

FCC 47 CFR PART 15 SUBPART C

Product Type : AC1900 Touch Screen Wi-Fi Range Extender

Applicant : TP-LINK TECHNOLOGIES CO., LTD.

Address : Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park,Shennan Rd, Nanshan, Shenzhen,China

Trade Name : TP-LINK

Model Number : RE590T

Test Specification : FCC 47 CFR PART 15 SUBPART C: Oct., 2014
ANSI C63.10:2013

Receive Date : Jun. 08, 2015

Test Period : Jun. 15 ~ Sep. 07, 2015

Issue Date : Nov. 02, 2015

Issue by

A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade City,
Taoyuan County 334, Taiwan R.O.C.
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Taiwan Accreditation Foundation accreditation number: 1330

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Oct. 12, 2015	Initial Issue	
01	Oct. 28, 2015	Revised report information.	Peggy Chang
02	Nov. 02, 2015	Revised report information.	Peggy Chang

Verification of Compliance

Issued Date: 11/02/2015

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Address : Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China

Trade Name : TP-LINK

Model Number : RE590T

FCC ID : TE7RE590T

EUT Rated Voltage : DC 12V, 2.5A

Test Voltage : 120 Vac / 60 Hz

Applicable Standard : FCC 47 CFR PART 15 SUBPART C: Oct., 2014
ANSI C63.10:2013

Test Result : Complied

Performing Lab. : A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330
<http://www.atl-lab.com.tw/e-index.htm>

A Test Lab Techno Corp. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by A Test Lab Techno Corp. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By : Fly Lu Reviewed By : Eric Ou Yang
(Manager) (Fly Lu) (Testing Engineer) (Eric Ou Yang)

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1 General Information

1.1 Summary of Test Result

Standard	Item	Result	Remark
15.247			
15.207	AC Power Conducted Emission	PASS	-----
Standard	Item	Result	Remark
15.247			
15.247(d)	Transmitter Radiated Emissions	PASS	-----
15.247(b)(3)	Max. Output Power	PASS	-----
15.247(a)(2)	6dB RF Bandwidth	PASS	-----
15.247(e)	Power Spectral Density	PASS	-----
15.247(d)	Out of Band Conducted Spurious Emission	PASS	-----
15.247(d)	Band Edge Measurement	PASS	-----
15.203	Antenna Requirement	PASS	-----

The test results of this report relate only to the tested sample(s) identified in this report. Manufacturer or whom it may concern should recognize the pass or fail of the test result.

1.2 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Conducted Emission	9kHz ~ 150KHz	2.7
	150kHz ~ 30MHz	2.8
Radiated Emission	30MHz ~ 1000MHz	6.300
	1000MHz ~ 18000MHz	5.474
	18000MHz ~ 26500MHz	5.630
	26500MHz ~ 40000MHz	5.054

2 EUT Description

Product	AC1900 Touch Screen Wi-Fi Range Extender			
Trade Name	TP-LINK			
Model No.	RE590T			
Applicant	TP-LINK TECHNOLOGIES CO., LTD. Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park,Shennan Rd, Nanshan, Shenzhen,China			
Manufacturer	TP-LINK TECHNOLOGIES CO., LTD. Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park,Shennan Rd, Nanshan, Shenzhen,China			
FCC ID	TE7RE590T			
Operate Freq. Band	Frequency Range (MHz)	Modulation	Channel Bandwidth	Data Rate
IEEE 802.11b	2412 ~ 2462	DSSS	20MHz	Up to 11Mbps
IEEE 802.11g	2412 ~ 2462	DSSS+OFDM	20MHz	Up to 54Mbps
IEEE 802.11n 2.4GHz 20MHz	2412 ~ 2462	OFDM	20MHz	Up to 260.1Mbps
IEEE 802.11n 2.4GHz 40MHz	2422 ~ 2452	OFDM	40MHz	Up to 600Mbps
IEEE 802.11a U-NII Band III	5745 ~ 5825	OFDM	20MHz	Up to 54Mbps
IEEE 802.11n U-NII Band III 20MHz	5745 ~ 5825	OFDM	20MHz	Up to 216.7Mbps
IEEE 802.11n U-NII Band III 40MHz	5755 ~ 5795	OFDM	40MHz	Up to 450Mbps
IEEE 802.11ac U-NII Band III 20MHz	5745 ~ 5825	OFDM	20MHz	Up to 260.1Mbps
IEEE 802.11ac U-NII Band III 40MHz	5755 ~ 5795	OFDM	40MHz	Up to 600Mbps
IEEE 802.11ac U-NII Band III 80MHz	5775	OFDM	80MHz	Up to 1299.9Mbps
Antenna Type	Omni Directional Antenna			
Antenna Gain	2.0 dBi			

RF Output Power	IEEE 802.11b: 0.734 W / 28.65 dBm			
	IEEE 802.11g: 0.653 W / 28.15 dBm			
	IEEE 802.11n 2.4GHz 20MHz: 0.566 W / 27.53 dBm			
	IEEE 802.11n 2.4GHz 40MHz: 0.248 W / 23.94 dBm			
	IEEE 802.11a U-NII Band III: 0.791 W / 28.98 dBm			
	IEEE 802.11ac U-NII Band III 20MHz: 0.773 W / 28.88 dBm			
	IEEE 802.11ac U-NII Band III 40MHz: 0.734 W / 28.66 dBm			
	IEEE 802.11ac U-NII Band III 80MHz: 0.716 W / 28.55 dBm			
	Beamforming on			
	IEEE 802.11ac U-NII Band III 20MHz: 0.286 W / 24.56 dBm			
Power adapter	IEEE 802.11ac U-NII Band III 40MHz: 0.268 W / 24.28 dBm			
	IEEE 802.11ac U-NII Band III 80MHz: 0.259 W / 24.13 dBm			
	Component List			
	Trade Name	TenPao	Model Number	S040EU1200250
I/P: 100-240VAC, 50/60Hz, 1.2A				
O/P: 12.0VDC, 2500mA				
Cable out: Non-Shielded, 1.5m, Non-Detachable at Power Adapter				

3 Test Methodology

3.1. Mode of Operation

Decision of Test ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Normal Operation Mode
Mode 2: IEEE 802.11b Link Mode
Mode 3: IEEE 802.11g Link Mode
Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode
Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode
Mode 6: IEEE 802.11a U-NII Band III Link Mode
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode
Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode

Software used to control the EUT for staying in continuous transmitting mode was programmed.

After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in normal link mode only.

Note: U-NII band III 20MHz / 40MHz are only evaluated ac mode.

Test Mode	Antenna Delivery	Test Channel	Data Rate
Mode 2: IEEE 802.11b link mode	3TX / 3RX	1, 6, 11	1
Mode 3: IEEE 802.11g link mode	3TX / 3RX	1, 6, 11	6
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode	3TX / 3RX	1, 6, 11	19.5
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode	3TX / 3RX	3, 6, 9	40.5
Mode 6: IEEE 802.11a U-NII Band III Link Mode	3TX / 3RX	149, 157, 165	6
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode	3TX / 3RX	149, 157, 165	19.5
Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode	3TX / 3RX	151, 159	40.5
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode	3TX / 3RX	155	87.9

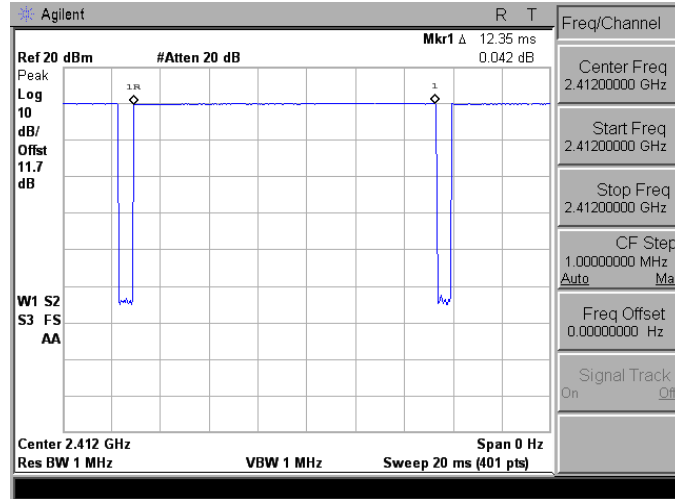
Duty cycle

Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimum VBW (kHz)
Mode 2: IEEE 802.11b link mode	2412.0	12.350	13.050	0.946	0.239	0.081
Mode 3: IEEE 802.11g link mode	2412.0	2.037	2.163	0.942	0.261	0.491
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode	2412.0	1.912	2.025	0.944	0.249	0.523
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode	2422.0	0.980	1.060	0.925	0.341	1.020
Mode 6: IEEE 802.11a U-NII Band III Link Mode	5745.0	2.100	2.188	0.960	0.178	0.476
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode	5745.0	0.700	0.763	0.918	0.371	1.429
Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode	5755.0	0.370	0.450	0.822	0.850	2.703
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode	5775.0	0.210	0.220	0.955	0.202	4.762

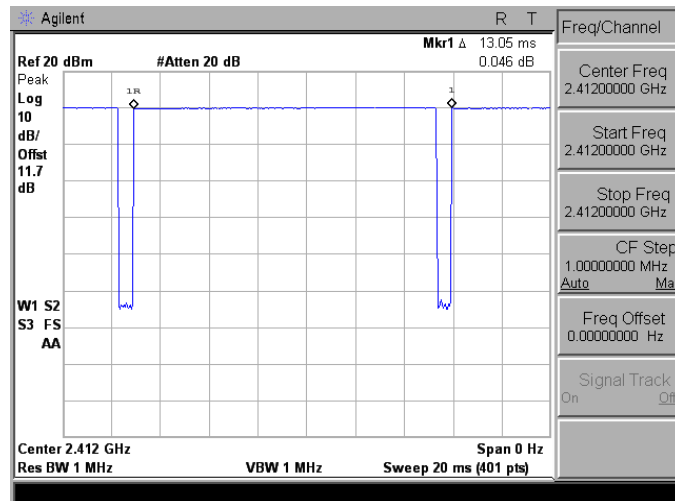
Duty Cycle Graphs

Mode 2: IEEE 802.11b link mode

On time

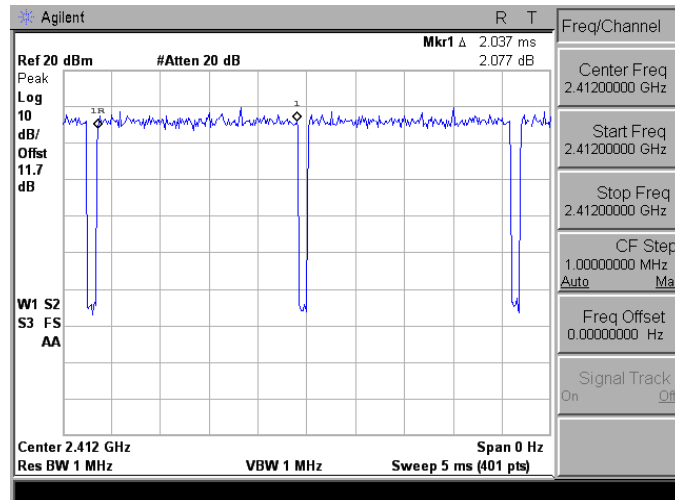


On+off time

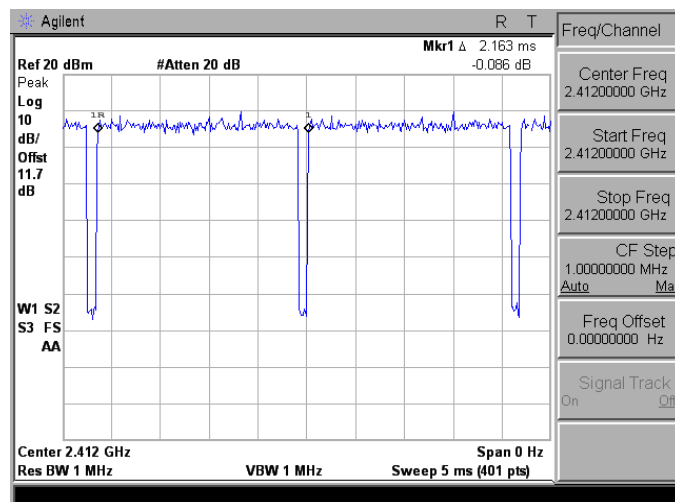


Mode 3: IEEE 802.11g Mode

On time

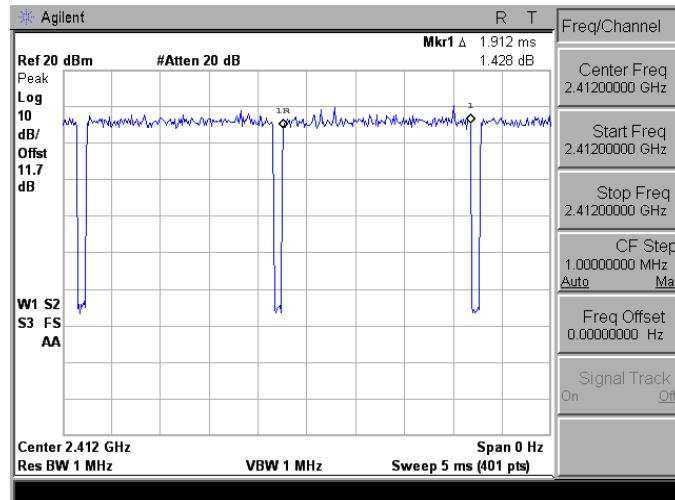


On+off time

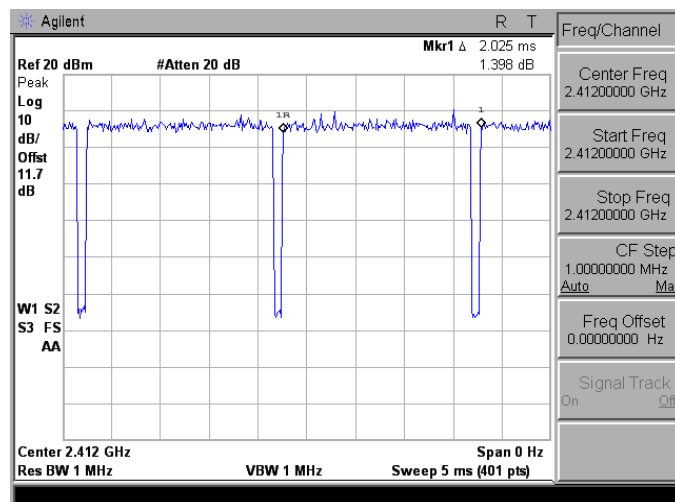


Mode 4: IEEE 802.11n 2.4GHz 20MHz Mode

On time

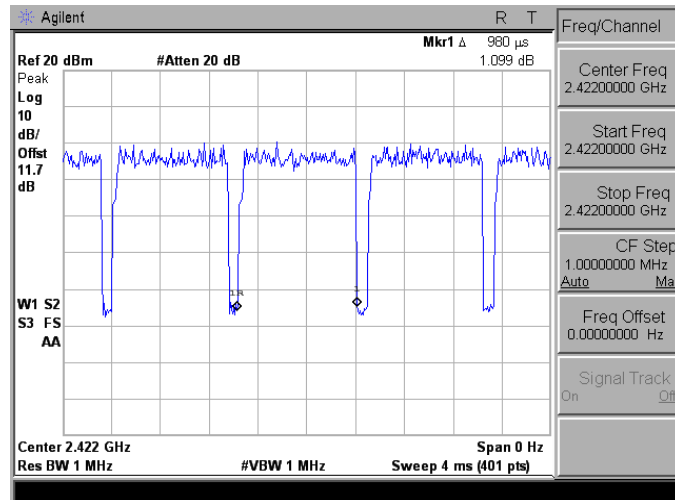


On+off time

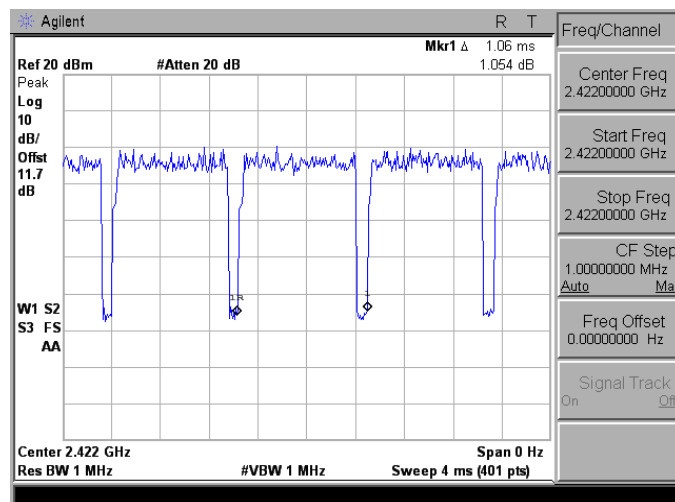


Mode 5: IEEE 802.11n 2.4GHz 40MHz Mode

On time

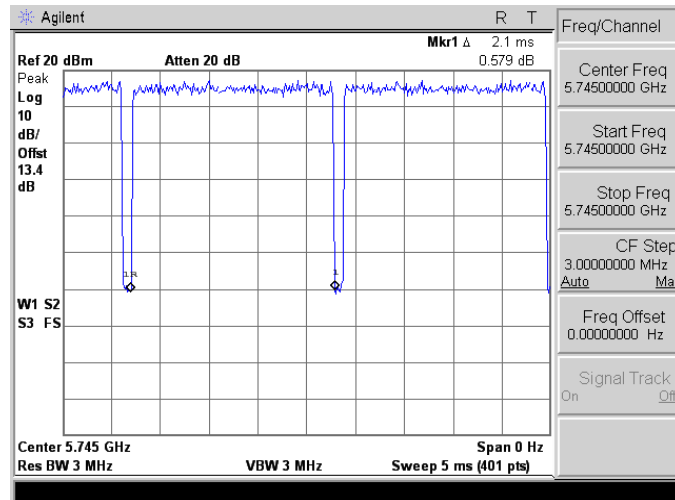


On+off time

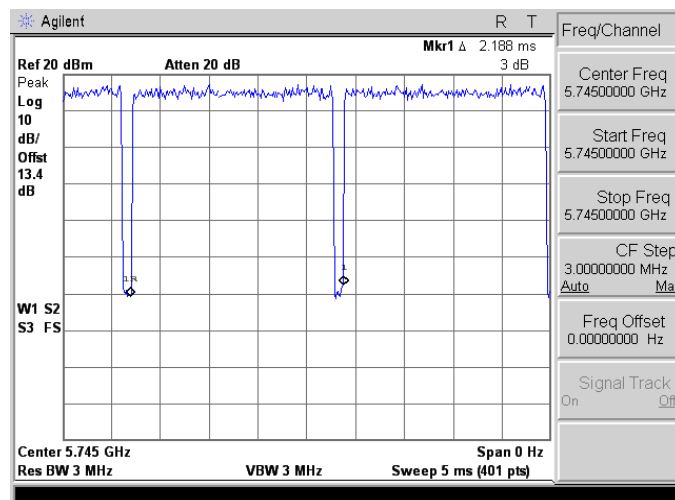


Mode 6: IEEE 802.11a U-NII Band III Link Mode

On time

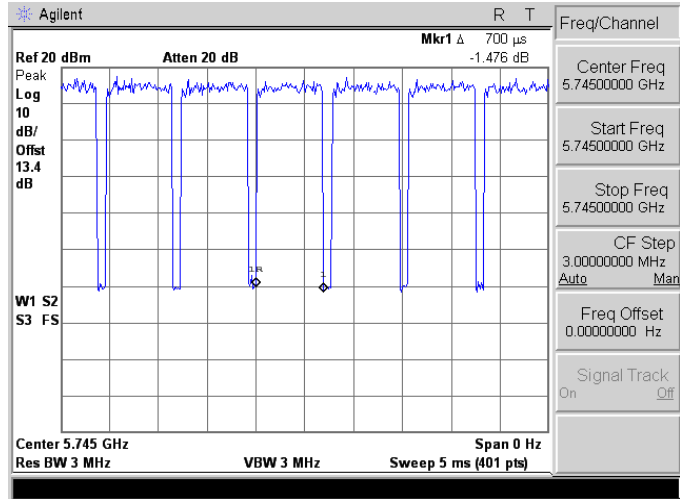


On+off time

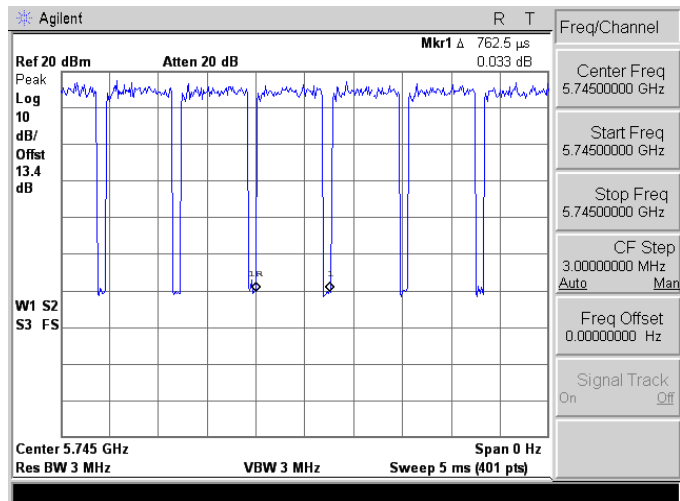


Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode

On time

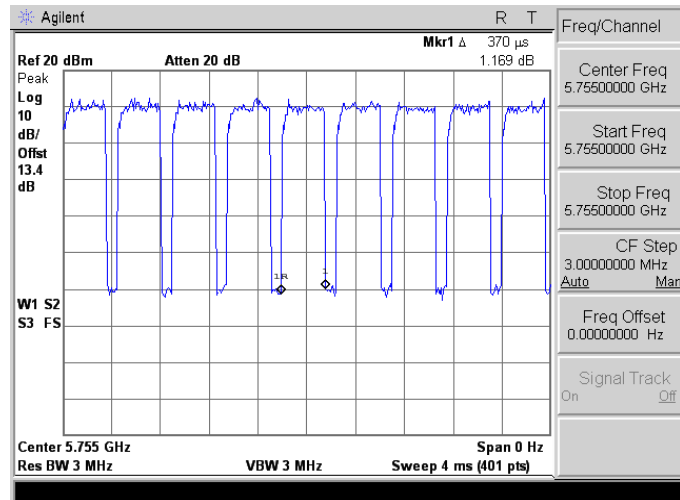


On+off time

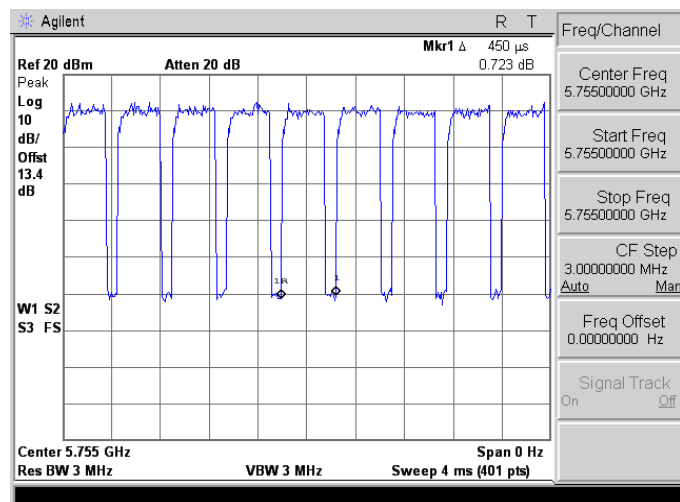


Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode

On time

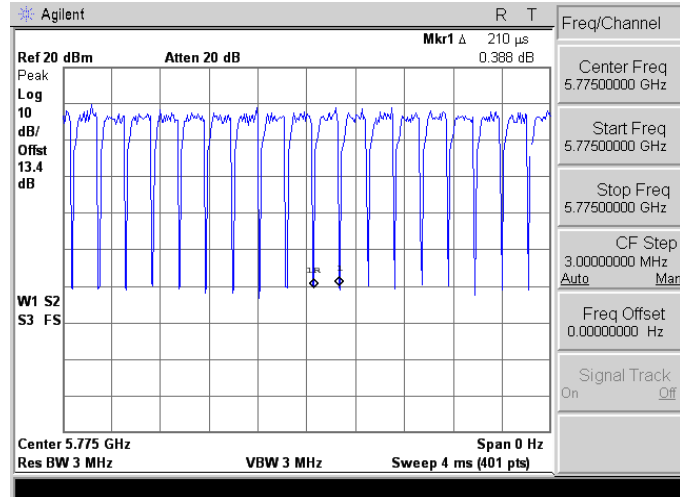


On+off time

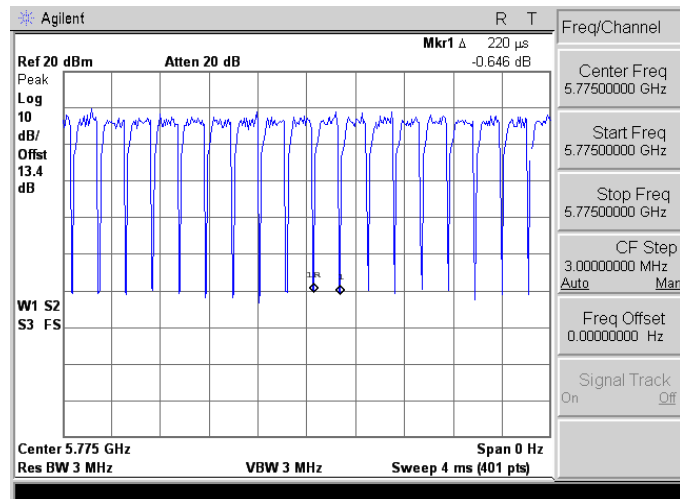


Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode

On time



On+off time

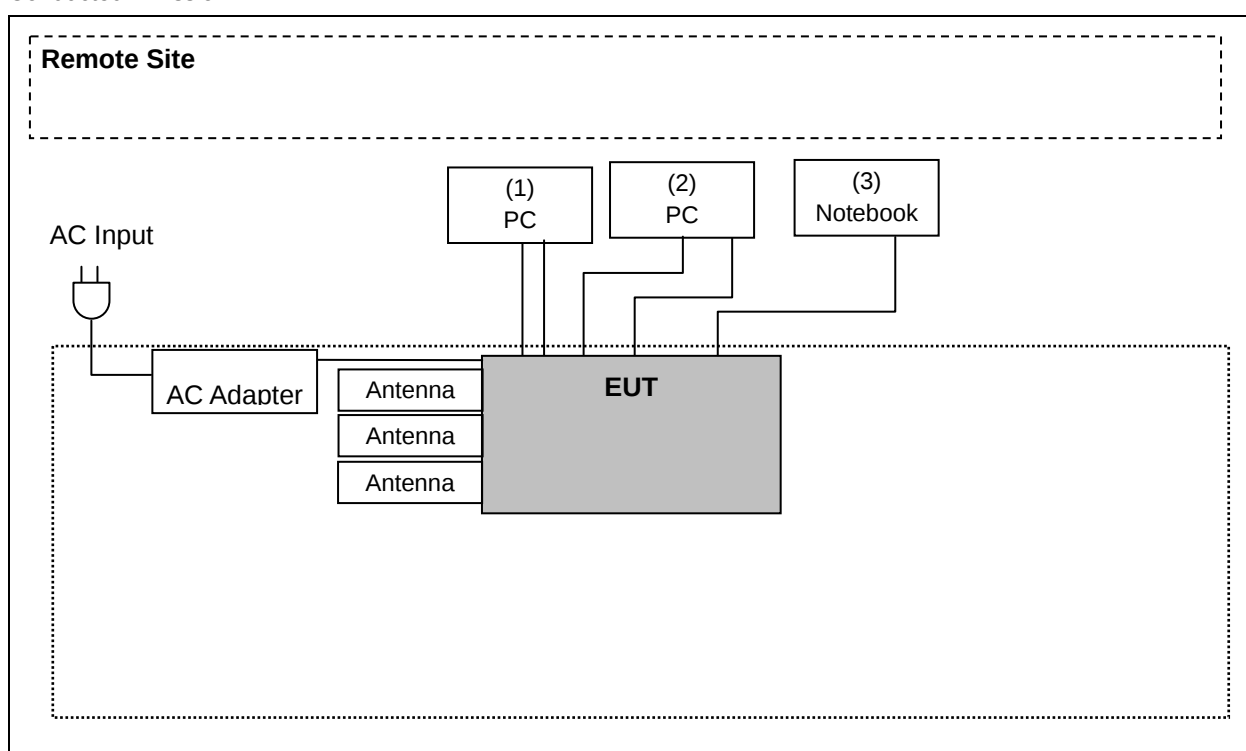


3.2. EUT Exercise Software

1.	Setup the EUT shown on 3.3.
2.	Turn on the power of all equipment.
3.	Turn on Wi-Fi function.
4.	EUT run test program.

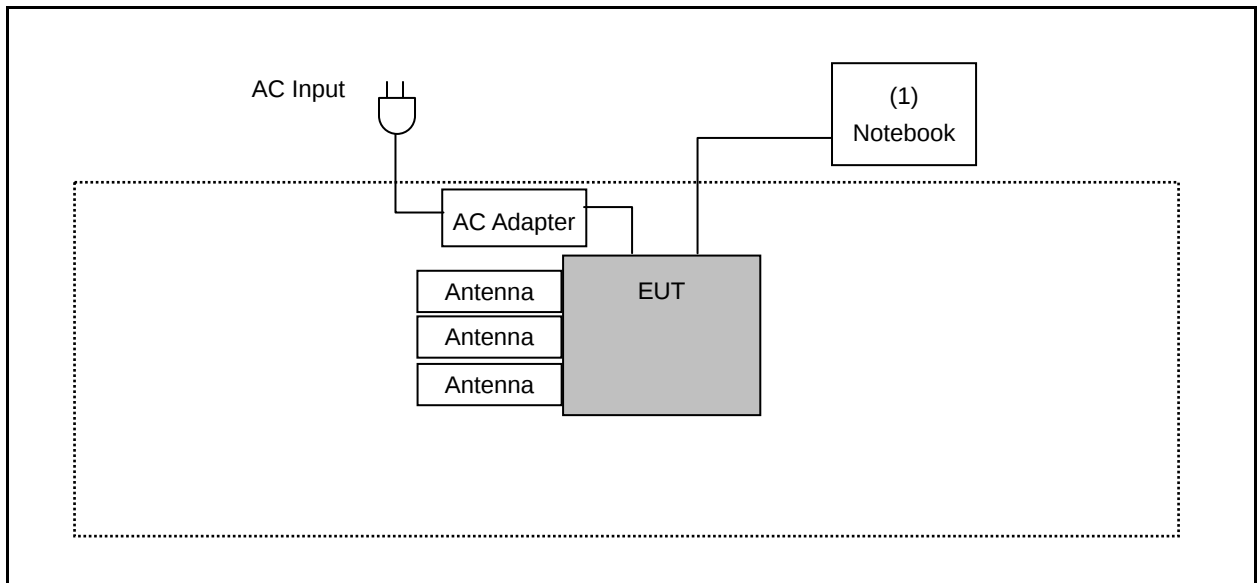
3.3. Configuration of Test System Details

Conducted Emission



Devices Description					
	Product	Manufacturer	Model Number	Serial Number	Power Cord
(1)	PC	DELL	T3610	F5XBW02	Non-Shielded, 1.8m
(2)	PC	DELL	9020	HJMBW02	Non-Shielded, 1.8m
(3)	Notebook	DELL	LAPTITU	6699565657	Non-Shielded, 0.8m
(4)	HDD	My passport	WDBKXH5000ABK-03	SN:WX71A8241990	Power by EUT
(5)	HDD	My passport	WDBKXH5000ABK-03	SN:WX51A92W7432	Power by EUT

Radiated Emission



Devices Description					
	Product	Manufacturer	Model Number	Serial Number	Power Cord
(1)	Notebook	DELL	LAPTITU	6699565657	Non-Shielded, 0.8m

3.4. Test Site Environment

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

4 Conducted Emission Measurement

4.1. Limit

Frequency (MHz)	Quasi-peak	Average
0.15 - 0.5	66 to 56	56 to 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

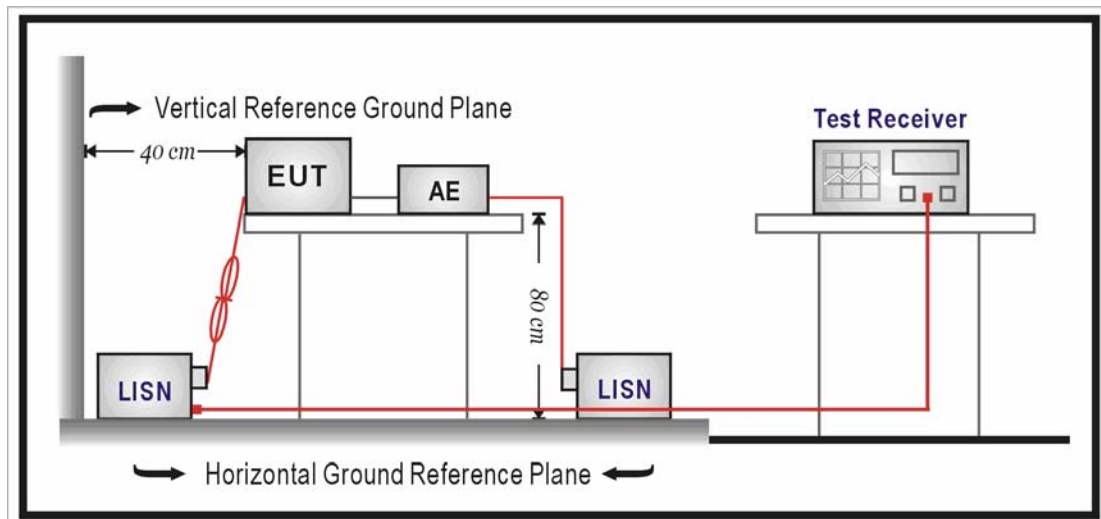
4.2. Test Instruments

Describe	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Test Receiver	R&S	ESCI	100367	06/25/2015	(1)
LISN	R&S	ENV216	101040	03/10/2015	(1)
LISN	R&S	ENV216	101041	03/06/2015	(1)
RF Cable	Woken	00100D1380194M	TE-02-02	06/26/2015	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

Note: N.C.R. = No Calibration Request.

4.3. Test Setup



4.4. Test Procedure

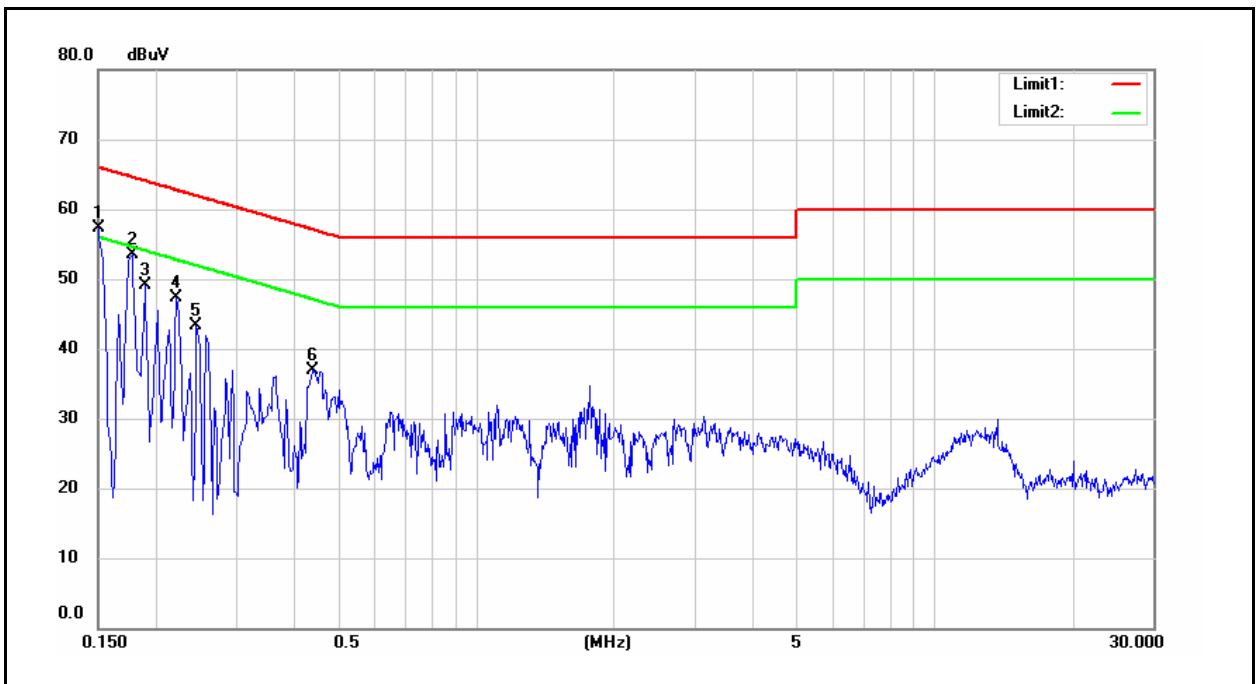
The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

Power was fed to the EUT from the public utility power grid through a line filter and EMCO Model 3162/2 SH Line Impedance Stabilization Networks (LISN). The LISN housing, measuring instrumentation case, ground plane, etc., were electrically bonded together at the same RF potential. The Spectrum analyzer was connected to the AC line through an isolation transformer. The 50-ohm output of the LISN was connected to the spectrum analyzer directly. Conducted emission levels were in the CISPR quasi-peak detection mode. The analyzer's 6 dB bandwidth was set to 9 KHz. No post-detector video filter was used.

The spectrum was scanned from 150 KHz to 30 MHz. The physical arrangement of the test system and associated cabling was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude and frequency. All spurious emission frequencies were observed. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in paragraph 4.1.

4.5. Test Result

Standard:	FCC Part 15C	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	RE590T	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	1	Date:	08/18/2015
		Test By:	Eric Ou Yang
Description:			



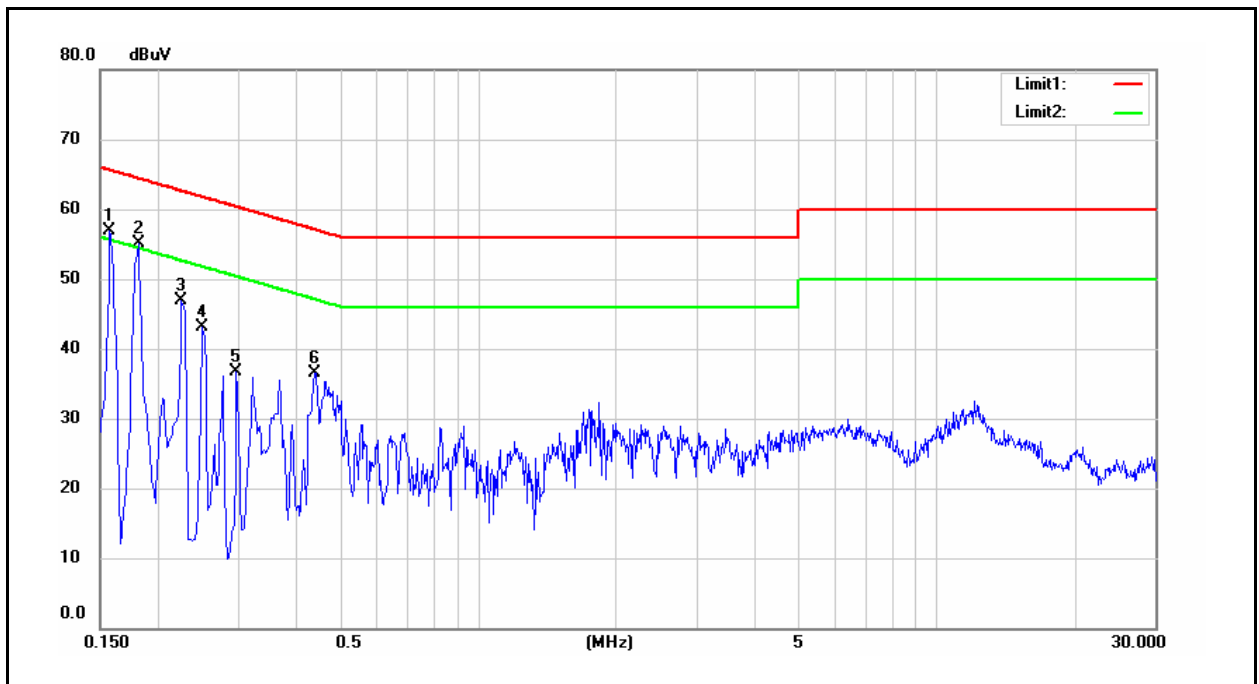
No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1500	47.17	29.00	9.58	56.75	38.58	66.00	56.00	-9.25	-17.42	Pass
2	0.1780	41.95	25.08	9.58	51.53	34.66	64.58	54.58	-13.05	-19.92	Pass
3	0.1900	39.62	20.89	9.58	49.20	30.47	64.04	54.04	-14.84	-23.57	Pass
4	0.2220	35.82	20.55	9.58	45.40	30.13	62.74	52.74	-17.34	-22.61	Pass
5	0.2468	30.60	10.30	9.58	40.18	19.88	61.86	51.86	-21.68	-31.98	Pass
6	0.4420	26.35	18.46	9.59	35.94	28.05	57.02	47.02	-21.08	-18.97	Pass

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

Standard:	FCC Part 15C	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	RE590T	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	1	Date:	08/18/2015
		Test By:	Eric Ou Yang

Description:



No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1580	39.91	14.28	9.58	49.49	23.86	65.57	55.57	-16.08	-31.71	Pass
2	0.1820	42.08	26.93	9.58	51.66	36.51	64.39	54.39	-12.73	-17.88	Pass
3	0.2260	34.30	14.91	9.58	43.88	24.49	62.60	52.60	-18.72	-28.11	Pass
4	0.2500	31.59	13.61	9.59	41.18	23.20	61.76	51.76	-20.58	-28.56	Pass
5	0.2980	25.98	9.27	9.59	35.57	18.86	60.30	50.30	-24.73	-31.44	Pass
6	0.4420	24.62	16.02	9.59	34.21	25.61	57.02	47.02	-22.81	-21.41	Pass

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

5 Radiated Emission Measurement

5.1. Limit

According to §15.209(a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V/m}$ at 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

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

5.2. Test Instruments

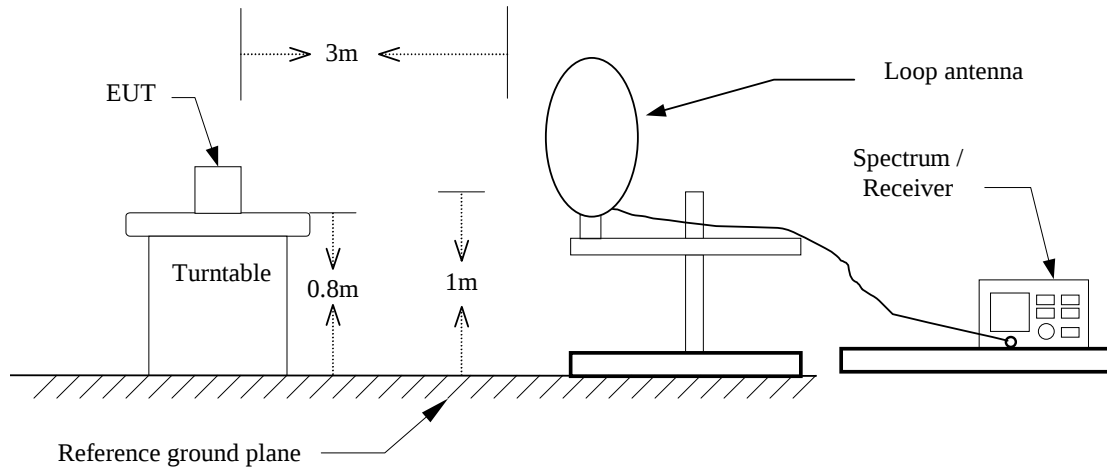
3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/06/2015	(1)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/06/2015	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/24/2015	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/24/2015	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	08/11/2015	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/12/2015	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	07/06/2015	(1)
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	02/02/2015	(1)
Microwave Cable	EMCI	EMC-104-SM-S M-14000	140202	02/24/2015	(1)
Microwave Cable	EMCI	EMC104-SM-S M-600	140301	02/24/2015	(1)
Bore-sight Antenna Tower	MF	MFA-520BSN	1308243	N.C.R.	-----
Test Site	ATL	TE01	888001	08/27/2015	(1)

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

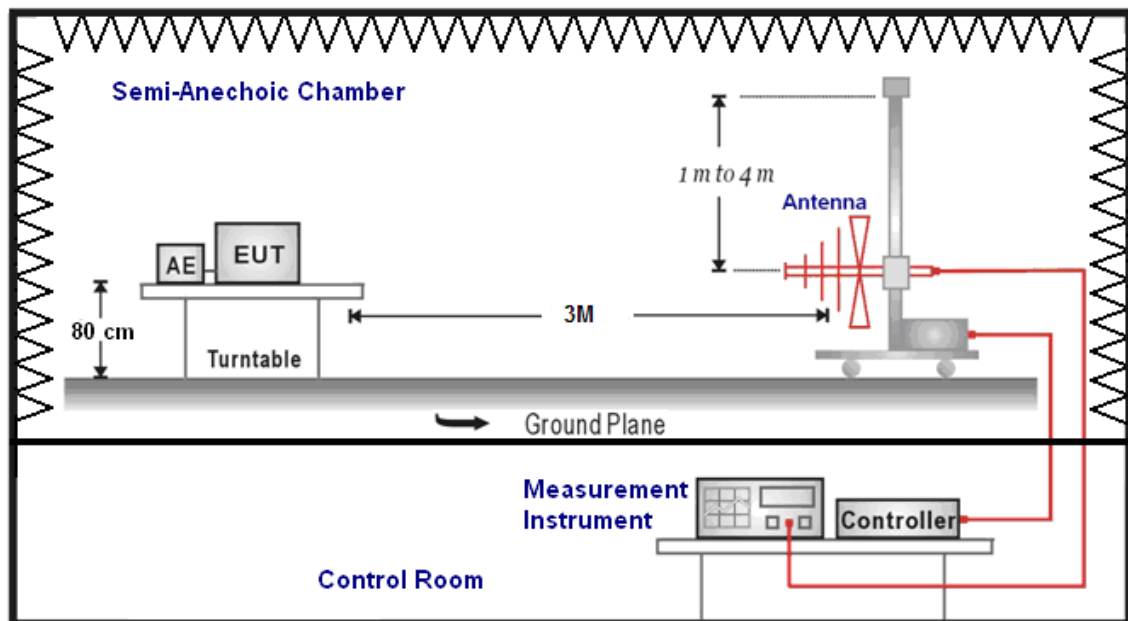
Note: N.C.R. = No Calibration Request.

5.3. Setup

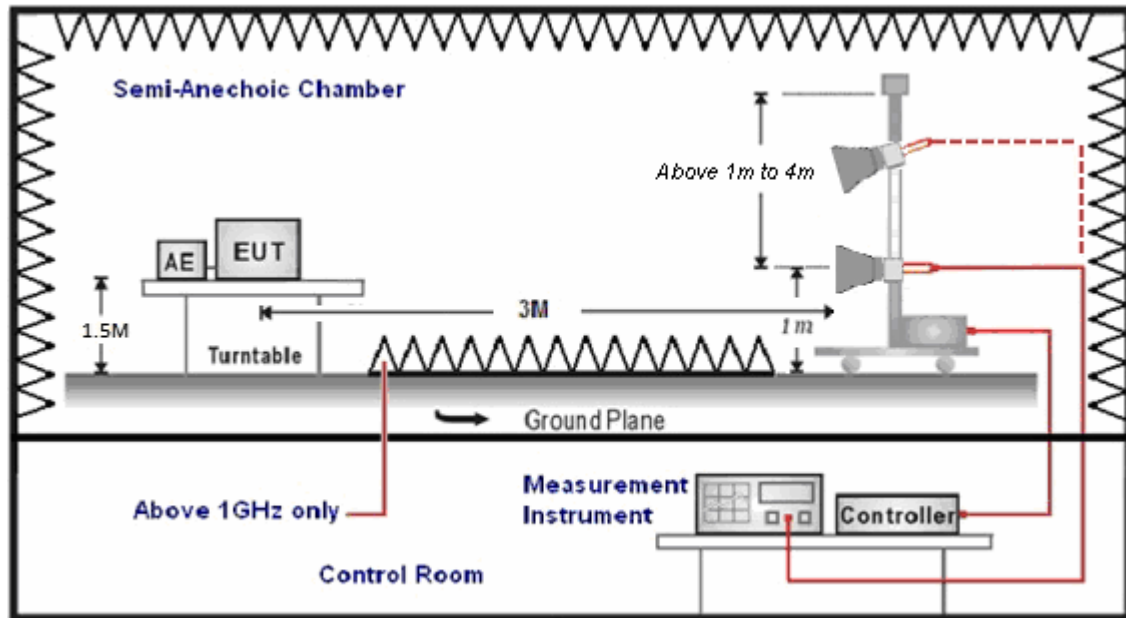
9kHz ~ 30MHz



Below 1GHz



Above 1GHz



5.4. Test Procedure

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 or 1.5 meters height (below 1GHz use 0.8m turntable / above 1GHz use 1.5m turntable), top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 9 kHz to 40 GHz is investigated.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements when Duty cycle >0.98 / $1/T$ for average measurements when Duty cycle <0.98 . A nonconductive material surrounded the EUT to supporting the EUT for standing on three orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

SCHWARZBECK MESS-ELEKTRONIK Biconilog Antenna (model VULB9163) at 3 Meter and the SCHWARZBECK Double Ridged Guide Antenna (model BBHA9120D&9170) was used in frequencies 1 – 40GHz at a distance of 3 meter. The Antenna at an angle toward the source of the emission. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20dB/decade).

For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in micro volts per meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro volts per meter (dBuV/m).

The actual field intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

(1) $\text{Amplitude (dBuV/m)} = \text{FI (dBuV)} + \text{AF (dBuV)} + \text{CL (dBuV)} - \text{Gain (dB)}$

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

(2) $\text{Actual Amplitude (dBuV/m)} = \text{Amplitude (dBuV)} - \text{Dis(dB)}$

The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:

(a) For fundamental frequency : Transmitter Output < +30dBm

(b) For spurious frequency : Spurious emission limits = fundamental emission limit /10

Data of measurement within this frequency range without mark in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

5.5. Test Result

Below 1GHz

Standard:		FCC Part 15C		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		RE590T		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Mode:		1 (2.4 GHz)		Date:		09/07/2015	
				Test By:		Eric Ou Yang	
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
141.0000	37.14	-13.95	23.19	43.50	-20.31	QP	H
270.0000	45.23	-13.67	31.56	46.00	-14.44	QP	H
360.0000	42.95	-11.89	31.06	46.00	-14.94	QP	H
540.0000	32.89	-9.20	23.69	46.00	-22.31	QP	H
630.0000	31.62	-7.63	23.99	46.00	-22.01	QP	H
720.0000	31.27	-6.22	25.05	46.00	-20.95	QP	H
205.5000	38.93	-16.23	22.70	43.50	-20.80	QP	V
360.0000	34.92	-11.89	23.03	46.00	-22.97	QP	V
450.0000	36.31	-10.34	25.97	46.00	-20.03	QP	V
540.0000	42.00	-9.20	32.80	46.00	-13.20	QP	V
630.0000	37.69	-7.63	30.06	46.00	-15.94	QP	V
720.0000	32.15	-6.22	25.93	46.00	-20.07	QP	V

Note: No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).

Standard:		FCC Part 15C		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		RE590T		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Mode:		1 (5 GHz)		Date:		09/07/2015	
				Test By:		Eric Ou Yang	
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
192.0000	36.95	-13.31	23.64	43.50	-19.86	QP	H
300.5000	41.07	-9.41	31.66	46.00	-14.34	QP	H
458.0000	32.55	-6.16	26.39	46.00	-19.61	QP	H
614.0000	27.91	-2.99	24.92	46.00	-21.08	QP	H
760.0000	28.01	-0.12	27.89	46.00	-18.11	QP	H
916.5000	27.91	2.86	30.77	46.00	-15.23	QP	H
192.0000	41.24	-13.31	27.93	43.50	-15.57	QP	V
312.0000	35.69	-9.20	26.49	46.00	-19.51	QP	V
464.0000	33.84	-6.05	27.79	46.00	-18.21	QP	V
610.0000	28.67	-3.03	25.64	46.00	-20.36	QP	V
744.5000	29.18	-0.39	28.79	46.00	-17.21	QP	V
891.5000	26.77	2.44	29.21	46.00	-16.79	QP	V

Note: No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).

Standard:		FCC Part 15C		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		RE590T		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Mode:		1 (5 GHz)		Date:		09/07/2015	
Description		Beamformaing on		Test By:		Eric Ou Yang	
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
151.5000	38.01	-11.40	26.61	43.50	-16.89	QP	H
196.0000	36.88	-13.53	23.35	43.50	-20.15	QP	H
279.0000	35.25	-10.06	25.19	46.00	-20.81	QP	H
298.0000	33.93	-9.47	24.46	46.00	-21.54	QP	H
406.5000	32.47	-7.21	25.26	46.00	-20.74	QP	H
441.5000	31.79	-6.48	25.31	46.00	-20.69	QP	H
146.0000	30.06	-11.51	18.55	43.50	-24.95	QP	V
254.0000	24.99	-11.20	13.79	46.00	-32.21	QP	V
399.5000	25.22	-7.36	17.86	46.00	-28.14	QP	V
516.5000	25.57	-5.12	20.45	46.00	-25.55	QP	V
711.0000	24.62	-1.19	23.43	46.00	-22.57	QP	V
871.5000	26.69	1.90	28.59	46.00	-17.41	QP	V

Note: No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).

Above 1GHz

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	2			Date:	06/26/2015		
Frequency:	2412MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3065.000	37.40	6.32	43.72	74.00	-30.28	peak	H
4549.000	32.31	9.83	42.14	74.00	-31.86	peak	H
6691.000	34.13	12.78	46.91	74.00	-27.09	peak	H
3030.000	37.38	6.21	43.59	74.00	-30.41	peak	V
4598.000	34.01	9.91	43.92	74.00	-30.08	peak	V
6719.000	32.84	12.79	45.63	74.00	-28.37	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	2			Date:	06/26/2015		
Frequency:	2437MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3023.000	37.76	6.18	43.94	74.00	-30.06	peak	H
4605.000	33.39	9.92	43.31	74.00	-30.69	peak	H
6670.000	33.28	12.76	46.04	74.00	-27.96	peak	H
3023.000	37.00	6.18	43.18	74.00	-30.82	peak	V
4542.000	32.61	9.83	42.44	74.00	-31.56	peak	V
6670.000	33.65	12.76	46.41	74.00	-27.59	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	2			Date:	06/26/2015		
Frequency:	2462MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3023.000	37.36	6.18	43.54	74.00	-30.46	peak	H
4570.000	32.52	9.87	42.39	74.00	-31.61	peak	H
6698.000	33.82	12.77	46.59	74.00	-27.41	peak	H
3037.000	36.57	6.23	42.80	74.00	-31.20	peak	V
4619.000	32.40	9.94	42.34	74.00	-31.66	peak	V
6705.000	33.52	12.78	46.30	74.00	-27.70	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	3			Date:	06/26/2015		
Frequency:	2412MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3037.000	37.33	6.23	43.56	74.00	-30.44	peak	H
4542.000	34.66	9.83	44.49	74.00	-29.51	peak	H
6726.000	34.18	12.79	46.97	74.00	-27.03	peak	H
3009.000	37.42	6.14	43.56	74.00	-30.44	peak	V
4570.000	35.21	9.87	45.08	74.00	-28.92	peak	V
6677.000	33.53	12.75	46.28	74.00	-27.72	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	3			Date:	06/26/2015		
Frequency:	2437MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3030.000	37.16	6.21	43.37	74.00	-30.63	peak	H
4542.000	34.71	9.83	44.54	74.00	-29.46	peak	H
6698.000	33.85	12.77	46.62	74.00	-27.38	peak	H
3037.000	37.74	6.23	43.97	74.00	-30.03	peak	V
4570.000	34.52	9.87	44.39	74.00	-29.61	peak	V
6719.000	33.59	12.79	46.38	74.00	-27.62	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	3			Date:	06/26/2015		
Frequency:	2462MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3030.000	37.37	6.21	43.58	74.00	-30.42	peak	H
4577.000	33.62	9.87	43.49	74.00	-30.51	peak	H
6747.000	33.72	12.81	46.53	74.00	-27.47	peak	H
3037.000	37.91	6.23	44.14	74.00	-29.86	peak	V
4633.000	33.53	9.96	43.49	74.00	-30.51	peak	V
6698.000	32.37	12.77	45.14	74.00	-28.86	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	4			Date:	06/26/2015		
Frequency:	2412MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3009.000	36.52	6.14	42.66	74.00	-31.34	peak	H
4570.000	33.44	9.87	43.31	74.00	-30.69	peak	H
6621.000	33.31	12.72	46.03	74.00	-27.97	peak	H
3009.000	37.39	6.14	43.53	74.00	-30.47	peak	V
4619.000	33.46	9.94	43.40	74.00	-30.60	peak	V
6705.000	34.02	12.78	46.80	74.00	-27.20	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	4			Date:	06/26/2015		
Frequency:	2437MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3023.000	36.60	6.18	42.78	74.00	-31.22	peak	H
4535.000	34.23	9.81	44.04	74.00	-29.96	peak	H
6670.000	33.22	12.76	45.98	74.00	-28.02	peak	H
2974.000	37.52	6.04	43.56	74.00	-30.44	peak	V
4598.000	34.86	9.91	44.77	74.00	-29.23	peak	V
6754.000	33.47	12.80	46.27	74.00	-27.73	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	4			Date:	06/26/2015		
Frequency:	2462MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3023.000	37.45	6.18	43.63	74.00	-30.37	peak	H
4577.000	34.36	9.87	44.23	74.00	-29.77	peak	H
6677.000	33.12	12.75	45.87	74.00	-28.13	peak	H
3023.000	38.89	6.18	45.07	74.00	-28.93	peak	V
4570.000	33.08	9.87	42.95	74.00	-31.05	peak	V
6698.000	33.80	12.77	46.57	74.00	-27.43	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	5			Date:	06/26/2015		
Frequency:	2422MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3002.000	36.45	6.12	42.57	74.00	-31.43	peak	H
4542.000	33.96	9.83	43.79	74.00	-30.21	peak	H
6691.000	33.87	12.78	46.65	74.00	-27.35	peak	H
3079.000	37.76	6.37	44.13	74.00	-29.87	peak	V
4647.000	33.34	9.98	43.32	74.00	-30.68	peak	V
6677.000	34.02	12.75	46.77	74.00	-27.23	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	5			Date:	06/26/2015		
Frequency:	2437MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3030.000	38.19	6.21	44.40	74.00	-29.60	peak	H
4598.000	34.73	9.91	44.64	74.00	-29.36	peak	H
6754.000	33.20	12.80	46.00	74.00	-28.00	peak	H
3065.000	37.46	6.32	43.78	74.00	-30.22	peak	V
4549.000	33.33	9.83	43.16	74.00	-30.84	peak	V
6691.000	33.17	12.78	45.95	74.00	-28.05	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	5			Date:	06/26/2015		
Frequency:	2452MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3051.000	38.68	6.28	44.96	74.00	-29.04	peak	H
4570.000	33.04	9.87	42.91	74.00	-31.09	peak	H
6698.000	33.09	12.77	45.86	74.00	-28.14	peak	H
3009.000	37.52	6.14	43.66	74.00	-30.34	peak	V
4591.000	33.93	9.90	43.83	74.00	-30.17	peak	V
6649.000	33.47	12.74	46.21	74.00	-27.79	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	6			Date:	06/28/2015		
Frequency:	5745MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3219.000	36.08	6.81	42.89	74.00	-31.11	peak	H
4626.000	31.59	9.95	41.54	74.00	-32.46	peak	H
7370.000	32.81	13.08	45.89	74.00	-28.11	peak	H
3149.000	36.12	6.60	42.72	74.00	-31.28	peak	V
4591.000	33.42	9.90	43.32	74.00	-30.68	peak	V
7391.000	32.93	13.07	46.00	74.00	-28.00	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	6			Date:	06/28/2015		
Frequency:	5785MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3177.000	35.94	6.68	42.62	74.00	-31.38	peak	H
4591.000	32.75	9.90	42.65	74.00	-31.35	peak	H
7419.000	33.07	13.09	46.16	74.00	-27.84	peak	H
3135.000	36.66	6.55	43.21	74.00	-30.79	peak	V
4647.000	31.70	9.98	41.68	74.00	-32.32	peak	V
7454.000	34.29	13.10	47.39	74.00	-26.61	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	6			Date:	06/28/2015		
Frequency:	5825MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3149.000	36.78	6.60	43.38	74.00	-30.62	peak	H
4647.000	32.06	9.98	42.04	74.00	-31.96	peak	H
7454.000	33.96	13.10	47.06	74.00	-26.94	peak	H
3149.000	36.18	6.60	42.78	74.00	-31.22	peak	V
4647.000	33.51	9.98	43.49	74.00	-30.51	peak	V
7433.000	32.84	13.08	45.92	74.00	-28.08	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	7			Date:	06/28/2015		
Frequency:	5745MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3275.000	35.14	7.00	42.14	74.00	-31.86	peak	H
4591.000	31.99	9.90	41.89	74.00	-32.11	peak	H
7419.000	33.01	13.09	46.10	74.00	-27.90	peak	H
3247.000	36.80	6.91	43.71	74.00	-30.29	peak	V
4654.000	32.43	9.99	42.42	74.00	-31.58	peak	V
7426.000	33.48	13.08	46.56	74.00	-27.44	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	7			Date:	06/28/2015		
Frequency:	5785MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3170.000	36.54	6.65	43.19	74.00	-30.81	peak	H
4577.000	32.22	9.87	42.09	74.00	-31.91	peak	H
7426.000	32.02	13.08	45.10	74.00	-28.90	peak	H
3261.000	35.55	6.95	42.50	74.00	-31.50	peak	V
4654.000	32.51	9.99	42.50	74.00	-31.50	peak	V
7391.000	32.43	13.07	45.50	74.00	-28.50	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	7			Date:	06/28/2015		
Frequency:	5825MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3177.000	38.18	6.68	44.86	74.00	-29.14	peak	H
4577.000	32.11	9.87	41.98	74.00	-32.02	peak	H
7391.000	33.15	13.07	46.22	74.00	-27.78	peak	H
3149.000	36.71	6.60	43.31	74.00	-30.69	peak	V
4542.000	32.19	9.83	42.02	74.00	-31.98	peak	V
7398.000	32.43	13.08	45.51	74.00	-28.49	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	8			Date:	06/28/2015		
Frequency:	5755MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3170.000	35.03	6.65	41.68	74.00	-32.32	peak	H
4563.000	31.60	9.86	41.46	74.00	-32.54	peak	H
7363.000	30.97	13.07	44.04	74.00	-29.96	peak	H
3247.000	36.20	6.91	43.11	74.00	-30.89	peak	V
4619.000	32.45	9.94	42.39	74.00	-31.61	peak	V
7391.000	32.64	13.07	45.71	74.00	-28.29	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	8			Date:	06/28/2015		
Frequency:	5795MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3219.000	36.09	6.81	42.90	74.00	-31.10	peak	H
4577.000	32.31	9.87	42.18	74.00	-31.82	peak	H
7419.000	33.39	13.09	46.48	74.00	-27.52	peak	H
3170.000	36.19	6.65	42.84	74.00	-31.16	peak	V
4577.000	32.12	9.87	41.99	74.00	-32.01	peak	V
7391.000	32.39	13.07	45.46	74.00	-28.54	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RE590T			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Mode:	9			Date:	06/28/2015		
Frequency:	5775MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3170.000	37.03	6.65	43.68	74.00	-30.32	peak	H
4577.000	31.94	9.87	41.81	74.00	-32.19	peak	H
7398.000	33.34	13.08	46.42	74.00	-27.58	peak	H
3177.000	36.17	6.68	42.85	74.00	-31.15	peak	V
4570.000	32.11	9.87	41.98	74.00	-32.02	peak	V
7370.000	34.11	13.08	47.19	74.00	-26.81	peak	V

Standard:	FCC Part 15C	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	RE590T	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Mode:	7	Date:	06/28/2015				
Frequency:	5745MHz	Test By:	Eric Ou Yang				
Description:	Beamforming on						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2953.000	35.96	5.98	41.94	74.00	-32.06	peak	H
4451.000	31.44	9.66	41.10	74.00	-32.90	peak	H
7195.000	32.91	13.02	45.93	74.00	-28.07	peak	H
2897.000	39.38	5.84	45.22	74.00	-28.78	peak	V
4402.000	33.64	9.57	43.21	74.00	-30.79	peak	V
7230.000	33.29	13.03	46.32	74.00	-27.68	peak	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RE590T	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	7	Date:	06/28/2015
Frequency:	5785MHz	Test By:	Eric Ou Yang
Description:	Beamforming on		

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2939.000	36.44	5.95	42.39	74.00	-31.61	peak	H
4367.000	32.56	9.50	42.06	74.00	-31.94	peak	H
7223.000	32.08	13.03	45.11	74.00	-28.89	peak	H
2953.000	37.86	5.98	43.84	74.00	-30.16	peak	V
4437.000	32.02	9.63	41.65	74.00	-32.35	peak	V
7202.000	32.52	13.02	45.54	74.00	-28.46	peak	V

Standard:	FCC Part 15C		Test Distance:	3m			
Test item:	Radiated Emission		Power:	AC 120V/60Hz			
Model Number:	RE590T		Temp.(°C)/Hum.(%RH):	26(°C)/60%RH			
Mode:	7		Date:	06/28/2015			
Frequency:	5825MHz		Test By:	Eric Ou Yang			
Description:	Beamforming on						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3002.000	36.16	6.12	42.28	74.00	-31.72	peak	H
4409.000	32.62	9.58	42.20	74.00	-31.80	peak	H
7209.000	33.50	13.03	46.53	74.00	-27.47	peak	H
2981.000	37.04	6.06	43.10	74.00	-30.90	peak	V
4409.000	33.11	9.58	42.69	74.00	-31.31	peak	V
7097.000	33.43	12.99	46.42	74.00	-27.58	peak	V

Standard:	FCC Part 15C		Test Distance:	3m			
Test item:	Radiated Emission		Power:	AC 120V/60Hz			
Model Number:	RE590T		Temp.(℃)/Hum.(%RH):	26(℃)/60%RH			
Mode:	8		Date:	06/28/2015			
Frequency:	5755MHz		Test By:	Eric Ou Yang			
Description:	Beamforming on						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3023.000	36.28	6.18	42.46	74.00	-31.54	peak	H
4353.000	32.55	9.47	42.02	74.00	-31.98	peak	H
7202.000	32.92	13.02	45.94	74.00	-28.06	peak	H
2995.000	36.06	6.11	42.17	74.00	-31.83	peak	V
4381.000	33.07	9.53	42.60	74.00	-31.40	peak	V
7237.000	34.02	13.03	47.05	74.00	-26.95	peak	V

Standard:	FCC Part 15C	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	RE590T	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Mode:	8	Date:	06/28/2015				
Frequency:	5795MHz	Test By:	Eric Ou Yang				
Description:	Beamforming on						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3002.000	36.86	6.12	42.98	74.00	-31.02	peak	H
4430.000	31.68	9.63	41.31	74.00	-32.69	peak	H
7153.000	33.25	13.00	46.25	74.00	-27.75	peak	H
2967.000	36.27	6.03	42.30	74.00	-31.70	peak	V
4409.000	32.80	9.58	42.38	74.00	-31.62	peak	V
7146.000	32.24	13.00	45.24	74.00	-28.76	peak	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RE590T	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	9	Date:	06/28/2015
Frequency:	5775MHz	Test By:	Eric Ou Yang
Description:	Beamforming on		

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2946.000	36.57	5.98	42.55	74.00	-31.45	peak	H
4437.000	31.04	9.63	40.67	74.00	-33.33	peak	H
7195.000	32.43	13.02	45.45	74.00	-28.55	peak	H
2995.000	37.44	6.11	43.55	74.00	-30.45	peak	V
4423.000	32.41	9.61	42.02	74.00	-31.98	peak	V
7202.000	32.38	13.02	45.40	74.00	-28.60	peak	V

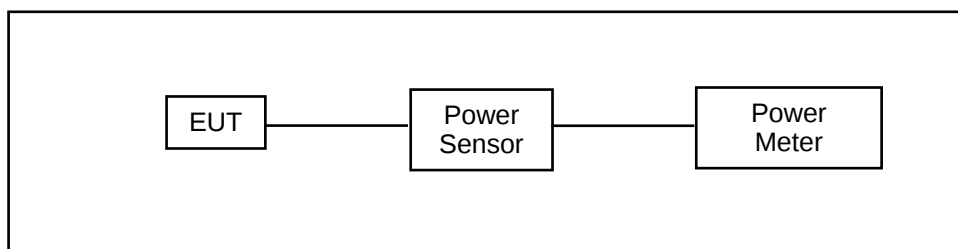
Standard:		FCC Part 15C		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		RE590T		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Mode:		2.4GHz+5GHz		Date:		09/07/2015	
Description:		Simultaneous Transmitting		Test By:		Eric Ou Yang	
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2827.000	36.23	5.66	41.89	74.00	-32.11	peak	H
4941.000	30.88	10.44	41.32	74.00	-32.68	peak	H
7419.000	31.43	13.09	44.52	74.00	-29.48	peak	H
2806.000	36.25	5.61	41.86	74.00	-32.14	peak	V
4675.000	32.67	10.02	42.69	74.00	-31.31	peak	V
7531.000	33.16	13.14	46.30	74.00	-27.70	peak	V

6 Maximum Conducted Output Power Measurement

6.1. Limit

For systems using digital modulation in the 2400-2483.5MHz, the limit for maximum output power is 30dBm.

6.2. Test Setup



6.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Power Sensor	Anritsu	MA2411B	1126022	08/21/2014	(1)
Power Meter	Anritsu	ML2495A	1135009	08/21/2014	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

Note: N.C.R. = No Calibration Request.

6.4. Test Procedure

The tests below are run with the EUT's transmitter set at high power in TX mode. The EUT is needed to force selection of output power level and channel number. While testing, EUT was set to transmit continuously. Remove the Subjective device's antenna and connect the RF output port to power sensor. The maximum peak output power shall not exceed 1 watt.

Use a direct connection between the antenna port of transmitter and the power sensor, for prevent the power sensor input attenuation 40-50 dB. Set the RBW Bandwidth of the emission or use a channel power meter mode.

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 1 watt (+30 dBm). For antennas with gains greater than 6 dBi, transmitter output level must be decreased by an amount equal to (GAIN - 6)/3 dBm.

The antenna port of the EUT was connected to the input of a power sensor. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.

Beamforming on Limit

Conducted Output Power (5725~5825MHz):

Directional gain=GANT+10*log(NANT/NSS)=6.77dBi > 6dBi

Power Limit=30-(6.77-6)=29.23dBm

6.5. Test Result

Model Number	RE590T									
Test Item	Maximum Conducted Output Power									
Test Mode	Mode 2: IEEE 802.11b Link Mode									
Date of Test	06/15/2015					Test Site		TE05		
Frequency (MHz)	Data Rate	Average Power				Average Power				Limit (dBm)
		ANT0		ANT1		ANT2		ANT0+1+2		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
2412	1 M	20.80	0.120	21.76	0.150	20.72	0.118	25.89	0.388	< 30
2437		24.22	0.264	23.99	0.251	23.40	0.219	28.65	0.734	< 30
2462		21.12	0.129	21.91	0.155	20.55	0.114	26.00	0.398	< 30
2437	2 M	24.21	0.264	23.78	0.239	23.39	0.218	28.58	0.721	< 30
2437	5.5 M	24.19	0.262	23.77	0.238	23.38	0.218	28.56	0.718	< 30
2437	11 M	24.16	0.261	23.75	0.237	23.37	0.217	28.54	0.715	< 30

Model Number	RE590T									
Test Item	Maximum Conducted Output Power									
Test Mode	Mode 3: IEEE 802.11g Link Mode									
Date of Test	06/15/2015					Test Site		TE05		
Frequency (MHz)	Data Rate	Average Power				Average Power				Limit (dBm)
		ANT0		ANT1		ANT2		ANT0+1+2		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
2412	6 M	18.20	0.066	17.90	0.062	17.71	0.059	22.71	0.187	< 30
2437		23.65	0.232	23.47	0.222	22.98	0.199	28.15	0.653	< 30
2462		18.12	0.065	17.85	0.061	17.66	0.058	22.65	0.184	< 30
2437	9 M	23.63	0.231	23.45	0.221	22.96	0.198	28.13	0.650	< 30
2437	12 M	23.62	0.230	23.44	0.221	22.95	0.197	28.12	0.648	< 30
2437	18 M	23.59	0.228	23.42	0.220	22.93	0.196	28.09	0.645	< 30
2437	24 M	23.57	0.227	23.39	0.218	22.90	0.195	28.07	0.641	< 30
2437	36 M	23.56	0.227	23.37	0.217	22.88	0.194	28.05	0.638	< 30
2437	48 M	23.54	0.226	23.36	0.217	22.87	0.194	28.04	0.636	< 30
2437	54 M	23.51	0.224	23.33	0.215	22.84	0.192	28.01	0.632	< 30

Model Number	RE590T									
Test Item	Maximum Conducted Output Power									
Test Mode	Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode									
Date of Test	06/15/2015					Test Site		TE05		
Frequency (MHz)	Data Rate	Average Power				Average Power				Limit (dBm)
		ANT0		ANT1		ANT2		ANT0+1+2		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
2412	19.5 M	18.12	0.065	17.92	0.062	17.53	0.057	22.63	0.183	< 30
2437		22.81	0.191	22.82	0.191	22.63	0.183	27.53	0.566	< 30
2462		18.43	0.070	18.40	0.069	18.02	0.063	23.06	0.202	< 30
2437	39 M	22.80	0.191	22.81	0.191	22.61	0.182	27.51	0.564	< 30
2437	58.5 M	22.77	0.189	22.79	0.190	22.60	0.182	27.49	0.561	< 30
2437	78 M	22.76	0.189	22.76	0.189	22.58	0.181	27.47	0.559	< 30
2437	117 M	22.74	0.188	22.74	0.188	22.56	0.180	27.45	0.556	< 30
2437	156 M	22.73	0.187	22.73	0.187	22.54	0.179	27.44	0.554	< 30
2437	175.5 M	22.71	0.187	22.71	0.187	22.51	0.178	27.42	0.552	< 30
2437	195 M	22.68	0.185	22.69	0.186	22.49	0.177	27.39	0.549	< 30
2437	234 M	22.68	0.185	22.69	0.186	22.49	0.177	27.39	0.549	< 30

Model Number	RE590T									
Test Item	Maximum Conducted Output Power									
Test Mode	Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode									
Date of Test	06/15/2015					Test Site		TE05		
Frequency (MHz)	Data Rate	Average Power				Average Power				Limit (dBm)
		ANT0		ANT1		ANT2		ANT0+1+2		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
2422	40.5 M	15.90	0.039	15.05	0.032	15.21	0.033	20.17	0.104	< 30
2437		19.44	0.088	19.01	0.080	19.05	0.080	23.94	0.248	< 30
2452		15.67	0.037	14.99	0.032	15.14	0.033	20.05	0.101	< 30
2437	81 M	19.42	0.087	18.69	0.074	19.04	0.080	23.83	0.242	< 30
2437	121.5 M	19.39	0.087	18.67	0.074	19.02	0.080	23.81	0.240	< 30
2437	162 M	19.38	0.087	18.15	0.065	19.00	0.079	23.64	0.231	< 30
2437	243 M	19.36	0.086	18.12	0.065	18.97	0.079	23.62	0.230	< 30
2437	324 M	19.35	0.086	18.10	0.065	18.95	0.079	23.60	0.229	< 30
2437	364.5 M	19.33	0.086	18.09	0.064	18.92	0.078	23.58	0.228	< 30
2437	405 M	19.28	0.085	18.05	0.064	18.88	0.077	23.54	0.226	< 30
2437	486 M	19.22	0.084	18.05	0.064	18.85	0.077	23.50	0.224	< 30
2437	540 M	19.20	0.083	18.03	0.064	18.85	0.077	23.49	0.223	< 30

Model Number	RE590T									
Test Item	Maximum Conducted Output Power									
Test Mode	Mode 6: IEEE 802.11a U-NII Band III Link Mode									
Date of Test	06/15/2015					Test Site		TE05		
Frequency (MHz)	Data Rate	Average Power				Average Power				Limit (dBm)
		ANT0		ANT1		ANT2		ANT0+1+2		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5745	6 M	23.93	0.247	24.44	0.278	24.24	0.265	28.98	0.791	< 30
5765		23.86	0.243	24.39	0.275	24.31	0.270	28.96	0.788	< 30
5785		23.77	0.238	24.17	0.261	24.33	0.271	28.87	0.770	< 30
5805		23.43	0.220	24.26	0.267	24.38	0.274	28.81	0.761	< 30
5825		23.33	0.215	24.21	0.264	24.19	0.262	28.70	0.741	< 30
5745	54M	23.80	0.240	24.31	0.270	24.01	0.252	28.82	0.761	< 30
5765		23.73	0.236	24.25	0.266	24.07	0.255	28.79	0.757	< 30
5785		23.65	0.232	24.01	0.252	24.14	0.259	28.71	0.743	< 30
5805		23.38	0.218	24.12	0.258	24.19	0.262	28.68	0.738	< 30
5825		23.30	0.214	24.06	0.255	23.97	0.249	28.56	0.718	< 30

Model Number	RE590T									
Test Item	Maximum Conducted Output Power									
Test Mode	Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode									
Date of Test	06/15/2015					Test Site		TE05		
Frequency (MHz)	Data Rate	Average Power				Average Power				Limit (dBm)
		ANT0		ANT1		ANT2		ANT0+1+2		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5745	19.5 M	23.76	0.238	24.17	0.261	24.38	0.274	28.88	0.773	< 30
5765		23.73	0.236	24.29	0.269	24.23	0.265	28.86	0.769	< 30
5785		23.54	0.226	24.24	0.265	24.14	0.259	28.76	0.751	< 30
5805		23.44	0.221	24.20	0.263	24.11	0.258	28.70	0.741	< 30
5825		23.28	0.213	23.99	0.251	24.25	0.266	28.63	0.729	< 30
5745	234 M	23.64	0.231	24.05	0.254	24.11	0.258	28.71	0.743	< 30
5765		23.62	0.230	24.18	0.262	23.90	0.245	28.68	0.737	< 30
5785		23.45	0.221	24.11	0.258	23.83	0.242	28.58	0.720	< 30
5805		23.33	0.215	24.08	0.256	23.79	0.239	28.52	0.710	< 30
5825		23.19	0.208	23.86	0.243	23.94	0.248	28.45	0.699	< 30

Model Number	RE590T									
Test Item	Maximum Conducted Output Power									
Test Mode	Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode									
Date of Test	06/15/2015					Test Site		TE05		
Frequency (MHz)	Data Rate	Average Power				Average Power				Limit (dBm)
		ANT0		ANT1		ANT2		ANT0+1+2		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5755	40.5 M	23.68	0.233	24.06	0.255	23.91	0.246	28.66	0.734	< 30
5795		23.45	0.221	23.99	0.251	23.83	0.242	28.53	0.713	< 30
5755	540 M	23.53	0.225	23.91	0.246	23.64	0.231	28.47	0.703	< 30
5795		23.38	0.218	23.81	0.240	23.59	0.229	28.37	0.687	< 30

Model Number	RE590T									
Test Item	Maximum Conducted Output Power									
Test Mode	Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode									
Date of Test	06/15/2015					Test Site		TE05		
Frequency (MHz)	Data Rate	Average Power				Average Power				Limit (dBm)
		ANT0		ANT1		ANT2		ANT0+1+2		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5775	87.9 M	23.55	0.226	23.93	0.247	23.84	0.242	28.55	0.716	< 30
5775	1170 M	23.41	0.219	23.76	0.238	23.65	0.232	28.38	0.689	< 30

Model Number	RE590T									
Test Item	Maximum Conducted Output Power									
Test Mode	Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode									
Date of Test	06/15/2015					Test Site	TE05			
Beamforming on										
Frequency (MHz)	Data Rate	Average Power				Average Power				Limit (dBm)
		ANT0		ANT1		ANT2		ANT0+1+2		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5745	19.5 M	19.44	0.088	19.85	0.097	20.05	0.101	24.56	0.286	< 29.23
5765		19.39	0.087	19.93	0.098	19.94	0.099	24.53	0.284	< 29.23
5785		19.21	0.083	19.91	0.098	19.81	0.096	24.43	0.277	< 29.23
5805		19.08	0.081	19.88	0.097	19.79	0.095	24.37	0.273	< 29.23
5825		18.94	0.078	19.67	0.093	19.91	0.098	24.30	0.269	< 29.23
5745	234 M	19.27	0.085	19.71	0.094	19.78	0.095	24.36	0.273	< 29.23
5765		19.25	0.084	19.85	0.097	19.57	0.091	24.33	0.271	< 29.23
5785		19.12	0.082	19.73	0.094	19.45	0.088	24.21	0.264	< 29.23
5805		19.00	0.079	19.72	0.094	19.44	0.088	24.17	0.261	< 29.23
5825		18.86	0.077	19.53	0.090	19.53	0.090	24.09	0.256	< 29.23

Model Number	RE590T									
Test Item	Maximum Conducted Output Power									
Test Mode	Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode									
Date of Test	06/15/2015					Test Site		TE05		
Beamforming on										
Frequency (MHz)	Data Rate	Average Power				Average Power				Limit (dBm)
		ANT0		ANT1		ANT2		ANT0+1+2		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5755	40.5 M	19.31	0.085	19.69	0.093	19.52	0.090	24.28	0.268	< 29.23
5795		19.05	0.080	19.62	0.092	19.46	0.088	24.15	0.260	< 29.23
5755	540 M	19.15	0.082	19.54	0.090	19.28	0.085	24.10	0.257	< 29.23
5795		19.00	0.079	19.44	0.088	19.22	0.084	23.99	0.251	< 29.23

Model Number	RE590T									
Test Item	Maximum Conducted Output Power									
Test Mode	Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode									
Date of Test	06/15/2015					Test Site	TE05			
Beamforming on										
Frequency (MHz)	Data Rate	Average Power				Average Power				Limit (dBm)
		ANT0		ANT1		ANT2		ANT0+1+2		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5775	87.9 M	19.13	0.082	19.55	0.090	19.39	0.087	24.13	0.259	< 29.23
5775	1170 M	19.01	0.080	19.37	0.086	19.24	0.084	23.98	0.250	< 29.23

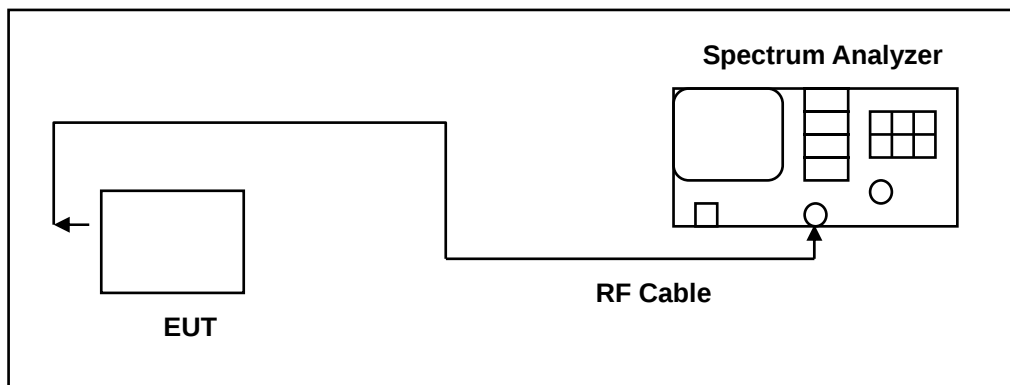
7 6dB RF Bandwidth Measurement

7.1. Limit

6dB RF Bandwidth:

Systems using digital modulation techniques may operate in the 2400–2483.5 MHz bands. The minimum 6 dB band-width shall be at least 500 kHz.

7.2. Test Setup



7.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/16/2014	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

dRemark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

Note: N.C.R. = No Calibration Request.

7.4. Test Procedure

The EUT tested to DTS test procedure of KDB 558074 D01 v03r03 for compliance to FCC 47CFR 15.247 requirements.

6dB RF Bandwidth: The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES RBW was set to 100 kHz. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A peak output reading was taken, a DISPLAY line was drawn 6 dB lower than peak level. The 6 dB bandwidth was determined from where the channel output spectrum intersected the display line.

The test was performed at 3 channels (Channel low, middle, high)

7.5. Test Result

Model Number	RE590T			
Test Item	6dB RF Bandwidth			
Test Mode	Mode 2: IEEE 802.11b Link Mode			
Date of Test	06/15/2015		Test Site	TE05
Frequency (MHz)	6dB Bandwidth (kHz)			Limit (kHz)
	ANT0	ANT1	ANT2	
2412	8578	7667	8592	> 500
2437	9031	8598	8089	> 500
2462	8081	8586	8588	> 500

Model Number	RE590T			
Test Item	6dB RF Bandwidth			
Test Mode	Mode 3: IEEE 802.11g Link Mode			
Date of Test	06/15/2015		Test Site	TE05
Frequency (MHz)	6dB Bandwidth (kHz)			Limit (kHz)
	ANT0	ANT1	ANT2	
2412	16437	16443	16418	> 500
2437	16507	16393	16399	> 500
2462	16427	16478	16405	> 500

Model Number	RE590T			
Test Item	6dB RF Bandwidth			
Test Mode	Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode			
Date of Test	06/15/2015		Test Site	TE05
Frequency (MHz)	6dB Bandwidth (kHz)			Limit (kHz)
	ANT0	ANT1	ANT2	
2412	17530	17640	17670	> 500
2437	17455	17640	17587	> 500
2462	17601	17675	17636	> 500

Model Number	RE590T			
Test Item	6dB RF Bandwidth			
Test Mode	Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode			
Date of Test	06/15/2015		Test Site	TE05
Frequency (MHz)	6dB Bandwidth (kHz)			Limit (kHz)
	ANT0	ANT1	ANT2	
2422	36300	36347	36257	> 500
2437	35860	35621	35728	> 500
2452	35858	36068	35759	> 500

Model Number	RE590T			
Test Item	6dB RF Bandwidth			
Test Mode	Mode 6: IEEE 802.11a U-NII Band III Link Mode			
Date of Test	08/17/2015		Test Site	TE05
Frequency (MHz)	6dB Bandwidth (kHz)			Limit (kHz)
	ANT0	ANT1	ANT2	
5745	16523	16462	16465	> 500
5785	16445	16485	16463	> 500
5825	16566	16514	16424	> 500

Model Number	RE590T			
Test Item	6dB RF Bandwidth			
Test Mode	Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode			
Date of Test	08/17/2015		Test Site	TE05
Frequency (MHz)	6dB Bandwidth (kHz)			Limit (kHz)
	ANT0	ANT1	ANT2	
5745	17655	17707	17659	> 500
5785	17672	17669	17652	> 500
5825	17579	17651	17678	> 500



Model Number	RE590T			
Test Item	6dB RF Bandwidth			
Test Mode	Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode			
Date of Test	08/17/2015		Test Site	TE05
Frequency (MHz)	6dB Bandwidth (kHz)			Limit (kHz)
	ANT0	ANT1	ANT2	
5755	36355	36384	36326	> 500
5795	36322	36330	36391	> 500

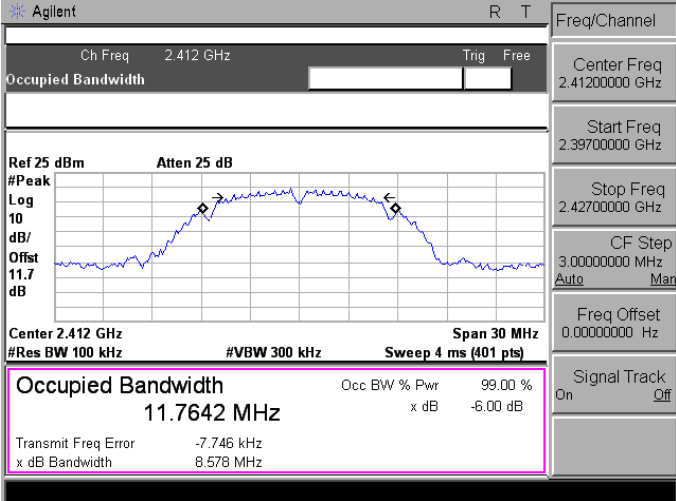
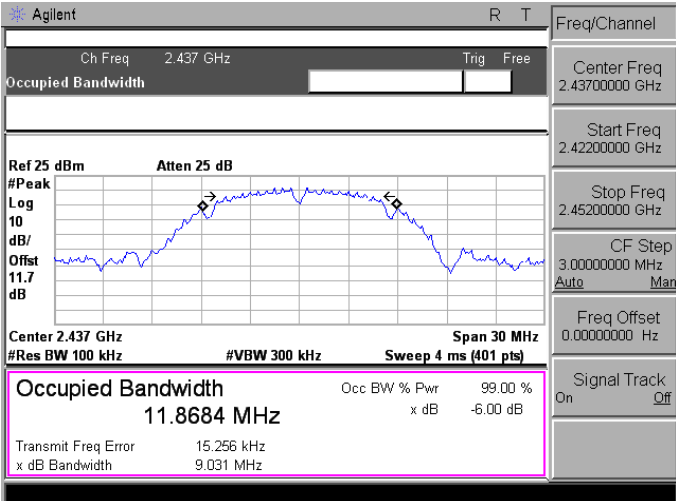
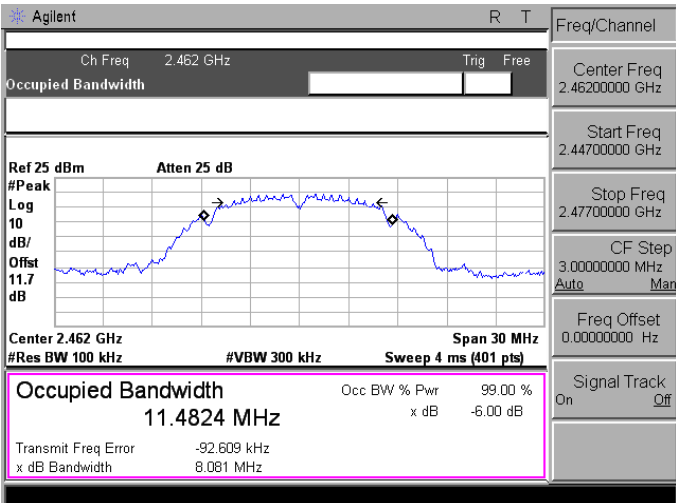
Model Number	RE590T			
Test Item	6dB RF Bandwidth			
Test Mode	Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode			
Date of Test	08/17/2015		Test Site	TE05
Frequency (MHz)	6dB Bandwidth (kHz)			Limit (kHz)
	ANT0	ANT1	ANT2	
5775	75454	76221	75711	> 500

Model Number	RE590T			
Test Item	6dB RF Bandwidth			
Test Mode	Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode			
Date of Test	08/17/2015		Test Site	TE05
Beamforming on				
Frequency (MHz)	6dB Bandwidth (kHz)			Limit (kHz)
	ANT0	ANT1	ANT2	
5745	17627	17673	17689	> 500
5785	17680	17680	17699	> 500
5825	17634	17660	17677	> 500

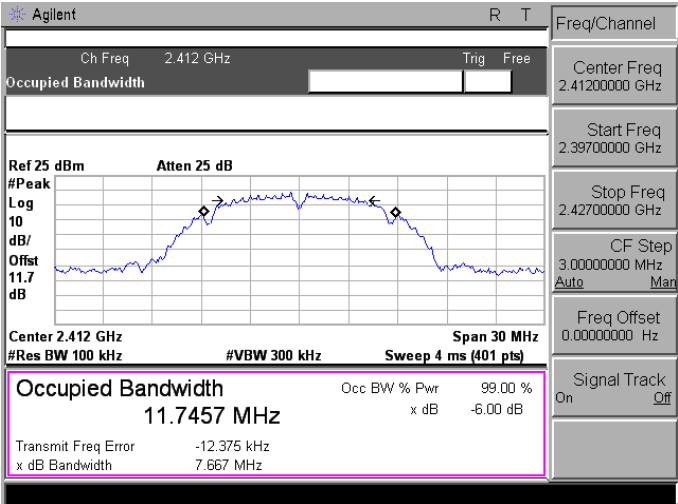
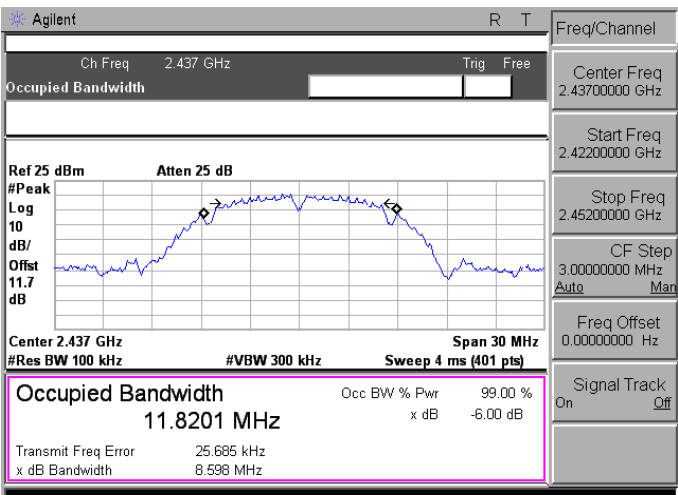
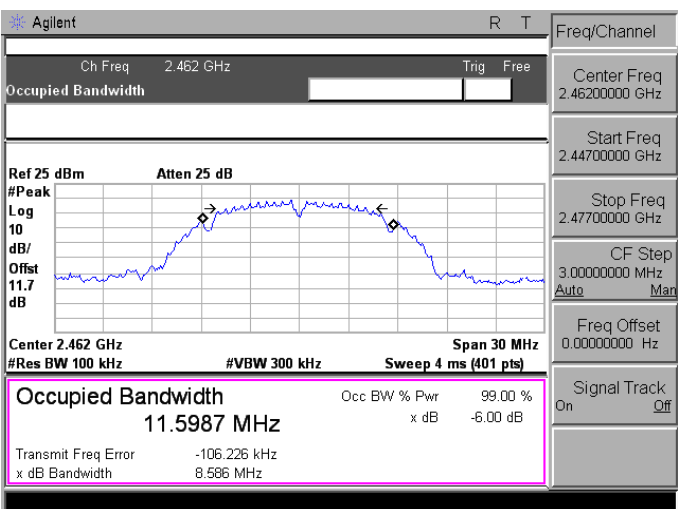
Model Number	RE590T			
Test Item	6dB RF Bandwidth			
Test Mode	Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode			
Date of Test	08/17/2015		Test Site	TE05
Beamforming on				
Frequency (MHz)	6dB Bandwidth (kHz)			Limit (kHz)
	ANT0	ANT1	ANT2	
5755	36367	36438	36352	> 500
5795	36455	36385	36368	> 500

Model Number	RE590T			
Test Item	6dB RF Bandwidth			
Test Mode	Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode			
Date of Test	08/17/2015		Test Site	TE05
Beamforming on				
Frequency (MHz)	6dB Bandwidth (kHz)			Limit (kHz)
	ANT0	ANT1	ANT2	
5775	76125	76165	75471	> 500

7.6. Test Graphs

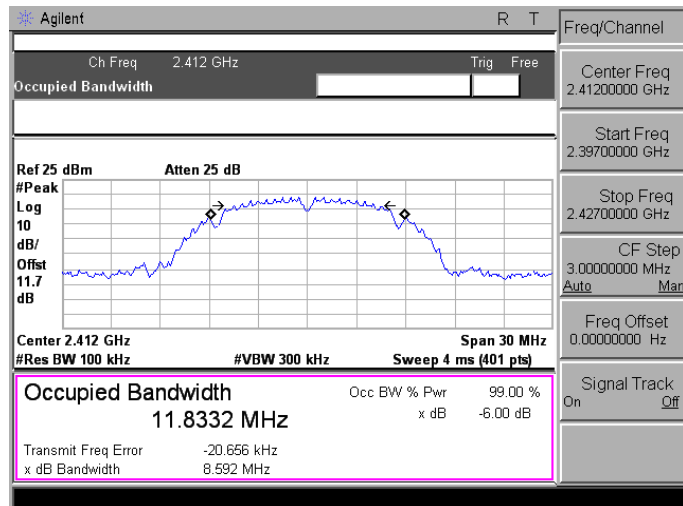
Mode 2: IEEE 802.11b Link Mode_ANT-0	
2412	 Agilent R T Ch Freq 2.412 GHz Trng Free Occupied Bandwidth Ref 25 dBm Atten 25 dB #Peak Log 10 dB/Offset 11.7 dB Center 2.412 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts) Occupied Bandwidth 11.7642 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -7.746 kHz x dB Bandwidth 8.578 MHz Freq/Channel Center Freq 2.41200000 GHz Start Freq 2.39700000 GHz Stop Freq 2.42700000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
2437	 Agilent R T Ch Freq 2.437 GHz Trng Free Occupied Bandwidth Ref 25 dBm Atten 25 dB #Peak Log 10 dB/Offset 11.7 dB Center 2.437 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts) Occupied Bandwidth 11.8684 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error 15.256 kHz x dB Bandwidth 9.031 MHz Freq/Channel Center Freq 2.43700000 GHz Start Freq 2.42200000 GHz Stop Freq 2.45200000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
2462	 Agilent R T Ch Freq 2.462 GHz Trng Free Occupied Bandwidth Ref 25 dBm Atten 25 dB #Peak Log 10 dB/Offset 11.7 dB Center 2.462 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts) Occupied Bandwidth 11.4824 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -92.609 kHz x dB Bandwidth 8.081 MHz Freq/Channel Center Freq 2.46200000 GHz Start Freq 2.44700000 GHz Stop Freq 2.47700000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

Mode 2: IEEE 802.11b Link Mode_ANT-1

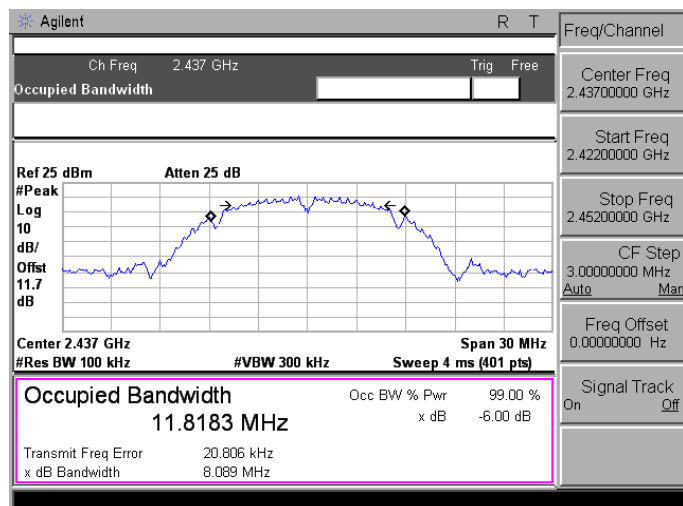
2412	 Agilent R T Ch Freq 2.412 GHz Trng Free Occupied Bandwidth Ref 25 dBm Atten 25 dB #Peak Log 10 dB/Offset 11.7 dB Center 2.412 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts) Occupied Bandwidth 11.7457 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -12.375 kHz x dB Bandwidth 7.667 MHz Freq/Channel Center Freq 2.41200000 GHz Start Freq 2.39700000 GHz Stop Freq 2.42700000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
2437	 Agilent R T Ch Freq 2.437 GHz Trng Free Occupied Bandwidth Ref 25 dBm Atten 25 dB #Peak Log 10 dB/Offset 11.7 dB Center 2.437 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts) Occupied Bandwidth 11.8201 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error 25.685 kHz x dB Bandwidth 8.598 MHz Freq/Channel Center Freq 2.43700000 GHz Start Freq 2.42200000 GHz Stop Freq 2.45200000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
2462	 Agilent R T Ch Freq 2.462 GHz Trng Free Occupied Bandwidth Ref 25 dBm Atten 25 dB #Peak Log 10 dB/Offset 11.7 dB Center 2.462 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts) Occupied Bandwidth 11.5987 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -106.226 kHz x dB Bandwidth 8.586 MHz Freq/Channel Center Freq 2.46200000 GHz Start Freq 2.44700000 GHz Stop Freq 2.47700000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

Mode 2: IEEE 802.11b Link Mode_ANT-2

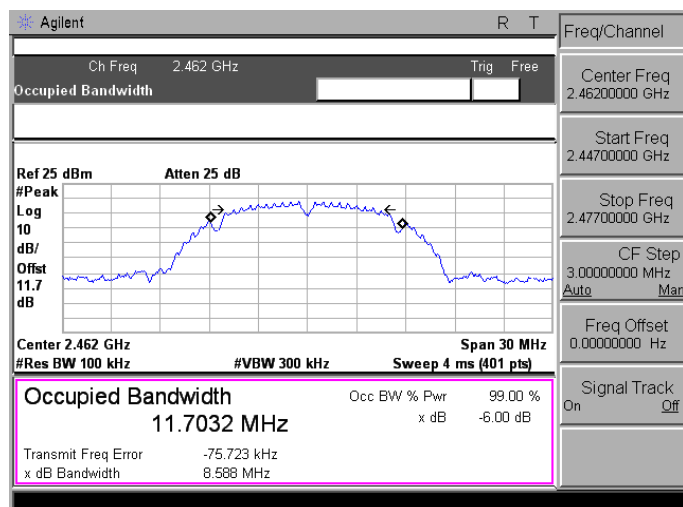
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2437

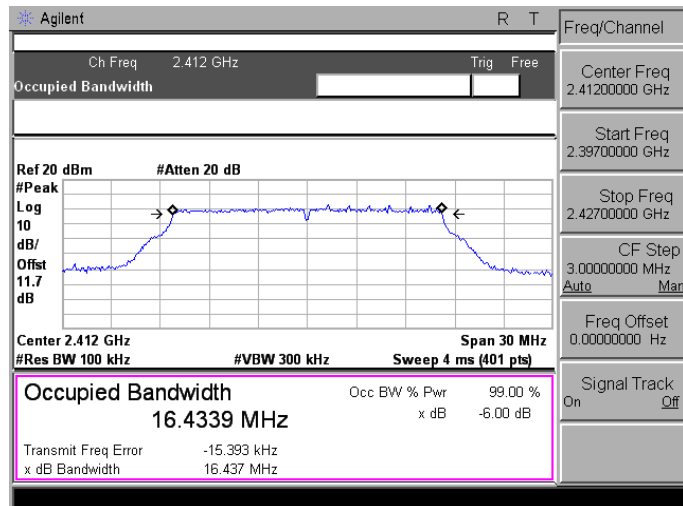


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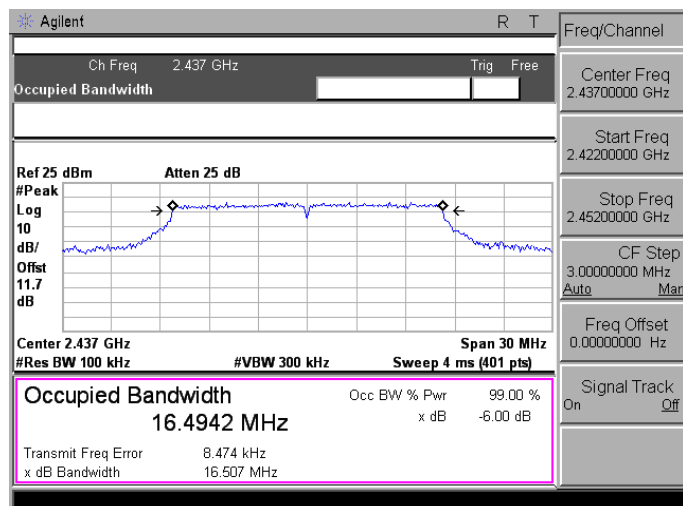


Mode 3: IEEE 802.11g Link Mode_ANT-0

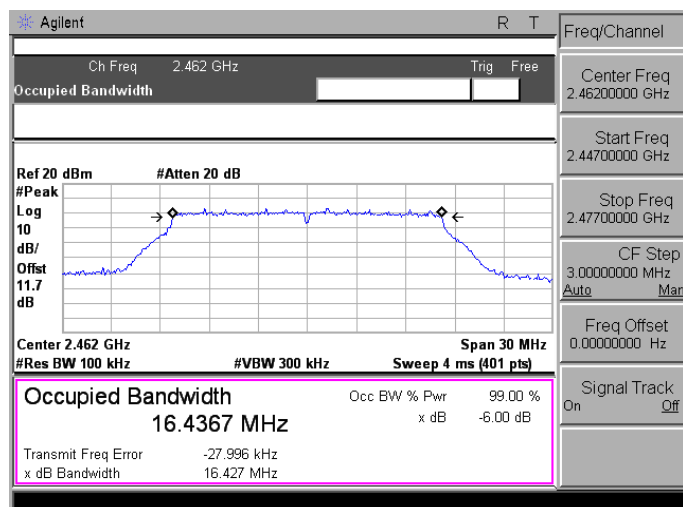
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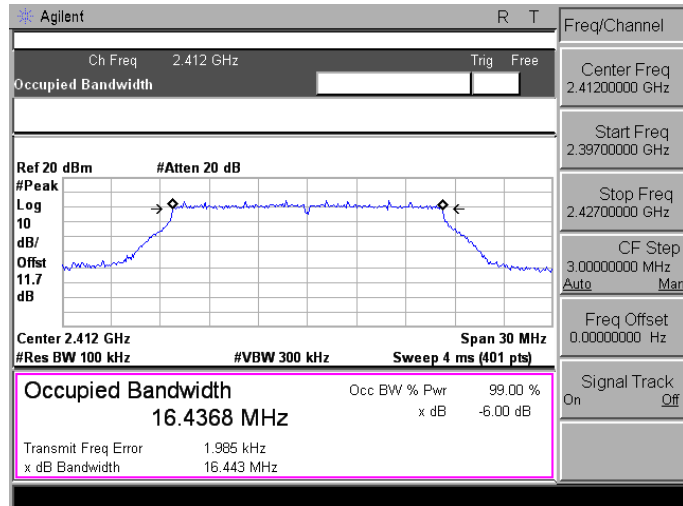


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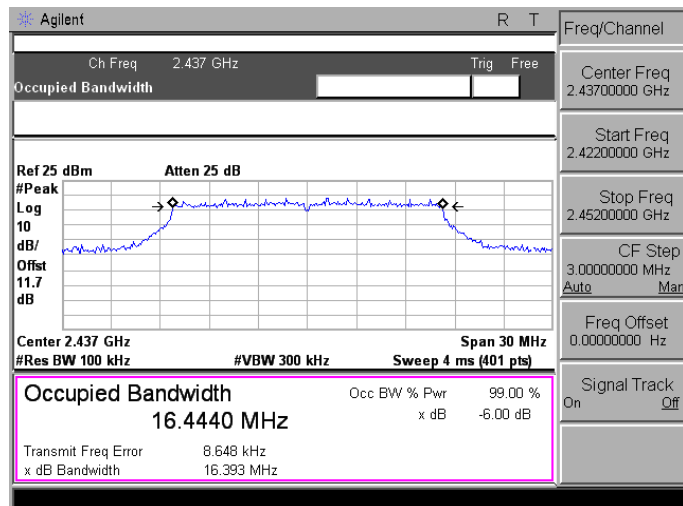


Mode 3: IEEE 802.11g Link Mode_ANT-1

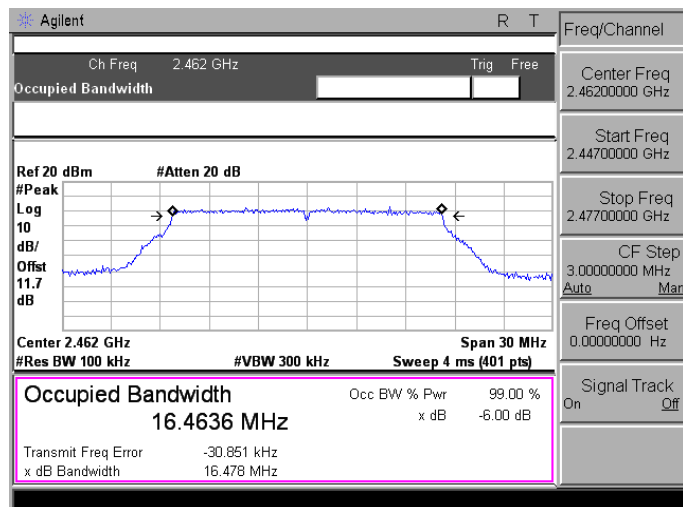
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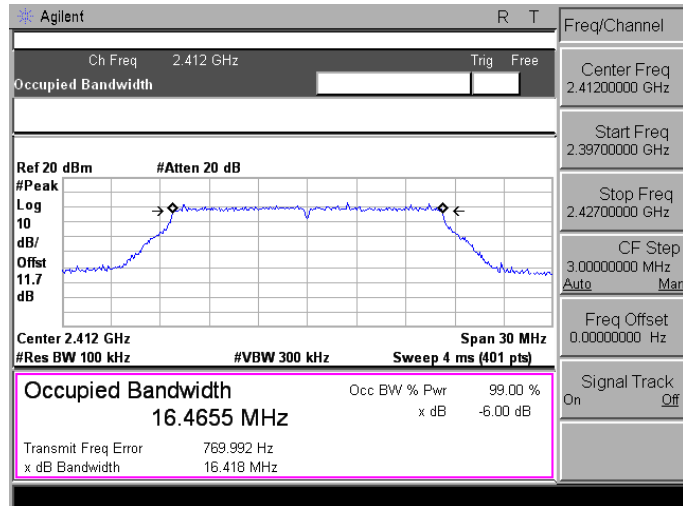


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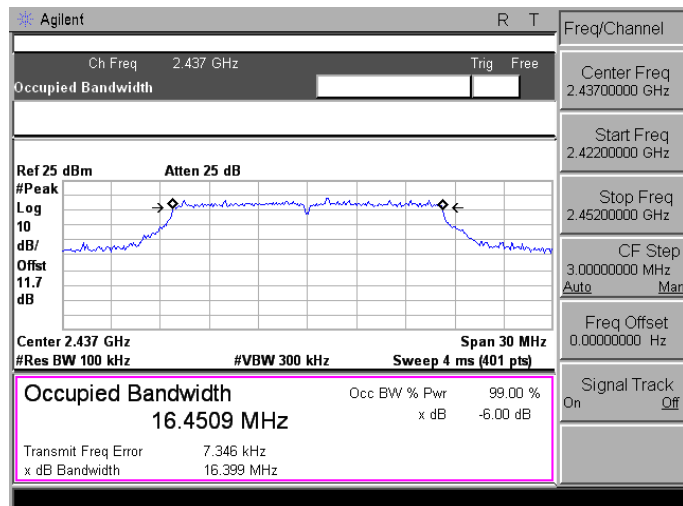


Mode 3: IEEE 802.11g Link Mode_ANT-2

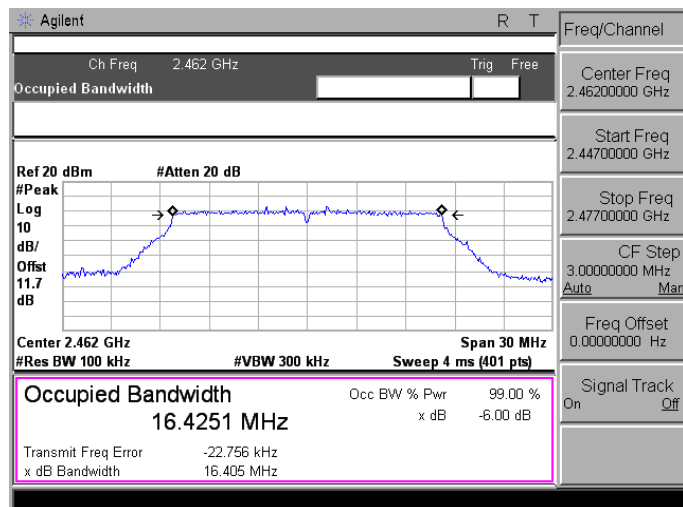
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2437

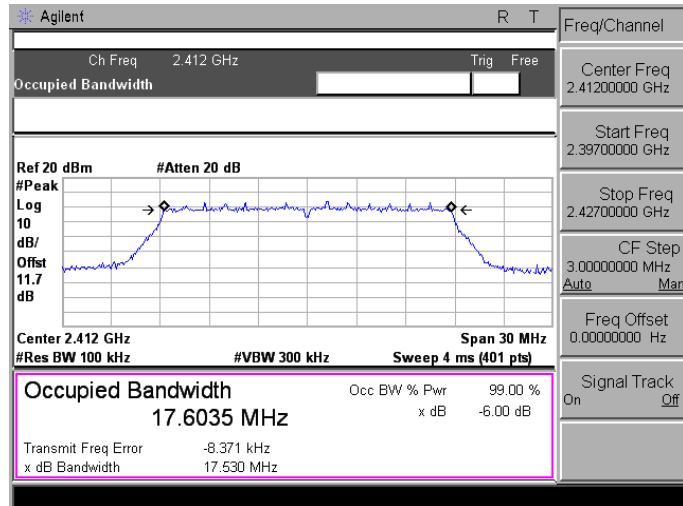


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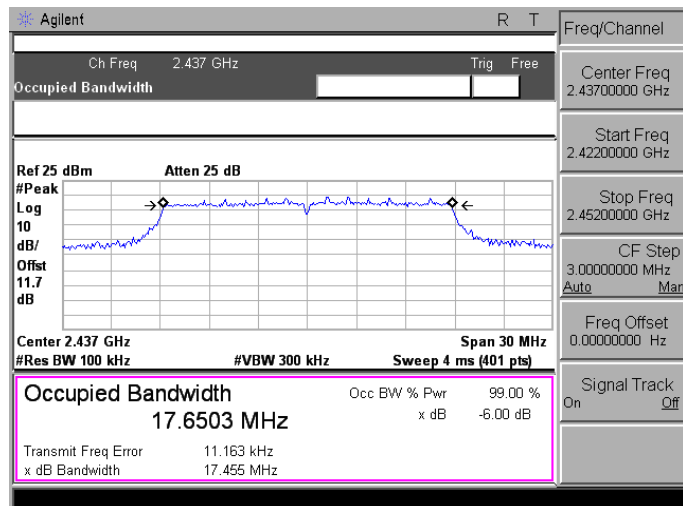


Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode _ANT0

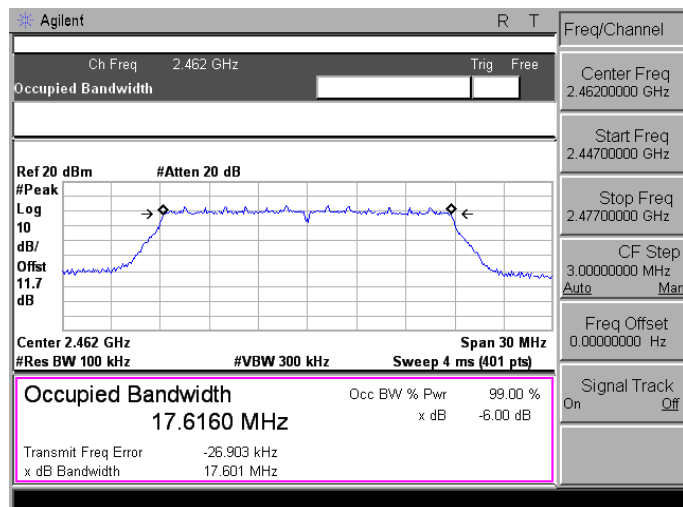
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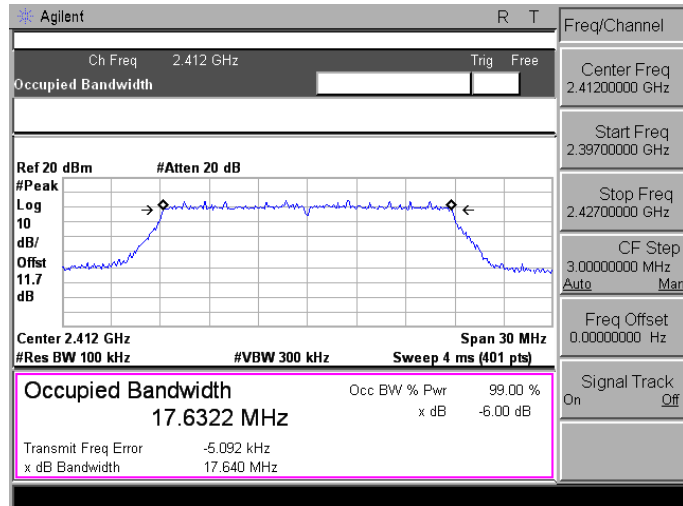


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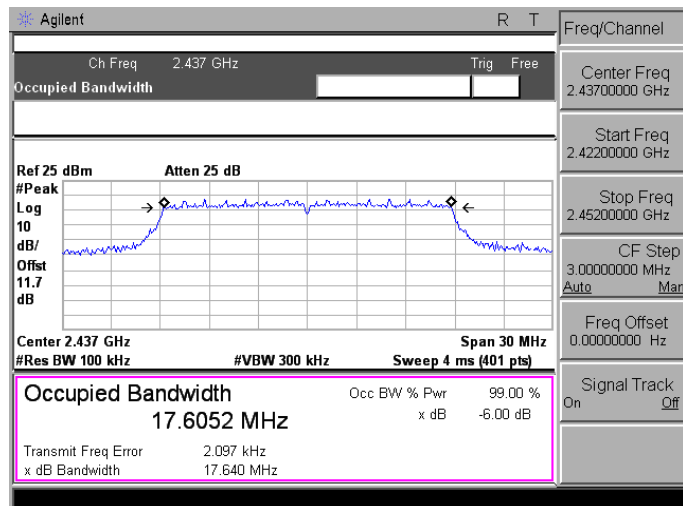


Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode _ANT1

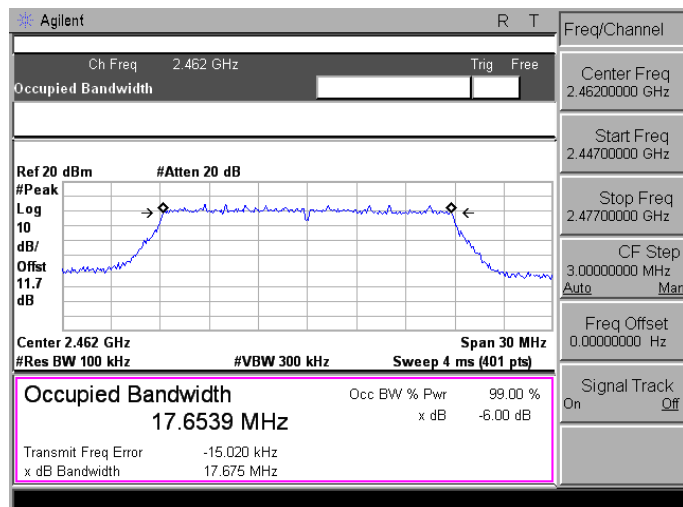
2412



2437

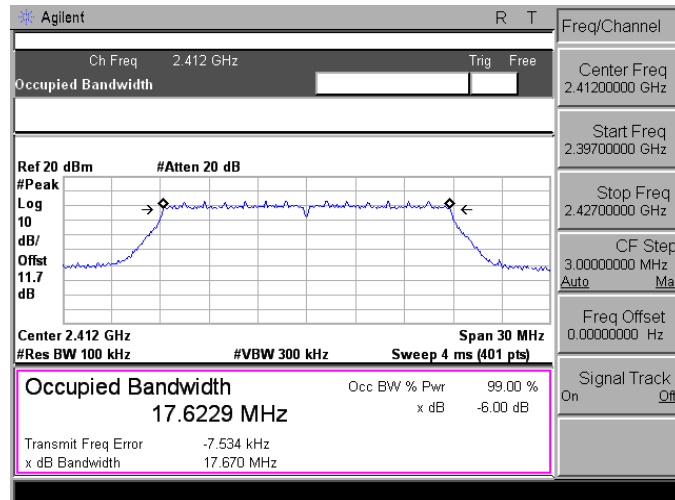


2462

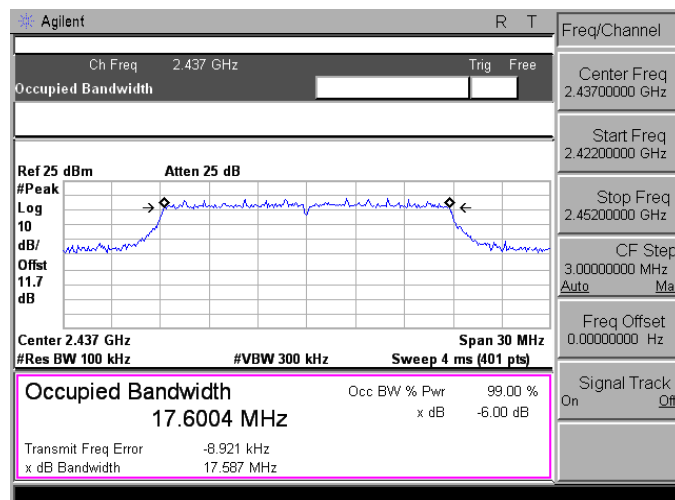


Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode _ANT2

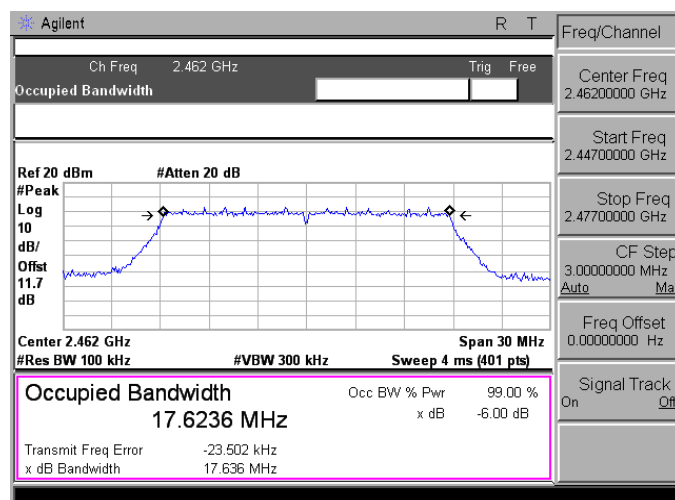
2412



2437

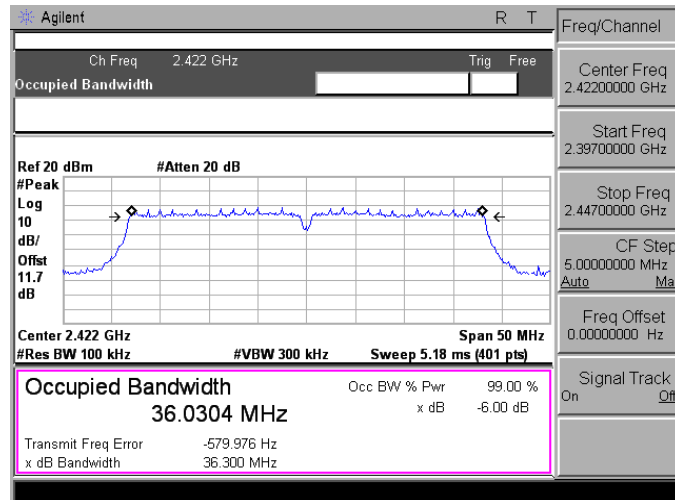


2462

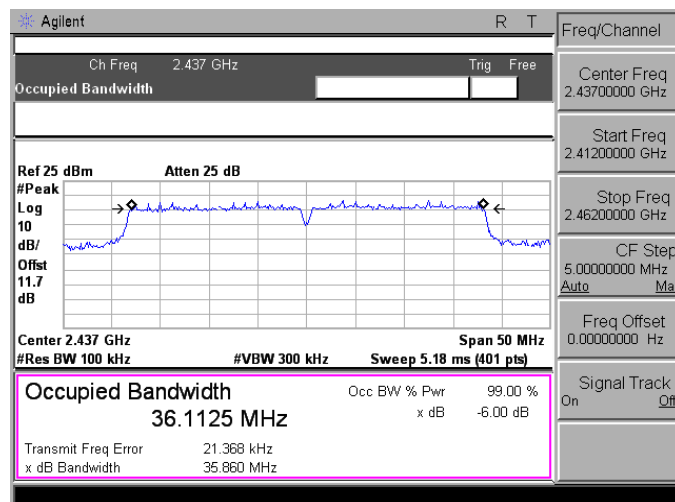


Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode _ANT0

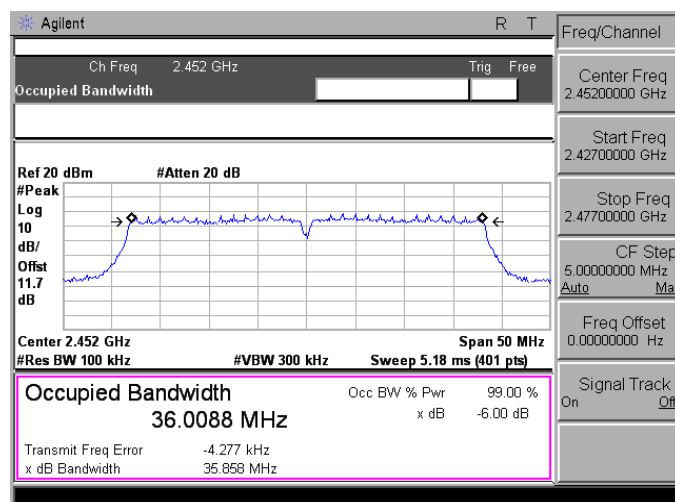
2422



2437

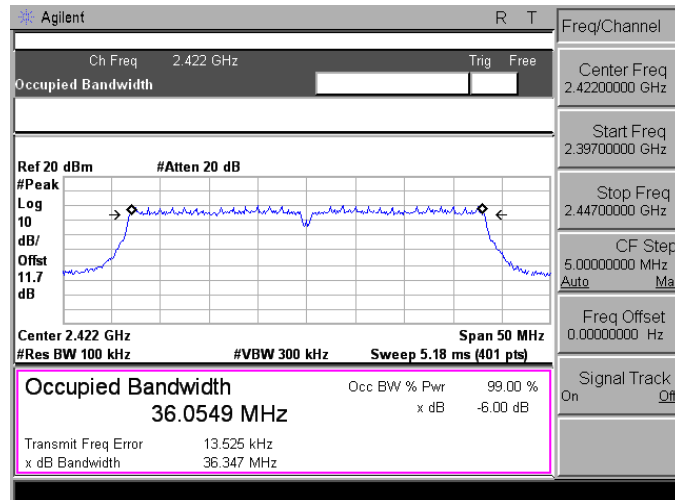


2452

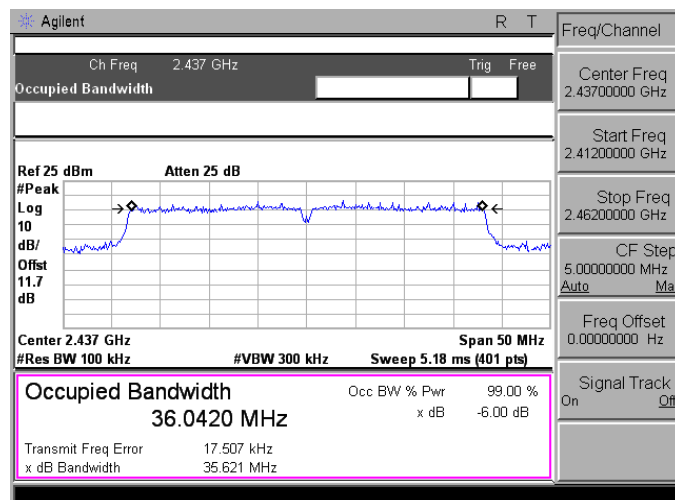


Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode _ANT1

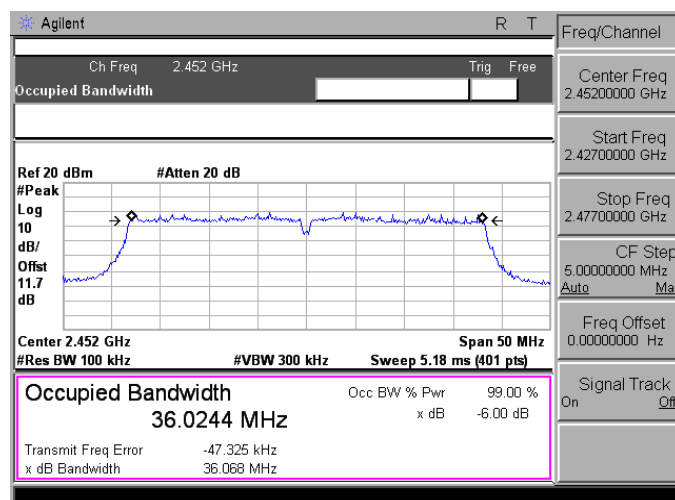
2422



2437

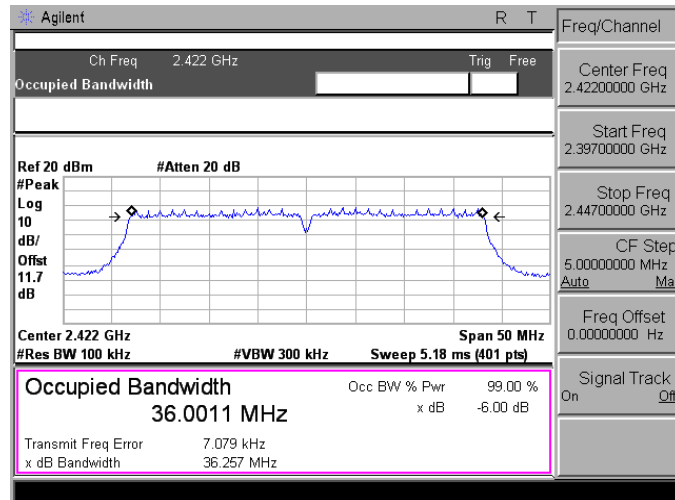


2452

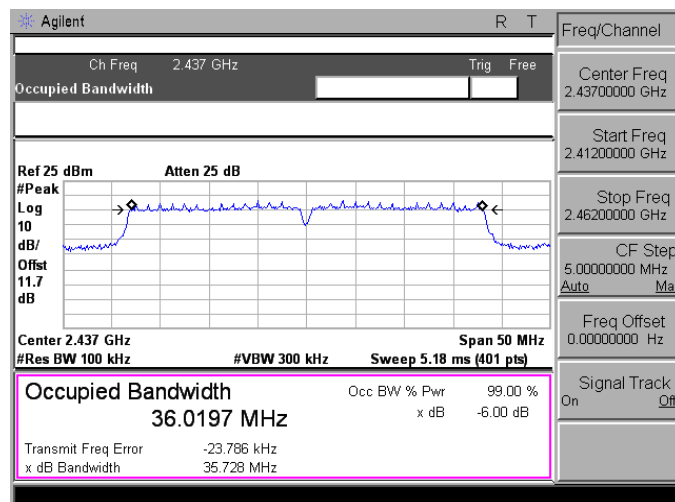


Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode _ANT2

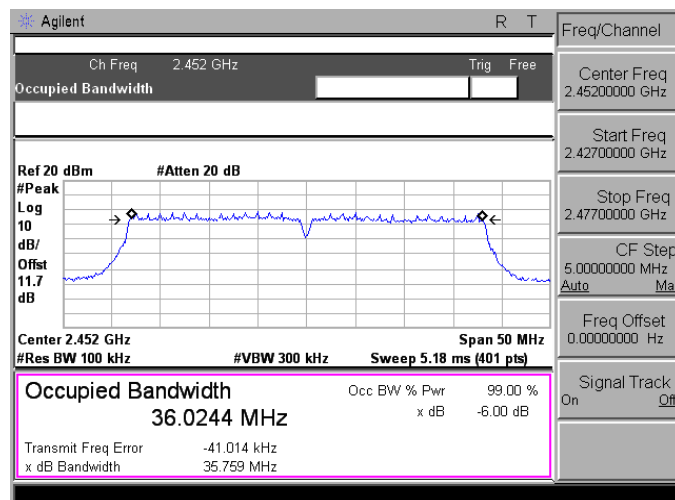
2422



2437

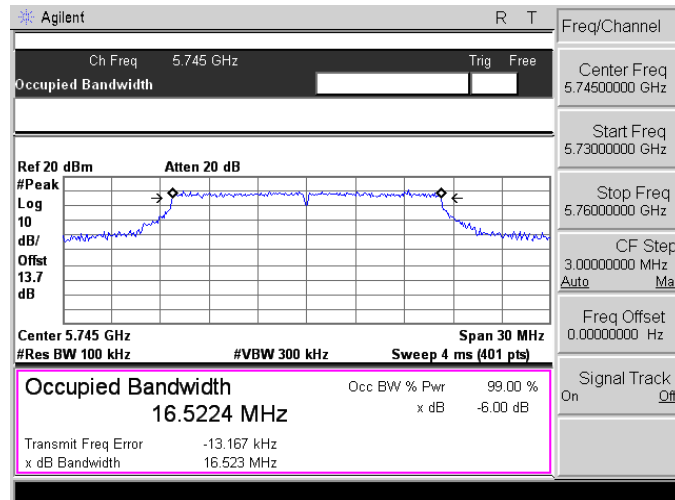


2452

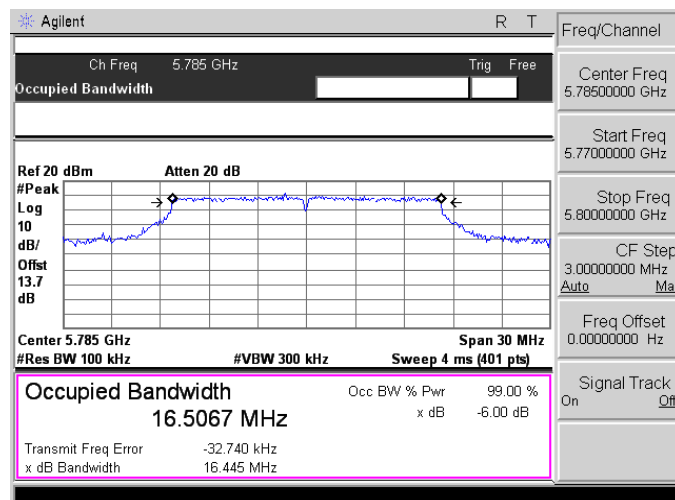


Mode 6: IEEE 802.11a U-NII Band III Link Mode_ANT0

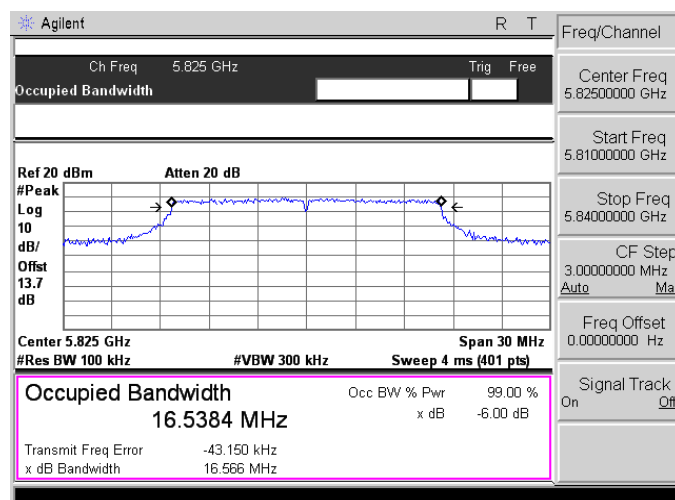
5745



5785

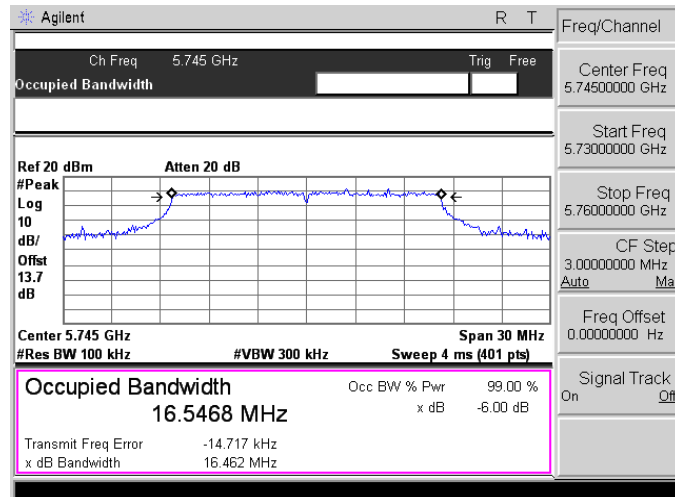


5825

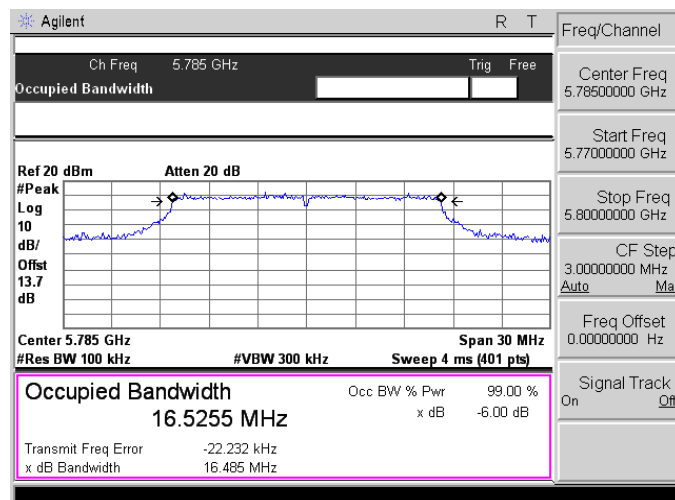


Mode 6: IEEE 802.11a U-NII Band III Link Mode_ANT1

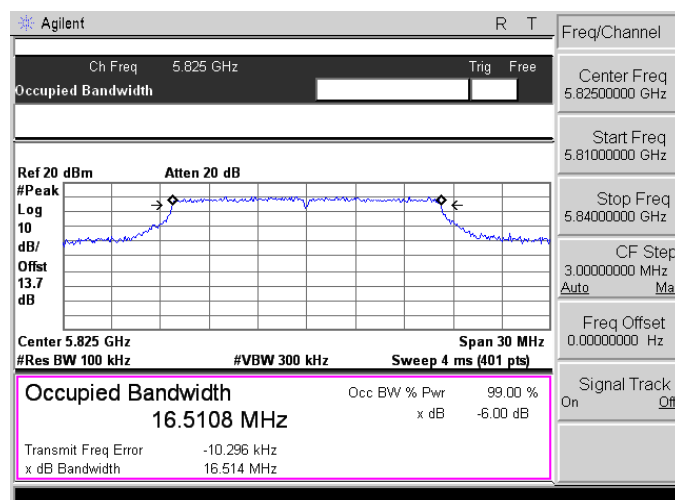
5745



5785

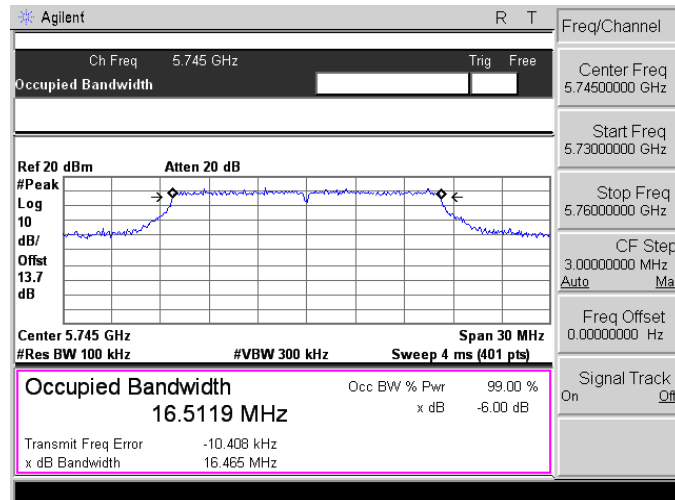


5825

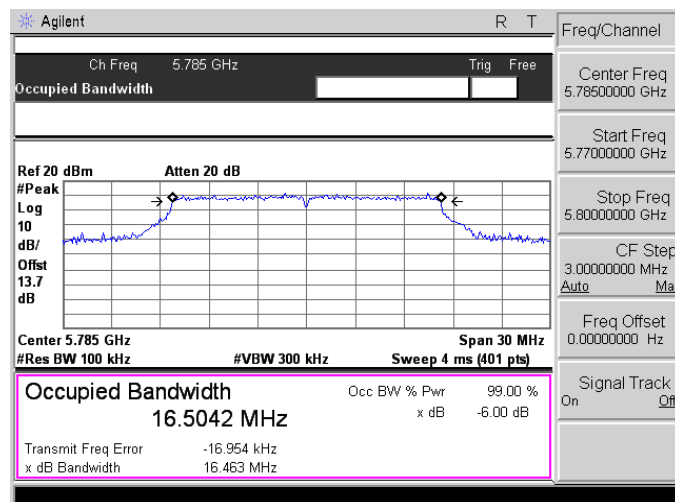


Mode 6: IEEE 802.11a U-NII Band III Link Mode_ANT2

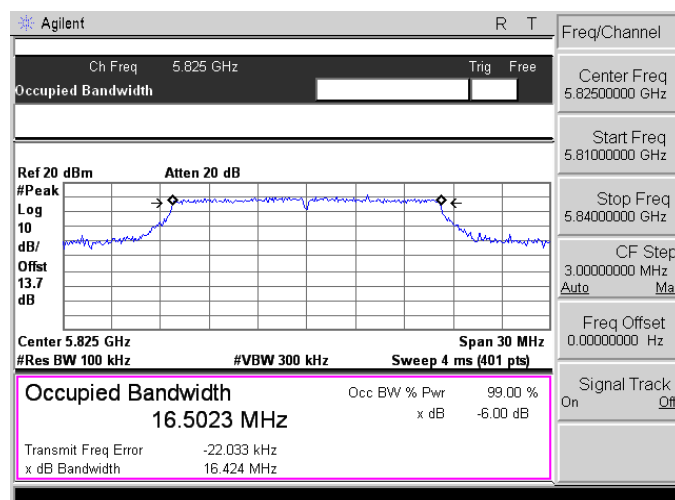
5745



5785

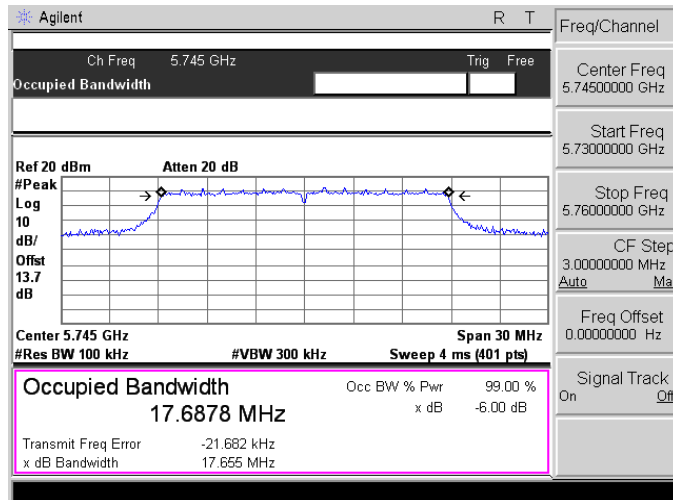


5825

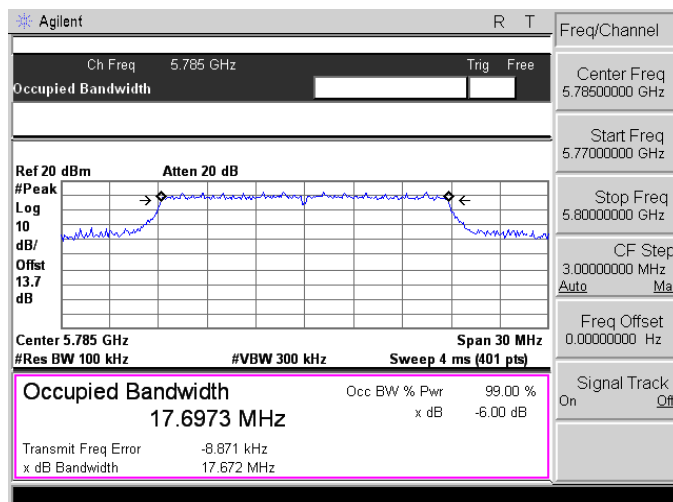


Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ANT0

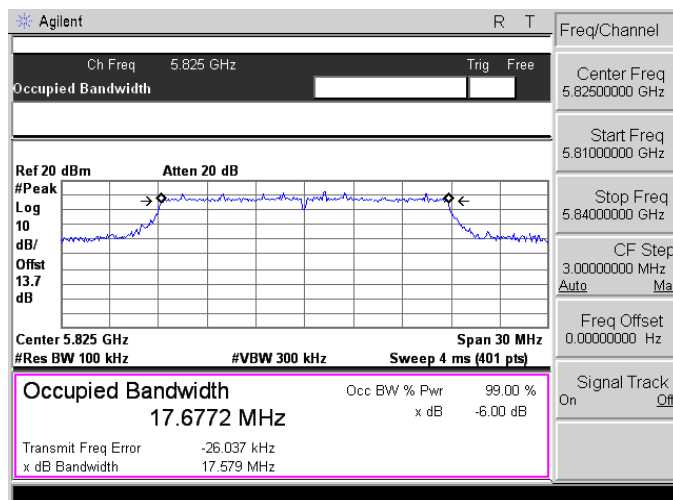
5745



5785

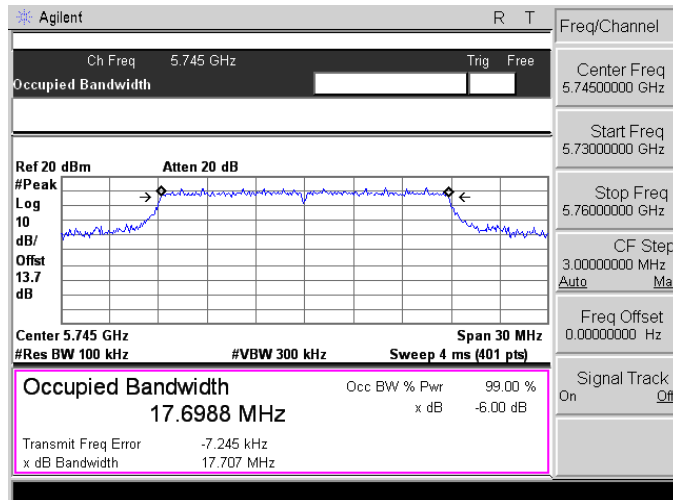


5825

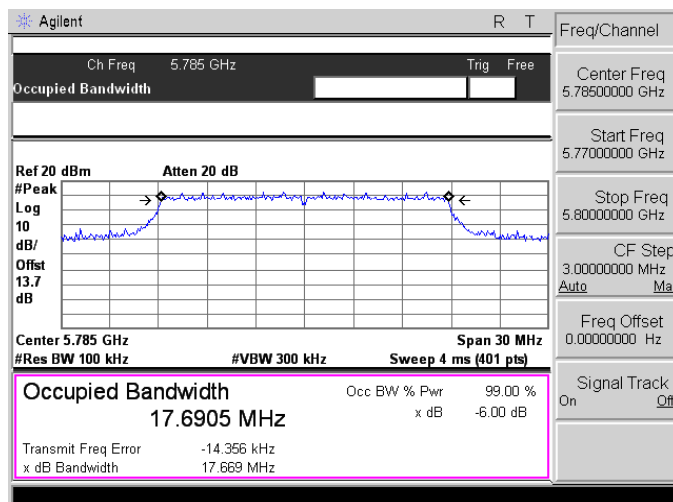


Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ANT1

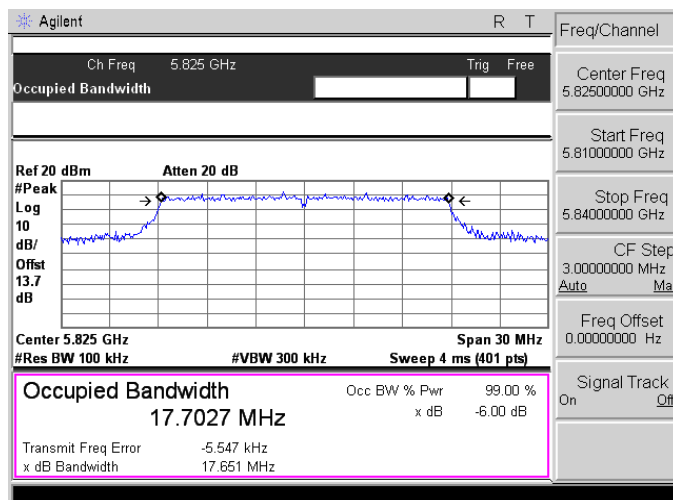
5745



5785

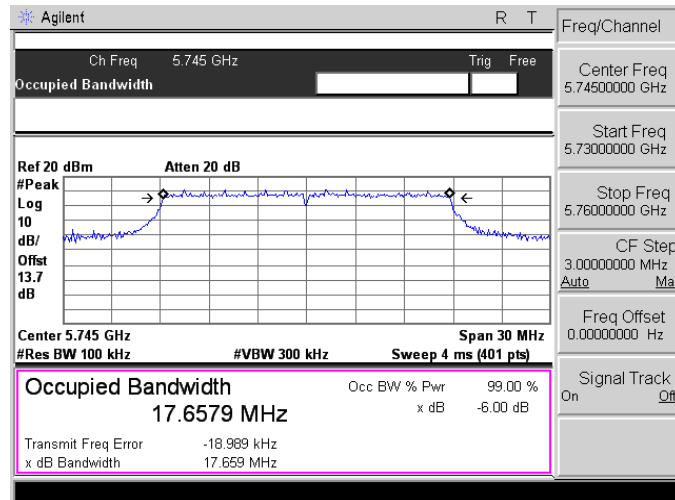


5825

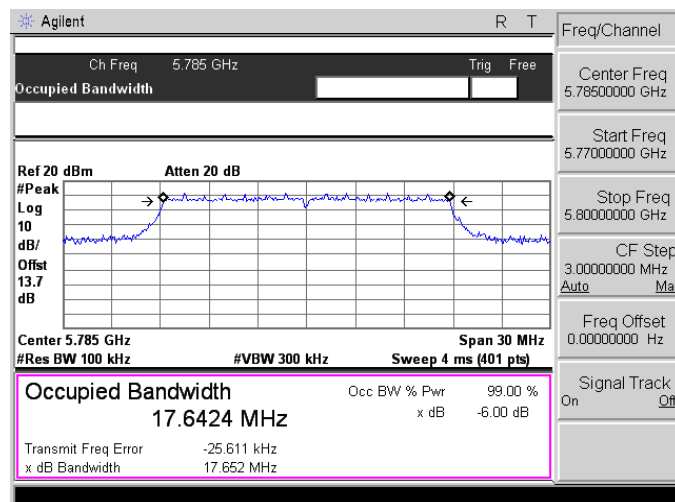


Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ANT2

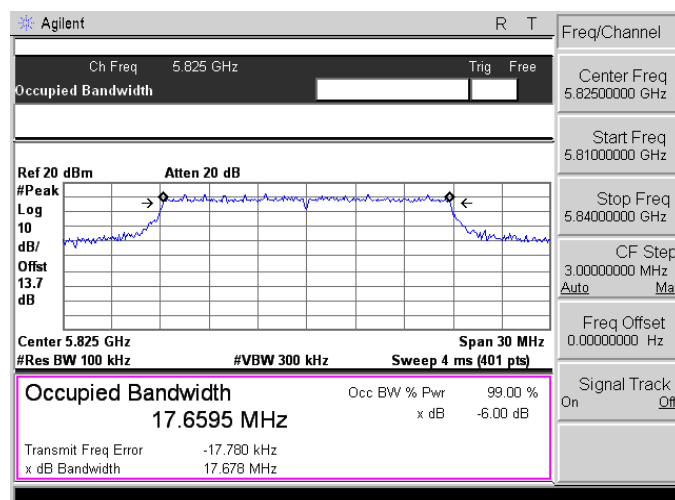
5745



5785

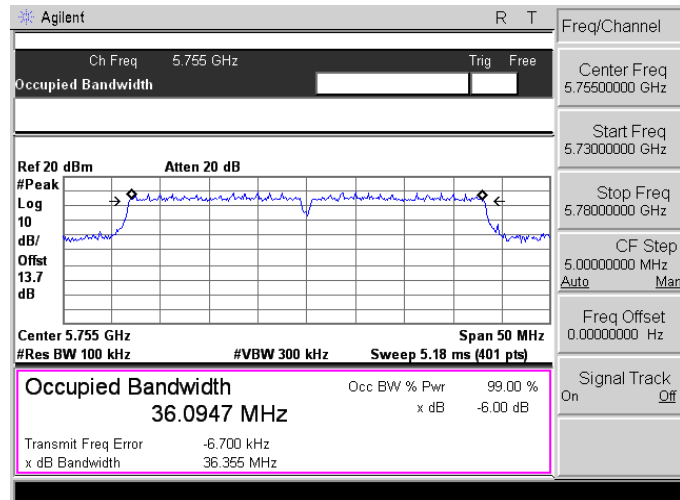


5825

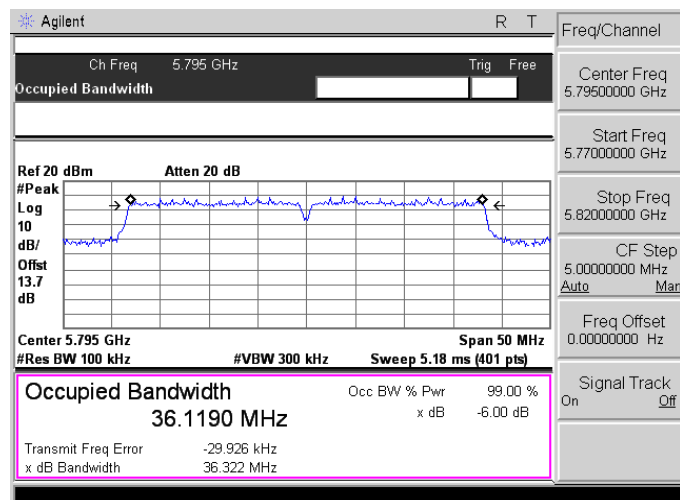


Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ANT0

5755

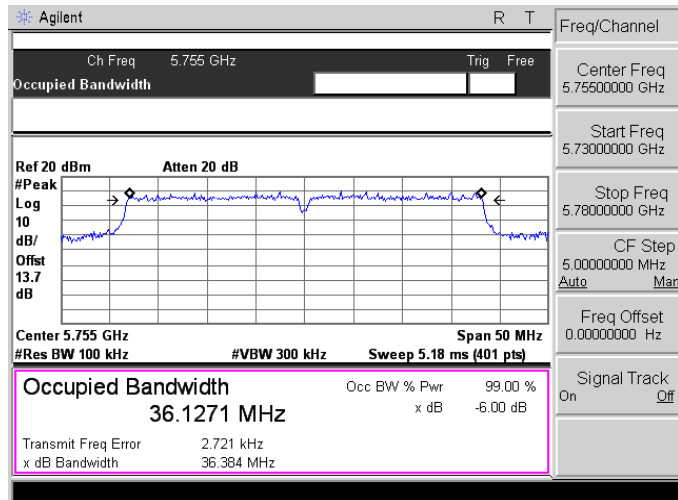


5795

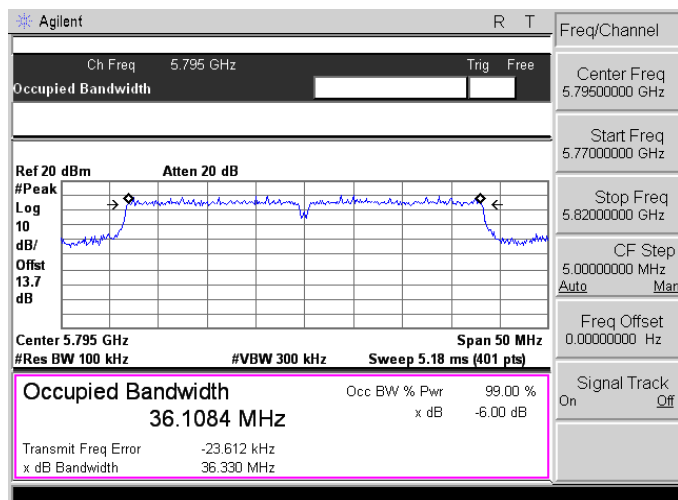


Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT1

5755

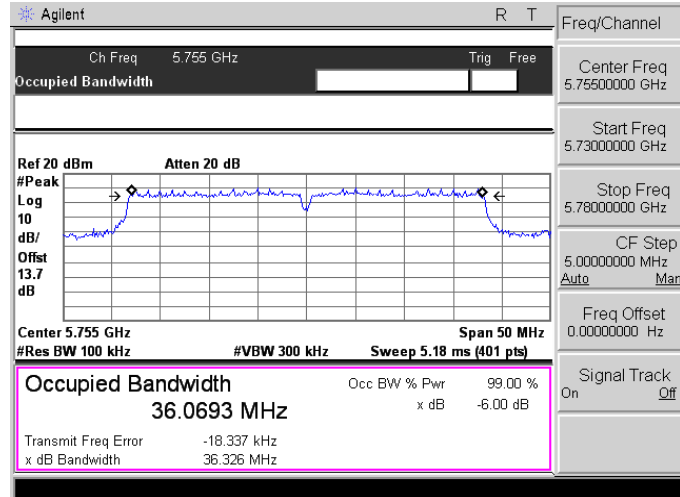


5795

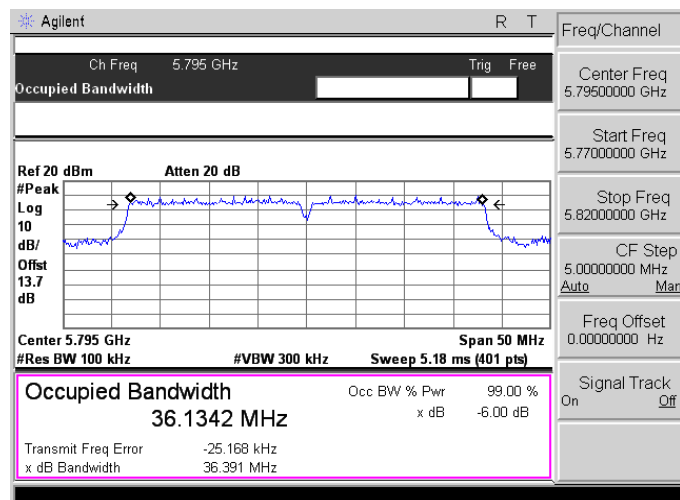


Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ANT2

5755

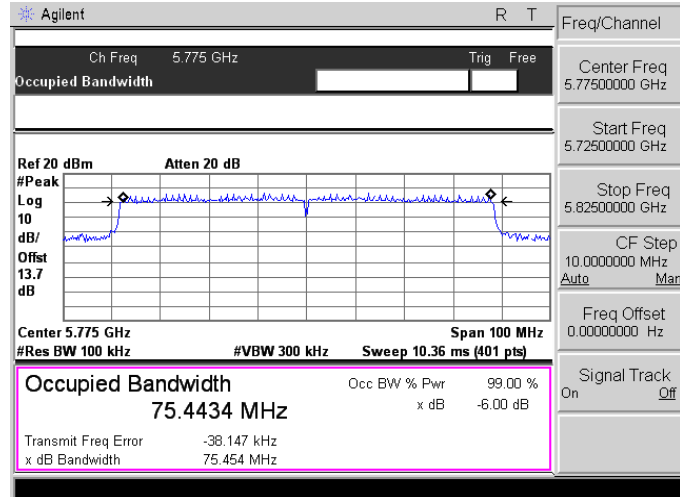


5795



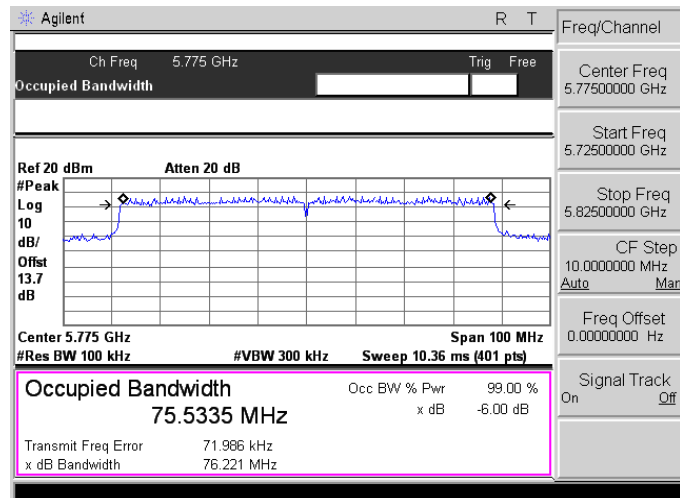
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ANT0

5775



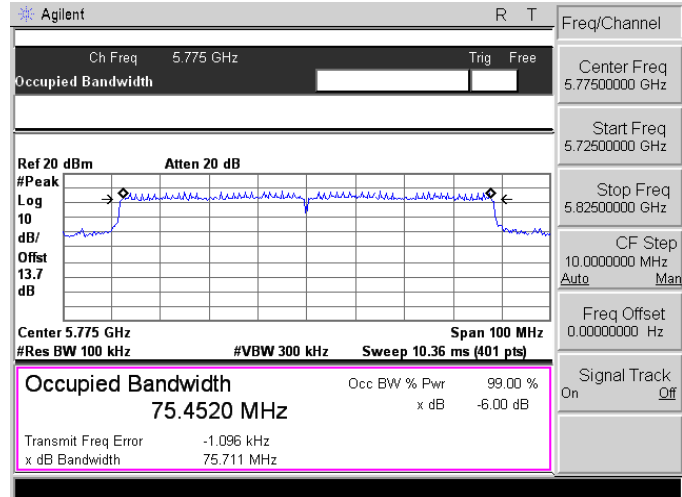
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ANT1

5775



Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ANT2

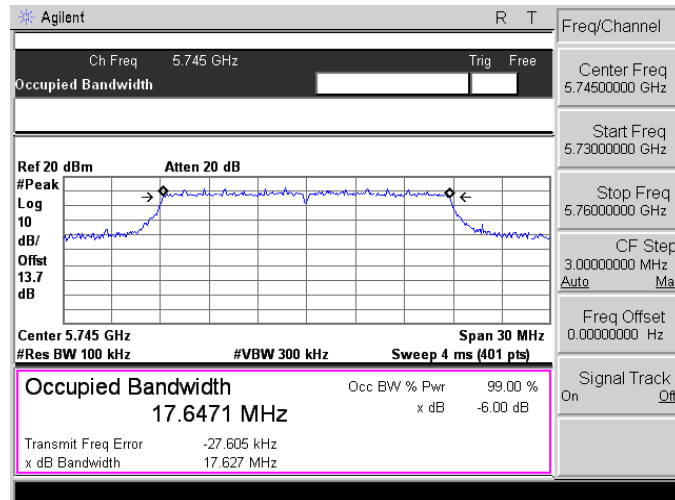
5775



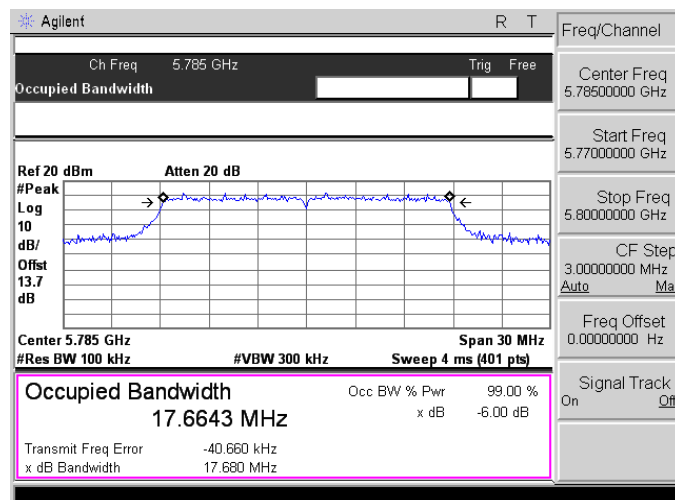
Beamforming on

Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ANT0

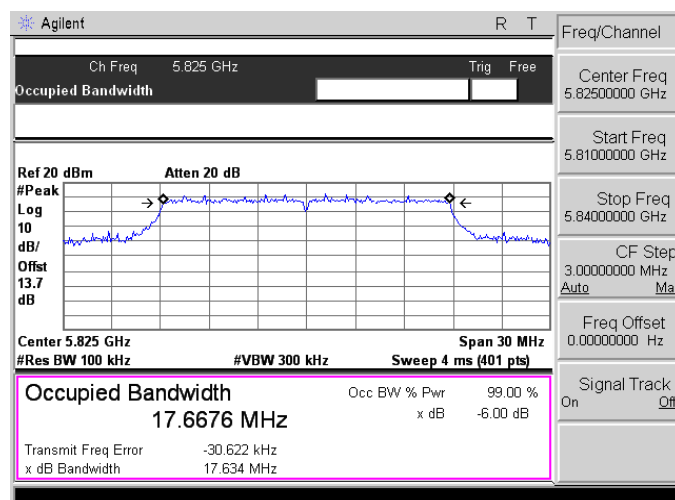
5745



5785

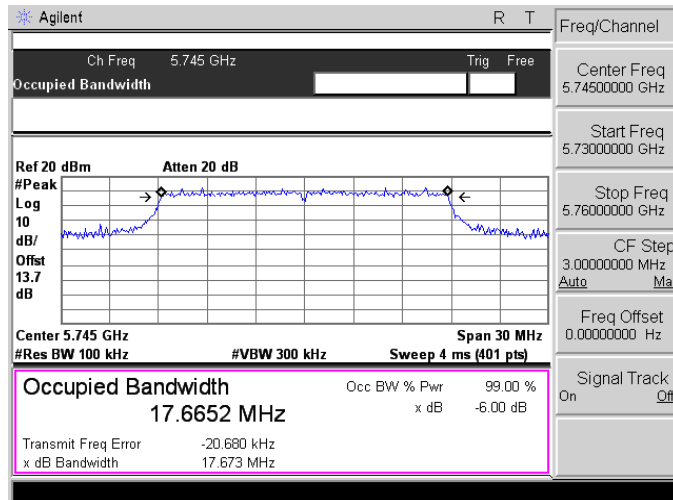


5825

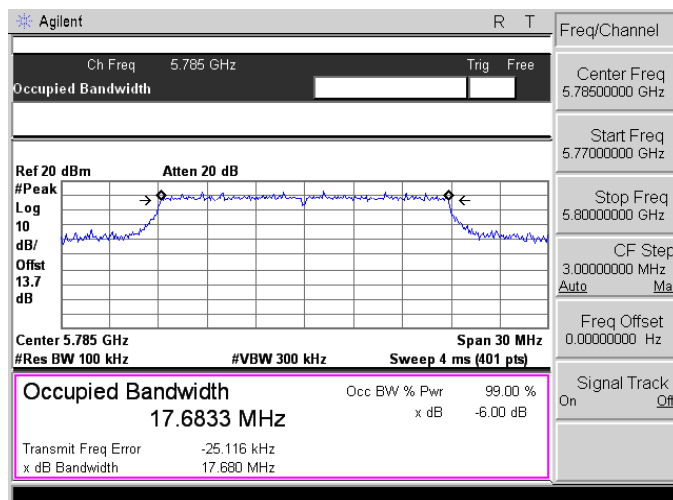


Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT1

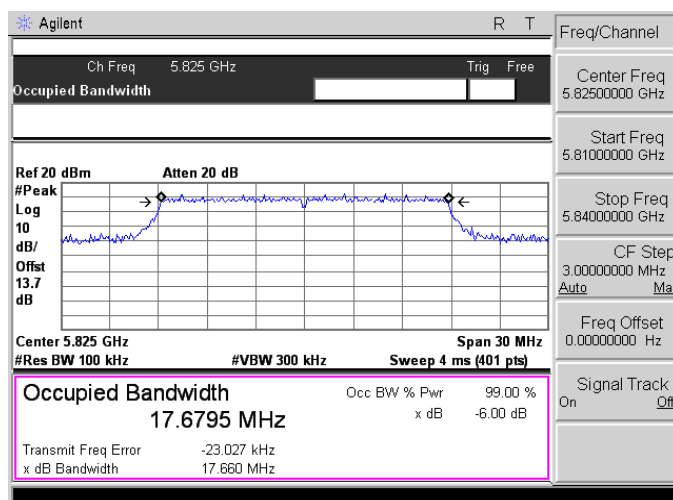
5745



5785

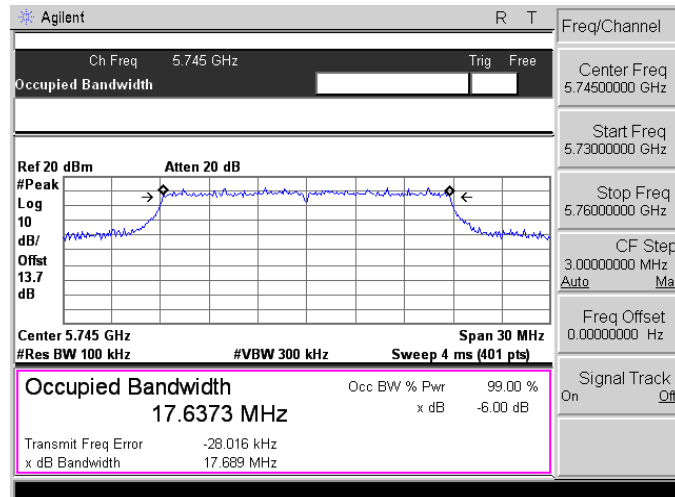


5825

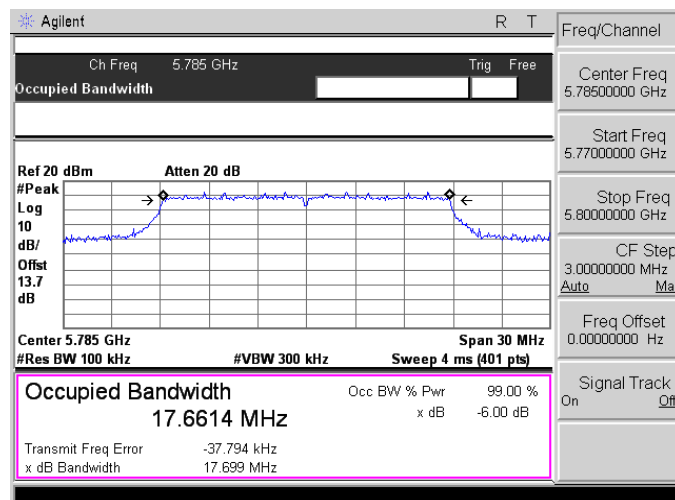


Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ANT2

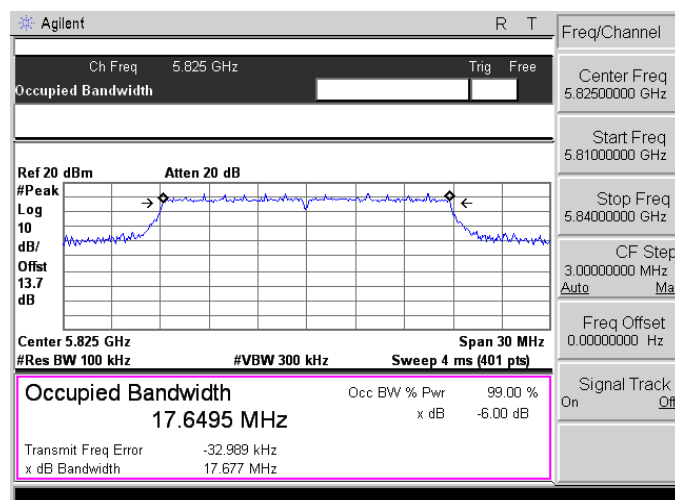
5745



5785

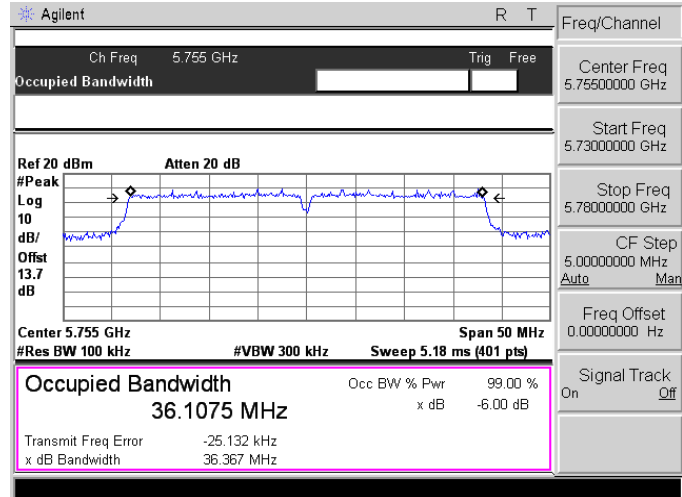


5825

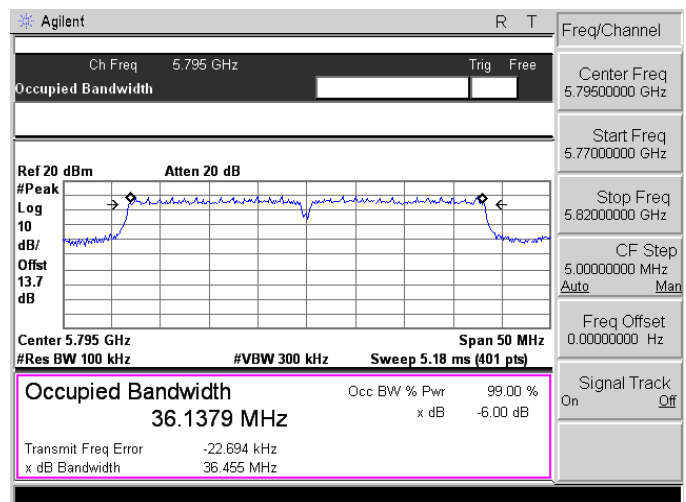


Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ANT0

5755

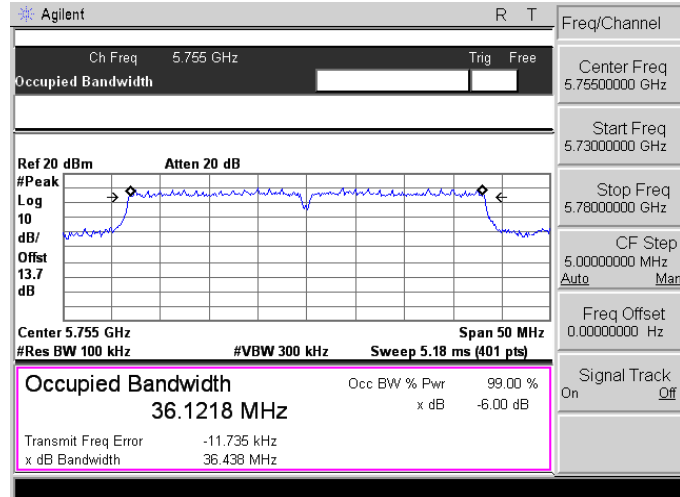


5795

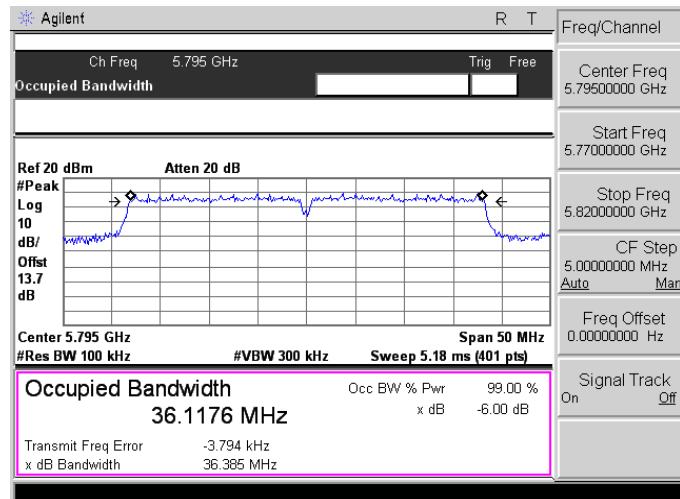


Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT1

5755

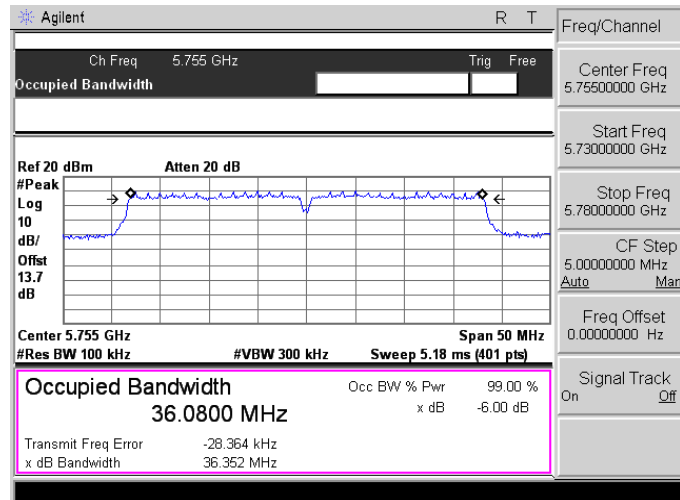


5795

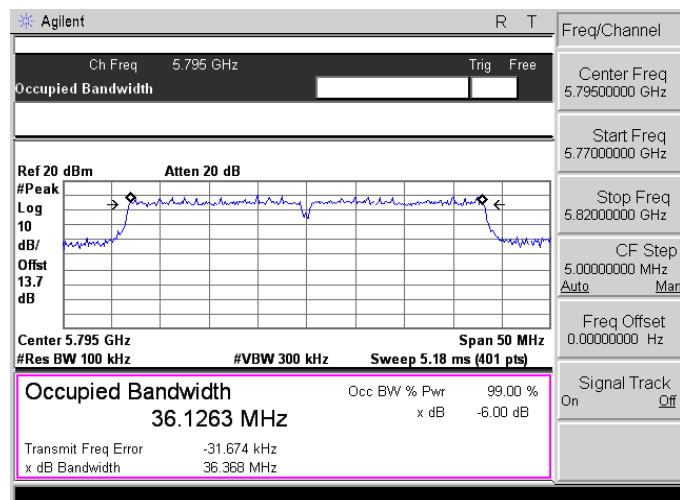


Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ANT2

5755

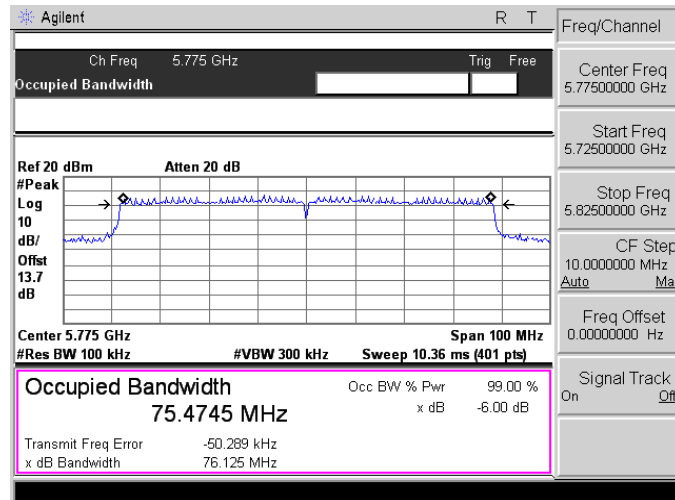


5795



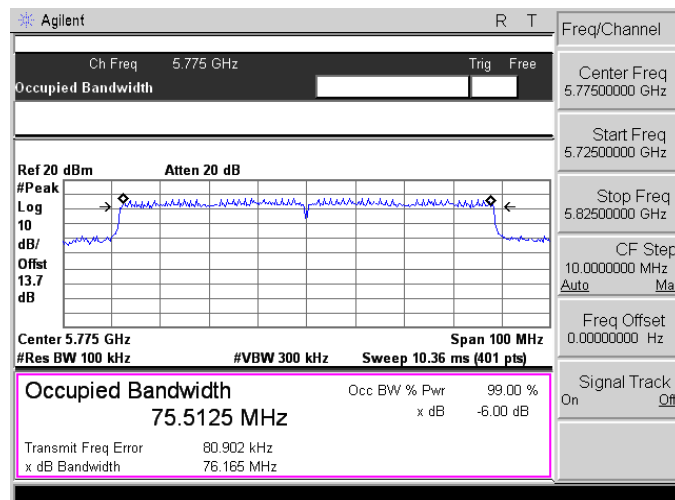
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ANT0

5775



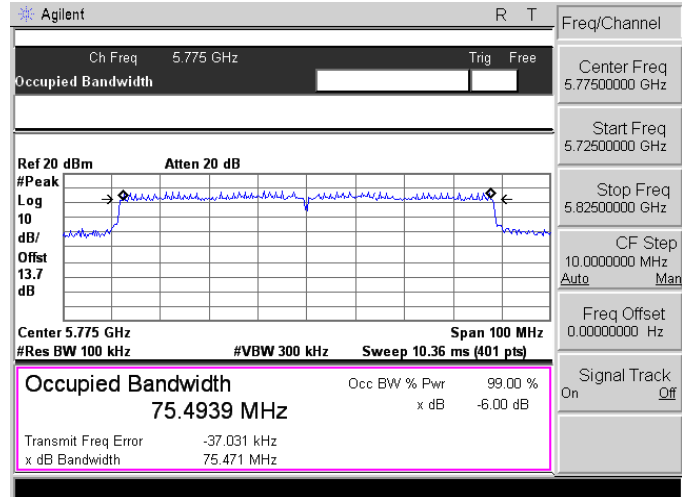
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ANT1

5775



Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ANT2

5775

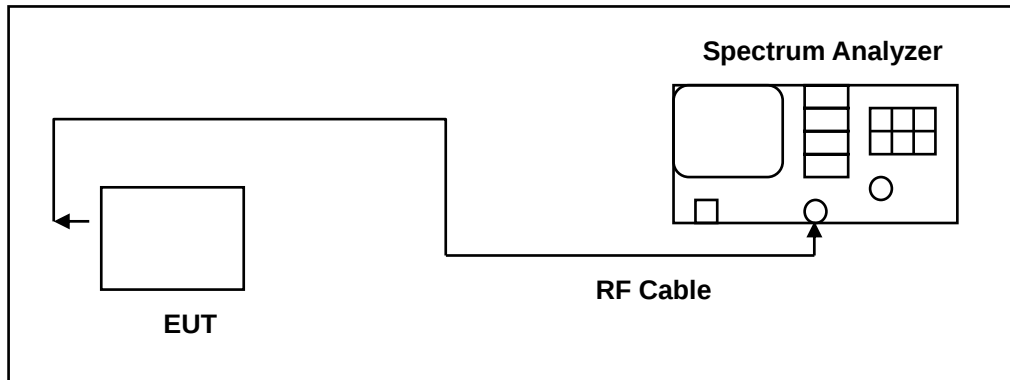


8 Maximum Power Density Measurement

8.1. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

8.2. Test Setup



8.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/16/2014	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

Note: N.C.R. = No Calibration Request.

8.4. Test Procedure

The EUT tested to DTS test procedure of KDB 558074 D01 v03r03 for compliance to FCC 47CFR 15.247 requirements.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Beamforming on Limit

5725~5825MHz:

Directional gain= $G_{ANT} + 10 \cdot \log(N_{ANT}/N_{SS}) = 6.77 \text{ dBi} > 6 \text{ dBi}$

Conducted power spectral density= $8 - (6.77 - 6) = 7.23 \text{ dBm/3KHz}$

8.5. Test Result

Model Number	RE590T				
Test Item	Maximum Power Density				
Test Mode	Mode 2: IEEE 802.11b Link Mode				
Date of Test	06/15/2015			Test Site	TE05
Frequency (MHz)	Reading (dBm/3KHz)				Limit (dBm/3KHz)
	ANT-0	ANT-1	ANT-2	ANT-0+1+2	
2412	0.31	0.18	0.21	5.01	< 8
2437	1.78	1.89	1.38	6.46	< 8
2462	0.22	-0.87	-0.38	4.45	< 8

Model Number	RE590T				
Test Item	Maximum Power Density				
Test Mode	Mode 3: IEEE 802.11g Link Mode				
Date of Test	06/15/2015			Test Site	TE05
Frequency (MHz)	Reading (dBm/3KHz)				Limit (dBm/3KHz)
	ANT-0	ANT-1	ANT-2	ANT-0+1+2	
2412	-11.14	-9.49	-10.10	-5.42	< 8
2437	-0.41	-0.76	-0.96	4.07	< 8
2462	-9.78	-9.47	-10.01	-4.98	< 8

Model Number	RE590T				
Test Item	Maximum Power Density				
Test Mode	Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode				
Date of Test	06/15/2015			Test Site	TE05
Frequency (MHz)	Reading (dBm/3KHz)				Limit (dBm/3KHz)
	ANT-0	ANT-1	ANT-2	ANT-0+1+2	
2412	-10.80	-9.59	-10.79	-5.58	< 8
2437	-0.54	-1.62	-1.28	3.65	< 8
2462	-10.60	-6.82	-10.60	-4.18	< 8

Model Number	RE590T				
Test Item	Maximum Power Density				
Test Mode	Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode				
Date of Test	06/15/2015			Test Site	TE05
Frequency (MHz)	Reading (dBm/3KHz)				Limit (dBm/3KHz)
	ANT-0	ANT-1	ANT-2	ANT-0+1+2	
2422	-15.61	-14.69	-16.46	-10.76	< 8
2437	-3.70	-2.83	-4.17	1.24	< 8
2452	-15.99	-14.75	-16.46	-10.90	< 8

Model Number	RE590T				
Test Item	Maximum Power Density				
Test Mode	Mode 6: IEEE 802.11a U-NII Band III Link Mode				
Date of Test	08/17/2015			Test Site	TE05
Frequency (MHz)	Reading (dBm/3KHz)				Limit (dBm/3KHz)
	ANT-0	ANT-1	ANT-2	ANT-0+1+2	
5745	-1.493	-1.800	-0.941	3.375	< 8
5785	-2.298	-0.900	-1.108	3.378	< 8
5825	-2.171	-1.103	-1.408	3.233	< 8

Model Number	RE590T				
Test Item	Maximum Power Density				
Test Mode	Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode				
Date of Test	08/17/2015			Test Site	TE05
Frequency (MHz)	Reading (dBm/3KHz)				Limit (dBm/3KHz)
	ANT-0	ANT-1	ANT-2	ANT-0+1+2	
5745	-2.095	-1.756	-1.146	3.123	< 8
5785	-2.009	-0.981	-0.491	3.656	< 8
5825	-3.926	-1.758	-1.488	2.509	< 8

Model Number	RE590T				
Test Item	Maximum Power Density				
Test Mode	Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode				
Date of Test	08/17/2015		Test Site	TE05	
Frequency (MHz)	Reading (dBm/3KHz)				Limit (dBm/3KHz)
	ANT-0	ANT-1	ANT-2	ANT-0+1+2	
5755	-4.654	-3.721	-4.553	0.482	< 8
5795	-4.901	-4.462	-3.894	0.372	< 8

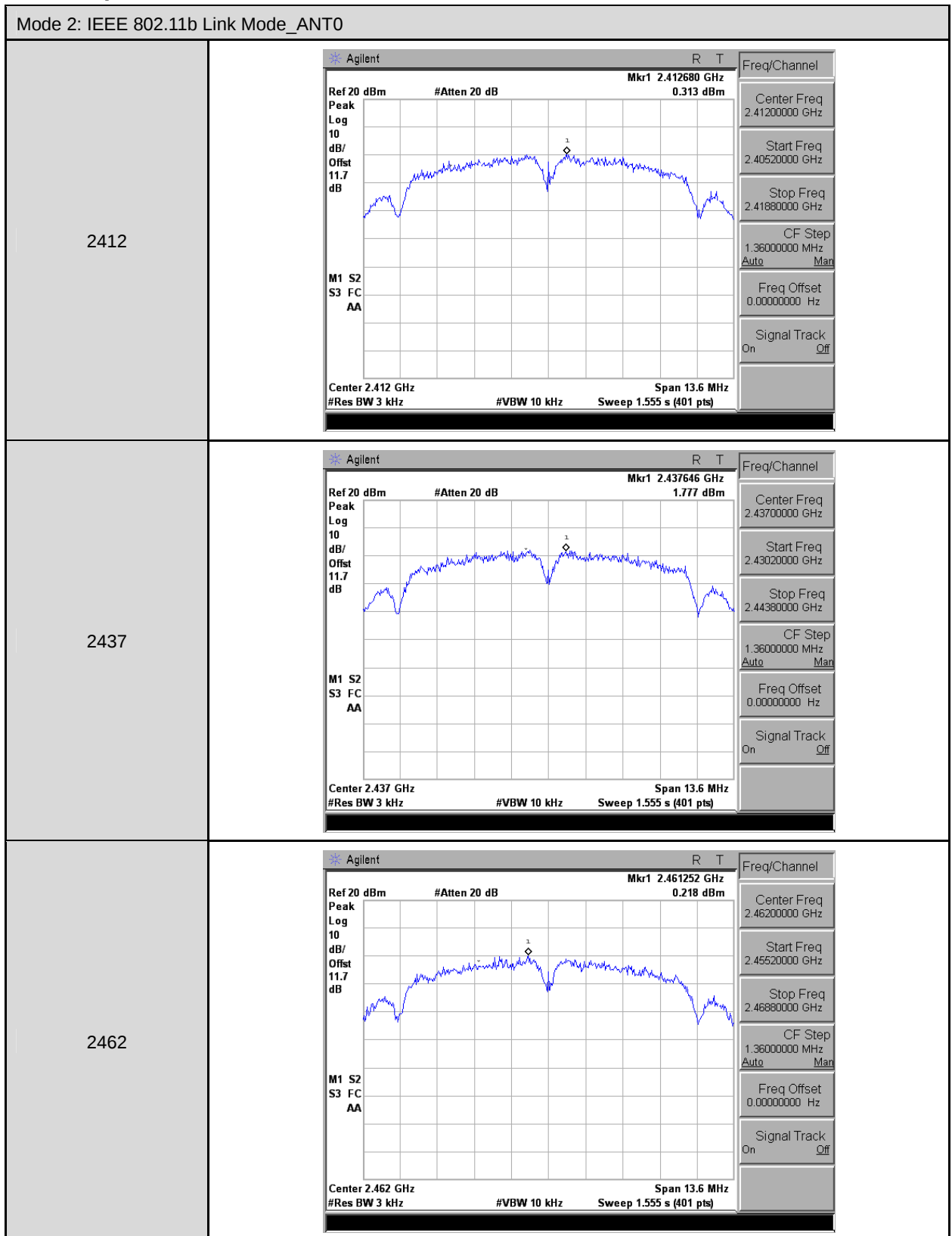
Model Number	RE590T				
Test Item	Maximum Power Density				
Test Mode	Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode				
Date of Test	08/17/2015		Test Site	TE05	
Frequency (MHz)	Reading (dBm/3KHz)				Limit (dBm/3KHz)
	ANT-0	ANT-1	ANT-2	ANT-0+1+2	
5775	-5.186	-6.244	-5.823	-0.958	< 8

Model Number	RE590T				
Test Item	Maximum Power Density				
Test Mode	Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode				
Date of Test	08/17/2015			Test Site	TE05
Beamforming on					
Frequency (MHz)	Reading (dBm/3KHz)				Limit (dBm/3KHz)
	ANT-0	ANT-1	ANT-2	ANT-0+1+2	
5745	-6.590	-5.691	-5.971	-1.297	< 7.23
5785	-6.070	-5.137	-4.784	-0.526	< 7.23
5825	-8.016	-5.509	-5.138	-1.276	< 7.23

Model Number	RE590T				
Test Item	Maximum Power Density				
Test Mode	Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode				
Date of Test	08/17/2015		Test Site	TE05	
Beamforming on					
Frequency (MHz)	Reading (dBm/3KHz)				Limit (dBm/3KHz)
	ANT-0	ANT-1	ANT-2	ANT-0+1+2	
5755	-9.152	-7.898	-8.736	-3.792	< 7.23
5795	-9.091	-8.224	-8.561	-3.840	< 7.23

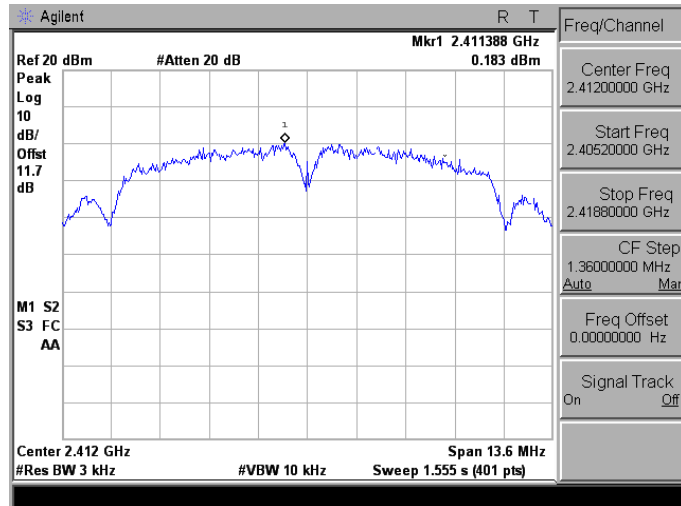
Model Number	RE590T				
Test Item	Maximum Power Density				
Test Mode	Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode				
Date of Test	08/17/2015			Test Site	TE05
Beamforming on					
Frequency (MHz)	Reading (dBm/3KHz)				Limit (dBm/3KHz)
	ANT-0	ANT-1	ANT-2	ANT-0+1+2	
5775	-9.302	-9.857	-10.020	-4.944	< 7.23

8.6. Test Graphs

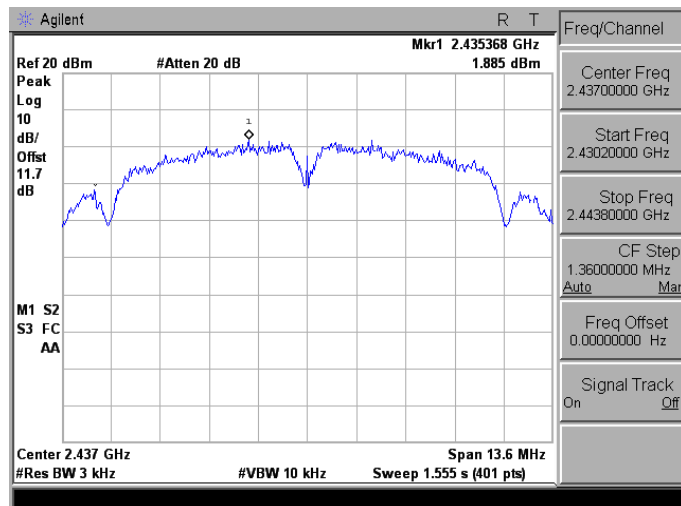


Mode 2: IEEE 802.11b Link Mode_ANT1

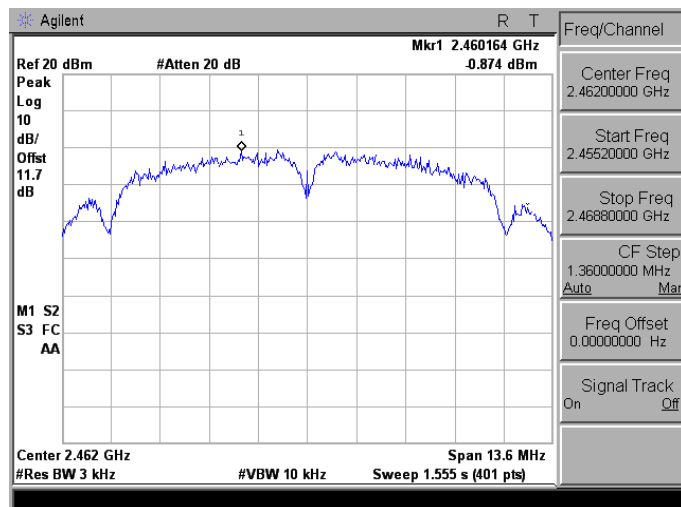
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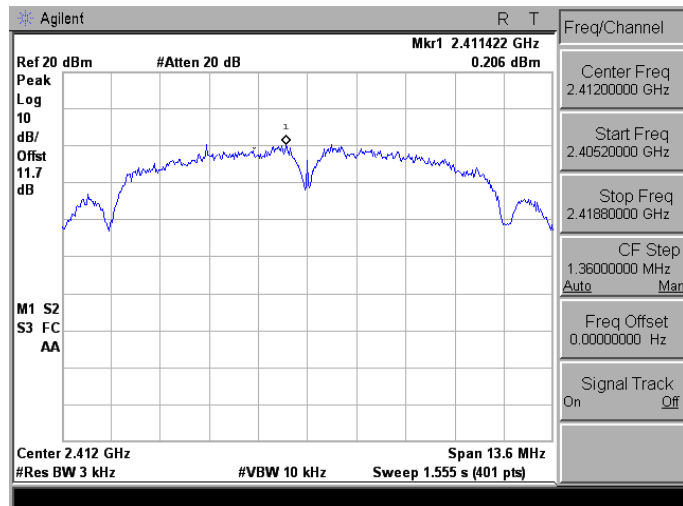


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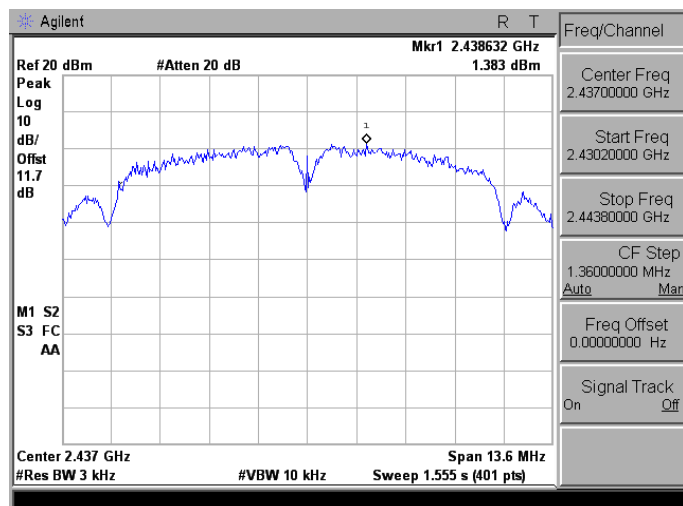


Mode 2: IEEE 802.11b Link Mode_ANT2

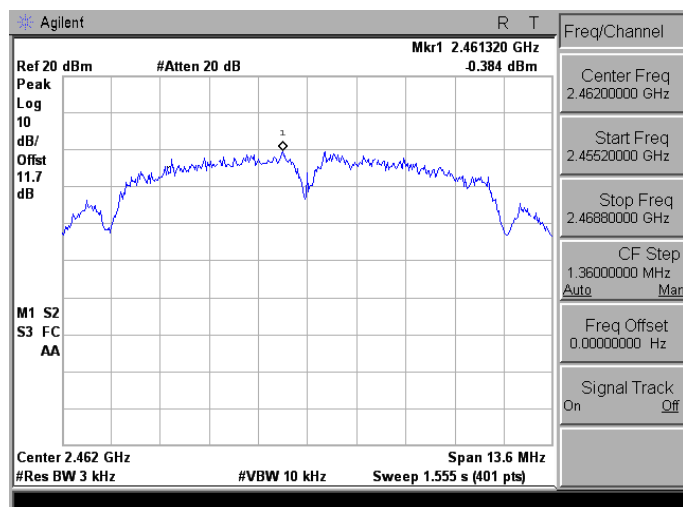
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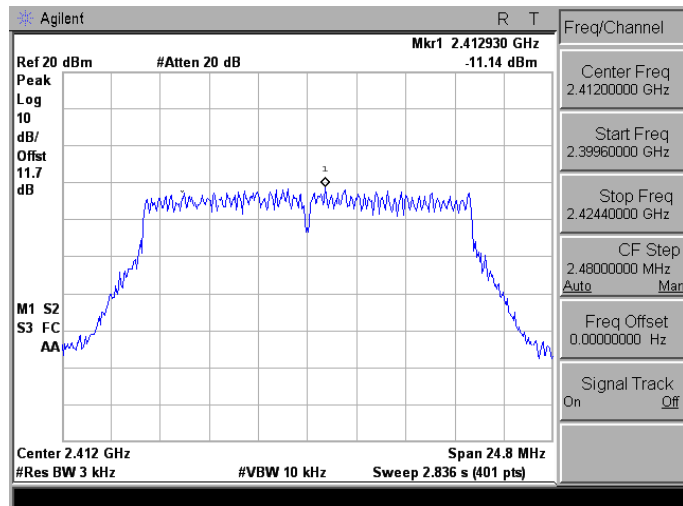


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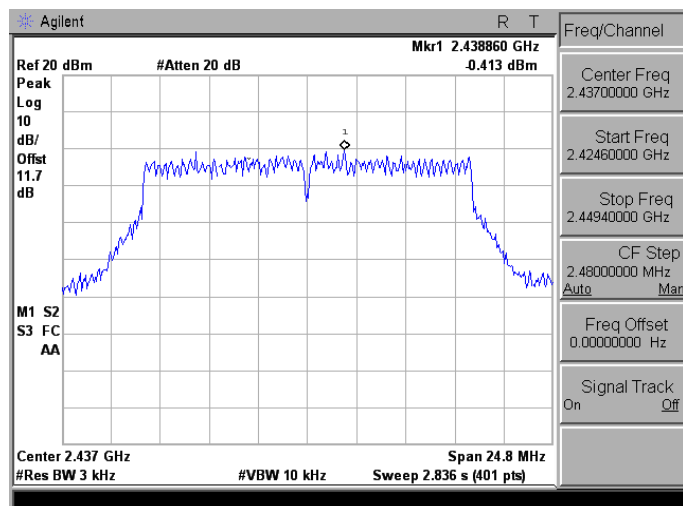


Mode 3: IEEE 802.11g Link Mode_ANT0

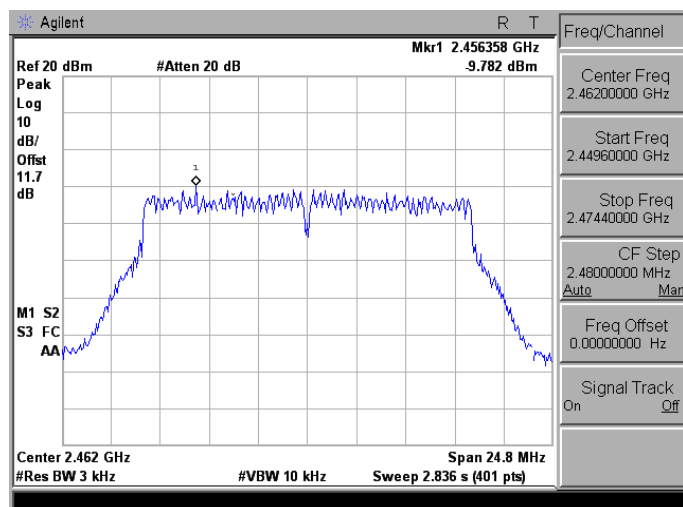
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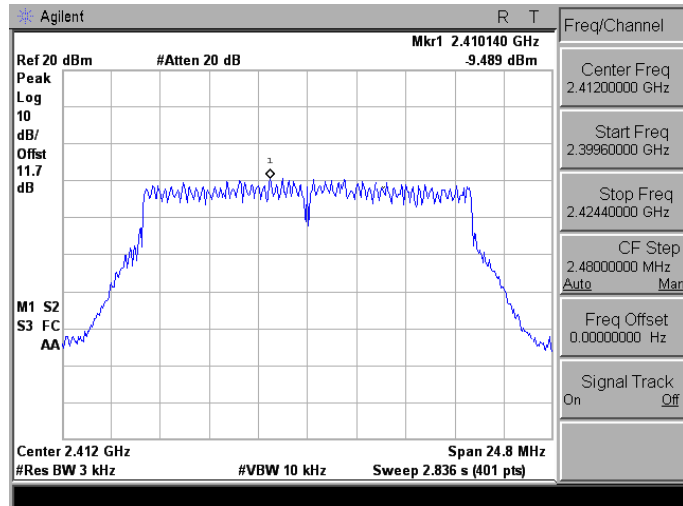


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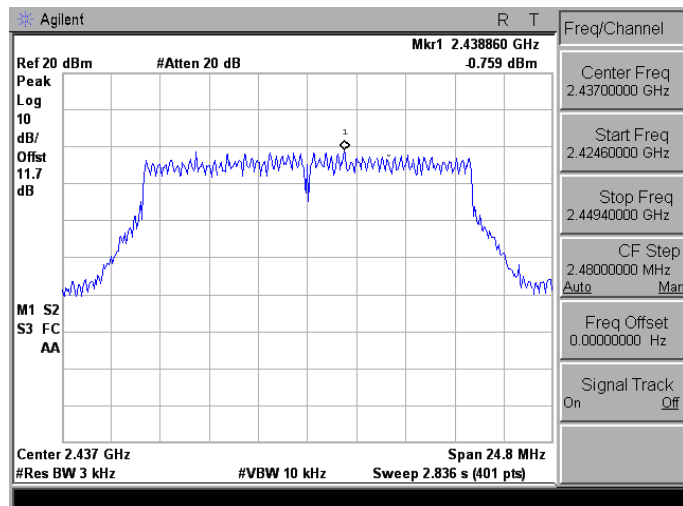


Mode 3: IEEE 802.11g Link Mode_ANT1

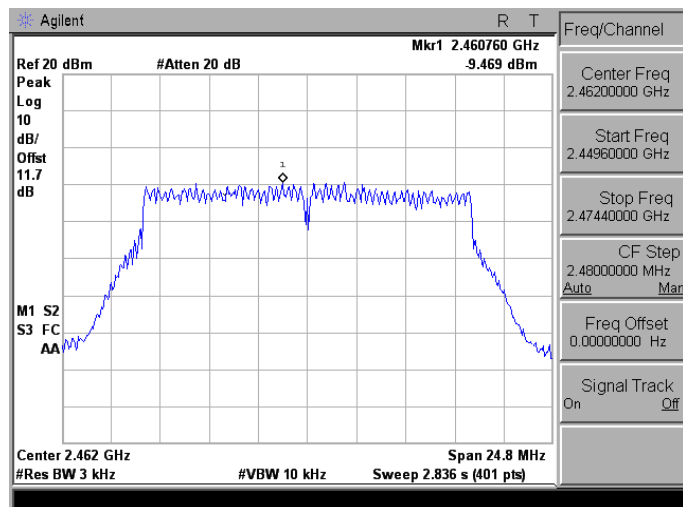
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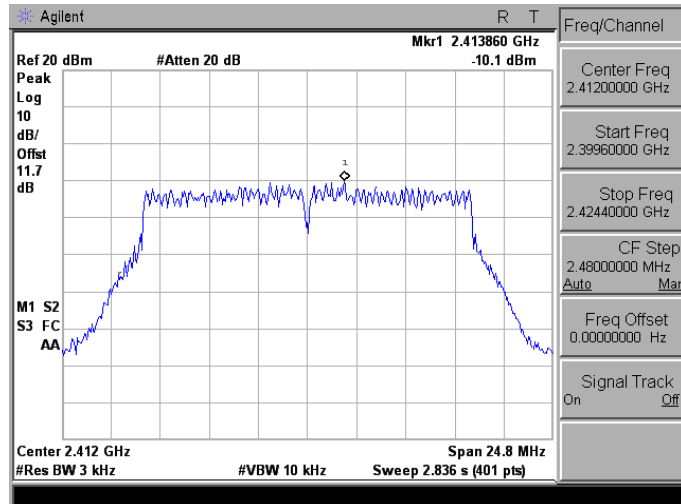


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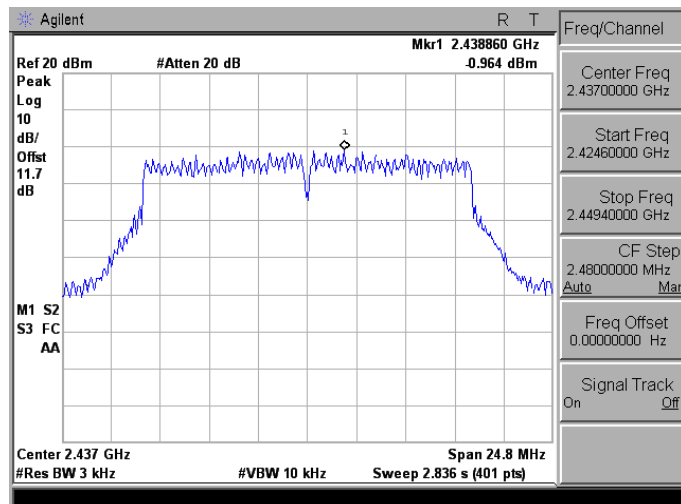


Mode 3: IEEE 802.11g Link Mode_ANT2

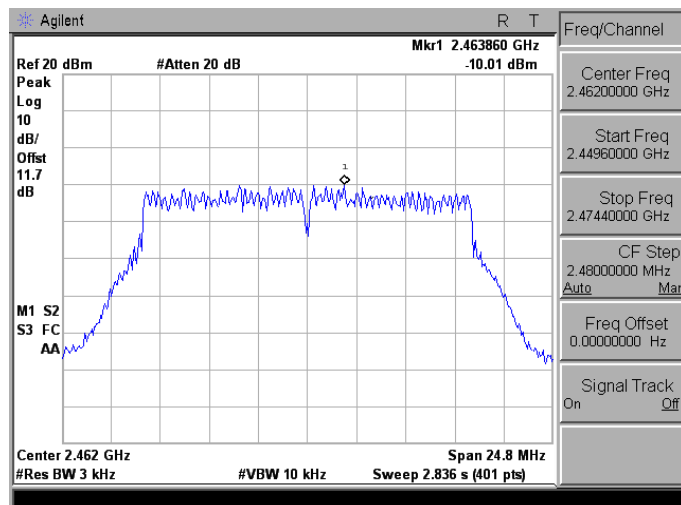
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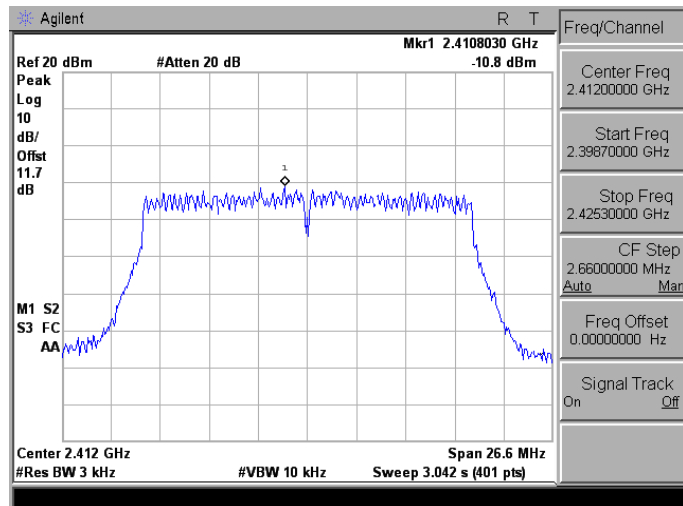


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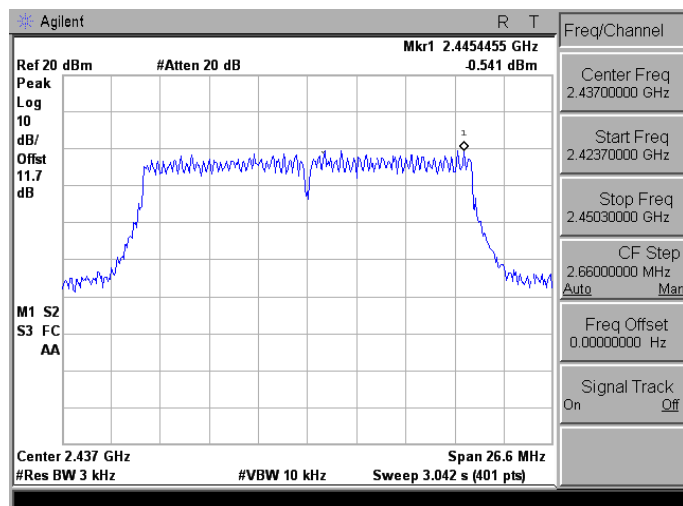


Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode _ANT0

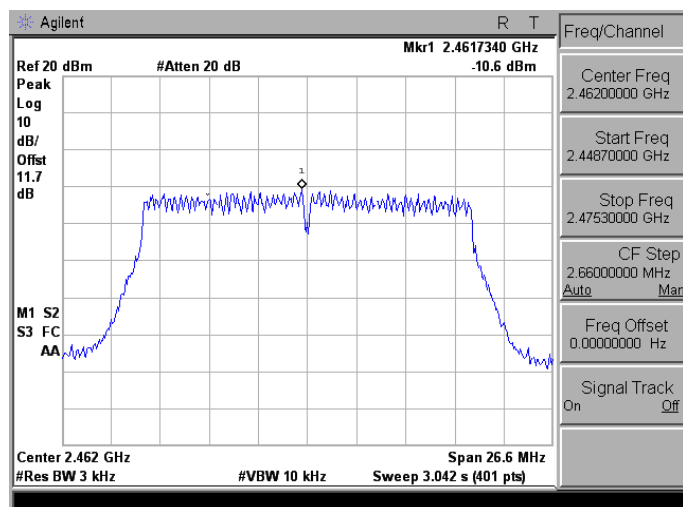
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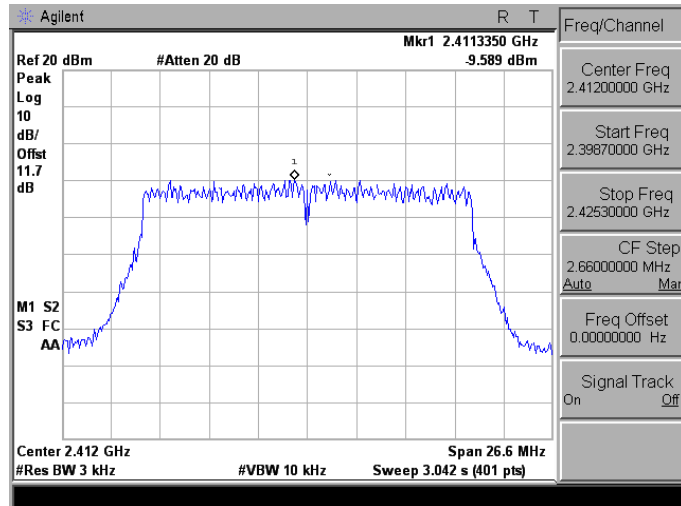


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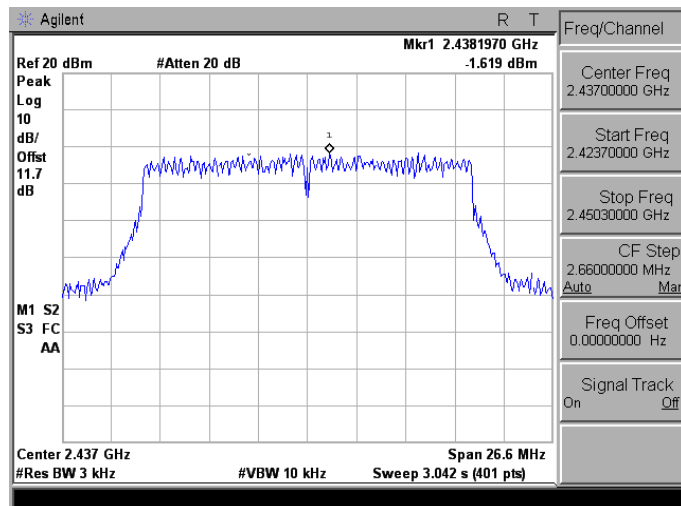


Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode _ ANT1

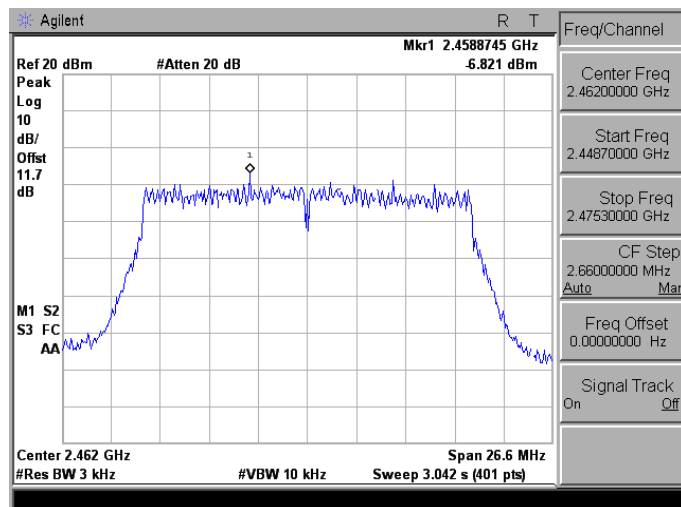
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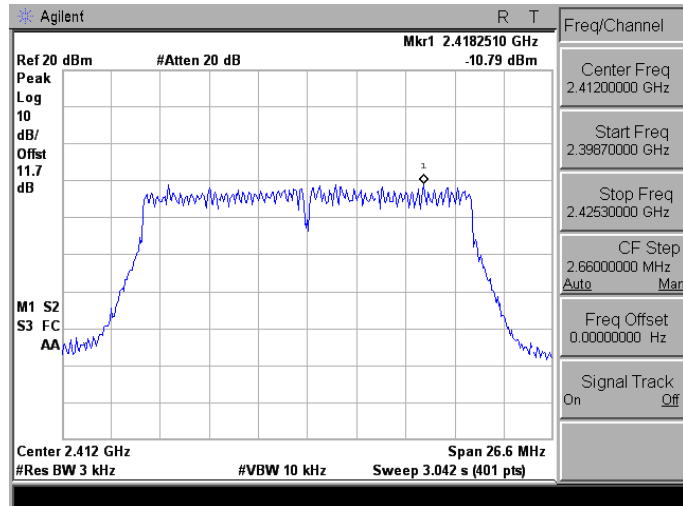


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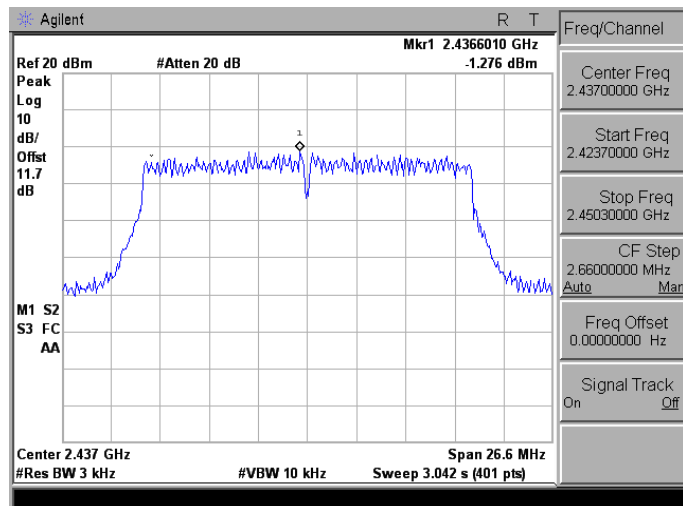


Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode _ANT2

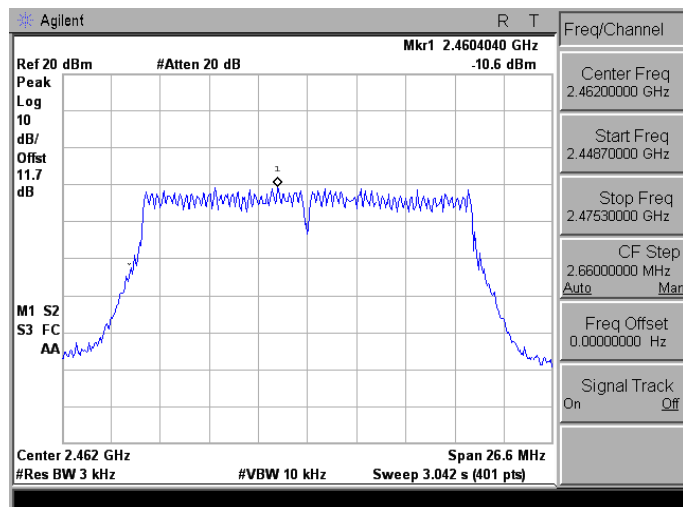
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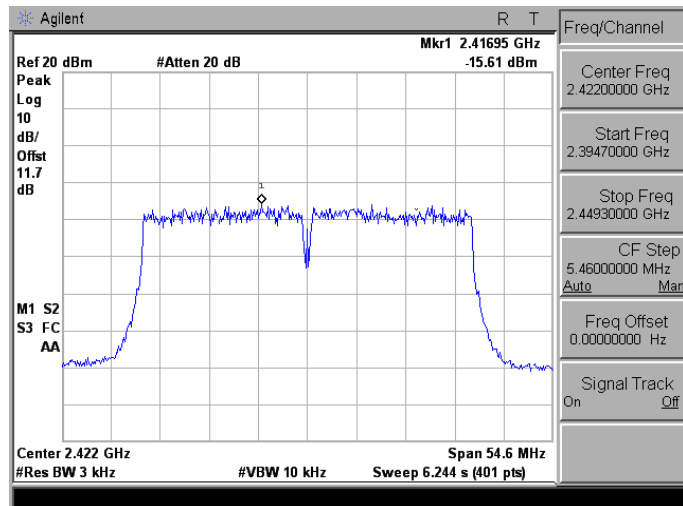


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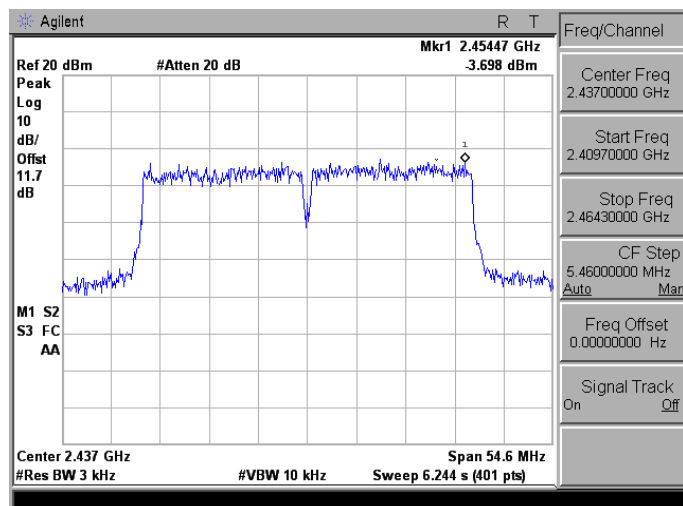


Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode _ANT0

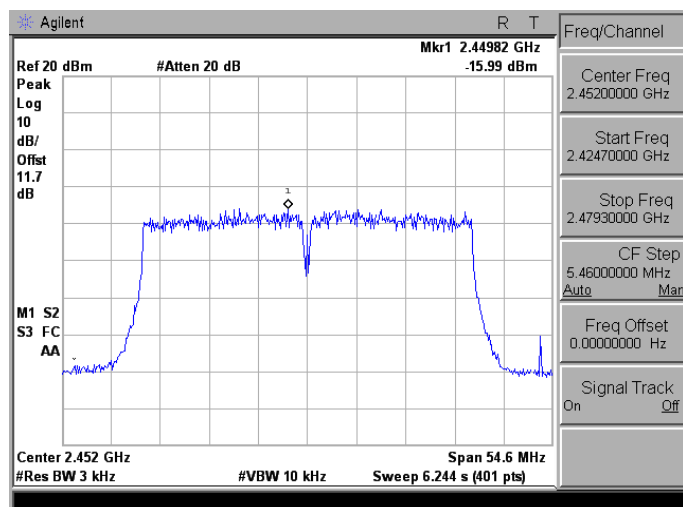
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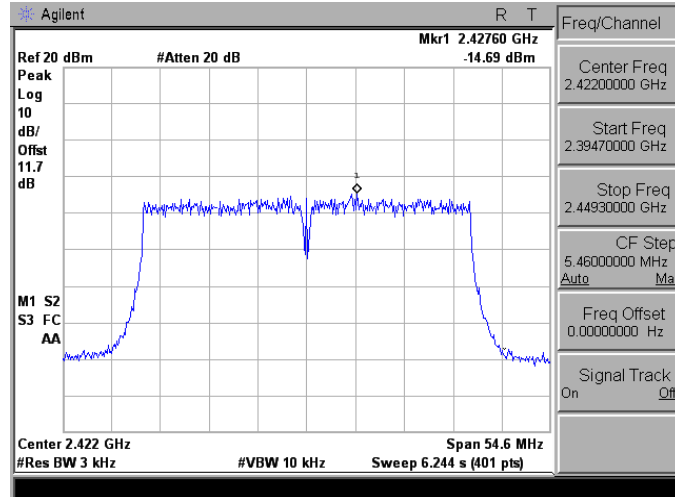


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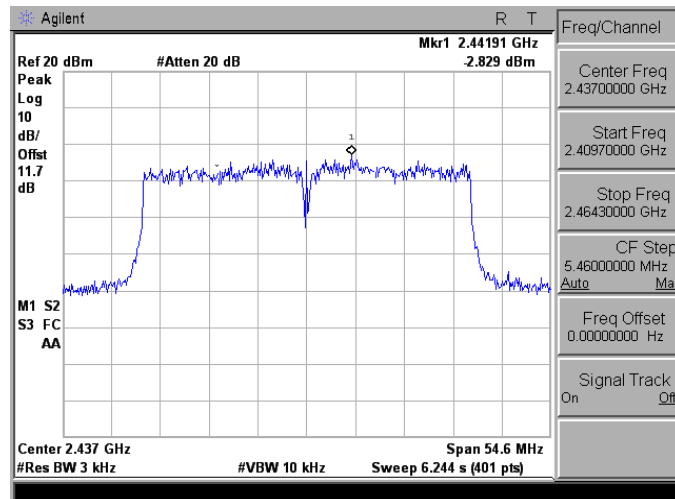


Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode _ ANT1

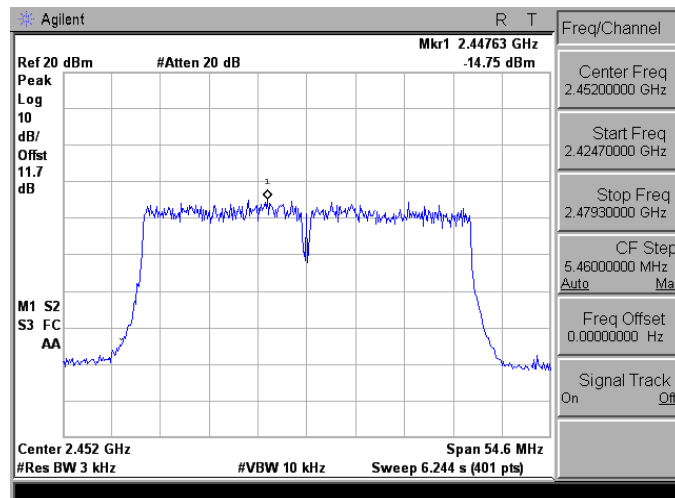
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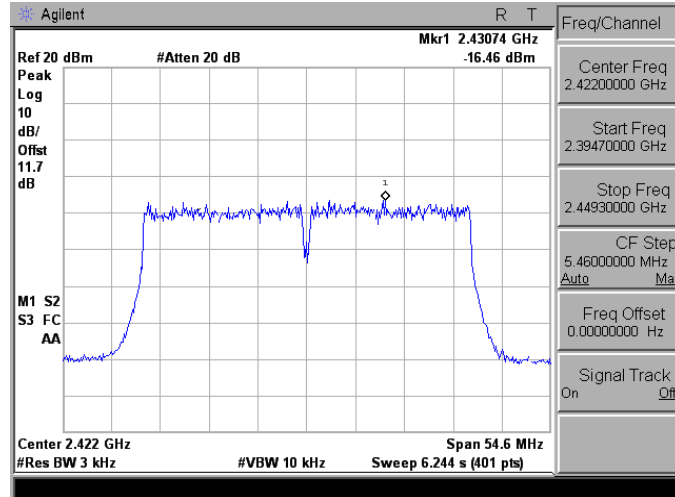


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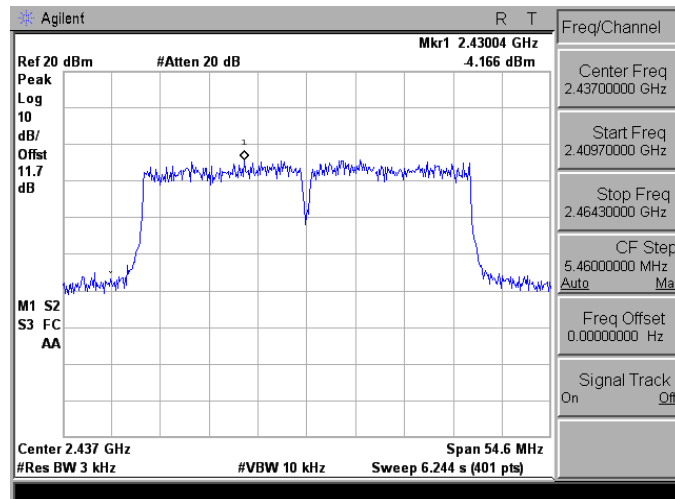


Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode _ ANT2

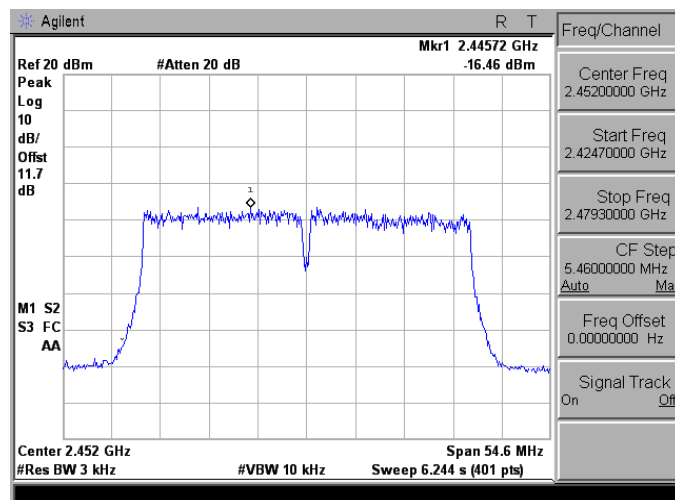
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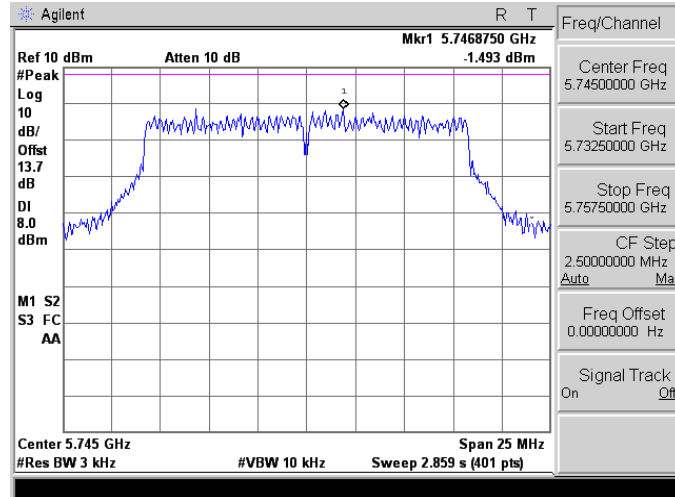
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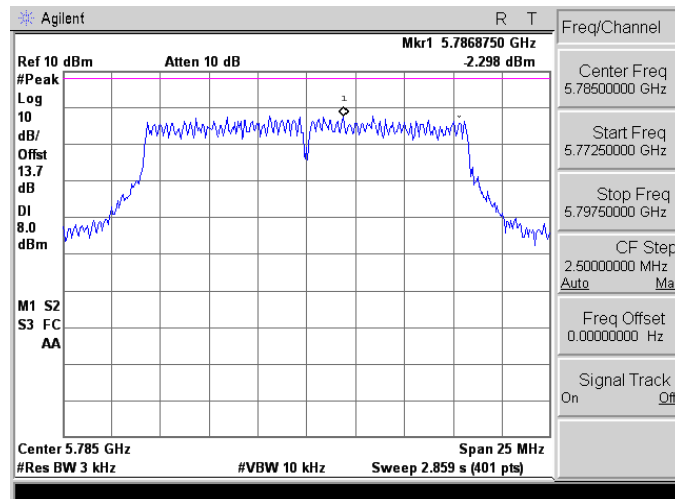


Mode 6: IEEE 802.11a U-NII Band III Link Mode_ANT-0

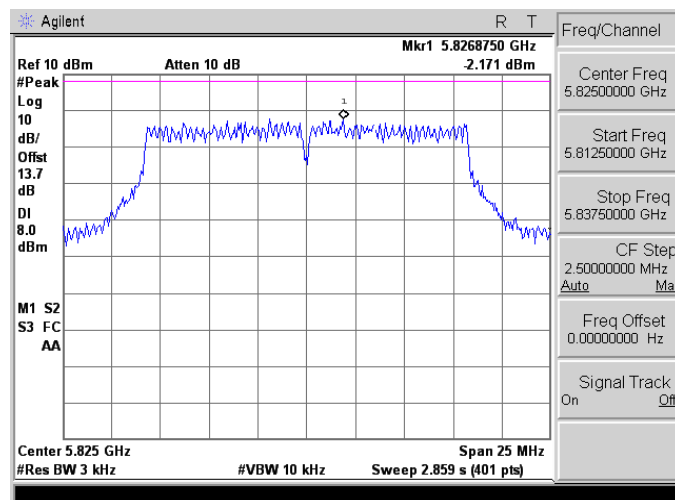
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5785

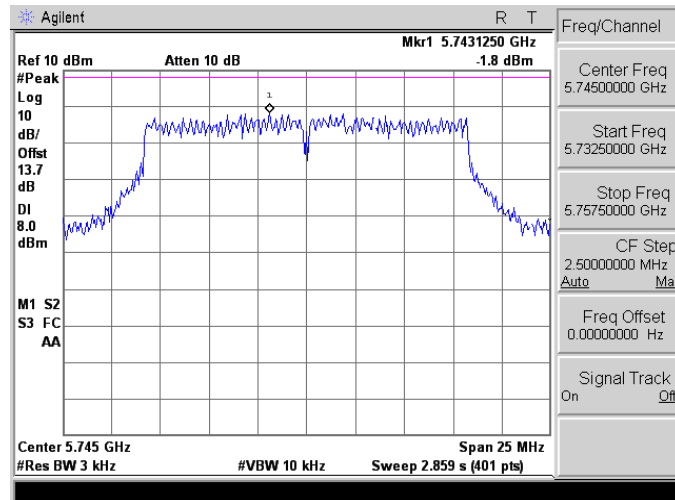


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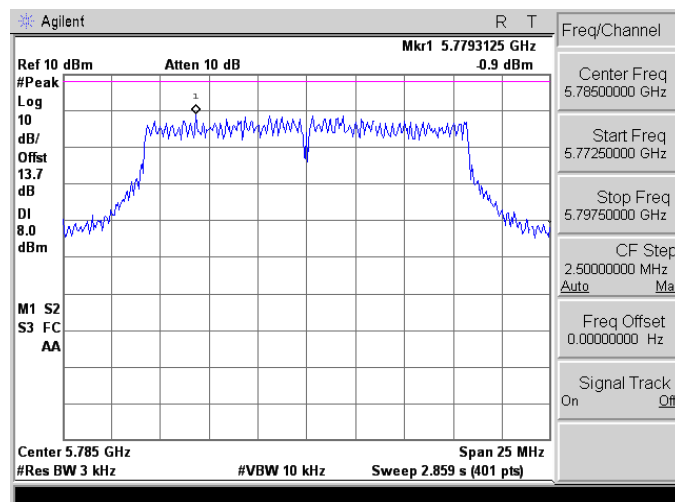


Mode 6: IEEE 802.11a U-NII Band III Link Mode_ANT-1

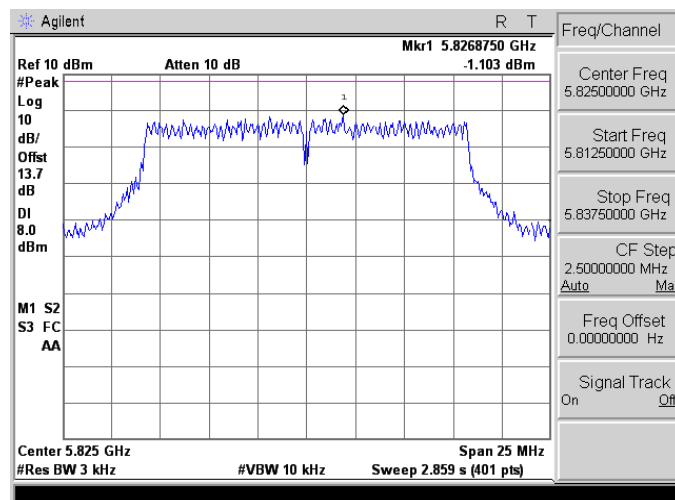
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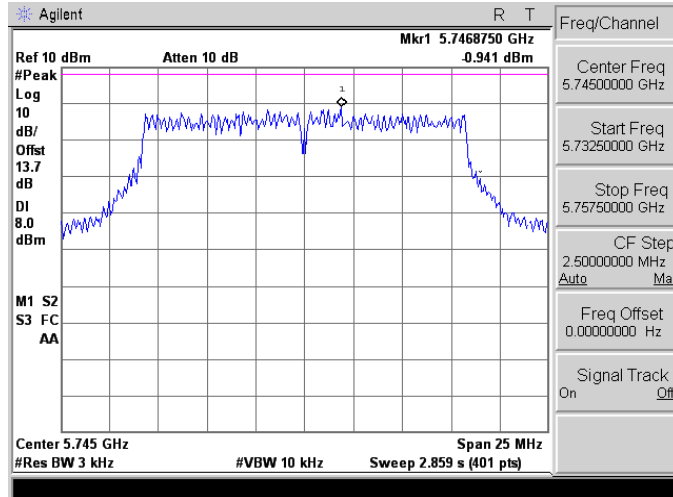


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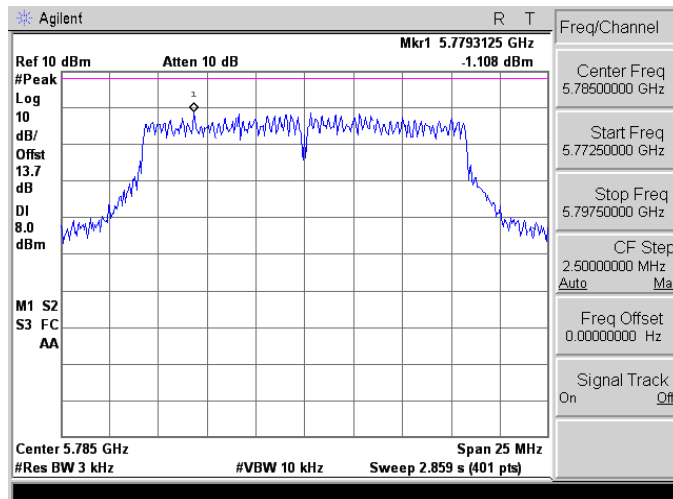


Mode 6: IEEE 802.11a U-NII Band III Link Mode_ANT-2

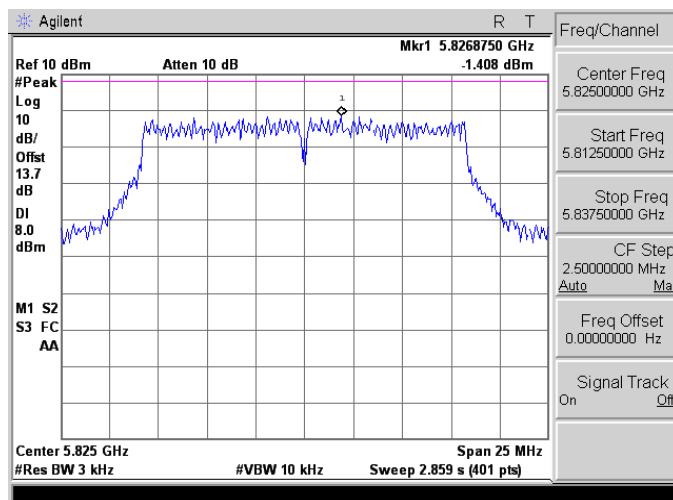
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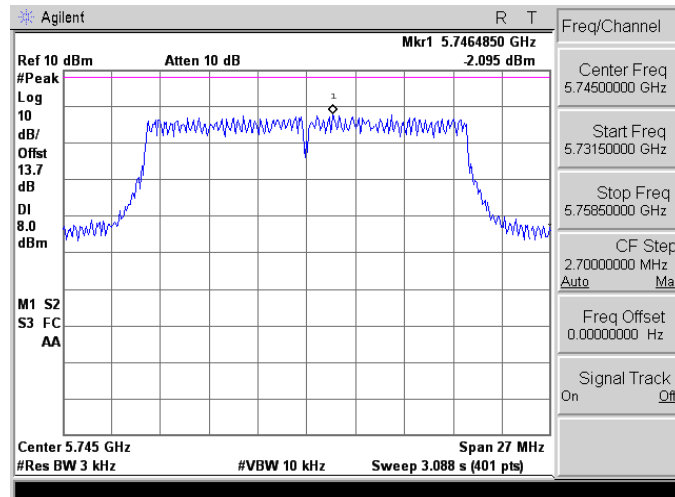


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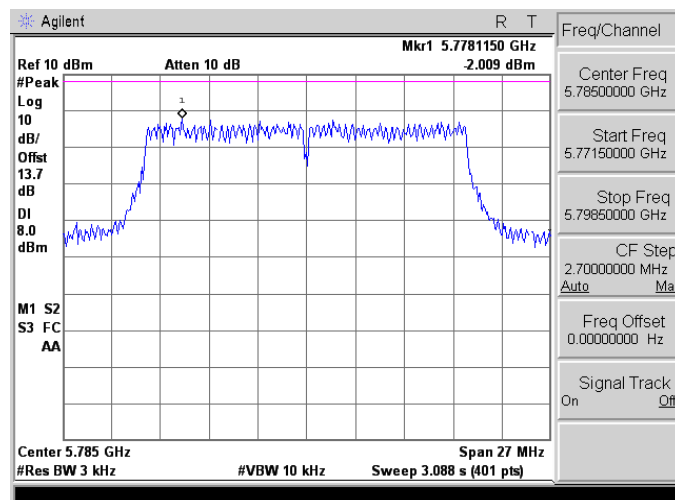


Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ANT0

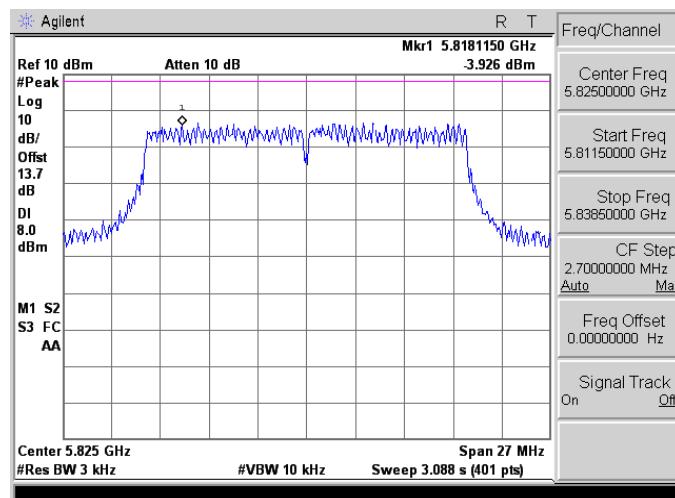
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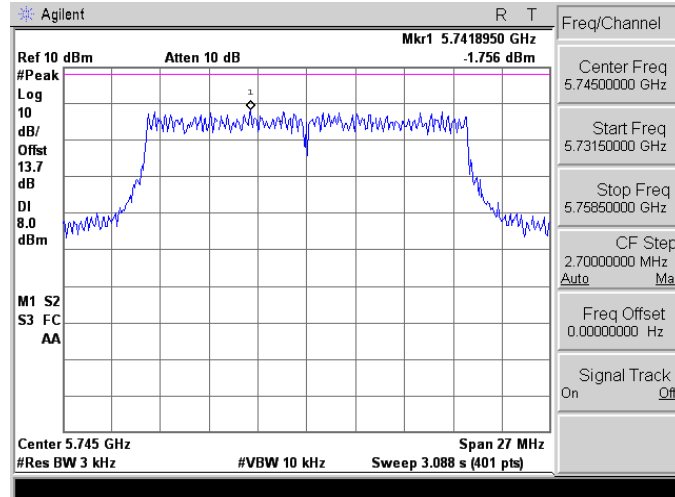


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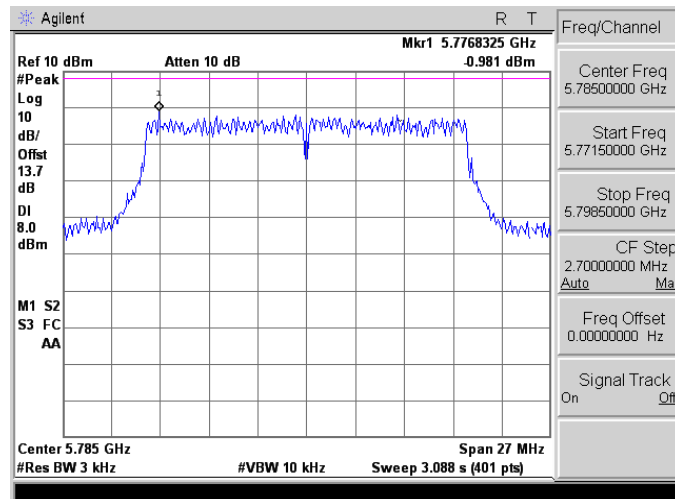


Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT1

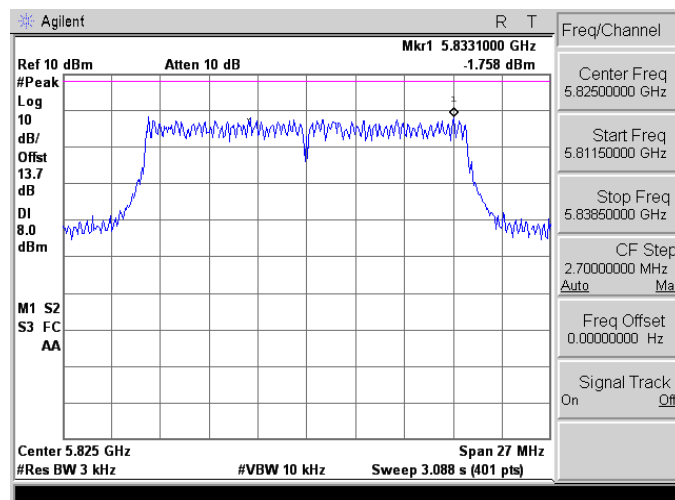
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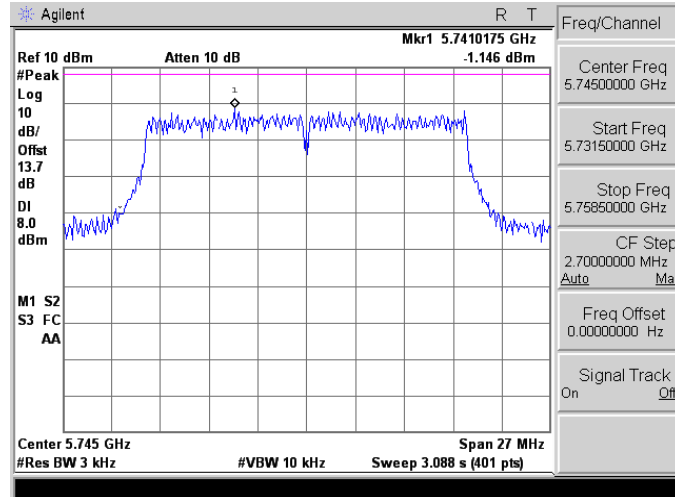


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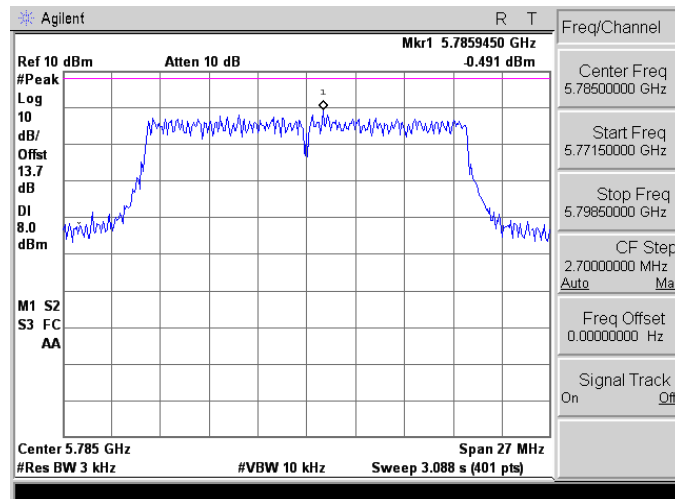


Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ANT2

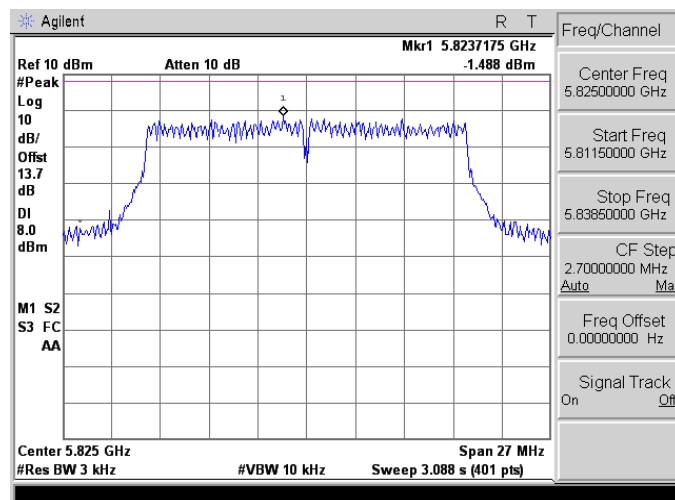
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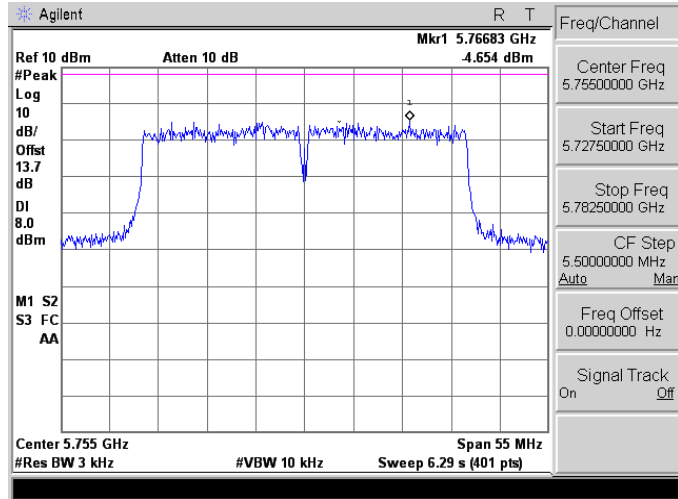


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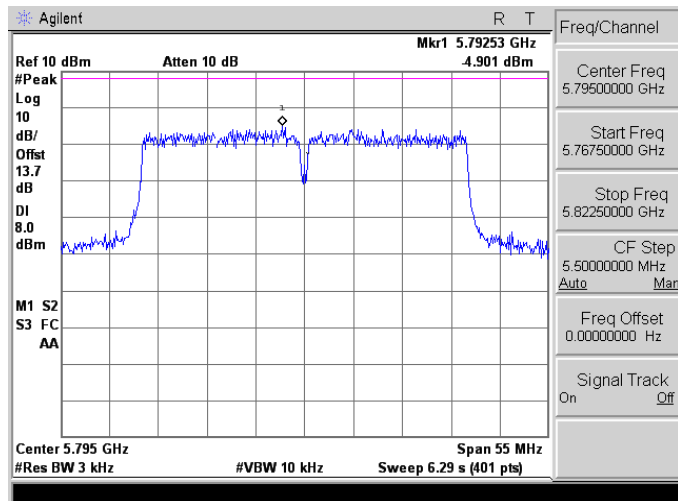


Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ANT0

5755

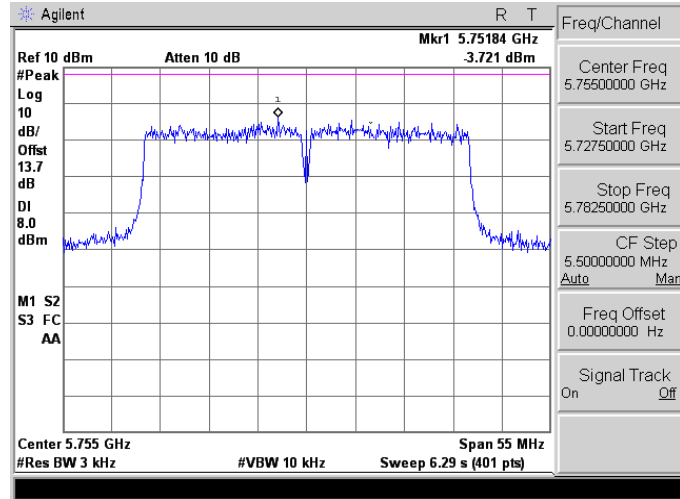


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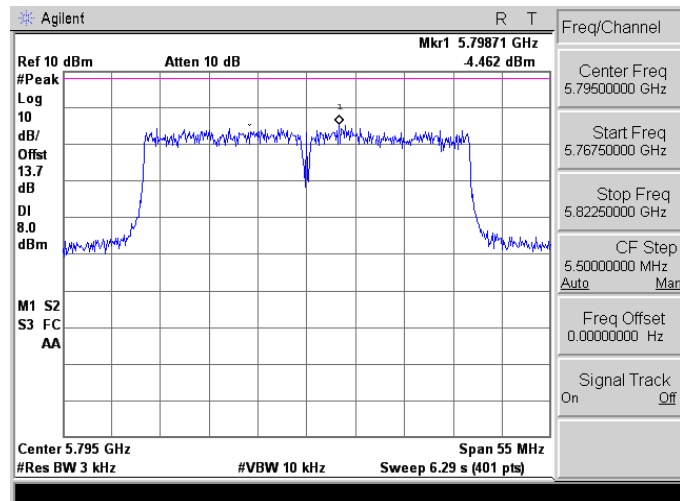


Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ANT1

5755

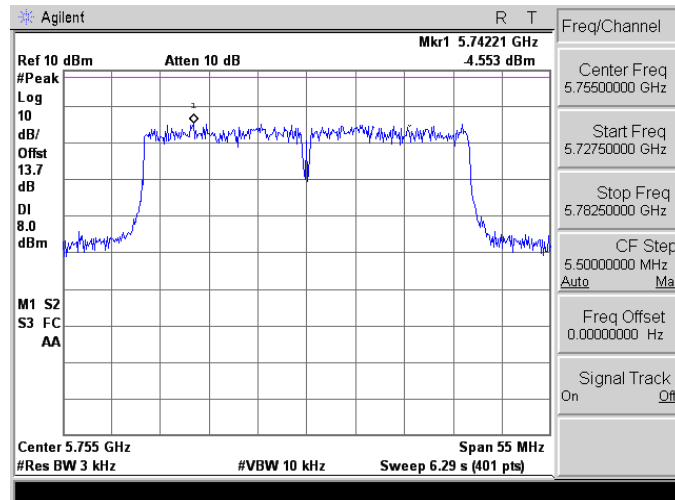


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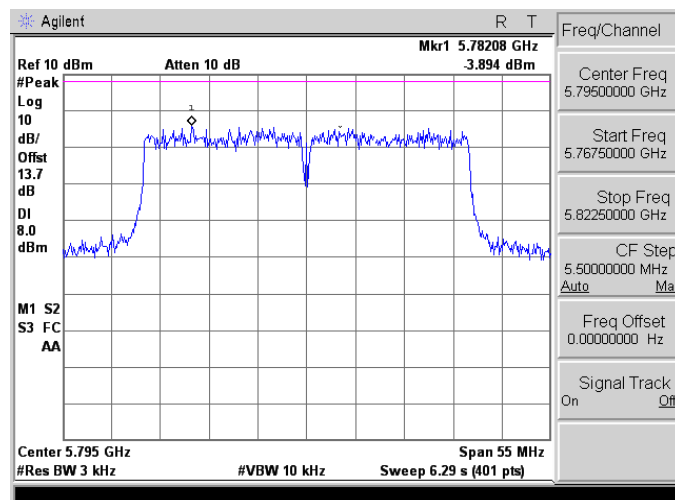


Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ANT2

5755

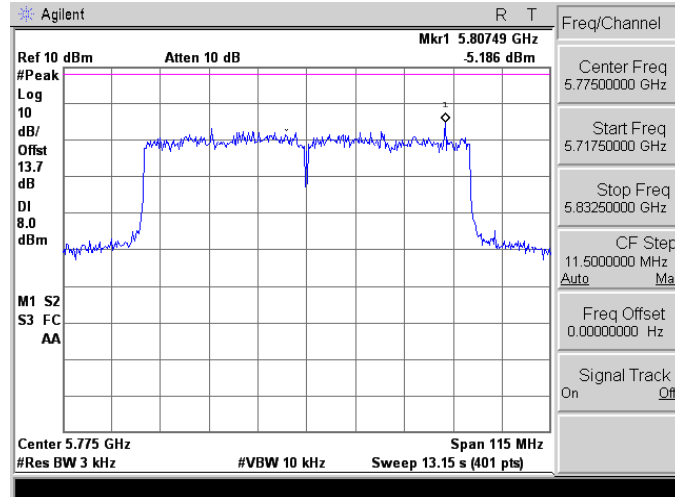


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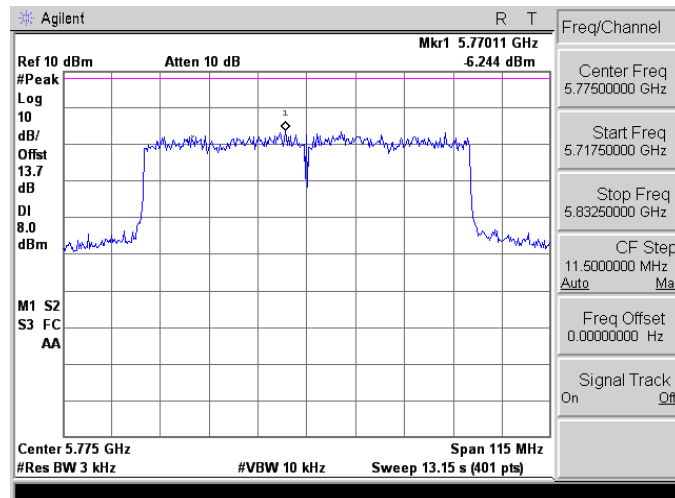
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ANT0

5775



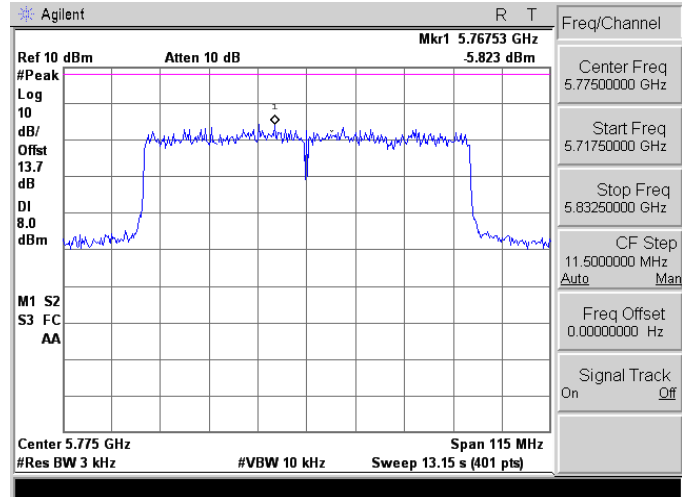
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ANT1

5755



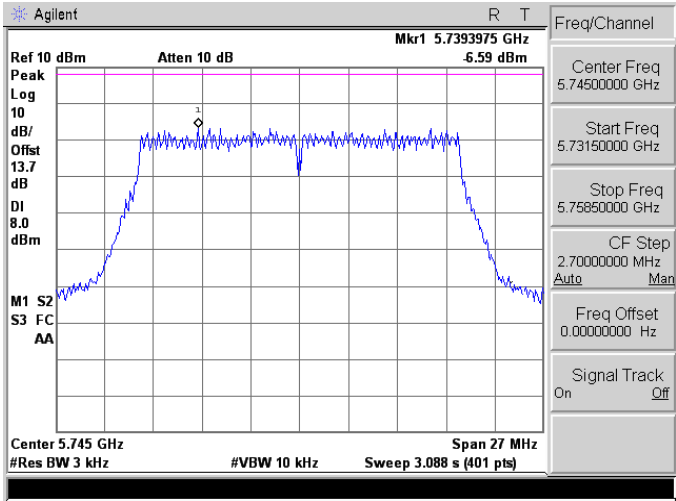
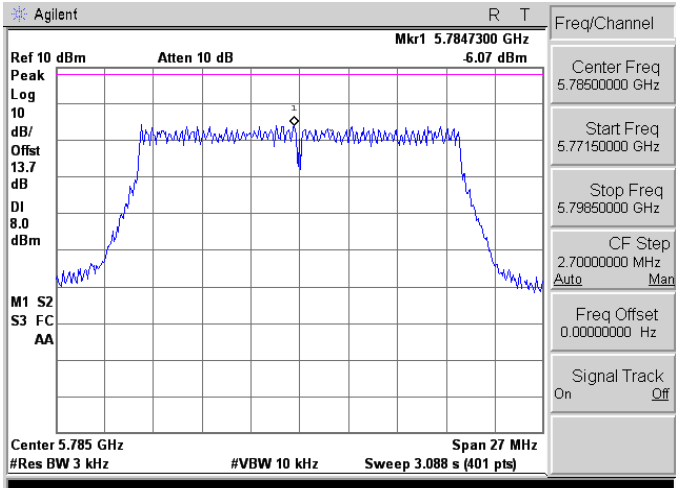
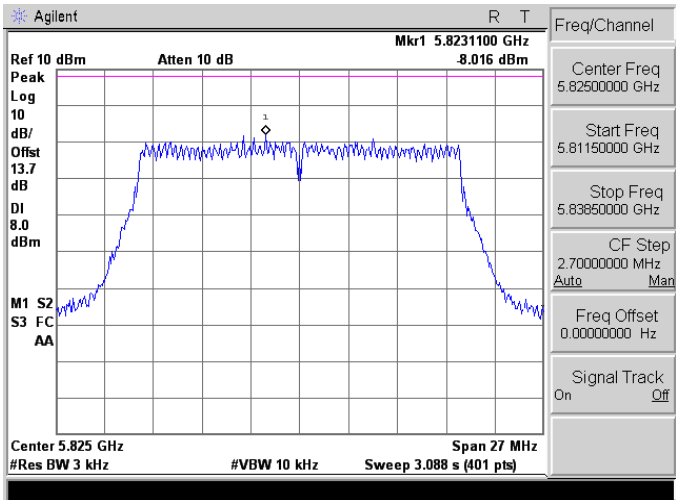
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ANT2

5775



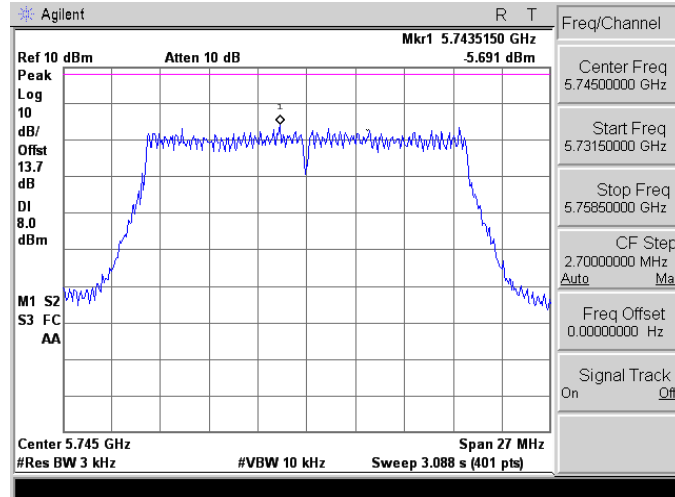
Beamforming on

Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ANT0

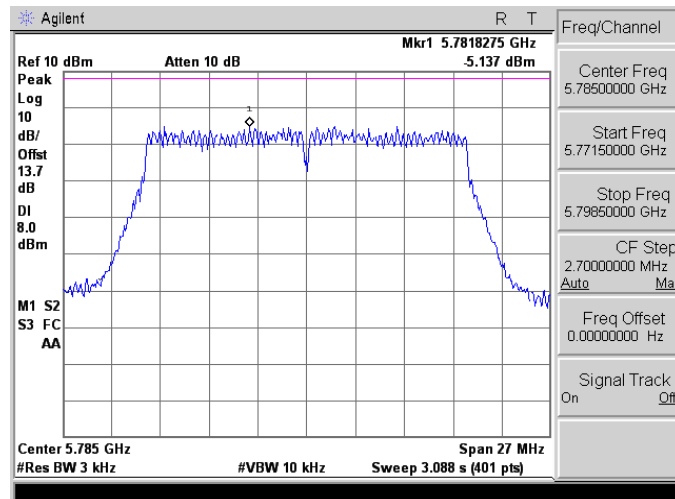
5745	 Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.7393975 GHz -6.59 dBm Peak Log 10 dB/Offst 13.7 dB DI 8.0 dBm M1 S2 S3 FC AA Center 5.745 GHz Span 27 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 3.088 s (401 pts) Freq/Channel Center Freq 5.7450000 GHz Start Freq 5.73150000 GHz Stop Freq 5.75850000 GHz CF Step 2.70000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5785	 Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.7847300 GHz -6.07 dBm Peak Log 10 dB/Offst 13.7 dB DI 8.0 dBm M1 S2 S3 FC AA Center 5.785 GHz Span 27 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 3.088 s (401 pts) Freq/Channel Center Freq 5.7850000 GHz Start Freq 5.77150000 GHz Stop Freq 5.79850000 GHz CF Step 2.70000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5825	 Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.8231100 GHz -8.016 dBm Peak Log 10 dB/Offst 13.7 dB DI 8.0 dBm M1 S2 S3 FC AA Center 5.825 GHz Span 27 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 3.088 s (401 pts) Freq/Channel Center Freq 5.8250000 GHz Start Freq 5.81150000 GHz Stop Freq 5.83850000 GHz CF Step 2.70000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT1

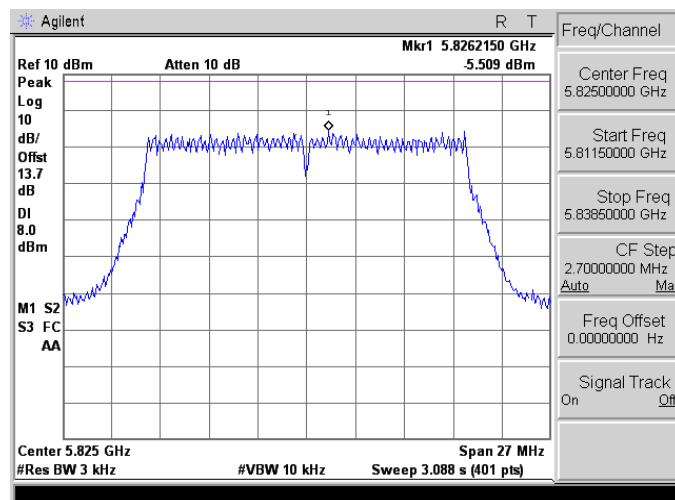
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5785

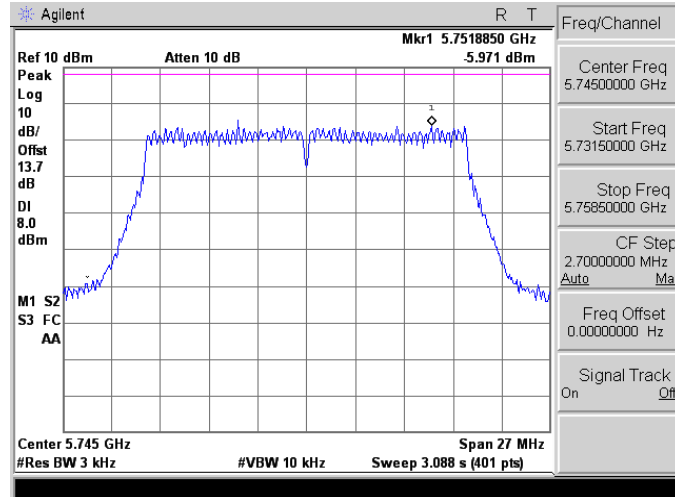


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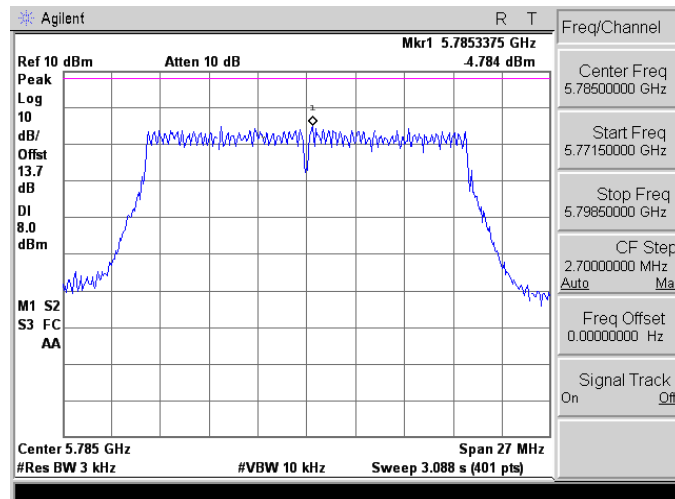


Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ANT2

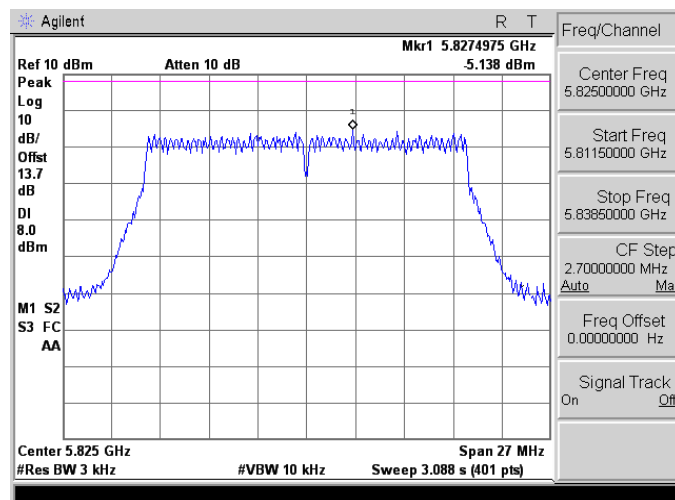
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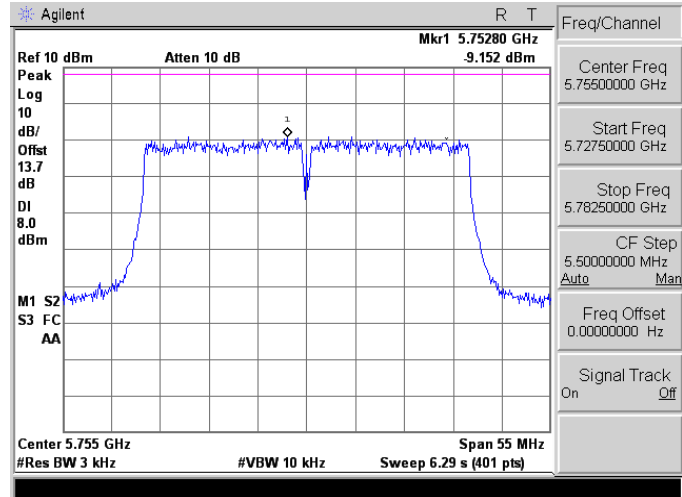


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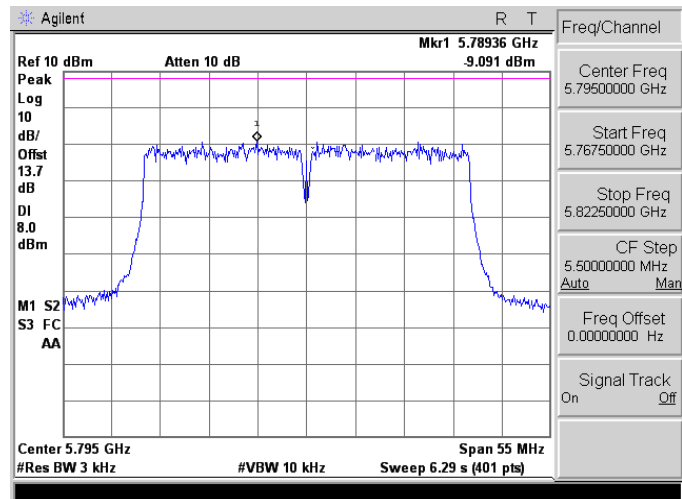


Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ANT0

5755

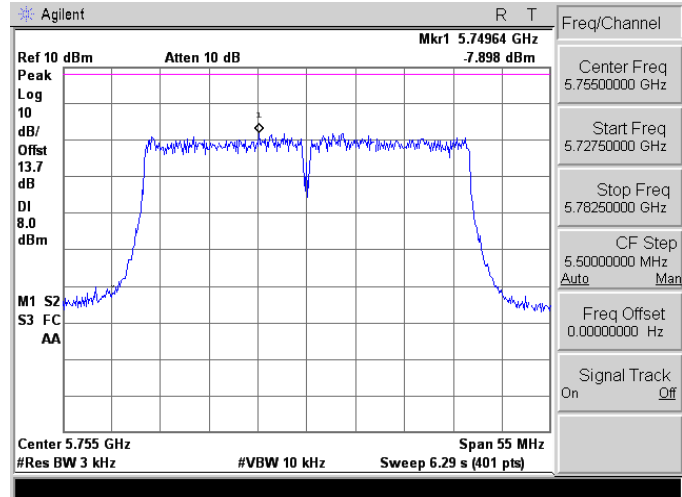


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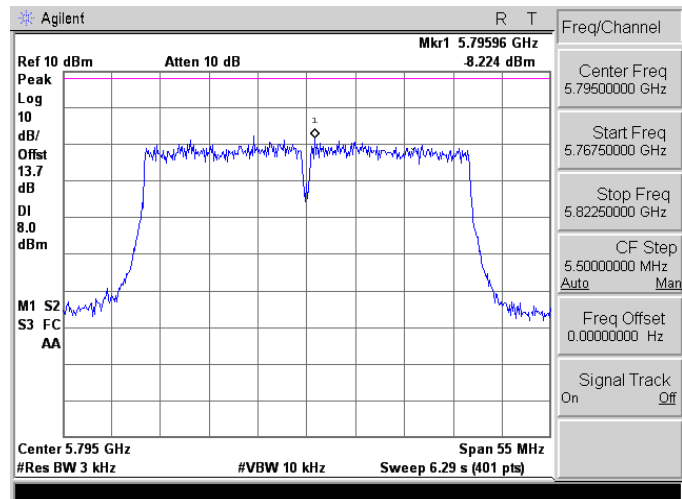


Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ANT1

5755

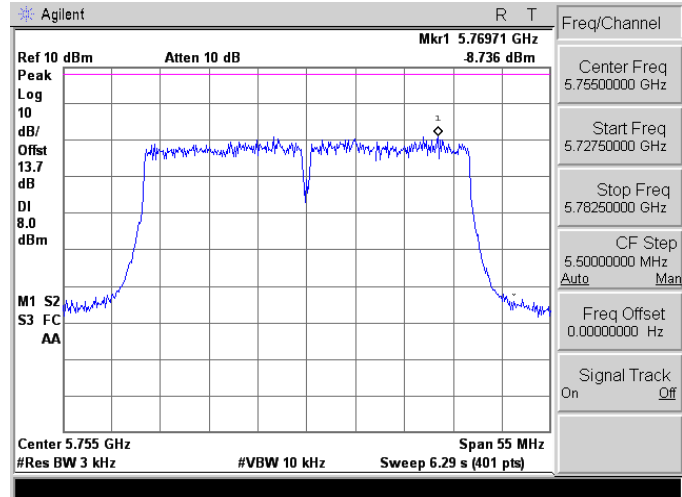


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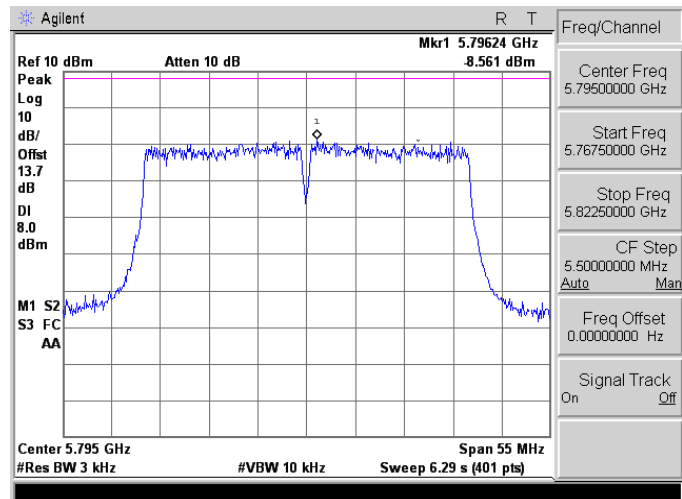


Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ANT2

5755

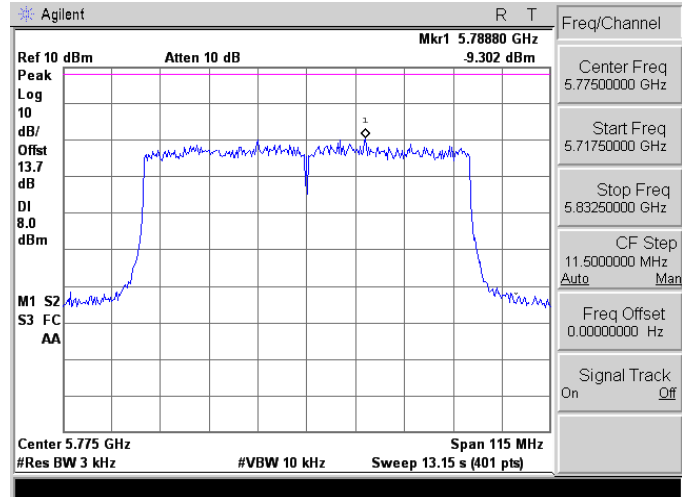


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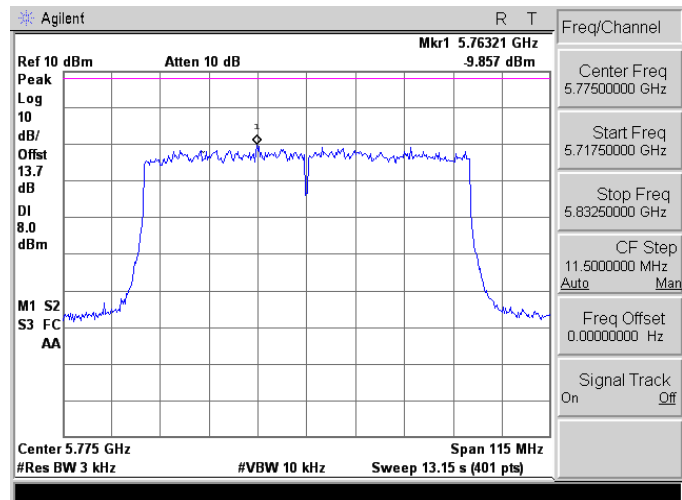
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ANT0

5775



Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ANT1

5755



Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ANT2

5775

