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Emissions
Test Report

EUT Name: Wireless Residential Gateway

Model No.: 5268AC

CFR 47 Part 15.247:2013 and RSS-210:2010

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Note: Latest revision report will replace all previous reports.

Statement of Compliance

Manufacturer:	Pace Americas 310 Providence Mine Road, Ste. 200 Nevada City, CA 95959 U.S.A. (530) 274-5440
Requester / Applicant:	Mark Rieger
Name of Equipment:	Wireless Residential Gateway
Model No.	5268AC
Type of Equipment:	Intentional Radiator
Application of Regulations:	CFR 47 Part 15.247:2013 and RSS-210:2010
Test Dates:	29 March 2014 to 18 April 2014

Guidance Documents:

Emissions: ANSI C63.10-2009, KDB 558074 D01 DTS Measurement Guidance v03r0, KDB 662911 D01 Multiple Transmitter Output v02r01.

Test Methods:

Emissions: ANSI C63.10-2009, KDB 558074 D01 DTS Measurement Guidance v03r01

The electromagnetic compatibility test and documented data described in this report has been performed and recorded by TUV Rheinland, in accordance with the standards and procedures listed herein. As the responsible authorized agent of the EMC laboratory, I hereby declare that the equipment described above has been shown to be compliant with the EMC requirements of the stated regulations and standards based on these results. If any special accessories and/or modifications were required for compliance, they are listed in the Executive Summary of this report.

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Jeremy Luong	April 23, 2014	Conan Boyle	April 30, 2014 (Reissue Date)
Test Engineer	Date	Laboratory Manager	Date

Testing Cert #3331.02 **US5254** **2932M-1**

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1 Executive Summary

1.1 Scope

This report is intended to document the status of conformance with the requirements of the CFR 47 Part 15.247:2013 and RSS-210:2010 based on the results of testing performed on 29 March 2014 to 18 April 2014 on the Wireless Residential Gateway Model 5268AC manufactured by Pace Americas This report only applies to the specific samples tested under the stated test conditions. It is the responsibility of the manufacturer to assure that additional production units of this model are manufactured with identical or EMI equivalent electrical and mechanical components. This report is further intended to document changes and modifications to the EUT throughout its life cycle. All documentation will be included as a supplement.

1.2 Purpose

Testing was performed to evaluate the EMC performance of the EUT in accordance with the applicable requirements, procedures, and criteria defined in the application of regulations and application of standards listed in this report.

The 5725 MHz to 5850 MHz frequency band was covered this document.

1.3 Summary of Test Results

Table 1: Summary of Test Results

Test	Test Method ANSI C63.4:2003/ ANSI C63.10:2009	Test Parameters	Measured Value	Result
Spurious Emission in Transmitted Mode	CFR47 15.209, RSS-GEN Sect.7.2.3	Class B	-1.27 dB (margin)	**Complied**
Restricted Bands of Operation	CFR47 15.205, RSS-210 Sect.2.6	Class B		**Complied**
AC Power Conducted Emission	CFR47 15.207, RSS-GEN Sect.7.2.2	Class B	-17.47 dB (margin)	**Complied**
Occupied Bandwidth	CFR47 15.247 (a2), RSS GEN Sect.4.4.1	≥ 500 kHz	16.373 MHz	**Complied**
Maximum Transmitted Power	CFR47 15.247 (b3), RSS-210 Sect. A.8.4	27.92 dBm	26.57 dBm	**Complied**
Peak Power Spectral Density	CFR47 15.247 (e), RSS-210 Sect. A.8.2	8 dBm/ 3 kHz.	-6.06 dBm	**Complied**
Bandedge Measurement	CFR47 15.247 (d), RSS-210 Sect. A.8.5	20/ 30 dBr	---	**Complied**
RF Exposure - General Population	CFR47 15.247 (i), 2.1091	1.0 mW/cm^2	0.8188 mW/cm^2	**Complied**

Note: This report is only covered for 5725 to 5850 MHz.

1.4 Special Accessories

No special accessories were necessary in order to achieve compliance.

1.5 Equipment Modifications

None

2 Laboratory Information

2.1 Accreditations & Endorsements

2.1.1 US Federal Communications Commission

TUV Rheinland of North America at 1279 Quarry Ln, Pleasanton, CA 94566 is recognized by the commission for performing testing services for the general public on a fee basis. These laboratory test facilities have been fully described in reports submitted to and accepted by the FCC (US5254). The laboratory scope of accreditation includes: Title 47 CFR Parts 15, 18, and 90. The accreditation is updated every 3 years.

2.1.2 A2LA

TUV Rheinland of North America is accredited by the National Voluntary Laboratory Accreditation Program, which is administered under the auspices of the National Institute of Standards and Technology. The laboratory has been assessed and accredited in accordance with ISO Guide 17025:2005 and ISO 9002 (Lab Code Testing Cert #3331.02). The scope of laboratory accreditation includes emission and immunity testing. The accreditation is updated annually.

2.1.3 Canada – Industry Canada

TUV Rheinland of North America at the 1279 Quarry Ln, Pleasanton, CA 94566 address is accredited by Industry Canada for performing testing services for the general public on a fee basis. This laboratory test facilities have been fully described in reports submitted to and accepted by Industry Canada (File Number 2932M-1). This reference number is the indication to the Industry Canada Certification Officers that the site meets the requirements of RSS 212, Issue 1 (Provisional). The accreditation is updated every 3 years.

2.1.4 Japan – VCCI

The Voluntary Control Council for Interference by Information Technology Equipment (VCCI) is a group that consists of Information Technology Equipment (ITE) manufacturers and EMC test laboratories. The purpose of the Council is to take voluntary control measures against electromagnetic interference from Information Technology Equipment, and thereby contribute to the development of a socially beneficial and responsible state of affairs in the realm of Information Technology Equipment in Japan. TUV Rheinland of North America at 1279 Quarry Ln, Pleasanton, CA 94566 has been assessed and approved in accordance with the Regulations for Voluntary Control Measures.

VCCI Registration No. for Pleasanton: A-0031

VCCI Registration No. for Santa Clara: A-0032

2.1.5 Acceptance by Mutual Recognition Arrangement

The United States has an established agreement with specific countries under the Asia Pacific Laboratory Accreditation Corporation (APLAC) Mutual Recognition Arrangement. Under this agreement, all TUV Rheinland at 1279 Quarry Ln, Pleasanton, CA 94566 test results and test reports within the scope of the laboratory A2LA accreditation will be accepted by each member country.

2.2 Test Facilities

All of the test facilities are located at 1279 Quarry Lane, Pleasanton, California 94566, USA. The 2305 Mission College, Santa Clara, 95054, USA location is considered a Pleasanton annex.

2.2.1 Emission Test Facility

The Semi-Anechoic chamber and AC Line Conducted measurement facility used to collect the radiated and conducted data has been constructed in accordance with ANSI C63.7:1992. The site has been measured in accordance with and verified to comply with the theoretical normalized site attenuation requirements of ANSI C63.4-2009, at a test distance of 3 and 5 meters. The site is listed with the FCC and accredited by A2LA (Lab Code Testing Cert #3331.02). The 3/5-meter semi-anechoic chamber used to collect the radiated data has been verified to comply with the theoretical normalized site attenuation requirements of ANSI C63.4-2009, at a test distance of 3 meter and 5 meters. A report detailing this site can be obtained from TUV Rheinland of North America.

2.2.2 Immunity Test Facility

ESD, EFT, Surge, PQF: These tests are performed in an environmentally controlled room with a 3.7 m x 4.8 m x 3.175 mm thick aluminum floor connected to PE ground.

For ESD testing, tabletop equipment is placed on an insulated mat with a surface resistivity of 10^9 Ohms/square on a 1.6 m x 0.8 m x 0.8 m high non-conductive table with a 3.175 mm aluminum top (Horizontal Coupling Plane). The HCP is connected to the main ground plane via a low impedance ground strap through two 470-kΩ resistors. The Vertical Coupling Plane consists of an aluminum plate 50 cm x 50 cm x 3.175 mm thick. The VCP is connected to the main ground plane via a low impedance ground strap through two 470-kΩ resistors.

For EFT, Surge, PQF, the HCP and VCP are removed.

RF Field Immunity testing is performed in a 7.3m x 4.3m x 4.1m anechoic chamber.

RF Conducted and Magnetic Field Immunity testing is performed on a 4.8m x 3.7m x 3.175mm thick aluminum ground plane.

All test areas allow a minimum distance of 1 meter from the EUT to walls or conducting objects.

2.3 Measurement Uncertainty

Two types of measurement uncertainty are expressed in this report, per *ISO Guide To The Expression Of Uncertainty In Measurement*, 1st Edition, 1995.

The Combined Standard Uncertainty is the standard uncertainty of the result of a measurement when that result is obtained from the values of a number of other quantities; it is equal to the positive square root of the sum of the variances or co-variances of these other quantities, weighted according to how the measurement result varies with changes in these quantities. The term *standard uncertainty* is the result of a measurement expressed as a standard deviation.

2.3.1 Sample Calculation – radiated & conducted emissions

The field strength is calculated by subtracting the Amplifier Gain and adding the Cable Loss and Antenna Correction Factor to the measured reading. The basic equation is as follows:

Field Strength (dBμV/m) = RAW - AMP + CBL + ACF

Where: RAW = Measured level before correction (dBμV)

AMP = Amplifier Gain (dB)

CBL = Cable Loss (dB)

ACF = Antenna Correction Factor (dB/m)

$$\mu V/m = 10^{\frac{dB\mu V/m}{20}}$$

Sample radiated emissions calculation @ 30 MHz

Measurement +Antenna Factor–Amplifier Gain+Cable loss=Radiated Emissions (dBuV/m)

25 dBuV/m + 17.5 dB – 20 dB + 1.0 dB = 23.5 dBuV/m

2.3.2 Measurement Uncertainty Emissions

Per CISPR 16-4-2	**U_{lab}**	**U_{cispr}**
Radiated Disturbance @ 10 meters		
30 – 1,000 MHz	2.25 dB	4.51 dB
Radiated Disturbance @ 3 meters		
30 – 1,000 MHz	2.26 dB	4.52 dB
1 – 6 GHz	2.12 dB	4.25 dB
6 – 18 GHz	2.47 dB	4.93 dB
Conducted Disturbance @ Mains Terminals		
150 kHz – 30 MHz	1.09 dB	2.18 dB
Disturbance Power		
30 MHz – 300 MHz	3.92 dB	4.3 dB

Voltech PM6000A

The estimated combined standard uncertainty for harmonic current and flicker measurements is ± 5.0%.	Per CISPR 16-4-2 Methods

2.3.3 Measurement Uncertainty Immunity

The estimated combined standard uncertainty for ESD immunity measurements is ± 8.2%.	Per IEC 61000-4-2
The estimated combined standard uncertainty for radiated immunity measurements is ± 4.10 dB.	Per IEC 61000-4-3
The estimated combined standard uncertainty for conducted immunity measurements with CDN is ± 3.66 dB	Per IEC 61000-4-6
The estimated combined standard uncertainty for power frequency magnetic field immunity is ± 11.6%.	Per IEC 61000-4-8

Thermo KeyTek EMC Pro

The estimated combined standard uncertainty for EFT fast transient immunity measurements is ± 5.84%.
The estimated combined standard uncertainty for surge immunity measurements is ± 5.84 %.
The estimated combined standard uncertainty for voltage variation and interruption measurements is ± 3.48%.

The expanded uncertainty at a level of 95% confidence is obtained by multiplying the combined standard uncertainty by a coverage factor of 2. Compliance criteria are not based on measurement uncertainty.

Measurement Uncertainty – Radio Testing

The estimated combined standard uncertainty for frequency error measurements is ± 3.88 Hz
The estimated combined standard uncertainty for carrier power measurements is ± 1.59 dB.
The estimated combined standard uncertainty for adjacent channel power measurements is ± 1.47 dB.
The estimated combined standard uncertainty for modulation frequency response measurements is ± 0.46 dB.
The estimated combined standard uncertainty for transmitter conducted emission measurements is ± 4.01 dB

The expanded uncertainty at a level of 95% confidence is obtained by multiplying the combined standard uncertainty by a coverage factor of 2. Compliance criteria are not based on measurement uncertainty.

2.4 Calibration Traceability

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST). Measurement method complies with ANSI/NCSL Z540-1-1994 and ISO Standard 17025:2005. Equipment calibration records are kept on file at the test facility.

3 Product Information

3.1 Product Description

Pace Americas 5268AC is a residential gateway that provides an 802.11 a/b/g/n/ac Wi-Fi access point and ethernet switch function for connecting personal computers and other in-home networked devices to the service provider's network. The 5168AC features:

- Bonded ADSL2+/VDSL2
- Gigabit Ethernet WAN
- HomePNA 3.1 coax port
- 4 Gigabit Ethernet LAN ports
- 5GHZ 802.11n 4x4 MIMO Wi-Fi
- 2.4GHZ 802.11n 2x2 MIMO Wi-Fi
- 2 FXS (VoIP) Lines
- USB Host Port

3.2 Equipment Configuration

A description of the equipment configuration is given in the Test Plan Section. The EUT was tested as called for in the test standard and was configured and operated in a manner consistent with its intended use. The EUT was connected to rated power and allowed to reach intended operating conditions. The placement of the EUT system components was guided by the test standard and selected to represent typical installation conditions.

In the case of an EUT that can operate in more than one configuration, preliminary testing was performed to determine the configuration that produced maximum radiation.

The final configuration was selected to produce the worst case radiation for emissions testing and to place the EUT in the most susceptible state for immunity testing.

3.3 Operating Mode

A description of the operation mode is given in the Test Plan Section. In the case of an EUT that can operate in more than one state, preliminary testing was performed to determine the operating mode that produced maximum radiation.

The final operating mode was selected to produce the worst case radiation for emissions testing and to place the EUT in the most susceptible state for immunity testing.

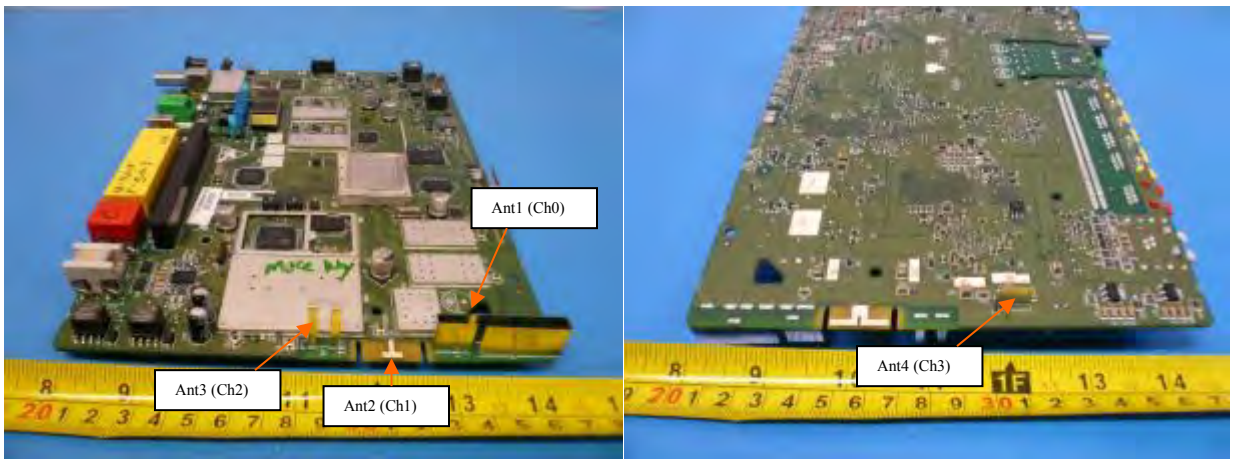
3.4 Unique Antenna Connector

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. This requirement does not apply to carrier current devices or to devices operated under the provisions of CFR47 Parts 15.211, 15.213, 15.217, 15.219, or 15.221.

3.4.1 Results

The Wireless Residential Gateway has 4 internal fixed antennas. All antennas are integrated on the PCB. There is no external antenna connection available.

Antenna	Peak Gain (dBi)
1	1.95
2	2.27
3	1.83
4	2.03
Total Directional gain is +8.08 dBi.	



4 Emissions

Testing was performed in accordance with CFR 47 Part 15.247: 2013 and RSS-210 Annex 8: 2010. These test methods are listed under the laboratory's A2LA Scope of Accreditation. This test measures the levels emanating from the EUT, thus evaluating the potential for the EUT to cause radio frequency interference to other electronic devices. Procedures described in section 8 of the standard were used.

4.1 Output Power Requirements

The maximum output power requirement is the maximum equivalent isotropic radiated power delivering at the transmitting antenna under specified conditions of measurements in the presence of modulation.

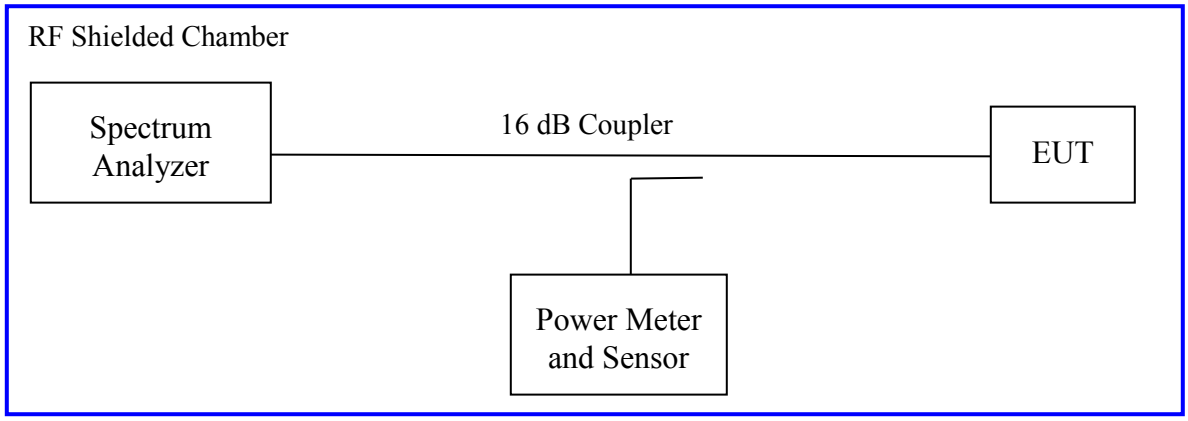
The maximum output power and harmonics shall not exceed CFR47 Part 15.247 (b3):2013 and RSS-210 A.8.4: 2010

The maximum transmitted power is +30 dBm or 1Watt.

4.1.1 Test Method

The ANSI C63.10-2009 Section 6.10.3.1 conducted method was used to measure the channel power output. The preliminary investigation was performed at different data rate/ chain to determine the highest power output for each mode. The worst findings were conducted on 3 channels in each mode on the sample, S/N 121404000111, per CFR47 Part 15.247 (b3):2013 and RSS-210 A.8.4; 5725 MHz to 5850 MHz. The worst mode results indicated below.

Test Setup:



Method AVGSA-2 of "Guidelines for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating under CFR47 Part 15.247"applies since the EUT continuously transmit EUT continuously transmit with duty cycle less 100%.

Each chain was measured individually and applied the measure-and-sum approach per KDB66291.
All chains will be on at all time and beam performing. Per CFR47 Part 15.247 (b) (4), the limit is reduced for every dBi gain exceeding 6 dBi. The adjusted limit is 27.92 dBm since the total directional gain is 8.08 dBi.

4.1.2 Results

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

Table 2: RF Output Power at the Antenna Port – Test Results

Test Conditions: Conducted Measurement				**Test Date:** April 16, 2014				
Antenna Type: Integrated				**Power Setting:** See test plan				
Max. Directional Gain: + 8.08 dBi				**Signal State:** Modulated				
Ambient Temp.: 22 °C				**Relative Humidity:**30%				
802.11a Mode, 4x4								
Operating Channel	**Limit [dBm]**	**Ch0 [dBm]**	**Ch1 [dBm]**	**Ch2 [dBm]**	**Ch3 [dBm]**	**CF [dB]**	**Total Power [dBm]**	**Margin [dB]**
5745	27.92	20.41	19.96	19.91	21.14	0.04	26.45	-1.47
5785	27.92	20.43	19.63	19.48	21.30	0.04	26.34	-1.58
5825	27.92	20.47	19.48	19.91	20.90	0.04	26.29	-1.63
Note: 1.The highest output power was observed at 802.11a 6 Mbps, 4 data streams at 99% duty cycle.								
802.11n (HT20) Mode, 4x4								
Operating Channel	**Limit [dBm]**	**Ch0 [dBm]**	**Ch1 [dBm]**	**Ch2 [dBm]**	**Ch3 [dBm]**	**CF [dB]**	**Total Power [dBm]**	**Margin [dB]**
5745	27.92	20.73	19.66	19.51	20.89	0.09	26.35	-1.57
5785	27.92	20.40	19.89	19.53	21.00	0.09	26.35	-1.57
5825	27.92	20.11	20.12	20.04	21.05	0.09	26.46	-1.46
Note: 1.The highest output power was observed at HT20 MCS0, 4 data streams at 98% duty cycle.								
802.11n (HT40) Mode, 4x4								
Operating Channel	**Limit [dBm]**	**Ch0 [dBm]**	**Ch1 [dBm]**	**Ch2 [dBm]**	**Ch3 [dBm]**	**CF [dB]**	**Total Power [dBm]**	**Margin [dB]**
5755	27.92	19.64	19.87	20.20	21.16	0.18	26.46	-1.46
5795	27.92	20.27	19.94	19.90	21.10	0.18	26.53	-1.39
Note: 1.The highest output power was observed at HT40 MCS0, 4 Data Streams at 96% duty cycle.								

802.11ac (VHT20) Mode, 4x4								
Operating Channel	**Limit [dBm]**	**Ch0 [dBm]**	**Ch1 [dBm]**	**Ch2 [dBm]**	**Ch3 [dBm]**	**CF [dB]**	**Total Power [dBm]**	**Margin [dB]**
5745	27.92	20.70	19.63	19.51	21.27	0.09	26.45	-1.47
5785	27.92	20.39	19.91	19.73	21.05	0.09	26.41	-1.51
5825	27.92	20.02	20.04	20.12	21.07	0.09	26.45	-1.47
Note: 1.The highest output power was observed at VHT20 MCS0, 4 data streams at 98% duty cycle.								
802.11ac (VHT40) Mode, 4x4								
Operating Channel	**Limit [dBm]**	**Ch0 [dBm]**	**Ch1 [dBm]**	**Ch2 [dBm]**	**Ch3 [dBm]**	**CF [dB]**	**Total Power [dBm]**	**Margin [dB]**
5755	27.92	20.85	19.97	19.75	20.99	0.12	26.57	-1.35
5795	27.92	20.08	20.17	19.83	21.13	0.12	26.47	-1.45
Note: 1.The highest output power was observed at VHT40 MCS0, 4 data streams at 97% duty cycle.								
802.11ac (VHT80) Mode, 4x4								
Operating Channel	**Limit [dBm]**	**Ch0 [dBm]**	**Ch1 [dBm]**	**Ch2 [dBm]**	**Ch3 [dBm]**	**CF [dB]**	**Total Power [dBm]**	**Margin [dB]**
5775	27.92	18.94	18.22	17.99	19.58	0.32	25.06	-2.86
Note: 1.The highest output power was observed at VHT80 MCS0, 4 data streams at 93% duty cycle.								

Table 3: Average Output Power at the Antenna Port – Reference Only

Test Conditions: Conducted Measurement				**Test Date:** April 10, 2014			
Antenna Type: Integrated				**Power Setting:** See Test plan			
Max. Directional Gain: + 8.08 dBi				**Signal State:** Modulated			
Ambient Temp.: 22 °C				**Relative Humidity:**33%			
802.11a Mode, 4x4							
Operating Channel	**Limit [dBm]**	**Ch0 [dBm]**	**Ch1 [dBm]**	**Ch2 [dBm]**	**Ch3 [dBm]**	**Total Power [dBm]**	**Margin [dB]**
5745	N/A	21.83	21.44	21.42	22.53	27.85	N/A
5785	N/A	22.05	21.28	21.10	22.92	27.92	N/A
5825	N/A	22.12	21.14	21.60	22.51	27.90	N/A
Note: The highest output power was observed at 802.11a 6Mbps, 4 Data Streams.							
802.11n (HT20) Mode, 4x4							
Operating Channel	**Limit [dBm]**	**Ch0 [dBm]**	**Ch1 [dBm]**	**Ch2 [dBm]**	**Ch3 [dBm]**	**Total Power [dBm]**	**Margin [dB]**
5745	N/A	22.12	21.00	20.91	22.42	27.68	N/A
5785	N/A	22.03	21.42	21.15	22.73	27.89	N/A
5825	N/A	21.64	21.76	21.81	22.83	28.06	N/A
Note: The highest output power was observed at HT20 MCS0, 4 Data Streams.							
802.11n (HT40) Mode, 4x4							
Operating Channel	**Limit [dBm]**	**Ch0 [dBm]**	**Ch1 [dBm]**	**Ch2 [dBm]**	**Ch3 [dBm]**	**Total Power [dBm]**	**Margin [dB]**
5755	N/A	21.53	21.33	21.66	22.92	27.93	N/A
5795	N/A	21.90	21.57	21.56	22.85	28.02	N/A
Note: The highest output power was observed at HT40 MCS0, 4 Data Streams.							
802.11ac (VHT20) Mode, 4x4							
Operating Channel	**Limit [dBm]**	**Ch0 [dBm]**	**Ch1 [dBm]**	**Ch2 [dBm]**	**Ch3 [dBm]**	**Total Power [dBm]**	**Margin [dB]**
5745	N/A	22.21	21.04	20.98	22.82	27.86	N/A
5785	N/A	22.04	21.52	21.23	22.79	27.96	N/A
5825	N/A	21.64	21.69	21.83	22.42	27.92	N/A
Note: The highest output power was observed at VHT20 MCS0, 4 Data Streams.							

802.11ac (VHT40) Mode, 4x4							
Operating Channel	**Limit [dBm]**	**Ch0 [dBm]**	**Ch1 [dBm]**	**Ch2 [dBm]**	**Ch3 [dBm]**	**Total Power [dBm]**	**Margin [dB]**
5755	N/A	22.27	21.45	21.23	22.60	27.94	N/A
5795	N/A	21.64	21.80	21.46	22.86	28.00	N/A
Note: The highest output power was observed at VHT40 MCS0, 4 Data Streams.							
802.11ac (VHT80) Mode, 4x4							
Operating Channel	**Limit [dBm]**	**Ch0 [dBm]**	**Ch1 [dBm]**	**Ch2 [dBm]**	**Ch3 [dBm]**	**Total Power [dBm]**	**Margin [dB]**
5775	N/A	21.63	21.26	21.29	22.71	27.78	N/A
Note: The highest output power was observed at VHT80 MCS0, 4 Data Streams.							

Figure 1: Maximum Conducted Output Power-5745MHz-11a-6Mpbs-Ch0

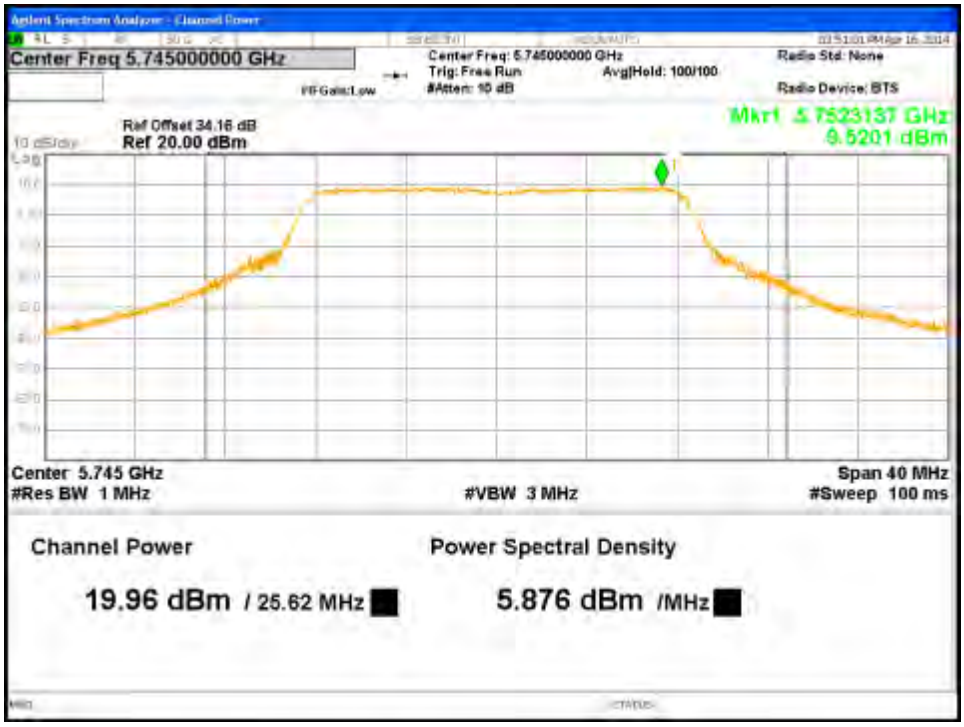


Figure 2: Maximum Conducted Output Power-5745MHz-11a-6Mpbs-Ch1

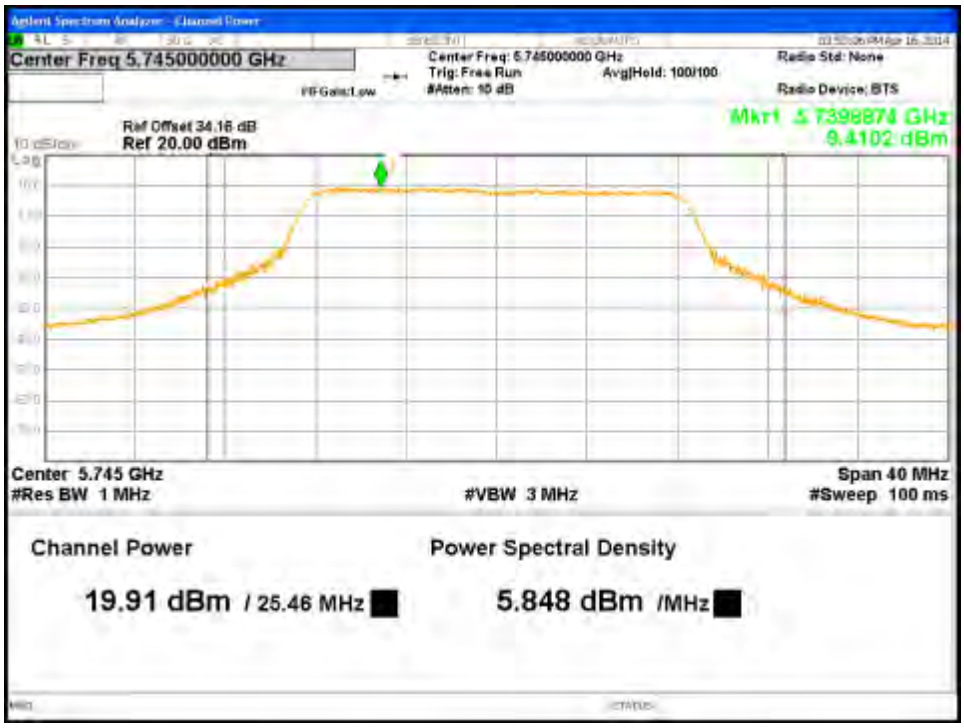


Figure 3: Maximum Conducted Output Power-5745MHz-11a-6Mpbs-Ch2

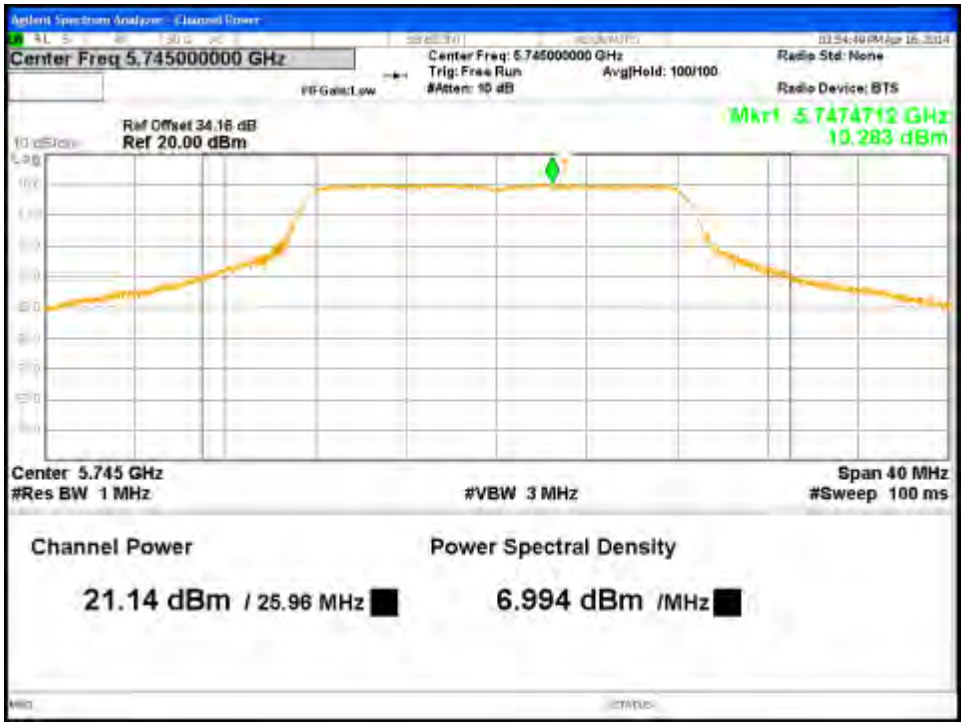


Figure 4: Maximum Conducted Output Power-5745MHz-11a-6Mpbs-Ch3

Figure 5: Maximum Conducted Output Power-5785MHz-11a-6Mpbs-Ch0

Figure 6: Maximum Conducted Output Power-5785MHz-11a-6Mpbs-Ch1

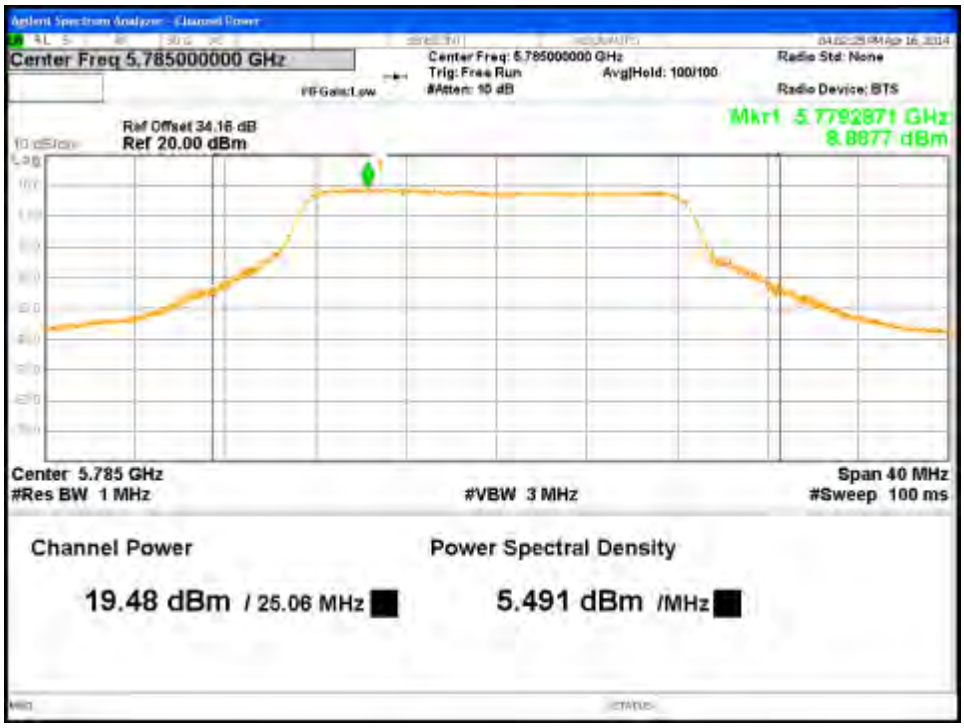


Figure 7: Maximum Conducted Output Power-5785MHz-11a-6Mpbs-Ch2

Figure 8: Maximum Conducted Output Power-5785MHz-11a-6Mpbs-Ch3

Figure 9: Maximum Conducted Output Power-5825MHz-11a-6Mpbs-Ch0

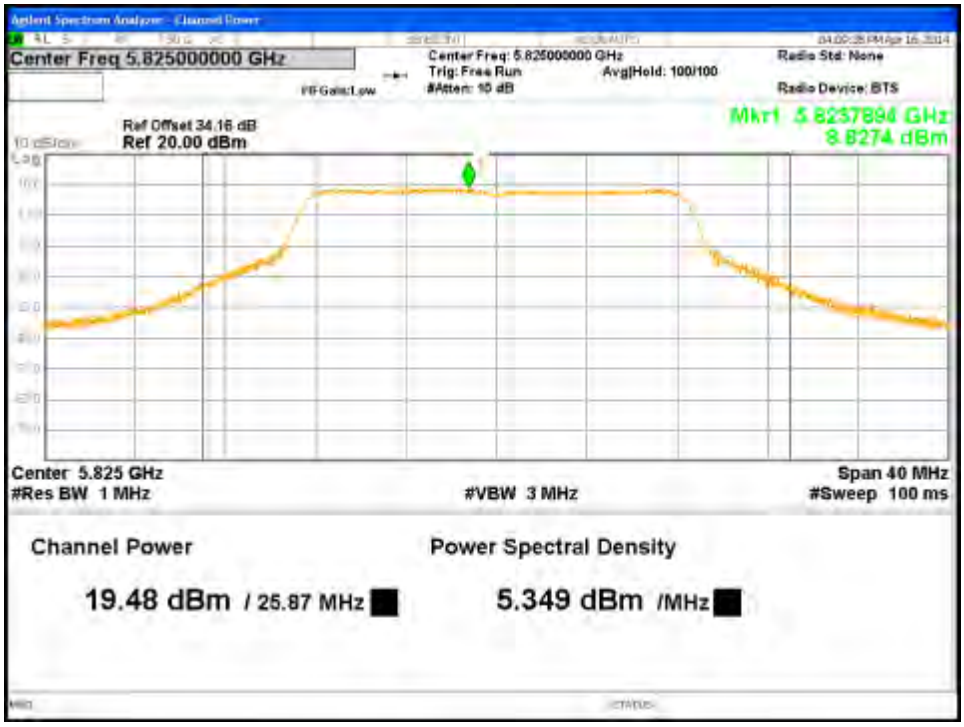


Figure 10: Maximum Conducted Output Power-5825MHz-11a-6Mpbs-Ch1

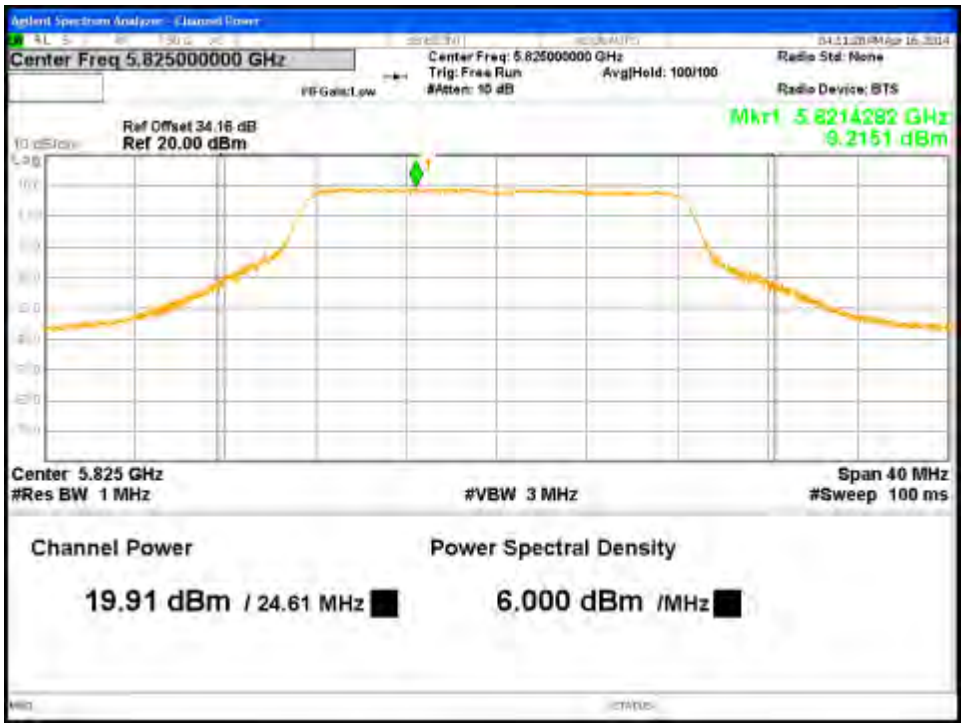


Figure 11: Maximum Conducted Output Power-5825MHz-11a-6Mpbs-Ch2

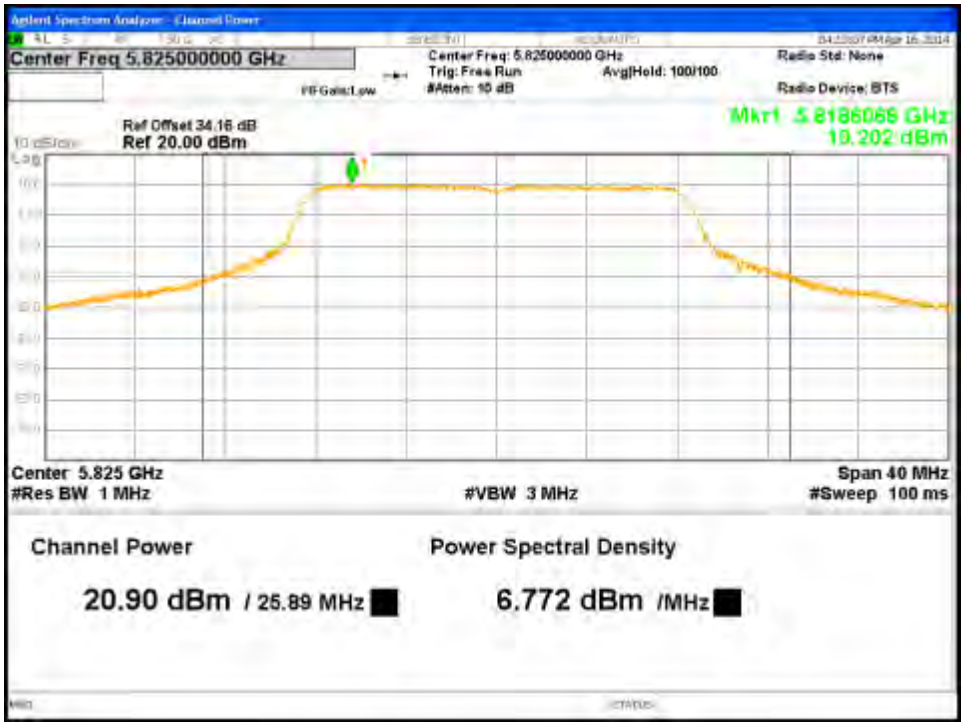


Figure 12: Maximum Conducted Output Power-5825MHz-11a-6Mpbs-Ch3

Figure 13: Maximum Conducted Output Power-5745MHz-HT20-MCS0-Ch0

Figure 14: Maximum Conducted Output Power-5745MHz-HT20-MCS0-Ch1

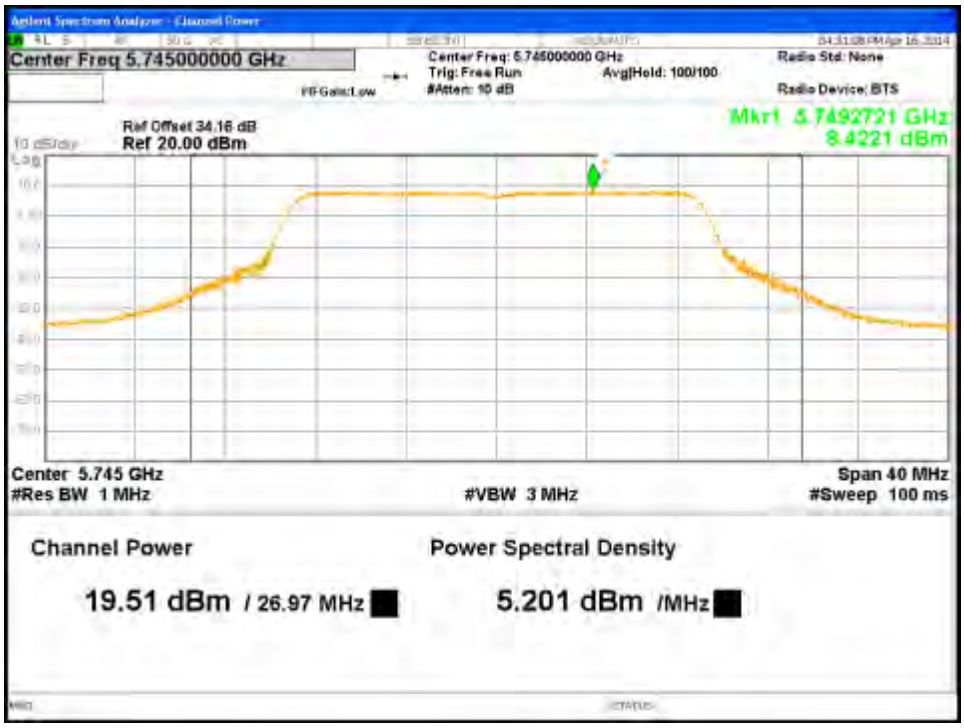


Figure 15: Maximum Conducted Output Power-5745MHz-HT20-MCS0-Ch2

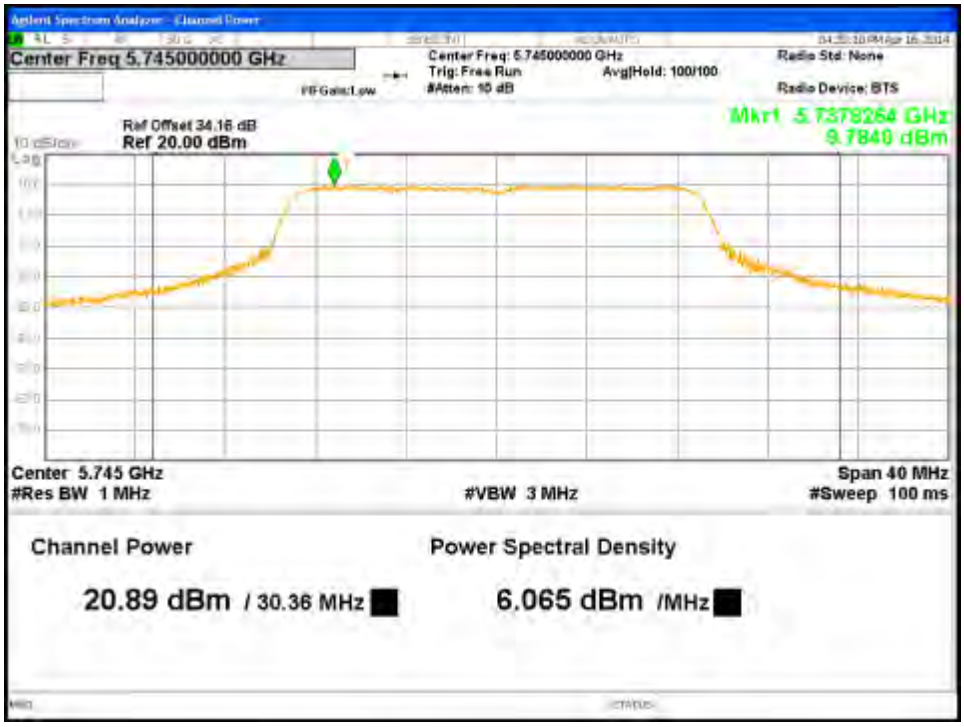


Figure 16: Maximum Conducted Output Power-5745MHz-HT20-MCS0-Ch3

Figure 17: Maximum Conducted Output Power-5785MHz-HT20-MCS0-Ch0

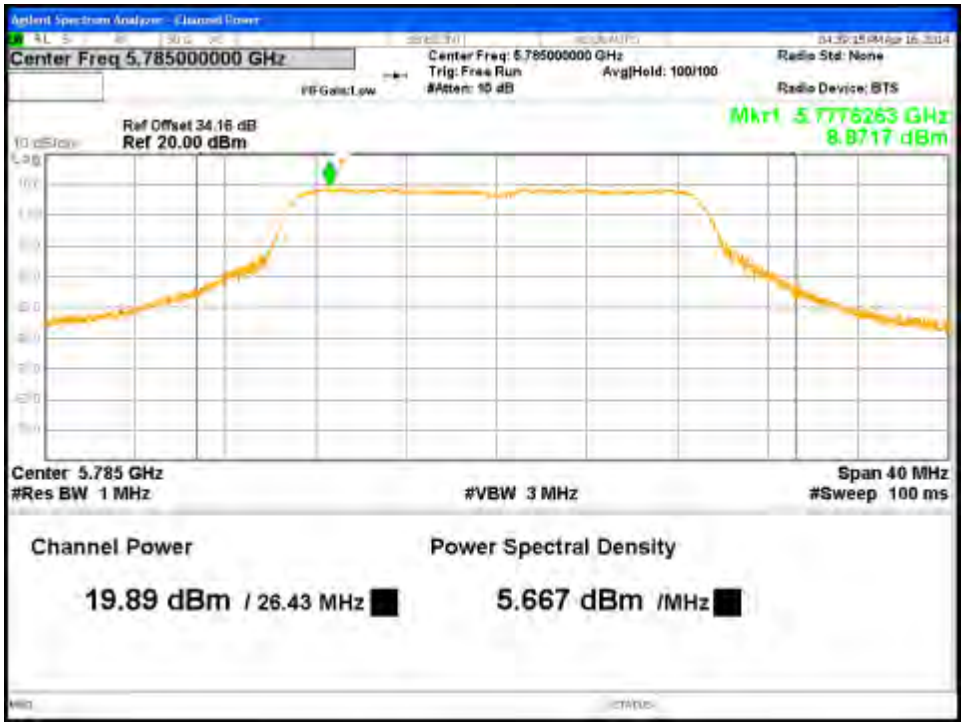


Figure 18: Maximum Conducted Output Power-5785MHz-HT20-MCS0-Ch1

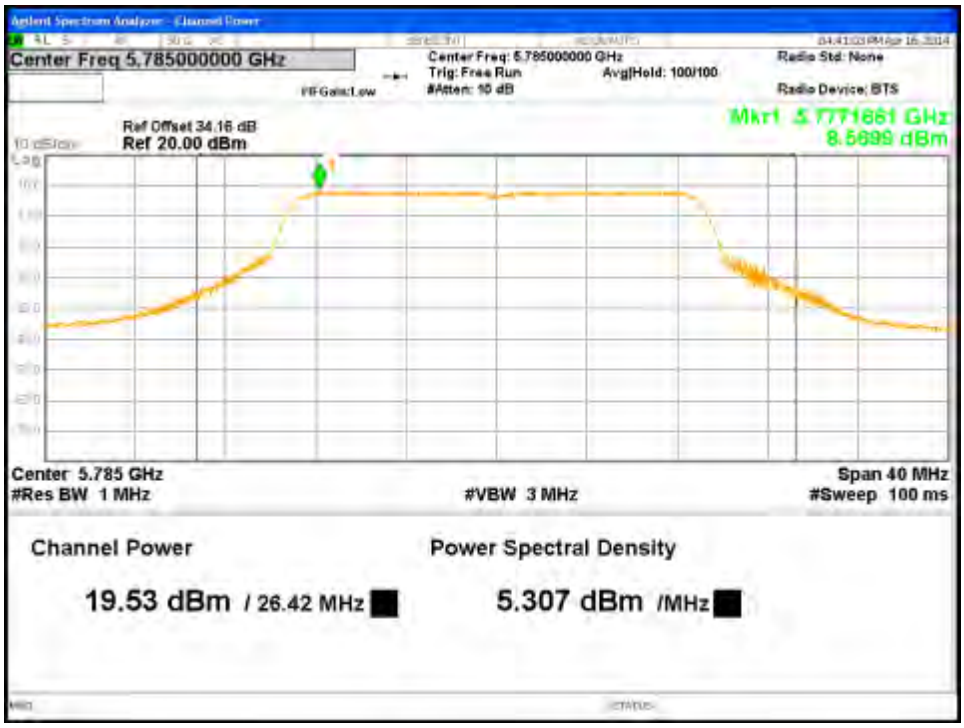


Figure 19: Maximum Conducted Output Power-5785MHz-HT20-MCS0-Ch2

Figure 20: Maximum Conducted Output Power-5785MHz-HT20-MCS0-Ch3

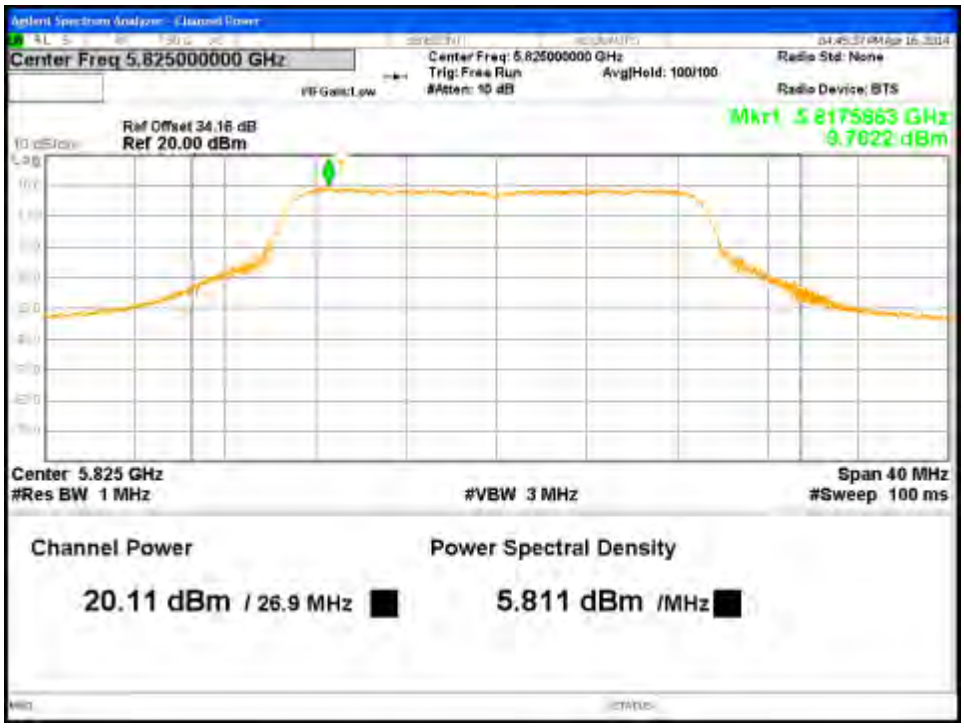


Figure 21: Maximum Conducted Output Power-5825MHz-HT20-MCS0-Ch0

Figure 22: Maximum Conducted Output Power-5825MHz-HT20-MCS0-Ch1

Figure 23: Maximum Conducted Output Power-5825MHz-HT20-MCS0-Ch2

Figure 24: Maximum Conducted Output Power-5825MHz-HT20-MCS0-Ch3

Figure 25: Maximum Conducted Output Power-5755MHz-HT40-MCS0-Ch0

Figure 26: Maximum Conducted Output Power-5755MHz-HT40-MCS0-Ch1

Figure 27: Maximum Conducted Output Power-5755MHz-HT40-MCS0-Ch2

Figure 28: Maximum Conducted Output Power-5755MHz-HT40-MCS0-Ch3

Figure 29: Maximum Conducted Output Power-5795MHz-HT40-MCS0-Ch0

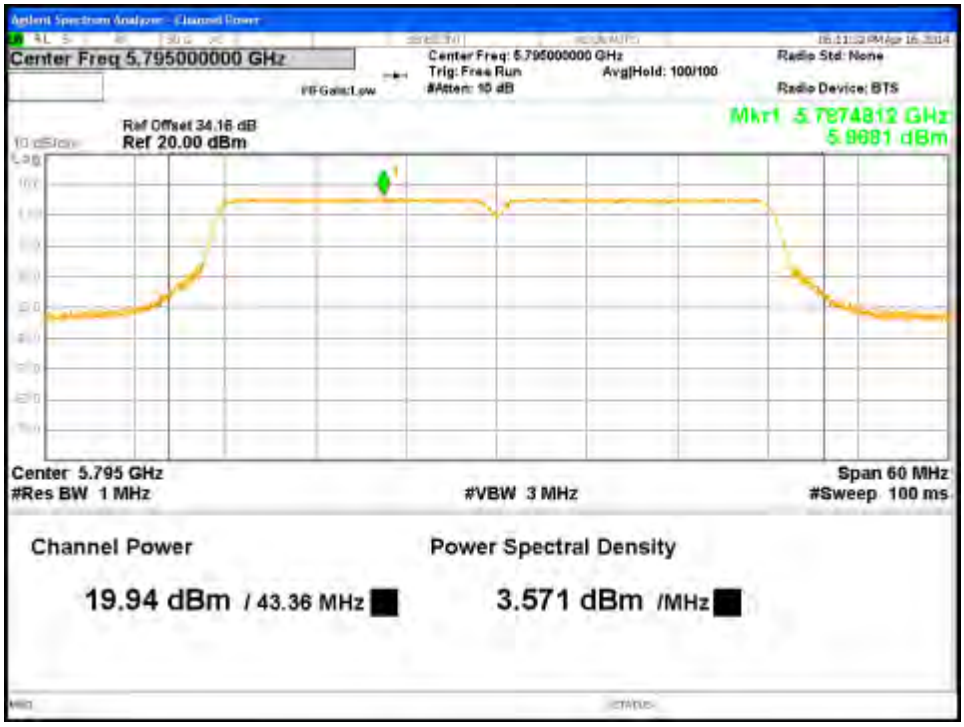


Figure 30: Maximum Conducted Output Power-5795MHz-HT40-MCS0-Ch1

Figure 31: Maximum Conducted Output Power-5795MHz-HT40-MCS0-Ch2

Figure 32: Maximum Conducted Output Power-5795MHz-HT40-MCS0-Ch3

Figure 33: Maximum Conducted Output Power-5745MHz-VHT20-MCS0-Ch0

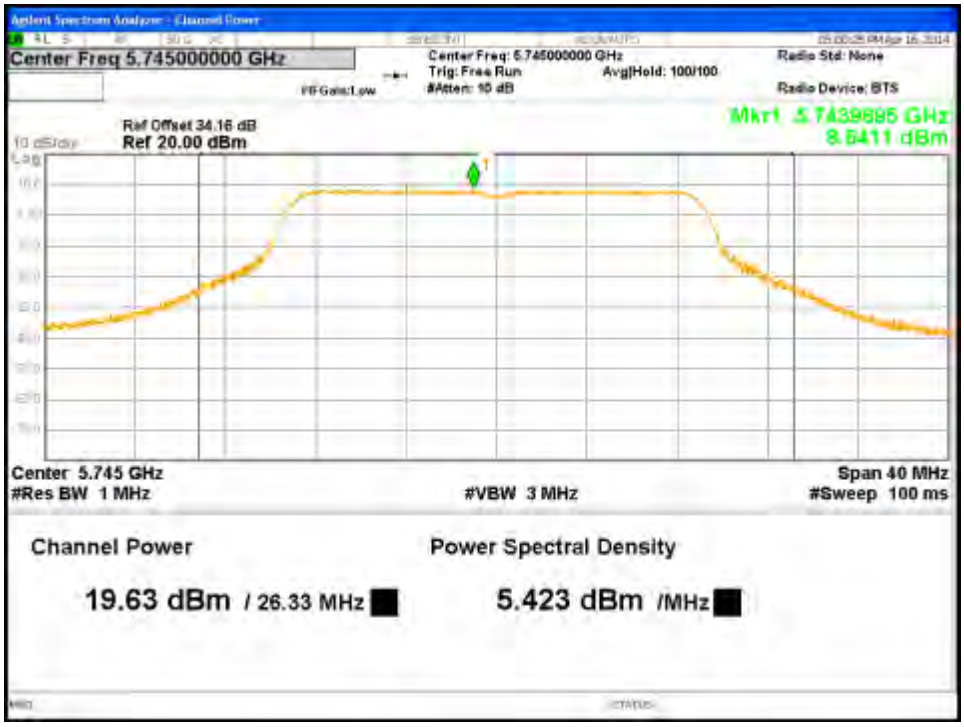


Figure 34: Maximum Conducted Output Power-5745MHz-VHT20-MCS0-Ch1

Figure 35: Maximum Conducted Output Power-5745MHz-VHT20-MCS0-Ch2

Figure 36: Maximum Conducted Output Power-5745MHz-VHT20-MCS0-Ch3

Figure 37: Maximum Conducted Output Power-5785MHz-VHT20-MCS0-Ch0

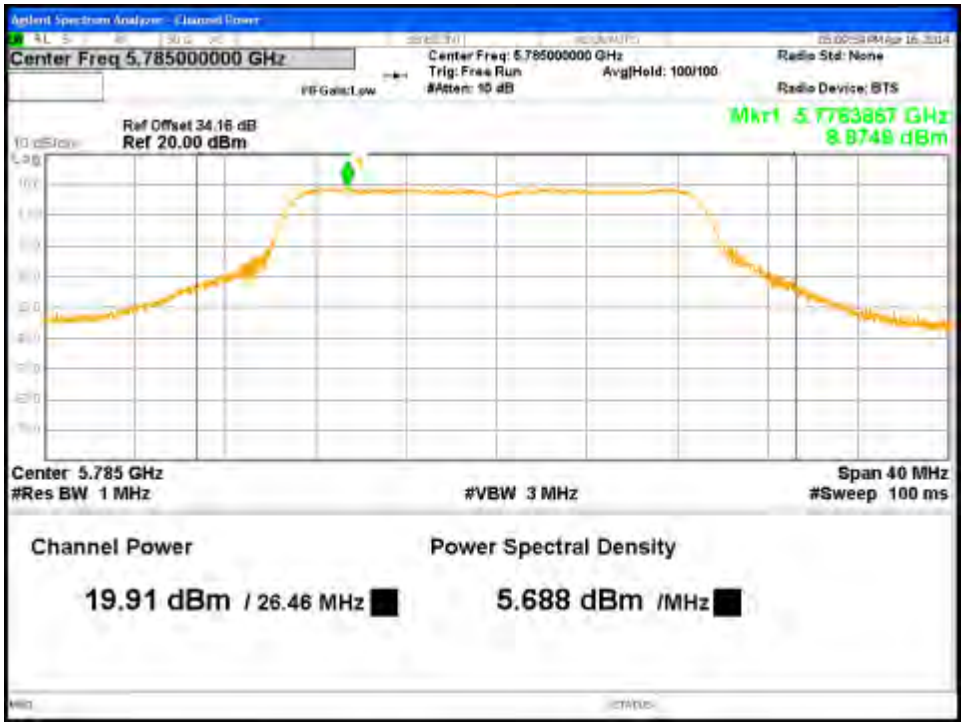


Figure 38: Maximum Conducted Output Power-5785MHz-VHT20-MCS0-Ch1

Figure 39: Maximum Conducted Output Power-5785MHz-VHT20-MCS0-Ch2

Figure 40: Maximum Conducted Output Power-5785MHz-VHT20-MCS0-Ch3

Figure 41: Maximum Conducted Output Power-5825MHz-VHT20-MCS0-Ch0

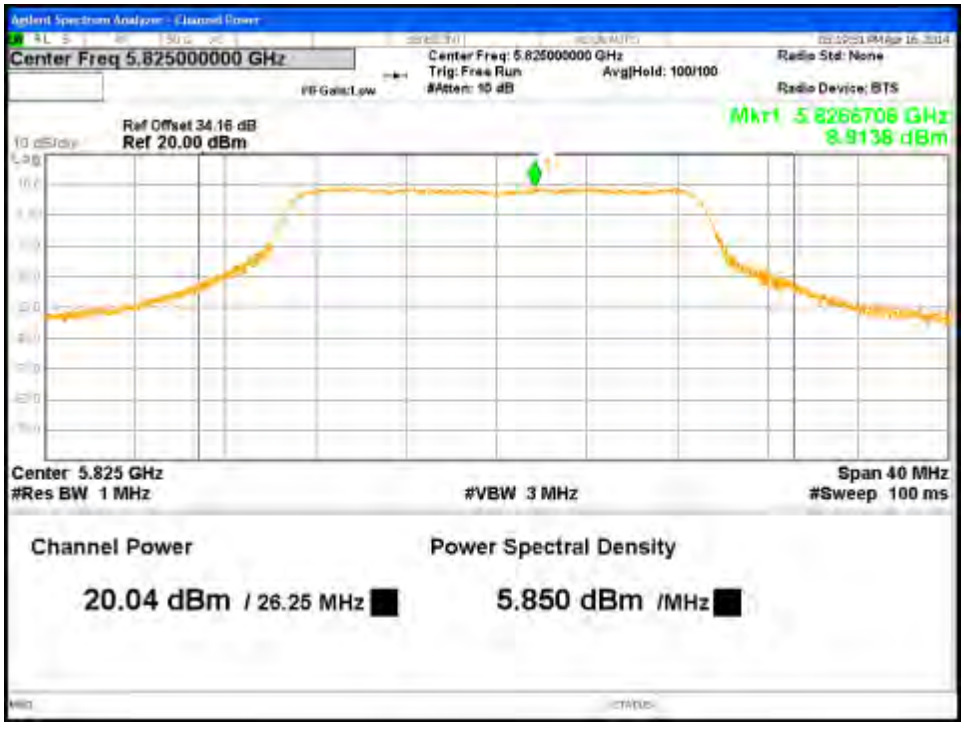


Figure 42: Maximum Conducted Output Power-5825MHz-VHT20-MCS0-Ch1

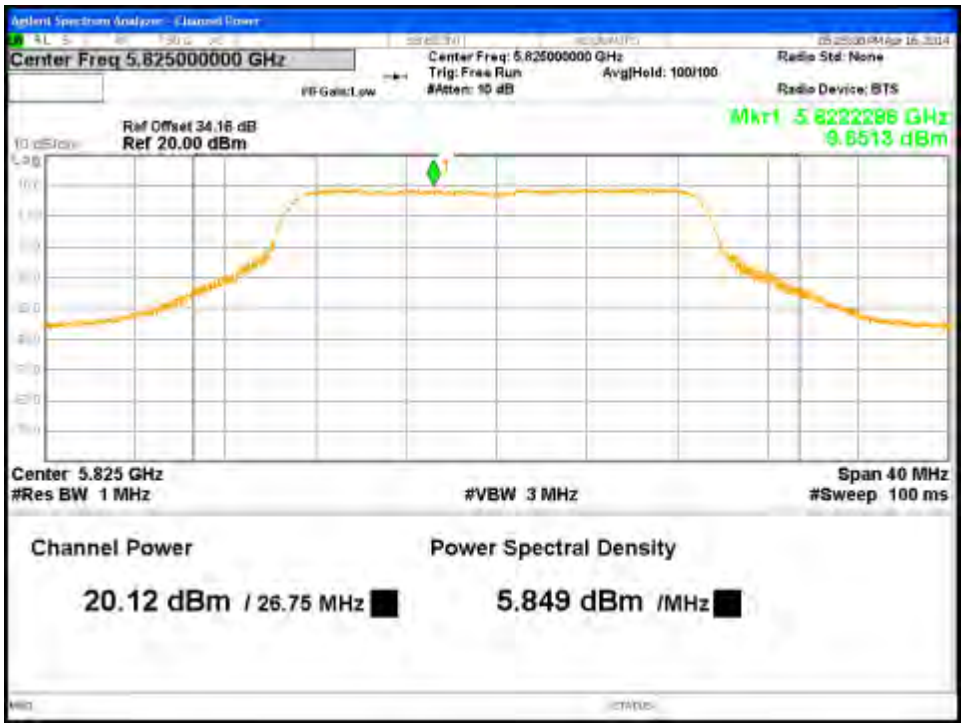


Figure 43: Maximum Conducted Output Power-5825MHz-VHT20-MCS0-Ch2

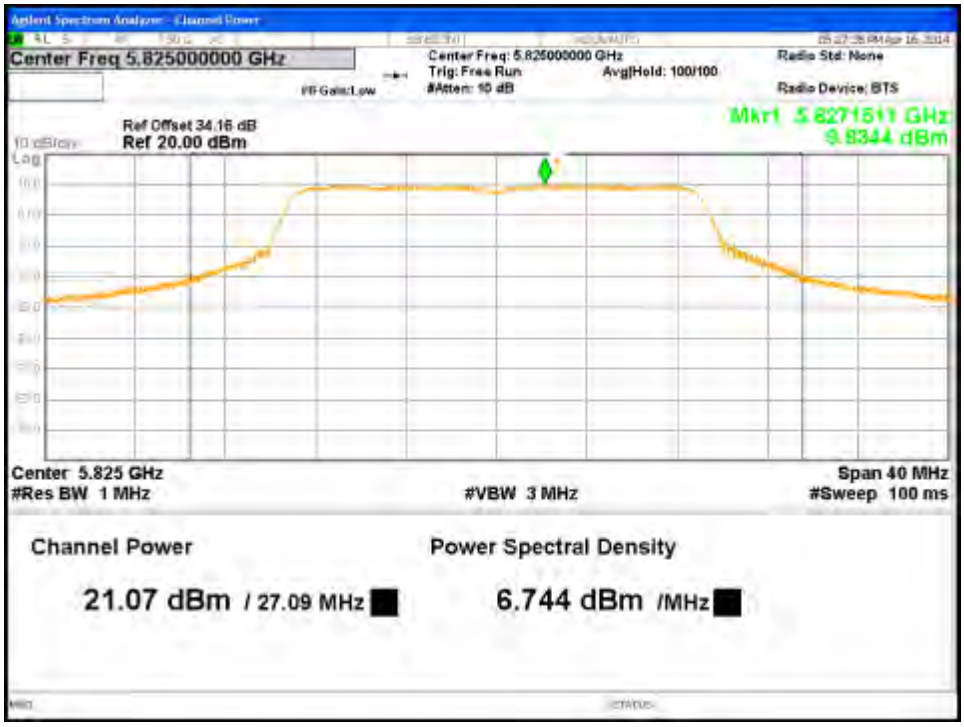


Figure 44: Maximum Conducted Output Power-5825MHz-VHT20-MCS0-Ch3

Figure 45: Maximum Conducted Output Power-5755MHz-VHT40-MCS0-Ch0

Figure 46: Maximum Conducted Output Power-5755MHz-VHT40-MCS0-Ch1

Figure 47: Maximum Conducted Output Power-5755MHz-VHT40-MCS0-Ch2

Figure 48: Maximum Conducted Output Power-5755MHz-VHT40-MCS0-Ch3

Figure 49: Maximum Conducted Output Power-5795MHz-VHT40-MCS0-Ch0

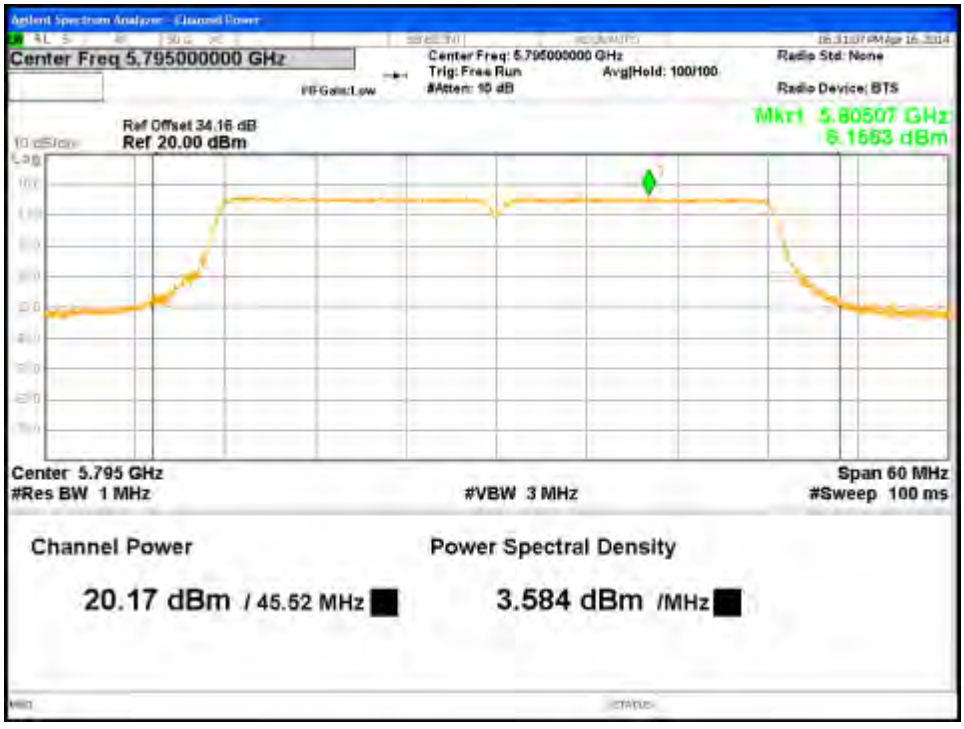


Figure 50: Maximum Conducted Output Power-5795MHz-VHT40-MCS0-Ch1

Figure 51: Maximum Conducted Output Power-5795MHz-VHT40-MCS0-Ch2

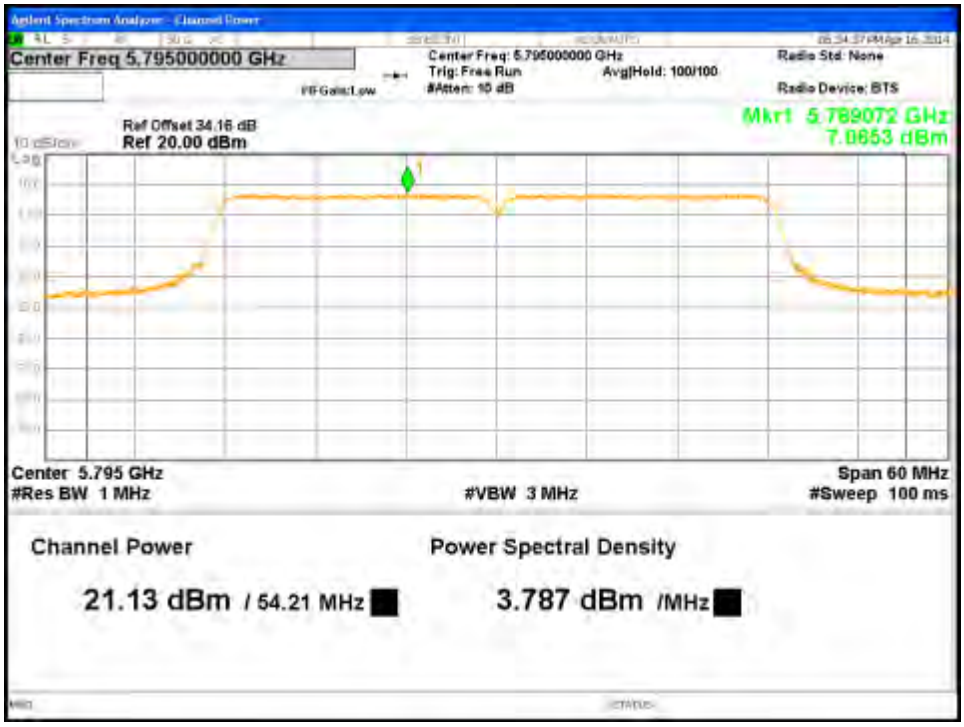


Figure 52: Maximum Conducted Output Power-5795MHz-VHT40-MCS0-Ch3

Figure 53: Maximum Conducted Output Power-5775MHz-VHT80-MCS0-Ch0

Figure 54: Maximum Conducted Output Power-5775MHz-VHT80-MCS0-Ch1

Figure 55: Maximum Conducted Output Power-5775MHz-VHT80-MCS0-Ch2

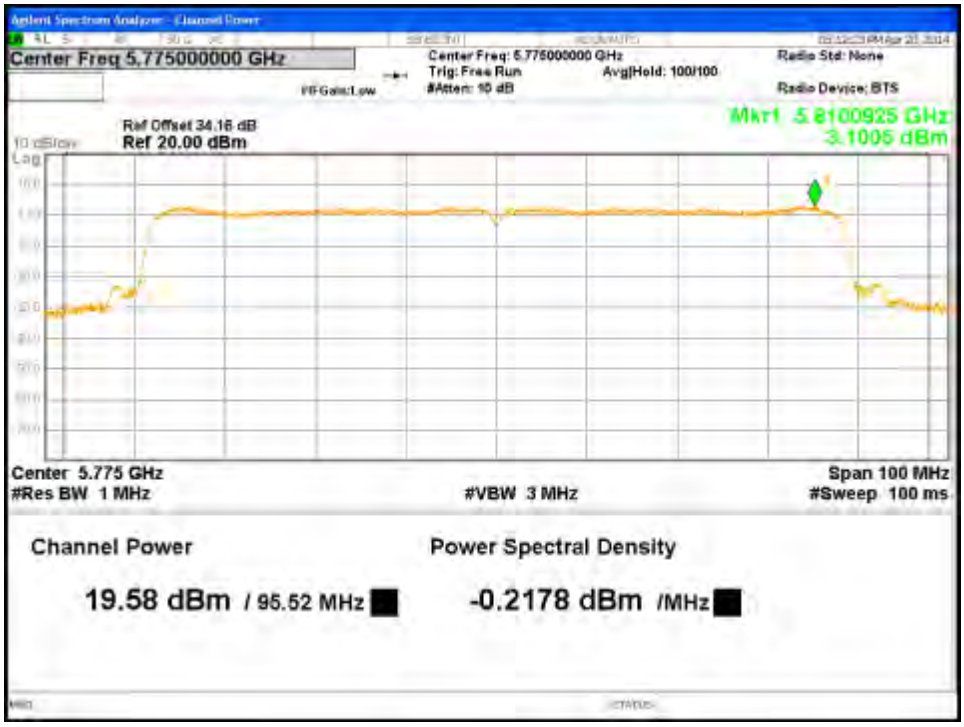


Figure 56: Maximum Conducted Output Power-5775MHz-VHT80-MCS0-Ch3

4.2 Occupied Bandwidth

The occupied bandwidth is measured at an amplitude level reduced from the reference level by a specified ratio. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency.

The 99% bandwidth is the bandwidth in which 99% of the transmitted power occupied.

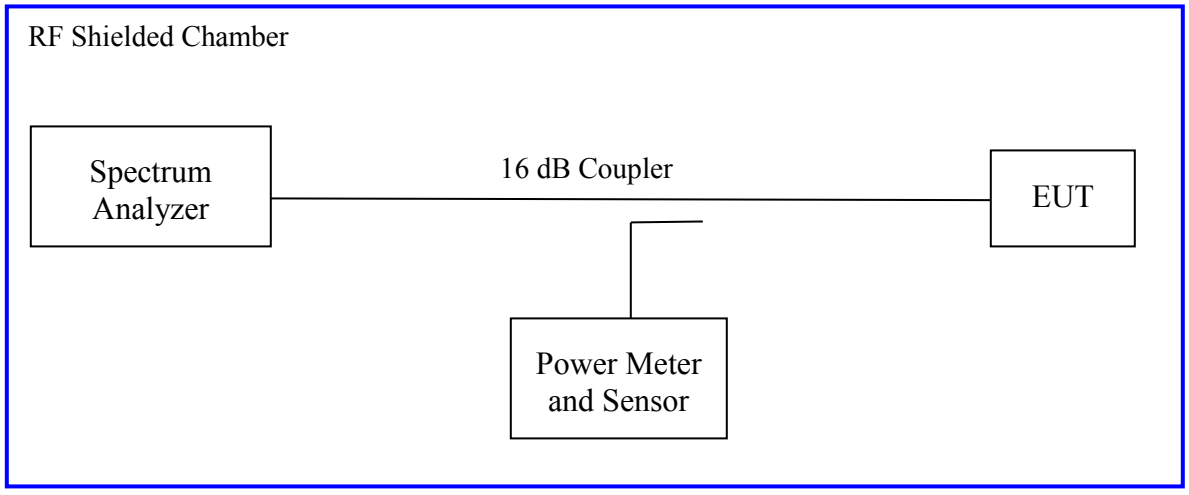
The DTS bandwidth is defined the bandwidth of 6 dBr from highest transmitted level of the fundamental frequency.

The bandwidth shall be at least 500 kHz per Section CFR47 15.247(a2) 2013 and RSS Gen Sect. 4.4.1: 2010.

4.2.1 Test Method

The conducted method was used to measure the occupied bandwidth. The measurement was performed with modulation per CFR47 15.247(a2) 2012 and RSS Gen Sect. 4.4.1:2010. The preliminary investigation was performed to find the narrowest 6 dB bandwidth for each operational mode at different data rates. This worst finding was performed on 3 channels in each operating frequency range; 5725 MHz to 5850 MHz on the sample, S/N 121404000111. The results indicated below.

Test Setup:



4.2.2 Results

These occupied bandwidth measurements were taken for references only.

Table 4: Occupied Bandwidth – Test Results

Test Conditions: Conducted Measurement			**Test Date:** April 16, 2014			
Antenna Type: Integrated			**Power Setting:** See test plan			
Max. Directional Gain: + 8.08 dBi			**Signal State:** Modulated			
Ambient Temp.: 22 °C			**Relative Humidity:**30%			
Bandwidth (MHz) for 802.11a						
Freq. (MHz)	**Limit (kHz)**	**DTS Bandwidth (MHz)**				
		Ch0	**Ch1**	**Ch2**	**Ch3**	**Results**
5745	500	16.433	16.418	16.388	16.388	Pass
5785	500	16.373	16.418	16.403	16.418	Pass
5825	500	16.343	16.403	16.433	16.373	Pass
Freq. (MHz)	**Limit (kHz)**	**99% Bandwidth (MHz)**				
		Ch0	**Ch1**	**Ch2**	**Ch3**	**Results**
5745		17.01	16.99	16.94	17.01	
5785		16.98	17.01	16.93	17.02	
5825		16.92	17.05	16.91	17.00	
Note: The narrowest bandwidth was observed at 802.11a, 6 Mbps						

Bandwidth (MHz) for 802.11n HT20						
Freq. (MHz)	**Limit (kHz)**	**DTS Bandwidth (MHz)**				
		Ch0	**Ch1**	**Ch2**	**Ch3**	**Results**
5745	500	17.694	17.619	17.619	17.664	Pass
5785	500	17.619	17.604	17.697	17.634	Pass
5825	500	17.604	17.634	17.694	17.619	Pass

Freq. (MHz)	Limit (kHz)	99% Bandwidth (MHz)				
		Ch0	Ch1	Ch2	Ch3	Results
5745		18.29	18.23	18.26	18.31	
5785		18.29	18.25	18.26	18.32	
5825		18.29	18.26	18.27	18.33	
Note: The narrowest bandwidth was observed at 802.11n HT20, MCS0						
Bandwidth (MHz) for 802.11n HT40						
Freq. (MHz)	**Limit (kHz)**	**DTS Bandwidth (MHz)**				
		Ch0	**Ch1**	**Ch2**	**Ch3**	**Results**
5755	500	36.330	36.356	36.305	36.330	Pass
5795	500	36.305	36.356	36.330	36.330	Pass
Freq. (MHz)	**Limit (kHz)**	**99% Bandwidth (MHz)**				
		Ch0	**Ch1**	**Ch2**	**Ch3**	**Results**
5755		36.50	36.52	36.49	36.63	
5795		36.52	36.53	36.52	36.60	
Note: The bandwidth was observed at 802.11n HT40, MCS0						
Bandwidth (MHz) for 802.11ac VHT20						
Freq. (MHz)	**Limit (kHz)**	**DTS Bandwidth (MHz)**				
		Ch0	**Ch1**	**Ch2**	**Ch3**	**Results**
5745	500	17.619	17.619	17.604	17.619	Pass
5785	500	17.619	17.664	17.694	17.619	Pass
5825	500	17.589	17.619	17.724	17.604	Pass
Freq. (MHz)	**Limit (kHz)**	**99% Bandwidth (MHz)**				
		Ch0	**Ch1**	**Ch2**	**Ch3**	**Results**
5745		18.35	18.22	18.32	18.33	
5785		18.35	18.23	18.32	18.31	
5825		18.34	18.24	18.33	18.32	

Note: The narrowest bandwidth was observed at 802.11n HT20, MCS0						
Bandwidth (MHz) for 802.11ac VHT40						
Freq. (MHz)	**Limit (kHz)**	**DTS Bandwidth (MHz)**				
		Ch0	**Ch1**	**Ch2**	**Ch3**	**Results**
5755	500	36.305	36.330	36.254	36.330	Pass
5795	500	35.845	36.356	36.279	36.305	Pass
Freq. (MHz)	**Limit (kHz)**	**99% Bandwidth (MHz)**				
		Ch0	**Ch1**	**Ch2**	**Ch3**	**Results**
5755		36.51	36.65	36.49	36.73	
5795		36.52	36.64	36.53	36.71	
Note: The bandwidth was observed at 802.11n HT40, MCS0						
Bandwidth (MHz) for 802.11ac VHT80						
Freq. (MHz)	**Limit (kHz)**	**DTS Bandwidth (MHz)**				
		Ch0	**Ch1**	**Ch2**	**Ch3**	**Results**
5755	500	75.44	74.49	75.14	75.09	Pass
Freq. (MHz)	**Limit (kHz)**	**99% Bandwidth (MHz)**				
		Ch0	**Ch1**	**Ch2**	**Ch3**	**Results**
5755		75.48	75.56	75.46	75.72	
Note: The bandwidth was observed at 802.11n HT80, MCS0						

Figure 57: DTS Bandwidth-5745MHz-11a-6Mbps-Ch0

Figure 58: DTS Bandwidth-5745MHz-11a-6Mbps-Ch1

Figure 59: DTS Bandwidth-5745MHz-11a-6Mbps-Ch2

Figure 60: DTS Bandwidth-5745MHz-11a-6Mbps-Ch3

Figure 61: DTS Bandwidth-5785MHz-11a-6Mbps-Ch0

Figure 62: DTS Bandwidth-5785MHz-11a-6Mbps-Ch1

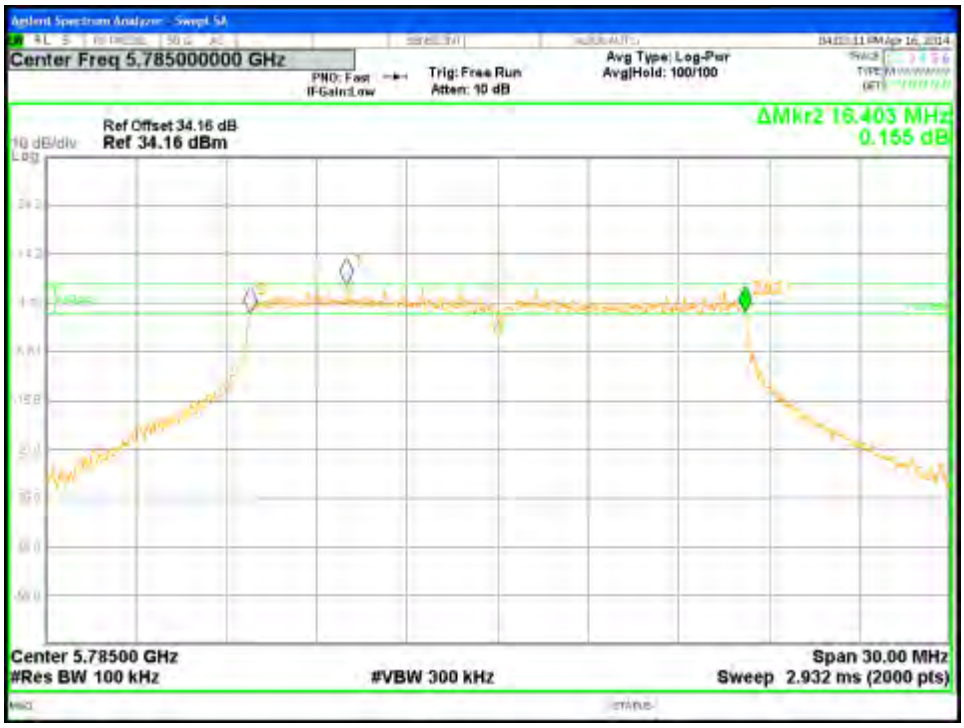


Figure 63: DTS Bandwidth-5785MHz-11a-6Mbps-Ch2

Figure 64: DTS Bandwidth-5785MHz-11a-6Mbps-Ch3

Figure 65: DTS Bandwidth-5825MHz-11a-6Mbps-Ch0

Figure 66: DTS Bandwidth-5825MHz-11a-6Mbps-Ch1

Figure 67: DTS Bandwidth-5825MHz-11a-6Mbps-Ch2

Figure 68: DTS Bandwidth-5825MHz-11a-6Mbps-Ch3

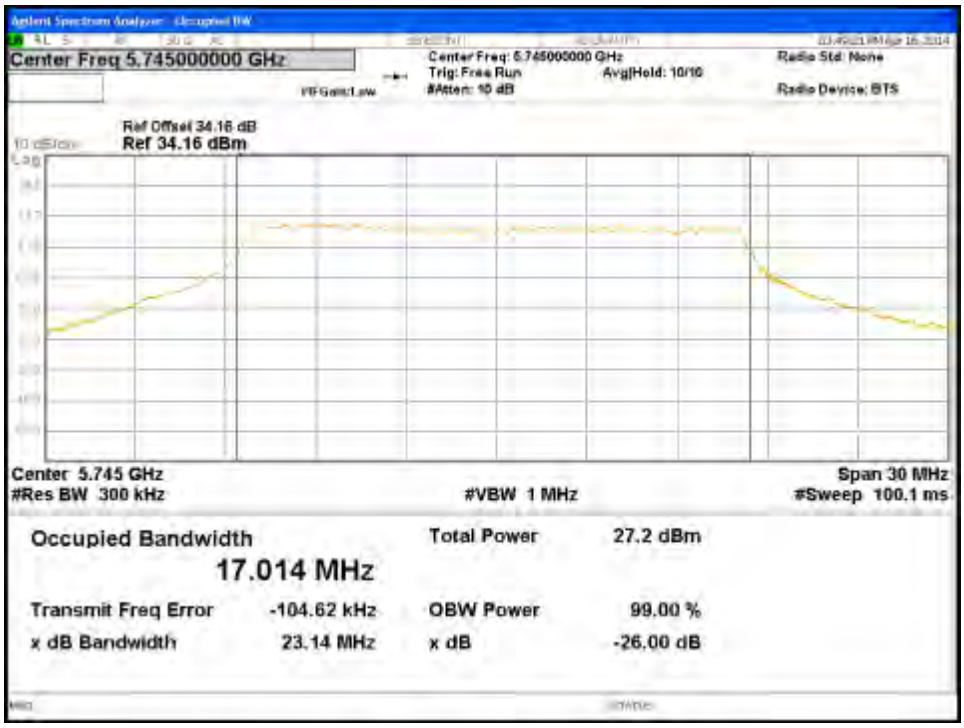


Figure 69: 99% Bandwidth-5745MHz-11a-6Mbps-Ch0

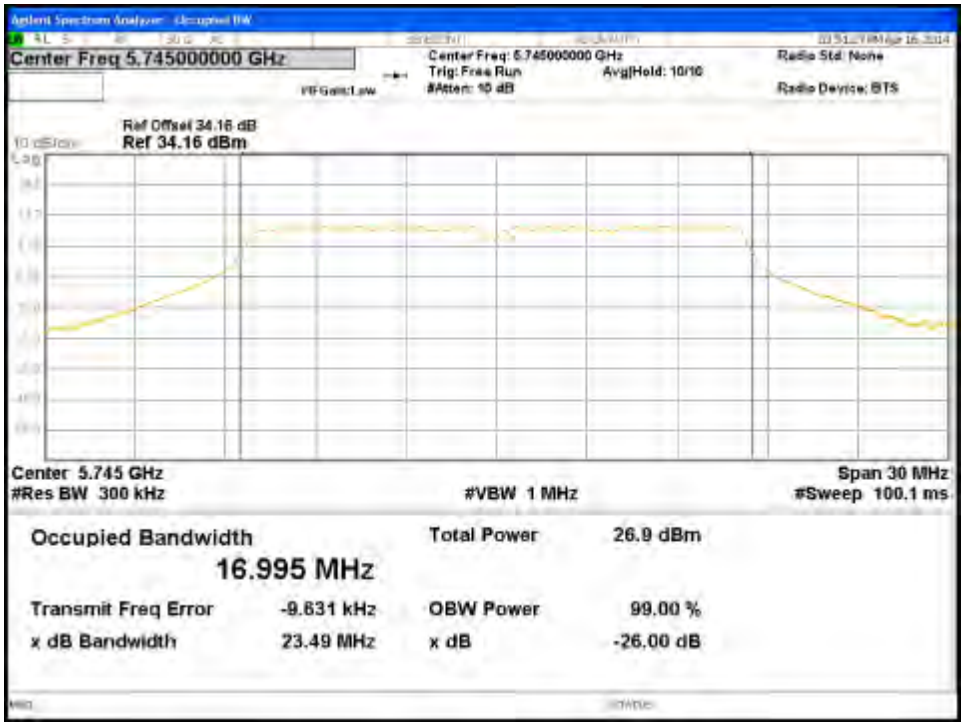


Figure 70: 99% Bandwidth-5745MHz-11a-6Mbps-Ch1

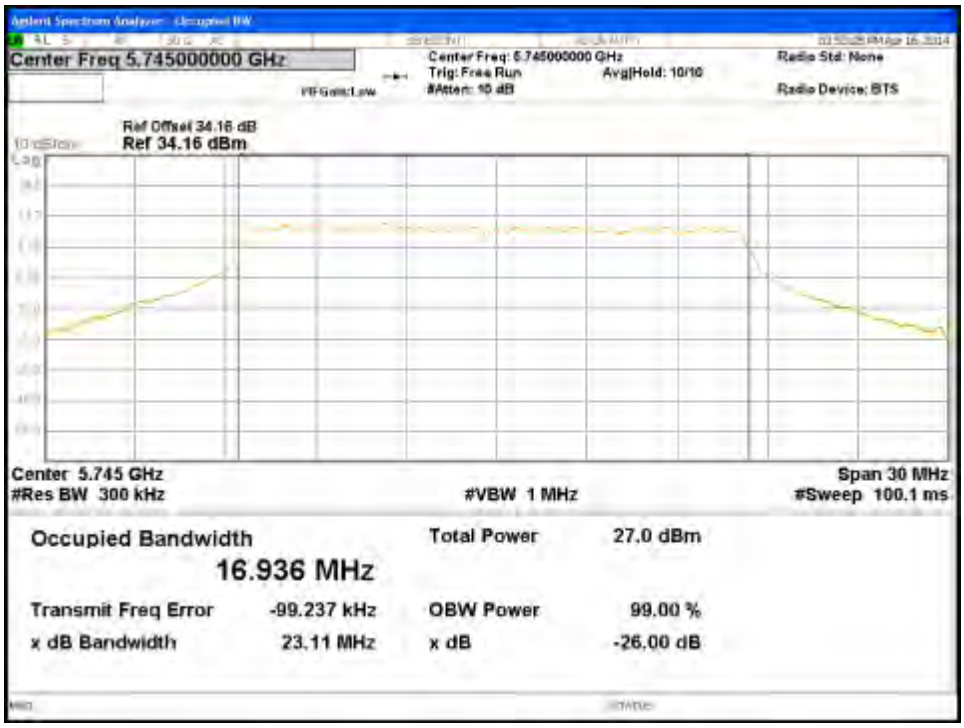


Figure 71: 99% Bandwidth-5745MHz-11a-6Mbps-Ch2

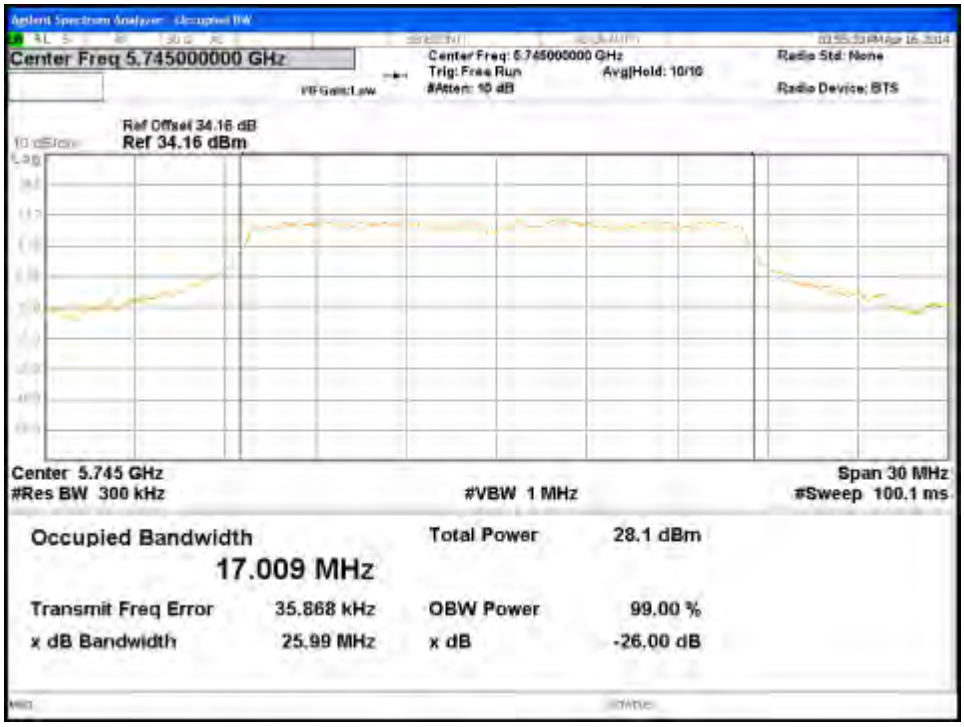


Figure 72: 99% Bandwidth-5745MHz-11a-6Mbps-Ch3

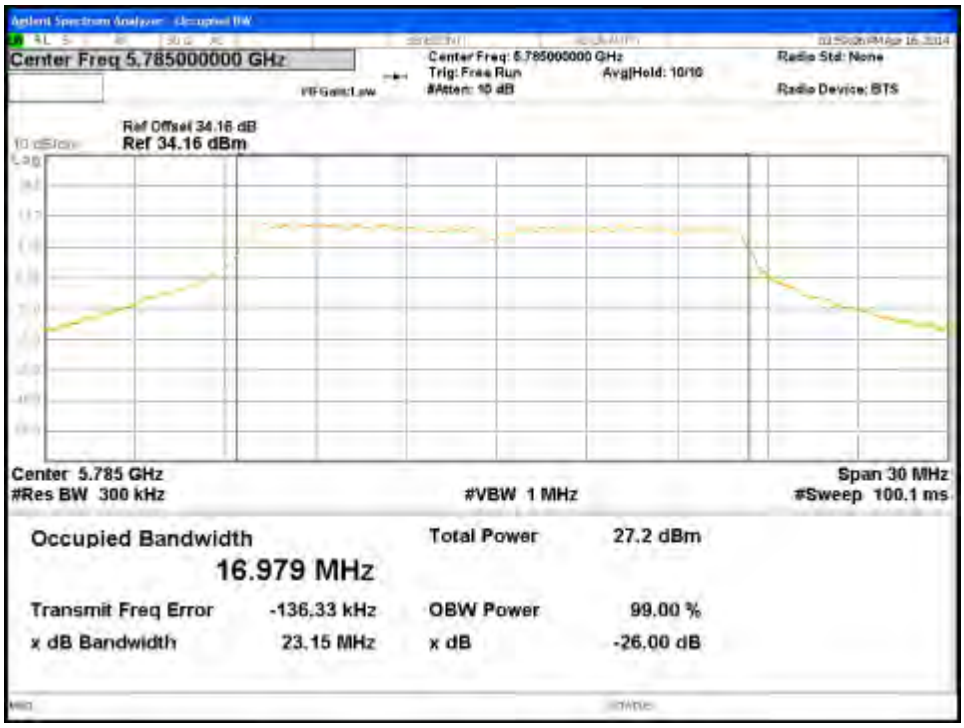


Figure 73: 99% Bandwidth-5785MHz-11a-6Mbps-Ch0

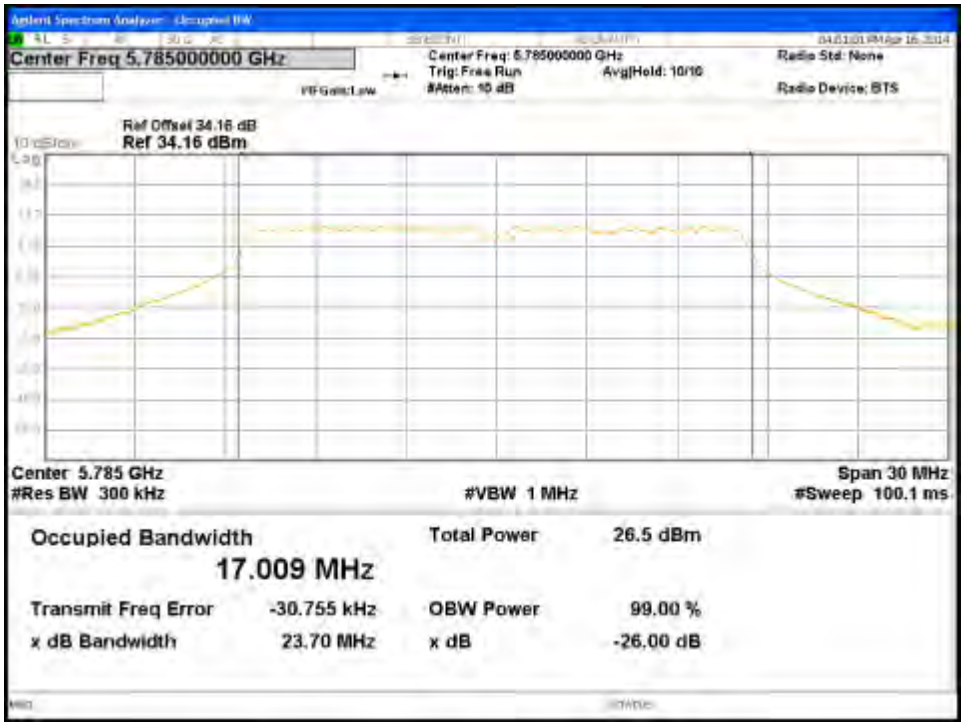


Figure 74: 99% Bandwidth-5785MHz-11a-6Mbps-Ch1

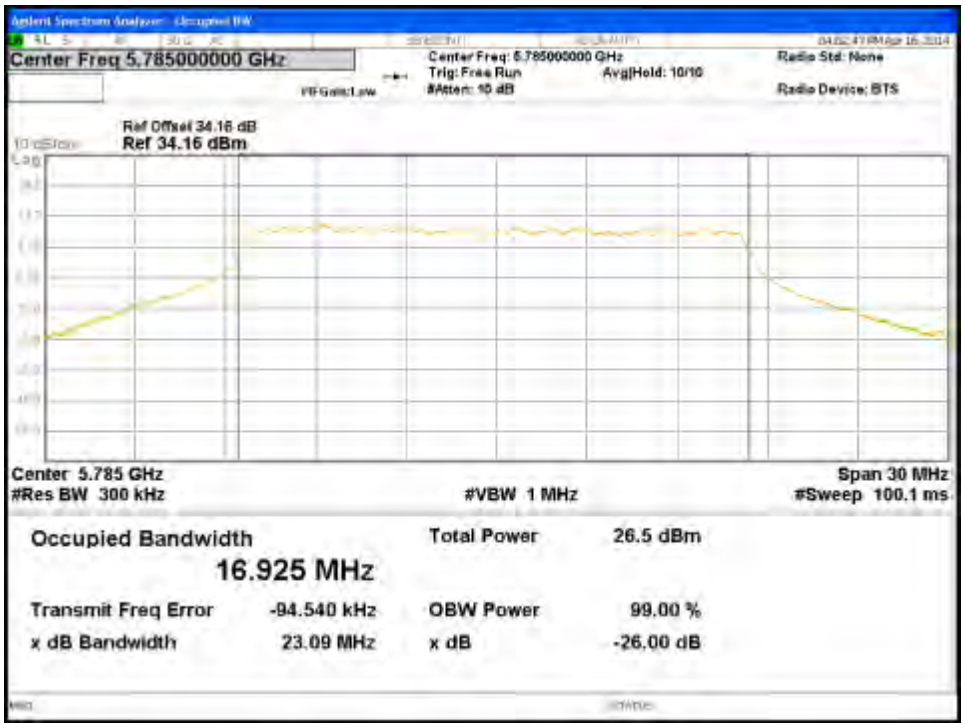


Figure 75: 99% Bandwidth-5785MHz-11a-6Mbps-Ch2

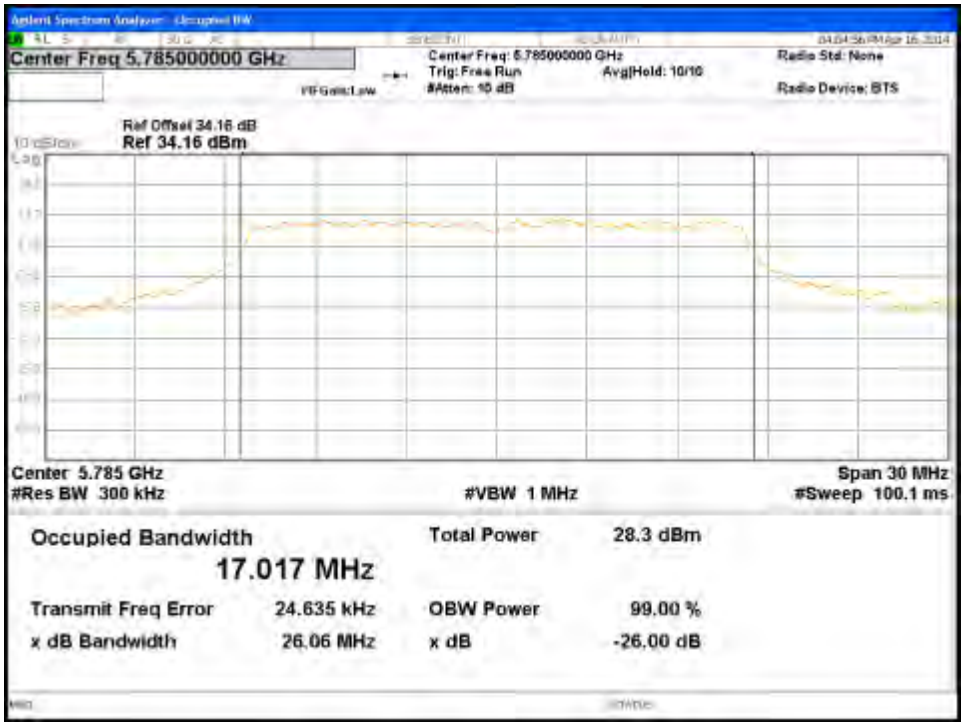


Figure 76: 99% Bandwidth-5785MHz-11a-6Mbps-Ch3

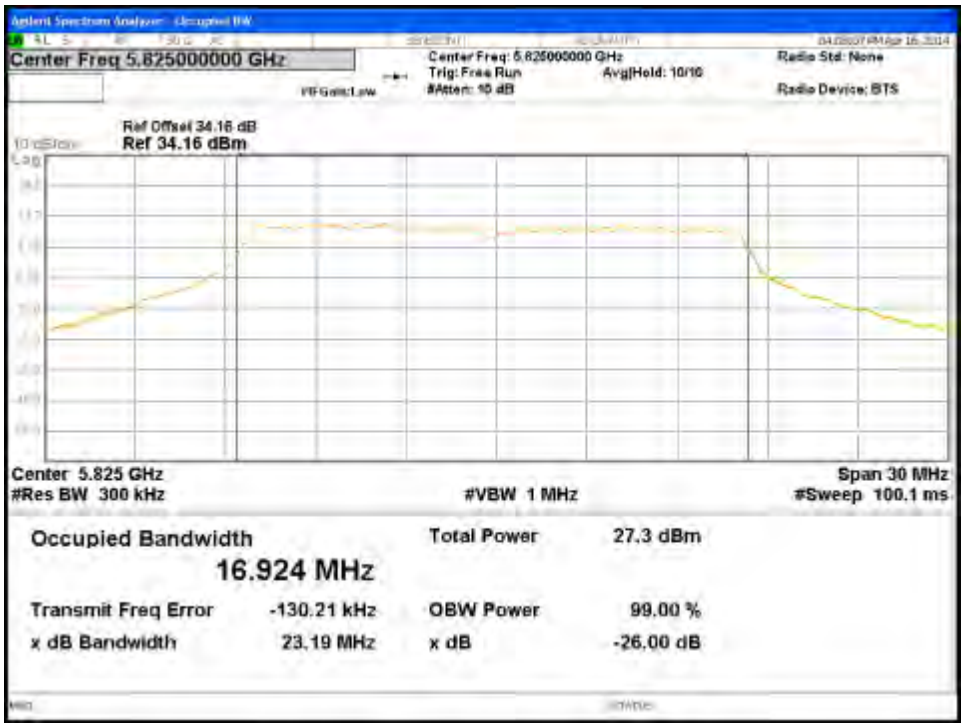


Figure 77: 99% Bandwidth-5825MHz-11a-6Mbps-Ch0

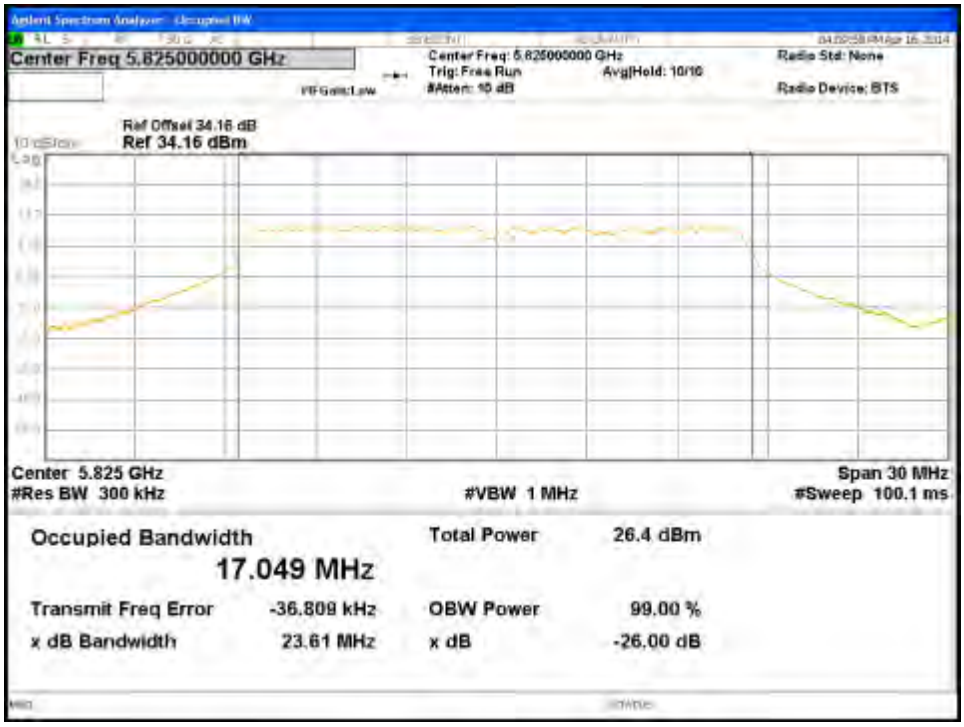


Figure 78: 99% Bandwidth-5825MHz-11a-6Mbps-Ch1

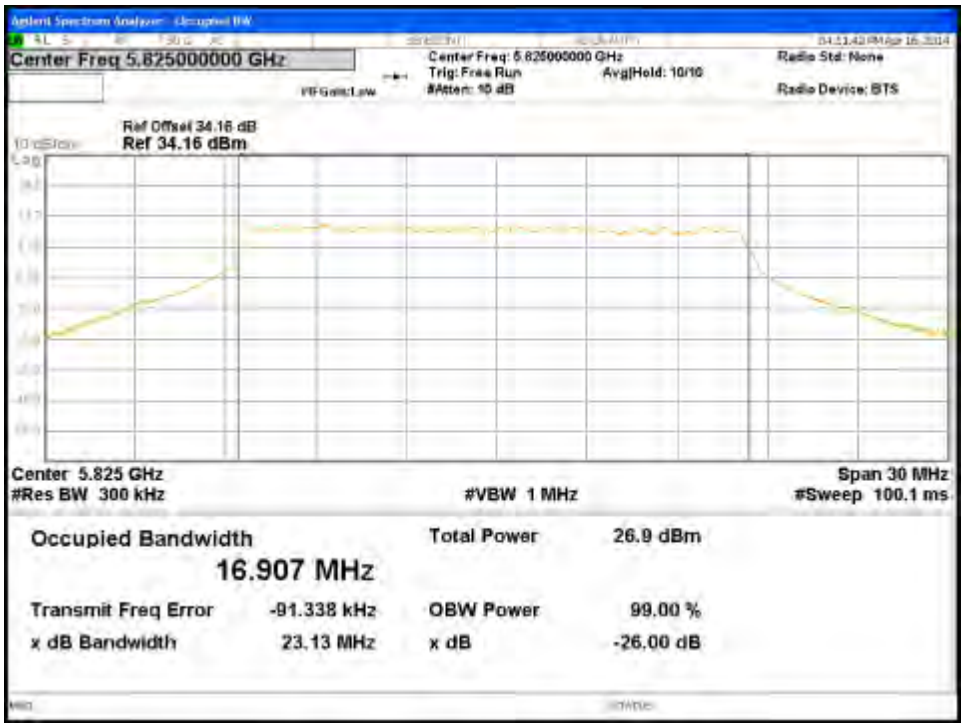


Figure 79: 99% Bandwidth-5825MHz-11a-6Mbps-Ch2

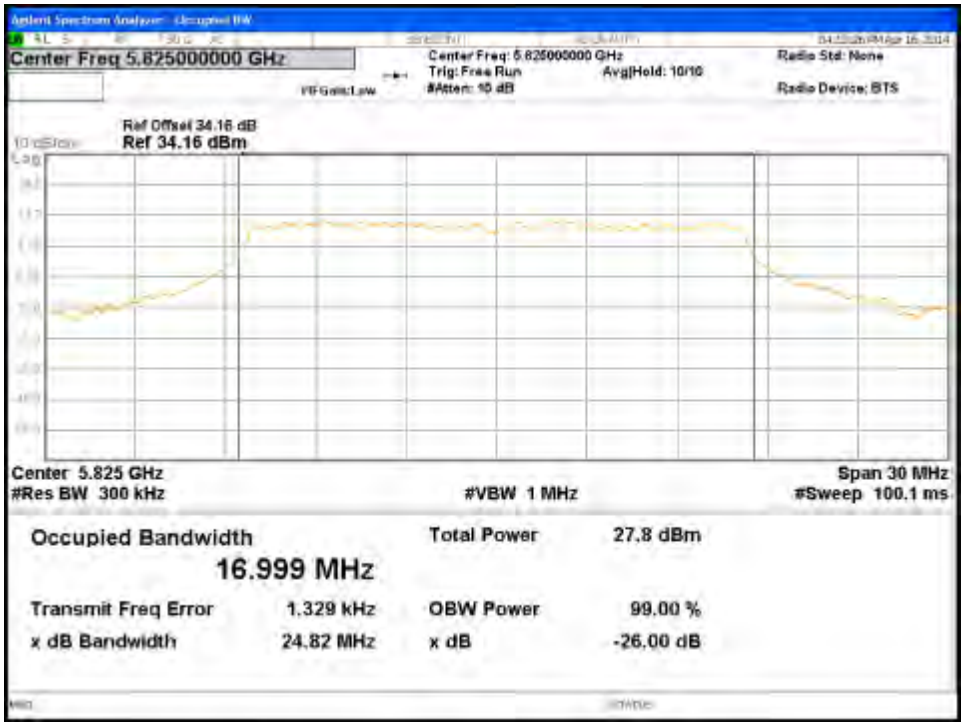


Figure 80: 99% Bandwidth-5825MHz-11a-6Mbps-Ch3

Figure 81: DTS Bandwidth-5745MHz-HT20-MCS0-Ch0

Figure 82: DTS Bandwidth-5745MHz-HT20-MCS0-Ch1

Figure 83: DTS Bandwidth-5745MHz-HT20-MCS0-Ch2

Figure 84: DTS Bandwidth-5745MHz-HT20-MCS0-Ch3

Figure 85: DTS Bandwidth-5785MHz-HT20-MCS0-Ch0

Figure 86: DTS Bandwidth-5785MHz-HT20-MCS0-Ch1

Figure 87: DTS Bandwidth-5785MHz-HT20-MCS0-Ch2

Figure 88: DTS Bandwidth-5785MHz-HT20-MCS0-Ch3

Figure 89: DTS Bandwidth-5825MHz-HT20-MCS0-Ch0

Figure 90: DTS Bandwidth-5825MHz-HT20-MCS0-Ch1

Figure 91: DTS Bandwidth-5825MHz-HT20-MCS0-Ch2

Figure 92: DTS Bandwidth-5825MHz-HT20-MCS0-Ch3

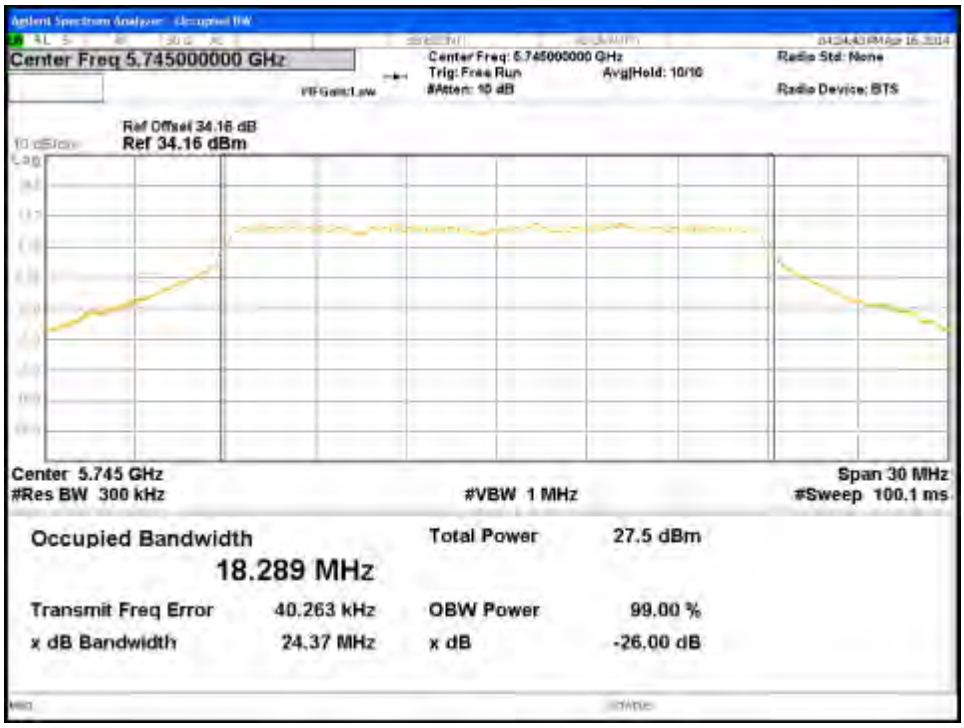


Figure 93: 99% Bandwidth-5745MHz-HT20-MCS0-Ch0

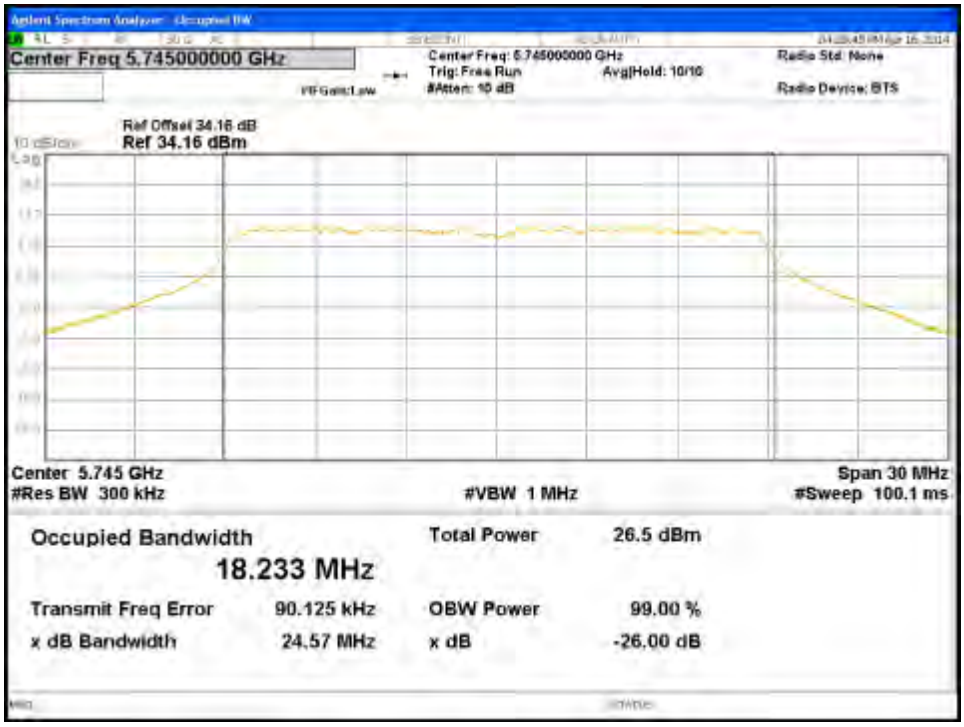


Figure 94: 99% Bandwidth-5745MHz-HT20-MCS0-Ch1

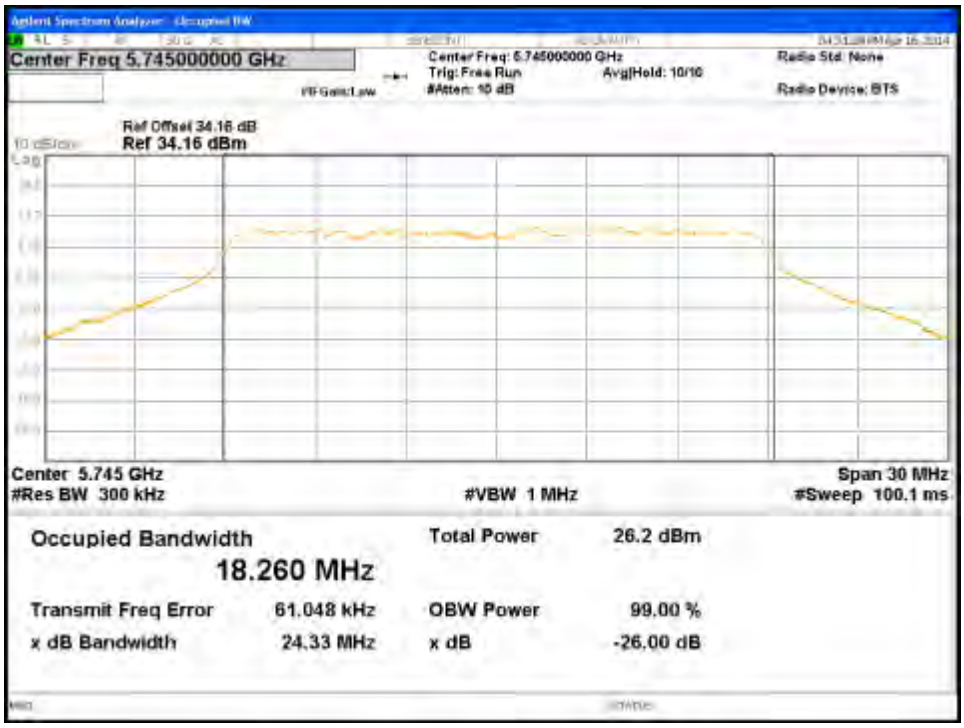


Figure 95: 99% Bandwidth-5745MHz-HT20-MCS0-Ch2

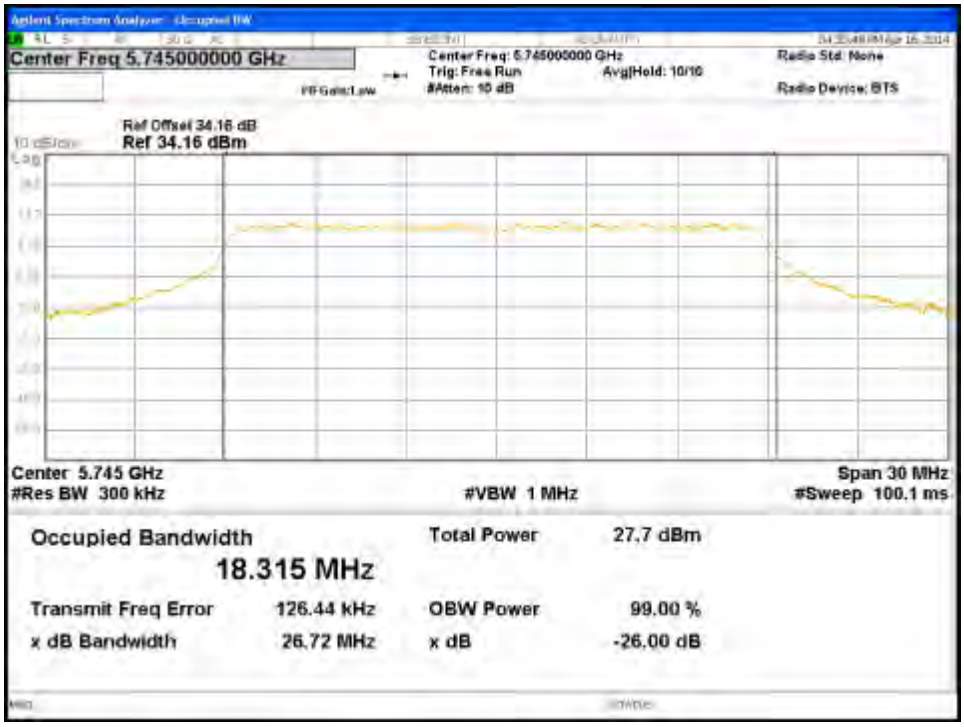


Figure 96: 99% Bandwidth-5745MHz-HT20-MCS0-Ch3

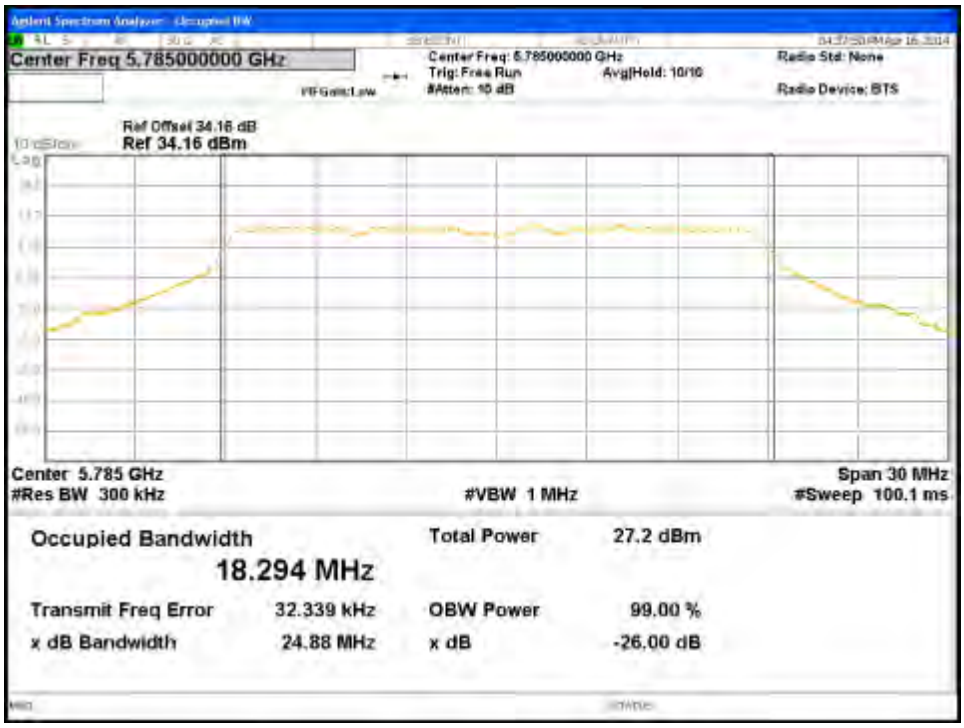


Figure 97: 99% Bandwidth-5785MHz-HT20-MCS0-Ch0

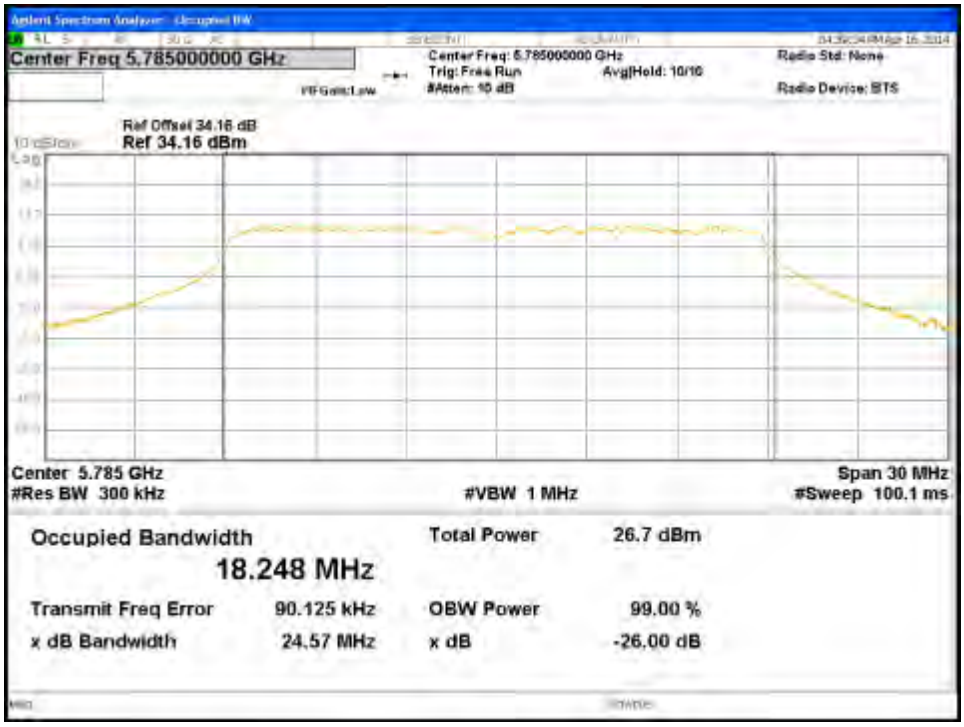


Figure 98: 99% Bandwidth-5785MHz-HT20-MCS0-Ch1

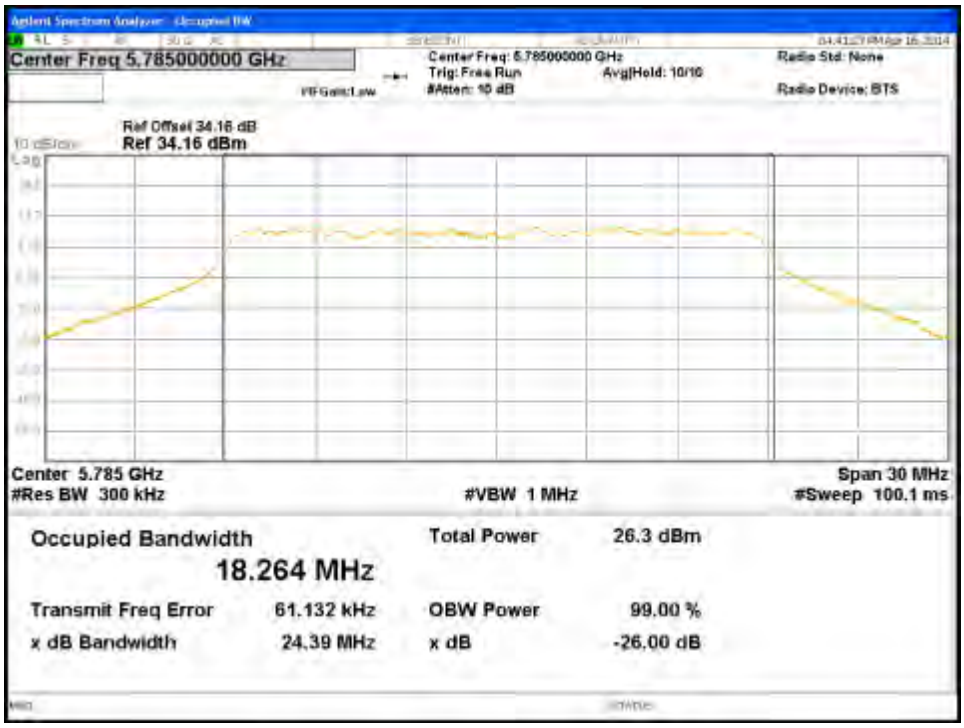


Figure 99: 99% Bandwidth-5785MHz-HT20-MCS0-Ch2

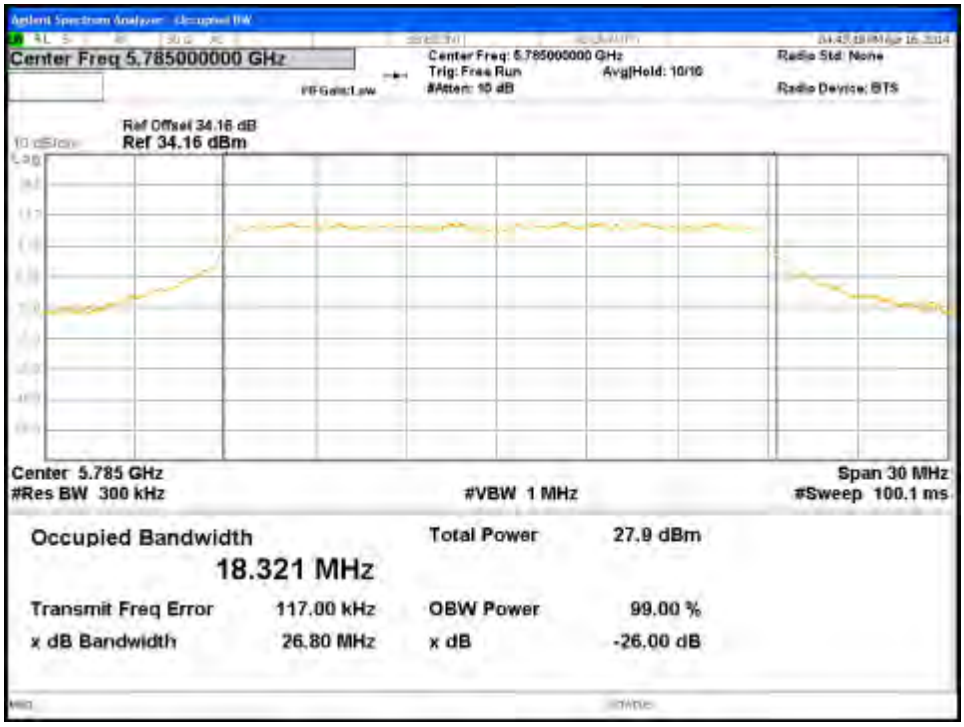


Figure 100: 99% Bandwidth-5785MHz-HT20-MCS0-Ch3

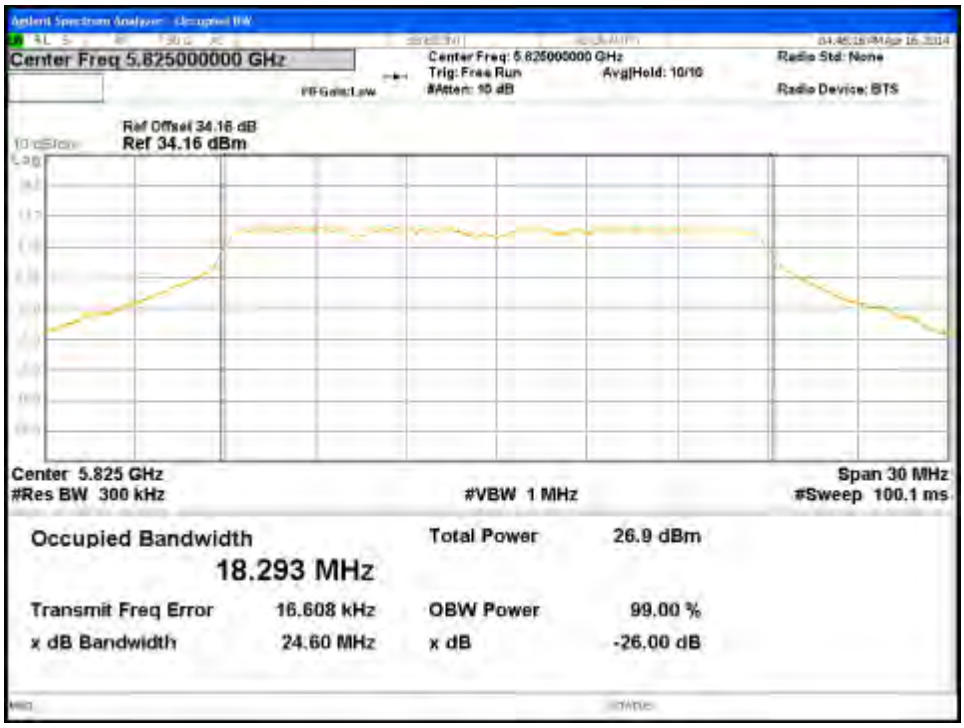


Figure 101: 99% Bandwidth-5825MHz-HT20-MCS0-Ch0

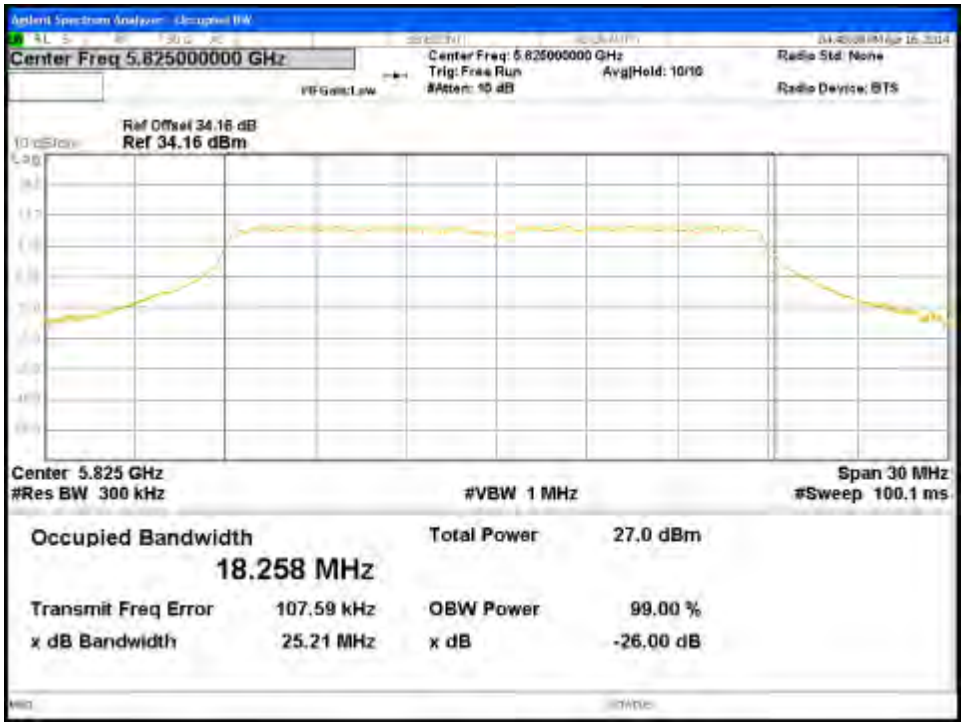


Figure 102: 99% Bandwidth-5825MHz-HT20-MCS0-Ch1

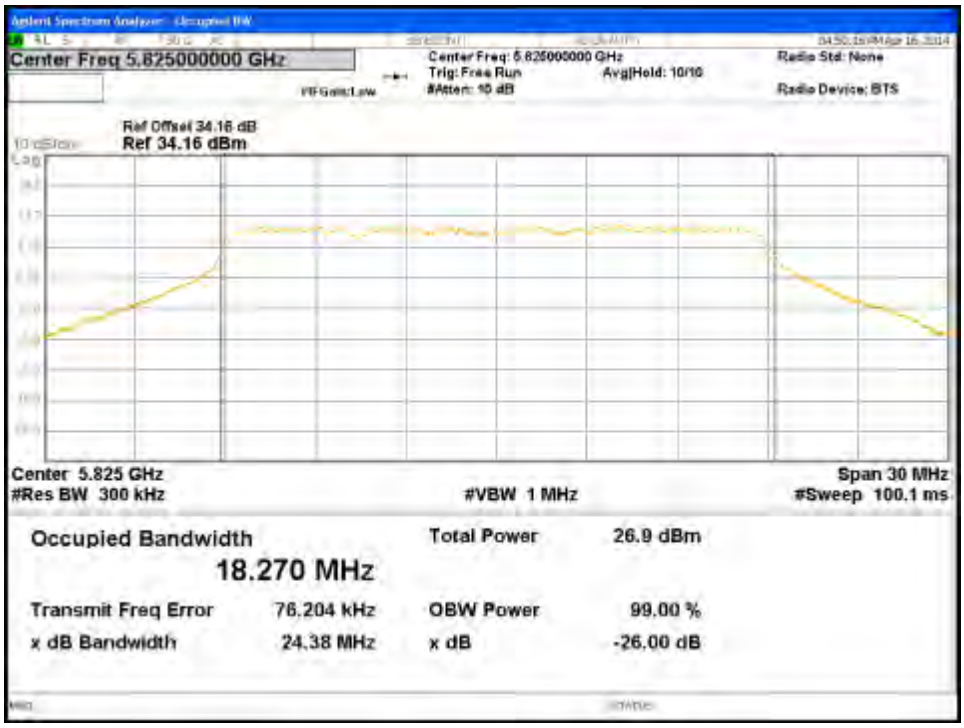


Figure 103: 99% Bandwidth-5825MHz-HT20-MCS0-Ch2

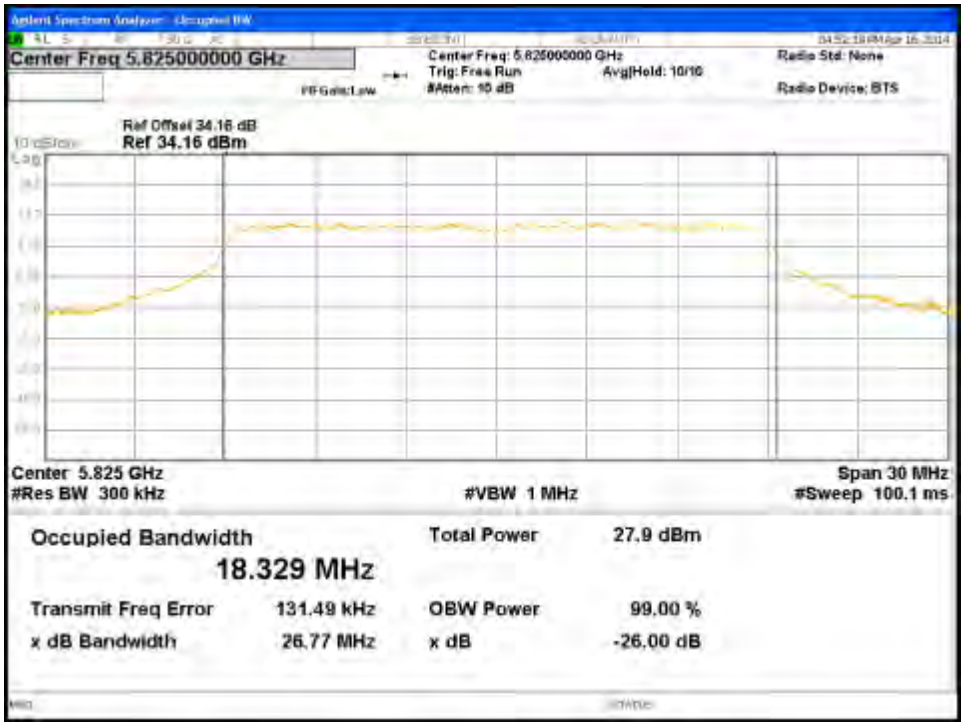


Figure 104: 99% Bandwidth-5825MHz-HT20-MCS0-Ch3

Figure 105: DTS Bandwidth-5755MHz-HT40-MCS0-Ch0

Figure 106: DTS Bandwidth-5755MHz-HT40-MCS0-Ch1

Figure 107: DTS Bandwidth-5755MHz-HT40-MCS0-Ch2

Figure 108: DTS Bandwidth-5755MHz-HT40-MCS0-Ch3

Figure 109: DTS Bandwidth-5795MHz-HT40-MCS0-Ch0

Figure 110: DTS Bandwidth-5795MHz-HT40-MCS0-Ch1

Figure 111: DTS Bandwidth-5795MHz-HT40-MCS0-Ch2

Figure 112: DTS Bandwidth-5795MHz-HT40-MCS0-Ch3

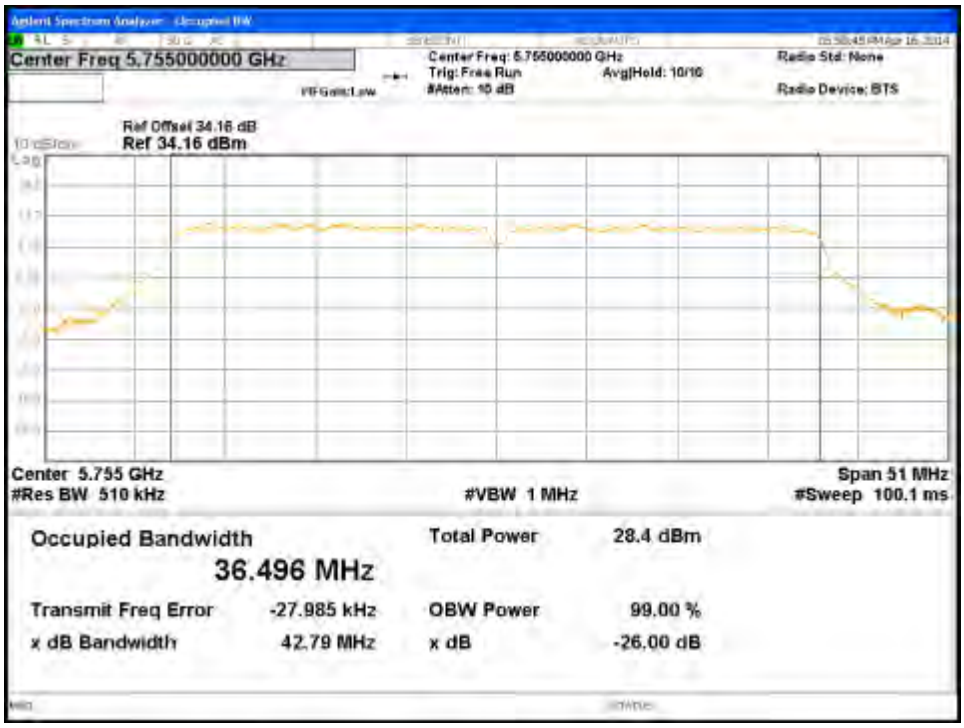


Figure 113: 99% Bandwidth-5755MHz-HT40-MCS0-Ch0

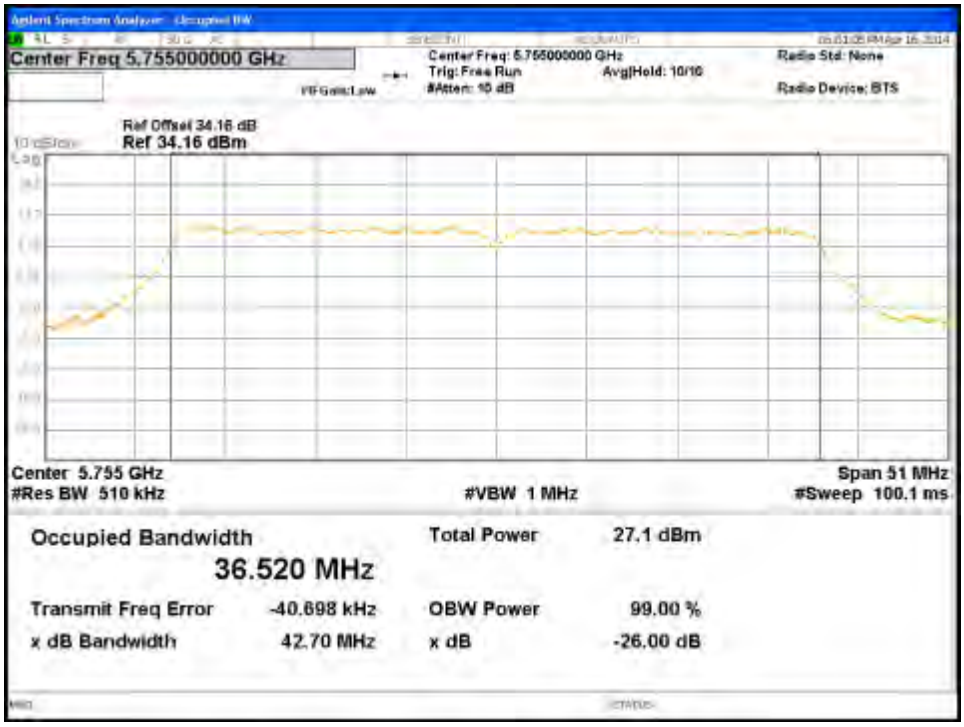


Figure 114: 99% Bandwidth-5755MHz-HT40-MCS0-Ch1

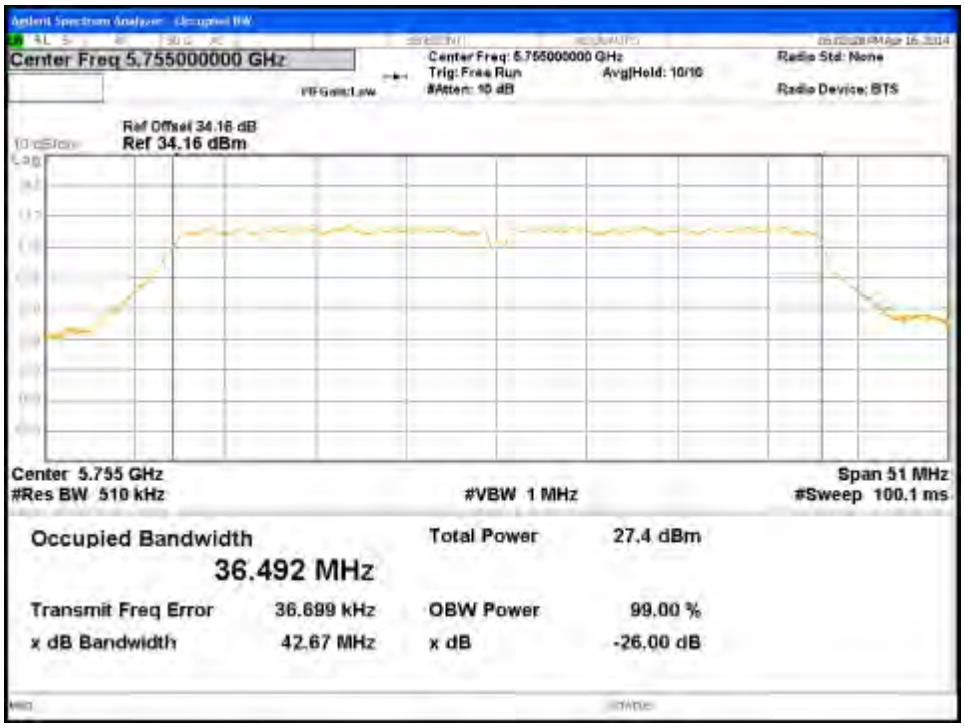


Figure 115: 99% Bandwidth-5755MHz-HT40-MCS0-Ch2

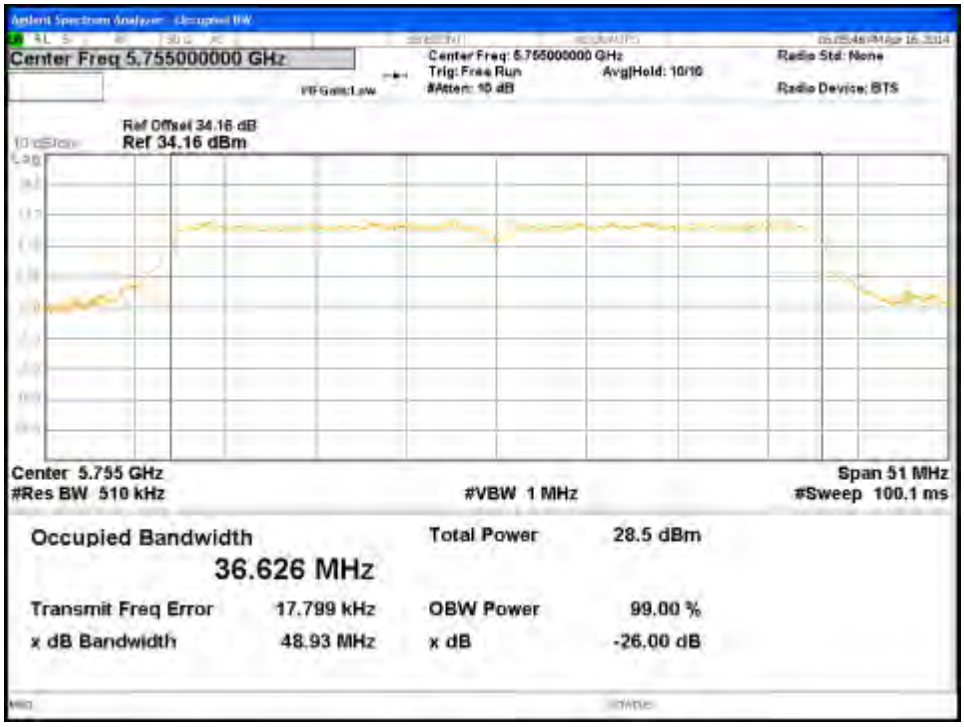


Figure 116: 99% Bandwidth-5755MHz-HT40-MCS0-Ch3

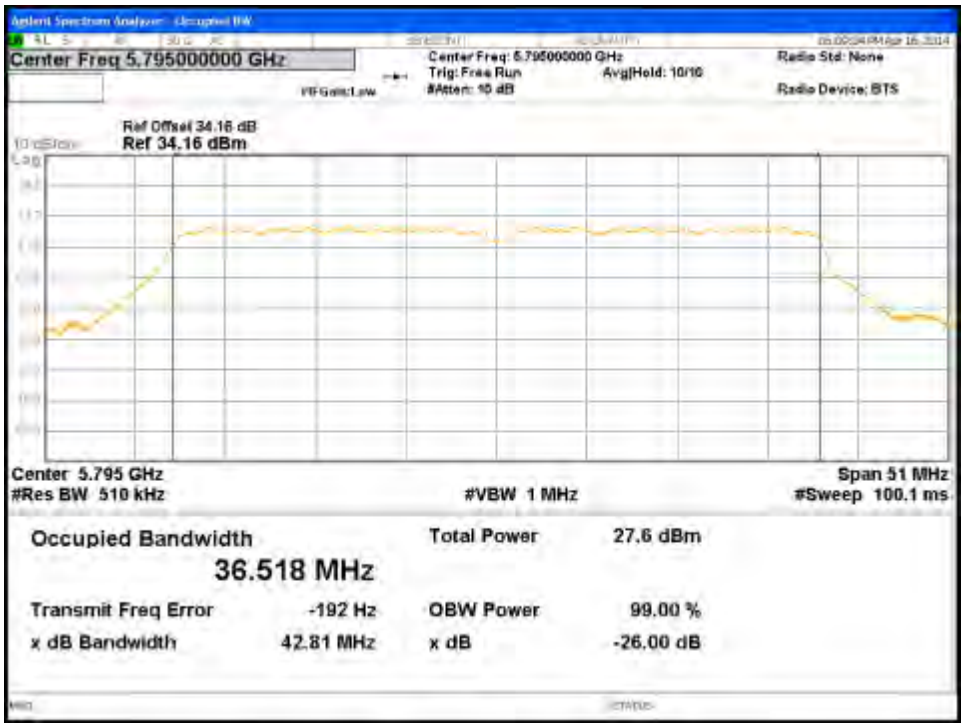


Figure 117: 99% Bandwidth-5795MHz-HT40-MCS0-Ch0

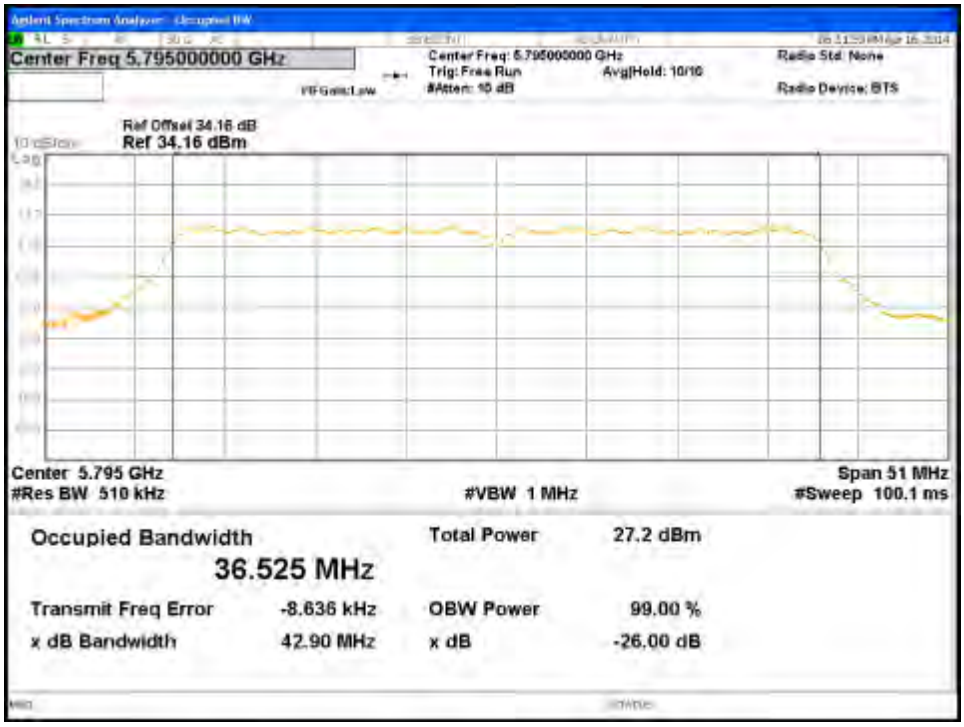


Figure 118: 99% Bandwidth-5795MHz-HT40-MCS0-Ch1

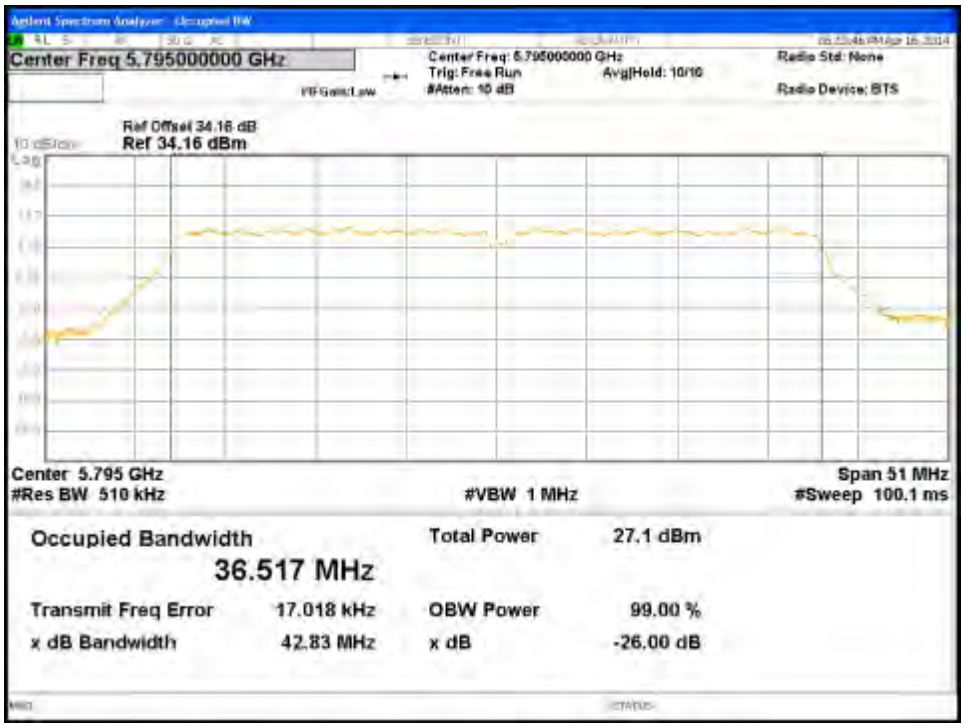


Figure 119: 99% Bandwidth-5795MHz-HT40-MCS0-Ch2

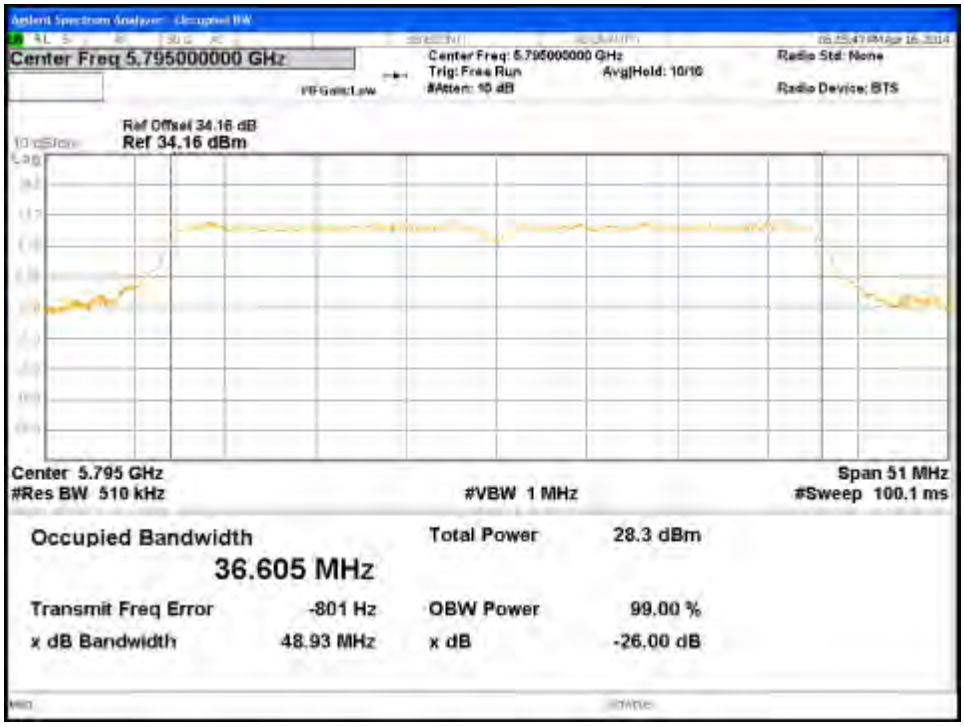


Figure 120: 99% Bandwidth-5795MHz-HT40-MCS0-Ch3

Figure 121: DTS Bandwidth-5745MHz-VHT20-MCS0-Ch0

Figure 122: DTS Bandwidth-5745MHz-VHT20-MCS0-Ch1

Figure 123: DTS Bandwidth-5745MHz-VHT20-MCS0-Ch2

Figure 124: DTS Bandwidth-5745MHz-VHT20-MCS0-Ch3

Figure 125: DTS Bandwidth-5785MHz-VHT20-MCS0-Ch0

Figure 126: DTS Bandwidth-5785MHz-VHT20-MCS0-Ch1

Figure 127: DTS Bandwidth-5785MHz-VHT20-MCS0-Ch2

Figure 128: DTS Bandwidth-5785MHz-VHT20-MCS0-Ch3

Figure 129: DTS Bandwidth-5825MHz-VHT20-MCS0-Ch0

Figure 130: DTS Bandwidth-5825MHz-VHT20-MCS0-Ch1

Figure 131: DTS Bandwidth-5825MHz-VHT20-MCS0-Ch2

Figure 132: DTS Bandwidth-5825MHz-VHT20-MCS0-Ch3

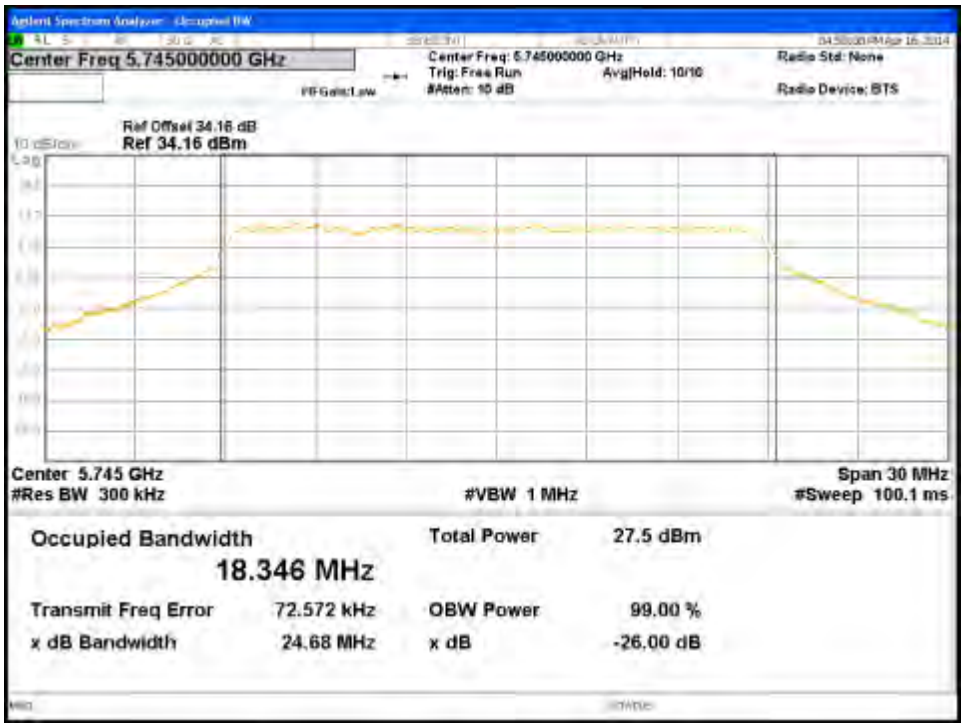


Figure 133: 99% Bandwidth-5745MHz-VHT20-MCS0-Ch0

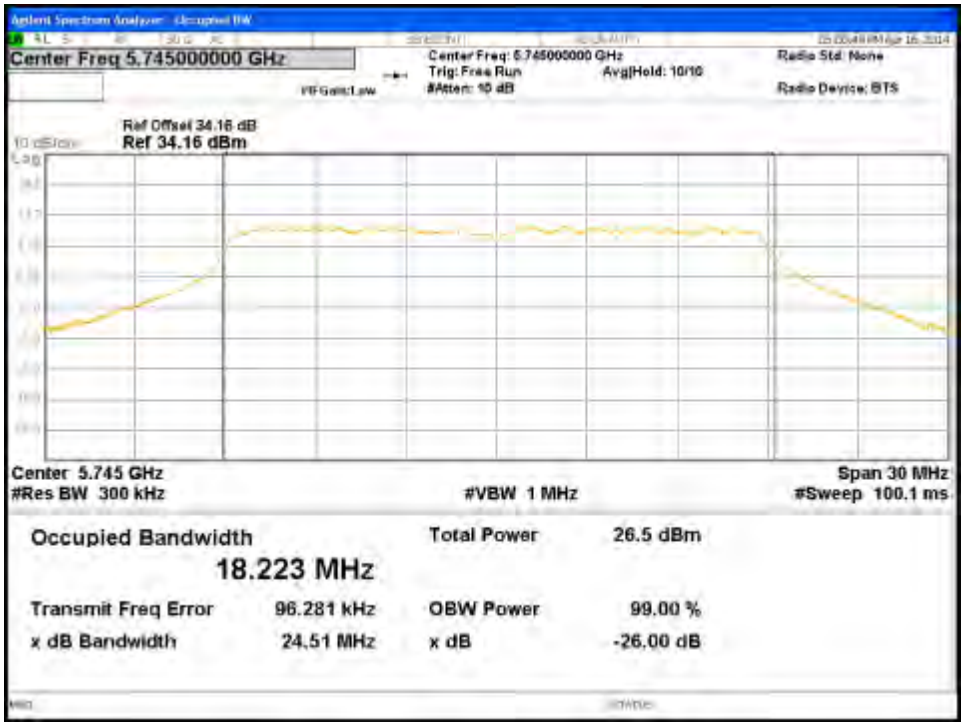


Figure 134: 99% Bandwidth-5745MHz-VHT20-MCS0-Ch1

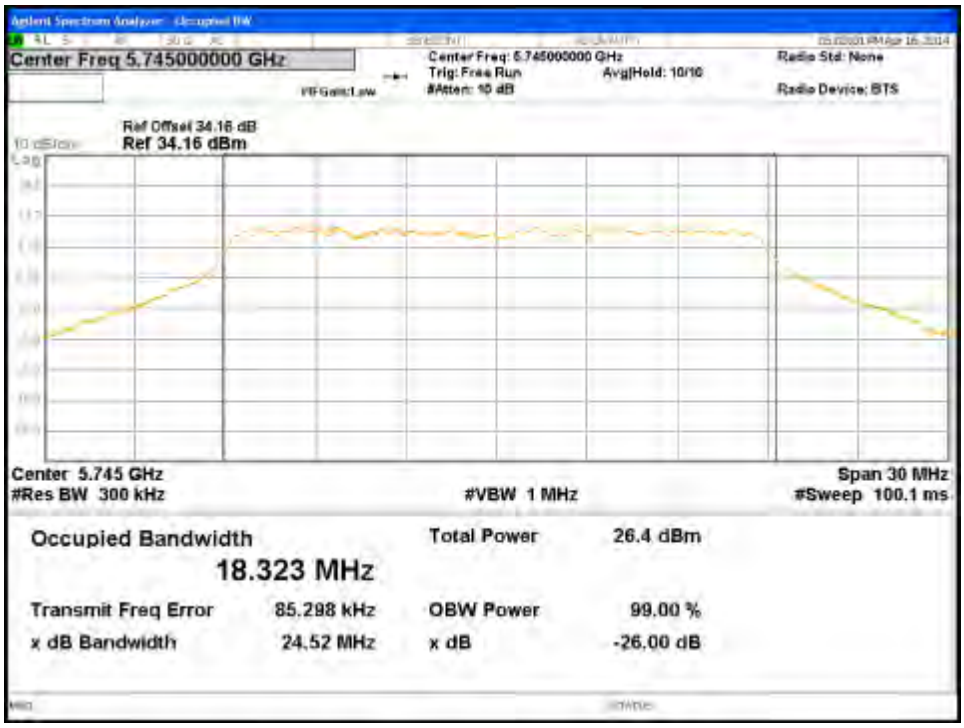


Figure 135: 99% Bandwidth-5745MHz-VHT20-MCS0-Ch2

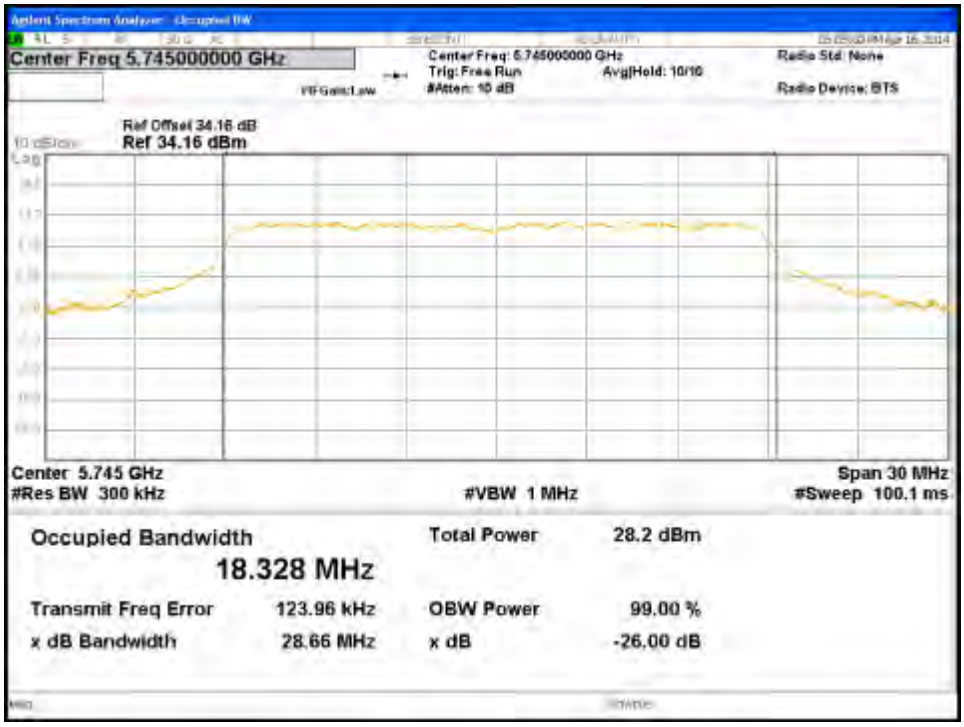


Figure 136: 99% Bandwidth-5745MHz-VHT20-MCS0-Ch3

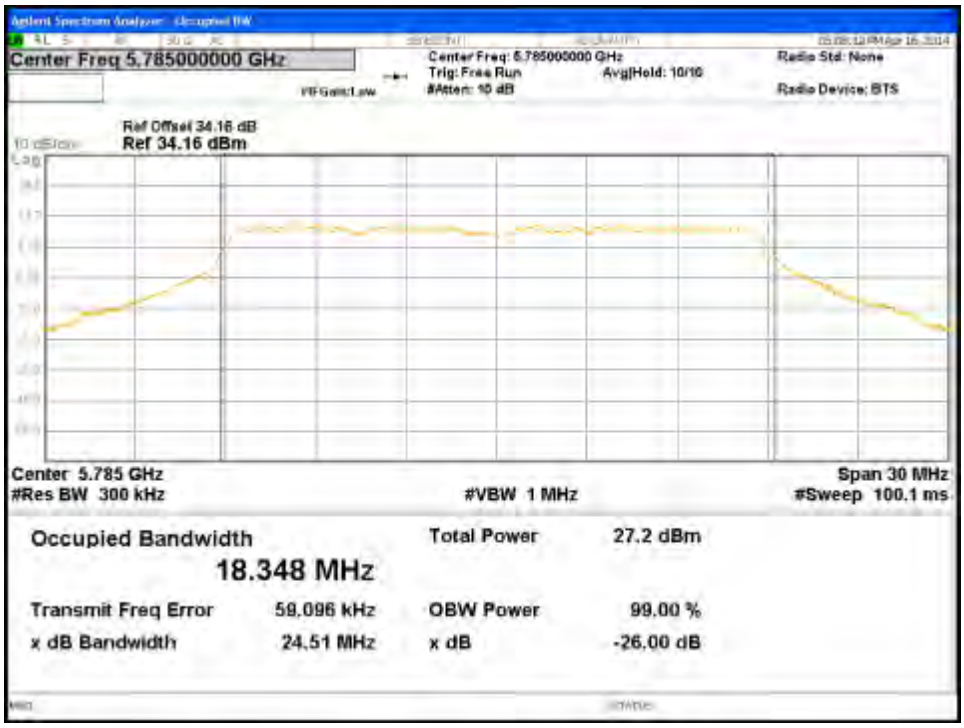


Figure 137: 99% Bandwidth-5785MHz-VHT20-MCS0-Ch0

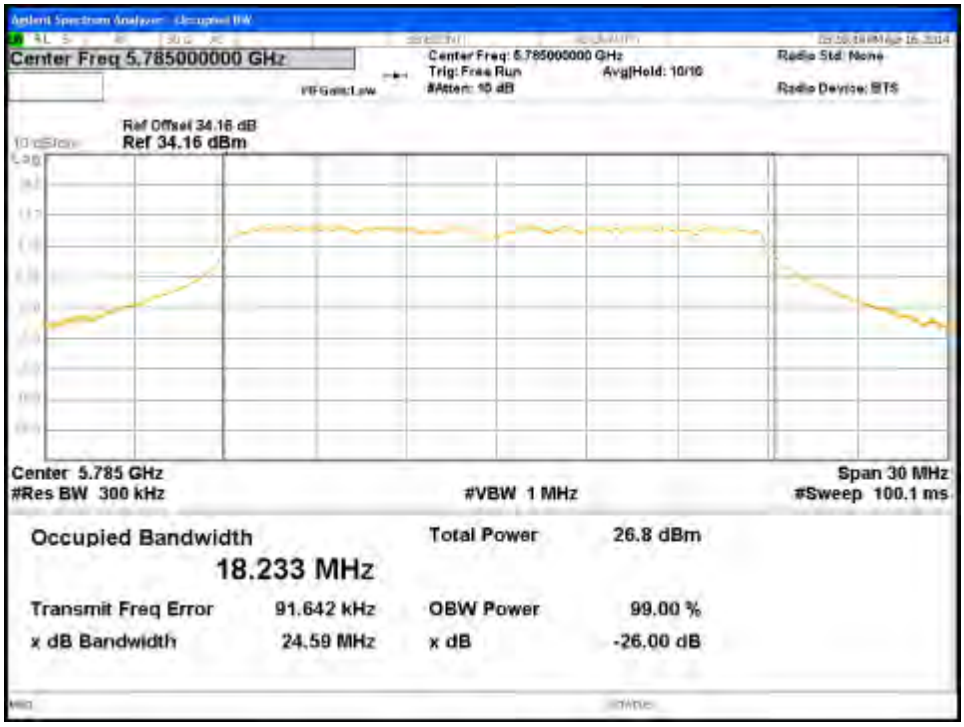


Figure 138: 99% Bandwidth-5785MHz-VHT20-MCS0-Ch1

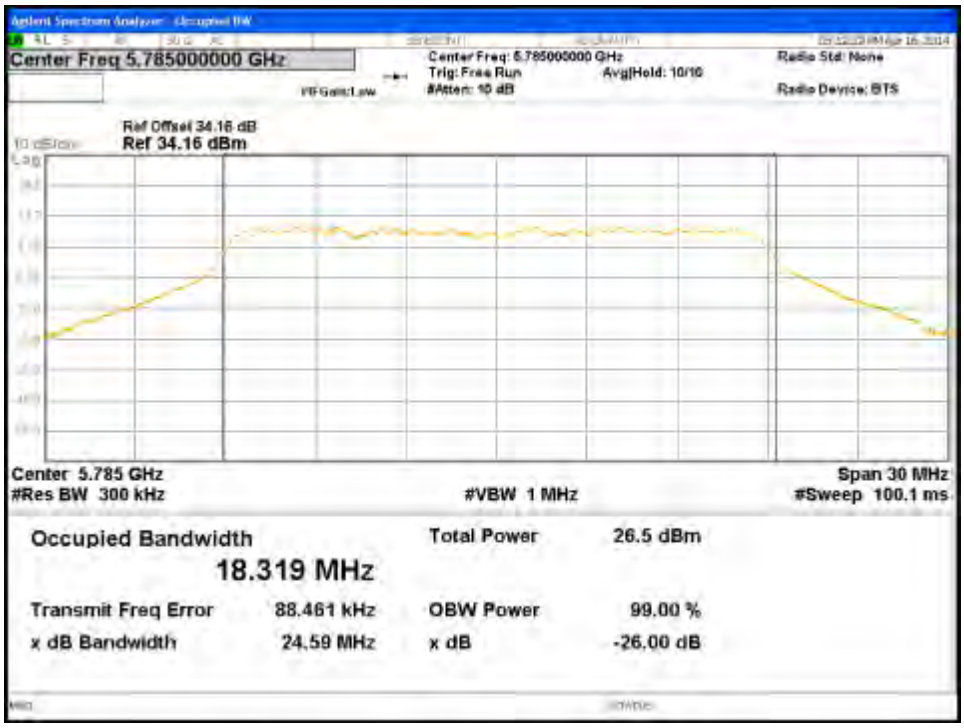


Figure 139: 99% Bandwidth-5785MHz-VHT20-MCS0-Ch2

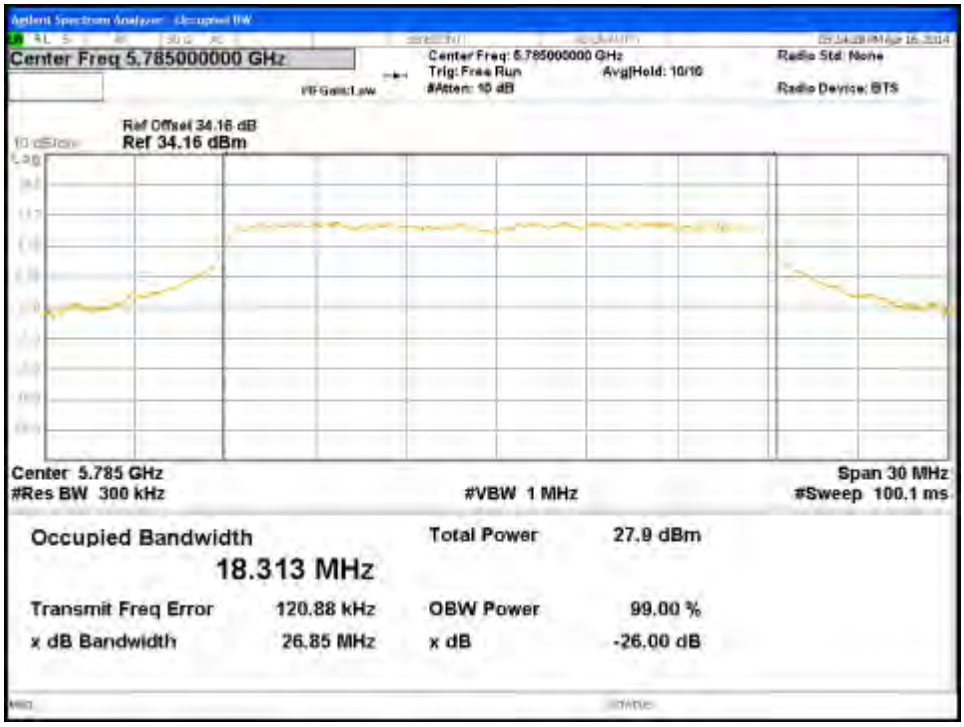


Figure 140: 99% Bandwidth-5785MHz-VHT20-MCS0-Ch3

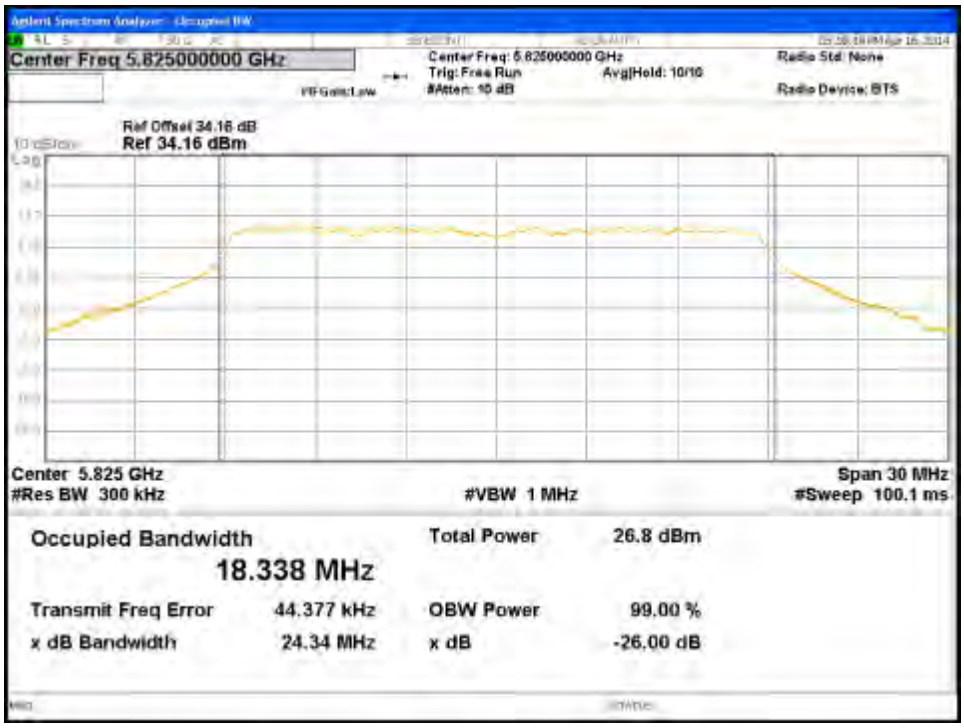


Figure 141: 99% Bandwidth-5825MHz-VHT20-MCS0-Ch0

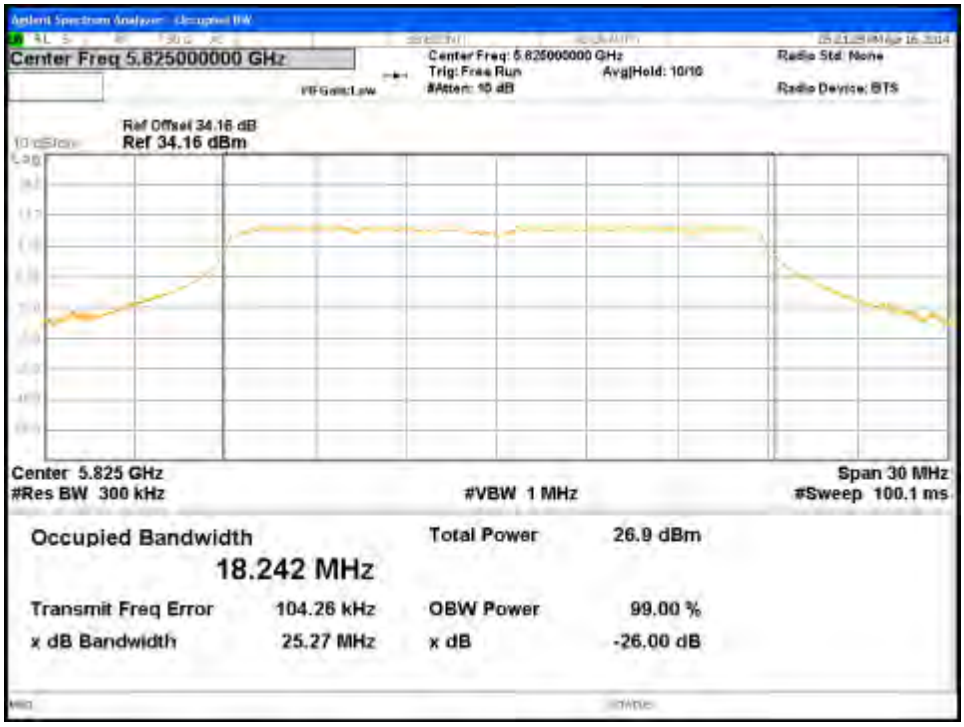


Figure 142: 99% Bandwidth-5825MHz-VHT20-MCS0-Ch1

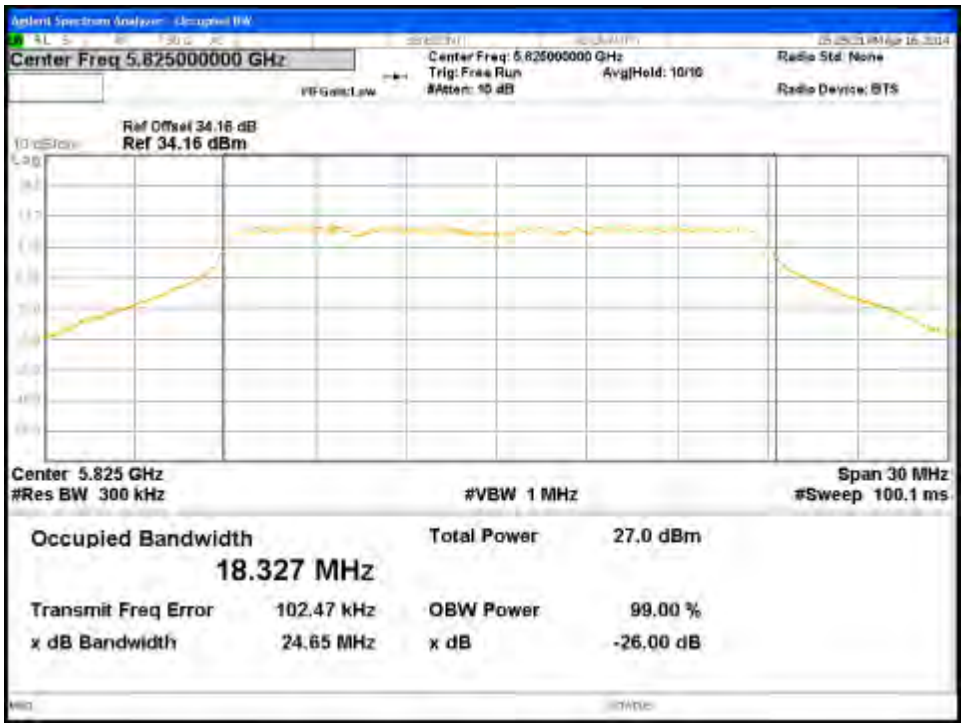


Figure 143: 99% Bandwidth-5825MHz-VHT20-MCS0-Ch2

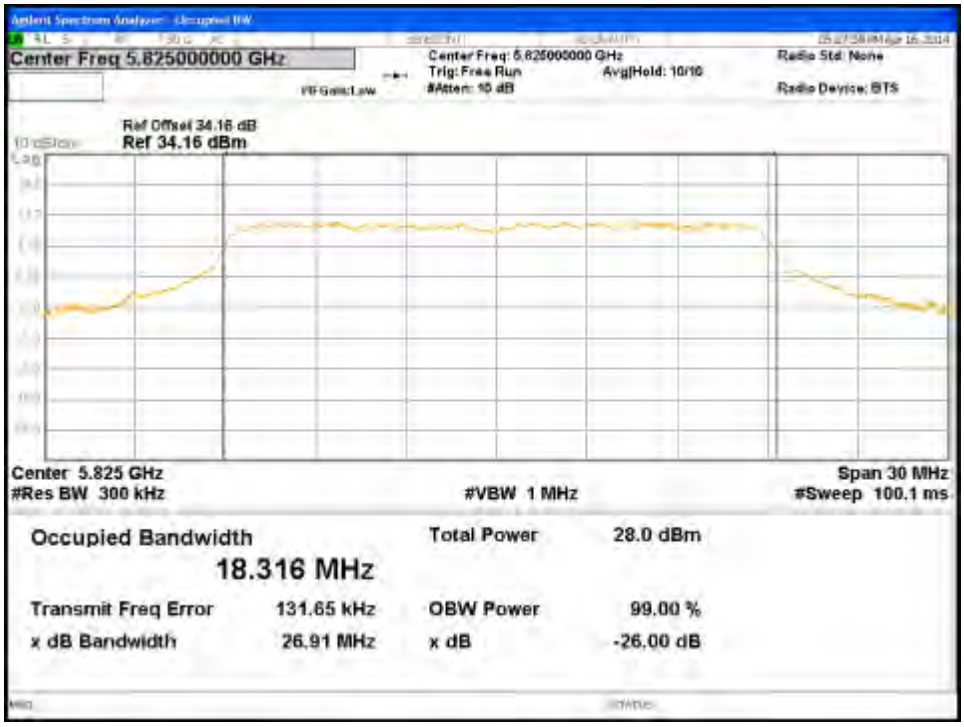


Figure 144: 99% Bandwidth-5825MHz-VHT20-MCS0-Ch3

Figure 145: DTS Bandwidth-5755MHz-VHT40-MCS0-Ch0

Figure 146: DTS Bandwidth-5755MHz-VHT40-MCS0-Ch1

Figure 147: DTS Bandwidth-5755MHz-VHT40-MCS0-Ch2

Figure 148: DTS Bandwidth-5755MHz-VHT40-MCS0-Ch3

Figure 149: DTS Bandwidth-5795MHz-VHT40-MCS0-Ch0

Figure 150: DTS Bandwidth-5795MHz-VHT40-MCS0-Ch1

Figure 151: DTS Bandwidth-5795MHz-VHT40-MCS0-Ch2

Figure 152: DTS Bandwidth-5795MHz-VHT40-MCS0-Ch3

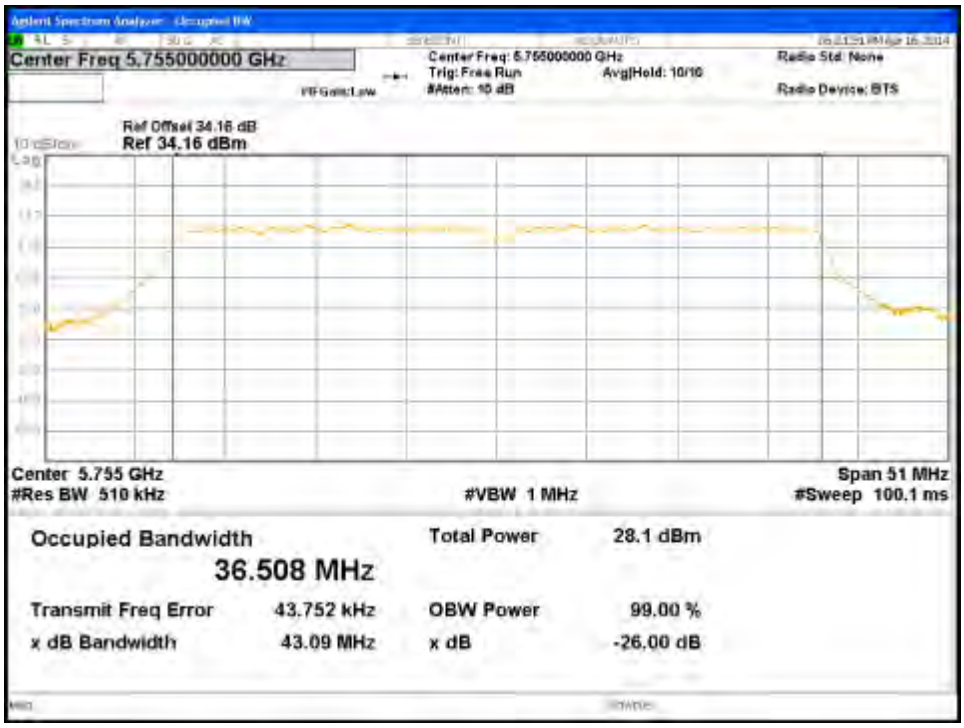


Figure 153: 99% Bandwidth-5755MHz-VHT40-MCS0-Ch0

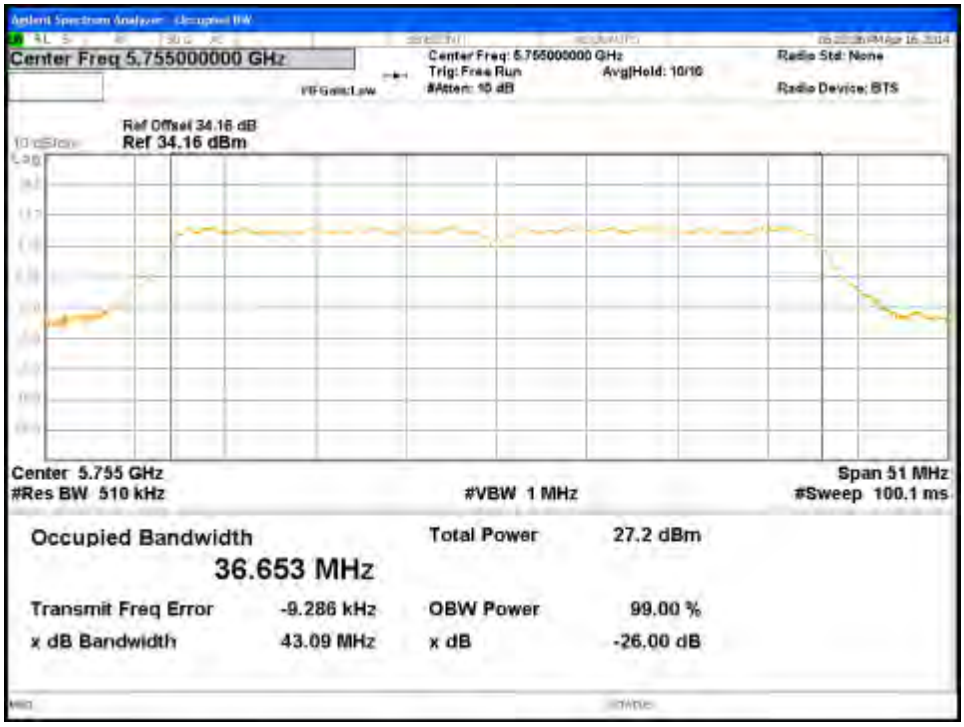


Figure 154: 99% Bandwidth-5755MHz-VHT40-MCS0-Ch1

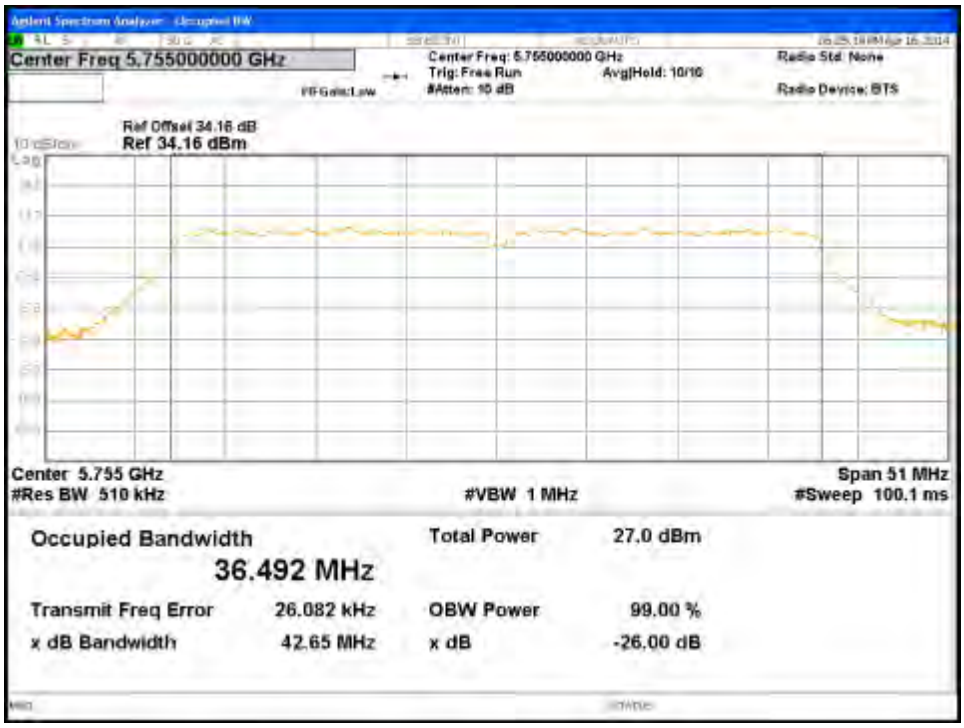


Figure 155: 99% Bandwidth-5755MHz-VHT40-MCS0-Ch2

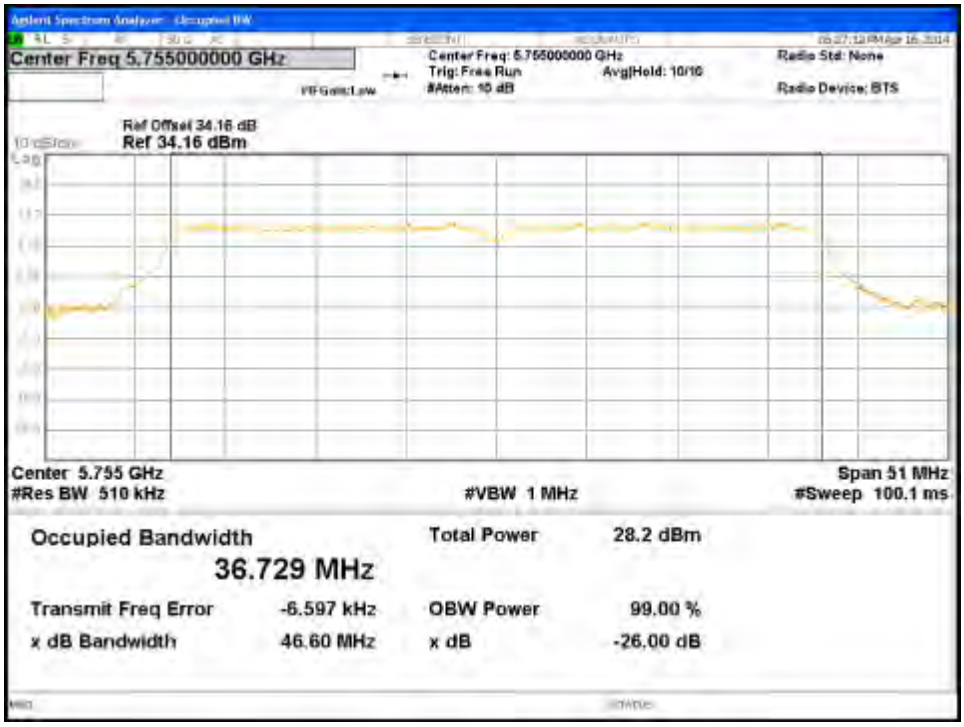


Figure 156: 99% Bandwidth-5755MHz-VHT40-MCS0-Ch3

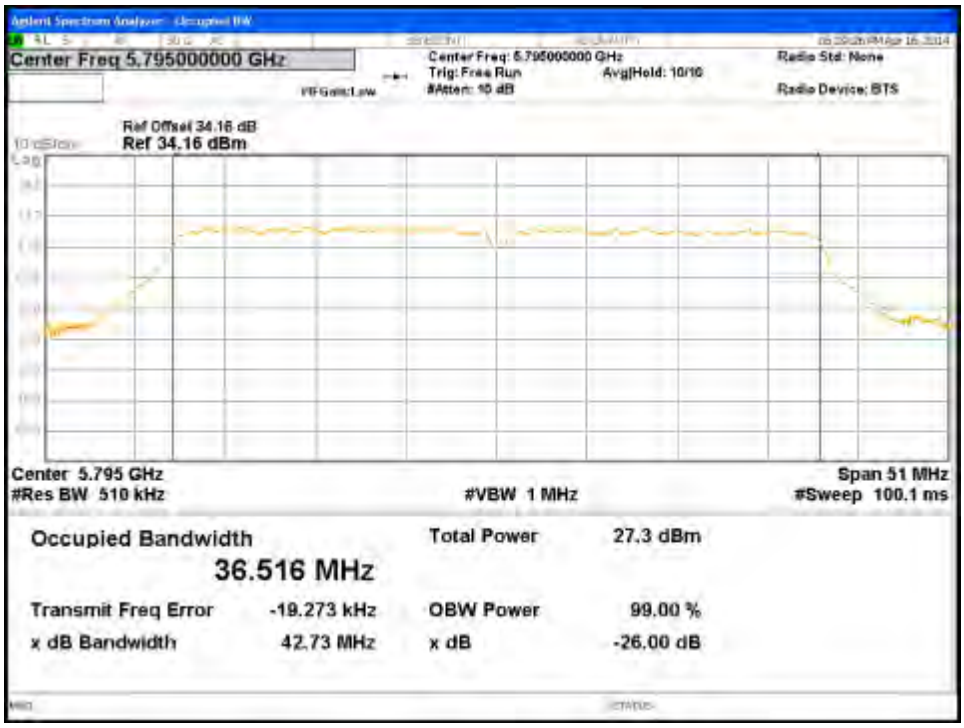


Figure 157: 99% Bandwidth-5795MHz-VHT40-MCS0-Ch0

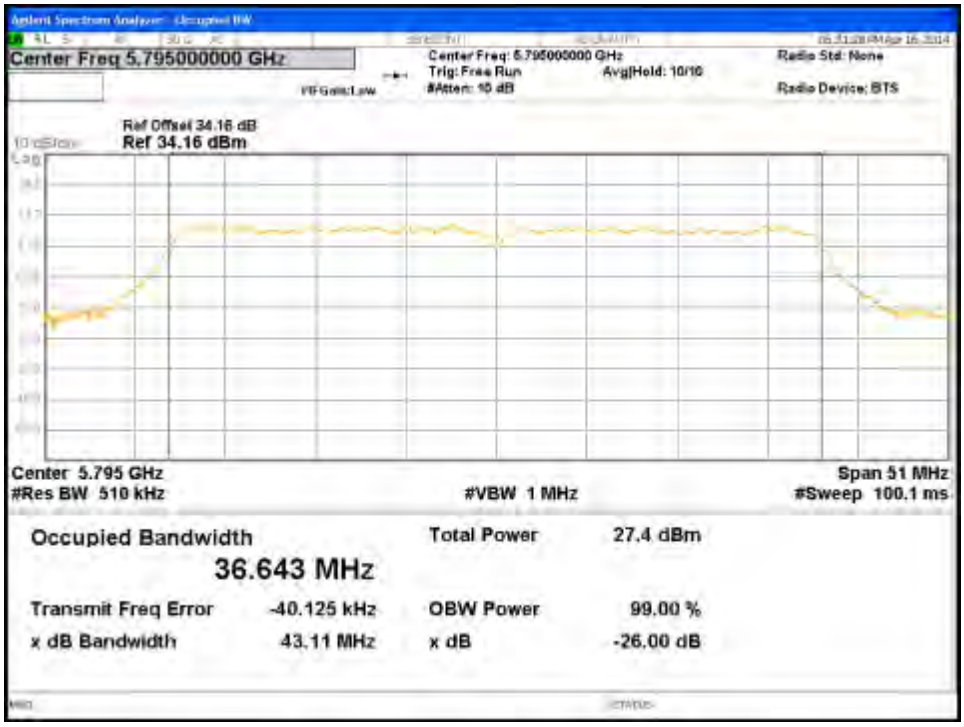


Figure 158: 99% Bandwidth-5795MHz-VHT40-MCS0-Ch1

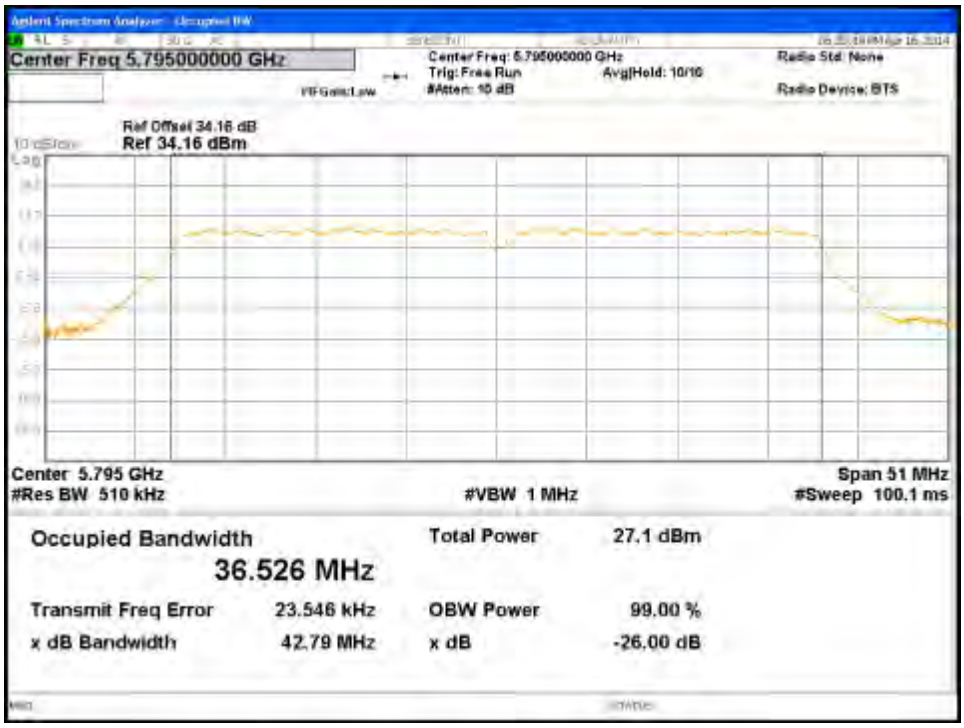


Figure 159: 99% Bandwidth-5795MHz-VHT40-MCS0-Ch2

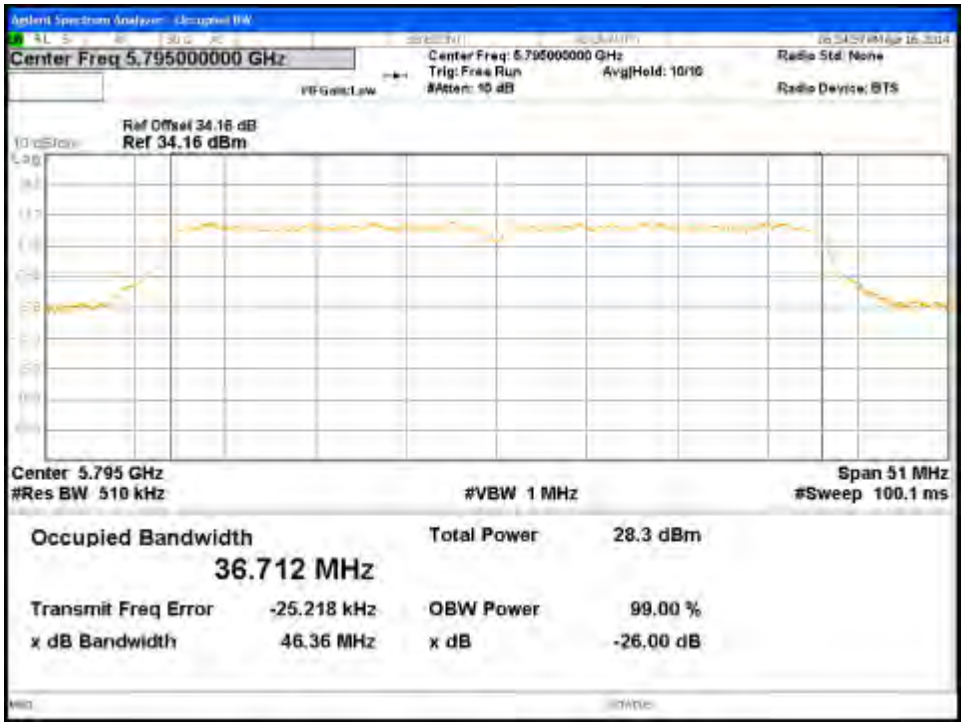


Figure 160: 99% Bandwidth-5795MHz-VHT40-MCS0-Ch3

Figure 161: DTS Bandwidth-5775MHz-VHT80-MCS0-Ch0

Figure 162: DTS Bandwidth-5775MHz-VHT80-MCS0-Ch1

Figure 163: DTS Bandwidth-5775MHz-VHT80-MCS0-Ch2

Figure 164: DTS Bandwidth-5775MHz-VHT80-MCS0-Ch3

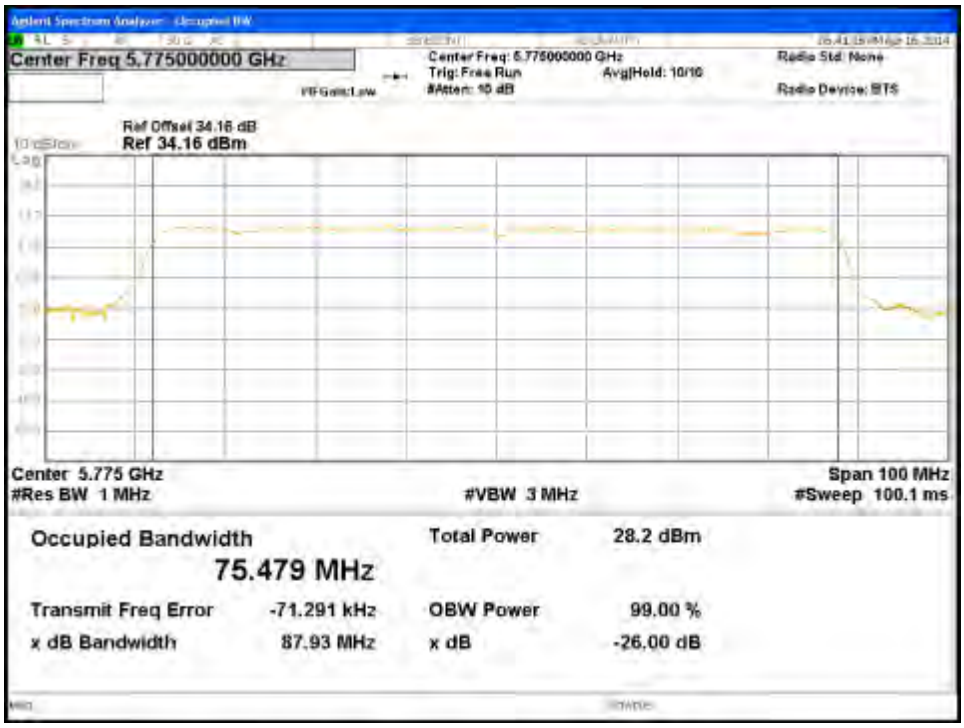


Figure 165: 99% Bandwidth-5775MHz-VHT80-MCS0-Ch0

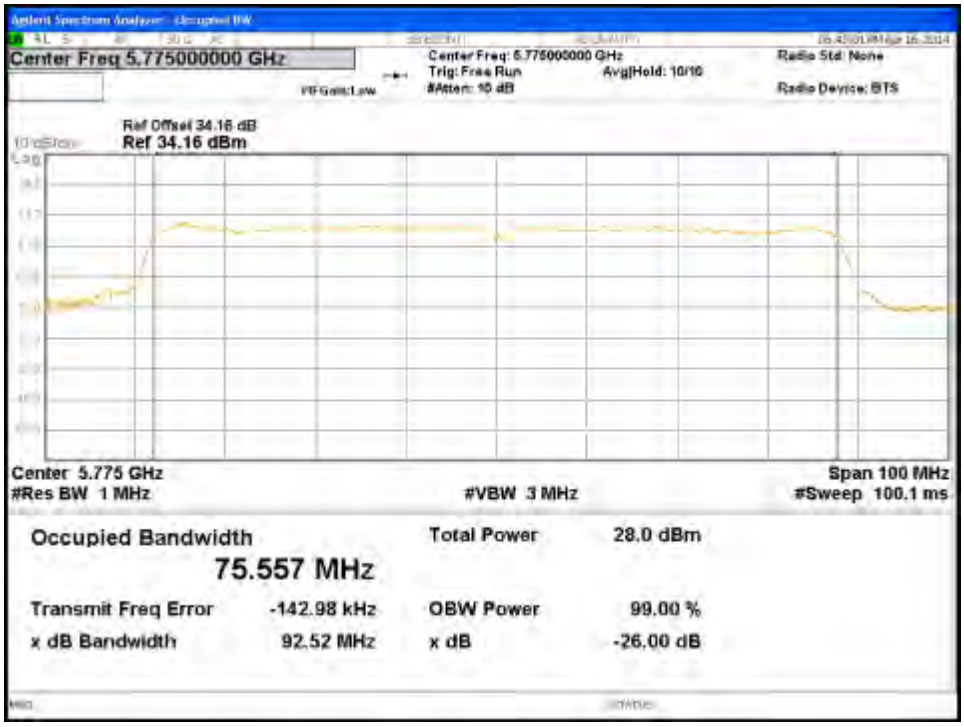


Figure 166: 99% Bandwidth-5775MHz-VHT80-MCS0-Ch1

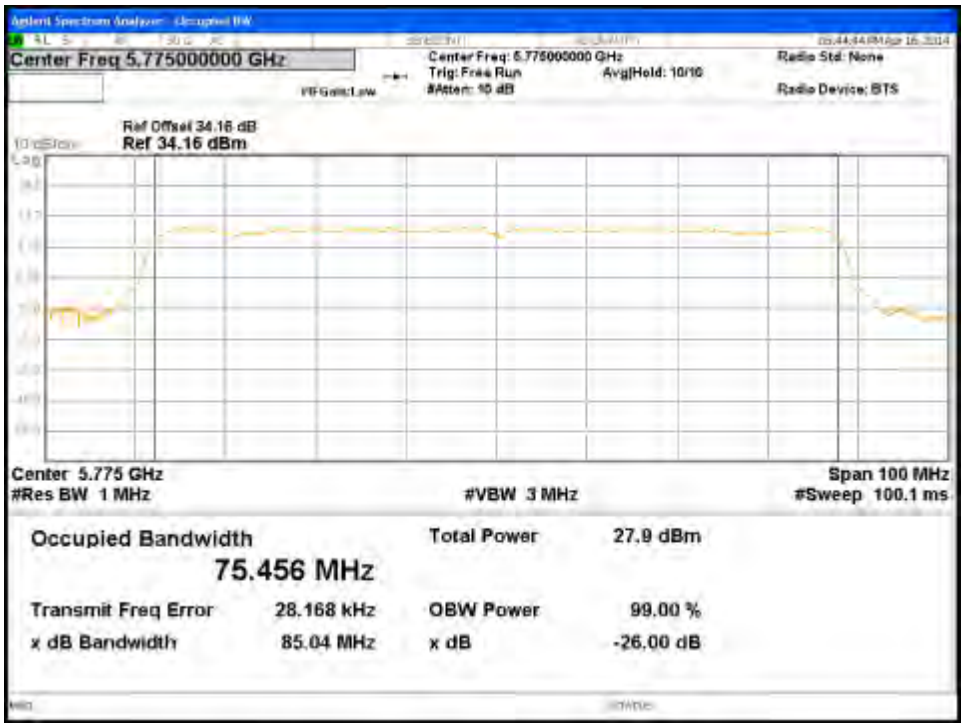


Figure 167: 99% Bandwidth-5775MHz-VHT80-MCS0-Ch2

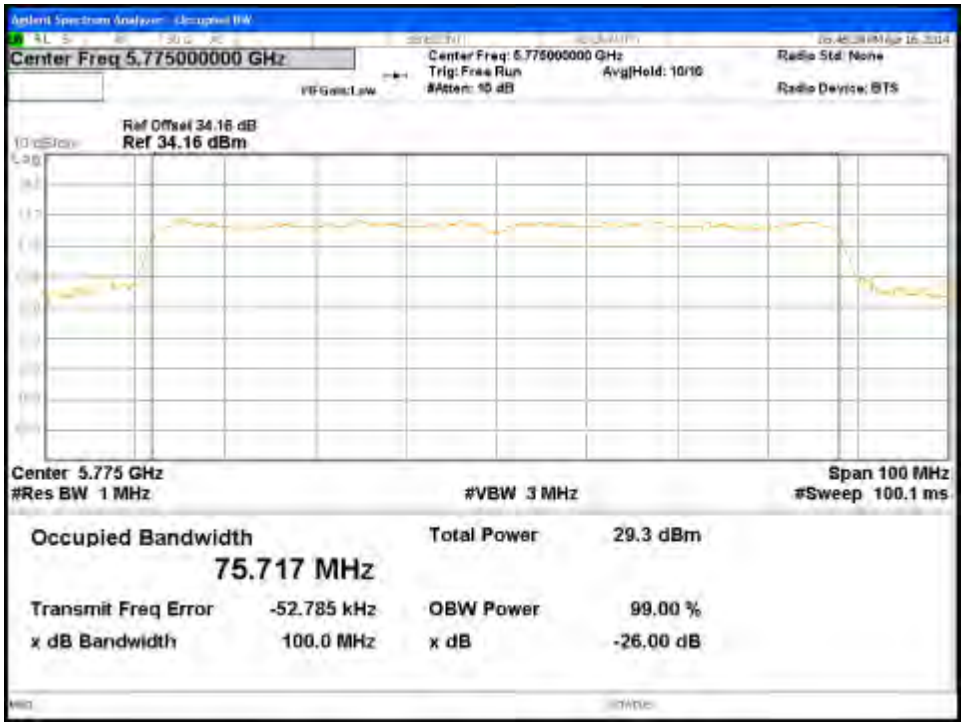


Figure 168: 99% Bandwidth-5775MHz-VHT80-MCS0-Ch3

4.3 Unwanted Emissions into Non-Restricted Frequency Bands

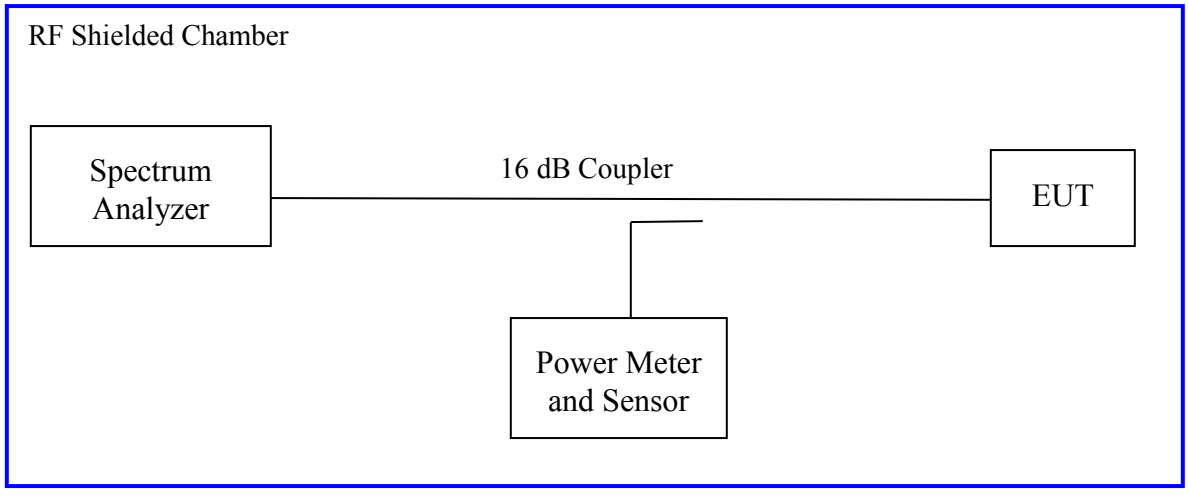
The setup was identical to RF output power measurement. Intentional radiators operating under the alternative provisions to the general emission limits, must be designed to ensure that the 20 dB or 30 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If the frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

Since the transmitter complies with the conducted power limits base on the use of RMS averaging per CFR47 Part 15.247(b)(3), any frequency outside the band of 5725MHz to 5850 MHz, the power output level must be below 30 dB from the in-band transmitting signal; CFR 47 Part 15.215, 15.247(d) and RSS-210 A8.5

4.3.1 Test Method

The conducted method was used to measure the out-of-band emission requirement. The measurement was performed with modulation per CFR47 15.247(4)(d) 2013 and *RSS-210 A8.5: 2010*. This test was conducted on 3 channels of Sample in each mode on Sample, S/N 121404000111. The worst sample result indicated below.

Test Setup:



4.3.2 Results

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

Table 5: Emissions at the Band-Edge – Test Results

Test Conditions: Conducted Measurement			**Test Date:** April 18, 2014		
Antenna Type: Integrated			**Power Setting:** See test plan		
Max. Directional Gain: + 8.08 dBi			**Signal State:** Modulated		
Ambient Temp.: 23 °C			**Relative Humidity:**30%		
Non-Restricted Frequency Band Emission					
Freq. (MHz)	**Mode**	**Chain**	**Ref. Level (dBm)**	**Plots**	**Results**
5745	6Mbps	0	-20.69	Fig. 169, 170	Pass
5745	6Mbps	1	-21.92	Fig. 171, 172	Pass
5745	6Mbps	2	-22.15	Fig. 173, 174	Pass
5745	6Mbps	3	-21.19	Fig. 175, 176	Pass
5785	6Mbps	0	-21.62	Fig. 177, 178	Pass
5785	6Mbps	1	-23.44	Fig. 179, 180	Pass
5785	6Mbps	2	-22.23	Fig. 181, 182	Pass
5785	6Mbps	3	-20.07	Fig. 183, 184	Pass
5825	6Mbps	0	-20.65	Fig. 185, 186	Pass
5825	6Mbps	1	-21.99	Fig. 187, 188	Pass
5825	6Mbps	2	-21.48	Fig. 189, 190	Pass
5825	6Mbps	3	-20.51	Fig. 191, 192	Pass
5745	HT20 MCS0	0	-20.75	Fig. 193, 194	Pass
5745	HT20 MCS0	1	-21.48	Fig. 195, 196	Pass
5745	HT20 MCS0	2	-22.91	Fig. 197, 198	Pass
5745	HT20 MCS0	3	-20.48	Fig. 199, 200	Pass
5785	HT20 MCS0	0	-21.65	Fig. 201, 202	Pass

5785	HT20 MCS0	1	-22.38	Fig. 203, 204	Pass
5785	HT20 MCS0	2	-21.63	Fig. 205, 206	Pass
5785	HT20 MCS0	3	-20.34	Fig. 207, 208	Pass
5825	HT20 MCS0	0	-20.97	Fig. 209, 210	Pass
5825	HT20 MCS0	1	-22.11	Fig. 211, 212	Pass
5825	HT20 MCS0	2	-21.55	Fig. 213, 214	Pass
5825	HT20 MCS0	3	-19.81	Fig. 215, 216	Pass
5755	HT40 MCS0	0	-23.12	Fig. 217, 218	Pass
5755	HT40 MCS0	1	-24.27	Fig. 219, 220	Pass
5755	HT40 MCS0	2	-23.97	Fig. 221, 222	Pass
5755	HT40 MCS0	3	-22.61	Fig. 223, 224	Pass
5795	HT40 MCS0	0	-23.51	Fig. 225, 226	Pass
5795	HT40 MCS0	1	-24.23	Fig. 227, 228	Pass
5795	HT40 MCS0	2	-23.94	Fig. 229, 230	Pass
5795	HT40 MCS0	3	-22.49	Fig. 231, 232	Pass
5745	VHT20 MCS0	0	-21.88	Fig. 233, 234	Pass
5745	VHT20 MCS0	1	-22.10	Fig. 235 236	Pass
5745	VHT20 MCS0	2	-22.92	Fig. 237, 238	Pass
5745	VHT20 MCS0	3	-21.31	Fig. 239, 240	Pass
5785	VHT20 MCS0	0	-21.03	Fig. 241, 242	Pass
5785	VHT20 MCS0	1	-22.04	Fig. 243, 244	Pass
5785	VHT20 MCS0	2	-21.49	Fig. 245, 246	Pass
5785	VHT20 MCS0	3	-20.26	Fig. 247, 248	Pass
5825	VHT20 MCS0	0	-20.75	Fig. 249, 250	Pass
5825	VHT20 MCS0	1	-21.71	Fig. 251, 252	Pass
5825	VHT20 MCS0	2	-22.10	Fig. 253, 254	Pass
5825	VHT20 MCS0	3	-20.61	Fig. 255, 256	Pass

5755	VHT40 MCS0	0	-23.84	Fig. 257, 258	Pass
5755	VHT40 MCS0	1	-24.10	Fig. 259, 260	Pass
5755	VHT40 MCS0	2	-23.23	Fig. 261, 262	Pass
5755	VHT40 MCS0	3	-22.44	Fig. 263, 264	Pass
5795	VHT40 MCS0	0	-23.81	Fig. 265, 266	Pass
5795	VHT40 MCS0	1	-24.48	Fig. 267, 268	Pass
5795	VHT40 MCS0	2	-23.99	Fig. 269, 270	Pass
5795	VHT40 MCS0	3	-22.49	Fig. 271, 272	Pass
5775	VHT80 MCS0	0	-26.23	Fig. 273, 274	Pass
5775	VHT80 MCS0	1	-28.00	Fig. 275, 276	Pass
5775	VHT80 MCS0	2	-27.25	Fig. 277, 278	Pass
5775	VHT80 MCS0	3	-25.58	Fig.279, 280	Pass
Note: All out of band emissions are lower than the 30 dBr level. The maximum out of band emission on each individual output put is at least 30 dB below the maximum in-band PSD on that output per KDB 662911.					

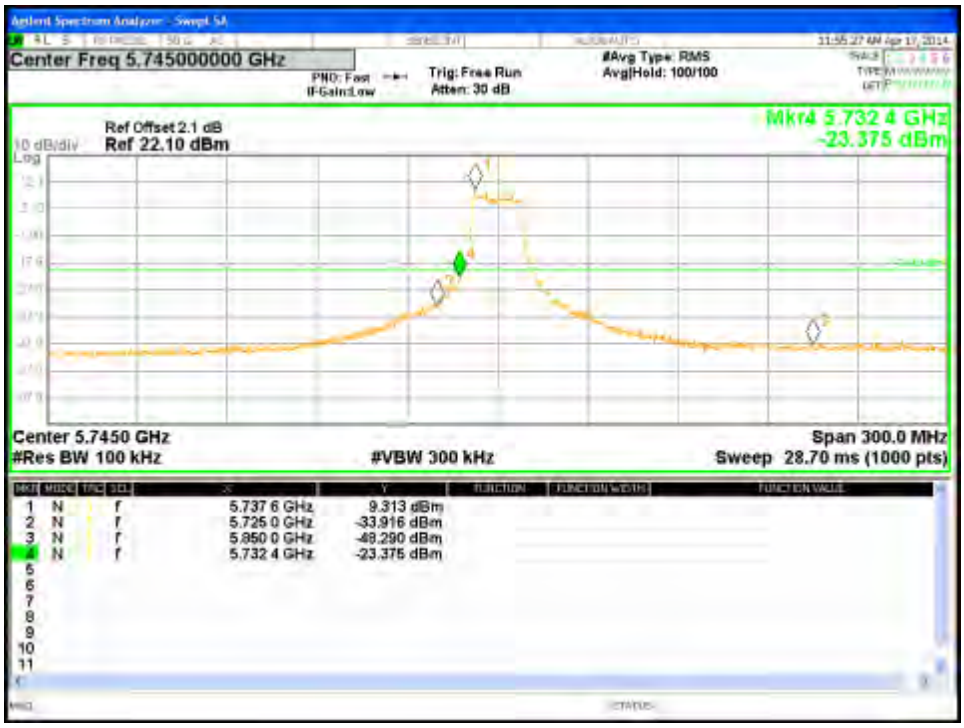


Figure 169: Conducted Band Edge-5745MHz-11a-6 Mbps-Ch0

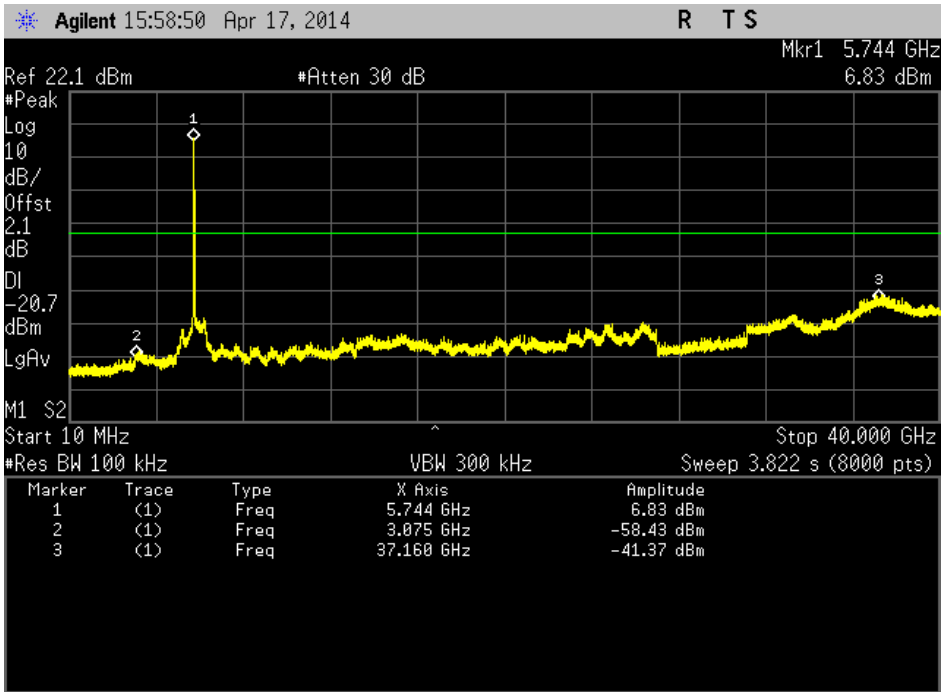


Figure 170: Out of Band Emission-802.11a-5745 MHz-6 Mbps-Ch0

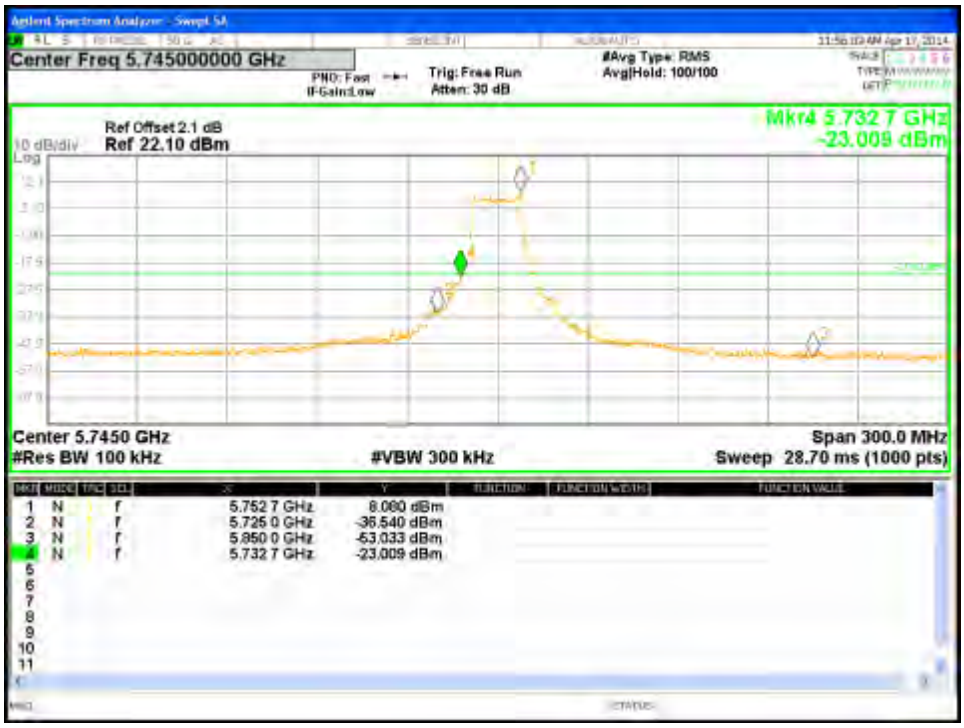


Figure 171: Conducted Band Edge-5745MHz-11a-6 Mbps-Ch1

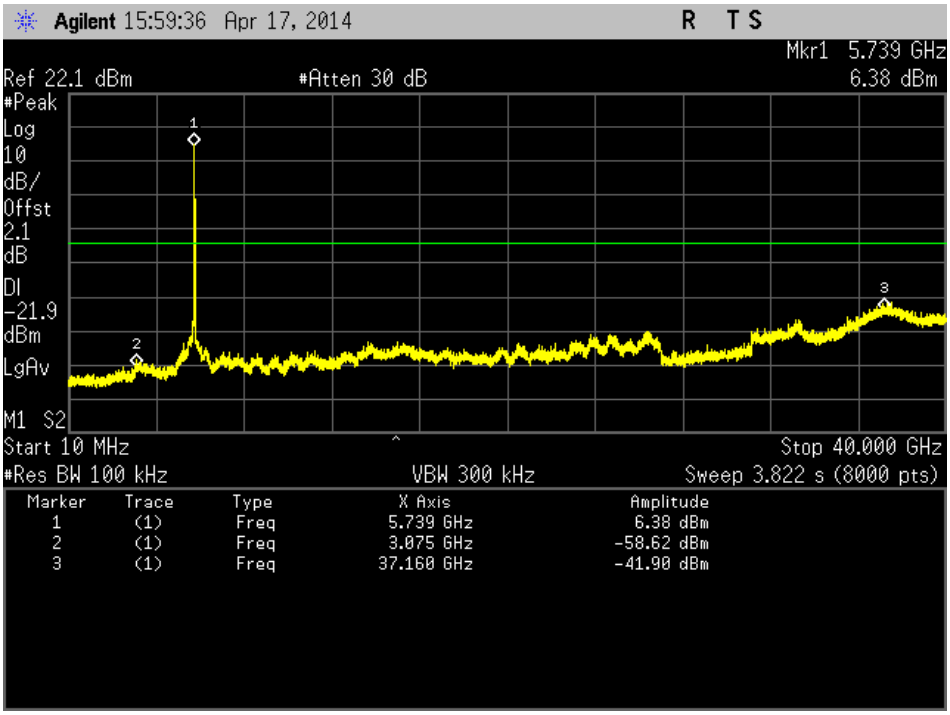


Figure 172: Out of Band Emission-802.11a-5745 MHz-6 Mbps-Ch1

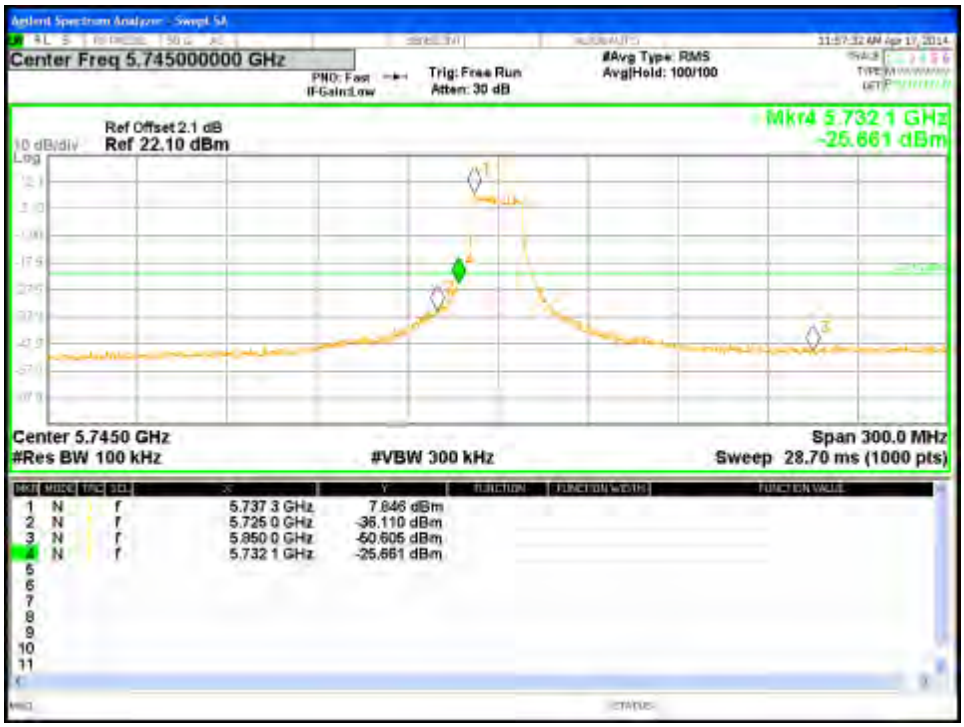


Figure 173: Conducted Band Edge-5745MHz-11a-6 Mbps-Ch2

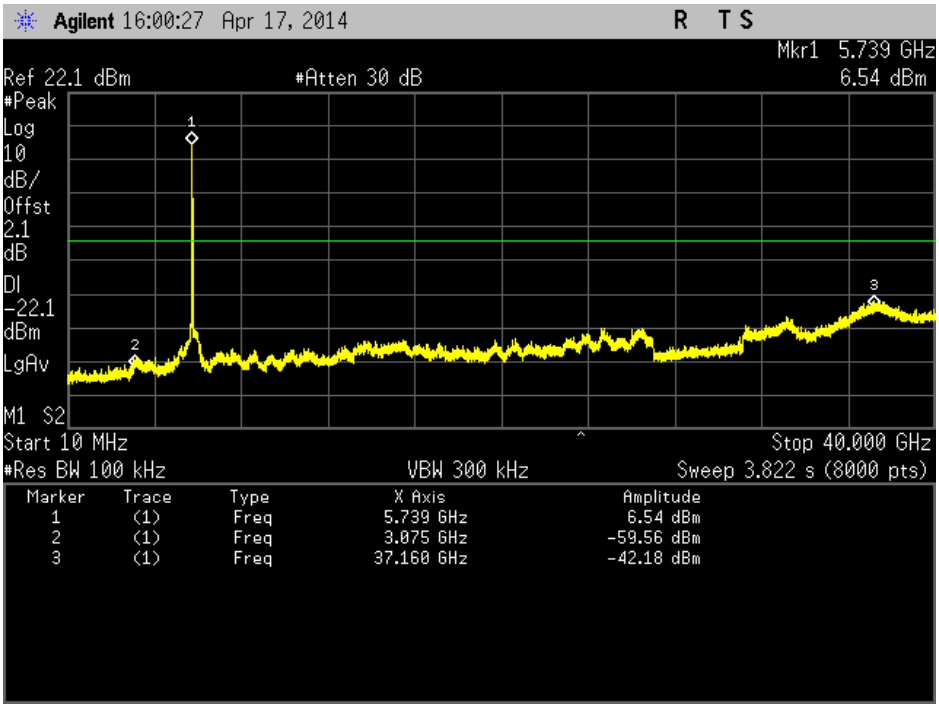


Figure 174: Out of Band Emission-802.11a-5745 MHz-6 Mbps-Ch2

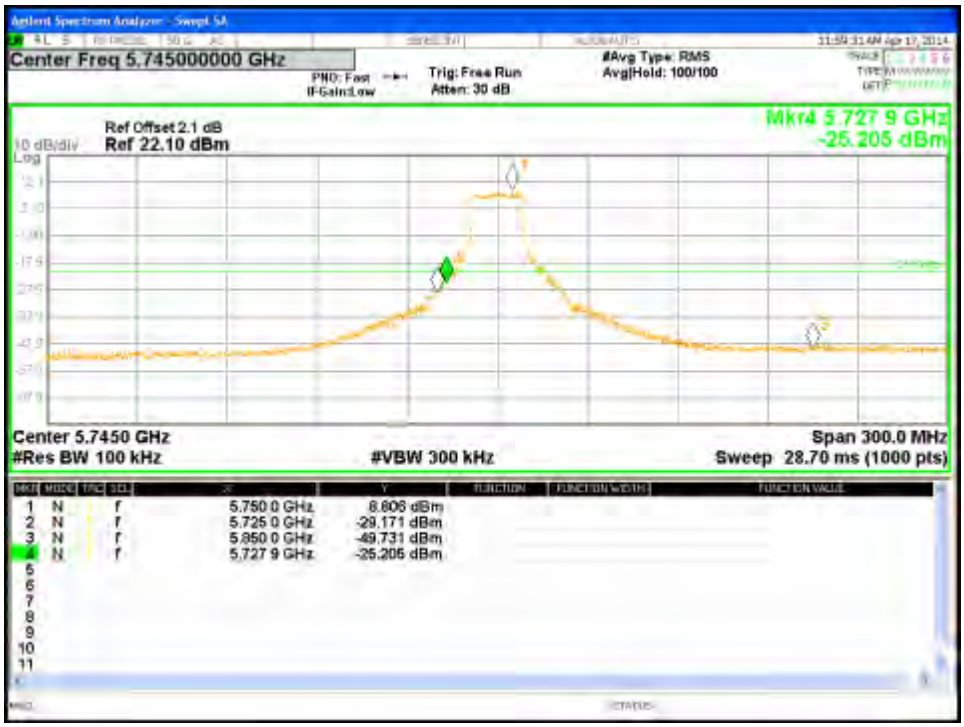


Figure 175: Conducted Band Edge-5745MHz-11a-6 Mbps-Ch3

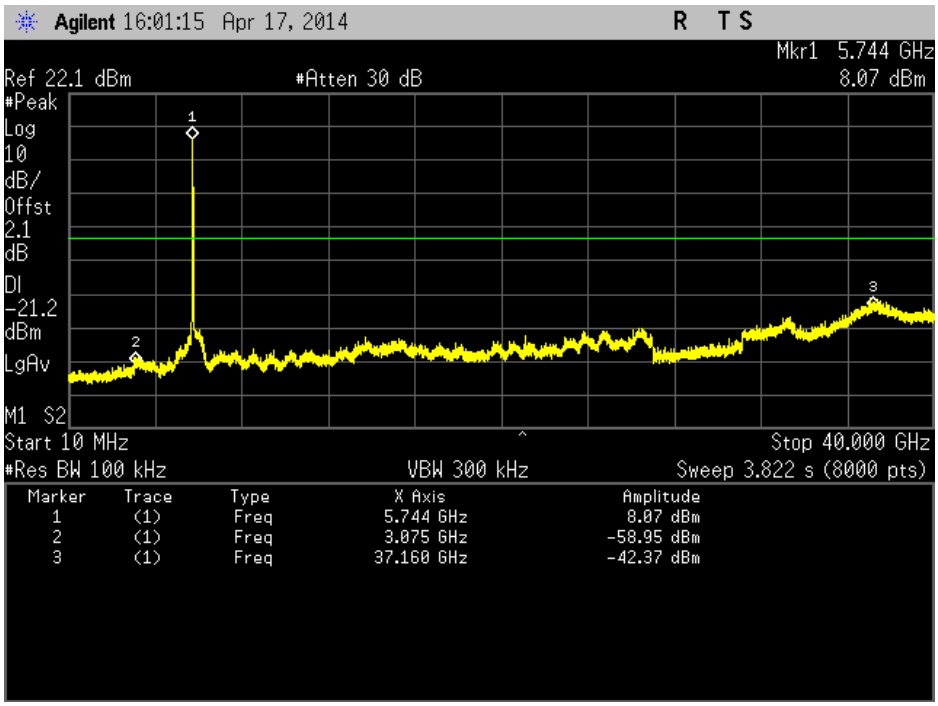


Figure 176: Out of Band Emission-802.11a-5745 MHz-6 Mbps-Ch3

Figure 177: Conducted Band Edge-5785MHz-11a-6 Mbps-Ch0

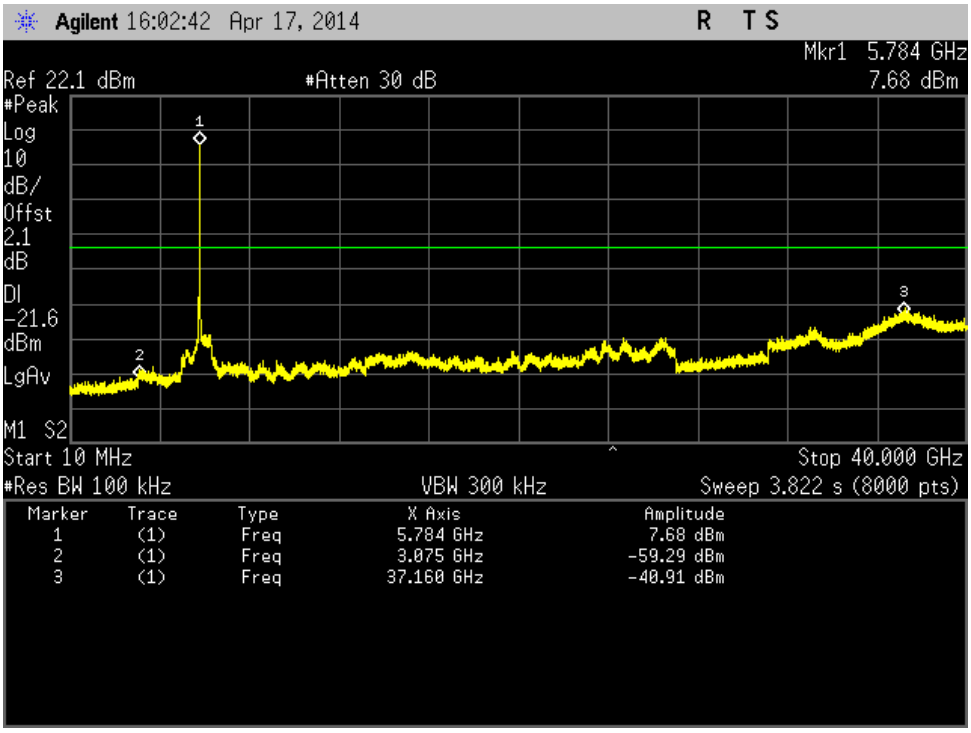


Figure 178: Out of Band Emission-802.11a-5785 MHz-6 Mbps-Ch0

Figure 179: Conducted Band Edge-5785MHz-11a-6 Mbps-Ch1

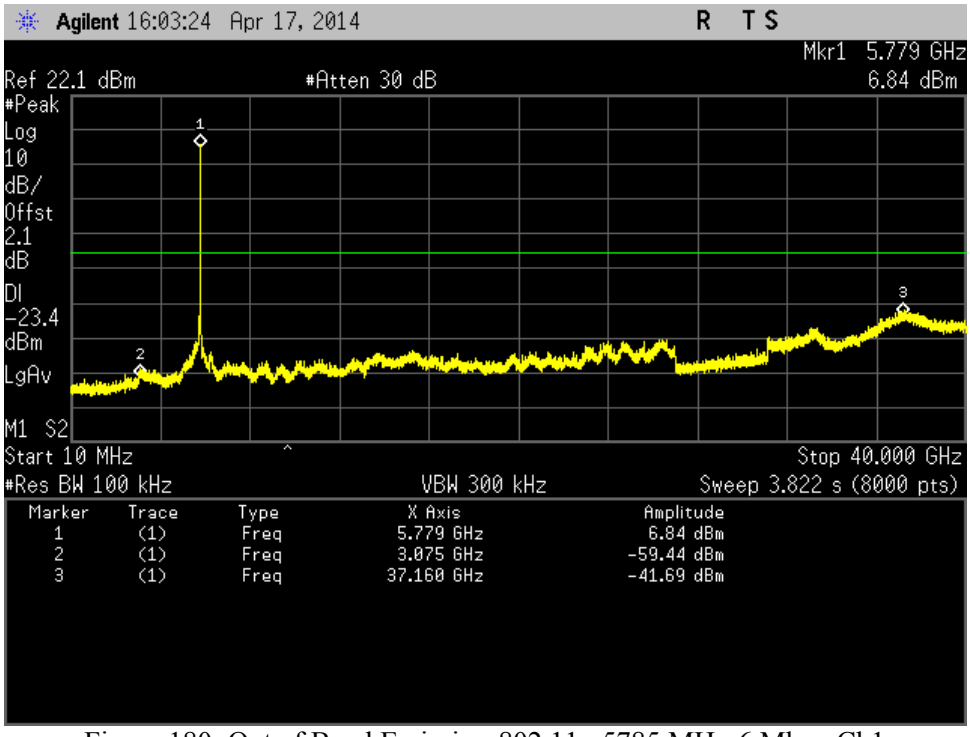


Figure 180: Out of Band Emission-802.11a-5785 MHz-6 Mbps-Ch1

Figure 181: Conducted Band Edge-5785MHz-11a-6 Mbps-Ch2

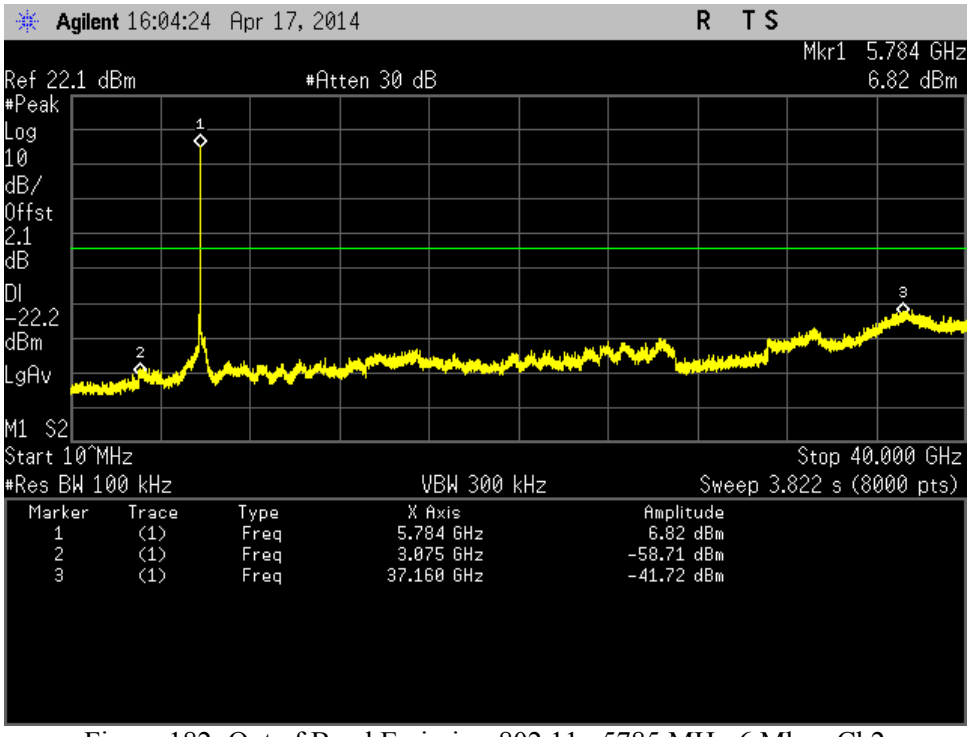


Figure 182: Out of Band Emission-802.11a-5785 MHz-6 Mbps-Ch2

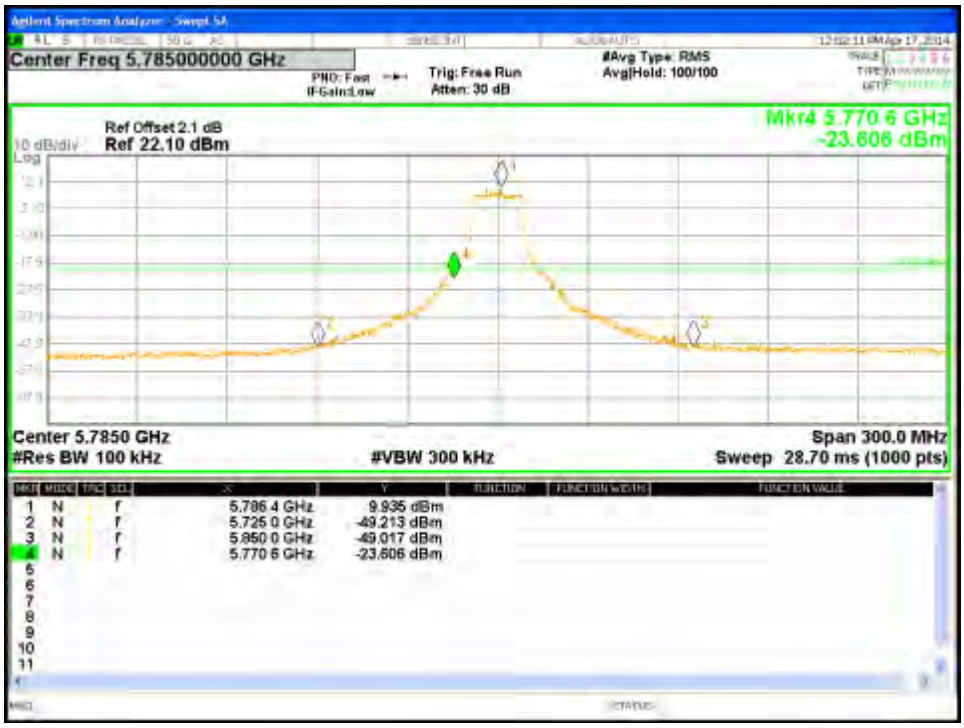


Figure 183: Conducted Band Edge-5785MHz-11a-6 Mbps-Ch3

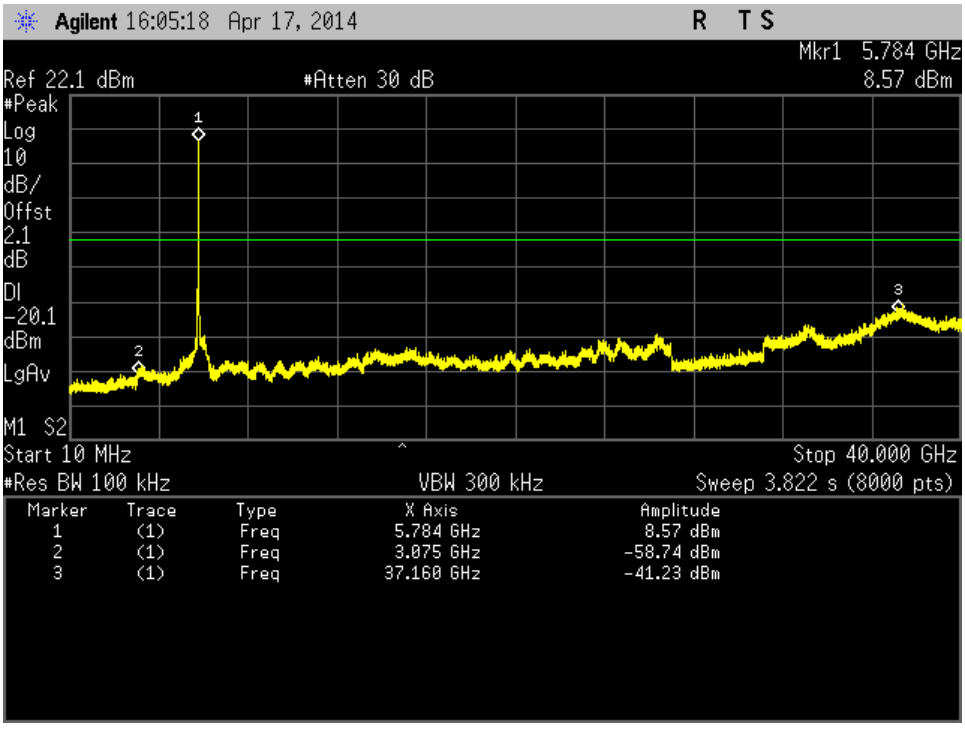


Figure 184: Out of Band Emission-802.11a-5785 MHz-6 Mbps-Ch3

Figure 185: Conducted Band Edge-5825MHz-11a-6 Mbps-Ch0

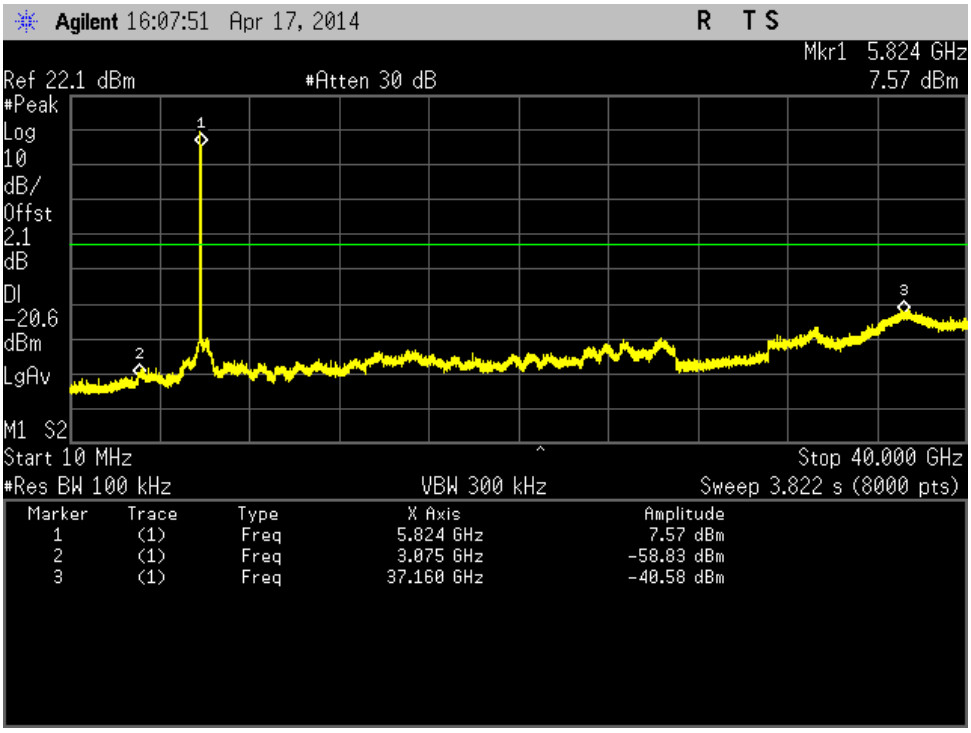


Figure 186: Out of Band Emission-802.11a-5825 MHz-6 Mbps-Ch0

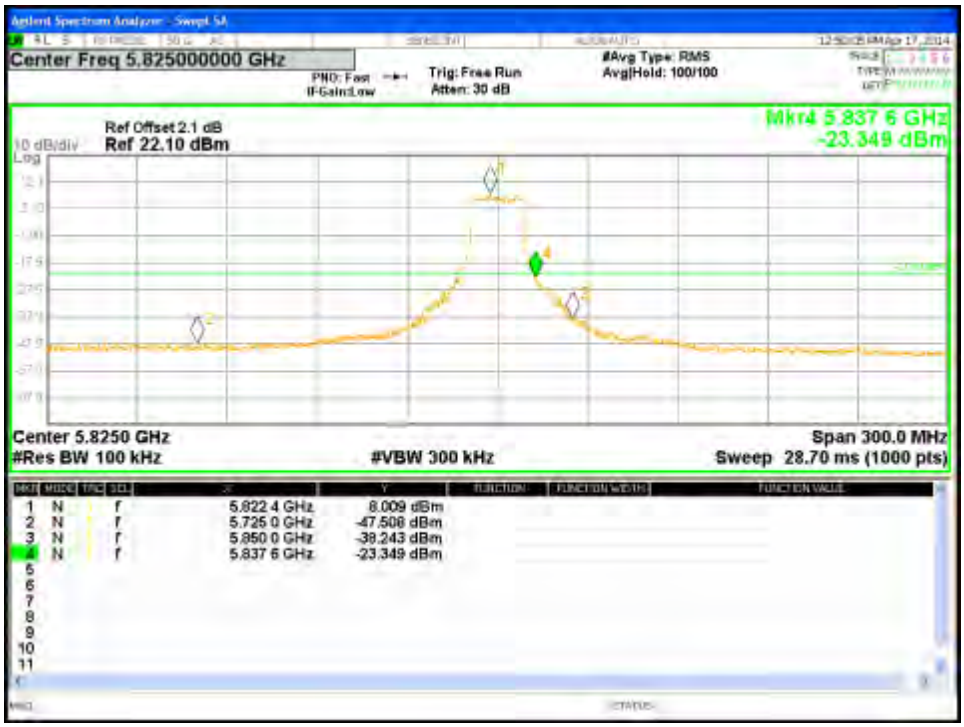


Figure 187: Conducted Band Edge-5825MHz-11a-6 Mbps-Ch1

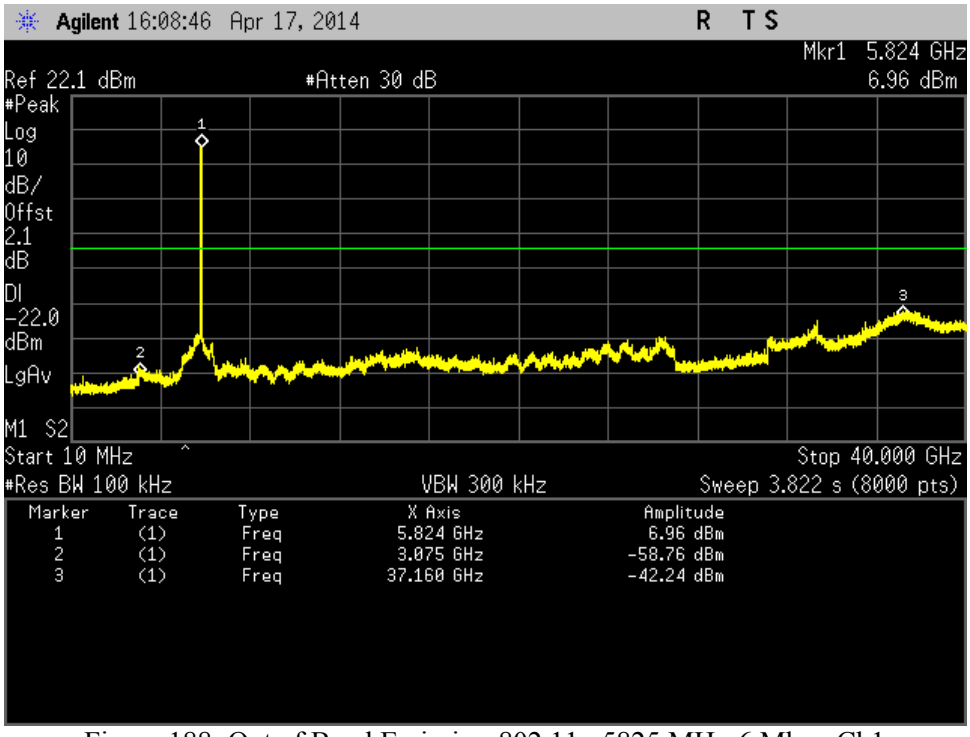


Figure 188: Out of Band Emission-802.11a-5825 MHz-6 Mbps-Ch1

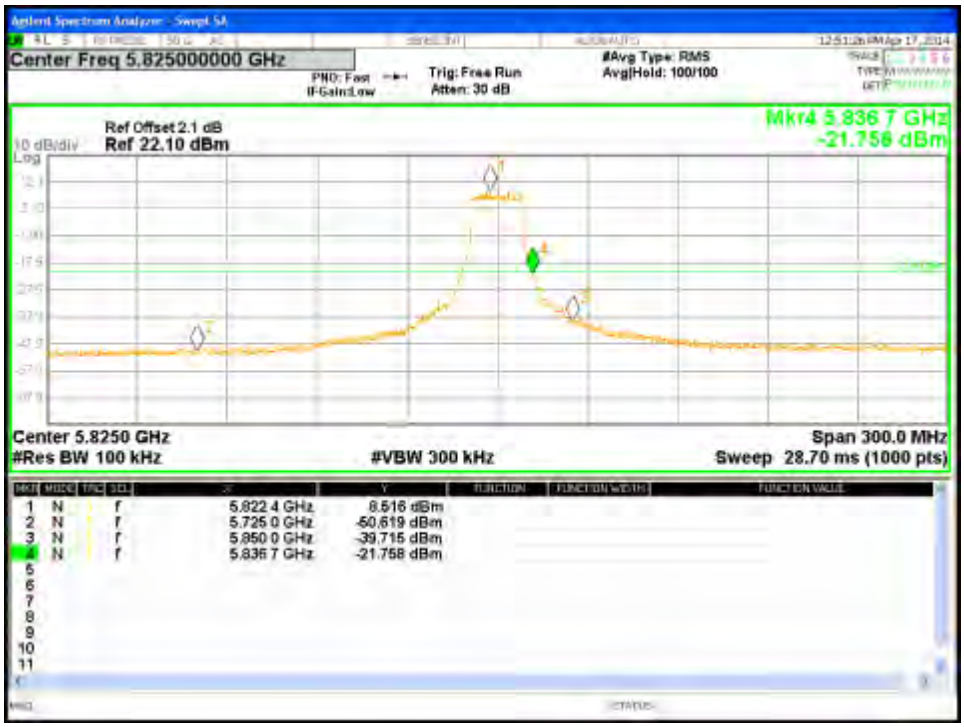


Figure 189: Conducted Band Edge-5825MHz-11a-6 Mbps-Ch2

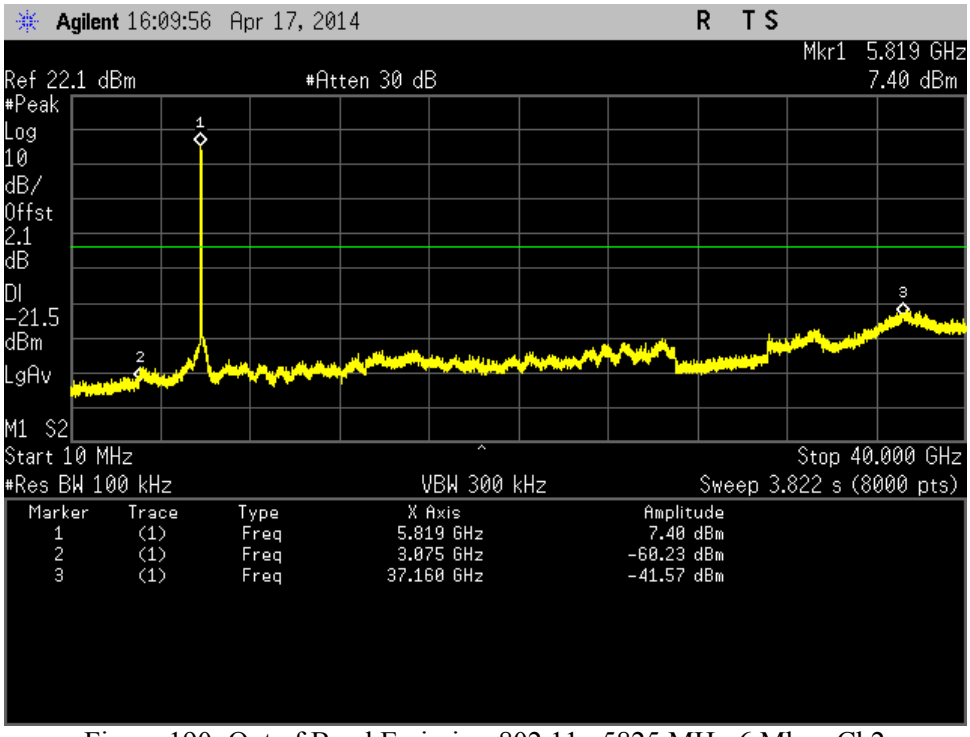


Figure 190: Out of Band Emission-802.11a-5825 MHz-6 Mbps-Ch2

Figure 191: Conducted Band Edge-5825MHz-11a-6 Mbps-Ch3

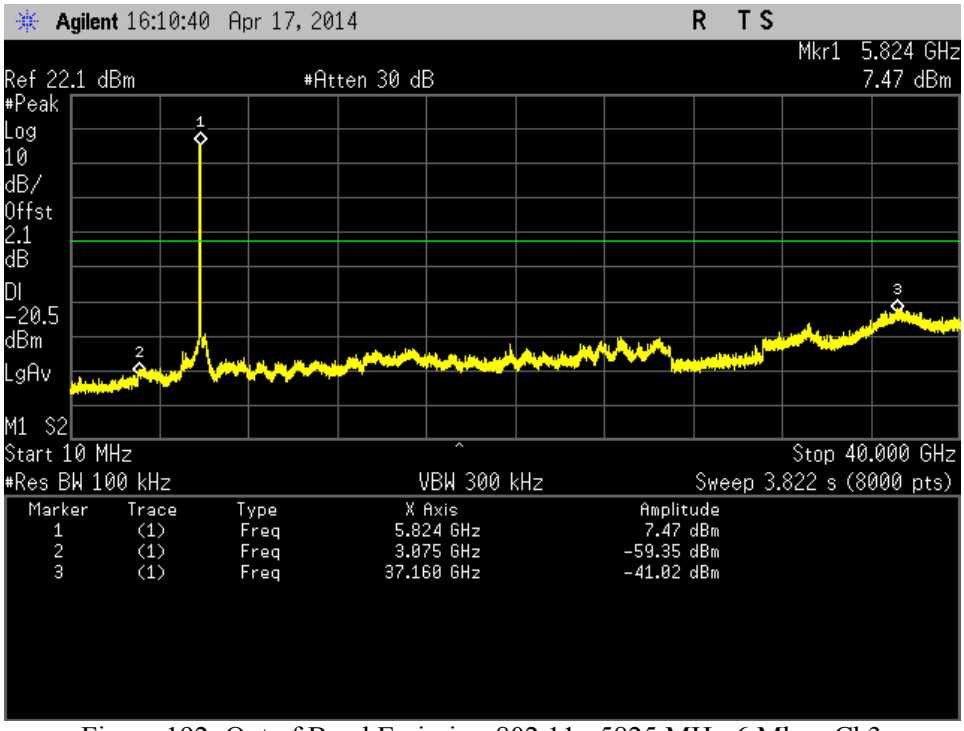


Figure 192: Out of Band Emission-802.11a-5825 MHz-6 Mbps-Ch3

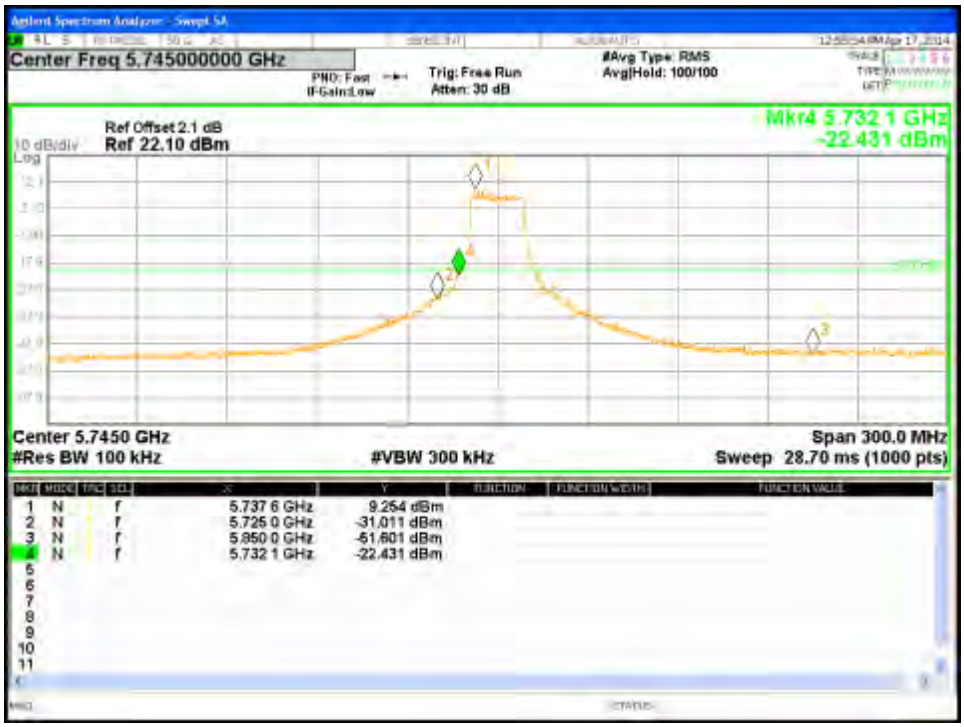


Figure 193: Conducted Band Edge-5745MHz-HT20-MCS0-Ch0

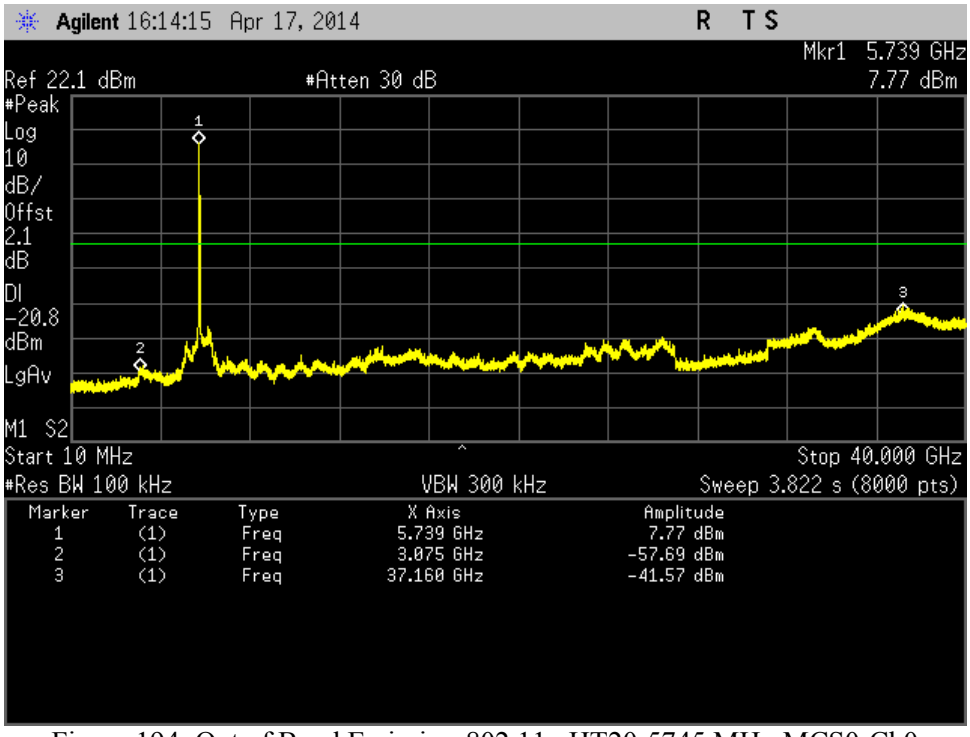


Figure 194: Out of Band Emission-802.11n HT20-5745 MHz-MCS0-Ch0

Figure 195: Conducted Band Edge-5745MHz-HT20-MCS0-Ch1

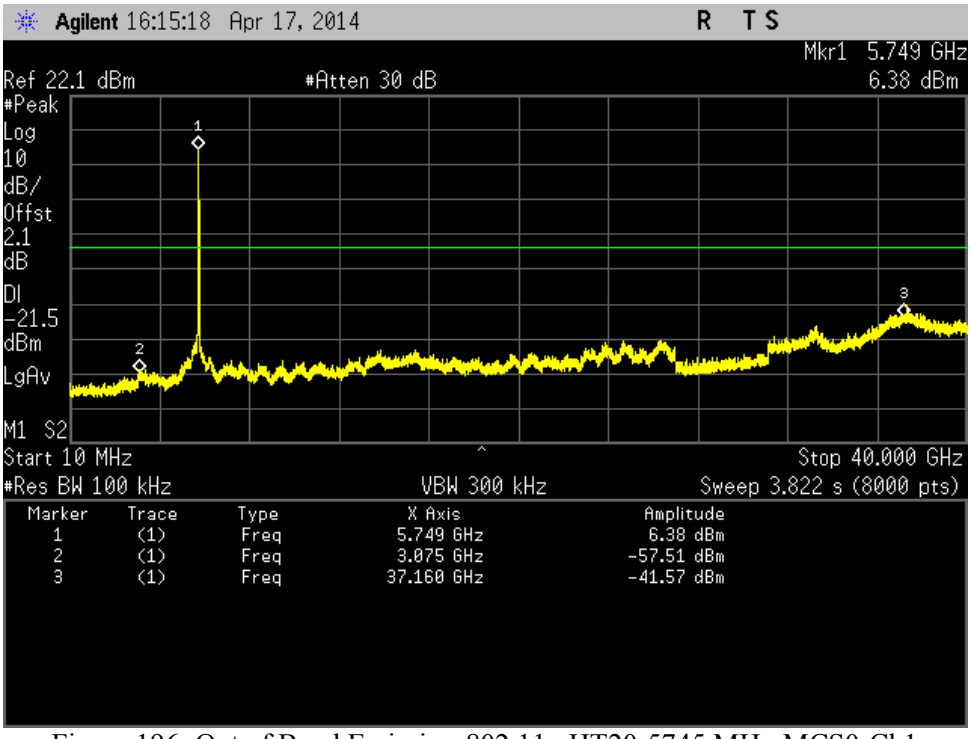


Figure 196: Out of Band Emission-802.11n HT20-5745 MHz-MCS0-Ch1

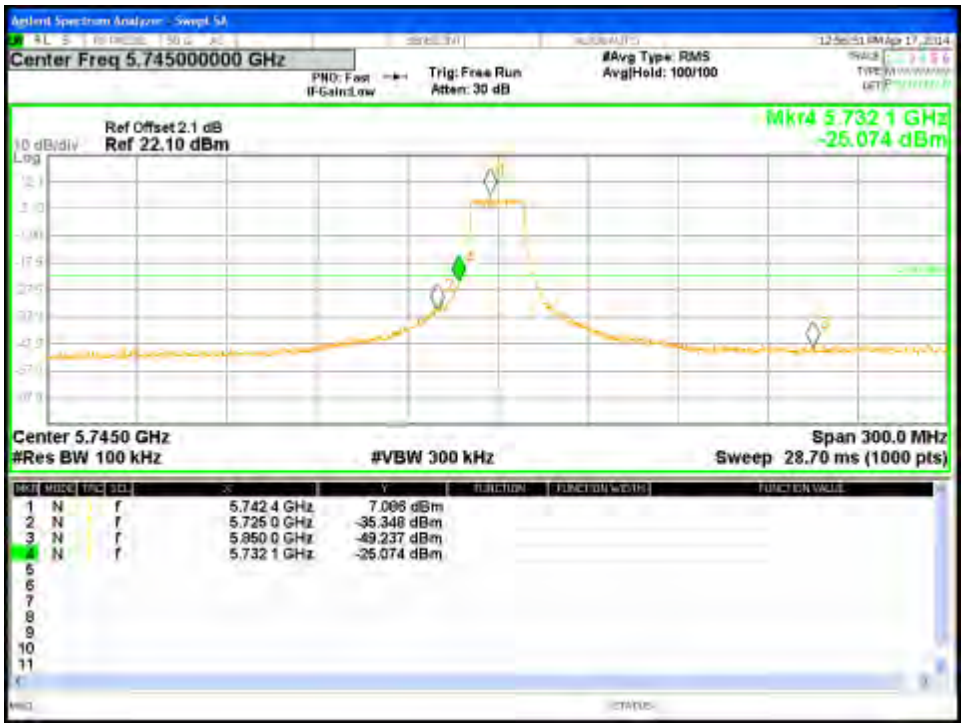


Figure 197: Conducted Band Edge-5745MHz-HT20-MCS0-Ch2

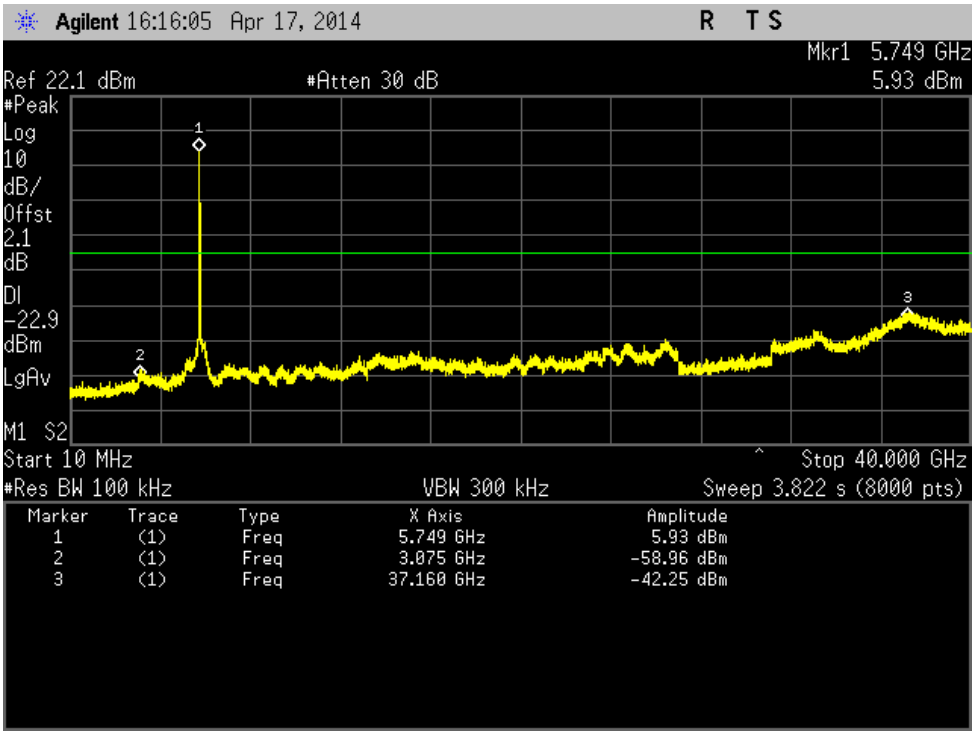


Figure 198: Out of Band Emission-802.11n HT20-5745 MHz-MCS0-Ch2

Figure 199: Conducted Band Edge-5745MHz-HT20-MCS0-Ch3

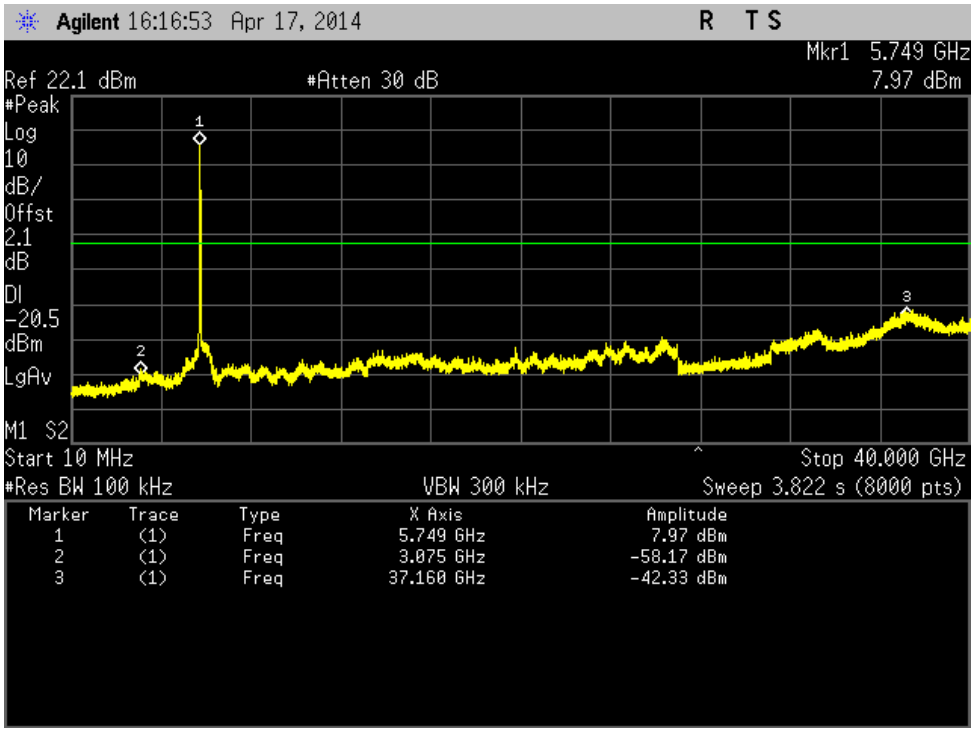


Figure 200: Out of Band Emission-802.11n HT20-5745 MHz-MCS0-Ch3

Figure 201: Conducted Band Edge-5785MHz-HT20-MCS0-Ch0

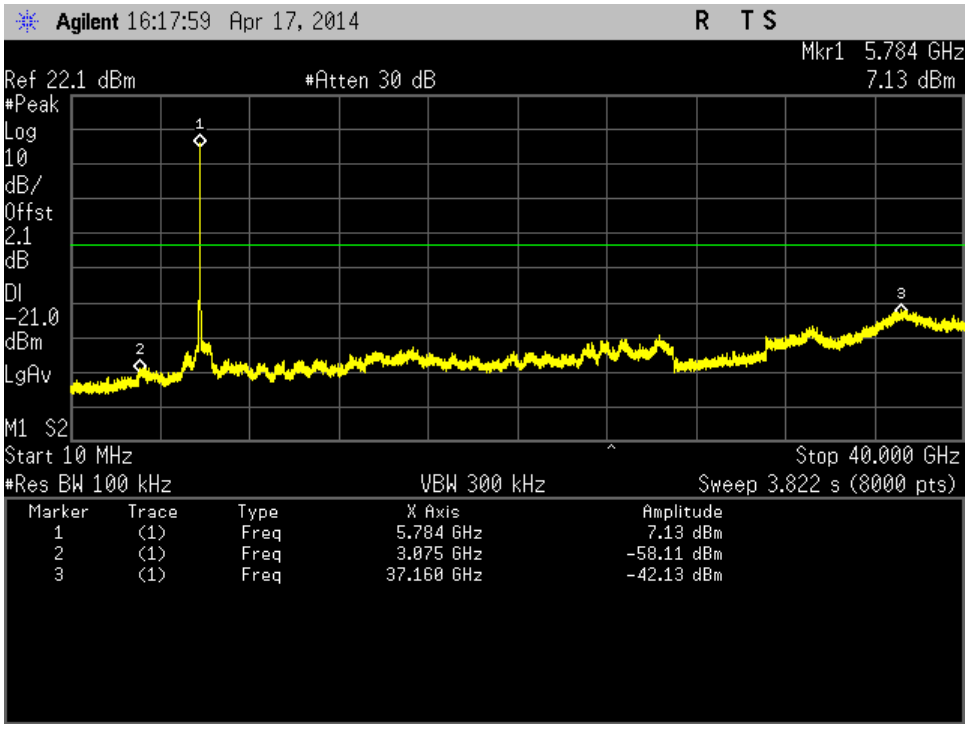


Figure 202: Out of Band Emission-802.11n HT20-5785 MHz-MCS0-Ch0

Figure 203: Conducted Band Edge-5785MHz-HT20-MCS0-Ch1

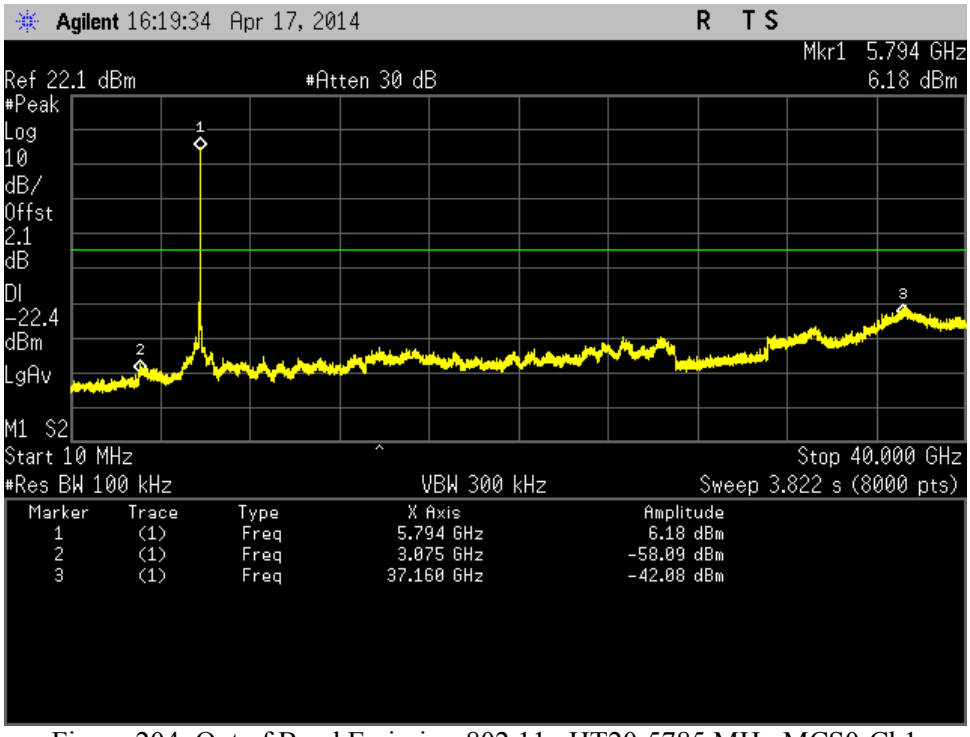


Figure 204: Out of Band Emission-802.11n HT20-5785 MHz-MCS0-Ch1

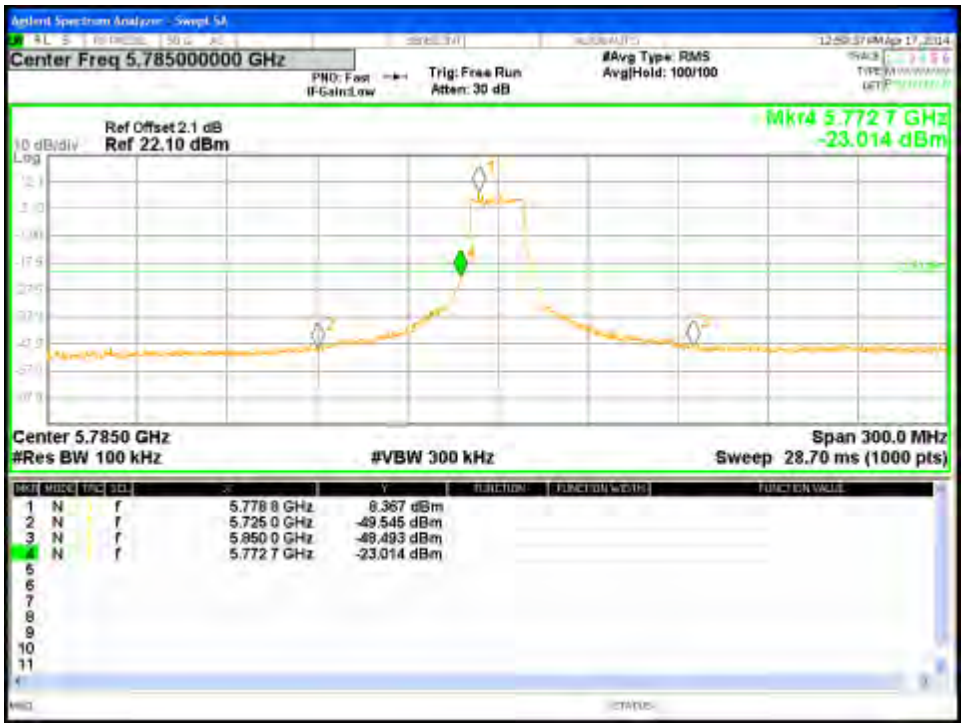


Figure 205: Conducted Band Edge-5785MHz-HT20-MCS0-Ch2

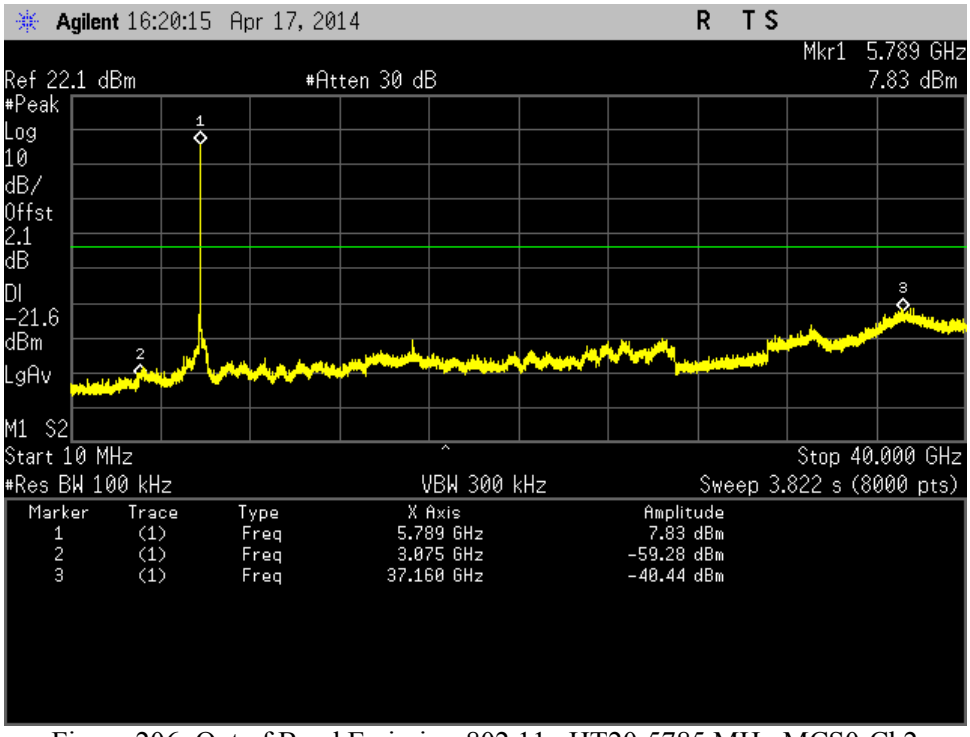


Figure 206: Out of Band Emission-802.11n HT20-5785 MHz-MCS0-Ch2

Figure 207: Conducted Band Edge-5785MHz-HT20-MCS0-Ch3

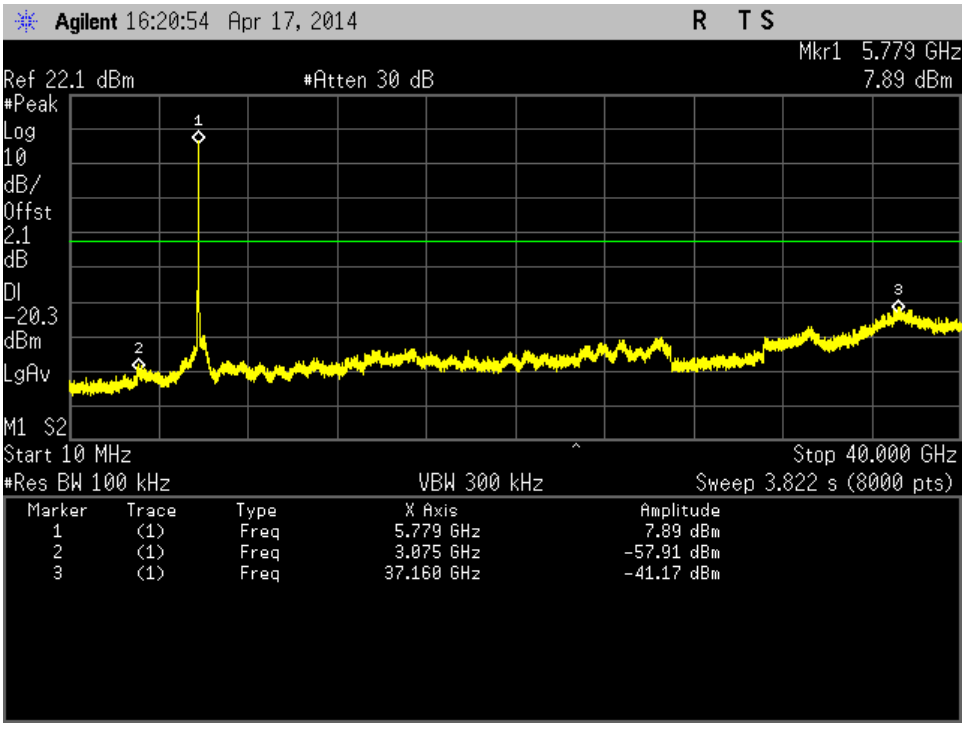


Figure 208: Out of Band Emission-802.11n HT20-5785 MHz-MCS0-Ch3

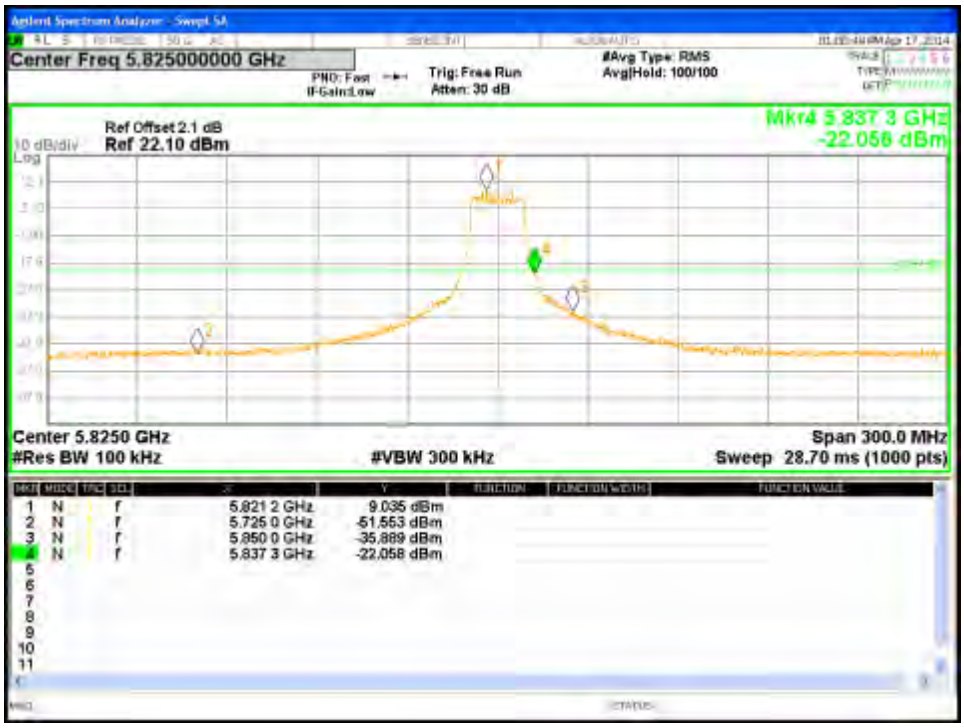


Figure 209: Conducted Band Edge-5825MHz-HT20-MCS0-Ch0

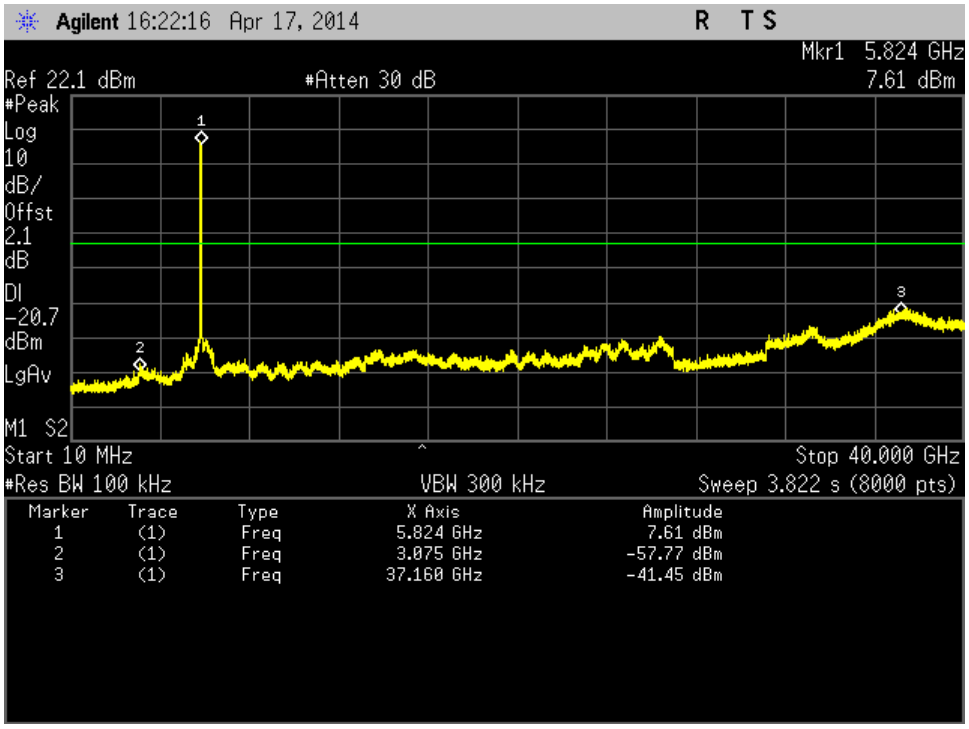


Figure 210: Out of Band Emission-802.11n HT20-5825 MHz-MCS0-Ch0

Figure 211: Conducted Band Edge-5825MHz-HT20-MCS0-Ch1

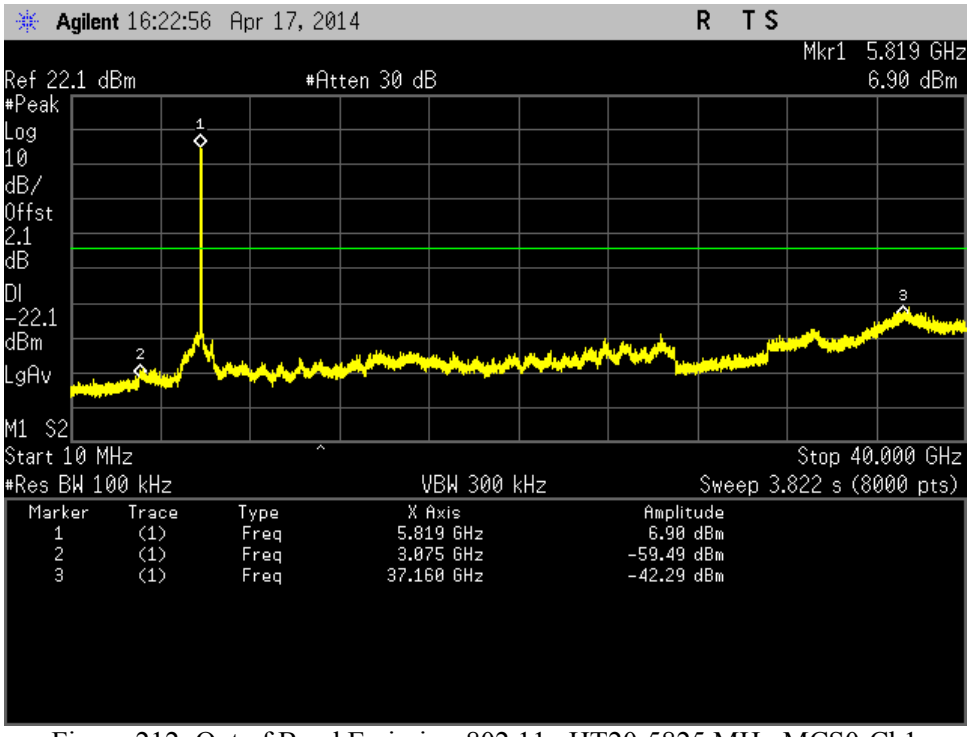


Figure 212: Out of Band Emission-802.11n HT20-5825 MHz-MCS0-Ch1

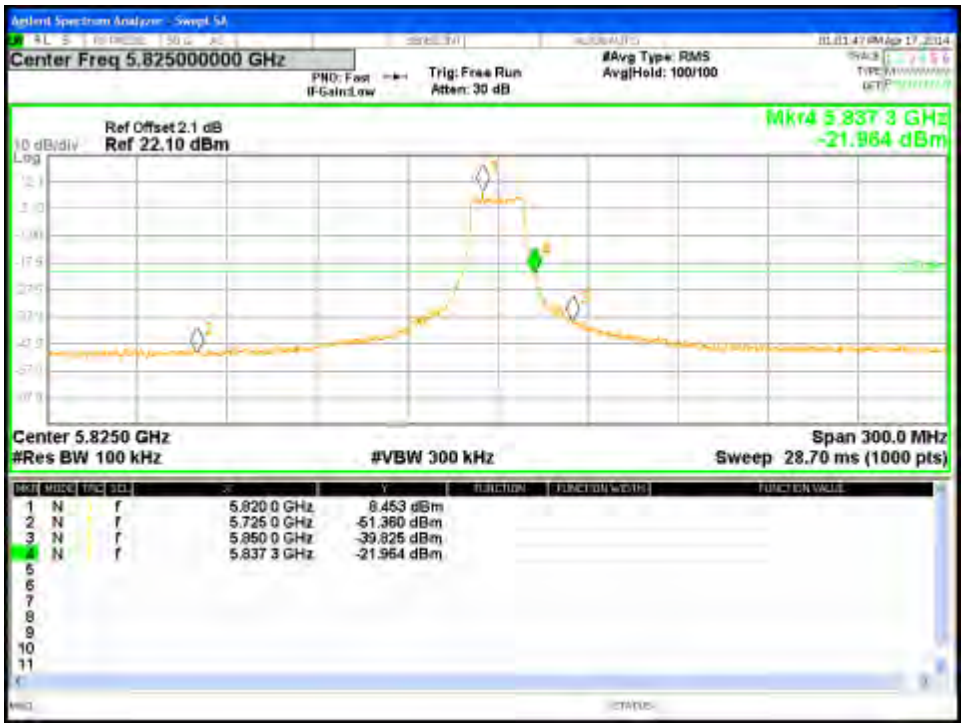


Figure 213: Conducted Band Edge-5825MHz-HT20-MCS0-Ch2

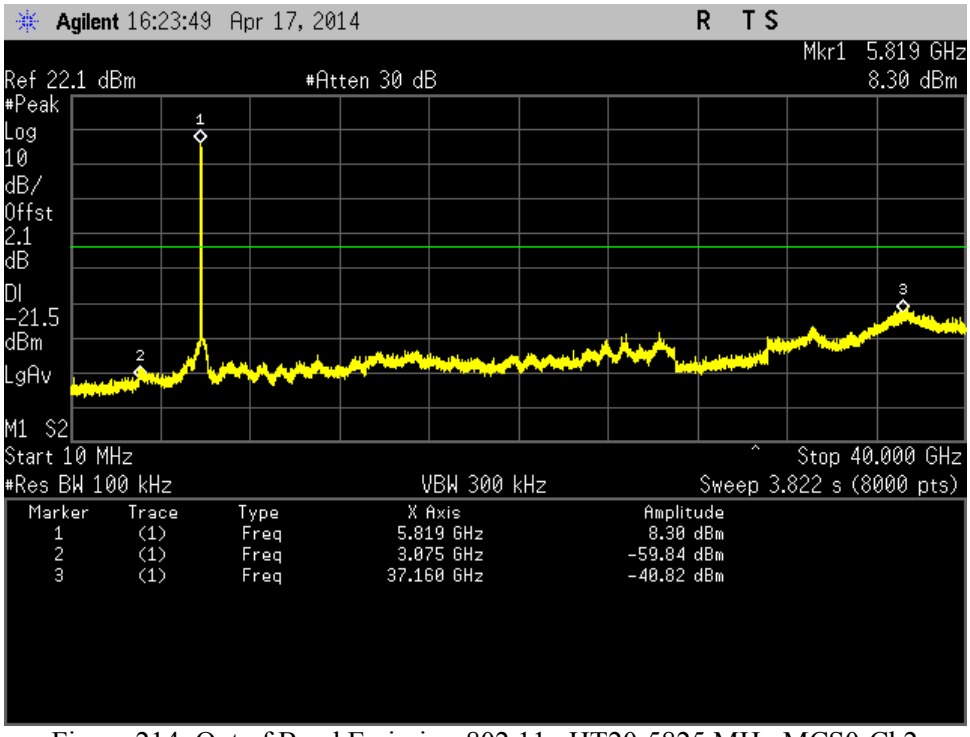


Figure 214: Out of Band Emission-802.11n HT20-5825 MHz-MCS0-Ch2

Figure 215: Conducted Band Edge-5825MHz-HT20-MCS0-Ch3

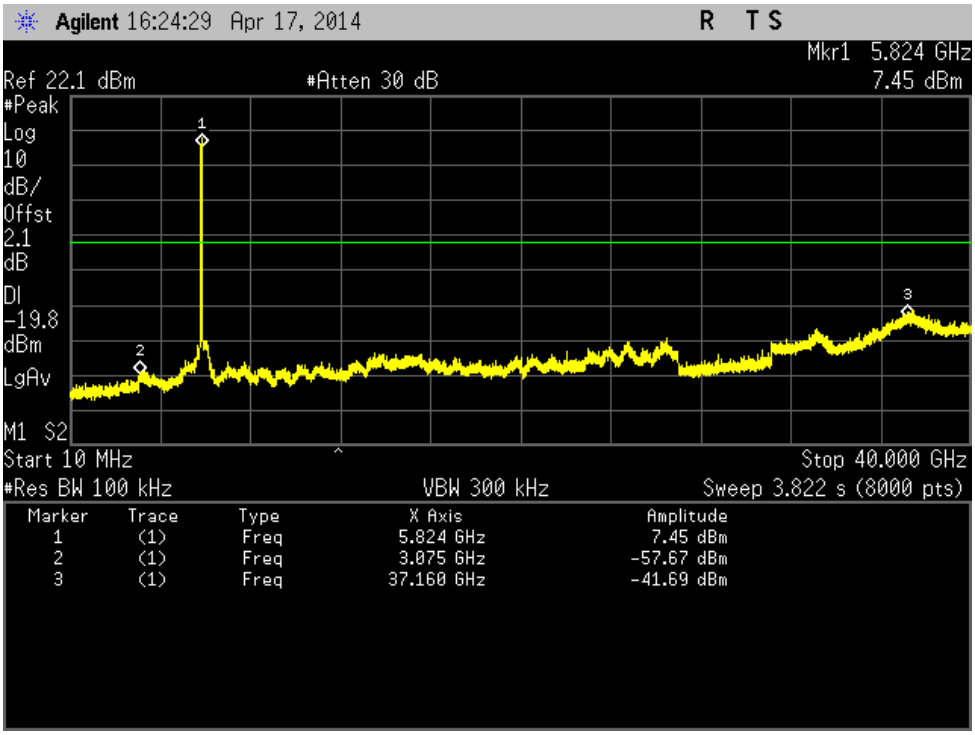


Figure 216: Out of Band Emission-802.11n HT20-5825 MHz-MCS0-Ch3

Figure 217: Conducted Band Edge-5755MHz-HT40-MCS0-Ch0

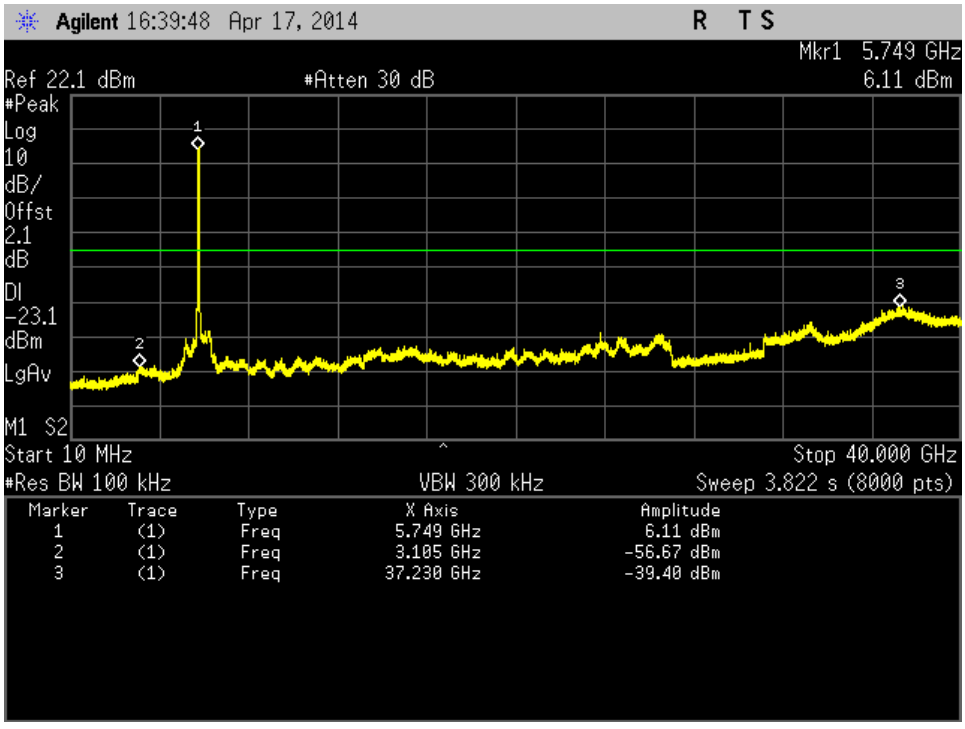


Figure 218: Out of Band Emission-802.11n HT40-5755 MHz-MCS0-Ch0

Figure 219: Conducted Band Edge-5755MHz-HT40-MCS0-Ch1

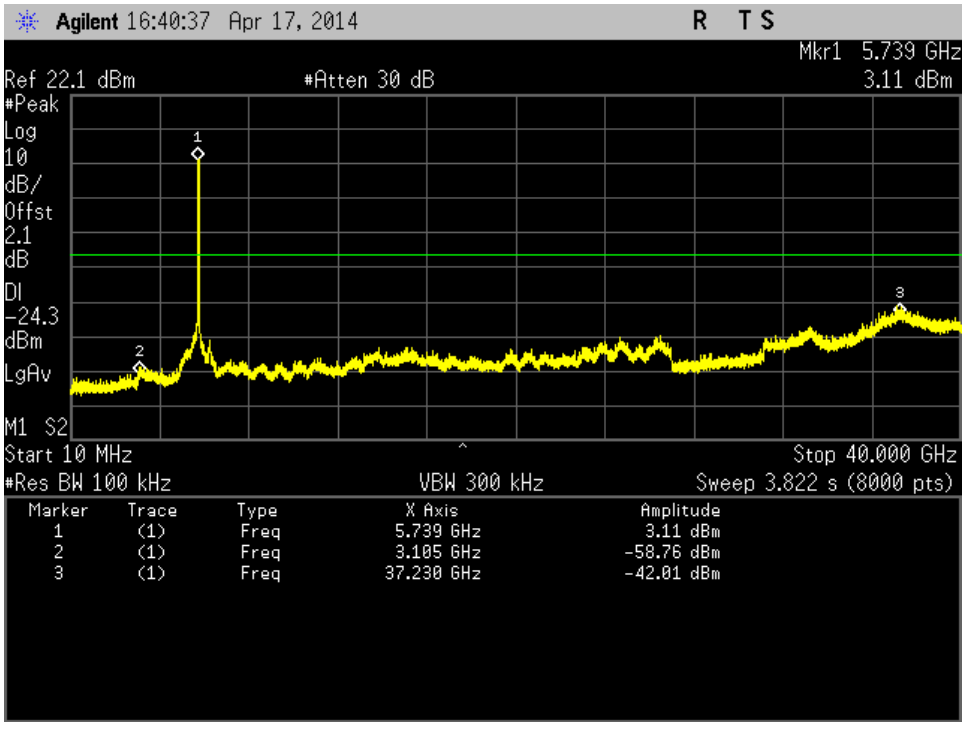


Figure 220: Out of Band Emission-802.11n HT40-5755 MHz-MCS0-Ch1

Figure 221: Conducted Band Edge-5755MHz-HT40-MCS0-Ch2

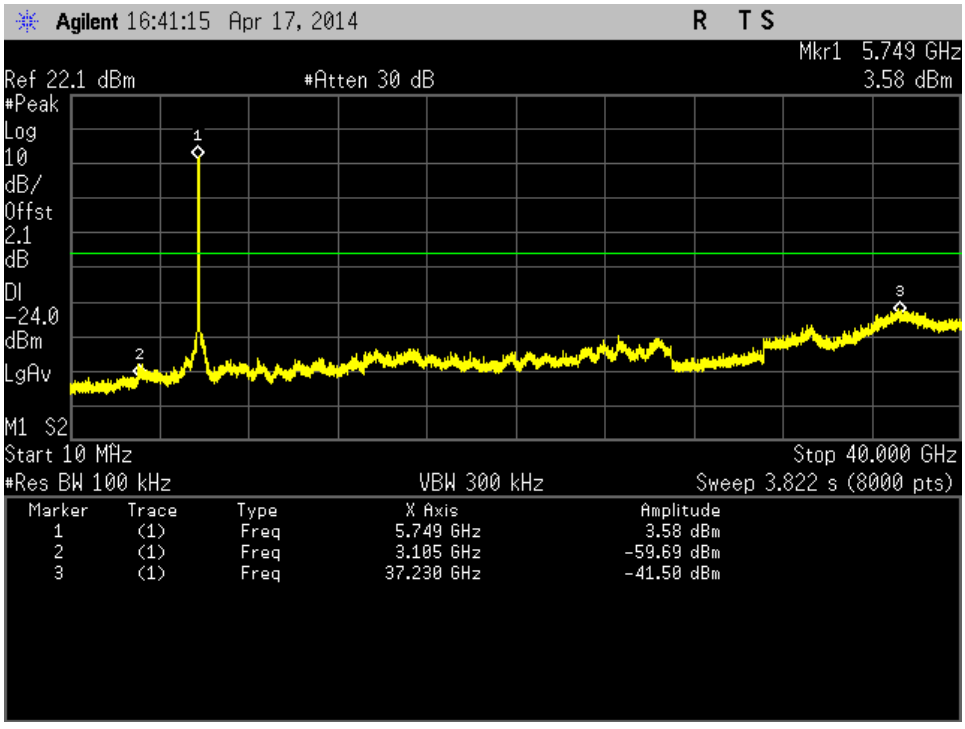


Figure 222: Out of Band Emission-802.11n HT40-5755 MHz-MCS0-Ch2

Figure 223: Conducted Band Edge-5755MHz-HT40-MCS0-Ch3

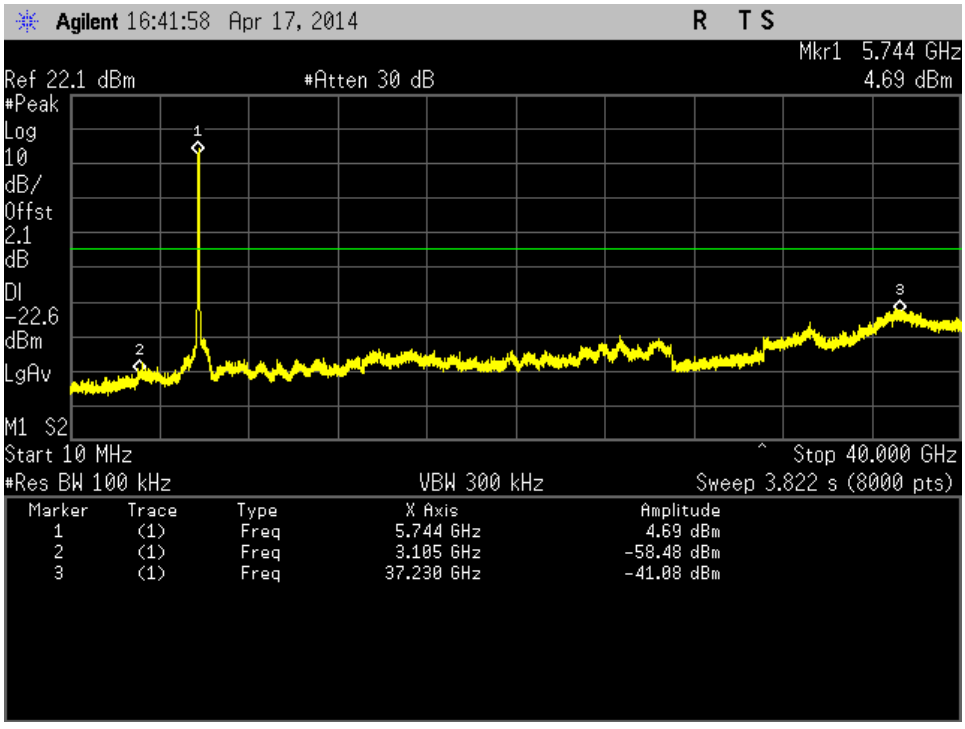


Figure 224: Out of Band Emission-802.11n HT40-5755 MHz-MCS0-Ch3

Figure 225: Conducted Band Edge-5795MHz-HT40-MCS0-Ch0

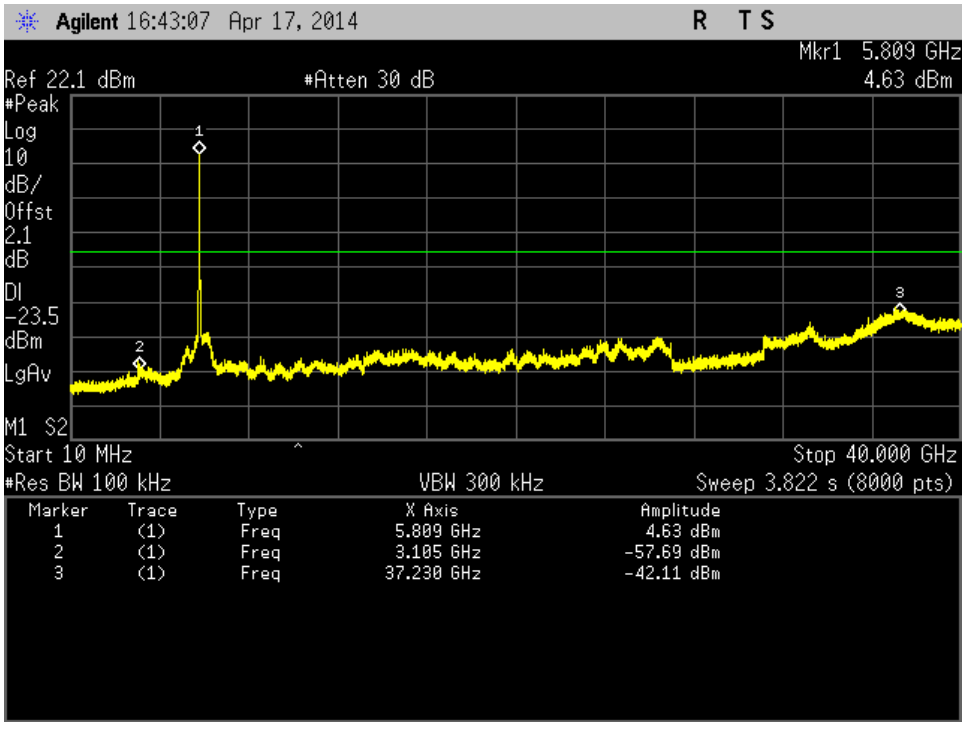


Figure 226: Out of Band Emission-802.11n HT40-5795 MHz-MCS0-Ch0

Figure 227: Conducted Band Edge-5795MHz-HT40-MCS0-Ch1

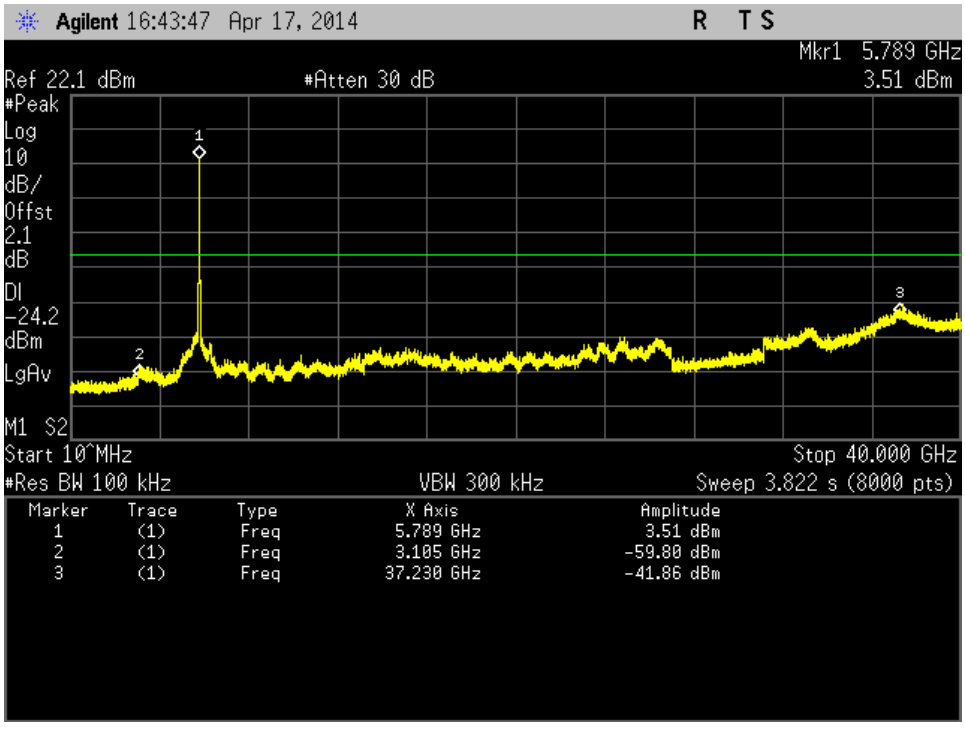


Figure 228: Out of Band Emission-802.11n HT40-5795 MHz-MCS0-Ch1

Figure 229: Conducted Band Edge-5795MHz-HT40-MCS0-Ch2

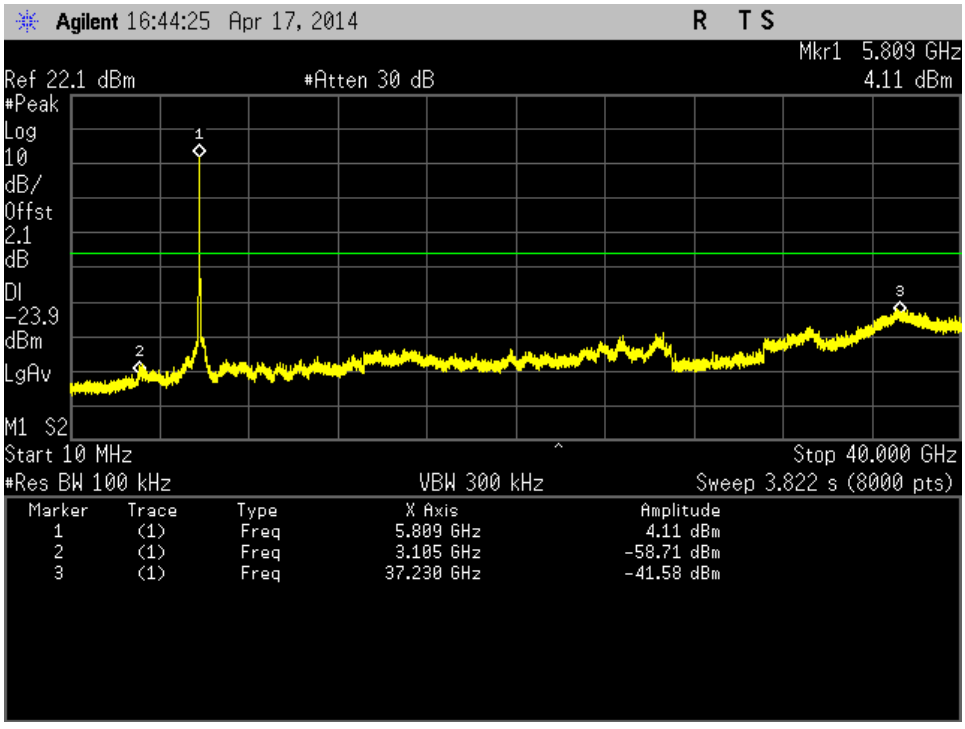


Figure 230: Out of Band Emission-802.11n HT40-5795 MHz-MCS0-Ch2

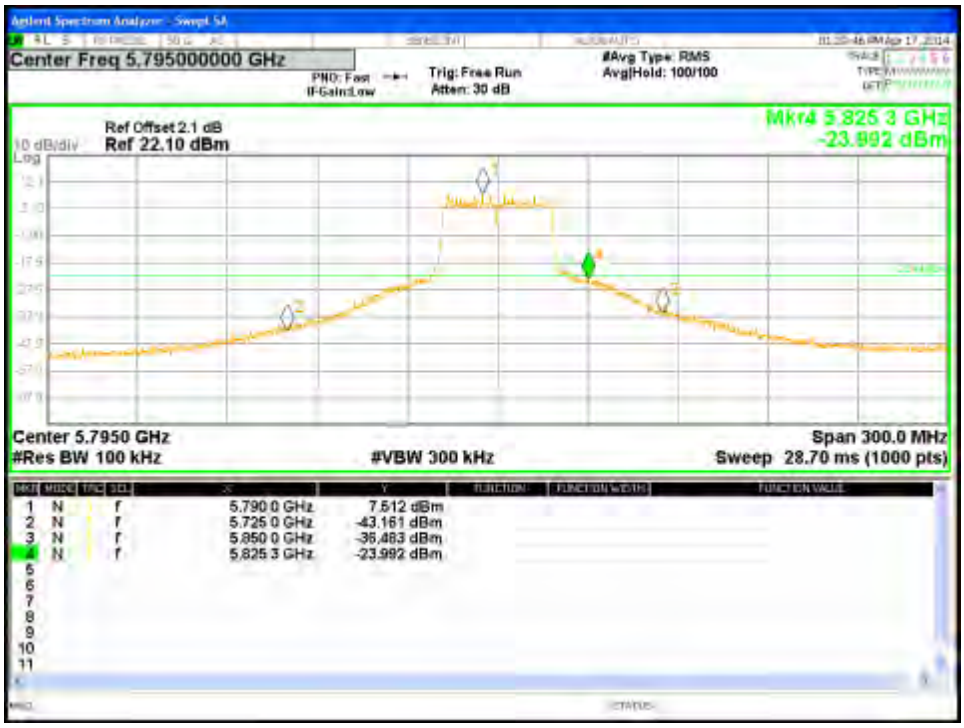


Figure 231: Conducted Band Edge-5795MHz-HT40-MCS0-Ch3

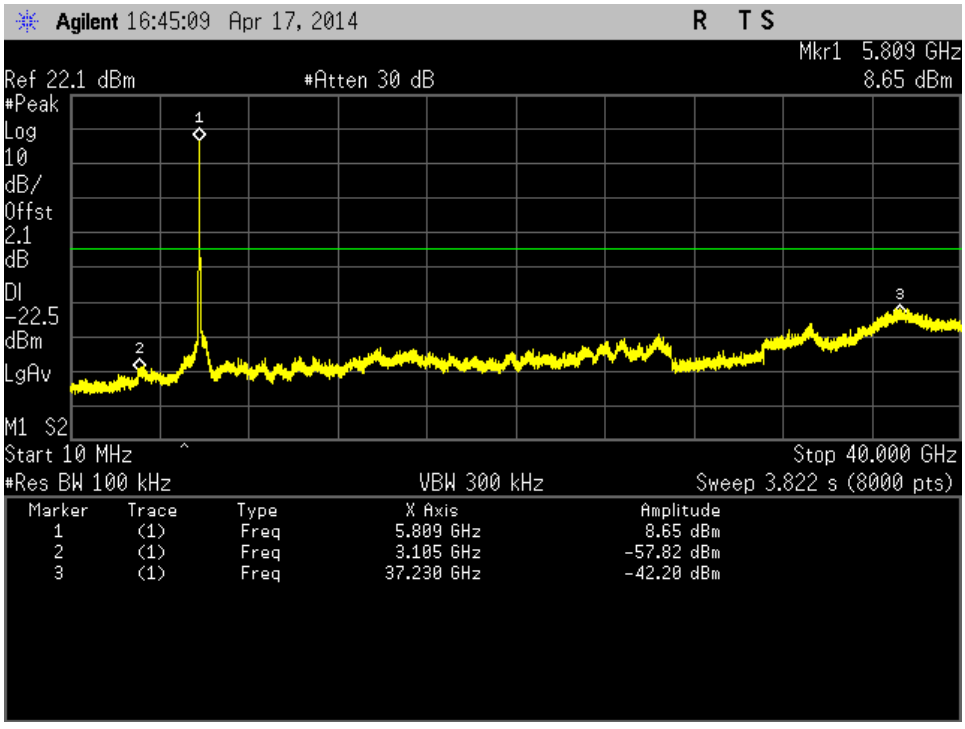


Figure 232: Out of Band Emission-802.11n HT40-5795 MHz-MCS0-Ch3

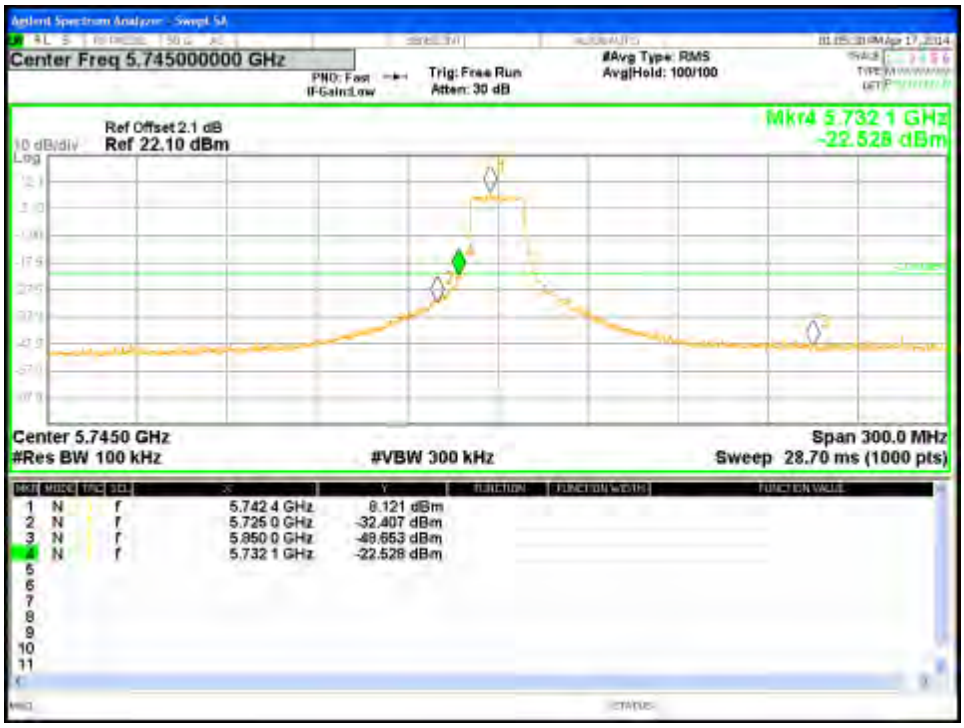


Figure 233: Conducted Band Edge-5745MHz-VHT20-MCS0-Ch0

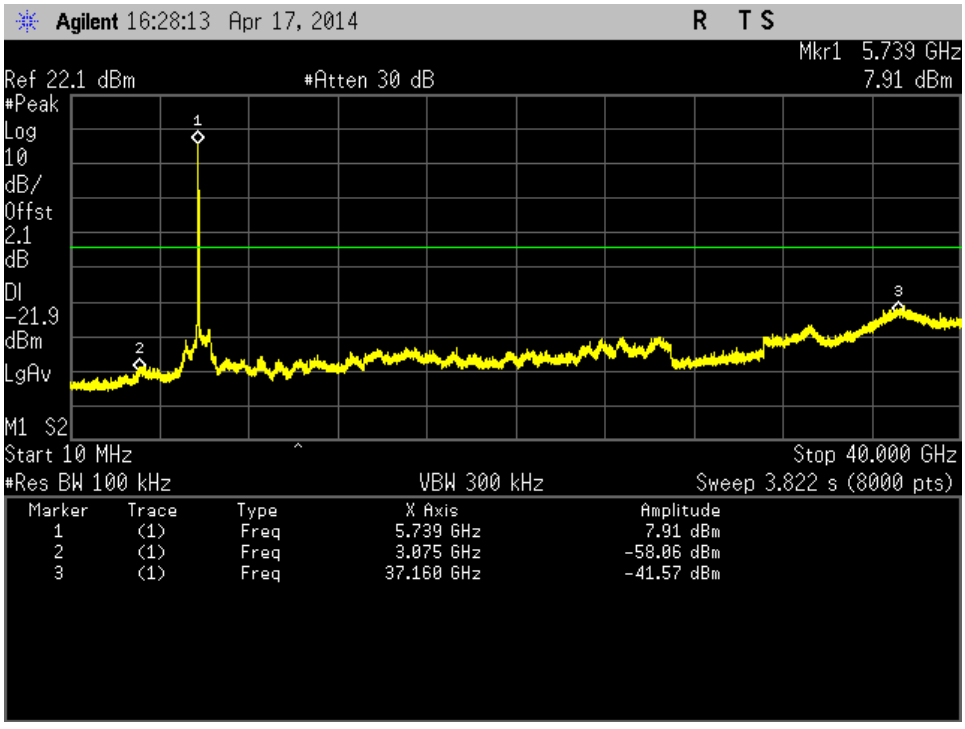


Figure 234: Out of Band Emission-802.11ac VHT20-5745 MHz-MCS0-Ch0

Figure 235: Conducted Band Edge-5745MHz-VHT20-MCS0-Ch1

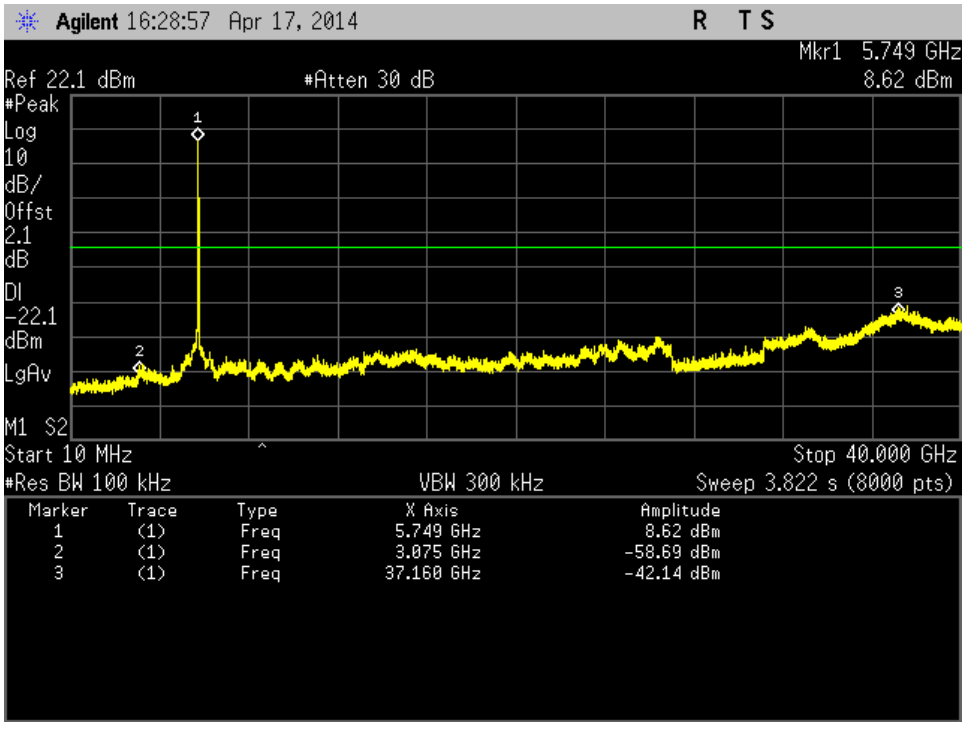


Figure 236: Out of Band Emission-802.11ac VHT20-5745 MHz-MCS0-Ch1

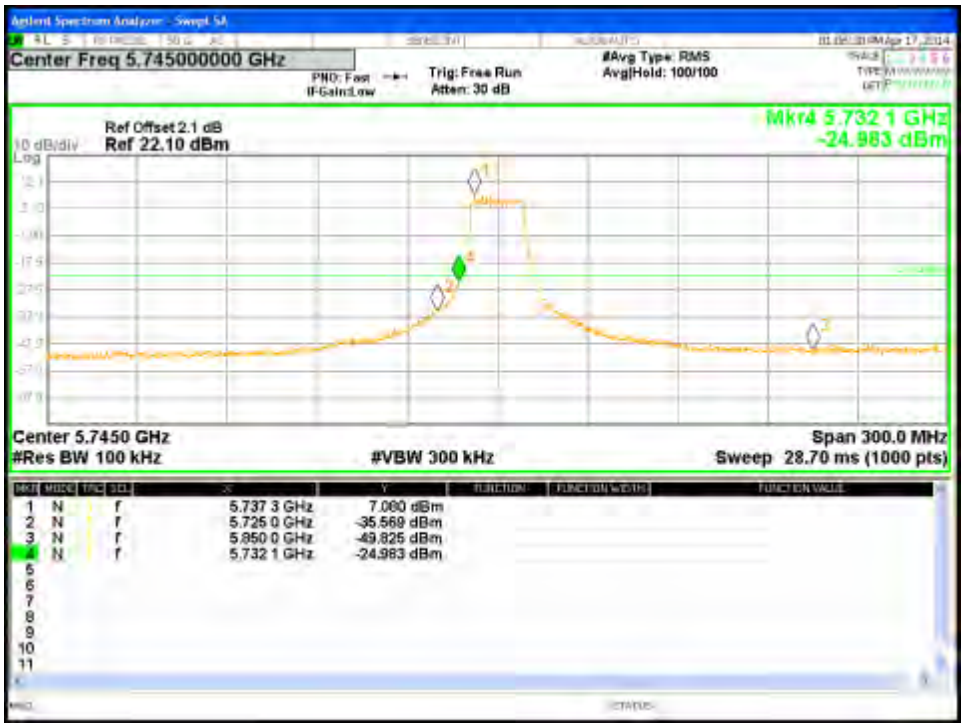


Figure 237: Conducted Band Edge-5745MHz-VHT20-MCS0-Ch2

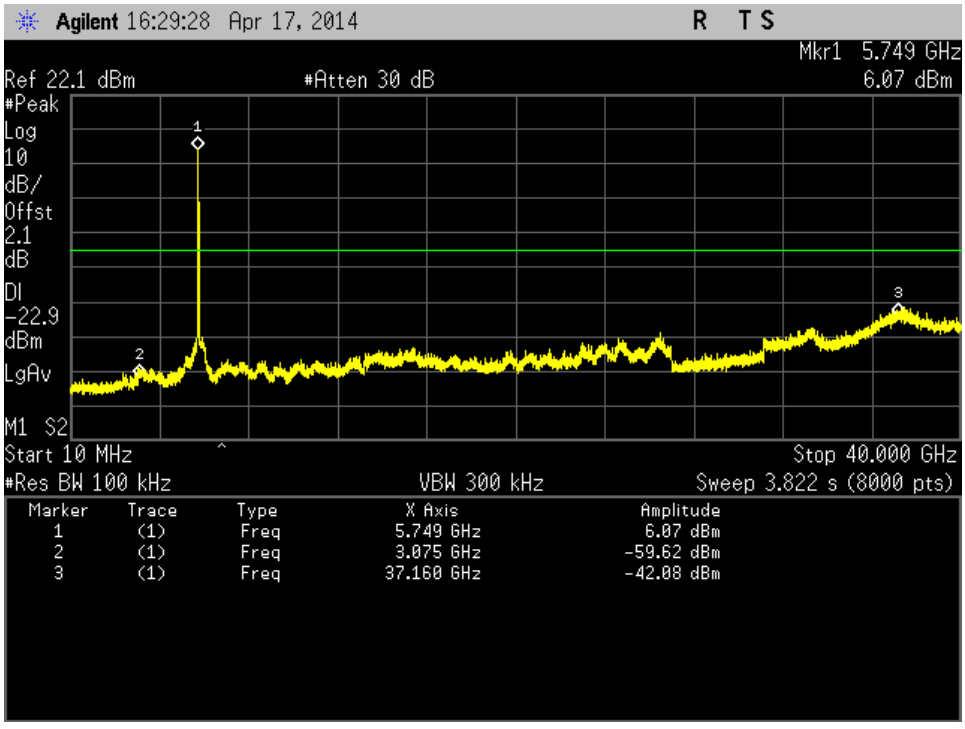


Figure 238: Out of Band Emission-802.11ac VHT20-5745 MHz-MCS0-Ch2

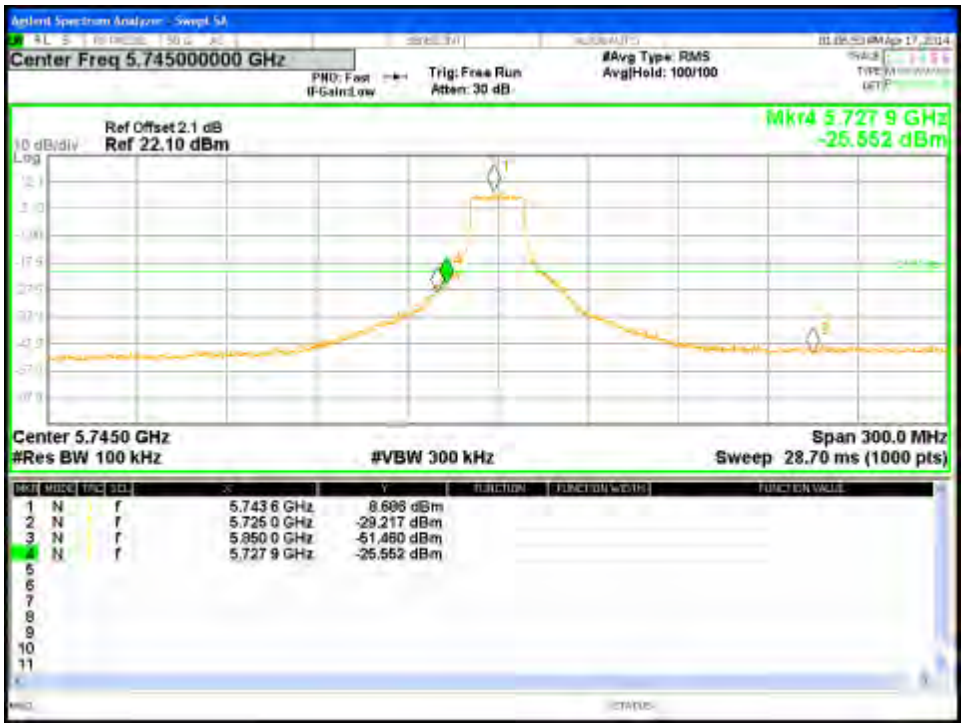


Figure 239: Conducted Band Edge-5745MHz-VHT20-MCS0-Ch3

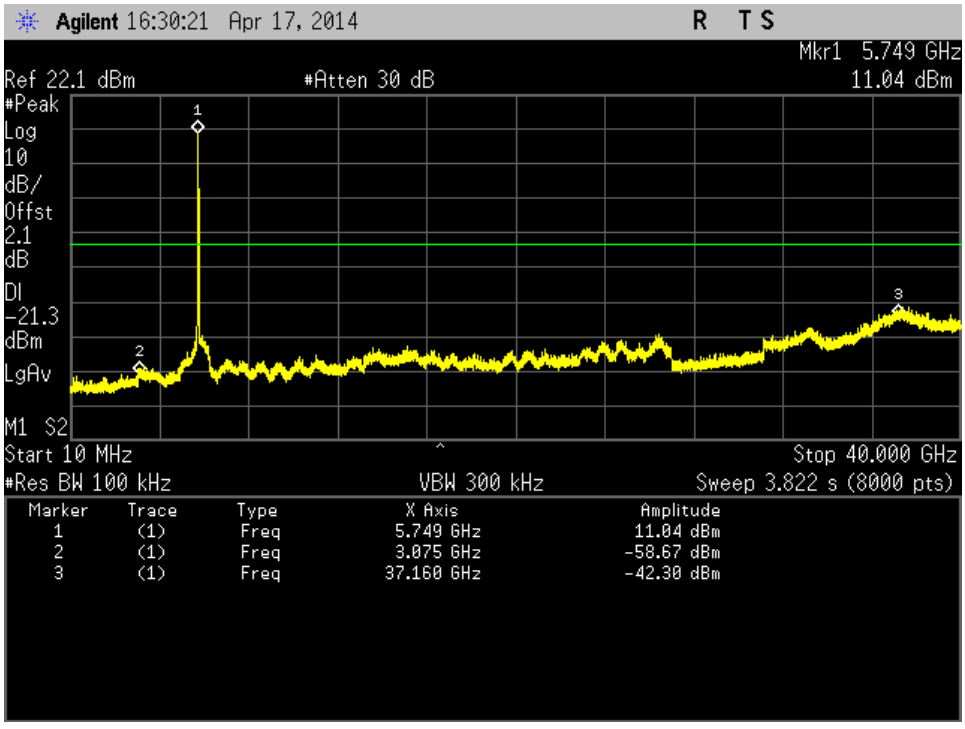


Figure 240: Out of Band Emission-802.11ac VHT20-5745 MHz-MCS0-Ch3

Figure 241: Conducted Band Edge-5785MHz-VHT20-MCS0-Ch0

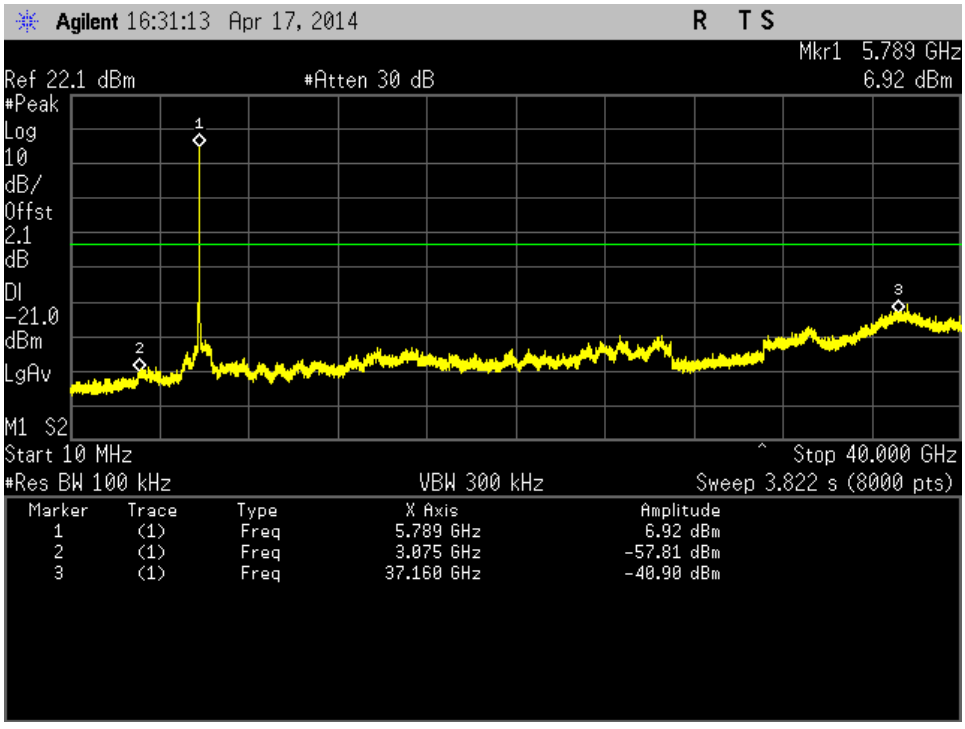


Figure 242: Out of Band Emission-802.11ac VHT20-5785 MHz-MCS0-Ch0

Figure 243: Conducted Band Edge-5785MHz-VHT20-MCS0-Ch1

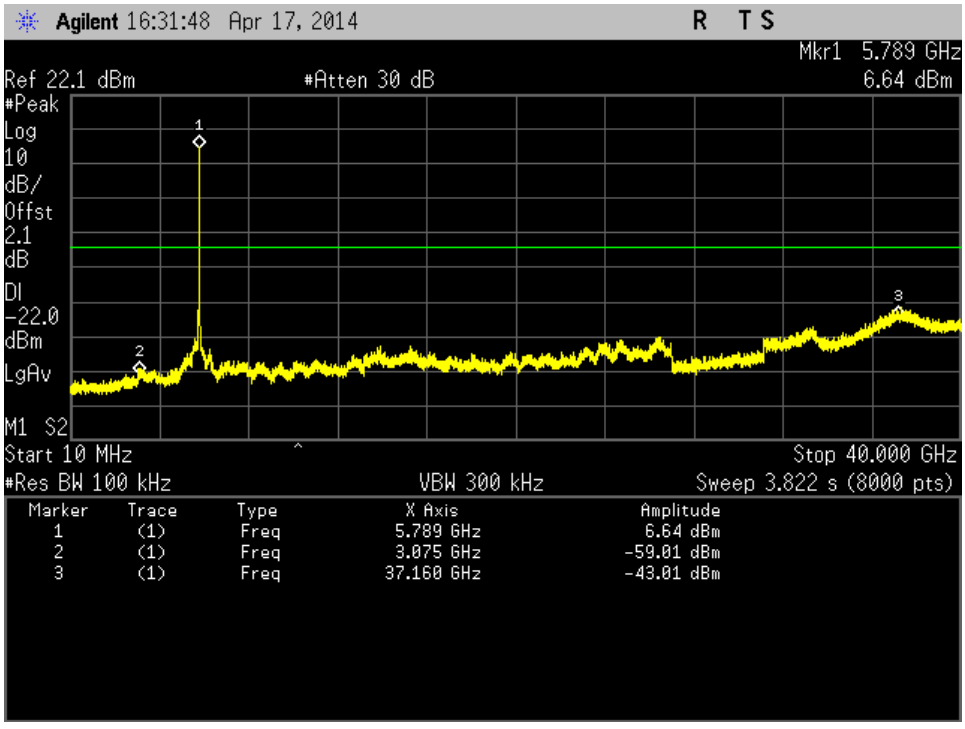


Figure 244: Out of Band Emission-802.11ac VHT20-5785 MHz-MCS0-Ch1

Figure 245: Conducted Band Edge-5785MHz-VHT20-MCS0-Ch2

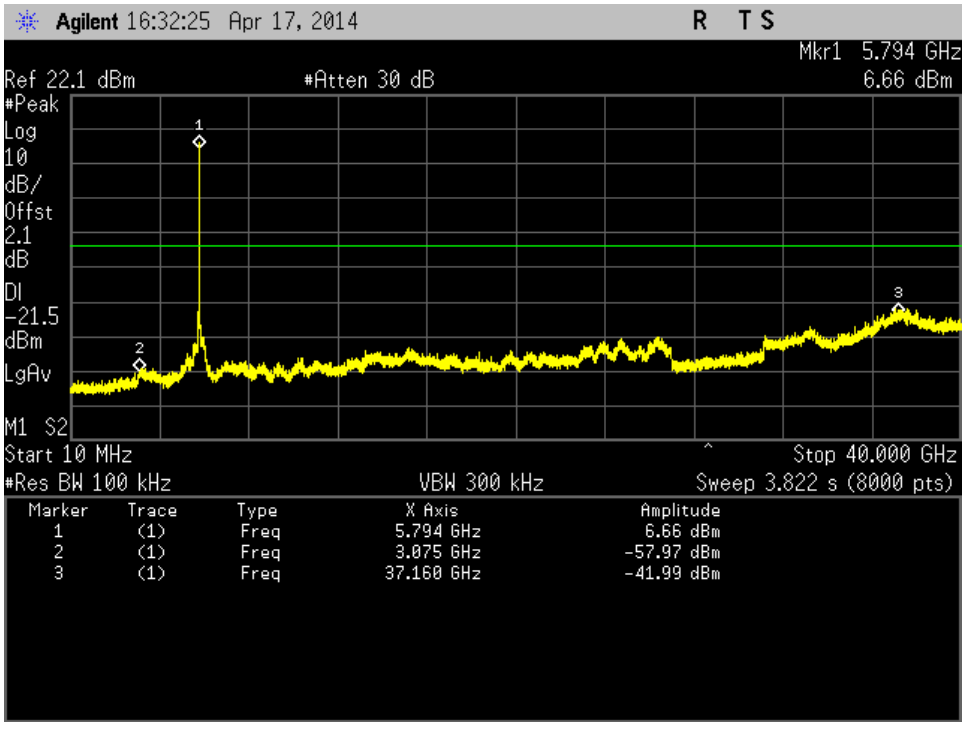


Figure 246: Out of Band Emission-802.11ac VHT20-5785 MHz-MCS0-Ch2

Figure 247: Conducted Band Edge-5785MHz-VHT20-MCS0-Ch3

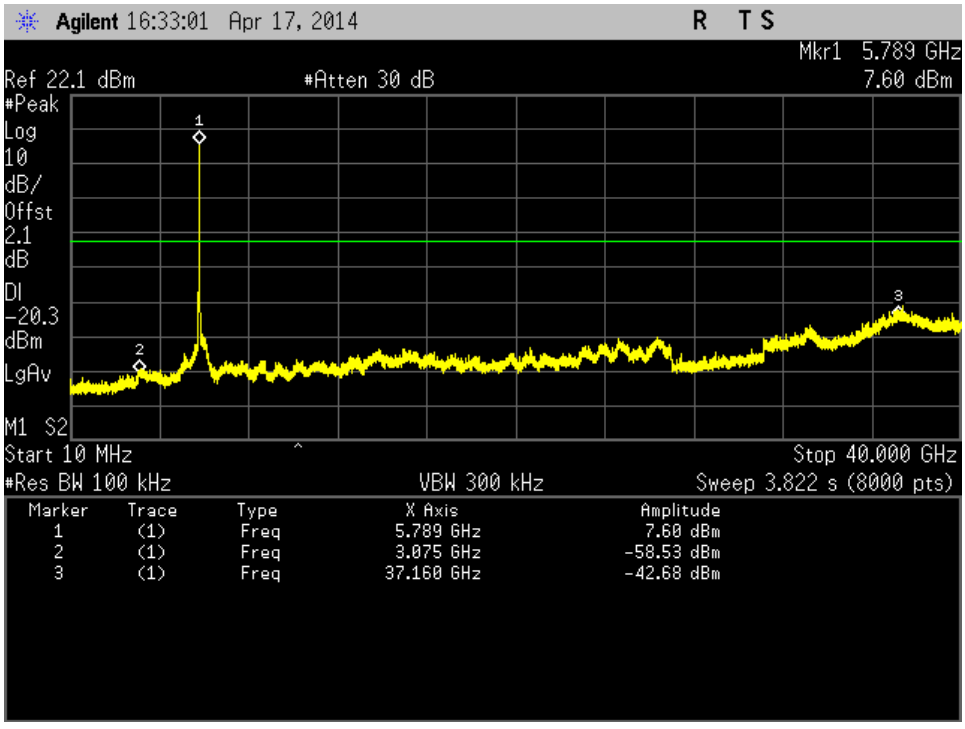


Figure 248: Out of Band Emission-802.11ac VHT20-5785 MHz-MCS0-Ch3

Figure 249: Conducted Band Edge-5825MHz-VHT20-MCS0-Ch0

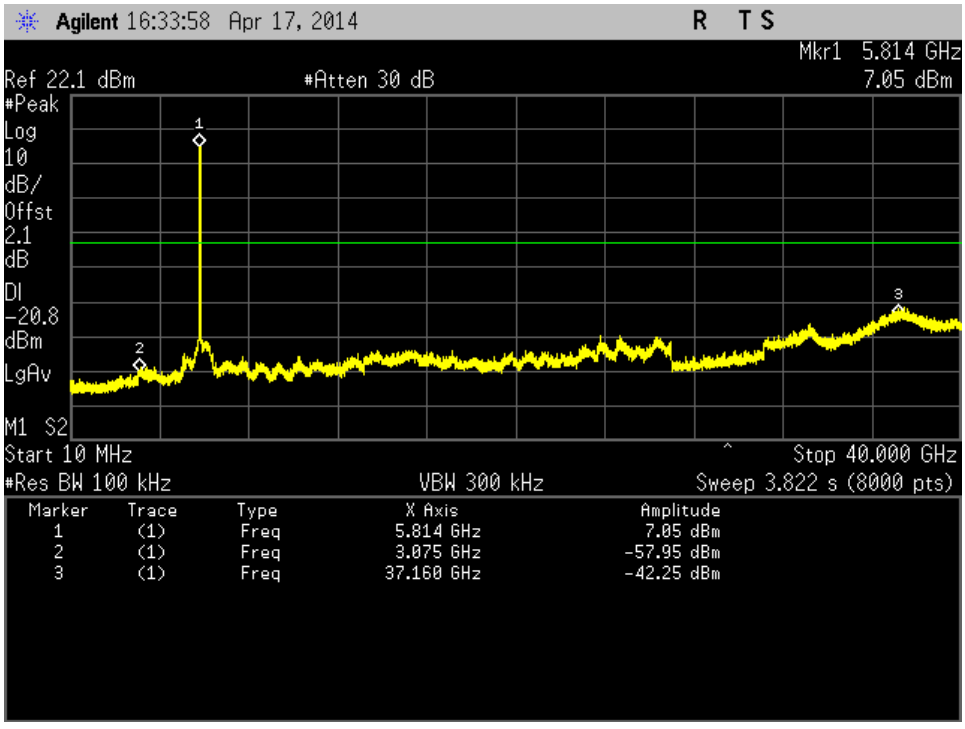


Figure 250: Out of Band Emission-802.11ac VHT20-5825 MHz-MCS0-Ch0

Figure 251: Conducted Band Edge-5825MHz-VHT20-MCS0-Ch1

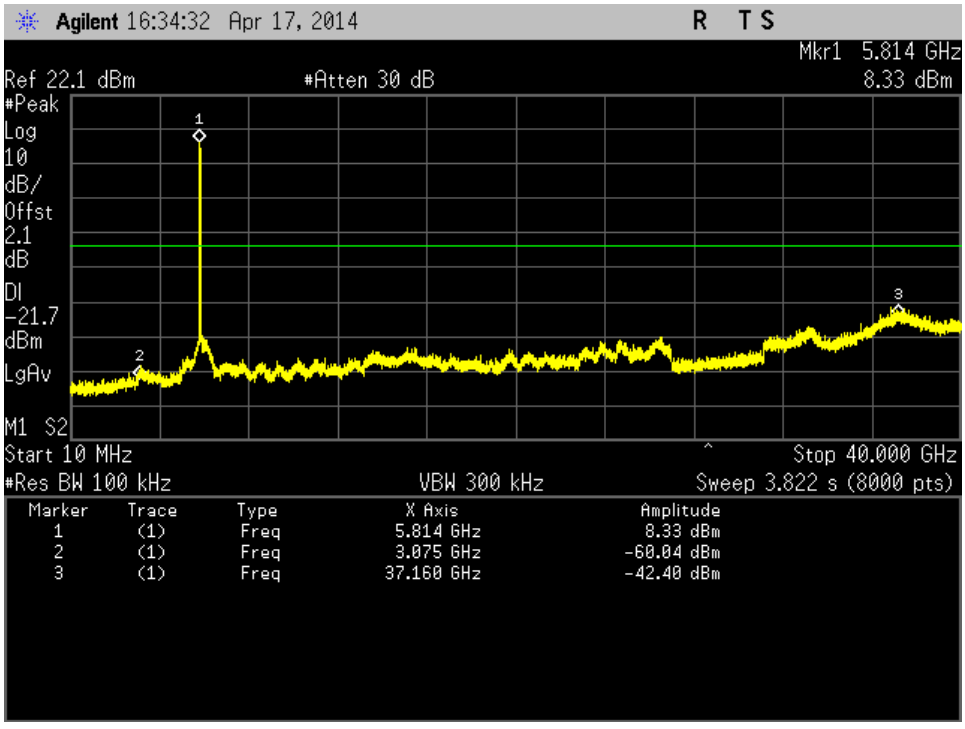


Figure 252: Out of Band Emission-802.11ac VHT20-5825 MHz-MCS0-Ch1

Figure 253: Conducted Band Edge-5825MHz-VHT20-MCS0-Ch2

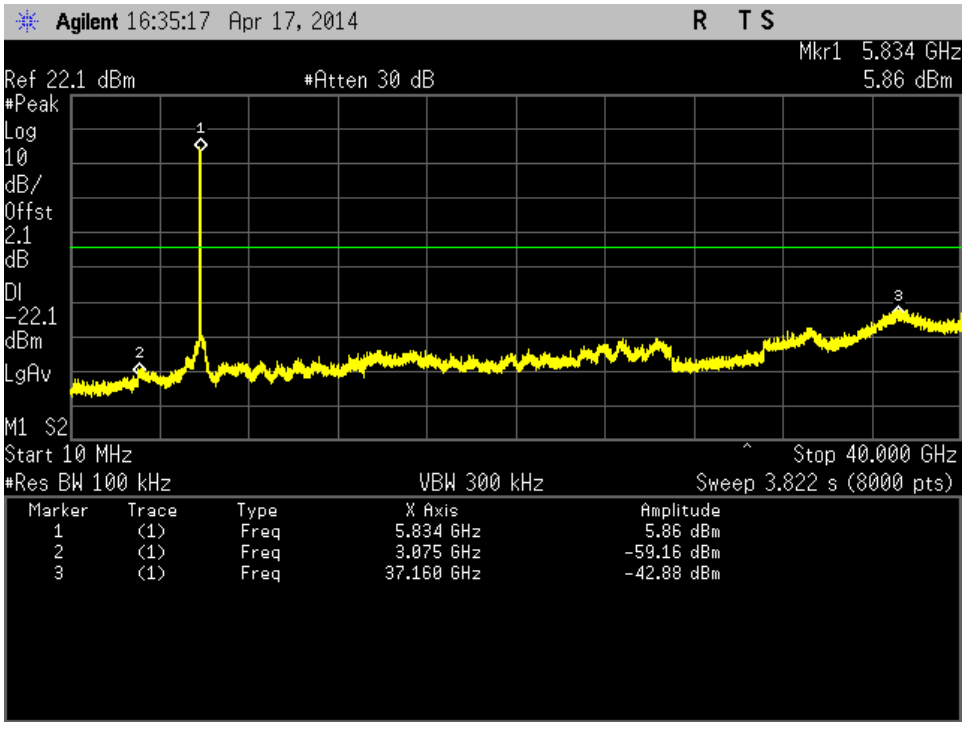


Figure 254: Out of Band Emission-802.11ac VHT20-5825 MHz-MCS0-Ch2

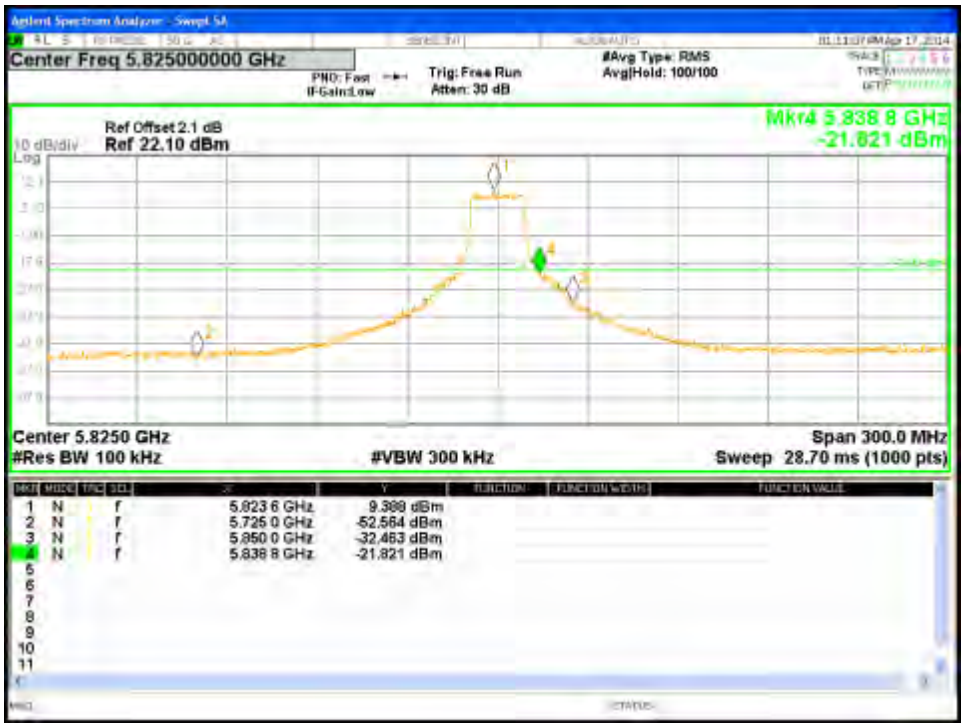


Figure 255: Conducted Band Edge-5825MHz-VHT20-MCS0-Ch3

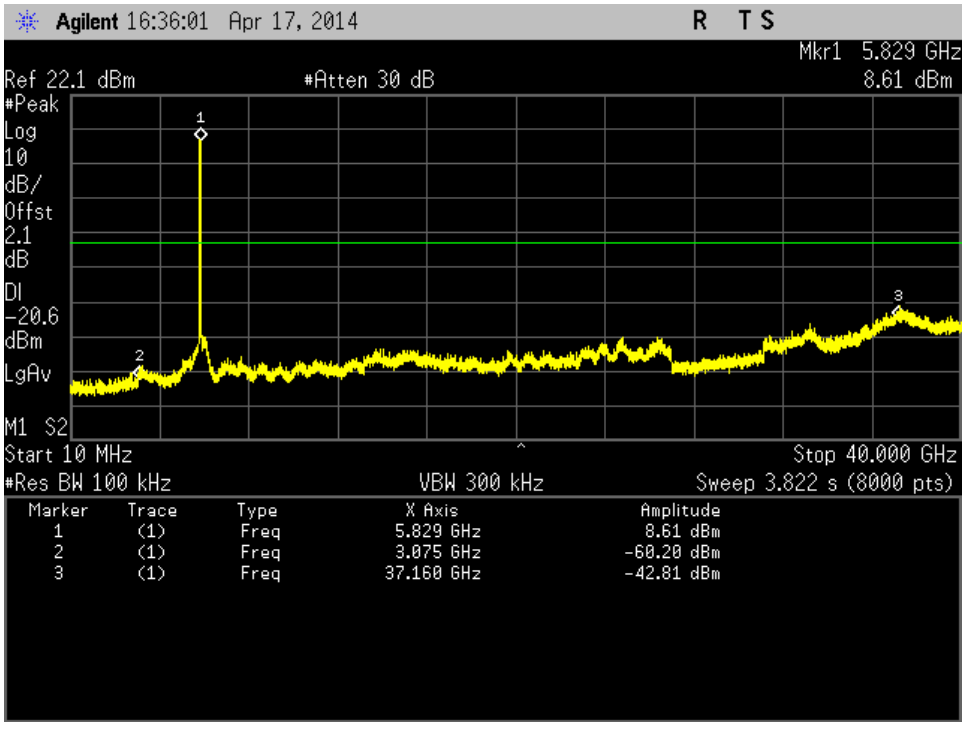


Figure 256: Out of Band Emission-802.11ac VHT20-5825 MHz-MCS0-Ch3

Figure 257: Conducted Band Edge-5755MHz-VHT40-MCS0-Ch0

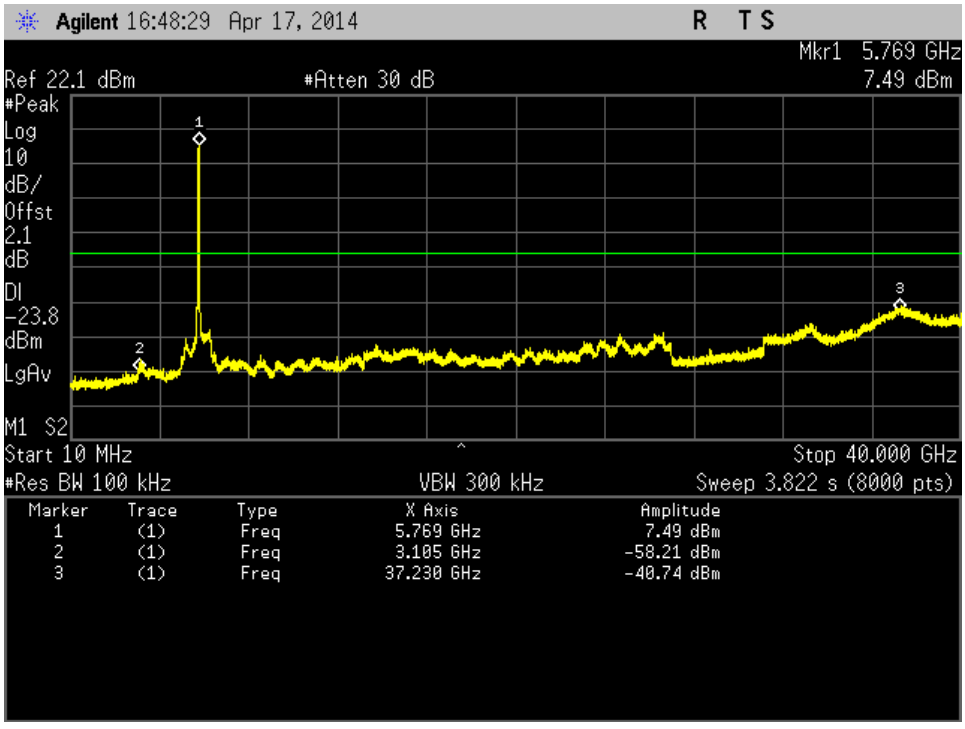


Figure 258: Out of Band Emission-802.11ac VHT40-5755 MHz-MCS0-Ch0

Figure 259: Conducted Band Edge-5755MHz-VHT40-MCS0-Ch1

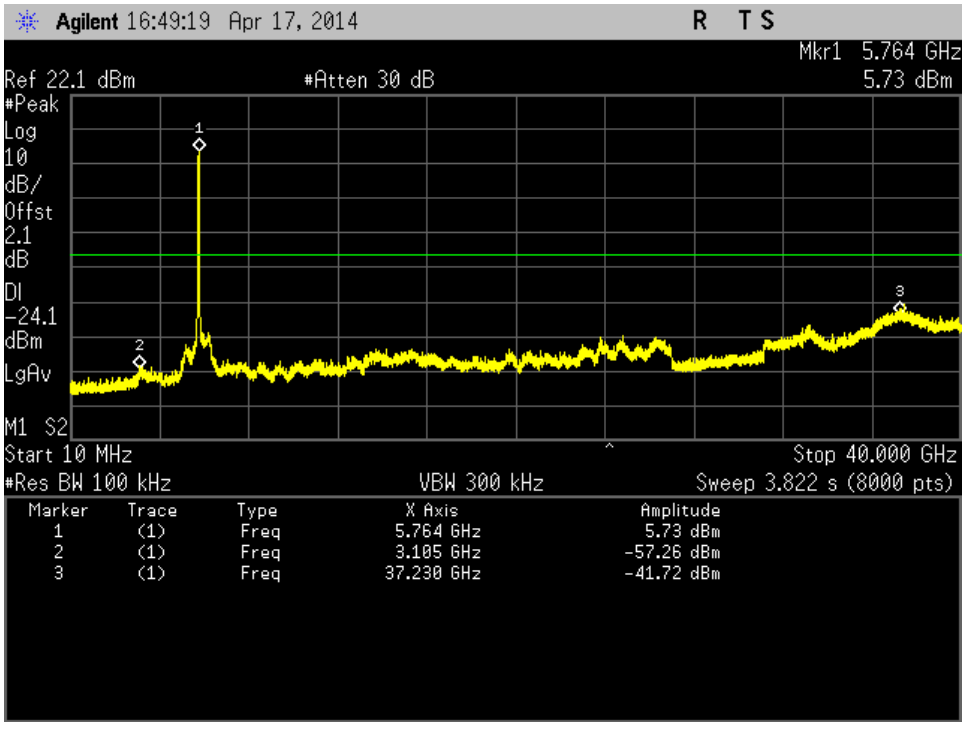


Figure 260: Out of Band Emission-802.11ac VHT40-5755 MHz-MCS0-Ch1

Figure 261: Conducted Band Edge-5755MHz-VHT40-MCS0-Ch2

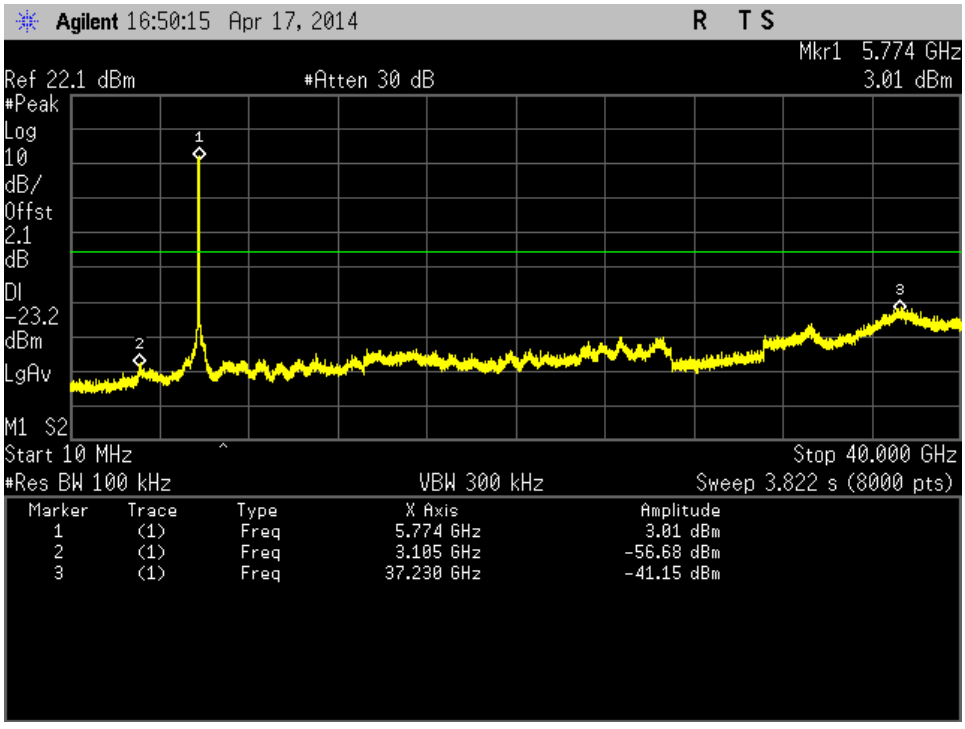


Figure 262: Out of Band Emission-802.11ac VHT40-5755 MHz-MCS0-Ch2

Figure 263: Conducted Band Edge-5755MHz-VHT40-MCS0-Ch3

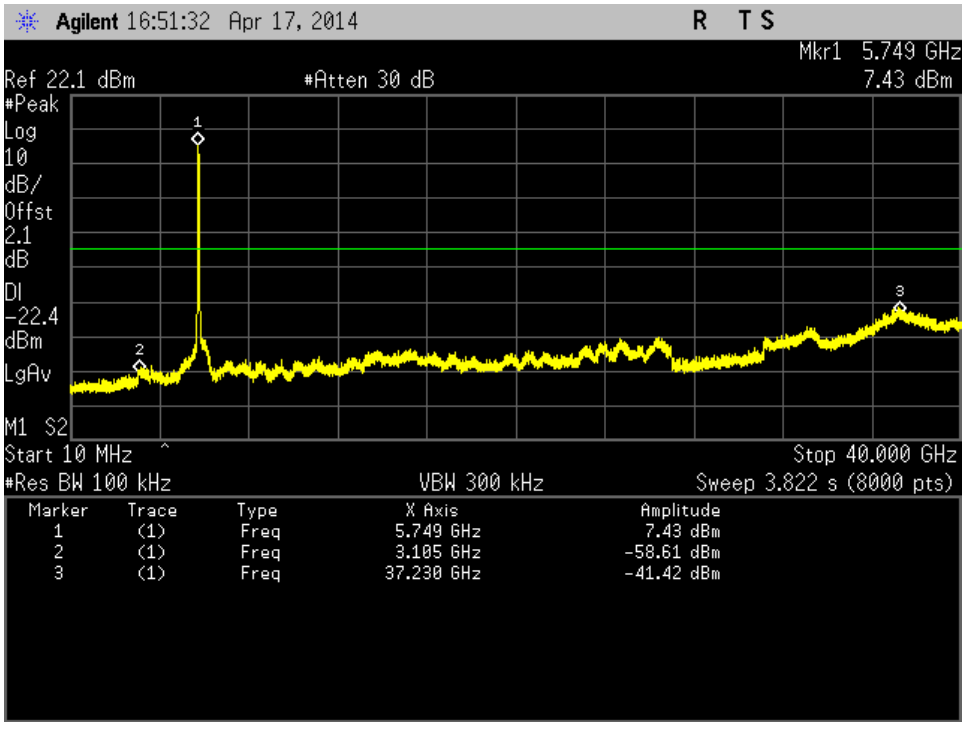


Figure 264: Out of Band Emission-802.11ac VHT40-5755 MHz-MCS0-Ch3

Figure 265: Conducted Band Edge-5795MHz-VHT40-MCS0-Ch0

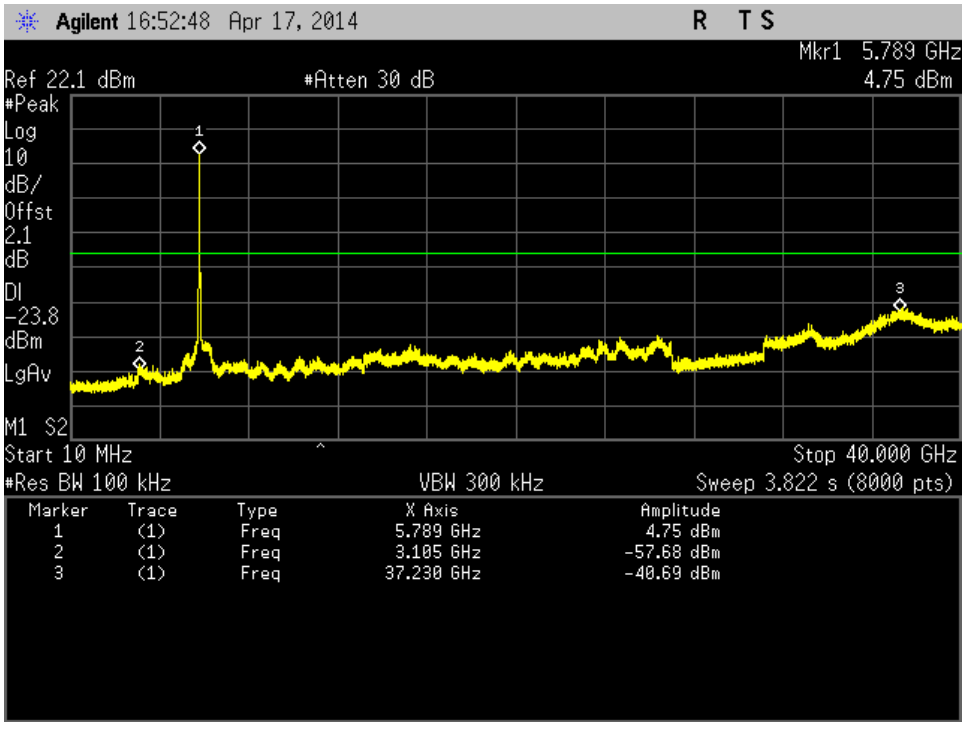


Figure 266: Out of Band Emission-802.11ac VHT40-5795 MHz-MCS0-Ch0

Figure 267: Conducted Band Edge-5795MHz-VHT40-MCS0-Ch1

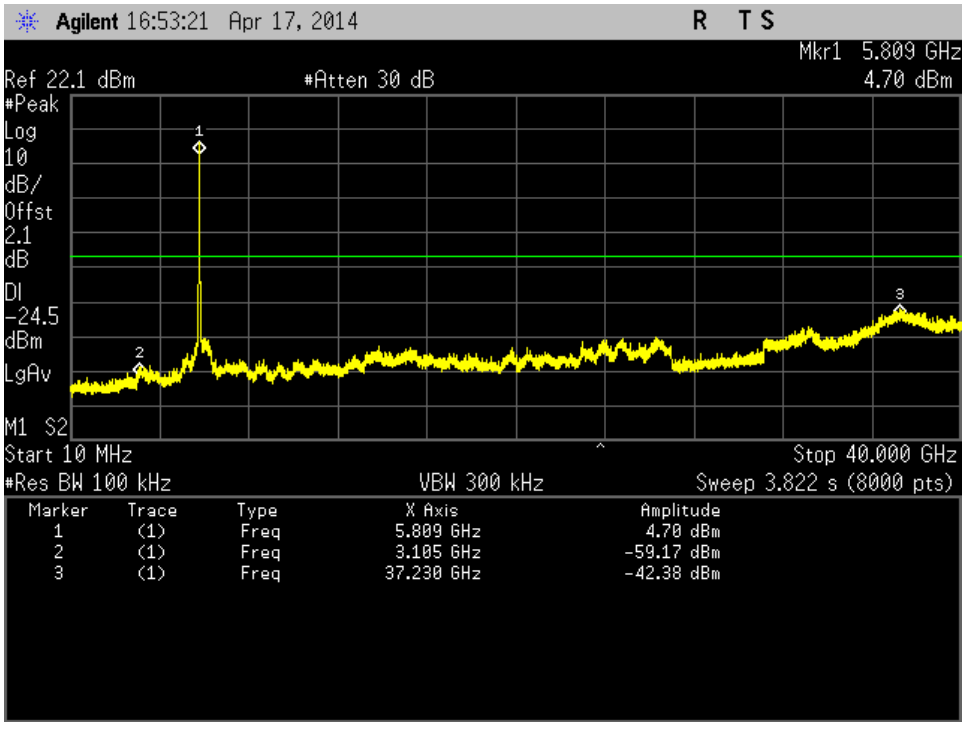


Figure 268: Out of Band Emission-802.11ac VHT40-5795 MHz-MCS0-Ch1

Figure 269: Conducted Band Edge-5795MHz-VHT40-MCS0-Ch2

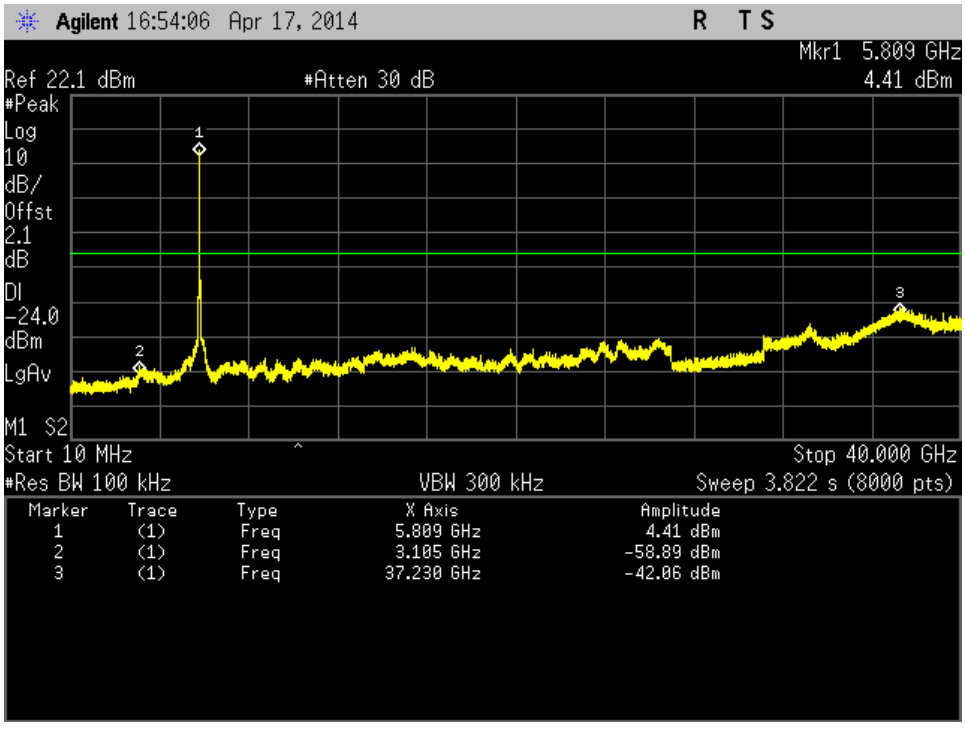


Figure 270: Out of Band Emission-802.11ac VHT40-5795 MHz-MCS0-Ch2

Figure 271: Conducted Band Edge-5795MHz-VHT40-MCS0-Ch3

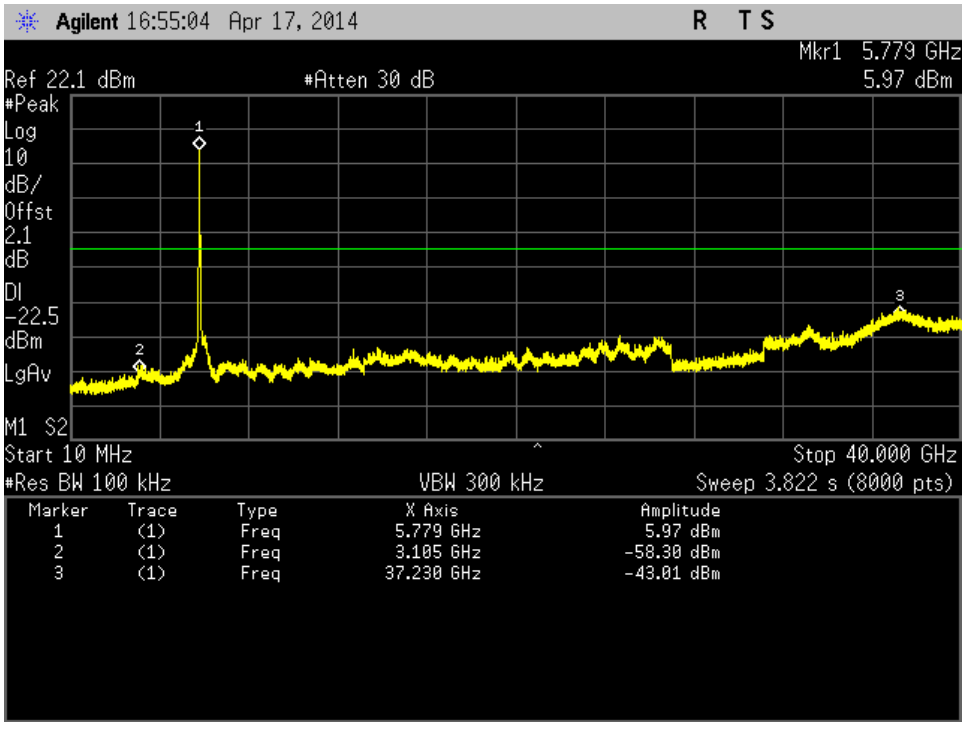


Figure 272: Out of Band Emission-802.11ac VHT40-5795 MHz-MCS0-Ch3

Figure 273: Conducted Band Edge-5775MHz-VHT80-MCS0-Ch0

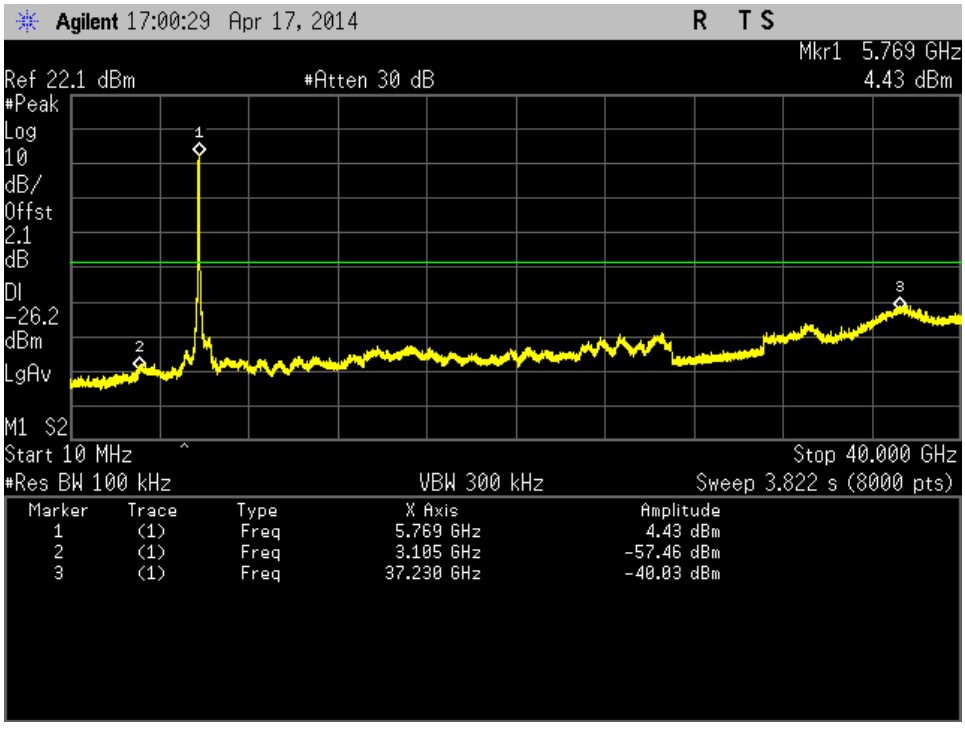


Figure 274: Out of Band Emission-802.11ac VHT80-5775 MHz-MCS0-Ch0

Figure 275: Conducted Band Edge-5775MHz-VHT80-MCS0-Ch1

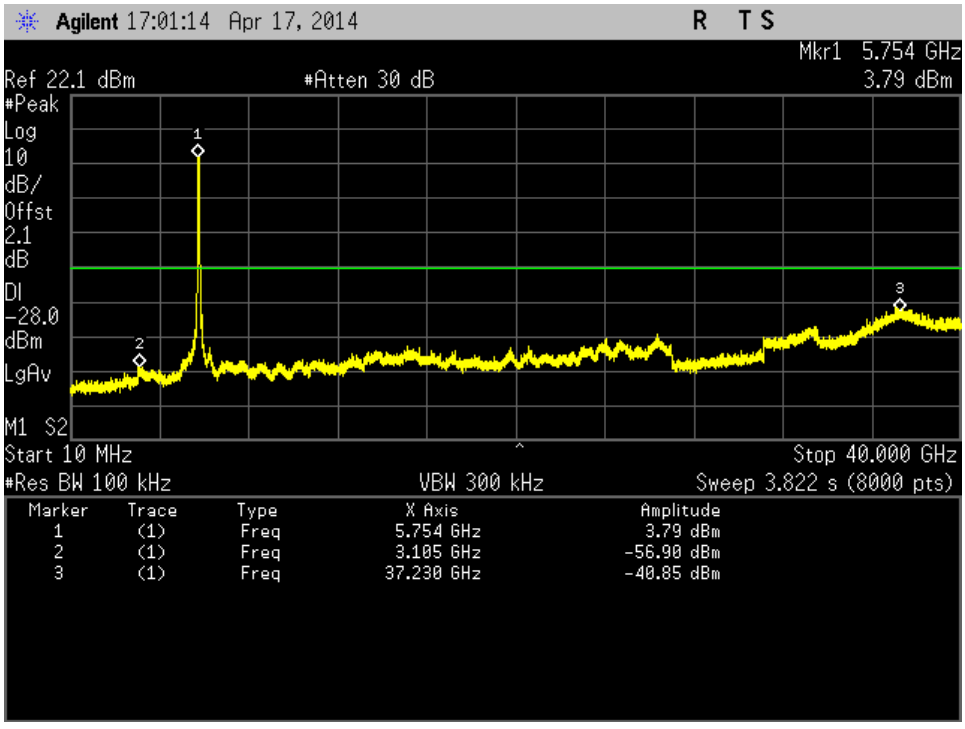


Figure 276: Out of Band Emission-802.11ac VHT80-5775 MHz-MCS0-Ch1

Figure 277: Conducted Band Edge-5775MHz-VHT80-MCS0-Ch2

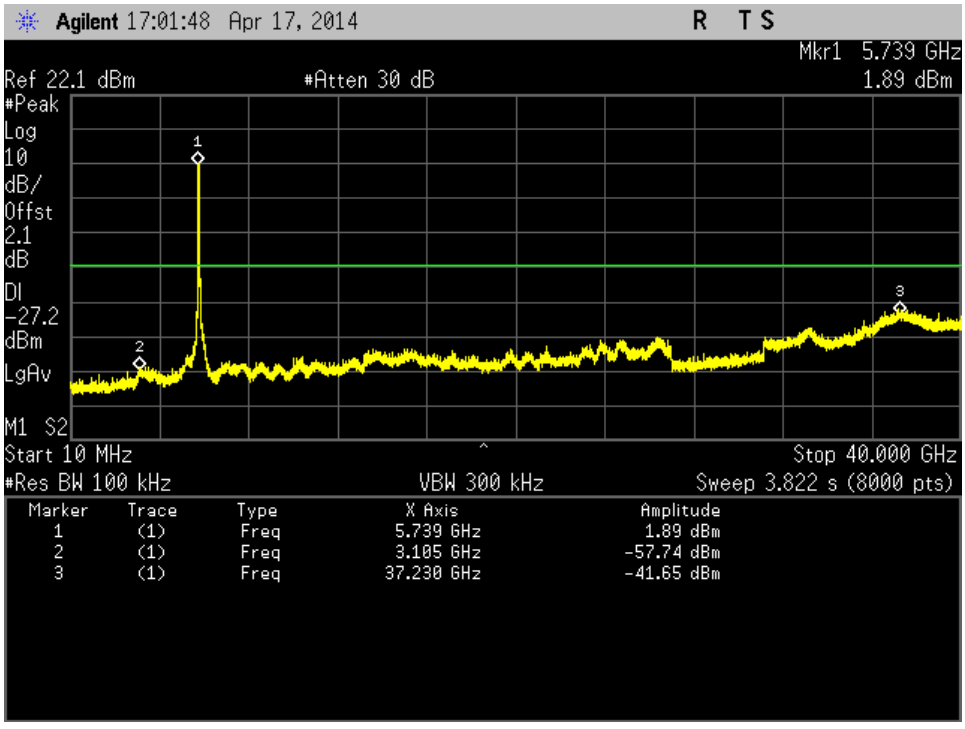


Figure 278: Out of Band Emission-802.11ac VHT80-5775 MHz-MCS0-Ch2

Figure 279: Conducted Band Edge-5775MHz-VHT80-MCS0-Ch3

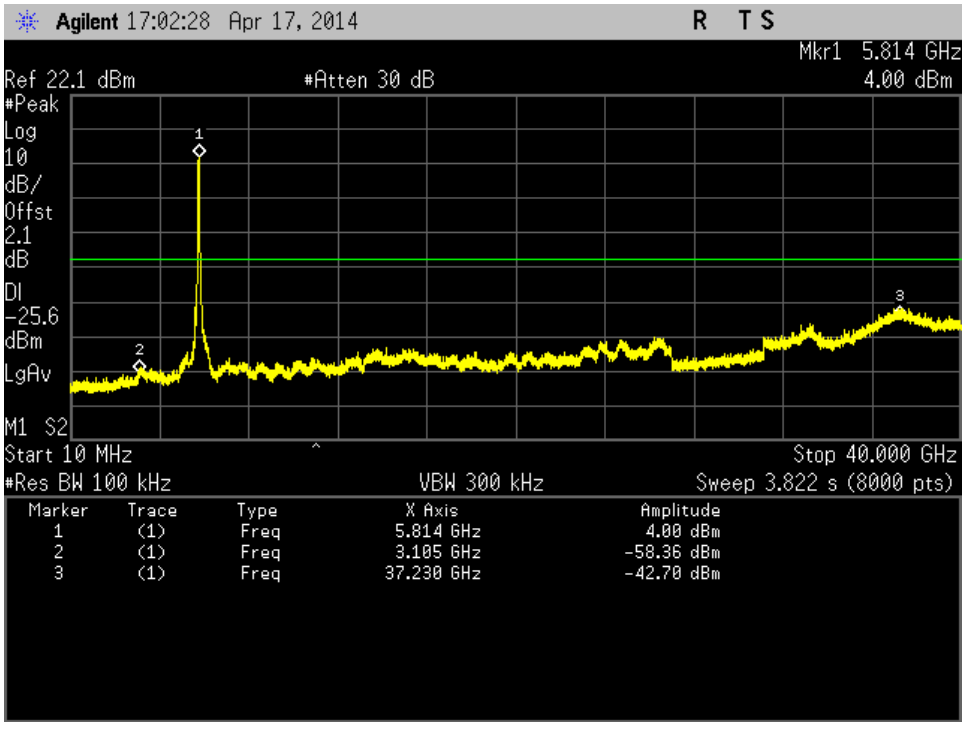


Figure 280: Out of Band Emission-802.11ac VHT80-5775 MHz-MCS0-Ch3

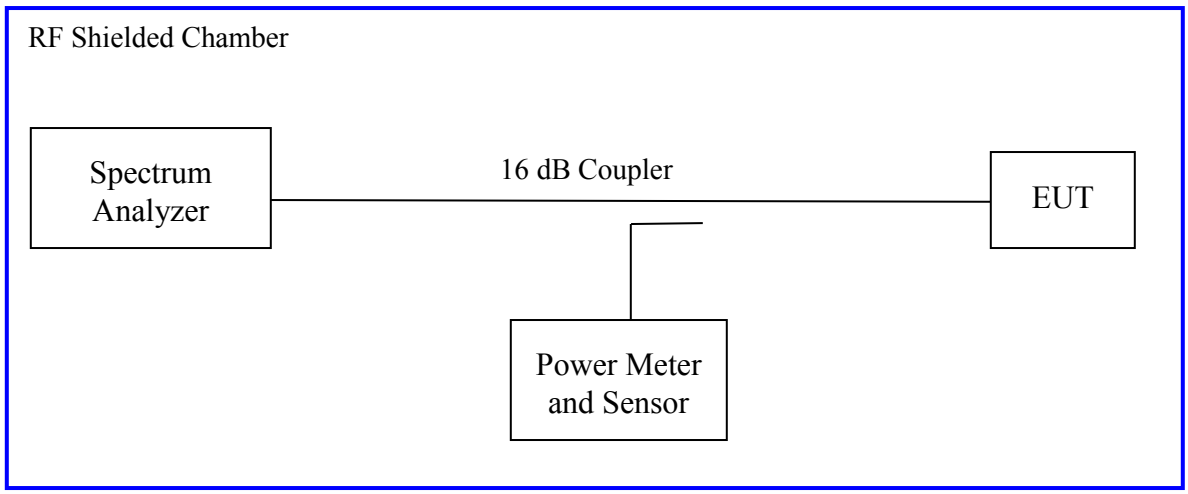
4.4 Peak Power Spectral Density

According to the CFR47 Part 15.247 (e) and RSS-210 (A8.2), the spectral power density output of the antenna port shall be less than 8 dBm in any 3kHz band during any time interval of continuous transmission.

4.4.1 Test Method

The conducted method was used to measure the channel peak power spectral density per ANSI C63.10-2009 Section 6.11.2. The measurement was performed with modulation per CFR47 Part 15.247 (e) and RSS-210 (A8.2). This test was conducted on 3 channels of Sample, S/N 121404000111. The worst findings were conducted on 3 channels in each operating mode of 5725 MHz to 5850 MHz indicated below.

Test Setup:



Measurement procedure AVGPSD-2 of KDB 558074 D01 DTS Meas. Guidance v03r01 was applied.

The total directional gain would be 8.08 dBi. The limit is reduced for every dBi gain exceeding 6 dBi per CFR47 Part 15.247. The limit would be 5.92 dBm.

CF = (10*Log(1/duty cycle))+(10*Log(3kHz/100kHz)) + (10*Log(N)) where N is accounted for the number of data streams being used per KDB 662911.

4.4.2 Results

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

Table 6: Peak Power Spectral Density – Test Results

Test Conditions: Conducted Measurement				**Test Date:** April 16, 2014				
Antenna Type: Integrated				**Power Setting:** See Test plan				
Max. Directional Gain: + 8.08 dBi				**Signal State:** Modulated				
Ambient Temp.: 22 °C				**Relative Humidity:**30%				
Peak Power Spectral Density								
802.11a Mode								
Freq. (MHz)	**Limit [dBm]**	**Ch0 [dBm]**	**Ch1 [dBm]**	**Ch2 [dBm]**	**Ch3 [dBm]**	**CF [dB]**	**Max. PPSD [dBm]**	**Margin [dB]**
5745	5.92	1.01	0.16	-0.05	1.34	-9.16	-7.83	-13.75
5785	5.92	1.02	-0.04	0.74	1.63	-9.16	-7.54	-13.46
5825	5.92	0.73	-0.22	0.33	1.22	-9.16	-7.95	-13.87
Note: The highest peak output power was observed at 802.11a 6Mbps per data stream at 99% duty cycle								
802.11n (HT20) Mode								
Freq. (MHz)	**Limit [dBm]**	**Ch0 [dBm]**	**Ch1 [dBm]**	**Ch2 [dBm]**	**Ch3 [dBm]**	**CF [dB]**	**Max. PPSD [dBm]**	**Margin [dB]**
5745	5.92	0.63	-0.36	-0.35	0.97	-9.12	-8.15	-14.07
5785	5.92	0.57	0.26	-0.33	0.91	-9.12	-8.22	-14.13
5825	5.92	0.25	0.01	0.38	1.19	-9.12	-7.93	-13.85
Note: The highest peak output power was observed at HT20 MCS0 per data stream at 98% duty cycle								
802.11n (HT40) Mode								
Freq. (MHz)	**Limit [dBm]**	**Ch0 [dBm]**	**Ch1 [dBm]**	**Ch2 [dBm]**	**Ch3 [dBm]**	**CF [dB]**	**Max. PPSD [dBm]**	**Margin [dB]**
5755	5.92	-2.29	-2.86	-2.28	-1.75	-9.03	-10.78	-16.70
5795	5.92	-0.62	-2.92	-2.03	-1.89	-9.03	-9.65	-15.57
Note: The highest peak output power was observed at HT40 MCS0 per data stream at 96% duty cycle								

802.11ac (VHT20) Mode

Freq. (MHz)	Limit [dBm]	Ch0 [dBm]	Ch1 [dBm]	Ch2 [dBm]	Ch3 [dBm]	CF [dB]	Max. PPSD [dBm]	Margin [dB]
5745	5.92	0.59	-0.05	-0.35	1.22	-9.12	-7.90	-13.82
5785	5.92	0.50	0.03	-0.12	0.98	-9.12	-8.14	-14.06
5825	5.92	0.15	0.03	0.19	1.27	-9.12	-7.86	-13.78

Note: The highest peak output power was observed at VHT20 MCS0 per data stream at 98% duty cycle

802.11ac (VHT40) Mode

Freq. (MHz)	Limit [dBm]	Ch0 [dBm]	Ch1 [dBm]	Ch2 [dBm]	Ch3 [dBm]	CF [dB]	Max. PPSD [dBm]	Margin [dB]
5755	5.92	-0.59	-2.87	-2.94	-1.89	-9.08	-9.67	-15.59
5795	5.92	-2.23	-3.22	-2.97	-1.98	-9.08	-11.07	-16.99

Note: The highest peak output power was observed at VHT40 MCS0 per data stream at 97% duty cycle

802.11ac (VHT80) Mode

Freq. (MHz)	Limit [dBm]	Ch0 [dBm]	Ch1 [dBm]	Ch2 [dBm]	Ch3 [dBm]	CF [dB]	Max. PPSD [dBm]	Margin [dB]
5775	5.92	1.98	1.72	1.08	2.83	-8.89	-6.06	-11.98

Note: The highest peak output power was observed at VHT80 MCS0 per data stream at 93% duty cycle

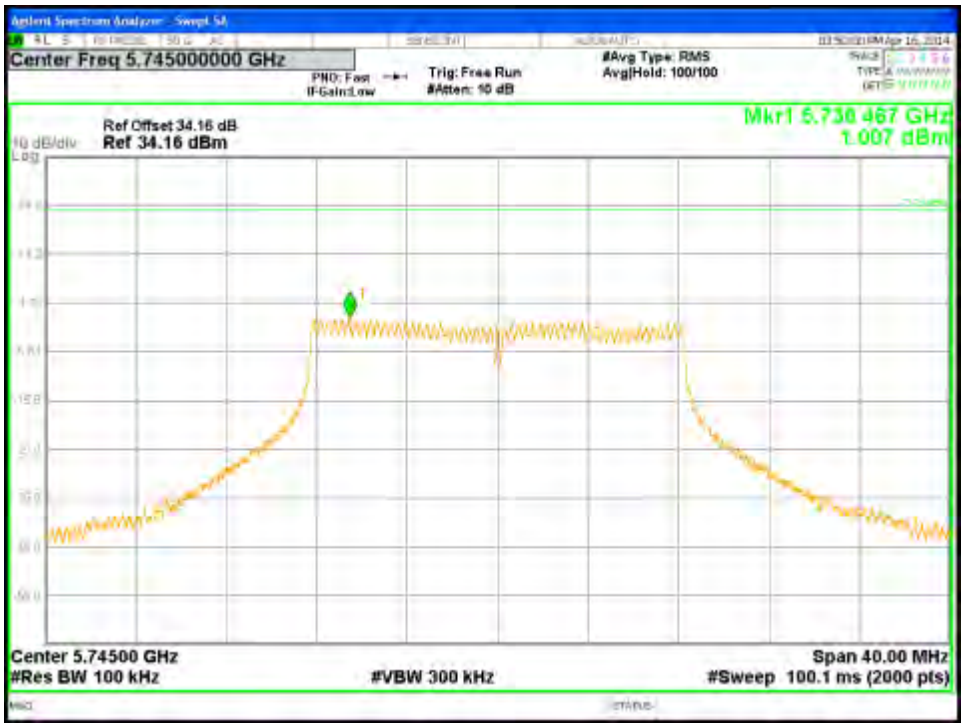


Figure 281: Maximum Power Spectral Density-5745MHz-11a-6Mpbs-Ch0

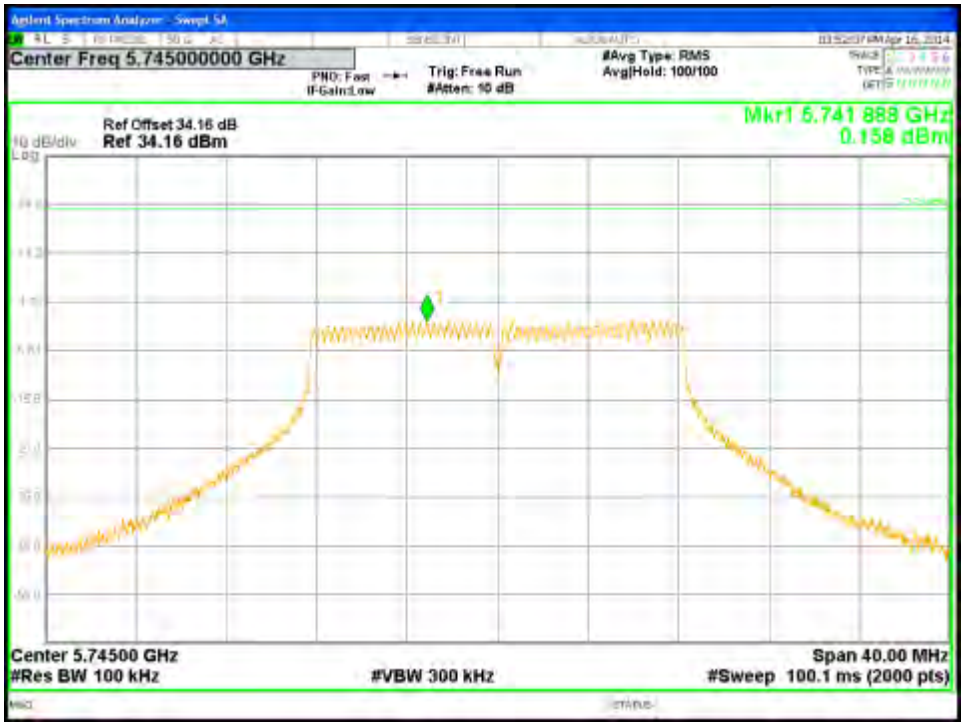


Figure 282: Maximum Power Spectral Density-5745MHz-11a-6Mpbs-Ch1

Figure 283: Maximum Power Spectral Density-5745MHz-11a-6Mpbs-Ch2

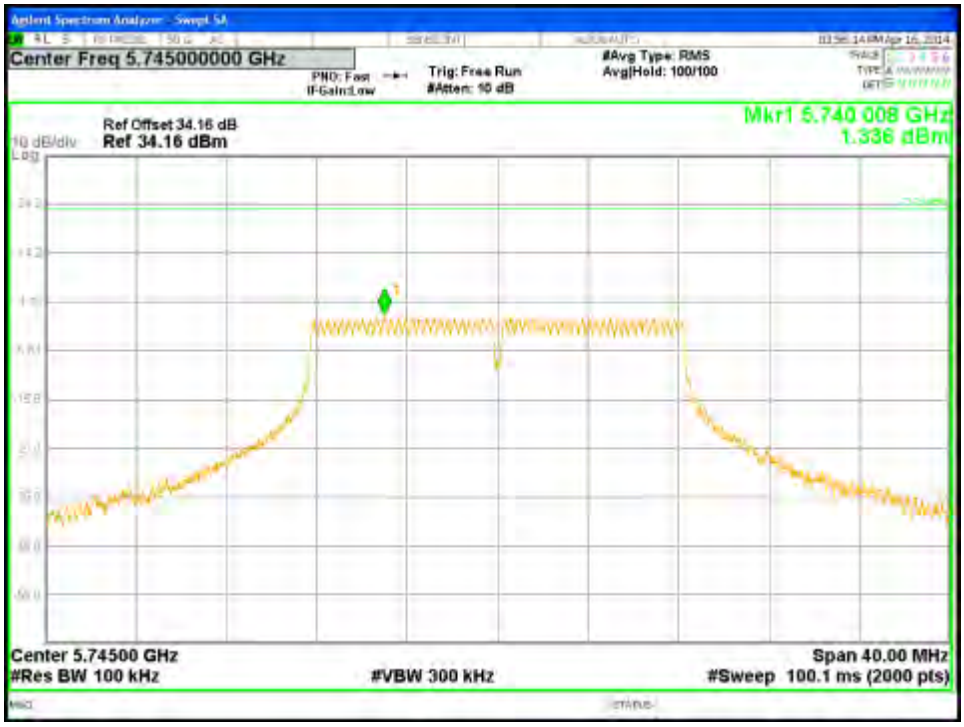


Figure 284: Maximum Power Spectral Density-5745MHz-11a-6Mpbs-Ch3

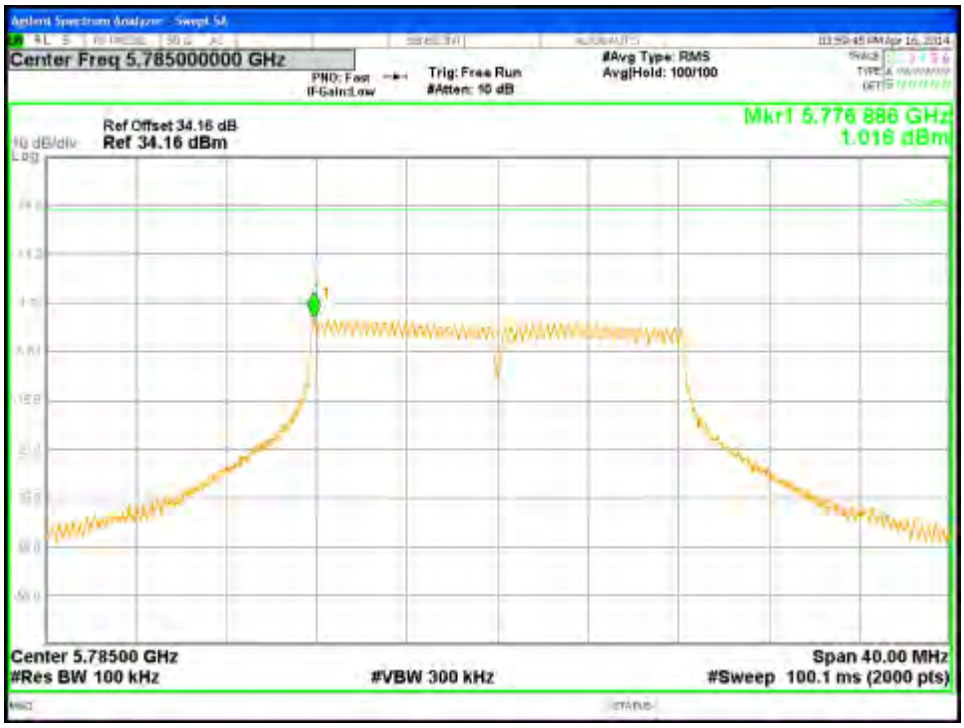


Figure 285: Maximum Power Spectral Density-5785MHz-11a-6Mpbs-Ch0

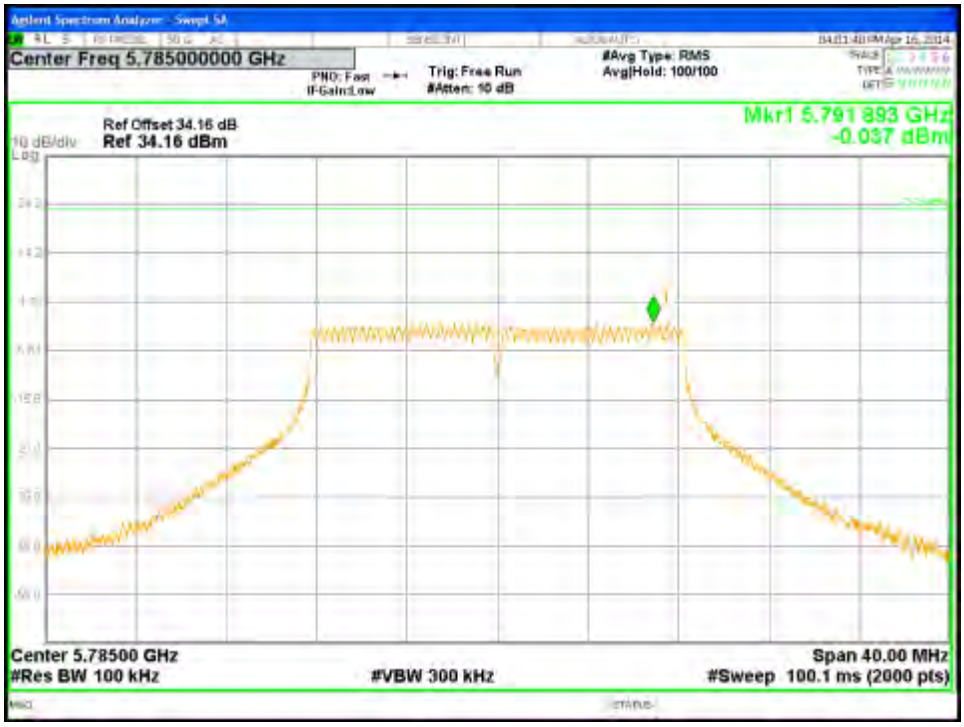


Figure 286: Maximum Power Spectral Density-5785MHz-11a-6Mpbs-Ch1

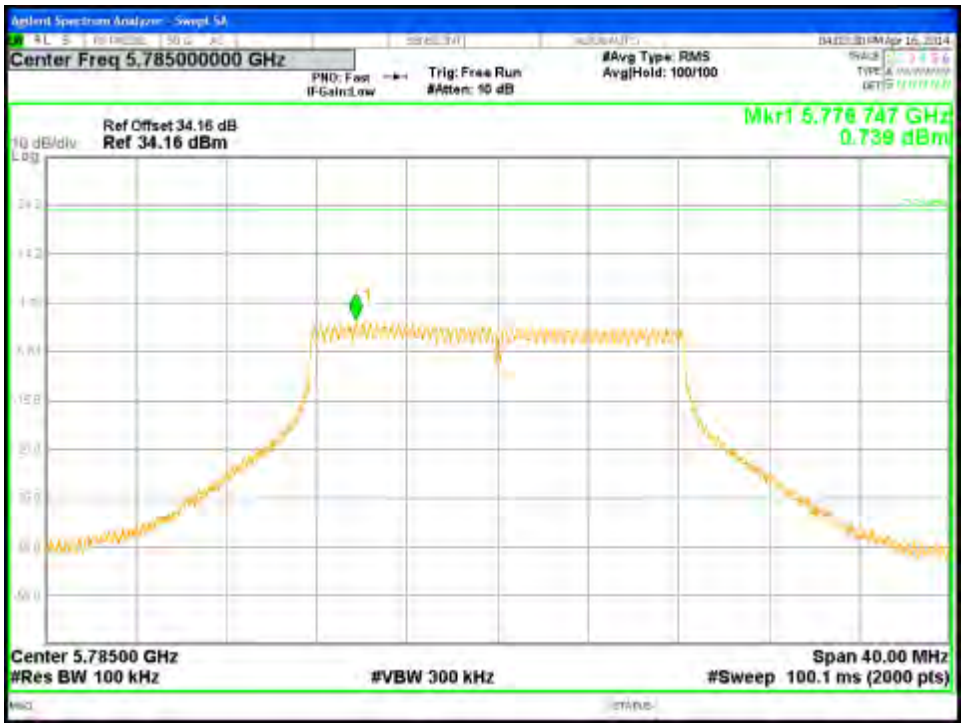


Figure 287: Maximum Power Spectral Density-5785MHz-11a-6Mpbs-Ch2

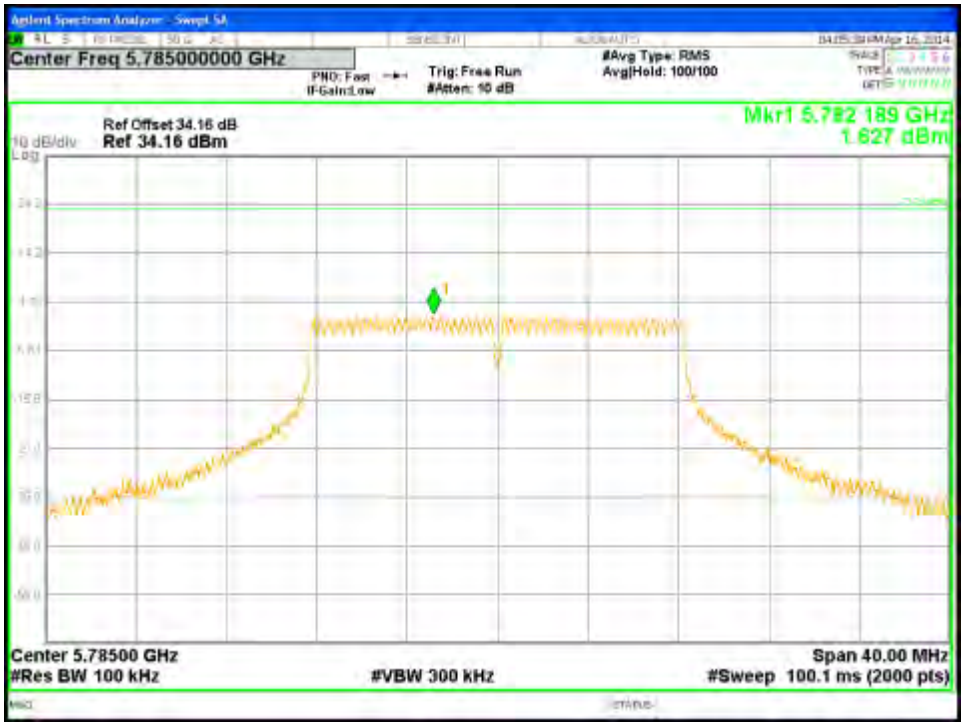


Figure 288: Maximum Power Spectral Density-5785MHz-11a-6Mpbs-Ch3

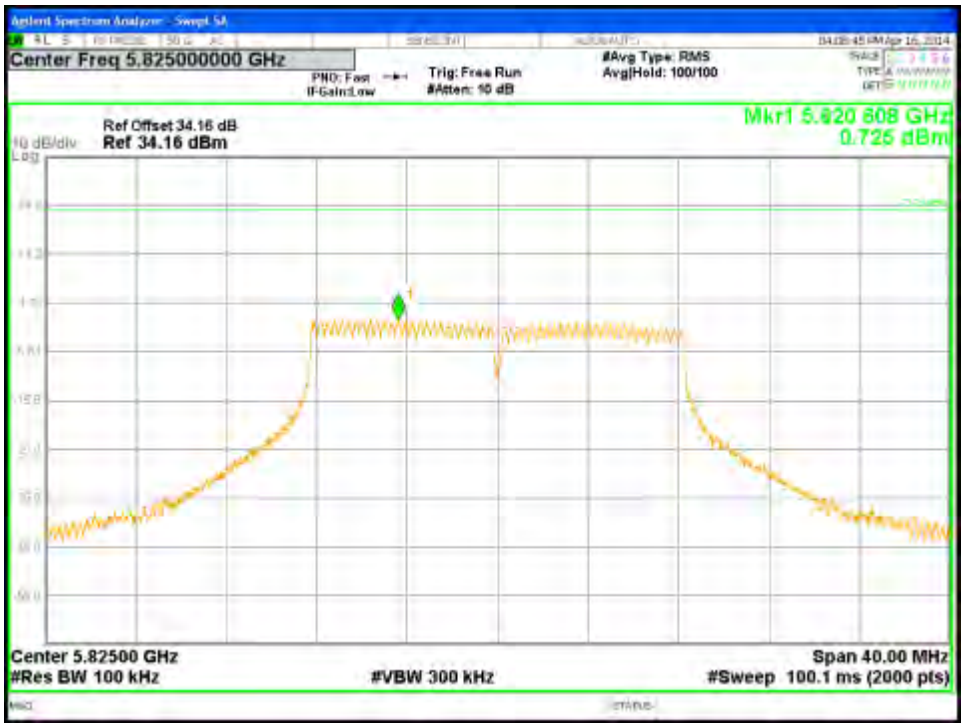


Figure 289: Maximum Power Spectral Density-5825MHz-11a-6Mpbs-Ch0

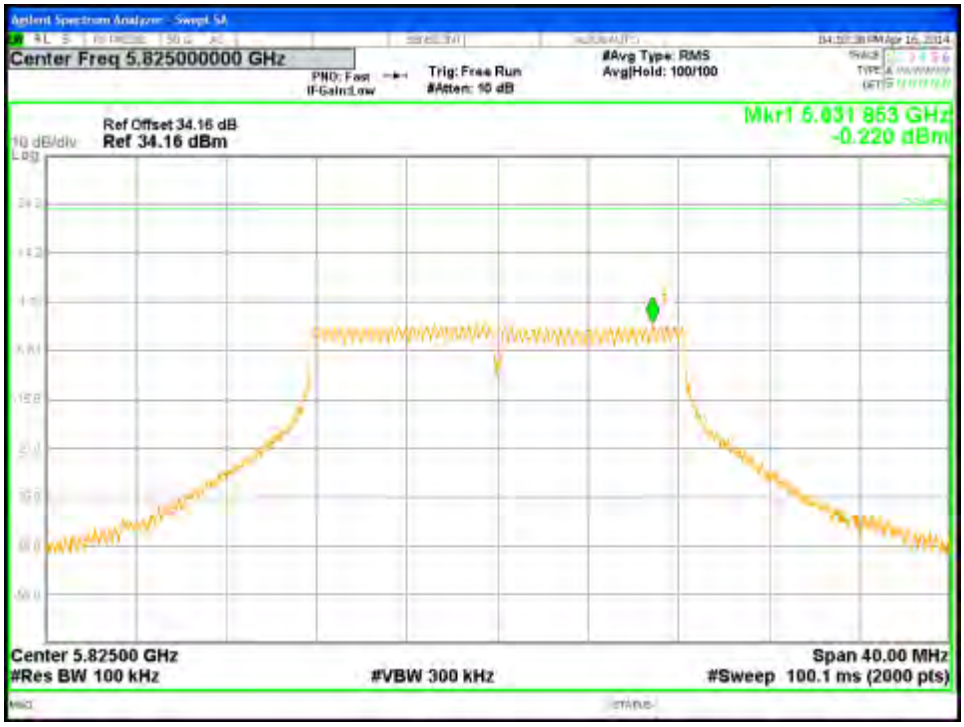


Figure 290: Maximum Power Spectral Density-5825MHz-11a-6Mpbs-Ch1

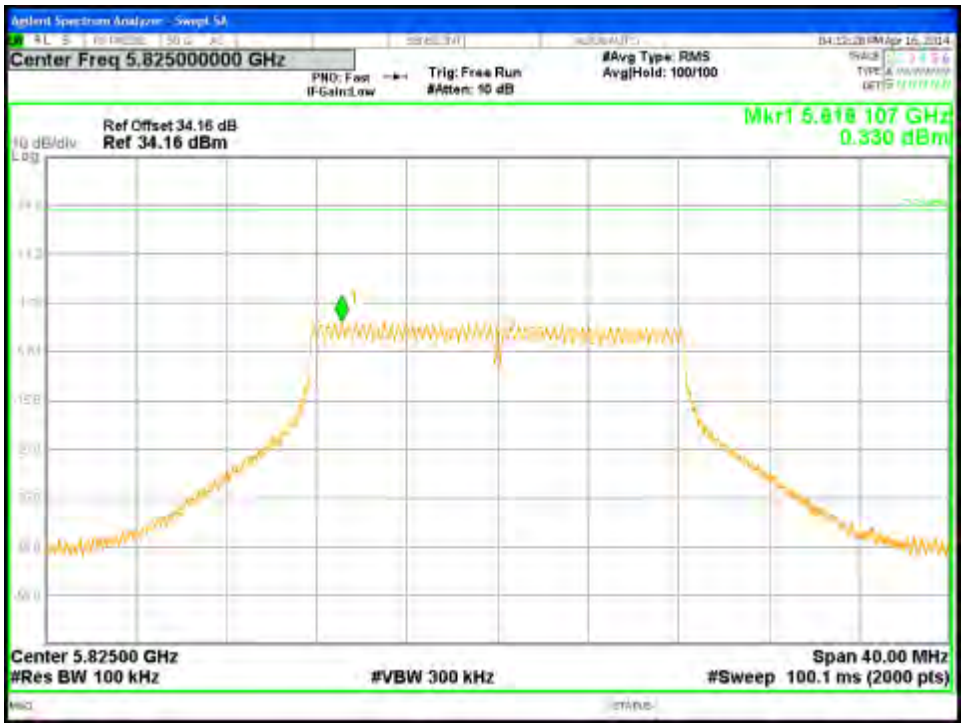


Figure 291: Maximum Power Spectral Density-5825MHz-11a-6Mpbs-Ch2

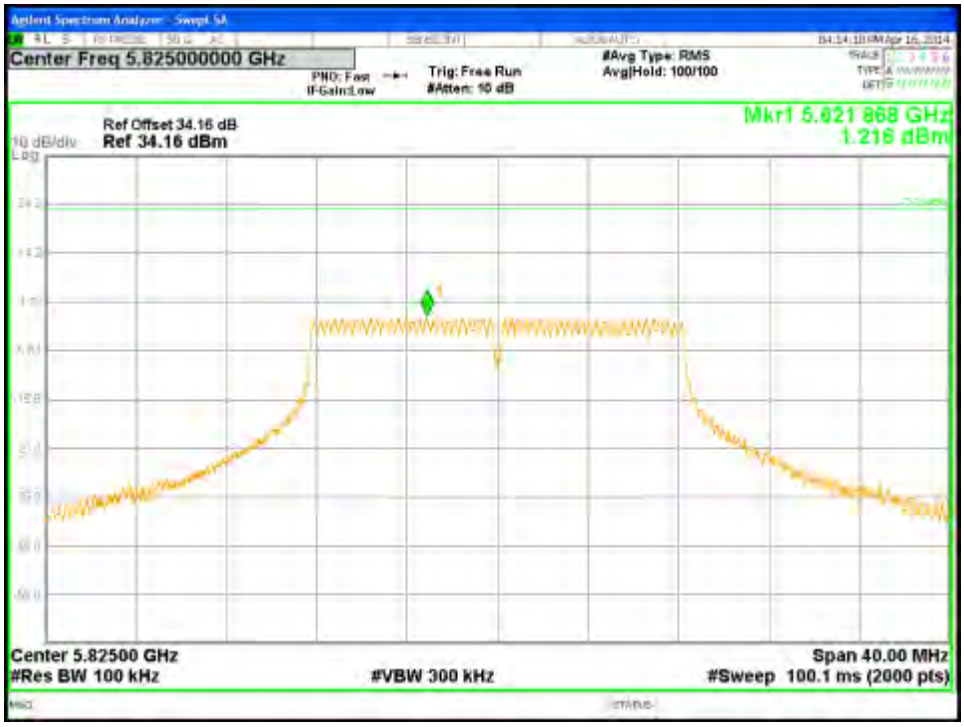


Figure 292: Maximum Power Spectral Density-5825MHz-11a-6Mpbs-Ch3

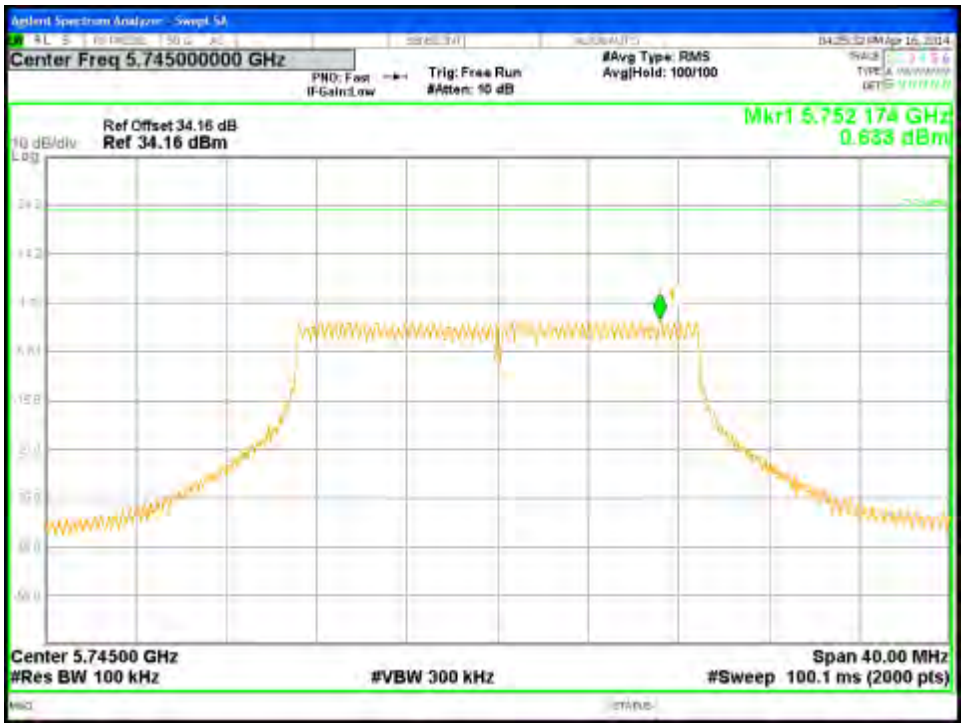


Figure 293: Maximum Power Spectral Density-5745MHz-HT20-MCS0-Ch0

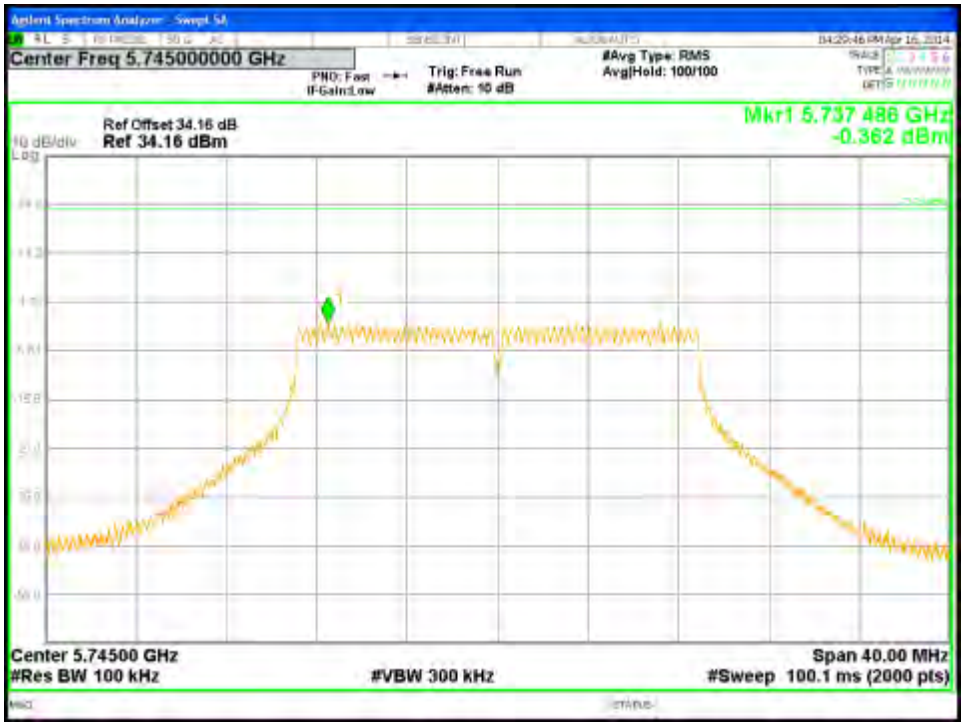


Figure 294: Maximum Power Spectral Density-5745MHz-HT20-MCS0-Ch1

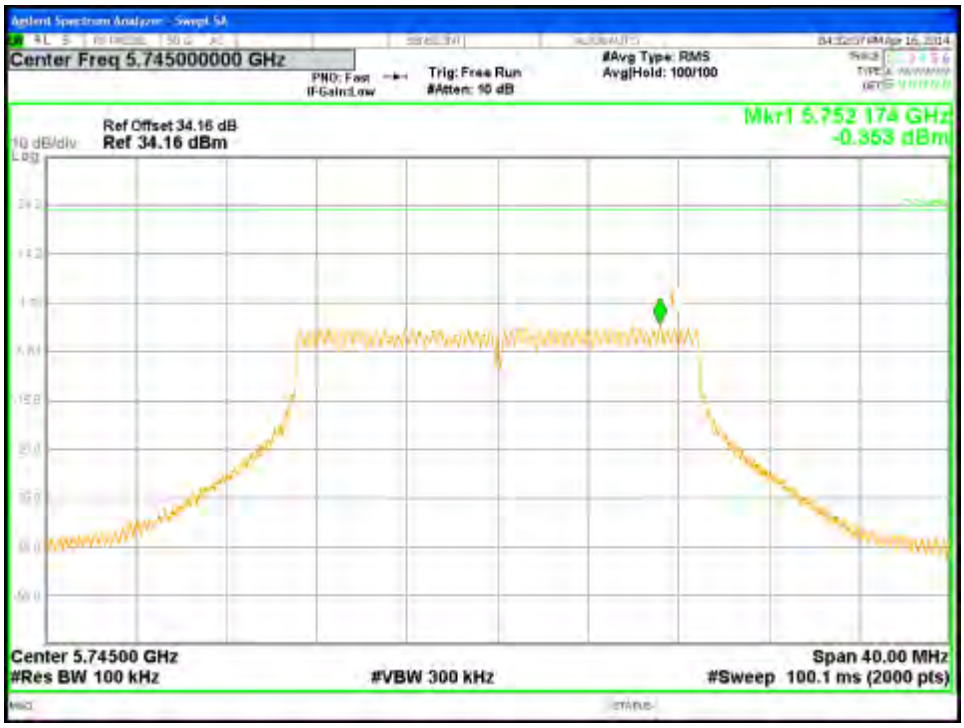


Figure 295: Maximum Power Spectral Density-5745MHz-HT20-MCS0-Ch2

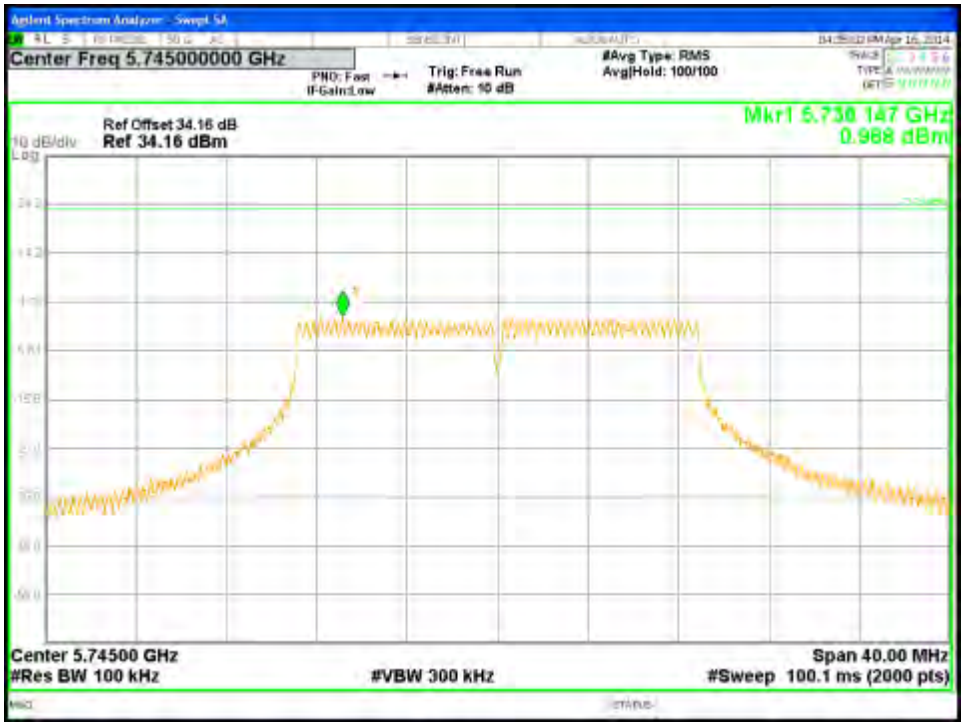


Figure 296: Maximum Power Spectral Density-5745MHz-HT20-MCS0-Ch3

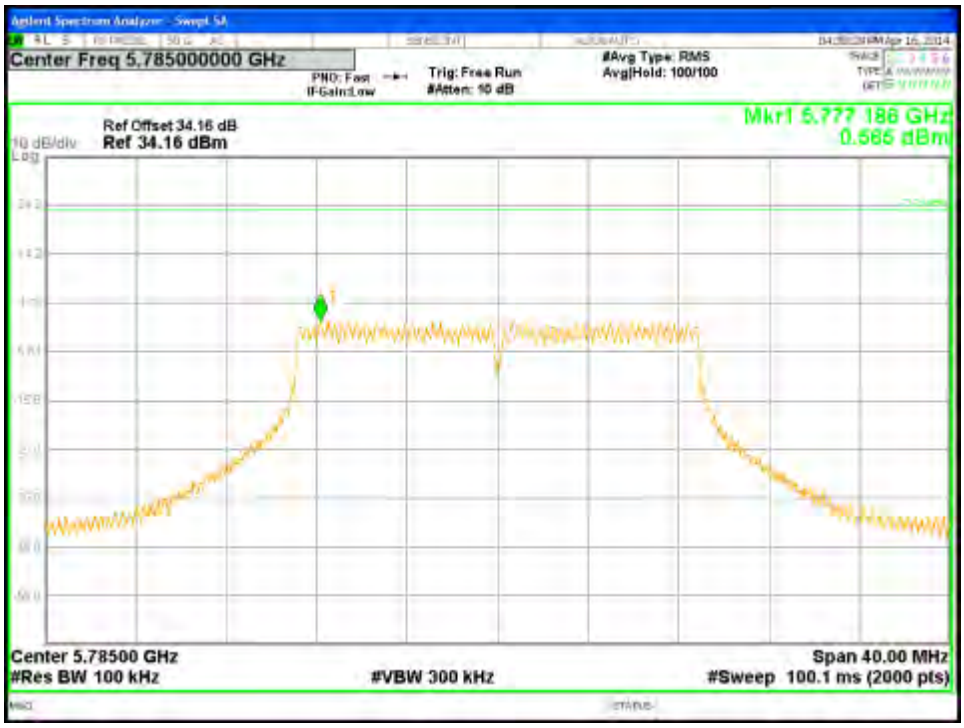


Figure 297: Maximum Power Spectral Density-5785MHz-HT20-MCS0-Ch0

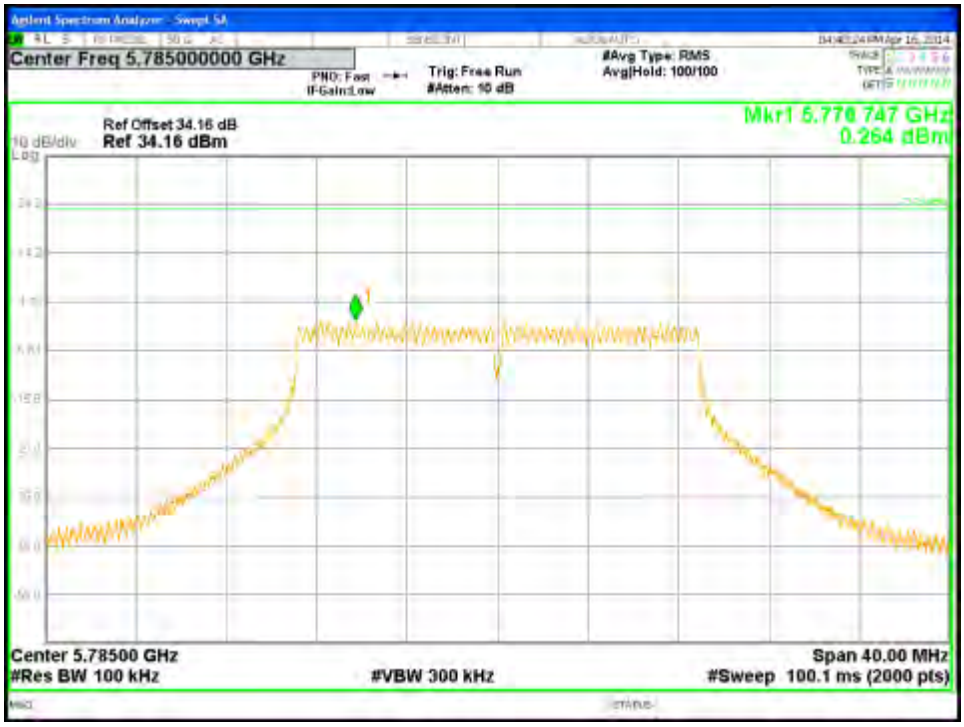


Figure 298: Maximum Power Spectral Density-5785MHz-HT20-MCS0-Ch1

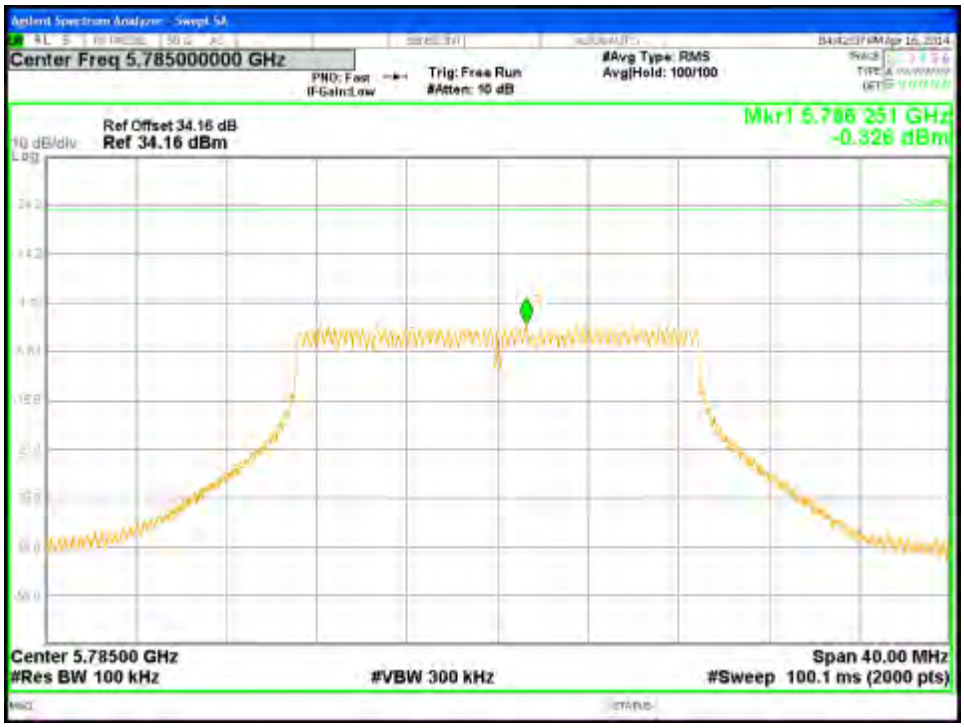


Figure 299: Maximum Power Spectral Density-5785MHz-HT20-MCS0-Ch2

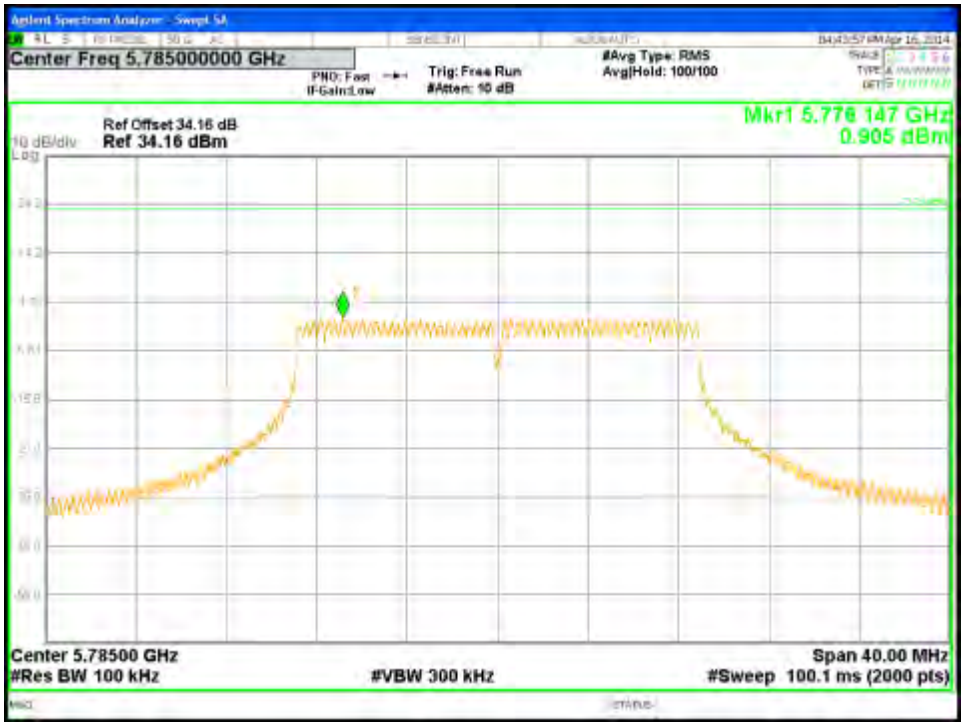


Figure 300: Maximum Power Spectral Density-5785MHz-HT20-MCS0-Ch3

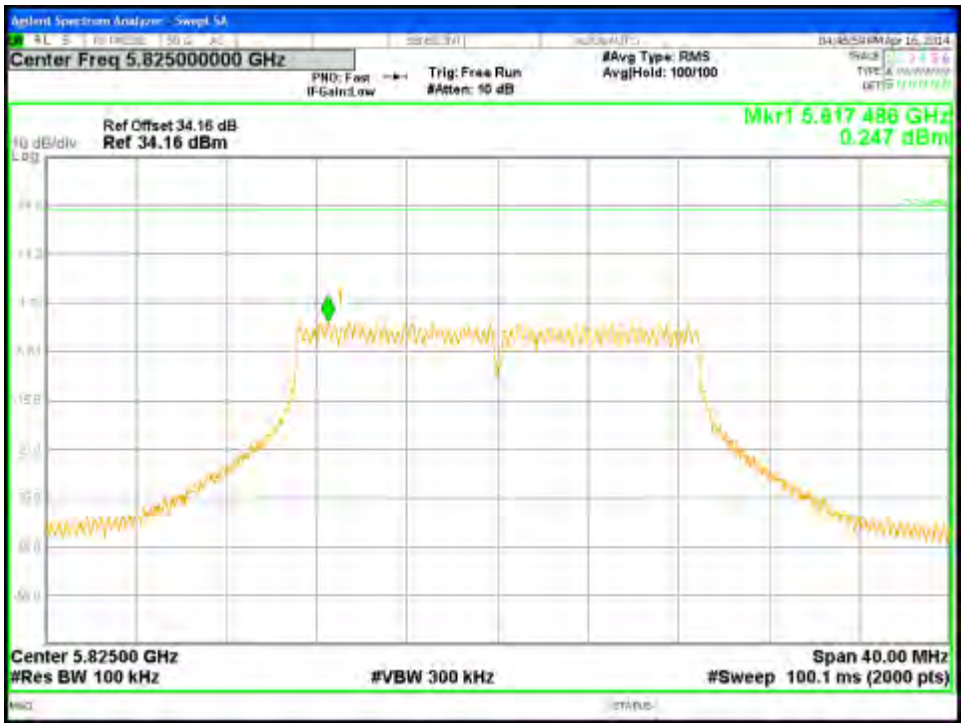


Figure 301: Maximum Power Spectral Density-5825MHz-HT20-MCS0-Ch0

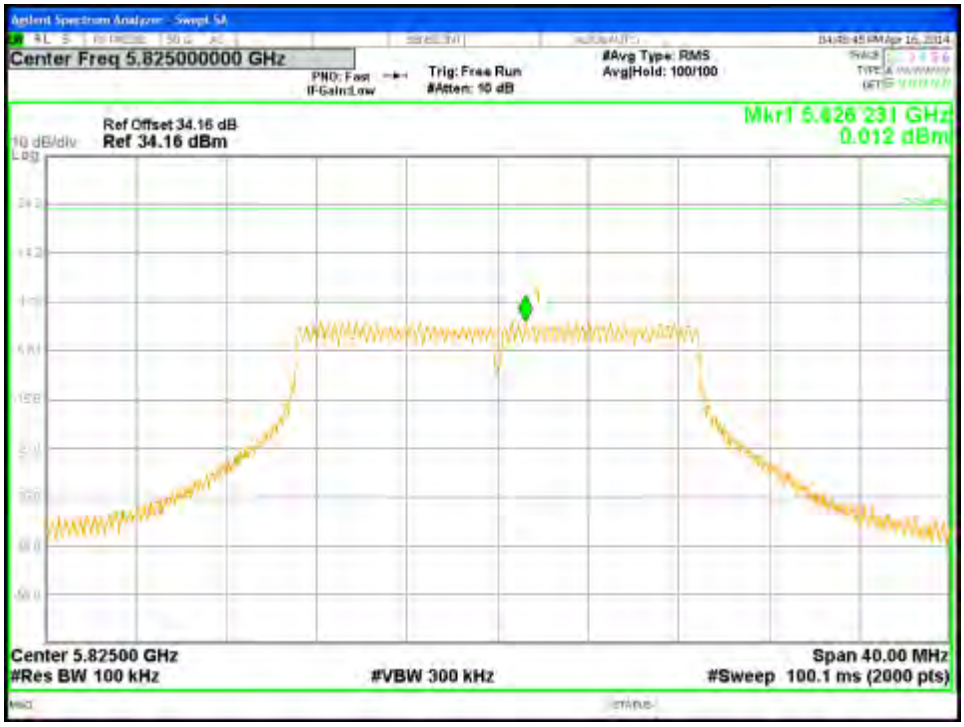


Figure 302: Maximum Power Spectral Density-5825MHz-HT20-MCS0-Ch1

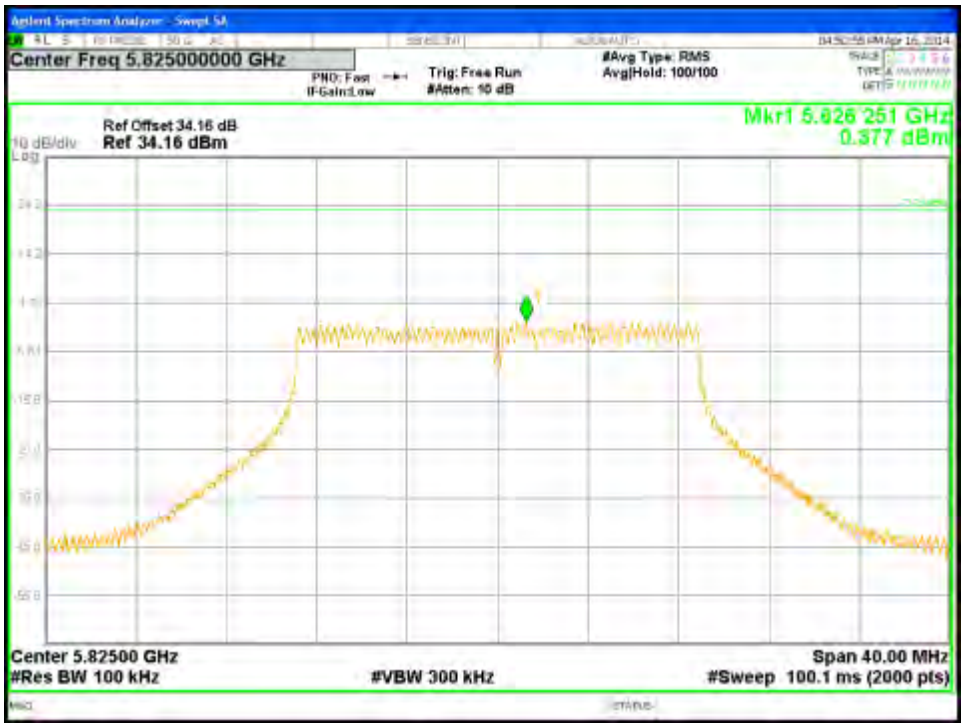


Figure 303: Maximum Power Spectral Density-5825MHz-HT20-MCS0-Ch2

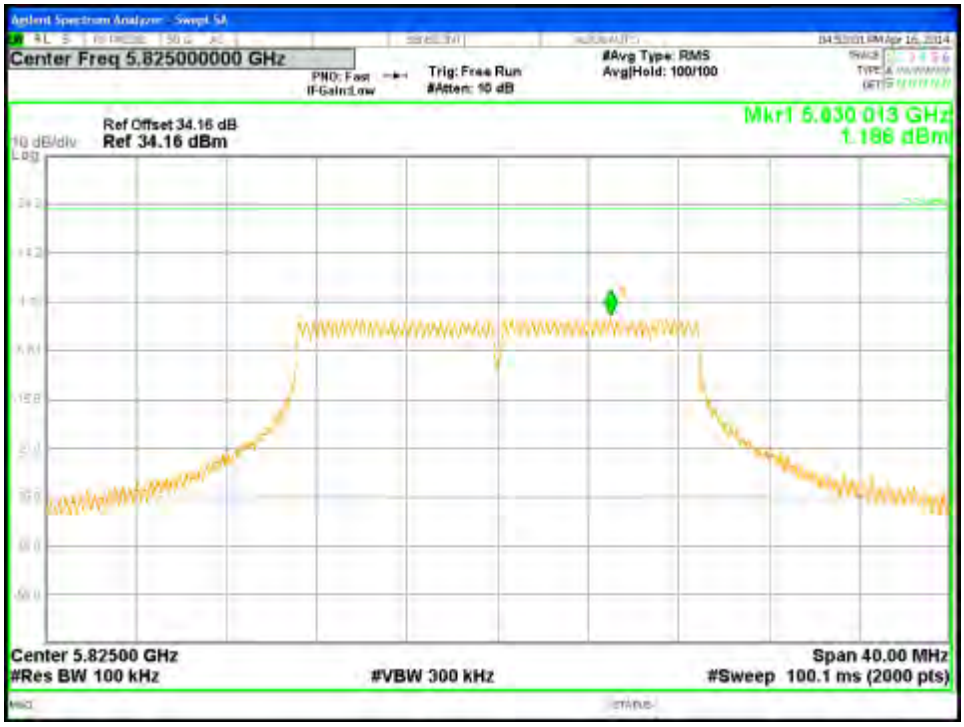


Figure 304: Maximum Power Spectral Density-5825MHz-HT20-MCS0-Ch3

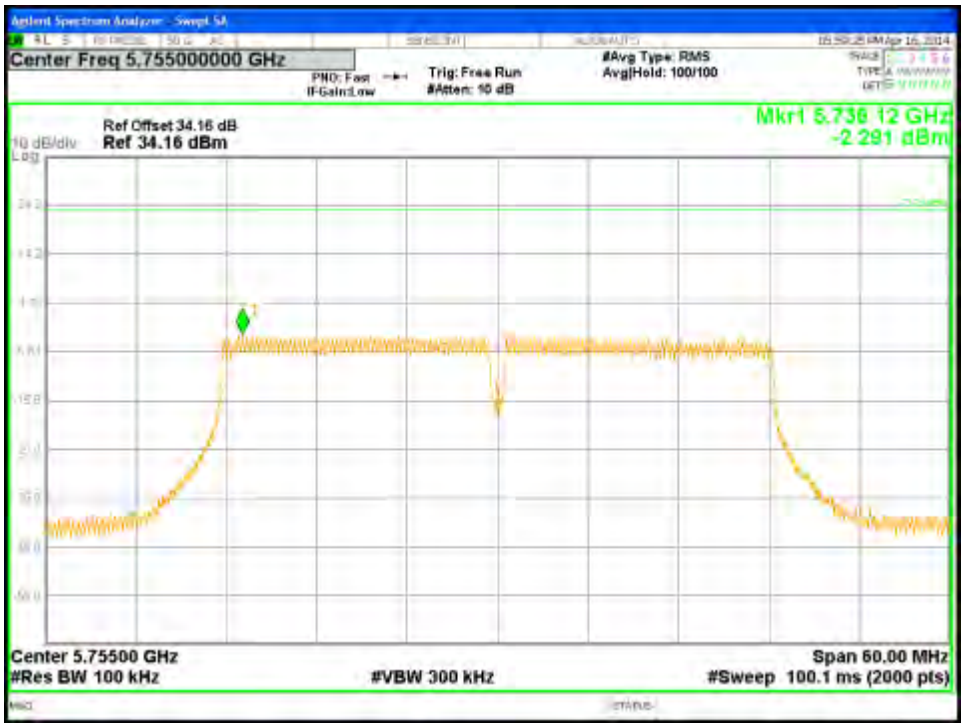


Figure 305: Maximum Power Spectral Density-5755MHz-HT40-MCS0-Ch0

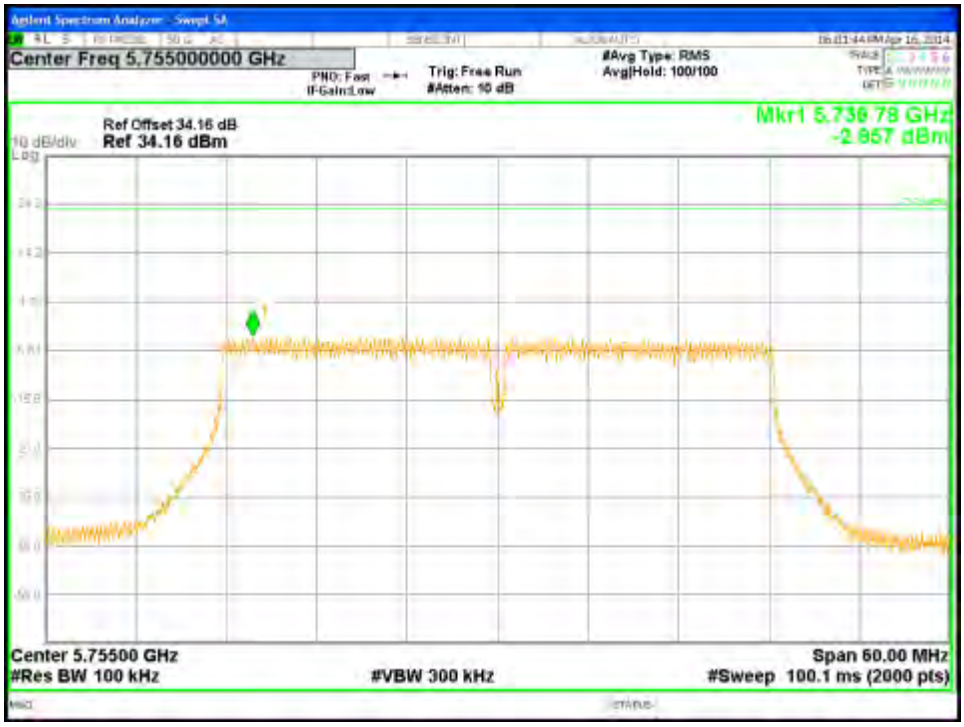


Figure 306: Maximum Power Spectral Density-5755MHz-HT40-MCS0-Ch1

Figure 307: Maximum Power Spectral Density-5755MHz-HT40-MCS0-Ch2

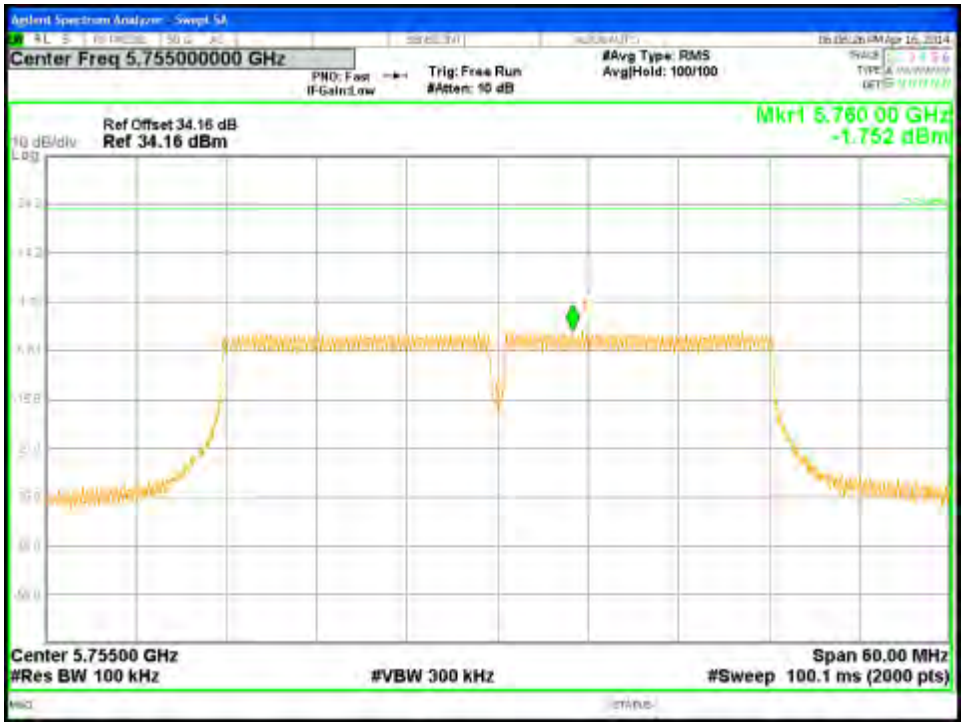


Figure 308: Maximum Power Spectral Density-5755MHz-HT40-MCS0-Ch3

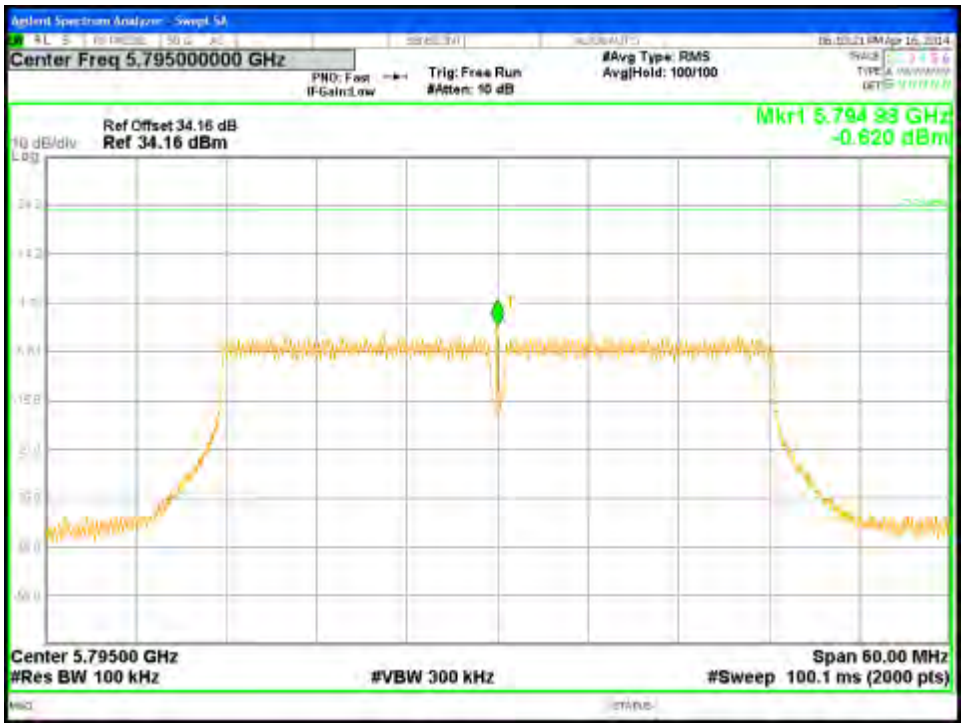


Figure 309: Maximum Power Spectral Density-5795MHz-HT40-MCS0-Ch0

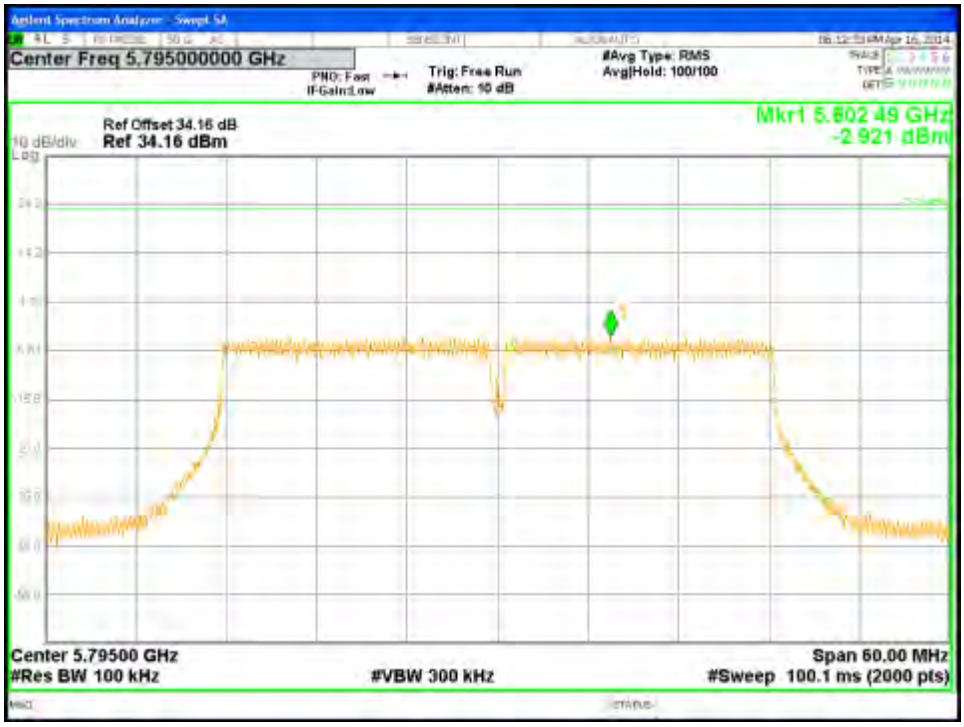


Figure 310: Maximum Power Spectral Density-5795MHz-HT40-MCS0-Ch1

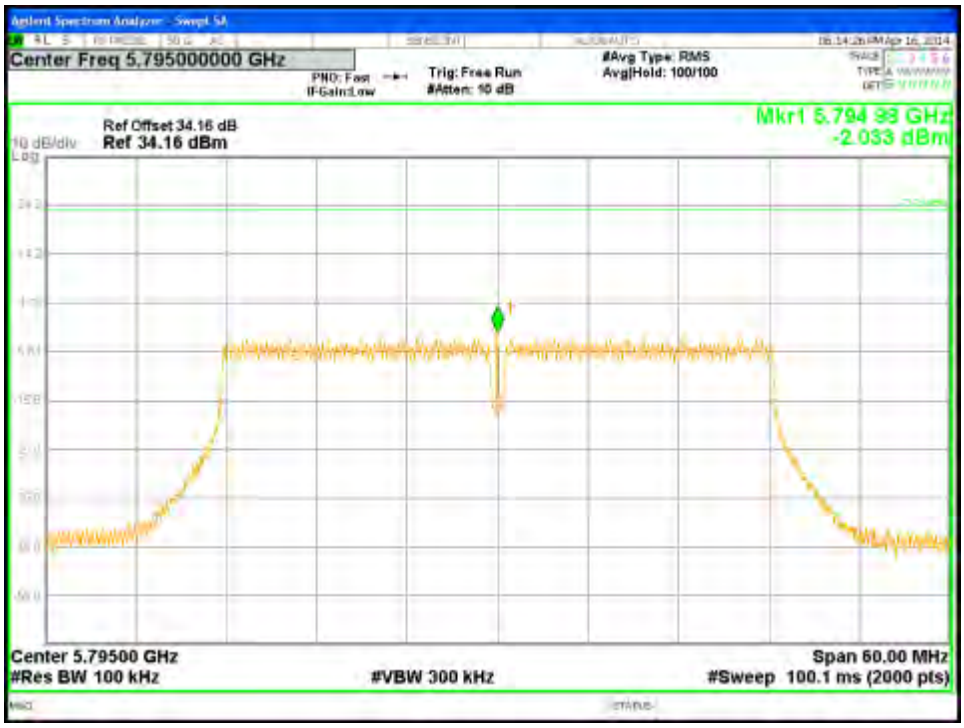


Figure 311: Maximum Power Spectral Density-5795MHz-HT40-MCS0-Ch2

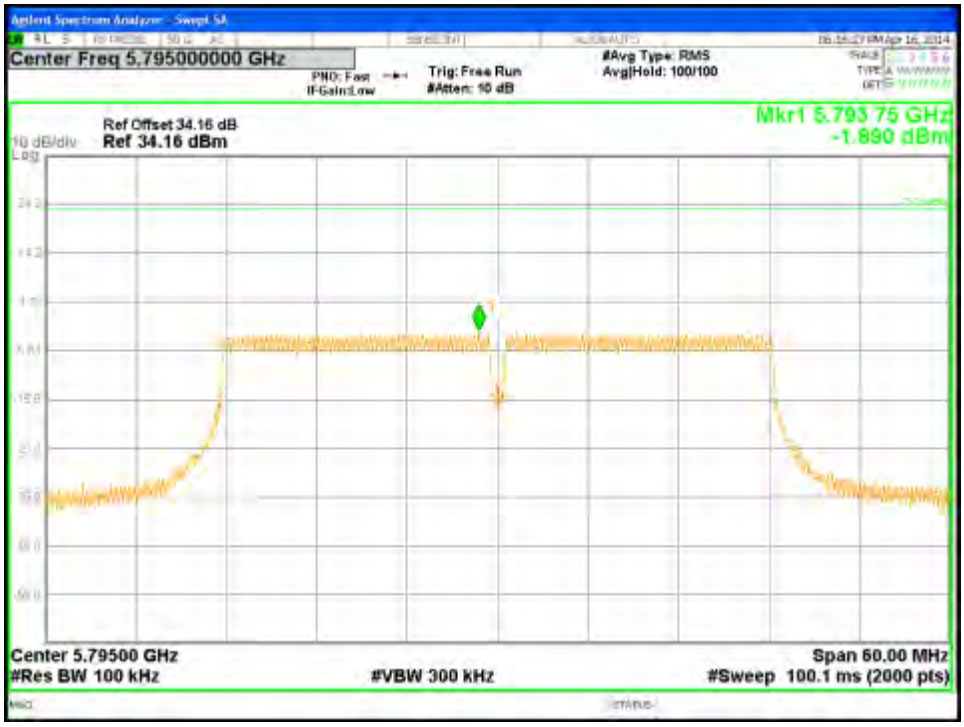


Figure 312: Maximum Power Spectral Density-5795MHz-HT40-MCS0-Ch3

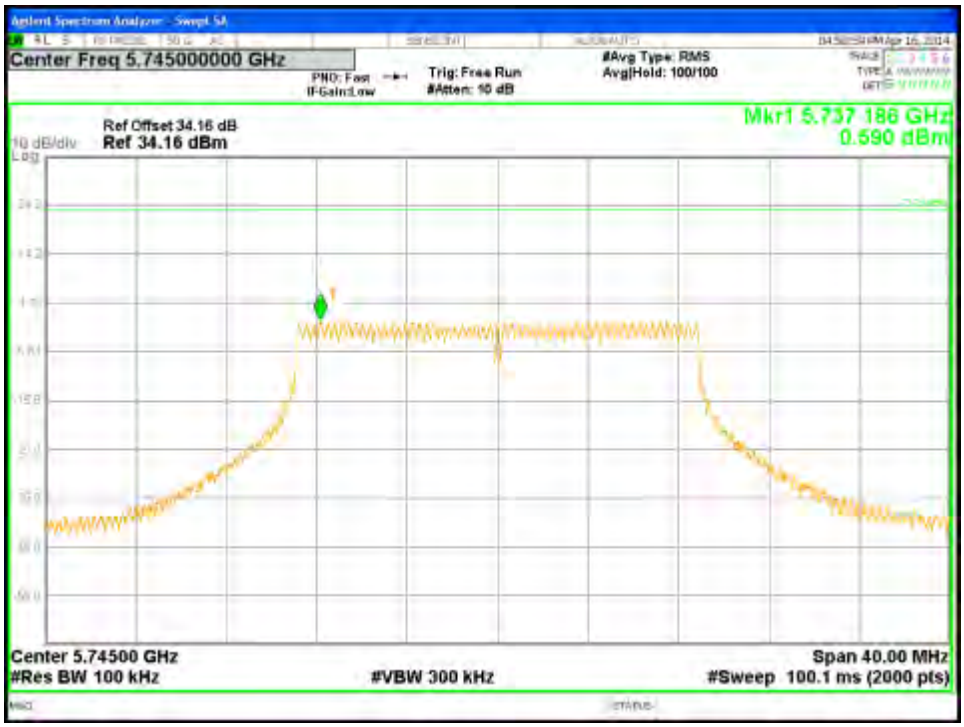


Figure 313: Maximum Power Spectral Density-5745MHz-VHT20-MCS0-Ch0

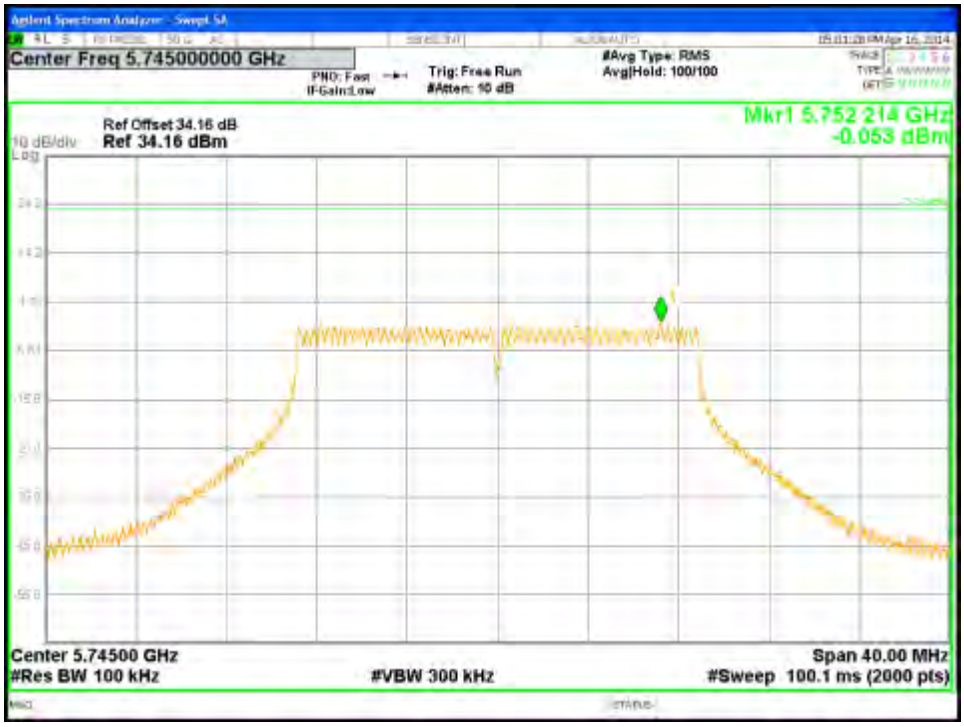


Figure 314: Maximum Power Spectral Density-5745MHz-VHT20-MCS0-Ch1

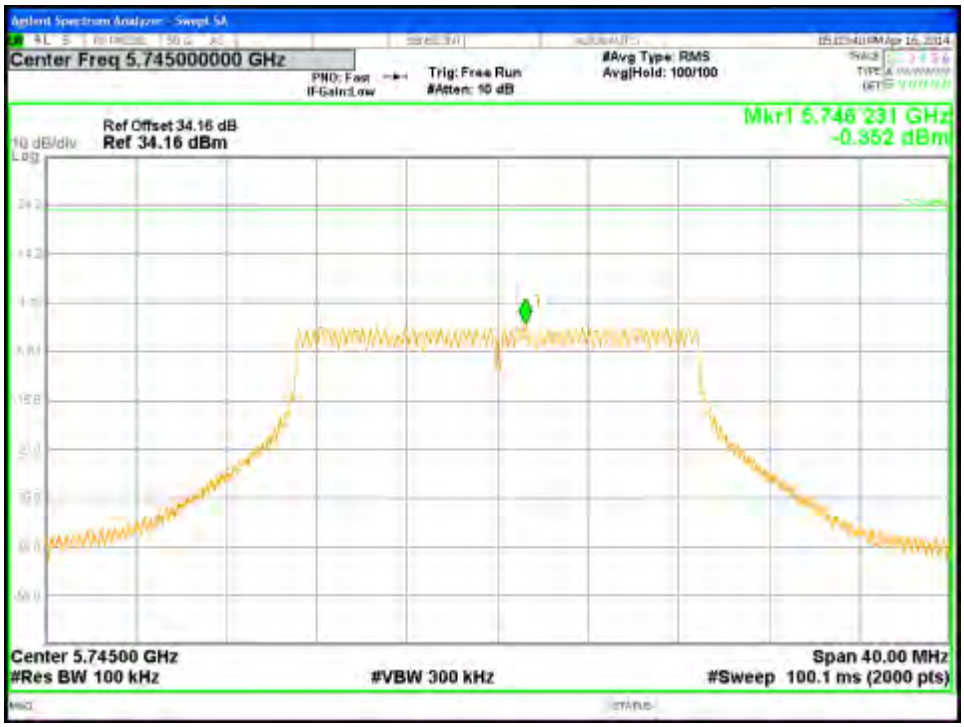


Figure 315: Maximum Power Spectral Density-5745MHz-VHT20-MCS0-Ch2

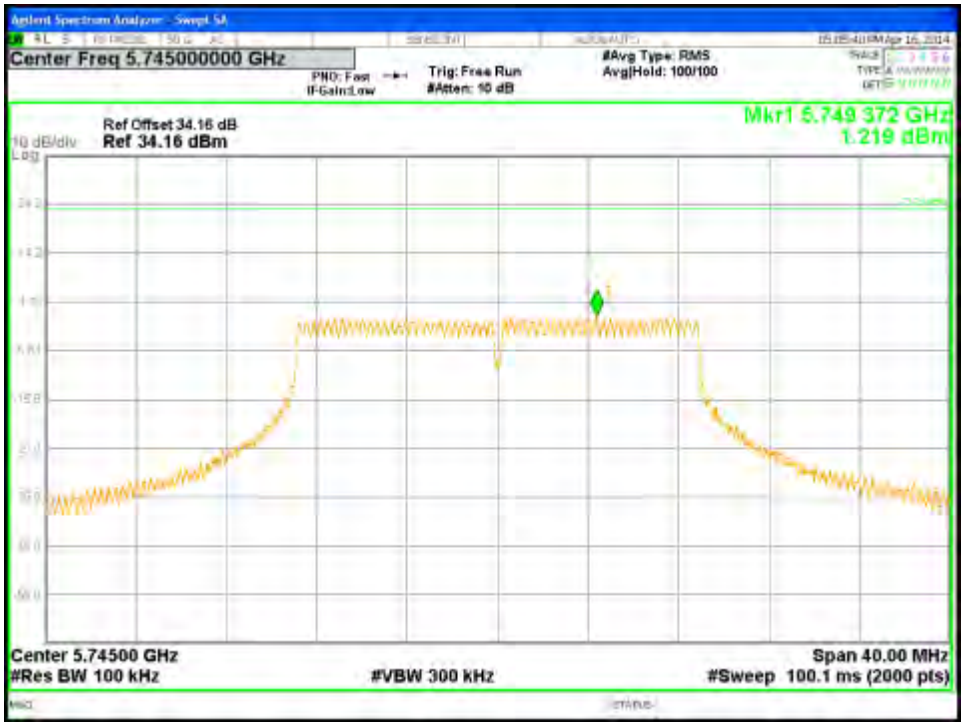


Figure 316: Maximum Power Spectral Density-5745MHz-VHT20-MCS0-Ch3

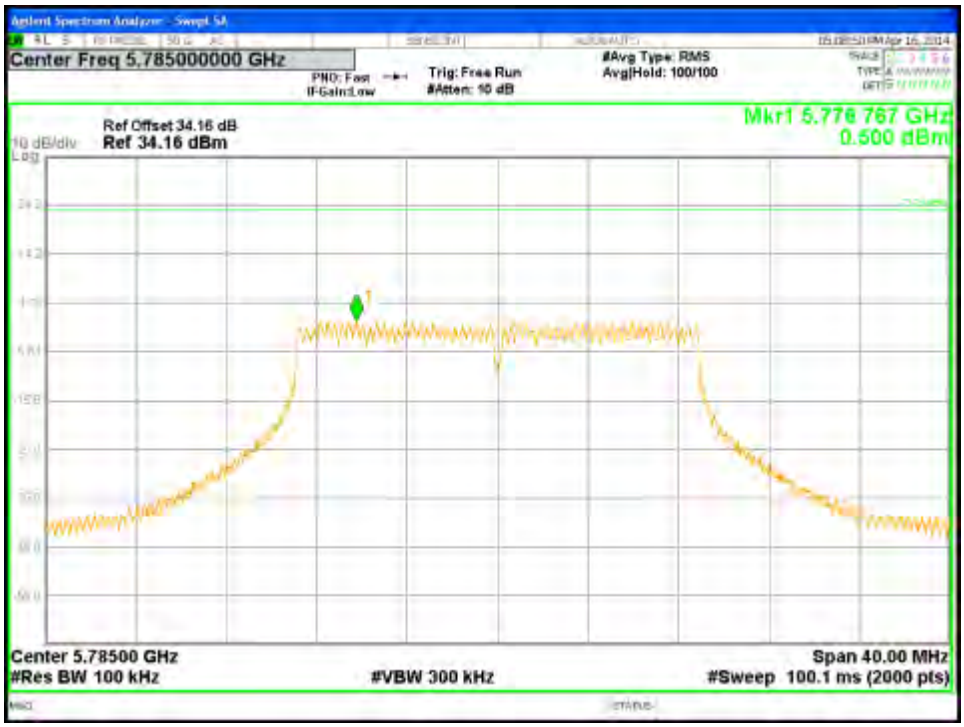


Figure 317: Maximum Power Spectral Density-5785MHz-VHT20-MCS0-Ch0

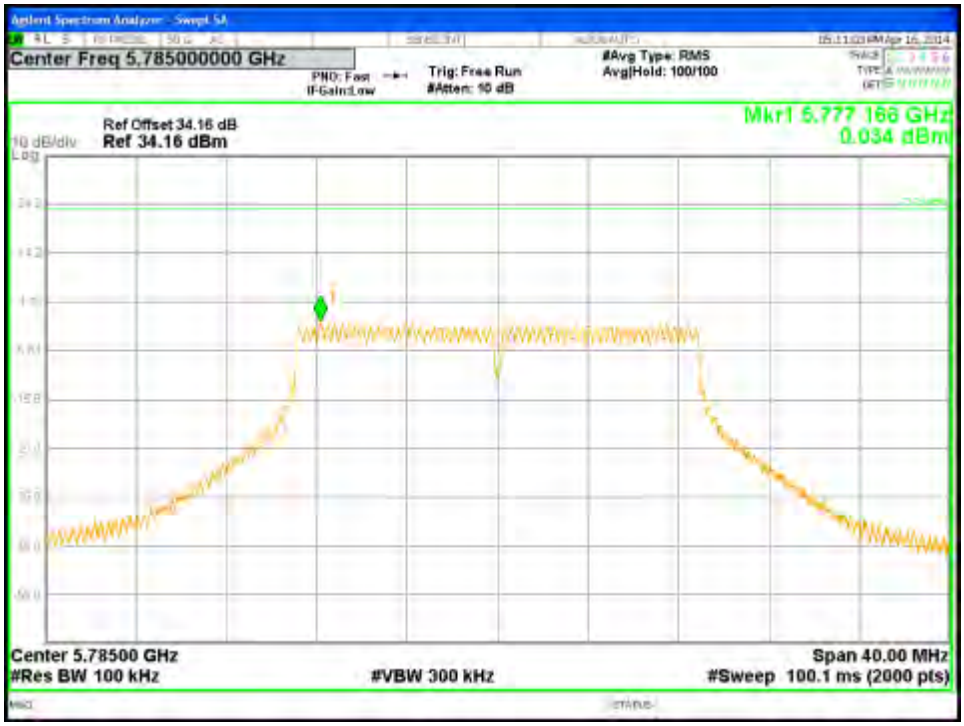


Figure 318: Maximum Power Spectral Density-5785MHz-VHT20-MCS0-Ch1

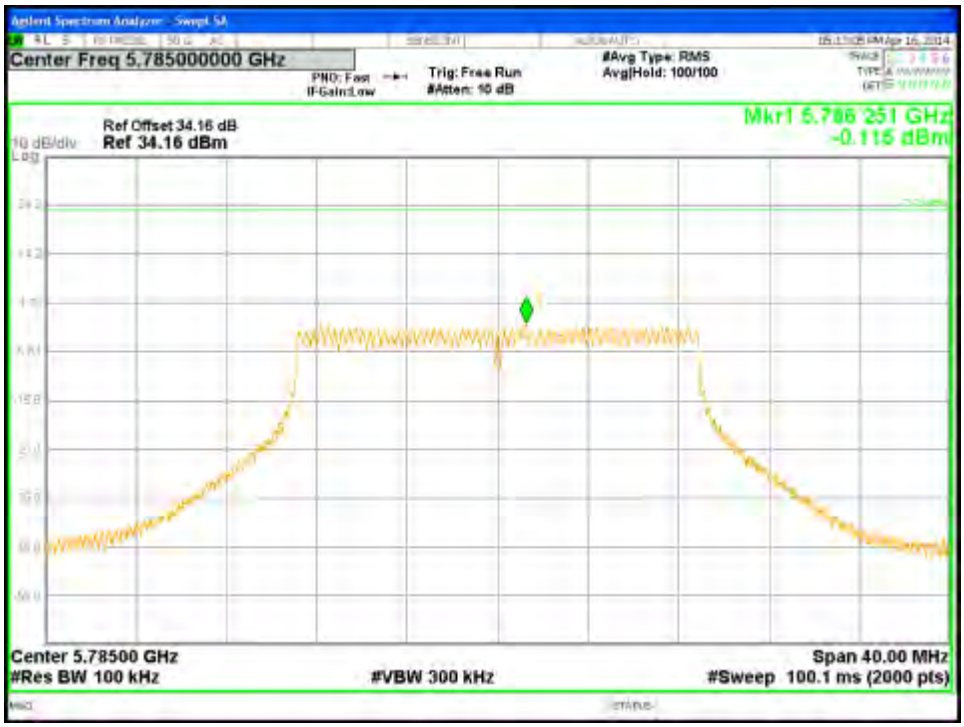


Figure 319: Maximum Power Spectral Density-5785MHz-VHT20-MCS0-Ch2

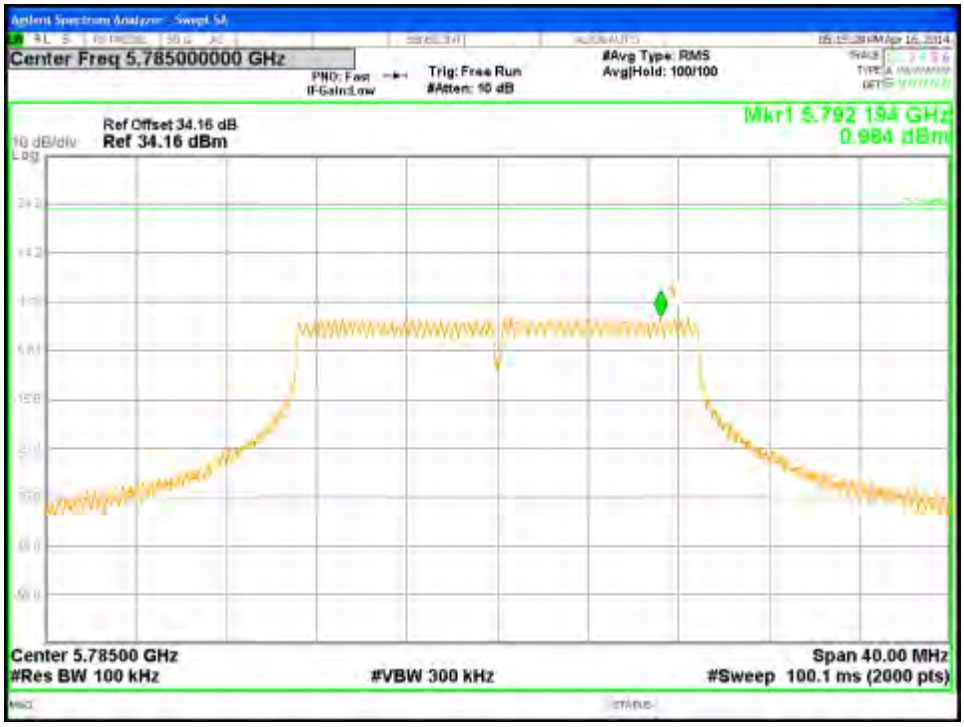


Figure 320: Maximum Power Spectral Density-5785MHz-VHT20-MCS0-Ch3

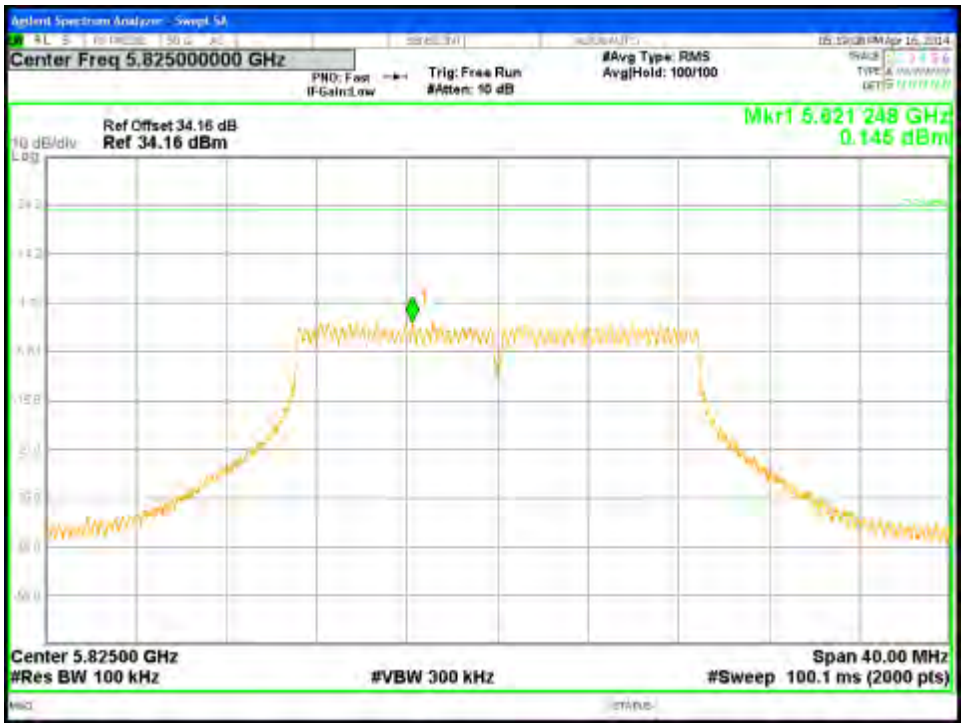


Figure 321: Maximum Power Spectral Density-5825MHz-VHT20-MCS0-Ch0

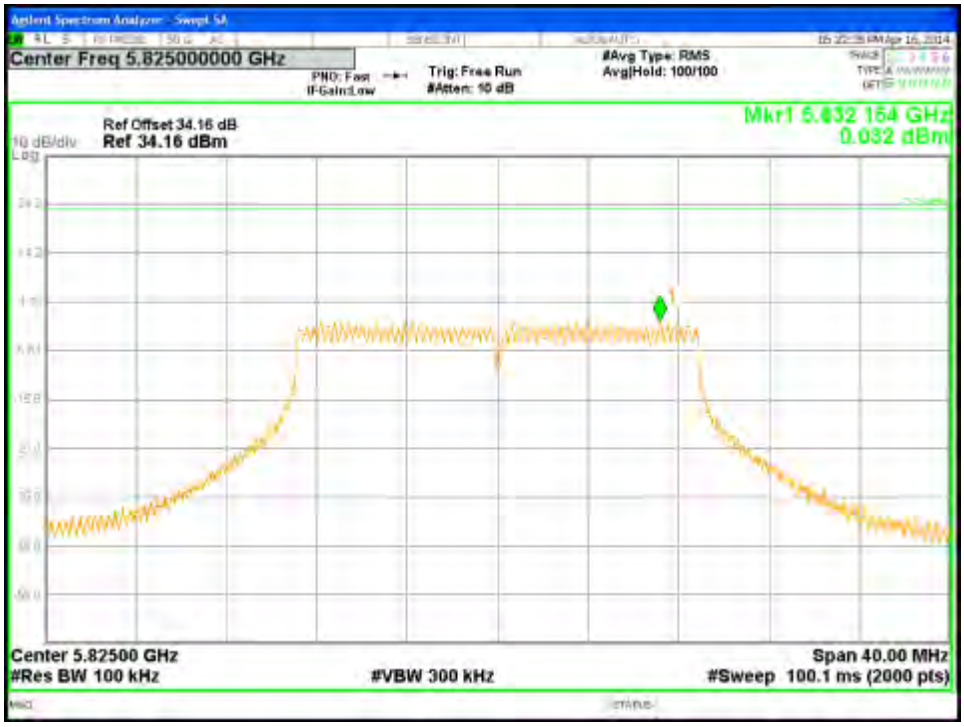


Figure 322: Maximum Power Spectral Density-5825MHz-VHT20-MCS0-Ch1

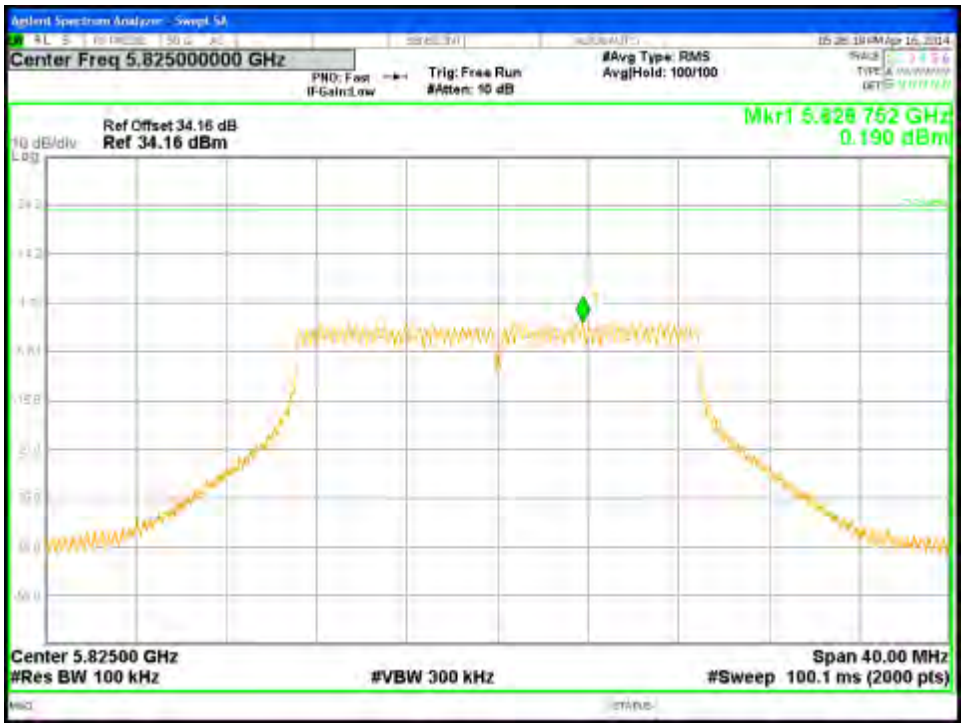


Figure 323: Maximum Power Spectral Density-5825MHz-VHT20-MCS0-Ch2

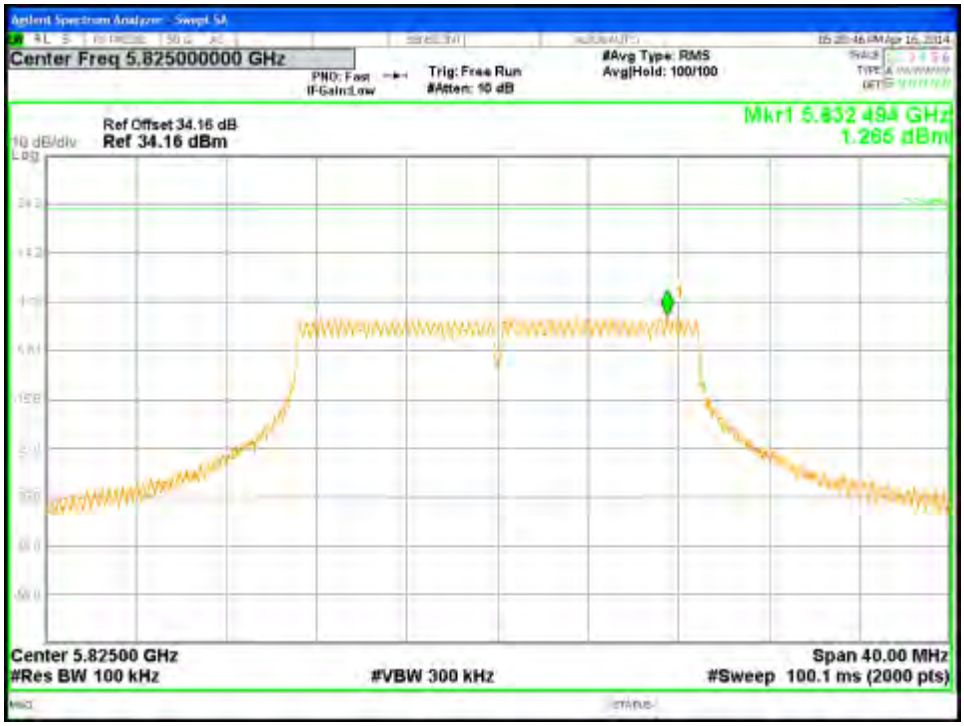


Figure 324: Maximum Power Spectral Density-5825MHz-VHT20-MCS0-Ch3

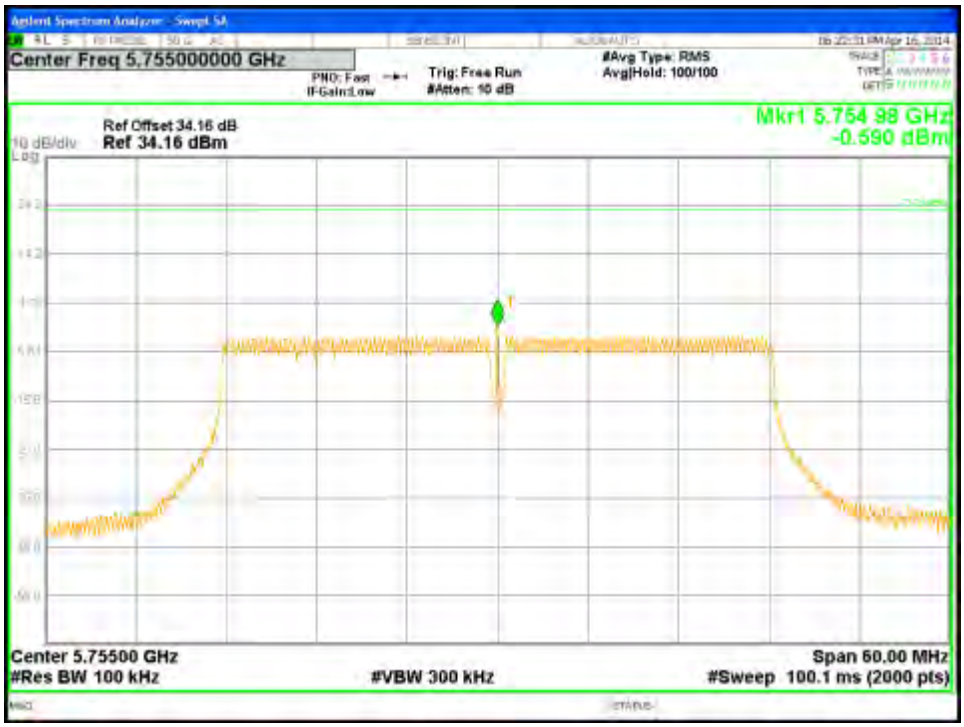


Figure 325: Maximum Power Spectral Density-5755MHz-VHT40-MCS0-Ch0

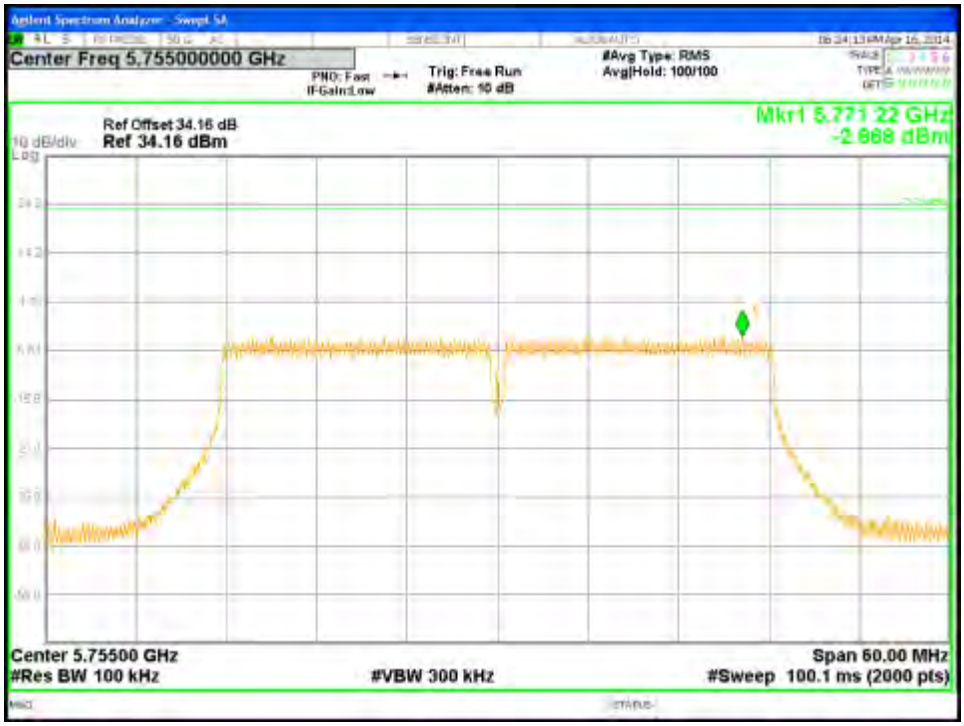


Figure 326: Maximum Power Spectral Density-5755MHz-VHT40-MCS0-Ch1

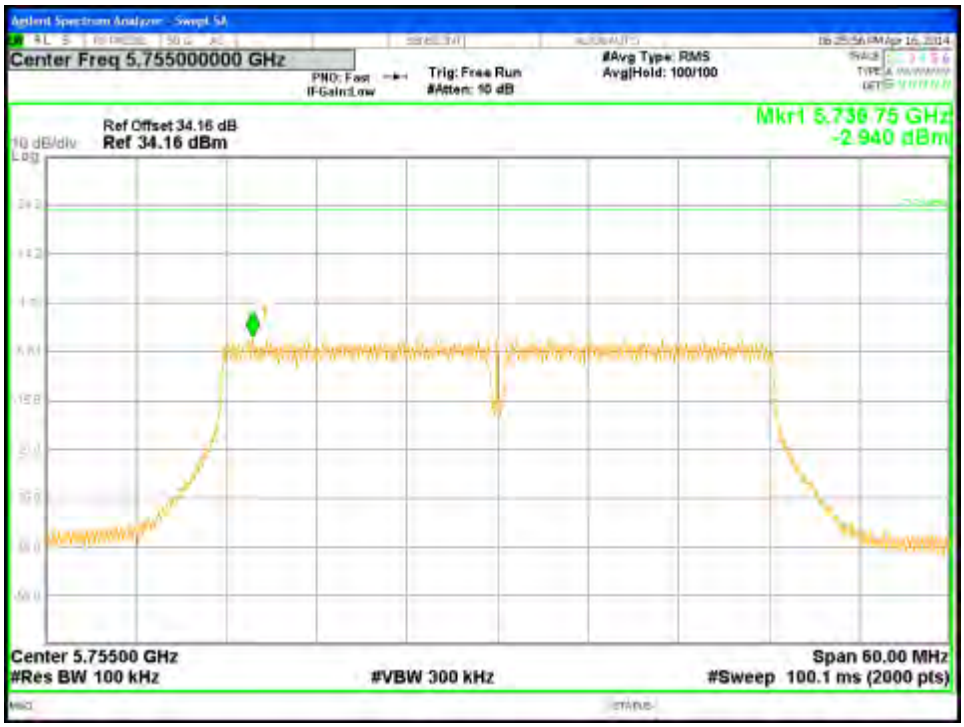


Figure 327: Maximum Power Spectral Density-5755MHz-VHT40-MCS0-Ch2

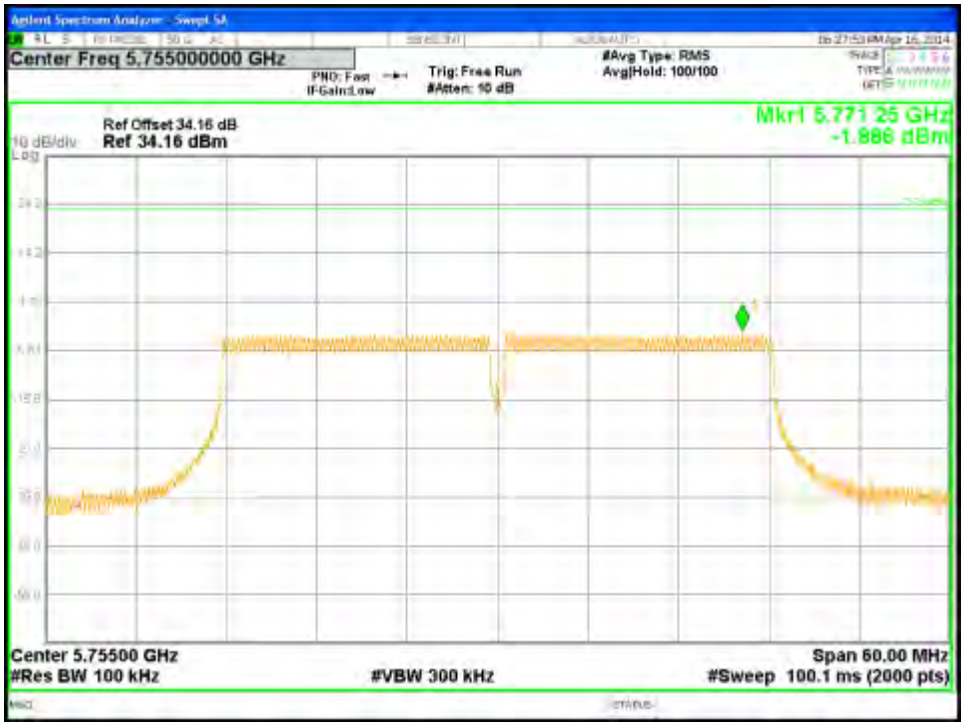


Figure 328: Maximum Power Spectral Density-5755MHz-VHT40-MCS0-Ch3

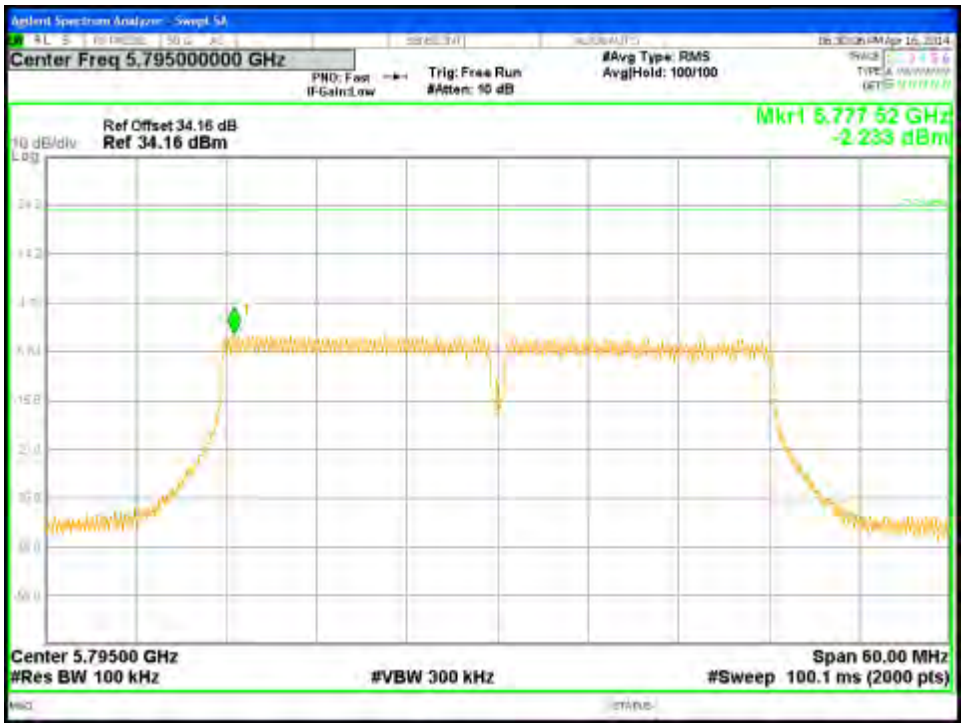


Figure 329: Maximum Power Spectral Density-5795MHz-VHT40-MCS0-Ch0

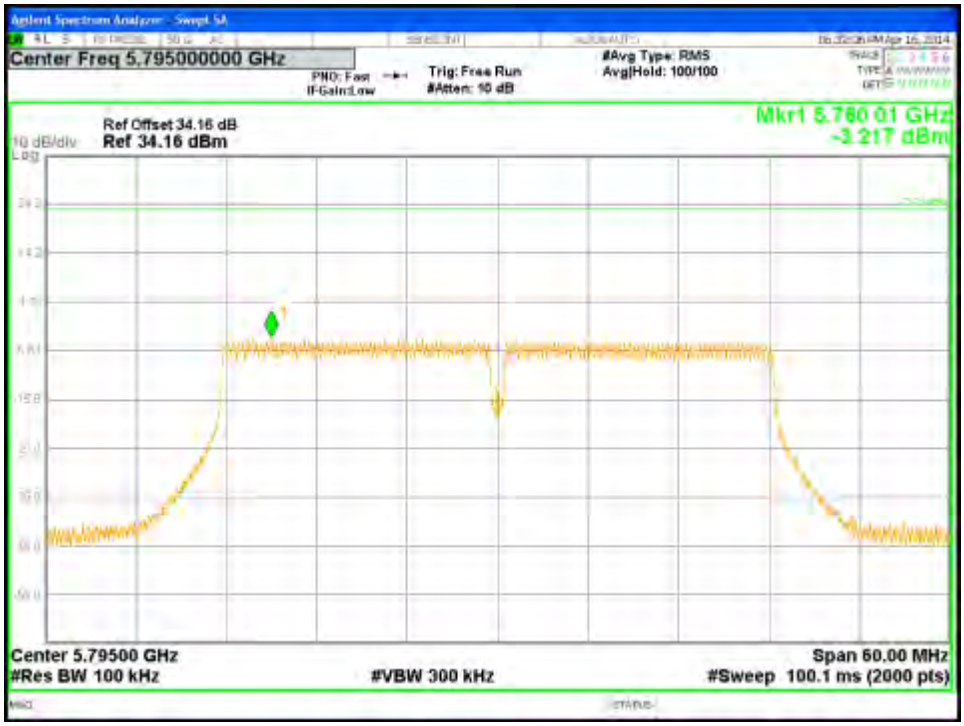


Figure 330: Maximum Power Spectral Density-5795MHz-VHT40-MCS0-Ch1

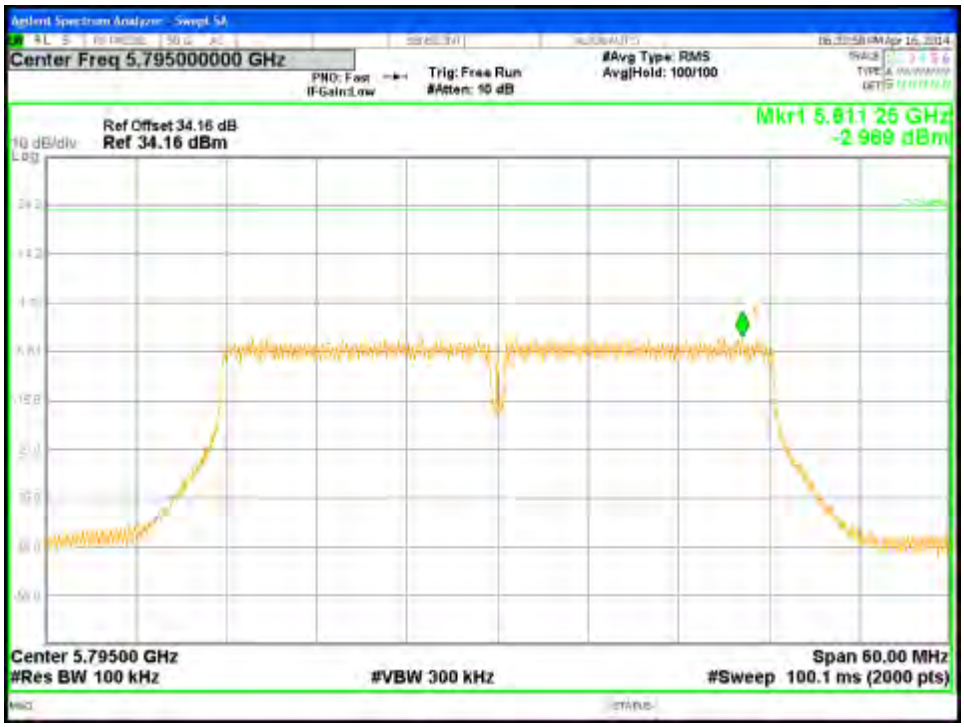


Figure 331: Maximum Power Spectral Density-5795MHz-VHT40-MCS0-Ch2

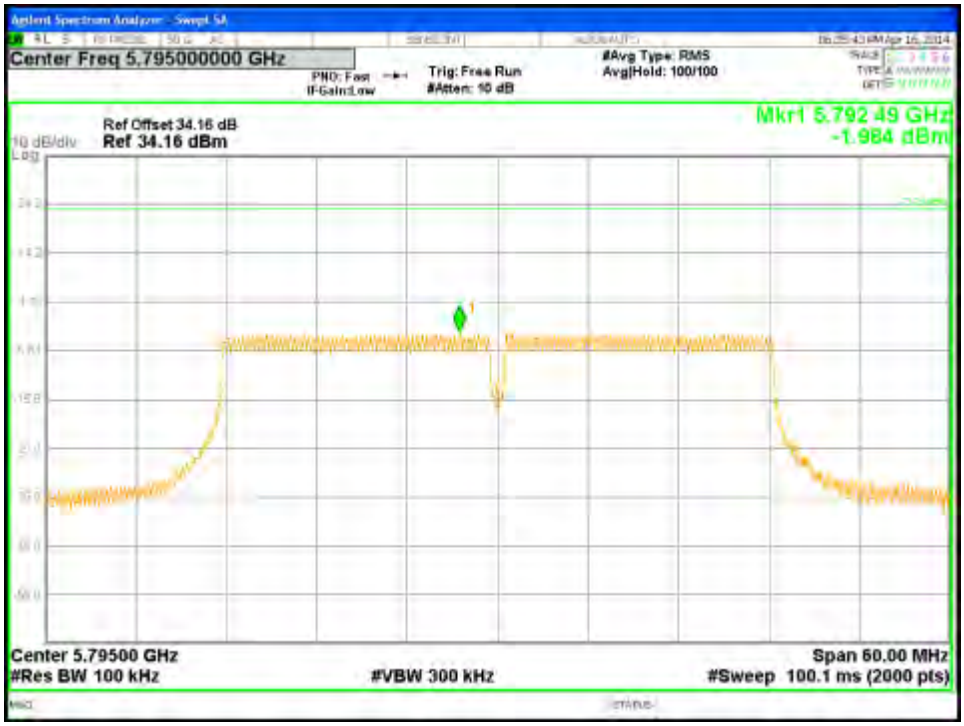


Figure 332: Maximum Power Spectral Density-5795MHz-VHT40-MCS0-Ch3

Figure 333: Maximum Power Spectral Density-5775MHz-VHT80-MCS0-Ch0

Figure 334: Maximum Power Spectral Density-5775MHz-VHT80-MCS0-Ch1

Figure 335: Maximum Power Spectral Density-5775MHz-VHT80-MCS0-Ch2

Figure 336: Maximum Power Spectral Density-5775MHz-VHT80-MCS0-Ch3

4.5 Transmitter Spurious Emissions

Transmitter spurious emissions are emissions outside the frequency range of the equipment when the equipment is in transmit mode; per requirement of CFR47 15.205, 15.209, 15.407(b), RSS-210 Sect. A.9.2.

4.5.1 Test Methodology

4.5.1.1 Preliminary Test

A test program that controls instrumentation and data logging was used to automate the preliminary RF emission test procedure. The frequency range of interest was divided into sub-ranges to yield a frequency resolution of approximately 120 kHz and provide a reading at each frequency for no more than 12° of turntable rotation. For each frequency sub-range the turntable was rotated 360° while peak emission data was recorded and plotted over the frequency range of interest in horizontal and vertical antenna polarization's.

Preliminary emission profile testing was performed inside the anechoic chamber. The EUT was placed on a 1.0m x 1.5m non-conductive table 80cm above the floor. The EUT was positioned as shown in the setup photographs. The receiving antenna was placed at a distance of 3m at a fixed height of 1m. Measurement equipment was located outside of the chamber. A video camera was placed inside the chamber to view the EUT.

Pres-scans were performed to determine the worst axis, data rate/chains.

4.5.1.2 Final Test

For each frequency measured, the peak emission was maximized by manipulating the receiving antenna from 1 to 4 meters above the ground plane and placing it at the position that produced the maximum signal strength reading. The turntable was then rotated through 360° while observing the peak signal and placing the EUT at the position that produced maximum radiation. The six highest emissions relative to the limit were measured unless such emissions were more than 20 dB below the limit. If less than six emissions are within 20 dB of the limit, than the noise level of the receiver is measured at frequencies where emissions are expected. Multiples of all oscillator and microprocessor frequencies were also checked.

Final testing was performed on an NSA compliant test site. The EUT was placed on a 1.0m x 1.5m non-conductive table 80cm above the ground plane. The placement of EUT and cables were the same as for preliminary testing and is shown in the setup photographs.

The final scans performed on the worst axis, Y-Axis, for three operating channels;
6 Mbps for 802.11a Mode: 5745 MHz, 5785 MHz, 5825 MHz
MCS0 for 802.11n HT20 Mode: 5745 MHz, 5785 MHz, 5825 MHz
MCS0 for 802.11n HT40 Mode: 5755 MHz, 5795 MHz
MCS0 for 802.11ac VHT20 Mode: 5745 MHz, 5785 MHz, 5825 MHz
MCS0 for 802.11a VHT40 Mode: 5755 MHz, 5795 MHz
MCS0 for 802.11a VHT80 Mode: 5775 MHz.

4.5.1.3 Deviations

None.

4.5.2 Transmitter Spurious Emission Limit

The spurious emissions of the transmitter shall not exceed the values in CFR47 Part 15.205, 15.209: 2013 and RSS-210 A1.1.2 2010.

Frequency (MHz)	Field strength (microvolts/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 **	3
88-216.....	150 **	3
216-960.....	200 **	3
Above 960.....	500	3

4.5.3 Test Results

The final measurement data was taken under the worst case operating modes, configurations, and/or cable positions. It also reflects the results including any modifications and/or special accessories listed in Sections 1.4 and test plan.

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

Table 7: Transmit Spurious Emission at Band-Edge Requirements

Test Conditions: Radiated Measurement				**Test Date:** April 16, 2014				
Antenna Type: Integrated				**Power Setting:** See test plan				
Max. Directional Gain: + 8 dBi				**Signal State:** Modulated at 100%.				
Ambient Temp.: 23 °C				**Relative Humidity:**33%				
Band-Edge Results								
Freq. (MHz)	Level (dBuV/m)	Polarity (H/V)	Limit (dBuV/m)	Margin (dB)	Det.	Table Deg.	Tower (cm)	Note
5725	85.55	H	101.17	−15.62	Pk	110	222	5745MHz-11a-6Mbps-22dBm
5725	70.86	H	92.87	−22.01	Ave	110	222	5745MHz-11a-6Mbps-22dBm
5725	80.08	V	100.05	−19.97	Pk	210	222	5745MHz-11a-6Mbps-22dBm
5725	71.36	V	93.53	−22.17	Ave	210	222	5745MHz-11a-6Mbps-22dBm
5850	82.68	H	102.40	−19.72	Pk	215	150	5825MHz-11a-6Mbps-22dBm
5850	72.28	H	94.79	−22.51	Ave	215	150	5825MHz-11a-6Mbps-22dBm
5850	78.86	V	100.78	−21.92	Pk	198	254	5825MHz-11a-6Mbps-22dBm
5850	68.53	V	92.73	−24.20	Ave	198	254	5825MHz-11a-6Mbps-22dBm
5725	87.41	H	104.75	−17.34	Pk	214	103	5745MHz-HT20-MCS0-22dBm
5725	74.72	H	97.85	−23.13	Ave	214	103	5745MHz-HT20-MCS0-22dBm
5725	83.62	V	102.67	−19.05	Pk	190	198	5745MHz-HT20-MCS0-22dBm
5725	72.06	V	95.64	−23.58	Ave	190	198	5745MHz-HT20-MCS0-22dBm
5850	83.27	H	103.89	−20.62	Pk	218	148	5825MHz-HT20-MCS0-22dBm
5850	74.39	H	96.62	−22.23	Ave	218	148	5825MHz-HT20-MCS0-22dBm
5850	76.57	V	97.62	−21.05	Pk	89	183	5825MHz-HT20-MCS0-22dBm
5850	67.47	V	89.65	−22.18	Ave	89	183	5825MHz-HT20-MCS0-22dBm
5725	83.60	V	98.48	−14.88	Pk	205	225	5755MHz-HT40-MCS0-22dBm
5725	73.86	V	90.47	−16.61	Ave	205	225	5755MHz-HT40-MCS0-22dBm
5725	90.91	H	100.11	−9.20	Pk	218	153	5755MHz-HT40-MCS0-22dBm
5725	78.62	H	94.95	−16.33	Ave	218	139	5755MHz-HT40-MCS0-22dBm
5850	78.54	H	100.06	−21.52	Pk	221	179	5795MHz-HT40-MCS0-22dBm
5850	67.47	H	93.69	−26.22	Ave	221	179	5795MHz-HT40-MCS0-22dBm

5850	73.21	V	96.53	−23.32	Pk	196	242	5795MHz-HT40-MCS0-22dBm
5850	63.16	V	91.06	−27.90	Ave	196	242	5795MHz-HT40-MCS0-22dBm
5725	86.62	H	102.14	−15.52	Pk	168	144	5745MHz-VHT20-MCS0-22dBm
5725	76.22	H	94.52	−18.30	Ave	168	144	5745MHz-VHT20-MCS0-22dBm
5725	81.93	V	100.26	−18.33	Pk	93	203	5745MHz-VHT20-MCS0-22dBm
5725	70.60	V	91.72	−21.12	Ave	93	203	5745MHz-VHT20-MCS0-22dBm
5850	81.19	H	102.14	−20.95	Pk	116	114	5825MHz-VHT20-MCS0-22dBm
5850	67.47	H	94.83	−27.36	Ave	116	114	5825MHz-VHT20-MCS0-22dBm
5850	78.60	V	100.40	−21.80	Pk	193	223	5825MHz-VHT20-MCS0-22dBm
5850	69.78	V	94.14	−24.36	Ave	193	223	5825MHz-VHT20-MCS0-22dBm
5850	67.54	H	100.62	−33.08	Pk	295	294	5755MHz-VHT40-MCS0-22dBm
5850	59.32	H	93.16	−33.84	Ave	295	294	5755MHz-VHT40-MCS0-22dBm
5850	67.68	V	96.29	−28.61	Pk	154	294	5755MHz-VHT40-MCS0-22dBm
5850	58.30	V	88.29	−29.99	Ave	154	294	5755MHz-VHT40-MCS0-22dBm
5850	71.80	H	99.24	−27.44	Pk	291	235	5795MHz-VHT40-MCS0-22dBm
5850	63.76	H	92.51	−28.75	Ave	291	235	5795MHz-VHT40-MCS0-22dBm
5850	73.95	V	96.90	−22.95	Pk	203	176	5795MHz-VHT40-MCS0-22dBm
5850	65.34	V	91.10	−25.76	Ave	203	176	5795MHz-VHT40-MCS0-22dBm
5725	89.62	H	97.40	−7.78	Pk	298	294	5775MHz-VHT80-MCS0-21dBm
5725	78.19	H	90.39	−12.20	Ave	298	294	5775MHz-VHT80-MCS0-21dBm
5725	85.05	V	92.74	−7.69	Pk	156	292	5775MHz-VHT80-MCS0-21dBm
5725	72.90	V	85.76	−12.86	Ave	156	292	5775MHz-VHT80-MCS0-21dBm

Note: 1. Band-edge frequencies were taken at 5725MHz or 5850 MHz. Since both sides of the operational band are not restricted, the measurements took to demonstrate the compliance to 20 dB relative to peak.

2. All the band-edge measurements met the restricted band requirements of CFR47 15.205 and 15.209.

SOP 1 Radiated Emissions

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EUT Name	Wireless Residential Gateway	**Date**	March 31, 2014
EUT Model	5268AC	**Temp / Hum in**	23°C / 40%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	802.11a at Y-Axis (30MHz-1 GHz)	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	120 kHz/ 300 kHz
Dist/Ant Used	3m / JB3	**Performed by**	Jeremy Luong

Freq.	Raw	Cbl	AF	Level	Det.	Pol.	Hght.	Azt	Limit	Margin	Result
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB	
Transmitted Data at 802.11a, 5785MHz											
624.92	47.20	3.00	-18.67	31.54	QP	H	117	86	37.00	-5.47	Pass
874.83	42.04	3.62	-15.36	30.29	QP	H	135	60	37.00	-6.71	Pass
30.00	33.82	0.59	-15.89	18.53	QP	V	120	240	30.00	-11.47	Pass
45.26	47.17	0.73	-27.38	20.53	QP	V	133	42	30.00	-9.47	Pass
57.67	49.84	0.83	-30.34	20.33	QP	V	108	70	30.00	-9.67	Pass
99.99	50.80	1.11	-27.28	24.62	QP	V	103	304	30.00	-5.38	Pass
400.01	48.80	2.36	-21.55	29.62	QP	V	128	252	37.00	-7.38	Pass
530.00	42.60	2.75	-19.90	25.45	QP	V	105	46	37.00	-11.55	Pass
2400.51	50.08	2.15	-21.68	30.55	Ave	H	200	160	54.00	-23.45	Pass
5583.20	60.26	2.79	-16.19	46.87	Ave	H	215	62	54.00	-7.14	Pass
6015.73	58.38	2.87	-15.32	45.92	Ave	H	168	110	54.00	-8.08	Pass
6276.06	58.08	2.90	-14.76	46.23	Ave	H	133	108	54.00	-7.77	Pass
6422.49	52.22	2.93	-14.45	40.69	Ave	H	271	110	54.00	-13.31	Pass
11567.6	61.41	3.66	-12.34	52.73	Ave	V	208	74	54.00	-1.27	Pass*

Spec Margin = Level - Limit, Level = Raw+ Cbl+ CF ± Uncertainty
CF= Amp Gain + ANT Factor

Combined Standard Uncertainty $u_c(y)$ = ± 4.93 dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence

Note: All digital emissions passed Class B limit.
(*) Harmonic emission.

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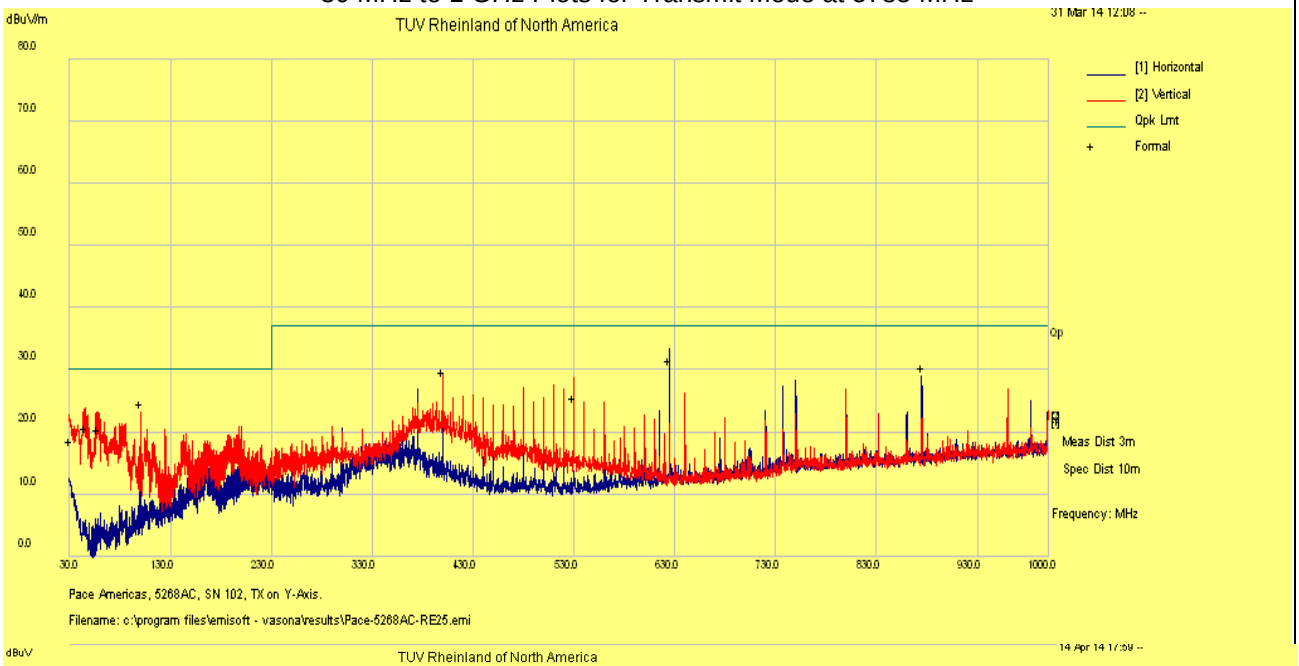
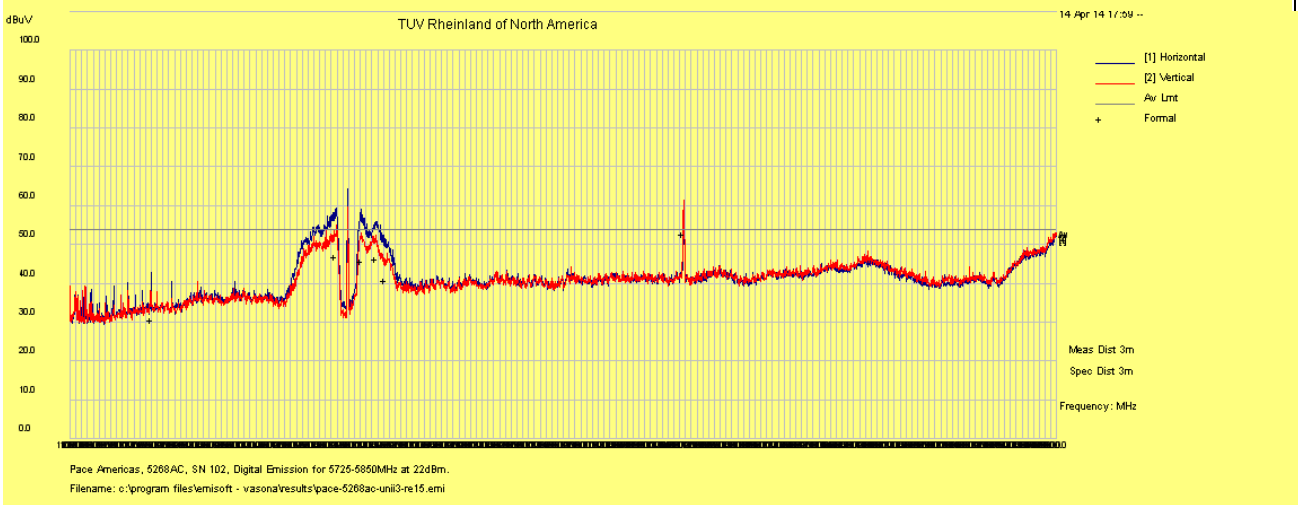
EUT Name	Wireless Residential Gateway	**Date**	March 31, 2014
EUT Model	5268AC	**Temp / Hum in**	23°C / 40%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	802.11a at Y-Axis (30MHz-1 GHz)	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	120 kHz/ 300 kHz
Dist/Ant Used	3m / JB3 & EMCO3115	**Performed by**	Jeremy Luong

30 MHz to 1 GHz Plots for Transmit Mode at 5785 MHz





Notes: Scan for digital emission per FCC Class B Limit.

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EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11a at 6Mbps	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Freq	Raw	Cbl	AF	Level	Det	Pol	Hght	Azt	Limit	Margin	Comment
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB	
Transmitted Data at 5745MHz at 802.11a, 6Mbit/s											
17241.15	40.74	8.34	-5.02	44.05	Ave	H	118	52	54.00	-9.95	Harmonics
11490.19	52.50	6.51	-12.20	46.81	Ave	V	246	66	54.00	-7.19	Harmonics
22976.80	51.10	5.59	3.35	60.03	Ave	V	142	116	63.98	-3.95	Harmonics
28720.20	62.73	6.36	-20.92	41.82	Ave	V	121	170	63.98	-22.16	Harmonics
34475.50	55.69	7.02	-12.92	42.77	Ave	V	116	124	63.98	-21.21	Harmonics
Transmitted Data at 5785MHz at 802.11a, 6Mbit/s											
17359.14	38.93	8.39	-3.87	43.46	Ave	H	196	38	54.00	-10.54	Harmonics
11567.6	61.41	3.66	-12.34	52.73	Ave	V	208	74	54.00	-1.27	Harmonics
23142.70	48.90	5.60	3.18	57.67	Ave	V	140	149	63.98	-6.31	Harmonics
28924.90	62.79	6.38	-20.56	42.23	Ave	V	115	168	63.98	-21.75	Harmonics
34708.80	54.82	7.07	-12.99	41.82	Ave	V	111	125	63.98	-22.16	Harmonics
Transmitted Data at 5825MHz at 802.11a, 6Mbit/s											
17480.45	40.70	8.44	-3.11	46.03	Ave	H	119	88	54.00	-7.97	Harmonics
11647.60	57.40	6.56	-12.65	51.31	Ave	V	200	106	54.00	-2.69	Harmonics
23304.20	51.69	5.64	2.93	60.26	Ave	V	134	147	63.98	-3.72	Harmonics
29120.70	66.95	6.40	-20.25	46.71	Ave	V	121	86	63.98	-17.27	Harmonics
34946.20	53.40	7.10	-12.49	40.91	Ave	V	116	160	63.98	-23.07	Harmonics

Spec Margin = Level - Limit, Level = Raw+ Cbl+ CF ± Uncertainty
CF= Amp Gain + ANT Factor

Combined Standard Uncertainty $u_c(y)$ = ± 4.93 dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence

Notes: All emissions passed the spurious emission limit.

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EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT20 at MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Freq	Raw	Cbl	AF	Level	Det	Pol	Hght	Azt	Limit	Margin	Comment
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB	
Transmitted Data at 5745MHz at 802.11n HT20 MCS0											
17238.46	37.85	8.34	-5.06	41.12	Ave	H	153	60	54.00	-12.88	Harmonics
11491.36	51.27	6.51	-12.20	45.57	Ave	V	232	70	54.00	-8.43	Harmonics
22978.00	47.80	5.59	3.35	56.73	Ave	H	152	149	63.98	-7.25	Harmonics
28725.30	62.06	6.37	-20.91	41.15	Ave	V	117	138	63.98	-22.83	Harmonics
Transmitted Data at 5785MHz at 802.11n HT20 MCS0											
17362.22	39.10	8.40	-3.87	43.63	Ave	H	185	56	54.00	-10.38	Harmonics
11566.48	51.18	6.51	-12.34	45.35	Ave	V	244	106	54.00	-8.65	Harmonics
23131.30	50.11	5.60	3.19	58.90	Ave	V	121	166	63.98	-5.08	Harmonics
28925.00	60.46	6.38	-20.56	39.90	Ave	V	120	164	63.98	-24.08	Harmonics
Transmitted Data at 5825MHz at 802.11n HT20 MCS0											
17475.92	40.51	8.44	-3.13	45.82	Ave	H	132	34	54.00	-8.18	Harmonics
11650.23	56.72	6.56	-12.67	50.61	Ave	V	201	100	54.00	-3.40	Harmonics
23306.50	53.88	5.64	2.92	62.44	Ave	V	114	168	63.98	-1.54	Harmonics
34949.80	52.78	7.10	-12.48	40.30	Ave	H	118	158	63.98	-23.68	Harmonics

Spec Margin = Level - Limit, Level = Raw+ Cbl+ CF ± Uncertainty
CF= Amp Gain + ANT Factor

Combined Standard Uncertainty $u_c(y)$ = ± 4.93 dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence

Notes: All emissions passed the spurious emission limit.

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EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT40 at MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Freq	Raw	Cbl	AF	Level	Det	Pol	Hght	Azt	Limit	Margin	Comment
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB	
Transmitted Data at 5755MHz at 802.11n HT40 MCS0											
17313.38	36.80	8.38	-4.13	41.05	Ave	H	115	46	54.00	-12.95	Harmonics
11544.09	48.96	6.52	-12.30	43.17	Ave	V	108	56	54.00	-10.83	Harmonics
23017.70	46.33	5.59	3.35	55.27	Ave	V	126	115	63.98	-8.71	Harmonics
28774.90	60.75	6.37	-20.83	39.93	Ave	V	118	96	63.98	-24.05	Harmonics
Transmitted Data at 5795MHz at 802.11n HT40 MCS0											
17393.39	39.62	8.41	-3.52	44.50	Ave	H	117	36	54.00	-9.50	Harmonics
11597.93	51.37	6.57	-12.49	45.45	Ave	V	284	98	54.00	-8.55	Spurious
23198.90	47.58	5.61	3.10	56.29	Ave	V	128	87	63.98	-7.69	Harmonics
28974.90	60.10	6.39	-20.47	39.63	Ave	V	106	109	63.98	-24.35	Harmonics

Spec Margin = Level - Limit, Level = Raw+ Cbl+ CF ± Uncertainty
CF= Amp Gain + ANT Factor

Combined Standard Uncertainty $u_c(y)$ = ± 4.93 dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence

Notes: All emissions passed the spurious emission limit.

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Tracking # 31153119.005 Page 6 of 36

EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11ac VHT20 at MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Freq	Raw	Cbl	AF	Level	Det	Pol	Hght	Azt	Limit	Margin	Comment
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB	
Transmitted Data at 5745MHz at 802.11ac VHT20 MCS0											
17247.09	39.40	8.30	-4.90	42.80	Ave	H	163	40	54.00	-11.20	Harmonics
11491.33	51.42	6.51	-12.20	45.73	Ave	V	103	62	54.00	-8.27	Harmonics
22983.70	50.45	5.59	3.35	59.39	Ave	V	118	164	63.98	-4.59	Harmonics
Transmitted Data at 5785MHz at 802.11ac VHT20 MCS0											
17357.91	36.42	8.39	-3.87	40.94	Ave	H	247	116	54.00	-13.06	Harmonics
11570.66	50.32	6.51	-12.35	44.48	Ave	V	216	110	54.00	-9.52	Harmonics
23142.10	50.40	5.60	3.18	59.17	Ave	H	116	164	63.98	-4.81	Harmonics
28924.90	62.90	6.38	-20.56	42.34	Ave	H	118	166	63.98	-21.64	Harmonics
Transmitted Data at 5825MHz at 802.11ac VHT20 MCS0											
17470.02	39.40	8.44	-3.12	44.72	Ave	H	110	38	54.00	-9.28	Harmonics
11642.71	54.32	6.57	-12.60	48.29	Ave	V	272	104	54.00	-5.71	Harmonics
23298.00	48.57	5.64	2.94	57.15	Ave	H	134	106	63.98	-6.83	Harmonics

Spec Margin = Level - Limit, Level = Raw+ Cbl+ CF ± Uncertainty
CF= Amp Gain + ANT Factor

Combined Standard Uncertainty $u_c(y)$ = ± 4.93 dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence

Notes: All emissions passed the spurious emission limit.

SOP 1 Radiated Emissions

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EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11ac VHT40 at MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Freq	Raw	Cbl	AF	Level	Det	Pol	Hght	Azt	Limit	Margin	Comment
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB	
Transmitted Data at 5755MHz at 802.11ac VHT40 MCS0											
17252.11	34.00	8.33	-4.85	37.48	Ave	H	188	2	54.00	-16.52	Harmonics
11513.51	44.65	6.55	-12.30	38.90	Ave	V	258	126	54.00	-15.10	Harmonics
23009.70	46.88	5.59	3.36	55.83	Ave	V	143	147	63.98	-8.15	Harmonics
28775.00	59.99	6.38	-20.83	39.16	Ave	H	99	97	63.98	-24.82	Harmonics
Transmitted Data at 5795MHz at 802.11ac VHT40 MCS0											
11591.45	48.96	6.55	-12.45	43.06	Ave	V	183	56	54.00	-10.94	Harmonics
17373.17	33.60	8.40	-3.90	38.10	Ave	V	129	274	54.00	-15.90	Harmonics
23189.60	50.25	5.61	3.11	58.97	Ave	H	116	165	63.98	-5.01	Harmonics
28974.80	60.93	6.39	-20.47	40.46	Ave	V	107	113	63.98	-23.52	Harmonics

Spec Margin = Level - Limit, Level = Raw+ Cbl+ CF ± Uncertainty
CF= Amp Gain + ANT Factor

Combined Standard Uncertainty $u_c(y)$ = ± 4.93 dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence

Notes: All emissions passed the spurious emission limit.

SOP 1 Radiated Emissions

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EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	121404000111	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11ac VHT80 at MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Freq	Raw	Cbl	AF	Level	Det	Pol	Hght	Azt	Limit	Margin	Comment
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB	
Transmitted Data at 5775MHz at 802.11ac VHT80 MCS0											
17252.84	32.50	8.30	-4.80	36.00	Ave	H	217	6	54.00	-18.00	Harmonics
11571.07	40.00	6.50	-12.40	34.20	Ave	V	216	164	54.00	-19.80	Harmonics
11604.86	41.67	6.57	-12.48	35.76	Ave	V	228	92	54.00	-18.24	Harmonics
17358.40	30.48	8.39	-3.87	35.01	Ave	V	188	268	54.00	-18.99	Harmonics
17374.79	30.64	8.42	-3.89	35.17	Ave	V	136	134	54.00	-18.83	Harmonics
23080.40	45.67	5.59	3.26	54.52	Ave	H	119	96	63.98	-9.46	Harmonics
28967.90	65.15	6.39	-20.49	44.66	Ave	H	99	83	63.98	-19.32	Harmonics

Spec Margin = Level - Limit, Level = Raw+ Cbl+ CF ± Uncertainty
CF= Amp Gain + ANT Factor

Combined Standard Uncertainty $u_c(y)$ = ± 4.93 dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence

Notes: All emissions passed the spurious emission limit.

SOP 1 Radiated Emissions

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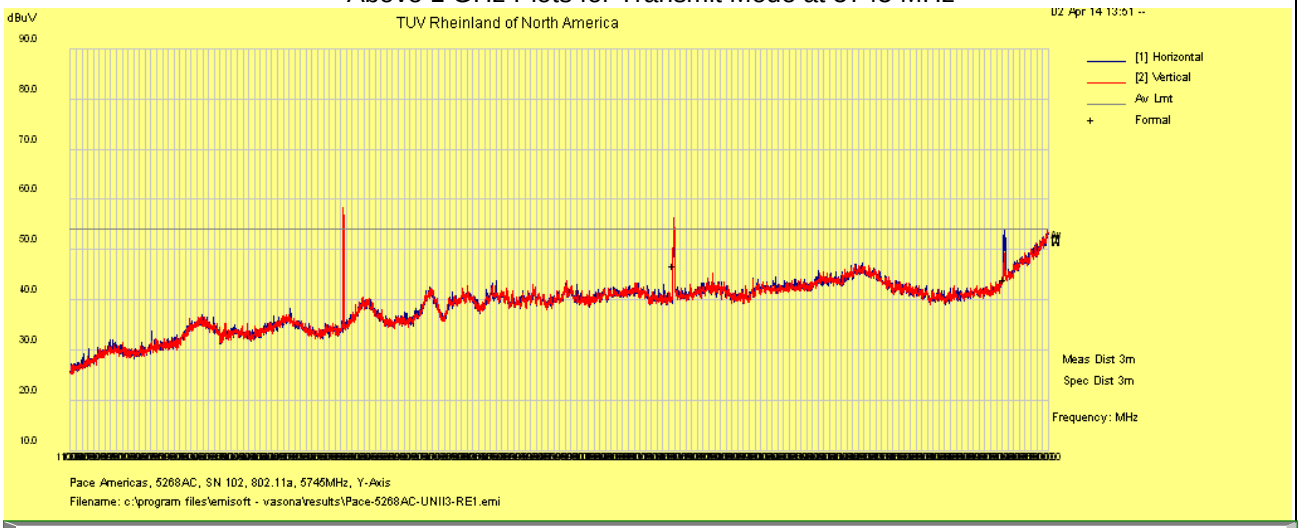
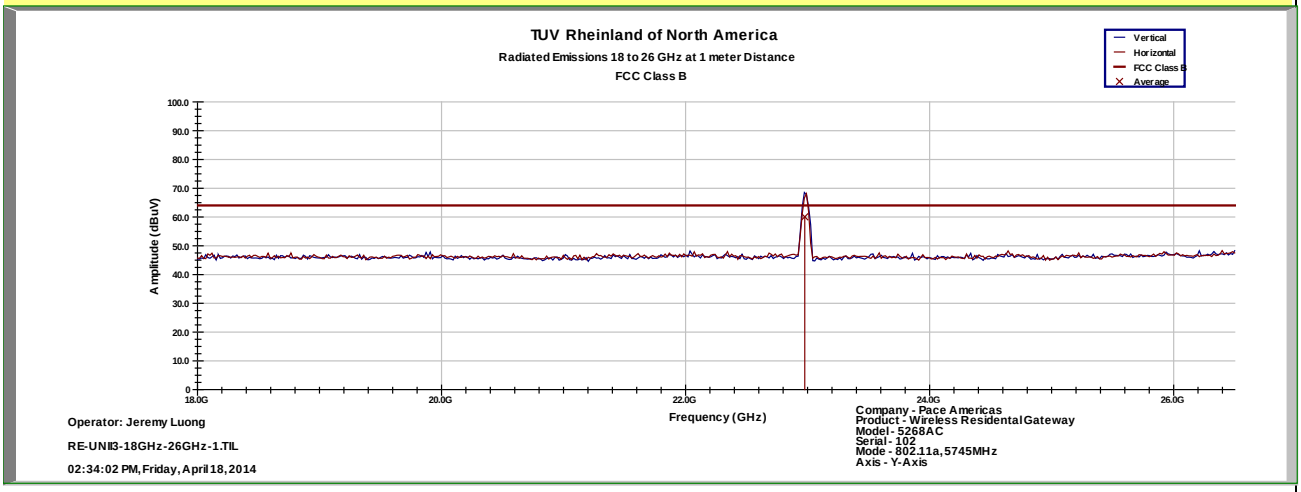
EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11a at 6Mbps	**Line AC**	120Vac 60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5745 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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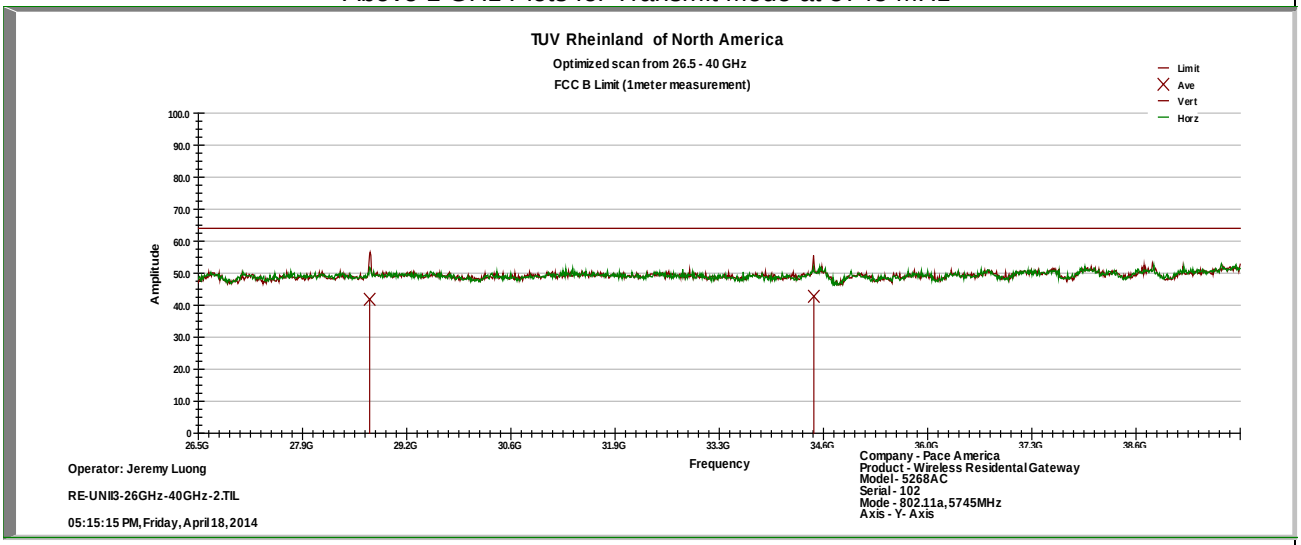
EUT Name	Wireless Residential Gateway	**Date**	April 18, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 30%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11a at 6Mbps	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5745 MHz



Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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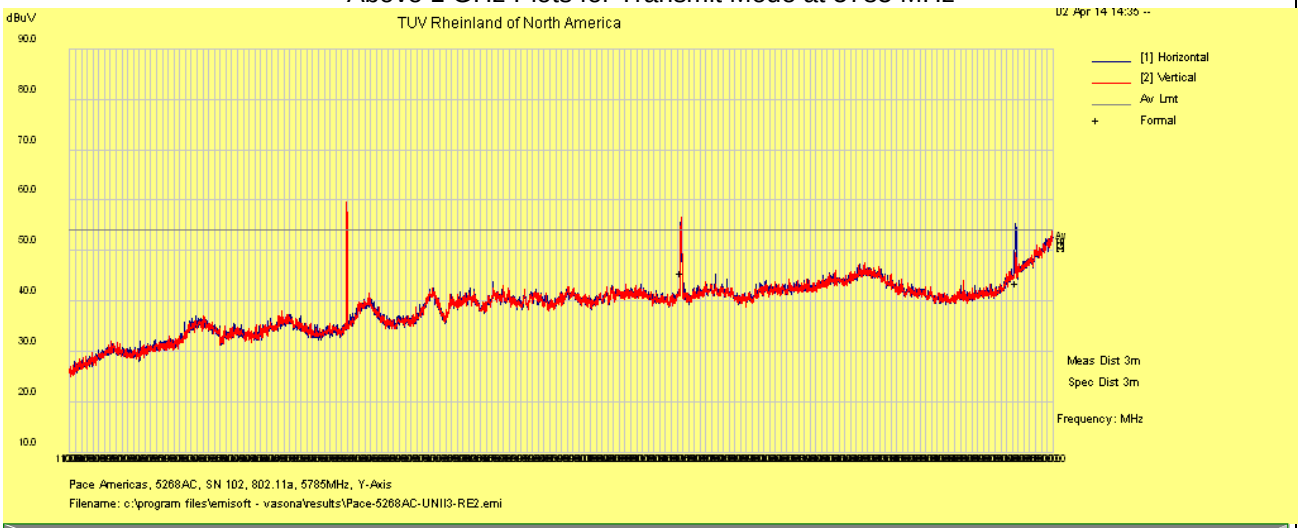
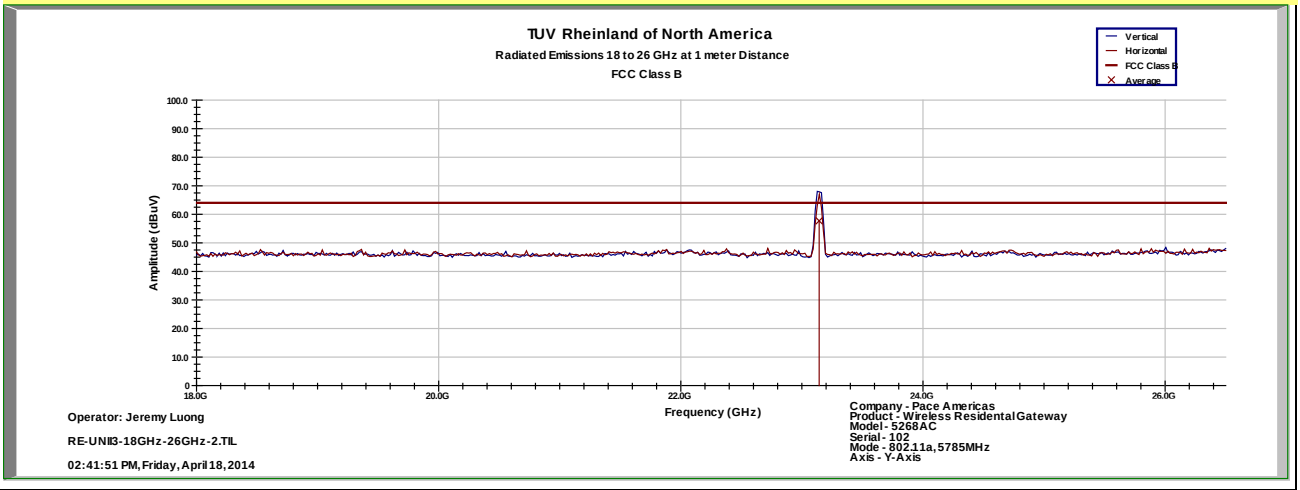
EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11a at 6Mbps	**Line AC**	120Vac 60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5785 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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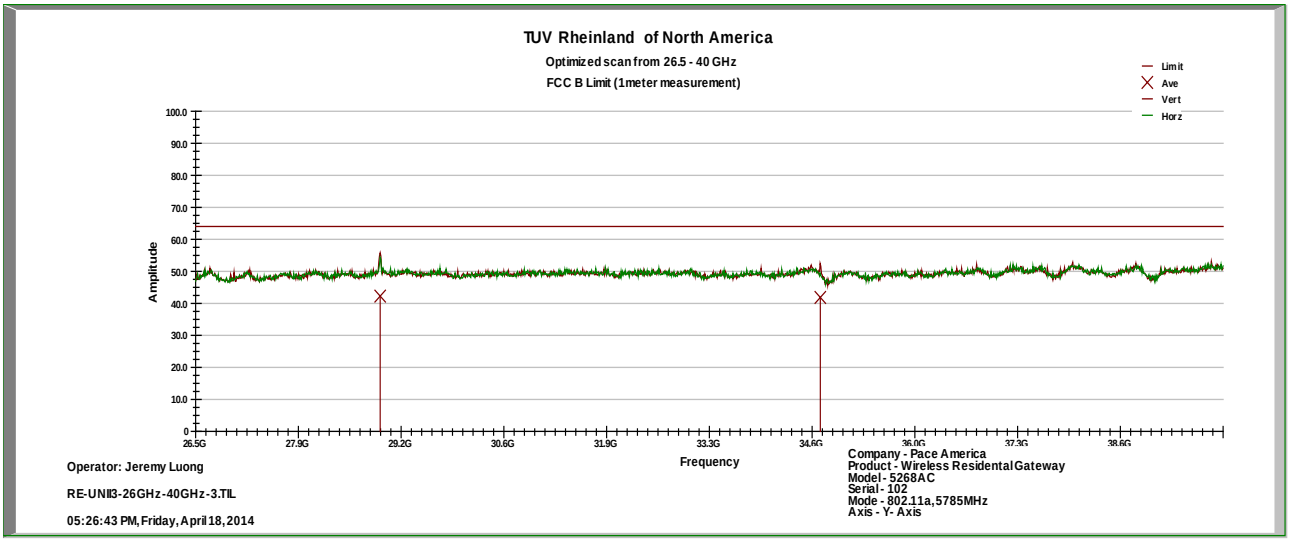
EUT Name	Wireless Residential Gateway	**Date**	April 18, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 30%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11a at 6Mbps	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5785 MHz



Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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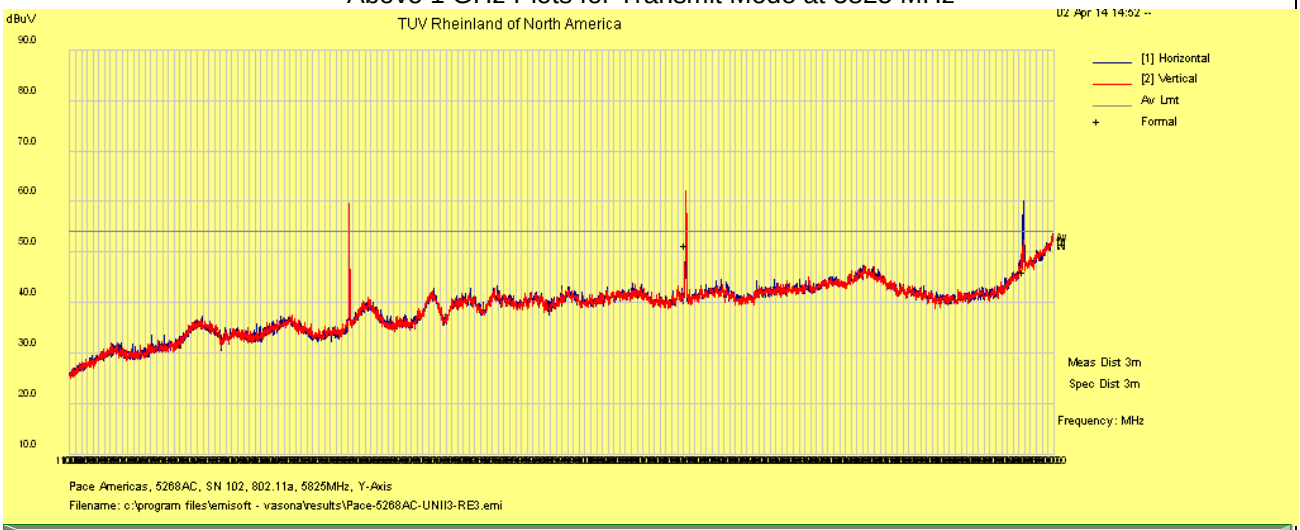
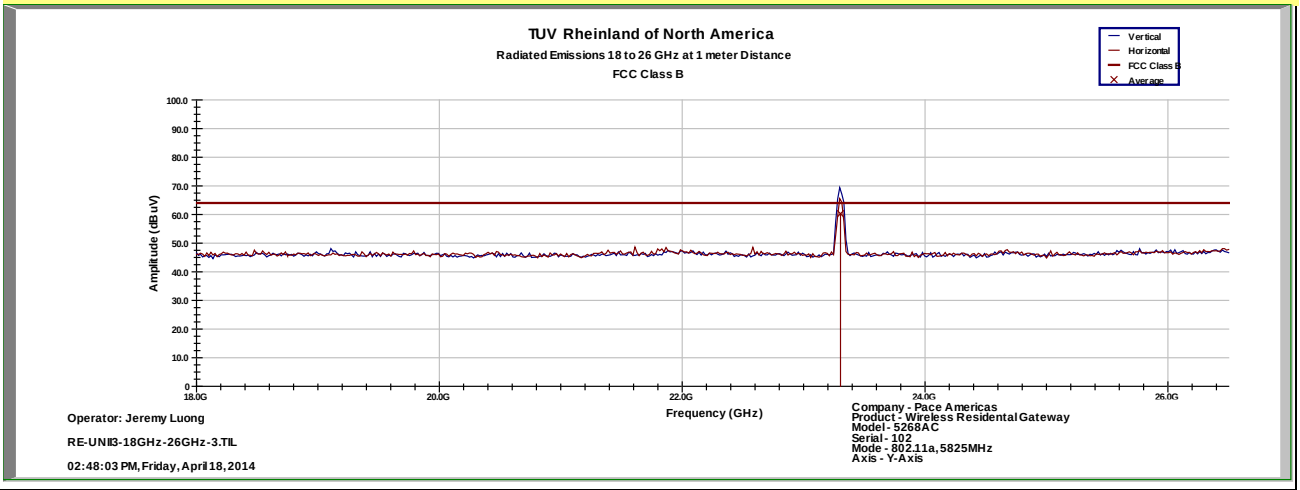
EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11a at 6Mbps	**Line AC**	120Vac 60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5825 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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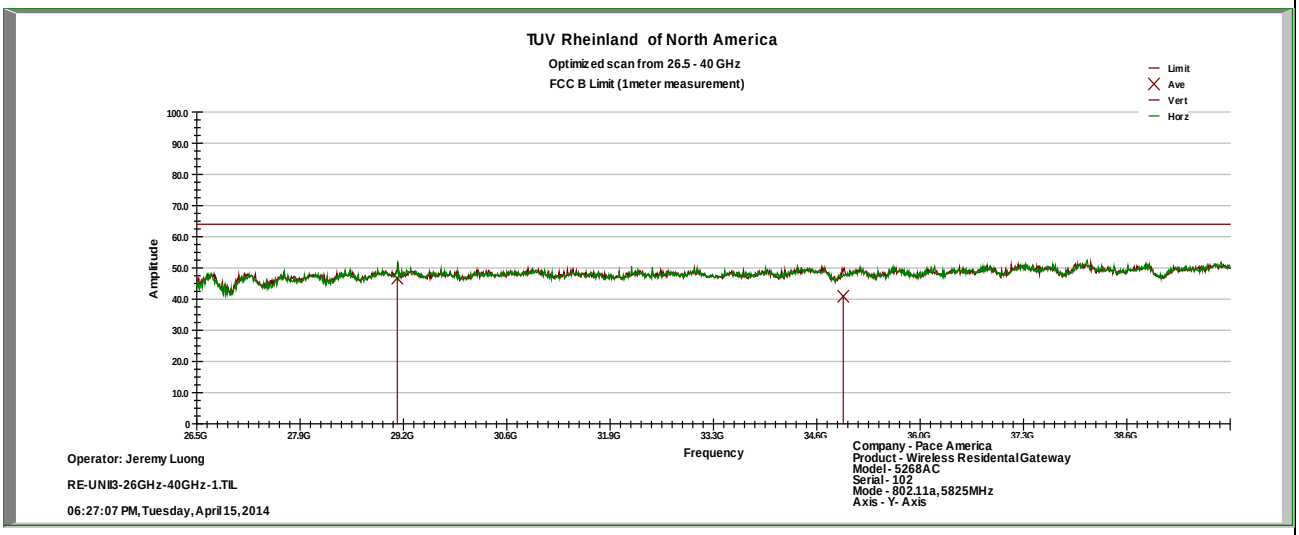
EUT Name	Wireless Residential Gateway	**Date**	April 18, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 30%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11a at 6Mbps	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5825 MHz



Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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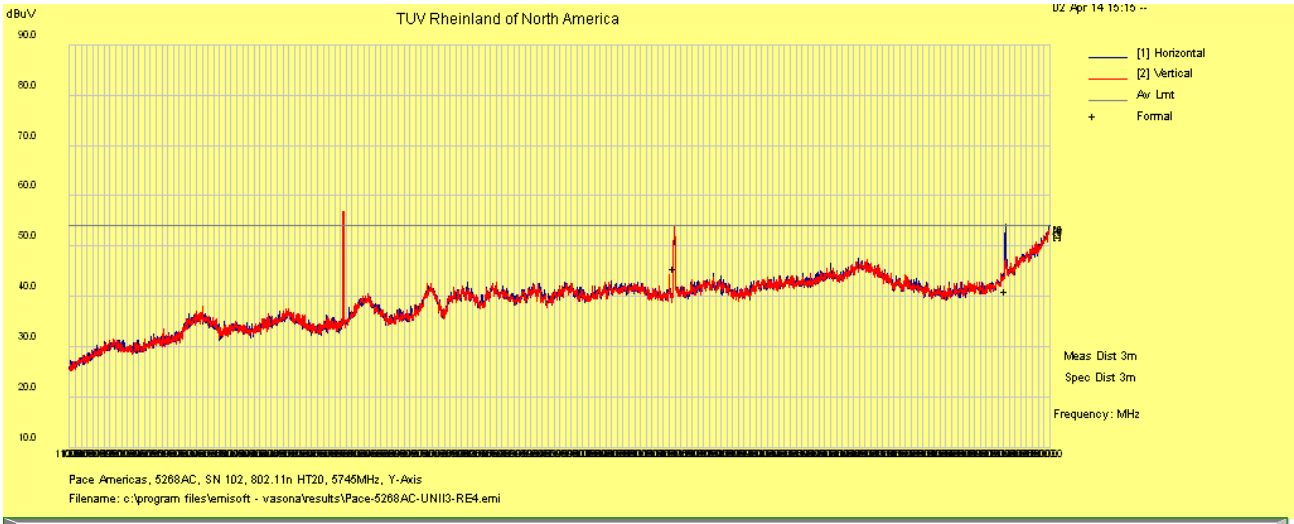
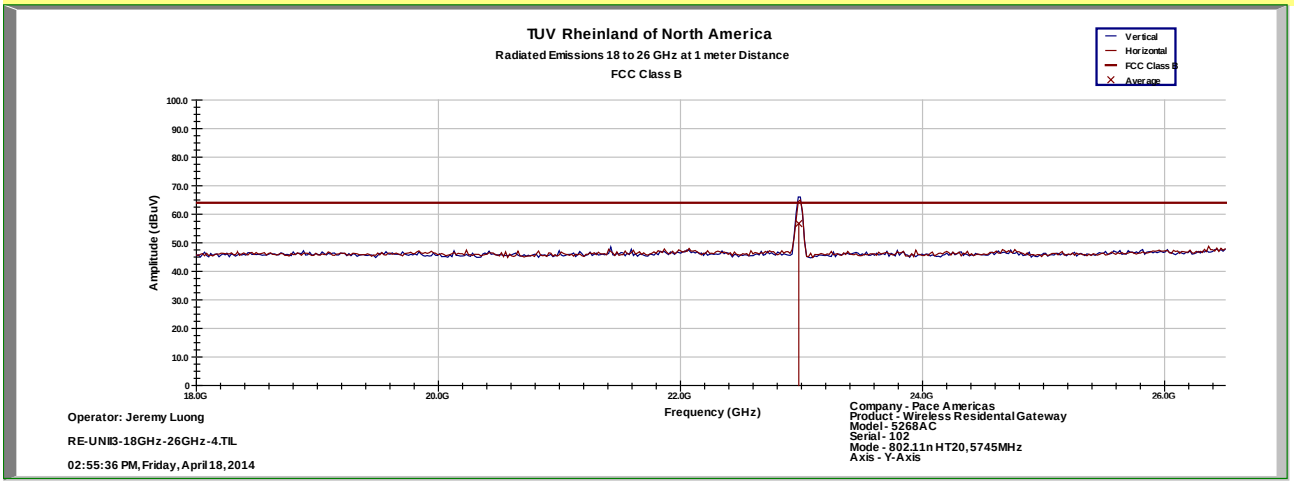
EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT20 MCS0	**Line AC**	120Vac 60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5745 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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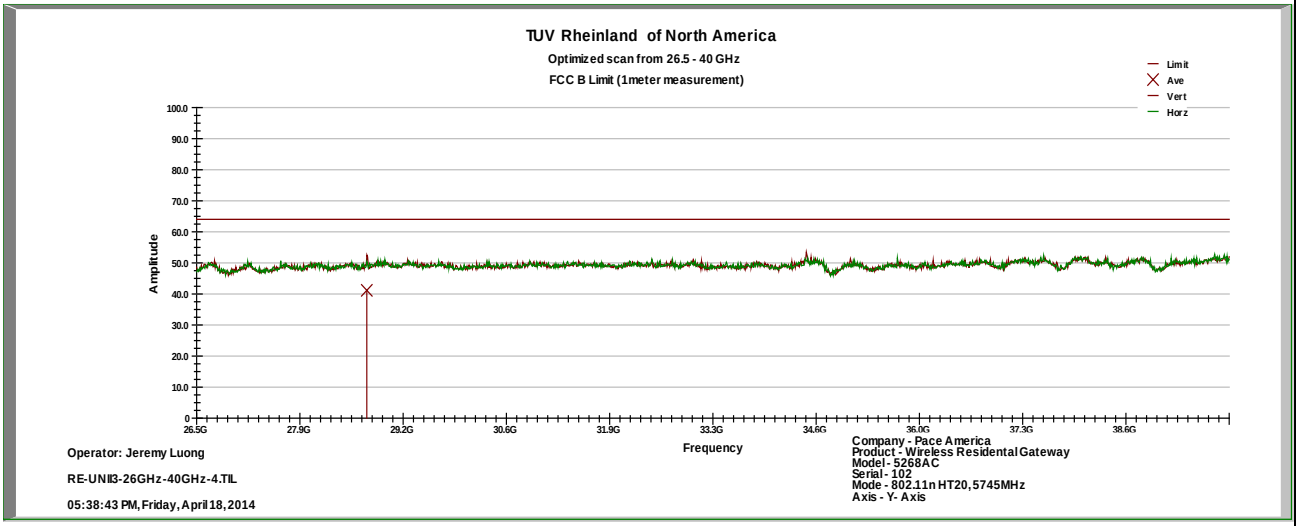
EUT Name	Wireless Residential Gateway	**Date**	April 18, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 30%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT20 MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5745 MHz



Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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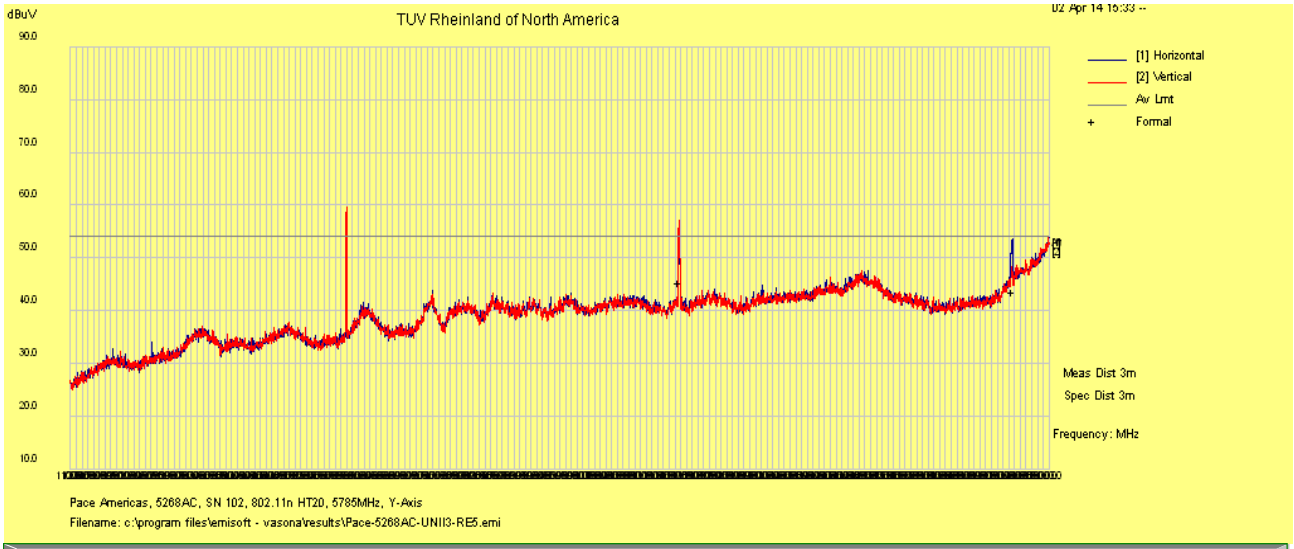
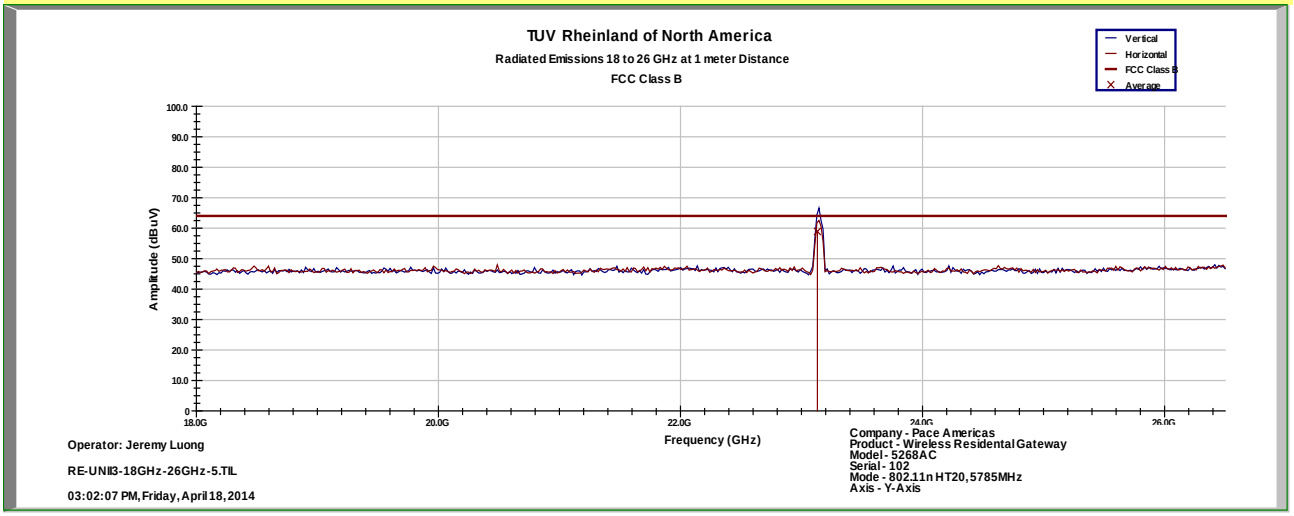
EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT20 MCS0	**Line AC**	120Vac 60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5785 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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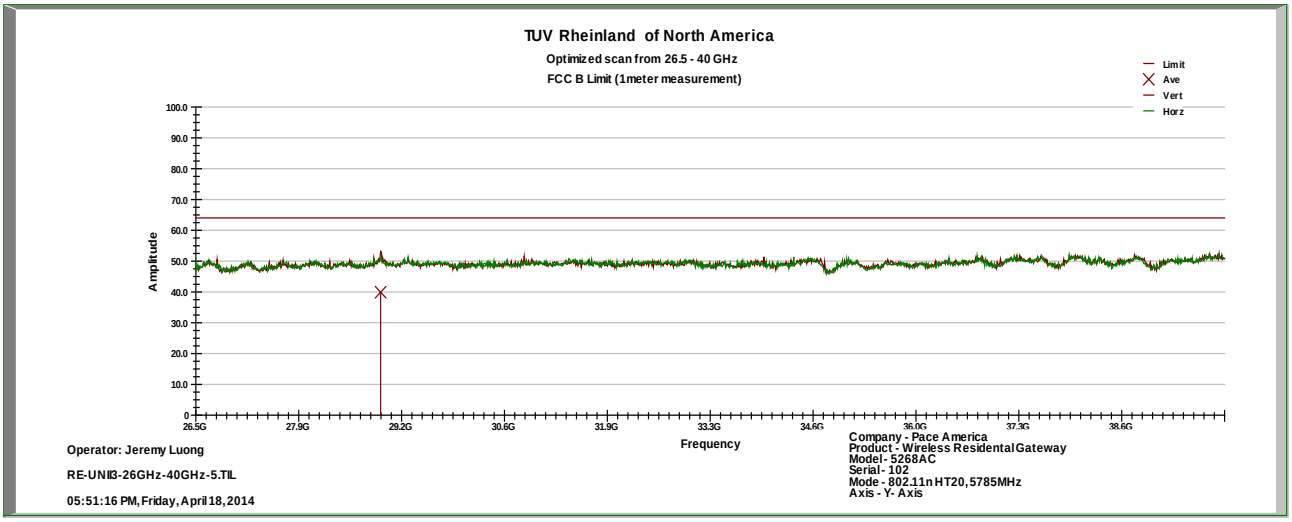
EUT Name	Wireless Residential Gateway	**Date**	April 18, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 30%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT20 MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5785 MHz



Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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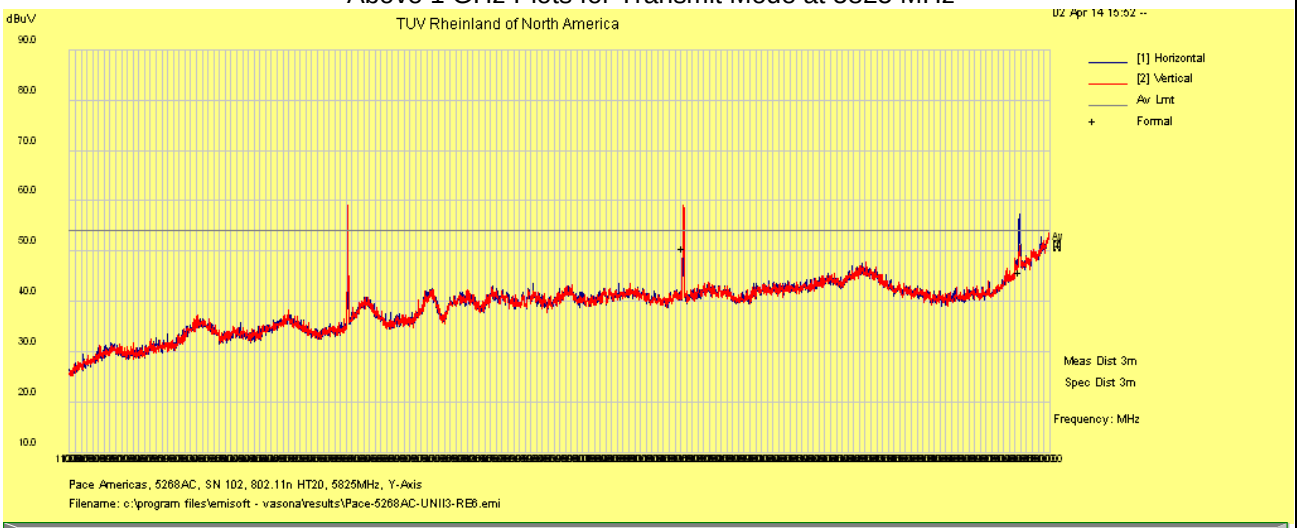
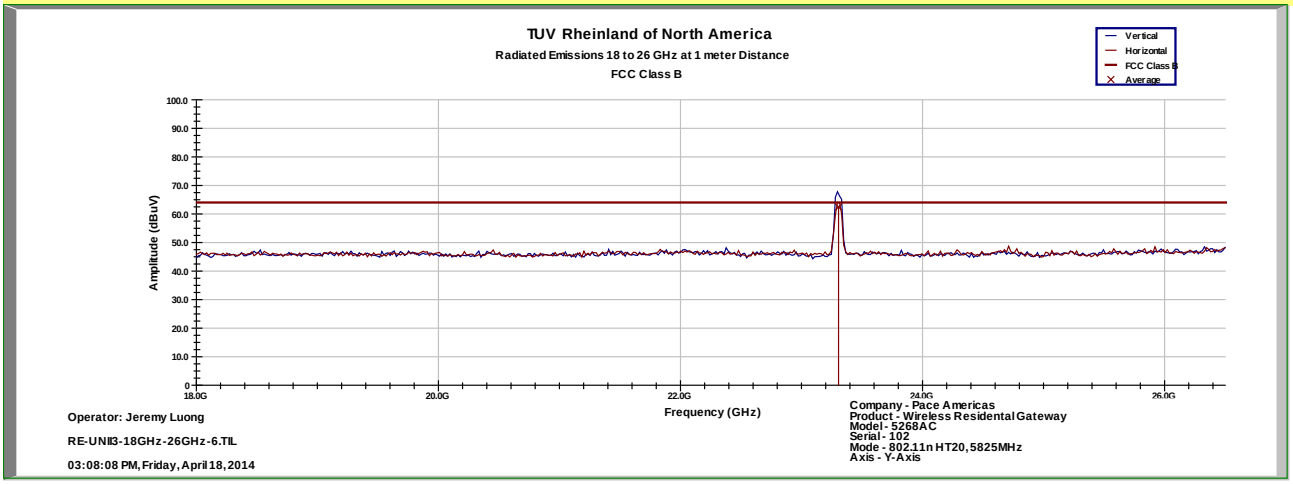
EUT Name	Wireless Residential Gateway	**Date**	April 1, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT20 MCS0	**Line AC**	120Vac 60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5825 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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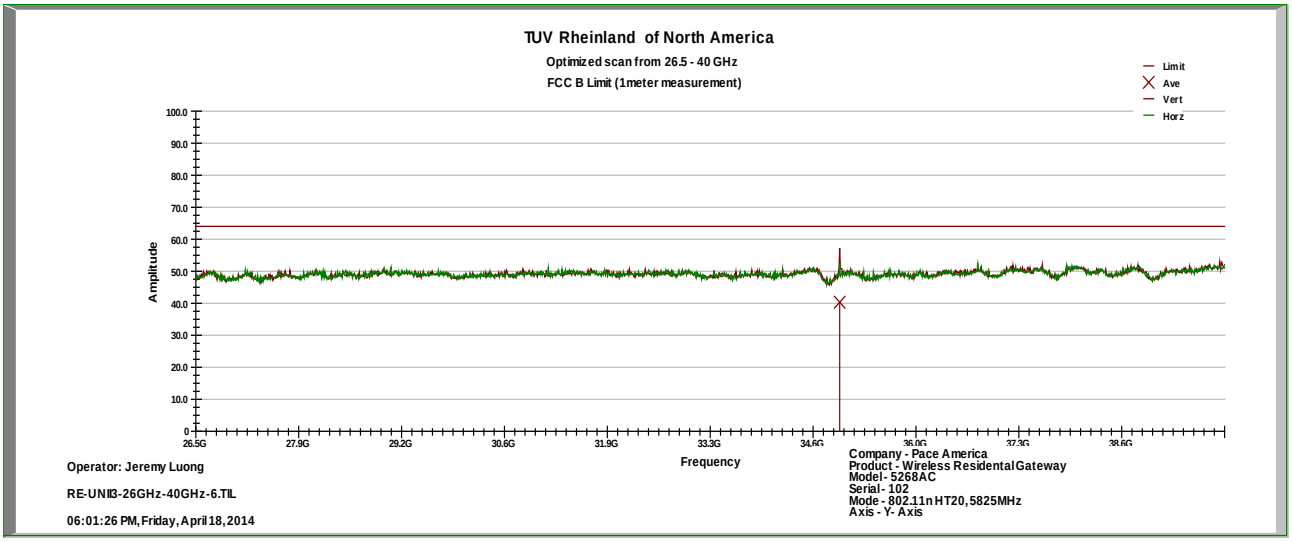
EUT Name	Wireless Residential Gateway	**Date**	April 18, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 30%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT20 MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5825 MHz

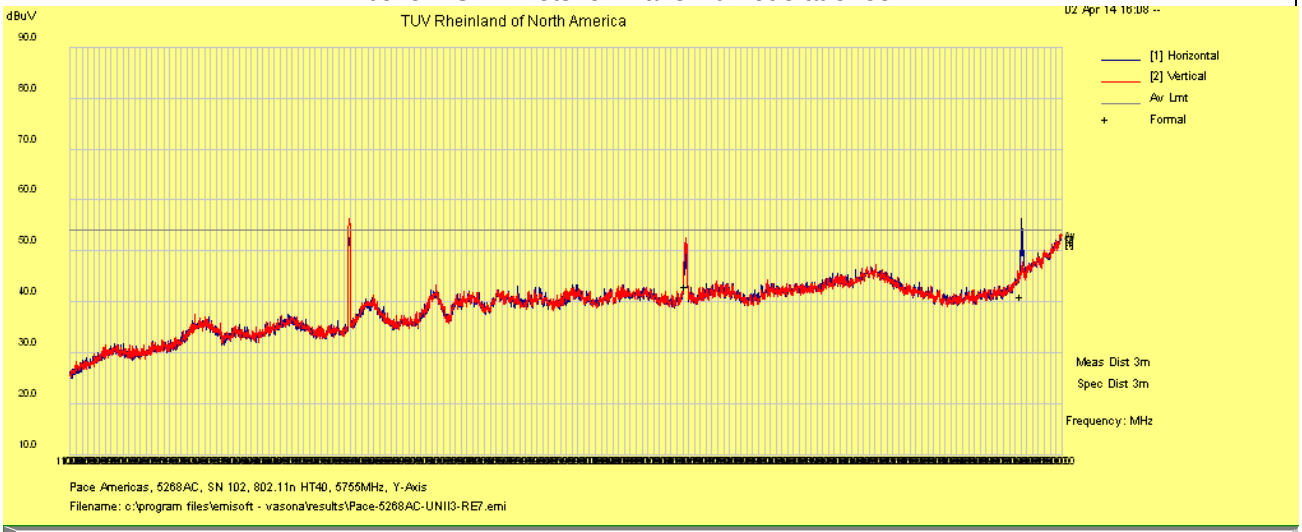


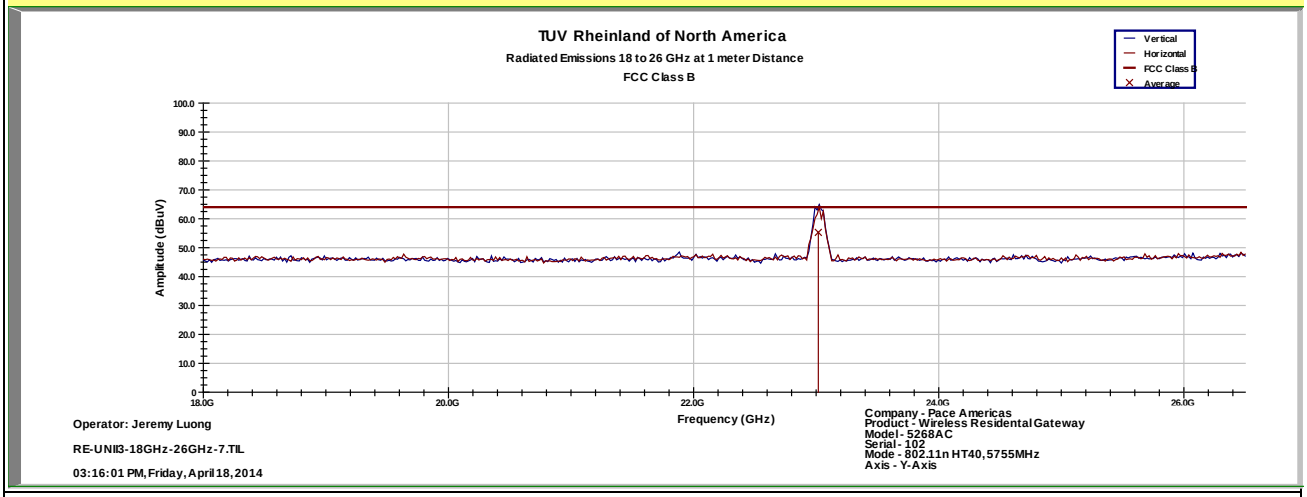
Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT40 MCS0	**Line AC**	120Vac 60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5755 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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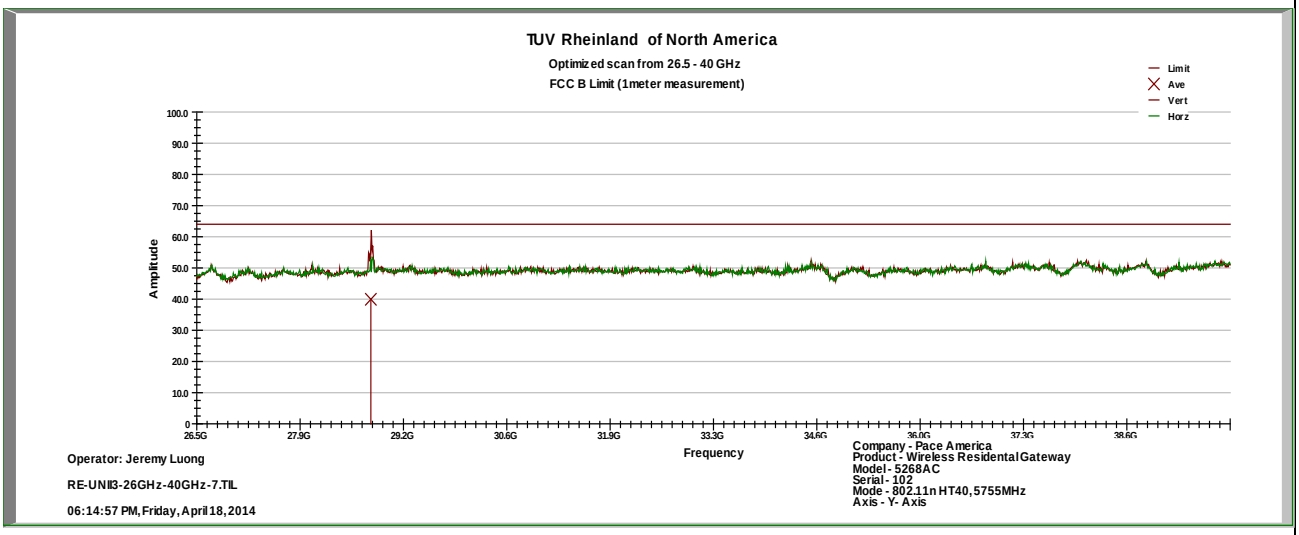
EUT Name	Wireless Residential Gateway	**Date**	April 18, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 30%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT40 MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5755 MHz

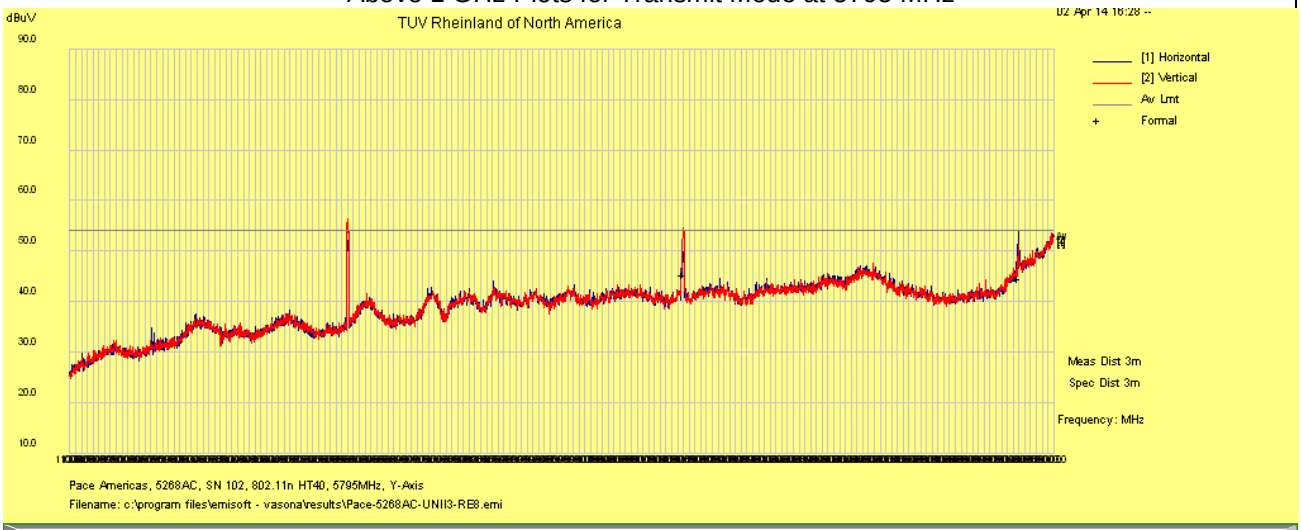


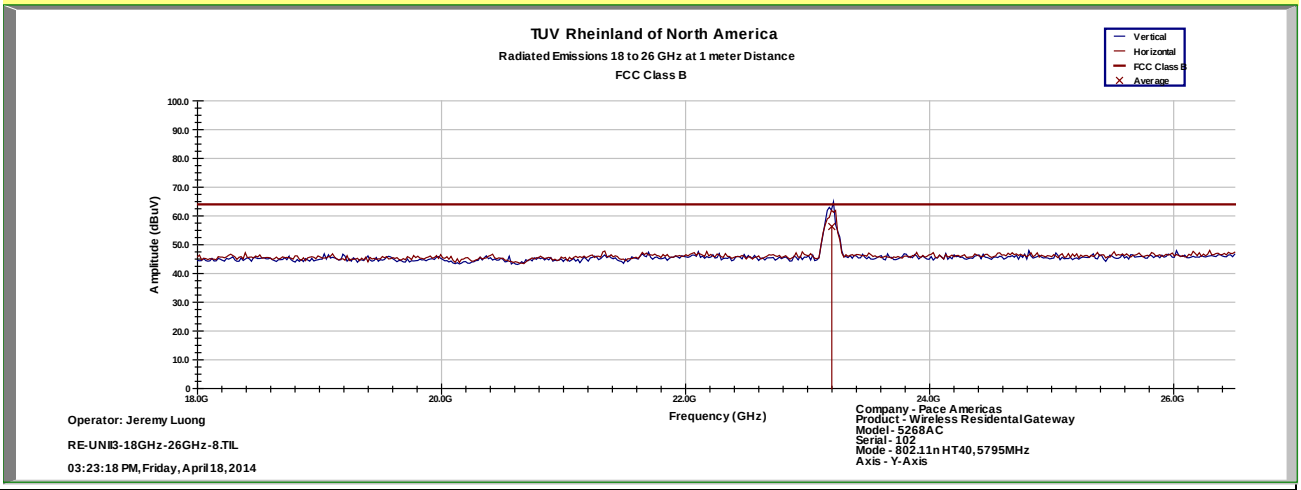
Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT40 MCS0	**Line AC**	120Vac 60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5795 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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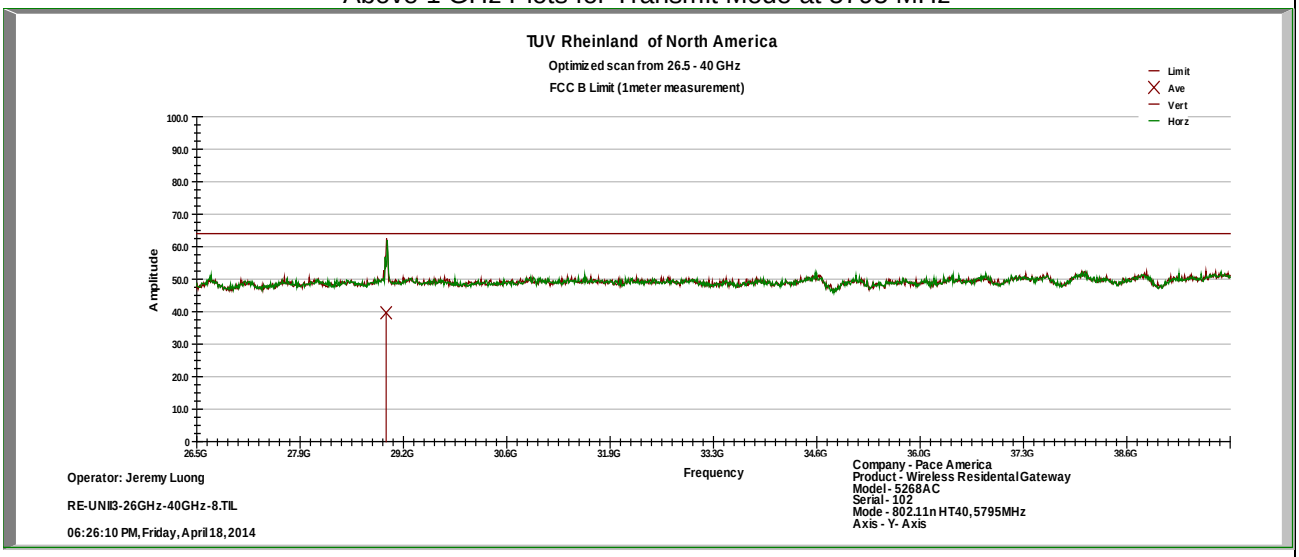
EUT Name	Wireless Residential Gateway	**Date**	April 18, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 30%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT40 MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5795 MHz



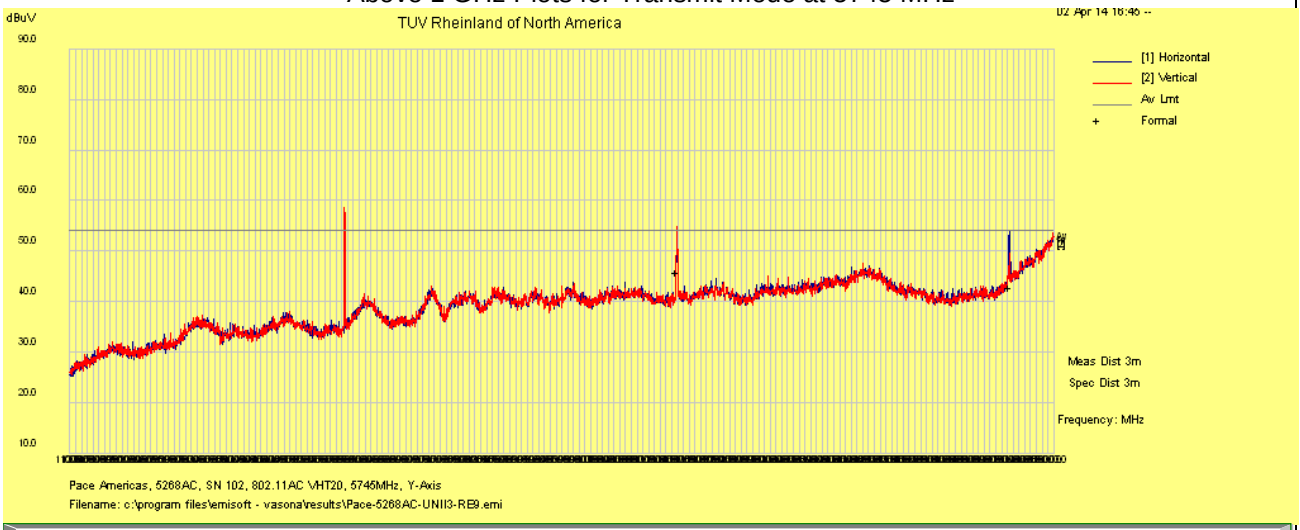
Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

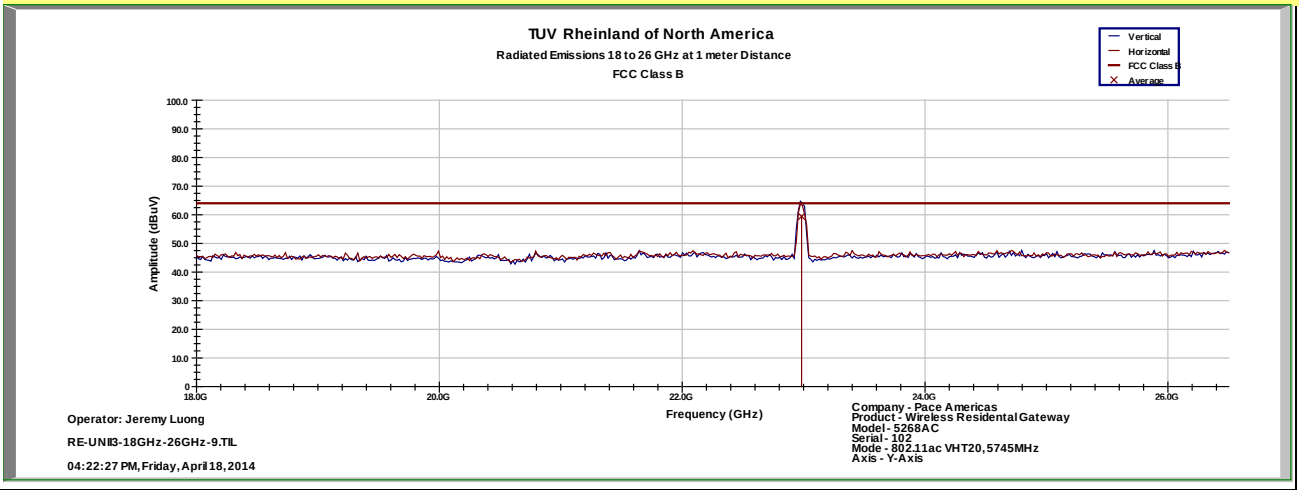
SOP 1 Radiated Emissions

Tracking # 31153119.005 Page 25 of 36

EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11ac VHT20 MCS0	**Line AC**	120Vac 60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5745 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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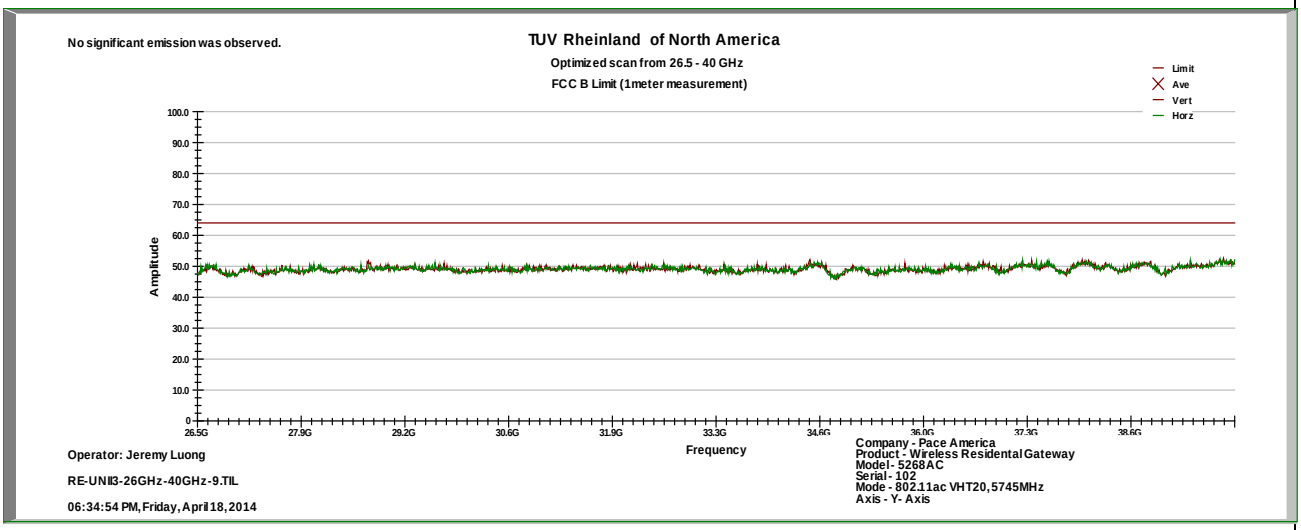
EUT Name	Wireless Residential Gateway	**Date**	April 18, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 30%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11ac VHT20 MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5745 MHz



Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

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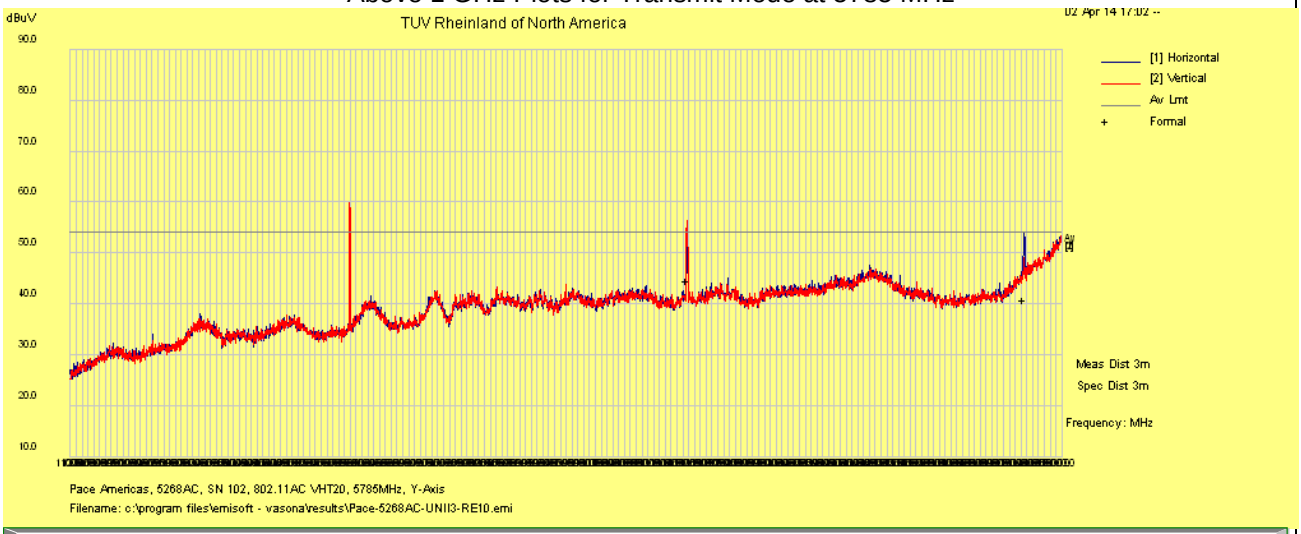
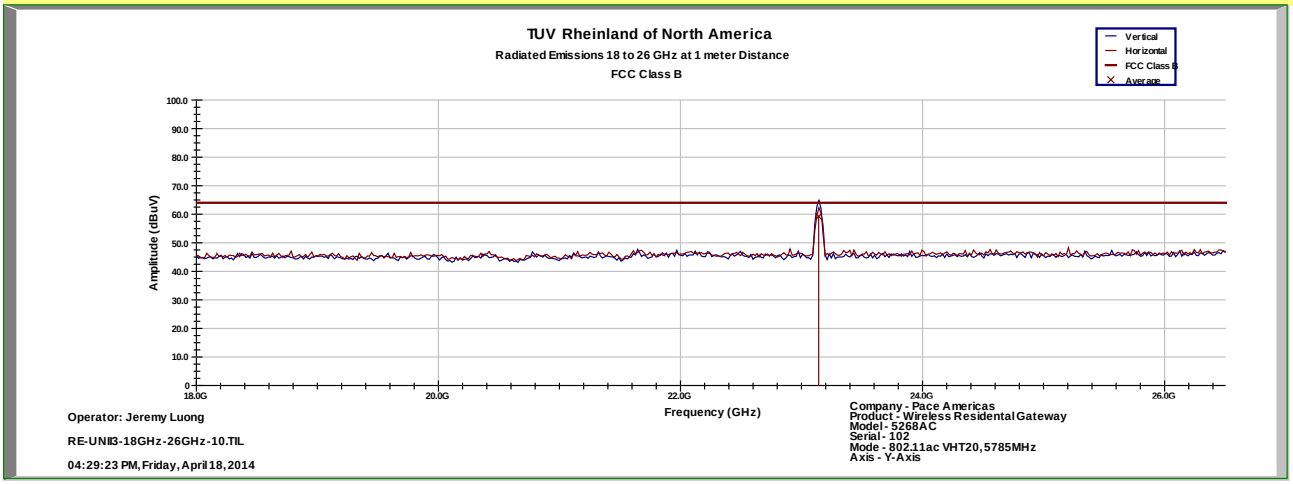
EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11ac VHT20 MCS0	**Line AC**	120Vac 60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5785 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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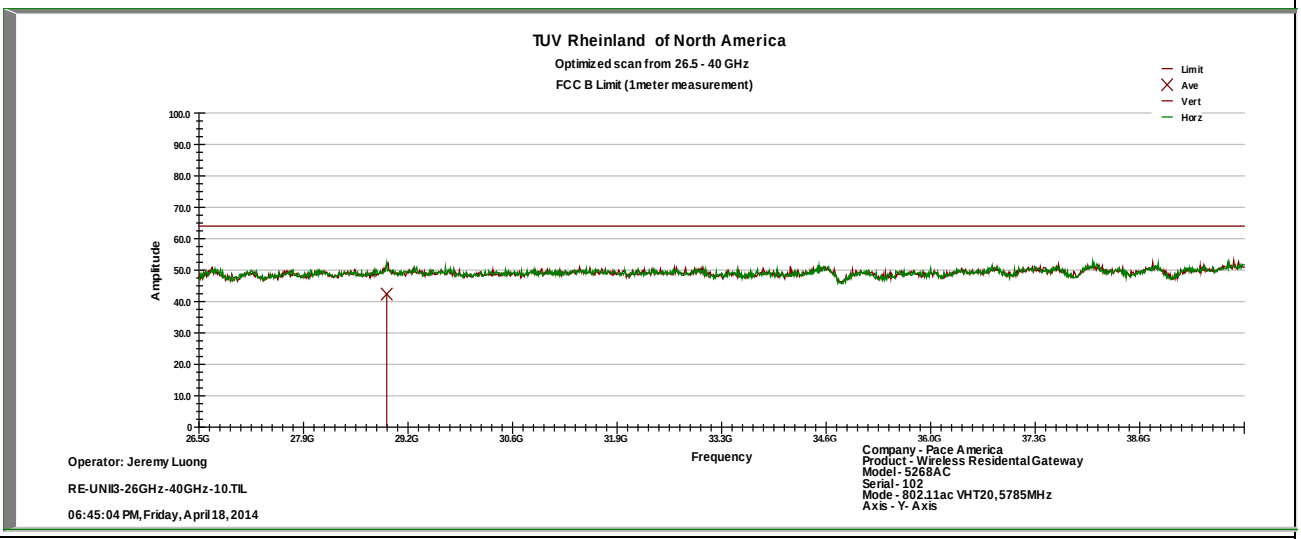
EUT Name	Wireless Residential Gateway	**Date**	April 18, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 30%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11ac VHT20 MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5785 MHz



Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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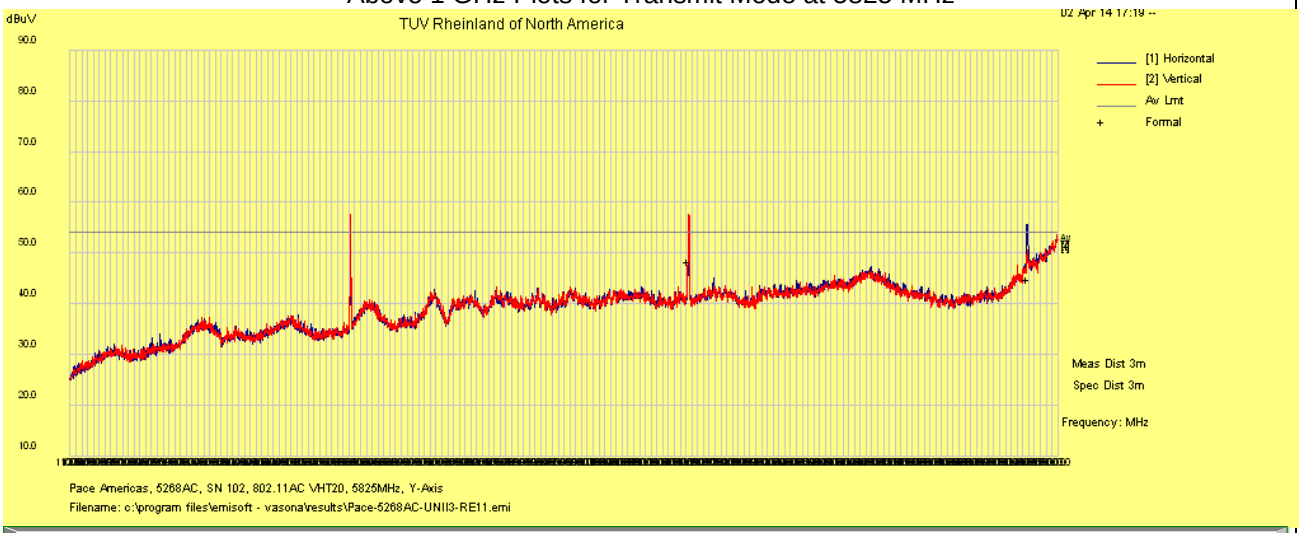
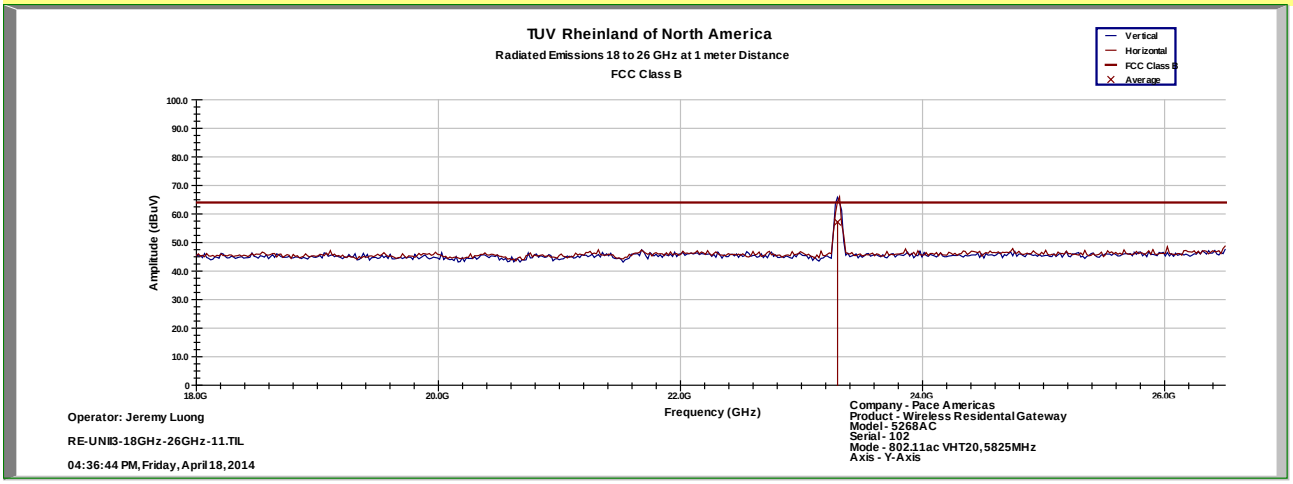
EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11ac VHT20 MCS0	**Line AC**	120Vac 60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5825 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

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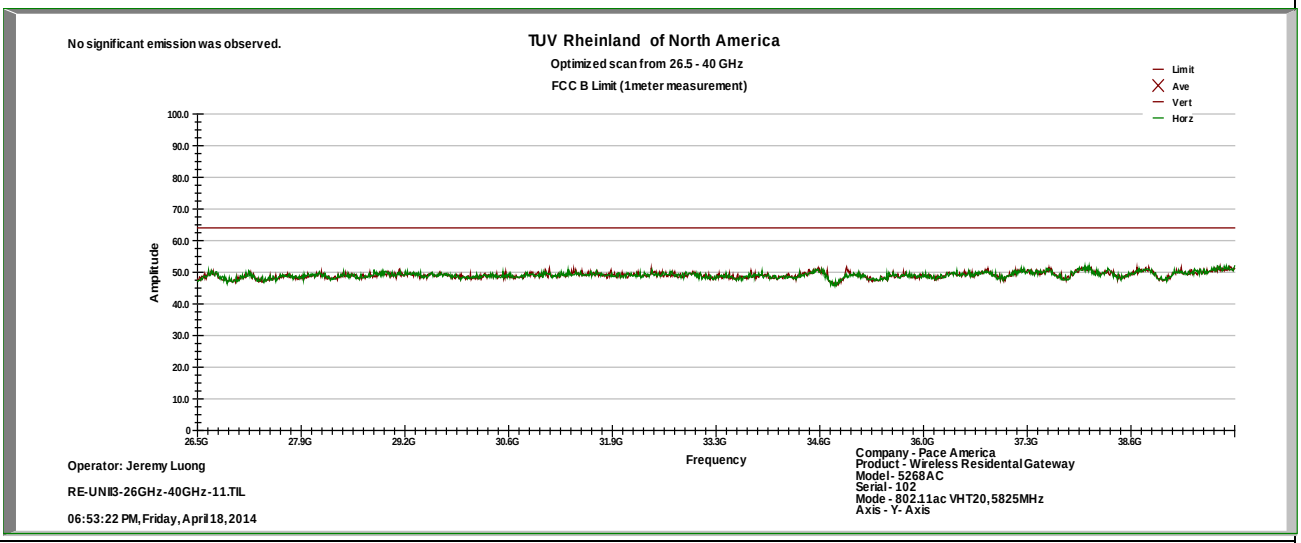
EUT Name	Wireless Residential Gateway	**Date**	April 18, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 30%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11ac VHT20 MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5825 MHz



Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

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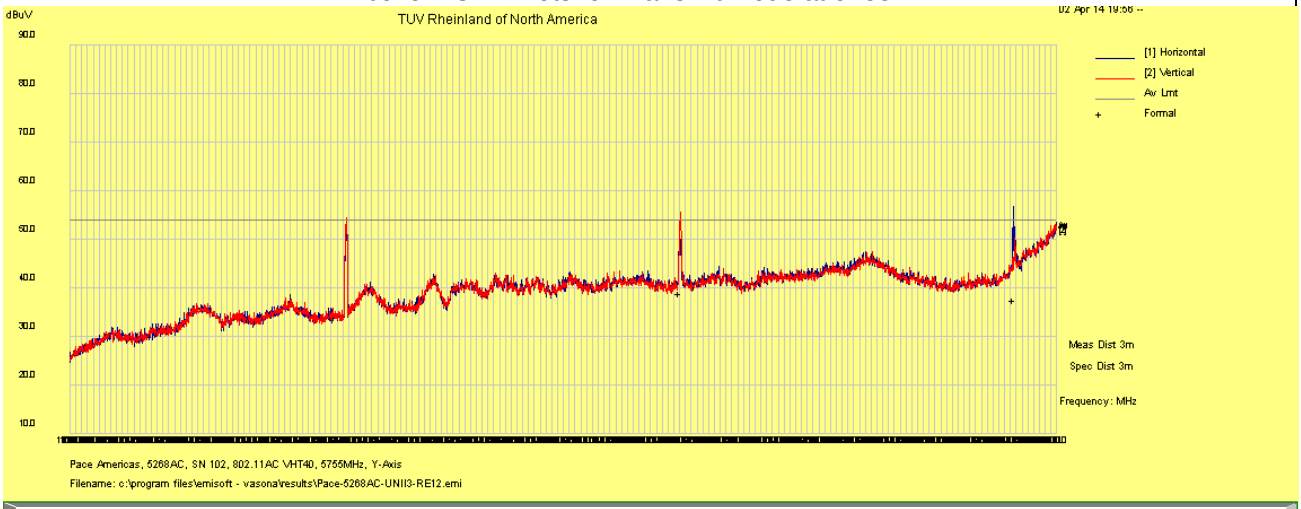
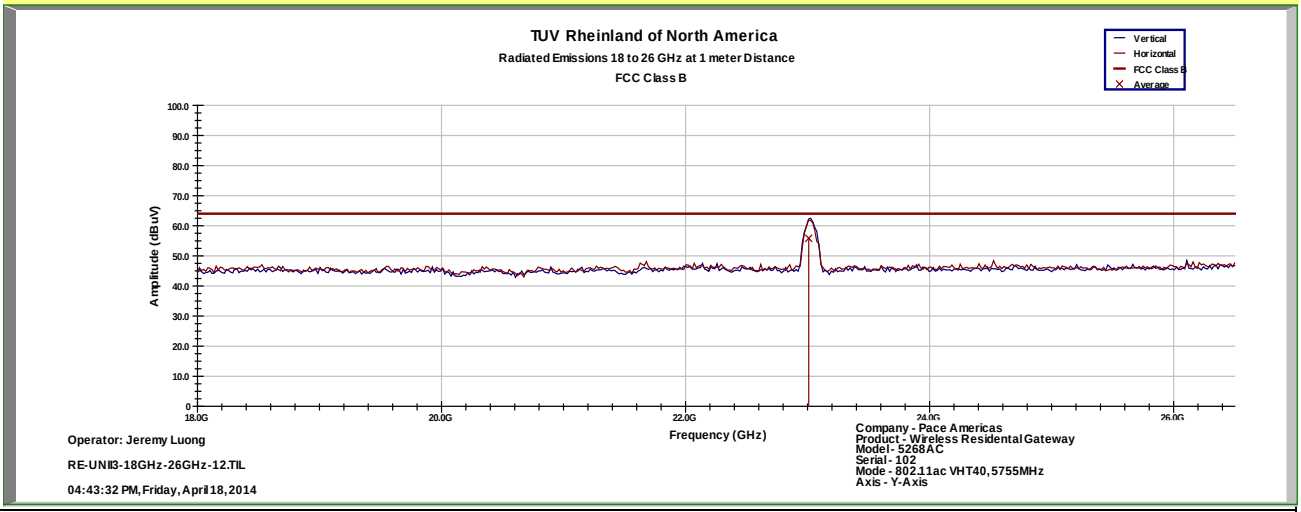
EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11ac VHT40 MCS0	**Line AC**	120Vac 60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5755 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

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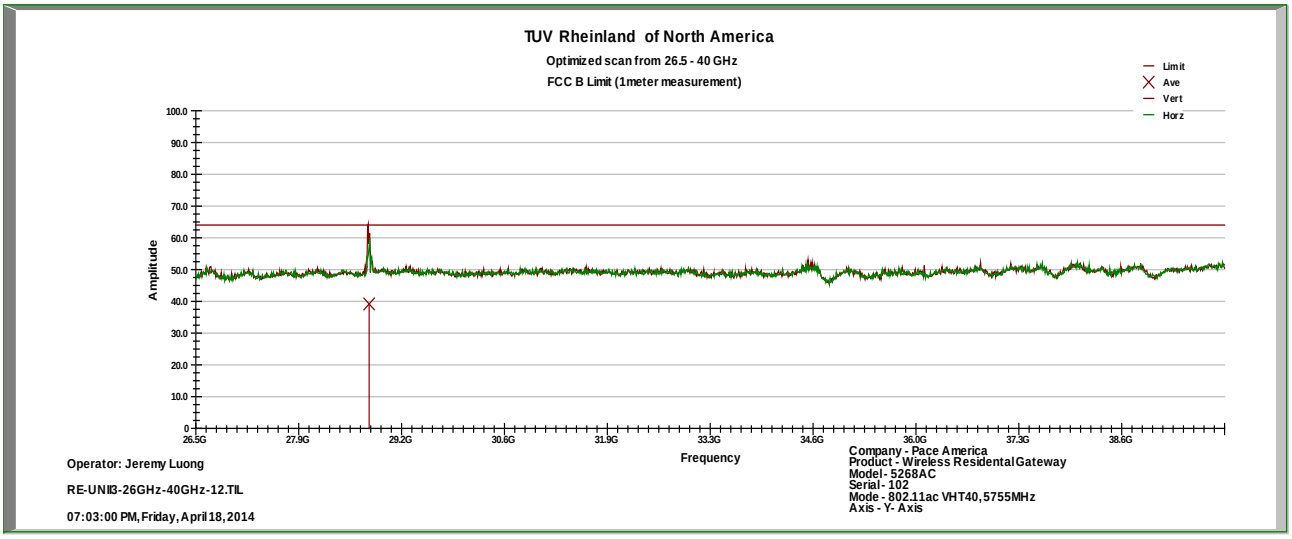
EUT Name	Wireless Residential Gateway	**Date**	April 18, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 30%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11ac VHT40 MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5755 MHz



Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

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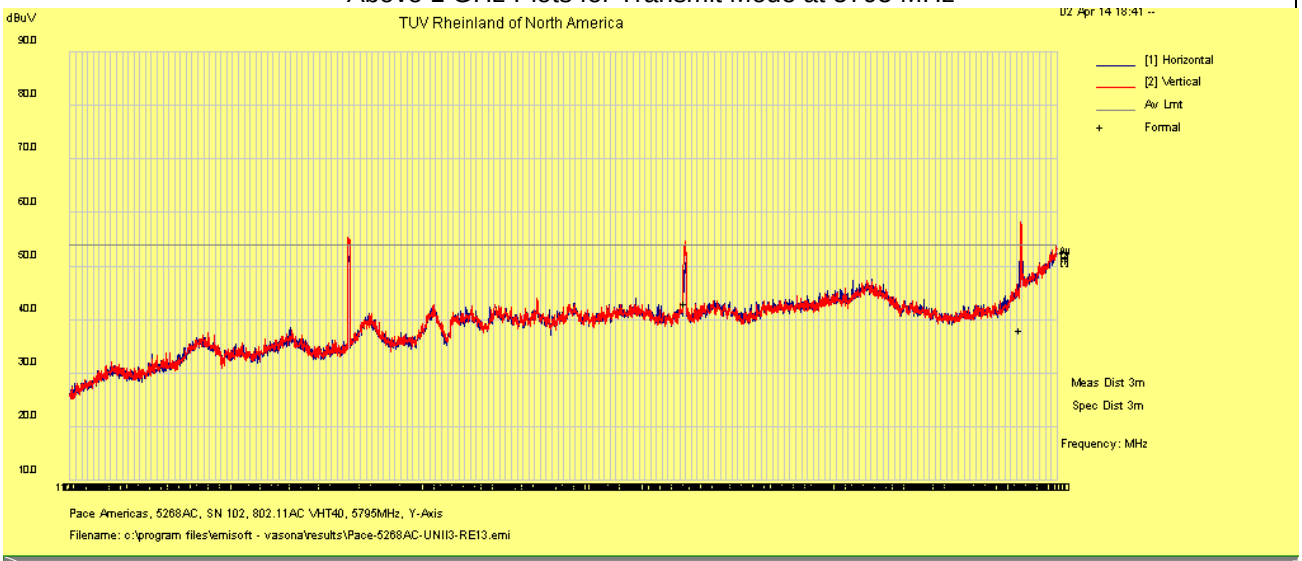
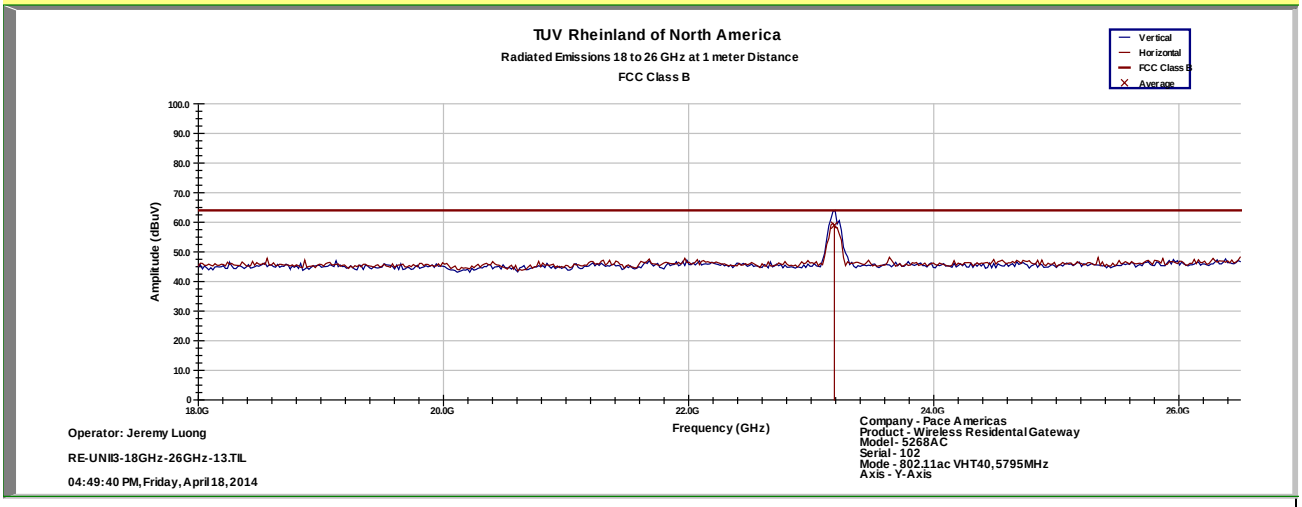
EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11ac VHT40 MCS0	**Line AC**	120Vac 60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5795 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

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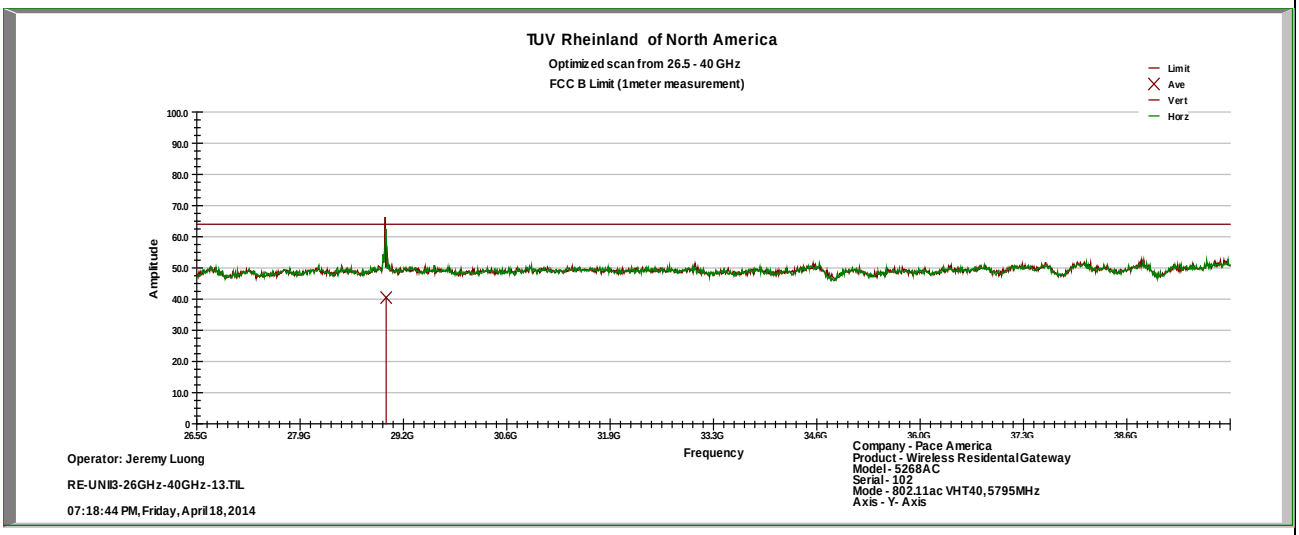
EUT Name	Wireless Residential Gateway	**Date**	April 18, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 30%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11ac VHT40 MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5795 MHz



Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

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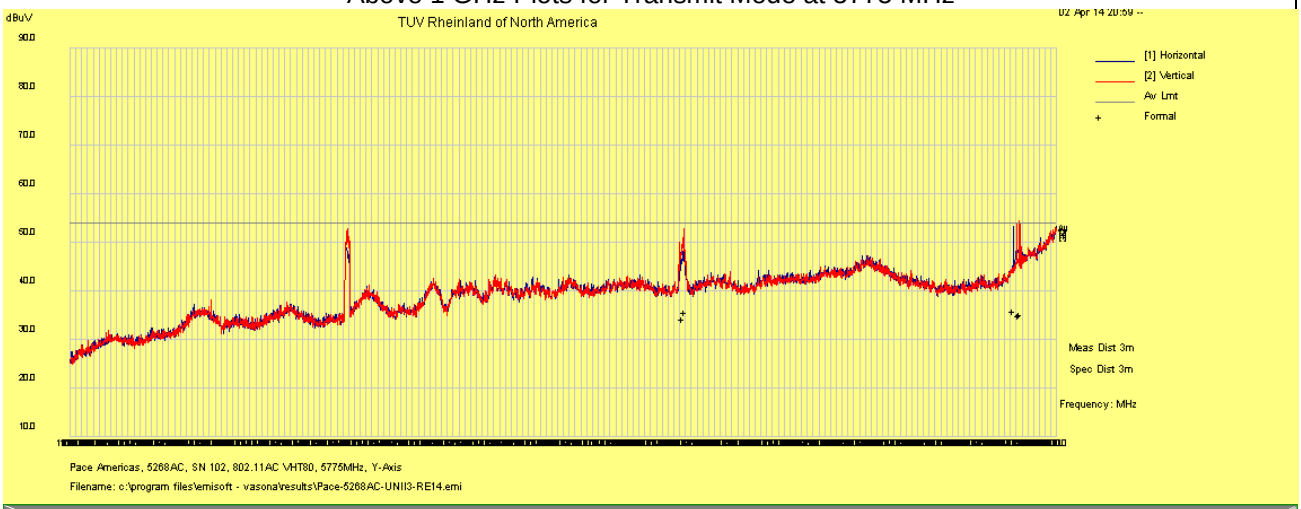
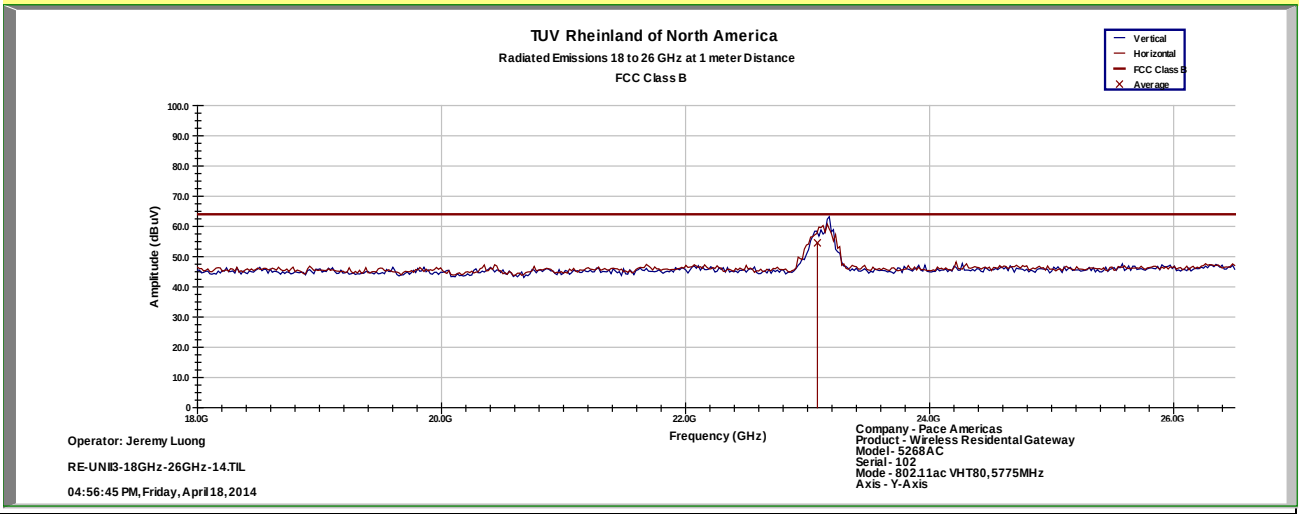
EUT Name	Wireless Residential Gateway	**Date**	April 2, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 33%rh
EUT Serial	121404000111	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11ac VHT80 MCS0	**Line AC**	120Vac 60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5775 MHz

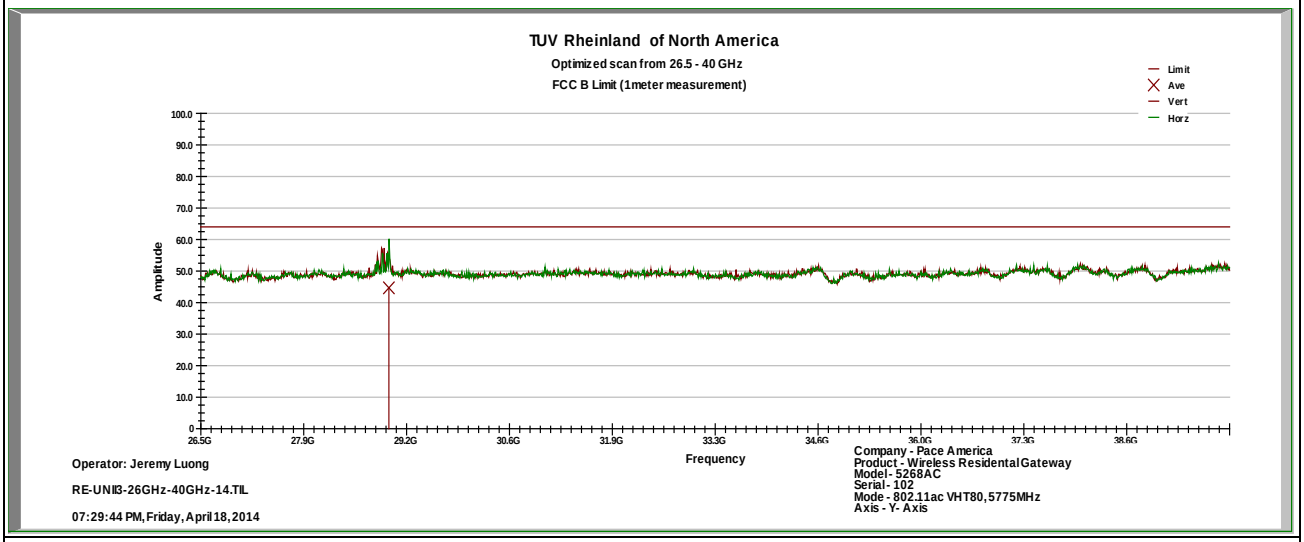




Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

SOP 1 Radiated Emissions		Tracking # 31153119.005 Page 36 of 36	
EUT Name	Wireless Residential Gateway	**Date**	April 18, 2013
EUT Model	5268AC	**Temp / Hum in**	23°C / 30%rh
EUT Serial	102	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11ac VHT80 MCS0	**Line AC / Freq**	120Vac/60Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5775 MHz



Notes: Limit was extrapolated to 1m distance for 18 GHz – 40 GHz range.

4.5.4 Sample Calculation

The field strength is calculated by subtracting the Amplifier Gain and adding the Cable Loss and Antenna Correction Factor to the measured reading. The basic equation is as follows:

Field Strength Level (dBµV/m) = Raw - AMP + CBL + ACF

Where: Raw = Field Intensity Meter (dBµV)
AMP = Amplifier Gain (dB)
CBL = Cable Loss (dB)
ACF = Antenna Correction Factor (dB/m)

$$\mu V/m = 10^{\frac{dB\mu V/m}{20}}$$

4.6 AC Conducted Emissions

Testing was performed in accordance with ANSI C63.4: 2010. These test methods are listed under the laboratory's A2LA Scope of Accreditation.

This test measures the levels emanating from the EUT's AC input port, thus evaluating the potential for the EUT to cause radio frequency interference to other electronic devices.

The AC conducted emissions of equipment under test shall not exceed the values in CFR47 Part 15.207: 2012 and RSS-210: 2010.

4.6.1 Test Methodology

A test program that controls instrumentation and data logging was used to automate the AC Power Line Conducted emission test procedure. The frequency range of interest was divided into sub-ranges such as to yield a frequency resolution of 9 kHz. Each phase and neutral of the AC power line were measured with respect to ground. Measurements were performed using a set of 50µH / 50Ω LISNs.

Testing is either performed in Lab 2. The setup photographs clearly identify which site was used. The vertical ground plane used in the semi-anechoic chamber is a 2m x 2m solid aluminum frame and panel, and it is bonded to the horizontal ground plane.

In the case of tabletop equipment, the EUT is placed on a 1.0m x 1.5m non-conductive table 80cm above the ground plane and 40cm from a vertical ground reference plane. The rear of the EUT was positioned flush with the backside of the table and directly over the LISNs. The power and I/O cables were routed over the edge of the table and bundled approximately 40cm from the ground plane. Support equipment was powered from a separate LISN.

4.6.1.1 Deviations

There were no deviations from this test methodology.

4.6.2 Test Results

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

Table 8: AC Conducted Emissions – Test Results

Test Conditions: Conducted Measurement	**Test Date:** April 10, 2014
Antenna Type: Attached	**Power Level:** See Test Plan
AC Power: 120 Vac/60 Hz	**Configuration:** Tabletop
Ambient Temperature: 23° C	**Relative Humidity:** 34% RH

Configuration	Frequency Range	Test Result
Line 1 (Hot)	0.15 to 30 MHz	Pass
Line 2 (Neutral)	0.15 to 30 MHz	Pass

SOP 2 Conducted Emissions

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EUT Name	Wireless Residential Gateway	**Date**	April 20, 2013
EUT Model	5268AC	**Temp / Hum in**	23° C / 34% rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Attached Antenna	**Line AC / Freq**	120 Vac/60 Hz
Standard	CFR47 Part 15.207	**RBW / VBW**	9 kHz / 30 kHz
Lab/LISN	Lab #2 /Com-Power, Line 1	**Performed by**	Jeremy Luong

Frequency	Raw	Limiter	Ins. Loss	Level	Detector	Line	Limit	Margin	Result
MHz	dBuV	dB	dB	dBuV		Line	dBuV	dB	
0.166	38.21	10.14	-0.67	47.68	QP	Live	65.15	-17.47	Pass
0.166	24.12	10.14	-0.67	33.59	Ave	Live	55.15	-21.56	Pass
0.505	27.25	10.18	-0.31	37.12	QP	Live	56.00	-18.88	Pass
0.505	18.12	10.18	-0.31	27.99	Ave	Live	46.00	-18.01	Pass
0.726	24.14	10.20	-0.24	34.10	QP	Live	56.00	-21.90	Pass
0.726	12.75	10.20	-0.24	22.71	Ave	Live	46.00	-23.29	Pass
0.954	24.16	10.23	-0.22	34.17	QP	Live	56.00	-21.83	Pass
0.954	10.37	10.23	-0.22	20.38	Ave	Live	46.00	-25.62	Pass
1.133	22.49	10.24	-0.20	32.53	QP	Live	56.00	-23.47	Pass
1.133	11.63	10.24	-0.20	21.67	Ave	Live	46.00	-24.33	Pass
3.620	19.27	10.39	-0.15	29.52	QP	Live	56.00	-26.48	Pass
3.620	7.06	10.39	-0.15	17.31	Ave	Live	46.00	-28.69	Pass
4.557	24.33	10.43	-0.14	34.62	QP	Live	56.00	-21.38	Pass
4.557	15.59	10.43	-0.14	25.88	Ave	Live	46.00	-20.12	Pass

Spec Margin = QP./Ave. - Limit, ± Uncertainty

Combined Standard Uncertainty $u_c(y)$ = ± 2.18 dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence

Notes: EUT was setup as table top equipment and transmitted at 5785 MHz in HT20 at 6.5 Mbps

SOP 2 Conducted Emissions

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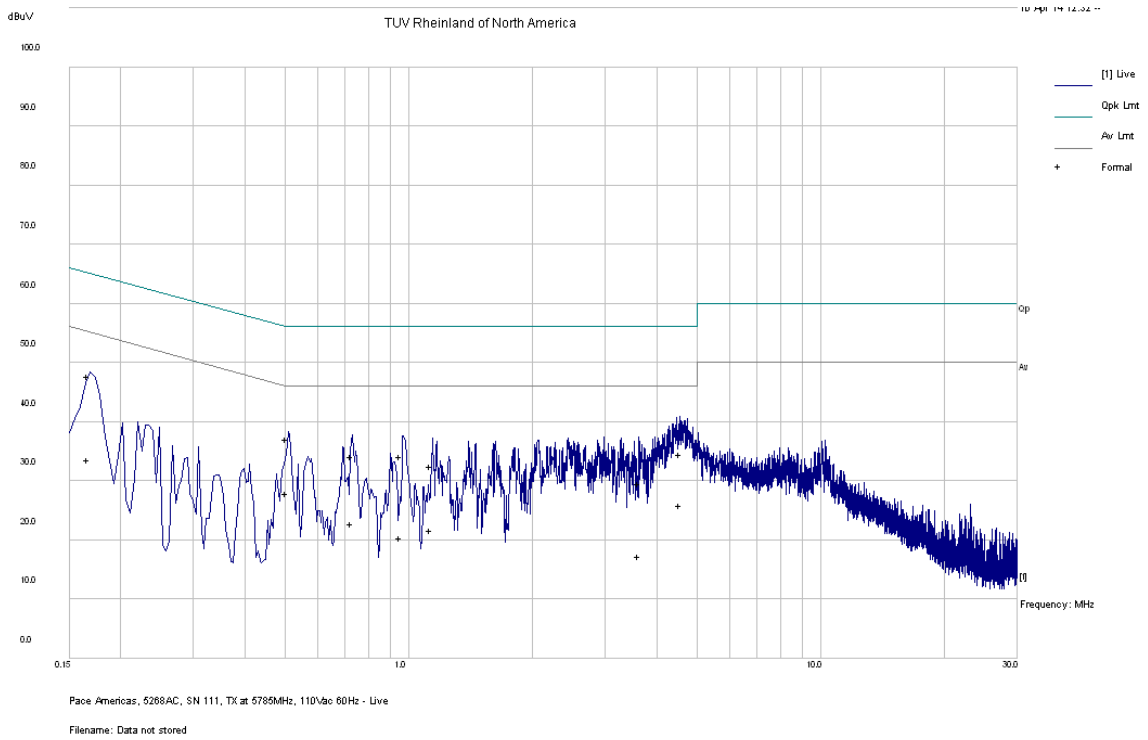
EUT Name	Wireless Residential Gateway	**Date**	April 20, 2013
EUT Model	5268AC	**Temp / Hum in**	23° C / 34% rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Attached Antenna	**Line AC**	120 Vac/60 Hz
Standard	CFR47 Part 15.207	**RBW / VBW**	9 kHz / 30 kHz
Lab/LISN	Lab #2 /Com-Power, Line 1	**Performed by**	Jeremy Luong

150 kHz to 30 MHz Plot for Line 1 (Hot)



Notes: Meet FCC Class B limit.

SOP 2 Conducted Emissions

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EUT Name	Wireless Residential Gateway	**Date**	April 20, 2013
EUT Model	5268AC	**Temp / Hum in**	23° C / 34% rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Attached Antenna	**Line AC / Freq**	120 Vac/60 Hz
Standard	CFR47 Part 15.207	**RBW / VBW**	9 kHz / 30 kHz
Lab/LISN	Lab #2 /Com-Power, Line 2	**Performed by**	Jeremy Luong

Frequency	Raw	Limiter	Ins. Loss	Level	Detector	Line	Limit	Margin	Result
MHz	dBuV	dB	dB	dBuV		Line	dBuV	dB	
0.169	37.65	10.14	-0.66	47.12	QP	Neutral	65.03	-17.91	Pass
0.169	24.33	10.14	-0.66	33.80	Ave	Neutral	55.03	-21.23	Pass
0.737	25.81	10.20	-0.24	35.77	QP	Neutral	56.00	-20.23	Pass
0.737	16.23	10.20	-0.24	26.19	Ave	Neutral	46.00	-19.81	Pass
0.950	23.66	10.23	-0.22	33.67	QP	Neutral	56.00	-22.33	Pass
0.950	9.80	10.23	-0.22	19.81	Ave	Neutral	46.00	-26.19	Pass
1.201	24.13	10.25	-0.20	34.18	QP	Neutral	56.00	-21.82	Pass
1.201	13.35	10.25	-0.20	23.40	Ave	Neutral	46.00	-22.60	Pass
1.801	23.46	10.29	-0.17	33.58	QP	Neutral	56.00	-22.42	Pass
1.801	13.90	10.29	-0.17	24.02	Ave	Neutral	46.00	-21.98	Pass
4.063	25.14	10.41	-0.14	35.41	QP	Neutral	56.00	-20.59	Pass
4.063	11.69	10.41	-0.14	21.96	Ave	Neutral	46.00	-24.04	Pass
4.447	27.97	10.42	-0.14	38.25	QP	Neutral	56.00	-17.75	Pass
4.447	17.25	10.42	-0.14	27.53	Ave	Neutral	46.00	-18.47	Pass

Spec Margin = QP./Ave. - Limit, ± Uncertainty

Combined Standard Uncertainty $u_c(y)$ = ± 2.18 dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence

Notes: EUT was setup as table top equipment and transmitted at 5785 MHz in HT20 at 6.5 Mbps

SOP 2 Conducted Emissions

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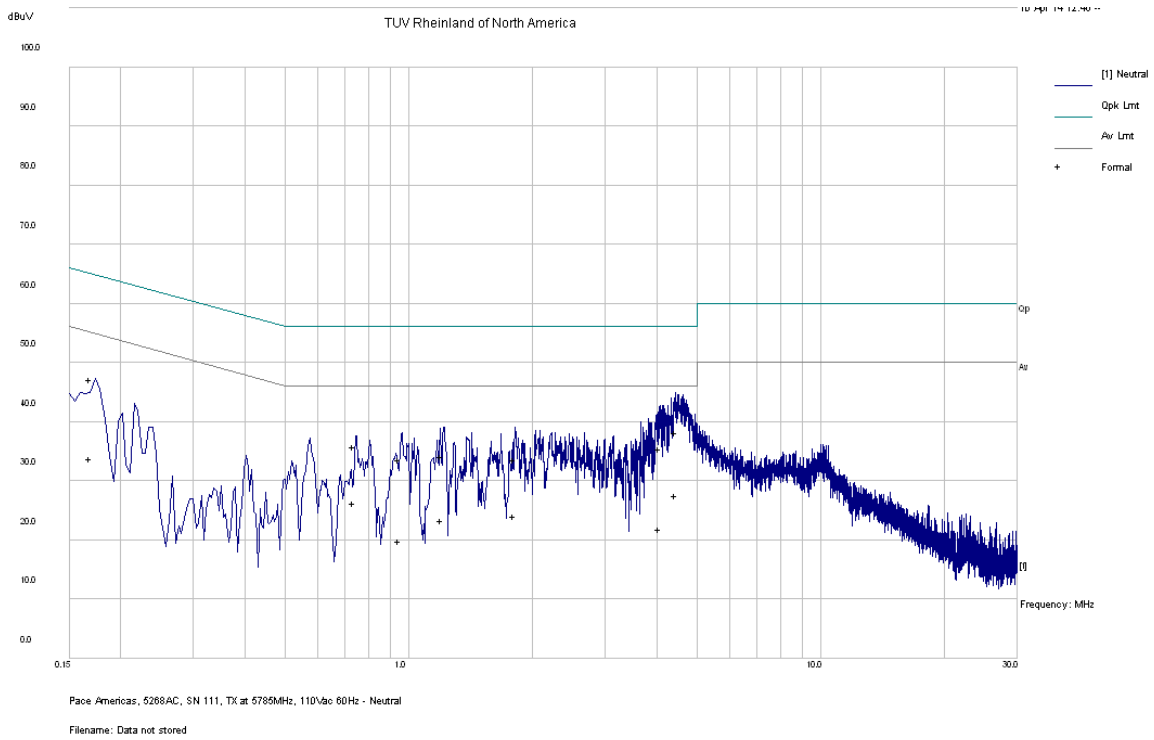
EUT Name	Wireless Residential Gateway	**Date**	April 20, 2013
EUT Model	5268AC	**Temp / Hum in**	23° C / 34% rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Attached Antenna	**Line AC**	120 Vac/60 Hz
Standard	CFR47 Part 15.207	**RBW / VBW**	9 kHz / 30 kHz
Lab/LISN	Lab #2 /Com-Power, Line 2	**Performed by**	Jeremy Luong

150 kHz to 30 MHz Plot for Line 2 (Neutral)



Note: Meet FCC Class B Limit.

4.7 Maximum Permissible Exposure

4.7.1 Test Methodology

In this document, we try to prove the safety of radiation harmfulness to the human body for our product. The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The Gain of the antenna used in this calculation is declared by the manufacturer, and the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.

Although the Friis transmission formula is a far field assumption, the calculated result of that is an over-prediction for near field power density. We will take that as the worst case to specify the safety range.

4.7.2 RF Exposure Limit

According to FCC 1.1310 table 1: The criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (minutes)
(A)Limits For Occupational / Control Exposures				
0.3 - 3.0	614	1.63	*(100)	6
3.0 - 30	1842/f	4.89/f	$*(900/f^2)$	6
30 - 300	…	…	1.0	6
300 - 1500	…	…	f/300	6
1500 - 100,000	…	…	5	6
(B)Limits For General Population / Uncontrolled Exposure				
0.3 - 1.34	614	1.63	*(100)	30
1.34 - 30	824/f	2.19/f	$*(180/f^2)$	30
30 - 300	27.5	0.037	0.2	30
300 - 1500	…	…	f/1500	30
1500 - 100,000	…	…	1.0	30

F = Frequency in MHz

* = Plane-wave equivalent power density

4.7.3 EUT Operating Condition

The software provided by Manufacturer enabled the EUT to transmit data at lowest, middle and highest channel individually.

4.7.4 Classification

The antenna of the product, under normal use condition, is at least 20cm away from the body of the user. Warning statement to the user for keeping at least 20cm or more separation distance with the antenna should be included in user's manual. So, this device is classified as a **Mobile Device**.

4.7.5 Test Results

4.7.5.1 Antenna Gain

The transmitting antenna was integrated. The directional antenna gain was +8.08 dBi or 6.43 (numeric).

4.7.5.2 Output Power into Antenna & RF Exposure value at distance 20cm:

Calculations for this report are based on highest power measurement.

Limit for MPE (from FCC part 1.1310 table1) is 1.0 mW/cm^2

The highest measured total power is +28.06 dBm or 639.735mW

Using the Friss transmission formula, the EIRP is Pout*G, and R is 20cm.

Pd = (582.103 * 6.43) / (1600π) = 0.8188 mW/cm2, which is 0.1812 mW/cm2 below to the limit.

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

4.7.6 Sample Calculation

The Friss transmission formula: $Pd = (Pout*G) / (4*\pi*R^2)$

Where;

Pd = power density in mW/cm_2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

$\pi \approx 3.1416$

R = distance between observation point and center of the radiator in cm

Ref. : David K. Cheng, *Field and Wave Electromagnetics*, Second Edition, Page 640, Eq. (11-133).

5 Test Equipment List

5.1 Equipment List

Equipment	Manufacturer	Model #	Serial/Inst #	Last Cal mm/dd/yy	Next Cal mm/dd/yy
Bilog Antenna	Sunol Sciences	JB3	A102606	05/15/2012	05/15/2014
Horn Antenna	Sunol Sciences	DRH-118	A040806	11/05/2012	11/05/2014
Antenna (18-26GHz)	CMT	RA42-K-F-4B-C	020131-004	06/19/2013	06/19/2014
Antenna (26-40 GHz)	CMT	RA28-K-F-4B-C	011469R-003	12/01/2013	12/01/2014
EMI Receiver	Hewlett Packard	8546A	3325A00168	11/14/2013	11/14/2014
Preselector	Hewlett Packard	85460A	3330A00174	11/14/2013	11/14/2014
Amplifier	Hewlett Packard	8447D	2944A07996	01/07/2014	02/07/2015
Spectrum Analyzer	Rohde & Schwarz	ESIB	832427/002	01/08/2014	02/08/2015
Amplifier	Miteq	TTA1800-30-4G	1842452	01/08/2014	02/08/2015
Amplifier	Rohde & Schwarz	TS-PR26	100011	06/19/2013	06/19/2014
Amplifier	Rohde & Schwarz	TS-PR40	100012	12/01/2013	12/01/2014
Signal Generator	Anritsu	MG3694A	42803	01/07/2013	02/07/2015
Notch Filter	Micro-Tronics	BRM50702	9	01/16/2014	02/16/2016
Notch Filter	Micro-Tronics	BRC50703	1	01/16/2014	02/16/2016
Notch Filter	Micro-Tronics	BRC50704	8	01/16/2013	01/16/2015
Notch Filter	Micro-Tronics	BRC50705	9	01/16/2013	01/16/2015
High Pass Filter (3.5 GHz)	Hewlett Packard	84300-80038	820004	01/16/2013	01/16/2015
High Pass Filter (8.5 GHz)	Micro-Tronics	HPM50107	4	01/16/2013	01/16/2015
Power Supplier	California Instruments	1001P-232	L06329	VBU	VBU
Digital Multimeter	Fluke	83 III	84590116	01/07/2014	02/07/2015
Power Meter	Agilent	E4418B	MY45103902	01/09/2014	02/09/2015
Power Sensor	Hewlett Packard	8482A	55-5131	01/09/2014	02/09/2015
LISN	Com-Power	LI-215	12111	01/07/2014	02/07/2015
Transient Limiter	Com-Power	LIT-930	531582	01/08/2014	02/08/2015
Thermometer	Fluke	52II	96480032	08/07/2013	08/07/2014
Thermo Chamber	Espec	BTZ-133	0613436	03/17/2014	03/17/2015
Spectrum Analyzer	Rohde & Schwarz	FSL6	100169	01/08/2014	02/08/2015
Spectrum Analyzer	Agilent	N9038A	MY52260210	01/08/2014	02/08/2015
Spectrum Analyzer	Agilent	E4446A	MY46180348	03/24/2014	03/24/2016
Vector Signal Generator	Rohde & Schwarz	SMU 200A	1141.2005.02	06/13/2013	06/13/2015
Amplifier	Hewlett Packard	8449B	30008A01014	01/06/2014	02/06/2015

* Calibration of equipment past due for re-calibration will be performed expeditiously. If any equipment is found to be out of tolerance at that time, affected customers will be notified accordingly.

6 EMC Test Plan

6.1 Introduction

This section provides a description of the Equipment Under Test (EUT), configurations, operating conditions, and performance acceptance criteria. It is an overview of information provided by the manufacturer so that the test laboratory may perform the requested testing.

6.2 Customer

Table 9: Customer Information

Company Name	Pace Americas
Address	310 Providence Mine Road, Ste. 200
City, State, Zip	Nevada City, CA 95959
Country	U.S.A.
Phone	(530) 274-5440
Fax	(530) 273-6340

Table 10: Technical Contact Information

Name	Mark Rieger
E-mail	Mark.Rieger@pace.com
Phone	(530) 274-5440
Fax	(530) 273-6340

6.3 Equipment Under Test (EUT)

Table 11: EUT Specifications

EUT Specifications	
Dimensions	239mm (9.41") x 177mm (6.97") x 67mm (2.64")
AC Adapter (M/N:EADP-36FB A)	Input Voltage: 120 Vac 50-60 Hz Input Current: 680 mA Output Voltage: 12 Vdc Output Current: 1.5 A
Environment	Indoor and Outdoor
Operating Temperature Range:	0 to 40 degrees C
Multiple Feeds:	☐ Yes and how many ☒ No
Hardware Version	4.0.8
Part Number	186-2173101
RF Software Version	Busy Box V1.10.3
802.11-radio modules	
Operating Mode	802.11a, b, g, n, and ac
Transmitter Frequency Band	2.412 GHz - 2.462 GHz 5.15 GHz - 5.25 GHz (Indoor Use) 5.25 GHz - 5.35 GHz 5.47 GHz - 5.725 GHz 5.725 GHz - 5.85 GHz
Max. Rated Power Output	See Channel Planning Table.
Power Setting @ Operating Channel	See Channel Planning Table.
Antenna Type	4 integrated metal stamped Antenna and 1 integrated PCB antenna (one metal stamped antenna used for both 2.4 GHz and 5 GHz ranges)
Antenna Gain	Ant1 = 1.95 dBi, Ant2 = 2.27dBi, Ant3 = 1.83 dBi, Ant4 = 2.03 dBi, Ant5 = 3.7 dBi, Ant6 = 1.9 dBi.
Modulation Type	☐ AM ☐ FM ☒ DSSS ☒ OFDM ☐ Other describe:

EUT Specifications	
Data Rate	*2.4 GHz Range:* 802.11b: 1, 2, 5.5, 11 Mbps at 1 Spatial Stream 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps at 1 Spatial Stream 802.11n HT20: 1 Spatial Stream: 6.5, 13, 19.5, 26, 39, 52, 58.5, 65 Mbps 2 Spatial Streams: 13, 26, 39, 58, 78, 104, 117, 130 Mbps 802.11n HT40: 1 Spatial Stream: 13.5, 27, 40.5, 54, 81, 108, 121.5, 135 Mbps 2 Spatial Streams: 27, 54, 81, 108, 162, 216, 243, 270 Mbps *5 GHz Range:* 802.11a: 4 Spatial Streams: 6, 9,12, 18, 24, 36, 48, 54 Mbps 802.11n HT20: 4 Spatial Streams: 26, 52, 78, 104, 156, 208, 234, 260 Mbps 802.11n HT40: 4 Spatial Streams: 54, 108, 162, 216, 324, 432, 486, 540 Mbps 802.11ac VHT20: 4 Spatial Streams: 26, 52, 78, 104, 156, 208, 234, 260, 312 Mbps 802.11ac VHT40: 4 Spatial Streams: 54, 108, 162, 216, 324, 432, 486, 540, 648, 720 Mbps 802.11ac VHT80: 4 Spatial Streams: 117, 234, 351, 468, 702, 936, 1053, 1170, 1404, 1560 Mbps
TX/RX Chain (s)	2x2 at 2.4 GHz Range 4x4 at 5 GHz Ranges.
Directional Gain Type	☒ Correlated ☒ Beam-Forming ☐ Other describe:
Type of Equipment	☒ Table Top ☐ Wall-mount ☐ Floor standing cabinet ☐ Other
Note: 1. All four chains will be on / transmitted at all time. 2.This report only documents the radio characteristics for 5725 – 5850 MHz band	

Table 12: EUT Channel Power Specifications

No.	Frequency (MHz)	Target Power Value for					
		802.11a	HT20	HT40	VHT20	VHT40	VHT80
36	5180	9	9	11	9	11	
40	5200	9	9		9		11
44	5220	9	9	11	9	11	
48	5240	9	9		9		
52	5260						
56	5280						
60	5300						
64	5320						
100	5500						
104	5520						
108	5540						
112	5560						
116	5580						
120	5600						
124	5620						
128	5640						
132	5660						
136	5680						
140	5700						
149	5745	22	22	22	22	22	
153	5765	22	22		22		21
157	5785	22	22	22	22	22	
161	5805	22	22		22		
165	5825	22	22		22		

Note: 1. The center operating frequency is shifted upward by 10 MHz for HT40, VHT40, and VHT80
2. The adjusted power target values are updated at the evaluated frequencies.

Table 13: Interface Specifications

Interface Type	Cabled with what type of cable?	Is the cable shielded?	Maximum potential length of the cable?	Metallic (M), Coax (C), Fiber (F), or Not Applicable?
RJ45	CAT-5 Ethernet	☐ No	☒ Metric: 10 m	☒ M

Table 14: Supported Equipment

Equipment	Manufacturer	Model	Serial	Used for
Laptop	Dell	PP23LB	9271001233	Setup EUT operating channel
Note: None.				

Table 15: Description of Sample used for Testing

Device	Serial	RF Connection	CFR47 Part 15.247
5268AC	121404000102	Integrated Antenna	Radiated Emission. AC Conducted Emission
	121404000111	Direct via Murada Connection	Output Power, Peak Power Spectral Density, Occupied Bandwidth Conducted Spurious Emission

Table 16: Description of Test Configuration used for Radiated Measurement.

Device	Antenna	Mode	Setup Photo (X-Axis)	Setup Photo (Y-Axis)	Setup Photo (Z-Axis)
5268AC	Integrated	Transmit	EUT laid flat.	EUT stood upright	N/A.
Note: Pre-scans were performed in 2 supporting axis, and Y-axis was worst.					

Table 17: Final Test Mode for 5725 - 5850 Band

Test	802.11a	HT20	HT40	VHT20	VHT40	VHT40
Occupied Bandwidth CFR47 15.247 (a2), RSS GEN Sect.4.4.1	5745, 5785, 5825 MHz 4 Streams, 6Mbps	5745, 5785, 5825 MHz 4 Streams, MCS0	5755, 5795 MHz 4 Streams, MCS0	5745, 5785, 5825 MHz 4 Streams, MCS0	5755, 5795 MHz 4 Streams, MCS0	5775 MHz 4 Streams, MCS0
Output Power CFR47 15.247 (b3), RSS-210 Sect. A.8.4	5745, 5785, 5825 MHz 4 Streams, 6Mbps	5745, 5785, 5825 MHz 4 Streams, MCS0	5755, 5795 MHz 4 Streams, MCS0	5745, 5785, 5825 MHz 4 Streams, MCS0	5755, 5795 MHz 4 Streams, MCS0	5775 MHz 4 Streams, MCS0
Peak Power Spectral Density CFR47 15.247 (e), RSS-210 Sect. A.8.2	5745, 5785, 5825 MHz 4 Streams, 6Mbps	5745, 5785, 5825 MHz 4 Streams, MCS0	5755, 5795 MHz 4 Streams, MCS0	5745, 5785, 5825 MHz 4 Streams, MCS0	5755, 5795 MHz 4 Streams, MCS0	5775 MHz 4 Streams, MCS0
Out-of-Band (-30 dBr). CFR47 15.247 (d), RSS-210 Sect. A.8.5	5745, 5785, 5825 MHz 4 Streams, 6Mbps	5745, 5785, 5825 MHz 4 Streams, MCS0	5755, 5795 MHz 4 Streams, MCS0	5745, 5785, 5825 MHz 4 Streams, MCS0	5755, 5795 MHz 4 Streams, MCS0	5775 MHz 4 Streams, MCS0
Band-Edge (Radiated) FCC Part 15.205, 15.209	5745, 5825 MHz 4 Streams, 6Mbps	5745, 5825 MHz 4 Streams, MCS0	5755, 5795 MHz 4 Streams, MCS0	5745, 5825 MHz 4 Streams, MCS0	5755, 5795 MHz 4 Streams, MCS0	5775 MHz 4 Streams, MCS0
Transmitted Spurious Emission (30 MHz – 1 GHz) FCC Part 15.205, 15.209		Worst Case: 5785 MHz 4 Streams – 6Mbps/ stream (Y-Axis)				
Transmitted Spurious Emission (Above 1 GHz) FCC Part 15.205, 15.209	5745, 5785, 5825 MHz 4 Streams, 6Mbps	5745, 5785, 5825 MHz 4 Streams, MCS0	5755, 5795 MHz 4 Streams, MCS0	5745, 5785, 5825 MHz 4 Streams, MCS0	5755, 5795 MHz 4 Streams, MCS0	5775 MHz 4 Streams, MCS0
AC Conducted Emission FCC Part 15.207			Worst Case: 5785 MHz at 4 Data Stream: 6.5Mbps			

Note: 1. This report is only documented the band 5725 MHz – 5850 MHz.
2. All radiated emission performed on Y-Axis.
3. All four chains will be on at all time.
4. All tests were pre-scanned for worst case before final testing.

6.4 Test Specifications

Testing requirements

Table 18: Test Specifications

Emissions and Immunity	
Standard	Requirement
CFR 47 Part 15.407: 2013	All
RSS-210 Issue 8, 2010	All

END OF REPORT