13
100	5500	16.299	11.32	11.50	14.42	24	23.12
120	5600	22.292	14.51	15.34	17.96	24	24.48
140	5700	16.301	10.21	11.76	14.06	24	23.12
144(Band3)	5720	13.190	10.94	10.85	13.91	24	22.20
144(Band4)	5720		3.70	3.38	6.55	30	
149	5745		12.38	13.98	16.26	30	
157	5785		14.34	16.01	18.27	30	
165	5825		13.32	14.53	16.98	30	

Note:
1. Power Output Value =Reading value on average power meter + cable loss
2. 99% Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.

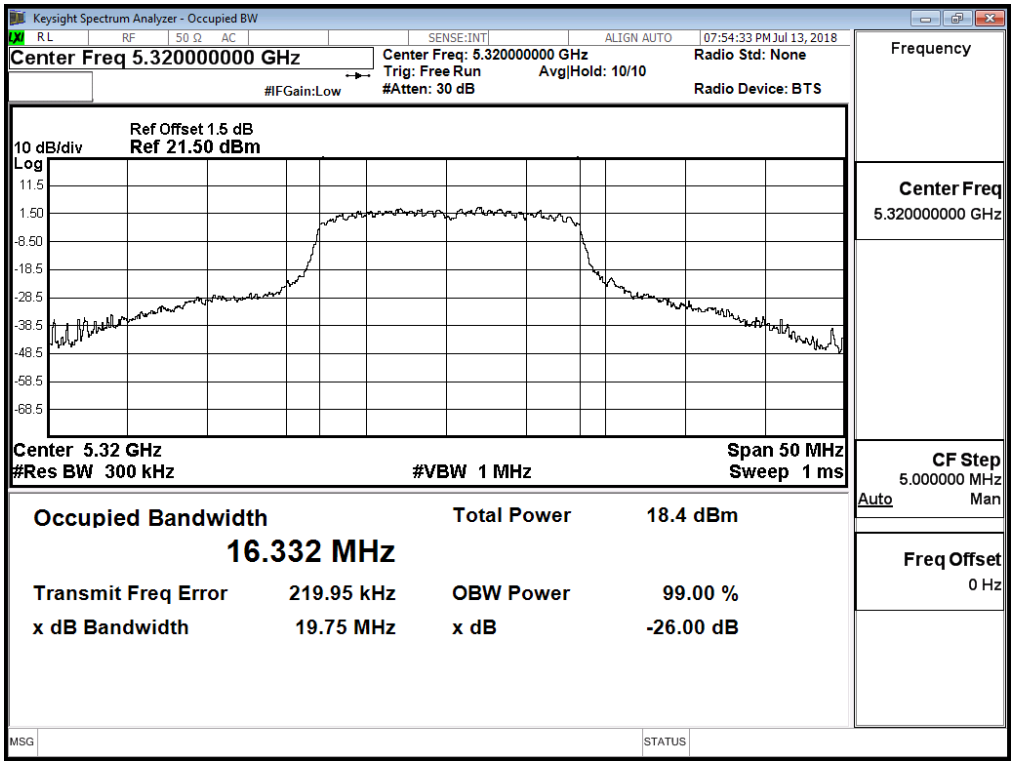
99% Occupied Bandwidth:
Channel 52: -Chain A



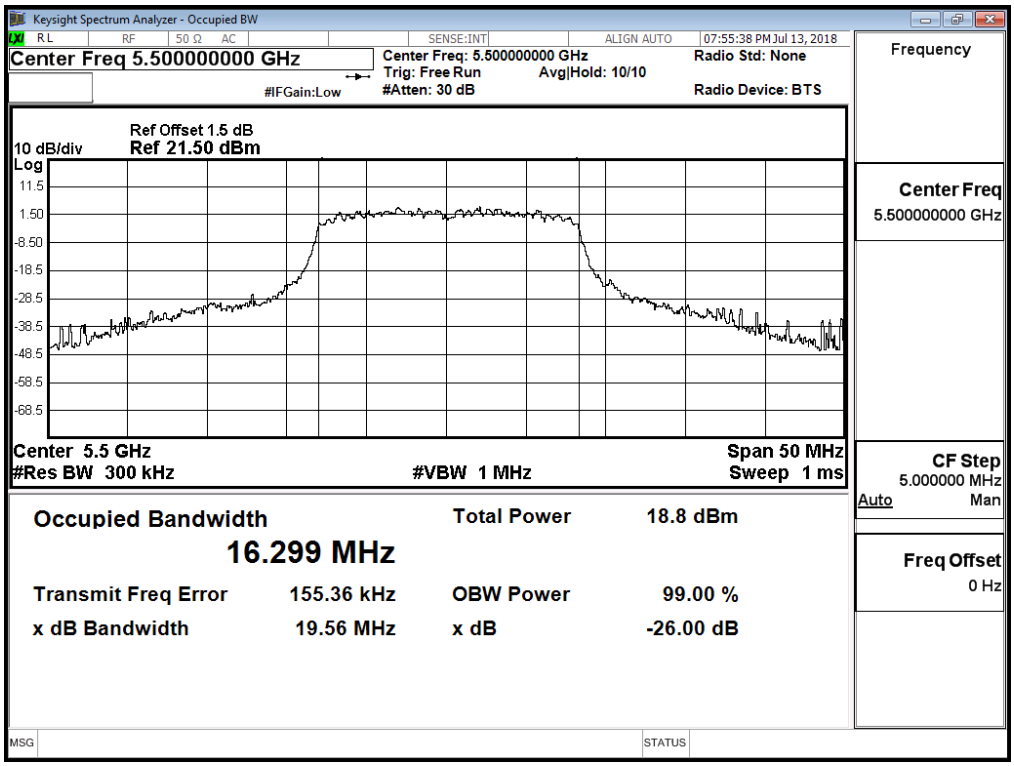
Channel 60: -Chain A



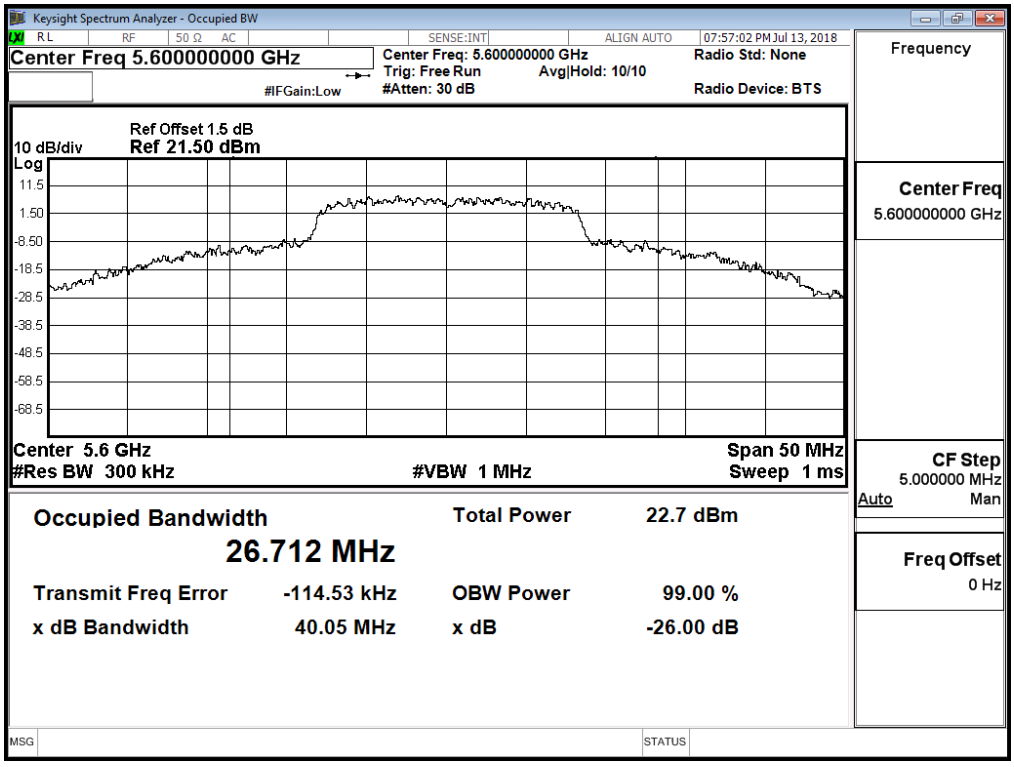
Channel 64: -Chain A



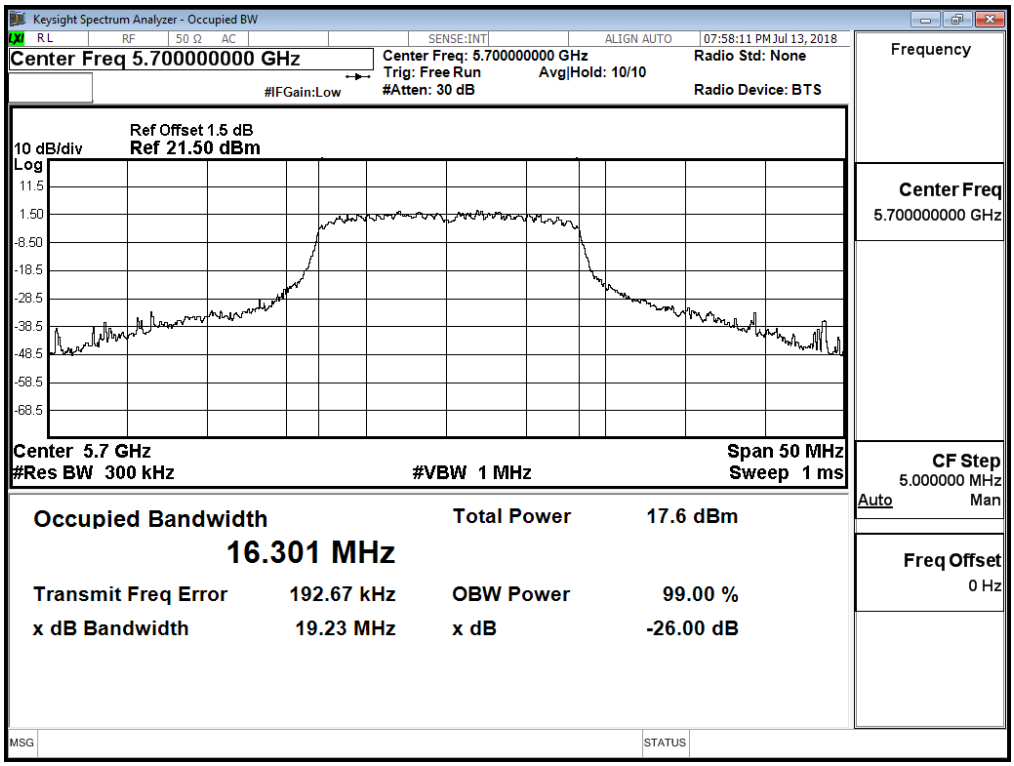
Channel 100: -Chain A



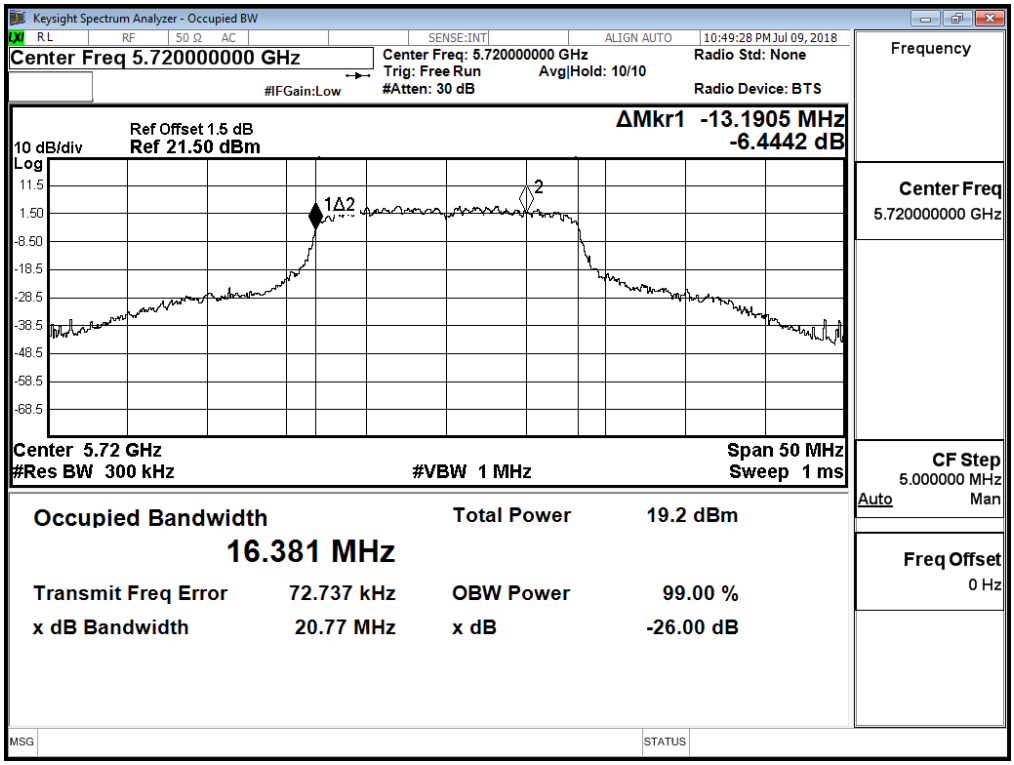
Channel 120: -Chain A



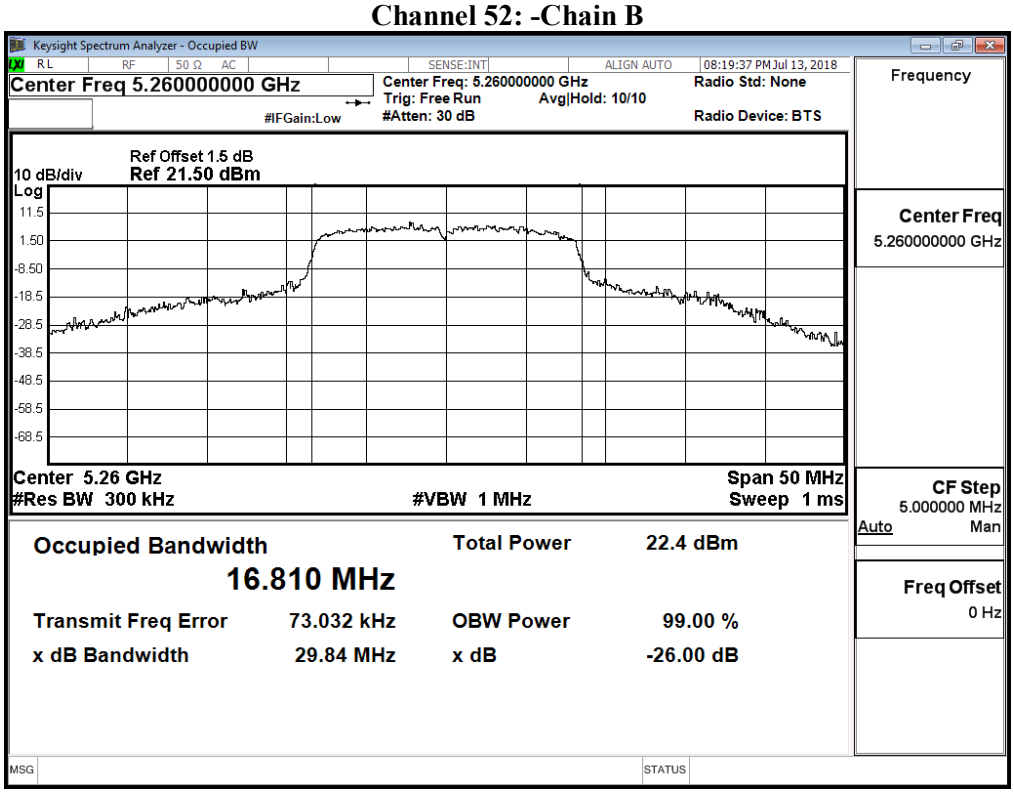
Channel 140: -Chain A



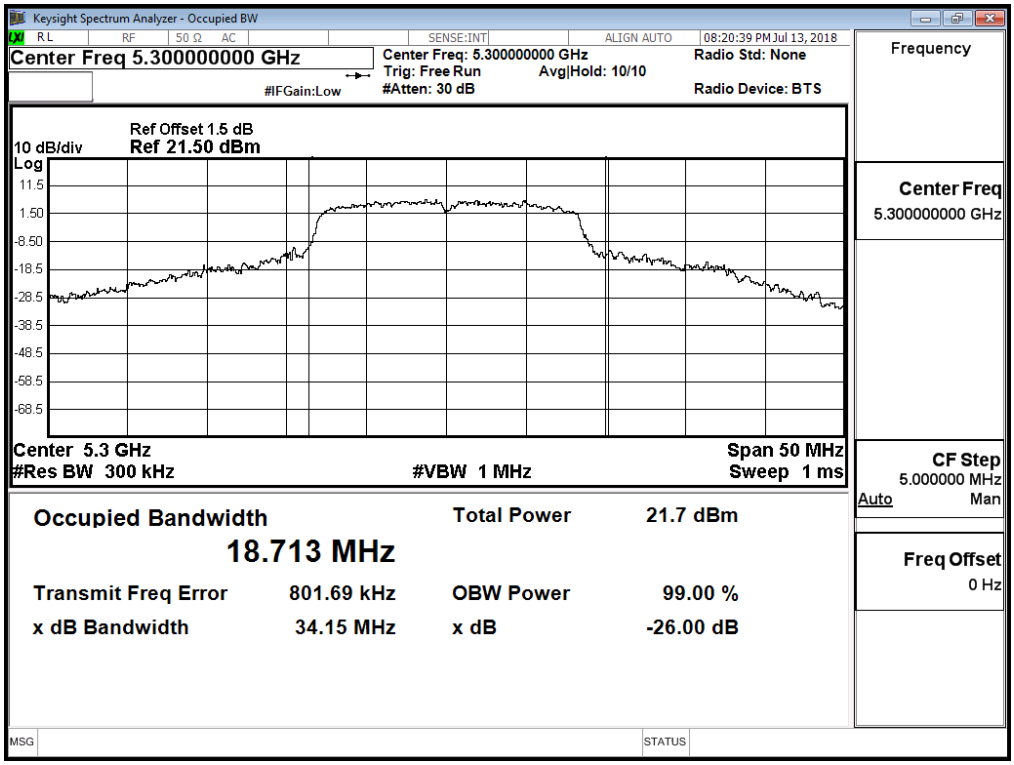
Channel 144: -Chain A



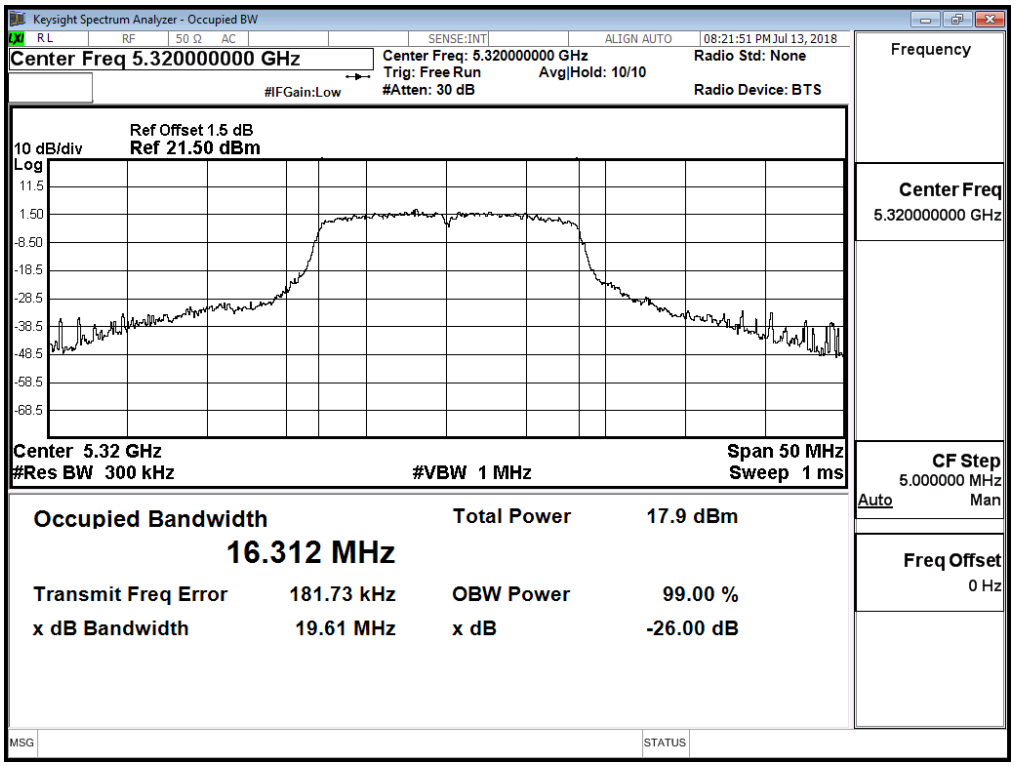
99% Occupied Bandwidth:
Channel 52: -Chain B



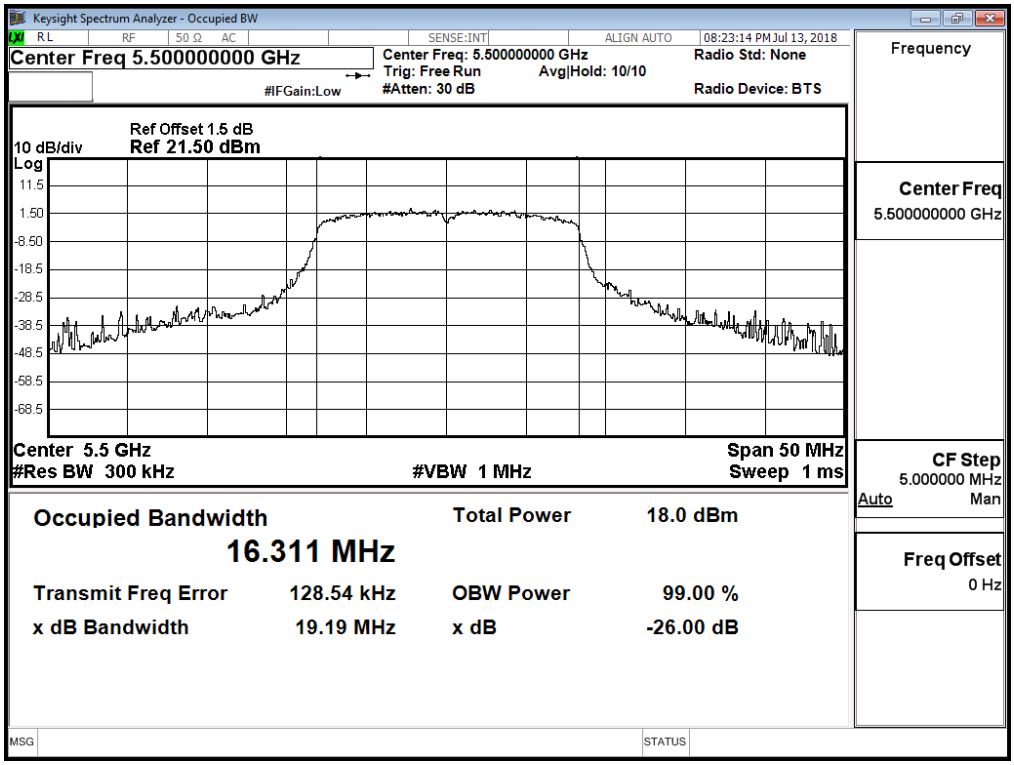
Channel 60: -Chain B



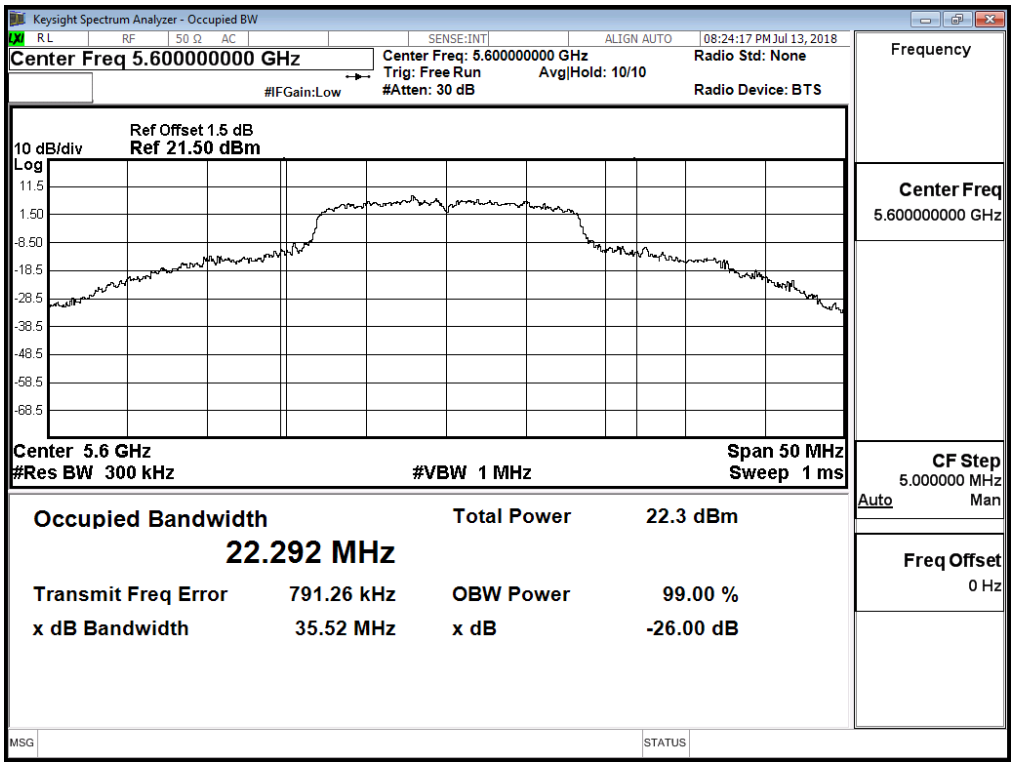
Channel 64: -Chain B



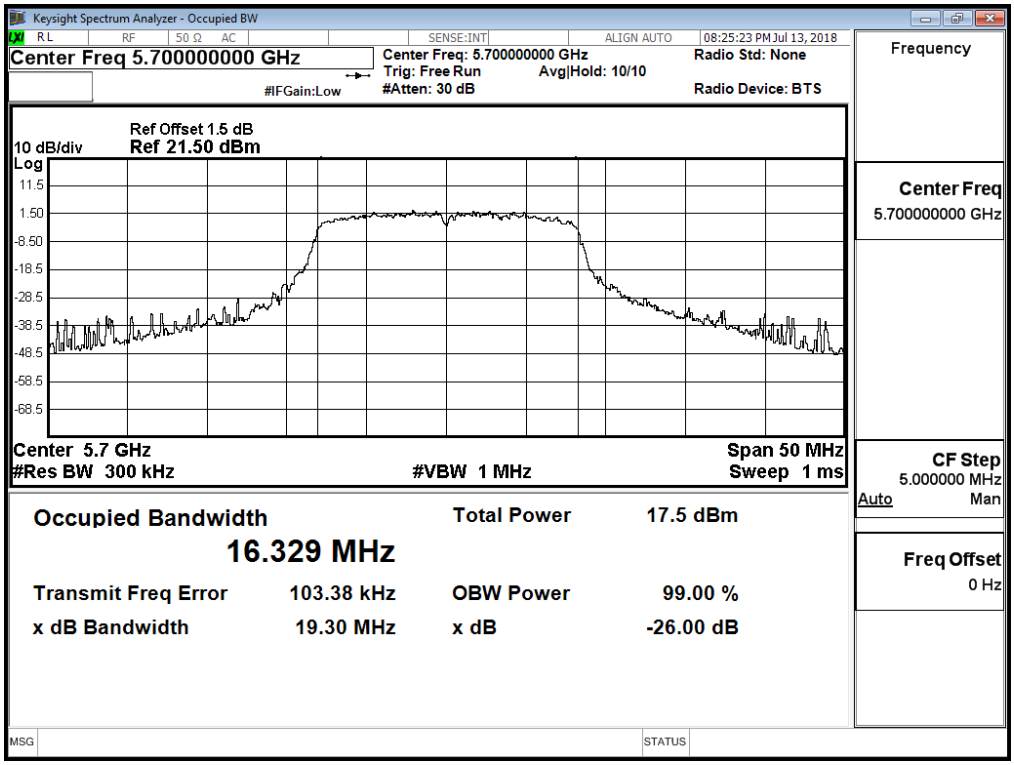
Channel 100: -Chain B



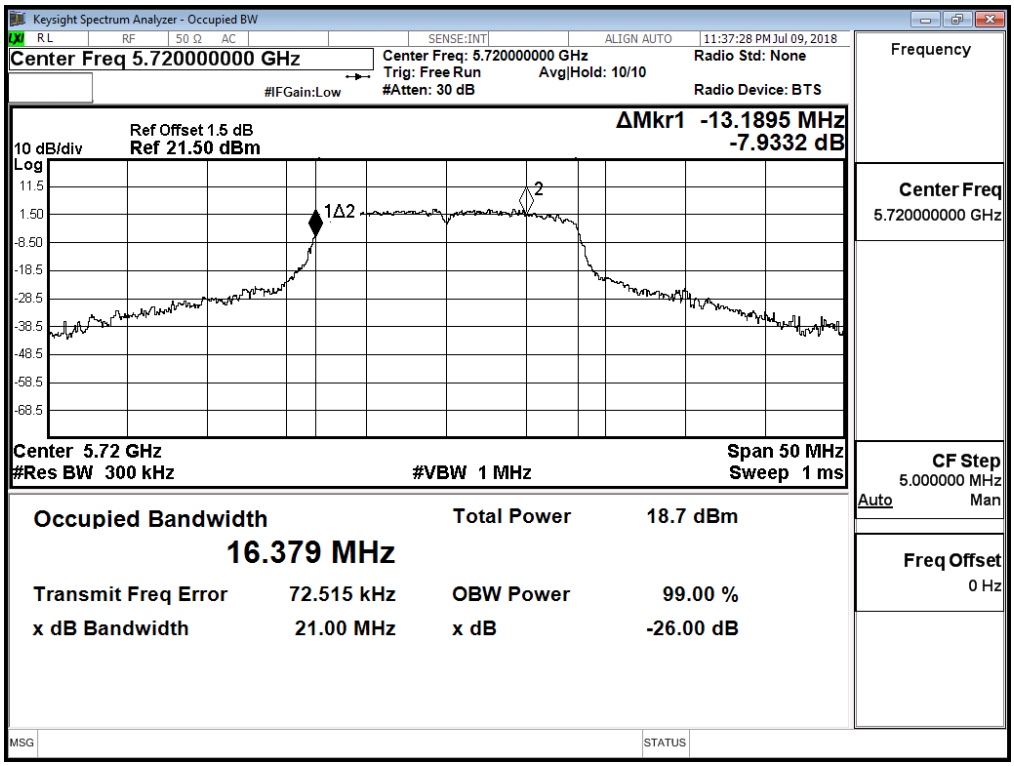
Channel 120: -Chain B



Channel 140: -Chain B



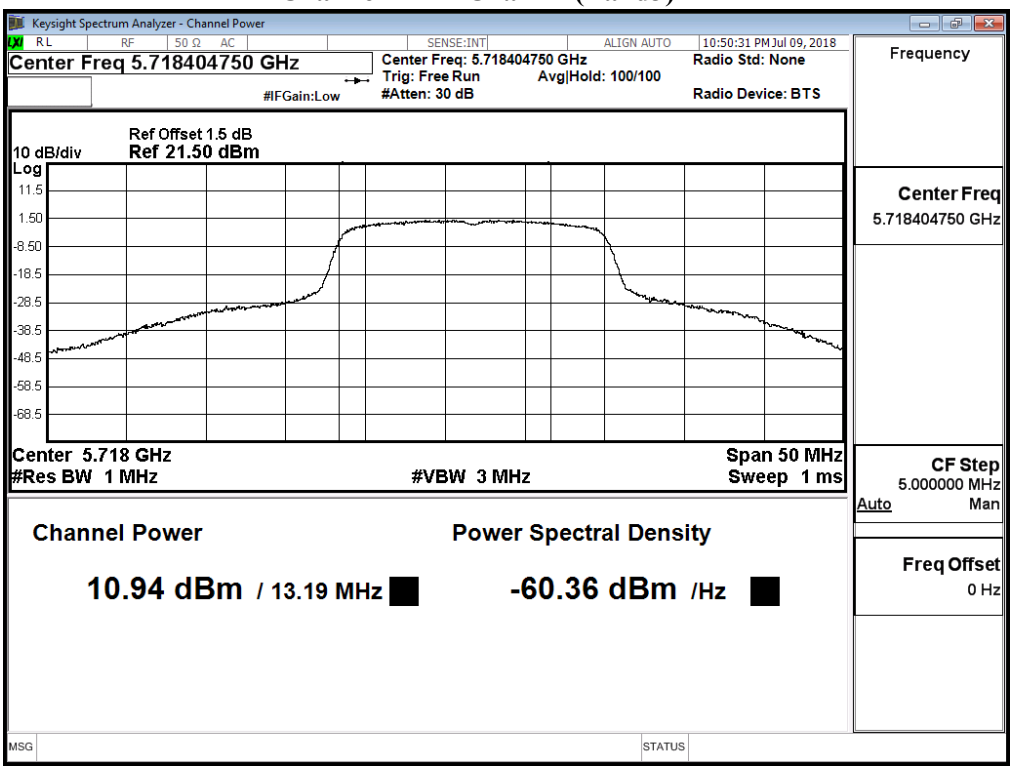
Channel 144: -Chain B



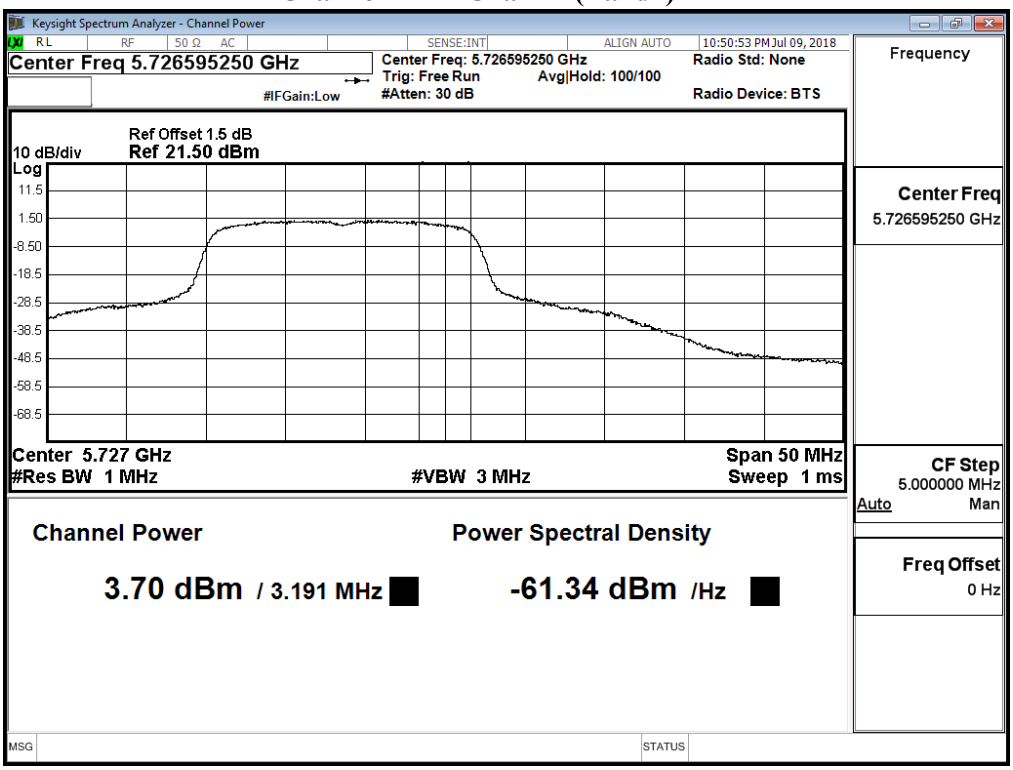
`

Maximum conducted output power:

Channel 144 – Chain A (Band3)

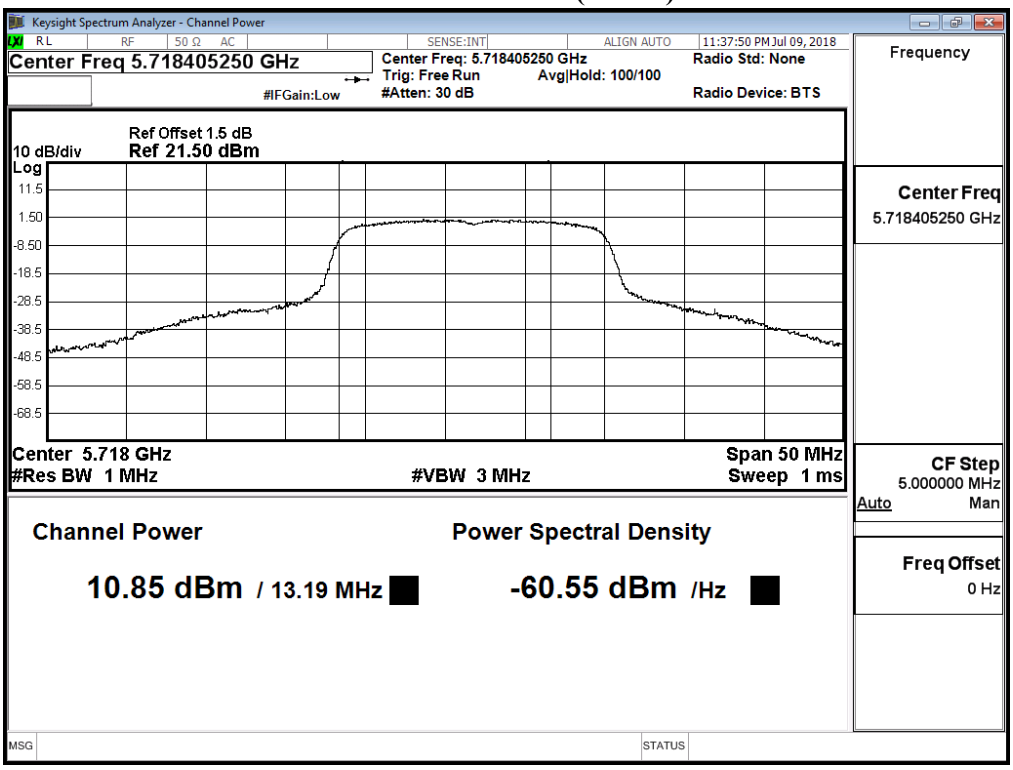


Channel 144 – Chain A (Band4)

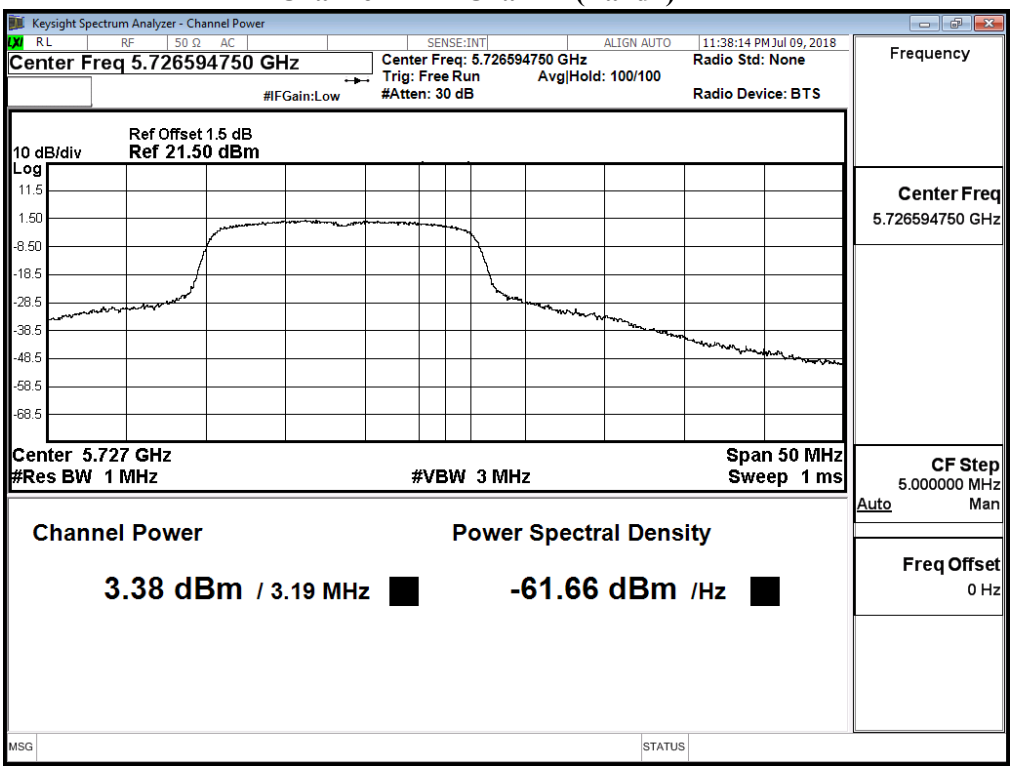


`

Channel 144 – Chain B (Band3)



Channel 144 – Chain B (Band4)



`

Product : WAH0001
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11ac-20BW)

CHAIN A

Cable loss=1dB		Maximum conducted output power									
Channel No.	Frequency (MHz)	Data Rate (Mbps)									Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	
		Measurement Level (dBm)									
36	5180	13.35	--	--	--	--	--	--	--	--	<24dBm
40	5200	15.65	15.62	15.57	15.53	15.49	15.47	15.42	15.38	15.32	<24dBm
48	5240	15.81	--	--	--	--	--	--	--	--	<24dBm
52	5260	16.05	--	--	--	--	--	--	--	--	<24dBm
60	5300	15.31	15.28	15.22	15.17	15.12	15.07	15.02	14.97	14.93	<24dBm
64	5320	12.9	--	--	--	--	--	--	--	--	<24dBm
100	5500	11.15	--	--	--	--	--	--	--	--	<24dBm
120	5600	15.02	14.98	14.95	14.91	14.89	14.85	14.82	14.77	14.73	<24dBm
140	5700	11.89	--	--	--	--	--	--	--	--	<24dBm
144(Band3)	5720	10.94	10.91	10.85	10.82	10.76	10.72	10.65	10.62	10.57	<24dBm
144(Band4)	5720	4.03	3.96	3.92	3.86	3.83	3.77	3.73	3.67	3.63	<30dBm
149	5745	11.58	--	--	--	--	--	--	--	--	<30dBm
157	5785	14.46	14.43	14.38	14.36	14.32	14.29	14.24	14.2	14.15	<30dBm
165	5825	13.08	--	--	--	--	--	--	--	--	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

CHAIN B

Cable loss=1dB		Maximum conducted output power									
Channel No.	Frequency (MHz)	Data Rate (Mbps)									Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	
		Measurement Level (dBm)									
36	5180	12.42	--	--	--	--	--	--	--	--	<24dBm
40	5200	14.83	14.79	14.74	14.71	14.68	14.64	14.61	14.58	14.54	<24dBm
48	5240	14.76	--	--	--	--	--	--	--	--	<24dBm
52	5260	15.02	--	--	--	--	--	--	--	--	<24dBm
60	5300	14.42	14.38	14.35	14.31	14.28	14.25	14.21	14.18	14.13	<24dBm
64	5320	11.47	--	--	--	--	--	--	--	--	<24dBm
100	5500	10.82	--	--	--	--	--	--	--	--	<24dBm
120	5600	15.49	15.46	15.42	15.39	15.35	15.32	15.29	15.25	15.21	<24dBm
140	5700	12.94	--	--	--	--	--	--	--	--	<24dBm
144(Band3)	5720	11.00	10.94	10.92	10.87	10.83	10.77	10.72	10.68	10.64	<24dBm
144(Band4)	5720	3.96	3.92	3.85	3.81	3.76	3.72	3.66	3.62	3.57	<30dBm
149	5745	12.97	--	--	--	--	--	--	--	--	<30dBm
157	5785	15.89	15.86	15.82	15.77	15.76	15.72	15.69	15.64	15.61	<30dBm
165	5825	14.03	--	--	--	--	--	--	--	--	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

(CHAIN A+ B)

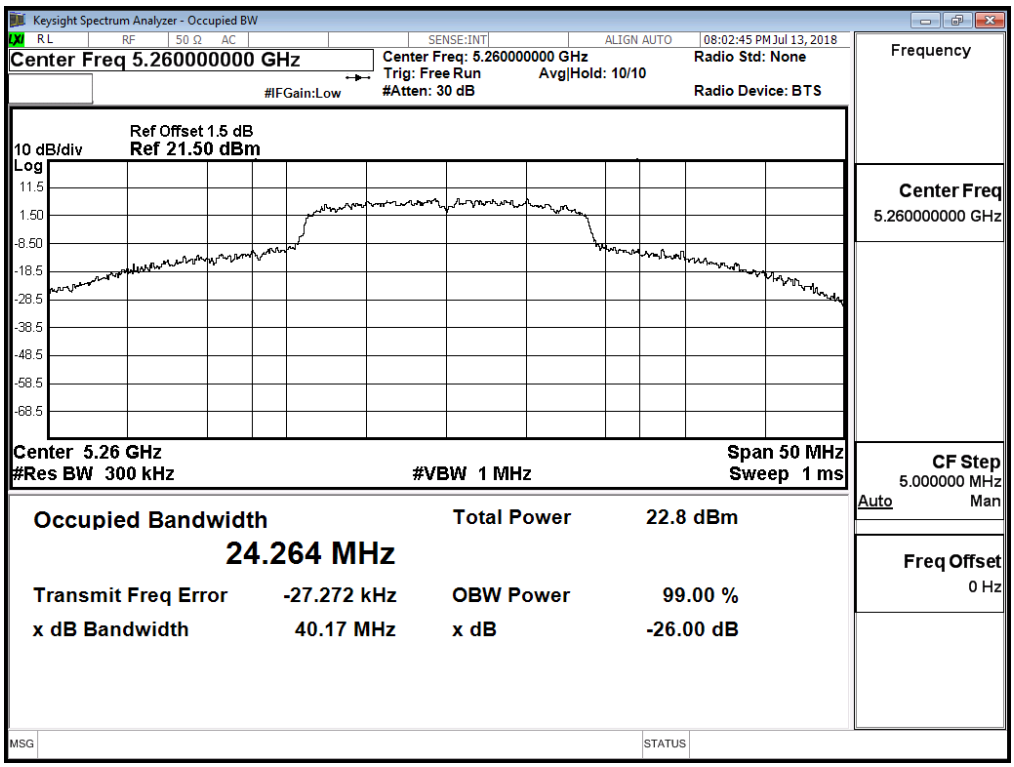
Channel Number	Frequency	99% Bandwidth	Chain A Power	Chain B Power	Output Power	Output Power Limit	
	(MHz)	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	dBm+10log(BW)
36	5180		13.35	12.42	15.92	24	
40	5200		15.65	14.83	18.27	24	
48	5240		15.81	14.76	18.33	24	
52	5260	20.346	16.05	15.02	18.58	24	24.08
60	5300	17.940	15.31	14.42	17.90	24	23.54
64	5320	17.456	12.90	11.47	15.25	24	23.42
100	5500	17.415	11.15	10.82	14.00	24	23.41
120	5600	21.688	15.02	15.49	18.27	24	24.36
140	5700	17.472	11.89	12.94	15.46	24	23.42
144(Band3)	5720	13.721	10.94	11.00	13.98	24	22.37
144(Band4)	5720		4.03	3.96	7.01	30	
149	5745		11.58	12.97	15.34	30	
157	5785		14.46	15.89	18.24	30	
165	5825		13.08	14.03	16.59	30	

Note:

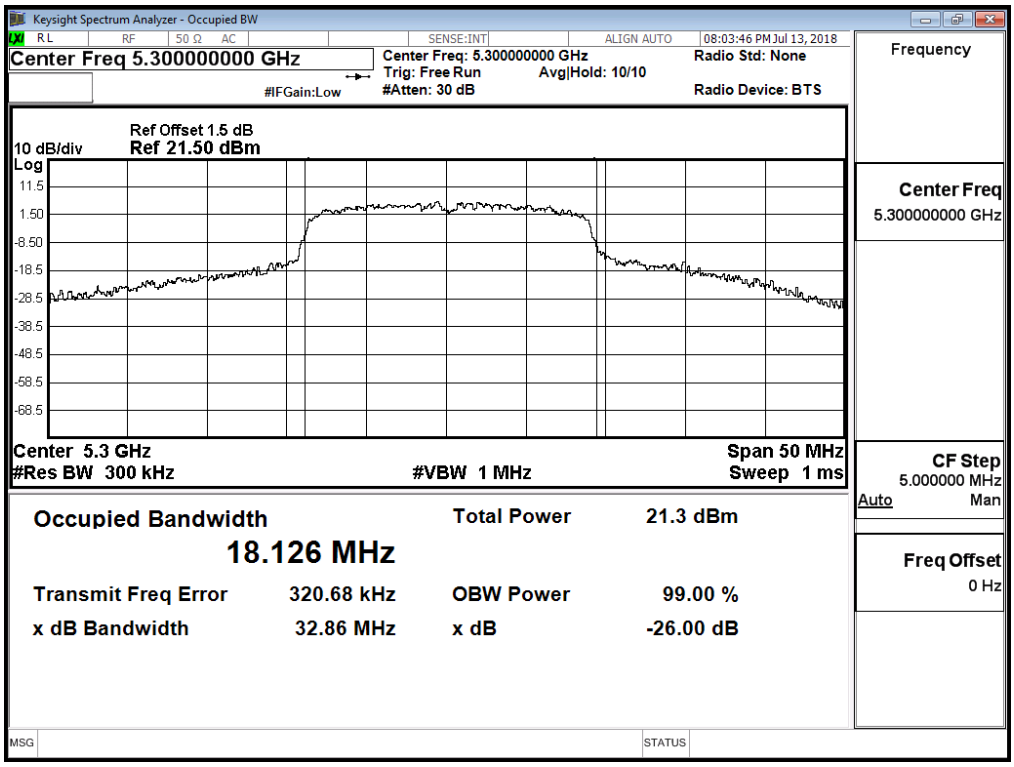
1. Power Output Value =Reading value on average power meter + cable loss
2. 99% Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.

`

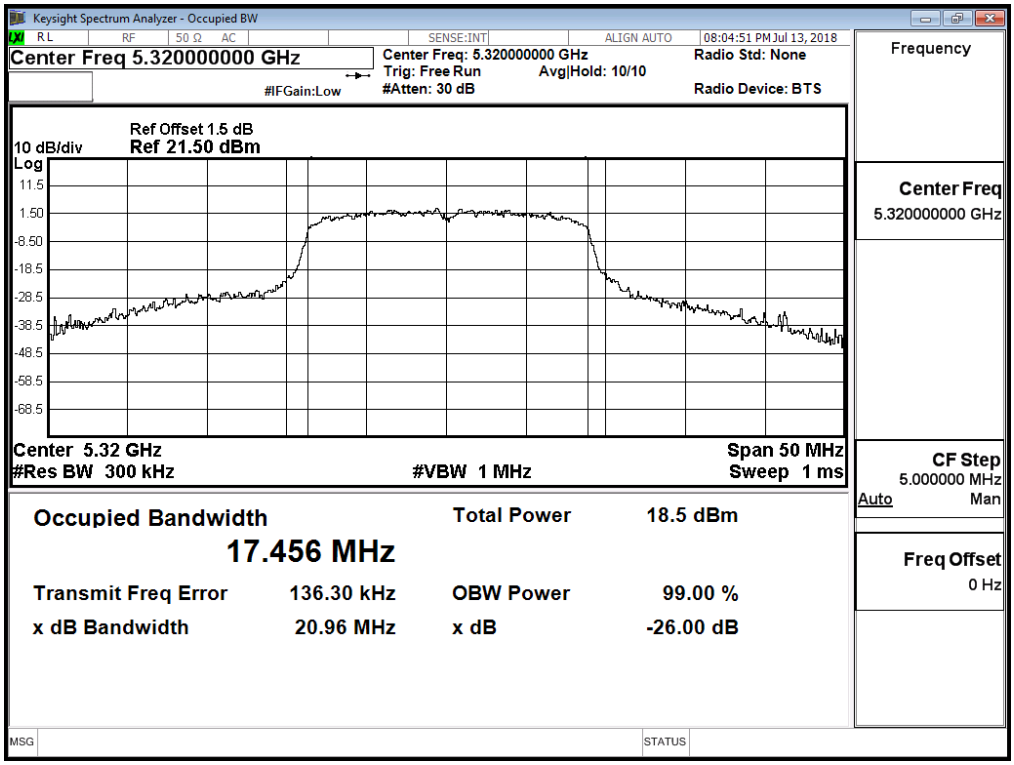
99% Occupied Bandwidth:
Channel 52: -Chain A



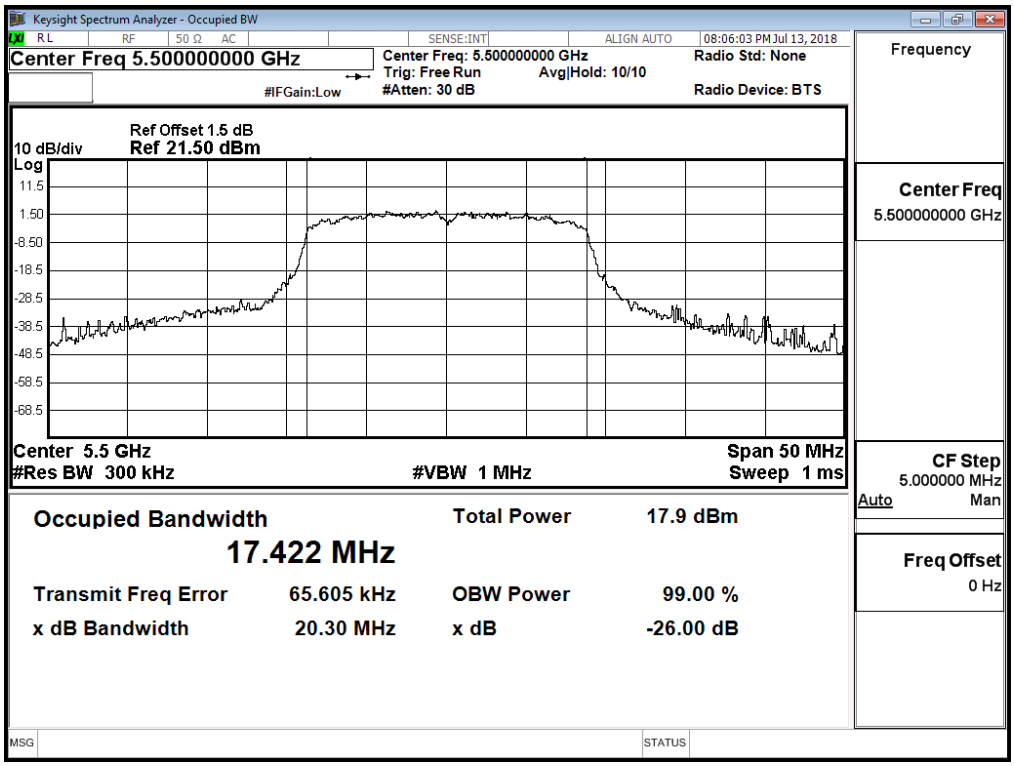
Channel 60: -Chain A



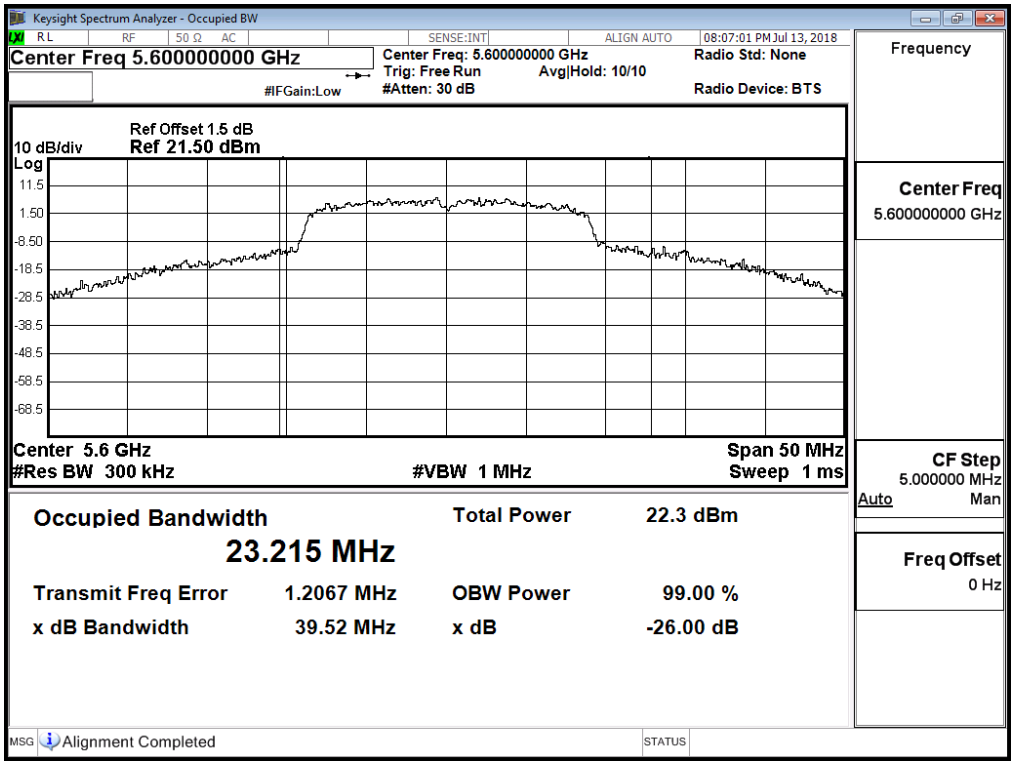
Channel 64: -Chain A



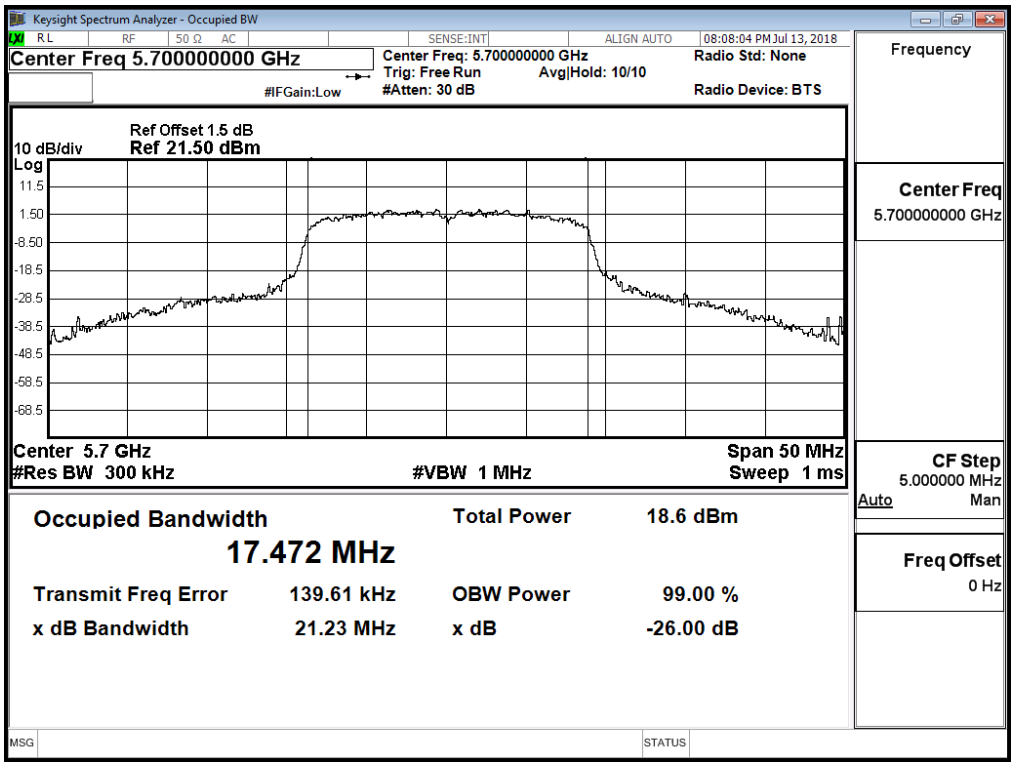
Channel 100: -Chain A



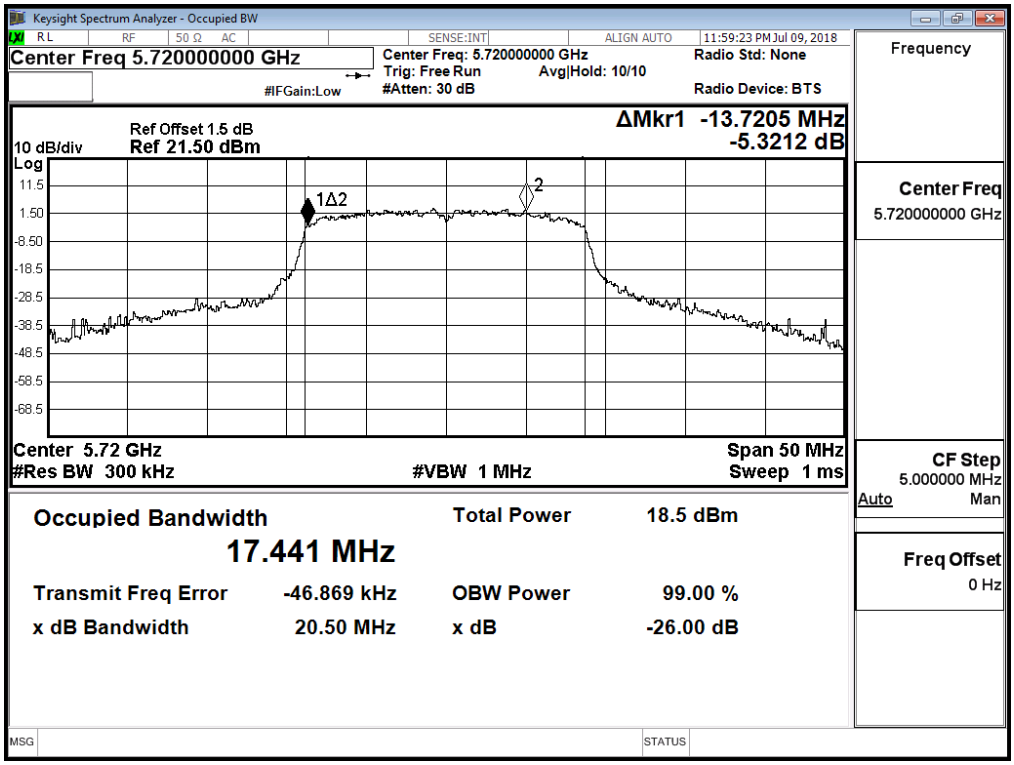
Channel 120: -Chain A



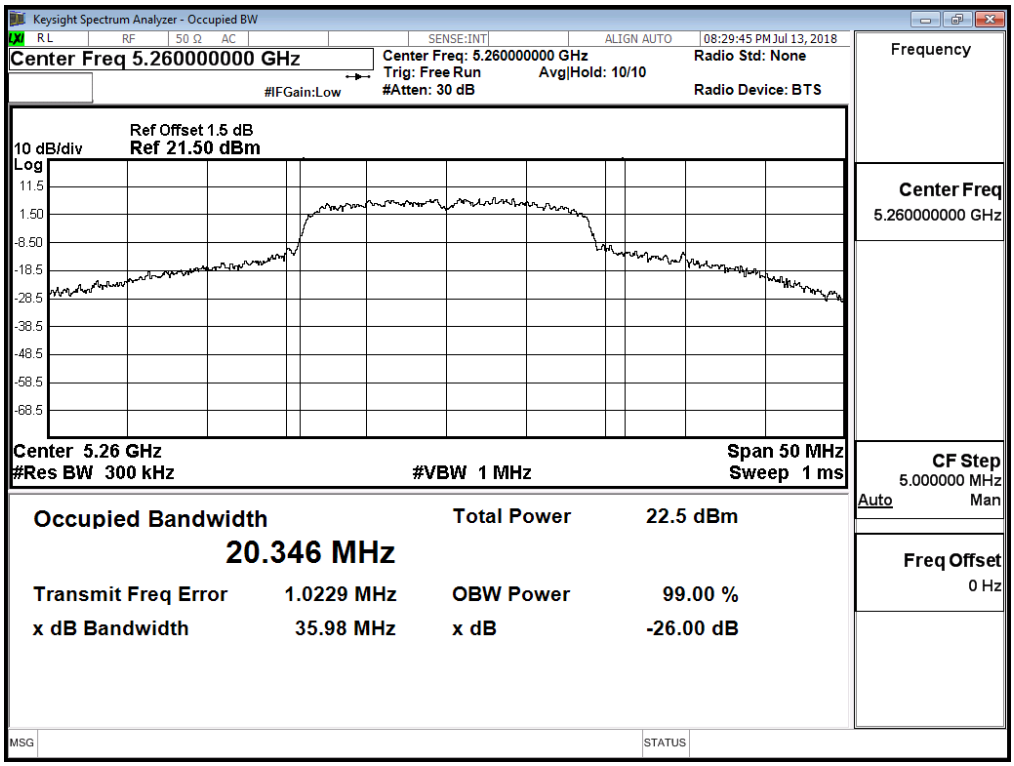
Channel 140: -Chain A



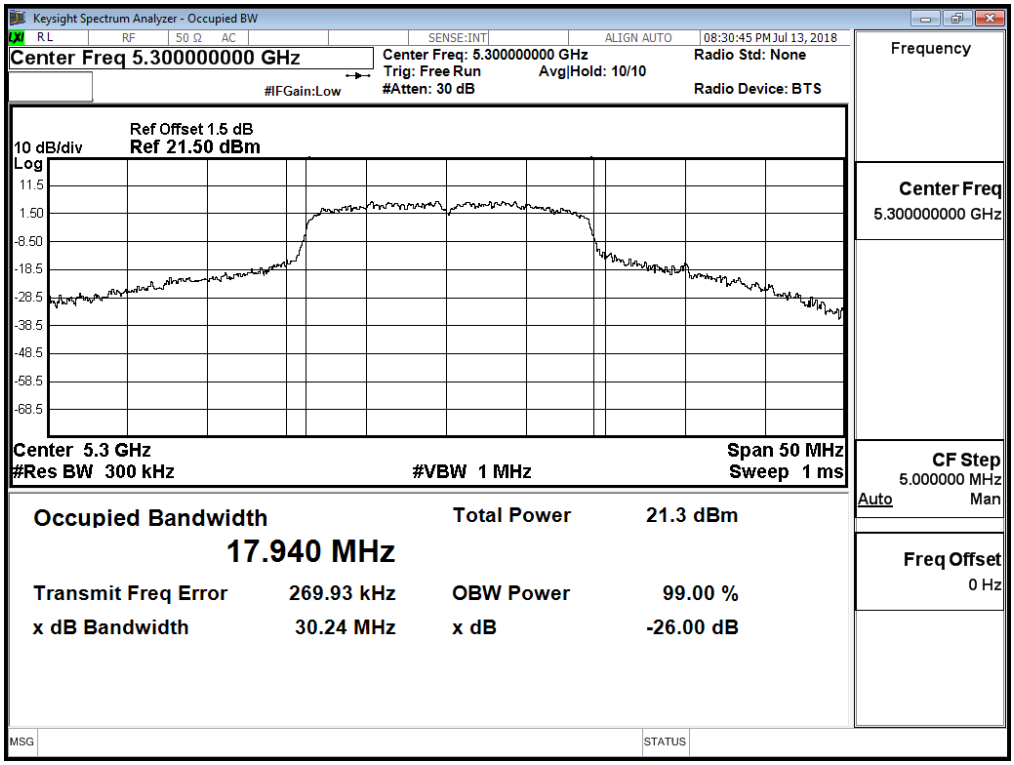
Channel 144: -Chain A



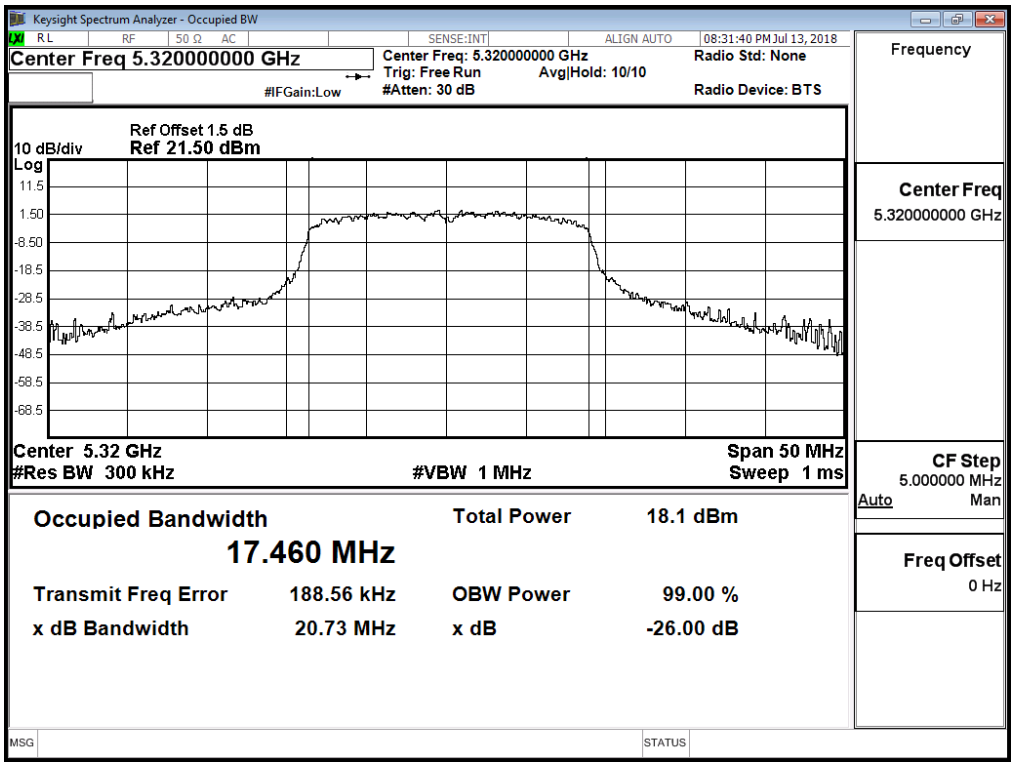
99% Occupied Bandwidth:
Channel 52: -Chain B



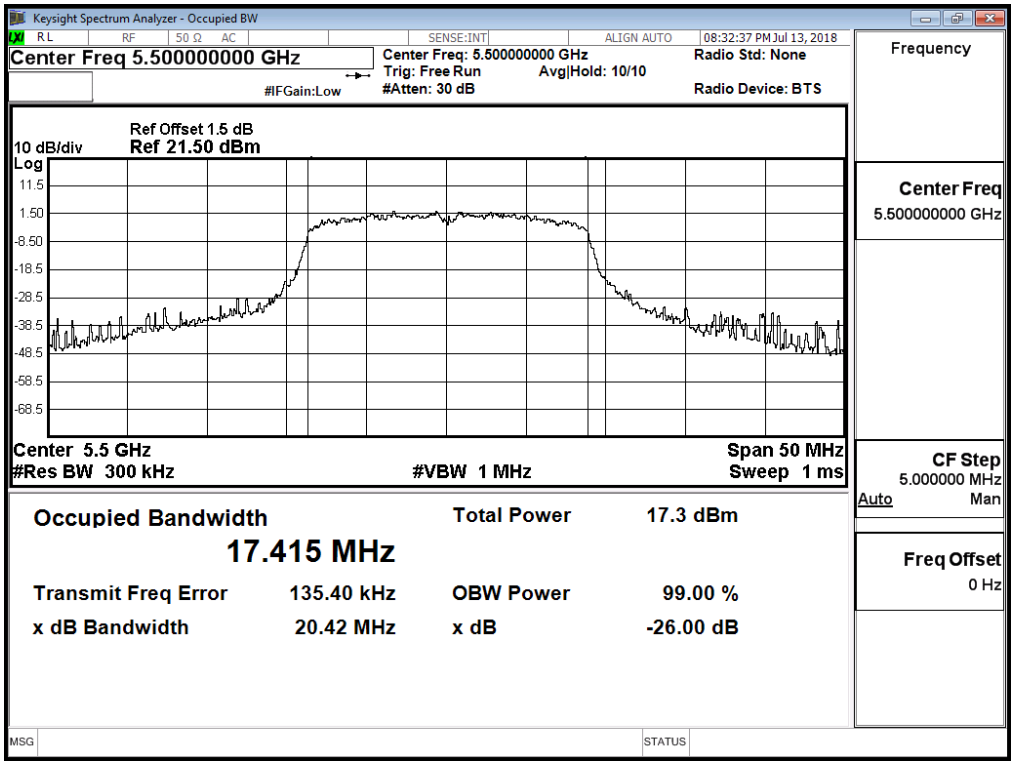
Channel 60: -Chain B



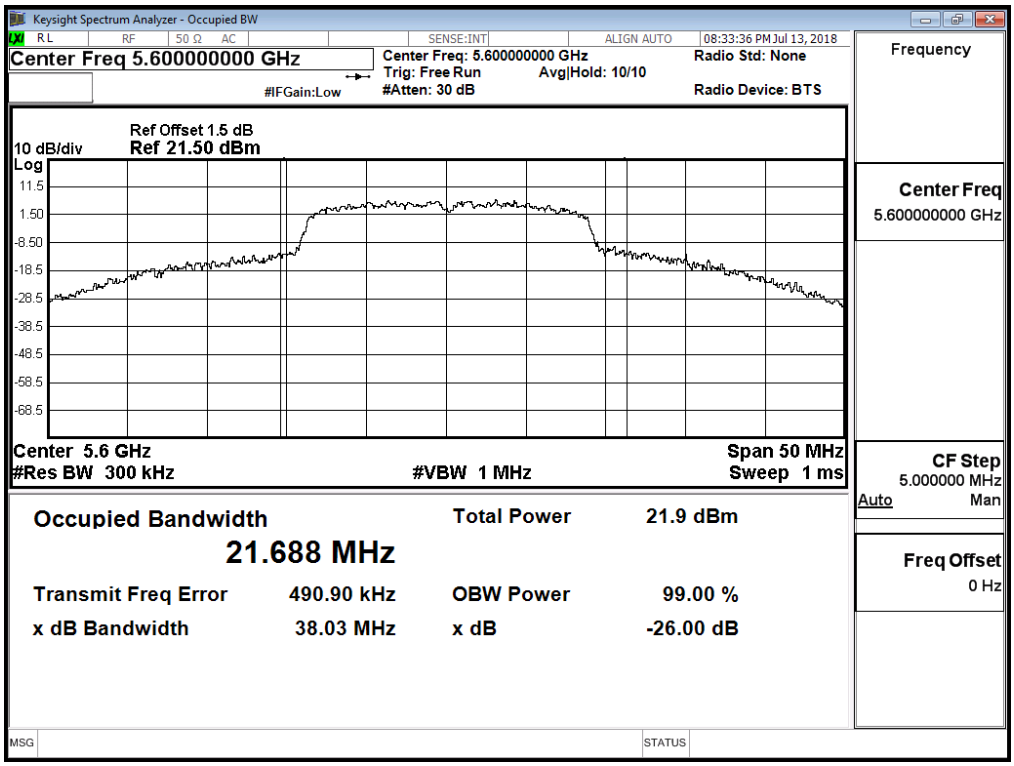
Channel 64: -Chain B



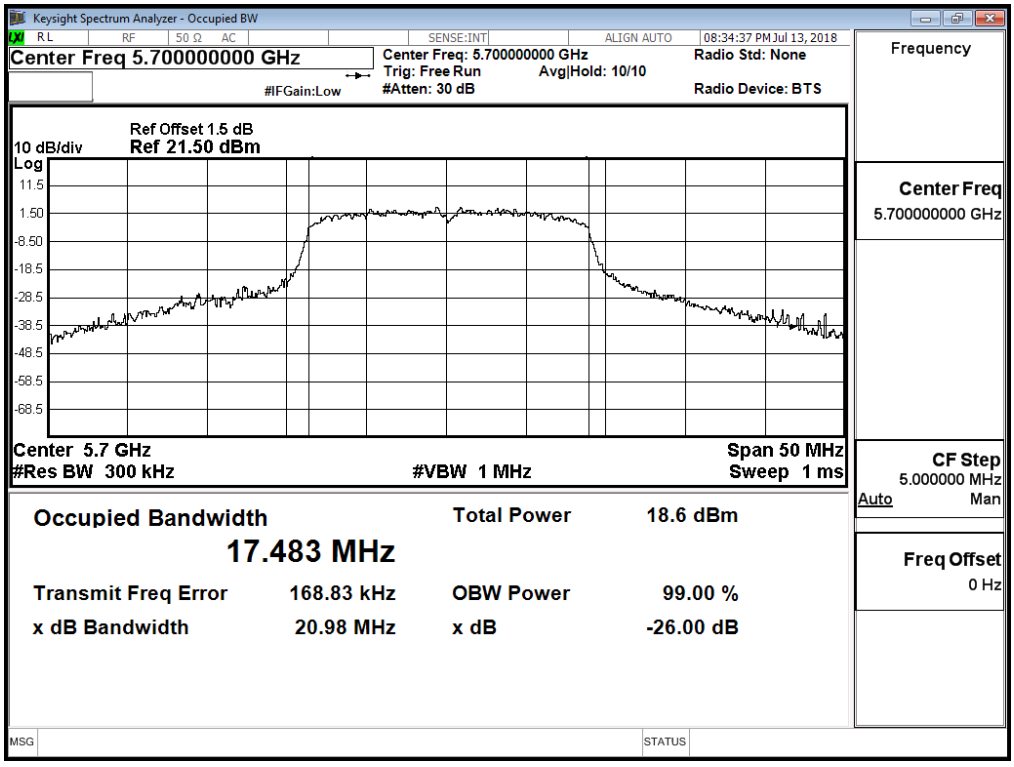
Channel 100: -Chain B



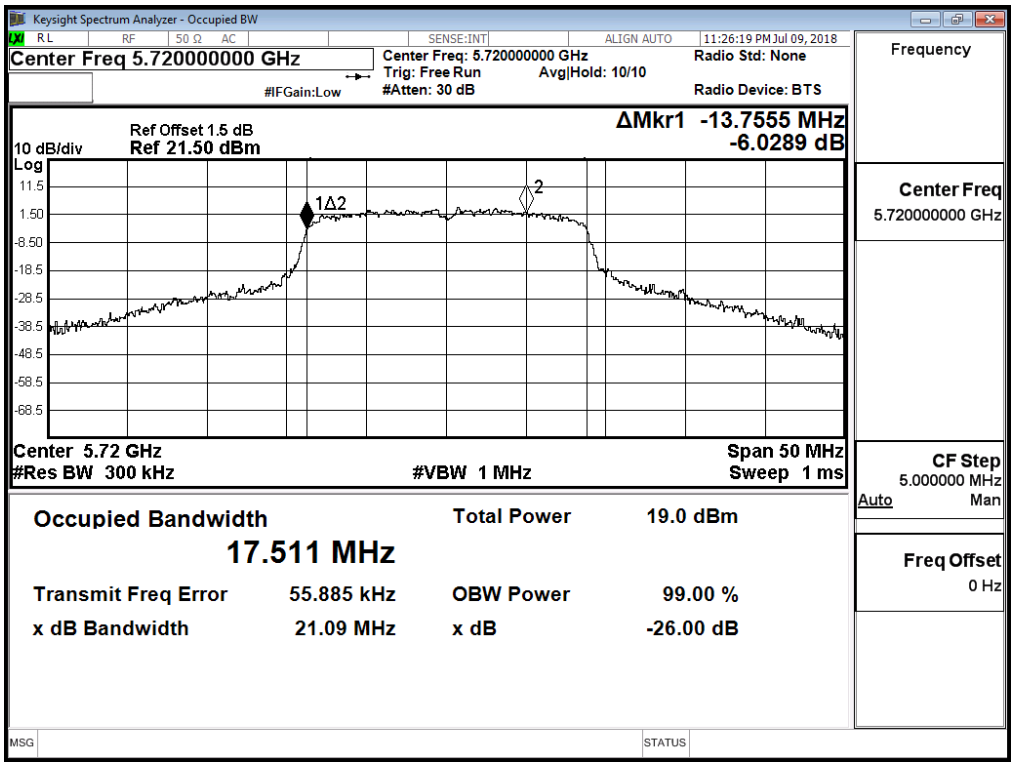
Channel 120: -Chain B



Channel 140: -Chain B



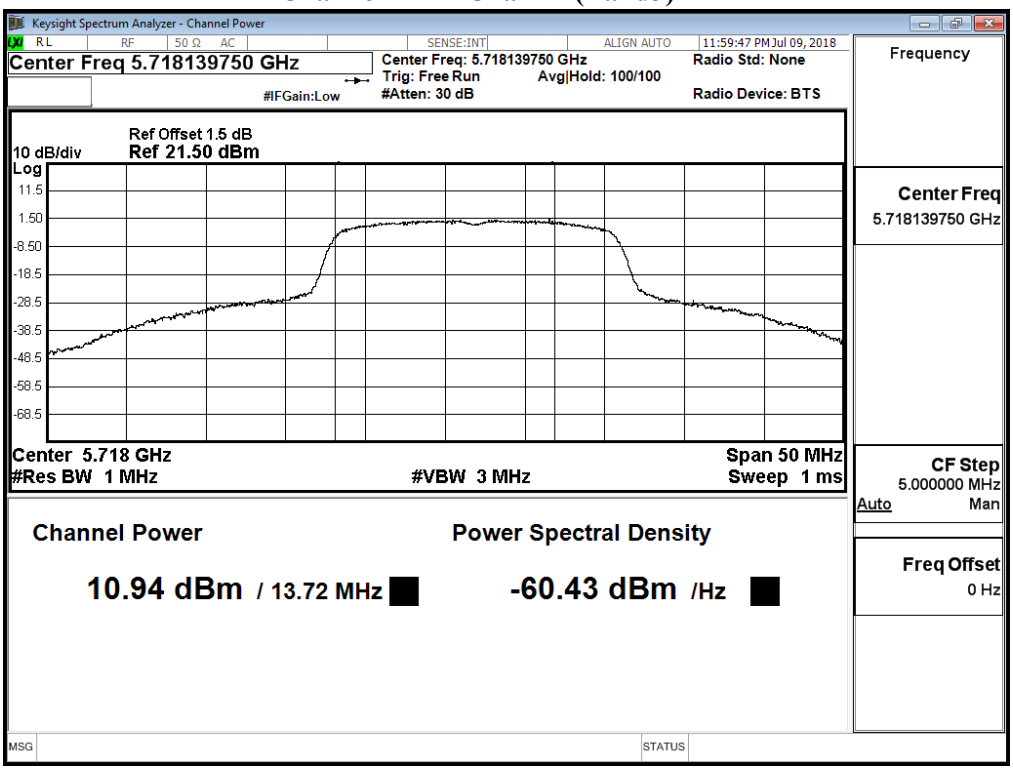
Channel 144: -Chain B



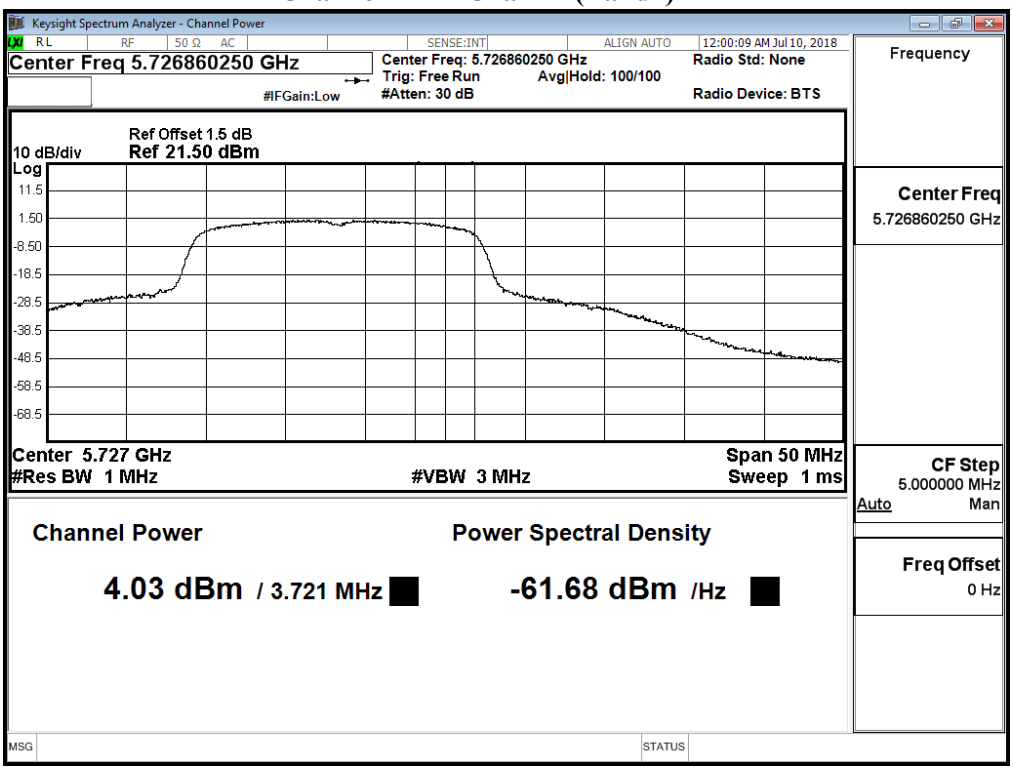
`

Maximum conducted output power:

Channel 144 – Chain A (Band3)

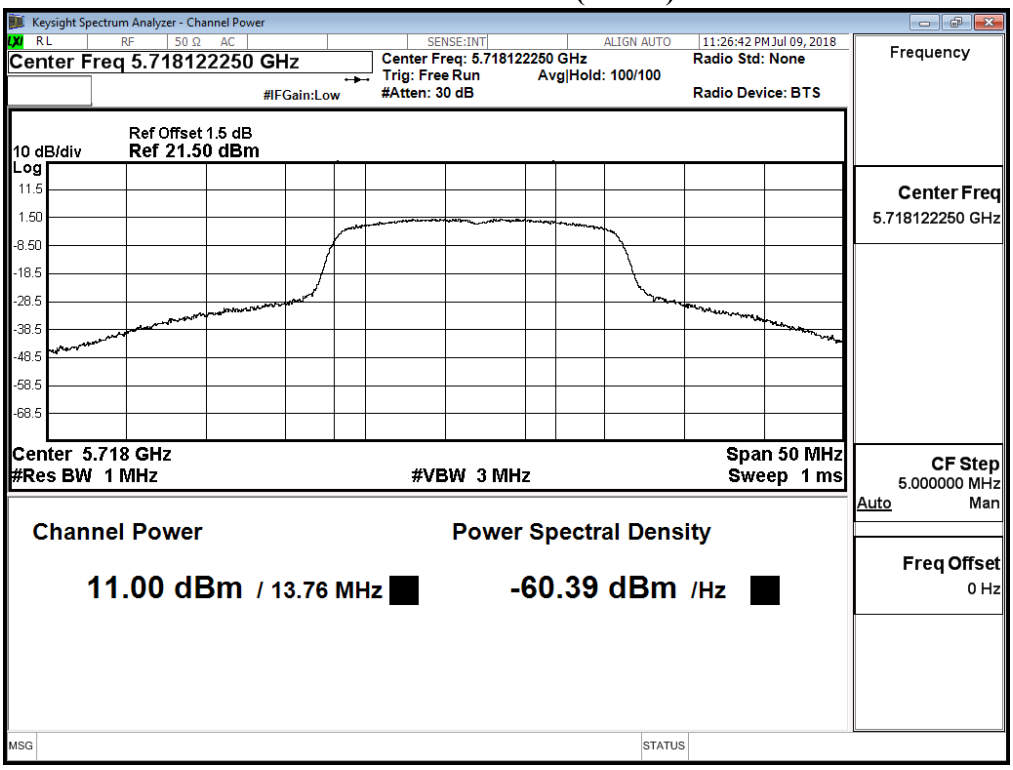


Channel 144 – Chain A (Band4)

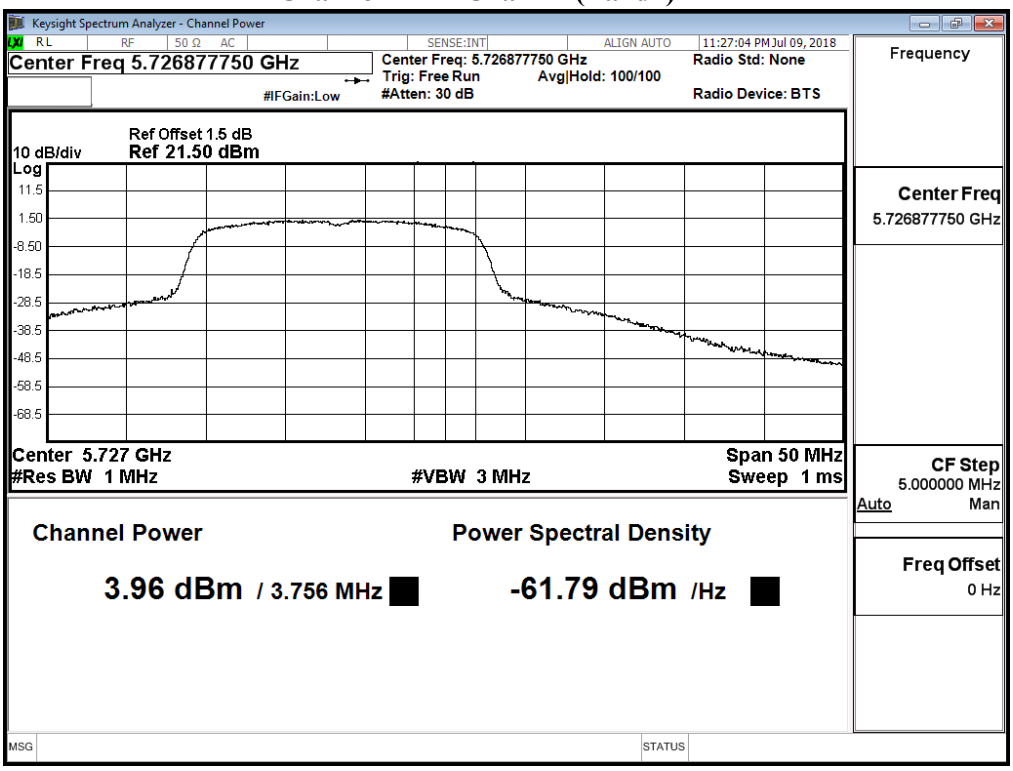


`

Channel 144 – Chain B (Band3)



Channel 144 – Chain B (Band4)



、 Product : WAH0001
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11ac-40BW)

CHAIN A

Cable loss=1dB		Maximum conducted output power									
Channel No.	Frequency (MHz)	Data Rate (Mbps)									Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	
		Measurement Level (dBm)									
38	5190	9.52	--	--	--	--	--	--	--	--	<24dBm
46	5230	15.02	14.97	14.94	14.91	14.87	14.82	14.79	14.75	14.71	<24dBm
54	5270	15.07	--	--	--	--	--	--	--	--	<24dBm
62	5310	10.56	10.53	10.49	10.47	10.43	10.41	10.37	10.34	10.3	<24dBm
102	5510	9.13	--	--	--	--	--	--	--	--	<24dBm
118	5590	14.19	14.16	14.11	14.08	14.03	14.01	13.97	13.95	13.91	<24dBm
134	5670	11.41	--	--	--	--	--	--	--	--	<24dBm
142F(Band3)	5710	10.47	10.43	10.41	10.37	10.32	10.29	10.25	10.21	10.17	<24dBm
142F(Band4)	5710	-2.77	-2.83	-2.86	-2.89	-2.94	-2.97	-3.01	-3.05	-3.09	<30dBm
151	5755	9.06	--	--	--	--	--	--	--	--	<30dBm
159	5795	13.16	13.12	13.09	13.07	13.02	12.99	12.96	12.91	12.87	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

CHAIN B

Cable loss=1dB		Maximum conducted output power									
Channel No.	Frequency (MHz)	Data Rate (Mbps)									Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	
		Measurement Level (dBm)									
38	5190	8.27	--	--	--	--	--	--	--	--	<24dBm
46	5230	13.64	13.62	13.58	13.55	13.51	13.47	13.42	13.38	13.34	<24dBm
54	5270	13.72	--	--	--	--	--	--	--	--	<24dBm
62	5310	9.21	9.18	9.14	9.11	9.07	9.03	9.01	8.96	8.93	<24dBm
102	5510	8.65	--	--	--	--	--	--	--	--	<24dBm
118	5590	14.49	14.45	14.42	14.39	14.35	14.33	14.29	14.26	14.21	<24dBm
134	5670	11.97	--	--	--	--	--	--	--	--	<24dBm
142F(Band3)	5710	10.36	10.32	10.27	10.23	10.17	10.13	10.07	10.01	9.95	<24dBm
142F(Band4)	5710	-2.39	-2.43	-2.47	-2.53	-2.57	-2.62	-2.67	-2.73	-2.75	<30dBm
151	5755	9.24	--	--	--	--	--	--	--	--	<30dBm
159	5795	13.21	13.17	13.15	13.11	13.08	13.04	13.01	12.96	12.91	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

(CHAIN A+ B)

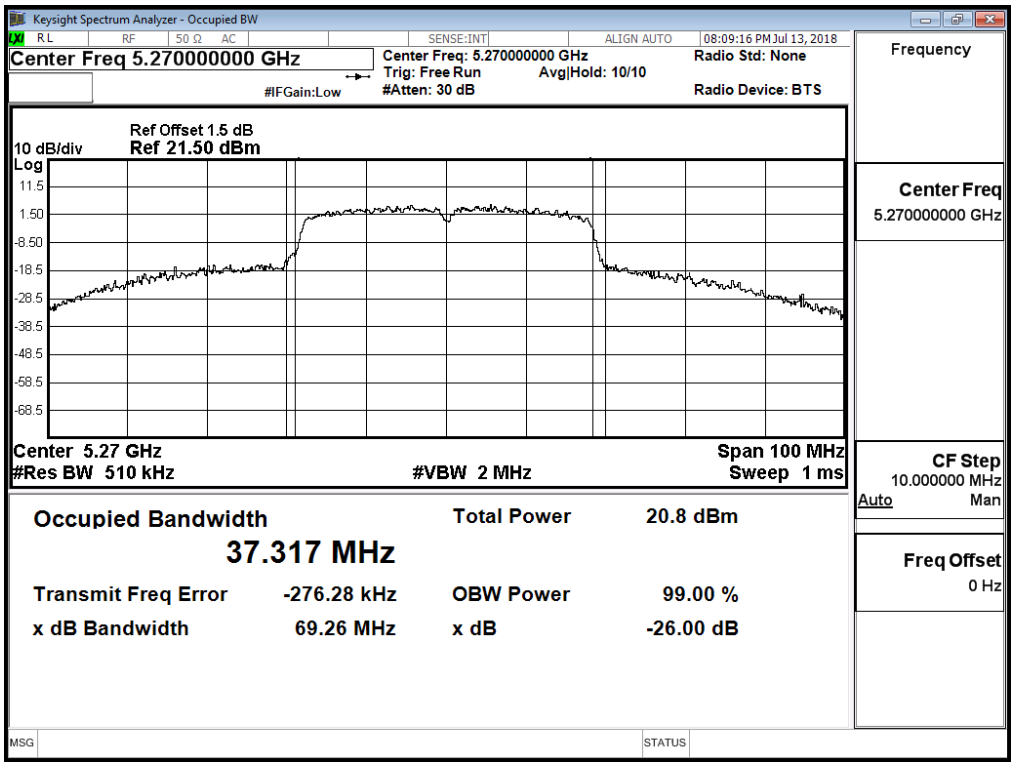
Channel Number	Frequency	99% Bandwidth	Chain A Power	Chain B Power	Output Power	Output Power Limit	
	(MHz)	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	dBm+10log(BW)
38	5190		9.52	8.27	11.95	24	
46	5230		15.02	13.64	17.39	24	
54	5270	36.297	15.07	13.72	17.46	24	26.60
62	5310	35.848	10.56	9.21	12.95	24	26.54
102	5510	35.830	9.13	8.65	11.91	24	26.54
118	5590	36.452	14.19	14.49	17.35	24	26.62
134	5670	35.925	11.41	11.97	14.71	24	26.55
142F(Band3)	5710	32.909	10.47	10.36	13.43	24	26.17
142F(Band4)	5710		-2.77	-2.39	0.43	30	
151	5755		9.06	9.24	12.16	30	
159	5795		13.16	13.21	16.20	30	

Note:

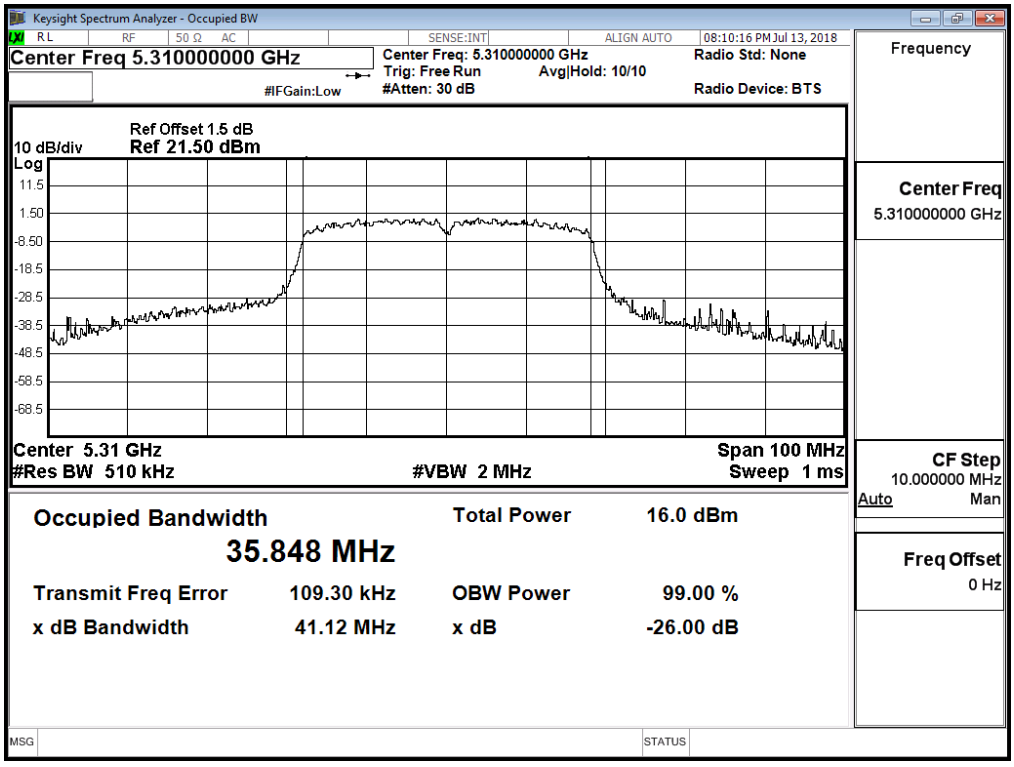
1. Power Output Value =Reading value on average power meter + cable loss
2. 99% Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.

`

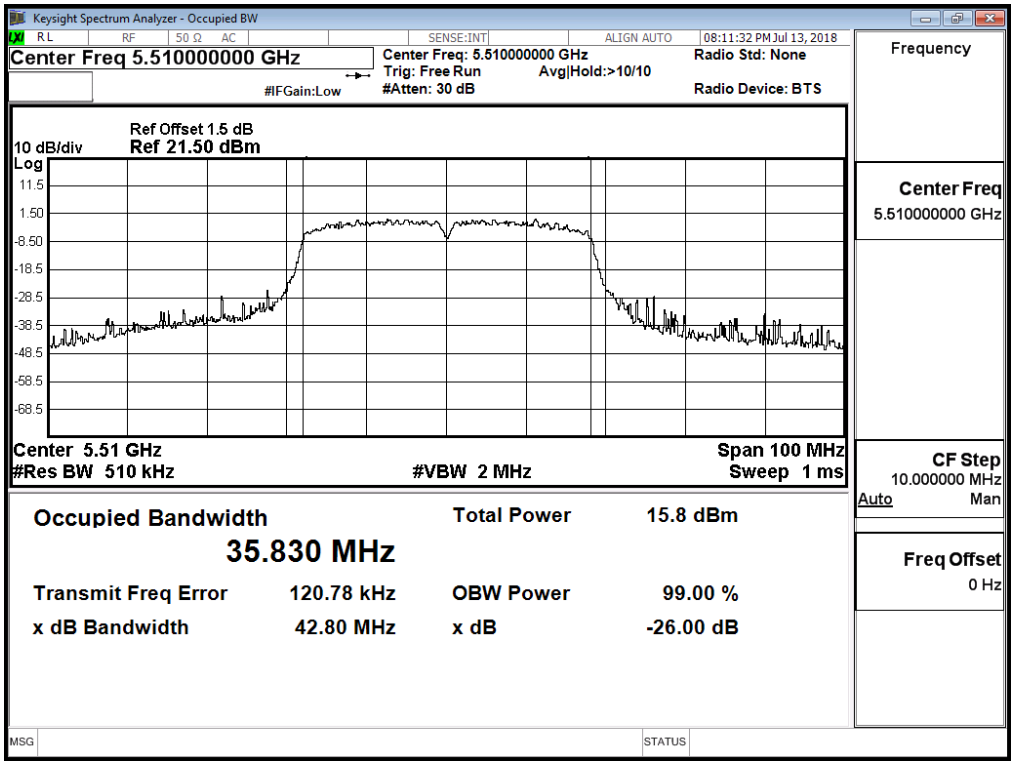
99% Occupied Bandwidth:
Channel 54: -Chain A



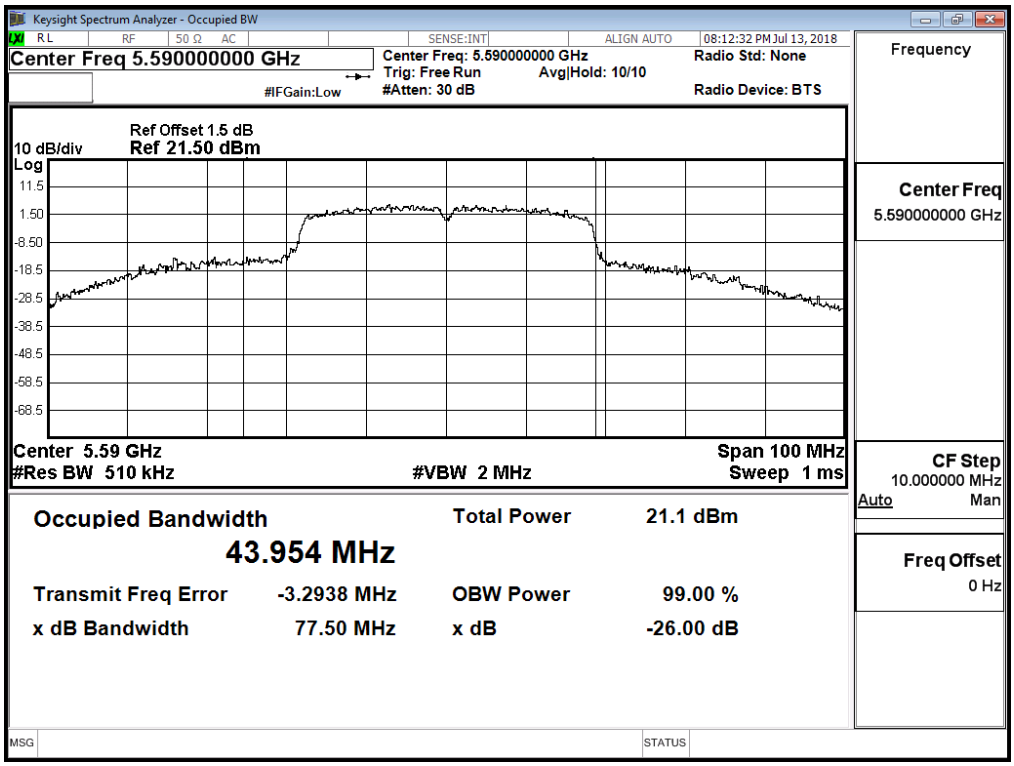
Channel 62: -Chain A



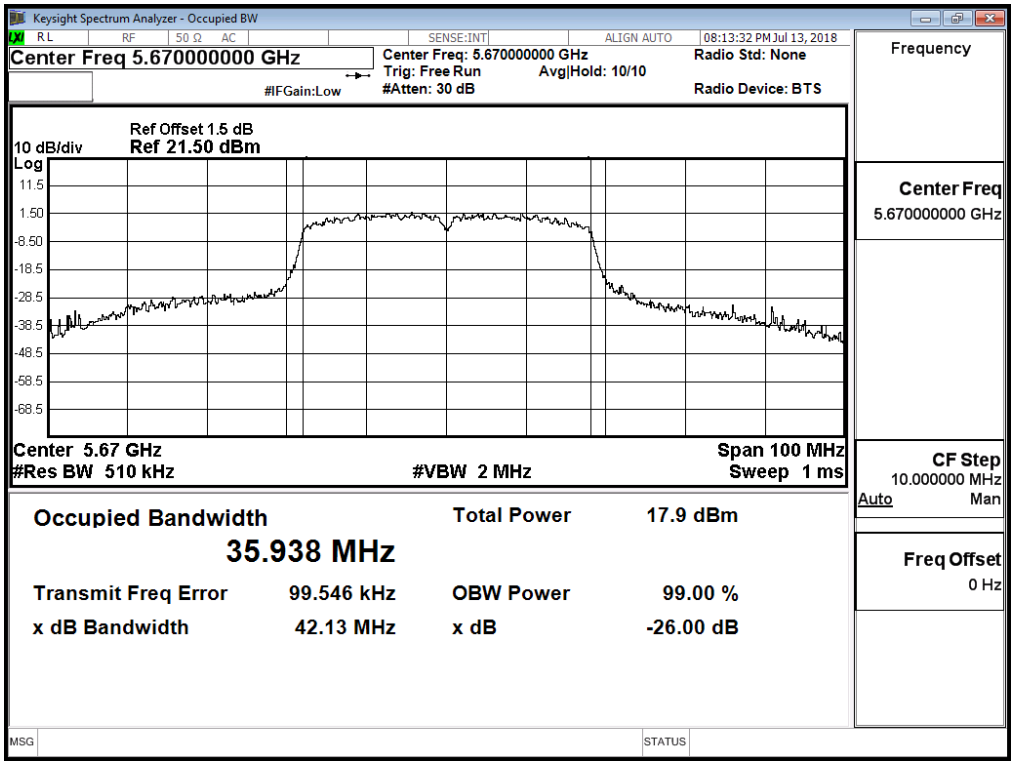
Channel 102: -Chain A



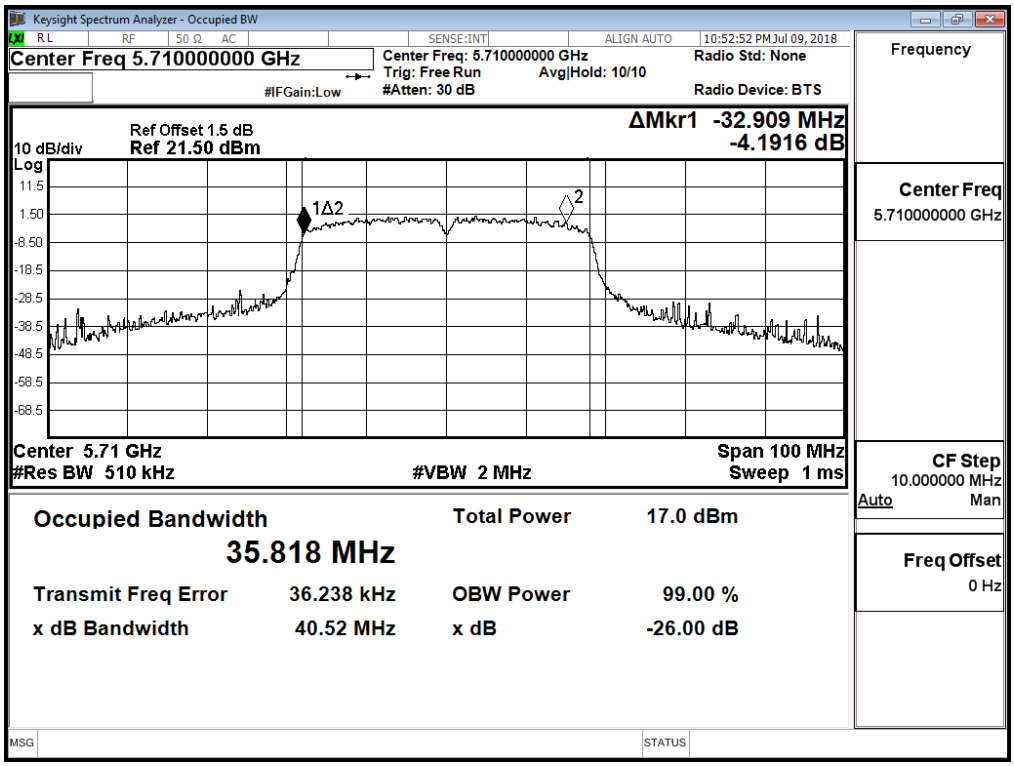
Channel 118: -Chain A



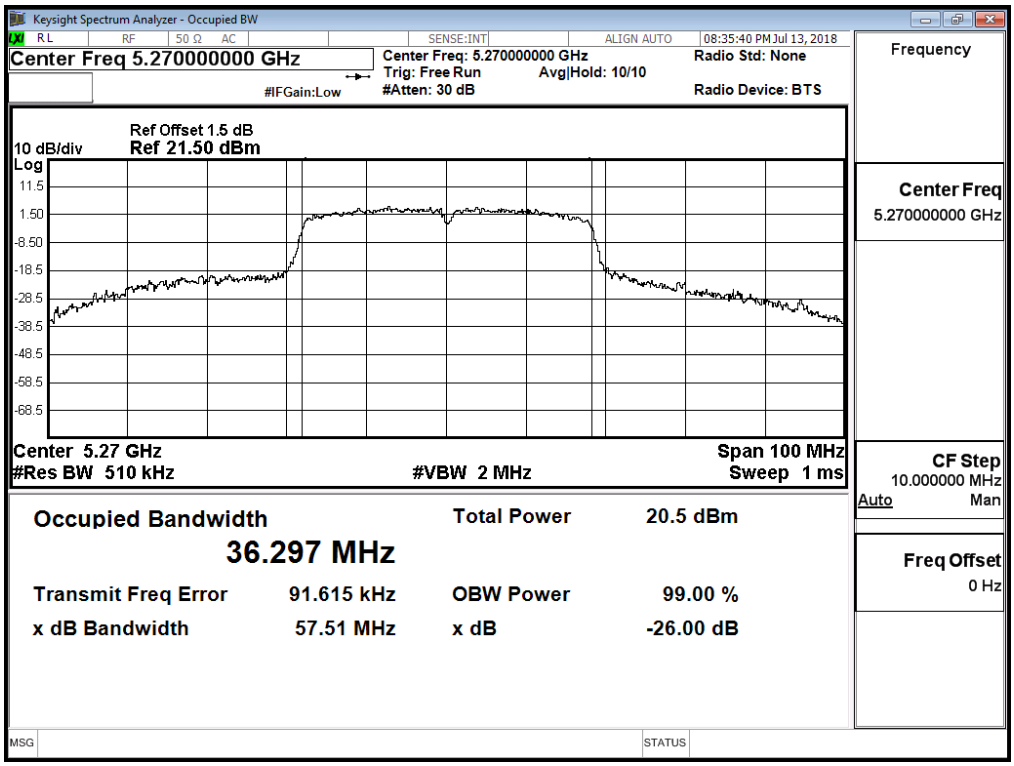
Channel 134: -Chain A



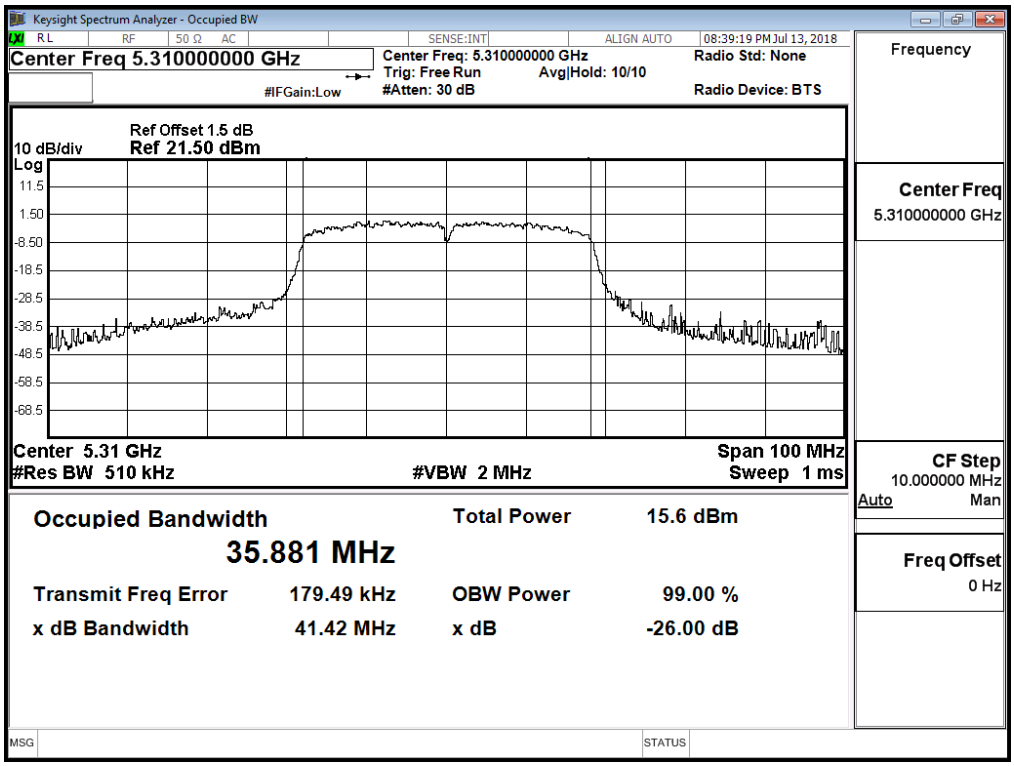
Channel 142F: -Chain A



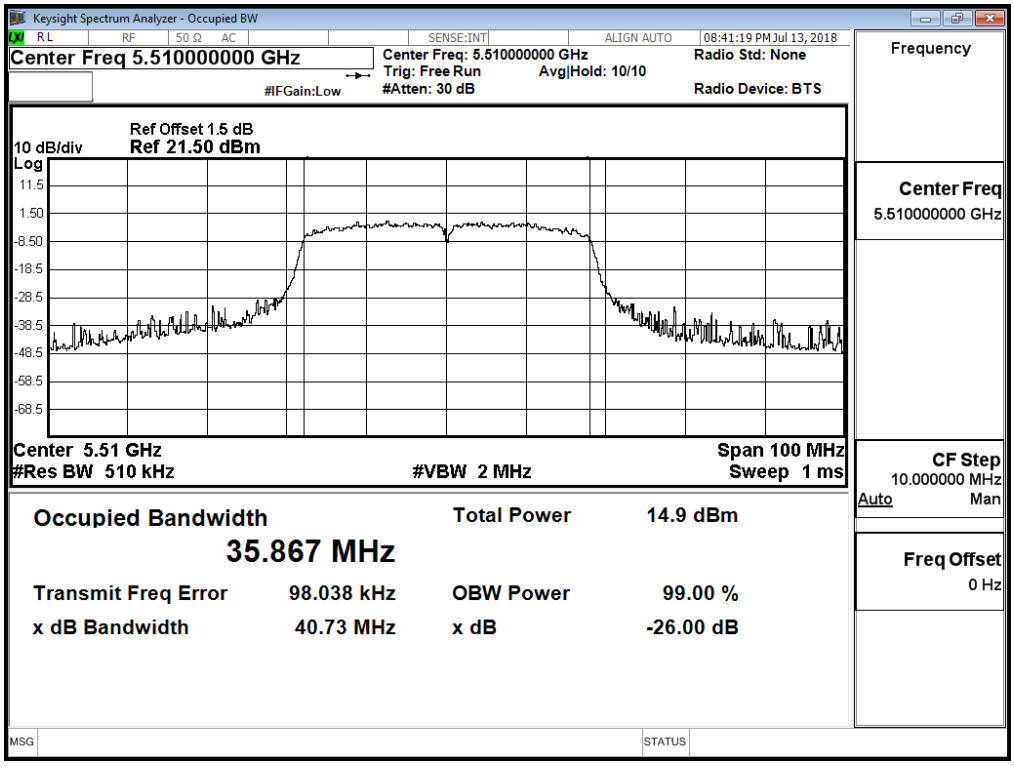
99% Occupied Bandwidth:
Channel 54: -Chain B



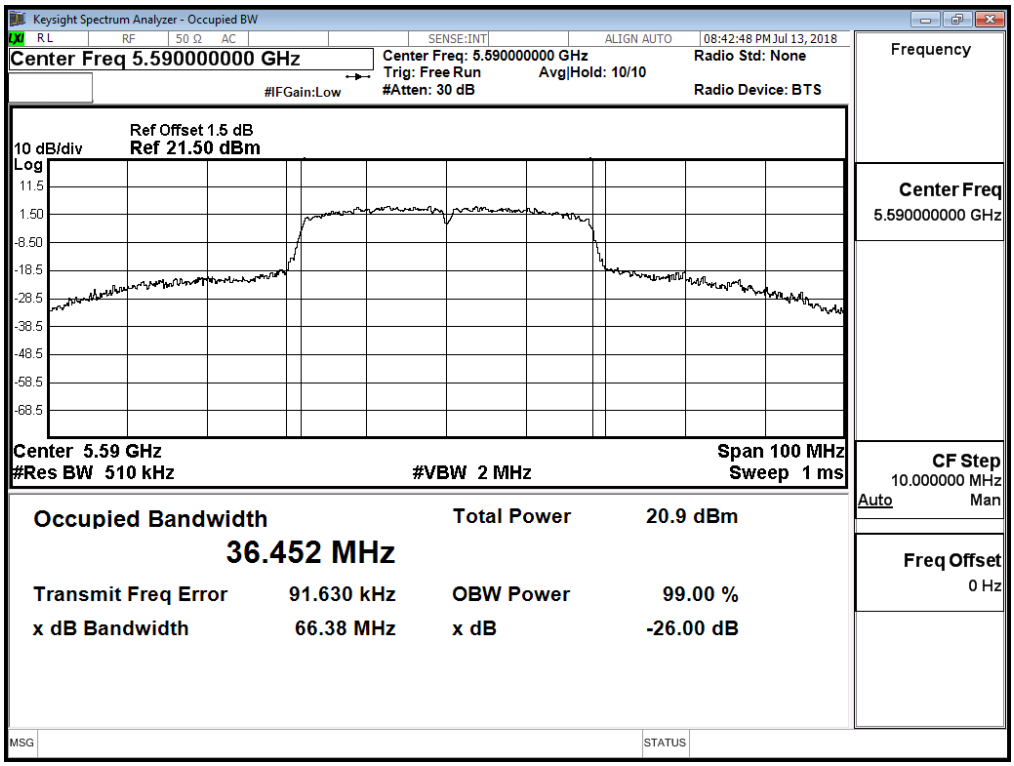
Channel 62: -Chain B



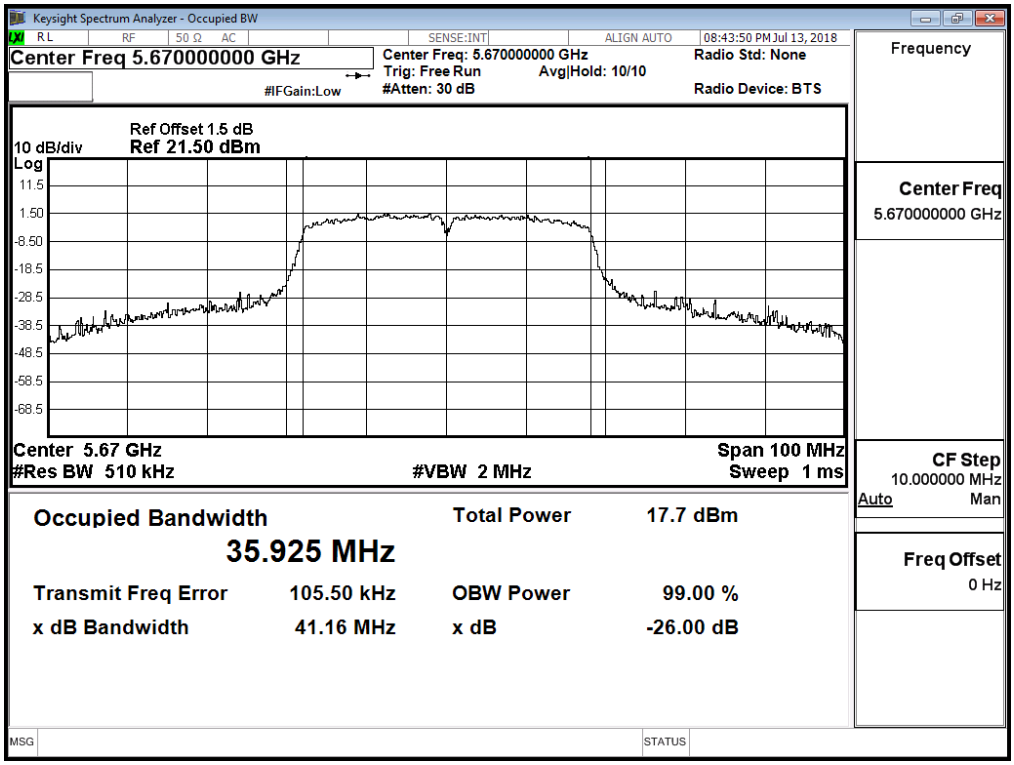
Channel 102: -Chain B



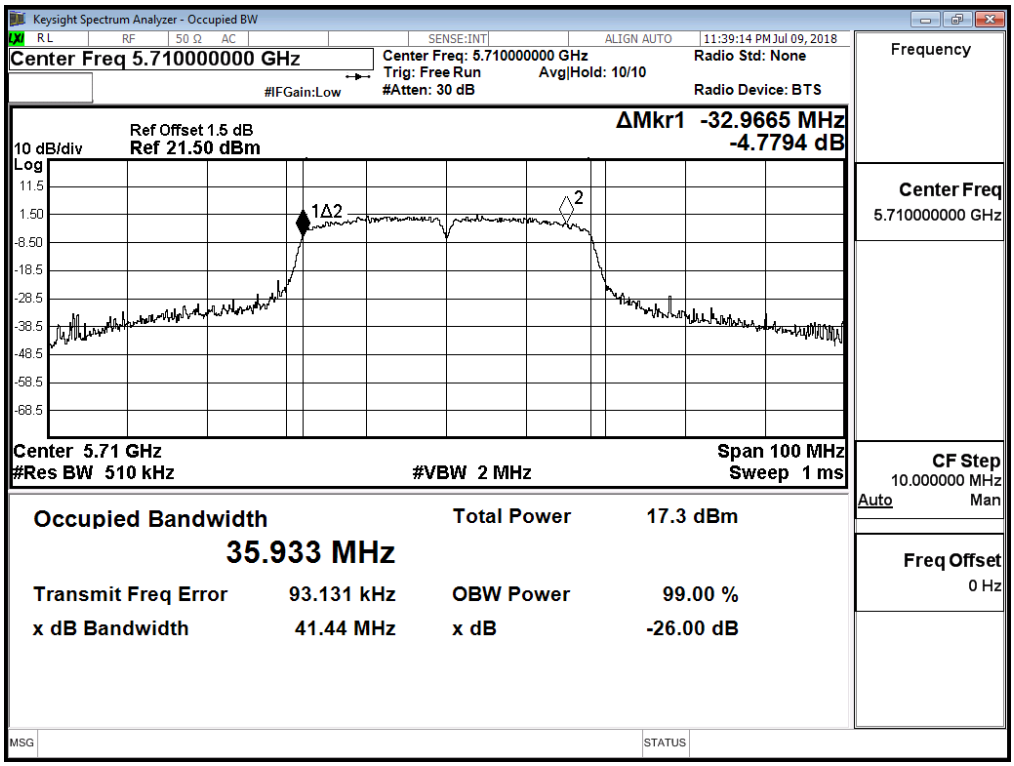
Channel 118: -Chain B



Channel 134: -Chain B



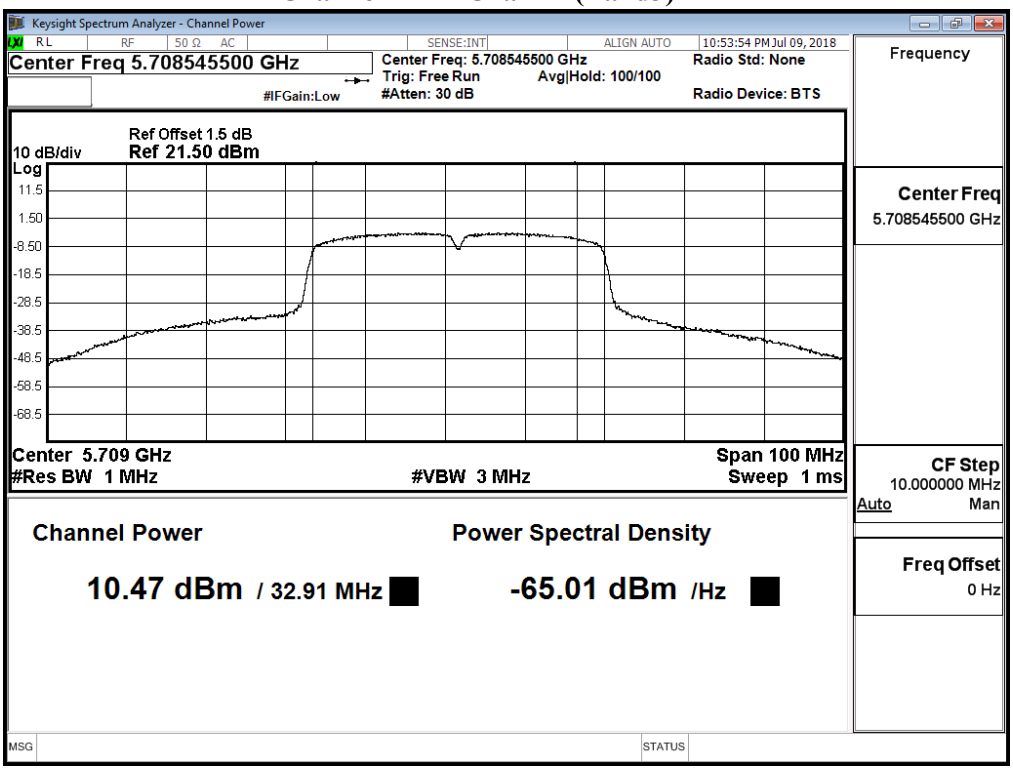
Channel 142F:



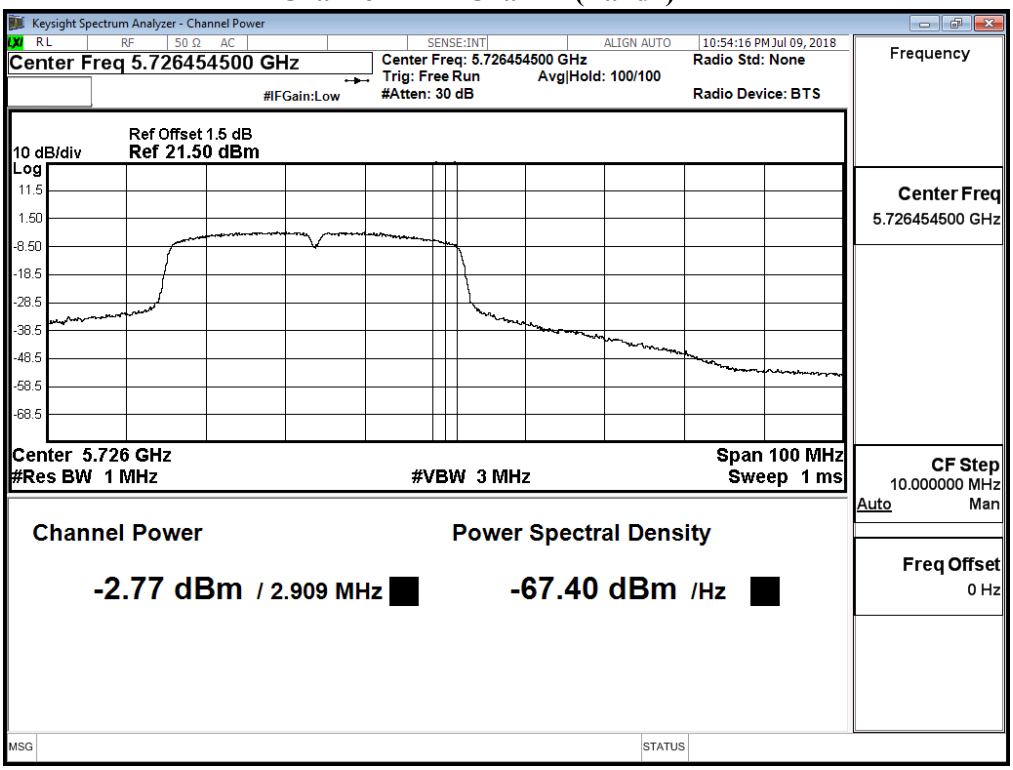
`

Maximum conducted output power:

Channel 142 – Chain A (Band3)

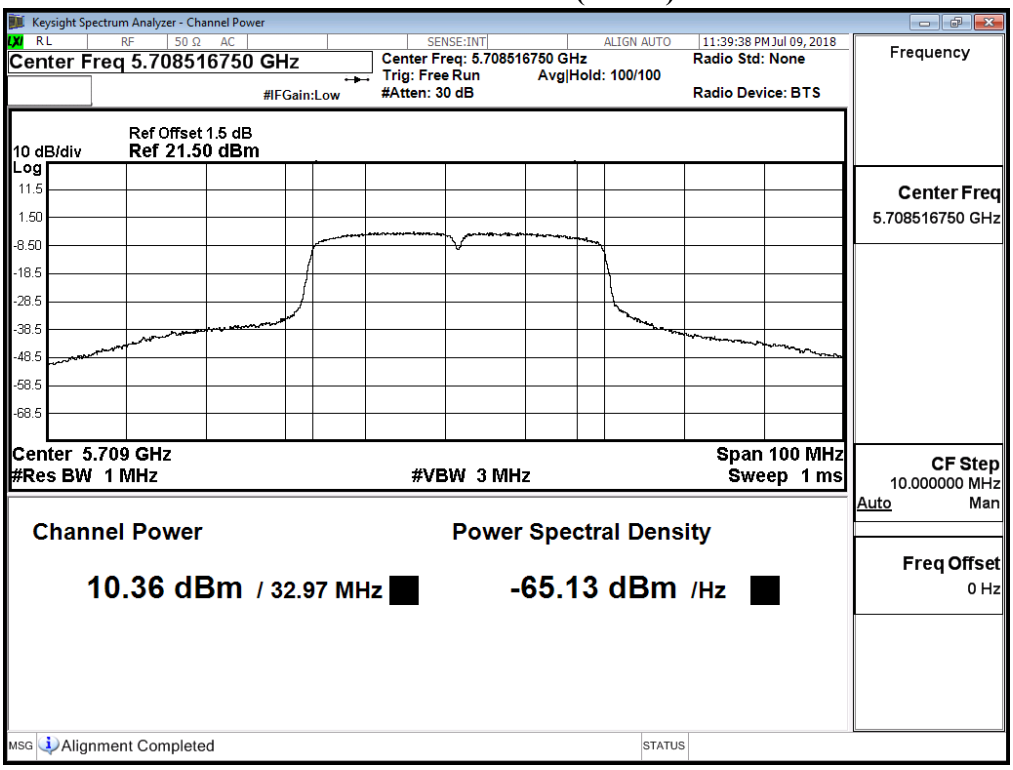


Channel 142 – Chain A (Band4)

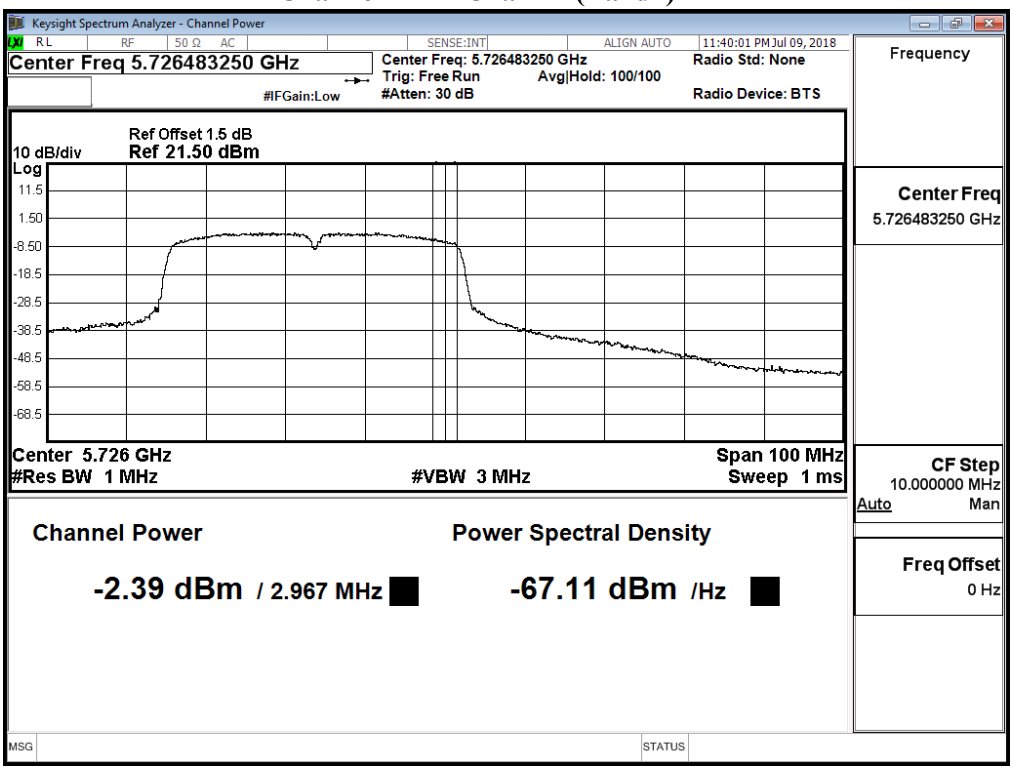


`

Channel 142 – Chain B (Band3)



Channel 142 – Chain B (Band4)



` Product : WAH0001
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11ac-80BW)

CHAIN A

Cable loss=1dB		Maximum conducted output power										
Channel No.	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
		Measurement Level (dBm)										
42	5210	7.84	7.81	7.77	7.72	7.69	7.65	7.62	7.59	7.54	7.52	<24dBm
58	5290	8.61	8.58	8.53	8.51	8.47	8.43	8.41	8.37	8.32	8.29	<24dBm
106ac80	5530	7.22	--	--	--	--	--	--	--	--	--	<24dBm
122ac80	5610	12.42	12.38	12.36	12.33	12.29	12.24	12.21	12.17	12.12	12.09	<24dBm
138ac80(Band3)	5690	9.3	--	--	--	--	--	--	--	--	--	<24dBm
138ac80(Band4)	5690	-8.57	--	--	--	--	--	--	--	--	--	<30dBm
155ac80	5775	7.97	7.95	7.92	7.88	7.84	7.81	7.76	7.73	7.71	7.67	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

CHAIN B

Cable loss=1dB		Maximum conducted output power										
Channel No.	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
		Measurement Level (dBm)										
42	5210	7.07	7.04	7.01	6.97	6.93	6.91	6.87	6.82	6.79	6.74	<24dBm
58	5290	8.06	8.02	7.99	7.95	7.92	7.88	7.84	7.81	7.76	7.73	<24dBm
106ac80	5530	6.76	--	--	--	--	--	--	--	--	--	<24dBm
122ac80	5610	12.58	12.54	12.51	12.47	12.42	12.39	12.35	12.31	12.26	12.21	<24dBm
138ac80(Band3)	5690	9.46	--	--	--	--	--	--	--	--	--	<24dBm
138ac80(Band4)	5690	-8.1	--	--	--	--	--	--	--	--	--	<30dBm
155ac80	5775	8.18	8.15	8.11	8.06	8.01	7.97	7.94	7.92	7.87	7.83	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement

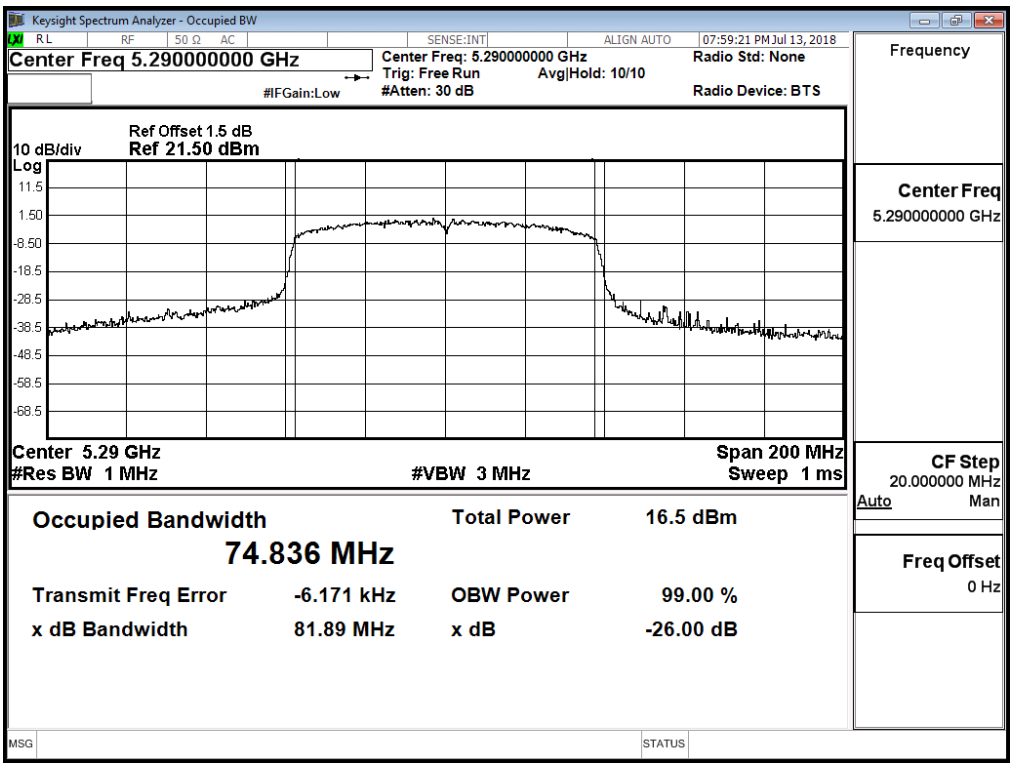
Channel No	Frequency Range	99% Bandwidth	Chain A Power	Chain B Power	Output Power	Output Power Limit	
	(MHz)	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	dBm+10log(BW)
42	5210		7.840	7.070	10.48	24	
58	5290	74.836	8.610	8.060	11.35	24	29.74
106	5530	74.872	7.220	6.760	10.01	24	29.74
122	5610	74.817	12.420	12.580	15.51	24	29.74
138	5690	72.394	9.300	9.460	12.39	24	29.60
138ac80(Band4)	5690	2.394	-8.570	-8.100	-5.32	30	14.79
155	5775		7.970	8.180	11.09	30	

Note: Power Output Value =Reading value on average power meter + cable loss

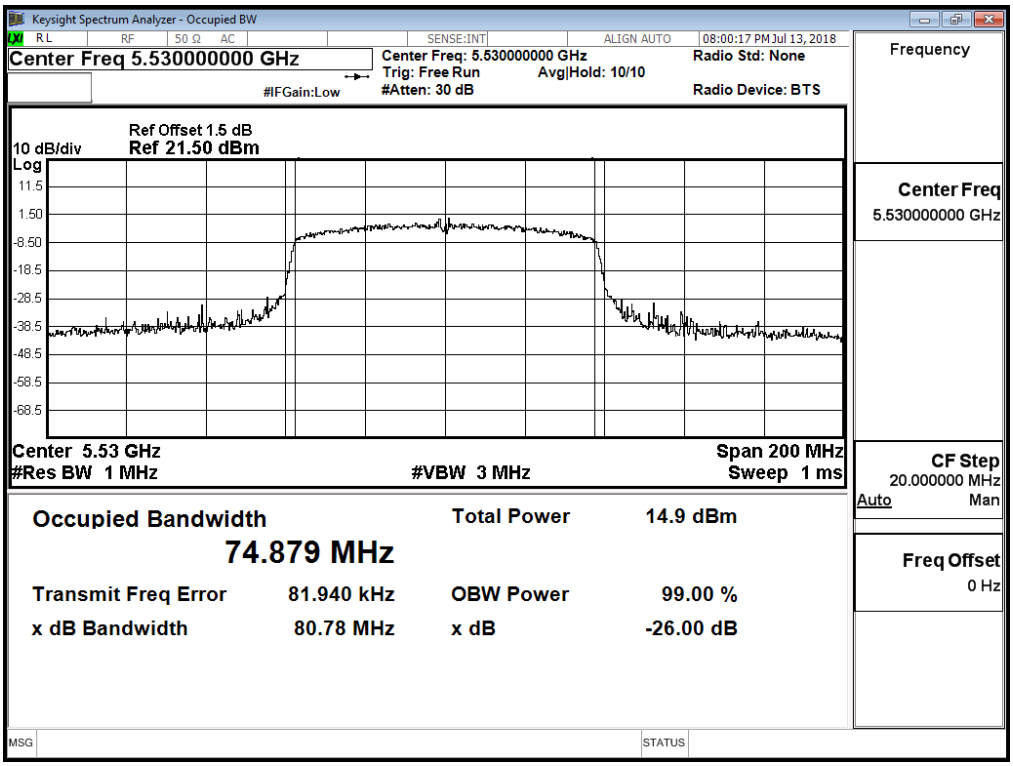
`

99% Occupied Bandwidth:

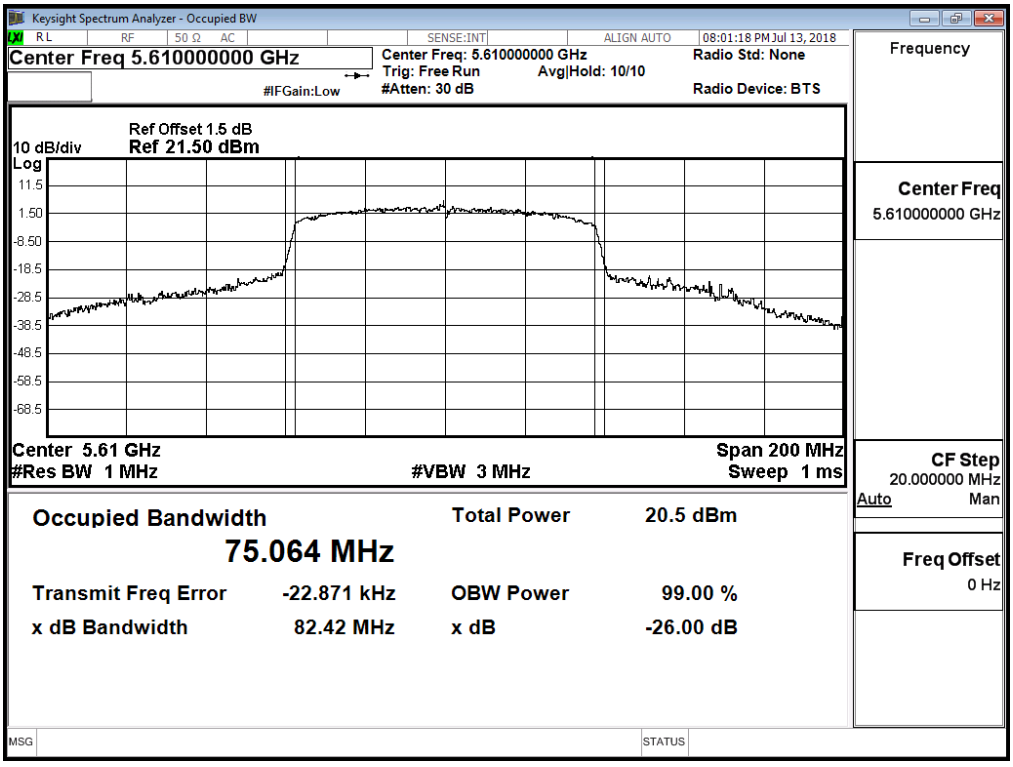
Channel 58 – Chain A



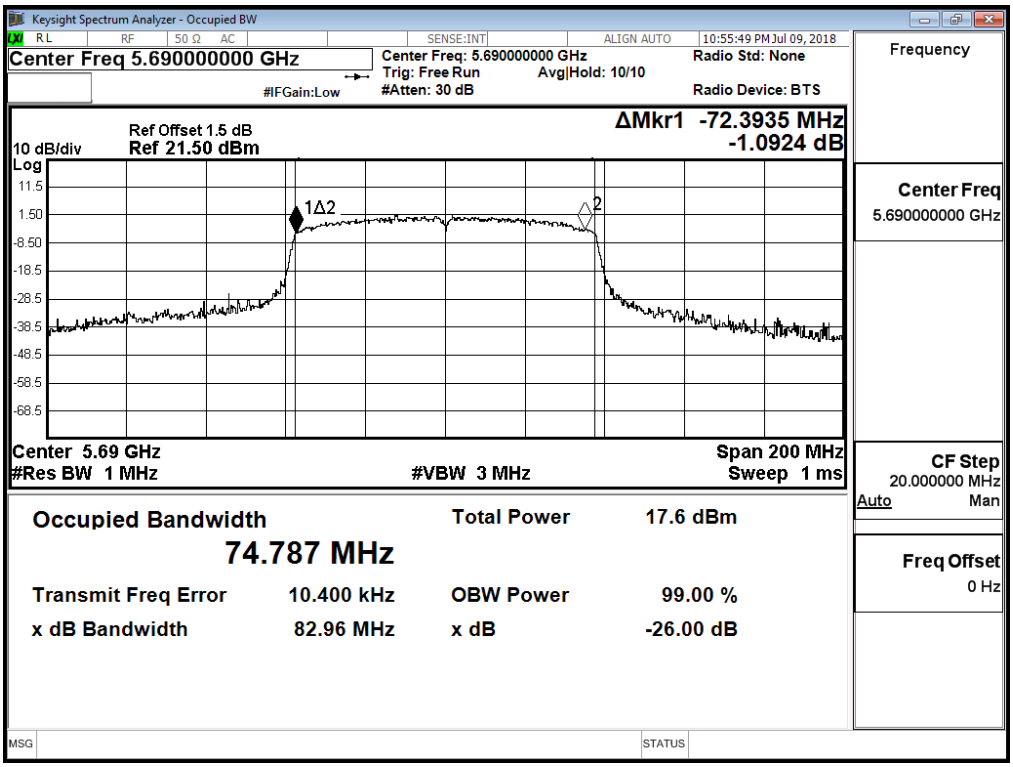
Channel 106 – Chain A



Channel 122 – Chain A



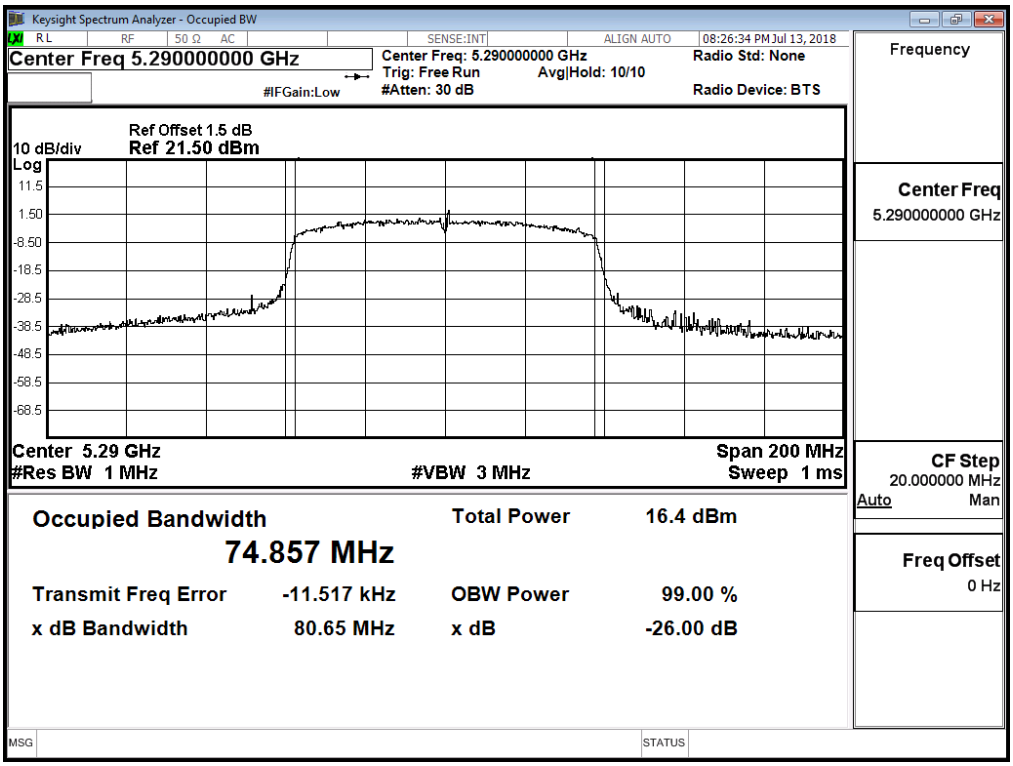
Channel 138 – Chain A



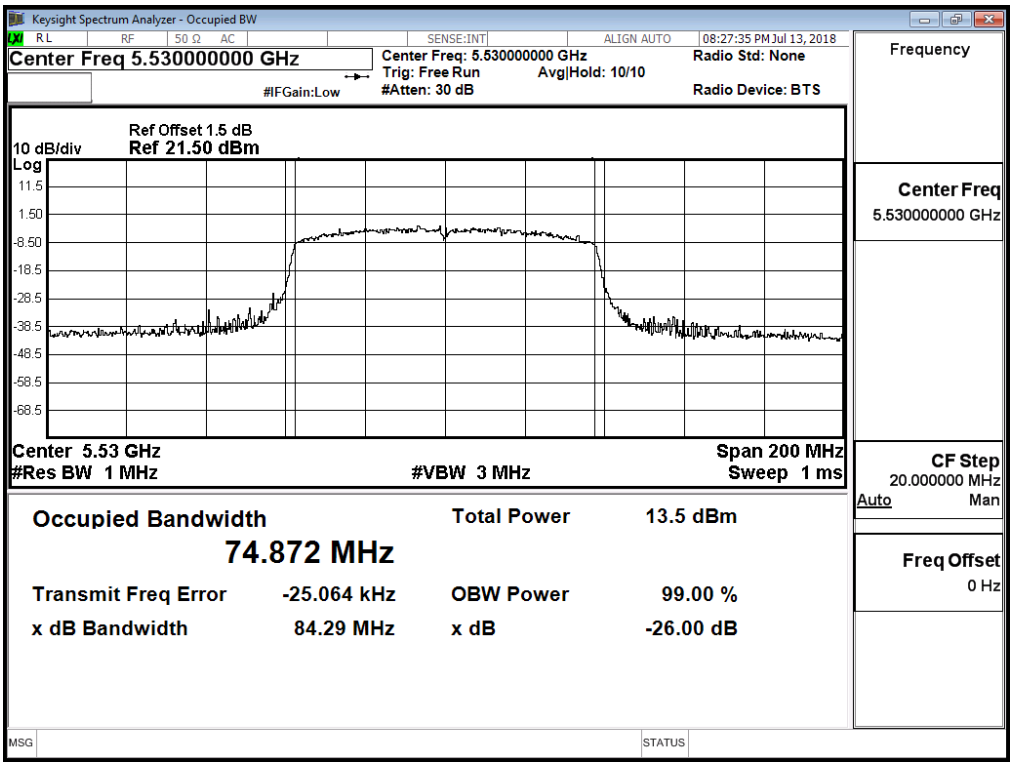
`

99% Occupied Bandwidth:

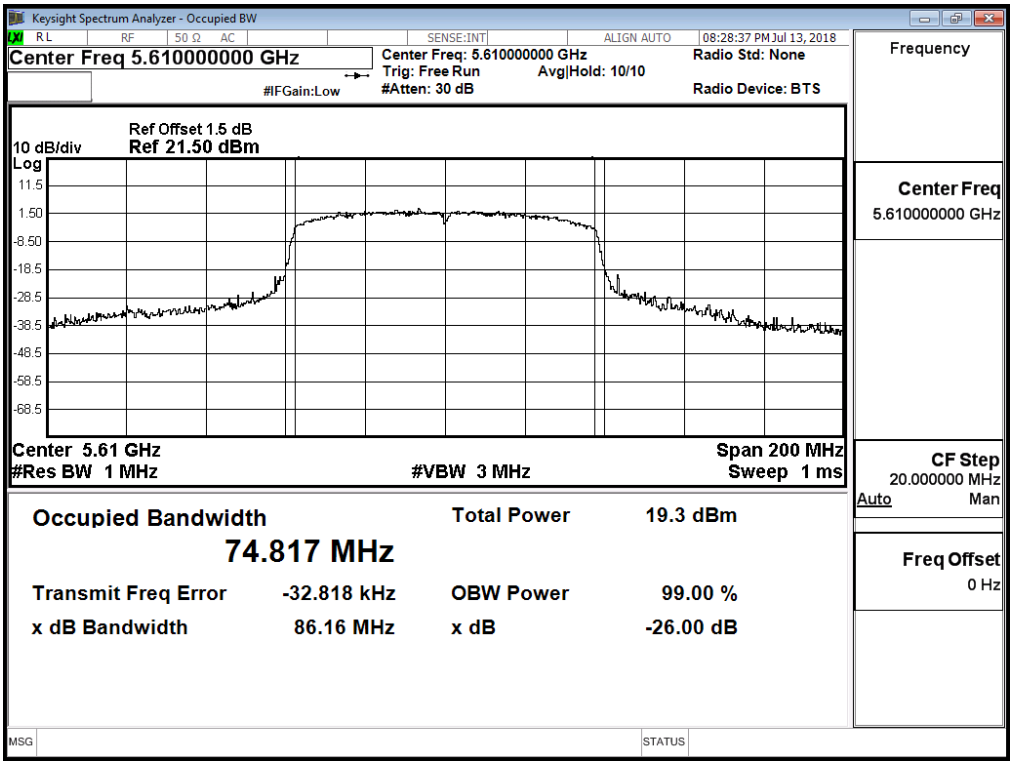
Channel 58 – Chain B



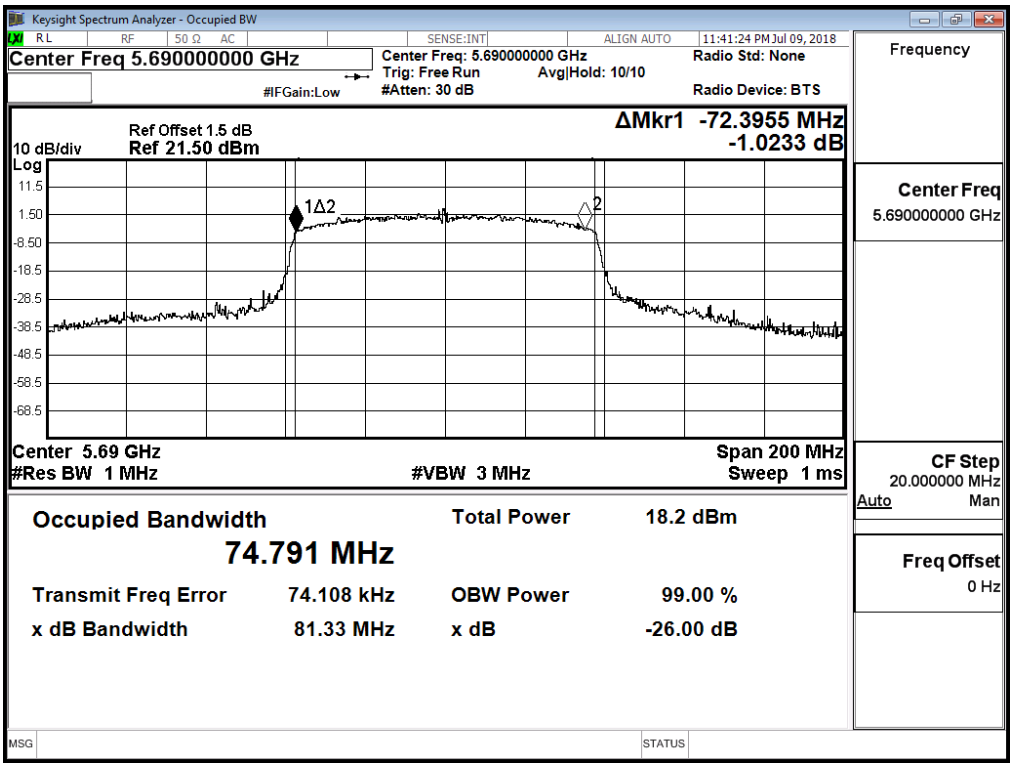
Channel 106 – Chain B



Channel 122 – Chain B



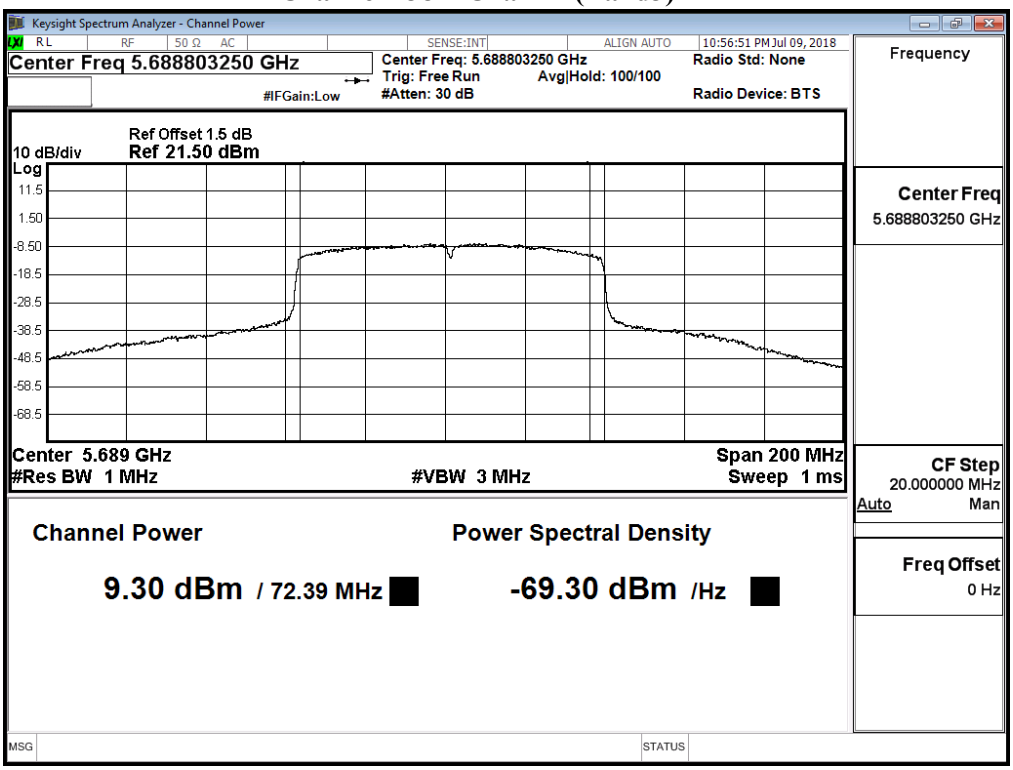
Channel 138 – Chain B



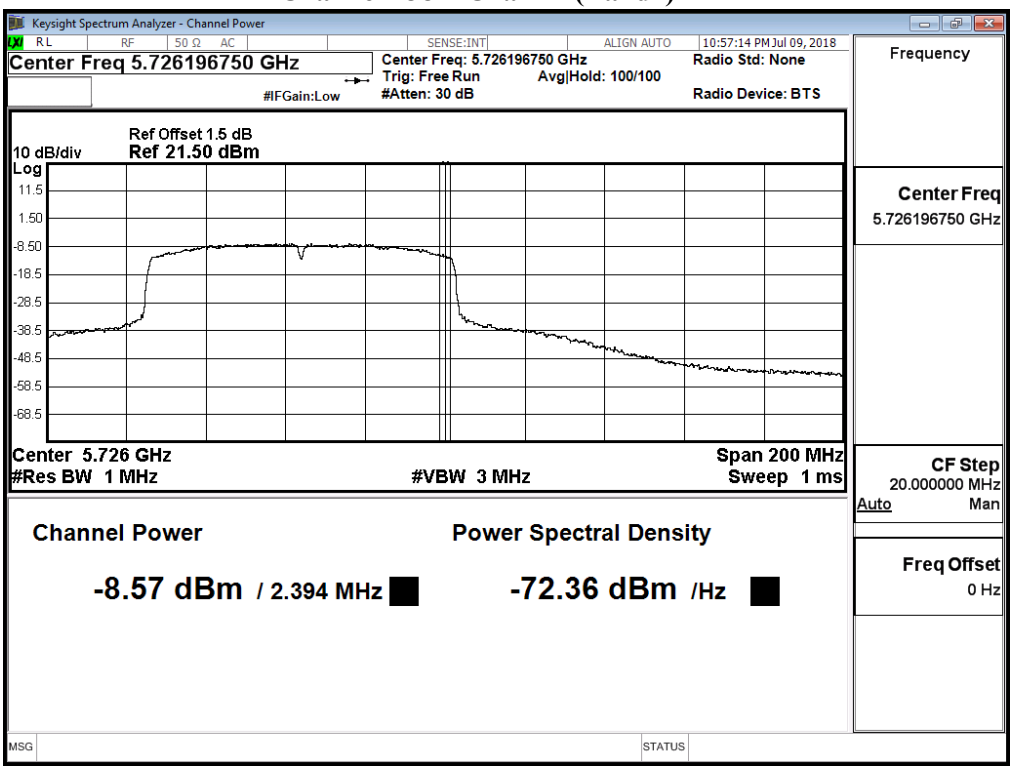
`

Maximum conducted output power:

Channel 138 – Chain A (Band3)

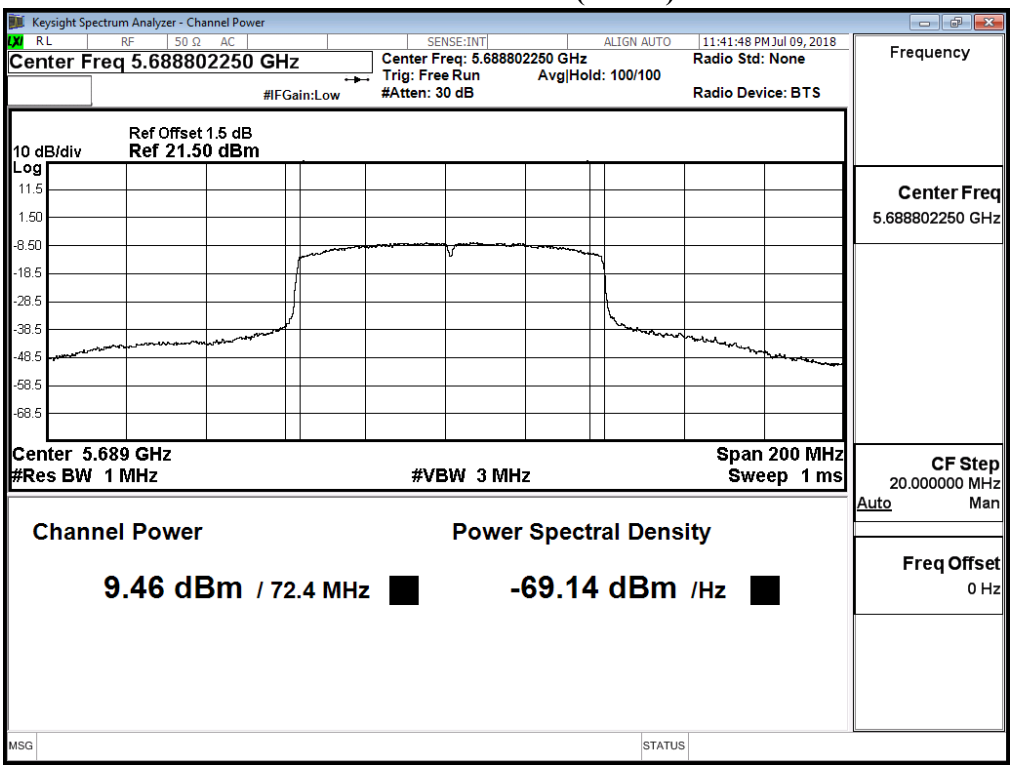


Channel 138 – Chain A (Band4)

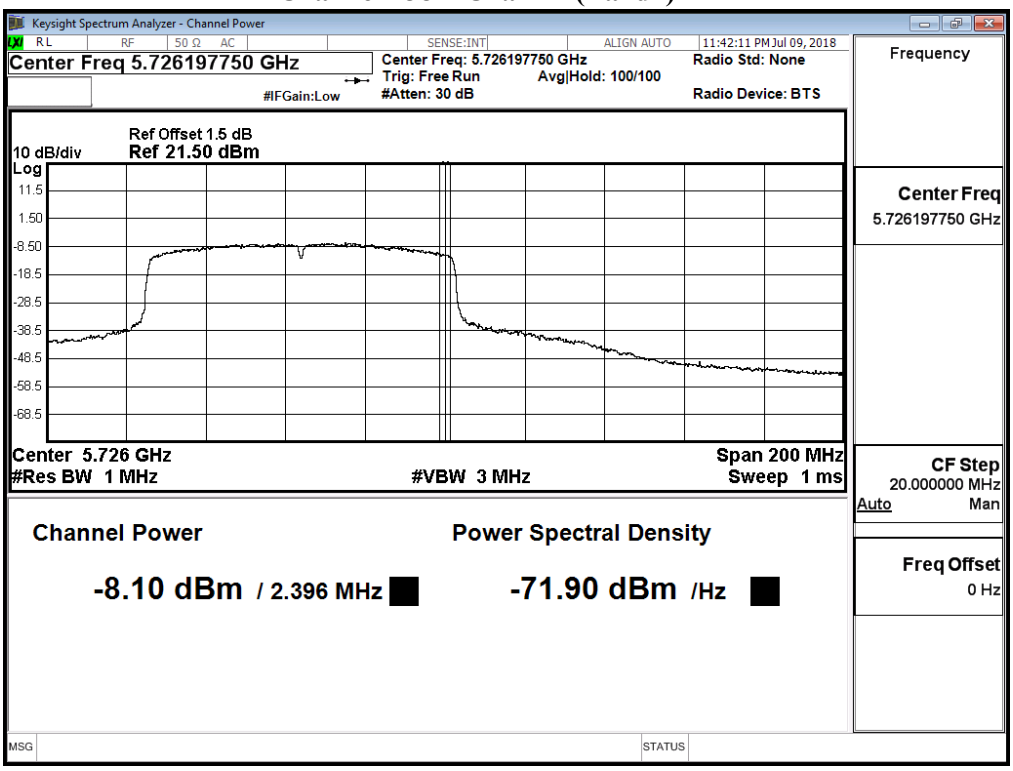


`

Channel 138 – Chain B (Band3)



Channel 138 – Chain B (Band4)

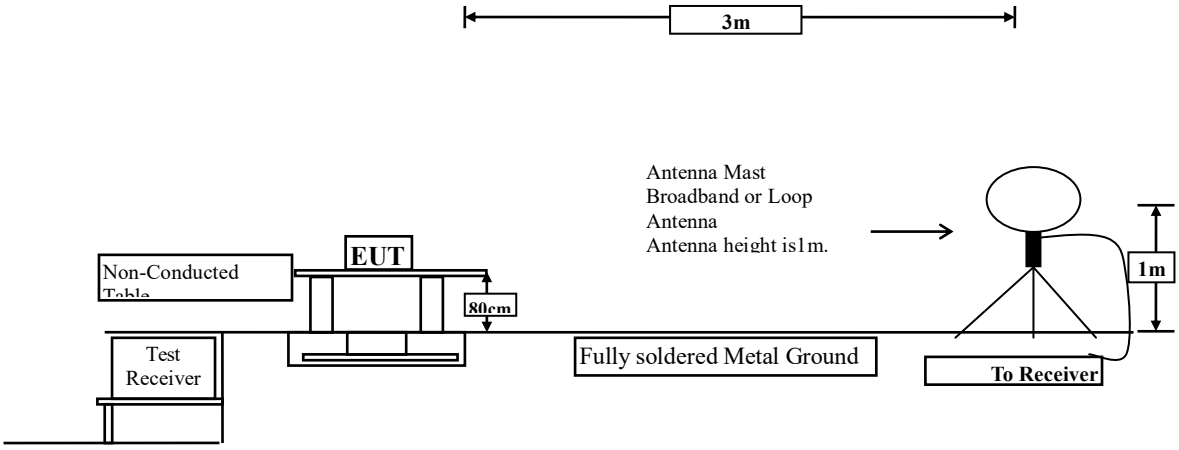


`

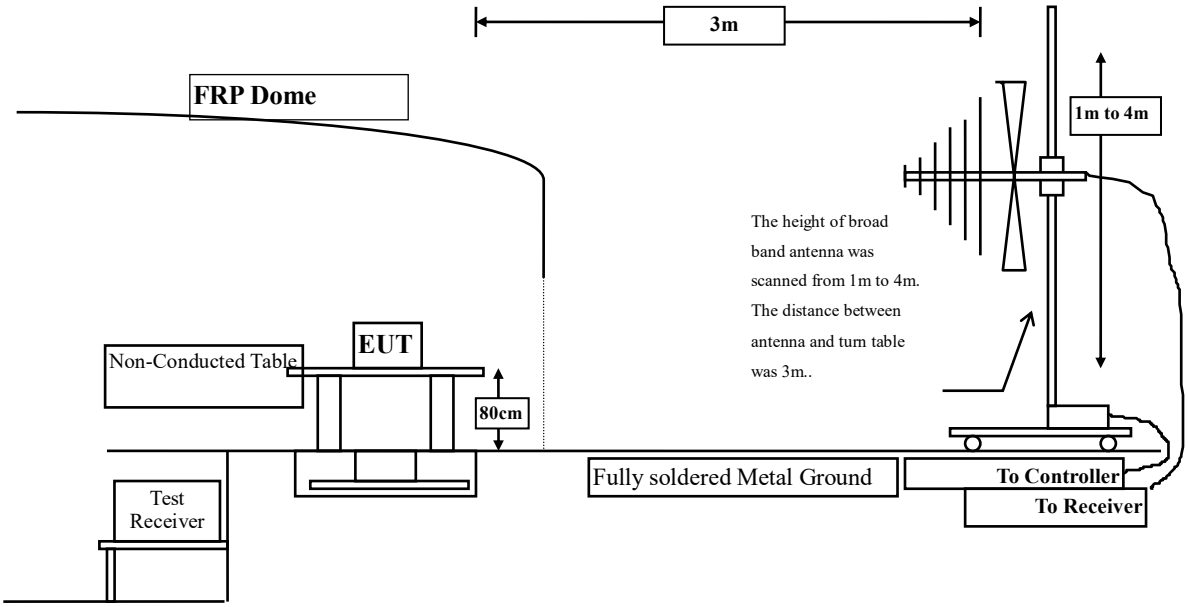
3. Radiated Emission

3.1. Test Setup

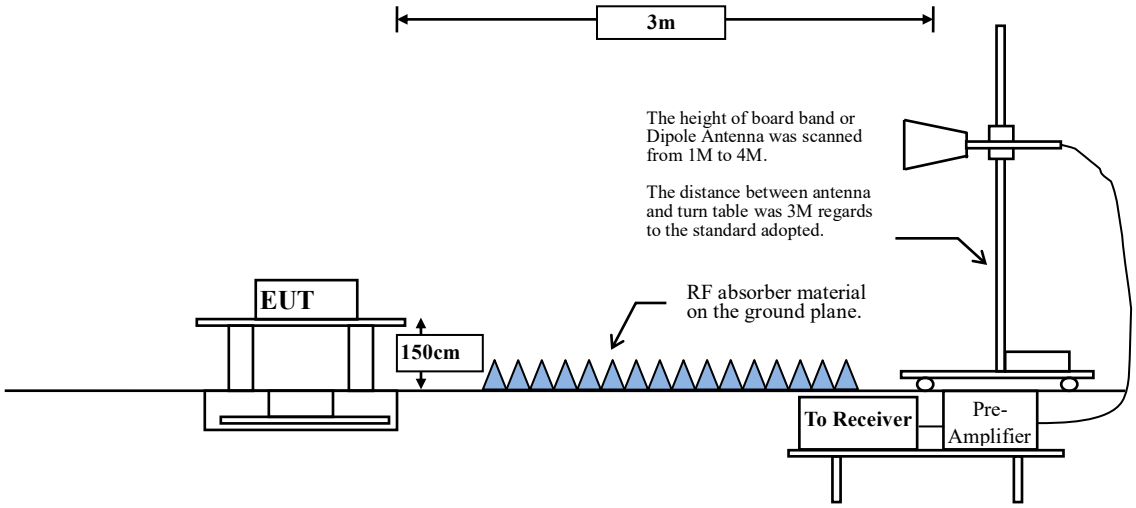
Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



` Radiated Emission Above 1GHz



`

3.2. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remarks: E field strength (dBμV/m) = 20 log E field strength (uV/m)

`

3.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according to FCC KDB-789033 test procedure for compliance to FCC 47CFR 15. 407 requirements.

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground,when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 meter above ground.

The turn table is rotated 360 degrees to determine the position of the maximum emission level.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The measurement frequency range form 9kHz - 10th Harmonic of fundamental was investigated.

`

RBW and VBW Parameter setting:

According to KDB 789033 section II.G.5 Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz.

RBW = 1MHz.

VBW ≥ 3MHz.

According to KDB 789033 section II.G.6 Procedures for Average Unwanted Emissions Measurements above 1000 MHz.

RBW = 1MHz.

VBW = 10Hz, when duty cycle ≥ 98 %

VBW ≥ 1/T, when duty cycle < 98 %

(T refers to 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.)

5GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11 a	92.76	2.0435	489	500
802.11 ac20	93.31	1.9203	521	1000
802.11 ac40	89.04	0.9420	1062	2000
802.11 ac80	81.73	0.4667	2143	3000

Note: Duty Cycle Refer to Section 5.

3.4. Uncertainty

± 4.08 dB above 1GHz

± 4.22 dB below 1GHz

`

3.5. Test Result of Radiated Emission

Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 1: Transmit (802.11a) (5180MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
10360.000	10.540	39.520	50.060	-23.940	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10360.000	12.044	40.700	52.743	-21.257	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report..

` Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 1: Transmit (802.11a) (5200MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
10400.000	9.803	39.720	49.524	-24.476	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10400.000	11.430	40.480	51.911	-22.089	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

` Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 1: Transmit (802.11a) (5240MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
10480.000	10.166	40.380	50.546	-23.454	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10480.000	12.101	40.650	52.751	-21.249	74.000
Average Detector:					
--					

Note:
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report..

` Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 1: Transmit (802.11a) (5260MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
10520.000	11.021	40.110	51.131	-22.869	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10520.000	12.931	40.890	53.821	-20.179	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report..

` Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 1: Transmit (802.11a) (5300MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
10600.000	11.868	39.010	50.878	-23.122	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10600.000	13.403	39.740	53.143	-20.857	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report..

` Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 1: Transmit (802.11a) (5320MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
10640.000	11.844	38.790	50.634	-23.366	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10640.000	13.517	39.810	53.327	-20.673	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

` Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 1: Transmit (802.11a) (5500MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
11000.000	12.392	38.470	50.862	-23.138	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11000.000	14.514	39.450	53.964	-20.036	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

` Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 1: Transmit (802.11a) (5600MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
11200.000	12.252	38.460	50.712	-23.288	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11200.000	14.486	39.470	53.956	-20.044	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

` Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 1: Transmit (802.11a) (5700MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
11400.000	13.372	38.620	51.992	-22.008	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11400.000	14.922	38.940	53.862	-20.138	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

`

Product	:	WAH0001
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2018/07/06
Test Mode	:	Mode 1: Transmit (802.11a) (5720MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11440.000	13.997	38.710	52.707	-21.293	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11440.000	15.527	37.810	53.337	-20.663	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 1: Transmit (802.11a) (5745MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
11490.000	14.326	38.620	52.945	-21.055	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11490.000	15.842	38.120	53.961	-20.039	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 1: Transmit (802.11a) (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
11570.000	14.849	37.620	52.469	-21.531	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11570.000	16.215	37.720	53.934	-20.066	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 1: Transmit (802.11a) (5825MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
11650.000	13.179	37.430	50.609	-23.391	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11650.000	14.634	38.630	53.264	-20.736	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

` Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5180MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
10360.000	10.540	39.290	49.830	-24.170	74.000
Average Detector:					
--					
Vertical Peak Detector:					
10360.000	12.044	39.840	51.883	-22.117	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5200MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
10400.000	9.803	39.770	49.574	-24.426	74.000
Average Detector:					
--					
Vertical Peak Detector:					
10400.000	11.430	40.370	51.801	-22.199	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5240MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
10480.000	10.166	39.750	49.916	-24.084	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10480.000	12.101	41.310	53.411	-20.589	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5260MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
10520.000	11.021	39.420	50.441	-23.559	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10520.000	12.931	40.770	53.701	-20.299	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5300MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
10600.000	11.868	39.580	51.448	-22.552	74.000
Average Detector:					
--					
Vertical Peak Detector:					
10600.000	13.403	40.530	53.933	-20.067	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5320MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
10640.000	11.844	39.720	51.564	-22.436	74.000
Average Detector:					
--					
Vertical Peak Detector:					
10640.000	13.517	40.420	53.937	-20.063	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5500MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
11000.000	12.392	38.420	50.812	-23.188	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11000.000	14.514	39.320	53.834	-20.166	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5600MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11200.000	12.252	38.750	51.002	-22.998	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11200.000	14.486	39.420	53.906	-20.094	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5700MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11400.000	13.372	38.710	52.082	-21.918	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11400.000	14.922	39.010	53.932	-20.068	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5720MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11440.000	13.997	38.310	52.307	-21.693	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11440.000	15.527	38.420	53.947	-20.053	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5745MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11490.000	14.326	38.910	53.235	-20.765	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11490.000	15.842	38.140	53.981	-20.019	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11570.000	14.849	38.140	52.989	-21.011	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11570.000	16.215	37.720	53.934	-20.066	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5825MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11650.000	13.179	37.510	50.689	-23.311	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11650.000	14.634	38.720	53.354	-20.646	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 3: Transmit (802.11ac-40BW) (5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
10380.000	10.164	40.720	50.884	-23.116	74.000
Average Detector:					
--					
Vertical Peak Detector:					
10380.000	11.729	40.720	52.450	-21.550	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 3: Transmit (802.11ac-40BW) (5230MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
10460.000	9.786	40.110	49.896	-24.104	74.000
Average Detector:					
--					
Vertical Peak Detector:					
10460.000	11.644	41.240	52.884	-21.116	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 3: Transmit (802.11ac-40BW) (5270MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
10540.000	11.479	39.810	51.289	-22.711	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10540.000	13.289	40.580	53.869	-20.131	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 3: Transmit (802.11ac-40BW) (5310MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
10620.000	11.862	38.460	50.322	-23.678	74.000
Average Detector:					
--					
Vertical Peak Detector:					
10620.000	13.449	39.780	53.229	-20.771	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 3: Transmit (802.11ac-40BW) (5510MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11020.000	12.632	38.740	51.372	-22.628	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11020.000	14.778	39.140	53.918	-20.082	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 3: Transmit (802.11ac-40BW) (5590MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11180.000	12.239	38.620	50.859	-23.141	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11180.000	14.478	39.140	53.618	-20.382	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 3: Transmit (802.11ac-40BW) (5670MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11340.000	12.852	38.340	51.191	-22.809	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11340.000	14.594	39.320	53.914	-20.086	74.000
Average Detector:					
--					

Note:
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 3: Transmit (802.11ac-40BW) (5710MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11420.000	13.675	38.170	51.844	-22.156	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11420.000	15.210	38.720	53.930	-20.070	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 3: Transmit (802.11ac-40BW) (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11510.000	14.402	38.320	52.722	-21.278	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11510.000	15.894	38.060	53.954	-20.046	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 3: Transmit (802.11ac-40BW) (5795MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11590.000	15.138	38.240	53.378	-20.622	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11590.000	16.461	37.520	53.981	-20.019	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 4: Transmit (802.11ac-80BW) (5210MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
10420.000	9.711	40.310	50.022	-23.978	74.000
Average Detector:					
--					
Vertical Peak Detector:					
10420.000	11.415	41.320	52.735	-21.265	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 4: Transmit (802.11ac-80BW) (5290MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
10580.000	11.823	37.950	49.774	-24.226	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10580.000	13.426	39.750	53.176	-20.824	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 4: Transmit (802.11ac-80BW) (5530MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11060.000	12.824	38.340	51.164	-22.836	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11060.000	15.026	38.810	53.836	-20.164	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 4: Transmit (802.11ac-80BW) (5610MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11220.000	12.120	37.890	50.010	-23.990	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11220.000	14.284	39.520	53.803	-20.197	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 4: Transmit (802.11ac-80BW) (5690MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11380.000	13.200	37.810	51.010	-22.990	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11380.000	14.808	38.720	53.528	-20.472	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 4: Transmit (802.11ac-80BW) (5775MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal Peak Detector:					
11550.000	14.599	37.820	52.419	-21.581	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11550.000	16.007	37.840	53.847	-20.153	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

、 Product : WAH0001
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 1: Transmit (802.11a) (5200MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
72.680	-8.373	42.135	33.762	-6.238	40.000
220.120	-19.395	46.989	27.594	-18.406	46.000
499.480	-7.470	47.056	39.586	-6.414	46.000
749.740	-5.955	39.277	33.322	-12.678	46.000
875.840	-4.310	43.487	39.177	-6.823	46.000
1000.000	-0.430	41.988	41.558	-12.442	54.000
Vertical					
Peak Detector					
88.200	-5.862	38.898	33.036	-10.464	43.500
288.020	-14.743	39.430	24.687	-21.313	46.000
499.480	-9.660	41.914	32.254	-13.746	46.000
749.740	-7.895	39.428	31.533	-14.467	46.000
875.840	-9.610	41.378	31.768	-14.232	46.000
1000.000	-11.160	38.460	27.300	-26.700	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

.

、 Product : WAH0001
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 1: Transmit (802.11a) (5300MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
74.620	-10.424	44.173	33.749	-6.251	40.000
375.320	-8.437	37.156	28.719	-17.281	46.000
499.480	-7.470	47.077	39.607	-6.393	46.000
749.740	-5.955	39.812	33.857	-12.143	46.000
875.840	-4.310	43.866	39.556	-6.444	46.000
1000.000	-0.430	42.126	41.696	-12.304	54.000
Vertical					
Peak Detector					
88.200	-5.862	39.050	33.188	-10.312	43.500
288.020	-14.743	39.646	24.903	-21.097	46.000
499.480	-9.660	42.182	32.522	-13.478	46.000
749.740	-7.895	37.612	29.717	-16.283	46.000
875.840	-9.610	41.459	31.849	-14.151	46.000
961.200	-6.742	33.650	26.908	-27.092	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

.

`

Product	:	WAH0001
Test Item	:	General Radiated Emission
Test Site	:	No.3 OATS
Test Date	:	2018/07/06
Test Mode	:	Mode 1: Transmit (802.11a) (5600MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
72.680	-8.373	41.072	32.699	-7.301	40.000
350.100	-10.623	37.944	27.321	-18.679	46.000
499.480	-7.470	47.566	40.096	-5.904	46.000
749.740	-5.955	39.559	33.604	-12.396	46.000
875.840	-4.310	43.857	39.547	-6.453	46.000
1000.000	-0.430	41.393	40.963	-13.037	54.000
Vertical					
Peak Detector					
88.200	-5.862	39.633	33.771	-9.729	43.500
299.660	-13.321	38.943	25.622	-20.378	46.000
499.480	-9.660	41.723	32.063	-13.937	46.000
749.740	-7.895	38.937	31.042	-14.958	46.000
875.840	-9.610	40.929	31.319	-14.681	46.000
1000.000	-11.160	38.209	27.049	-26.951	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

、 Product : WAH0001
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 1: Transmit (802.11a) (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
74.620	-10.424	43.262	32.838	-7.162	40.000
352.040	-10.611	34.978	24.367	-21.633	46.000
499.480	-7.470	47.194	39.724	-6.276	46.000
749.740	-5.955	39.921	33.966	-12.034	46.000
875.840	-4.310	43.099	38.789	-7.211	46.000
1000.000	-0.430	41.360	40.930	-13.070	54.000
Vertical					
Peak Detector					
86.260	-4.590	40.895	36.305	-3.695	40.000
220.120	-15.765	47.098	31.333	-14.667	46.000
499.480	-9.660	47.318	37.658	-8.342	46.000
749.740	-7.895	40.259	32.364	-13.636	46.000
875.840	-9.610	43.099	33.489	-12.511	46.000
1000.000	-11.160	42.192	31.032	-22.968	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

、 Product : WAH0001
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5200MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
74.620	-10.424	43.677	33.253	-6.747	40.000
220.120	-19.395	46.018	26.623	-19.377	46.000
499.480	-7.470	47.240	39.770	-6.230	46.000
749.740	-5.955	40.299	34.344	-11.656	46.000
875.840	-4.310	42.869	38.559	-7.441	46.000
1000.000	-0.430	41.408	40.978	-13.022	54.000
Vertical					
Peak Detector					
88.200	-5.862	39.310	33.448	-10.052	43.500
299.660	-13.321	37.883	24.562	-21.438	46.000
499.480	-9.660	42.223	32.563	-13.437	46.000
749.740	-7.895	39.140	31.245	-14.755	46.000
875.840	-9.610	41.488	31.878	-14.122	46.000
1000.000	-11.160	37.478	26.318	-27.682	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

、 Product : WAH0001
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5300MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
74.620	-10.424	43.853	33.429	-6.571	40.000
220.120	-19.395	47.997	28.602	-17.398	46.000
499.480	-7.470	47.633	40.163	-5.837	46.000
749.740	-5.955	39.876	33.921	-12.079	46.000
875.840	-4.310	43.426	39.116	-6.884	46.000
1000.000	-0.430	42.049	41.619	-12.381	54.000
Vertical					
Peak Detector					
88.200	-5.862	40.872	35.010	-8.490	43.500
299.660	-13.321	40.673	27.352	-18.648	46.000
499.480	-9.660	42.248	32.588	-13.412	46.000
749.740	-7.895	39.863	31.968	-14.032	46.000
875.840	-9.610	41.732	32.122	-13.878	46.000
1000.000	-11.160	39.258	28.098	-25.902	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

、 Product : WAH0001
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5600MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
72.680	-8.373	41.424	33.051	-6.949	40.000
299.660	-14.011	39.699	25.688	-20.312	46.000
499.480	-7.470	47.187	39.717	-6.283	46.000
749.740	-5.955	38.946	32.991	-13.009	46.000
875.840	-4.310	43.602	39.292	-6.708	46.000
1000.000	-0.430	41.654	41.224	-12.776	54.000
Vertical					
Peak Detector					
88.200	-5.862	38.847	32.985	-10.515	43.500
299.660	-13.321	39.428	26.107	-19.893	46.000
499.480	-9.660	41.657	31.997	-14.003	46.000
749.740	-7.895	38.734	30.839	-15.161	46.000
875.840	-9.610	41.216	31.606	-14.394	46.000
1000.000	-11.160	37.890	26.730	-27.270	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

、 Product : WAH0001
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 2: Transmit (802.11ac-20BW) (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
72.680	-8.373	40.148	31.775	-8.225	40.000
220.120	-19.395	47.335	27.940	-18.060	46.000
499.480	-7.470	46.977	39.507	-6.493	46.000
749.740	-5.955	39.450	33.495	-12.505	46.000
875.840	-4.310	43.620	39.310	-6.690	46.000
1000.000	-0.430	41.767	41.337	-12.663	54.000
Vertical					
Peak Detector					
88.200	-5.862	39.770	33.908	-9.592	43.500
299.660	-13.321	39.616	26.295	-19.705	46.000
499.480	-9.660	41.943	32.283	-13.717	46.000
749.740	-7.895	38.665	30.770	-15.230	46.000
875.840	-9.610	41.454	31.844	-14.156	46.000
1000.000	-11.160	37.620	26.460	-27.540	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

`

Product	:	WAH0001
Test Item	:	General Radiated Emission
Test Site	:	No.3 OATS
Test Date	:	2018/07/06
Test Mode	:	Mode 3: Transmit (802.11ac-40BW) (5230MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
72.680	-8.373	41.028	32.655	-7.345	40.000
299.660	-14.011	38.723	24.712	-21.288	46.000
499.480	-7.470	47.179	39.709	-6.291	46.000
749.740	-5.955	39.675	33.720	-12.280	46.000
875.840	-4.310	42.035	37.725	-8.275	46.000
1000.000	-0.430	41.735	41.305	-12.695	54.000
Vertical					
Peak Detector					
88.200	-5.862	40.312	34.450	-9.050	43.500
299.660	-13.321	38.639	25.318	-20.682	46.000
499.480	-9.660	41.867	32.207	-13.793	46.000
749.740	-7.895	38.695	30.800	-15.200	46.000
875.840	-9.610	40.701	31.091	-14.909	46.000
1000.000	-11.160	38.679	27.519	-26.481	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

、 Product : WAH0001
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 3: Transmit (802.11ac-40BW) (5310MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
74.620	-10.424	43.071	32.647	-7.353	40.000
220.120	-19.395	47.327	27.932	-18.068	46.000
499.480	-7.470	47.353	39.883	-6.117	46.000
749.740	-5.955	39.904	33.949	-12.051	46.000
875.840	-4.310	42.535	38.225	-7.775	46.000
1000.000	-0.430	42.301	41.871	-12.129	54.000
Vertical					
Peak Detector					
88.200	-5.862	40.872	35.010	-8.490	43.500
299.660	-13.321	39.709	26.388	-19.612	46.000
499.480	-9.660	41.545	31.885	-14.115	46.000
749.740	-7.895	38.531	30.636	-15.364	46.000
875.840	-9.610	39.678	30.068	-15.932	46.000
961.200	-6.742	33.390	26.648	-27.352	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

、 Product : WAH0001
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 3: Transmit (802.11ac-40BW) (5590MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
72.680	-8.373	40.745	32.372	-7.628	40.000
220.120	-19.395	46.811	27.416	-18.584	46.000
499.480	-7.470	47.331	39.861	-6.139	46.000
749.740	-5.955	38.897	32.942	-13.058	46.000
875.840	-4.310	43.005	38.695	-7.305	46.000
1000.000	-0.430	41.313	40.883	-13.117	54.000
Vertical					
Peak Detector					
88.200	-5.862	41.415	35.553	-7.947	43.500
299.660	-13.321	38.189	24.868	-21.132	46.000
499.480	-9.660	41.732	32.072	-13.928	46.000
751.680	-7.554	36.196	28.642	-17.358	46.000
875.840	-9.610	40.718	31.108	-14.892	46.000
961.200	-6.742	33.577	26.835	-27.165	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

、 Product : WAH0001
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 3: Transmit (802.11ac-40BW) (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
72.680	-8.373	40.421	32.048	-7.952	40.000
220.120	-19.395	48.318	28.923	-17.077	46.000
499.480	-7.470	47.176	39.706	-6.294	46.000
749.740	-5.955	38.088	32.133	-13.867	46.000
875.840	-4.310	42.956	38.646	-7.354	46.000
1000.000	-0.430	40.174	39.744	-14.256	54.000
Vertical					
Peak Detector					
88.200	-5.862	40.606	34.744	-8.756	43.500
299.660	-13.321	39.097	25.776	-20.224	46.000
499.480	-9.660	41.929	32.269	-13.731	46.000
749.740	-7.895	38.521	30.626	-15.374	46.000
875.840	-9.610	41.530	31.920	-14.080	46.000
1000.000	-11.160	37.771	26.611	-27.389	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

、 Product : WAH0001
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/07/06
Test Mode : Mode 4: Transmit (802.11ac-80BW) (5210MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
68.800	-4.090	35.041	30.951	-9.049	40.000
218.180	-19.451	43.793	24.342	-21.658	46.000
499.480	-7.470	47.437	39.967	-6.033	46.000
800.180	-3.656	35.954	32.298	-13.702	46.000
875.840	-4.310	43.034	38.724	-7.276	46.000
1000.000	-0.430	41.470	41.040	-12.960	54.000
Vertical					
Peak Detector					
88.200	-5.862	38.928	33.066	-10.434	43.500
288.020	-14.743	40.996	26.253	-19.747	46.000
499.480	-9.660	41.217	31.557	-14.443	46.000
749.740	-7.895	37.027	29.132	-16.868	46.000
875.840	-9.610	41.225	31.615	-14.385	46.000
961.200	-6.742	33.752	27.010	-26.990	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

.

Product	:	WAH0001
Test Item	:	General Radiated Emission
Test Site	:	No.3 OATS
Test Date	:	2018/07/06
Test Mode	:	Mode 4: Transmit (802.11ac-80BW) (5290MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
66.860	-1.769	35.772	34.003	-5.997	40.000
299.660	-14.011	39.088	25.077	-20.923	46.000
499.480	-7.470	47.243	39.773	-6.227	46.000
749.740	-5.955	39.788	33.833	-12.167	46.000
875.840	-4.310	42.747	38.437	-7.563	46.000
1000.000	-0.430	41.483	41.053	-12.947	54.000
Vertical					
Peak Detector					
88.200	-5.862	40.015	34.153	-9.347	43.500
299.660	-13.321	38.211	24.890	-21.110	46.000
499.480	-9.660	41.788	32.128	-13.872	46.000
749.740	-7.895	39.206	31.311	-14.689	46.000
875.840	-9.610	41.032	31.422	-14.578	46.000
1000.000	-11.160	38.403	27.243	-26.757	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product	:	WAH0001
Test Item	:	General Radiated Emission
Test Site	:	No.3 OATS
Test Date	:	2018/07/06
Test Mode	:	Mode 4: Transmit (802.11ac-80BW) (5610MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
74.620	-10.424	42.552	32.128	-7.872	40.000
350.100	-10.623	36.798	26.175	-19.825	46.000
499.480	-7.470	47.166	39.696	-6.304	46.000
701.240	-7.011	36.403	29.392	-16.608	46.000
875.840	-4.310	42.884	38.574	-7.426	46.000
1000.000	-0.430	41.132	40.702	-13.298	54.000
Vertical					
Peak Detector					
88.200	-5.862	40.198	34.336	-9.164	43.500
299.660	-13.321	38.012	24.691	-21.309	46.000
499.480	-9.660	41.550	31.890	-14.110	46.000
749.740	-7.895	38.081	30.186	-15.814	46.000
875.840	-9.610	41.393	31.783	-14.217	46.000
1000.000	-11.160	37.625	26.465	-27.535	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

.

`

Product	:	WAH0001
Test Item	:	General Radiated Emission
Test Site	:	No.3 OATS
Test Date	:	2018/07/06
Test Mode	:	Mode 4: Transmit (802.11ac-80BW) (5775MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
72.680	-8.373	41.685	33.312	-6.688	40.000
299.660	-14.011	38.900	24.889	-21.111	46.000
499.480	-7.470	47.077	39.607	-6.393	46.000
701.240	-7.011	35.587	28.576	-17.424	46.000
875.840	-4.310	42.851	38.541	-7.459	46.000
1000.000	-0.430	41.617	41.187	-12.813	54.000
Vertical					
Peak Detector					
88.200	-5.862	39.729	33.867	-9.633	43.500
288.020	-14.743	40.733	25.990	-20.010	46.000
499.480	-9.660	42.088	32.428	-13.572	46.000
749.740	-7.895	38.634	30.739	-15.261	46.000
875.840	-9.610	41.655	32.045	-13.955	46.000
1000.000	-11.160	38.865	27.705	-26.295	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.