



## FCC Part 15.407

## TEST REPORT

For

### Draytek Corporation

No. 26, Fu shing Rd., Hukou County, Hsinchu Industrial Park Hsinchu, 303, Taiwan

**FCC ID: VGY2862**

<b>Report Type:</b> Original Report	<b>Product Type:</b> VDSL2 & ADSL2 + Dual-WAN Security Router
<b>Report Producer:</b> Kaylee Chiang	<i>Kaylee Chiang</i>
<b>Report Number:</b> RTWA170214001-00C	
<b>Report Date:</b> 2017-09-25	
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**Note:** This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Taiwan)

**REVISION HISTORY**

Revision	Issue Date	Description
1.0	2017-09-25	Original

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## 1 General Information

### 1.1 Product Description for Equipment Under Test (EUT)

<b>Applicant</b>	: Draytek Corporation No. 26, Fu shing Rd., Hukou County, Hsinchu Industrial Park Hsinchu, 303, Taiwan
<b>Manufacturer</b>	: Draytek Corporation No. 26, Fu shing Rd., Hukou County, Hsinchu Industrial Park Hsinchu, 303, Taiwan
<b>Product</b>	: VDSL2 & ADSL2 + Dual-WAN Security Router
<b>Model</b>	: Vigor2862BLgVac
<b>Series Model</b>	: <i>Please refer to DECLARATION OF SIMILARITY</i>
<b>Trade Name</b>	: DrayTek
<b>Frequency Range</b>	: 5150 MHz ~ 5250 MHz, 5745 MHz ~ 5850 MHz CDD Mode IEEE 802.11a Mode: 22.70dBm IEEE802.11ac VHT20 Mode: 21.38dBm IEEE 802.11ac VHT40 Mode: 23.52dBm
<b>Transmit Power</b>	: IEEE 802.11ac VHT80 Mode: 22.92dBm Beamforming Mode: IEEE802.11ac VHT20 Mode: 23.44dBm IEEE 802.11ac VHT40 Mode: 21.30dBm IEEE 802.11ac VHT80 Mode: 18.07dBm IEEE 802.11a: OFDM IEEE 802.11ac VHT 20 Mode: OFDM IEEE 802.11ac VHT 40 Mode: OFDM IEEE 802.11ac VHT 80 Mode: OFDM
<b>Modulation Technique</b>	: IEEE 802.11a / IEEE802.11n HT20 Mode: 9 Channels
<b>Number of Channels</b>	: IEEE 802.11ac VHT40 Mode: 4 Channels IEEE 802.11ac VHT80 Mode: 2 Channels
<b>Antenna Specification</b>	: Dipole Antenna / Gain: 4.45 dBi
<b>Voltage Range</b>	: I/P: 100-240Vac, 50-60Hz O/P: 12Vdc
<b>Date of Test</b>	: Feb 22, 2017~ Sep 23, 2017

*\*All measurement and test data in this report was gathered from production sample serial number: 17021401  
(Assigned by BACL, Taiwan) The EUT supplied by the applicant was received on 2017-02-14.*

**Adaptor 1 Information:**

Model: WA-36A12FU

I/P: 100-240Vac, 50-60Hz, 0.9A Max

O/P: 12Vdc, 3A

**Adaptor 3 Information:**

Model: 2ABB018F US

I/P: 100-240Vac, 50-60Hz, 0.6A

O/P: 12Vdc, 1.5A

**Adaptor 2 Information:**

Model: 2ABN036F US

I/P: 100-240Vac, 50-60Hz, 1.0A

O/P: 12Vdc, 3A

**Adaptor 4 Information:**

Model: 2ABL030F US

I/P: 100-240Vac, 50-60Hz, 1.0A

O/P: 12Vdc, 2.5A

## 1.2 Objective

This report is prepared on behalf of *Draytek Corporation* in accordance with Part 2, Subpart J, Part 15, Subparts A, C and E of the Federal Communication Commission's rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart E, and section 15.203, 15.205, 15.207, 15.209 and 15.407 rules.

## 1.3 Related Submittal(s)/Grant(s)

FCC Part 15.247 DTS submission with FCC ID: VGY2862

## 1.4 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

KDB 662911 D01 Multiple Transmitter Output v02r01

KDB 789033 D02 General U-NII Test Procedures New Rules v01r04

## 1.5 Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Taiwan) to collect test data is located on

☒ 70, Lane 169, Sec. 2, Datong Road, Xizhi Dist., New Taipei City 22183, Taiwan, R.O.C.

☐ 68-3, Lane 169, Sec. 2, Datong Road, Xizhi Dist., New Taipei City 22183, Taiwan, R.O.C.

Bay Area Compliance Laboratories Corp. (Taiwan) Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 3180) and the FCC designation No. TW3180 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.10.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 974454. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

## 2 System Test Configuration

### 2.1 Description of Test Configuration

The system was configured for testing in an engineering mode, which is provided by manufacture.

There are two modes of EUT for 802.11n/ac in 5GHz. One is beamforming mode, and the other is non-beamforming mode. Both modes have been tested and recorded in this test report.

The system support 802.11a/n ht20/n ht40/ac vht20/ac vht40/ac vht80, the ht20/ht40 were reduced since the identical parameters with 802.11ac vht20 and vht40.

For 5150 ~ 5250MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
40	5200	48	5240

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
42	5210

For 802.11a, 802.11ac vht20, Channel 36, 40 and 48 was tested, for 802.11ac vht40, Channel 38, 46 were tested, for 802.11ac 80, channel 42 was tested.

FOR 5745 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	161	5805
153	5765	165	5825
157	5785		

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
155	5775

For 802.11a, 802.11ac vht20, Channel 149, 157 and 165 was tested, for 802.11ac vht40, Channel 151, 159 was tested, for 802.11ac 80, channel 155 was tested.

The device supports SISO at all modes and MIMO at 802.11n modes.

SISO mode and MIMO mode have the same power level setting and base on output power testing, MIMO mode power than SISO mode large, MIMO mode was selected for full testing.

## **2.2 Equipment Modifications**

No modification was made to the EUT

## **2.3 Test Mode**

Mode 1: Full System (Vigor2862BLgVac, Adapter WA-36A12FU) tested all measure item.

Mode 2: Full System (Vigor2862BLgFVac, Adapter WA-36A12FU) tested Radiated Emission below 1GHz.

The mode difference is fiber function.

Mode 3: Full System (Vigor2862BLgVac, Adapter 2ABN036F US) tested Radiated Emission below 1GHz and AC Line Conducted Emissions.

Mode 4: Full System (Vigor2862BLgVac, Adapter 2ABB018F US) tested Radiated Emission below 1GHz and AC Line Conducted Emissions.

Mode 5: Full System (Vigor2862BLgVac, Adapter 2ABL030F US) tested Radiated Emission below 1GHz and AC Line Conducted Emissions.

## **2.4 EUT Exercise Software**

Non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

Beamforming mode:

During the test, the following programs under WIN XP were executed.

The program was executed as follows:

1. During the test, the EUT operation to normal function.
2. Executed command fixed test channel under Telnet.
3. Executed "Lantest.exe" to link with the remote workstation to transmit and receive packet by RX device.



The software was used “MP-Tool RTL819 x3.0”.

#### CDD

UNII Band	Mode	Channel	Frequency (MHz)	Power setting			
				Chain 0	Chain 1	Chain 2	Chain3
UNII-1	802.11a	36	5180	13	13	13	13
		40	5200	13	13	13	13
		48	5240	13	13	13	13
UNII-3		149	5745	18	18	18	18
		157	5785	17	17	17	17
		165	5825	17	17	17	17
UNII-1	802.11n 20 / ac20	36	5180	13	13	13	13
		40	5200	13	13	13	13
		48	5240	13	13	13	13
UNII-3		149	5745	17	17	17	17
		157	5785	17	17	17	17
		165	5825	17	17	17	17
UNII-1	802.11n 40 / ac 40	38	5190	15	15	15	15
		46	5230	15	15	15	15
UNII-3		151	5755	18	18	18	18
		159	5795	18	18	18	18
UNII-1	802.11 ac 80	42	5210	14	14	14	14
UNII-3		155	5775	18	18	18	18

#### Beamforming

UNII-1	802.11n 20 / ac20	36	5180	16	16	16	16
		40	5200	16	16	16	16
		48	5240	17	17	17	17
UNII-3		149	5745	25	25	25	25
		157	5785	25	25	25	25
		165	5825	23	23	23	23
UNII-1	802.11n 40 / ac 40	38	5190	16	16	16	16
		46	5230	19	19	19	19
UNII-3		151	5755	23	23	23	23
		159	5795	23	23	23	23
UNII-1	802.11 ac 80	42	5210	18	18	18	18
UNII-3		155	5775	20	20	20	20

The EUT was configured for testing in an engineering mode which was provided by the manufacturer.

The worst-case data rates are determined to be as follows for each mode based upon investigations by measuring the average power and PSD across all data rates bandwidths, and modulations.

802.11a: MIMO(CDD) Mode :6Mbps  
 802.11ac vht20 MIMO(CDD) Mode: MCS0  
 802.11ac vht40 MIMO(CDD) Mode: MCS0  
 802.11ac vht80 MIMO(CDD) Mode: MCS0 Nss =1  
 802.11ac vht20 MIMO(beamforming) Mode: MCS0  
 802.11ac vht40 MIMO(beamforming) Mode: MCS0  
 802.11ac vht80 MIMO(beamforming) Mode: MCS0 Nss =1

## 2.5 Support Equipment List and Details

Description	Manufacturer	Model Number	S/N
Telephone	ASITO	AS-10301	3CN061J03758
Telephone	TECO	N/A	XYFXC601
USB dongle	Kingston	N/A	N/A
USB dongle	Kingston	N/A	N/A
NB	Dell	E6410	10912240367
PSTN	Draytek	N/A	N/A

## 2.6 External Cable List and Details

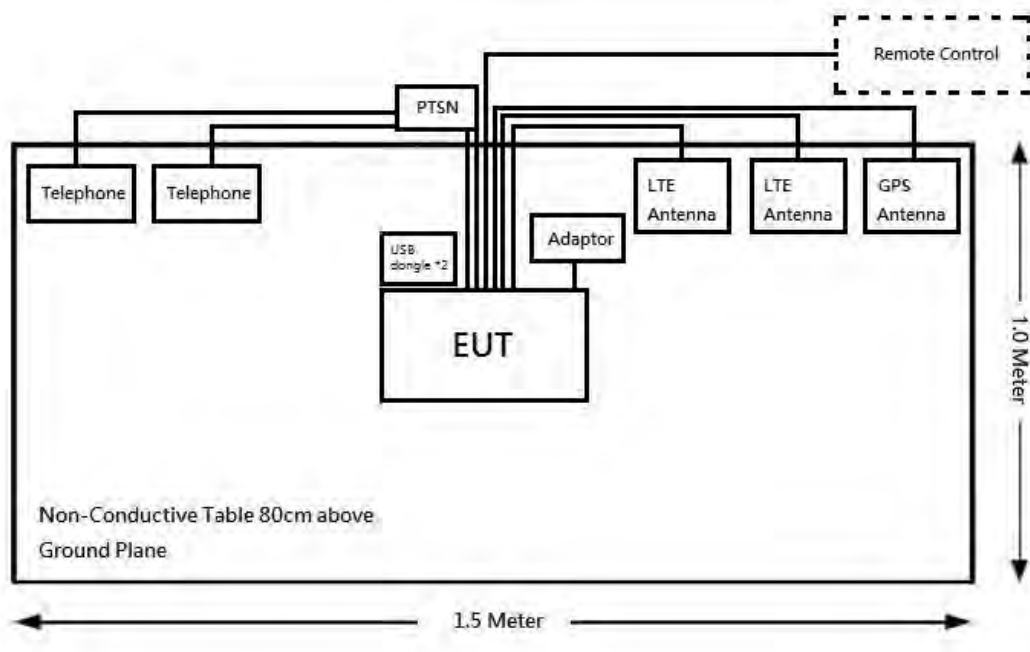
Cable Description	Length (m)	From	To
RJ11 Cable * 2	2M	Telephone	EUT
LTE Extension cord	1M	LTE Antenna	EUT
LTE Extension cord	1M	LTE Antenna	EUT
GPS Extension cord	1M	GPS Antenna	EUT
RJ45 Cable * 4	10M	Remote Control	EUT

## 2.7 Block Diagram of Test Setup

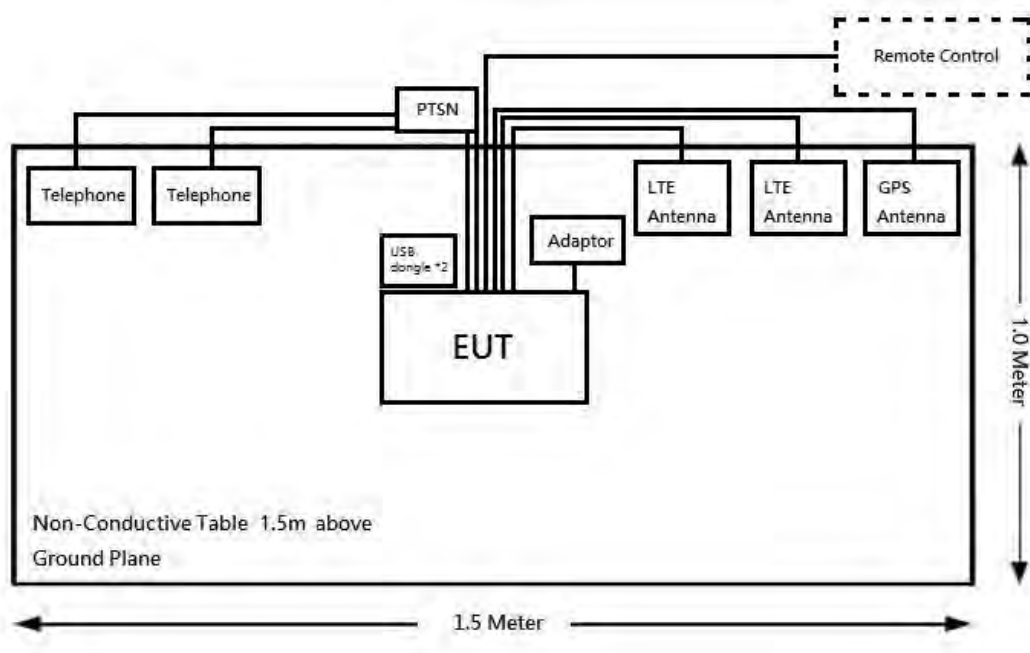
See test photographs attached in Exhibit A for the actual connections between EUT and support equipment.

### Radiation:

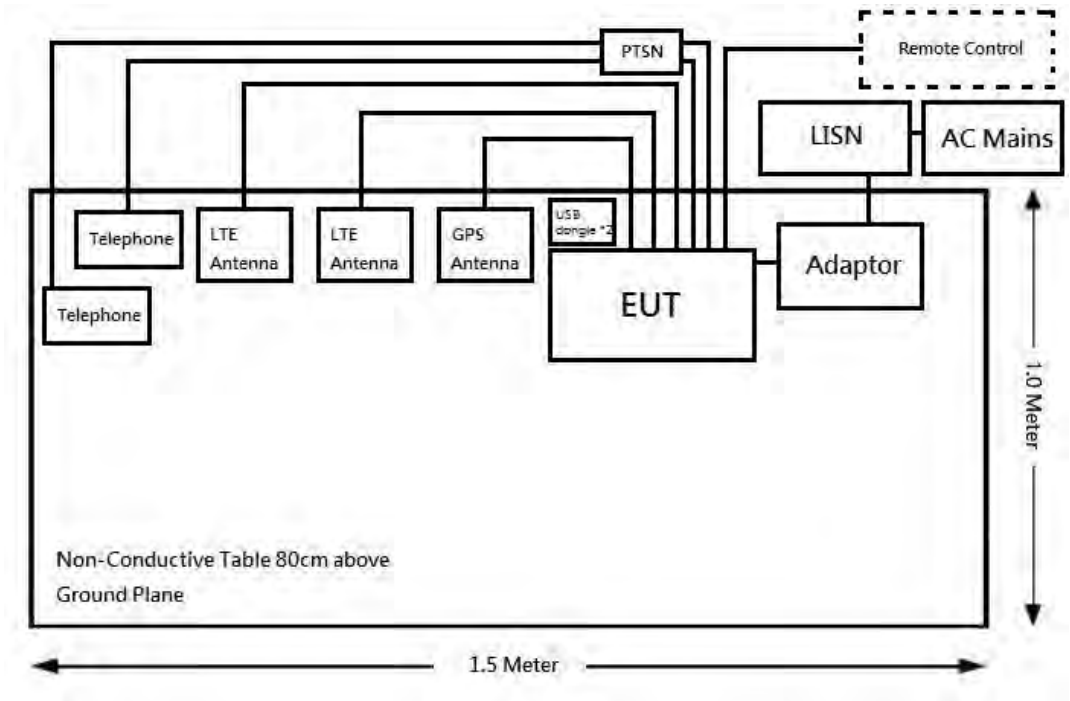
Below 1GHz:



Above 1GHz:



Conduction:



## 2.8 Duty Cycle

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r04 section B:

All measurements are to be performed with the EUT transmitting at 100% duty cycle at its maximum power control level; however, if 100% duty cycle cannot be achieved, measurements of duty cycle, x, and maximum power transmission duration, T, are required for each tested mode of operation.

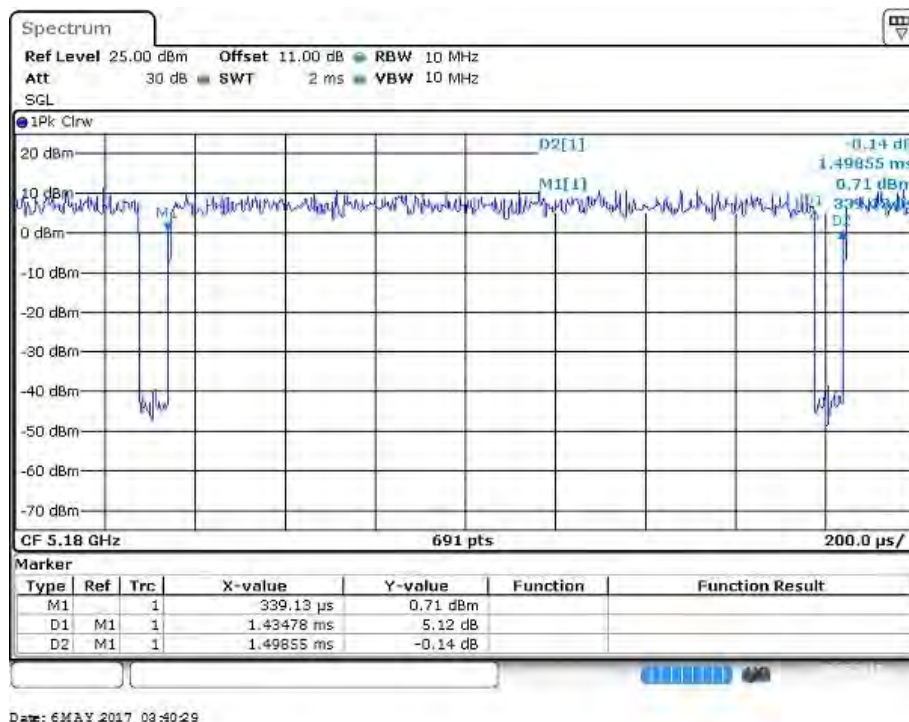
Radio Mode	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
CDD Mode				
802.11a	1.43	1.50	95	0.22
802.11ac20	1.34	1.41	96	0.18
802.11ac40	0.67	0.74	90	0.46
802.11ac80	0.32	0.40	81	0.92
Beamforming Mode				
802.11ac20	1.75	1.88	93	0.32
802.11ac40	1.94	2.11	92	0.36
802.11ac80	1.68	1.82	92	0.36

Note: Duty Cycle Correction Factor =  $10 \cdot \log(1/\text{duty cycle})$

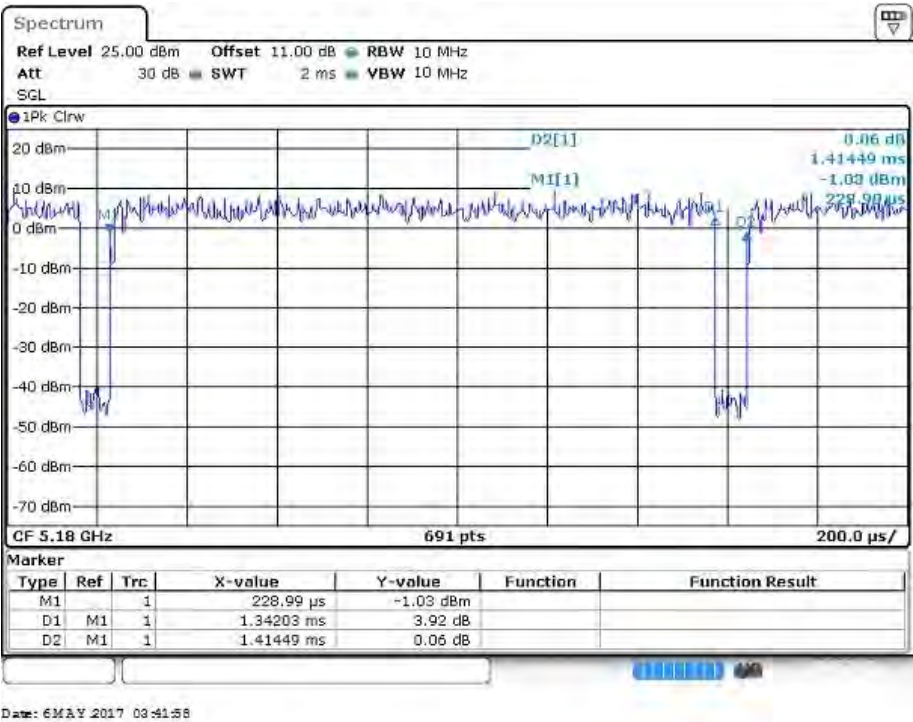
Please refer to the following plots.

CDD Mode

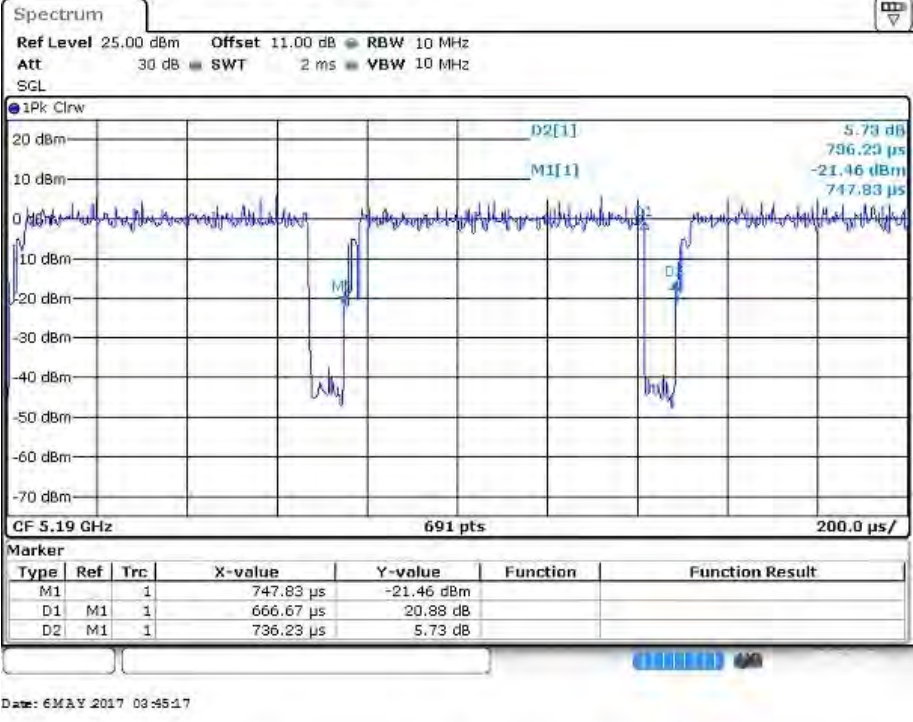
A Mode



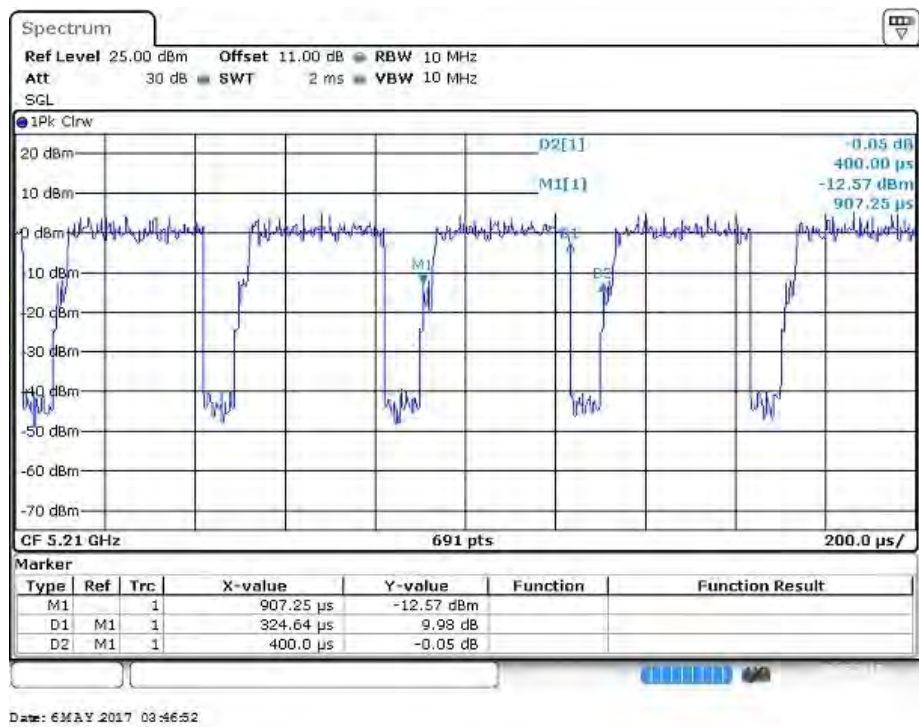
AC20 Mode



AC40 Mode

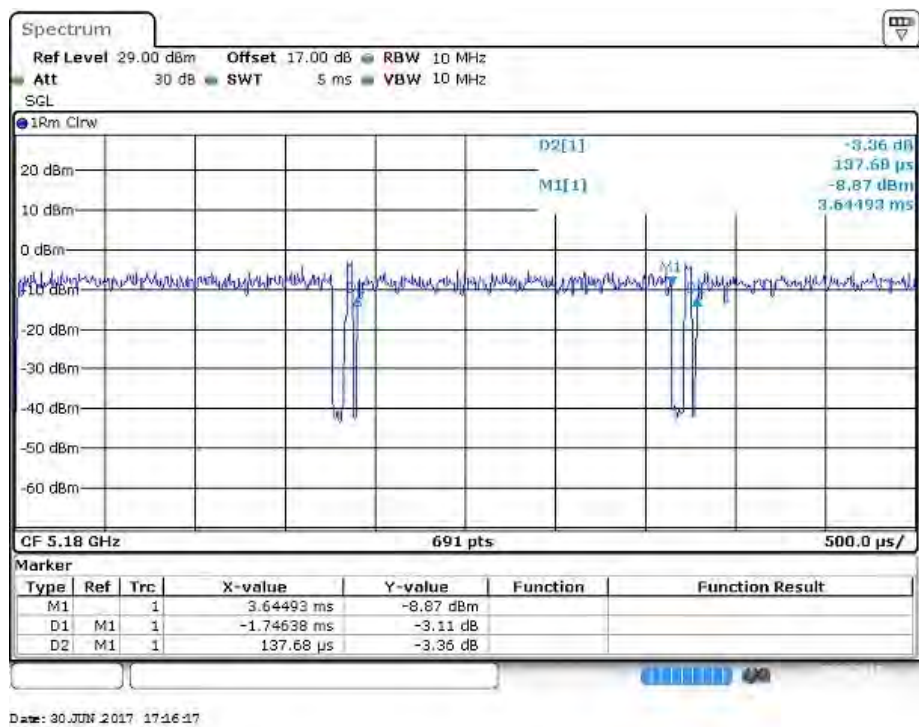


AC80 Mode



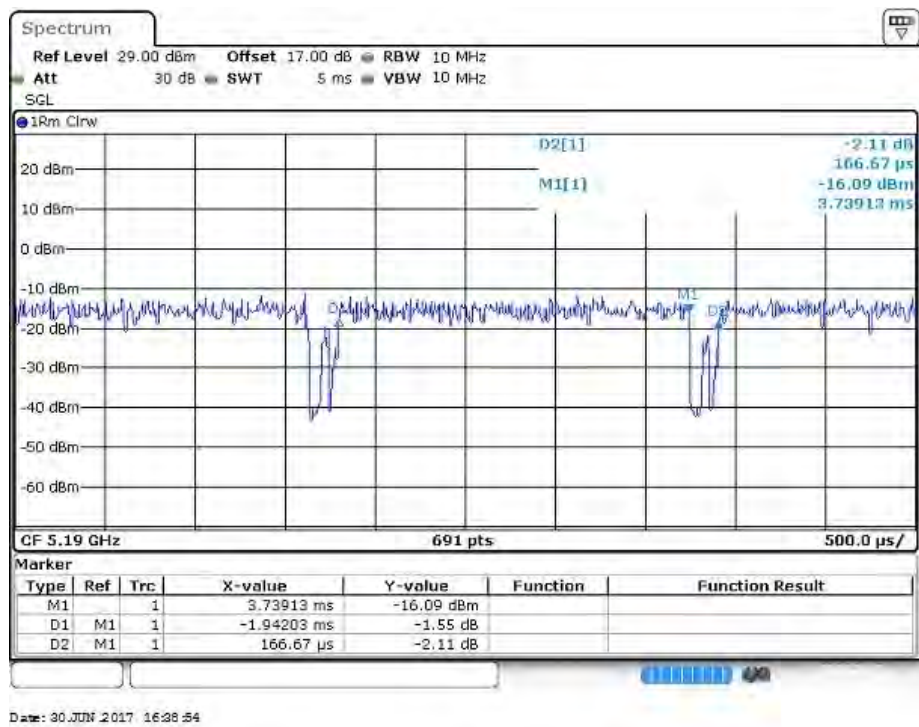
Beamforming Mode

AC20 Mode

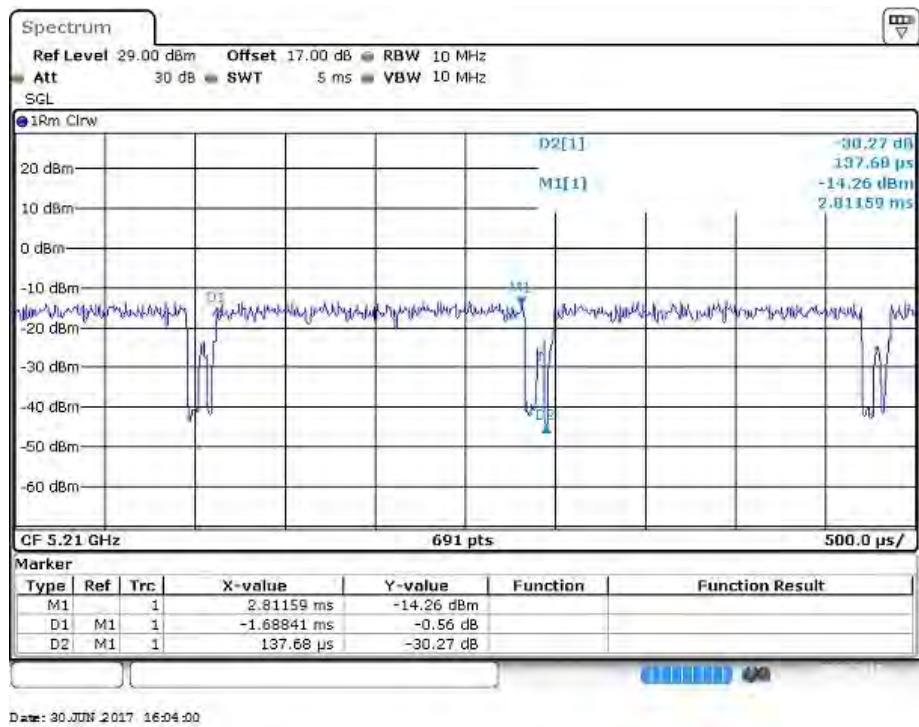




AC40 Mode



AC80 Mode





### 3 Summary of Test Results

FCC Rules	Description of Test	Result
§15.407 (f) & §1.1310 & §2.1091	Maximum Permissible Exposure (MPE)	Compliance
§15.203	Antenna Requirement	Compliance
§15.407(b)(6)& §15.207(a)	AC Line Conducted Emissions	Compliance
§15.205& §15.209 & §15.407(b)	Unwanted Emission	Compliance
§15.407(a)(5), §15.407(e)	Emission Bandwidth	Compliance
§15.407(a)(1), §15.407(a)(3)	Conducted Transmitter Output Power	Compliance
§15.407 (a)(1), §15.407(a) (3)	Power Spectral Density	Compliance

## 4 FCC §15.407(f), §1.1310, §2.1091 - Maximum Permissible Exposure (MPE)

### 4.1 Applicable Standard

According to §15.407(f) and §1.1310, U-NII devices are subject to the radio frequency radiation exposure requirements specified in §§ 1.1307(b), and 2.1091 of this chapter, as appropriate. All equipment shall be considered to operate in a "general population/uncontrolled" environment. Applications for equipment authorization of devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request

### 4.2 RF Exposure Evaluation Result

MPE evaluation for single transmission:

Mode	Frequency Range (MHz)	Antenna Gain		Target Power		Evaluation Distance (cm)	Power Density (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
		(dBi)	(numeric)	(dBm)	(mW)			
2.4G WIFI	2412-2462	2.18	1.65	23.5	223.87	20	0.07	1.0
5G WIFI B1	5180-5240	4.45	1.65	21.0	125.89	20	0.07	1.0
5G WIFI B4	5745-5825	4.45	2.79	24.0	251.19	20	0.14	1.0
WCDMA B V	826.4-846.6	2.13	1.63	23.5	223.87	20	0.07	0.551
WCDMA B II	1852.4-1907.6	3.42	2.20	23.5	223.87	20	0.10	1.0
LTE B II	1850.7-1909.3	3.42	2.20	24.0	251.19	20	0.11	1.0
LTE B IV	1710.7-1754.3	3.68	2.33	24.0	251.19	20	0.17	1.0
LTE B XII	699.7-715.3	0.35	1.08	24.0	251.19	20	0.05	0.466

MPE evaluation for simultaneous transmission:

2.4G WIFI, 5G WIFI and 3G&4G can transmit at the same time, MPE evaluation is as below formula:

$PD1/Limit1 + PD2/Limit2 + \dots < 1$ , PD (Power Density)

MPE evaluation=

MPE of 2.4G WIFI/1 + MPE of 5G WIFI/1 + MPE of 3G&4G/0.564  
 $= 0.07/1 + 0.14/1 + 0.07/0.551 = 0.34 < 1.0$

**Result:** MPE evaluation of single and simultaneous transmission meet the requirement of standard.

## 5 FCC §15.203 – Antenna Requirements

### 5.1 Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

And according to FCC 47 CFR section 15.407 (a)(3), If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII 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.

### 5.2 Antenna List and Details

No.	Manufacturer	Model	Antenna Type	Antenna Gain	Connector Type	Result
Ant 1	WALSIN TECHNOLOGY CORP.	RFDPA131300 SBLB805(GP)	Dipole Antenna	4.45 dBi	RP-SMA Plug Male	Compliance
Ant 2	WALSIN TECHNOLOGY CORP.	RFDPA131300 SBLB805(GP)	Dipole Antenna	4.45 dBi	RP-SMA Plug Male	Compliance
Ant 3	WALSIN TECHNOLOGY CORP.	RFDPA131300 SBLB805(GP)	Dipole Antenna	4.45 dBi	RP-SMA Plug Male	Compliance
Ant 4	WALSIN TECHNOLOGY CORP.	RFDPA131300 SBLB805(GP)	Dipole Antenna	4.45 dBi	RP-SMA Plug Male	Compliance

The EUT have 4 external antenna for 5GHz Band, the antennas permanently attached to the unit.

## 6 FCC §15.407 (b) (6) & §15.207(a)-AC Line Conducted Emissions

### 6.1 Applicable Standard

As per FCC §15.407(a) (6)

Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207

As per FCC §15.207

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal.

**The lower limit applies at the boundary between the frequencies ranges.**

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56 <sup>Note 1</sup>	56 to 46 <sup>Note 2</sup>
0.5-5	56	46
5-30	60	50

*Note 1: Decreases with the logarithm of the frequency.*

*Note 2: A linear average detector is required*

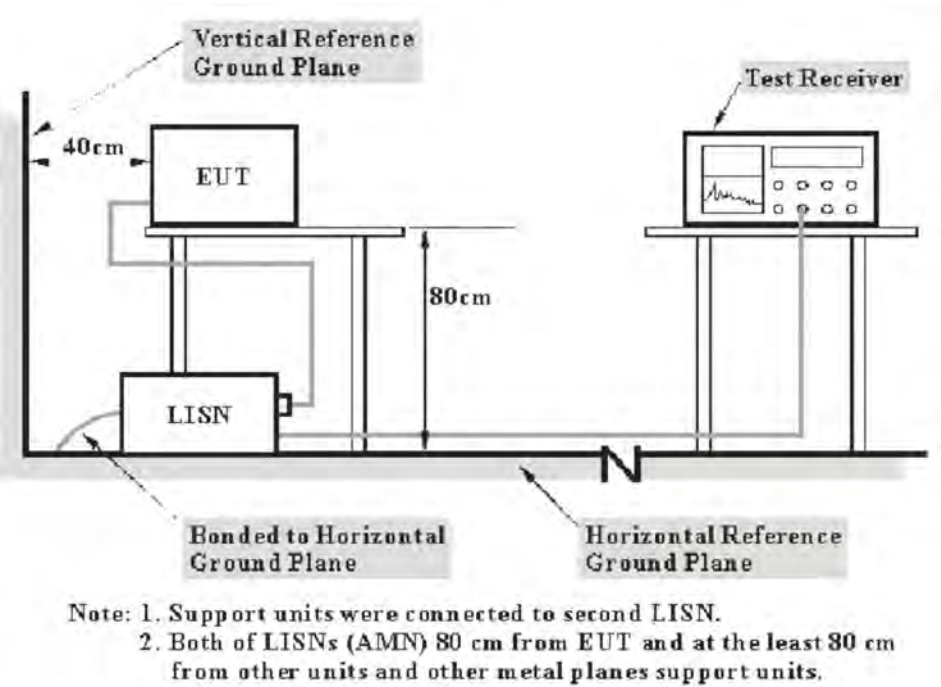
### 6.2 Measurement Uncertainty

Input quantities to be considered for conducted disturbance measurements maybe receiver reading, attenuation of the connection between LISN/ISN and receiver, LISN/ISN voltage division factor, LISN/ISN VDF frequency interpolation and receiver related input quantities, etc.

Based on CISPR 16-4-2:2011, the expended combined standard uncertainty of conducted disturbance test at Bay Area Compliance Laboratories Corp. (Taiwan) is shown as below. And the uncertainty will not be taken into consideration for the test data recorded in the report

Port	Expanded Measurement uncertainty
AC Mains	4.64 dB (k=2, 95% level of confidence)

6.3 EUT Setup



The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

6.4 EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz. During the conducted emission test, the EMI test receiver was set with the following configurations

Frequency Range	Receiver RBW
150 kHz - 30 MHz	9 kHz

6.5 Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN. Maximizing procedure was performed on the six (6) highest emissions of the EUT. All data was recorded in the Quasi-peak and average detection mode.

## 6.6 Corrected Factor & Margin Calculation

The factor is calculated by adding LISN/ISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

$$\text{Factor} = \text{LISN VDF} + \text{Cable Loss} + \text{Transient Limiter Attenuation}$$

The “Over Limit” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an over limit of -7 dB means the emission is 7 dB below the limit. The equation for Over Limit calculation is as follows:

$$\text{Over Limit} = \text{Level} - \text{Limit Line}$$

## 6.7 Test Equipment List and Details

Manufacturers	Descriptions	Models	Serial Numbers	Calibration Date	Calibration Due Date
LISN	Rohde & Schwarz	ENV216	101248	2017/07/20	2018/07/19
LISN	EMCO	3816/2	00075848	2017/08/02	2018/08/01
EMI Test Receiver	Rohde & Schwarz	ESR7	101419	2016/11/03	2017/11/02
Pulse Limiter	Rohde & Schwarz	ESH3Z2	TXZEM025	2017/08/11	2018/08/10
RF Cable	EMEC	EM-CB5D	001	2017/07/24	2018/07/23
Software	AUDIX	E3	V9.150826k	N.C.R	N.C.R

\* **Statement of Traceability:** BACL Corp. attests that all calibrations have been performed according to TAF requirements, traceable to the ETC.

## 6.8 Test Environmental Conditions

Temperature:	25 °C
Relative Humidity:	58 %
ATM Pressure:	1020 hPa

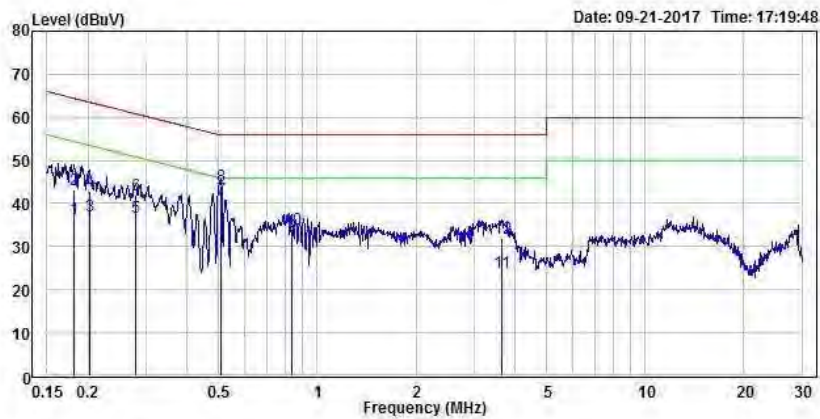
*The testing was performed by David Hsu on 2017-09-21.*

## 6.9 Test Results

Test Mode: Transmitting mode

Please refer to the following plots and tables.

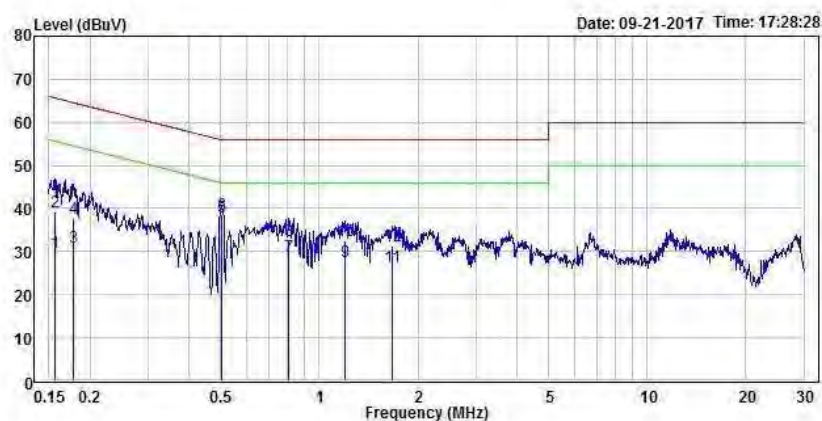
Main: AC 120V/60 Hz, Line (Mode 1)



Condition: Line

EUT :  
Mode :  
Note : 120V/60Hz,

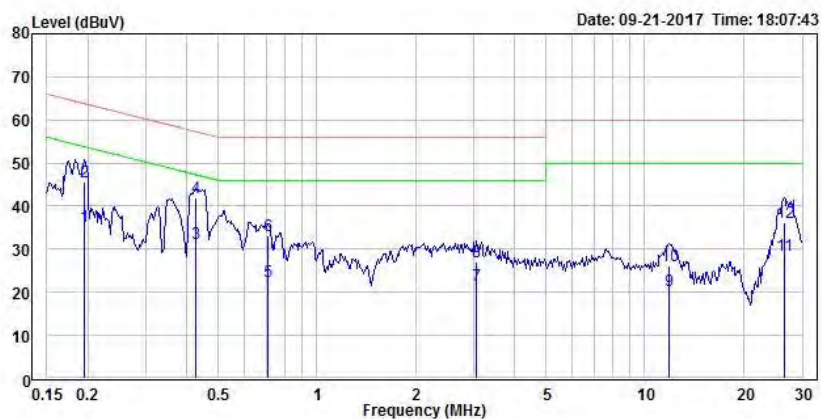
	Freq	Level	Limit	Over		Read		
	MHz	dBuV	Line	Limit	Factor	Level	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB	dB	dBuV		
1	0.181	36.35	54.44	-18.09	19.57	16.78	Average	Line
2	0.181	43.31	64.44	-21.13	19.57	23.74	QP	Line
3	0.202	37.23	53.55	-16.32	19.58	17.65	Average	Line
4	0.202	42.94	63.55	-20.61	19.58	23.36	QP	Line
5	0.279	36.86	50.86	-14.00	19.56	17.30	Average	Line
6	0.279	41.95	60.86	-18.91	19.56	22.39	QP	Line
7	0.507	41.00	46.00	-5.00	19.55	21.45	Average	Line
8	0.507	44.06	56.00	-11.94	19.55	24.51	QP	Line
9	0.835	32.57	46.00	-13.43	19.58	12.99	Average	Line
10	0.835	34.18	56.00	-21.82	19.58	14.60	QP	Line
11	3.644	23.93	46.00	-22.07	19.63	4.30	Average	Line
12	3.644	31.97	56.00	-24.03	19.63	12.34	QP	Line

**Main: AC 120V/60 Hz, Neutral****Condition:**

EUT : Neutral  
 Mode :  
 Note : 120V/60Hz,

	Freq	Level	Limit	Over		Read		
	MHz	dBuV	Line	Limit	Factor	Level	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB	dB	dBuV		
1	0.156	29.89	55.67	-25.78	19.55	10.34	Average	Neutral
2	0.156	39.38	65.67	-26.29	19.55	19.83	QP	Neutral
3	0.178	31.00	54.57	-23.57	19.54	11.46	Average	Neutral
4	0.178	37.82	64.57	-26.75	19.54	18.28	QP	Neutral
5	0.505	38.02	46.00	-7.98	19.55	18.47	Average	Neutral
6	0.505	38.59	56.00	-17.41	19.55	19.04	QP	Neutral
7	0.809	28.86	46.00	-17.14	19.57	9.29	Average	Neutral
8	0.809	32.58	56.00	-23.42	19.57	13.01	QP	Neutral
9	1.196	27.72	46.00	-18.28	19.60	8.12	Average	Neutral
10	1.196	32.61	56.00	-23.39	19.60	13.01	QP	Neutral
11	1.666	26.49	46.00	-19.51	19.63	6.86	Average	Neutral
12	1.666	31.38	56.00	-24.62	19.63	11.75	QP	Neutral



**Main: AC 120V/60 Hz, Line (Mode 3)**

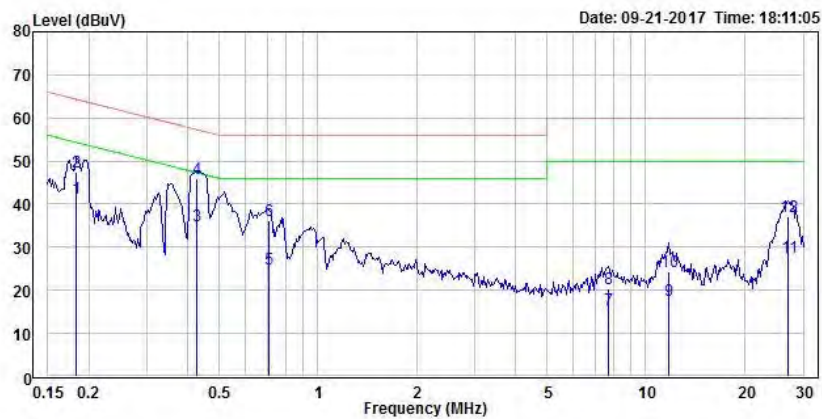
Condition: Line

EUT :

Mode :

Note : 120V/60Hz,

	Freq	Level	Limit	Over		Read		
	MHz	dBuV	Line	Limit	Factor	Level	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB	dB	dBuV		
1	0.195	35.15	53.82	-18.67	19.50	15.65	Average	Line
2	0.195	45.60	63.82	-18.22	19.50	26.10	QP	Line
3	0.426	31.21	47.33	-16.12	19.51	11.70	Average	Line
4	0.426	42.02	57.33	-15.31	19.51	22.51	QP	Line
5	0.709	22.44	46.00	-23.56	19.52	2.92	Average	Line
6	0.709	33.24	56.00	-22.76	19.52	13.72	QP	Line
7	3.073	21.52	46.00	-24.48	19.63	1.89	Average	Line
8	3.073	27.13	56.00	-28.87	19.63	7.50	QP	Line
9	11.905	20.30	50.00	-29.70	19.77	0.53	Average	Line
10	11.905	26.25	60.00	-33.75	19.77	6.48	QP	Line
11	26.409	28.46	50.00	-21.54	19.87	8.59	Average	Line
12	26.409	36.15	60.00	-23.85	19.87	16.28	QP	Line

**Main: AC 120V/60 Hz, Neutral**

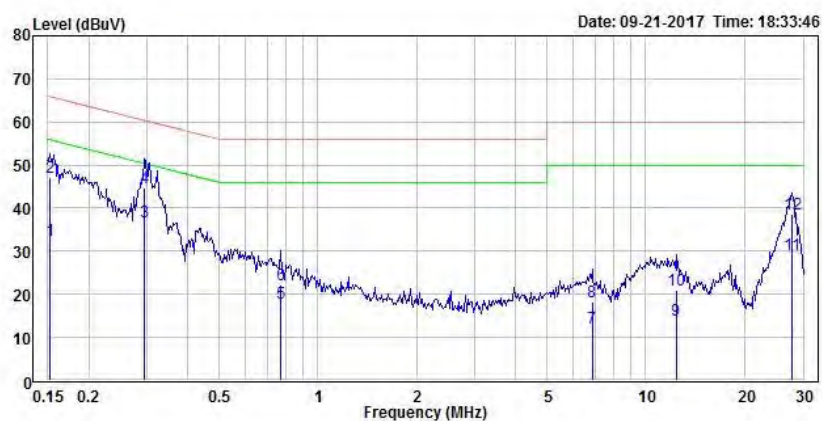
Condition: Neutral

EUT :

Mode :

Note : 120V/60Hz,

	Freq	Level	Limit	Over		Read		
	MHz	dBuV	Line	Limit	Factor	Level	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB	dB	dBuV		
1	0.183	41.38	54.35	-12.97	19.63	21.75	Average	Neutral
2	0.183	47.48	64.35	-16.87	19.63	27.85	QP	Neutral
3	0.426	35.06	47.33	-12.27	19.64	15.42	Average	Neutral
4	0.426	45.90	57.33	-11.43	19.64	26.26	QP	Neutral
5	0.709	24.82	46.00	-21.18	19.66	5.16	Average	Neutral
6	0.709	36.17	56.00	-19.83	19.66	16.51	QP	Neutral
7	7.681	15.65	50.00	-34.35	19.88	-4.23	Average	Neutral
8	7.681	20.40	60.00	-39.60	19.88	0.52	QP	Neutral
9	11.811	17.53	50.00	-32.47	19.93	-2.40	Average	Neutral
10	11.811	24.40	60.00	-35.60	19.93	4.47	QP	Neutral
11	27.048	27.82	50.00	-22.18	20.12	7.70	Average	Neutral
12	27.048	37.20	60.00	-22.80	20.12	17.08	QP	Neutral

**Main: AC 120V/60 Hz, Line (Mode 4)**

Condition: Line

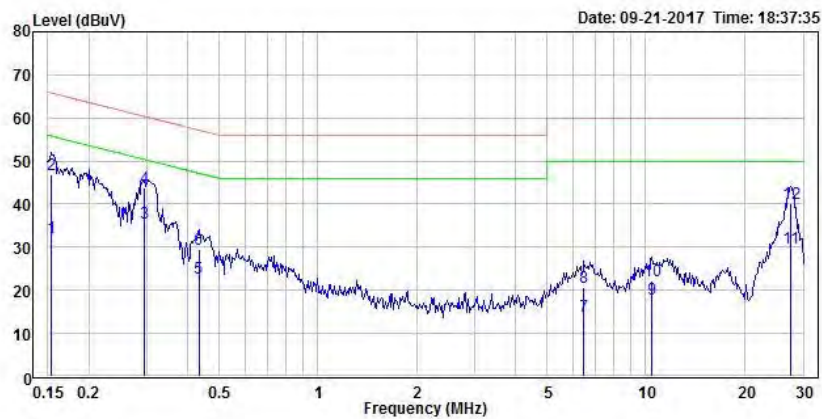
EUT :

Mode :

Note : 120V/60Hz,

	Freq	Level	Limit	Over		Read		
	MHz	dBuV	Line	Limit	Factor	Level	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB	dB	dBuV		
1	0.152	32.47	55.87	-23.40	19.50	12.97	Average	Line
2	0.152	47.20	65.87	-18.67	19.50	27.70	QP	Line
3	0.295	36.74	50.38	-13.64	19.50	17.24	Average	Line
4	0.295	44.65	60.38	-15.73	19.50	25.15	QP	Line
5	0.768	17.88	46.00	-28.12	19.52	-1.64	Average	Line
6	0.768	22.15	56.00	-33.85	19.52	2.63	QP	Line
7	6.870	12.12	50.00	-37.88	19.71	-7.59	Average	Line
8	6.870	18.26	60.00	-41.74	19.71	-1.45	QP	Line
9	12.389	14.00	50.00	-36.00	19.79	-5.79	Average	Line
10	12.389	20.89	60.00	-39.11	19.79	1.10	QP	Line
11	27.703	29.28	50.00	-20.72	19.88	9.40	Average	Line
12	27.703	38.54	60.00	-21.46	19.88	18.66	QP	Line

Main: AC 120V/60 Hz, Neutral

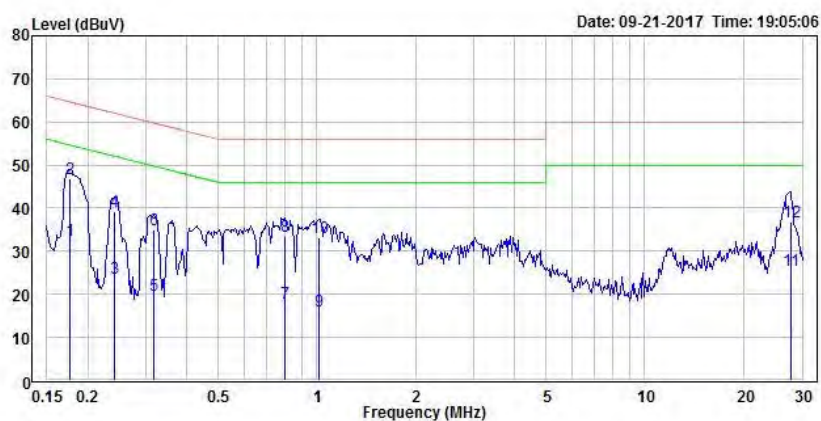


Condition: Neutral

EUT :  
Mode :  
Note : 120V/60Hz,

	Freq	Level	Limit	Over		Read		
	MHz	dBuV	Line	Limit	Factor	Level	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB	dB	dBuV		
1	0.154	32.35	55.80	-23.45	19.63	12.72	Average	Neutral
2	0.154	46.91	65.80	-18.89	19.63	27.28	QP	Neutral
3	0.295	35.63	50.38	-14.75	19.63	16.00	Average	Neutral
4	0.295	43.79	60.38	-16.59	19.63	24.16	QP	Neutral
5	0.433	22.73	47.20	-24.47	19.64	3.09	Average	Neutral
6	0.433	29.36	57.20	-27.84	19.64	9.72	QP	Neutral
7	6.498	14.13	50.00	-35.87	19.85	-5.72	Average	Neutral
8	6.498	20.55	60.00	-39.45	19.85	0.70	QP	Neutral
9	10.480	17.90	50.00	-32.10	19.91	-2.01	Average	Neutral
10	10.480	22.12	60.00	-37.88	19.91	2.21	QP	Neutral
11	27.483	29.87	50.00	-20.13	20.13	9.74	Average	Neutral
12	27.483	40.29	60.00	-19.71	20.13	20.16	QP	Neutral



**Main: AC 120V/60 Hz, Line (Mode 5)**

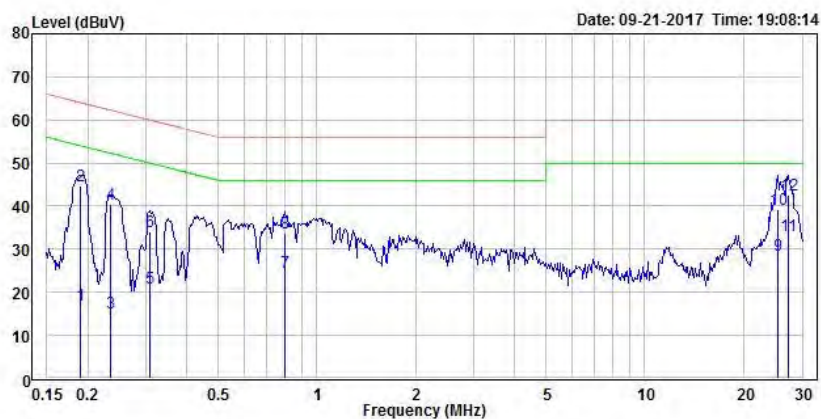
Condition: Line

EUT :

Mode :

Note : 120V/60Hz,

	Freq	Level	Limit	Over		Read		
	MHz	dBuV	Line	Limit	Factor	Level	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB	dB	dBuV		
1	0.176	32.68	54.68	-22.00	19.50	13.18	Average	Line
2	0.176	46.94	64.68	-17.74	19.50	27.44	QP	Line
3	0.242	23.67	52.03	-28.36	19.50	4.17	Average	Line
4	0.242	39.24	62.03	-22.79	19.50	19.74	QP	Line
5	0.317	19.76	49.78	-30.02	19.51	0.25	Average	Line
6	0.317	34.95	59.78	-24.83	19.51	15.44	QP	Line
7	0.799	17.81	46.00	-28.19	19.52	-1.71	Average	Line
8	0.799	33.52	56.00	-22.48	19.52	14.00	QP	Line
9	1.015	16.12	46.00	-29.88	19.53	-3.41	Average	Line
10	1.015	33.02	56.00	-22.98	19.53	13.49	QP	Line
11	27.703	25.69	50.00	-24.31	19.88	5.81	Average	Line
12	27.703	36.83	60.00	-23.17	19.88	16.95	QP	Line

**Main: AC 120V/60 Hz, Neutral**

Condition: Neutral

EUT :

Mode :

Note : 120V/60Hz,

	Freq	Level	Limit	Over		Read		
	MHz	dBuV	Line	Limit	Factor	Level	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB	dB	dBuV		
1	0.189	17.15	54.08	-36.93	19.63	-2.48	Average	Neutral
2	0.189	44.78	64.08	-19.30	19.63	25.15	QP	Neutral
3	0.234	15.33	52.29	-36.96	19.63	-4.30	Average	Neutral
4	0.234	40.33	62.29	-21.96	19.63	20.70	QP	Neutral
5	0.310	20.86	49.98	-29.12	19.63	1.23	Average	Neutral
6	0.310	34.18	59.98	-25.80	19.63	14.55	QP	Neutral
7	0.799	24.55	46.00	-21.45	19.66	4.89	Average	Neutral
8	0.799	33.77	56.00	-22.23	19.66	14.11	QP	Neutral
9	25.378	28.70	50.00	-21.30	20.09	8.61	Average	Neutral
10	25.378	39.32	60.00	-20.68	20.09	19.23	QP	Neutral
11	27.265	33.13	50.00	-16.87	20.12	13.01	Average	Neutral
12	27.265	42.48	60.00	-17.52	20.12	22.36	QP	Neutral

## 7 FCC §15.209, §15.205 & §15.407(b) – UNWANTED EMISSION

### 7.1 Applicable Standard

As Per FCC §15.205(a) and RSS-Gen except as show in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 – 0.110	16.42 – 16.423	960 – 1240	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	1300 – 1427	5.35 – 5.46
2.1735 – 2.1905	25.5 – 25.67	1435 – 1626.5	7.25 – 7.75
4.125 – 4.128	37.5 – 38.25	1645.5 – 1646.5	8.025 – 8.5
4.17725 – 4.17775	73 – 74.6	1660 – 1710	9.0 – 9.2
4.20725 – 4.20775	74.8 – 75.2	1718.8 – 1722.2	9.3 – 9.5
6.215 – 6.218	108 – 121.94	2200 – 2300	10.6 – 12.7
6.26775 – 6.26825	123 – 138	2310 – 2390	13.25 – 13.4
6.31175 – 6.31225	149.9 – 150.05	2483.5 – 2500	14.47 – 14.5
8.291 – 8.294	156.52475 – 156.52525	2690 – 2900	15.35 – 16.2
8.362 – 8.366	156.7 – 156.9	3260 – 3267	17.7 – 21.4
8.37625 – 8.38675	162.0125 – 167.17	3.332 – 3.339	22.01 – 23.12
8.41425 – 8.41475	167.72 – 173.2	3.3458 – 3.358	23.6 – 24.0
12.29 – 12.293	240 – 285	3.600 – 4.400	31.2 – 31.8
12.51975 – 12.52025	322 – 335.4		36.43 – 36.5
12.57675 – 12.57725	399.9 – 410		Above 38.6
13.36 – 13.41	608 – 614		

As per FCC §15.209: The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table

Frequency (MHz)	Field Strength (micro volts/meter)	Measurement Distance (meters)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100 Note 1	3
88 - 216	150 Note 1	3
216 - 960	200 Note 1	3
Above 960	500	3

Note 1: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

As per FCC Part 15.407 (b)

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- (4) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.
- (5) The provisions of §15.205 apply to intentional radiators operating under this section.

## 7.2 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

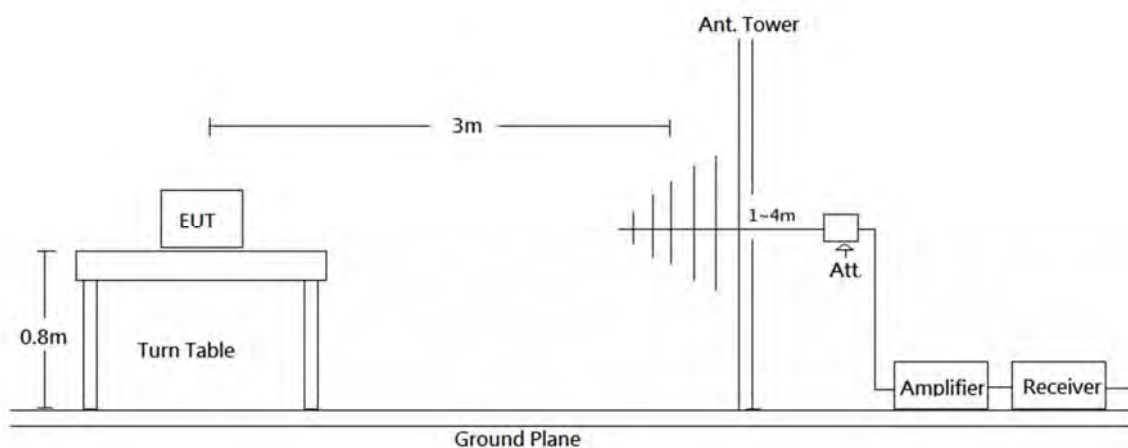
Based on CISPR 16-4-2:2011, the expended combined standard uncertainty of radiation emissions at Bay Area Compliance Laboratories Corp. (Taiwan) is shown in below table. And the uncertainty will not be taken into consideration for the test data recorded in the report.

Frequency	Measurement uncertainty
30 MHz~200 MHz	4.21 dB (k=2, 95% level of confidence)
200 MHz~1 GHz	4.41 dB (k=2, 95% level of confidence)
1 GHz~6 GHz	4.51 dB (k=2, 95% level of confidence)
6 GHz~18 GHz	4.88 dB (k=2, 95% level of confidence)
18 GHz~26 GHz	4.30 dB (k=2, 95% level of confidence)
26 GHz~40 GHz	4.30 dB (k=2, 95% level of confidence)

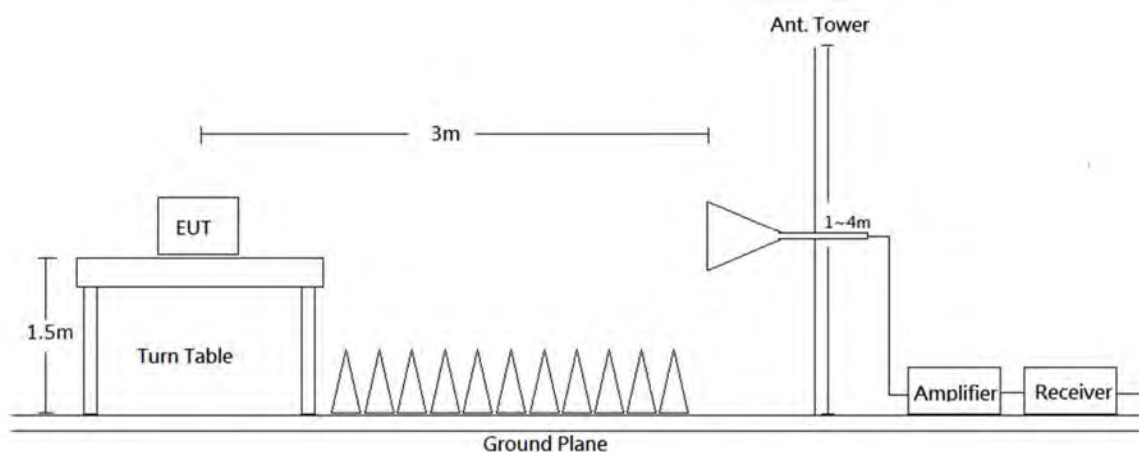


### 7.3 EUT Setup

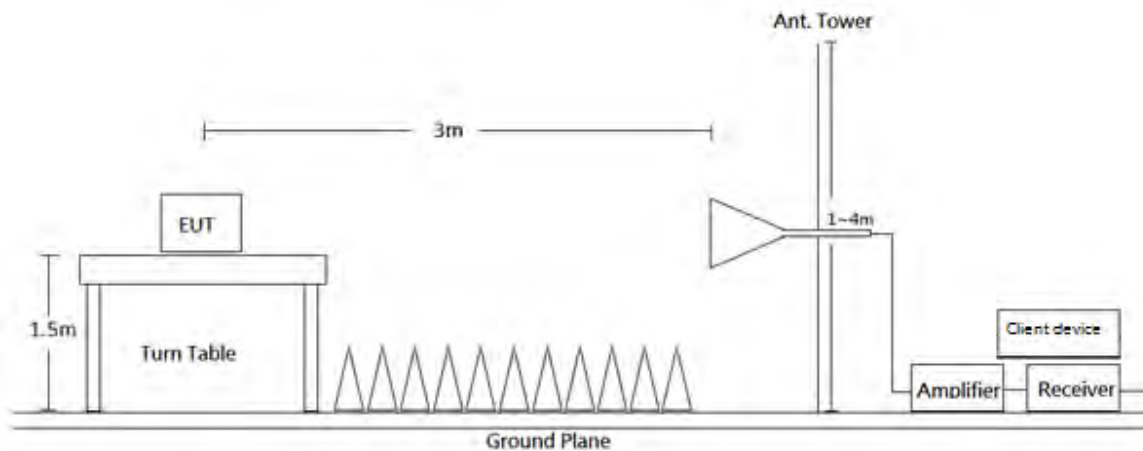
Below 1 GHz:



Above 1 GHz:



Radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC Part 15.209 and FCC 15.407 Limits.

**Beamforming Mode**

During the test, the following programs under WIN XP were executed.

The program was executed as follows:

1. During the test, the EUT operation to normal function.
2. Executed command fixed test channel under Telnet.
3. Executed "Lantest.exe" to link with the remote workstation to transmit and receive packet by RX device.
4. The client device is placed behind the receiving antenna to find the maximum field angle.

**7.4 EMI Test Receiver & Spectrum Analyzer Setup**

The system was investigated from 30 MHz to 40 GHz. During the radiated emission test, the EMI test receiver was set with the following configurations measurement method 6.3 in ANSI C63.10.

Frequency Range	RBW	VBW	Detector	Duty cycle
30-1000 MHz	120 kHz	/	QP	
Above 1 GHz	1 MHz	3 MHz	PK	
	1 MHz	10 Hz	Ave	>98%
	1 MHz	1/T	Ave	<98%

**7.5 Test Procedure**

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All data was recorded in the Quasi-peak detector mode from 30 MHz to 1 GHz and PK and average detector modes for frequencies above 1 GHz.

According to C63.10-2013, emission shall be computed as:  $E [dB\mu V/m] = EIRP[dBm] + 95.2$ , for  $d = 3$  meters.

Frequency Band 5150~5250 MHz, EIRP Limit -27(dBm/MHz)

Equivalent Field Strength at 3m is 68.23 dB $\mu$ V/m

Frequency Band 5725~5850 MHz, EIRP is all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Equivalent Field Strength at 3m is all emissions shall be limited to a level of 68.2 dBμV/m at 75 MHz or more above or below the band edge increasing linearly to 105.2 dBμV/m at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 110.8 dBμV/m at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 122.2 dBμV/m at the band edge.

## 7.6 Corrected Factor & Margin Calculation

The Correct Factor is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

$$\text{Correct Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain} + \text{Attenuator}$$

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Result} - \text{Limit}$$

## 7.7 Test Results Summary

According to the data in the following table, the EUT complied with the FCC §15.209 Limit. Refer to CISPR16-4-2:2011 and CISPR 16-4-1:2009, the measured level complies with the limit if

$$L_m + U(L_m) \leq L_{lim} + U_{cispr}$$

In BACL,  $U(L_m)$  is less than  $U_{cispr}$ , if  $L_m$  is less than  $L_{lim}$ , it implies that the EUT complies with the limit.

## 7.8 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Broadband Antenna	Sunol Sciences	JB6	A050115	2016/11/16	2017/11/15
Amplifier	Sonoma	310N	130602	2016/7/15	2017/7/14
EMI Test Receiver	Rohde & Schwarz	ESR7	101419	2016/11/3	2017/11/2
Mircoflex Cable	UTIFLEX	UFB311A-Q-1440-300300	220490-006	2016/11/2	2017/11/1
Mircoflex Cable	UTIFLEX	UFB197C-1-2362-70U-70U	225757-001	2016/7/15	2017/7/14
Mircoflex Cable	UTIFLEX	UFA210A-1-3149-300300	MFR64639 226389-001	2016/12/1	2017/11/30
Turn Table	Champro	TT-2000	060772-T	N.C.R	N.C.R
Antenna Tower	Champro	AM-BS-4500-B	060772-A	N.C.R	N.C.R
Controller	Champro	EM1000	060772	N.C.R	N.C.R
Software	Farad	EZ EMC	BACL-03A1	N.C.R	N.C.R
Horn Antenna	EMCO	3115	9311-4158	2017/05/31	2018/05/30
Horn Antenna	ETS-Lindgren	3116	00062638	2016/9/5	2017/9/4
Preamplifier	EMEC	EM01G18G	060657	2016/12/13	2017/12/12
Preamplifier	EMEC	EM18G40G	060656	2016/12/13	2017/12/12
Spectrum Analyzer	Rohde & Schwarz	FSV40	101203	2016/07/13	2016/07/12
Mircoflex Cable	ROSNAL	K1K50-UP0264-K1K50-80CM	160309-2	2017/1/20	2018/1/19
Mircoflex Cable	ROSNAL	K1K50-UP0264-K1K50-450CM	160309-1	2017/3/24	2018/3/23

\* **Statement of Traceability:** BACL Corp. attests that all calibrations have been performed according to TAF requirements, traceable to the ETC.

## 7.9 Test Environmental Conditions

<b>Temperature:</b>	24 °C
<b>Relative Humidity:</b>	57 %
<b>ATM Pressure:</b>	1020 hPa

The testing was performed by David Hsu on 2017-06-02~ 2017-06-16.

**7.10 Test Results****Below 1 GHz***Test Mode: Transmitting Mode.***Mode 1****Horizontal**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
179.38	36.29	-13.04	23.25	43.50	-20.25	100	165	QP
302.57	42.47	-9.79	32.68	46.00	-13.32	100	195	QP
467.47	42.40	-6.25	36.15	46.00	-9.85	100	82	QP
540.22	42.65	-5.14	37.51	46.00	-8.49	100	17	QP
598.42	30.46	-4.00	26.46	46.00	-19.54	100	107	QP
683.78	38.09	-3.00	35.09	46.00	-10.91	100	349	QP

**Vertical**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
127.97	33.14	-10.57	22.57	43.50	-20.93	100	87	QP
206.54	32.08	-12.19	19.89	43.50	-23.61	100	115	QP
364.65	32.63	-8.48	24.15	46.00	-21.85	100	2	QP
481.05	27.06	-6.03	21.03	46.00	-24.97	100	274	QP
613.94	27.67	-3.80	23.87	46.00	-22.13	100	265	QP
703.18	28.18	-2.77	25.41	46.00	-20.59	100	95	QP

**Mode 2****Horizontal**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
147.37	27.84	-11.15	16.69	43.50	-26.81	100	296	QP
275.41	37.01	-10.18	26.83	46.00	-19.17	100	291	QP
378.23	41.09	-8.19	32.90	46.00	-13.10	100	22	QP
576.11	33.23	-4.46	28.77	46.00	-17.23	100	76	QP
683.78	38.83	-3.00	35.83	46.00	-10.17	100	349	QP
835.10	33.35	0.12	33.47	46.00	-12.53	100	231	QP

**Vertical**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
167.74	26.27	-12.08	14.19	43.50	-29.31	100	294	QP
337.49	26.42	-9.04	17.38	46.00	-28.62	100	59	QP
509.18	28.27	-5.59	22.68	46.00	-23.32	100	279	QP
642.07	27.31	-3.45	23.86	46.00	-22.14	100	279	QP
808.91	27.31	-0.40	26.91	46.00	-19.09	100	3	QP
990.30	23.48	3.68	27.16	54.00	-26.84	100	319	QP

**Mode 3****Horizontal**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
212.36	49.34	-12.92	36.42	43.50	-7.08	100	73	QP
278.32	46.99	-10.13	36.86	46.00	-9.14	100	79	QP
359.80	48.38	-8.57	39.81	46.00	-6.19	100	197	QP
467.47	44.20	-6.25	37.95	46.00	-8.05	100	168	QP
828.31	39.32	-0.01	39.31	46.00	-6.69	100	68	QP
935.98	35.06	2.30	37.36	46.00	-8.64	100	22	QP

**Vertical**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
395.69	45.45	-7.82	37.63	46.00	-8.37	100	299	QP
540.22	43.02	-5.14	37.88	46.00	-8.12	100	217	QP
612.00	43.44	-3.82	39.62	46.00	-6.38	100	234	QP
647.89	41.50	-3.38	38.12	46.00	-7.88	100	305	QP
683.78	40.77	-3.00	37.77	46.00	-8.23	100	69	QP
935.98	33.42	2.30	35.72	46.00	-10.28	100	326	QP

**Mode 4****Horizontal**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
134.76	32.00	-10.72	21.28	43.50	-22.22	100	72	QP
212.36	49.71	-12.92	36.79	43.50	-6.71	100	58	QP
245.34	47.52	-12.03	35.49	46.00	-10.51	100	50	QP
467.47	44.42	-6.25	38.17	46.00	-7.83	100	167	QP
792.42	39.50	-0.76	38.74	46.00	-7.26	100	94	QP
935.98	35.52	2.30	37.82	46.00	-8.18	100	21	QP

**Vertical**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
245.34	44.26	-12.03	32.23	46.00	-13.77	100	353	QP
395.69	45.79	-7.82	37.97	46.00	-8.03	100	290	QP
540.22	43.54	-5.14	38.40	46.00	-7.60	100	58	QP
647.89	42.18	-3.38	38.80	46.00	-7.20	100	304	QP
864.20	34.53	0.69	35.22	46.00	-10.78	100	355	QP
972.84	32.29	3.24	35.53	54.00	-18.47	100	310	QP

**Mode 5****Horizontal**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
195.87	46.87	-11.56	35.31	43.50	-8.19	100	79	QP
395.69	47.91	-7.82	40.09	46.00	-5.91	100	185	QP
467.47	44.34	-6.25	38.09	46.00	-7.91	100	160	QP
540.22	38.61	-5.14	33.47	46.00	-12.53	100	46	QP
792.42	38.85	-0.76	38.09	46.00	-7.91	100	98	QP
852.56	38.06	0.47	38.53	46.00	-7.47	100	266	QP

**Vertical**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
143.49	34.48	-11.05	23.43	43.50	-20.07	100	1	QP
279.29	34.76	-10.10	24.66	46.00	-21.34	100	24	QP
441.28	42.20	-6.74	35.46	46.00	-10.54	100	111	QP
647.89	41.31	-3.38	37.93	46.00	-8.07	100	311	QP
792.42	32.90	-0.76	32.14	46.00	-13.86	100	5	QP
864.20	35.65	0.69	36.34	46.00	-9.66	100	359	QP

Note: Result = Reading + Factor

Margin = Result – Limit

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

Spurious emissions more than 20 dB below the limit were not reported.

**Above 1 GHz (Model 1)****Horizontal**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11a / 5180MHz								
5150.00	64.44	1.89	66.33	74.00	-7.67	134	67	peak
5150.00	49.96	1.89	51.85	54.00	-2.15	134	67	AVG
5180.00	115.49	1.95	117.44	N/A	N/A	134	67	peak
5180.00	101.51	1.95	103.46	N/A	N/A	134	67	AVG
10360.00	48.44	12.40	60.84	68.23	-7.39	100	317	peak
802.11a / 5200MHz								
5200.00	116.59	1.97	118.56	N/A	N/A	136	288	peak
5200.00	102.35	1.97	104.32	N/A	N/A	136	288	AVG
10400.00	44.86	12.43	57.29	68.23	-10.94	100	4	peak
802.11a / 5240MHz								
5240.00	116.43	2.03	118.46	N/A	N/A	133	75	peak
5240.00	102.66	2.03	104.69	N/A	N/A	133	75	AVG
5350.00	37.22	2.21	39.43	74.00	-34.57	100	299	peak
5350.00	26.35	2.21	28.56	54.00	-25.44	100	299	AVG
10480.00	49.17	12.49	61.66	68.23	-6.57	100	323	peak
802.11a / 5745MHz								
5617.15	61.61	2.74	64.35	68.23	-3.88	100	291	peak
5651.45	59.10	2.83	61.93	69.27	-7.34	100	288	peak
5719.00	65.46	3.01	68.47	110.52	-42.05	100	71	peak
5724.60	73.85	3.02	76.87	121.29	-44.42	100	76	peak
5745.00	117.27	3.07	120.34	N/A	N/A	133	288	peak
5745.00	103.01	3.07	106.08	N/A	N/A	133	288	AVG
5853.05	52.80	3.34	56.14	115.25	-59.11	100	68	peak
5858.30	52.81	3.36	56.17	109.88	-53.71	100	68	peak
5876.85	51.78	3.40	55.18	103.83	-48.65	100	261	peak
5944.05	51.57	3.58	55.15	68.23	-13.08	100	77	peak
11490.00	55.27	13.17	68.44	74.00	-5.56	155	39	peak
11490.00	37.51	13.17	50.68	54.00	-3.32	155	39	AVG
802.11a / 5785MHz								
5633.25	60.63	2.79	63.42	68.23	-4.81	100	90	peak
5653.55	60.19	2.83	63.02	70.83	-7.81	100	88	peak
5701.50	57.78	2.96	60.74	105.62	-44.88	100	71	peak
5722.50	56.36	3.01	59.37	116.50	-57.13	100	80	peak
5785.00	116.43	3.18	119.61	N/A	N/A	139	69	peak
5785.00	102.74	3.18	105.92	N/A	N/A	139	69	AVG
5850.95	58.82	3.33	62.15	120.03	-57.88	100	88	peak
5859.35	58.65	3.36	62.01	109.58	-47.57	100	93	peak
5881.40	55.29	3.42	58.71	100.46	-41.75	100	84	peak
5933.20	51.67	3.55	55.22	68.23	-13.01	100	94	peak
11570.00	55.34	13.21	68.55	74.00	-5.45	157	39	peak
11570.00	38.36	13.21	51.57	54.00	-2.43	157	39	AVG
802.11a / 5825MHz								
5620.30	60.44	2.75	63.19	68.23	-5.04	100	90	peak
5674.20	61.01	2.89	63.90	86.11	-22.21	100	88	peak
5705.35	60.56	2.96	63.52	106.70	-43.18	100	88	peak
5721.10	58.99	3.01	62.00	113.31	-51.31	100	90	peak
5825.00	116.90	3.27	120.17	N/A	N/A	142	287	peak
5825.00	103.05	3.27	106.32	N/A	N/A	142	287	AVG
5850.60	62.86	3.33	66.19	120.83	-54.64	100	85	peak
5866.35	63.65	3.37	67.02	107.62	-40.60	100	88	peak
5875.45	60.45	3.40	63.85	104.87	-41.02	100	87	peak
5926.55	55.01	3.53	58.54	68.23	-9.69	100	90	peak
11650.00	58.57	13.26	71.83	74.00	-2.17	164	46	peak
11650.00	38.18	13.26	51.44	54.00	-2.56	164	46	AVG



**Vertical**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11a / 5180MHz								
5150.00	53.73	1.89	55.62	74.00	-18.38	177	181	peak
5150.00	48.18	1.89	50.07	54.00	-3.93	177	181	AVG
5180.00	105.99	1.95	107.94	N/A	N/A	177	181	peak
5180.00	92.42	1.95	94.37	N/A	N/A	177	181	AVG
10360.00	52.98	12.40	65.38	68.23	-2.85	100	15	peak
802.11a / 5200MHz								
5200.00	110.09	1.97	112.06	N/A	N/A	165	179	peak
5200.00	95.85	1.97	97.82	N/A	N/A	165	179	AVG
10400.00	55.07	12.43	67.50	68.23	-0.73	100	12	peak
802.11a / 5240MHz								
5240.00	108.92	2.03	110.95	N/A	N/A	168	6	peak
5240.00	93.30	2.03	95.33	N/A	N/A	168	6	AVG
5350.00	37.64	2.21	39.85	74.00	-34.15	100	274	peak
5350.00	26.31	2.21	28.52	54.00	-25.48	100	274	AVG
10480.00	55.32	12.49	67.81	68.23	-0.42	100	8	peak
802.11a / 5745MHz								
5614.00	55.40	2.73	58.13	68.23	-10.10	100	5	peak
5657.40	53.65	2.85	56.50	73.68	-17.18	100	12	peak
5719.35	55.59	3.01	58.60	110.62	-52.02	100	358	peak
5724.95	64.42	3.02	67.44	122.09	-54.65	100	354	peak
5745.00	109.04	3.07	112.11	N/A	N/A	175	35	peak
5745.00	95.00	3.07	98.07	N/A	N/A	175	35	AVG
5852.70	50.15	3.34	53.49	116.04	-62.55	100	1	peak
5874.05	51.10	3.40	54.50	105.47	-50.97	100	317	peak
5919.20	50.04	3.51	53.55	72.49	-18.94	100	8	peak
5938.80	51.58	3.56	55.14	68.23	-13.09	100	196	peak
11490.00	54.91	13.17	68.08	74.00	-5.92	143	25	peak
11490.00	39.18	13.17	52.35	54.00	-1.65	143	25	AVG
802.11a / 5785MHz								
5619.95	54.82	2.75	57.57	68.23	-10.66	100	1	peak
5658.10	54.15	2.85	57.00	74.19	-17.19	100	4	peak
5705.00	51.04	2.96	54.00	106.60	-52.60	100	5	peak
5722.50	50.76	3.01	53.77	116.50	-62.73	100	21	peak
5785.00	109.85	3.18	113.03	N/A	N/A	183	35	peak
5785.00	95.59	3.18	98.77	N/A	N/A	183	35	AVG
5853.05	52.28	3.34	55.62	115.25	-59.63	100	1	peak
5856.90	53.03	3.36	56.39	110.27	-53.88	100	1	peak
5882.10	50.78	3.42	54.20	99.95	-45.75	100	292	peak
5941.60	50.53	3.57	54.10	68.23	-14.13	100	300	peak
11570.00	57.97	13.21	71.18	74.00	-2.82	121	345	peak
11570.00	40.22	13.21	53.43	54.00	-0.57	121	345	AVG
802.11a / 5825MHz								
5624.50	53.95	2.76	56.71	68.23	-11.52	100	11	peak
5676.65	54.64	2.89	57.53	87.92	-30.39	100	359	peak
5709.90	54.24	2.98	57.22	107.97	-50.75	100	323	peak
5724.95	51.09	3.02	54.11	122.09	-67.98	100	5	peak
5825.00	109.24	3.27	112.51	N/A	N/A	171	36	peak
5825.00	95.77	3.27	99.04	N/A	N/A	171	36	AVG
5851.65	56.07	3.33	59.40	118.44	-59.04	100	4	peak
5869.50	55.54	3.39	58.93	106.74	-47.81	100	1	peak
5875.45	53.49	3.40	56.89	104.87	-47.98	100	325	peak
5927.95	49.99	3.53	53.52	68.23	-14.71	100	0	peak
11650.00	57.19	13.26	70.45	74.00	-3.55	134	352	peak
11650.00	40.11	13.26	53.37	54.00	-0.63	134	352	AVG

**Horizontal**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11ac VHT20 / 5180MHz								
5150.00	64.31	1.89	66.20	74.00	-7.80	142	66	peak
5150.00	48.89	1.89	50.78	54.00	-3.22	142	66	AVG
5180.00	115.46	1.95	117.41	N/A	N/A	131	64	peak
5180.00	102.25	1.95	104.20	N/A	N/A	131	64	AVG
10360.00	46.27	12.40	58.67	68.23	-9.56	100	45	peak
802.11ac VHT20 / 5200MHz								
5200.00	115.48	1.97	117.45	N/A	N/A	128	295	peak
5200.00	100.68	1.97	102.65	N/A	N/A	128	295	AVG
10400.00	47.88	12.43	60.31	68.23	-7.92	100	319	peak
802.11ac VHT20 / 5240MHz								
5240.00	115.79	2.03	117.82	N/A	N/A	139	72	peak
5240.00	102.54	2.03	104.57	N/A	N/A	139	72	AVG
5350.00	37.51	2.21	39.72	74.00	-34.28	100	214	peak
5350.00	26.39	2.21	28.60	54.00	-25.40	100	214	AVG
10480.00	45.65	12.49	58.14	68.23	-10.09	100	12	peak
802.11ac VHT20 / 5745MHz								
5625.20	60.55	2.76	63.31	68.23	-4.92	100	90	peak
5655.30	58.37	2.83	61.20	72.12	-10.92	100	90	peak
5719.70	68.26	3.01	71.27	110.72	-39.45	100	74	peak
5724.60	71.63	3.02	74.65	121.29	-46.64	100	87	peak
5745.00	115.36	3.07	118.43	N/A	N/A	146	292	peak
5745.00	101.46	3.07	104.53	N/A	N/A	146	292	AVG
5850.95	53.91	3.33	57.24	120.03	-62.79	100	281	peak
5856.55	52.57	3.36	55.93	110.37	-54.44	100	92	peak
5884.55	51.20	3.42	54.62	98.13	-43.51	100	281	peak
5931.10	51.45	3.54	54.99	68.23	-13.24	100	70	peak
11490.00	56.00	13.17	69.17	74.00	-4.83	162	42	peak
11490.00	40.22	13.17	53.39	54.00	-0.61	162	42	AVG
802.11ac VHT20 / 5785MHz								
5621.00	59.94	2.75	62.69	68.23	-5.54	100	88	peak
5665.10	59.24	2.86	62.10	79.37	-17.27	100	83	peak
5700.10	56.83	2.96	59.79	105.23	-45.44	100	87	peak
5720.75	56.02	3.01	59.03	112.51	-53.48	100	84	peak
5785.00	114.72	3.18	117.90	N/A	N/A	151	291	peak
5785.00	101.14	3.18	104.32	N/A	N/A	151	291	AVG
5854.45	58.20	3.35	61.55	112.05	-50.50	100	90	peak
5857.60	57.65	3.36	61.01	110.07	-49.06	100	90	peak
5876.85	55.23	3.40	58.63	103.83	-45.20	100	278	peak
5941.95	51.28	3.57	54.85	68.23	-13.38	100	96	peak
11570.00	57.26	13.21	70.47	74.00	-3.53	139	46	peak
11570.00	39.14	13.21	52.35	54.00	-1.65	139	46	AVG
802.11ac VHT20 / 5825MHz								
5638.15	60.37	2.79	63.16	68.23	-5.07	100	90	peak
5677.00	60.70	2.89	63.59	88.18	-24.59	100	88	peak
5702.20	59.83	2.96	62.79	105.82	-43.03	100	290	peak
5724.25	58.87	3.01	61.88	120.49	-58.61	100	93	peak
5825.00	116.51	3.27	119.78	N/A	N/A	153	289	peak
5825.00	102.53	3.27	105.80	N/A	N/A	153	289	AVG
5850.25	63.91	3.33	67.24	121.63	-54.39	100	93	peak
5865.65	63.48	3.37	66.85	107.82	-40.97	100	95	peak
5875.80	60.43	3.40	63.83	104.61	-40.78	100	288	peak
5925.50	54.58	3.53	58.11	68.23	-10.12	100	86	peak
11650.00	57.65	13.26	70.91	74.00	-3.09	173	44	peak
11650.00	40.11	13.26	53.37	54.00	-0.63	173	44	AVG

**Vertical**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11ac VHT20 / 5180MHz								
5150.00	57.01	1.89	58.90	74.00	-15.10	170	175	peak
5150.00	41.48	1.89	43.37	54.00	-10.63	170	175	AVG
5180.00	108.43	1.95	110.38	N/A	N/A	170	175	peak
5180.00	94.14	1.95	96.09	N/A	N/A	170	175	AVG
10360.00	52.56	12.40	64.96	68.23	-3.27	100	42	peak
802.11ac VHT20 / 5200MHz								
5200.00	108.56	1.97	110.53	N/A	N/A	161	183	peak
5200.00	94.42	1.97	96.39	N/A	N/A	161	183	AVG
10400.00	54.92	12.43	67.35	68.23	-0.88	100	8	peak
802.11ac VHT20 / 5240MHz								
5240.00	107.13	2.03	109.16	N/A	N/A	165	5	peak
5240.00	92.38	2.03	94.41	N/A	N/A	165	5	AVG
5350.00	37.69	2.21	39.90	74.00	-34.10	100	226	peak
5350.00	26.45	2.21	28.66	54.00	-25.34	100	226	AVG
10480.00	55.01	12.49	67.50	68.23	-0.73	100	14	peak
802.11ac VHT20 / 5745MHz								
5610.15	54.10	2.72	56.82	68.23	-11.41	100	1	peak
5653.90	53.13	2.83	55.96	71.09	-15.13	100	178	peak
5719.70	55.88	3.01	58.89	110.72	-51.83	100	1	peak
5724.60	60.47	3.02	63.49	121.29	-57.80	100	35	peak
5745.00	107.57	3.07	110.64	N/A	N/A	185	35	peak
5745.00	93.43	3.07	96.50	N/A	N/A	185	35	AVG
5851.65	50.53	3.33	53.86	118.44	-64.58	100	274	peak
5863.90	50.87	3.37	54.24	108.31	-54.07	100	1	peak
5907.65	50.64	3.49	54.13	81.04	-26.91	100	46	peak
5933.90	49.95	3.55	53.50	68.23	-14.73	100	203	peak
11490.00	59.27	13.17	72.44	74.00	-1.56	156	26	peak
11490.00	40.58	13.17	53.75	54.00	-0.25	156	26	AVG
802.11ac VHT20 / 5785MHz								
5624.15	54.13	2.76	56.89	68.23	-11.34	100	4	peak
5666.15	52.96	2.87	55.83	80.15	-24.32	100	252	peak
5700.10	51.21	2.96	54.17	105.23	-51.06	100	5	peak
5720.75	50.74	3.01	53.75	112.51	-58.76	100	3	peak
5785.00	107.52	3.18	110.70	N/A	N/A	178	33	peak
5785.00	92.99	3.18	96.17	N/A	N/A	178	33	AVG
5850.95	51.32	3.33	54.65	120.03	-65.38	100	360	peak
5874.75	50.80	3.40	54.20	105.27	-51.07	100	45	peak
5918.15	51.10	3.50	54.60	73.27	-18.67	100	50	peak
5936.35	49.83	3.55	53.38	68.23	-14.85	100	181	peak
11570.00	60.27	13.21	73.48	74.00	-0.52	114	24	peak
11570.00	40.24	13.21	53.45	54.00	-0.55	114	24	AVG
802.11ac VHT20 / 5825MHz								
5623.80	54.10	2.76	56.86	68.23	-11.37	100	1	peak
5672.80	54.39	2.88	57.27	85.07	-27.80	100	1	peak
5704.30	53.76	2.96	56.72	106.40	-49.68	100	4	peak
5722.85	53.35	3.01	56.36	117.30	-60.94	100	1	peak
5825.00	108.90	3.27	112.17	N/A	N/A	168	36	peak
5825.00	94.91	3.27	98.18	N/A	N/A	168	36	AVG
5850.60	55.81	3.33	59.14	120.83	-61.69	100	1	peak
5866.00	56.33	3.37	59.70	107.72	-48.02	100	2	peak
5875.45	55.34	3.40	58.74	104.87	-46.13	100	323	peak
5936.70	51.10	3.56	54.66	68.23	-13.57	100	18	peak
11650.00	58.97	13.26	72.23	74.00	-1.77	127	341	peak
11650.00	40.12	13.26	53.38	54.00	-0.62	127	341	AVG

**Horizontal**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11ac VHT40 / 5190MHz								
5150.00	66.88	1.89	68.77	74.00	-5.23	136	70	peak
5150.00	48.42	1.89	50.31	54.00	-3.69	136	70	AVG
5190.00	112.95	1.95	114.90	N/A	N/A	136	70	peak
5190.00	97.38	1.95	99.33	N/A	N/A	136	70	AVG
10380.00	45.67	12.41	58.08	68.23	-10.15	100	316	peak
802.11ac VHT40 / 5230MHz								
5230.00	115.48	2.02	117.50	N/A	N/A	131	70	peak
5230.00	98.93	2.02	100.95	N/A	N/A	131	70	AVG
5350.00	37.44	2.21	39.65	74.00	-34.35	100	202	peak
5350.00	26.64	2.21	28.85	54.00	-25.15	100	202	AVG
10460.00	49.58	12.48	62.06	68.23	-6.17	100	308	peak
802.11ac VHT40 / 5775MHz								
5618.90	61.66	2.75	64.41	68.23	-3.82	100	88	peak
5680.85	61.41	2.89	64.30	91.03	-26.73	100	87	peak
5719.70	61.52	3.01	64.53	110.72	-46.19	100	293	peak
5723.55	65.42	3.01	68.43	118.89	-50.46	100	79	peak
5775.00	114.55	3.14	117.69	N/A	N/A	145	288	peak
5775.00	98.64	3.14	101.78	N/A	N/A	145	288	AVG
5850.95	60.16	3.33	63.49	120.03	-56.54	100	293	peak
5856.55	59.63	3.36	62.99	110.37	-47.38	100	289	peak
5877.90	57.48	3.41	60.89	103.05	-42.16	100	289	peak
5929.00	54.82	3.54	58.36	68.23	-9.87	100	290	peak
11550.00	53.90	13.19	67.09	74.00	-6.91	167	37	peak
11550.00	38.64	13.19	51.83	54.00	-2.17	167	37	AVG
802.11ac VHT40 / 5795MHz								
5638.15	62.37	2.79	65.16	68.23	-3.07	100	90	peak
5675.25	61.93	2.89	64.82	86.89	-22.07	100	93	peak
5715.50	61.41	2.98	64.39	109.54	-45.15	100	286	peak
5722.50	59.51	3.01	62.52	116.50	-53.98	100	285	peak
5795.00	115.09	3.20	118.29	N/A	N/A	151	74	peak
5795.00	98.05	3.20	101.25	N/A	N/A	151	74	AVG
5850.25	64.47	3.33	67.80	121.63	-53.83	100	282	peak
5862.85	61.87	3.37	65.24	108.60	-43.36	100	95	peak
5892.25	59.38	3.44	62.82	92.44	-29.62	100	289	peak
5930.75	56.06	3.54	59.60	68.23	-8.63	100	286	peak
11590.00	54.53	13.22	67.75	74.00	-6.25	165	48	peak
11590.00	38.99	13.22	52.21	54.00	-1.79	165	48	AVG

**Vertical**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11ac VHT40 / 5190MHz								
5150.00	56.29	1.89	58.18	74.00	-15.82	161	199	peak
5150.00	40.81	1.89	42.70	54.00	-11.30	161	199	AVG
5190.00	105.05	1.95	107.00	N/A	N/A	175	183	peak
5190.00	90.33	1.95	92.28	N/A	N/A	175	183	AVG
10380.00	49.00	12.41	61.41	68.23	-6.82	100	327	peak
802.11ac VHT40 / 5230MHz								
5230.00	105.52	2.02	107.54	N/A	N/A	164	344	peak
5230.00	90.87	2.02	92.89	N/A	N/A	164	344	AVG
5350.00	37.76	2.21	39.97	74.00	-24.03	100	229	peak
5350.00	26.55	2.21	28.76	54.00	-25.24	100	229	AVG
10460.00	53.51	12.48	65.99	68.23	-2.24	100	14	peak
802.11ac VHT40 / 5775MHz								
5619.60	56.24	2.75	58.99	68.23	-9.24	100	4	peak
5667.90	55.93	2.87	58.80	81.45	-22.65	100	6	peak
5715.15	56.46	2.98	59.44	109.44	-50.00	100	6	peak
5724.60	58.31	3.02	61.33	121.29	-59.96	100	2	peak
5775.00	106.55	3.14	109.69	N/A	N/A	177	3	peak
5775.00	91.66	3.14	94.80	N/A	N/A	177	3	AVG
5850.95	54.65	3.33	57.98	120.03	-62.05	100	4	peak
5872.30	55.33	3.40	58.73	105.96	-47.23	100	12	peak
5888.75	55.19	3.44	58.63	95.03	-36.40	100	36	peak
5941.25	54.81	3.57	58.38	68.23	-9.85	100	129	peak
11550.00	58.93	13.19	72.12	74.00	-1.88	143	21	peak
11550.00	40.30	13.19	53.49	54.00	-0.51	143	21	AVG
802.11ac VHT40 / 5795MHz								
5617.15	56.59	2.74	59.33	68.23	-8.90	100	360	peak
5652.15	56.19	2.83	59.02	69.79	-10.77	100	121	peak
5715.50	54.83	2.98	57.81	109.54	-51.73	100	357	peak
5722.50	54.74	3.01	57.75	116.50	-58.75	100	21	peak
5795.00	107.04	3.20	110.24	N/A	N/A	164	36	peak
5795.00	92.29	3.20	95.49	N/A	N/A	164	36	AVG
5851.30	55.19	3.33	58.52	119.24	-60.72	100	1	peak
5864.25	56.36	3.37	59.73	108.21	-48.48	100	359	peak
5906.60	55.70	3.49	59.19	81.82	-22.63	100	266	peak
5940.20	55.16	3.57	58.73	68.23	-9.50	100	119	peak
11590.00	57.11	13.22	70.33	74.00	-3.67	121	21	peak
11590.00	40.63	13.22	53.85	54.00	-0.15	121	21	AVG

**Horizontal**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11ac VHT80 / 5210MHz								
5150.00	71.29	1.89	73.18	74.00	-0.82	135	300	peak
5150.00	51.67	1.89	53.56	54.00	-0.44	135	300	AVG
5210.00	105.37	1.99	107.36	N/A	N/A	143	287	peak
5210.00	87.02	1.99	89.01	N/A	N/A	143	287	AVG
5350.00	37.22	2.21	39.43	74.00	-34.57	100	156	peak
5350.00	26.39	2.21	28.60	54.00	-25.40	100	156	AVG
10420.00	39.56	12.44	52.00	68.23	-16.23	100	3	peak
802.11ac VHT80 / 5775MHz								
5647.95	56.79	2.82	59.61	68.23	-8.62	100	359	peak
5690.30	63.74	2.92	66.66	98.02	-31.36	100	28	peak
5717.60	69.13	3.00	72.13	110.13	-38.00	100	29	peak
5723.90	70.88	3.01	73.89	119.69	-45.80	100	36	peak
5775.00	102.99	3.14	106.13	N/A	N/A	167	35	peak
5775.00	83.07	3.14	86.21	N/A	N/A	167	35	AVG
5850.25	61.69	3.33	65.02	121.63	-56.61	100	359	peak
5856.90	61.92	3.36	65.28	110.27	-44.99	100	2	peak
5875.80	57.88	3.40	61.28	104.61	-43.33	100	353	peak
5926.20	55.17	3.53	58.70	68.23	-9.53	100	288	peak
11550.00	49.10	13.19	62.29	74.00	-11.71	170	301	peak
11550.00	30.84	13.19	44.03	54.00	-9.97	170	301	AVG

**Vertical**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11ac VHT80 / 5210MHz								
5150.00	66.23	1.89	68.12	74.00	-5.88	134	300	peak
5150.00	45.53	1.89	47.42	54.00	-6.58	134	300	AVG
5210.00	97.26	1.99	99.25	N/A	N/A	134	287	peak
5210.00	82.13	1.99	84.12	N/A	N/A	134	287	AVG
5350.00	37.91	2.21	40.12	74.00	-33.88	100	266	peak
5350.00	26.39	2.21	28.60	54.00	-25.40	100	156	AVG
10420.00	47.04	12.44	59.48	68.23	-8.75	100	325	peak
802.11ac VHT80 / 5775MHz								
5647.95	63.62	2.82	66.44	68.23	-1.79	100	86	peak
5689.25	72.52	2.92	75.44	97.25	-21.81	100	283	peak
5714.80	76.71	2.98	79.69	109.34	-29.65	100	76	peak
5724.60	77.32	3.02	80.34	121.29	-40.95	100	76	peak
5775.00	111.27	3.14	114.41	N/A	N/A	152	288	peak
5775.00	88.84	3.14	91.98	N/A	N/A	152	288	AVG
5852.00	73.97	3.34	77.31	117.64	-40.33	100	286	peak
5863.90	71.18	3.37	74.55	108.31	-33.76	100	91	peak
5875.10	64.96	3.40	68.36	105.13	-36.77	100	87	peak
5930.40	56.41	3.54	59.95	68.23	-8.28	100	272	peak
11550.00	55.41	13.19	68.60	74.00	-5.40	139	347	peak
11550.00	37.06	13.19	50.25	54.00	-3.75	139	347	AVG

Note: Result = Reading + Factor

Margin = Result – Limit

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

Spurious emissions more than 20 dB below the limit were not reported.

Mode: Beamforming Mode

## Below 1 GHz

### Horizontal

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11ac VHT20 / 5180MHz								
193.93	32.08	-11.95	20.13	43.50	-23.37	100	24	QP
257.95	31.57	-11.48	20.09	46.00	-25.91	100	213	QP
467.47	38.57	-6.25	32.32	46.00	-13.68	100	86	QP
536.34	28.36	-5.19	23.17	46.00	-22.83	100	22	QP
684.75	27.00	-2.99	24.01	46.00	-21.99	100	280	QP
752.65	27.65	-1.73	25.92	46.00	-20.08	100	17	QP

### Vertical

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11ac VHT20 / 5180MHz								
112.45	36.44	-11.68	24.76	43.50	-18.74	100	53	QP
342.34	28.87	-8.94	19.93	46.00	-26.07	100	217	QP
562.53	28.49	-4.74	23.75	46.00	-22.25	100	202	QP
605.21	27.34	-3.91	23.43	46.00	-22.57	100	35	QP
758.47	27.39	-1.59	25.80	46.00	-20.20	100	118	QP
823.46	27.05	-0.11	26.94	46.00	-19.06	100	91	QP

Note: Result = Reading + Factor

Margin = Result – Limit

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

Spurious emissions more than 20 dB below the limit were not reported.

**Above 1 GHz****Horizontal**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11ac VHT20 / 5180MHz								
5150.00	55.92	1.89	57.81	74.00	-16.19	122	61	peak
5150.00	40.72	1.89	42.61	54.00	-11.39	122	61	AVG
5180.00	103.90	1.95	105.85	N/A	N/A	122	61	peak
5180.00	87.79	1.95	89.74	N/A	N/A	122	61	AVG
10360.00	45.39	12.40	57.79	68.23	-10.44	100	49	peak
802.11ac VHT20 / 5200MHz								
5200.00	108.62	1.97	110.59	N/A	N/A	124	301	peak
5200.00	91.57	1.97	93.54	N/A	N/A	124	301	AVG
10400.00	45.35	12.43	57.78	68.23	-10.45	100	251	peak
802.11ac VHT20 / 5240MHz								
5240.00	108.68	2.03	110.71	N/A	N/A	118	53	peak
5240.00	91.59	2.03	93.62	N/A	N/A	118	53	AVG
5350.00	38.21	2.21	40.42	74.00	-33.58	100	117	peak
5350.00	27.55	2.21	29.76	54.00	-24.24	100	117	AVG
10480.00	50.96	12.49	63.45	68.23	-4.78	100	327	peak
802.11ac VHT20 / 5745MHz								
5635.70	54.42	2.79	57.21	68.23	-11.02	100	113	peak
5698.70	56.12	2.95	59.07	104.24	-45.17	100	196	peak
5719.35	64.31	3.01	67.32	110.62	-43.30	100	184	peak
5724.60	71.75	3.02	74.77	121.29	-46.52	100	199	peak
5745.00	105.50	3.07	108.57	N/A	N/A	129	97	peak
5745.00	91.61	3.07	94.68	N/A	N/A	129	97	AVG
5853.75	54.66	3.35	58.01	113.65	-55.64	100	27	peak
5868.10	55.26	3.37	58.63	107.13	-48.50	100	169	peak
5915.70	56.10	3.50	59.60	75.08	-15.48	100	59	peak
5935.65	55.02	3.55	58.57	68.23	-9.66	100	246	peak
11490.00	56.70	13.17	69.87	74.00	-4.13	143	46	peak
11490.00	38.34	13.17	51.51	54.00	-2.49	143	46	AVG
802.11ac VHT20 / 5785MHz								
5615.40	54.10	2.74	56.84	68.23	-11.39	100	130	peak
5659.50	54.56	2.85	57.41	75.23	-17.82	100	235	peak
5712.00	54.19	2.98	57.17	108.56	-51.39	100	43	peak
5723.90	55.12	3.01	58.13	119.69	-61.56	100	177	peak
5785.00	110.82	3.18	114.00	N/A	N/A	121	70	peak
5785.00	93.11	3.18	96.29	N/A	N/A	121	70	AVG
5853.40	54.63	3.34	57.97	114.45	-56.48	100	32	peak
5870.55	55.01	3.39	58.40	106.45	-48.05	100	257	peak
5901.70	55.25	3.46	58.71	85.44	-26.73	100	359	peak
5931.45	54.92	3.55	58.47	68.23	-9.76	100	161	peak
11570.00	55.00	13.21	68.21	74.00	-5.79	128	101	peak
11570.00	36.33	13.21	49.54	54.00	-4.46	128	101	AVG
802.11ac VHT20 / 5825MHz								
5649.00	54.44	2.83	57.27	68.23	-10.96	100	181	peak
5699.05	54.09	2.95	57.04	104.50	-47.46	100	66	peak
5715.85	54.47	2.99	57.46	109.64	-52.18	100	135	peak
5722.15	53.96	3.01	56.97	115.70	-58.73	100	10	peak
5825.00	109.44	3.27	112.71	N/A	N/A	134	70	peak
5825.00	91.06	3.27	94.33	N/A	N/A	134	70	AVG
5850.25	64.41	3.33	67.74	121.63	-53.89	100	204	peak
5856.20	60.33	3.35	63.68	110.46	-46.78	100	207	peak
5912.55	55.34	3.50	58.84	77.41	-18.57	100	276	peak
5949.30	55.12	3.59	58.71	68.23	-9.52	100	331	peak
11650.00	52.41	13.26	65.67	74.00	-8.33	131	102	peak
11650.00	34.97	13.26	48.23	54.00	-5.77	131	102	AVG



**Vertical**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11ac VHT20 / 5180MHz								
5150.00	61.83	1.89	63.72	74.00	-10.28	164	313	peak
5150.00	44.00	1.89	45.89	54.00	-8.11	164	313	AVG
5180.00	120.04	1.95	121.99	N/A	N/A	164	313	peak
5180.00	99.51	1.95	101.46	N/A	N/A	164	313	AVG
10360.00	53.72	12.40	66.12	68.23	-2.11	100	2	peak
802.11ac VHT20 / 5200MHz								
5200.00	119.06	1.97	121.03	N/A	N/A	161	326	peak
5200.00	104.20	1.97	106.17	N/A	N/A	161	326	AVG
10400.00	51.37	12.43	63.80	68.23	-4.43	100	326	peak
802.11ac VHT20 / 5240MHz								
5240.00	109.08	2.03	111.11	N/A	N/A	173	16	peak
5240.00	92.61	2.03	94.64	N/A	N/A	173	16	AVG
5350.00	38.56	2.21	40.77	74.00	-33.23	100	125	peak
5350.00	27.86	2.21	30.07	54.00	-23.93	100	125	AVG
10480.00	55.60	12.49	68.09	68.23	-0.14	100	353	peak
802.11ac VHT20 / 5745MHz								
5603.50	59.80	2.70	62.50	68.23	-5.73	100	291	peak
5699.75	67.08	2.96	70.04	105.02	-34.98	100	189	peak
5719.35	76.63	3.01	79.64	110.62	-30.98	100	327	peak
5723.90	84.03	3.01	87.04	119.69	-32.65	100	13	peak
5745.00	119.81	3.07	122.88	N/A	N/A	171	39	peak
5745.00	106.55	3.07	109.62	N/A	N/A	171	39	AVG
5854.45	57.01	3.35	60.36	112.05	-51.69	100	339	peak
5855.50	58.20	3.35	61.55	110.66	-49.11	100	340	peak
5884.90	56.49	3.42	59.91	97.87	-37.96	100	343	peak
5934.95	55.68	3.55	59.23	68.23	-9.00	100	343	peak
11490.00	55.08	13.17	68.25	74.00	-5.75	156	359	peak
11490.00	38.42	13.17	51.59	54.00	-2.41	156	359	AVG
802.11ac VHT20 / 5785MHz								
5611.90	60.26	2.72	62.98	68.23	-5.25	100	67	peak
5653.55	59.56	2.83	62.39	70.83	-8.44	100	296	peak
5703.25	58.75	2.96	61.71	106.11	-44.40	100	356	peak
5723.20	60.12	3.01	63.13	118.10	-54.97	100	290	peak
5785.00	117.98	3.18	121.16	N/A	N/A	159	191	peak
5785.00	100.77	3.18	103.95	N/A	N/A	159	191	AVG
5853.40	59.00	3.34	62.34	114.45	-52.11	100	339	peak
5857.25	59.85	3.36	63.21	110.17	-46.96	100	342	peak
5889.10	58.31	3.44	61.75	94.77	-33.02	100	343	peak
5925.85	55.40	3.53	58.93	68.23	-9.30	100	229	peak
11570.00	55.85	13.21	69.06	74.00	-4.94	164	59	peak
11570.00	38.86	13.21	52.07	54.00	-1.93	164	59	AVG
802.11ac VHT20 / 5825MHz								
5624.50	60.53	2.76	63.29	68.23	-4.94	100	70	peak
5666.15	60.39	2.87	63.26	80.15	-16.89	100	233	peak
5705.00	58.81	2.96	61.77	106.60	-44.83	100	311	peak
5721.10	57.96	3.01	60.97	113.31	-52.34	100	71	peak
5825.00	116.27	3.27	119.54	N/A	N/A	161	26	peak
5825.00	102.18	3.27	105.45	N/A	N/A	161	26	AVG
5850.60	74.61	3.33	77.94	120.83	-42.89	100	214	peak
5855.15	70.82	3.35	74.17	110.76	-36.59	100	334	peak
5876.15	61.22	3.40	64.62	104.35	-39.73	100	16	peak
5947.20	58.19	3.59	61.78	68.23	-6.45	100	35	peak
11650.00	60.22	13.26	73.48	74.00	-0.52	122	18	peak
11650.00	40.39	13.26	53.65	54.00	-0.35	122	18	AVG

**Horizontal**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11ac VHT40 / 5190MHz								
5150.00	64.99	1.89	66.88	74.00	-7.12	133	53	peak
5150.00	41.10	1.89	42.99	54.00	-11.01	133	53	AVG
5190.00	98.20	1.95	100.15	N/A	N/A	133	53	peak
5190.00	82.05	1.95	84.00	N/A	N/A	133	53	AVG
10380.00	46.26	12.41	58.67	68.23	-9.56	100	207	peak
802.11ac VHT40 / 5230MHz								
5230.00	106.22	2.02	108.24	N/A	N/A	111	54	peak
5230.00	93.81	2.02	95.83	N/A	N/A	111	54	AVG
5350.00	38.24	2.21	40.45	74.00	-33.55	100	101	peak
5350.00	27.79	2.21	30.00	54.00	-24.00	100	101	AVG
10460.00	47.74	12.48	60.22	68.23	-8.01	100	323	peak
802.11ac VHT40 / 5775MHz								
5613.65	55.17	2.73	57.90	68.23	-10.33	100	301	peak
5698.35	57.24	2.95	60.19	103.98	-43.79	100	6	peak
5719.35	70.73	3.01	73.74	110.62	-36.88	100	72	peak
5721.45	76.01	3.01	79.02	114.11	-35.09	100	64	peak
5755.00	107.71	3.09	110.80	N/A	N/A	125	71	peak
5755.00	90.04	3.09	93.13	N/A	N/A	125	71	AVG
5852.70	54.95	3.34	58.29	116.04	-57.75	100	180	peak
5867.75	55.03	3.37	58.40	107.23	-48.83	100	1	peak
5897.50	55.45	3.46	58.91	88.55	-29.64	100	200	peak
5925.85	55.32	3.53	58.85	68.23	-9.38	100	75	peak
11510.00	49.68	13.17	62.85	74.00	-11.15	186	226	peak
11510.00	34.82	13.17	47.99	54.00	-6.01	186	226	AVG
802.11ac VHT40 / 5795MHz								
5618.20	54.10	2.74	56.84	68.23	-11.39	100	301	peak
5682.25	54.54	2.92	57.46	92.06	-34.60	100	51	peak
5707.10	54.68	2.97	57.65	107.19	-49.54	100	10	peak
5721.80	54.90	3.01	57.91	114.90	-56.99	100	265	peak
5795.00	107.27	3.20	110.47	N/A	N/A	133	71	peak
5795.00	89.77	3.20	92.97	N/A	N/A	133	71	AVG
5852.00	58.91	3.34	62.25	117.64	-55.39	100	340	peak
5871.60	55.51	3.40	58.91	106.15	-47.24	100	327	peak
5907.65	55.30	3.49	58.79	81.04	-22.25	100	9	peak
5934.60	55.21	3.55	58.76	68.23	-9.47	100	193	peak
11590.00	53.55	13.22	66.77	74.00	-7.23	173	79	peak
11590.00	34.40	13.22	47.62	54.00	-6.38	173	79	AVG

**Vertical**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11ac VHT40 / 5190MHz								
5150.00	70.86	1.89	72.75	74.00	-1.25	173	345	peak
5150.00	45.46	1.89	47.35	54.00	-6.65	173	345	AVG
5190.00	113.72	1.95	115.67	N/A	N/A	173	345	peak
5190.00	96.15	1.95	98.10	N/A	N/A	173	345	AVG
10380.00	54.53	12.41	66.94	68.23	-1.29	100	30	peak
802.11ac VHT40 / 5230MHz								
5230.00	119.12	2.02	121.14	N/A	N/A	171	327	peak
5230.00	101.76	2.02	103.78	N/A	N/A	171	327	AVG
5350.00	38.56	2.21	40.77	74.00	-33.23	100	146	peak
5350.00	27.54	2.21	29.75	54.00	-24.25	100	146	AVG
10460.00	54.27	12.48	66.75	68.23	-1.48	100	29	peak
802.11ac VHT40 / 5775MHz								
5643.40	60.90	2.80	63.70	68.23	-4.53	100	80	peak
5690.65	72.39	2.92	75.31	98.28	-22.97	100	13	peak
5719.70	83.95	3.01	86.96	110.72	-23.76	100	13	peak
5721.10	85.45	3.01	88.46	113.31	-24.85	100	318	peak
5755.00	118.00	3.09	121.09	N/A	N/A	164	39	peak
5755.00	99.95	3.09	103.04	N/A	N/A	164	39	AVG
5852.00	59.00	3.34	62.34	117.64	-55.30	100	32	peak
5855.50	58.03	3.35	61.38	110.66	-49.28	100	318	peak
5877.20	57.25	3.41	60.66	103.57	-42.91	100	206	peak
5939.85	55.86	3.57	59.43	68.23	-8.80	100	204	peak
11510.00	57.42	13.17	70.59	74.00	-3.41	121	25	peak
11510.00	39.20	13.17	52.37	54.00	-1.63	121	25	AVG
802.11ac VHT40 / 5795MHz								
5610.85	60.81	2.72	63.53	68.23	-4.70	100	68	peak
5695.90	61.34	2.94	64.28	102.17	-37.89	100	216	peak
5714.10	63.80	2.98	66.78	109.15	-42.37	100	338	peak
5720.40	62.46	3.01	65.47	111.71	-46.24	100	333	peak
5795.00	115.04	3.20	118.24	N/A	N/A	157	41	peak
5795.00	98.41	3.20	101.61	N/A	N/A	157	41	AVG
5850.95	69.71	3.33	73.04	120.03	-46.99	100	332	peak
5867.05	65.97	3.37	69.34	107.43	-38.09	100	332	peak
5881.75	58.81	3.42	62.23	100.20	-37.97	100	345	peak
5933.90	56.72	3.55	60.27	68.23	-7.96	100	344	peak
11590.00	58.29	13.22	71.51	74.00	-2.49	117	20	peak
11590.00	40.51	13.22	53.73	54.00	-0.27	117	20	AVG

**Horizontal**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11ac VHT80 / 5210MHz								
5150.00	62.98	1.89	64.87	74.00	-9.13	129	323	peak
5150.00	45.55	1.89	47.44	54.00	-6.56	129	323	AVG
5210.00	95.21	1.99	97.20	N/A	N/A	129	323	peak
5210.00	81.57	1.99	83.56	N/A	N/A	129	323	AVG
5350.00	38.16	2.21	40.37	74.00	-33.63	100	141	peak
5350.00	27.12	2.21	29.33	54.00	-24.67	100	141	AVG
10420.00	44.50	12.44	56.94	68.23	-11.29	100	314	peak
802.11ac VHT80 / 5775MHz								
5640.25	59.49	2.80	62.29	68.23	-5.94	100	181	peak
5699.75	74.74	2.96	77.70	105.02	-27.32	100	72	peak
5719.70	77.05	3.01	80.06	110.72	-30.66	100	75	peak
5720.75	77.63	3.01	80.64	112.51	-31.87	100	137	peak
5775.00	106.62	3.14	109.76	N/A	N/A	134	71	peak
5775.00	89.93	3.14	93.07	N/A	N/A	134	71	peak
5851.30	72.19	3.33	75.52	119.24	-43.72	100	294	peak
5867.75	71.22	3.37	74.59	107.23	-32.64	100	272	peak
5879.65	63.81	3.41	67.22	101.76	-34.54	100	339	peak
5940.20	56.91	3.57	60.48	68.23	-7.75	100	200	peak
11550.00	53.98	13.19	67.17	74.00	-6.83	147	45	peak
11550.00	35.42	13.19	48.61	54.00	-5.39	147	45	AVG

**Vertical**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
802.11ac VHT80 / 5210MHz								
5150.00	71.92	1.89	73.81	74.00	-0.19	164	12	peak
5150.00	51.57	1.89	53.46	54.00	-0.54	164	12	AVG
5210.00	111.58	1.99	113.57	N/A	N/A	164	12	peak
5210.00	96.99	1.99	98.98	N/A	N/A	164	12	AVG
5350.00	38.68	2.21	40.89	74.00	-33.11	100	149	peak
5350.00	27.54	2.21	29.75	54.00	-24.25	100	149	AVG
10420.00	52.15	12.44	64.59	68.23	-3.64	100	40	peak
802.11ac VHT80 / 5775MHz								
5627.65	64.34	2.76	67.10	68.23	-1.13	100	52	peak
5680.50	81.87	2.89	84.76	90.77	-6.01	100	70	peak
5719.35	89.18	3.01	92.19	110.62	-18.43	100	230	peak
5720.75	75.30	3.01	78.31	112.51	-34.20	100	326	peak
5775.00	109.26	3.14	112.40	N/A	N/A	172	31	peak
5775.00	94.52	3.14	97.66	N/A	N/A	172	31	AVG
5851.65	73.00	3.33	76.33	118.44	-42.11	100	64	peak
5860.75	77.57	3.37	80.94	109.19	-28.25	100	37	peak
5875.80	67.97	3.40	71.37	104.61	-33.24	100	129	peak
5938.10	59.47	3.56	63.03	68.23	-5.20	100	69	peak
11550.00	53.42	13.19	66.61	74.00	-7.39	134	38	peak
11550.00	36.00	13.19	49.19	54.00	-4.81	134	38	AVG

Note: Result = Reading + Factor

Margin = Result – Limit

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

Spurious emissions more than 20 dB below the limit were not reported.

**Test Mode: simultaneous transmissions (WCDMA & LTE+2.4G WIFI+5G WIFI)****Mode 1****Horizontal**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
140.58	35.96	-10.97	24.99	43.50	-18.51	100	23	QP
157.07	36.34	-11.25	25.09	43.50	-18.41	100	358	QP
415.09	24.87	-7.37	17.50	46.00	-28.50	100	129	QP
610.06	37.03	-3.85	33.18	46.00	-12.82	100	260	QP
727.43	24.31	-2.27	22.04	46.00	-23.96	100	102	QP
950.53	26.37	2.68	29.05	46.00	-16.95	100	4	QP
3760.00	37.52	-0.6	36.92	74.00	-37.08	100	28	peak
3760.00	35.55	-0.6	34.95	54.00	-19.05	100	28	AVG
4824.00	34.56	1.05	35.61	74.00	-38.39	100	287	peak
4824.00	32.17	1.05	33.22	54.00	-20.78	100	287	AVG
11570.00	45.69	13.21	58.90	74.00	-15.10	100	125	peak
11570.00	35.62	13.21	48.83	54.00	-5.17	100	125	AVG

**Vertical**

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
125.06	42.33	-10.66	31.67	43.50	-11.83	100	0	QP
249.22	31.07	-12.05	19.02	46.00	-26.98	100	122	QP
288.02	31.11	-9.92	21.19	46.00	-24.81	100	277	QP
458.74	33.60	-6.39	27.21	46.00	-18.79	100	89	QP
607.15	31.19	-3.88	27.31	46.00	-18.69	100	115	QP
744.89	32.27	-1.90	30.37	46.00	-15.63	100	98	QP
3760.00	35.06	-0.6	34.46	74.00	-39.54	100	100	peak
3760.00	34.27	-0.6	33.66	54.00	-20.34	100	100	AVG
4824.00	33.31	1.05	34.36	74.00	-39.64	100	120	peak
4824.00	25.73	1.05	26.78	54.00	-27.22	100	120	AVG
11570.00	28.69	13.21	41.90	74.00	-32.10	100	332	peak
11570.00	22.09	13.21	35.30	54.00	-18.70	100	332	AVG

Note: Result = Reading + Factor

Margin = Result – Limit

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

Spurious emissions more than 20 dB below the limit were not reported.

## 8 FCC §15.407(a)(5), §15.407(e) –EMISSION BANDWIDTH AND OCCUPIED BANDWIDTH

### 8.1 Applicable Standard

As per FCC §15.407(a): The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

As per FCC §15.407(e): for equipment operating in the band 5725 – 5850 MHz, the minimum 6 dB bandwidth of U-NII devices shall be 500 kHz.

### 8.2 Test Procedure

As per KDB 789033 D02 General UNII Test Procedures New Rules v01r04

#### Emission Bandwidth (EBW)

- a) Set RBW = approximately 1% of the emission bandwidth.
  - b) Set the VBW > RBW.
  - c) Detector = Peak.
  - d) Trace mode = max hold.
  - e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission.
- Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

#### 99% Occupied Bandwidth

The 99% occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5 % of the total mean power of the given emission. Measurement of the 99% occupied bandwidth is *required* only as a condition for using the optional band-edge measurement techniques described in II.G.3.d). Measurements of 99% occupied bandwidth may also optionally be used in lieu of the EBW to define the minimum frequency range over which the spectrum is integrated when measuring maximum conducted output power as described in II.E. However, the EBW must be measured to determine bandwidth dependent limits on maximum conducted output power in accordance with 15.407(a). The following procedure shall be used for measuring (99 %) power bandwidth:

1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW  $\geq 3 \cdot$  RBW
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used.

Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.

6. Use the 99 % power bandwidth function of the instrument (if available).

7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

### Minimum Emission Bandwidth for the band 5.725-5.85 GHz

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 kHz for the band 5.725-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW)  $\geq 3 * \text{RBW}$ .
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.

### 8.3 Test Equipment List and Details

Descriptions	Manufacturers	Models	Serial Numbers	Calibration Date	Calibration Due Date
Cable	WOKEN	SFL402	S02-160323-07	2017/2/22	2018/2/21
Spectrum Analyzer	Rohde & Schwarz	FSV40	101203	2016/7/14	2017/7/13
Attenuator	MINI-CIRCUITS	BW-S10W5+	N/A	2017/3/14	2018/3/13

\* **Statement of Traceability:** BACL Corp. attests that all calibrations have been performed according to TAF requirements, traceable to the ETC.

### 8.4 Test Environmental Conditions

Temperature:	24 °C
Relative Humidity:	57 %
ATM Pressure:	1020 hPa

The testing was performed by David Hsu on 2017-04-11~2017-07-11.

**8.5 Test Results***Test mode: Transmitting**CDD Mode*

UNII Band	Mode	Channel	Frequency (MHz)	26dB Emission Bandwidth(MHz)			
				Chain 0	Chain 1	Chain 2	Chain 3
UNII-1	802.11a	36	5180	20.14	20.37	19.56	19.56
		40	5200	19.91	20.14	19.56	19.50
		48	5240	20.14	19.85	19.45	19.74
	802.11ac20	36	5180	19.97	19.45	19.39	19.39
		40	5200	19.85	20.37	19.33	19.56
		48	5240	20.08	19.68	19.21	19.50
	802.11ac 40	38	5190	39.59	39.59	39.71	39.36
		46	5230	39.48	39.48	39.13	39.71
	802.11ac 80	42	5210	85.67	84.98	84.98	84.52

UNII Band	Mode	Channel	Frequency (MHz)	99% Emission Bandwidth(MHz)				Remark
				Chain 0	Chain 1	Chain 2	Chain 3	
UNII-1	802.11a	36	5180	16.78	16.64	16.57	16.57	No transmitted signal in the 99% bandwidth extends into the U-NII-2 band
		40	5200	16.71	16.64	16.57	16.57	
		48	5240	16.78	16.71	16.57	16.64	
UNII-3		149	5745	16.71	16.64	16.64	16.64	
		157	5785	16.71	16.64	16.64	16.57	
		165	5825	16.71	16.78	16.64	16.49	
UNII-1	802.11ac20	36	5180	17.8	17.80	17.72	17.72	
		40	5200	17.87	17.80	17.72	17.72	
		48	5240	17.87	17.80	17.72	17.8	
UNII-3		149	5745	17.87	17.80	17.80	17.8	
		157	5785	17.87	17.87	17.72	17.65	
		165	5825	17.87	17.94	17.80	17.65	
UNII-1	802.11ac 40	38	5190	36.03	36.03	36.17	36.17	
		46	5230	36.03	36.03	36.03	36.17	
UNII-3		151	5755	36.03	36.03	35.6	36.03	
		159	5795	36.17	36.03	36.03	36.17	
UNII-1	802.11ac 80	42	5210	76.41	76.41	76.41	76.41	
UNII-3		155	5775	76.64	76.64	76.64	76.64	



UNII Band	Mode	Channel	Frequency (MHz)	6dB Emission Bandwidth(MHz)				Limit (MHz)
				Chain 0	Chain 1	Chain 2	Chain 3	
UNII-3	802.11a	149	5745	16.32	16.03	15.74	16.38	>0.5
		157	5785	16.38	16.32	15.74	16.09	>0.5
		165	5825	16.38	16.38	16.26	16.20	>0.5
	802.11ac20	149	5745	16.9	17.54	16.96	17.54	>0.5
		157	5785	17.42	17.48	16.38	16.49	>0.5
		165	5825	17.54	17.42	17.48	16.78	>0.5
	802.11ac 40	151	5755	35.20	36.30	32.94	35.20	>0.5
		159	5795	35.34	35.22	32.60	35.37	>0.5
	802.11ac 80	155	5775	75.48	75.48	75.72	75.48	>0.5

Test mode: Beamforming

UNII Band	Mode	Channel	Frequency (MHz)	26dB Emission Bandwidth(MHz)			
				Chain 0	Chain 1	Chain 2	Chain 3
UNII-1	802.11ac20	36	5180	20.83	20.49	20.95	21.47
		40	5200	20.78	21.53	21.18	20.55
		48	5240	21.36	21.12	21.65	21.24
	802.11ac 40	38	5190	38.21	38.21	38.09	38.78
		46	5230	38.78	38.78	38.67	39.94
	802.11ac 80	42	5210	78.03	78.03	78.73	79.88

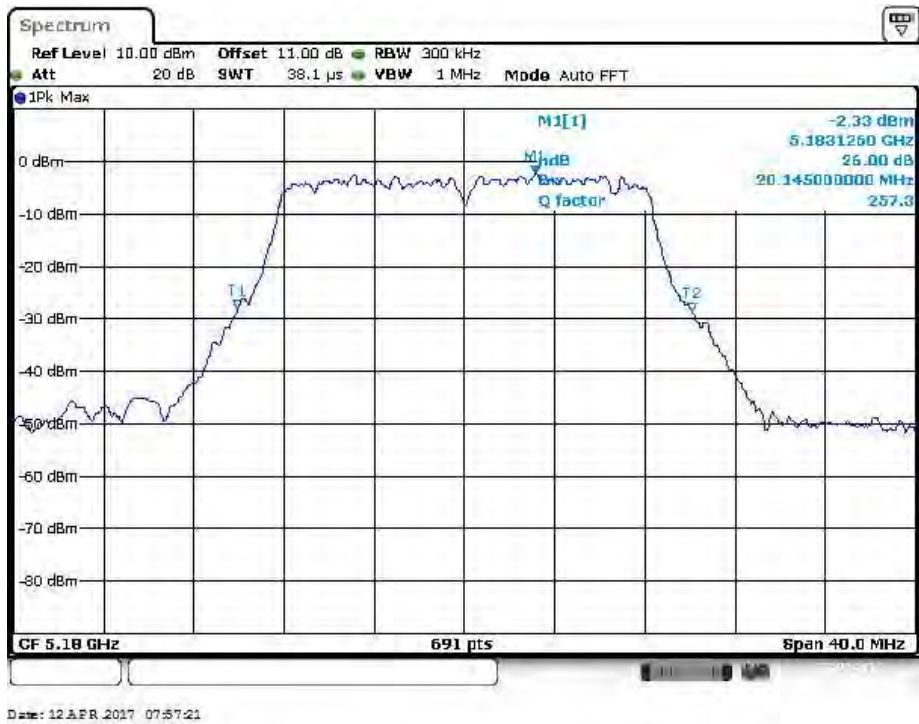
UNII Band	Mode	Channel	Frequency (MHz)	99% Emission Bandwidth(MHz)				Remark
				Chain 0	Chain 1	Chain 2	Chain 3	
UNII-1	802.11ac20	36	5180	17.58	17.8	18.08	17.51	No transmitted signal in the 99% bandwidth extends into the U-NII-2 band
		40	5200	18.01	17.51	18.01	17.43	
		48	5240	17.43	17.65	17.87	17.51	
UNII-3		149	5745	18.45	18.23	18.01	18.16	
		157	5785	19.17	18.16	18.16	18.08	
		165	5825	18.23	18.08	17.87	18.16	
UNII-1	802.11ac 40	38	5190	36.46	36.46	36.32	36.32	
		46	5230	36.75	36.46	36.32	36.61	
UNII-3		151	5755	37.33	36.61	36.9	37.19	
		159	5795	38.78	36.75	37.19	36.9	
UNII-1	802.11ac 80	42	5210	75.94	76.17	75.94	75.71	
UNII-3		155	5775	76.87	77.33	76.87	76.64	

UNII Band	Mode	Channel	Frequency (MHz)	6dB Emission Bandwidth(MHz)				Limit (MHz)
				Chain 0	Chain 1	Chain 2	Chain 3	
UNII-3	802.11ac20	149	5745	16.61	17.01	16.86	17.59	>0.5
		157	5785	17.48	17.48	17.48	17.59	>0.5
		165	5825	15.16	16.26	15.51	17.54	>0.5
	802.11ac 40	151	5755	35.48	35.31	32.76	34.27	>0.5
		159	5795	33.16	35.46	33.37	32.59	>0.5
	802.11ac 80	155	5775	73.81	75.52	73.90	71.72	>0.5

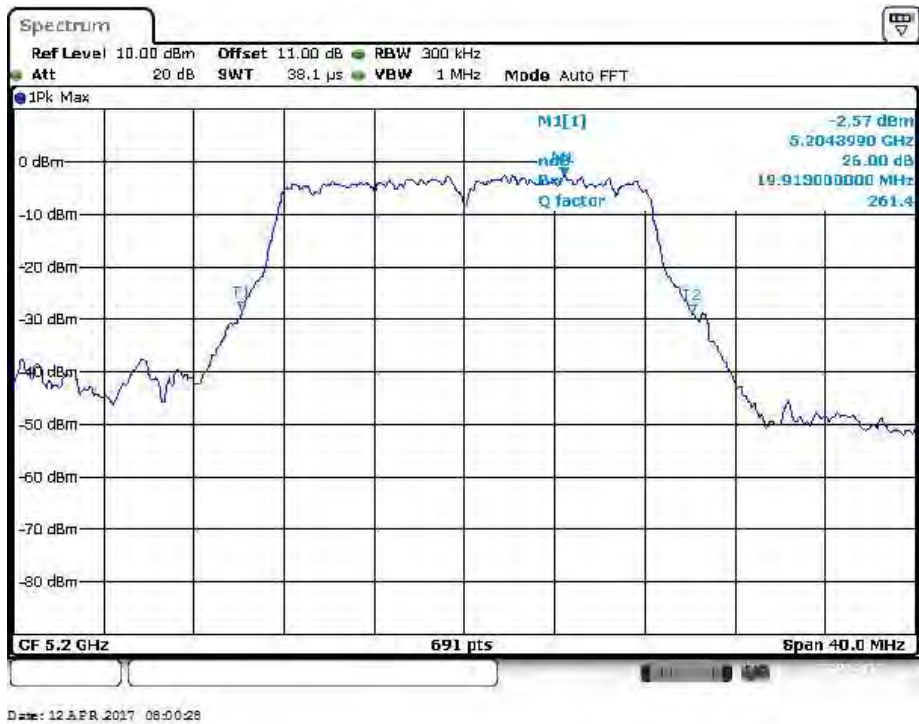
Please refer to the following plots

Transmitting(CDD) Mode:

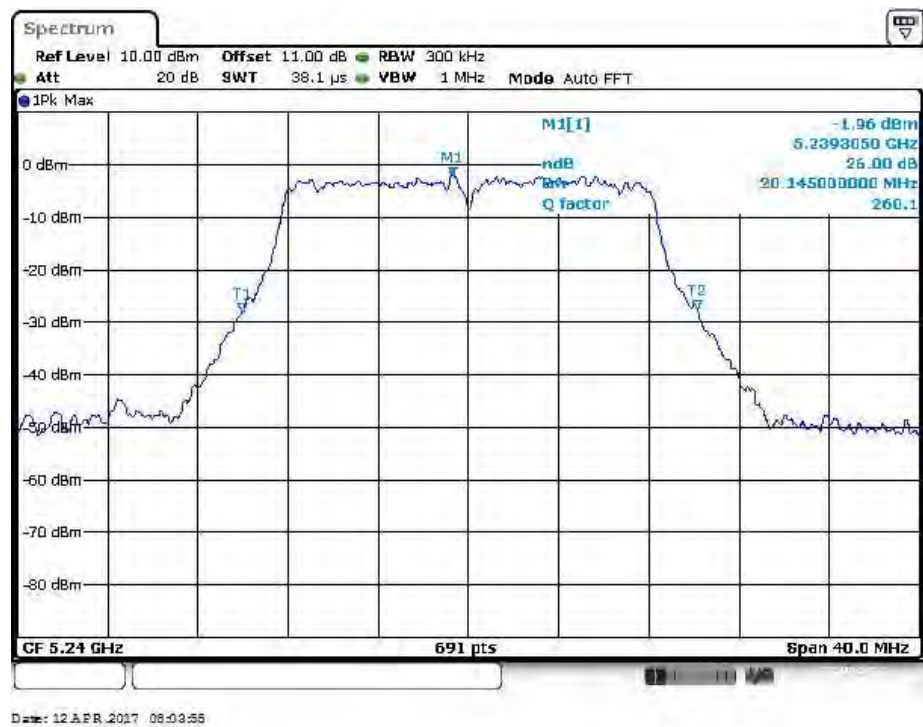
UNII BW 26dBc  
IEEE 802.11a mode / 5150 ~ 5250MHz(chain 0)  
5180MHz



5200MHz

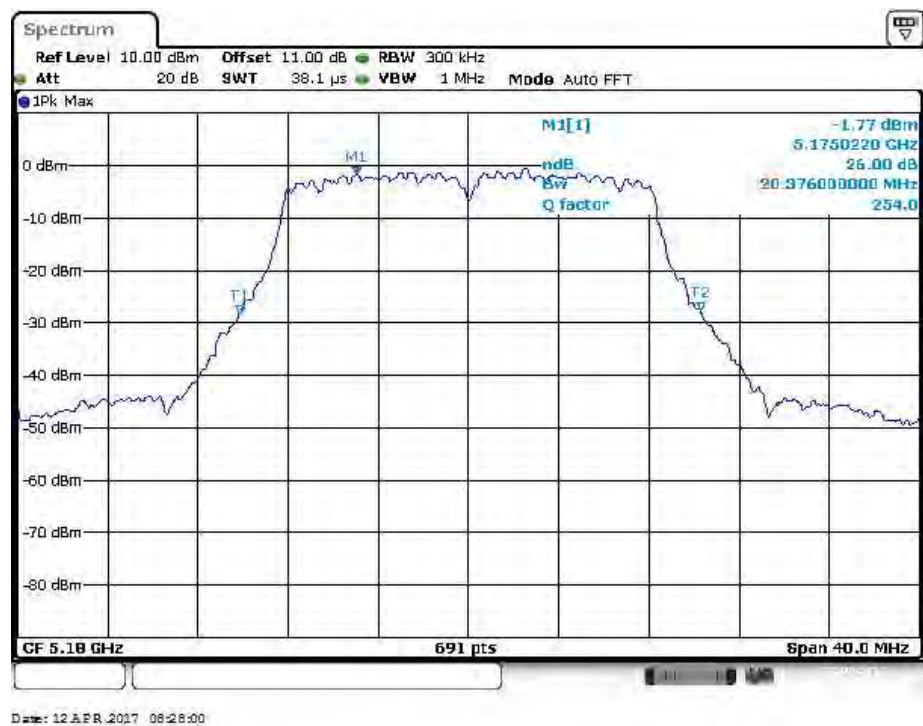


5240MHz



IEEE 802.11a mode / 5150 ~ 5250MHz(chain 1)

5180MHz

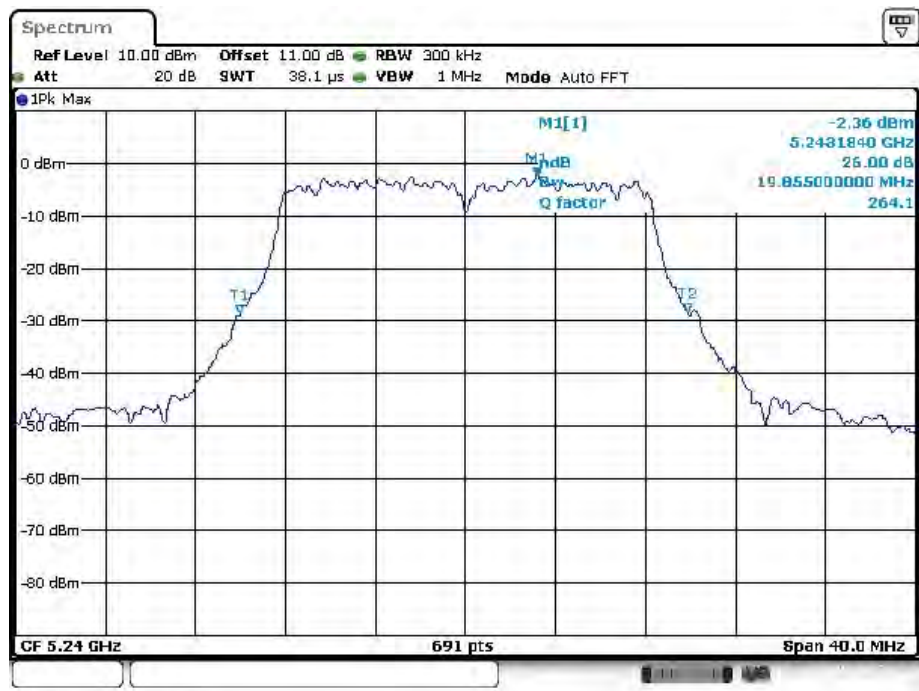


5200MHz



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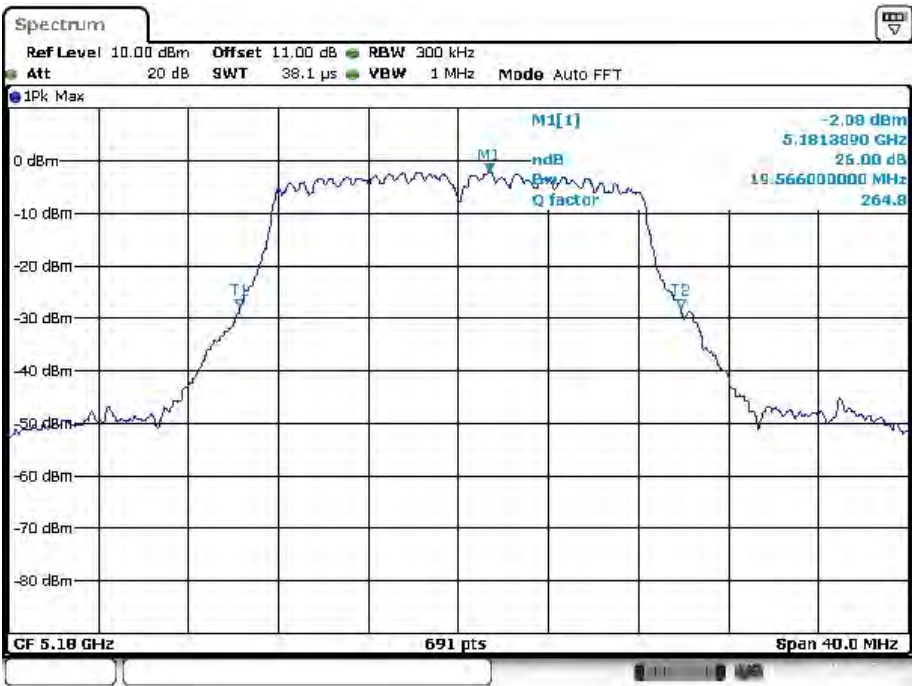
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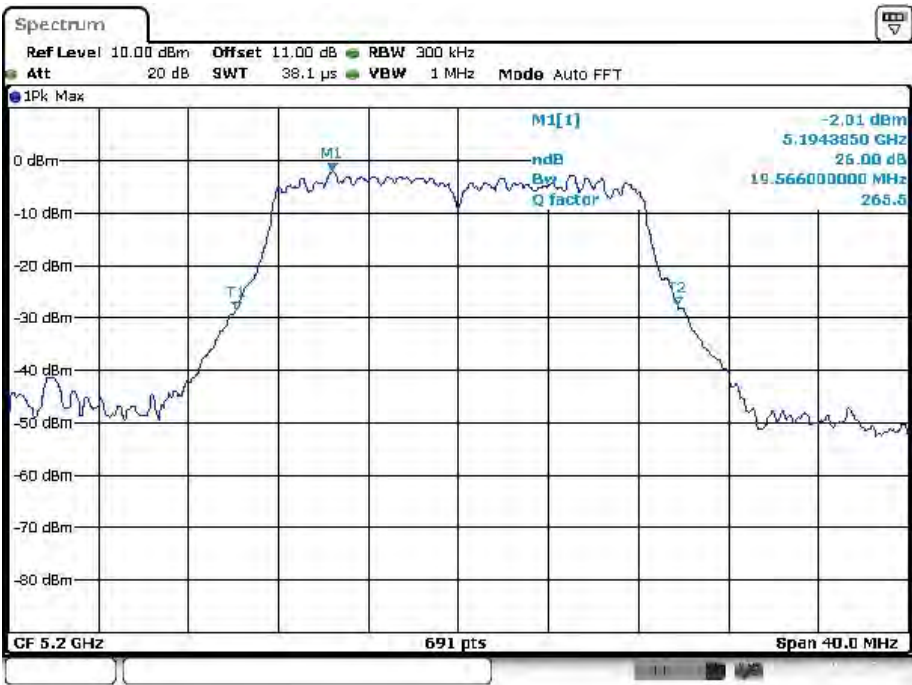
IEEE 802.11a mode / 5150 ~ 5250MHz(chain 2)

5180MHz



Date: 12 APR 2017 09:21:21

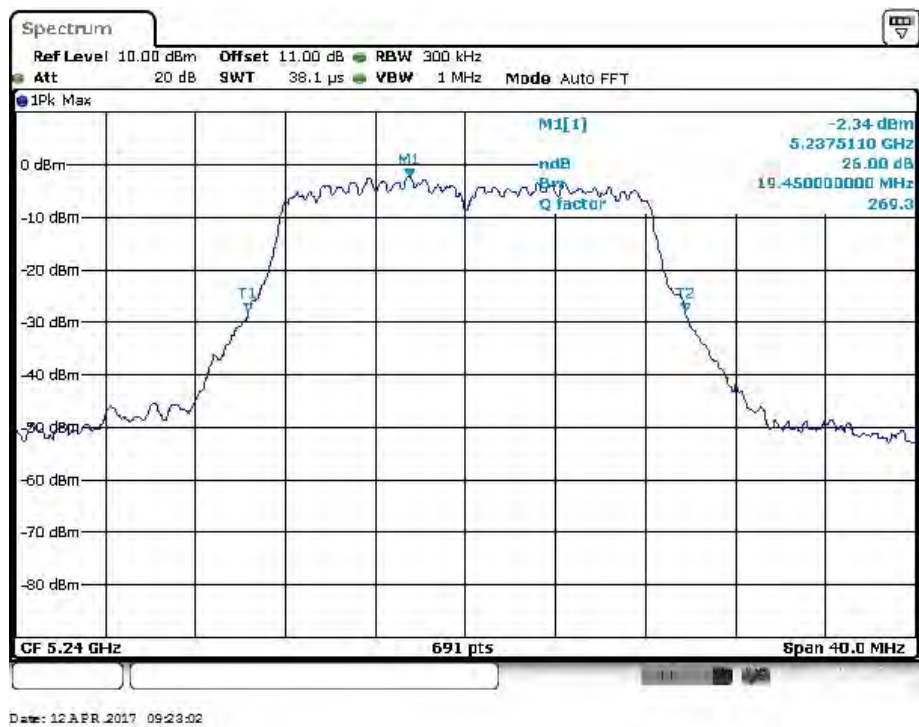
5200MHz



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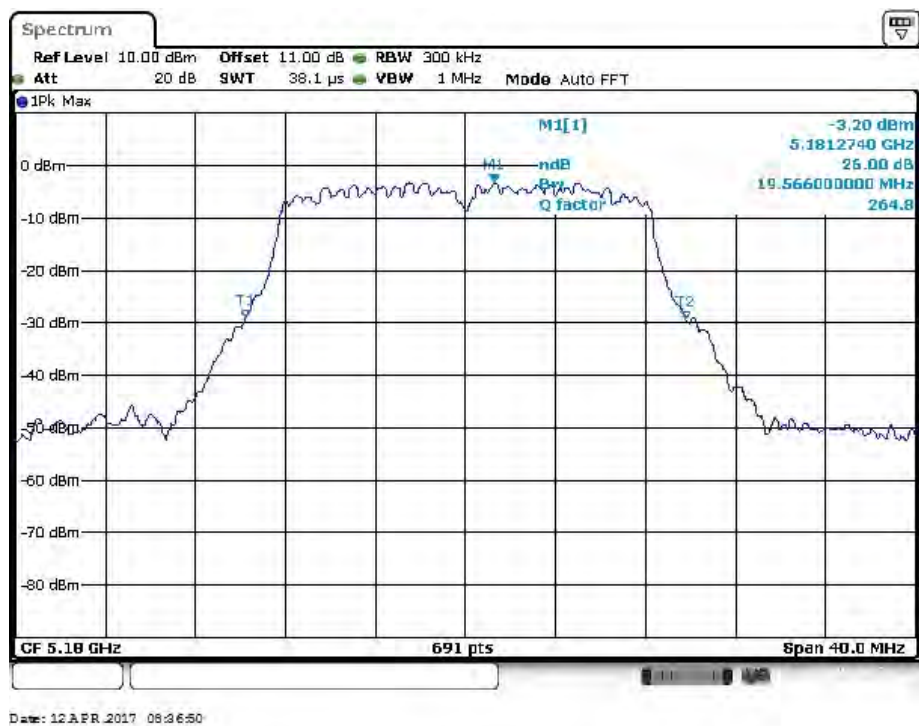


5240MHz

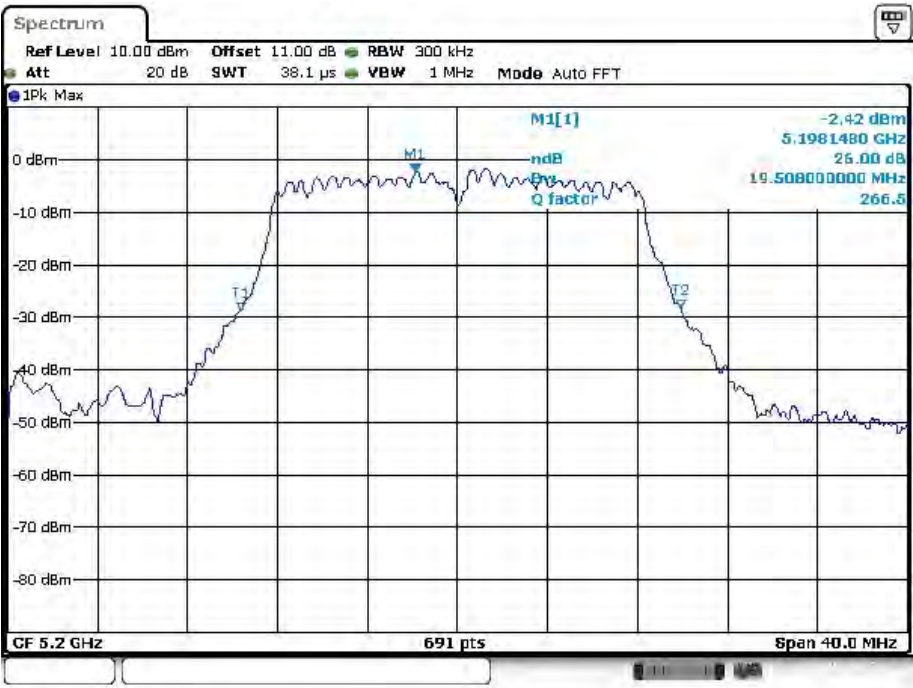


IEEE 802.11a mode / 5150 ~ 5250MHz(chain 3)

5180MHz



5200MHz



Date: 12 APR 2017 08:21:31

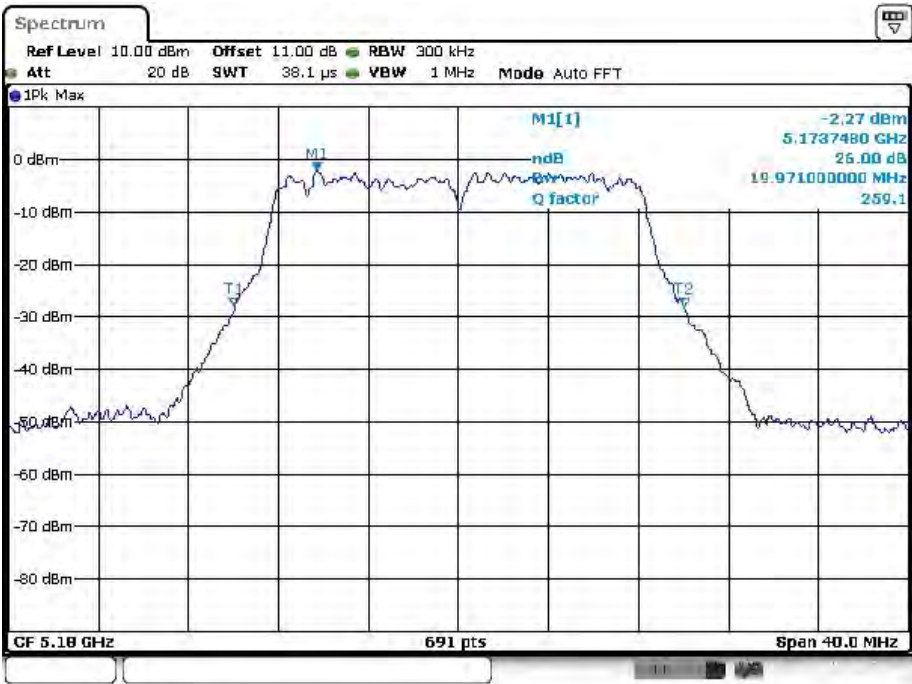
5240MHz



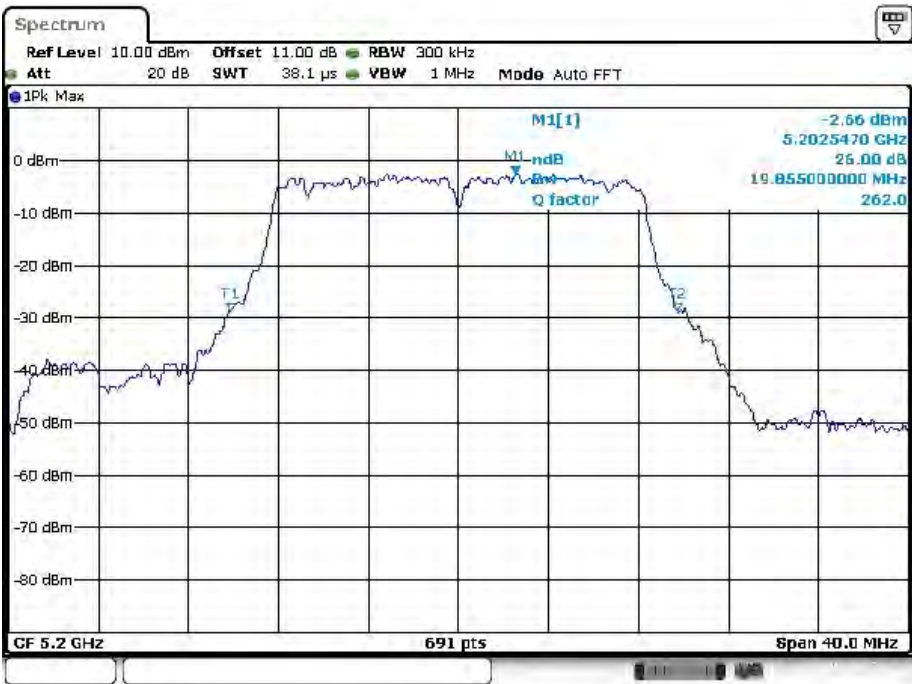
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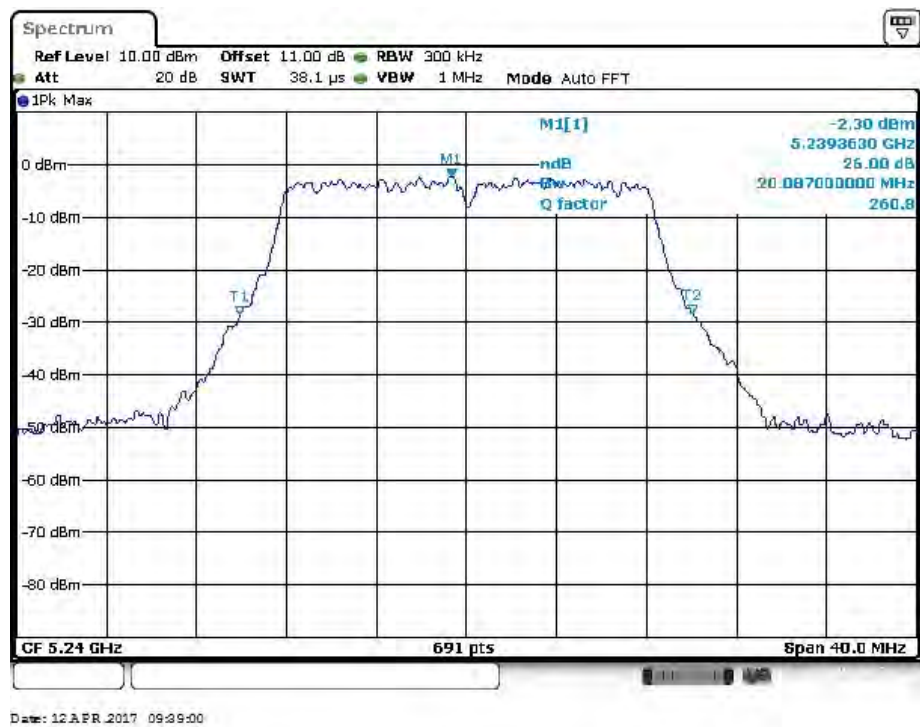
IEEE 802.11ac VHT20 mode / 5150 ~ 5250MHz(chain 0)  
5180MHz



5200MHz

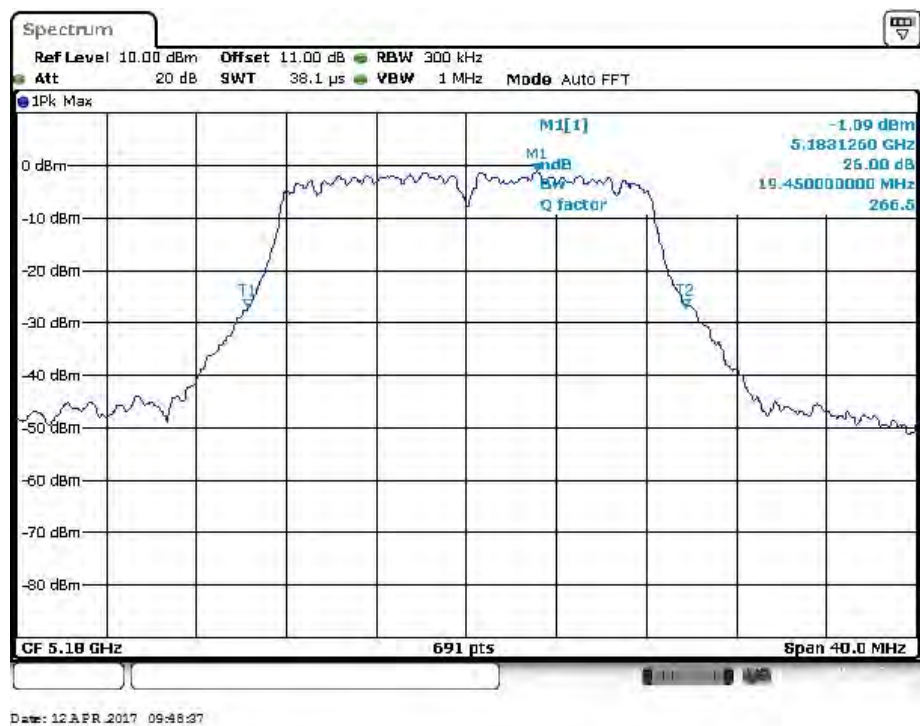


5240MHz

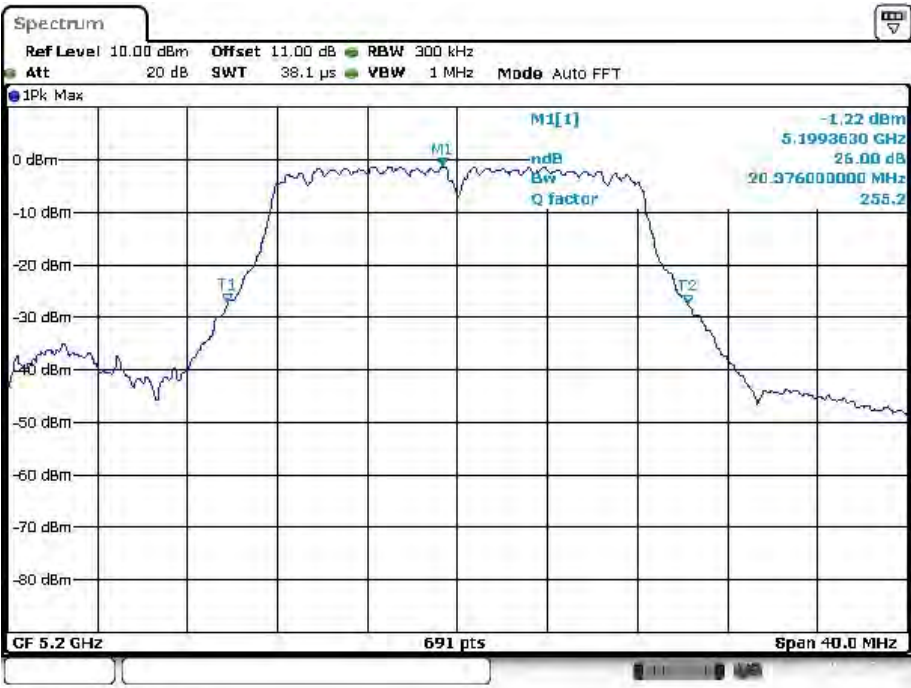


IEEE 802.11 ac VHT20 mode / 5150 ~ 5250MHz(chain 1)

5180MHz

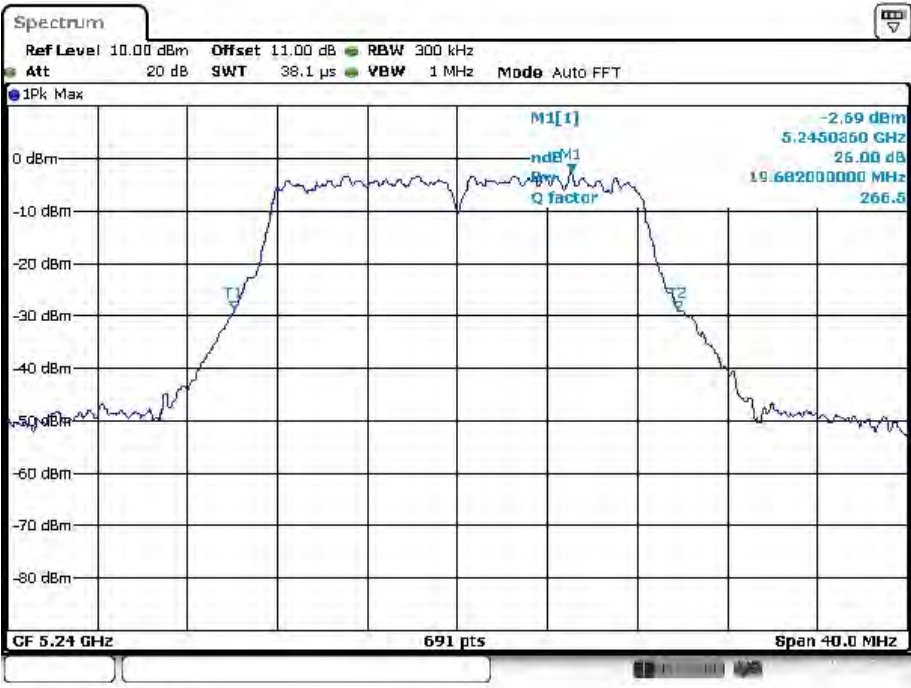


5200MHz



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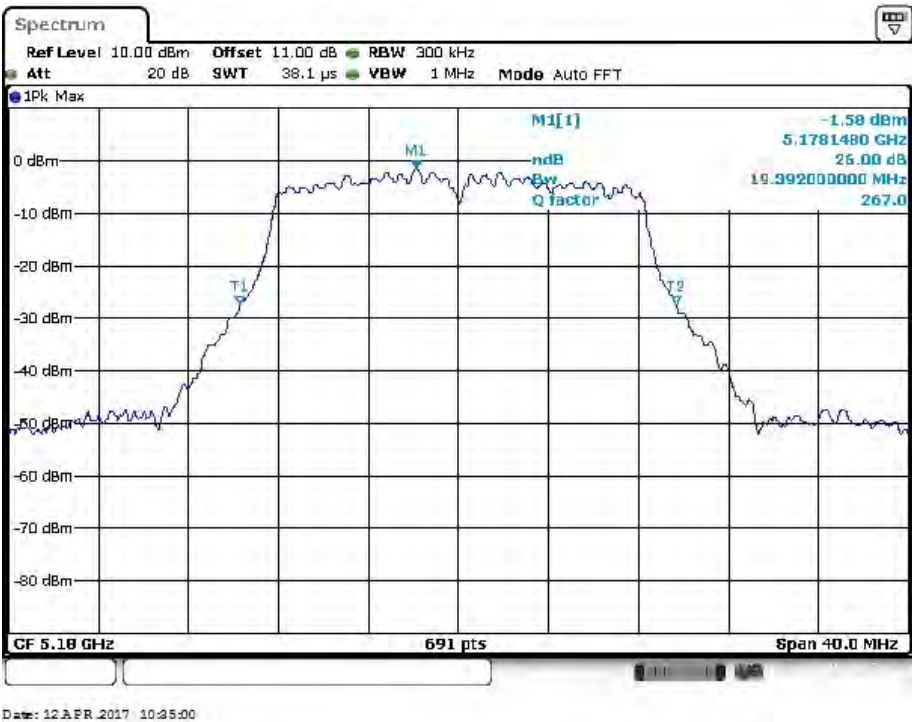
5240MHz



Date: 12 APR 2017 10:09:24

IEEE 802.11 ac VHT20 mode / 5150 ~ 5250MHz(chain 2)

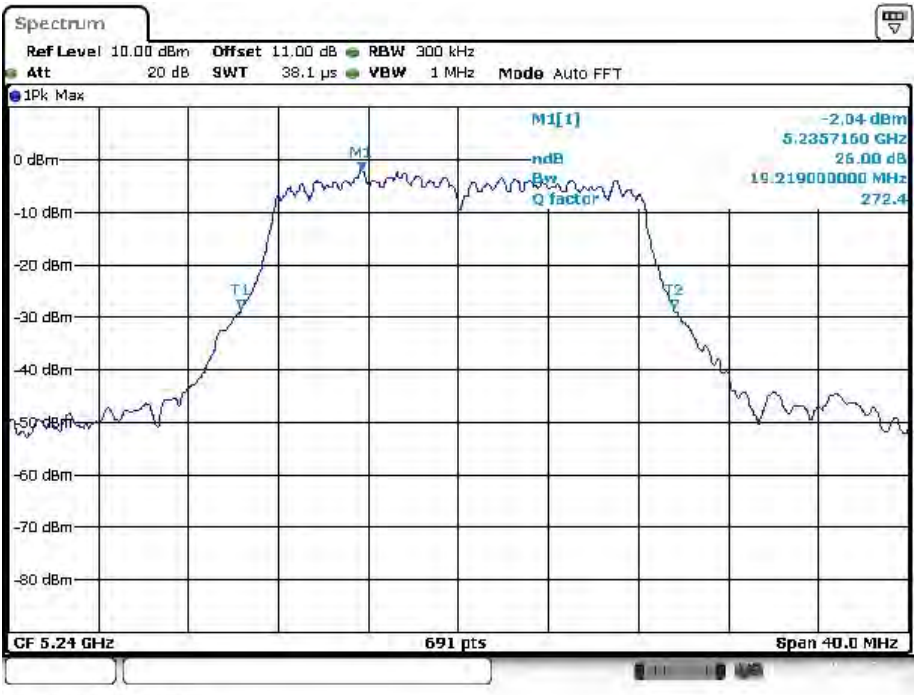
5180MHz



5200MHz



5240MHz



Date: 12 APR 2017 10:26:33

IEEE 802.11 ac VHT20 mode / 5150 ~ 5250MHz(chain 3)

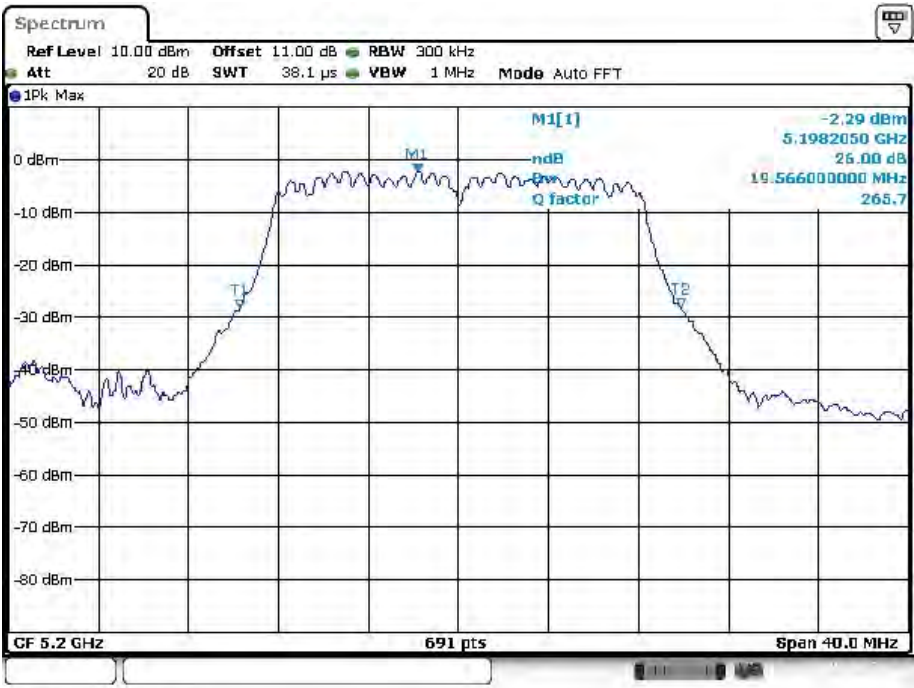
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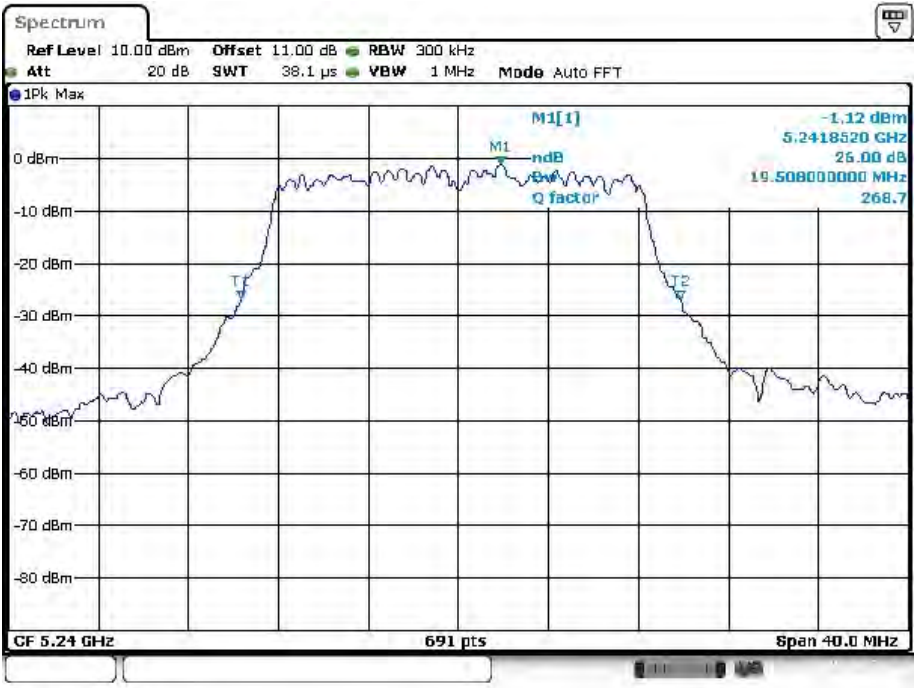


5200MHz



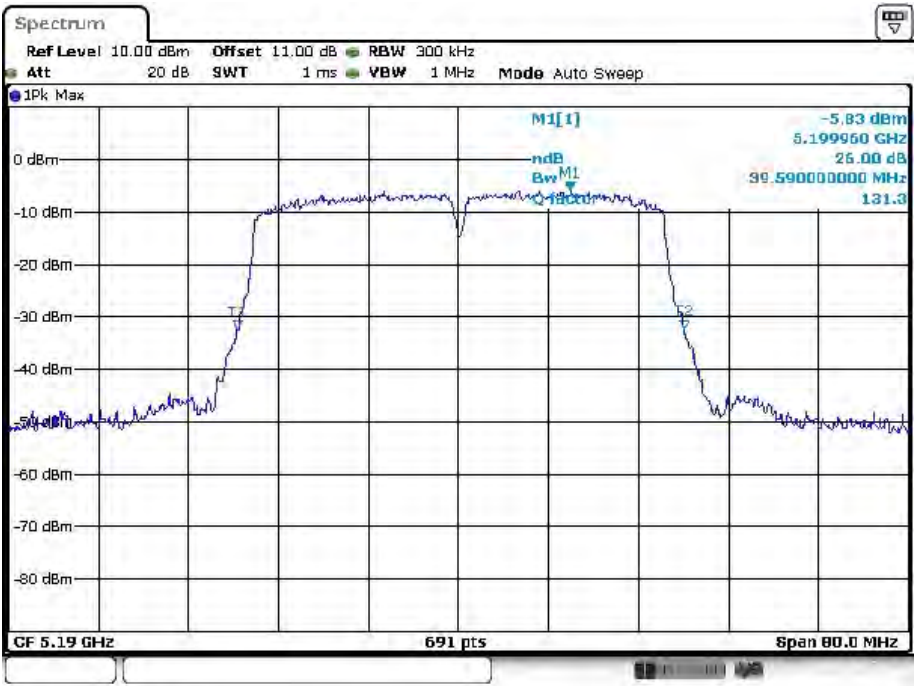
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5240MHz

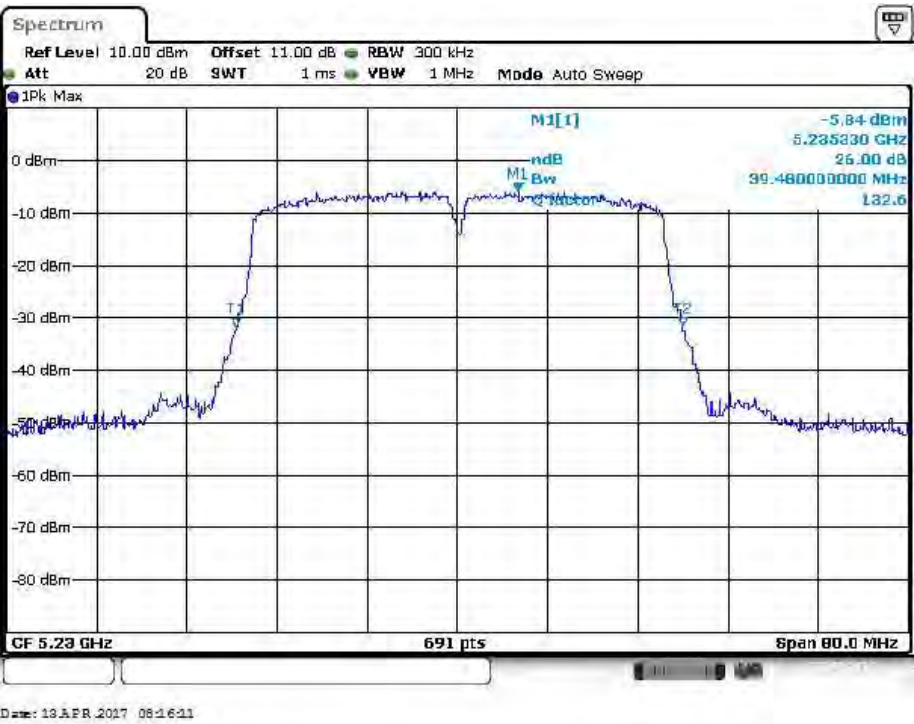


Date: 12 APR 2017 10:28:02

IEEE 802.11ac VHT40 mode / 5150 ~ 5250MHz(chain 0)  
5190MHz

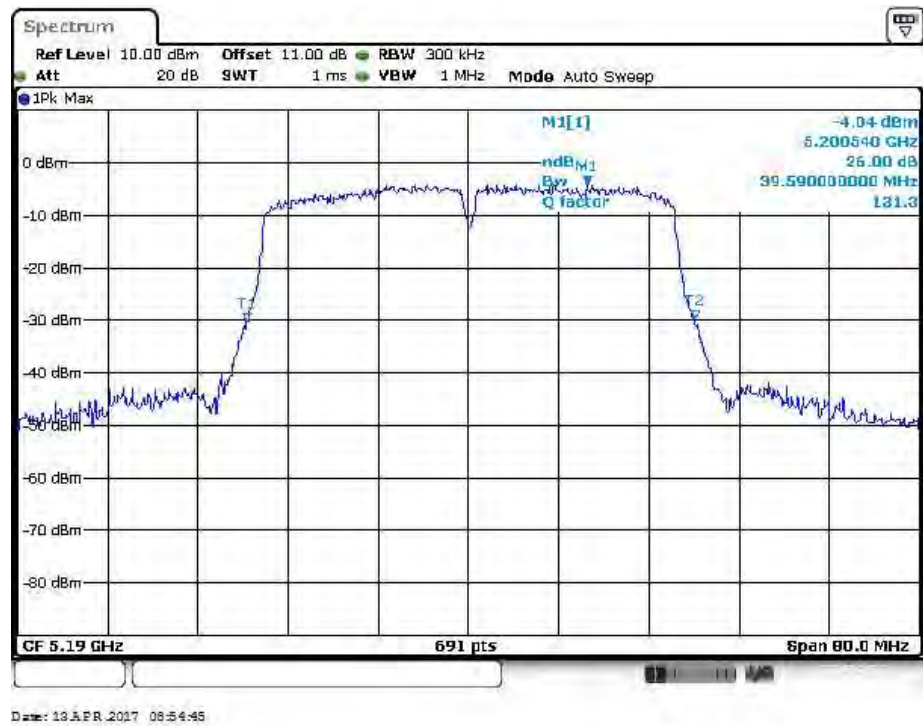


5230MHz

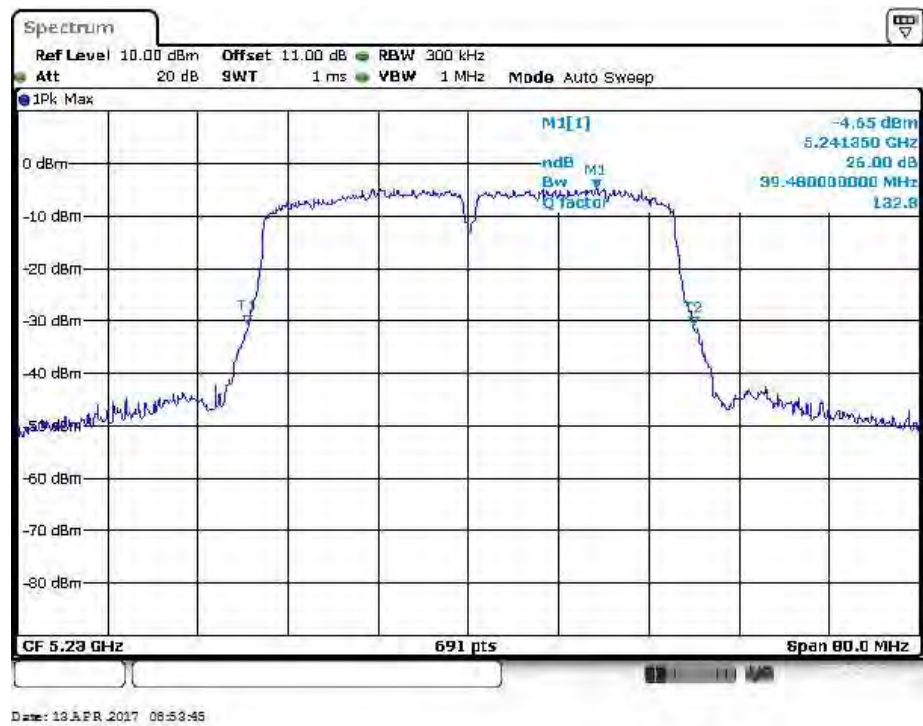


IEEE 802.11 ac VHT40 mode / 5150 ~ 5250MHz(chain 1)

5190MHz



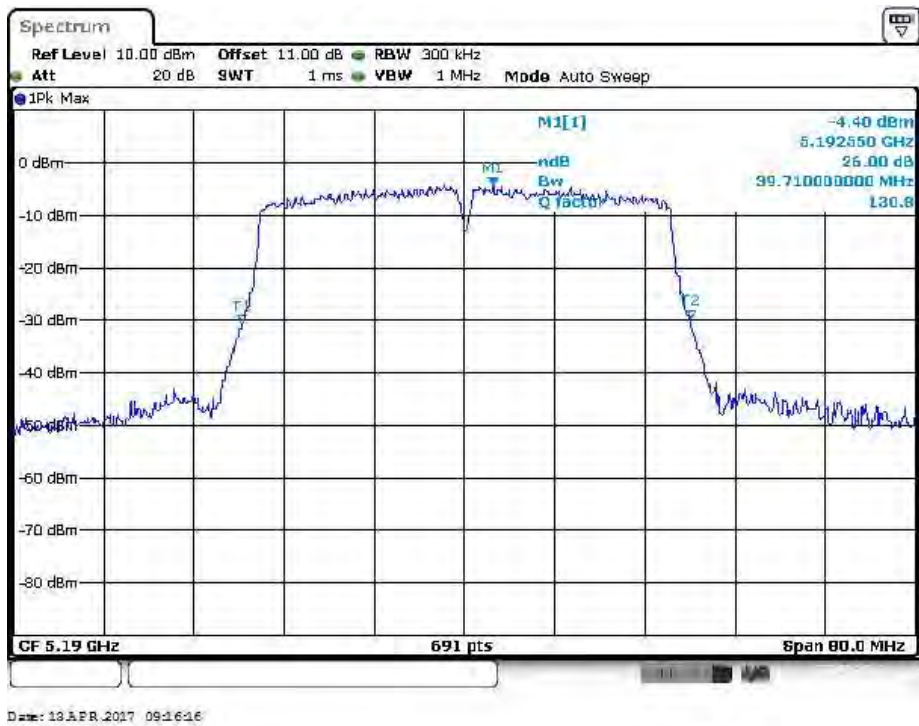
5230MHz



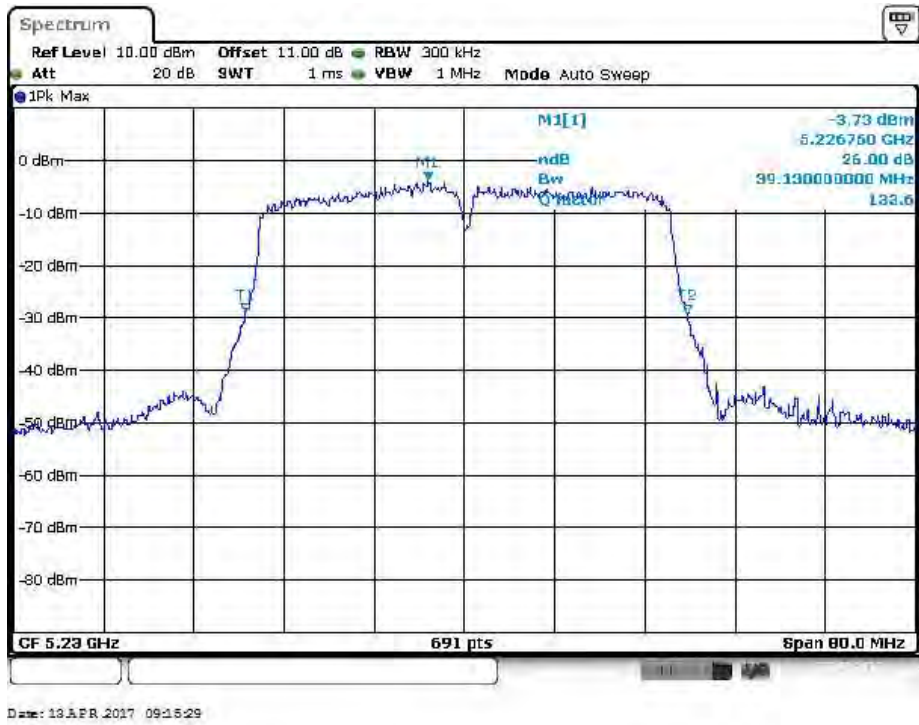


IEEE 802.11 ac VHT40 mode / 5150 ~ 5250MHz(chain 2)

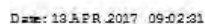
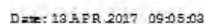
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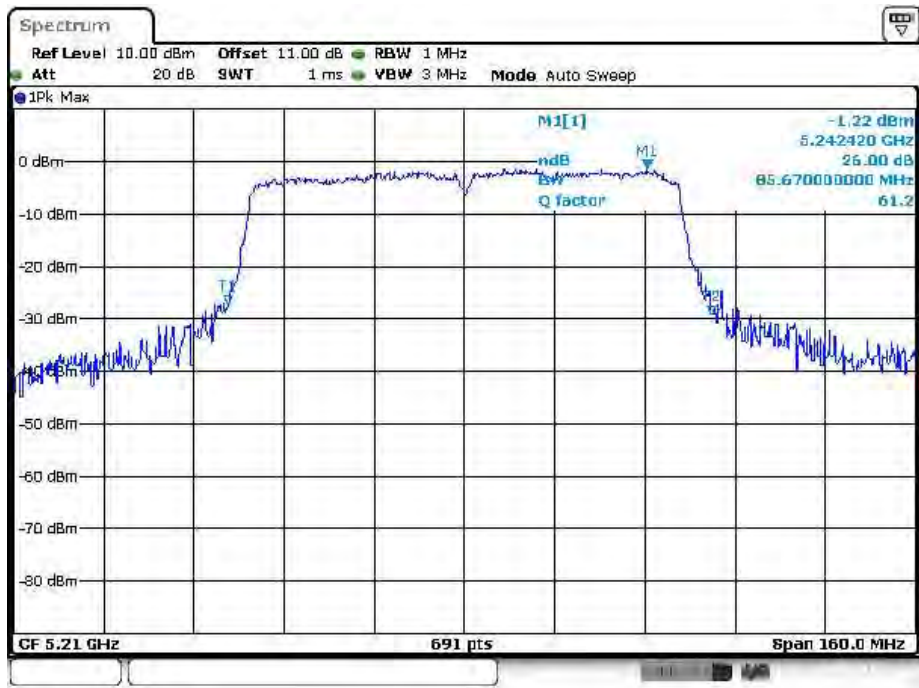
5230MHz



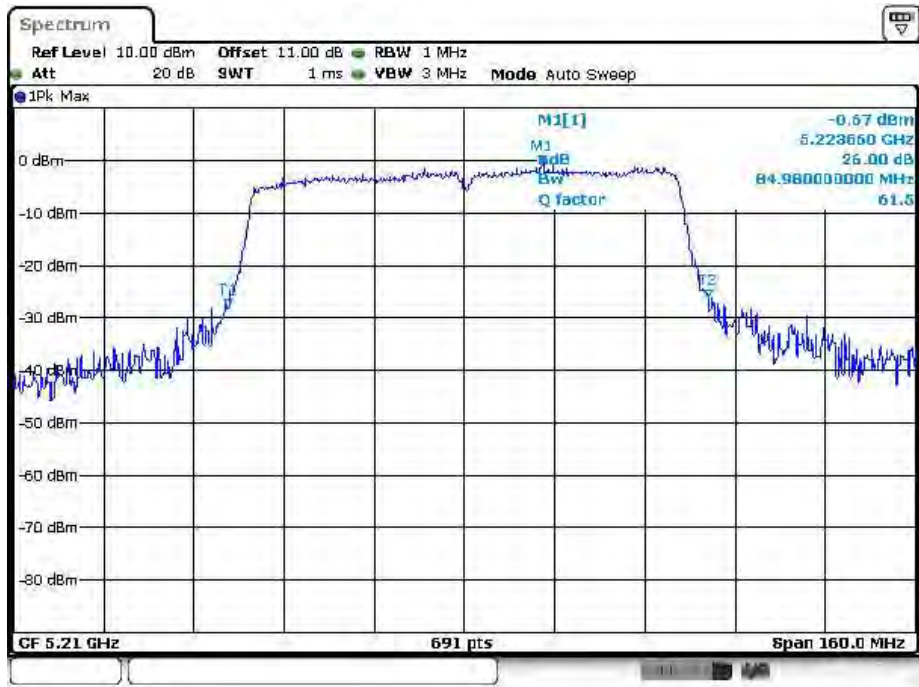
**5190MHz**

**5230MHz**

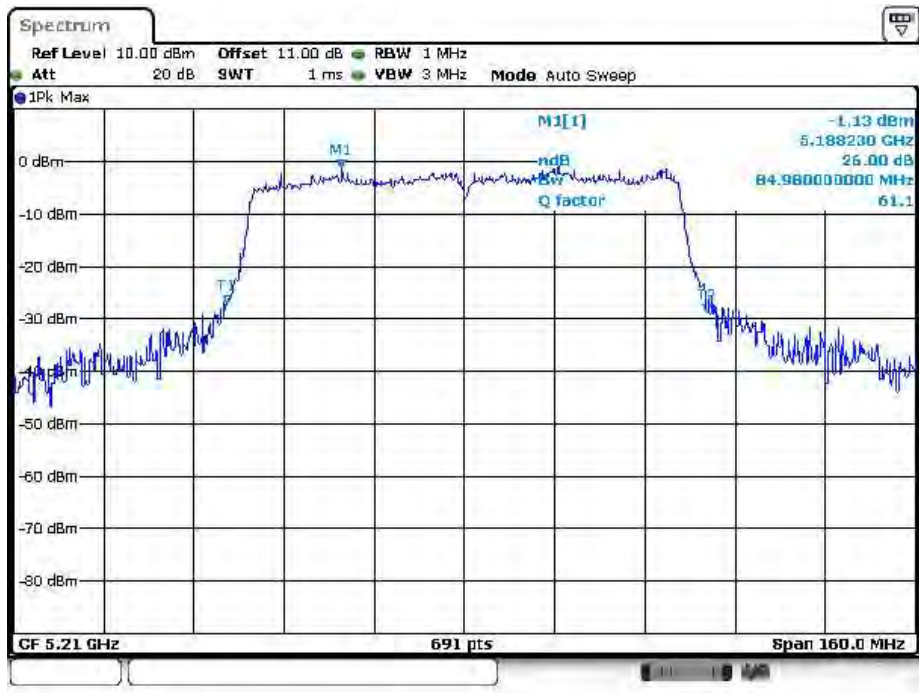
IEEE 802.11ac VHT80 mode / 5150 ~ 5250MHz(chain 0)  
5210MHz



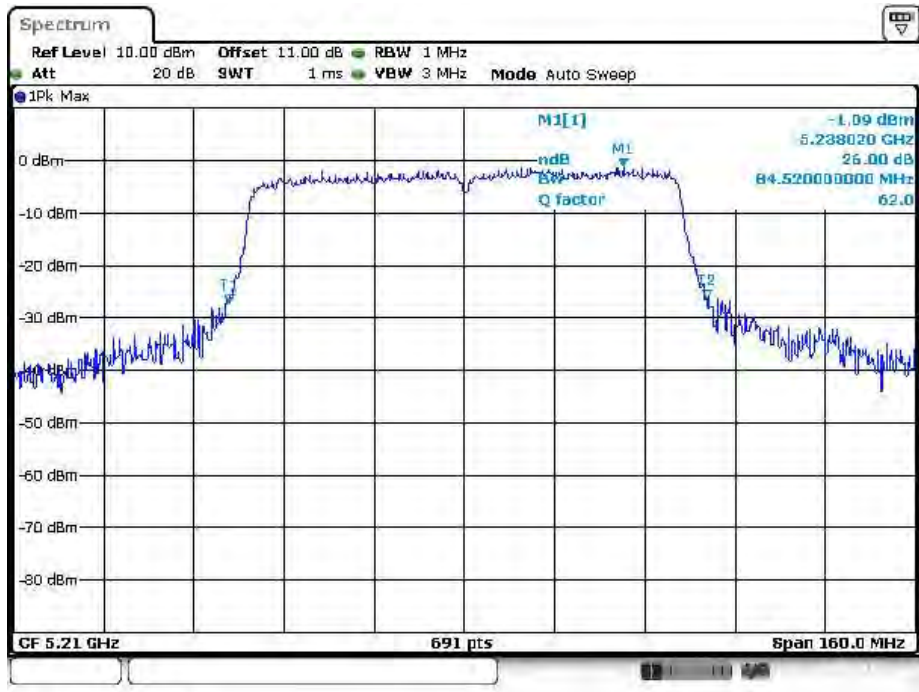
IEEE 802.11 ac VHT80 mode / 5150 ~ 5250MHz(chain 1)  
5210MHz



IEEE 802.11 ac VHT80 mode / 5150 ~ 5250MHz(chain 2)  
5210MHz

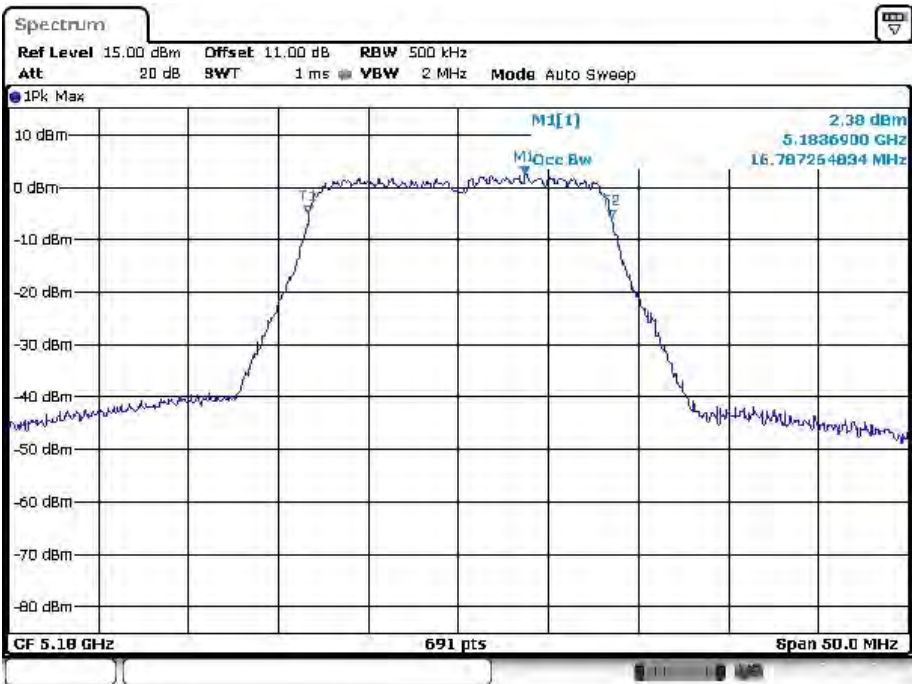


IEEE 802.11 ac VHT80 mode / 5150 ~ 5250MHz(chain 3)  
5210MHz



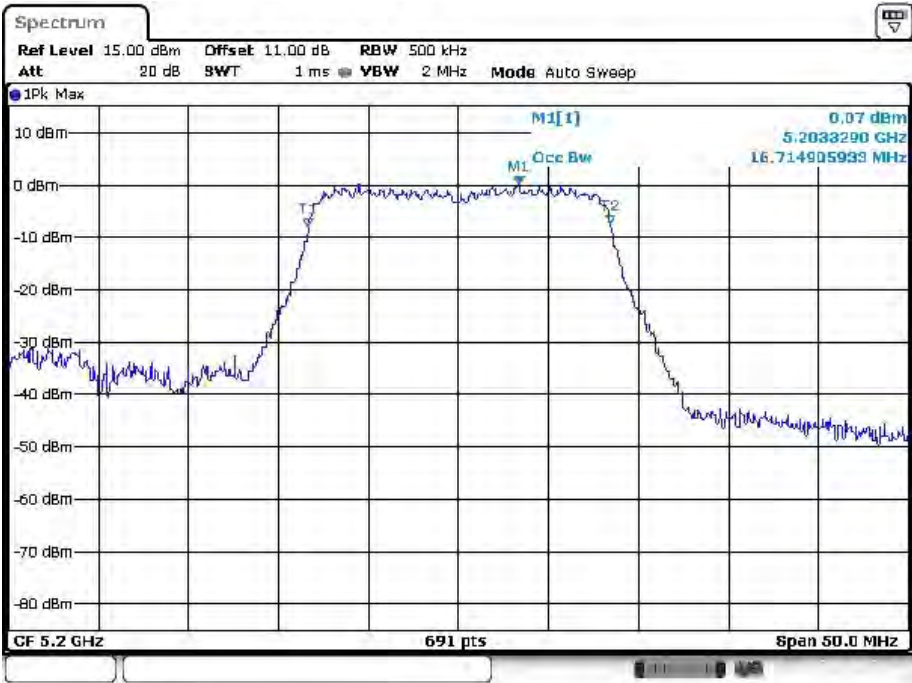


**OBW99%**  
**IEEE 802.11a mode / 5150 ~ 5250MHz (chain 0)**  
**5180MHz**



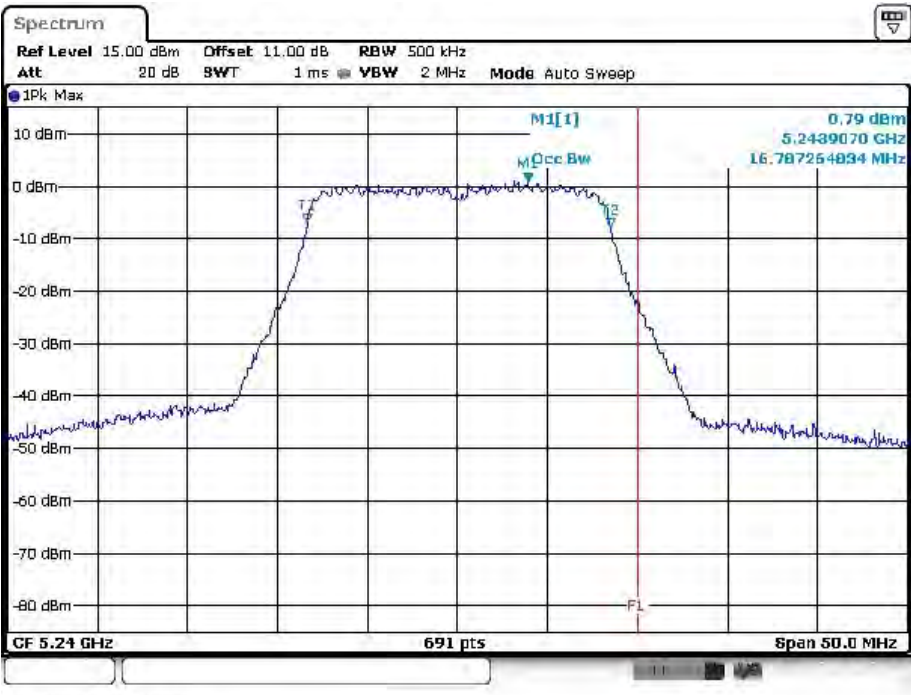
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**5200MHz**



Date: 11 APR 2017 05:29:25

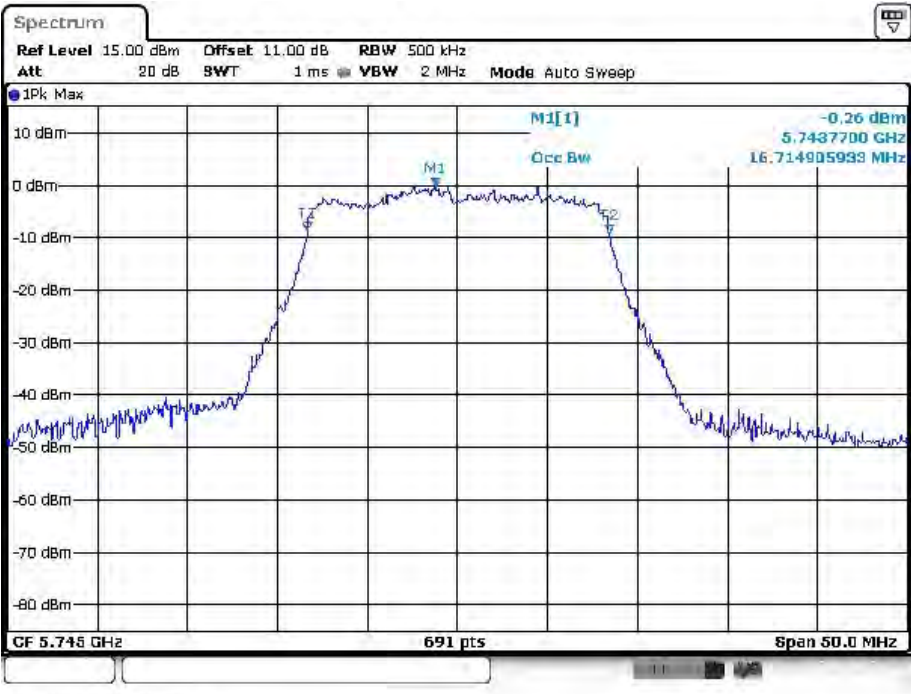
5240MHz



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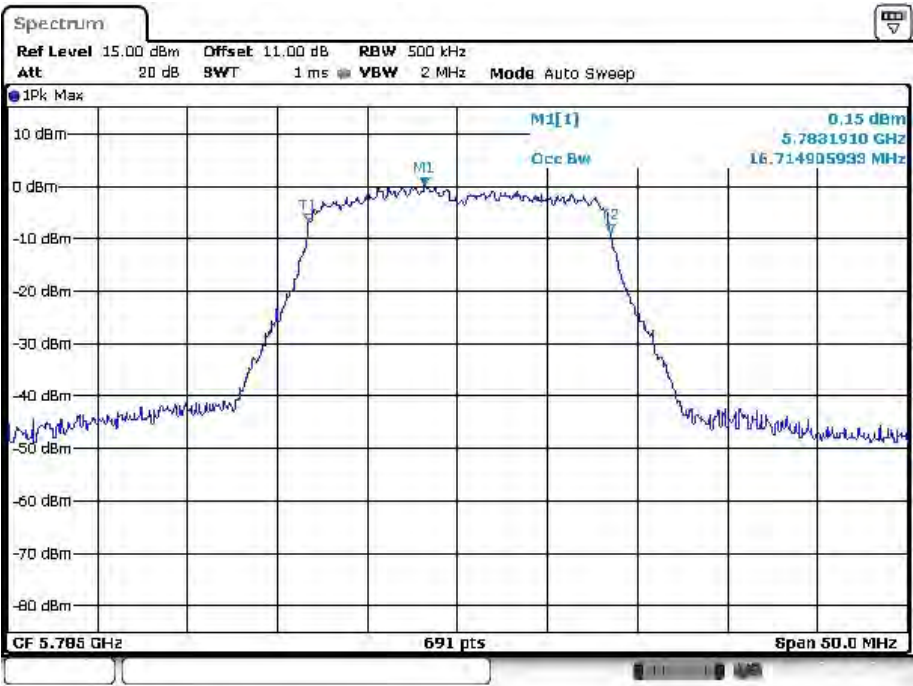
IEEE 802.11a mode / 5725 ~ 5850MHz (chain 0)

5745MHz



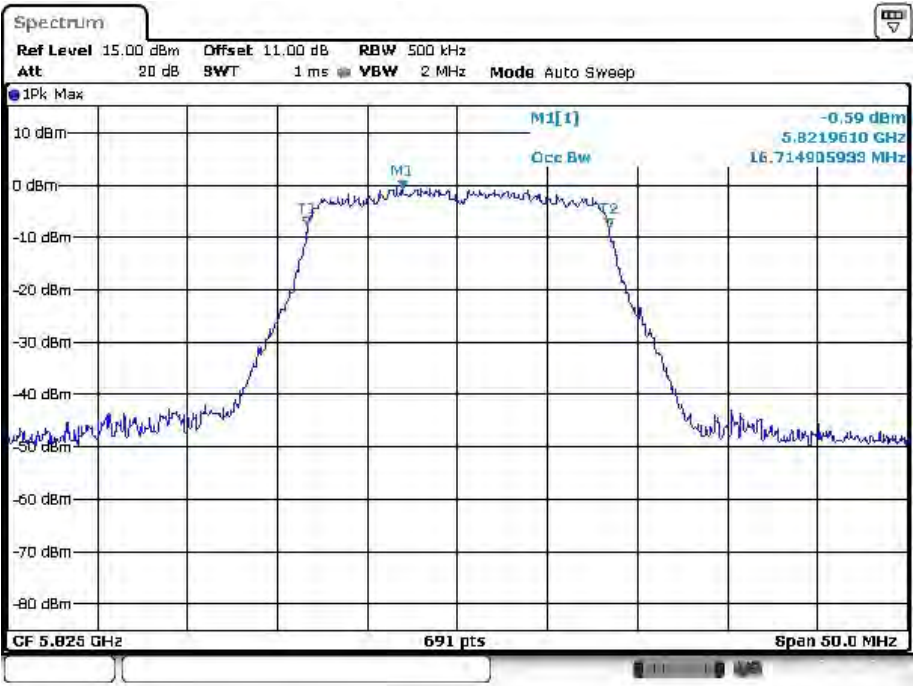
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5785MHz



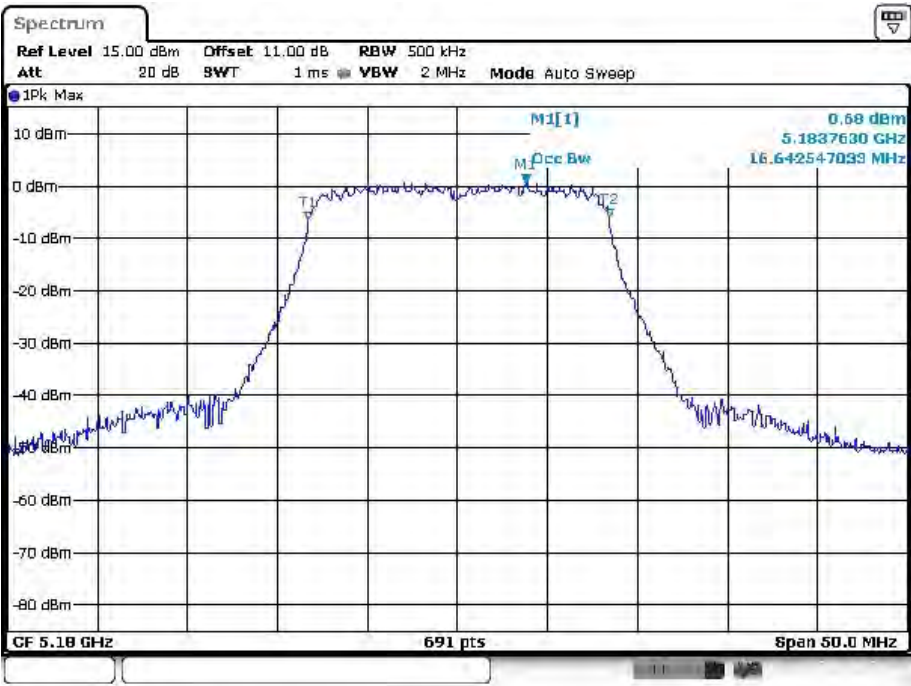
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5825MHz

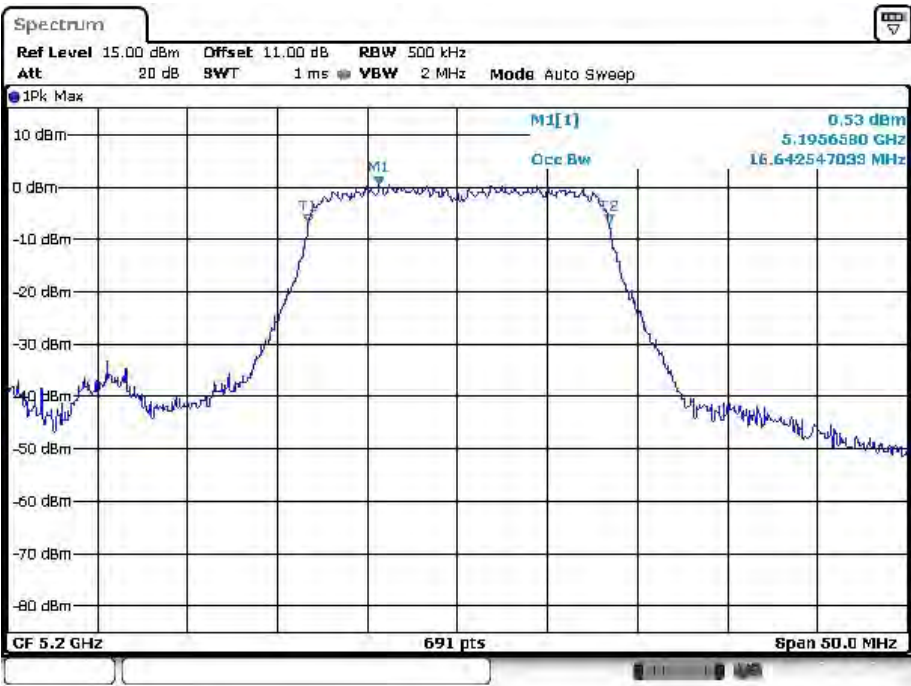


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IEEE 802.11a mode / 5150 ~ 5250MHz (chain 1)  
5180MHz

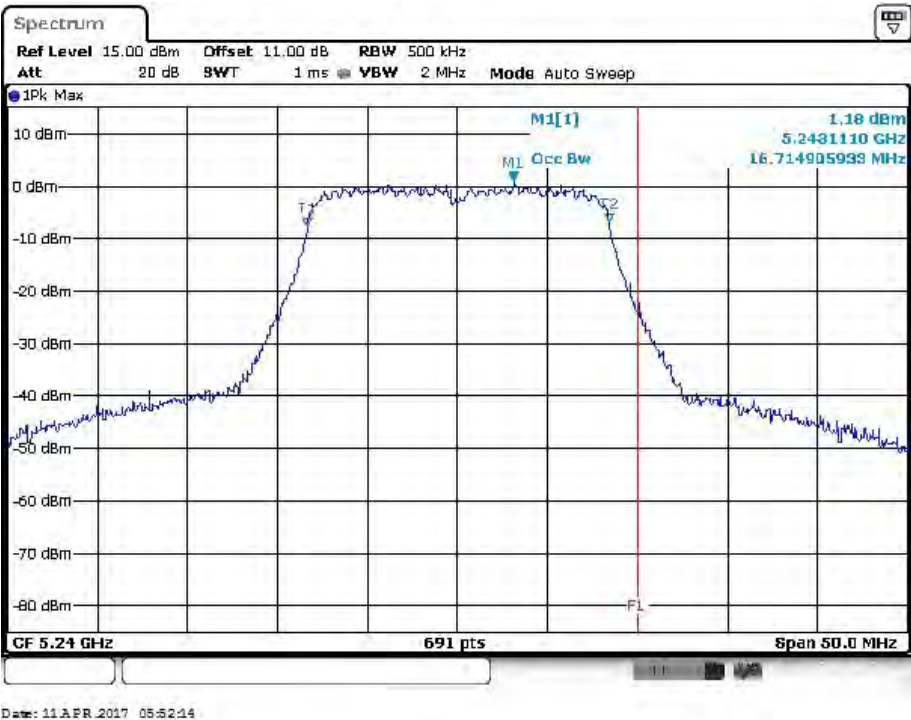


5200MHz



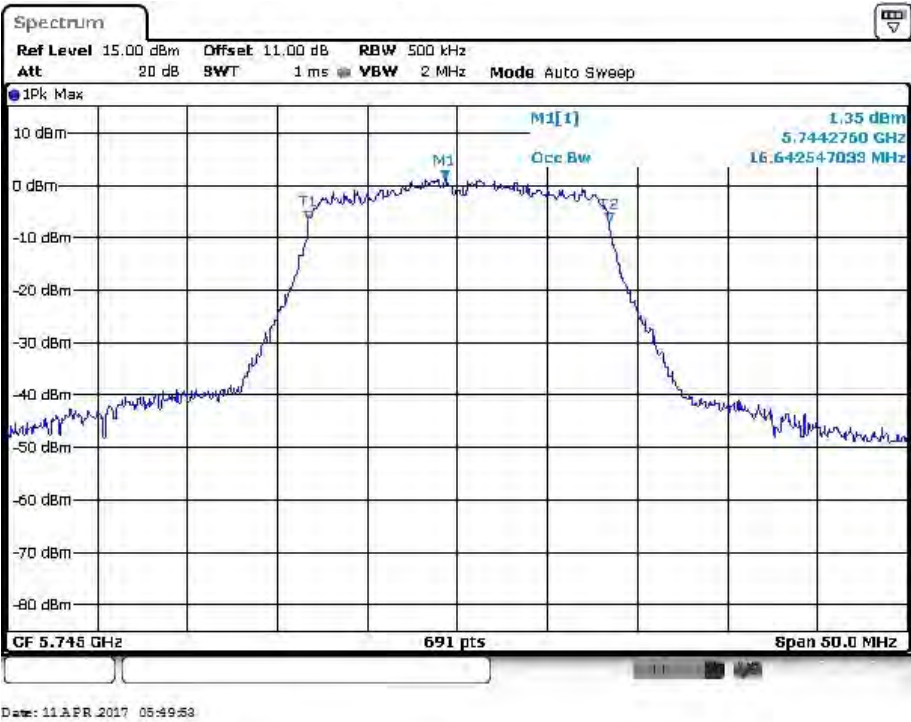


5240MHz

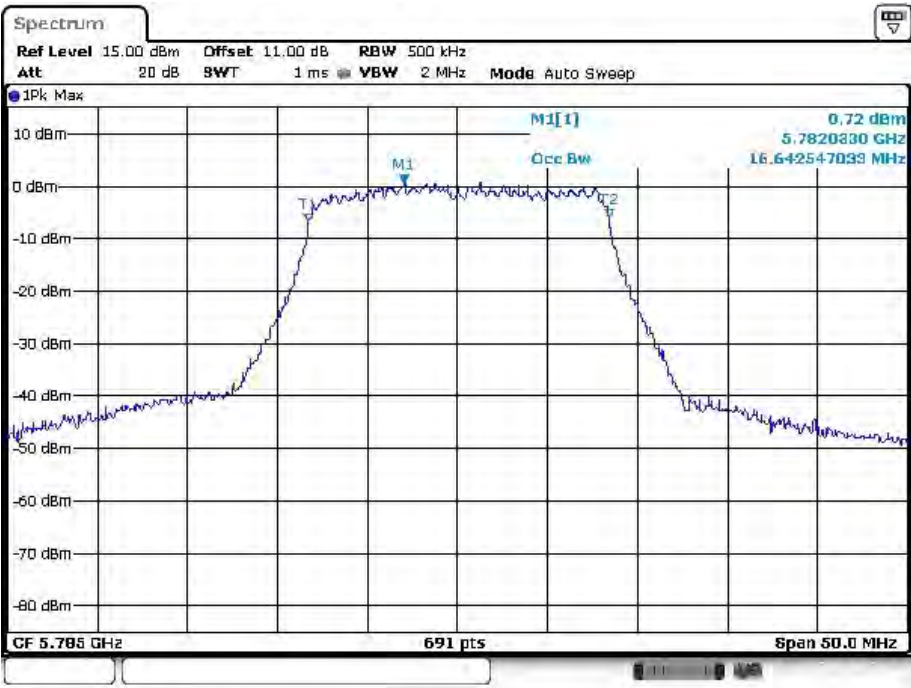


IEEE 802.11a mode / 5725 ~ 5850MHz (chain 1)

5745MHz

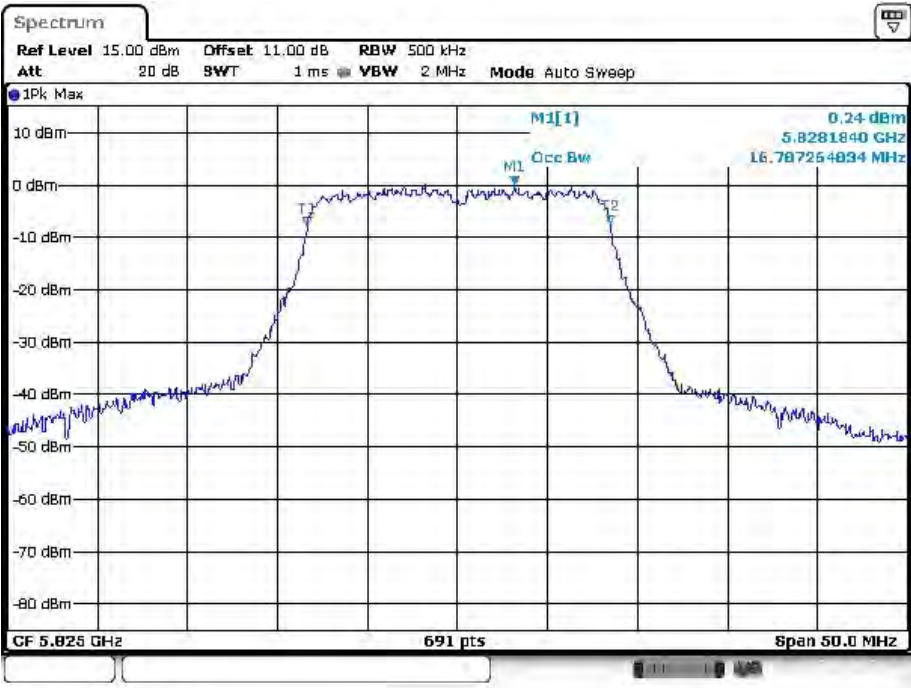


5785MHz



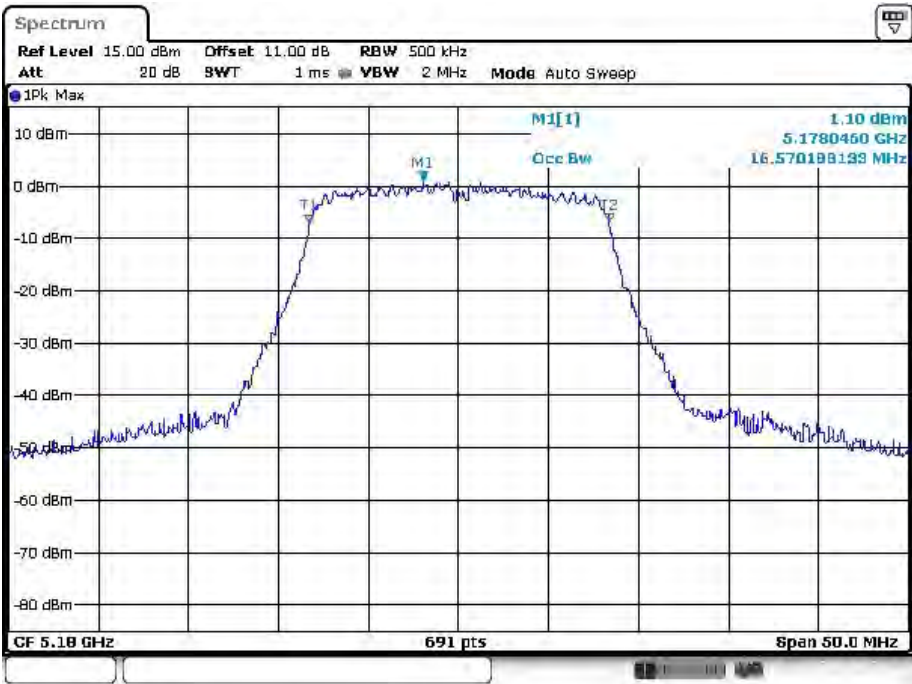
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5825MHz



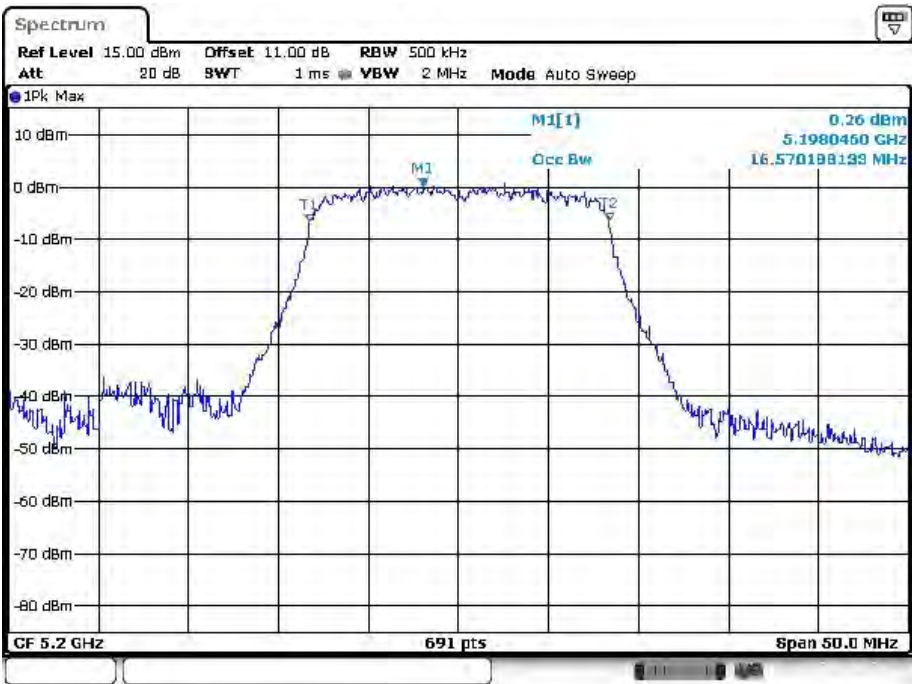
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IEEE 802.11a mode / 5150 ~ 5250MHz (chain 2)  
5180MHz



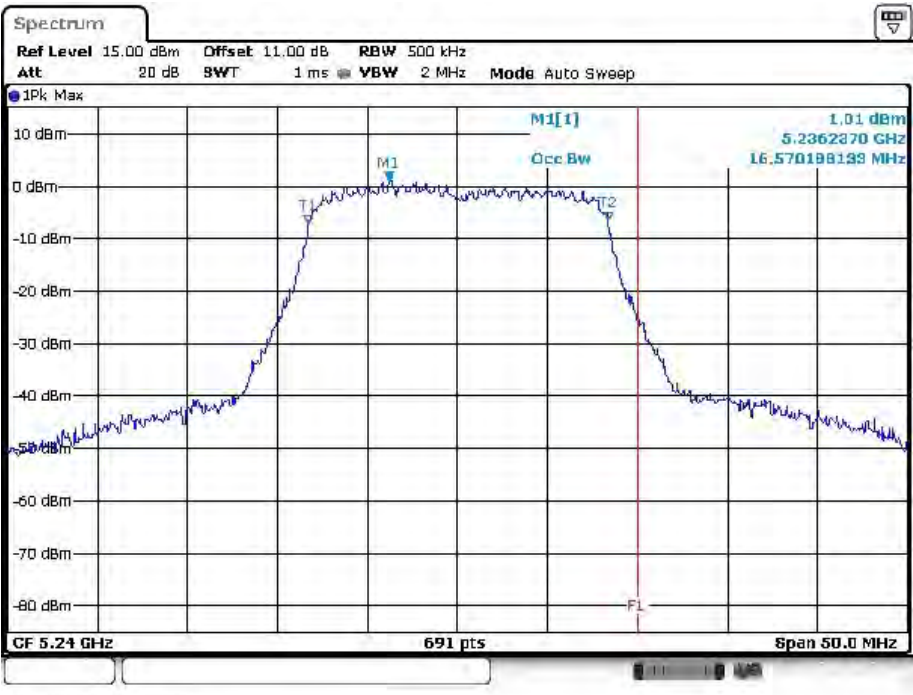
Date: 11 APR 2017 05:55:20

5200MHz



Date: 11 APR 2017 05:57:28

5240MHz



Date: 11 APR 2017 05:53:20

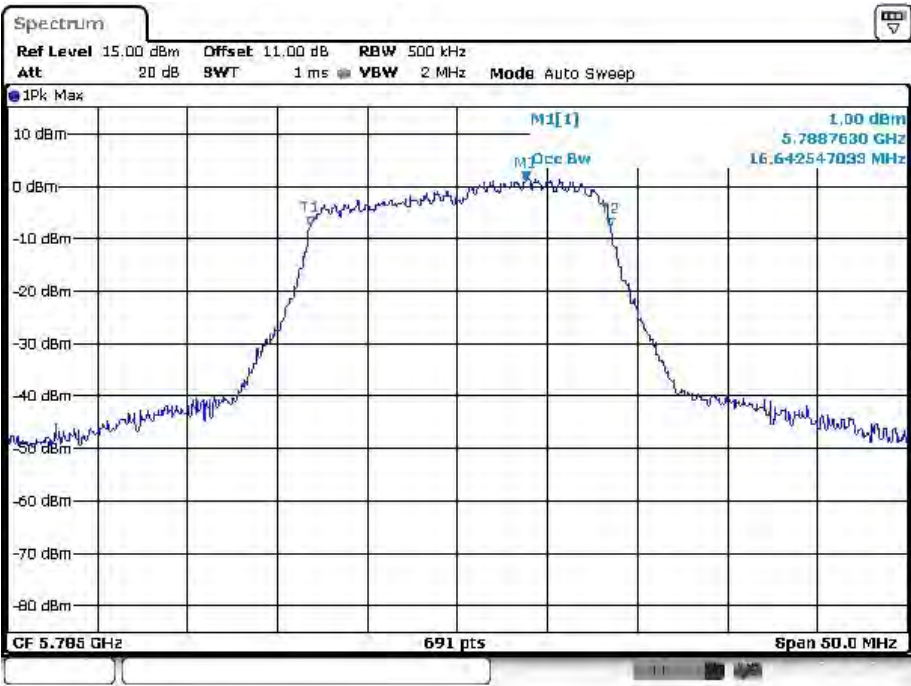
IEEE 802.11a mode / 5725 ~ 5850MHz (chain 2)

5745MHz



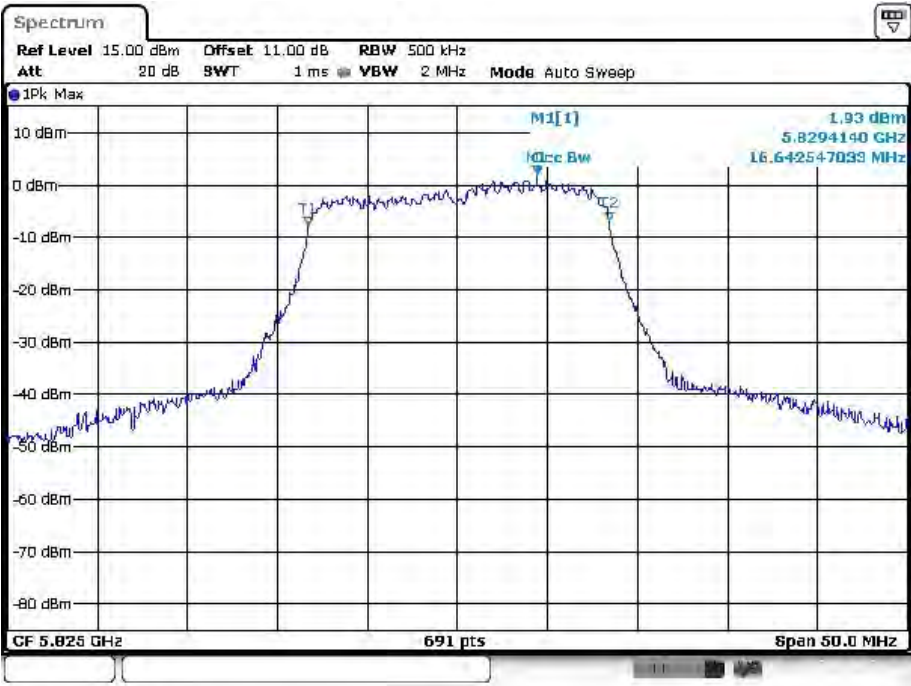
Date: 11 APR 2017 06:02:22

5785MHz



Date: 11 APR 2017 06:03:13

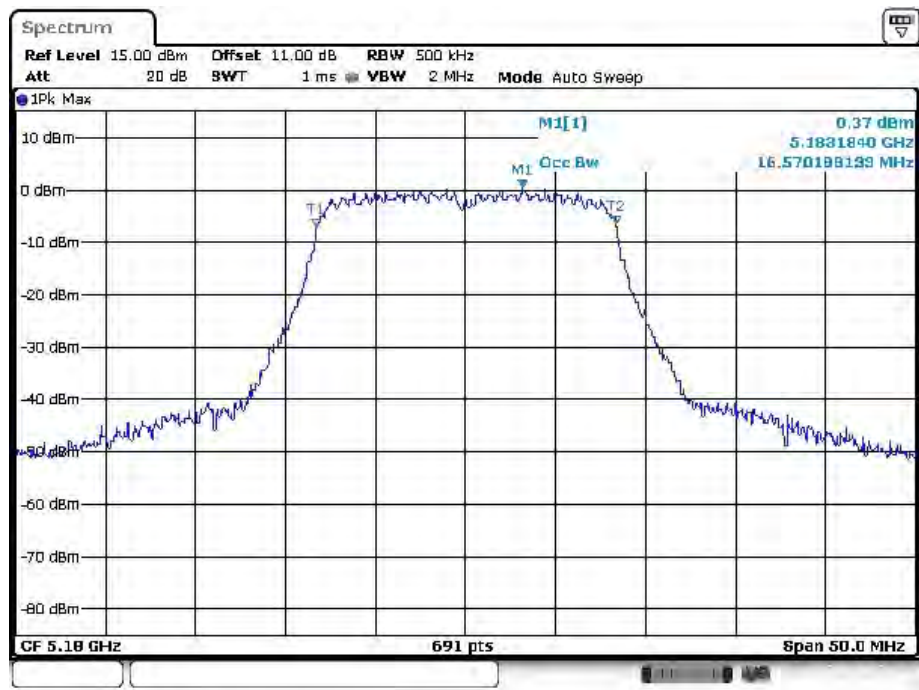
5825MHz



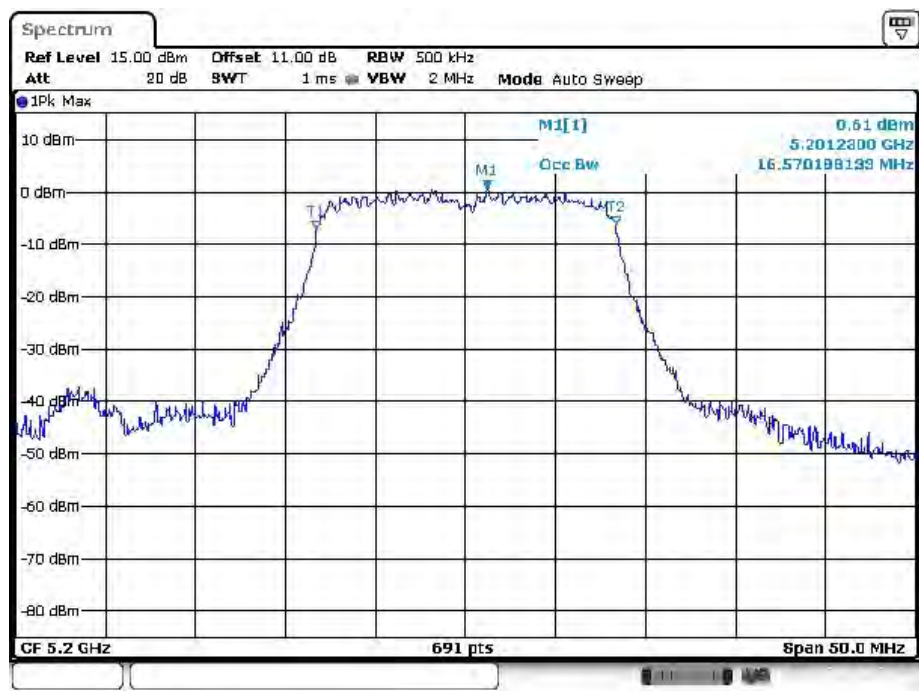
Date: 11 APR 2017 06:04:10



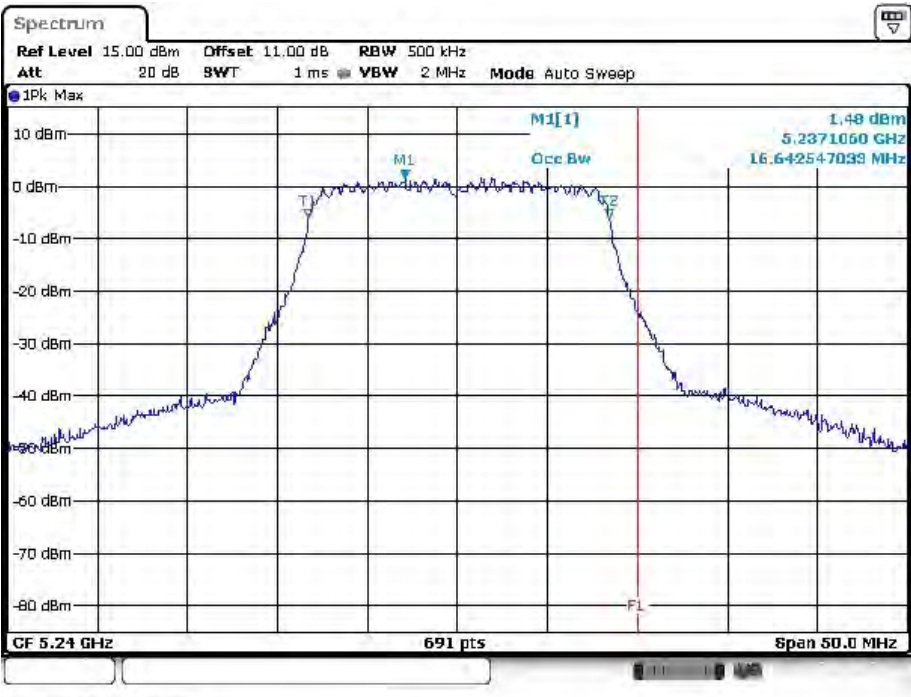
IEEE 802.11a mode / 5150 ~ 5250MHz (chain 3)  
5180MHz



5200MHz

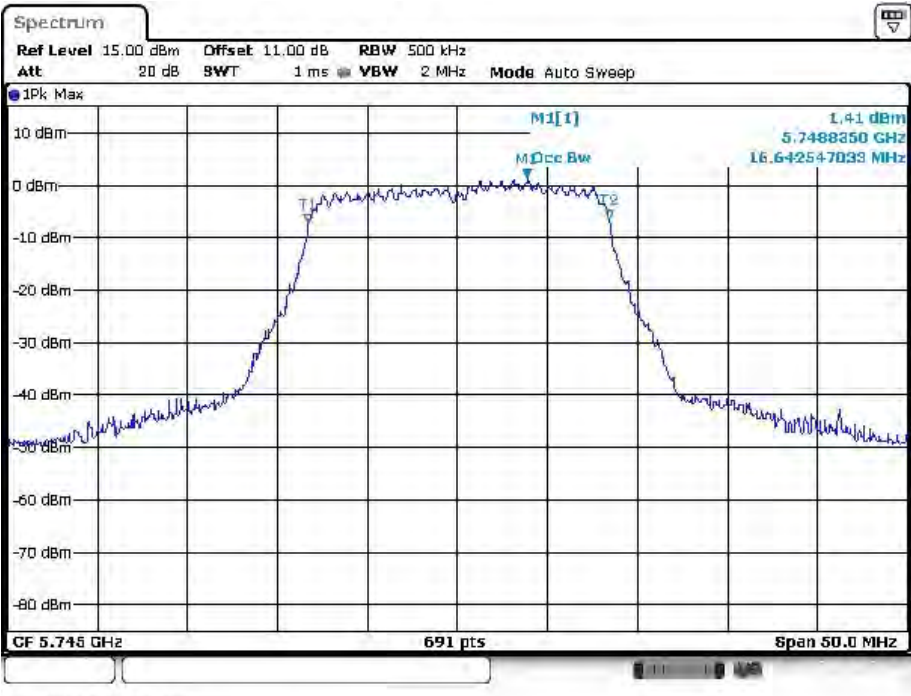


5240MHz

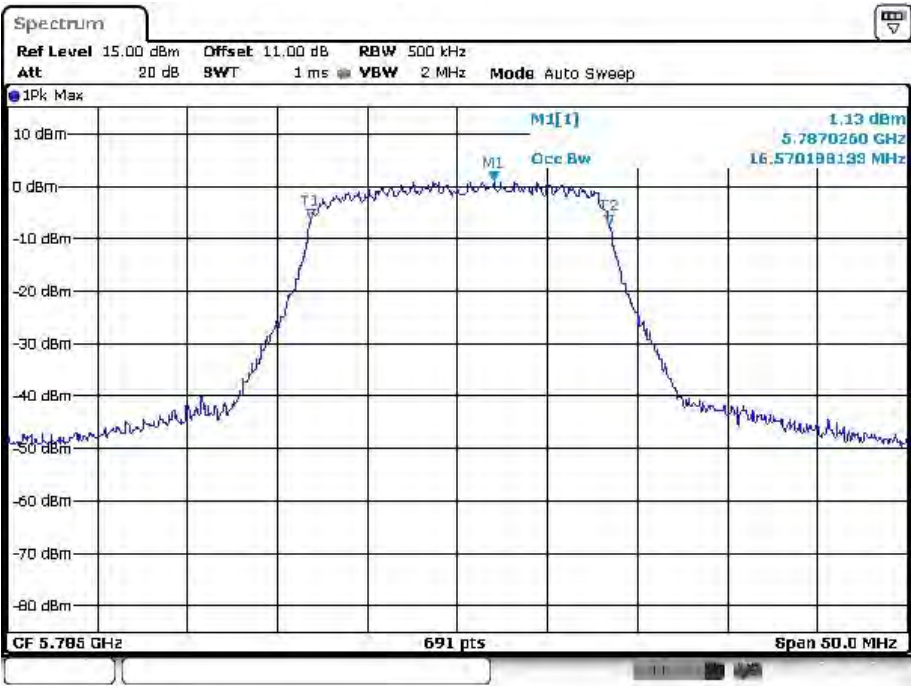


IEEE 802.11a mode / 5725 ~ 5850MHz (chain 3)

5745MHz

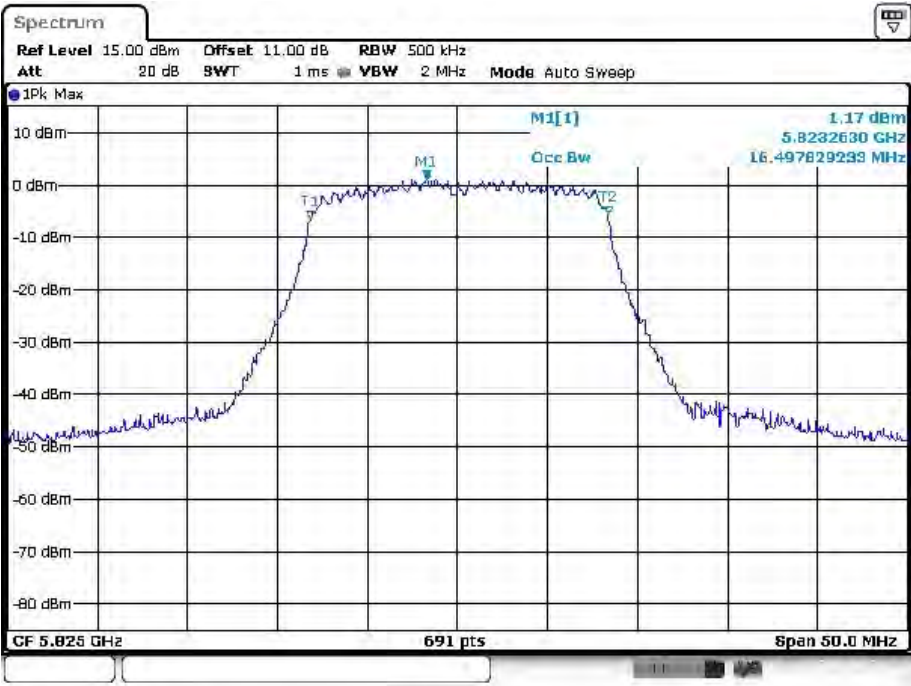


5785MHz



Date: 11 APR 2017 07:17:37

5825MHz

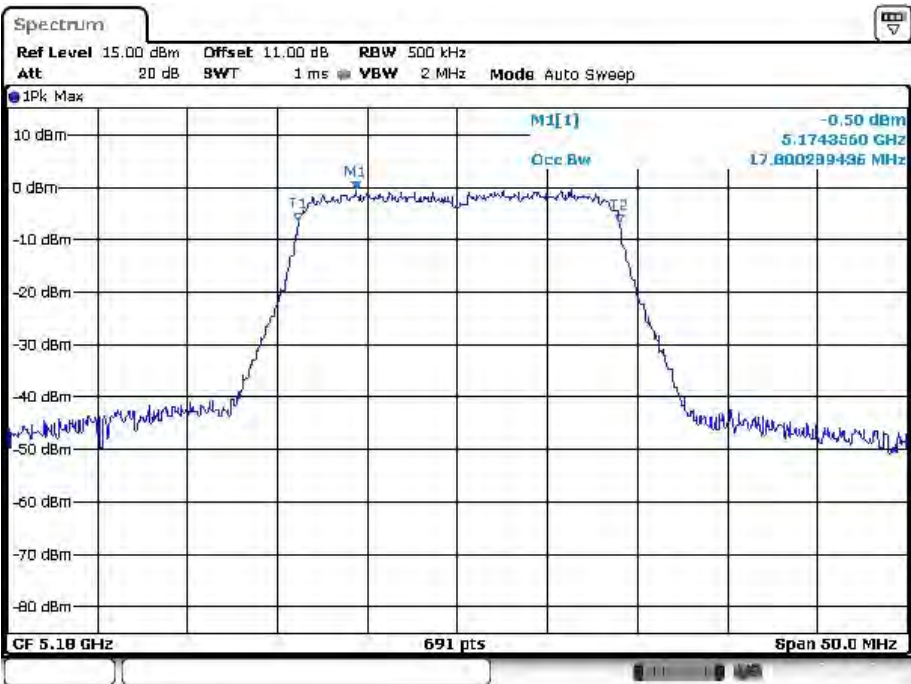


Date: 11 APR 2017 07:16:43



IEEE 802.11ac VHT20 mode / 5150 ~ 5250MHz (chain 0)

5180MHz



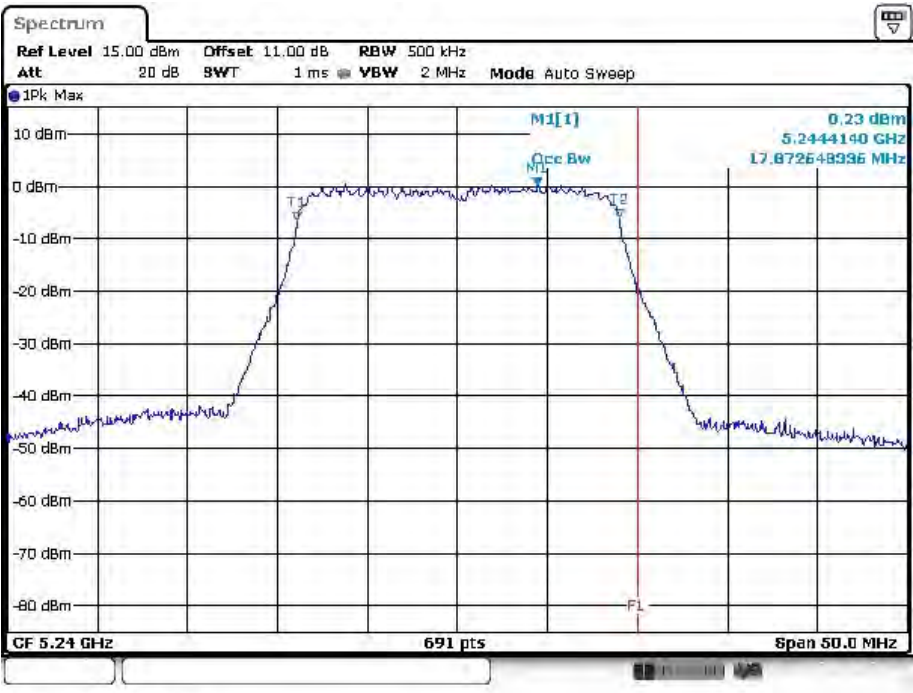
Date: 11 APR 2017 07:27:58

5200MHz



Date: 11 APR 2017 07:28:49

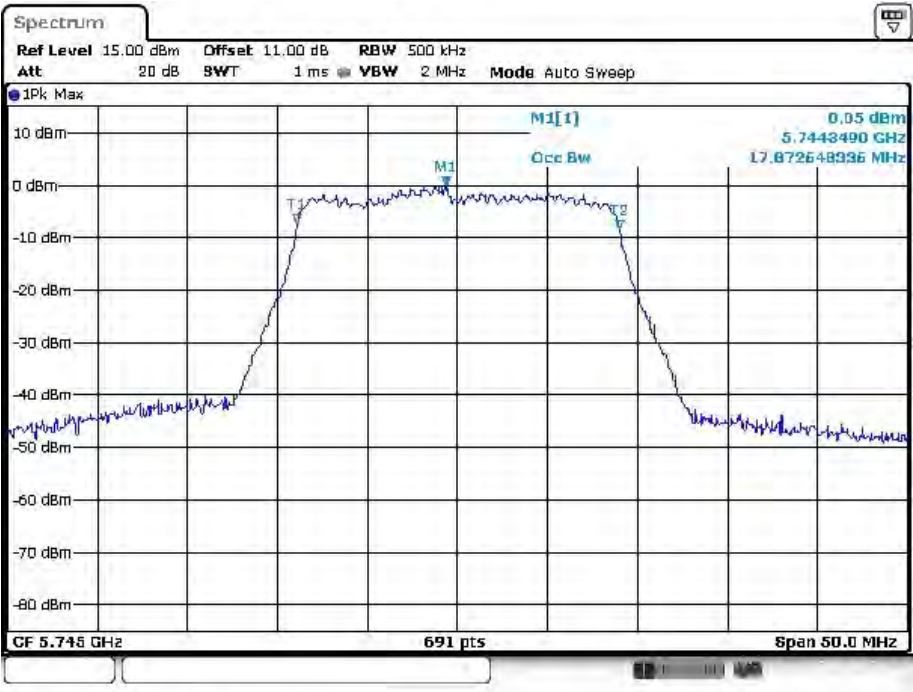
5240MHz



Date: 11 APR 2017 07:26:38

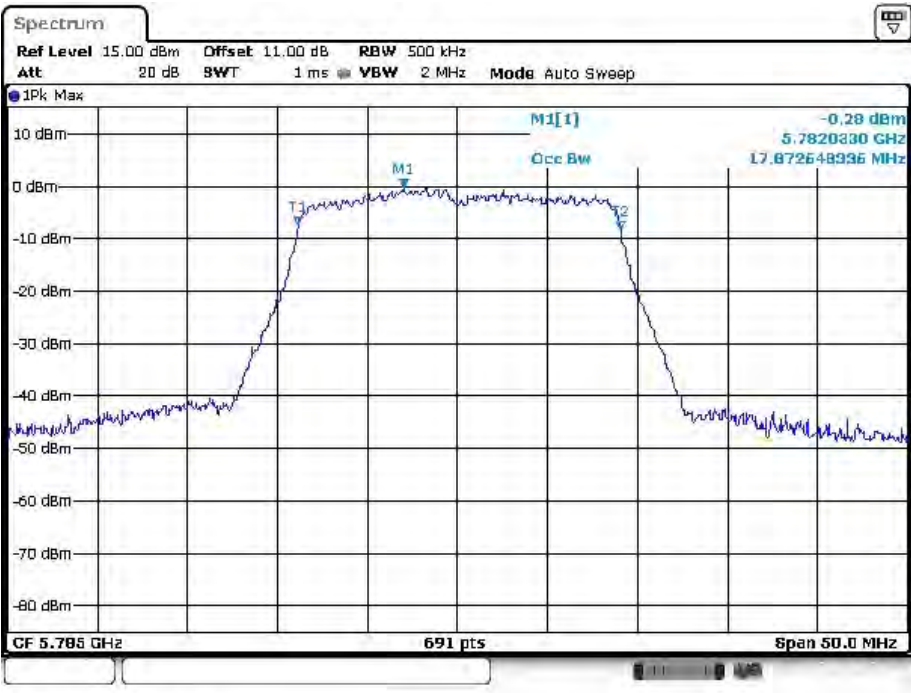
IEEE 802.11ac VHT20 mode / 5725 ~ 5850MHz (chain 0)

5745MHz



Date: 11 APR 2017 07:48:39

5785MHz



Date: 11 APR 2017 07:49:29

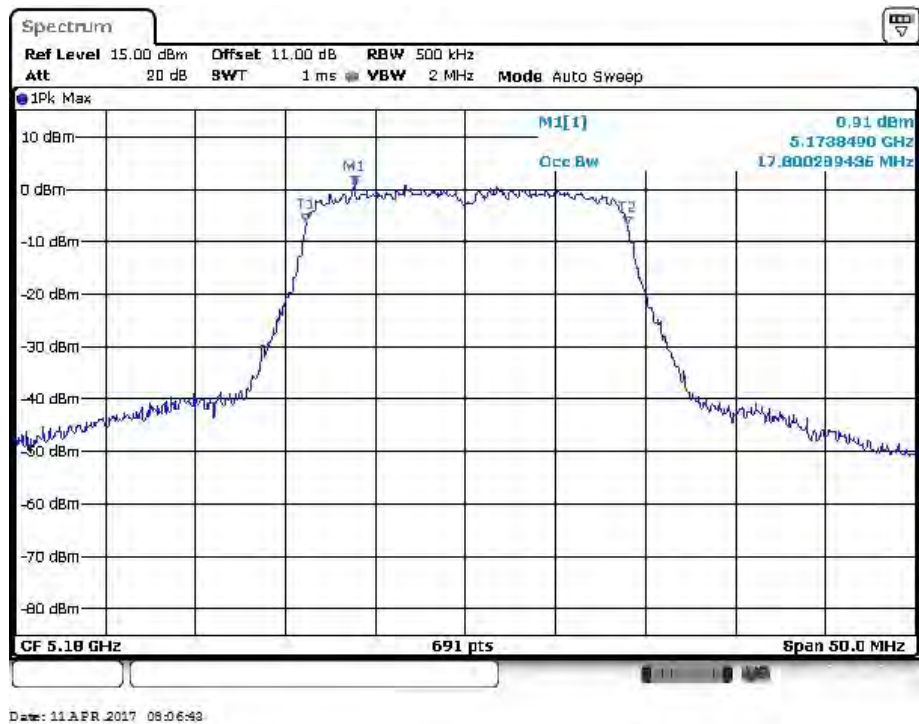
5825MHz



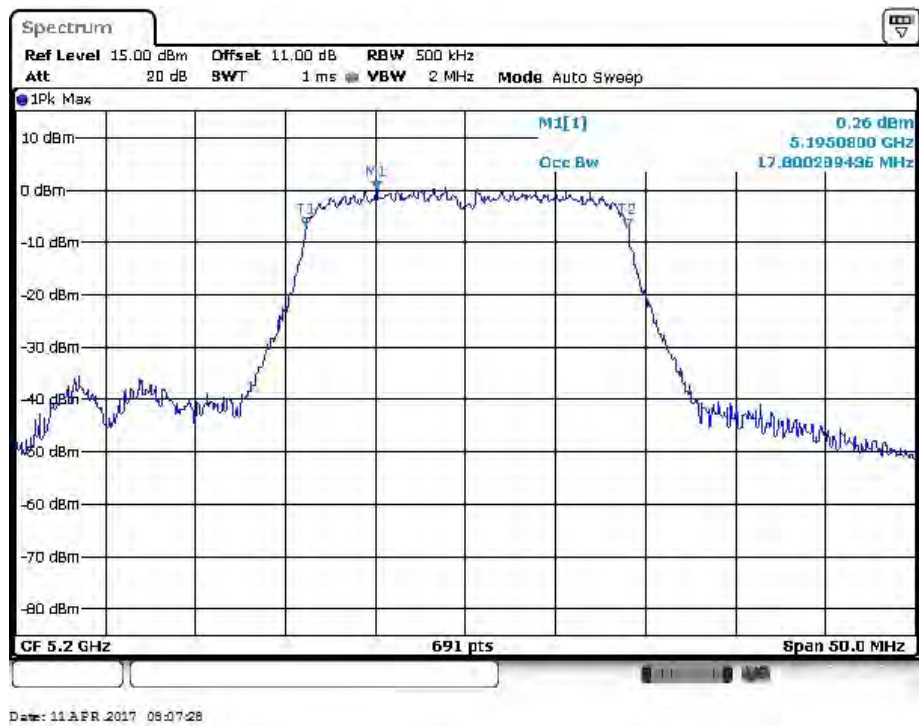
Date: 11 APR 2017 07:51:13

IEEE 802.11ac VHT20 mode / 5150 ~ 5250MHz(chain 1)

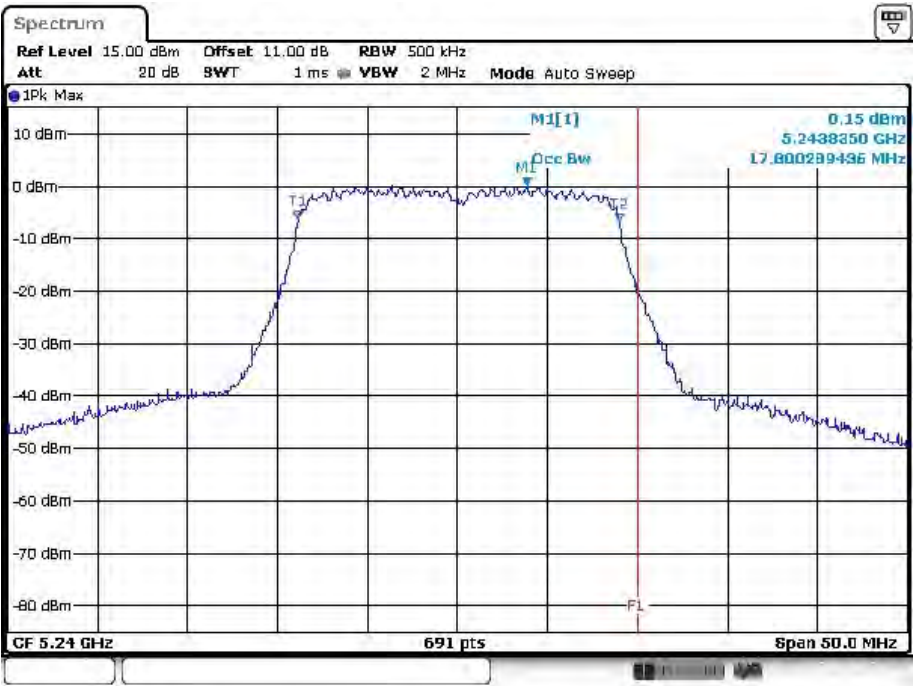
5180MHz



5200MHz

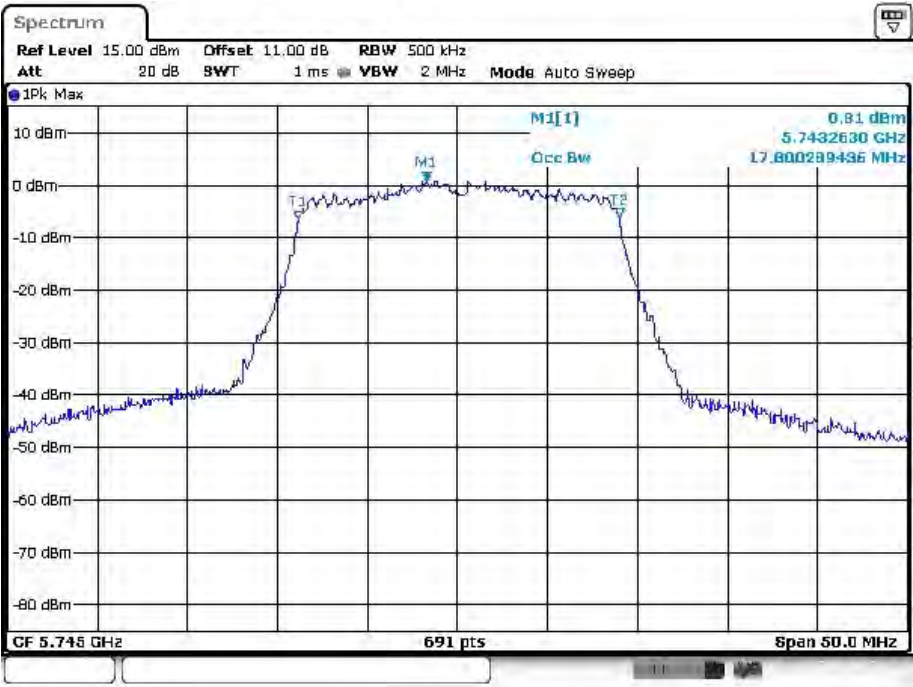


5240MHz



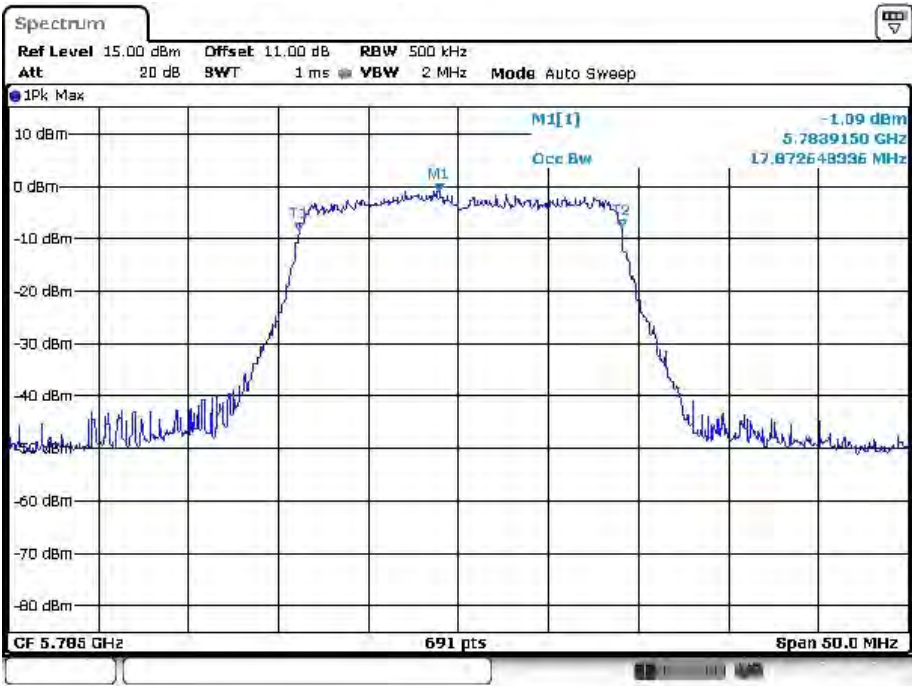
IEEE 802.11ac VHT20 mode / 5725 ~ 5850MHz (chain 1)

5745MHz



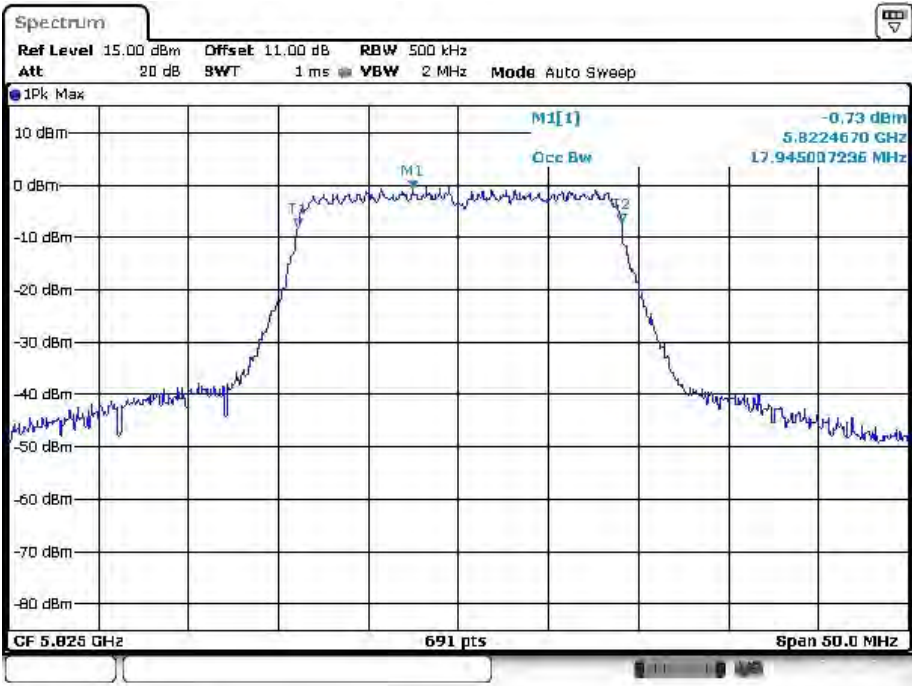


5785MHz



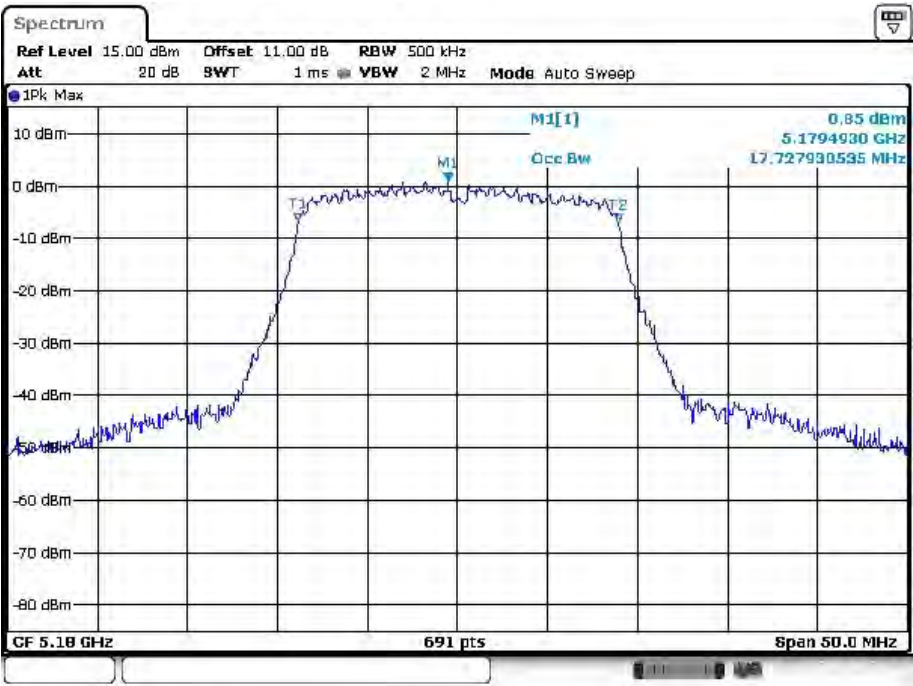
Date: 11 APR 2017 07:55:52

5825MHz



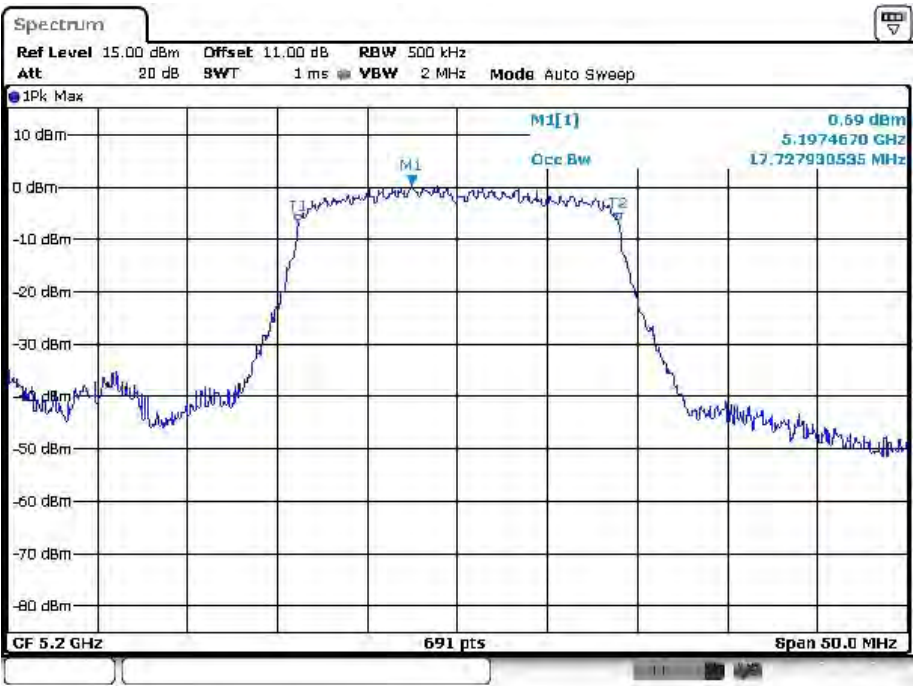
Date: 11 APR 2017 07:58:48

IEEE 802.11ac VHT20 mode / 5150 ~ 5250MHz(chain 2)  
5180MHz



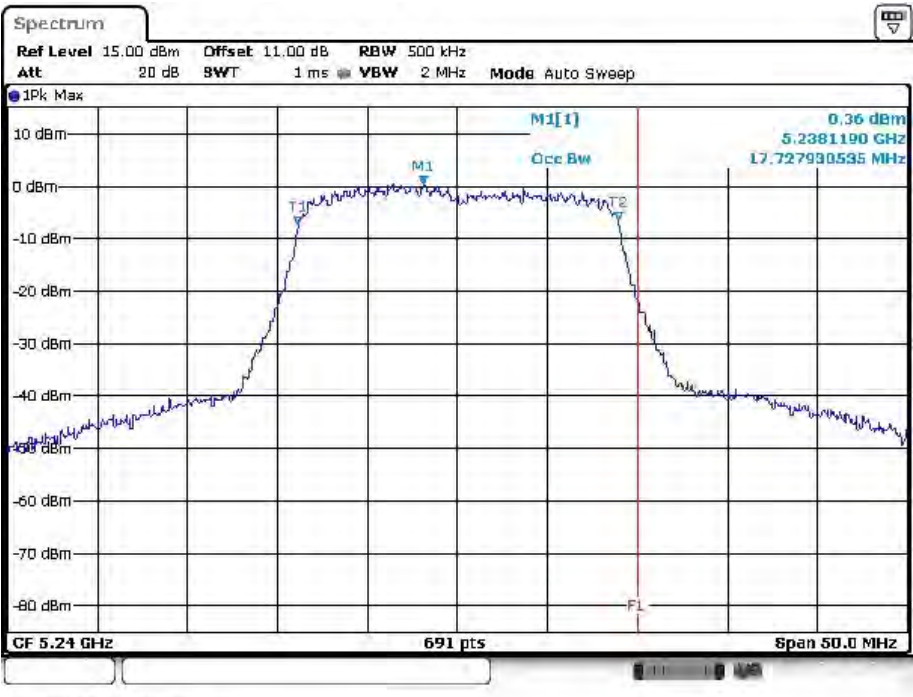
Date: 11 APR 2017 08:11:08

5200MHz



Date: 11 APR 2017 08:11:47

5240MHz



Date: 11 APR 2017 08:09:58

IEEE 802.11ac VHT20 mode / 5725 ~ 5850MHz (chain 2)

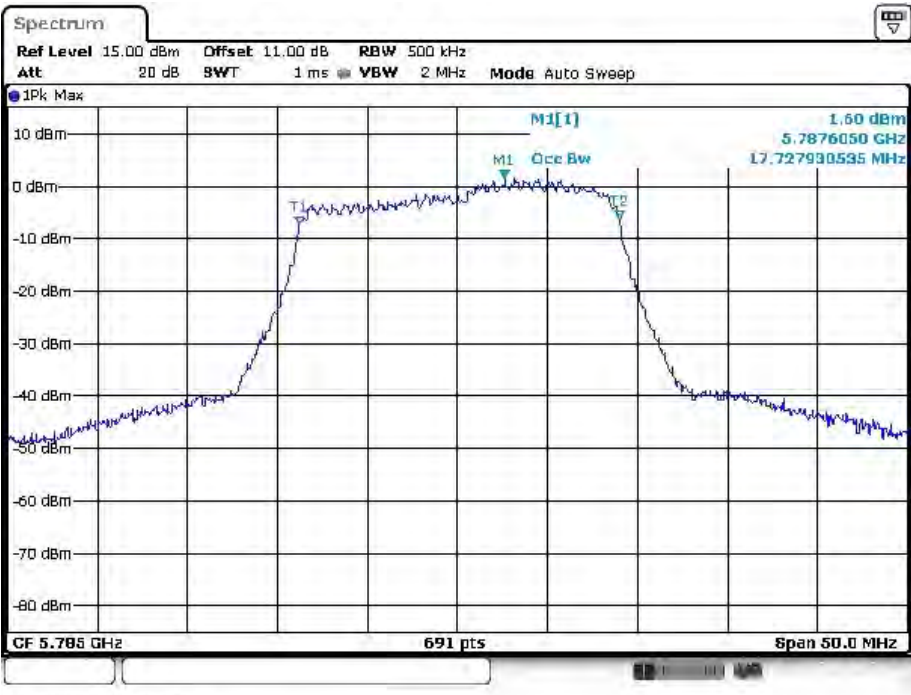
5745MHz



Date: 11 APR 2017 08:12:43

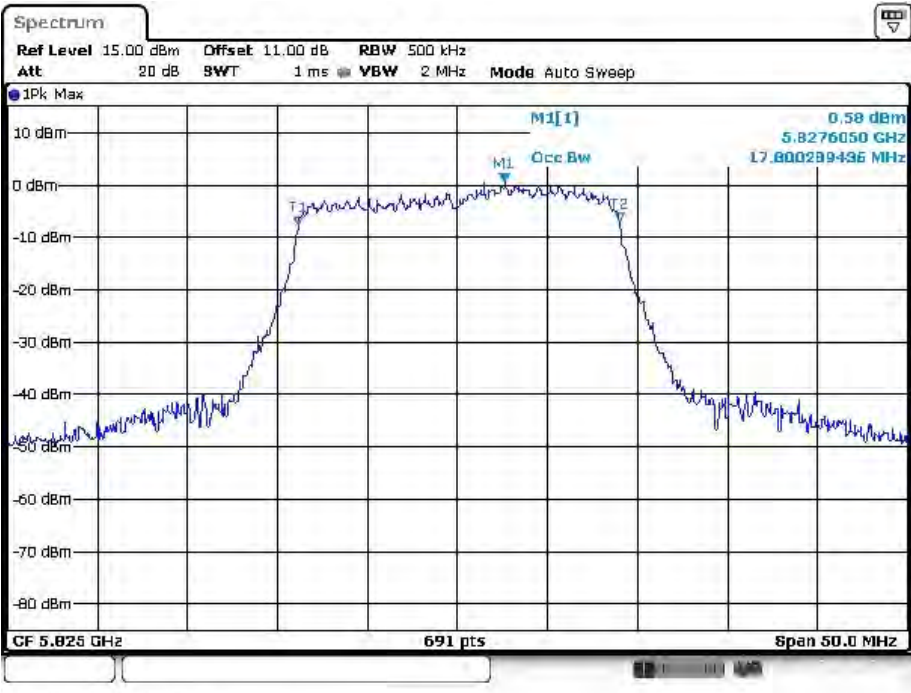


5785MHz



Date: 11 APR 2017 08:13:29

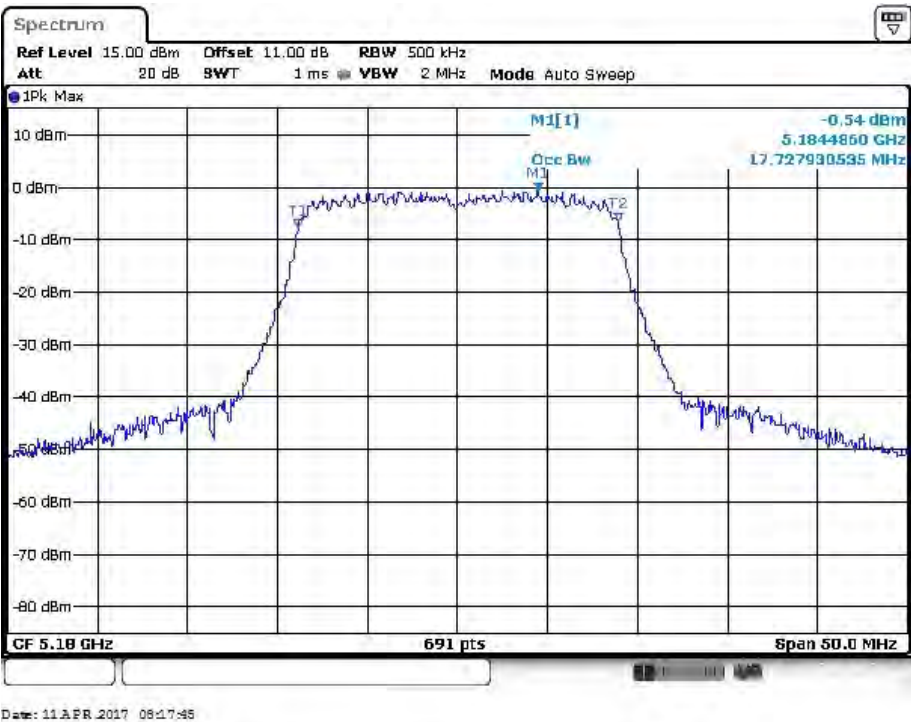
5825MHz



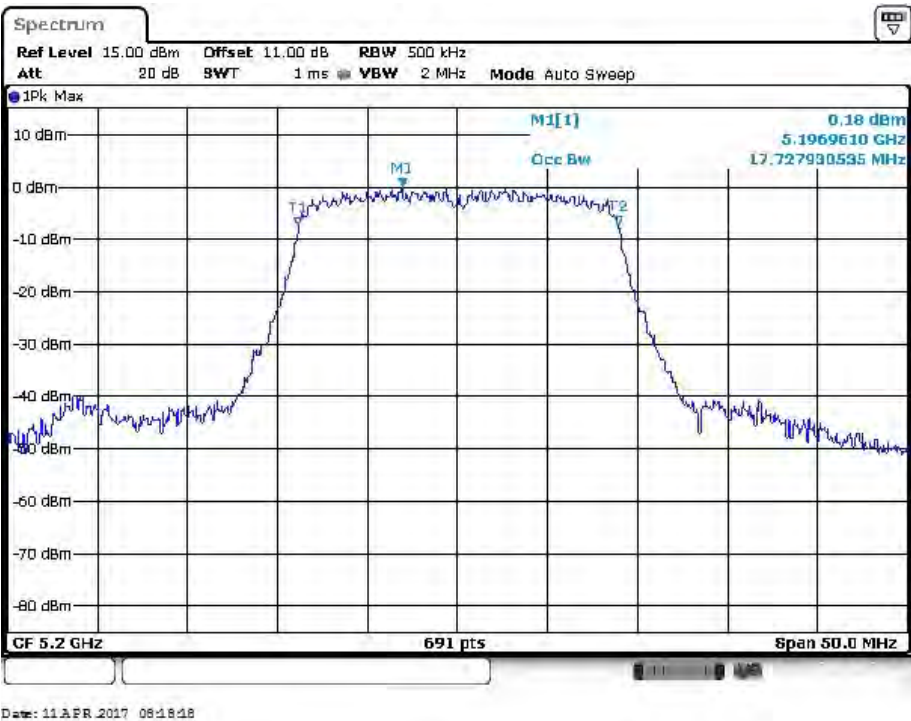
Date: 11 APR 2017 08:14:09

IEEE 802.11ac VHT20 mode / 5150 ~ 5250MHz(chain 3)

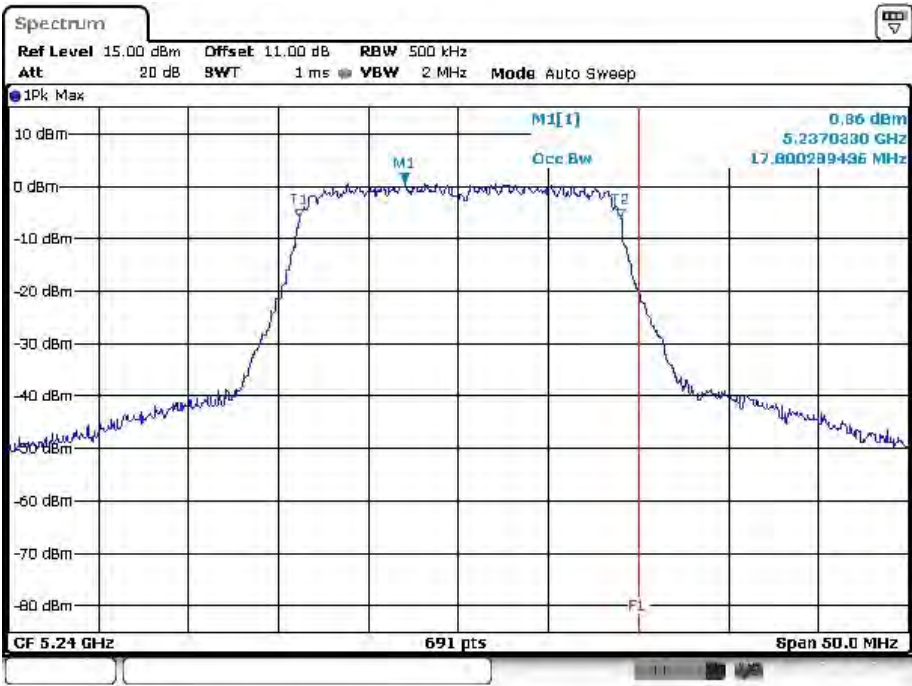
5180MHz



5200MHz

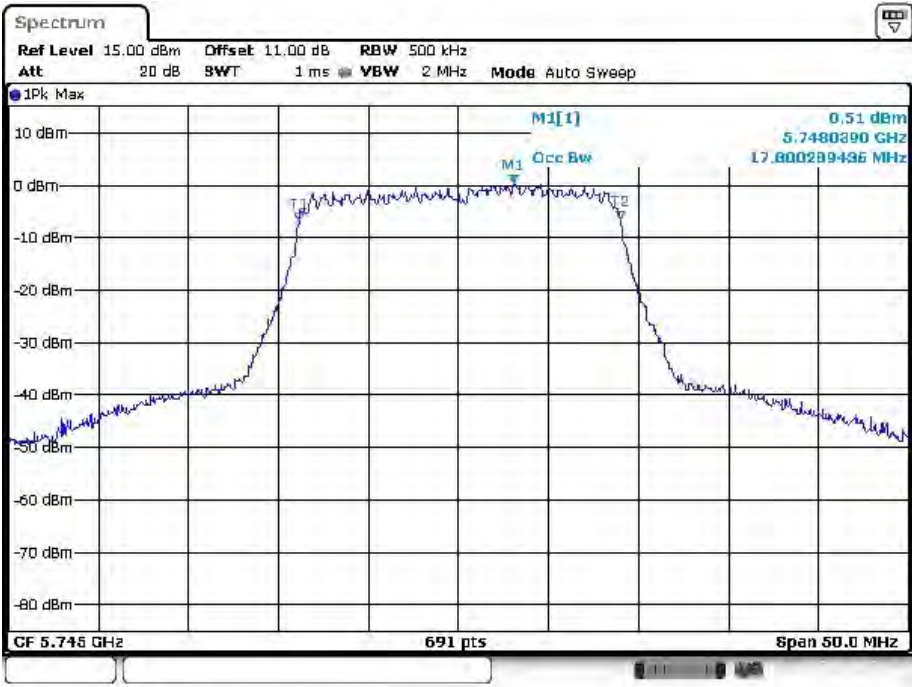


5240MHz

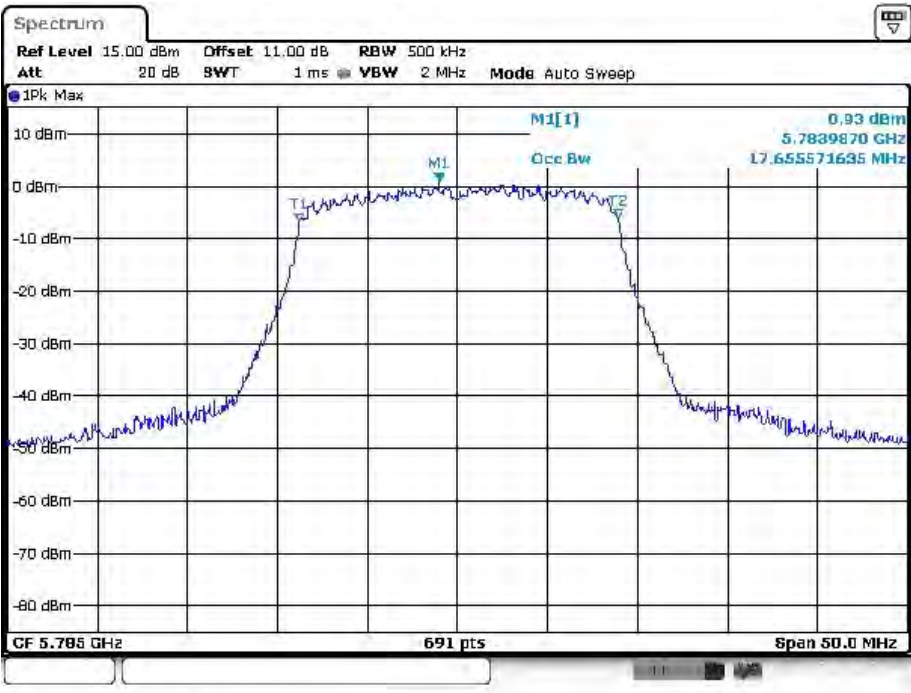


IEEE 802.11ac VHT20 mode / 5725 ~ 5850MHz (chain 3)

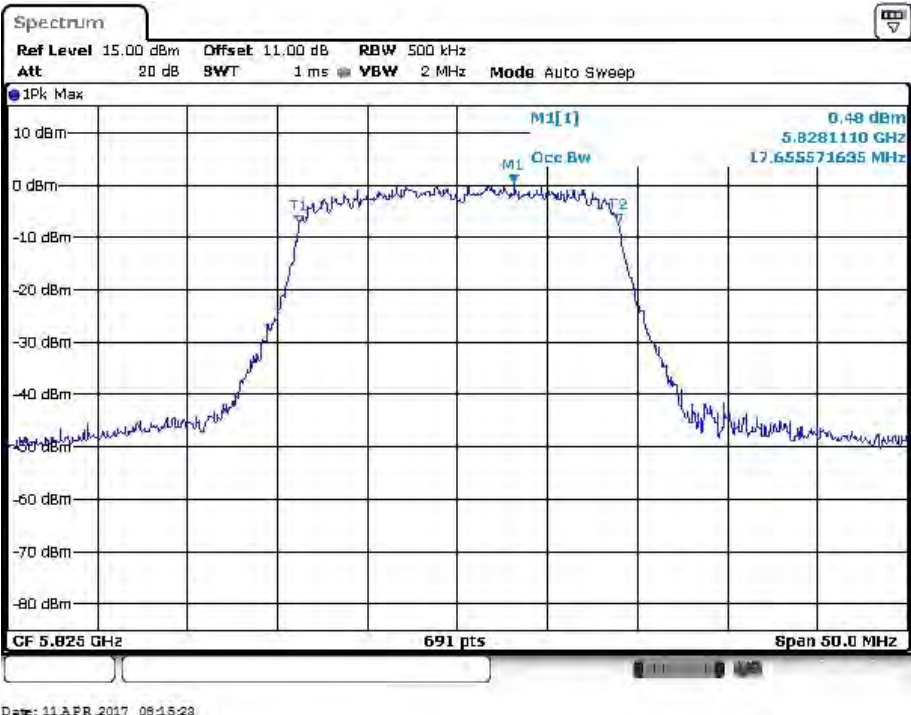
5745MHz



5785MHz

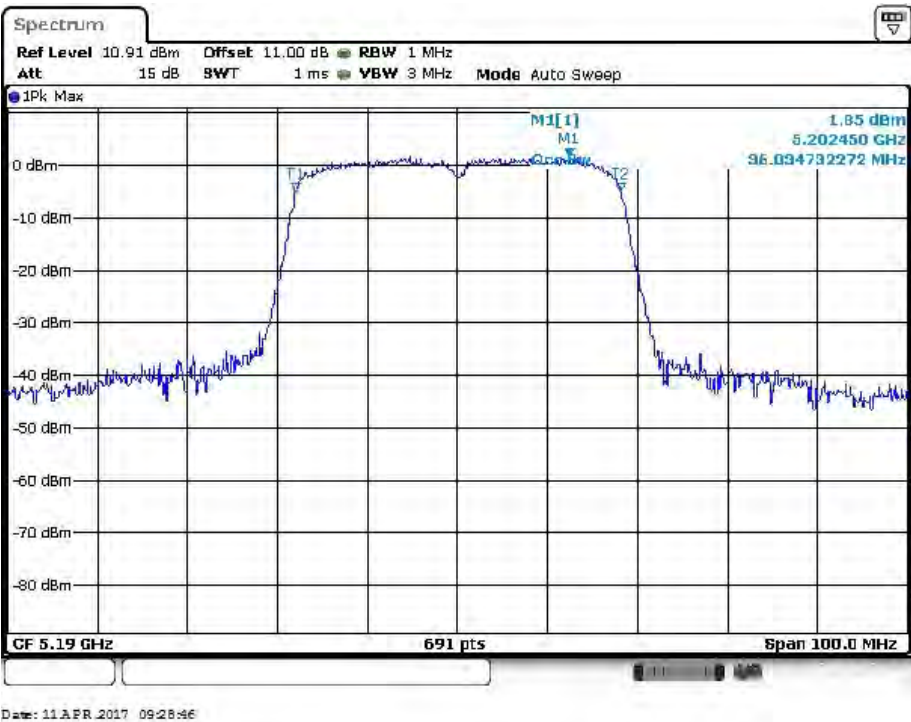


5825MHz

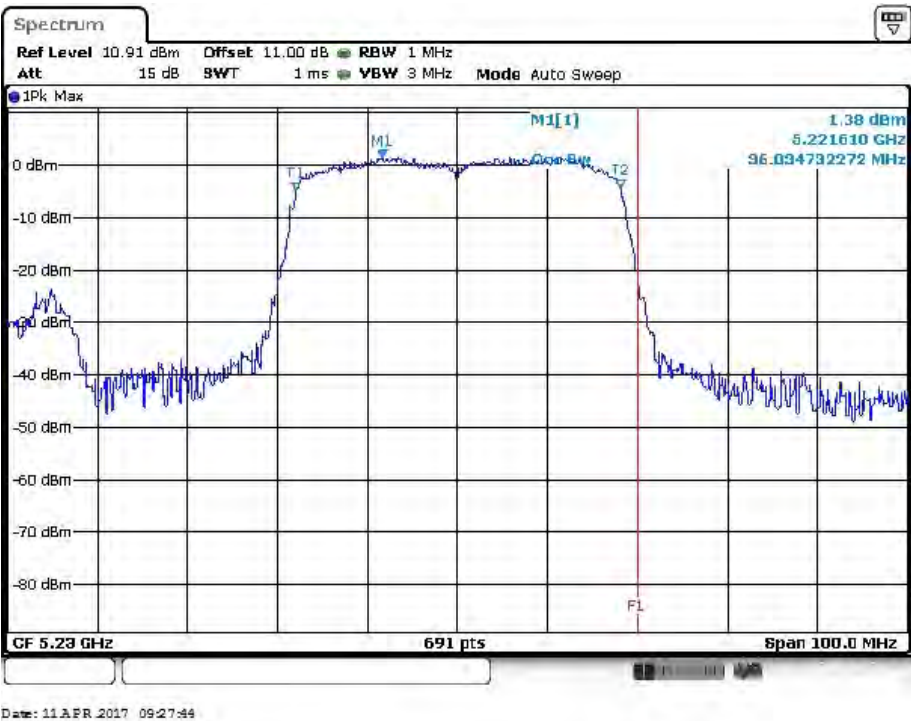


IEEE 802.11ac VHT40 mode / 5150 ~ 5250MHz (chain 0)

5190MHz



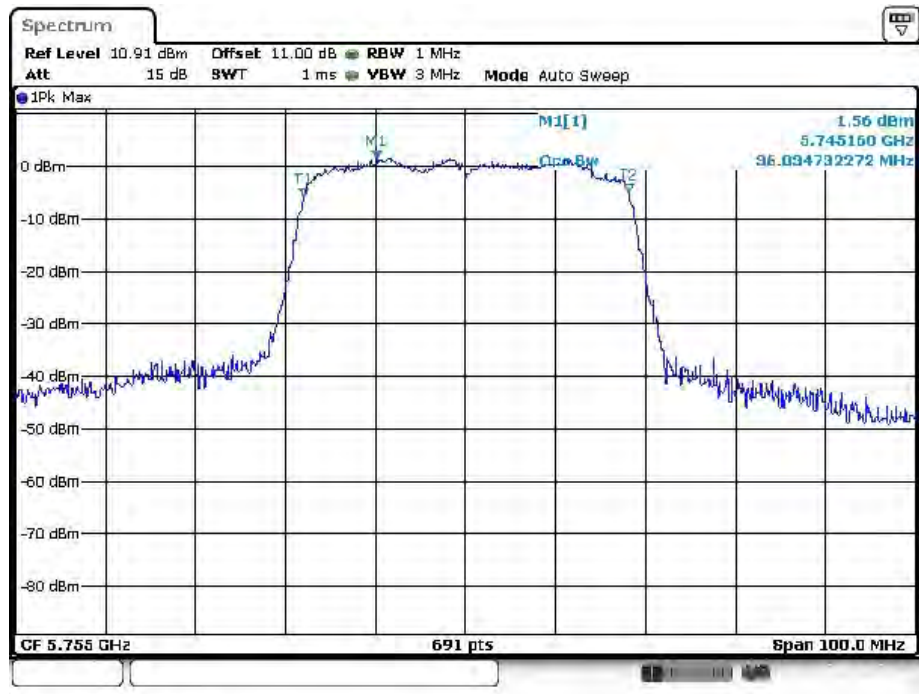
5230MHz



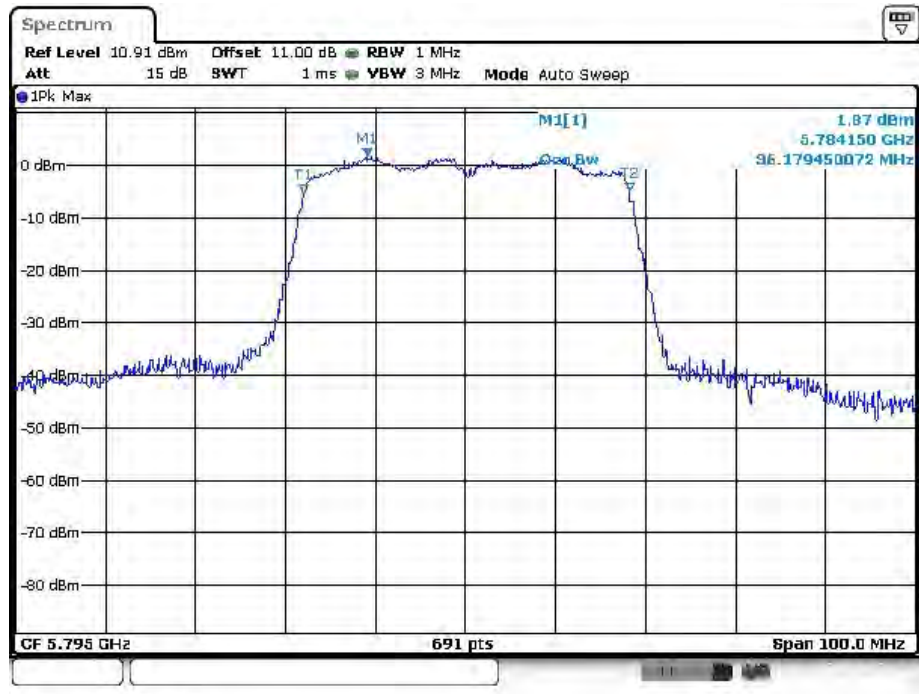


IEEE 802.11ac VHT40 mode / 5725 ~ 5850MHz (chain 0)

5755MHz

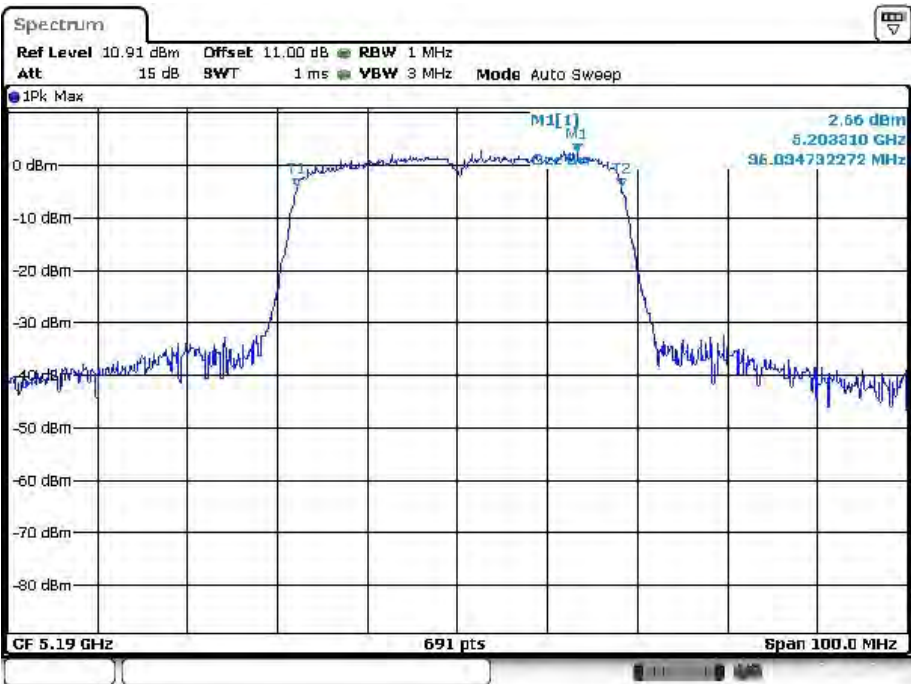


5795MHz



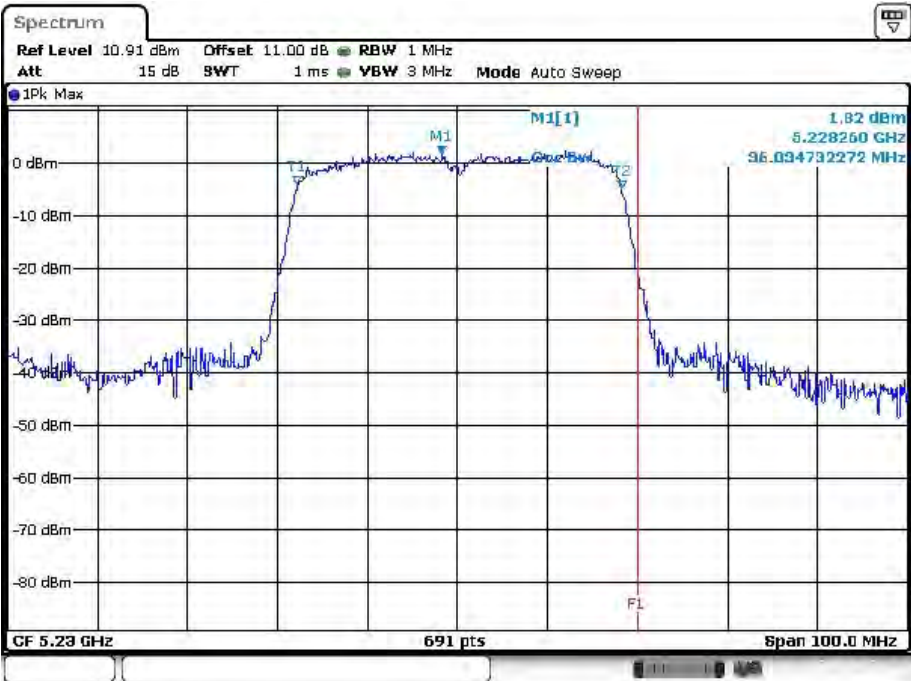
IEEE 802.11ac VHT40 mode / 5150 ~ 5250MHz(chain 1)

5190MHz



Date: 11 APR 2017 09:24:45

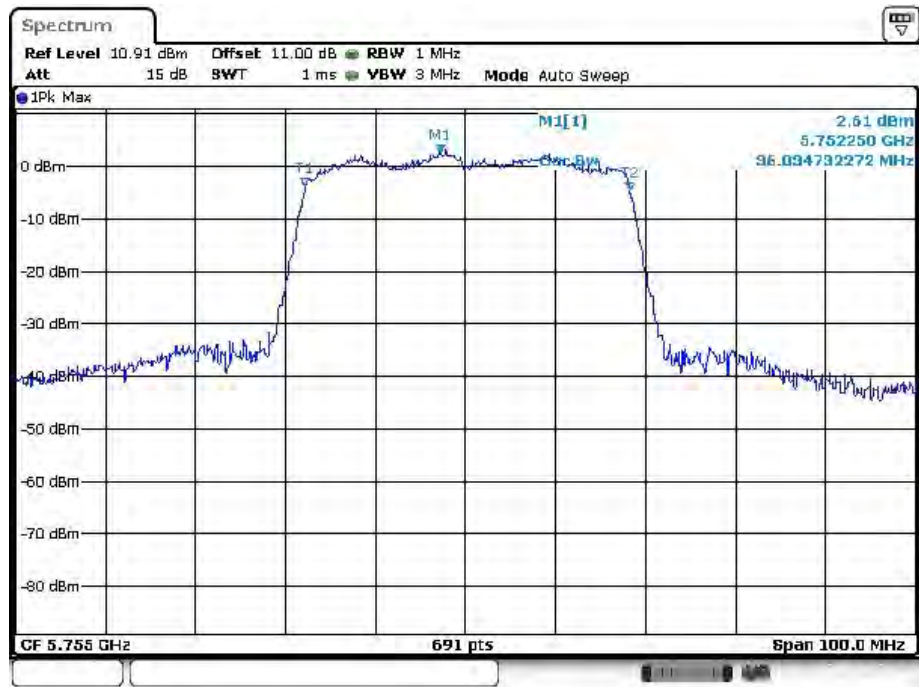
5230MHz



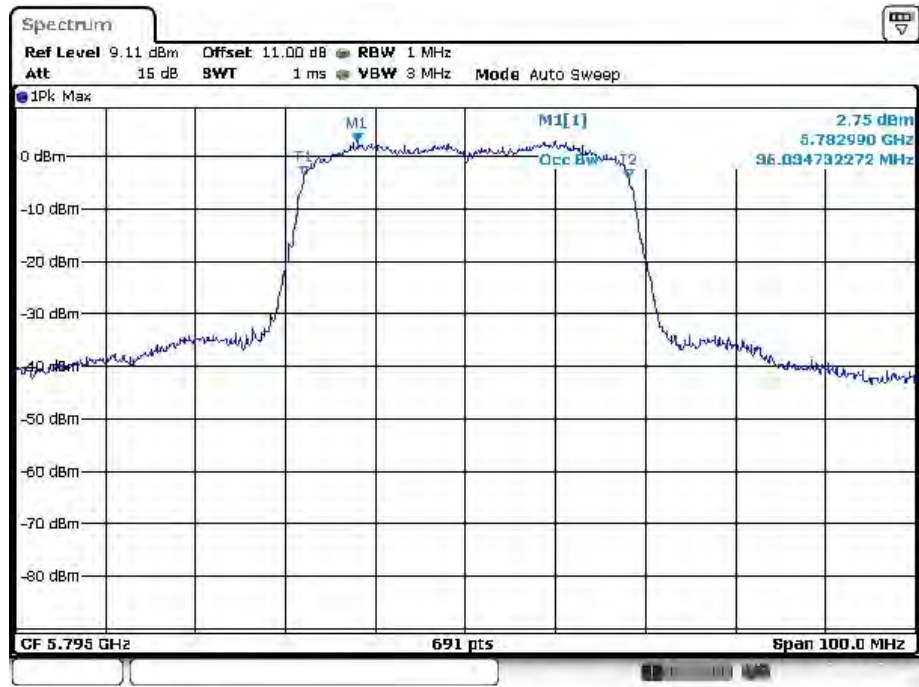
Date: 11 APR 2017 09:26:40

IEEE 802.11ac VHT40 mode / 5725 ~ 5850MHz (chain 1)

5755MHz

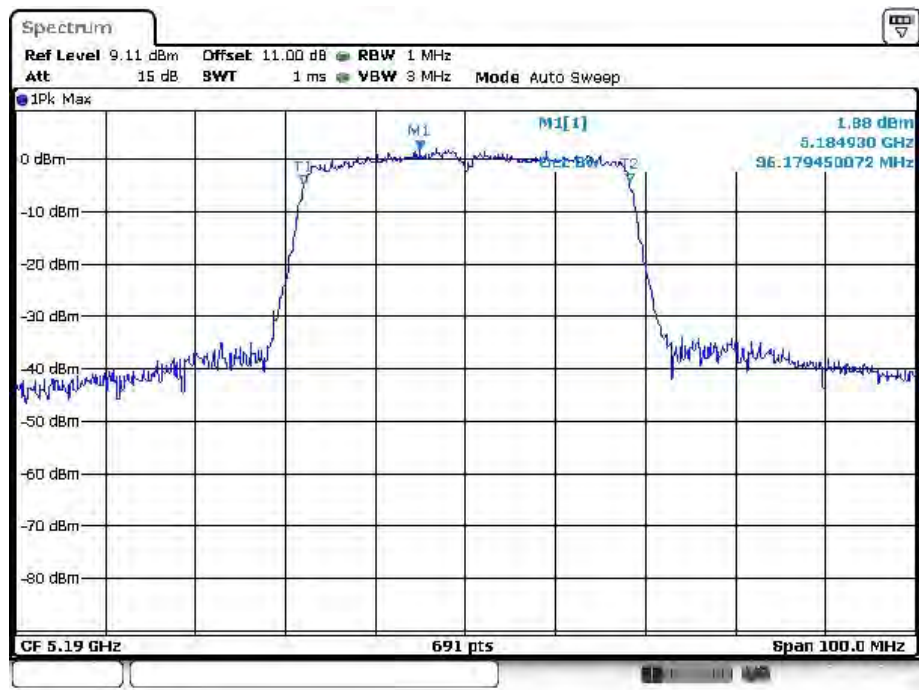


5795MHz



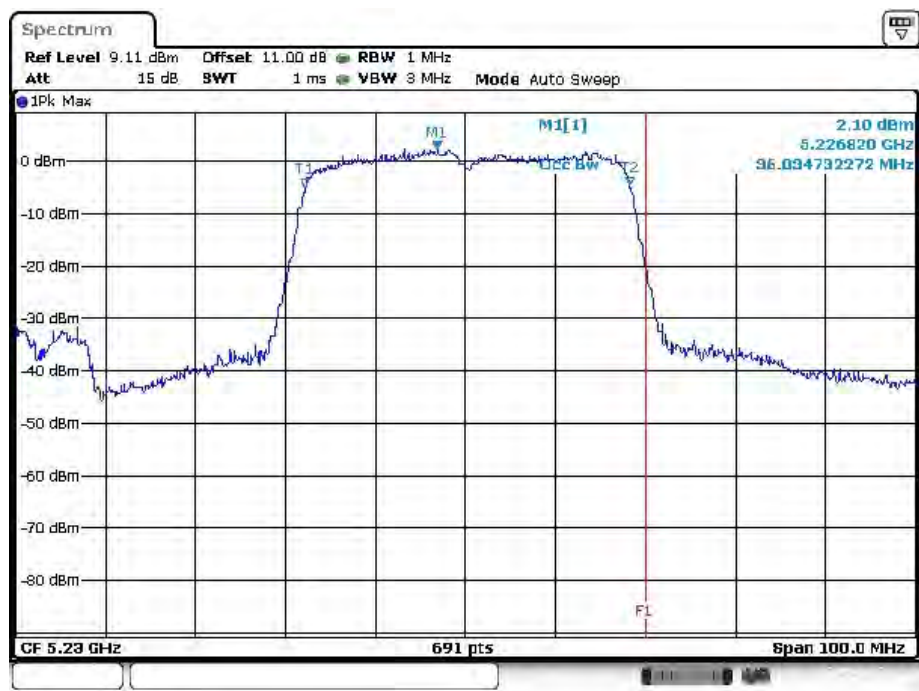


IEEE 802.11ac VHT40 mode / 5150 ~ 5250MHz(chain 2)  
5190MHz



Date: 11 APR 2017 08:46:15

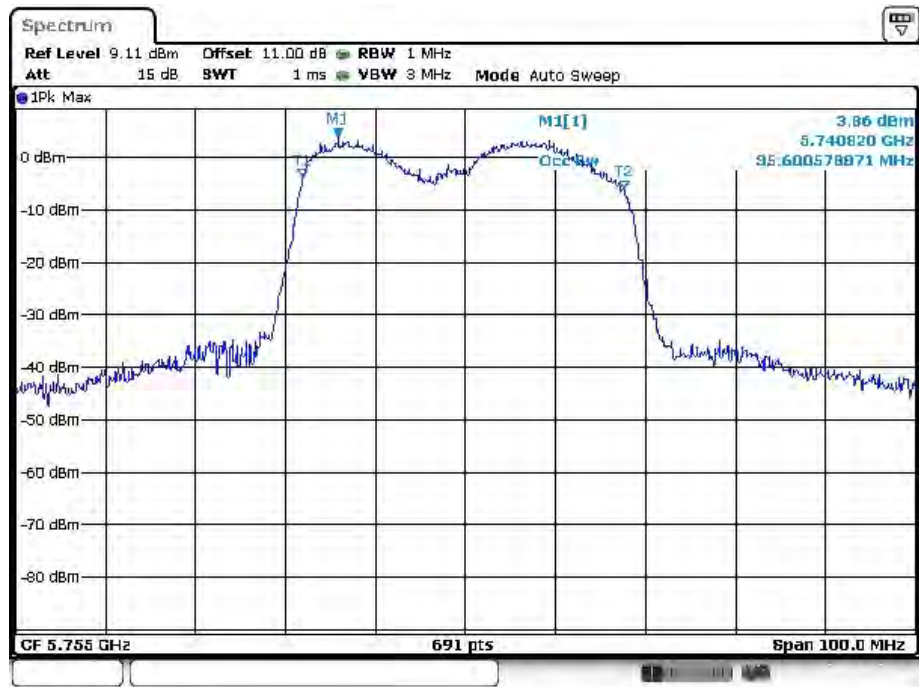
5230MHz



Date: 11 APR 2017 08:46:27

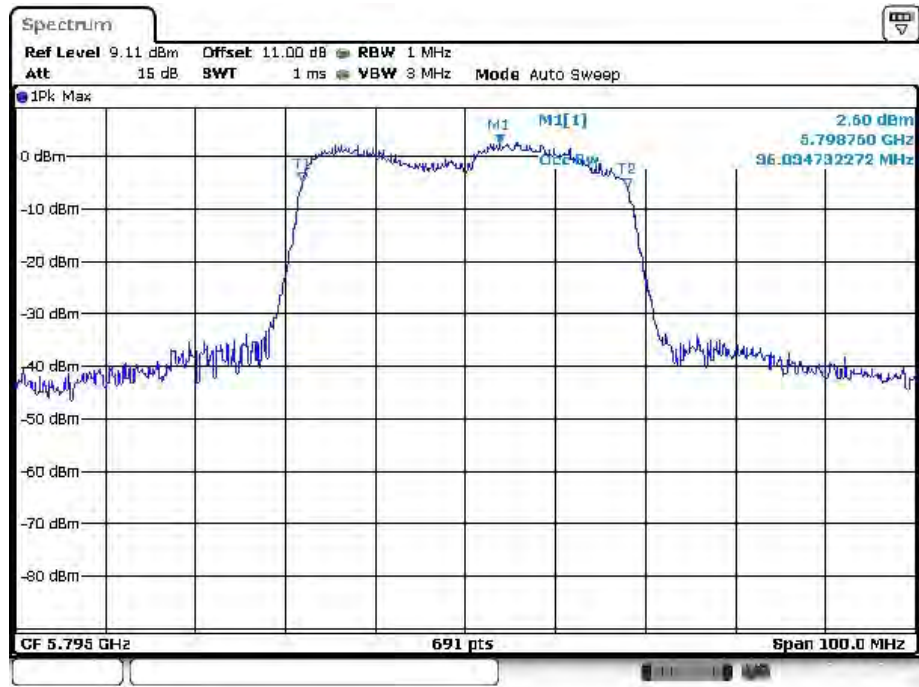
IEEE 802.11ac VHT40 mode / 5725 ~ 5850MHz (chain 2)

5755MHz



Date: 11 APR 2017 08:50:03

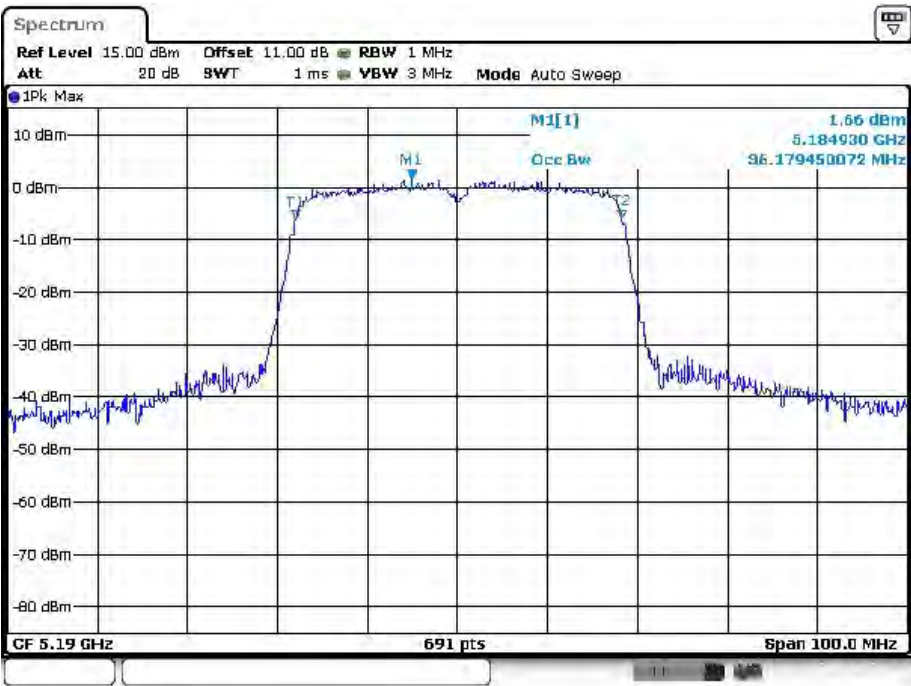
5795MHz



Date: 11 APR 2017 08:53:07

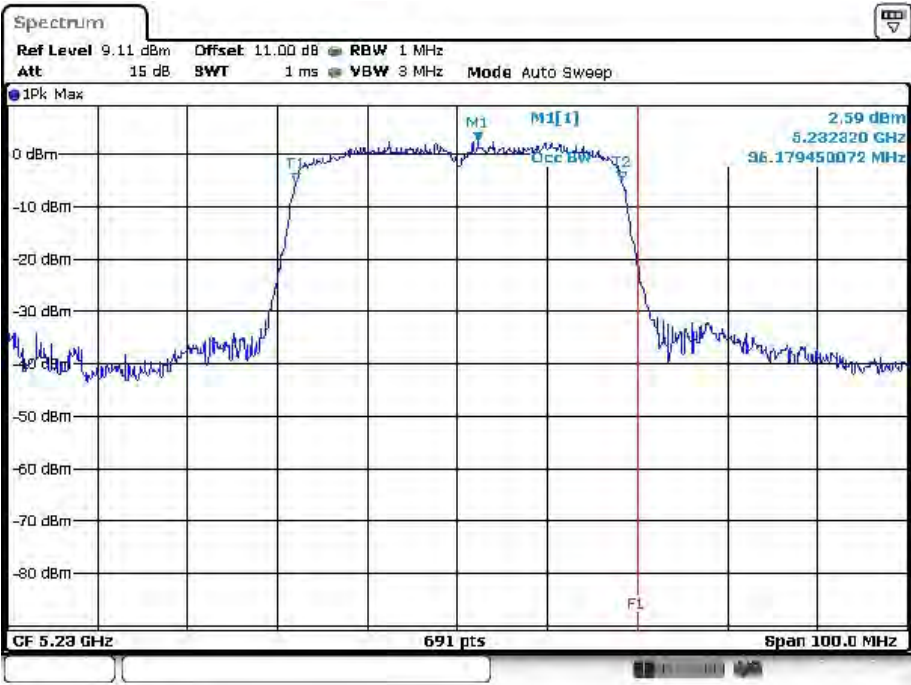
IEEE 802.11ac VHT40 mode / 5150 ~ 5250MHz(chain 3)

5190MHz



Date: 11 APR 2017 08:23:10

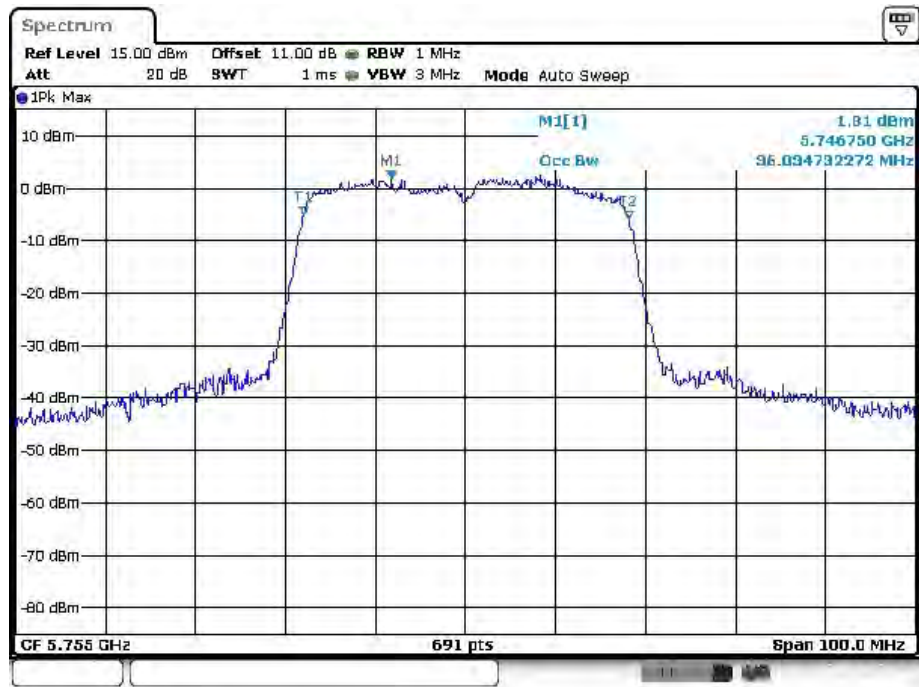
5230MHz



Date: 11 APR 2017 08:28:08

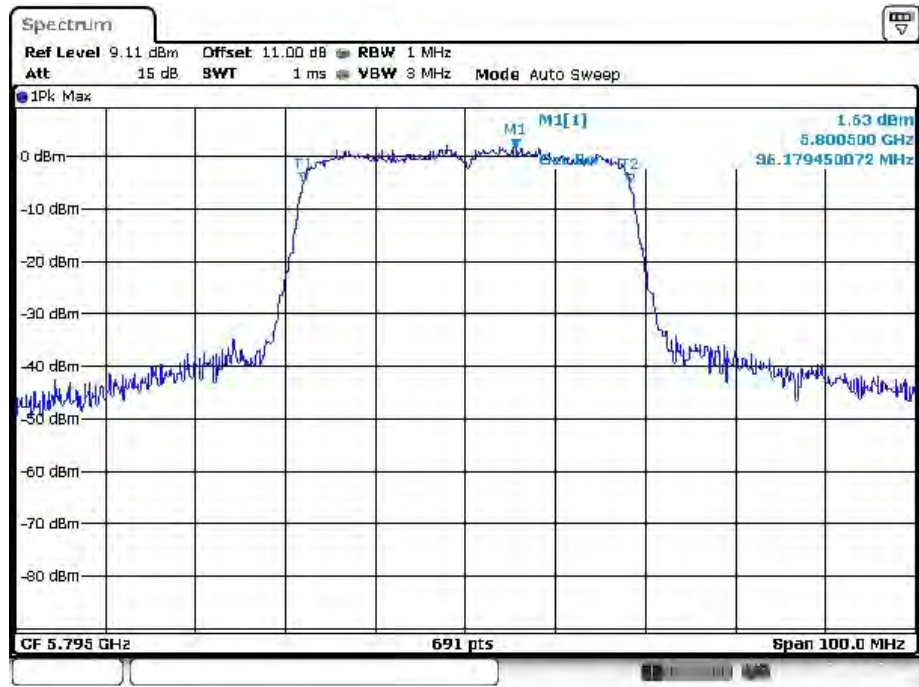
IEEE 802.11ac VHT40 mode / 5725 ~ 5850MHz (chain 3)

5755MHz



Date: 11 APR 2017 08:24:35

5795MHz

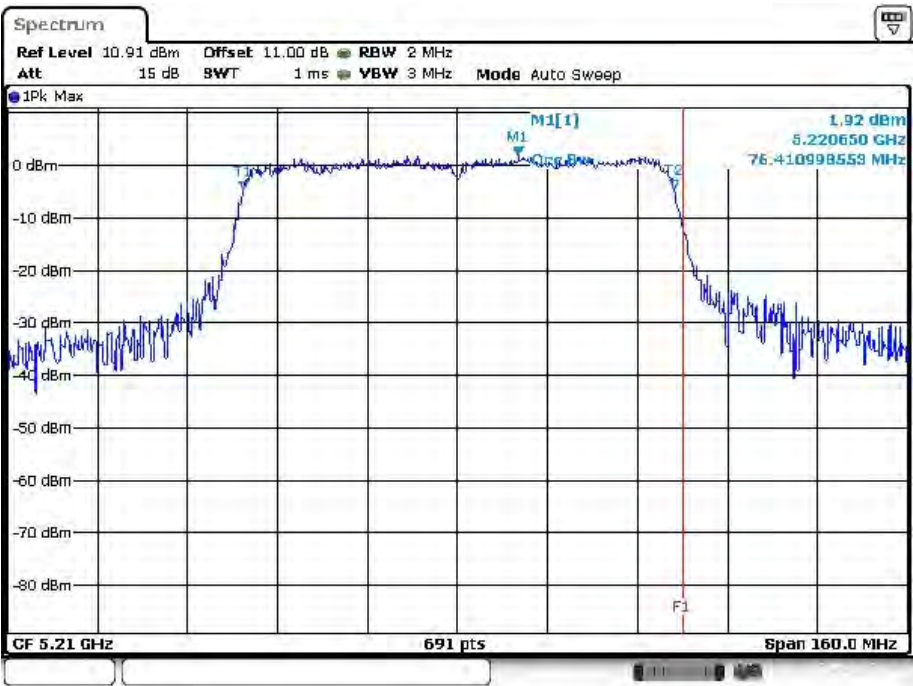


Date: 11 APR 2017 08:26:59



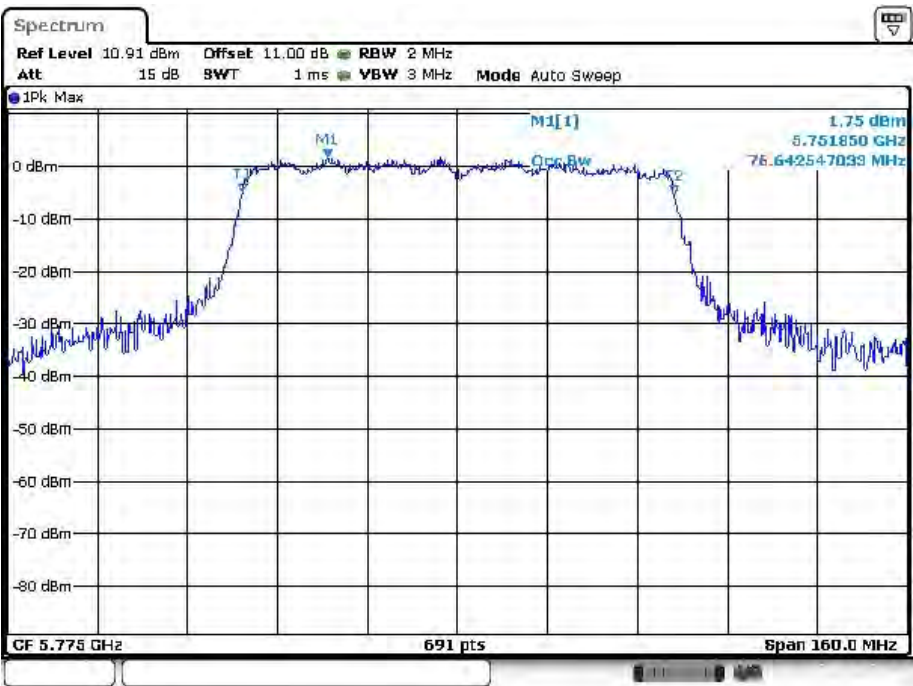
IEEE 802.11ac VHT80 mode / 5150 ~ 5250MHz (chain 0)

5210MHz



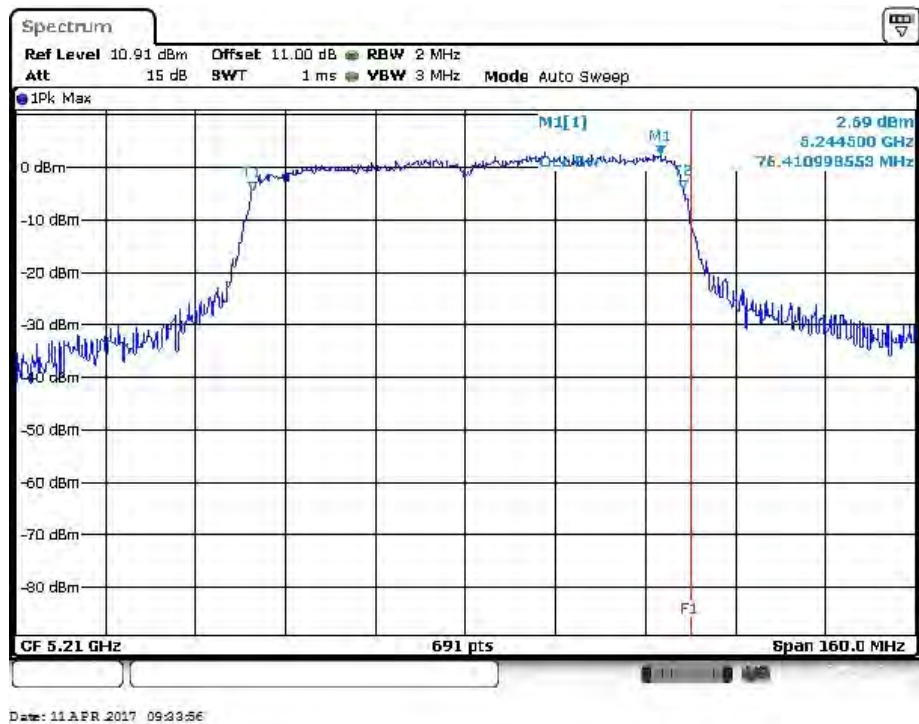
IEEE 802.11ac VHT80 mode / 5725 ~ 5850MHz (chain 0)

5775MHz



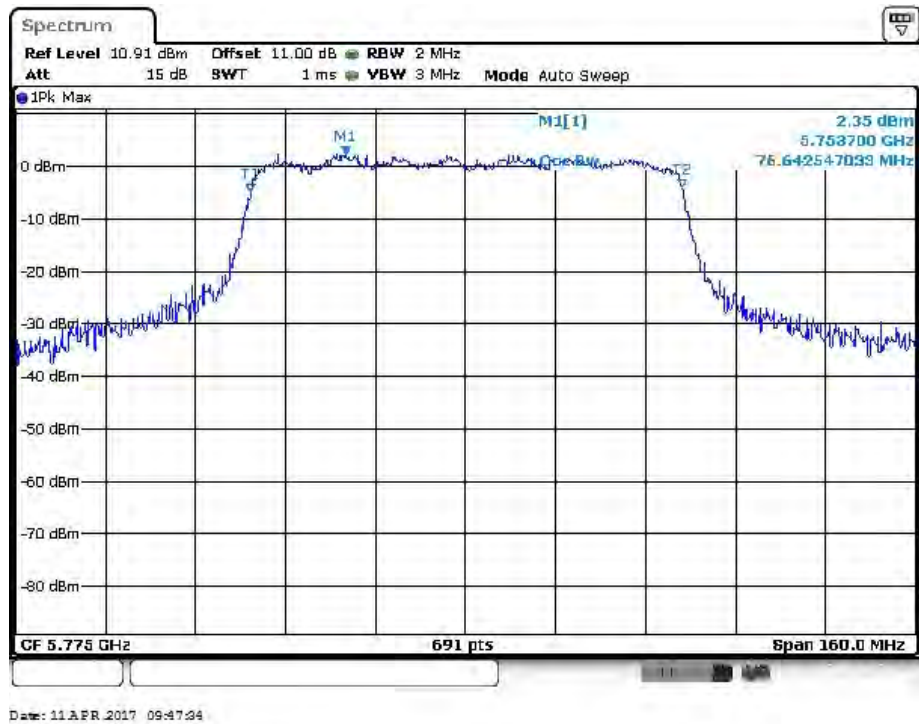
IEEE 802.11ac VHT80 mode / 5150 ~ 5250MHz(chain 1)

5210MHz

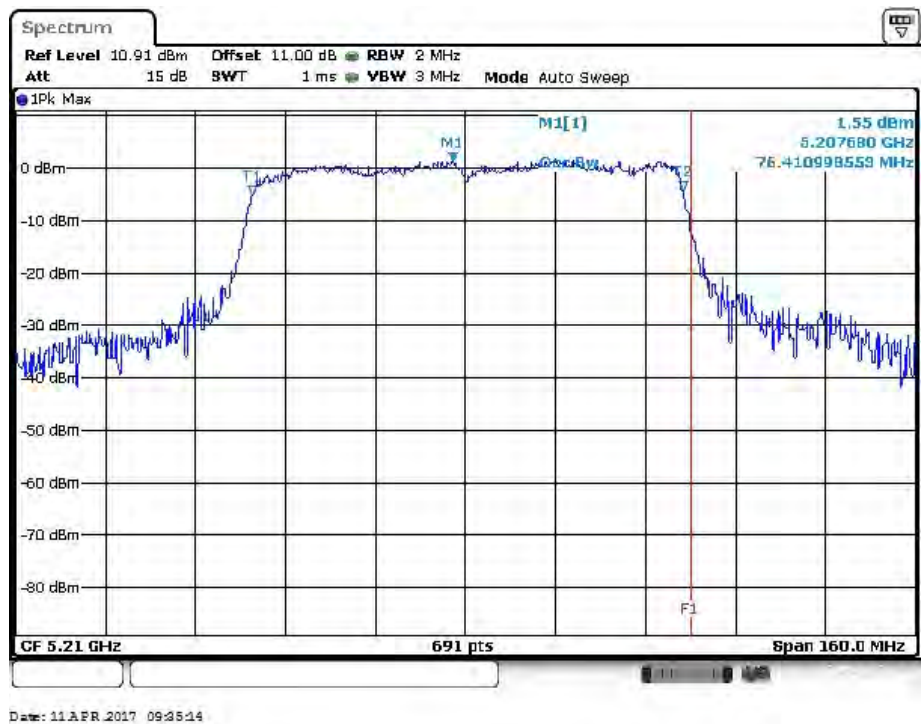


IEEE 802.11ac VHT80 mode / 5725 ~ 5850MHz (chain 1)

5775MHz

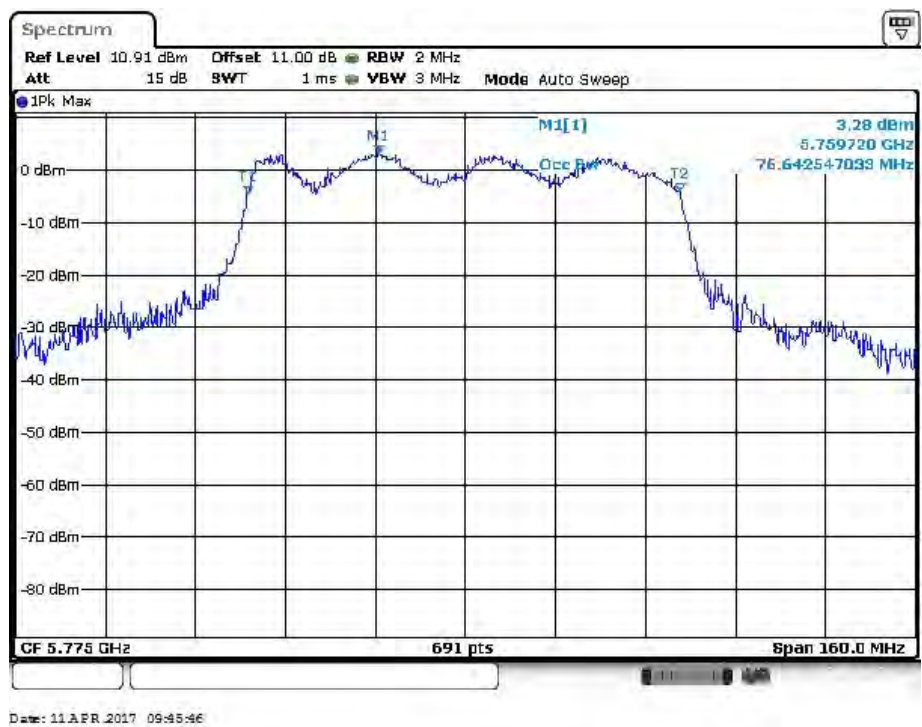


IEEE 802.11ac VHT80 mode / 5150 ~ 5250MHz(chain 2)  
5210MHz



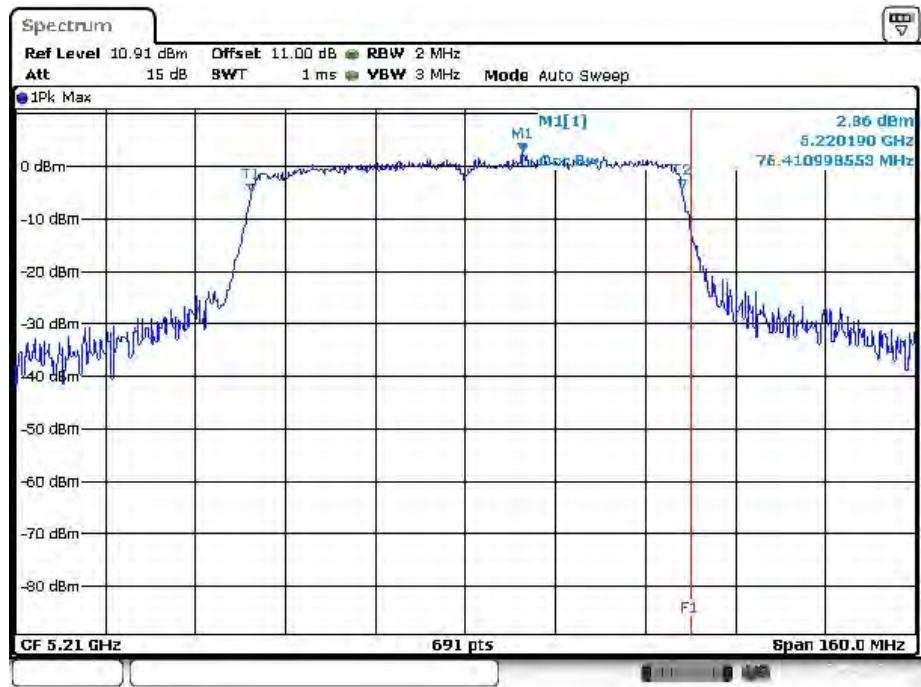
IEEE 802.11ac VHT80 mode / 5725 ~ 5850MHz (chain 2)

5775MHz



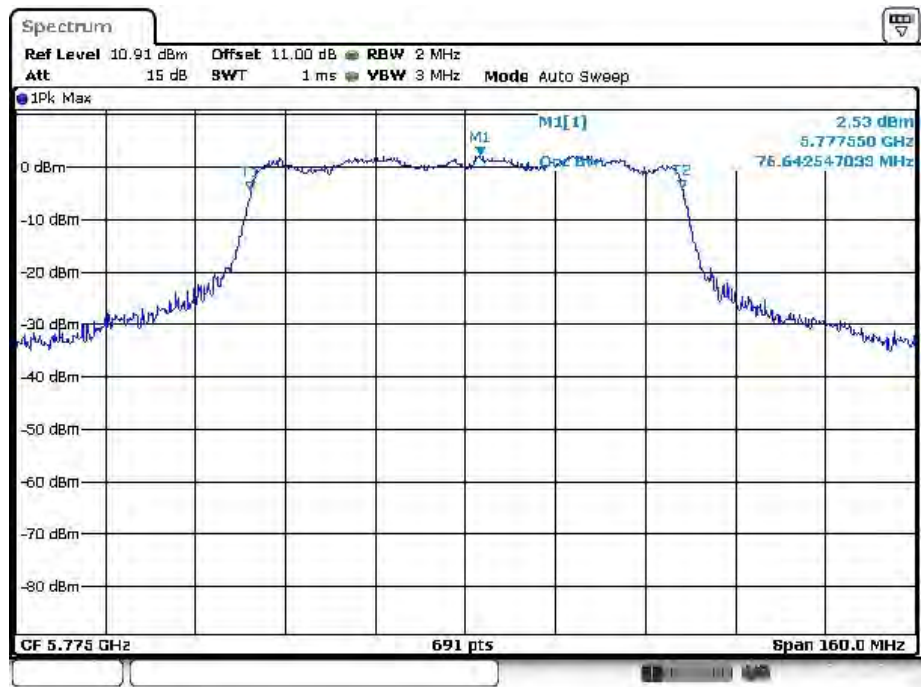
IEEE 802.11ac VHT80 mode / 5150 ~ 5250MHz(chain 3)

5210MHz



IEEE 802.11ac VHT80 mode / 5725 ~ 5850MHz (chain 3)

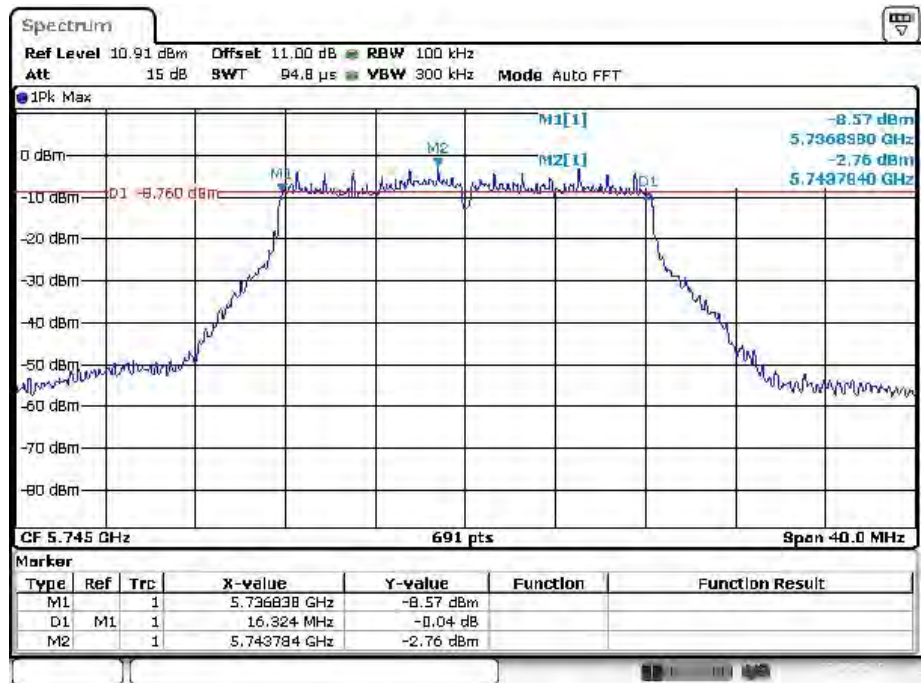
5775MHz





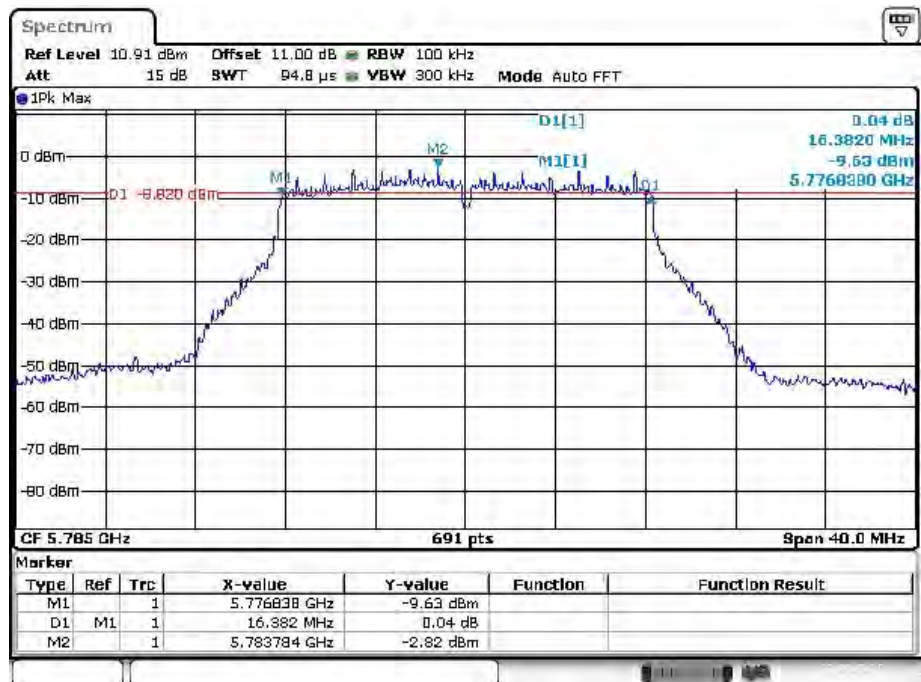
BW 6dBc  
IEEE 802.11a mode / 5725 ~ 5850MHz(chain 0)

5745MHz



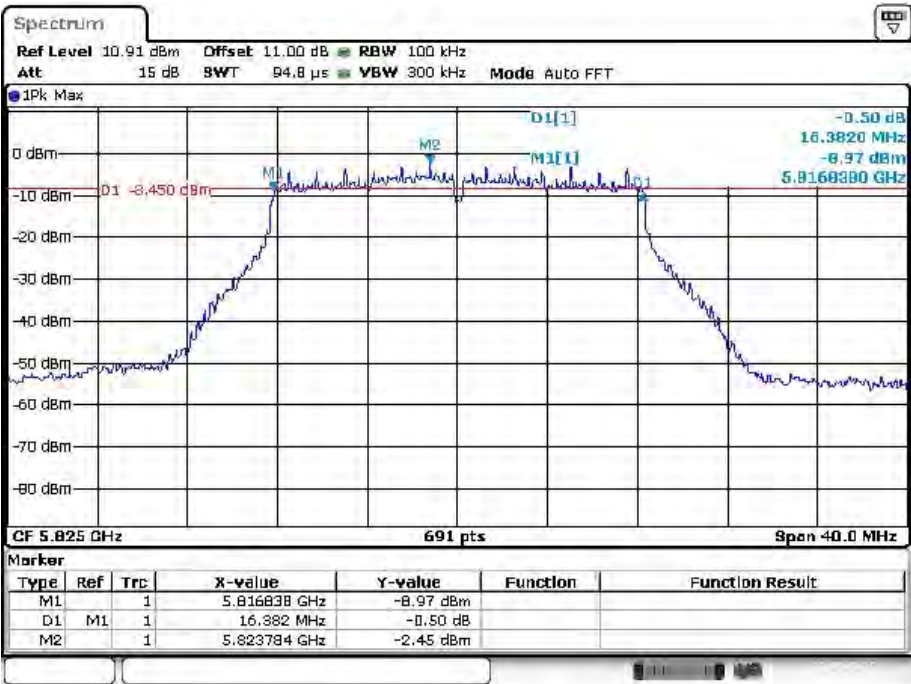
Date: 11 APR 2017 10:16:57

5785MHz



Date: 11 APR 2017 10:12:11

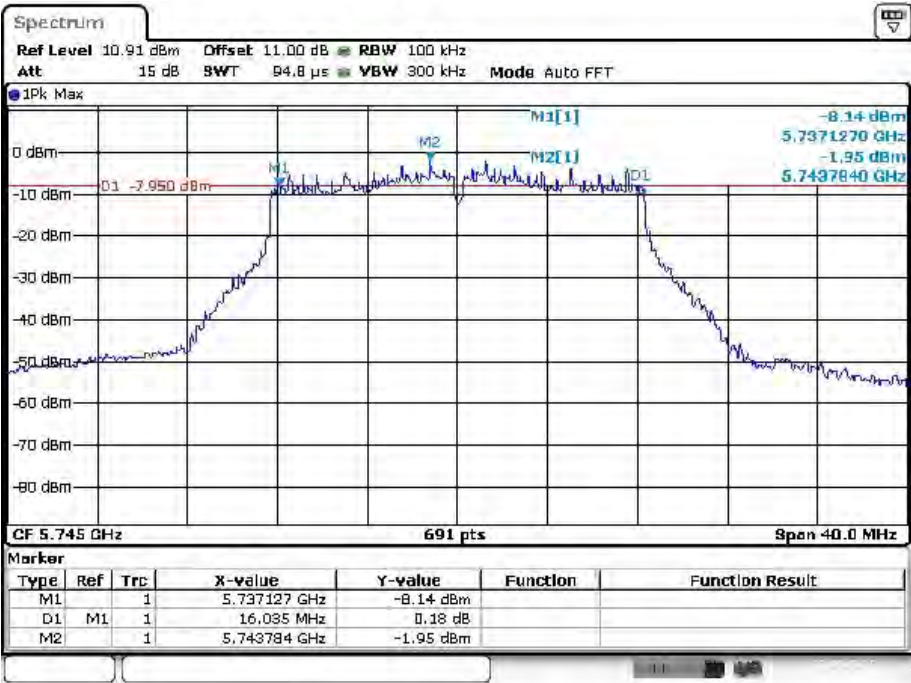
5825MHz



Date: 11 APR 2017 10:15:21

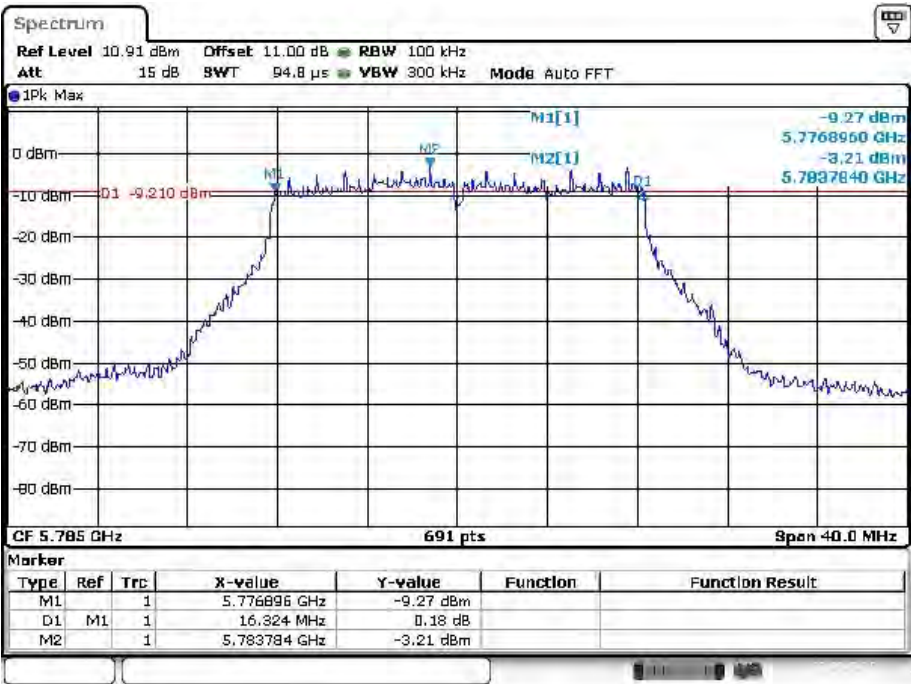
IEEE 802.11a mode / 5725 ~ 5850MHz(chain 1)

5745MHz



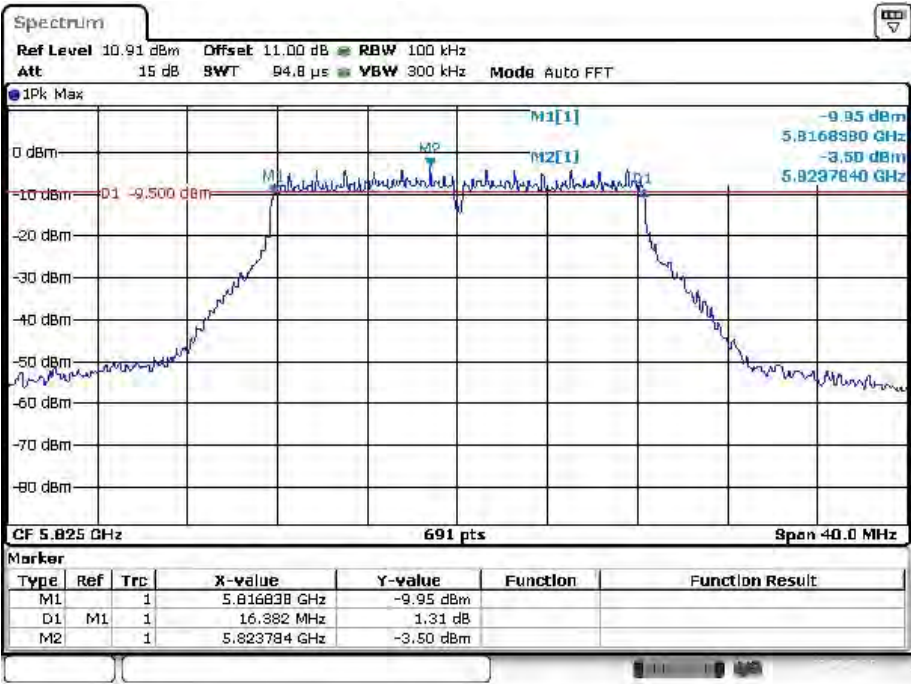
Date: 11 APR 2017 10:25:44

5785MHz



Date: 11 APR 2017 10:27:04

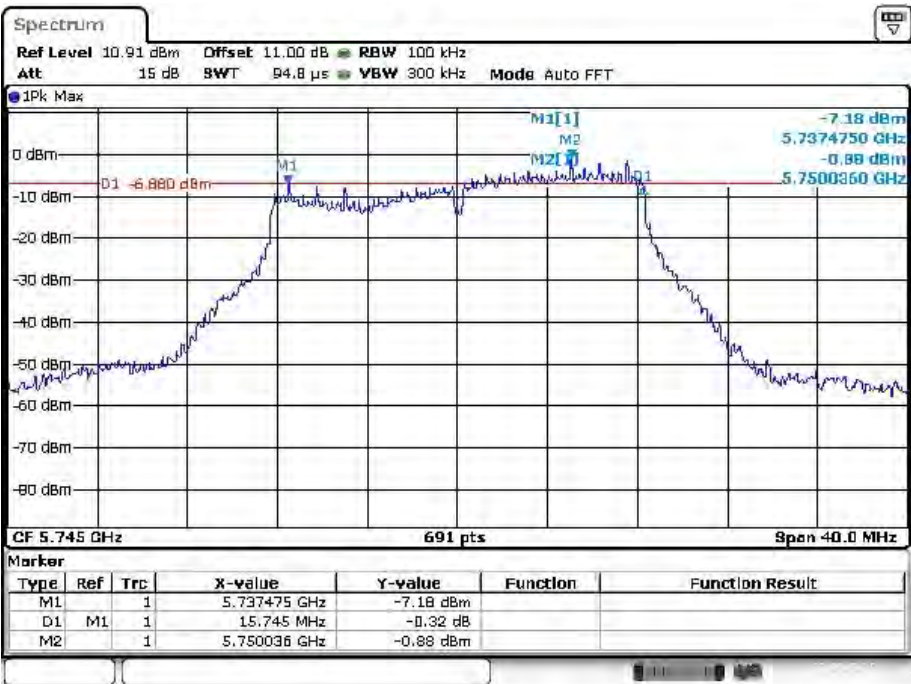
5825MHz



Date: 11 APR 2017 10:29:25

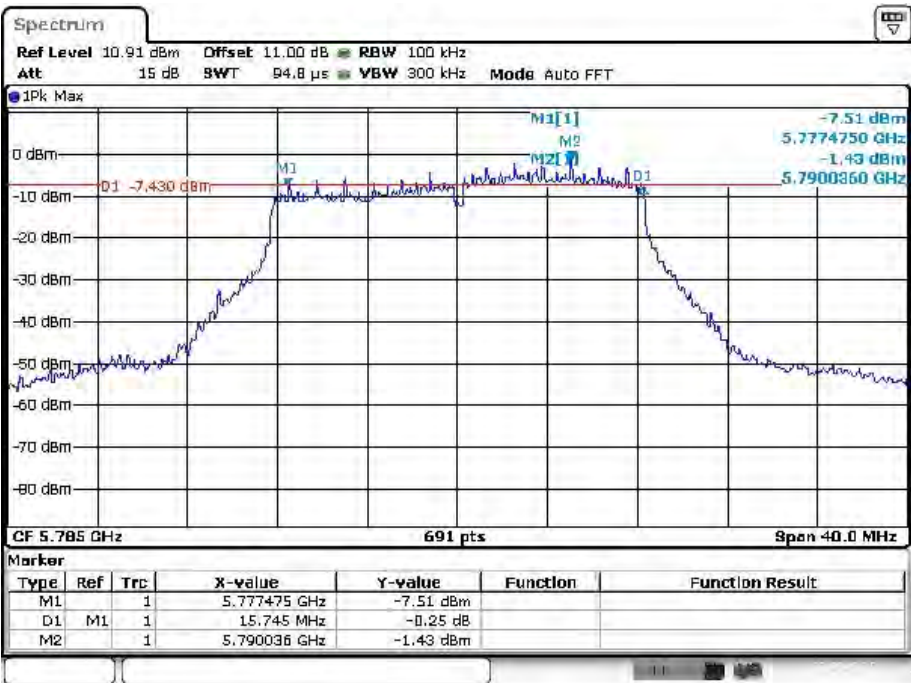
IEEE 802.11a mode / 5725 ~ 5850MHz(chain 2)

5745MHz



Date: 11 APR 2017 10:41:24

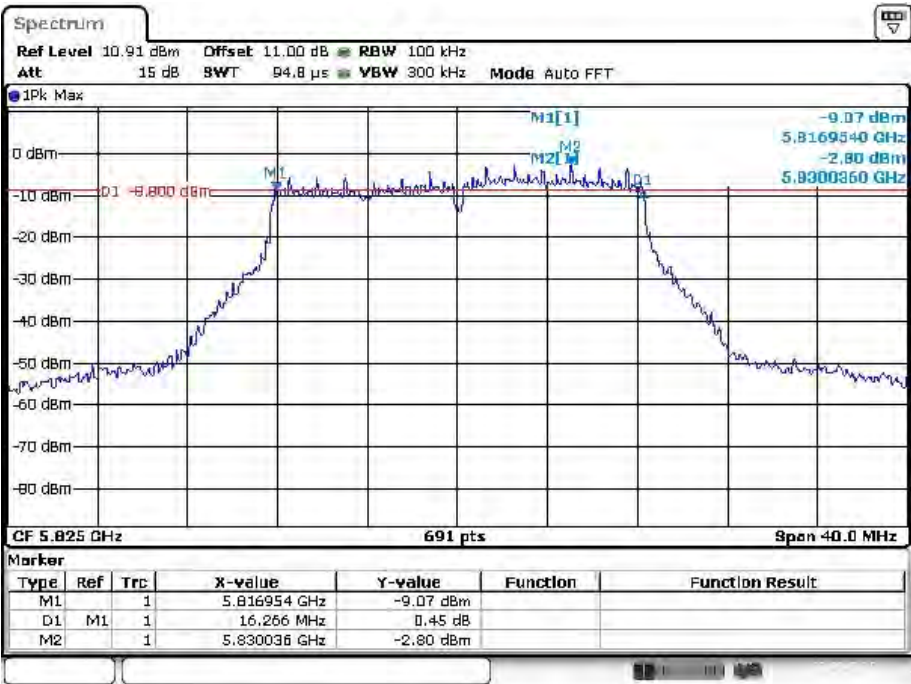
5785MHz



Date: 11 APR 2017 10:23:43

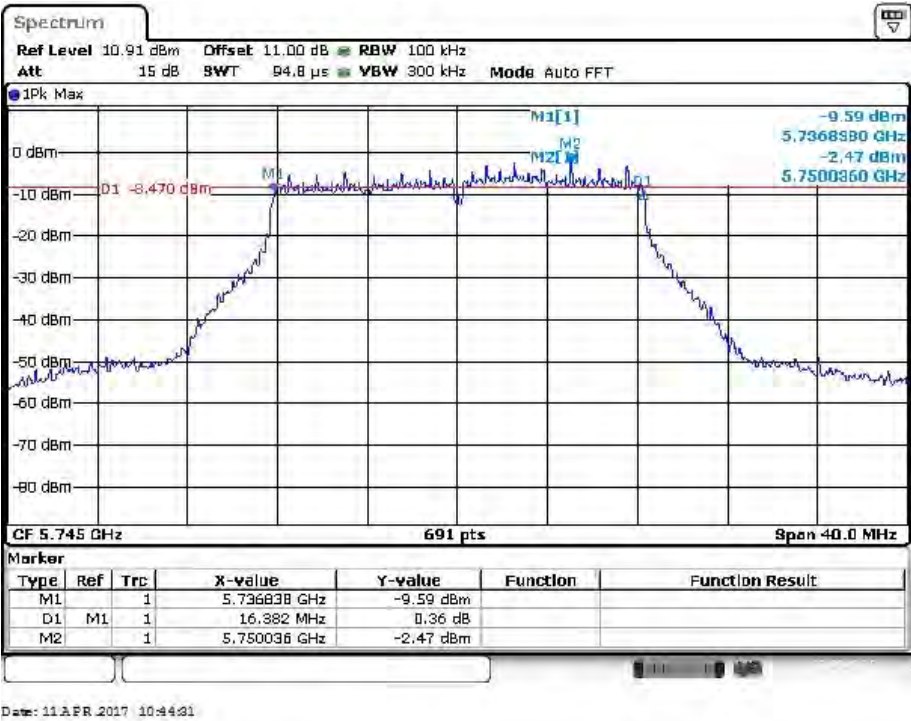


5825MHz

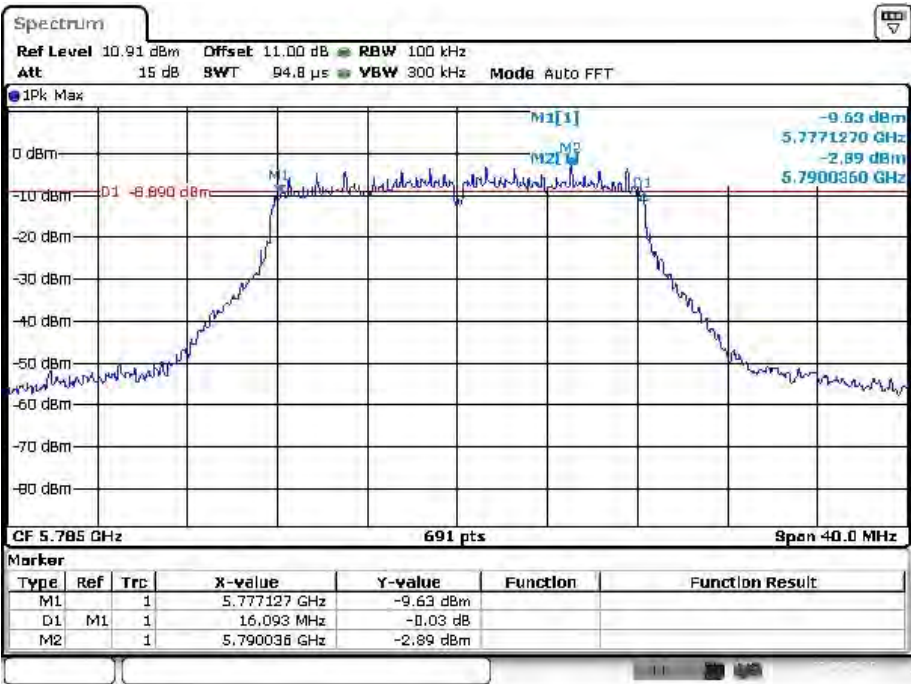


IEEE 802.11a mode / 5725 ~ 5850MHz(chain 3)

5745MHz

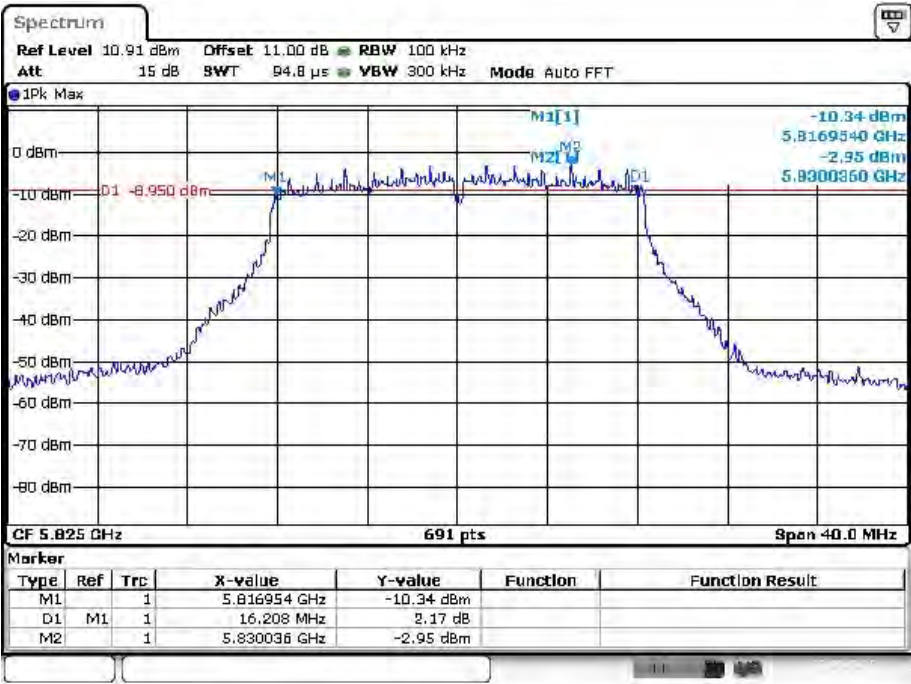


5785MHz



Date: 11 APR 2017 10:46:40

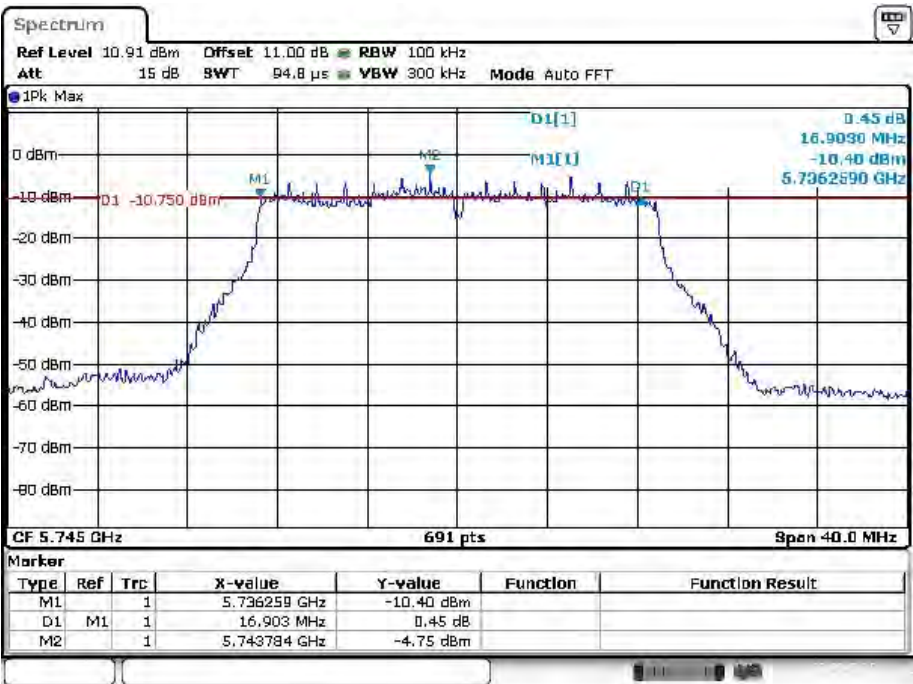
5825MHz



Date: 11 APR 2017 10:49:01

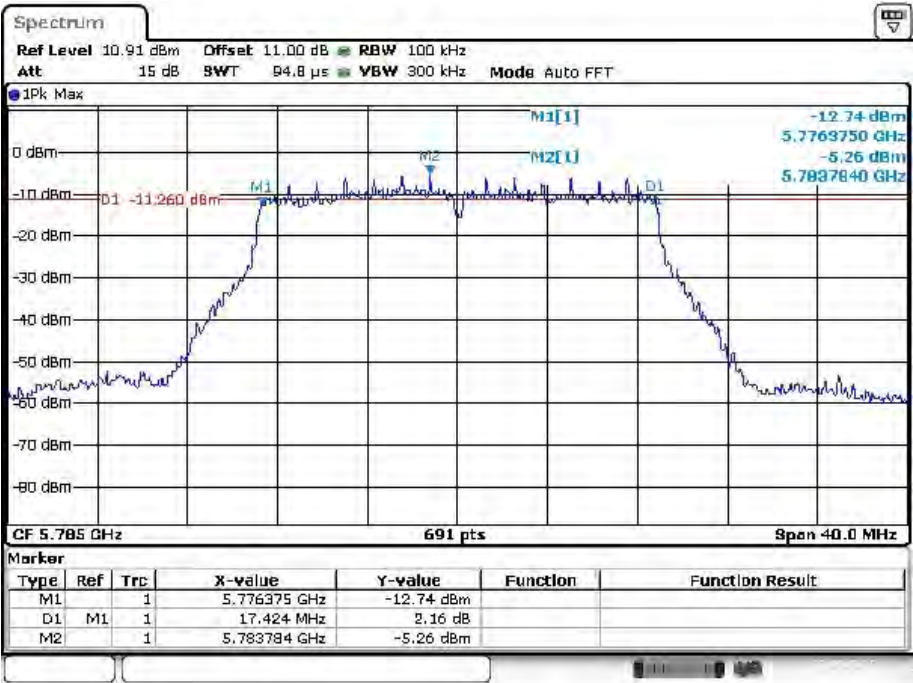
IEEE 802.11ac VHT20 mode / 5725 ~ 5850MHz(chain 0)

5745MHz



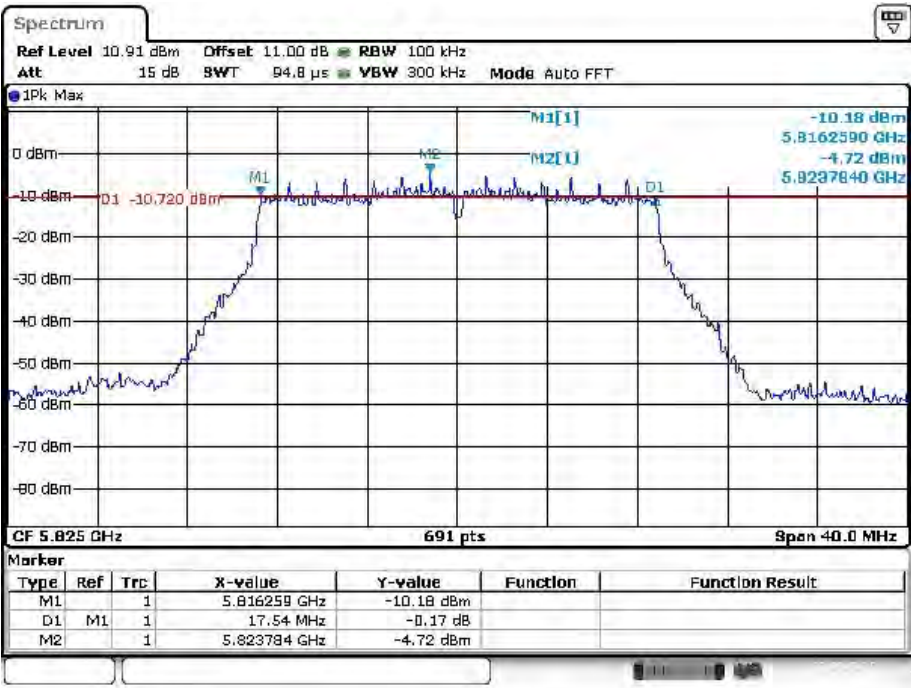
Date: 11 APR 2017 12:09:43

5785MHz



Date: 11 APR 2017 12:13:48

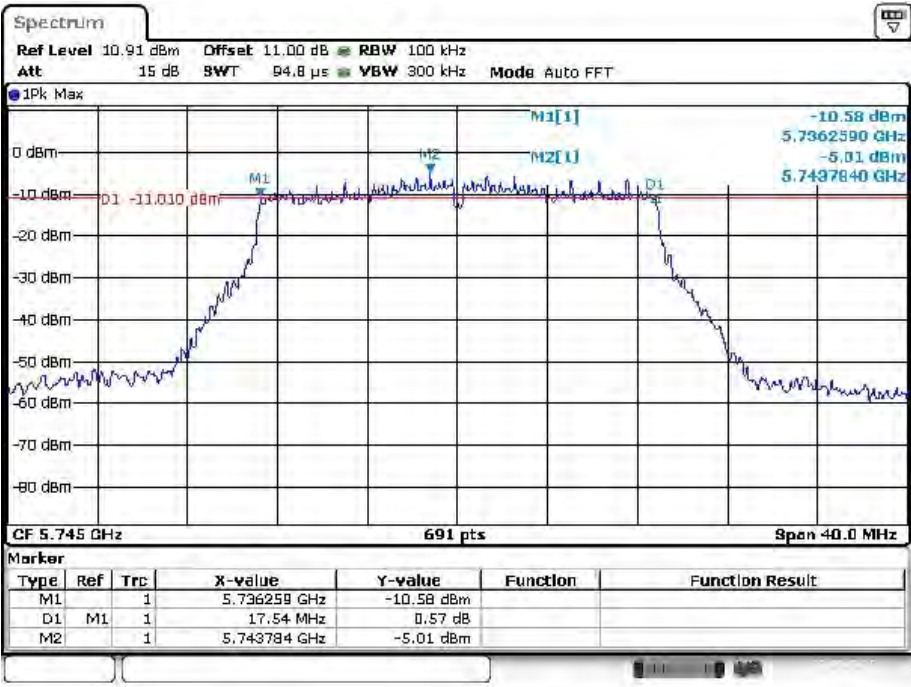
5825MHz



Date: 11 APR 2017 12:14:45

IEEE 802.11ac VHT20 mode / 5725 ~ 5850MHz(chain 1)

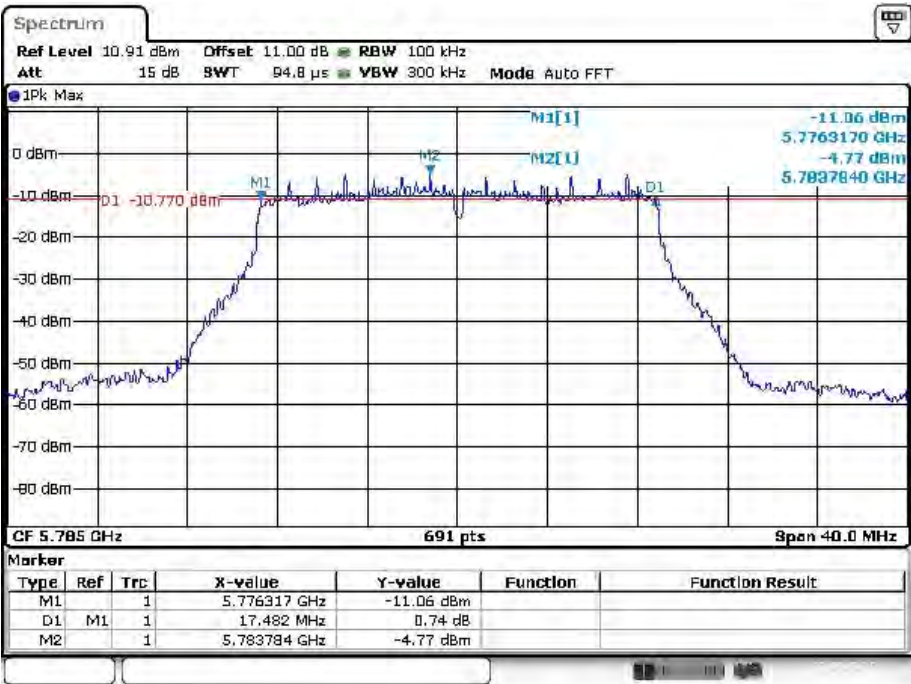
5745MHz



Date: 11 APR 2017 12:07:22

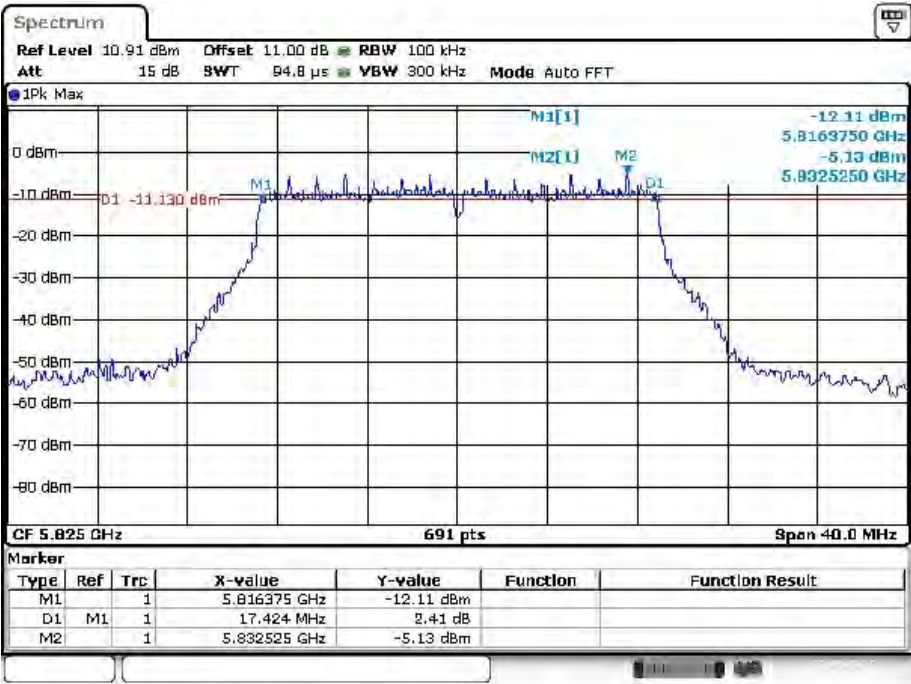


5785MHz



Date: 11 APR 2017 12:05:53

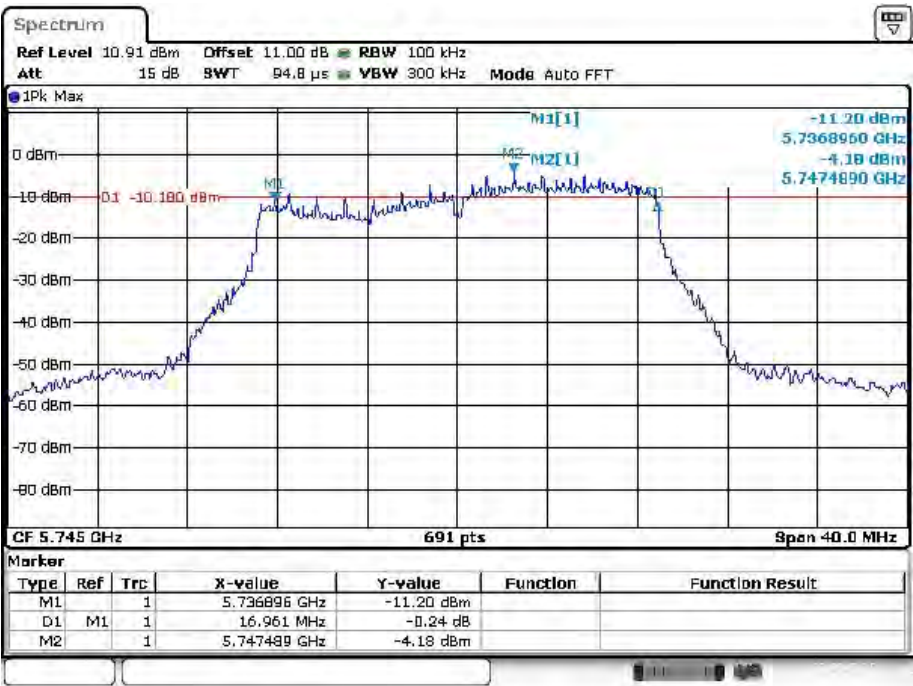
5825MHz



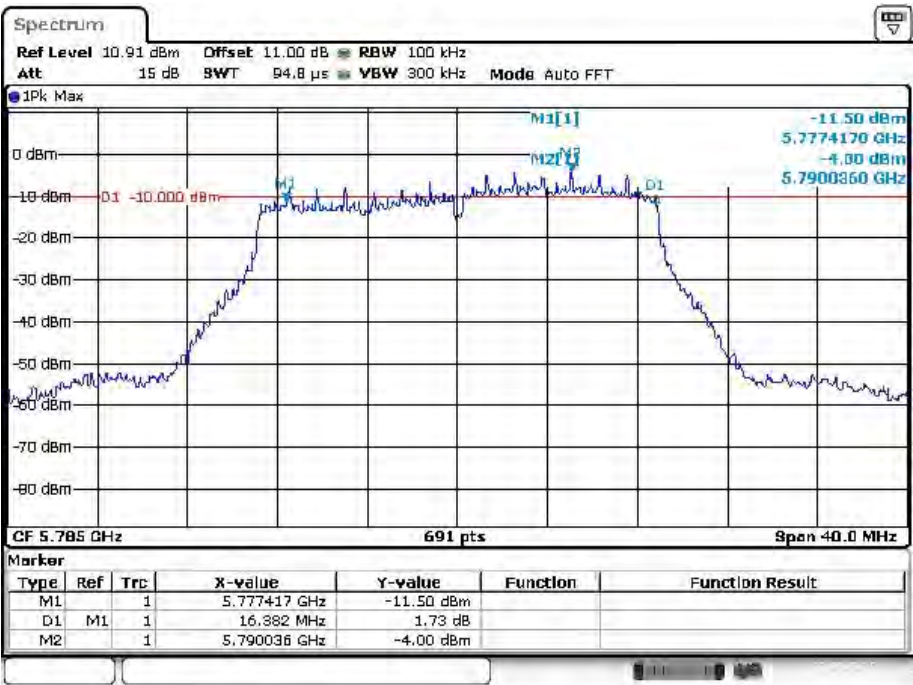
Date: 11 APR 2017 12:04:20

IEEE 802.11ac VHT20 mode / 5725 ~ 5850MHz(chain 2)

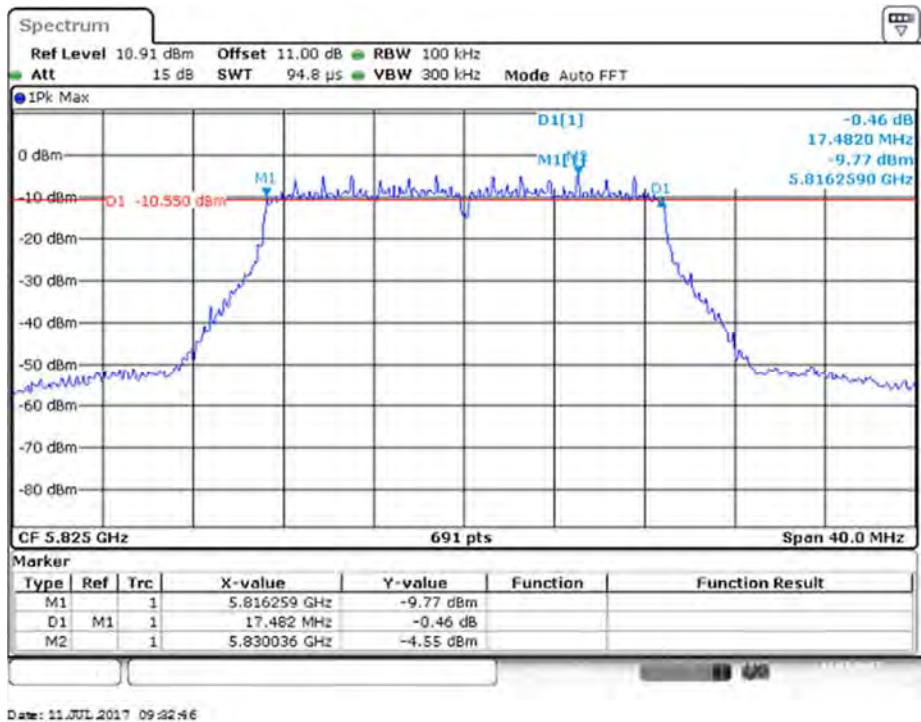
5745MHz



5785MHz

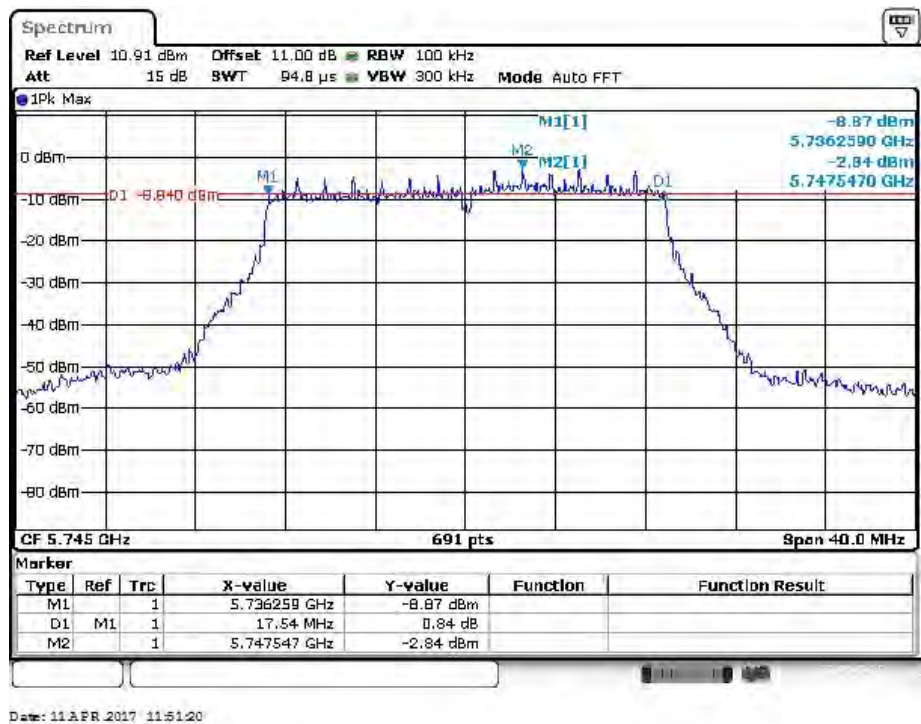


5825MHz

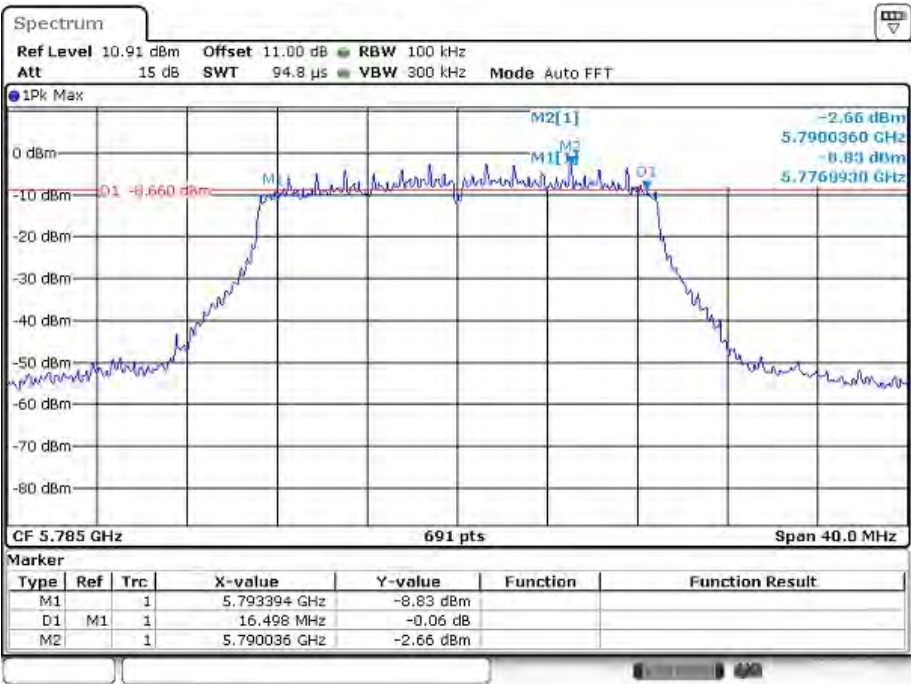


IEEE 802.11ac VHT20 mode / 5725 ~ 5850MHz(chain 3)

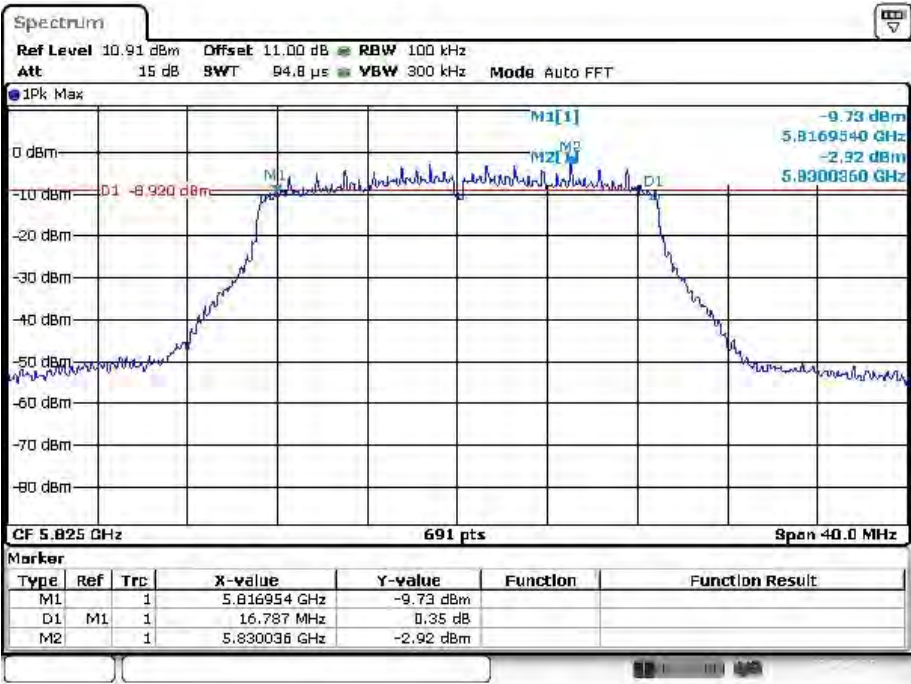
5745MHz



5785MHz



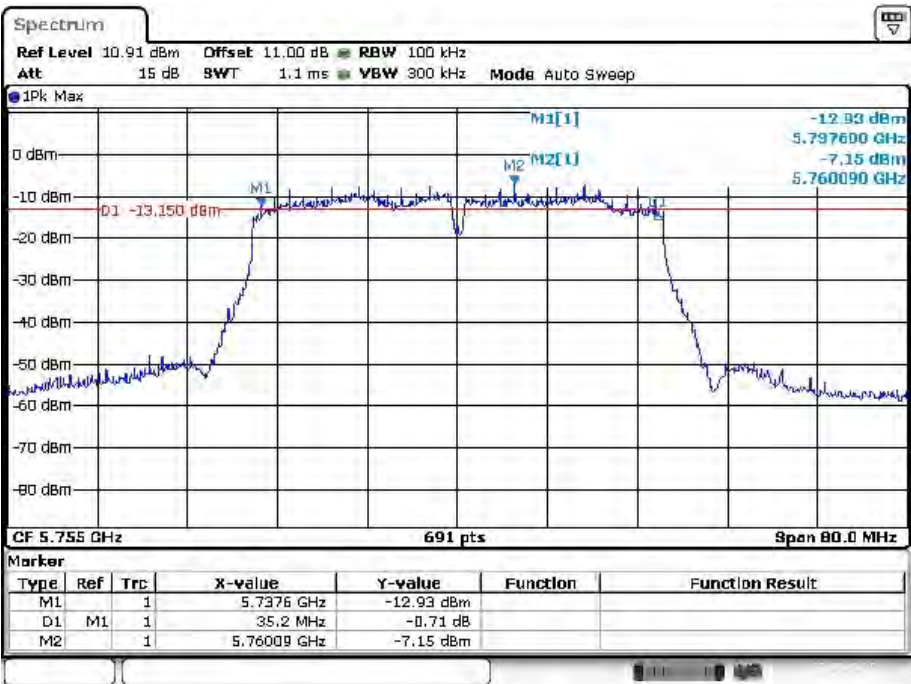
5825MHz



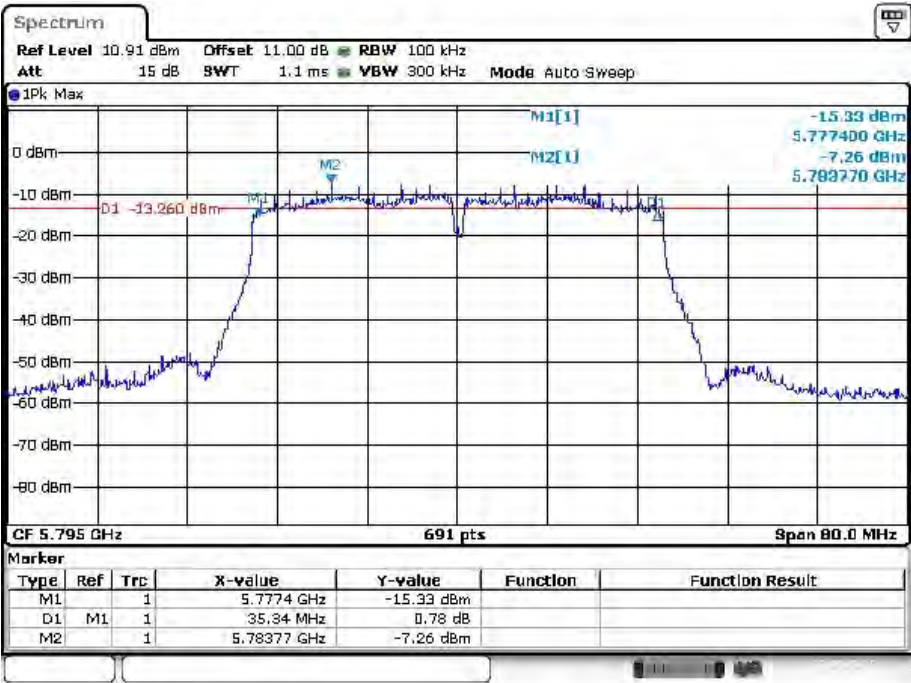


IEEE 802.11ac VHT40 mode / 5725 ~ 5850MHz(chain 0)

5755MHz

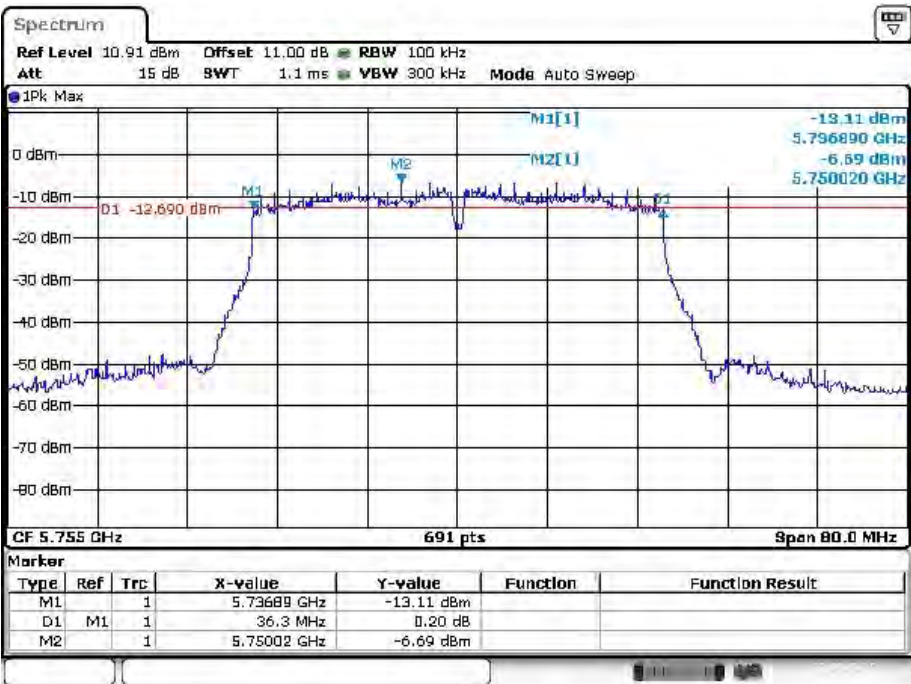


5795MHz

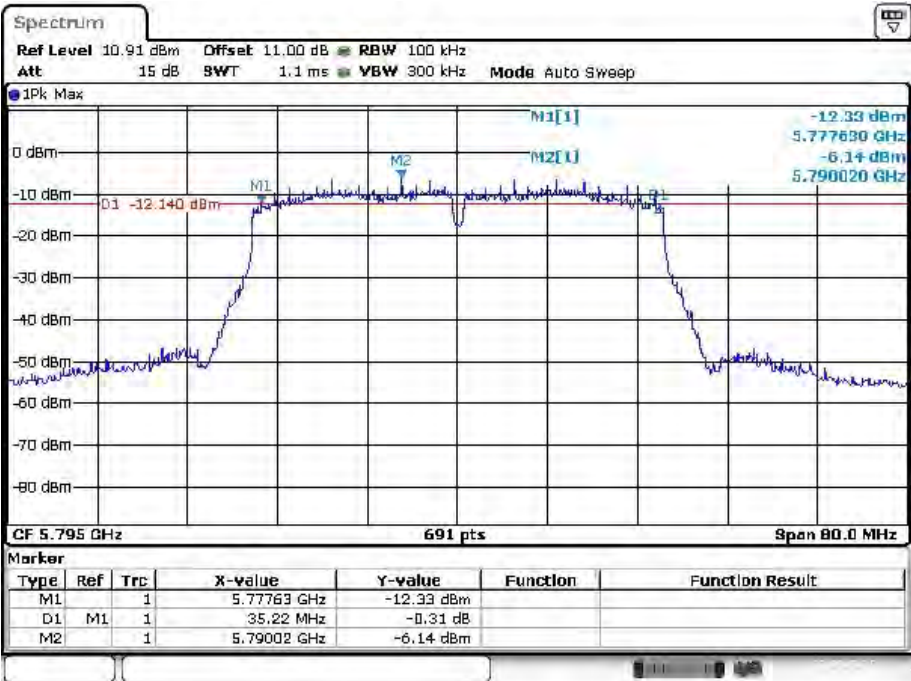


IEEE 802.11ac VHT40 mode / 5725 ~ 5850MHz(chain 1)

5755MHz

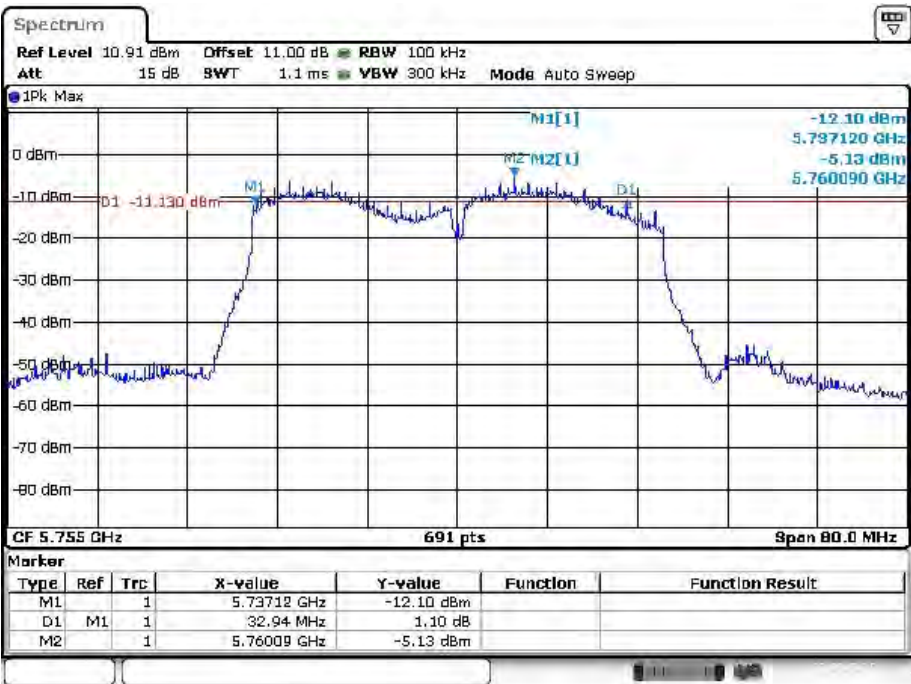


5795MHz



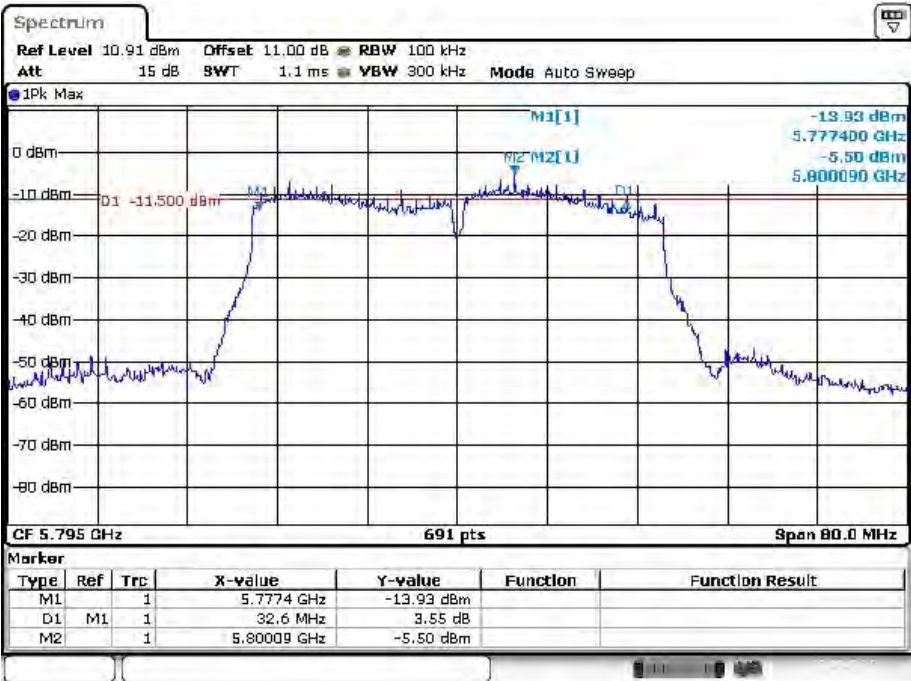
IEEE 802.11 ac VHT40 mode / 5725 ~ 5850MHz(chain 2)

5755MHz



Date: 11 APR 2017 12:27:13

5795MHz

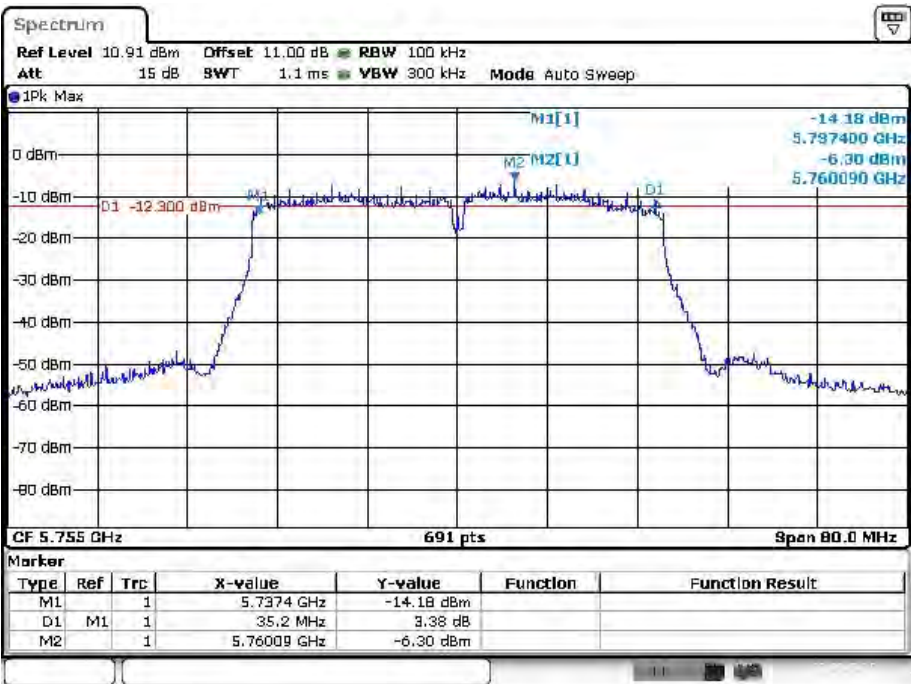


Date: 11 APR 2017 12:55:51

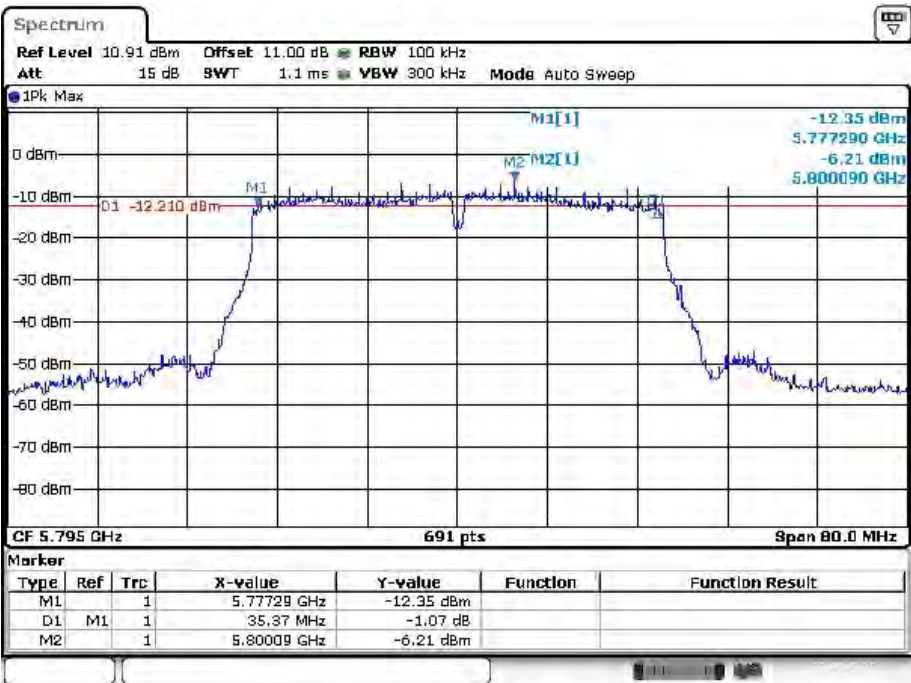


IEEE 802.11 ac VHT40 mode / 5725 ~ 5850MHz(chain 3)

5755MHz

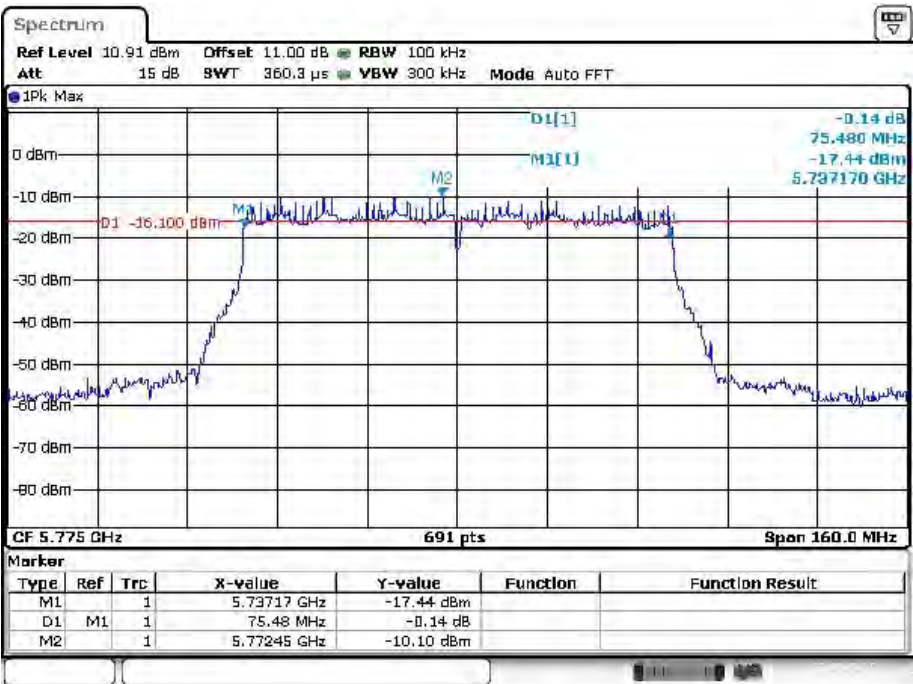


5795MHz



IEEE 802.11 ac VHT80 mode / 5725 ~ 5850MHz(chain 0)

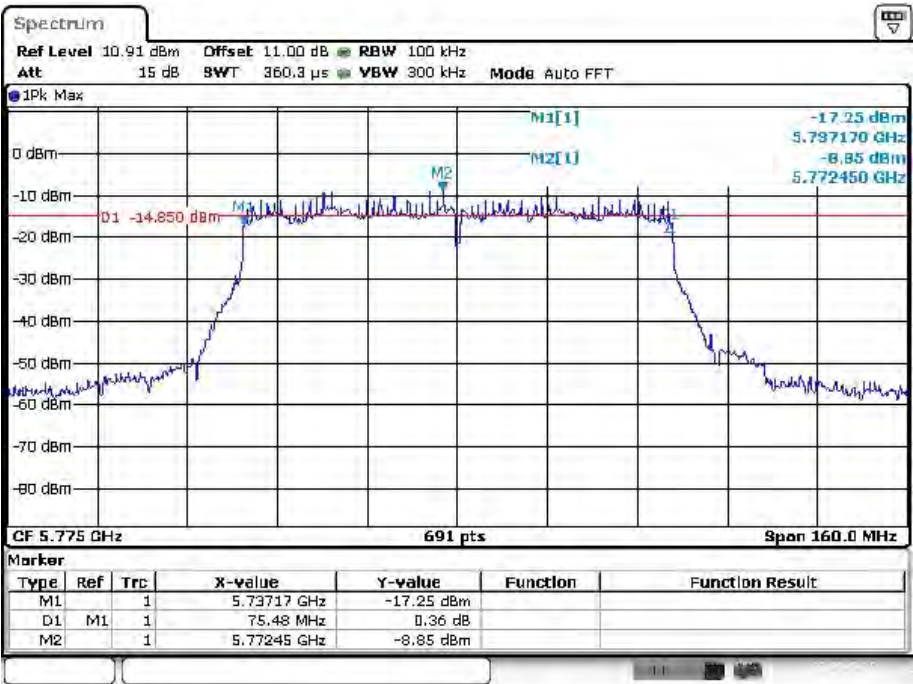
5775MHz



Date: 11 APR 2017 13:29:10

IEEE 802.11 ac VHT80 mode / 5725 ~ 5850MHz(chain 1)

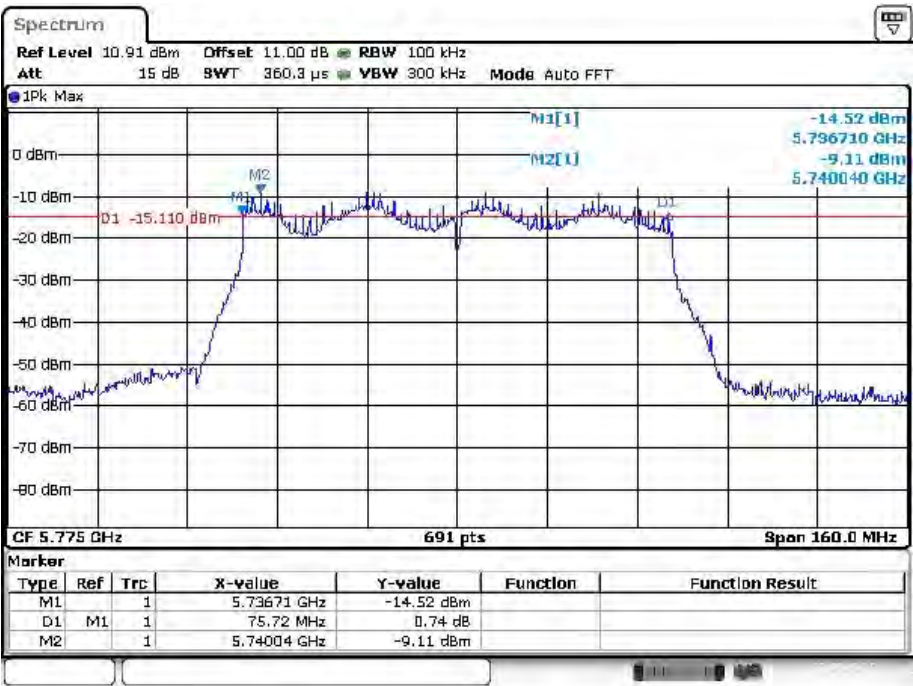
5775MHz



Date: 11 APR 2017 13:27:04

IEEE 802.11 ac VHT80 mode / 5725 ~ 5850MHz(chain 2)

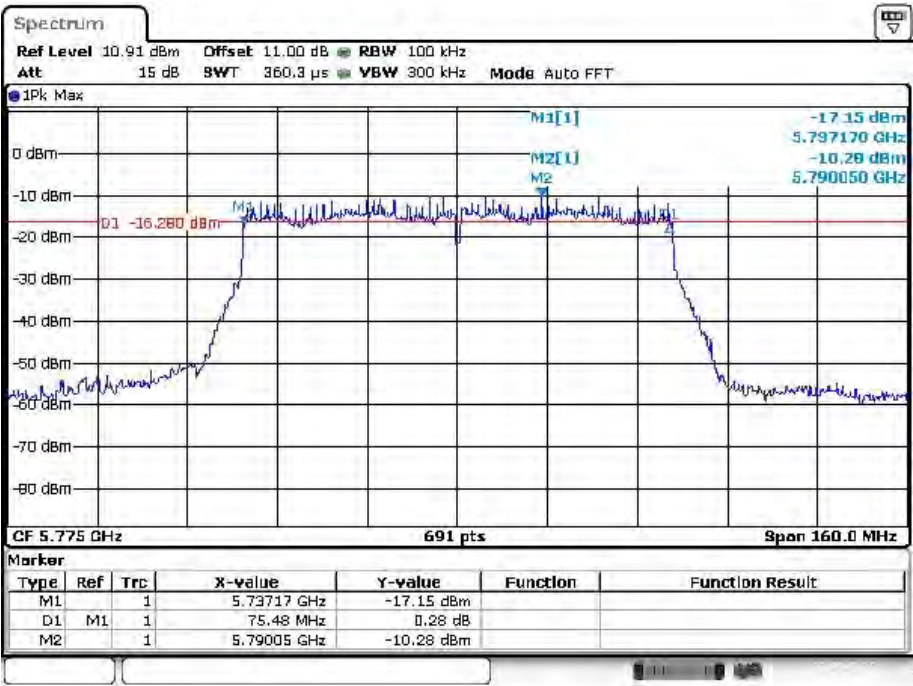
5775MHz



Date: 11 APR 2017 13:22:21

IEEE 802.11 ac VHT80 mode / 5725 ~ 5850MHz(chain 3)

5775MHz



Date: 11 APR 2017 13:18:35

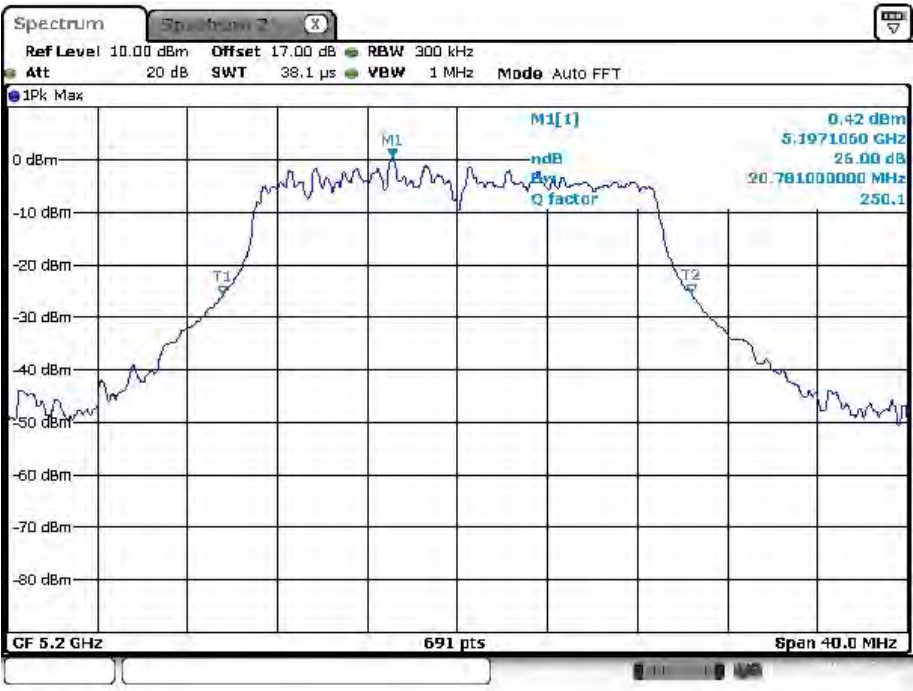
Beamforming Mode:

UNII BW 26dBc  
IEEE 802.11ac VHT20 mode / 5150 ~ 5250MHz(chain 0)  
5180MHz



Date: 4 JUL 2017 09:44:35

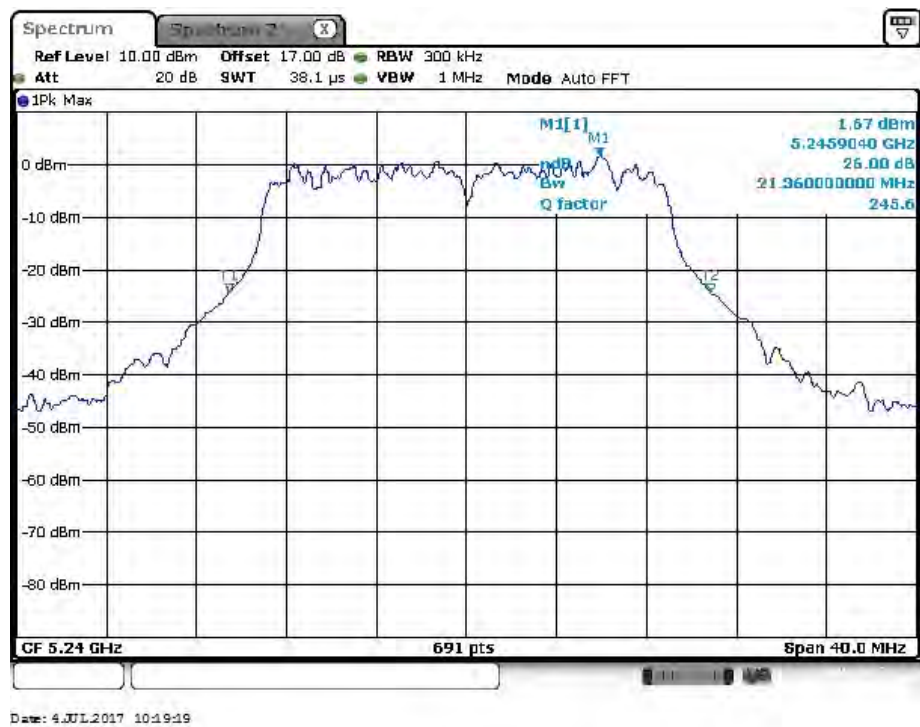
5200MHz



Date: 4 JUL 2017 10:00:27

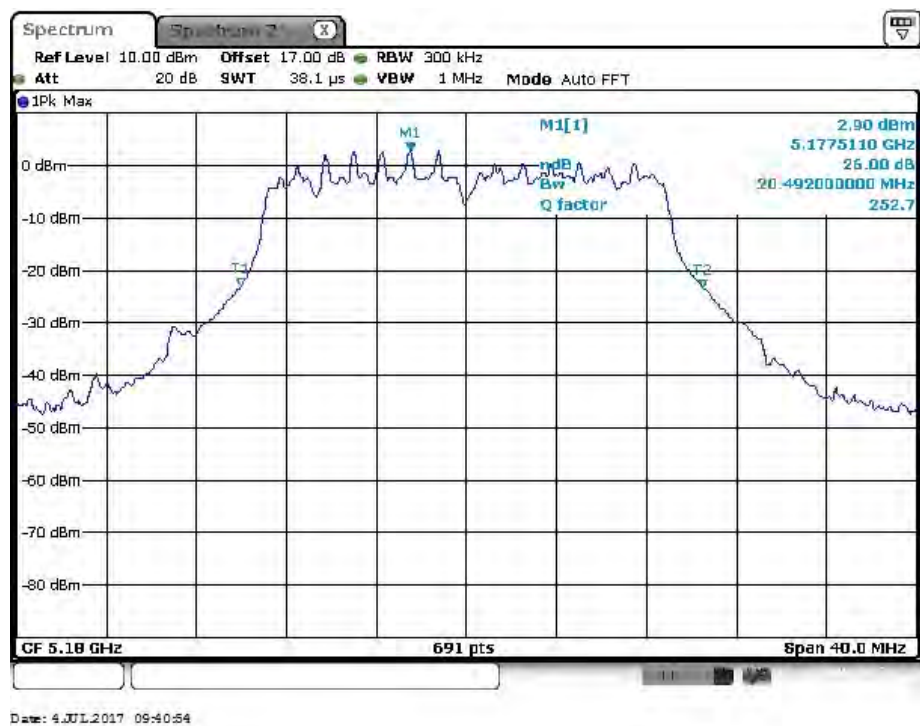


5240MHz

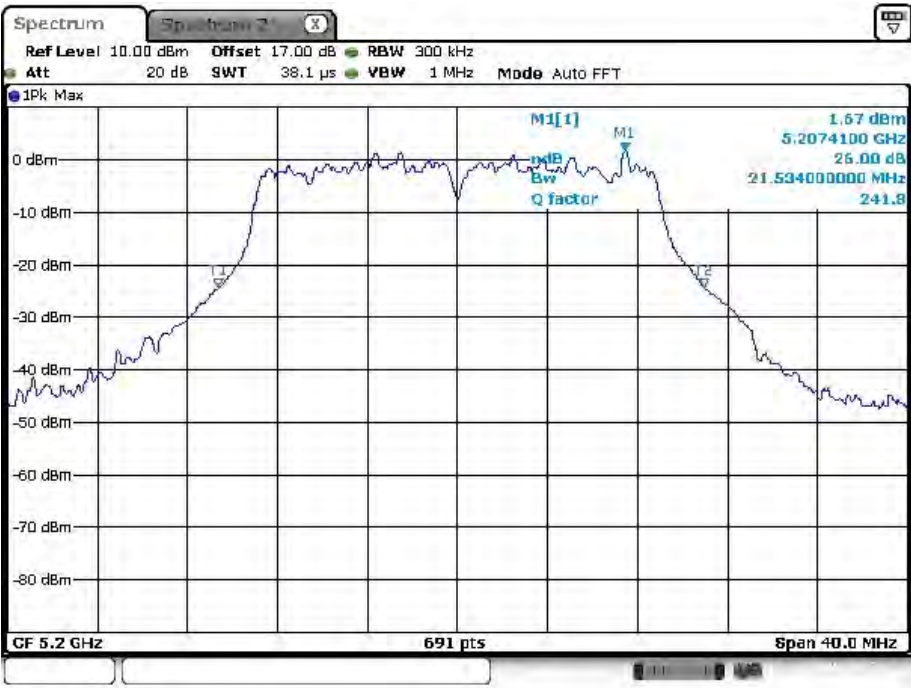


IEEE 802.11ac VHT20 mode / 5150 ~ 5250MHz(chain 1)

5180MHz

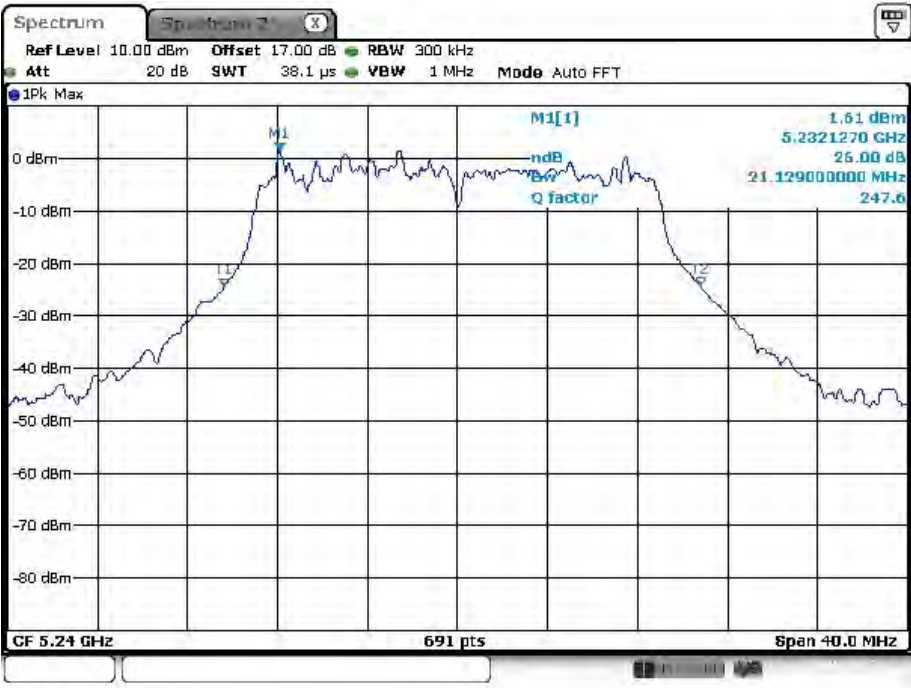


5200MHz



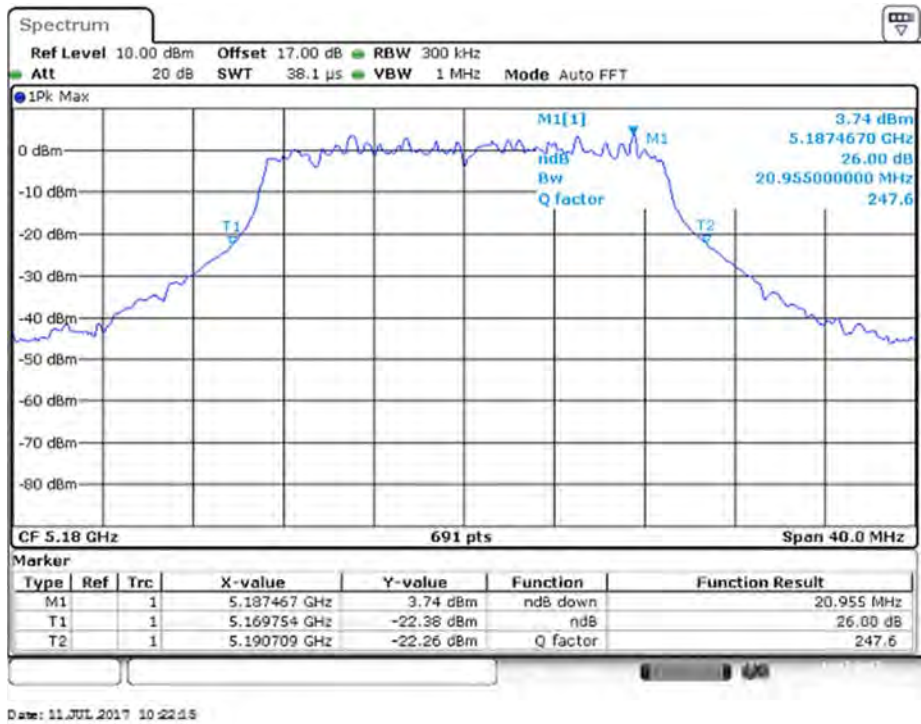
Date: 4 JUL 2017 10:03:48

5240MHz



Date: 4 JUL 2017 10:17:06

IEEE 802.11ac VHT20 mode / 5150 ~ 5250MHz(chain 2)  
5180MHz



5200MHz

