

FCC 47 CFR PART 15 SUBPART E

RF Test Report

Product Type : Simultaneous Dual-Band Wireless AC2350 Ultra HD Media Router

Applicant : ZyXEL Communications Corporation

Address : No.2, Gongye E. 9th Road, Hsinchu Science Park, Hsinchu, Taiwan

Trade Name : ZyXEL

Model Number : NBG6816

Test Specification : FCC 47 CFR PART 15 SUBPART E: Oct., 2014
ANSI C63.10-2009

Application Purpose : Original

Receive Date : Jan. 21, 2015

Test Period : Jan. 23 ~ Feb. 03, 2015

Issue Date : Mar. 20, 2015

Issue by

A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Feb. 10, 2015	Initial Issue	
01	Feb. 12, 2015	Revised report information.	Joyce Liao
02	Mar. 03, 2015	Revised report information.	Snow Wang
03	Mar. 11, 2015	Revised report information.	Snow Wang
04	Mar. 20, 2015	Revised report information.	Joyce Liao

Verification of Compliance

Issued Date: 03/20/2015

Product Type : Simultaneous Dual-Band Wireless AC2350 Ultra HD Media Router

Applicant : ZyXEL Communications Corporation

Address : No.2, Gongye E. 9th Road, Hsinchu Science Park, Hsinchu, Taiwan

Trade Name : ZyXEL

Model Number : NBG6816

FCC ID : I88NBG6816

EUT Rated Voltage : DC 12V, 4A

Test Voltage : 120 Vac / 60 Hz

Applicable Standard : FCC 47 CFR PART 15 SUBPART E: Oct., 2014
ANSI C63.10-2009

Test Result : Complied

Application Purpose : Original

Performing Lab. : A Test Lab Techno Corp.

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<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
(Manager) (Fly Lu)

Reviewed By : Eric Ou Yang
(Testing Engineer) (Eric Ou Yang)

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1 General Information

1.1. Summary of Test Result

Standard	Item	Result	Remark
FCC			
15.407(b)(6) 15.207	AC Power Conducted Emission	PASS	---
15.407(b) 15.205 / 15.209	Transmitter Radiated Emissions	PASS	---
15.407(a)	Maximum Conducted Output Power	PASS	---
15.407(a)	26dB RF Bandwidth	Reference	---
15.407(a)	6dB RF Bandwidth	PASS	----
15.407(a)	Peak Power Spectral Density	PASS	---
15.407(g)	Frequency Stability	PASS	---
15.407(a) 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

Measurement Item	Frequency Range		Uncertainty (dB)
Conducted Emission	9kHz ~ 30MHz		± 2.020
Radiated Emission	30MHz ~ 1000MHz	Horizontal	± 3.960
		Vertical	± 3.570
	1000MHz ~ 18000MHz	Horizontal	± 3.072
		Vertical	± 3.028
	18000MHz ~ 40000MHz	Horizontal	± 3.622
		Vertical	± 3.506

2 EUT Description

Product Type	Simultaneous Dual-Band Wireless AC2350 Ultra HD Media Router			
Trade Name	ZyXEL			
Model No.	NBG6816			
Applicant	ZyXEL Communications Corporation No.2, Gongye E. 9th Road, Hsinchu Science Park, Hsinchu, Taiwan			
Manufacturer(1)	MitraStar Technology Corporation No. 6, Innovation Rd II, Science-Based Industrial, Hsinchu, Taiwan			
Manufacturer(2)	WuXi MitraStar Technology Co. Ltd 60#-E, Minshan Road, New district WuXi, Jiangsu, P.R. China			
FCC ID	I88NBG6816			
Hardware Version	80-035-008001ACB			
Software Version	3.40(VSI.7)01			
Radio Hardware Version	80-035-008001ACB			
Radio Software Version	v36.7.4.17			
Frequency Range	Band	Mode	Frequency Range (MHz)	Number of Channels
	U-NII Band I	IEEE 802.11a	5180 – 5240	4 Channels
		IEEE 802.11n 20 MHz	5180 – 5240	4 Channels
		IEEE 802.11n 40 MHz	5190 – 5230	2 Channels
		IEEE 802.11ac 80 MHz	5210	1 Channels
	U-NII Band III	IEEE 802.11a	5745 – 5825	5 Channels
		IEEE 802.11n 20 MHz	5745 – 5825	5 Channels
		IEEE 802.11n 40 MHz	5755 – 5795	2 Channels
		IEEE 802.11ac 80 MHz	5775	1 Channels
Modulation Type	OFDM			
Antenna Used	Type		Band	Max. Gain
	Dipole Antenna (Reversed-SMA Connector)		U-NII Band I	4.26 dBi
			U-NII Band III	4.15 dBi
Antenna Delivery	4TX + 4RX			
Equipment Type	Master			

Beamforming on	
RF Output Power	IEEE 802.11a U-NII Band I : 0.316W / 24.99 dBm
	IEEE 802.11a U-NII Band III : 0.314 W / 24.96 dBm
	IEEE 802.11n 20MHz U-NII Band I: 0.310 W / 24.91 dBm
	IEEE 802.11n 20MHz U-NII Band III: 0.323 W / 25.09 dBm
	IEEE 802.11n 40MHz U-NII Band I: 0.337 W / 25.27 dBm
	IEEE 802.11n 40MHz U-NII Band III: 0.334 W / 25.24 dBm
	IEEE 802.11ac 80MHz U-NII Band I: 0.342 W / 25.34 dBm
	IEEE 802.11ac 80MHz U-NII Band III: 0.347 W / 25.40 dBm
Beamforming off	
RF Output Power	IEEE 802.11a U-NII Band I : 0.596W / 27.75 dBm
	IEEE 802.11a U-NII Band III : 0.825 W / 29.16 dBm
	IEEE 802.11n 20MHz U-NII Band I: 0.602 W / 27.80 dBm
	IEEE 802.11n 20MHz U-NII Band III: 0.869 W / 29.39 dBm
	IEEE 802.11n 40MHz U-NII Band I: 0.736 W / 28.67 dBm
	IEEE 802.11n 40MHz U-NII Band III: 0.840 W / 29.24 dBm
	IEEE 802.11ac 80MHz U-NII Band I: 0.672 W / 28.28 dBm
	IEEE 802.11ac 80MHz U-NII Band III: 0.692 W / 28.40 dBm

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 802.11a Link Mode
Mode 3: IEEE 802.11n 20MHz Link Mode
Mode 4: IEEE 802.11n 40MHz Link Mode
Mode 5: IEEE 802.11ac 80MHz Link Mode

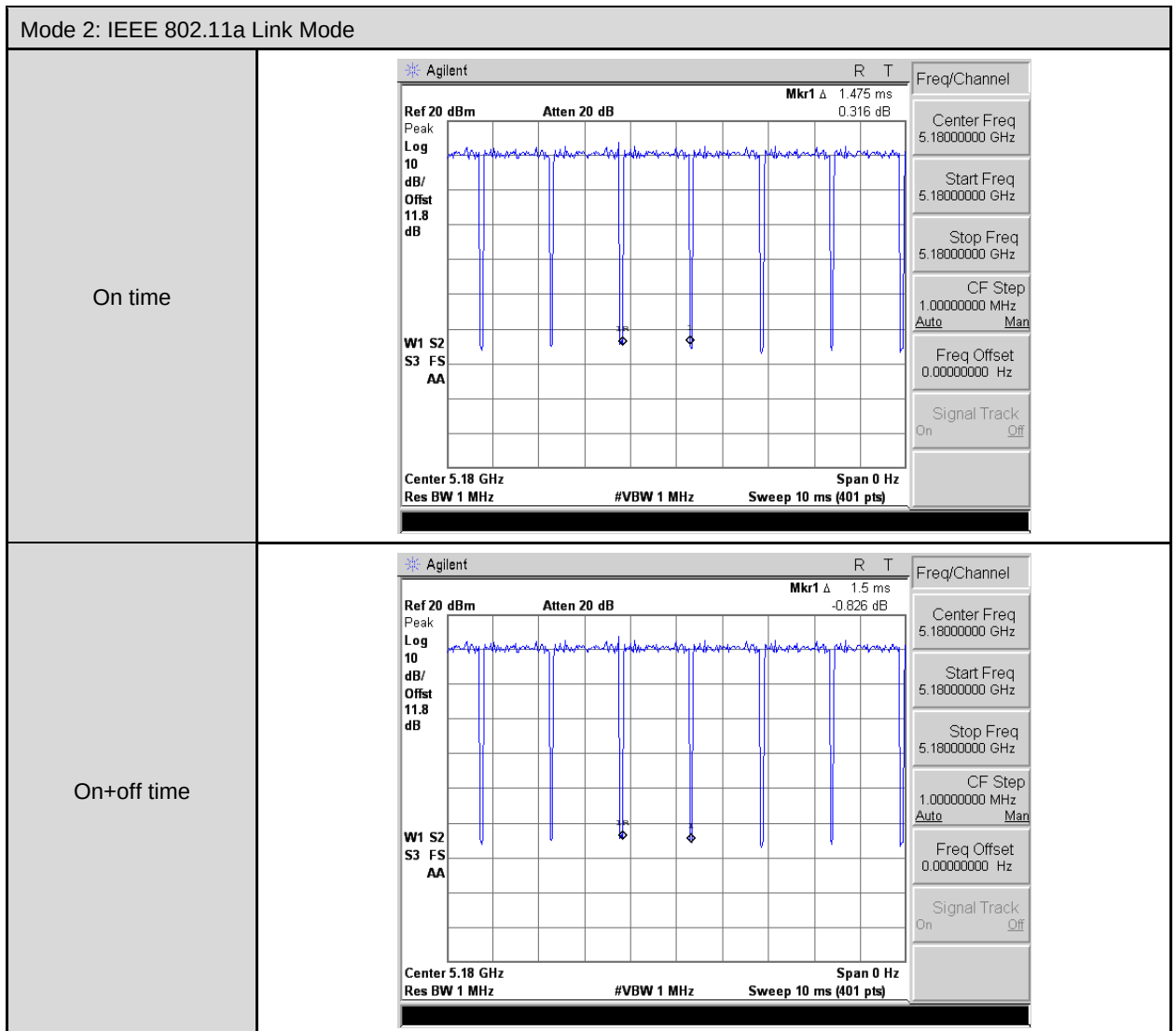
Software used to control the EUT for staying in continuous transmitting mode was programmed.

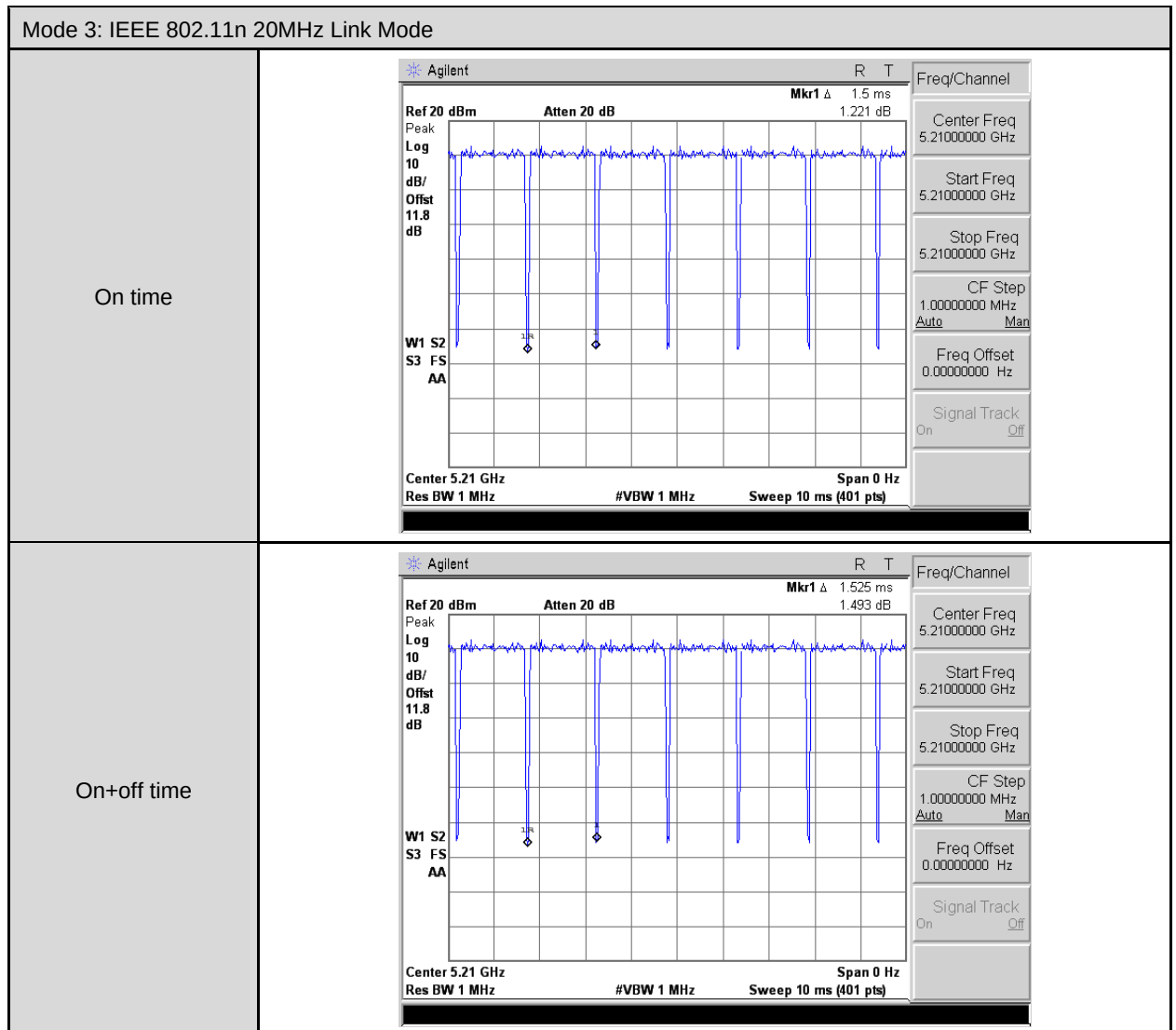
After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in normal link mode only.

Test Mode	Band	Data Rate	Test Channel
IEEE 802.11a Link Mode	U-NII Band I	6M	36, 40, 44, 48
	U-NII Band III		149, 153, 157, 161, 165
IEEE 802.11n 20MHz Link Mode	U-NII Band I	26M	36, 40, 44, 48
	U-NII Band III		149, 153, 157, 161, 165
IEEE 802.11n 40MHz Link Mode	U-NII Band I	54M	38, 46
	U-NII Band III		151, 159
IEEE 802.11ac 80MHz Link Mode	U-NII Band I	117.2M	42
	U-NII Band III		155

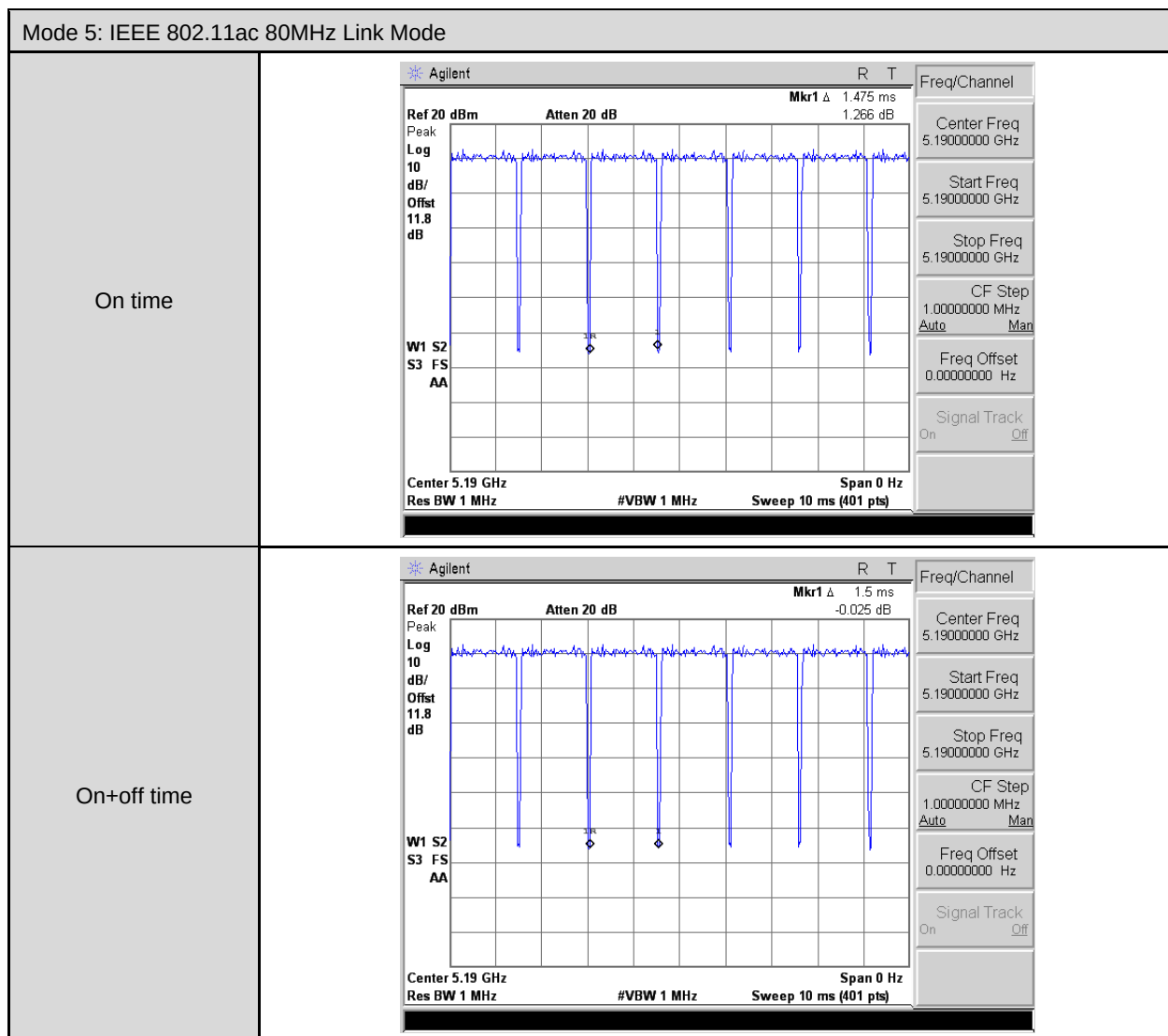
Duty cycle of test signal is >98%

Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle (%)
Mode 2: IEEE 802.11a Link Mode	5180.0	1.475	1.500	0.983
Mode 3: IEEE 802.11n 20MHz Link Mode	5180.0	1.500	1.525	0.984
Mode 4: IEEE 802.11n 40MHz Link Mode	5190.0	1.500	1.525	0.984
Mode 5: IEEE 802.11ac 80MHz Link Mode	5210.0	1.475	1.500	0.983









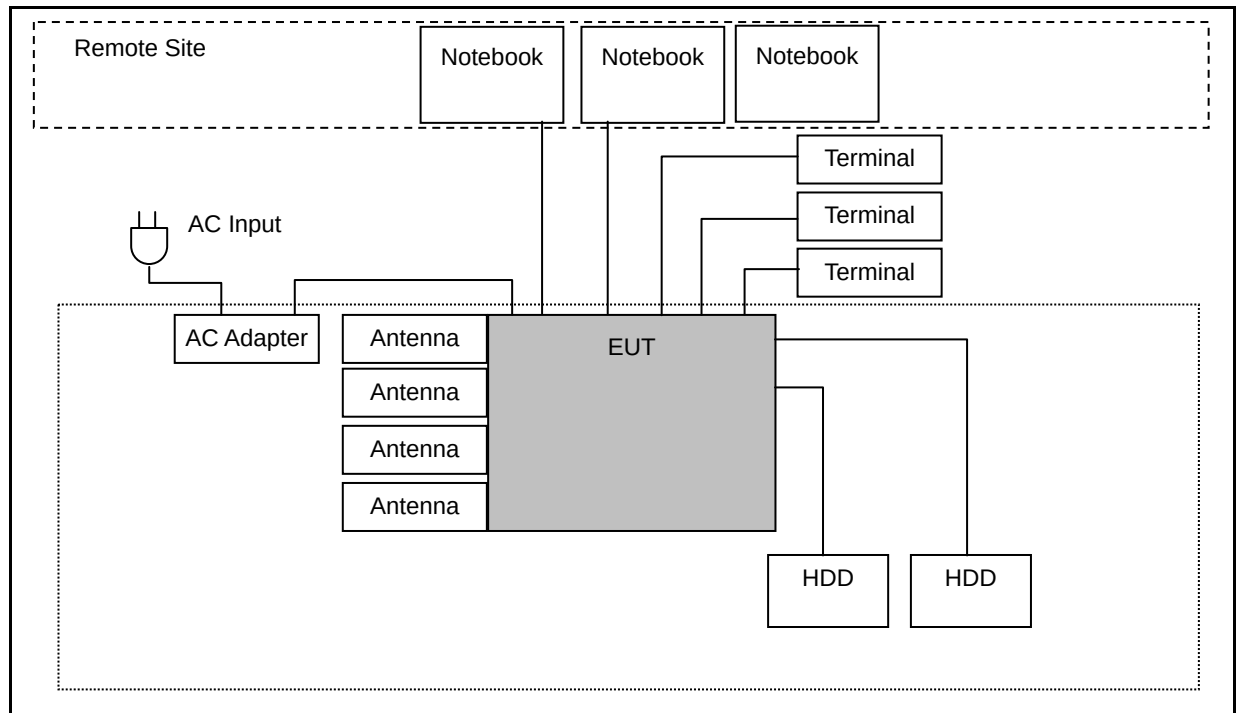
3.2. EUT Exercise Software

The EUT is operated in the engineering mode to fix the TX frequency for the purposes of measurement. According to its specifications, the EUT must comply with the requirements of Section 15.407 under the FCC Rules Part 15 Subpart E.

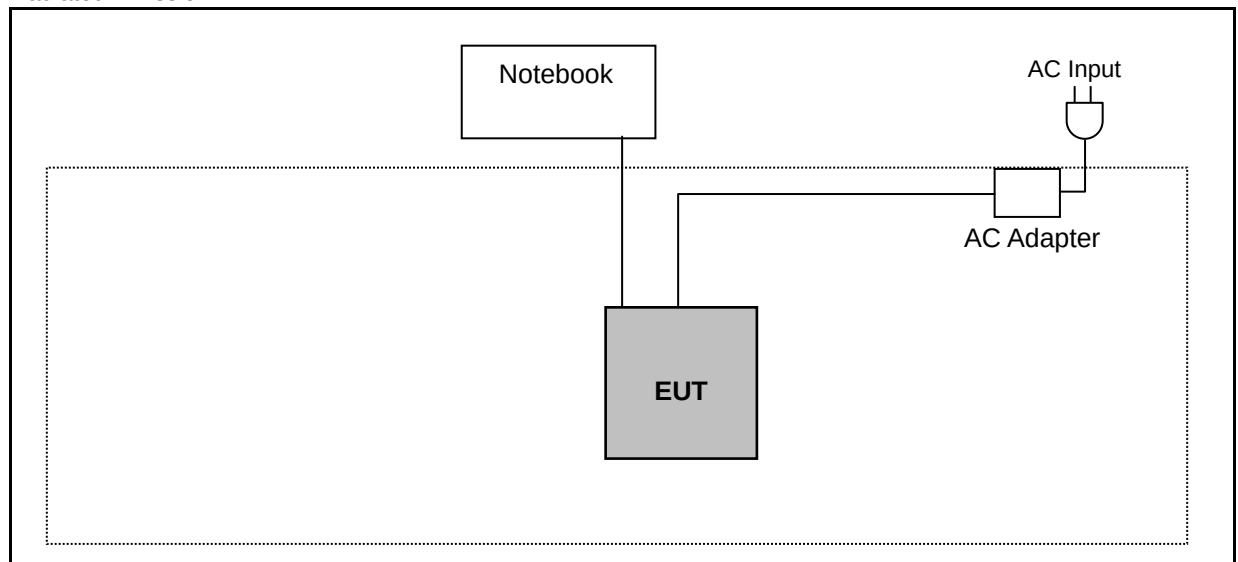
1.	Setup the EUT shown on 3.3.
2.	Turn on the power of all equipment.
3.	Turn on Wi-Fi function link to Notebook.
4.	EUT run test program.

3.3. Configuration of Test System Details

Conducted Emission



Radiated Emission



3.4. Test Site Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

4 AC Power 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

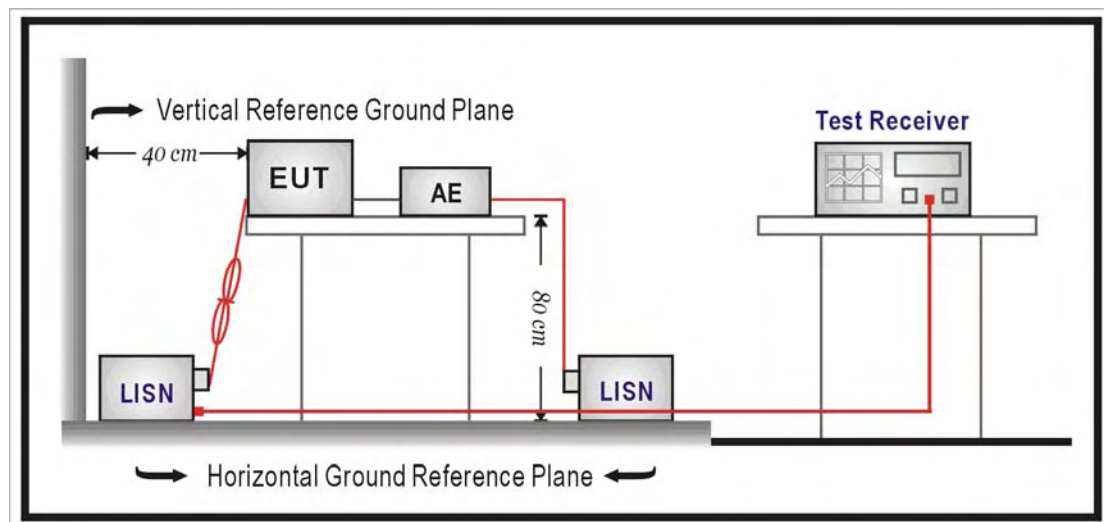
4.2. Test Instruments

Describe	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Test Receiver	R&S	ESCI	100367	06/12/2014	(1)
LISN	R&S	ENV216	101040	03/07/2014	(1)
LISN	R&S	ENV216	101041	03/07/2014	(1)
RF Cable	EMCI	RG 214/U	TE-02	06/30/2014	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

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

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

4.3. Test Setup



4.4. Test Procedure

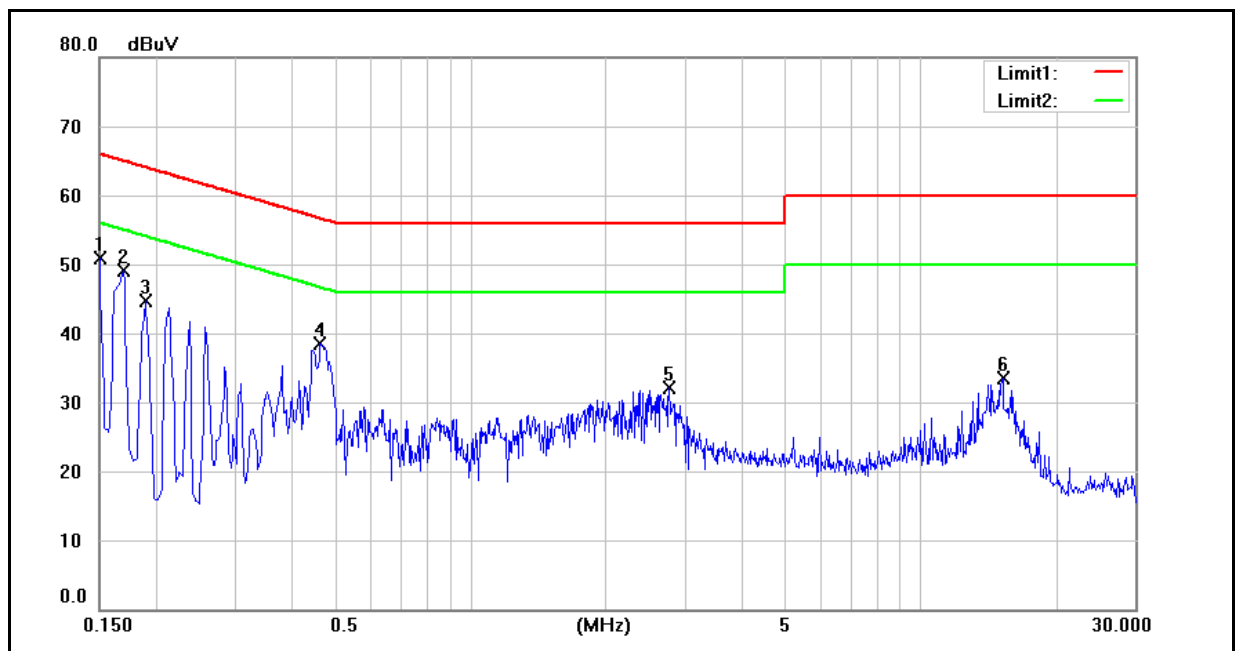
The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

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.

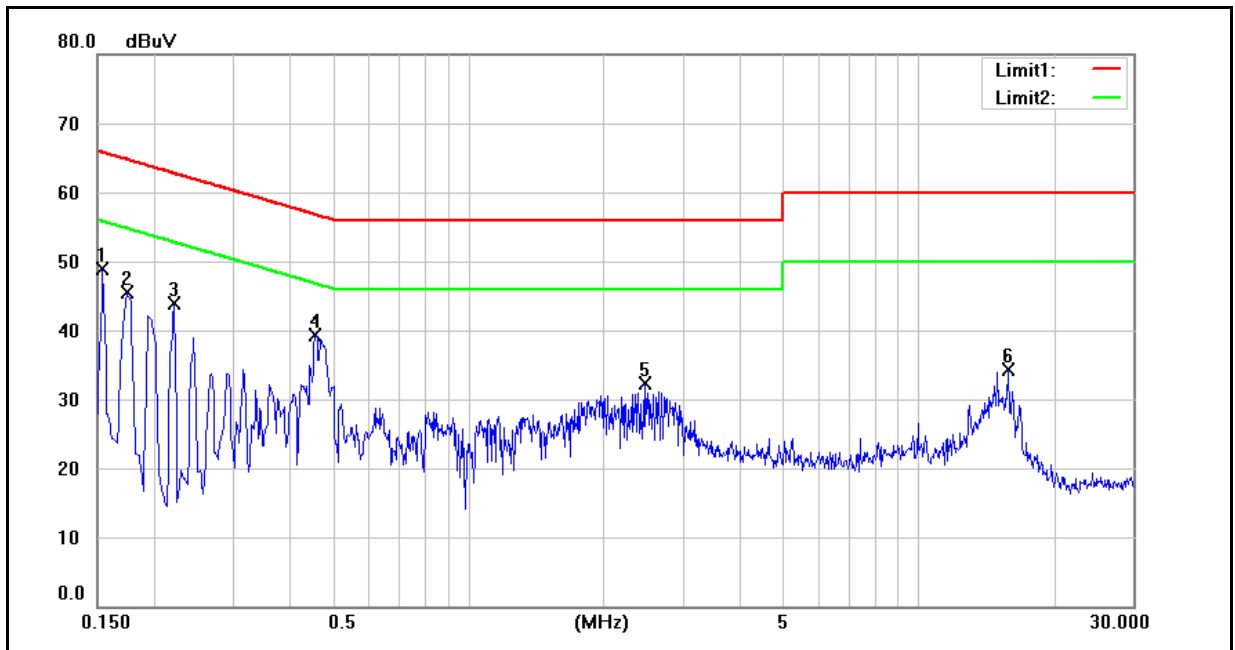
4.5. Test Result

Standard:	FCC Part 15E	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	NBG6816	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 1	Date:	01/24/2015
		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	38.40	19.81	9.59	47.99	29.40	66.00	56.00	-18.01	-26.60	Pass
2	0.1700	34.55	15.71	9.60	44.15	25.31	64.96	54.96	-20.81	-29.65	Pass
3	0.1900	31.32	13.73	9.60	40.92	23.33	64.04	54.04	-23.12	-30.71	Pass
4	0.4660	27.58	19.77	9.62	37.20	29.39	56.58	46.58	-19.38	-17.19	Pass
5	2.7700	17.01	7.03	9.72	26.73	16.75	56.00	46.00	-29.27	-29.25	Pass
6	15.2660	14.45	4.52	10.10	24.55	14.62	60.00	50.00	-35.45	-35.38	Pass

Standard:	FCC Part 15E	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	NBG6816	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 1	Date:	01/24/2015
		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	0.1540	37.38	18.50	9.60	46.98	28.10	65.78	55.78	-18.80	-27.68	Pass
2	0.1740	33.48	14.70	9.60	43.08	24.30	64.77	54.77	-21.69	-30.47	Pass
3	0.2220	26.22	7.46	9.60	35.82	17.06	62.74	52.74	-26.92	-35.68	Pass
4	0.4580	27.66	19.25	9.62	37.28	28.87	56.73	46.73	-19.45	-17.86	Pass
5	2.4660	16.72	6.55	9.73	26.45	16.28	56.00	46.00	-29.55	-29.72	Pass
6	15.8580	13.21	3.62	10.13	23.34	13.75	60.00	50.00	-36.66	-36.25	Pass

5 Radiated Emission Measurement

5.1. Limit

Limits of Radiated Emission Measurement

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequency Range (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	10	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Note: 1. The lower limit shall apply at the transition frequencies.

2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

5.2. Test Instruments

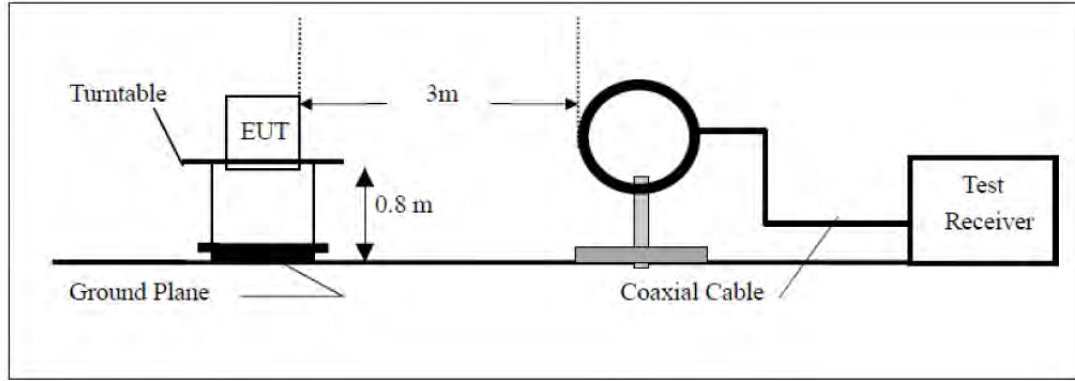
3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/06/2015	(1)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/06/2015	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/21/2014	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/21/2014	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	07/18/2014	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/11/2014	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/13/2014	(1)
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	01/28/2014	(1)
Microwave Cable	EMCI	EMC-104-SM-S M-14000	140202	02/19/2014	(1)
Microwave Cable	EMCI	EMC104-SM-S M-600	140301	03/03/2014	(1)
Test Site	ATL	TE01	888001	08/28/2014	(1)

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

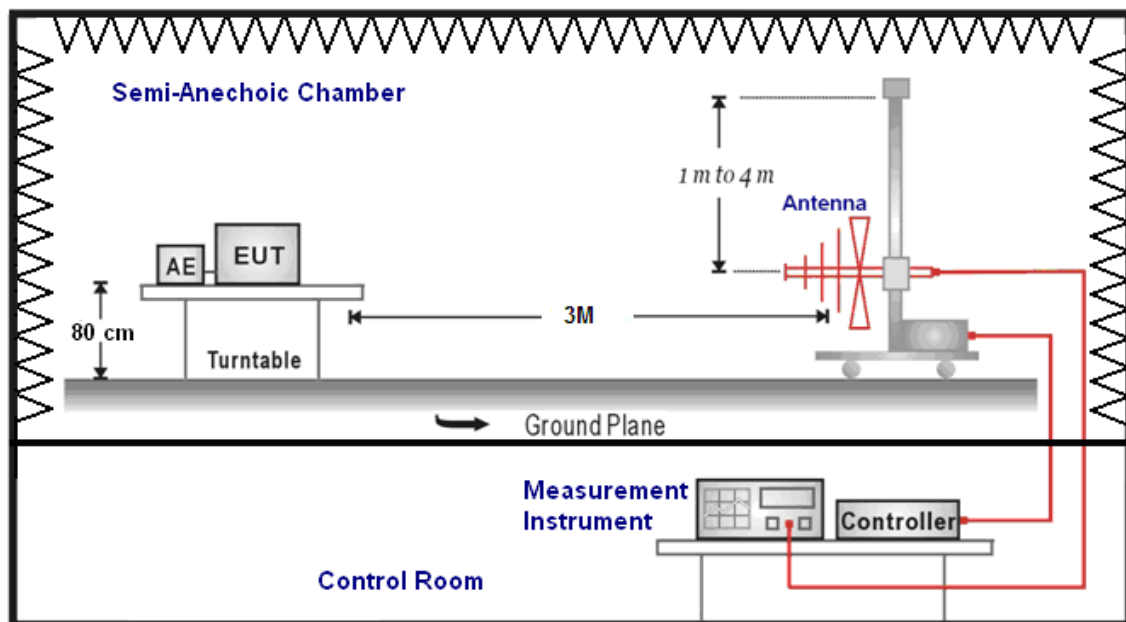
Note: N.C.R. = No Calibration Request.

5.3. Setup

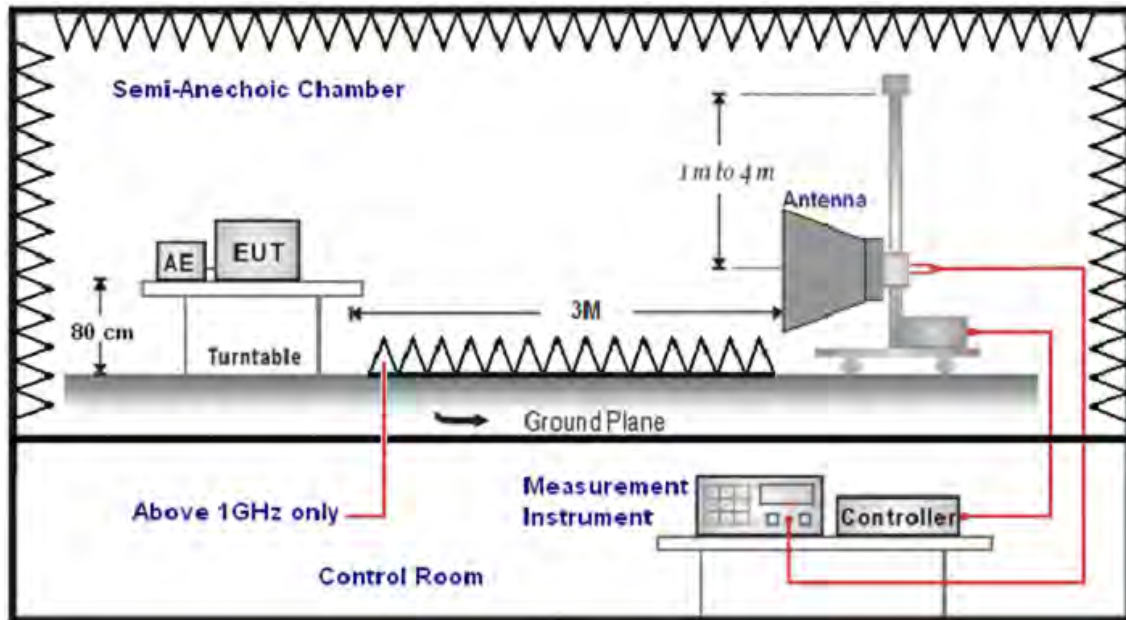
9kHz ~ 30MHz



30MHz ~ 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 meters height, 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 3 MHz for peak measurements and 3 MHz for average measurements.

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 Trilog-Broadband Antenna (mode SB AC VULB) at 3 Meter and the ETS-Lindgren Double-Ridged Waveguide Horn antenna (model 3117) Schwarzbeck Mess-Elektronik Broadband Horn Antenna (BBHA 9170) was used in frequencies 1 – 40 GHz at a distance of 1 meter. 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) Amplitude (dBuV/m) = FI (dBuV) +AF (dBuV) +CL (dBuV)-Gain (dB)

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

- (2) Actual Amplitude (dBuV/m) = Amplitude (dBuV)-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

- (3) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters])- 104.77

d = 3 meters : EIRP[dBm] = E[dBuV/m] – 95.2

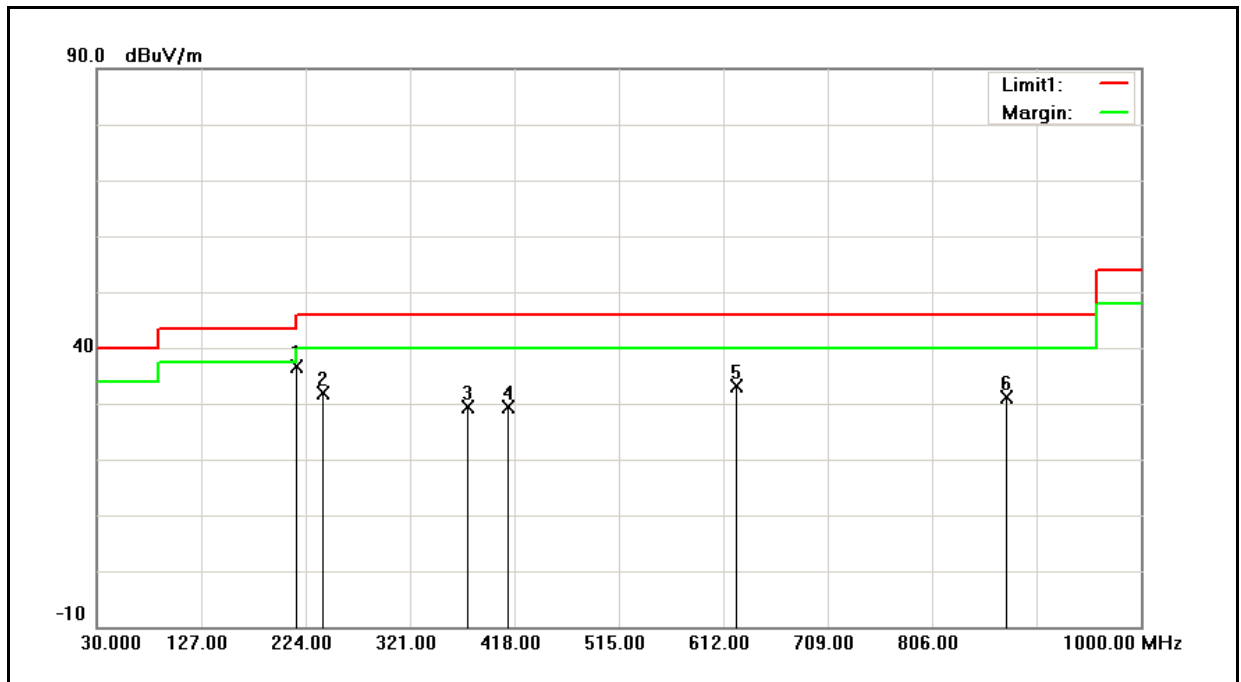
EIRP = -17dBm : E[dBuV/m] = 95.2 – 17 = 78.2

EIRP = -27dBm : E[dBuV/m] = 95.2 – 17 = 68.2

5.5. Test Result

Below 1GHz

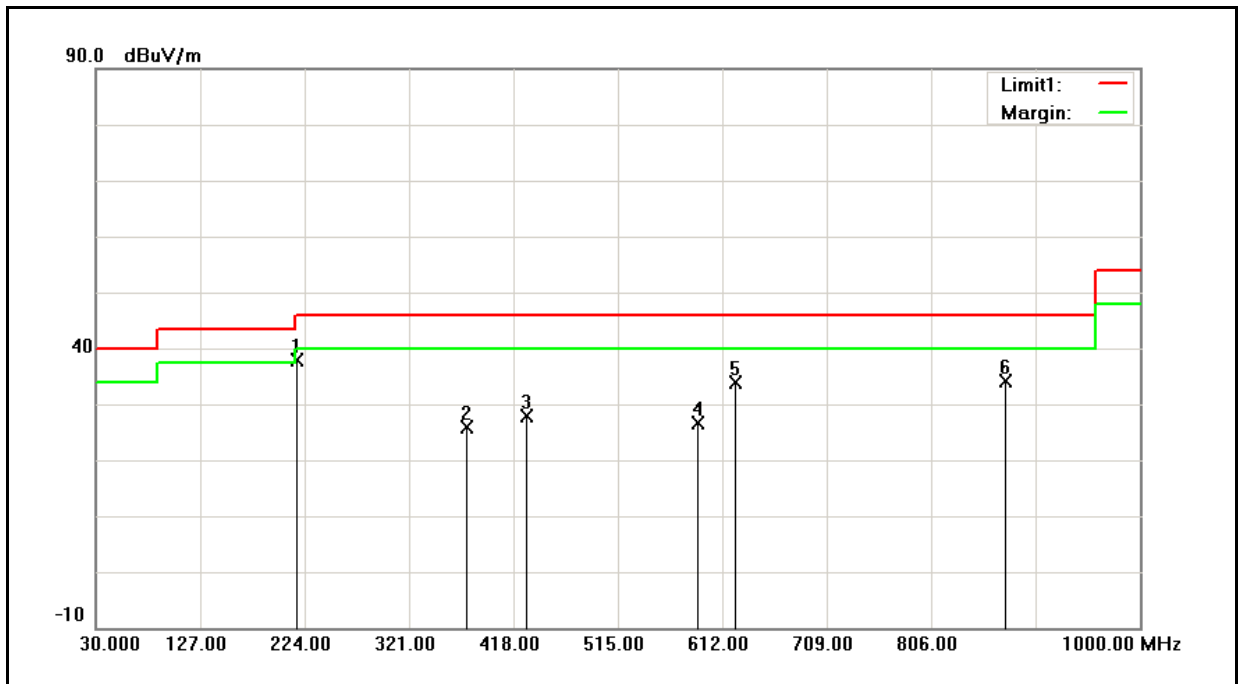
Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	NBG6816	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 1	Date:	01/23/2015
Ant.Polar.:	Horizontal	Test By:	Eric Ou Yang
Description:	Beamforming on		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	215.5000	50.78	-14.16	36.62	43.50	-6.88	QP
2	240.5000	44.53	-12.69	31.84	46.00	-14.16	QP
3	375.0000	38.48	-9.03	29.45	46.00	-16.55	QP
4	413.0000	37.60	-8.25	29.35	46.00	-16.65	QP
5	625.0000	37.05	-3.89	33.16	46.00	-12.84	QP
6	875.0000	30.33	0.86	31.19	46.00	-14.81	QP

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

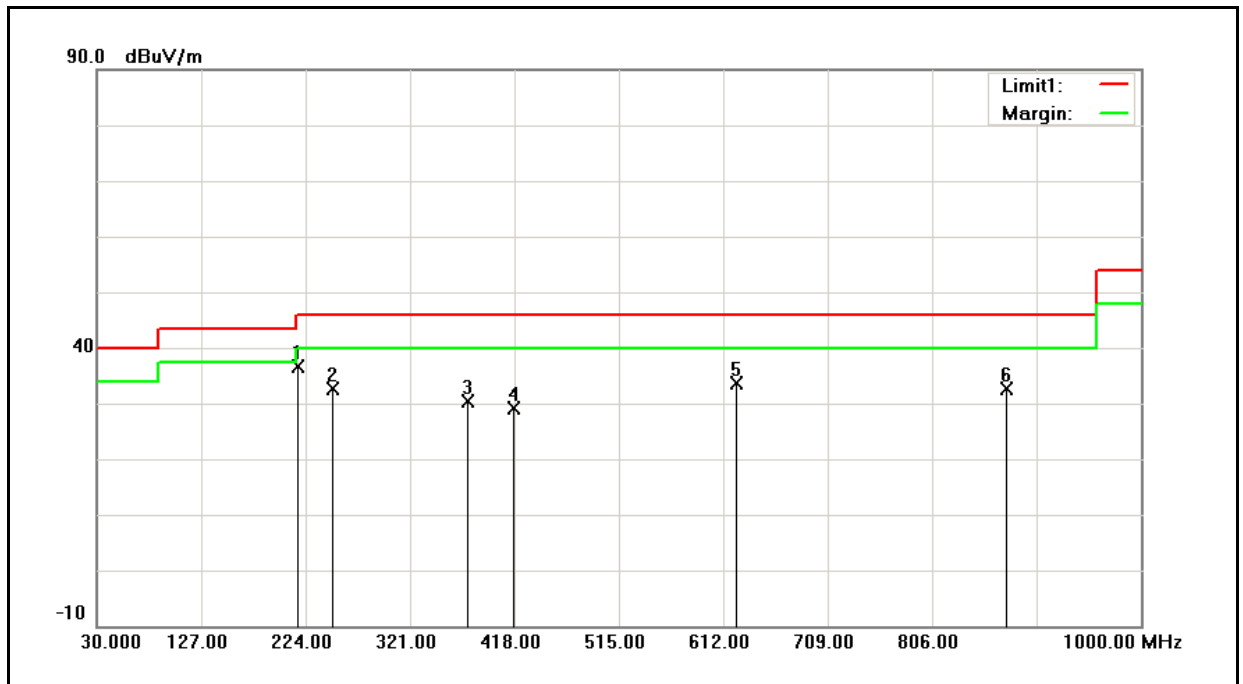
Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	NBG6816	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 1	Date:	01/23/2015
Ant.Polar.:	Vertical	Test By:	Eric Ou Yang
Description:	Beamforming on		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	216.5000	52.03	-14.12	37.91	46.00	-8.09	QP
2	375.0000	34.79	-9.03	25.76	46.00	-20.24	QP
3	430.5000	35.71	-7.88	27.83	46.00	-18.17	QP
4	590.5000	31.19	-4.52	26.67	46.00	-19.33	QP
5	625.0000	37.88	-3.89	33.99	46.00	-12.01	QP
6	875.0000	33.16	0.86	34.02	46.00	-11.98	QP

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

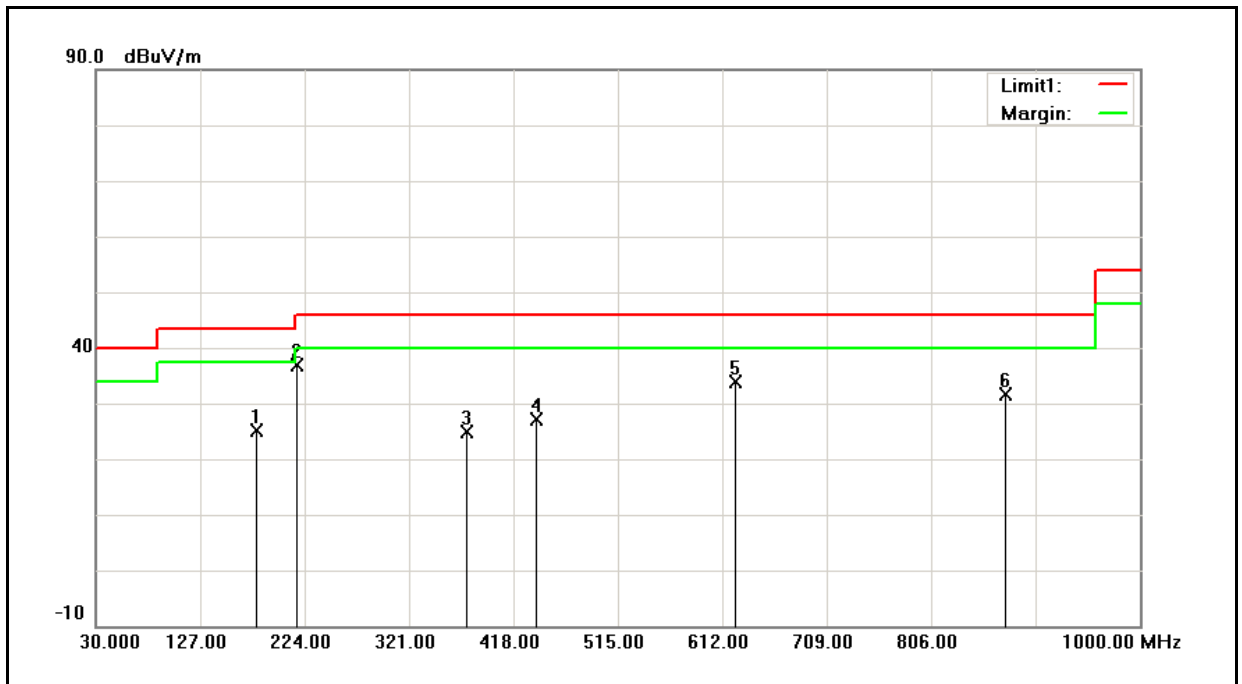
Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	NBG6816	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 1	Date:	01/23/2015
Ant.Polar.:	Horizontal	Test By:	Eric Ou Yang
Description:	Beamforming off		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	216.5000	50.80	-14.12	36.68	46.00	-9.32	QP
2	250.0000	45.10	-12.39	32.71	46.00	-13.29	QP
3	375.0000	39.44	-9.03	30.41	46.00	-15.59	QP
4	417.5000	37.21	-8.16	29.05	46.00	-16.95	QP
5	625.0000	37.45	-3.89	33.56	46.00	-12.44	QP
6	875.0000	31.71	0.86	32.57	46.00	-13.43	QP

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

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	NBG6816	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 1	Date:	01/23/2015
Ant.Polar.:	Vertical	Test By:	Eric Ou Yang
Description:	Beamforming off		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	180.0000	38.23	-13.18	25.05	43.50	-18.45	QP
2	217.5000	51.03	-14.08	36.95	46.00	-9.05	QP
3	375.0000	33.88	-9.03	24.85	46.00	-21.15	QP
4	440.0000	34.83	-7.66	27.17	46.00	-18.83	QP
5	625.0000	37.67	-3.89	33.78	46.00	-12.22	QP
6	875.0000	30.89	0.86	31.75	46.00	-14.25	QP

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

Above 1GHz

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 2			Date:	01/24/2015		
Frequency:	5180MHz			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
2806.000	37.09	-0.99	36.10	74.00	-37.90	peak	H
4591.000	34.26	4.01	38.27	74.00	-35.73	peak	H
5150.000	33.45	5.28	38.73	68.20	-29.47	peak	H
7643.000	35.19	11.72	46.91	74.00	-27.09	peak	H
2813.000	36.48	-0.98	35.50	74.00	-38.50	peak	V
4577.000	34.00	3.98	37.98	74.00	-36.02	peak	V
5150.000	33.35	5.28	38.63	68.20	-29.57	peak	V
7622.000	34.35	11.69	46.04	74.00	-27.96	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	01/24/2015		
Frequency:	5200MHz			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
2827.000	36.78	-0.94	35.84	74.00	-38.16	peak	H
4598.000	35.09	4.04	39.13	74.00	-34.87	peak	H
7671.000	34.51	11.76	46.27	74.00	-27.73	peak	H
2785.000	38.45	-1.05	37.40	74.00	-36.60	peak	V
4605.000	34.69	4.05	38.74	74.00	-35.26	peak	V
7657.000	34.57	11.74	46.31	74.00	-27.69	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	01/24/2015		
Frequency:	5240MHz			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
2799.000	36.91	-1.01	35.90	74.00	-38.10	peak	H
4570.000	33.93	3.97	37.90	74.00	-36.10	peak	H
5250.000	33.48	5.43	38.91	68.20	-29.29	peak	H
7657.000	34.78	11.74	46.52	74.00	-27.48	peak	H
2834.000	37.78	-0.93	36.85	74.00	-37.15	peak	V
4577.000	35.05	3.98	39.03	74.00	-34.97	peak	V
5250.000	33.88	5.43	39.31	68.20	-28.89	peak	V
7678.000	33.67	11.77	45.44	74.00	-28.56	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	01/24/2015		
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
2806.000	35.68	-0.99	34.69	74.00	-39.31	peak	H
4591.000	34.60	4.01	38.61	74.00	-35.39	peak	H
5715.000	34.80	6.25	41.05	68.20	-27.15	peak	H
5725.000	33.88	6.27	40.15	78.20	-38.05	peak	H
7671.000	32.53	11.76	44.29	74.00	-29.71	peak	H
2806.000	36.23	-0.99	35.24	74.00	-38.76	peak	V
4563.000	34.27	3.95	38.22	74.00	-35.78	peak	V
5715.000	33.73	6.25	39.98	68.20	-28.22	peak	V
5725.000	33.20	6.27	39.47	78.20	-38.73	peak	V
7699.000	32.73	11.80	44.53	74.00	-29.47	peak	V

Standard:	FCC Part 15E		Test Distance:	3m			
Test item:	Radiated Emission		Power:	AC 120V/60Hz			
Model Number:	NBG6816		Temp.(°C)/Hum.(%RH):	26(°C)/60%RH			
Test Mode:	Mode 2		Date:	01/24/2015			
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
2834.000	38.11	-0.93	37.18	74.00	-36.82	peak	H
4577.000	35.16	3.98	39.14	74.00	-34.86	peak	H
7657.000	33.84	11.74	45.58	74.00	-28.42	peak	H
2834.000	35.76	-0.93	34.83	74.00	-39.17	peak	V
4563.000	33.31	3.95	37.26	74.00	-36.74	peak	V
7699.000	33.23	11.80	45.03	74.00	-28.97	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	01/24/2015		
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
2806.000	35.95	-0.99	34.96	74.00	-39.04	peak	H
4591.000	34.40	4.01	38.41	74.00	-35.59	peak	H
5850.000	33.03	6.53	39.56	78.20	-38.64	peak	H
5860.000	32.96	6.55	39.51	68.20	-28.69	peak	H
7643.000	33.77	11.72	45.49	74.00	-28.51	peak	H
2799.000	37.29	-1.01	36.28	74.00	-37.72	peak	V
4570.000	34.02	3.97	37.99	74.00	-36.01	peak	V
5850.000	32.94	6.53	39.47	78.20	-38.73	peak	V
5860.000	32.43	6.55	38.98	68.20	-29.22	peak	V
7671.000	34.66	11.76	46.42	74.00	-27.58	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 3			Date:	01/24/2015		
Frequency:	5180MHz			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
2806.000	36.67	-0.99	35.68	74.00	-38.32	peak	H
4605.000	34.23	4.05	38.28	74.00	-35.72	peak	H
5150.000	34.59	5.28	39.87	68.20	-28.33	peak	H
7671.000	34.20	11.76	45.96	74.00	-28.04	peak	H
2827.000	35.57	-0.94	34.63	74.00	-39.37	peak	V
4591.000	34.39	4.01	38.40	74.00	-35.60	peak	V
5150.000	32.94	5.28	38.22	68.20	-29.98	peak	V
7657.000	33.83	11.74	45.57	74.00	-28.43	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 3			Date:	01/24/2015		
Frequency:	5200MHz			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
2806.000	35.88	-0.99	34.89	74.00	-39.11	peak	H
4598.000	34.20	4.04	38.24	74.00	-35.76	peak	H
7657.000	33.97	11.74	45.71	74.00	-28.29	peak	H
2813.000	37.48	-0.98	36.50	74.00	-37.50	peak	V
4598.000	33.62	4.04	37.66	74.00	-36.34	peak	V
7678.000	35.78	11.77	47.55	74.00	-26.45	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 3			Date:	01/24/2015		
Frequency:	5240MHz			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
2813.000	37.03	-0.98	36.05	74.00	-37.95	peak	H
4591.000	34.51	4.01	38.52	74.00	-35.48	peak	H
5250.000	32.57	5.43	38.00	68.20	-30.20	peak	H
7678.000	33.76	11.77	45.53	74.00	-28.47	peak	H
2813.000	36.61	-0.98	35.63	74.00	-38.37	peak	V
4591.000	35.50	4.01	39.51	74.00	-34.49	peak	V
5250.000	33.95	5.43	39.38	68.20	-28.82	peak	V
7657.000	34.61	11.74	46.35	74.00	-27.65	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	01/24/2015		
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
2799.000	36.44	-1.01	35.43	74.00	-38.57	peak	H
4577.000	33.69	3.98	37.67	74.00	-36.33	peak	H
5715.000	34.10	6.25	40.35	68.20	-27.85	peak	H
5725.000	33.67	6.27	39.94	78.20	-38.26	peak	H
7657.000	32.00	11.74	43.74	74.00	-30.26	peak	H
2806.000	36.20	-0.99	35.21	74.00	-38.79	peak	V
4570.000	33.93	3.97	37.90	74.00	-36.10	peak	V
5715.000	34.27	6.25	40.52	68.20	-27.68	peak	V
5725.000	32.54	6.27	38.81	78.20	-39.39	peak	V
7678.000	33.18	11.77	44.95	74.00	-29.05	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	01/24/2015		
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
2813.000	37.51	-0.98	36.53	74.00	-37.47	peak	H
4563.000	34.14	3.95	38.09	74.00	-35.91	peak	H
7678.000	34.03	11.77	45.80	74.00	-28.20	peak	H
2806.000	36.14	-0.99	35.15	74.00	-38.85	peak	V
4563.000	33.58	3.95	37.53	74.00	-36.47	peak	V
7671.000	33.42	11.76	45.18	74.00	-28.82	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	01/24/2015		
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
2813.000	36.16	-0.98	35.18	74.00	-38.82	peak	H
4605.000	33.60	4.05	37.65	74.00	-36.35	peak	H
5850.000	32.80	6.53	39.33	78.20	-38.87	peak	H
5860.000	33.26	6.55	39.81	68.20	-28.39	peak	H
7671.000	34.17	11.76	45.93	74.00	-28.07	peak	H
2827.000	35.81	-0.94	34.87	74.00	-39.13	peak	V
4605.000	33.60	4.05	37.65	74.00	-36.35	peak	V
5850.000	32.92	6.53	39.45	78.20	-38.75	peak	V
5860.000	33.31	6.55	39.86	68.20	-28.34	peak	V
7657.000	33.41	11.74	45.15	74.00	-28.85	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 4			Date:	01/24/2015		
Frequency:	5190MHz			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
2813.000	36.35	-0.98	35.37	74.00	-38.63	peak	H
4563.000	34.58	3.95	38.53	74.00	-35.47	peak	H
5150.000	33.48	5.28	38.76	68.20	-29.44	peak	H
7650.000	33.95	11.74	45.69	74.00	-28.31	peak	H
2813.000	36.53	-0.98	35.55	74.00	-38.45	peak	V
4619.000	33.01	4.10	37.11	74.00	-36.89	peak	V
5150.000	33.78	5.28	39.06	68.20	-29.14	peak	V
7678.000	33.68	11.77	45.45	74.00	-28.55	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 4			Date:	01/24/2015		
Frequency:	5230MHz			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
2841.000	38.60	-0.91	37.69	74.00	-36.31	peak	H
4626.000	33.91	4.10	38.01	74.00	-35.99	peak	H
5250.000	32.59	5.43	38.02	68.20	-30.18	peak	H
7699.000	34.29	11.80	46.09	74.00	-27.91	peak	H
2785.000	37.28	-1.05	36.23	74.00	-37.77	peak	V
4591.000	34.16	4.01	38.17	74.00	-35.83	peak	V
5250.000	32.78	5.43	38.21	68.20	-29.99	peak	V
7671.000	33.09	11.76	44.85	74.00	-29.15	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 4			Date:	01/24/2015		
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
2834.000	36.81	-0.93	35.88	74.00	-38.12	peak	H
4577.000	33.66	3.98	37.64	74.00	-36.36	peak	H
5715.000	34.62	6.25	40.87	68.20	-27.33	peak	H
5725.000	34.25	6.27	40.52	78.20	-37.68	peak	H
7629.000	33.51	11.70	45.21	74.00	-28.79	peak	H
2813.000	36.59	-0.98	35.61	74.00	-38.39	peak	V
4591.000	33.61	4.01	37.62	74.00	-36.38	peak	V
5715.000	33.19	6.25	39.44	68.20	-28.76	peak	V
5725.000	33.20	6.27	39.47	78.20	-38.73	peak	V
7671.000	33.70	11.76	45.46	74.00	-28.54	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 4			Date:	01/24/2015		
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
2827.000	36.29	-0.94	35.35	74.00	-38.65	peak	H
4563.000	33.99	3.95	37.94	74.00	-36.06	peak	H
5850.000	33.34	6.53	39.87	78.20	-38.33	peak	H
5860.000	33.67	6.55	40.22	68.20	-27.98	peak	H
7678.000	35.11	11.77	46.88	74.00	-27.12	peak	H
2827.000	35.81	-0.94	34.87	74.00	-39.13	peak	V
4577.000	35.08	3.98	39.06	74.00	-34.94	peak	V
5850.000	33.47	6.53	40.00	78.20	-38.20	peak	V
5860.000	33.44	6.55	39.99	68.20	-28.21	peak	V
7678.000	33.71	11.77	45.48	74.00	-28.52	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 5			Date:	01/24/2015		
Frequency:	5210MHz			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
2827.000	37.28	-0.94	36.34	74.00	-37.66	peak	H
4563.000	34.61	3.95	38.56	74.00	-35.44	peak	H
5250.000	33.76	5.43	39.19	68.20	-29.01	peak	H
7678.000	33.75	11.77	45.52	74.00	-28.48	peak	H
2841.000	37.20	-0.91	36.29	74.00	-37.71	peak	V
4563.000	34.03	3.95	37.98	74.00	-36.02	peak	V
5250.000	32.80	5.43	38.23	68.20	-29.97	peak	V
7706.000	34.21	11.81	46.02	74.00	-27.98	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 5			Date:	01/24/2015		
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
2806.000	35.81	-0.99	34.82	74.00	-39.18	peak	H
4598.000	34.64	4.04	38.68	74.00	-35.32	peak	H
5715.000	33.66	6.25	39.91	68.20	-28.29	peak	H
5725.000	33.16	6.27	39.43	78.20	-38.77	peak	H
7657.000	33.96	11.74	45.70	74.00	-28.30	peak	H
2834.000	37.33	-0.93	36.40	74.00	-37.60	peak	V
4591.000	34.85	4.01	38.86	74.00	-35.14	peak	V
5715.000	34.69	6.25	40.94	68.20	-27.26	peak	V
5725.000	33.92	6.27	40.19	78.20	-38.01	peak	V
7671.000	33.90	11.76	45.66	74.00	-28.34	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 2			Date:	01/24/2015		
Frequency:	5180MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2813.000	36.45	-0.98	35.47	74.00	-38.53	peak	H
4577.000	34.26	3.98	38.24	74.00	-35.76	peak	H
5150.000	33.84	5.28	39.12	68.20	-29.08	peak	H
7650.000	33.94	11.74	45.68	74.00	-28.32	peak	H
2806.000	36.22	-0.99	35.23	74.00	-38.77	peak	V
4591.000	34.16	4.01	38.17	74.00	-35.83	peak	V
5150.000	33.01	5.28	38.29	68.20	-29.91	peak	V
7629.000	34.03	11.70	45.73	74.00	-28.27	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	01/24/2015		
Frequency:	5200MHz			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
2778.000	37.64	-1.06	36.58	74.00	-37.42	peak	H
4591.000	34.33	4.01	38.34	74.00	-35.66	peak	H
7643.000	33.83	11.72	45.55	74.00	-28.45	peak	H
2806.000	36.63	-0.99	35.64	74.00	-38.36	peak	V
4598.000	33.91	4.04	37.95	74.00	-36.05	peak	V
7657.000	34.66	11.74	46.40	74.00	-27.60	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	01/24/2015		
Frequency:	5240MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2827.000	36.59	-0.94	35.65	74.00	-38.35	peak	H
4577.000	35.14	3.98	39.12	74.00	-34.88	peak	H
5250.000	32.63	5.43	38.06	68.20	-30.14	peak	H
7678.000	34.10	11.77	45.87	74.00	-28.13	peak	H
2806.000	36.25	-0.99	35.26	74.00	-38.74	peak	V
4619.000	33.74	4.10	37.84	74.00	-36.16	peak	V
5250.000	33.59	5.43	39.02	68.20	-29.18	peak	V
7643.000	33.72	11.72	45.44	74.00	-28.56	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	N BG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	01/24/2015		
Frequency:	5745MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2799.000	36.63	-1.01	35.62	74.00	-38.38	peak	H
4563.000	34.64	3.95	38.59	74.00	-35.41	peak	H
5715.000	33.86	6.25	40.11	68.20	-28.09	peak	H
5725.000	33.86	6.27	40.13	78.20	-38.07	peak	H
7650.000	34.14	11.74	45.88	74.00	-28.12	peak	H
2799.000	36.75	-1.01	35.74	74.00	-38.26	peak	V
4570.000	34.59	3.97	38.56	74.00	-35.44	peak	V
5715.000	33.72	6.25	39.97	68.20	-28.23	peak	V
5725.000	33.68	6.27	39.95	78.20	-38.25	peak	V
7650.000	32.91	11.74	44.65	74.00	-29.35	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	01/24/2015		
Frequency:	5785MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2799.000	37.72	-1.01	36.71	74.00	-37.29	peak	H
4591.000	36.71	4.01	40.72	74.00	-33.28	peak	H
7650.000	33.99	11.74	45.73	74.00	-28.27	peak	H
2813.000	36.62	-0.98	35.64	74.00	-38.36	peak	V
4577.000	34.77	3.98	38.75	74.00	-35.25	peak	V
7657.000	33.98	11.74	45.72	74.00	-28.28	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	01/24/2015		
Frequency:	5825MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2827.000	36.49	-0.94	35.55	74.00	-38.45	peak	H
4591.000	34.08	4.01	38.09	74.00	-35.91	peak	H
5850.000	33.62	6.53	40.15	78.20	-38.05	peak	H
5860.000	32.90	6.55	39.45	68.20	-28.75	peak	H
7650.000	34.81	11.74	46.55	74.00	-27.45	peak	H
2813.000	36.46	-0.98	35.48	74.00	-38.52	peak	V
4570.000	35.06	3.97	39.03	74.00	-34.97	peak	V
5850.000	33.34	6.53	39.87	78.20	-38.33	peak	V
5860.000	33.23	6.55	39.78	68.20	-28.42	peak	V
7650.000	34.45	11.74	46.19	74.00	-27.81	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 3			Date:	01/24/2015		
Frequency:	5180MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2827.000	36.74	-0.94	35.80	74.00	-38.20	peak	H
4570.000	34.83	3.97	38.80	74.00	-35.20	peak	H
5150.000	33.64	5.28	38.92	68.20	-29.28	peak	H
7678.000	33.05	11.77	44.82	74.00	-29.18	peak	H
2813.000	36.59	-0.98	35.61	74.00	-38.39	peak	V
4591.000	35.20	4.01	39.21	74.00	-34.79	peak	V
5150.000	34.17	5.28	39.45	68.20	-28.75	peak	V
7650.000	33.35	11.74	45.09	74.00	-28.91	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 3			Date:	01/24/2015		
Frequency:	5200MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2827.000	36.76	-0.94	35.82	74.00	-38.18	peak	H
4577.000	34.61	3.98	38.59	74.00	-35.41	peak	H
7678.000	34.92	11.77	46.69	74.00	-27.31	peak	H
2806.000	36.46	-0.99	35.47	74.00	-38.53	peak	V
4598.000	34.48	4.04	38.52	74.00	-35.48	peak	V
7629.000	35.39	11.70	47.09	74.00	-26.91	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 3			Date:	01/24/2015		
Frequency:	5240MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2799.000	38.11	-1.01	37.10	74.00	-36.90	peak	H
4577.000	34.52	3.98	38.50	74.00	-35.50	peak	H
5250.000	32.78	5.43	38.21	68.20	-29.99	peak	H
7657.000	33.36	11.74	45.10	74.00	-28.90	peak	H
2813.000	37.02	-0.98	36.04	74.00	-37.96	peak	V
4598.000	34.35	4.04	38.39	74.00	-35.61	peak	V
5250.000	33.02	5.43	38.45	68.20	-29.75	peak	V
7657.000	32.74	11.74	44.48	74.00	-29.52	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	01/24/2015		
Frequency:	5745MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2827.000	36.40	-0.94	35.46	74.00	-38.54	peak	H
4591.000	33.64	4.01	37.65	74.00	-36.35	peak	H
5715.000	34.97	6.25	41.22	68.20	-26.98	peak	H
5725.000	34.93	6.27	41.20	78.20	-37.00	peak	H
7650.000	33.00	11.74	44.74	74.00	-29.26	peak	H
2806.000	36.37	-0.99	35.38	74.00	-38.62	peak	V
4563.000	34.68	3.95	38.63	74.00	-35.37	peak	V
5715.000	34.23	6.25	40.48	68.20	-27.72	peak	V
5725.000	33.48	6.27	39.75	78.20	-38.45	peak	V
7671.000	34.59	11.76	46.35	74.00	-27.65	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	NBG6816	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 3	Date:	01/24/2015
Frequency:	5785MHz	Test By:	Eric Ou Yang
Description:	Beamforming off		

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2834.000	35.90	-0.93	34.97	74.00	-39.03	peak	H
4591.000	33.73	4.01	37.74	74.00	-36.26	peak	H
7671.000	33.25	11.76	45.01	74.00	-28.99	peak	H
2813.000	37.69	-0.98	36.71	74.00	-37.29	peak	V
4598.000	34.15	4.04	38.19	74.00	-35.81	peak	V
7678.000	33.17	11.77	44.94	74.00	-29.06	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	01/24/2015		
Frequency:	5825MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2813.000	35.56	-0.98	34.58	74.00	-39.42	peak	H
4563.000	34.50	3.95	38.45	74.00	-35.55	peak	H
5850.000	33.54	6.53	40.07	78.20	-38.13	peak	H
5860.000	33.51	6.55	40.06	68.20	-28.14	peak	H
7678.000	33.55	11.77	45.32	74.00	-28.68	peak	H
2799.000	36.78	-1.01	35.77	74.00	-38.23	peak	V
4563.000	34.40	3.95	38.35	74.00	-35.65	peak	V
5850.000	33.13	6.53	39.66	78.20	-38.54	peak	V
5860.000	32.86	6.55	39.41	68.20	-28.79	peak	V
7643.000	34.33	11.72	46.05	74.00	-27.95	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 4			Date:	01/24/2015		
Frequency:	5190MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2778.000	37.28	-1.06	36.22	74.00	-37.78	peak	H
4591.000	35.68	4.01	39.69	74.00	-34.31	peak	H
5150.000	32.88	5.28	38.16	68.20	-30.04	peak	H
7671.000	34.86	11.76	46.62	74.00	-27.38	peak	H
2778.000	37.98	-1.06	36.92	74.00	-37.08	peak	V
4591.000	34.36	4.01	38.37	74.00	-35.63	peak	V
5150.000	32.52	5.28	37.80	68.20	-30.40	peak	V
7650.000	33.02	11.74	44.76	74.00	-29.24	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 4			Date:	01/24/2015		
Frequency:	5230MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2841.000	38.60	-0.91	37.69	74.00	-36.31	peak	H
4626.000	33.91	4.10	38.01	74.00	-35.99	peak	H
5250.000	32.59	5.43	38.02	68.20	-30.18	peak	H
7699.000	34.29	11.80	46.09	74.00	-27.91	peak	H
2785.000	37.28	-1.05	36.23	74.00	-37.77	peak	V
4591.000	34.16	4.01	38.17	74.00	-35.83	peak	V
5250.000	32.78	5.43	38.21	68.20	-29.99	peak	V
7671.000	33.09	11.76	44.85	74.00	-29.15	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 4			Date:	01/24/2015		
Frequency:	5755MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2799.000	37.81	-1.01	36.80	74.00	-37.20	peak	H
4598.000	33.87	4.04	37.91	74.00	-36.09	peak	H
5715.000	33.08	6.25	39.33	68.20	-28.87	peak	H
5725.000	34.10	6.27	40.37	78.20	-37.83	peak	H
7685.000	33.90	11.78	45.68	74.00	-28.32	peak	H
2813.000	35.51	-0.98	34.53	74.00	-39.47	peak	V
4598.000	34.62	4.04	38.66	74.00	-35.34	peak	V
5715.000	32.99	6.25	39.24	68.20	-28.96	peak	V
5725.000	33.59	6.27	39.86	78.20	-38.34	peak	V
7650.000	32.60	11.74	44.34	74.00	-29.66	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 4			Date:	01/24/2015		
Frequency:	5795MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2813.000	36.06	-0.98	35.08	74.00	-38.92	peak	H
4577.000	34.42	3.98	38.40	74.00	-35.60	peak	H
5850.000	33.48	6.53	40.01	78.20	-38.19	peak	H
5860.000	33.99	6.55	40.54	68.20	-27.66	peak	H
7678.000	33.43	11.77	45.20	74.00	-28.80	peak	H
2834.000	37.05	-0.93	36.12	74.00	-37.88	peak	V
4591.000	35.68	4.01	39.69	74.00	-34.31	peak	V
5850.000	33.62	6.53	40.15	78.20	-38.05	peak	V
5860.000	32.93	6.55	39.48	68.20	-28.72	peak	V
7678.000	34.82	11.77	46.59	74.00	-27.41	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 5			Date:	01/24/2015		
Frequency:	5210MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2827.000	37.28	-0.94	36.34	74.00	-37.66	peak	H
4563.000	34.61	3.95	38.56	74.00	-35.44	peak	H
5250.000	33.76	5.43	39.19	68.20	-29.01	peak	H
7678.000	33.75	11.77	45.52	74.00	-28.48	peak	H
2841.000	37.20	-0.91	36.29	74.00	-37.71	peak	V
4563.000	34.03	3.95	37.98	74.00	-36.02	peak	V
5250.000	32.80	5.43	38.23	68.20	-29.97	peak	V
7706.000	34.21	11.81	46.02	74.00	-27.98	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 5			Date:	01/24/2015		
Frequency:	5775MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2806.000	36.43	-0.99	35.44	74.00	-38.56	peak	H
4577.000	34.45	3.98	38.43	74.00	-35.57	peak	H
5715.000	34.09	6.25	40.34	68.20	-27.86	peak	H
5725.000	33.83	6.27	40.10	78.20	-38.10	peak	H
7622.000	32.95	11.69	44.64	74.00	-29.36	peak	H
2813.000	36.10	-0.98	35.12	74.00	-38.88	peak	V
4619.000	33.84	4.10	37.94	74.00	-36.06	peak	V
5715.000	33.59	6.25	39.84	68.20	-28.36	peak	V
5725.000	33.46	6.27	39.73	78.20	-38.47	peak	V
7643.000	34.08	11.72	45.80	74.00	-28.20	peak	V

Band Edge

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	NBG6816	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 2	Date:	01/24/2015				
Frequency:	5180 MHz	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
4913.000	46.13	4.83	50.96	74.00	-23.04	peak	H
5150.000	43.58	5.28	48.86	74.00	-25.14	peak	H
4965.500	48.30	4.96	53.26	74.00	-20.74	peak	V
4965.500	39.34	4.96	44.30	54.00	-9.70	AVG	V
5150.000	45.18	5.28	50.46	74.00	-23.54	peak	V

Standard:	FCC Part 15E		Test Distance:	3m			
Test item:	Radiated Emission		Power:	AC 120V/60Hz			
Model Number:	NBG6816		Temp.(°C)/Hum.(%RH):	26(°C)/60%RH			
Test Mode:	Mode 2		Date:	01/24/2015			
Frequency:	5240 MHz		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
5350.000	42.07	5.57	47.64	74.00	-26.36	peak	H
5363.200	45.25	5.59	50.84	74.00	-23.16	peak	H
5350.000	44.01	5.57	49.58	74.00	-24.42	peak	V
5392.240	47.55	5.64	53.19	74.00	-20.81	peak	H
5392.240	38.64	5.64	44.28	54.00	-9.72	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	NBG6816	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 3	Date:	01/24/2015				
Frequency:	5180 MHz	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
5068.400	45.91	5.15	51.06	74.00	-22.94	peak	H
5150.000	42.94	5.28	48.22	74.00	-25.78	peak	H
5061.400	47.70	5.15	52.85	74.00	-21.15	peak	V
5061.400	38.97	5.15	44.12	54.00	-9.88	AVG	V
5150.000	45.75	5.28	51.03	74.00	-22.97	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	01/24/2015		
Frequency:	5240 MHz			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
5350.000	43.24	5.57	48.81	74.00	-25.19	peak	H
5410.500	45.20	5.67	50.87	74.00	-23.13	peak	H
5350.000	43.86	5.57	49.43	74.00	-24.57	peak	V
5442.400	47.75	5.71	53.46	74.00	-20.54	peak	V
5442.400	38.58	5.71	44.29	54.00	-9.71	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	NBG6816	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 4	Date:	01/24/2015				
Frequency:	5190 MHz	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
4903.900	46.03	4.81	50.84	74.00	-23.16	peak	H
5150.000	43.05	5.28	48.33	74.00	-25.67	peak	H
5000.500	49.37	5.05	54.42	74.00	-19.58	peak	V
5000.500	38.78	5.05	43.83	54.00	-10.17	AVG	V
5150.000	44.40	5.28	49.68	74.00	-24.32	peak	V

Standard:	FCC Part 15E				Test Distance:	3m	
Test item:	Radiated Emission				Power:	AC 120V/60Hz	
Model Number:	NBG6816				Temp.(°C)/Hum.(%RH):	26(°C)/60%RH	
Test Mode:	Mode 4				Date:	01/24/2015	
Frequency:	5230 MHz				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
5350.000	43.02	5.57	48.59	74.00	-25.41	peak	H
5405.490	45.74	5.65	51.39	74.00	-22.61	peak	H
5350.000	43.24	5.57	48.81	74.00	-25.19	peak	V
5418.600	47.03	5.67	52.70	74.00	-21.30	peak	V
5418.600	38.78	5.67	44.45	54.00	-9.55	AVG	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 5			Date:	01/24/2015		
Frequency:	5210 MHz			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
4937.360	45.91	4.89	50.80	74.00	-23.20	peak	H
5150.000	43.17	5.28	48.45	74.00	-25.55	peak	H
5350.000	44.04	5.57	49.61	74.00	-24.39	peak	H
5443.750	45.30	5.71	51.01	74.00	-22.99	peak	H
5011.200	47.69	5.07	52.76	74.00	-21.24	peak	V
5011.200	39.54	5.07	44.61	54.00	-9.39	AVG	V
5150.000	44.10	5.28	49.38	74.00	-24.62	peak	V
5350.000	44.91	5.57	50.48	74.00	-23.52	peak	V
5428.000	48.00	5.69	53.69	74.00	-20.31	peak	V
5428.000	38.81	5.69	44.50	54.00	-9.50	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	NBG6816	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 2	Date:	01/24/2015				
Frequency:	5180 MHz	Test By:	Eric Ou Yang				
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4976.700	46.71	4.99	51.70	74.00	-22.30	peak	H
5150.000	42.26	5.28	47.54	74.00	-26.46	peak	H
5036.900	47.52	5.10	52.62	74.00	-21.38	peak	V
5036.900	39.16	5.10	44.26	54.00	-9.74	AVG	V
5150.000	43.96	5.28	49.24	74.00	-24.76	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	01/24/2015		
Frequency:	5240 MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5350.000	44.52	5.57	50.09	74.00	-23.91	peak	H
5375.960	45.23	5.62	50.85	74.00	-23.15	peak	H
5350.000	43.34	5.57	48.91	74.00	-25.09	peak	V
5378.820	47.55	5.62	53.17	74.00	-20.83	peak	H
5378.820	38.62	5.62	44.24	54.00	-9.76	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	NBG6816	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 3	Date:	01/24/2015				
Frequency:	5180 MHz	Test By:	Eric Ou Yang				
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5011.000	46.31	5.07	51.38	74.00	-22.62	peak	H
5150.000	42.31	5.28	47.59	74.00	-26.41	peak	H
5029.200	47.47	5.09	52.56	74.00	-21.44	peak	V
5029.200	39.55	5.09	44.64	54.00	-9.36	AVG	V
5150.000	44.98	5.28	50.26	74.00	-23.74	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	01/24/2015		
Frequency:	5240 MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5350.000	43.06	5.57	48.63	74.00	-25.37	peak	H
5395.100	45.07	5.65	50.72	74.00	-23.28	peak	H
5350.000	43.87	5.57	49.44	74.00	-24.56	peak	V
5424.580	47.68	5.68	53.36	74.00	-20.64	peak	V
5424.580	38.57	5.68	44.25	54.00	-9.75	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	NBG6816	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 4	Date:	01/24/2015				
Frequency:	5190 MHz	Test By:	Eric Ou Yang				
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5022.900	45.48	5.08	50.56	74.00	-23.44	peak	H
5150.000	43.81	5.28	49.09	74.00	-24.91	peak	H
5032.000	48.17	5.10	53.27	74.00	-20.73	peak	V
5032.000	39.23	5.10	44.33	54.00	-9.67	AVG	V
5150.000	44.96	5.28	50.24	74.00	-23.76	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 4			Date:	01/24/2015		
Frequency:	5230 MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5350.000	42.81	5.57	48.38	74.00	-25.62	peak	H
5413.080	45.88	5.67	51.55	74.00	-22.45	peak	H
5350.000	44.52	5.57	50.09	74.00	-23.91	peak	V
5385.480	47.71	5.63	53.34	74.00	-20.66	peak	V
5385.480	38.46	5.63	44.09	54.00	-9.91	AVG	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 5			Date:	01/24/2015		
Frequency:	5210 MHz			Test By:	Eric Ou Yang		
Description:	Beamforming off						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4977.830	45.75	5.00	50.75	74.00	-23.25	peak	H
5150.000	41.73	5.28	47.01	74.00	-26.99	peak	H
5350.000	42.68	5.57	48.25	74.00	-25.75	peak	H
5407.500	46.12	5.66	51.78	74.00	-22.22	peak	H
4972.150	47.98	4.98	52.96	74.00	-21.04	peak	V
4972.150	39.59	4.98	44.57	54.00	-9.43	AVG	V
5150.000	44.11	5.28	49.39	74.00	-24.61	peak	V
5350.000	43.46	5.57	49.03	74.00	-24.97	peak	V
5412.500	47.89	5.67	53.56	74.00	-20.44	peak	V
5412.500	38.60	5.67	44.27	54.00	-9.73	AVG	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	NBG6816			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	2.4GHz+5GHz			Date:	01/24/2015		
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
2840.000	36.06	-0.91	35.15	74.00	-38.85	peak	H
4835.000	41.62	4.63	46.25	74.00	-27.75	peak	H
10385.000	29.34	15.67	45.01	68.20	-23.19	peak	H
2831.000	36.57	-0.93	35.64	74.00	-38.36	peak	V
4864.000	43.41	4.71	48.12	74.00	-25.88	peak	V
10405.000	29.57	15.74	45.31	68.20	-22.89	peak	V

6 Maximum Conducted Output Power and EIRP Measurement

6.1. Limit

Conducted Output Power

Frequency Range (MHz)	FCC Limit
5.150 ~ 5.250 GHz	The lesser of 1W (30dBm)
5.250 ~ 5.350 GHz	The lesser of 250mW (24dBm) or 11dBm + 10log (B)
5.470 ~ 5.725 GHz	The lesser of 250mW (24dBm) or 11dBm + 10log (B)
5.725 ~ 5.850 GHz	The lesser of 1000mW (30dBm)

Note1: Where B is the 26dB emission bandwidth in MHz.

Note2: Conducted Output Power of Beamforming on Limit

5150~5250MHz: Directional gain = $G_{ANT} + 10 \cdot \log(N_{ANT}/N_{SS}) = 10.26\text{dBi} > 6\text{dBi}$

Power Limit = $30 - (10.26 - 6) = 25.74\text{dBm}$

5725~5850MHz: Directional gain = $G_{ANT} + 10 \cdot \log(N_{ANT}/N_{SS}) = 10.15\text{dBi} > 6\text{dBi}$

Power Limit = $30 - (10.15 - 6) = 25.85\text{dBm}$

Note3: Conducted Output Power of Beamforming off Limit

5150~5250MHz: Directional gain = $G_{ANT} = 4.26\text{dBi}$

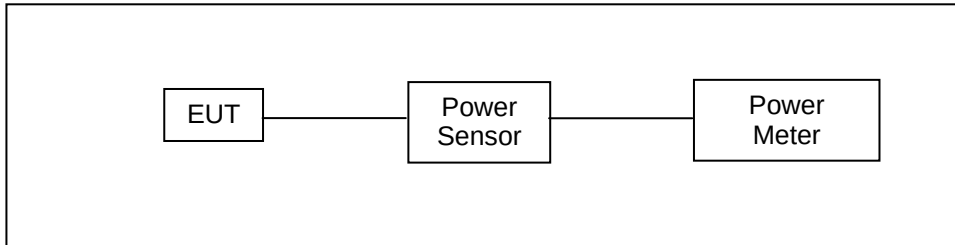
5725~5850MHz: Directional gain = $G_{ANT} = 4.15\text{dBi}$

EIRP

Frequency Range (MHz)	FCC Limit
5.150 ~ 5.250 GHz	The lesser of 4W (36dBm)
5.150 ~ 5.250 GHz (Outdoor operation)	The lesser of 125mW (21dBm)
5.250 ~ 5.350 GHz	The lesser of 1W (30dBm)
5.470 ~ 5.725 GHz	The lesser of 1W (30dBm)
5.725 ~ 5.850 GHz	The lesser of 4W (36dBm)

Note1: Where B is the 26dB emission bandwidth in MHz.

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	TE02	TE02	N.C.R.	-----

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

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

6.4. Test Procedure

The test is performed in accordance with KDB789033: D02 General UNII Test Procedures New Rules v01, Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E.

6.5. Test Result

Beamforming on					
Band	Date Rate	CH	Frequency (MHz)	RF power setting in Test Software	Test Software Version
IEEE 802.11a	6M	36	5180.0	19	DOS
		40	5200.0	19	
		44	5220.0	19	
		48	5240.0	19	
		149	5745.0	19	
		153	5765.0	19	
		157	5785.0	19	
		161	5805.0	19	
		165	5825.0	19	
IEEE 802.11n 20MHz	26M	36	5180.0	19	
		40	5200.0	19	
		44	5220.0	19	
		48	5240.0	19	
		149	5745.0	19	
		153	5765.0	19	
		157	5785.0	19	
		161	5805.0	19	
IEEE 802.11n 40MHz	54M	38	5190.0	19	
		46	5230.0	19	
		151	5755.0	19	
		159	5795.0	19	
IEEE 802.11ac 80MHz	117.2M	42	5210.0	19	
		155	5775.0	19	

Model Number		NBG6816				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 2: IEEE 802.11a Link Mode				
Date of Test		01/23/2015		Test Site		TE02
Beamforming on						
Frequency (MHz)	Data Rate	Antenna 0		Antenna 1		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5180.0	6M	18.89	0.077	17.77	0.060	< 25.74
5200.0		18.61	0.073	17.54	0.057	
5220.0		18.70	0.074	17.68	0.059	
5240.0		18.62	0.073	17.62	0.058	
5745.0		18.96	0.079	18.56	0.072	< 25.85
5765.0		18.76	0.075	18.60	0.072	
5785.0		18.99	0.079	18.84	0.077	
5805.0		19.06	0.081	18.61	0.073	
5825.0		18.64	0.073	18.52	0.071	
5180.0		54M	18.08	0.064	17.04	
5200.0	18.55		0.072	17.51	0.056	
5220.0	18.67		0.074	17.70	0.059	
5240.0	18.63		0.073	17.61	0.058	
5745.0	18.53		0.071	18.22	0.066	< 25.85
5765.0	18.41		0.069	18.25	0.067	
5785.0	18.62		0.073	18.42	0.070	
5805.0	18.71		0.074	18.26	0.067	
5825.0	18.30		0.068	18.17	0.066	

Model Number		NBG6816				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 2: IEEE 802.11a Link Mode				
Date of Test		01/23/2015		Test Site		TE02
Beamforming on						
Frequency (MHz)	Data Rate	Antenna 2		Antenna 3		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5180.0	6M	19.94	0.099	19.01	0.080	< 25.74
5200.0		19.85	0.097	19.03	0.080	
5220.0		20.00	0.100	19.04	0.080	
5240.0		19.84	0.096	19.09	0.081	
5745.0		18.60	0.072	19.11	0.081	< 25.85
5765.0		18.65	0.073	19.43	0.088	
5785.0		18.61	0.073	19.30	0.085	
5805.0		18.51	0.071	19.15	0.082	
5825.0		18.35	0.068	19.19	0.083	
5180.0	54M	19.21	0.083	18.34	0.068	< 25.74
5200.0		19.39	0.087	19.07	0.081	
5220.0		19.98	0.100	19.08	0.081	
5240.0		19.80	0.095	19.13	0.082	
5745.0		18.25	0.067	18.76	0.075	< 25.85
5765.0		18.27	0.067	19.01	0.080	
5785.0		18.26	0.067	18.78	0.076	
5805.0		18.15	0.065	18.73	0.075	
5825.0		17.97	0.063	18.75	0.075	

Model Number		NBG6816		
Test Item		Maximum Conducted Output Power		
Test Mode		Mode 2: IEEE 802.11a Link Mode		
Date of Test		01/23/2015	Test Site	TE02
Beamforming on				
Frequency (MHz)	Data Rate	Antenna 0+1+2+3		FCC Limit (dBm)
		Average Power		
		(dBm)	(W)	
5180.0	6M	24.99	0.316	< 25.74
5200.0		24.86	0.306	
5220.0		24.95	0.313	
5240.0		24.89	0.308	
5745.0		24.83	0.304	< 25.85
5765.0		24.89	0.309	
5785.0		24.96	0.314	
5805.0		24.86	0.306	
5825.0		24.71	0.296	
5180.0	54M	24.26	0.266	< 25.74
5200.0		24.71	0.296	
5220.0		24.95	0.313	
5240.0		24.89	0.308	
5745.0		24.47	0.280	< 25.85
5765.0		24.52	0.283	
5785.0		24.55	0.285	
5805.0		24.49	0.281	
5825.0		24.33	0.271	

Model Number		NBG6816				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 3: IEEE 802.11n 20MHz Link Mode				
Date of Test		01/23/2015			Test Site	TE02
Beamforming on						
Frequency (MHz)	Data Rate	Antenna 0		Antenna 1		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5180.0	26M	19.03	0.080	17.48	0.056	< 25.74
5200.0		18.69	0.074	17.86	0.061	
5220.0		18.66	0.073	17.69	0.059	
5240.0		18.59	0.072	17.85	0.061	
5745.0		19.31	0.085	19.03	0.080	< 25.85
5765.0		19.16	0.082	18.91	0.078	
5785.0		18.99	0.079	18.81	0.076	
5805.0		19.16	0.082	18.77	0.075	
5825.0		19.01	0.080	18.53	0.071	
5180.0	260M	18.85	0.077	17.35	0.054	< 25.74
5200.0		18.53	0.071	17.74	0.059	
5220.0		18.52	0.071	17.53	0.057	
5240.0		18.47	0.070	17.68	0.059	
5745.0		18.78	0.076	18.46	0.070	< 25.85
5765.0		18.60	0.072	18.35	0.068	
5785.0		18.38	0.069	18.31	0.068	
5805.0		18.61	0.073	18.21	0.066	
5825.0		18.49	0.071	18.00	0.063	

Model Number		NBG6816				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 3: IEEE 802.11n 20MHz Link Mode				
Date of Test		01/23/2015		Test Site		TE02
Beamforming on						
Frequency (MHz)	Data Rate	Antenna 2		Antenna 3		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5180.0	26M	19.62	0.092	18.71	0.074	< 25.74
5200.0		19.59	0.091	19.23	0.084	
5220.0		20.03	0.101	18.87	0.077	
5240.0		19.77	0.095	19.08	0.081	
5745.0		18.77	0.075	19.15	0.082	< 25.85
5765.0		18.52	0.071	19.21	0.083	
5785.0		18.38	0.069	19.28	0.085	
5805.0		18.67	0.074	19.08	0.081	
5825.0		18.37	0.069	19.15	0.082	
5180.0	260M	19.49	0.089	18.58	0.072	< 25.74
5200.0		19.47	0.089	19.07	0.081	
5220.0		19.89	0.097	18.74	0.075	
5240.0		19.59	0.091	18.95	0.079	
5745.0		18.22	0.066	18.62	0.073	< 25.85
5765.0		17.98	0.063	18.63	0.073	
5785.0		17.81	0.060	18.76	0.075	
5805.0		18.09	0.064	18.53	0.071	
5825.0		17.77	0.060	18.58	0.072	

Model Number		NBG6816		
Test Item		Maximum Conducted Output Power		
Test Mode		Mode 3: IEEE 802.11n 20MHz Link Mode		
Date of Test		01/23/2015	Test Site	TE02
Beamforming on				
Frequency (MHz)	Data Rate	Antenna 0+1+2+3		FCC Limit (dBm)
		Average Power		
		(dBm)	(W)	
5180.0	26M	24.80	0.302	< 25.74
5200.0		24.91	0.310	
5220.0		24.91	0.310	
5240.0		24.90	0.309	
5745.0		25.09	0.323	< 25.85
5765.0		24.98	0.315	
5785.0		24.90	0.309	
5805.0		24.95	0.312	
5825.0		24.80	0.302	
5180.0	260M	24.66	0.292	< 25.74
5200.0		24.77	0.300	
5220.0		24.77	0.300	
5240.0		24.75	0.298	
5745.0		24.55	0.285	< 25.85
5765.0		24.42	0.277	
5785.0		24.35	0.272	
5805.0		24.39	0.275	
5825.0		24.24	0.266	

Model Number		NBG6816				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 4: IEEE 802.11n 40MHz Link Mode				
Date of Test		01/23/2015			Test Site	TE02
Beamforming on						
Frequency (MHz)	Data Rate	Antenna 0		Antenna 1		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5190.0	54M	19.24	0.084	20.16	0.104	< 25.74
5230.0		18.67	0.074	19.66	0.092	
5755.0		19.17	0.083	19.00	0.079	< 25.85
5795.0		19.11	0.081	18.76	0.075	
5190.0	540M	18.78	0.076	19.39	0.087	< 25.74
5230.0		18.17	0.066	18.88	0.077	
5755.0		18.39	0.069	18.29	0.067	< 25.85
5795.0		18.38	0.069	18.01	0.063	
Frequency (MHz)	Data Rate	Antenna 2		Antenna 3		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5190.0	54M	18.29	0.067	19.11	0.081	< 25.74
5230.0		17.61	0.058	18.58	0.072	
5755.0		18.96	0.079	19.72	0.094	< 25.85
5795.0		18.85	0.077	19.55	0.090	
5190.0	540M	17.27	0.053	18.20	0.066	< 25.74
5230.0		16.61	0.046	17.70	0.059	
5755.0		18.17	0.066	18.86	0.077	< 25.85
5795.0		18.03	0.064	18.80	0.076	
Frequency (MHz)	Data Rate	Antenna 0+1+2+3				FCC Limit (dBm)
		Average Power				
		(dBm)		(W)		
5190.0	54M	25.27		0.337		< 25.74
5230.0		24.71		0.296		
5755.0		25.24		0.334		< 25.85
5795.0		25.10		0.324		
5190.0	540M	24.50		0.282		< 25.74
5230.0		23.94		0.248		
5755.0		24.46		0.279		< 25.85
5795.0		24.34		0.271		

Model Number		NBG6816				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 5: IEEE 802.11ac 80MHz Link Mode				
Date of Test		01/23/2015		Test Site		TE02
Beamforming on						
Frequency (MHz)	Data Rate	Antenna 0		Antenna 1		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5210.0	117.2M	18.89	0.077	19.88	0.097	< 25.74
5775.0		19.22	0.084	19.62	0.092	< 25.85
5210.0	1733.2M	17.98	0.063	18.93	0.078	< 25.74
5775.0		18.00	0.063	18.44	0.070	< 25.85
Frequency (MHz)	Data Rate	Antenna 2		Antenna 3		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5210.0	117.2M	18.92	0.078	19.49	0.089	< 25.74
5775.0		18.95	0.079	19.70	0.093	< 25.85
5210.0	1733.2M	17.94	0.062	18.46	0.070	< 25.74
5775.0		17.65	0.058	18.45	0.070	< 25.85
Frequency (MHz)	Data Rate	Antenna 0+1+2+3				FCC Limit (dBm)
		Average Power				
		(dBm)		(W)		
5210.0	117.2M	25.34		0.342		< 25.74
5775.0		25.40		0.347		< 25.85
5210.0	1733.2M	24.37		0.273		< 25.74
5775.0		24.17		0.261		< 25.85

Beamforming off					
Band	Date Rate	CH	Frequency (MHz)	RF power setting in Test Software	Test Software Version
IEEE 802.11a	6M	36	5180.0	23	DOS
		40	5200.0	23	
		44	5220.0	23	
		48	5240.0	23	
		149	5745.0	23	
		153	5765.0	23	
		157	5785.0	23	
		161	5805.0	23	
		165	5825.0	23	
IEEE 802.11n 20MHz	26M	36	5180.0	23	
		40	5200.0	23	
		44	5220.0	23	
		48	5240.0	23	
		149	5745.0	23	
		153	5765.0	23	
		157	5785.0	23	
		161	5805.0	23	
		165	5825.0	23	
IEEE 802.11n 40MHz	54M	38	5190.0	23	
		46	5230.0	23	
		151	5755.0	22	
		159	5795.0	22	
IEEE 802.11ac 80MHz	117.2M	42	5210.0	23	
		155	5775.0	22	

Model Number		NBG6816				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 2: IEEE 802.11a Link Mode				
Date of Test		01/23/2015		Test Site		TE02
Beamforming off						
Frequency (MHz)	Data Rate	Antenna 0		Antenna 1		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5180.0	6M	21.34	0.136	20.22	0.105	< 30
5200.0		21.41	0.138	20.34	0.108	
5220.0		21.50	0.141	20.48	0.112	
5240.0		21.42	0.139	20.42	0.110	
5745.0		23.17	0.207	22.77	0.189	< 30
5765.0		22.96	0.198	22.80	0.191	
5785.0		23.19	0.208	23.04	0.201	
5805.0		23.26	0.212	22.81	0.191	
5825.0		22.84	0.192	22.72	0.187	
5180.0	54M	21.20	0.132	20.16	0.104	< 30
5200.0		21.31	0.135	20.27	0.106	
5220.0		21.43	0.139	20.46	0.111	
5240.0		21.39	0.138	20.37	0.109	
5745.0		23.03	0.201	22.72	0.187	< 30
5765.0		22.91	0.195	22.75	0.188	
5785.0		23.12	0.205	22.92	0.196	
5805.0		23.21	0.209	22.76	0.189	
5825.0		22.80	0.191	22.67	0.185	

Model Number		NBG6816				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 2: IEEE 802.11a Link Mode				
Date of Test		01/23/2015		Test Site		TE02
Beamforming off						
Frequency (MHz)	Data Rate	Antenna 2		Antenna 3		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5180.0	6M	22.39	0.173	21.46	0.140	< 30
5200.0		22.65	0.184	21.83	0.152	
5220.0		22.80	0.191	21.84	0.153	
5240.0		22.64	0.184	21.89	0.155	
5745.0		22.81	0.191	23.32	0.215	< 30
5765.0		22.85	0.193	23.63	0.231	
5785.0		22.81	0.191	23.50	0.224	
5805.0		22.71	0.187	23.35	0.216	
5825.0	54M	22.55	0.180	23.39	0.218	< 30
5180.0		22.33	0.171	21.46	0.140	
5200.0		22.15	0.164	21.83	0.152	
5220.0		22.74	0.188	21.84	0.153	
5240.0		22.56	0.180	21.89	0.155	< 30
5745.0		22.75	0.188	23.26	0.212	
5765.0		22.77	0.189	23.51	0.224	
5785.0		22.76	0.189	23.28	0.213	
5805.0	22.65	0.184	23.23	0.210	< 30	
5825.0	22.47	0.177	23.25	0.211		

Model Number		NBG6816		
Test Item		Maximum Conducted Output Power		
Test Mode		Mode 2: IEEE 802.11a Link Mode		
Date of Test		01/23/2015	Test Site	TE02
Beamforming off				
Frequency (MHz)	Data Rate	Antenna 0+1+2+3		FCC Limit (dBm)
		Average Power		
		(dBm)	(W)	
5180.0	6M	27.44	0.555	< 30
5200.0		27.66	0.583	
5220.0		27.75	0.596	
5240.0		27.69	0.587	
5745.0		29.04	0.802	< 30
5765.0		29.09	0.812	
5785.0		29.16	0.825	
5805.0		29.06	0.806	
5825.0	28.91	0.778		
5180.0	54M	27.38	0.547	< 30
5200.0		27.47	0.558	
5220.0		27.71	0.591	
5240.0		27.65	0.581	
5745.0		28.97	0.788	< 30
5765.0		29.02	0.797	
5785.0		29.05	0.803	
5805.0		28.99	0.793	
5825.0	28.83	0.763		

Model Number		NBG6816				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 3: IEEE 802.11n 20MHz Link Mode				
Date of Test		01/23/2015		Test Site		TE02
Beamforming off						
Frequency (MHz)	Data Rate	Antenna 0		Antenna 1		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5180.0	26M	22.03	0.160	20.48	0.112	< 30
5200.0		21.56	0.143	20.73	0.118	
5220.0		21.53	0.142	20.56	0.114	
5240.0		21.46	0.140	20.72	0.118	
5745.0		23.61	0.230	23.33	0.215	< 30
5765.0		23.46	0.222	23.21	0.209	
5785.0		23.29	0.213	23.11	0.205	
5805.0		23.46	0.222	23.07	0.203	
5825.0		23.31	0.214	22.83	0.192	
5180.0	260M	21.92	0.156	20.42	0.110	< 30
5200.0		21.47	0.140	20.68	0.117	
5220.0		21.46	0.140	20.47	0.111	
5240.0		21.41	0.138	20.62	0.115	
5745.0		23.38	0.218	23.06	0.202	< 30
5765.0		23.20	0.209	22.95	0.197	
5785.0		22.98	0.199	22.91	0.195	
5805.0		23.21	0.209	22.81	0.191	
5825.0		23.09	0.204	22.60	0.182	

Model Number		NBG6816				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 3: IEEE 802.11n 20MHz Link Mode				
Date of Test		01/23/2015			Test Site	TE02
Beamforming off						
Frequency (MHz)	Data Rate	Antenna 2		Antenna 3		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5180.0	26M	22.62	0.183	21.71	0.148	< 30
5200.0		22.46	0.176	22.10	0.162	
5220.0		22.90	0.195	21.74	0.149	
5240.0		22.64	0.184	21.95	0.157	
5745.0		23.07	0.203	23.45	0.221	< 30
5765.0		22.82	0.191	23.51	0.224	
5785.0		22.68	0.185	23.58	0.228	
5805.0		22.97	0.198	23.38	0.218	
5825.0		22.67	0.185	23.45	0.221	
5180.0	260M	22.56	0.180	21.65	0.146	< 30
5200.0		22.41	0.174	22.01	0.159	
5220.0		22.83	0.192	21.68	0.147	
5240.0		22.53	0.179	21.89	0.155	
5745.0		22.82	0.191	23.22	0.210	< 30
5765.0		22.58	0.181	23.23	0.210	
5785.0		22.41	0.174	23.36	0.217	
5805.0		22.69	0.186	23.13	0.206	
5825.0		22.37	0.173	23.18	0.208	

Model Number		NBG6816		
Test Item		Maximum Conducted Output Power		
Test Mode		Mode 3: IEEE 802.11n 20MHz Link Mode		
Date of Test		01/23/2015	Test Site	TE02
Beamforming off				
Frequency (MHz)	Data Rate	Antenna 0+1+2+3		FCC Limit (dBm)
		Average Power		
		(dBm)	(W)	
5180.0	26M	27.80	0.602	< 30
5200.0		27.78	0.600	
5220.0		27.78	0.600	
5240.0		27.77	0.598	
5745.0		29.39	0.869	< 30
5765.0		29.28	0.847	
5785.0		29.20	0.831	
5805.0		29.25	0.841	
5825.0		29.10	0.812	
5180.0	260M	27.73	0.592	< 30
5200.0		27.71	0.590	
5220.0		27.71	0.590	
5240.0		27.69	0.587	
5745.0		29.15	0.821	< 30
5765.0		29.02	0.798	
5785.0		28.95	0.785	
5805.0		28.99	0.792	
5825.0		28.84	0.766	

Model Number		NBG6816					
Test Item		Maximum Conducted Output Power					
Test Mode		Mode 4: IEEE 802.11n 40MHz Link Mode					
Date of Test		01/23/2015		Test Site		TE02	
Beamforming off							
Frequency (MHz)	Data Rate	Antenna 0		Antenna 1		FCC Limit (dBm)	
		Average Power		Average Power			
		(dBm)	(W)	(dBm)	(W)		
5190.0	54M	22.50	0.178	23.42	0.220	< 30	
5230.0		22.63	0.183	23.62	0.230		
5755.0		23.17	0.207	23.00	0.200		< 30
5795.0		23.11	0.205	22.76	0.189		
5190.0	540M	22.10	0.162	22.71	0.187	< 30	
5230.0		22.22	0.167	22.93	0.196		
5755.0		22.39	0.173	22.29	0.169		< 30
5795.0		22.38	0.173	22.01	0.159		
Frequency (MHz)	Data Rate	Antenna 2		Antenna 3		FCC Limit (dBm)	
		Average Power		Average Power			
		(dBm)	(W)	(dBm)	(W)		
5190.0	54M	21.55	0.143	22.37	0.173	< 30	
5230.0		21.57	0.144	22.54	0.179		
5755.0		22.96	0.198	23.72	0.236		< 30
5795.0		22.85	0.193	23.55	0.226		
5190.0	540M	20.59	0.115	21.52	0.142	< 30	
5230.0		20.66	0.116	21.75	0.150		
5755.0		22.17	0.165	22.86	0.193		< 30
5795.0		22.03	0.160	22.80	0.191		
Frequency (MHz)	Data Rate	Antenna 0+1+2+3				FCC Limit (dBm)	
		Average Power					
		(dBm)		(W)			
5190.0	54M	28.53		0.713		< 30	
5230.0		28.67		0.736			
5755.0		29.24		0.840			< 30
5795.0		29.10		0.813			
5190.0	540M	27.82		0.605		< 30	
5230.0		27.99		0.629			
5755.0		28.46		0.701			< 30
5795.0		28.34		0.682			

Model Number		NBG6816				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 5: IEEE 802.11ac 80MHz Link Mode				
Date of Test		01/23/2015		Test Site		TE02
Beamforming off						
Frequency (MHz)	Data Rate	Antenna 0		Antenna 1		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5210.0	117.2M	21.83	0.152	22.82	0.191	< 30
5775.0		22.22	0.167	22.62	0.183	< 30
5210.0	1733.2M	21.02	0.126	21.97	0.157	< 30
5775.0		21.00	0.126	21.44	0.139	< 30
Frequency (MHz)	Data Rate	Antenna 2		Antenna 3		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5210.0	117.2M	21.86	0.153	22.43	0.175	< 30
5775.0		21.95	0.157	22.70	0.186	< 30
5210.0	1733.2M	20.98	0.125	21.50	0.141	< 30
5775.0		20.65	0.116	21.45	0.140	< 30
Frequency (MHz)	Data Rate	Antenna 0+1+2+3				FCC Limit (dBm)
		Average Power				
		(dBm)		(W)		
5210.0	117.2M	28.28		0.672		< 30
5775.0		28.40		0.692		< 30
5210.0	1733.2M	27.41		0.550		< 30
5775.0		27.17		0.521		< 30

Model Number		NBG6816					
Test Item		EIRP					
Test Mode		Mode 2: IEEE 802.11a Link Mode					
Date of Test		01/23/2015			Test Site		TE02
Beamforming on							
Frequency (MHz)	Data Rate	Antenna 0+1+2+3				FCC Limit (dBm)	
		Average Power	Antenna Gain	EIRP			
		(dBm)	(dBi)	(dBm)	(W)		
5180.0	6M	24.99	4.26	29.25	0.841	< 36	
5200.0		24.86	4.26	29.12	0.816		
5220.0		24.95	4.26	29.21	0.834		
5240.0		24.89	4.26	29.15	0.822		
5745.0		24.83	4.15	28.98	0.791	< 36	
5765.0		24.89	4.15	29.04	0.802		
5785.0		24.96	4.15	29.11	0.815		
5805.0		24.86	4.15	29.01	0.797		
5825.0	24.71	4.15	28.86	0.769	< 36		
5180.0	24.26	4.26	28.52	0.711			
5200.0	24.71	4.26	28.97	0.788			
5220.0	24.95	4.26	29.21	0.835			
5240.0	24.89	4.26	29.15	0.821			
5745.0	54M	24.47	4.15	28.62	0.727	< 36	
5765.0		24.52	4.15	28.67	0.736		
5785.0		24.55	4.15	28.70	0.740		
5805.0		24.49	4.15	28.64	0.731		
5825.0		24.33	4.15	28.48	0.704		

Model Number		NBG6816				
Test Item		EIRP				
Test Mode		Mode 3: IEEE 802.11n 20MHz Link Mode				
Date of Test		01/23/2015			Test Site	TE02
Beamforming on						
Frequency (MHz)	Data Rate	Antenna 0+1+2+3				FCC Limit (dBm)
		Average Power	Antenna Gain	EIRP		
		(dBm)	(dBi)	(dBm)	(W)	
5180.0	26M	24.80	4.26	29.06	0.805	< 36
5200.0		24.91	4.26	29.17	0.826	
5220.0		24.91	4.26	29.17	0.827	
5240.0		24.90	4.26	29.16	0.824	
5745.0		25.09	4.15	29.24	0.839	< 36
5765.0		24.98	4.15	29.13	0.818	
5785.0		24.90	4.15	29.05	0.803	
5805.0		24.95	4.15	29.10	0.812	
5825.0	24.80	4.15	28.95	0.785		
5180.0	260M	24.66	4.26	28.92	0.779	< 36
5200.0		24.77	4.26	29.03	0.800	
5220.0		24.77	4.26	29.03	0.800	
5240.0		24.75	4.26	29.01	0.796	
5745.0		24.55	4.15	28.70	0.741	< 36
5765.0		24.42	4.15	28.57	0.719	
5785.0		24.35	4.15	28.50	0.708	
5805.0		24.39	4.15	28.54	0.714	
5825.0	24.24	4.15	28.39	0.691		

Model Number		NBG6816				
Test Item		EIRP				
Test Mode		Mode 4: IEEE 802.11n 40MHz Link Mode				
Date of Test		01/23/2015		Test Site		TE02
Beamforming on						
Frequency (MHz)	Data Rate	Antenna 0+1+2+3				FCC Limit (dBm)
		Average Power	Antenna Gain	EIRP		
		(dBm)	(dBi)	(dBm)	(W)	
5190.0	54M	25.27	4.26	29.53	0.898	< 36
5230.0		24.71	4.26	28.97	0.789	
5755.0		25.24	4.26	29.50	0.892	< 36
5795.0		25.10	4.26	29.36	0.863	
5190.0	540M	24.50	4.15	28.65	0.733	< 36
5230.0		23.94	4.15	28.09	0.644	
5755.0		24.46	4.15	28.61	0.725	< 36
5795.0		24.34	4.15	28.49	0.706	

Model Number		NBG6816				
Test Item		EIRP				
Test Mode		Mode 5: IEEE 802.11ac 80MHz Link Mode				
Date of Test		01/23/2015		Test Site		TE02
Beamforming on						
Frequency (MHz)	Data Rate	Antenna 0+1+2+3				FCC Limit (dBm)
		Average Power	Antenna Gain	EIRP		
		(dBm)	(dBi)	(dBm)	(W)	
5210.0	117.2M	25.34	4.26	29.60	0.911	< 36
5775.0		25.40	4.15	29.55	0.902	< 36
5210.0	1733.2M	24.37	4.26	28.63	0.729	< 36
5775.0		24.17	4.15	28.32	0.679	< 36

Model Number		NBG6816					
Test Item		EIRP					
Test Mode		Mode 2: IEEE 802.11a Link Mode					
Date of Test		01/23/2015			Test Site		TE02
Beamforming off							
Frequency (MHz)	Data Rate	Antenna 0+1+2+3				FCC Limit (dBm)	
		Average Power	Antenna Gain	EIRP			
		(dBm)	(dBi)	(dBm)	(W)		
5180.0	6M	27.44	4.26	31.70	1.479	< 36	
5200.0		27.66	4.26	31.92	1.555		
5220.0		27.75	4.26	32.01	1.590		
5240.0		27.69	4.26	31.95	1.565		
5745.0		29.04	4.15	33.19	2.087	< 36	
5765.0		29.09	4.15	33.24	2.110		
5785.0		29.16	4.15	33.31	2.144		
5805.0		29.06	4.15	33.21	2.095		
5825.0	28.91	4.15	33.06	2.022			
5180.0	54M	27.38	4.26	31.64	1.458	< 36	
5200.0		27.47	4.26	31.73	1.488		
5220.0		27.71	4.26	31.97	1.576		
5240.0		27.65	4.26	31.91	1.551		
5745.0		28.97	4.15	33.12	2.049	< 36	
5765.0		29.02	4.15	33.17	2.073		
5785.0		29.05	4.15	33.20	2.087		
5805.0		28.99	4.15	33.14	2.061		
5825.0	28.83	4.15	32.98	1.985			

Model Number		NBG6816					
Test Item		EIRP					
Test Mode		Mode 3: IEEE 802.11n 20MHz Link Mode					
Date of Test		01/23/2015			Test Site		TE02
Beamforming off							
Frequency (MHz)	Data Rate	Antenna 0+1+2+3				FCC Limit (dBm)	
		Average Power	Antenna Gain	EIRP			
		(dBm)	(dBi)	(dBm)	(W)		
5180.0	26M	27.80	4.26	32.06	1.606	< 36	
5200.0		27.78	4.26	32.04	1.600		
5220.0		27.78	4.26	32.04	1.601		
5240.0		27.77	4.26	32.03	1.596		
5745.0		29.39	4.15	33.54	2.259	< 36	
5765.0		29.28	4.15	33.43	2.202		
5785.0		29.20	4.15	33.35	2.162		
5805.0		29.25	4.15	33.40	2.185		
5825.0	29.10	4.15	33.25	2.112			
5180.0	260M	27.73	4.26	31.99	1.580	< 36	
5200.0		27.71	4.26	31.97	1.574		
5220.0		27.71	4.26	31.97	1.575		
5240.0		27.69	4.26	31.95	1.566		
5745.0		29.15	4.15	33.30	2.136	< 36	
5765.0		29.02	4.15	33.17	2.074		
5785.0		28.95	4.15	33.10	2.041		
5805.0		28.99	4.15	33.14	2.059		
5825.0	28.84	4.15	32.99	1.992			

Model Number		NBG6816					
Test Item		EIRP					
Test Mode		Mode 4: IEEE 802.11n 40MHz Link Mode					
Date of Test		01/23/2015			Test Site		TE02
Beamforming off							
Frequency (MHz)	Data Rate	Antenna 0+1+2+3				FCC Limit (dBm)	
		Average Power	Antenna Gain	EIRP			
		(dBm)	(dBi)	(dBm)	(W)		
5190.0	54M	28.53	4.26	32.79	1.902	< 36	
5230.0		28.67	4.26	32.93	1.964		
5755.0		29.24	4.26	33.50	2.241	< 36	
5795.0		29.10	4.26	33.36	2.167		
5190.0	540M	27.82	4.15	31.97	1.574	< 36	
5230.0		27.99	4.15	32.14	1.636		
5755.0		28.46	4.15	32.61	1.822	< 36	
5795.0		28.34	4.15	32.49	1.773		

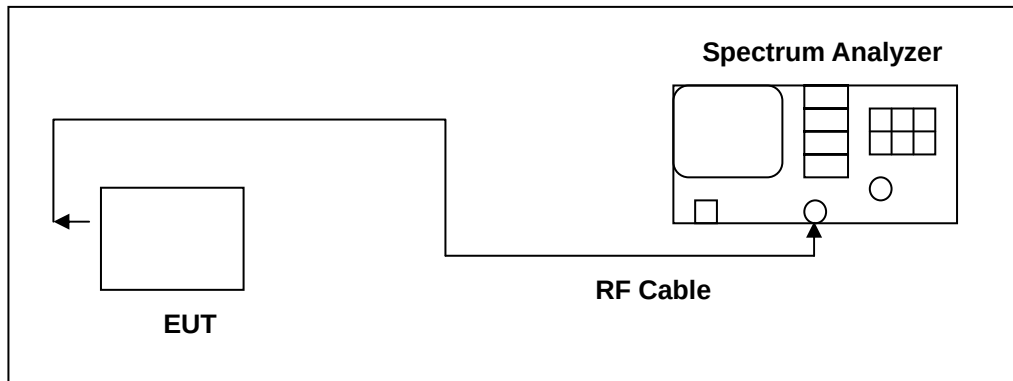
Model Number		NBG6816				
Test Item		EIRP				
Test Mode		Mode 5: IEEE 802.11ac 80MHz Link Mode				
Date of Test		01/23/2015		Test Site		TE02
Beamforming off						
Frequency (MHz)	Data Rate	Antenna 0+1+2+3				FCC Limit (dBm)
		Average Power	Antenna Gain	EIRP		
		(dBm)	(dBi)	(dBm)	(W)	
5210.0	117.2M	28.28	4.26	32.54	1.793	< 36
5775.0		28.40	4.15	32.55	1.800	< 36
5210.0	1733.2M	27.41	4.26	31.67	1.468	< 36
5775.0		27.17	4.15	31.32	1.355	< 36

7 26dB RF Bandwidth & 99 % Occupied Bandwidth Measurement

7.1. Limit

N/A

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	TE02	TE02	N.C.R.	-----

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

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

7.4. Test Procedure

The test is performed in accordance with KDB789033: D02 General UNII Test Procedures New Rules v01, Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E.

7.5. Test Result

Model Number	NBG6816							
Test Item	26dB RF Bandwidth & 99 % Occupied Bandwidth							
Test Mode	Mode 2: IEEE 802.11a Link Mode							
Date of Test	02/03/2015				Test Site		TE02	
Beamforming on								
Frequency (MHz)	Antenna 0		Antenna 1		Antenna 2		Antenna 3	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	23.980	17.530	24.970	17.445	24.530	17.607	24.820	17.514
5200	24.420	17.549	23.770	17.549	24.440	17.535	24.290	17.500
5220	24.970	17.659	23.980	17.545	24.520	17.616	24.170	17.607
5240	23.690	17.486	24.610	17.549	23.890	17.623	24.860	17.593

Model Number	NBG6816							
Test Item	26dB RF Bandwidth & 99 % Occupied Bandwidth							
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode							
Date of Test	02/03/2015				Test Site		TE02	
Beamforming on								
Frequency (MHz)	Antenna 0		Antenna 1		Antenna 2		Antenna 3	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	25.510	18.627	25.120	18.634	24.510	18.598	24.520	18.693
5200	24.560	18.562	24.920	18.530	24.400	18.683	24.810	18.571
5220	24.690	18.575	24.030	18.572	25.070	18.538	24.190	18.643
5240	25.160	18.651	24.380	18.572	24.490	18.501	24.430	18.601

Note: The 99% occupied bandwidth not crossed 5250MHz.

Model Number	NBG6816							
Test Item	26dB RF Bandwidth & 99 % Occupied Bandwidth							
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode							
Date of Test	02/03/2015				Test Site	TE02		
Beamforming on								
Frequency (MHz)	Antenna 0		Antenna 1		Antenna 2		Antenna 3	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5190	42.570	36.739	42.500	36.824	42.970	36.760	41.680	36.835
5230	42.300	36.692	42.180	36.731	42.110	36.677	42.520	36.755

Model Number	NBG6816							
Test Item	26dB RF Bandwidth & 99 % Occupied Bandwidth							
Test Mode	Mode 5: IEEE 802.11ac 80MHz Link Mode							
Date of Test	02/03/2015			Test Site		TE02		
Beamforming on								
Frequency (MHz)	Antenna 0		Antenna 1		Antenna 2		Antenna 3	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5210	79.380	75.009	79.540	74.938	79.460	75.207	79.570	75.044

Note: The 99% occupied bandwidth not crossed 5250MHz.

Model Number	NBG6816							
Test Item	26dB RF Bandwidth & 99 % Occupied Bandwidth							
Test Mode	Mode 2: IEEE 802.11a Link Mode							
Date of Test	02/03/2015				Test Site		TE02	
Beamforming off								
Frequency (MHz)	Antenna 0		Antenna 1		Antenna 2		Antenna 3	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	24.800	18.005	24.440	17.720	24.330	17.610	24.710	17.838
5200	24.760	17.684	24.470	17.734	24.350	17.707	24.560	17.821
5220	24.030	17.735	24.190	17.871	24.200	17.788	24.680	17.978
5240	24.080	17.789	24.680	17.844	24.350	17.764	24.600	17.821

Model Number	NBG6816							
Test Item	26dB RF Bandwidth & 99 % Occupied Bandwidth							
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode							
Date of Test	02/03/2015				Test Site	TE02		
Beamforming off								
Frequency (MHz)	Antenna 0		Antenna 1		Antenna 2		Antenna 3	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	25.280	18.711	25.210	18.721	24.980	18.701	25.200	18.712
5200	24.910	18.717	25.150	18.740	25.270	18.792	25.170	18.796
5220	25.250	18.803	25.030	18.836	25.280	18.791	24.970	18.833
5240	25.180	18.822	25.170	18.805	24.810	18747	25.120	18.843

Note: The 99% occupied bandwidth not crossed 5250MHz.

Model Number	NBG6816							
Test Item	26dB RF Bandwidth & 99 % Occupied Bandwidth							
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode							
Date of Test	02/03/2015				Test Site	TE02		
Beamforming off								
Frequency (MHz)	Antenna 0		Antenna 1		Antenna 2		Antenna 3	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5190	42.930	36.800	42.780	36.767	42.490	36.800	42.560	36.786
5230	50.200	36.974	52.420	37.019	52.490	37.094	50.130	37.033

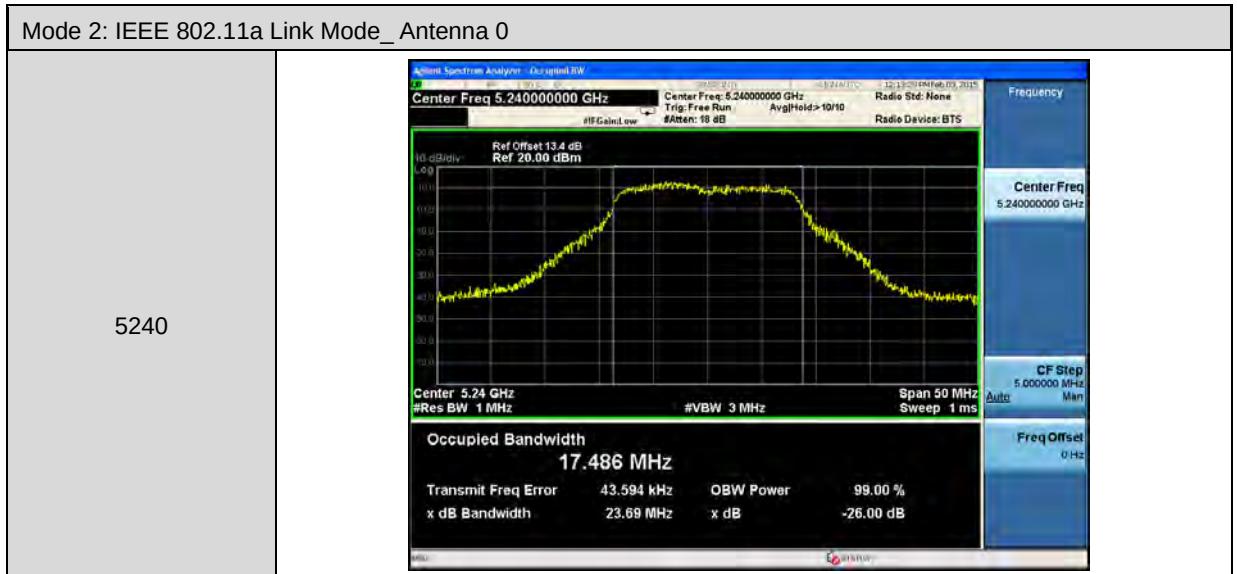
Model Number	NBG6816							
Test Item	26dB RF Bandwidth & 99 % Occupied Bandwidth							
Test Mode	Mode 5: IEEE 802.11ac 80MHz Link Mode							
Date of Test	02/03/2015			Test Site		TE02		
Beamforming off								
Frequency (MHz)	Antenna 0		Antenna 1		Antenna 2		Antenna 3	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5210	91.730	75.464	91.570	75.452	88.150	75.459	91.700	75.411

Note: The 99% occupied bandwidth not crossed 5250MHz.

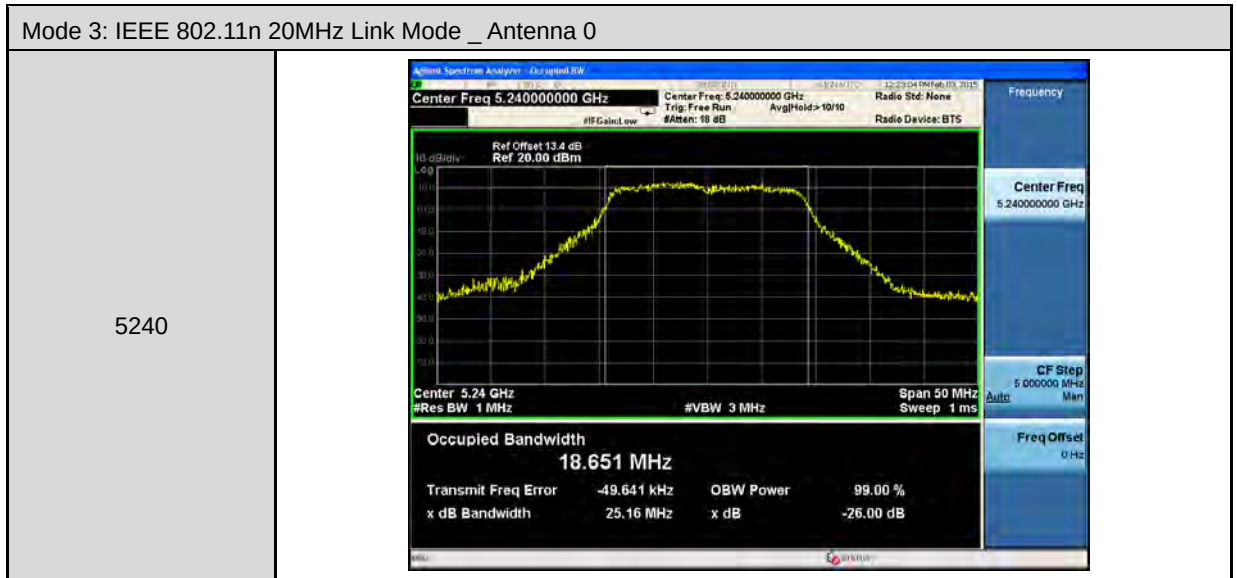
7.6. Test Graphs

Beamforming on

Mode 2: IEEE 802.11a Link Mode_ Antenna 0	
5180	 Center Freq 5.180000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.18 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 17.530 MHz Transmit Freq Error 71.994 kHz x dB Bandwidth 23.98 MHz OBW Power 99.00 % x dB -26.00 dB
5200	 Center Freq 5.200000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.2 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 17.549 MHz Transmit Freq Error 24.449 kHz x dB Bandwidth 24.42 MHz OBW Power 99.00 % x dB -26.00 dB
5220	 Center Freq 5.220000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.22 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 17.659 MHz Transmit Freq Error 24.397 kHz x dB Bandwidth 24.97 MHz OBW Power 99.00 % x dB -26.00 dB



Mode 3: IEEE 802.11n 20MHz Link Mode _ Antenna 0	
5180	Center Freq 5.180000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.18 GHz #Res BW 1 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 18.627 MHz Transmit Freq Error -48.614 kHz x dB Bandwidth 25.51 MHz OBW Power 99.00 % x dB -26.00 dB Frequency Center Freq 5.180000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz
5200	Center Freq 5.200000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.2 GHz #Res BW 1 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 18.562 MHz Transmit Freq Error -57.395 kHz x dB Bandwidth 24.56 MHz OBW Power 99.00 % x dB -26.00 dB Frequency Center Freq 5.200000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz
5220	Center Freq 5.220000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.22 GHz #Res BW 1 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 18.575 MHz Transmit Freq Error -78.337 kHz x dB Bandwidth 24.69 MHz OBW Power 99.00 % x dB -26.00 dB Frequency Center Freq 5.220000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz

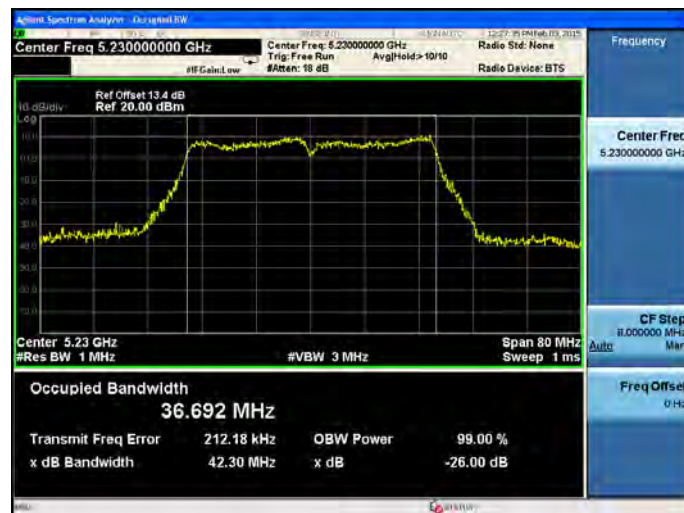


Mode 4: IEEE 802.11n 40MHz Link Mode_ Antenna 0

5190

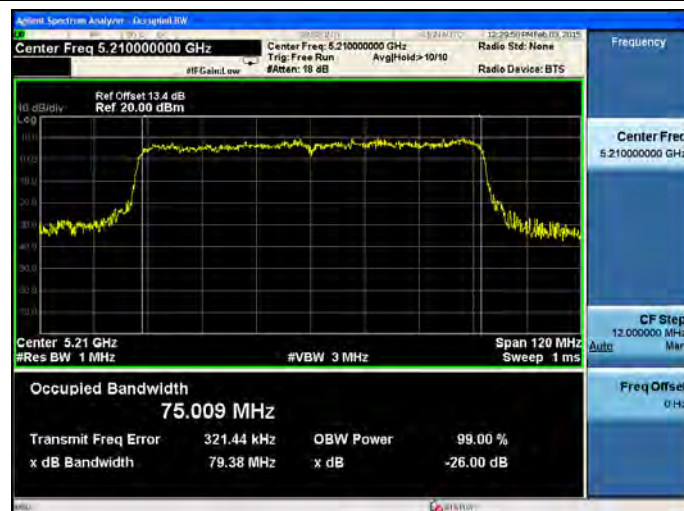


5230



Mode 5: IEEE 802.11ac 80MHz Link Mode_ Antenna 0

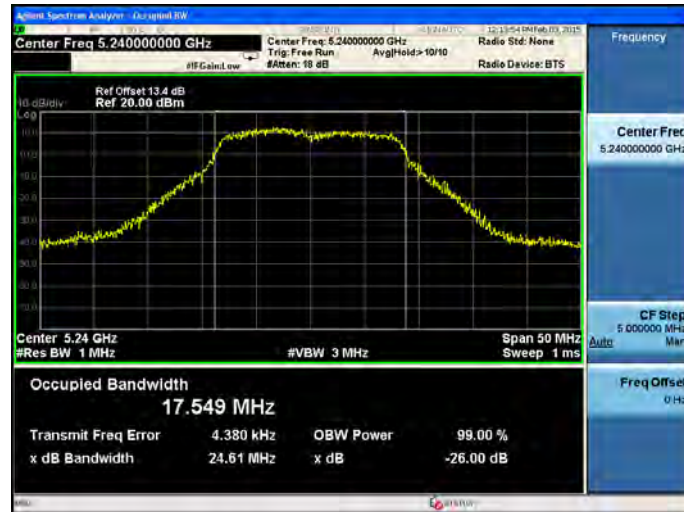
5210



Mode 2: IEEE 802.11a Link Mode_ Antenna 1	
5180	Center Freq 5.180000000 GHz Center 5.18 GHz #Res BW 1 MHz Occupied Bandwidth 17.445 MHz Transmit Freq Error 28.084 kHz x dB Bandwidth 24.97 MHz OBW Power 99.00 % x dB -26.00 dB
5200	Center Freq 5.200000000 GHz Center 5.2 GHz #Res BW 1 MHz Occupied Bandwidth 17.549 MHz Transmit Freq Error 42.286 kHz x dB Bandwidth 23.77 MHz OBW Power 99.00 % x dB -26.00 dB
5220	Center Freq 5.220000000 GHz Center 5.22 GHz #Res BW 1 MHz Occupied Bandwidth 17.545 MHz Transmit Freq Error 22.508 kHz x dB Bandwidth 23.98 MHz OBW Power 99.00 % x dB -26.00 dB

Mode 2: IEEE 802.11a Link Mode_ Antenna 1

5240



Mode 3: IEEE 802.11n 20MHz Link Mode _ Antenna 1	
5180	Center Freq 5.180000000 GHz Center 5.18 GHz #Res BW 1 MHz Occupied Bandwidth 18.634 MHz Transmit Freq Error -50.732 kHz x dB Bandwidth 25.12 MHz OBW Power 99.00 % x dB -26.00 dB
5200	Center Freq 5.200000000 GHz Center 5.2 GHz #Res BW 1 MHz Occupied Bandwidth 18.530 MHz Transmit Freq Error -22.987 kHz x dB Bandwidth 24.92 MHz OBW Power 99.00 % x dB -26.00 dB
5220	Center Freq 5.220000000 GHz Center 5.22 GHz #Res BW 1 MHz Occupied Bandwidth 18.572 MHz Transmit Freq Error -39.999 kHz x dB Bandwidth 24.03 MHz OBW Power 99.00 % x dB -26.00 dB

Mode 3: IEEE 802.11n 20MHz Link Mode _ Antenna 1

5240



Mode 4: IEEE 802.11n 40MHz Link Mode_ Antenna 1

5190

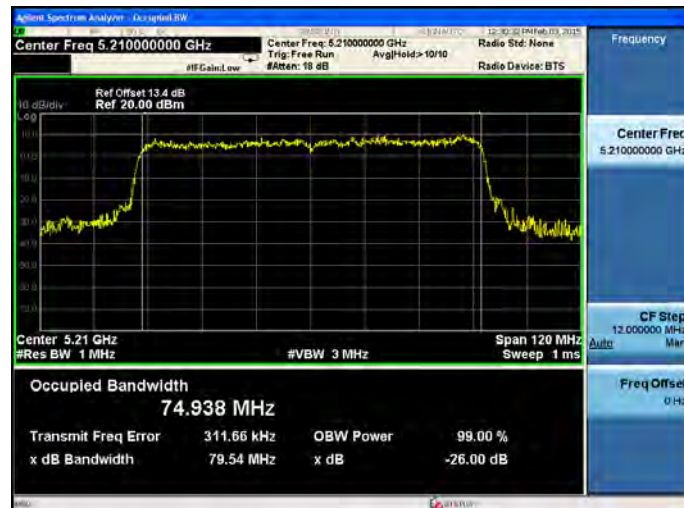


5230



Mode 5: IEEE 802.11ac 80MHz Link Mode_ Antenna 1

5210



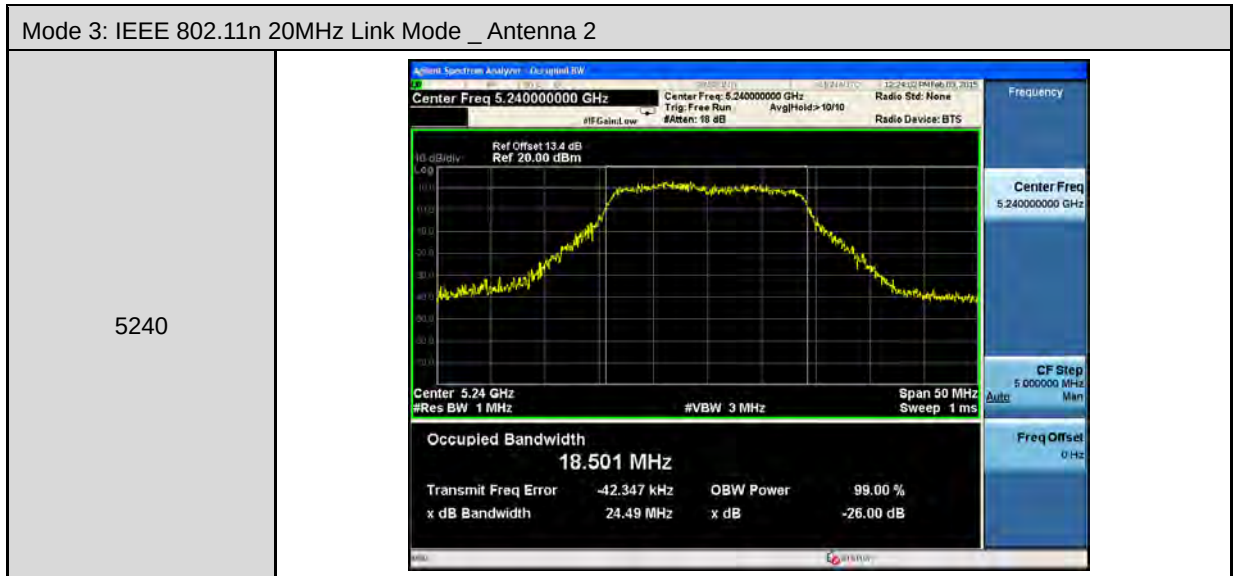
Mode 2: IEEE 802.11a Link Mode_ Antenna 2	
5180	 Center Freq 5.180000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.18 GHz #Res BW 1 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 17.607 MHz Transmit Freq Error 36.968 kHz x dB Bandwidth 24.53 MHz OBW Power 99.00 % x dB -26.00 dB
5200	 Center Freq 5.200000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.2 GHz #Res BW 1 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 17.535 MHz Transmit Freq Error 48.690 kHz x dB Bandwidth 24.44 MHz OBW Power 99.00 % x dB -26.00 dB
5220	 Center Freq 5.220000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.22 GHz #Res BW 1 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 17.616 MHz Transmit Freq Error -46.650 kHz x dB Bandwidth 24.52 MHz OBW Power 99.00 % x dB -26.00 dB

Mode 2: IEEE 802.11a Link Mode_ Antenna 2

5240



Mode 3: IEEE 802.11n 20MHz Link Mode _ Antenna 2	
5180	Center Freq 5.180000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.18 GHz #Res BW 1 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 18.598 MHz Transmit Freq Error -53.634 kHz x dB Bandwidth 24.51 MHz OBW Power 99.00 % x dB -26.00 dB
5200	Center Freq 5.200000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.2 GHz #Res BW 1 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 18.683 MHz Transmit Freq Error -24.641 kHz x dB Bandwidth 24.40 MHz OBW Power 99.00 % x dB -26.00 dB
5220	Center Freq 5.220000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.22 GHz #Res BW 1 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 18.538 MHz Transmit Freq Error -52.233 kHz x dB Bandwidth 25.07 MHz OBW Power 99.00 % x dB -26.00 dB

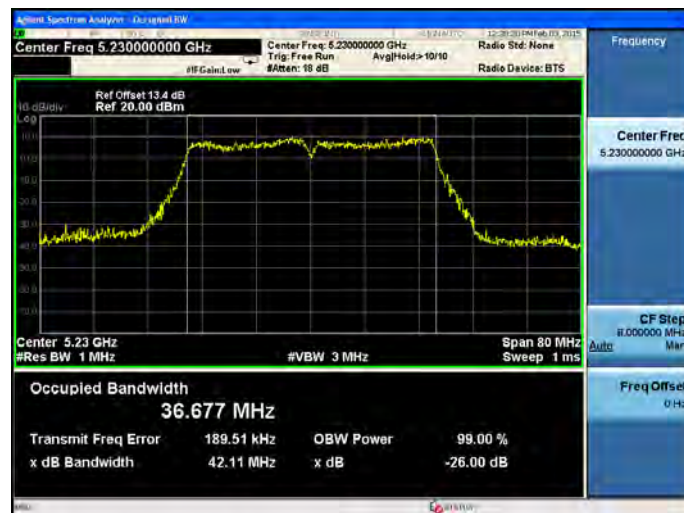


Mode 4: IEEE 802.11n 40MHz Link Mode_ Antenna 2

5190

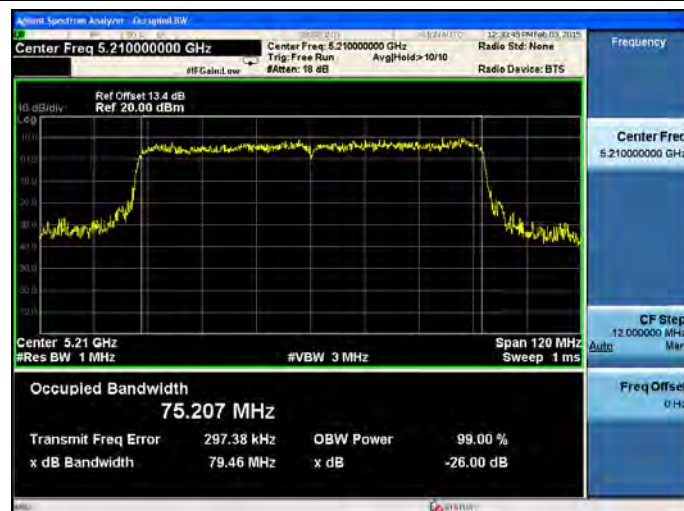


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Mode 5: IEEE 802.11ac 80MHz Link Mode_ Antenna 2

5210



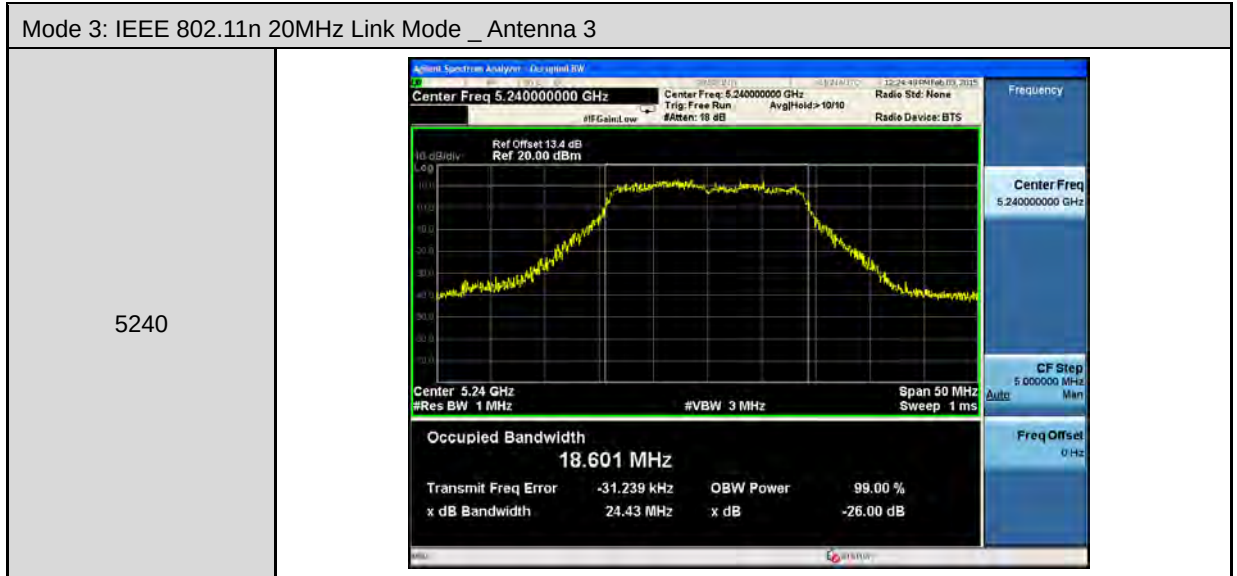
Mode 2: IEEE 802.11a Link Mode_ Antenna 3	
5180	 Center Freq 5.180000000 GHz Center Freq: 5.180000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref Offset 13.4 dB Ref 20.00 dBm Center 5.18 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 17.514 MHz Transmit Freq Error 17.731 kHz OBW Power 99.00 % x dB Bandwidth 24.82 MHz x dB -26.00 dB Frequency Center Freq 5.180000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz
5200	 Center Freq 5.200000000 GHz Center Freq: 5.200000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref Offset 13.4 dB Ref 20.00 dBm Center 5.2 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 17.500 MHz Transmit Freq Error 59.865 kHz OBW Power 99.00 % x dB Bandwidth 24.29 MHz x dB -26.00 dB Frequency Center Freq 5.200000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz
5220	 Center Freq 5.220000000 GHz Center Freq: 5.220000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref Offset 13.4 dB Ref 20.00 dBm Center 5.22 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 17.607 MHz Transmit Freq Error -4.233 kHz OBW Power 99.00 % x dB Bandwidth 24.17 MHz x dB -26.00 dB Frequency Center Freq 5.220000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz

Mode 2: IEEE 802.11a Link Mode_ Antenna 3

5240



Mode 3: IEEE 802.11n 20MHz Link Mode _ Antenna 3	
5180	Center Freq 5.180000000 GHz Center Freq: 5.180000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref Offset 13.4 dB Ref 20.00 dBm Center 5.18 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 18.693 MHz Transmit Freq Error -81.613 kHz OBW Power 99.00 % x dB Bandwidth 24.52 MHz x dB -26.00 dB Frequency Center Freq 5.180000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz
5200	Center Freq 5.200000000 GHz Center Freq: 5.200000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref Offset 13.4 dB Ref 20.00 dBm Center 5.2 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 18.571 MHz Transmit Freq Error -51.148 kHz OBW Power 99.00 % x dB Bandwidth 24.81 MHz x dB -26.00 dB Frequency Center Freq 5.200000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz
5220	Center Freq 5.220000000 GHz Center Freq: 5.220000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref Offset 13.4 dB Ref 20.00 dBm Center 5.22 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 18.643 MHz Transmit Freq Error -40.165 kHz OBW Power 99.00 % x dB Bandwidth 24.19 MHz x dB -26.00 dB Frequency Center Freq 5.220000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz



Mode 4: IEEE 802.11n 40MHz Link Mode_ Antenna 3	
5190	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.190000000 GHz Center Freq: 5.190000000 GHz Radio Std: None Trig: Free Run AvgHold: >10/10 Radio Device: BTS #IF Gain: Low #Atten: 10 dB Ref Offset 13.4 dB Ref 20.00 dBm Center 5.19 GHz #Res BW 1 MHz #VBW 3 MHz Span 80 MHz Sweep 1 ms Occupied Bandwidth 36.835 MHz Transmit Freq Error 291.37 kHz OBW Power 99.00 % x dB Bandwidth 41.68 MHz x dB -26.00 dB Frequency Center Freq 5.190000000 GHz CF Step 12.000000 MHz Man Freq Offset 0 Hz
5230	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.230000000 GHz Center Freq: 5.230000000 GHz Radio Std: None Trig: Free Run AvgHold: >10/10 Radio Device: BTS #IF Gain: Low #Atten: 10 dB Ref Offset 13.4 dB Ref 20.00 dBm Center 5.23 GHz #Res BW 1 MHz #VBW 3 MHz Span 80 MHz Sweep 1 ms Occupied Bandwidth 36.755 MHz Transmit Freq Error 254.53 kHz OBW Power 99.00 % x dB Bandwidth 42.52 MHz x dB -26.00 dB Frequency Center Freq 5.230000000 GHz CF Step 12.000000 MHz Man Freq Offset 0 Hz
Mode 5: IEEE 802.11ac 80MHz Link Mode_ Antenna 3	
5210	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.210000000 GHz Center Freq: 5.210000000 GHz Radio Std: None Trig: Free Run AvgHold: >10/10 Radio Device: BTS #IF Gain: Low #Atten: 10 dB Ref Offset 13.4 dB Ref 20.00 dBm Center 5.21 GHz #Res BW 1 MHz #VBW 3 MHz Span 120 MHz Sweep 1 ms Occupied Bandwidth 75.044 MHz Transmit Freq Error 353.27 kHz OBW Power 99.00 % x dB Bandwidth 79.57 MHz x dB -26.00 dB Frequency Center Freq 5.210000000 GHz CF Step 12.000000 MHz Man Freq Offset 0 Hz

Beamforming off

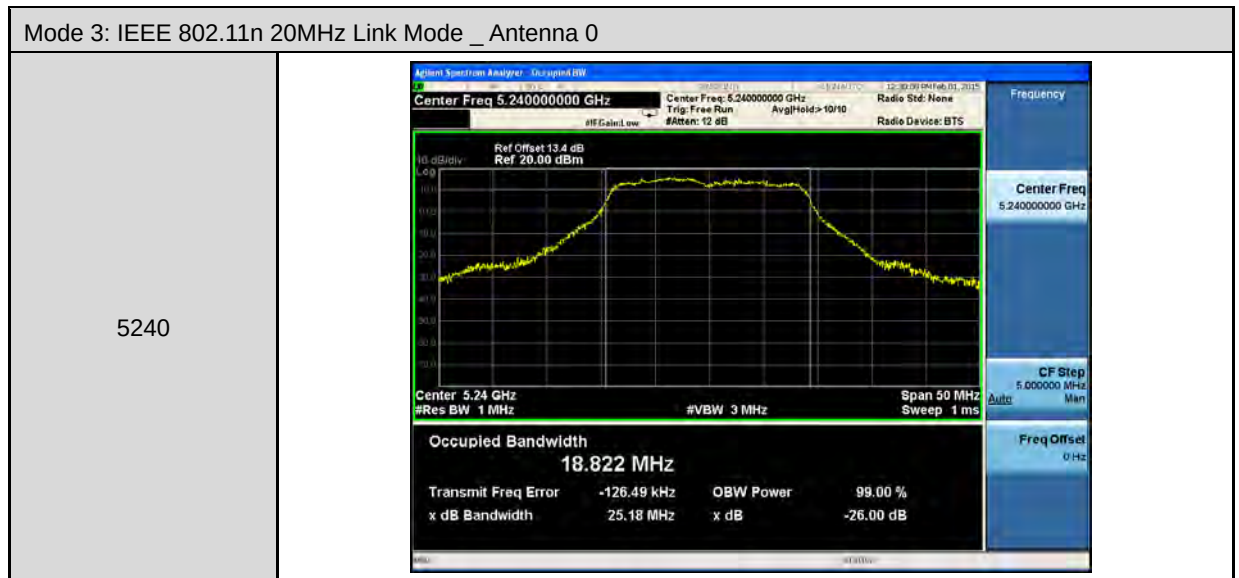
Mode 2: IEEE 802.11a Link Mode_ Antenna 0	
5180	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.180000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.18 GHz #Res BW 1 MHz Occupied Bandwidth 18.005 MHz Transmit Freq Error 47.001 kHz x dB Bandwidth 24.80 MHz OBW Power 99.00 % x dB -26.00 dB
5200	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.200000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.2 GHz #Res BW 1 MHz Occupied Bandwidth 17.684 MHz Transmit Freq Error -15.531 kHz x dB Bandwidth 24.76 MHz OBW Power 99.00 % x dB -26.00 dB
5220	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.220000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.22 GHz #Res BW 1 MHz Occupied Bandwidth 17.735 MHz Transmit Freq Error 29.193 kHz x dB Bandwidth 24.03 MHz OBW Power 99.00 % x dB -26.00 dB

Mode 2: IEEE 802.11a Link Mode_ Antenna 0

5240



Mode 3: IEEE 802.11n 20MHz Link Mode _ Antenna 0	
5180	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.180000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.18 GHz #Res BW 1 MHz Occupied Bandwidth 18.711 MHz Transmit Freq Error -75.319 kHz x dB Bandwidth 25.28 MHz OBW Power 99.00 % x dB -26.00 dB
5200	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.200000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.2 GHz #Res BW 1 MHz Occupied Bandwidth 18.717 MHz Transmit Freq Error -89.576 kHz x dB Bandwidth 24.91 MHz OBW Power 99.00 % x dB -26.00 dB
5220	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.220000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.22 GHz #Res BW 1 MHz Occupied Bandwidth 18.803 MHz Transmit Freq Error -82.274 kHz x dB Bandwidth 25.25 MHz OBW Power 99.00 % x dB -26.00 dB

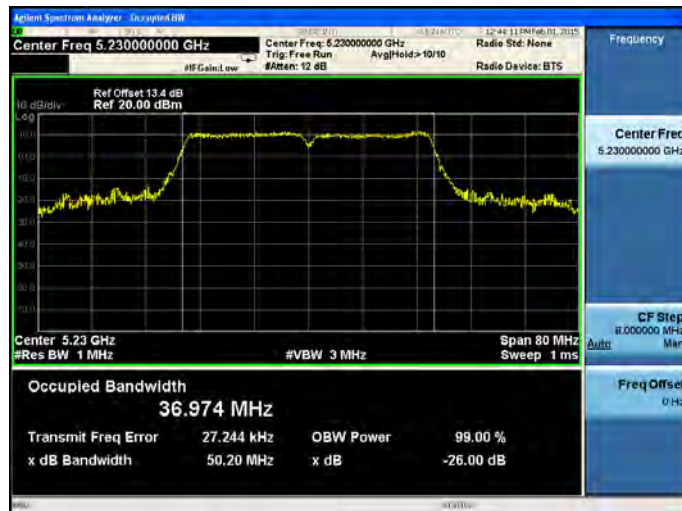


Mode 4: IEEE 802.11n 40MHz Link Mode_ Antenna 0

5190

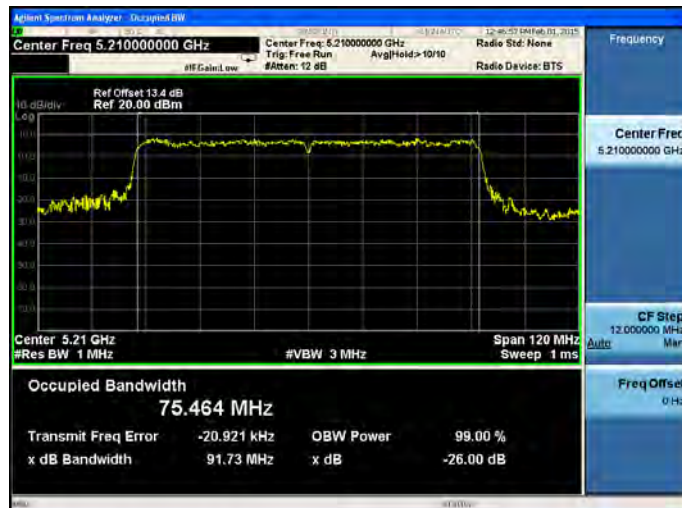


5230



Mode 5: IEEE 802.11ac 80MHz Link Mode_ Antenna 0

5210



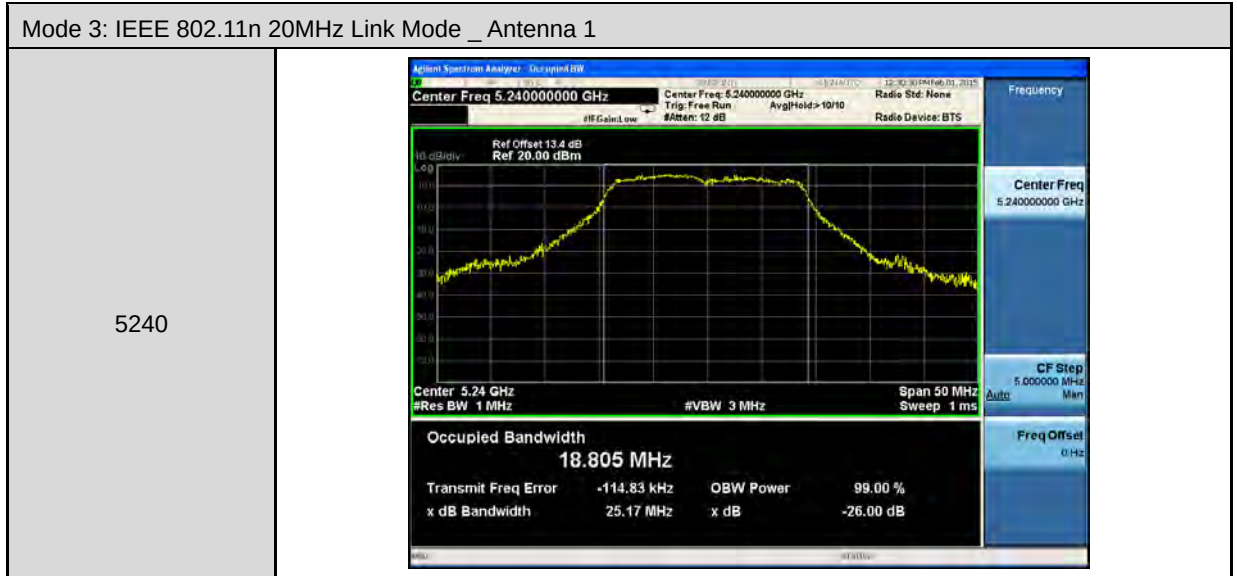
Mode 2: IEEE 802.11a Link Mode_ Antenna 1	
5180	 Agilent Spectrum Analyzer - Occupied BW Center Freq 5.180000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.18 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 17.720 MHz Transmit Freq Error -9.566 kHz x dB Bandwidth 24.44 MHz OBW Power 99.00 % x dB -26.00 dB Frequency Center Freq 5.180000000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz
5200	 Agilent Spectrum Analyzer - Occupied BW Center Freq 5.200000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.2 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 17.734 MHz Transmit Freq Error 32.653 kHz x dB Bandwidth 24.47 MHz OBW Power 99.00 % x dB -26.00 dB Frequency Center Freq 5.200000000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz
5220	 Agilent Spectrum Analyzer - Occupied BW Center Freq 5.220000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.22 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 17.871 MHz Transmit Freq Error 17.503 kHz x dB Bandwidth 24.19 MHz OBW Power 99.00 % x dB -26.00 dB Frequency Center Freq 5.220000000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz

Mode 2: IEEE 802.11a Link Mode_ Antenna 1

5240



Mode 3: IEEE 802.11n 20MHz Link Mode _ Antenna 1	
5180	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.180000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.18 GHz #Res BW 1 MHz Occupied Bandwidth 18.721 MHz Transmit Freq Error -99.173 kHz x dB Bandwidth 25.21 MHz OBW Power 99.00 % x dB -26.00 dB
5200	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.200000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.2 GHz #Res BW 1 MHz Occupied Bandwidth 18.740 MHz Transmit Freq Error -78.460 kHz x dB Bandwidth 25.15 MHz OBW Power 99.00 % x dB -26.00 dB
5220	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.220000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.22 GHz #Res BW 1 MHz Occupied Bandwidth 18.836 MHz Transmit Freq Error -109.96 kHz x dB Bandwidth 25.03 MHz OBW Power 99.00 % x dB -26.00 dB

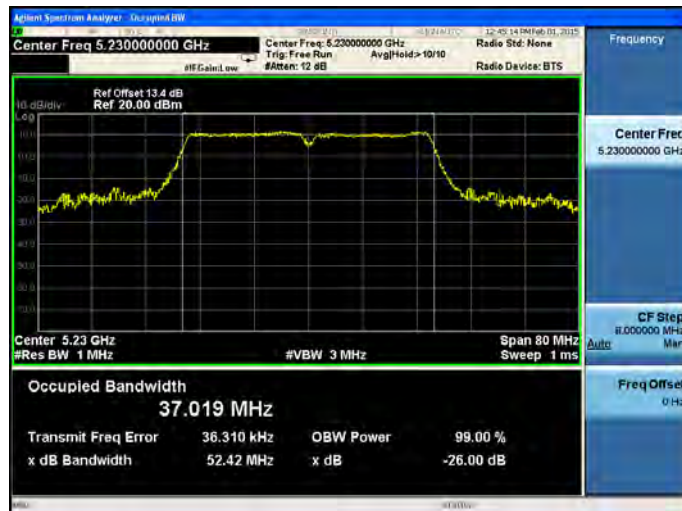


Mode 4: IEEE 802.11n 40MHz Link Mode_ Antenna 1

5190

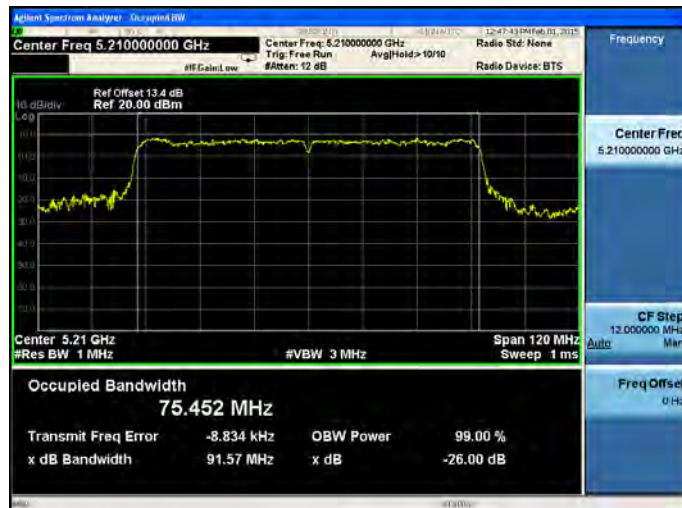


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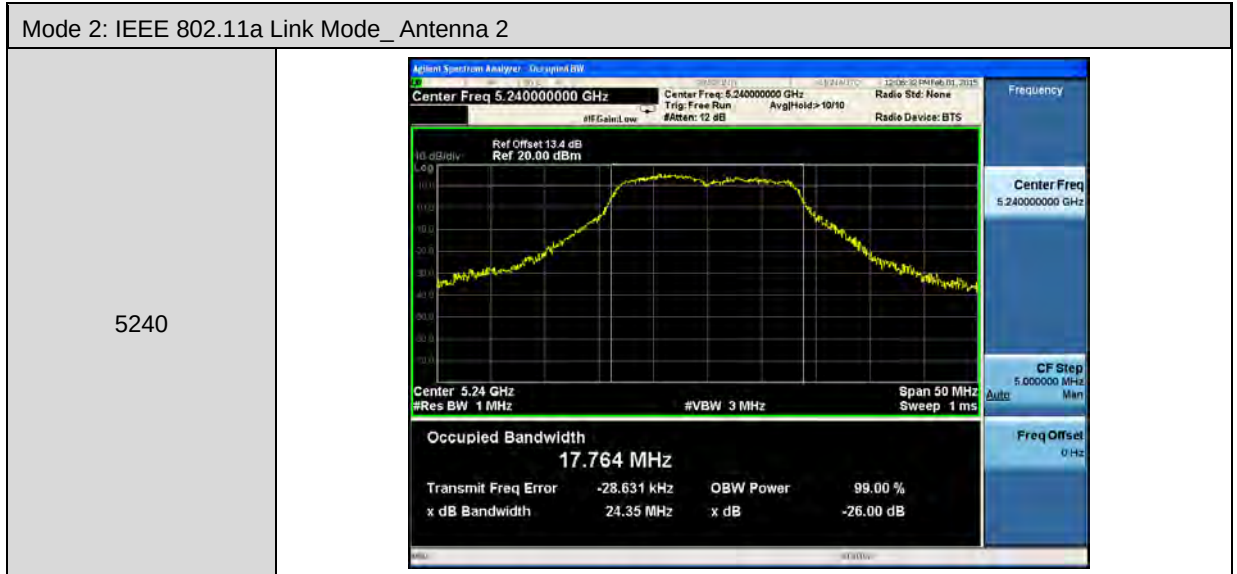


Mode 5: IEEE 802.11ac 80MHz Link Mode_ Antenna 1

5210



Mode 2: IEEE 802.11a Link Mode_ Antenna 2	
5180	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.180000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.18 GHz #Res BW 1 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 17.610 MHz Transmit Freq Error -33.453 kHz x dB Bandwidth 24.33 MHz OBW Power 99.00 % x dB -26.00 dB
5200	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.200000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.2 GHz #Res BW 1 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 17.707 MHz Transmit Freq Error 21.664 kHz x dB Bandwidth 24.35 MHz OBW Power 99.00 % x dB -26.00 dB
5220	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.220000000 GHz Ref Offset 13.4 dB Ref 20.00 dBm Center 5.22 GHz #Res BW 1 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 17.788 MHz Transmit Freq Error 40.658 kHz x dB Bandwidth 24.20 MHz OBW Power 99.00 % x dB -26.00 dB



Mode 3: IEEE 802.11n 20MHz Link Mode _ Antenna 2	
5180	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.180000000 GHz Center Freq: 5.180000000 GHz Radio Std: None Frequency Ref Offset 13.4 dB Trig: Free Run Avg/Hold: >10/10 Center Freq 5.180000000 GHz #F Calc Low #F Calc Low #F Calc Low Radio Device: BTS 10 dBm Ref 20.00 dBm Center 5.18 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz Occupied Bandwidth 18.701 MHz Transmit Freq Error -93.371 kHz OBW Power 99.00 % x dB Bandwidth 24.98 MHz x dB -26.00 dB
5200	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.200000000 GHz Center Freq: 5.200000000 GHz Radio Std: None Frequency Ref Offset 13.4 dB Trig: Free Run Avg/Hold: >10/10 Center Freq 5.200000000 GHz #F Calc Low #F Calc Low #F Calc Low Radio Device: BTS 10 dBm Ref 20.00 dBm Center 5.2 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz Occupied Bandwidth 18.792 MHz Transmit Freq Error -92.459 kHz OBW Power 99.00 % x dB Bandwidth 25.27 MHz x dB -26.00 dB
5220	Agilent Spectrum Analyzer - Occupied BW Center Freq 5.220000000 GHz Center Freq: 5.220000000 GHz Radio Std: None Frequency Ref Offset 13.4 dB Trig: Free Run Avg/Hold: >10/10 Center Freq 5.220000000 GHz #F Calc Low #F Calc Low #F Calc Low Radio Device: BTS 10 dBm Ref 20.00 dBm Center 5.22 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz Occupied Bandwidth 18.791 MHz Transmit Freq Error -88.788 kHz OBW Power 99.00 % x dB Bandwidth 25.28 MHz x dB -26.00 dB

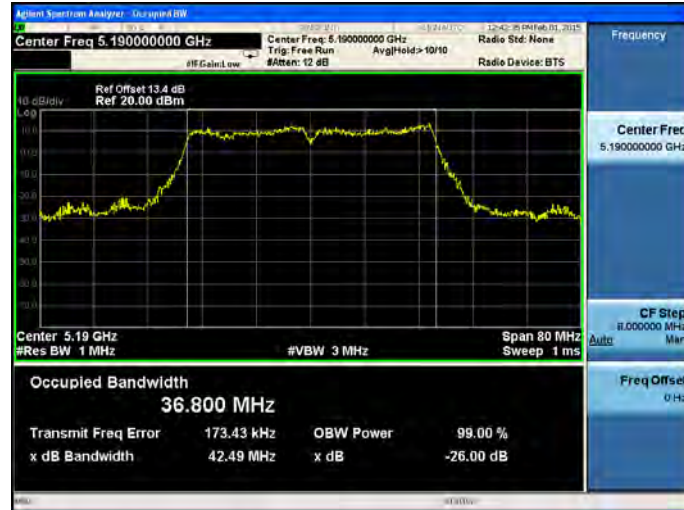
Mode 3: IEEE 802.11n 20MHz Link Mode _ Antenna 2

5240

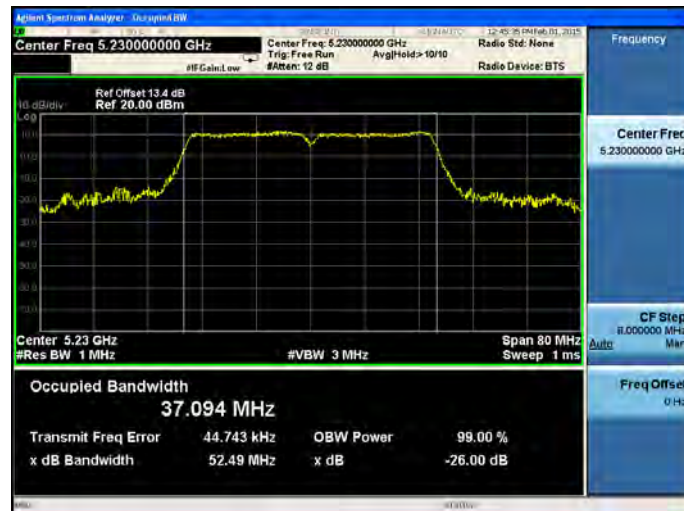


Mode 4: IEEE 802.11n 40MHz Link Mode_ Antenna 2

5190

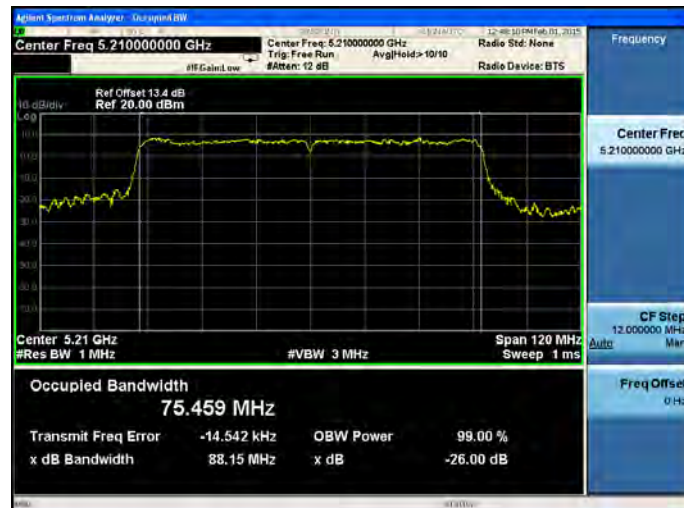


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Mode 5: IEEE 802.11ac 80MHz Link Mode_ Antenna 2

5210



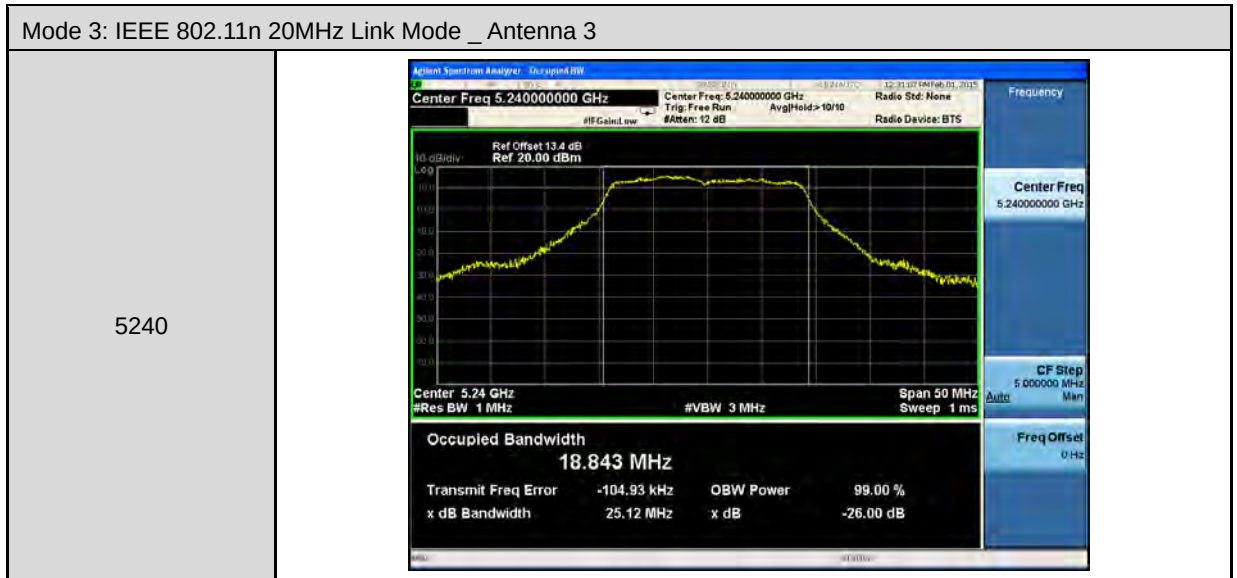
Mode 2: IEEE 802.11a Link Mode_ Antenna 3	
5180	Agilent Spectrum Analyzer - Occupied BW Center Freq: 5.180000000 GHz Ref Offset: 13.4 dB Ref: 20.00 dBm Center 5.18 GHz #Res BW 1 MHz Occupied Bandwidth 17.838 MHz Transmit Freq Error -25.281 kHz x dB Bandwidth 24.71 MHz OBW Power 99.00 % x dB -26.00 dB
5200	Agilent Spectrum Analyzer - Occupied BW Center Freq: 5.200000000 GHz Ref Offset: 13.4 dB Ref: 20.00 dBm Center 5.2 GHz #Res BW 1 MHz Occupied Bandwidth 17.821 MHz Transmit Freq Error 22.633 kHz x dB Bandwidth 24.56 MHz OBW Power 99.00 % x dB -26.00 dB
5220	Agilent Spectrum Analyzer - Occupied BW Center Freq: 5.220000000 GHz Ref Offset: 13.4 dB Ref: 20.00 dBm Center 5.22 GHz #Res BW 1 MHz Occupied Bandwidth 17.978 MHz Transmit Freq Error -130.93 kHz x dB Bandwidth 24.68 MHz OBW Power 99.00 % x dB -26.00 dB

Mode 2: IEEE 802.11a Link Mode_ Antenna 3

5240

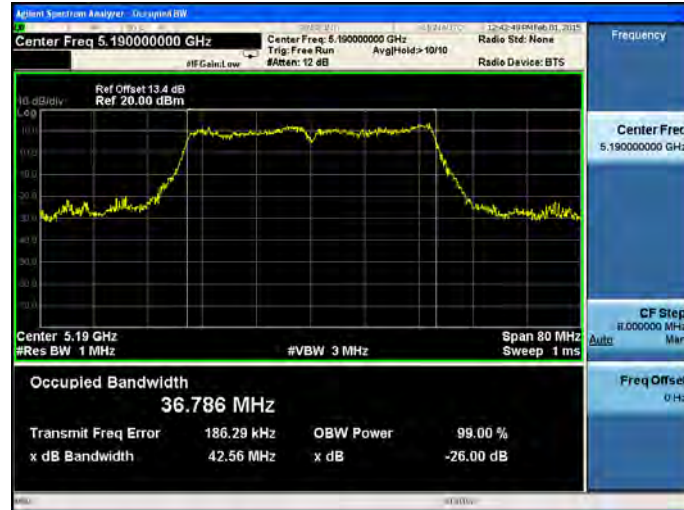


Mode 3: IEEE 802.11n 20MHz Link Mode _ Antenna 3	
5180	 Agilent Spectrum Analyzer - Occupied BW Center Freq 5.180000000 GHz Center Freq: 5.180000000 GHz Radio Std: None Trig: Free Run Avg/Hold: >10/10 Radio Device: BTS #F Calc: Low #Att: 12 dB Ref Offset 13.4 dB Ref 20.00 dBm Center 5.18 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 18.712 MHz Transmit Freq Error -103.45 kHz OBW Power 99.00 % x dB Bandwidth 25.20 MHz x dB -26.00 dB Frequency Center Freq 5.180000000 GHz CF Step 5.000000 MHz Man Freq Offset 0 Hz
5200	 Agilent Spectrum Analyzer - Occupied BW Center Freq 5.200000000 GHz Center Freq: 5.200000000 GHz Radio Std: None Trig: Free Run Avg/Hold: >10/10 Radio Device: BTS #F Calc: Low #Att: 12 dB Ref Offset 13.4 dB Ref 20.00 dBm Center 5.2 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 18.796 MHz Transmit Freq Error -96.995 kHz OBW Power 99.00 % x dB Bandwidth 25.17 MHz x dB -26.00 dB Frequency Center Freq 5.200000000 GHz CF Step 5.000000 MHz Man Freq Offset 0 Hz
5220	 Agilent Spectrum Analyzer - Occupied BW Center Freq 5.220000000 GHz Center Freq: 5.220000000 GHz Radio Std: None Trig: Free Run Avg/Hold: >10/10 Radio Device: BTS #F Calc: Low #Att: 12 dB Ref Offset 13.4 dB Ref 20.00 dBm Center 5.22 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 18.833 MHz Transmit Freq Error -95.451 kHz OBW Power 99.00 % x dB Bandwidth 24.97 MHz x dB -26.00 dB Frequency Center Freq 5.220000000 GHz CF Step 5.000000 MHz Man Freq Offset 0 Hz

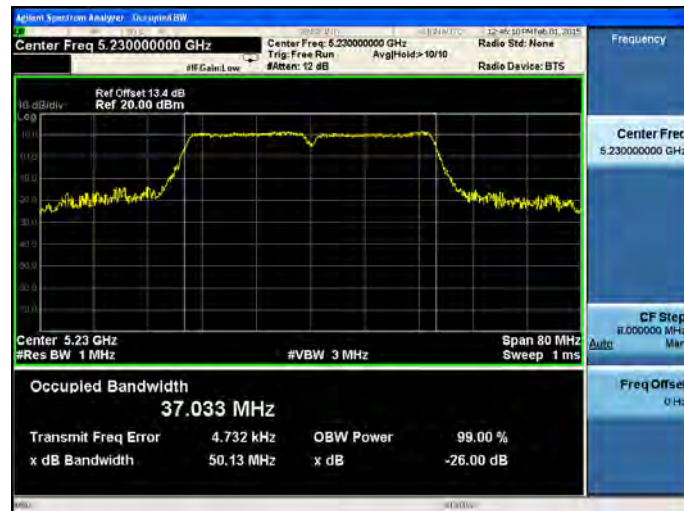


Mode 4: IEEE 802.11n 40MHz Link Mode_ Antenna 3

5190

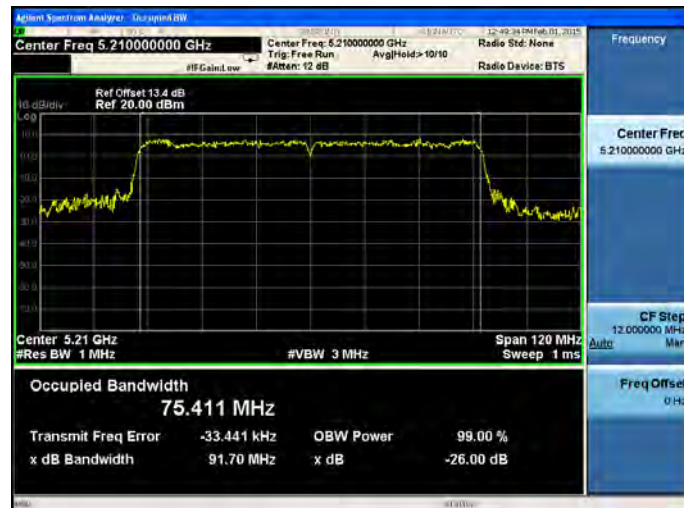


5230



Mode 5: IEEE 802.11ac 80MHz Link Mode_ Antenna 3

5210



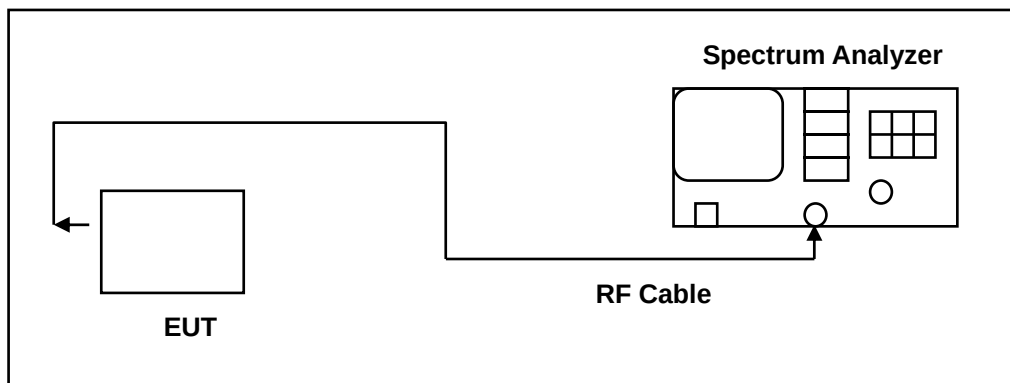
8 6dB RF Bandwidth

8.1. Limit

6dB RF Bandwidth

Systems using digital modulation techniques may operate in the 5725~5850MHz bands. The minimum 6 dB band-width shall be at least 500 kHz.

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.	-----

dRemark: (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

6dB RF Bandwidth

The EUT was setup to ANSI C63.4:2014; tested to UNII test procedure of KDB789033 D02 for compliance to FCC 47CFR 15.247 requirements.

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW 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.

8.5. Test Result

Model Number	NBG6816				
Test Item	6dB RF Bandwidth & 99 % Occupied Bandwidth				
Test Mode	Mode 2: IEEE 802.11a Link Mode				
Date of Test	02/03/2015			Test Site	TE05
Beamforming on					
Frequency (MHz)	6dB Bandwidth (MHz)				6dB Bandwidth Limit (kHz)
	Antenna 0	Antenna 1	Antenna 2	Antenna 3	
5745	16.450	16.410	16.460	16.460	> 500
5785	16.460	16.440	16.440	16.470	> 500
5825	16.400	16.440	16.430	16.430	> 500

Model Number	NBG6816				
Test Item	6dB RF Bandwidth & 99 % Occupied Bandwidth				
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode				
Date of Test	02/03/2015			Test Site	TE05
Beamforming on					
Frequency (MHz)	6dB Bandwidth (MHz)				6dB Bandwidth Limit (kHz)
	Antenna 0	Antenna 1	Antenna 2	Antenna 3	
5745	15.610	17.660	17.710	17.720	> 500
5785	17.600	17.620	17.610	17.540	> 500
5825	17.020	17.540	17.590	17.540	> 500

Model Number	NBG6816				
Test Item	6dB RF Bandwidth & 99 % Occupied Bandwidth				
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode				
Date of Test	02/03/2015			Test Site	TE05
Beamforming on					
Frequency (MHz)	6dB Bandwidth (MHz)				6dB Bandwidth Limit (kHz)
	Antenna 0	Antenna 1	Antenna 2	Antenna 3	
5755	36.300	36.420	36.340	36.330	> 500
5795	36.340	36.340	36.440	36.410	> 500

Model Number	NBG6816				
Test Item	6dB RF Bandwidth & 99 % Occupied Bandwidth				
Test Mode	Mode 5: IEEE 802.11ac 80MHz Link Mode				
Date of Test	02/03/2015			Test Site	TE05
Beamforming on					
Frequency (MHz)	6dB Bandwidth (MHz)				6dB Bandwidth Limit (kHz)
	Antenna 0	Antenna 1	Antenna 2	Antenna 3	
5775	75.150	75.140	75.150	75.160	> 500

Model Number	NBG6816				
Test Item	6dB RF Bandwidth & 99 % Occupied Bandwidth				
Test Mode	Mode 2: IEEE 802.11a Link Mode				
Date of Test	02/03/2015			Test Site	TE05
Beamforming off					
Frequency (MHz)	6dB Bandwidth (MHz)				6dB Bandwidth Limit (kHz)
	Antenna 0	Antenna 1	Antenna 2	Antenna 3	
5745	16.380	16.390	16.390	16.3800	> 500
5785	16.380	16.380	16.380	16.3900	> 500
5825	16.390	16.360	16.430	16.3700	> 500

Model Number	NBG6816				
Test Item	6dB RF Bandwidth & 99 % Occupied Bandwidth				
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode				
Date of Test	02/03/2015			Test Site	TE05
Beamforming off					
Frequency (MHz)	6dB Bandwidth (MHz)				6dB Bandwidth Limit (kHz)
	Antenna 0	Antenna 1	Antenna 2	Antenna 3	
5745	17.740	17.740	17.740	17.7400	> 500
5785	17.600	17.620	17.610	17.6200	> 500
5825	17.600	17.600	17.610	17.6100	> 500

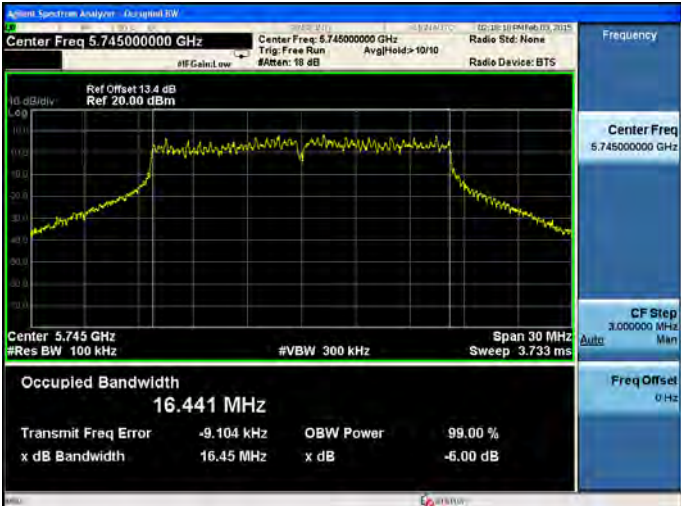
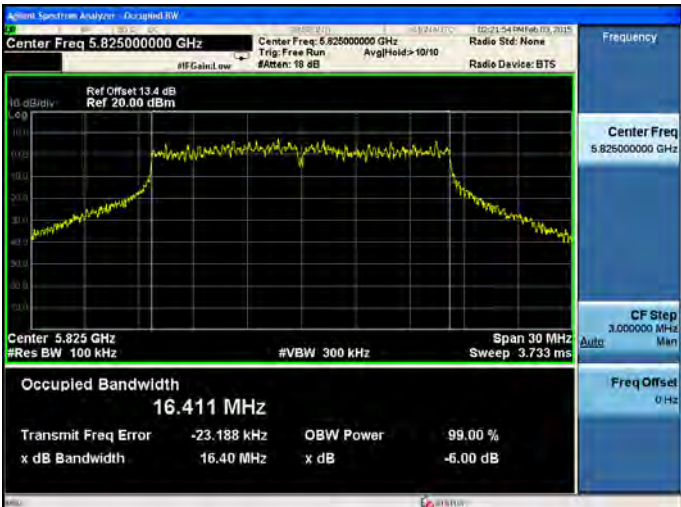
Model Number	NBG6816				
Test Item	6dB RF Bandwidth & 99 % Occupied Bandwidth				
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode				
Date of Test	02/03/2015			Test Site	TE05
Beamforming off					
Frequency (MHz)	6dB Bandwidth (MHz)				6dB Bandwidth Limit (kHz)
	Antenna 0	Antenna 1	Antenna 2	Antenna 3	
5755	36.330	36.340	36.340	36.3400	> 500
5795	36.350	36.320	36.340	36.3400	> 500

Model Number	NBG6816				
Test Item	6dB RF Bandwidth & 99 % Occupied Bandwidth				
Test Mode	Mode 5: IEEE 802.11ac 80MHz Link Mode				
Date of Test	02/03/2015			Test Site	TE05
Beamforming off					
Frequency (MHz)	6dB Bandwidth (MHz)				6dB Bandwidth Limit (kHz)
	Antenna 0	Antenna 1	Antenna 2	Antenna 3	
5775	75.150	75.160	75.150	75.1500	> 500

8.6. Test Graphs

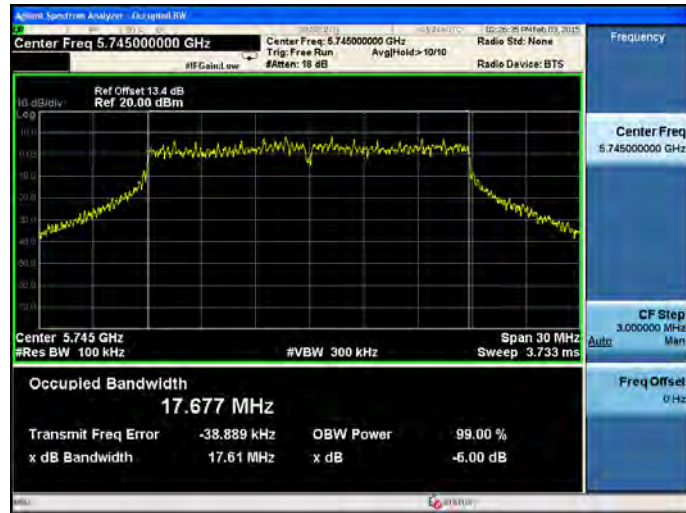
6dB Bandwidth_Beamforming on

Mode 2: IEEE 802.11a Link Mode_Antenna 0

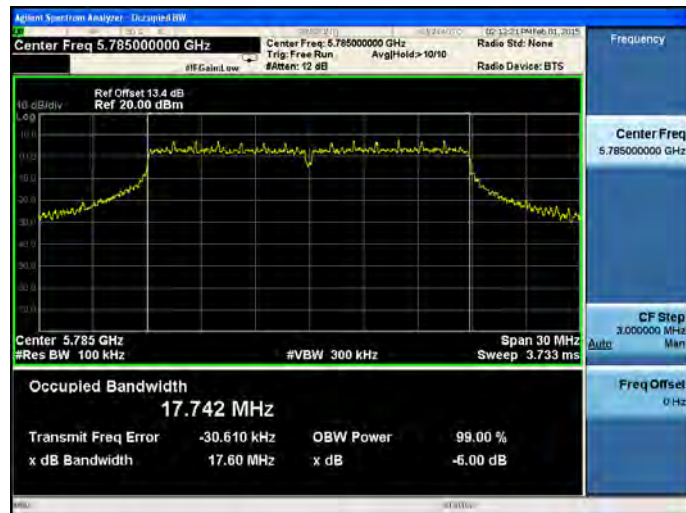
5745	 Center Freq 5.745000000 GHz Center Freq: 5.745000000 GHz Radio Std: None Trig: Free Run Avg/Hold: 10/10 Radio Device: BTS Ref Offset 13.4 dB Ref 20.00 dBm Center 5.745 GHz Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 3.733 ms Occupied Bandwidth 16.441 MHz Transmit Freq Error -9.104 kHz OBW Power 99.00 % x dB Bandwidth 16.45 MHz x dB -6.00 dB Center Freq 5.745000000 GHz CF Step 3.000000 MHz Freq Offset 0 Hz
5785	 Center Freq 5.745000000 GHz Center Freq: 5.745000000 GHz Radio Std: None Trig: Free Run Avg/Hold: 10/10 Radio Device: BTS Ref Offset 13.4 dB Ref 20.00 dBm Center 5.745 GHz Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 3.733 ms Occupied Bandwidth 16.441 MHz Transmit Freq Error -9.104 kHz OBW Power 99.00 % x dB Bandwidth 16.45 MHz x dB -6.00 dB Center Freq 5.745000000 GHz CF Step 3.000000 MHz Freq Offset 0 Hz
5825	 Center Freq 5.825000000 GHz Center Freq: 5.825000000 GHz Radio Std: None Trig: Free Run Avg/Hold: 10/10 Radio Device: BTS Ref Offset 13.4 dB Ref 20.00 dBm Center 5.825 GHz Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 3.733 ms Occupied Bandwidth 16.411 MHz Transmit Freq Error -23.188 kHz OBW Power 99.00 % x dB Bandwidth 16.40 MHz x dB -6.00 dB Center Freq 5.825000000 GHz CF Step 3.000000 MHz Freq Offset 0 Hz

Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 0

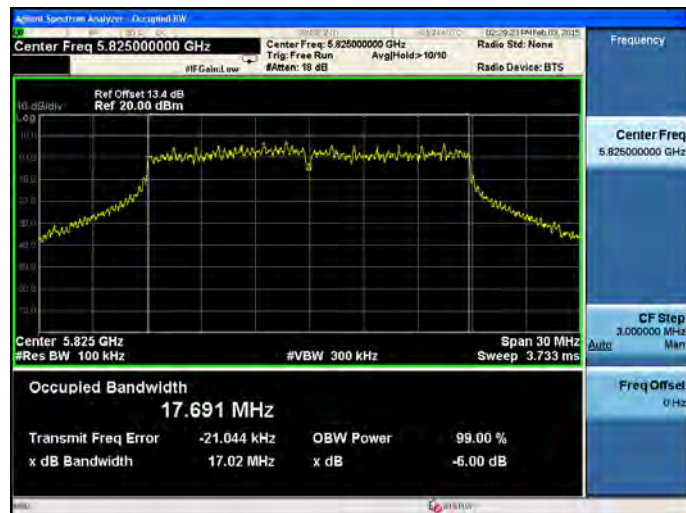
5745



5785



5825

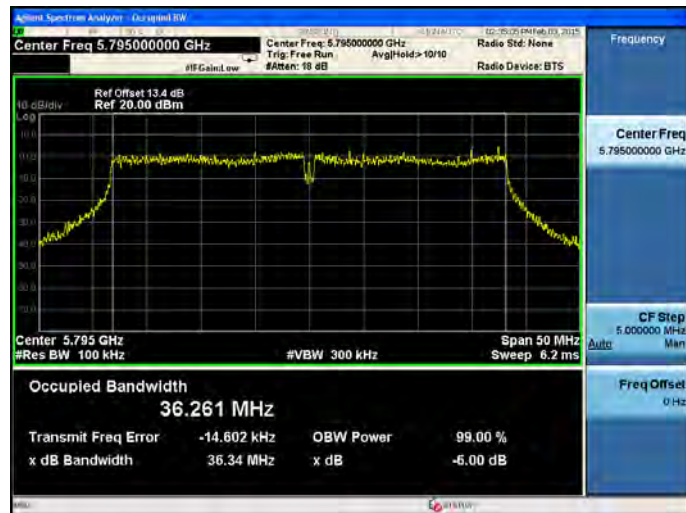


Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 0

5755

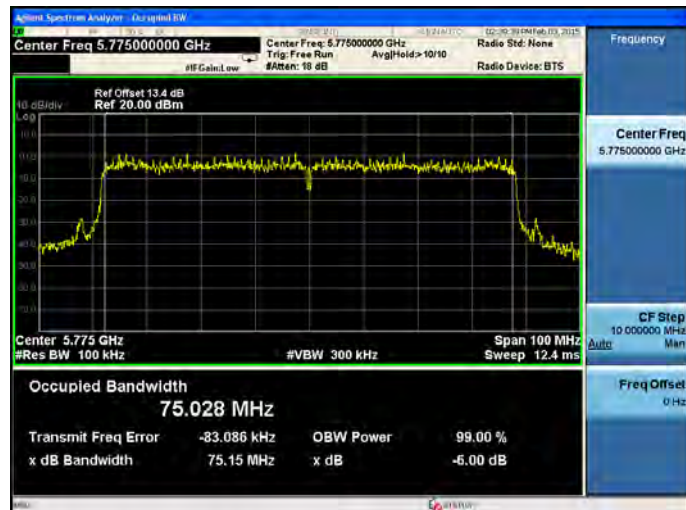


5795



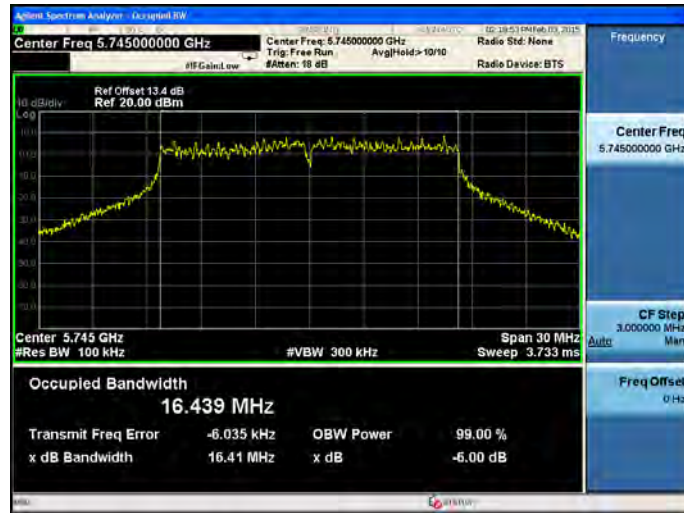
Mode 5: IEEE 802.11ac 80MHz Link Mode_Antenna 0

5775

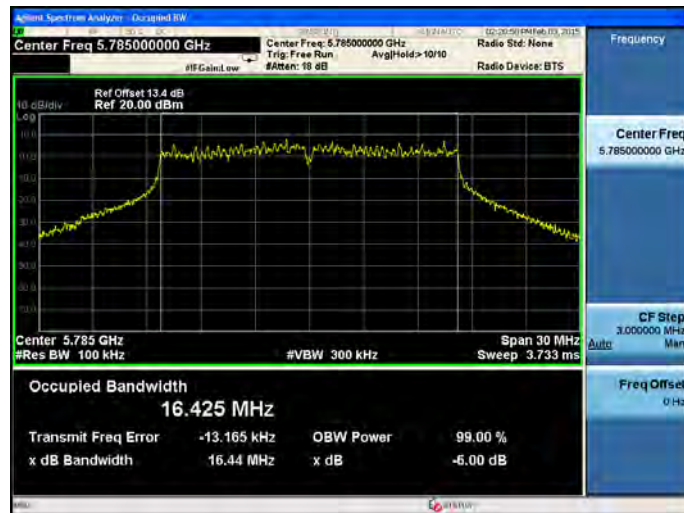


Mode 2: IEEE 802.11a Link Mode_Antenna 1

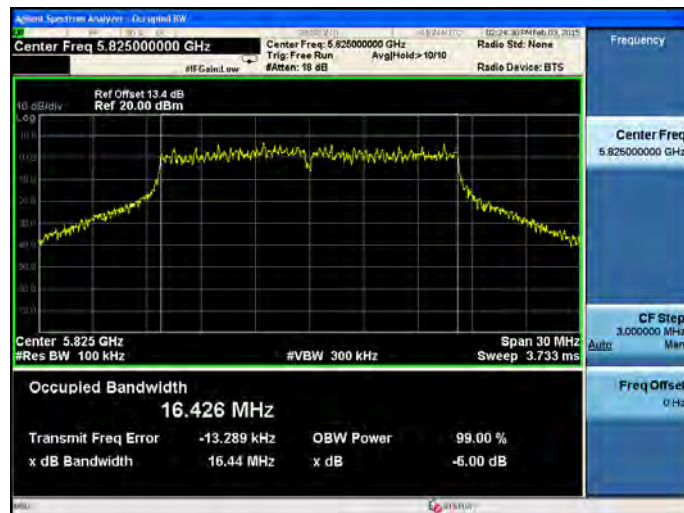
5745



5785

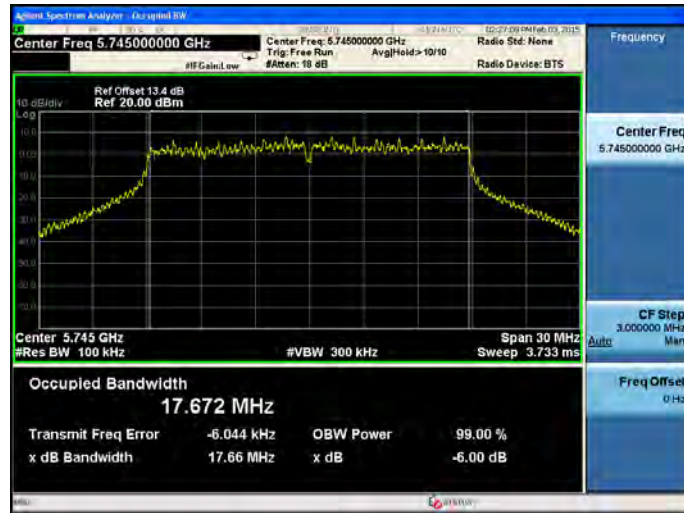


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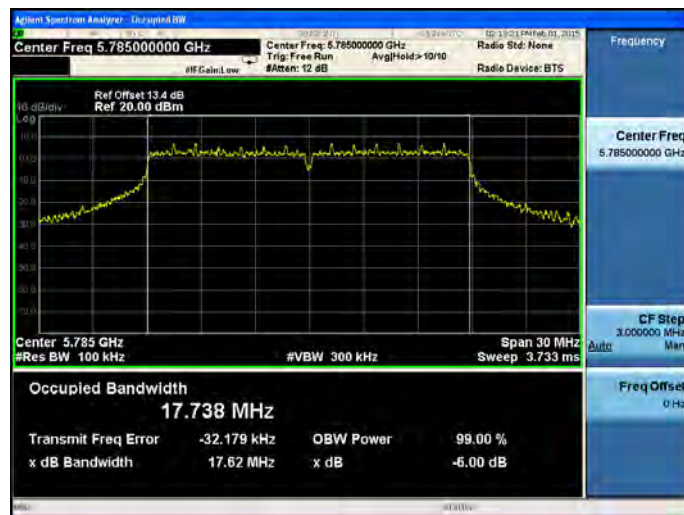


Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 1

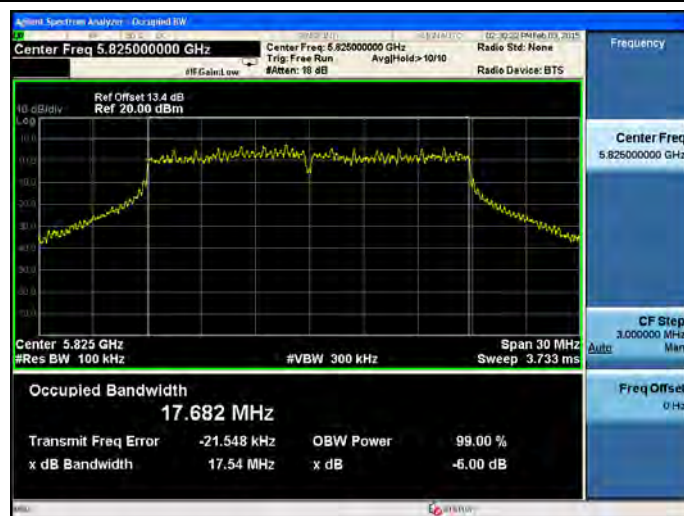
5745



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Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 1

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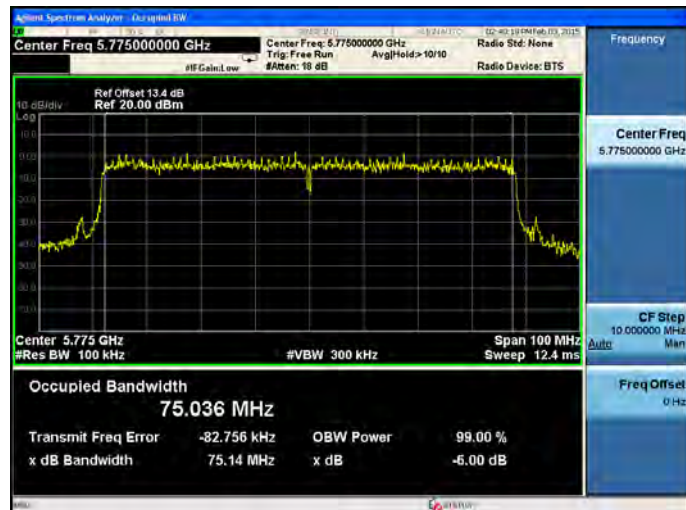


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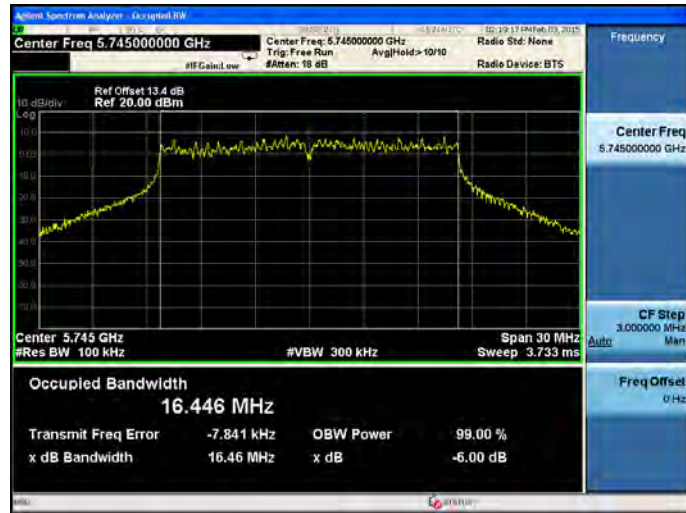
Mode 5: IEEE 802.11ac 80MHz Link Mode_Antenna 1

5775

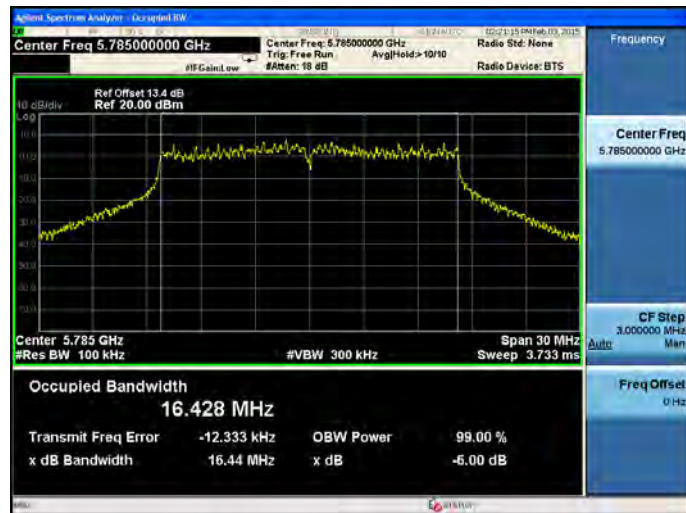


Mode 2: IEEE 802.11a Link Mode_Antenna 2

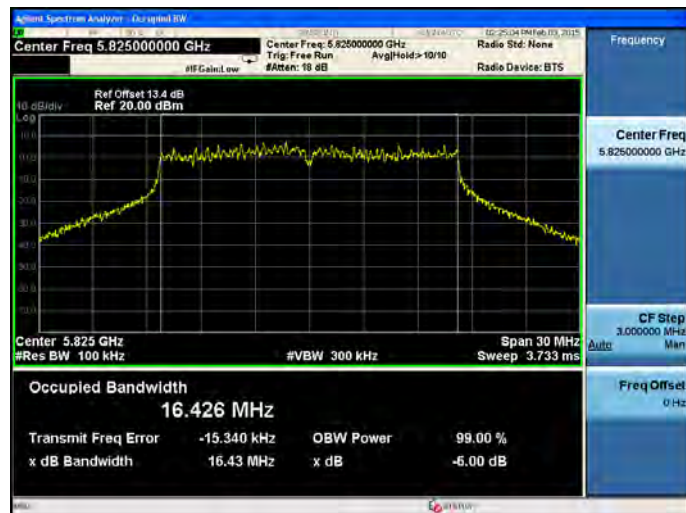
5745



5785

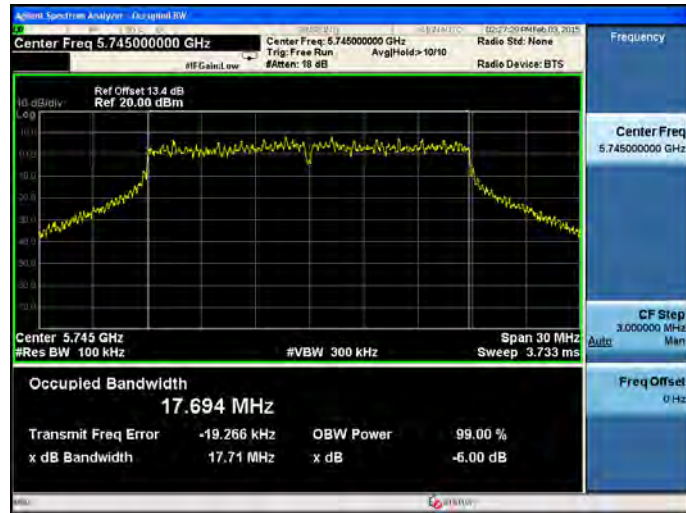


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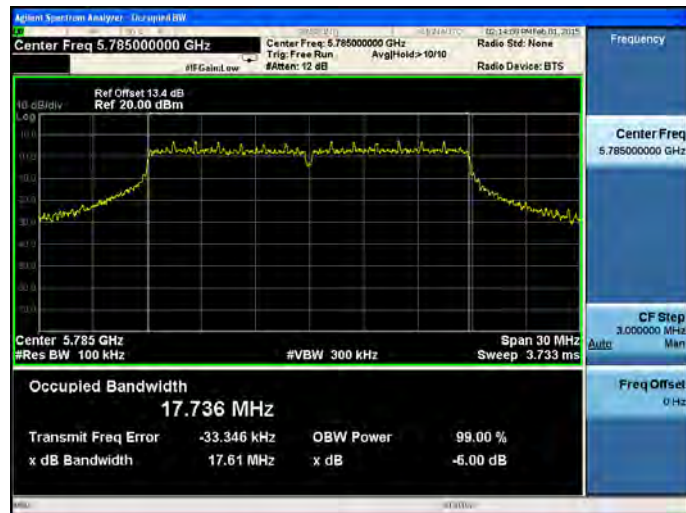


Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 2

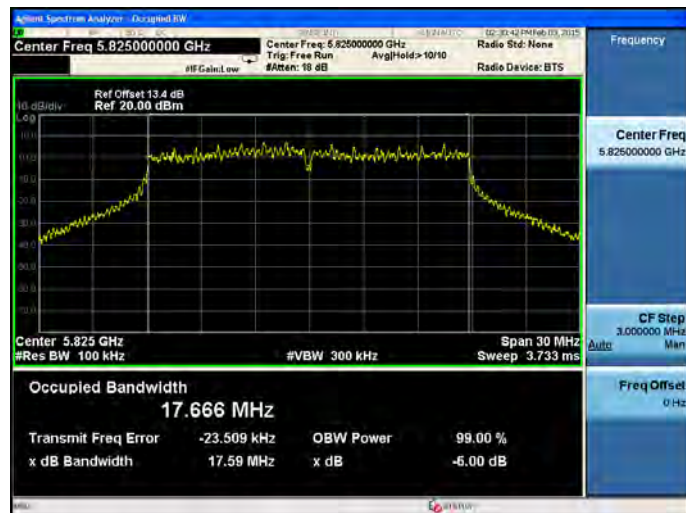
5745



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5825

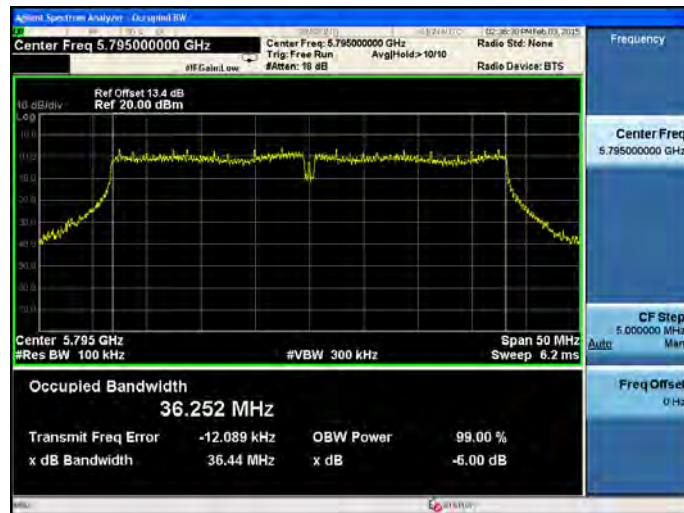


Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 2

5755

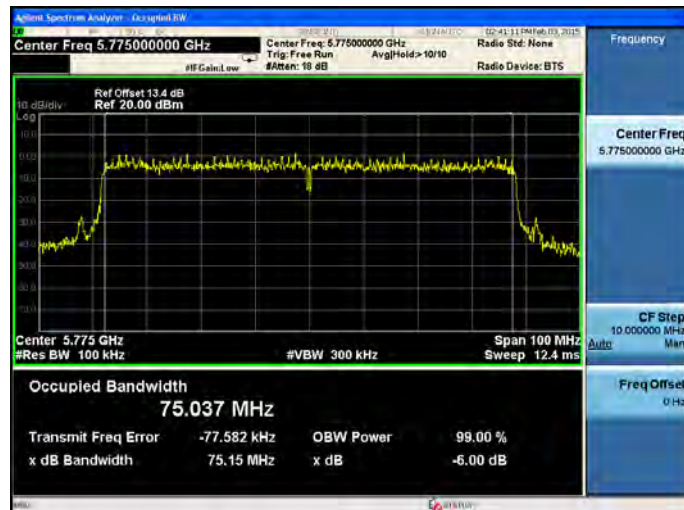


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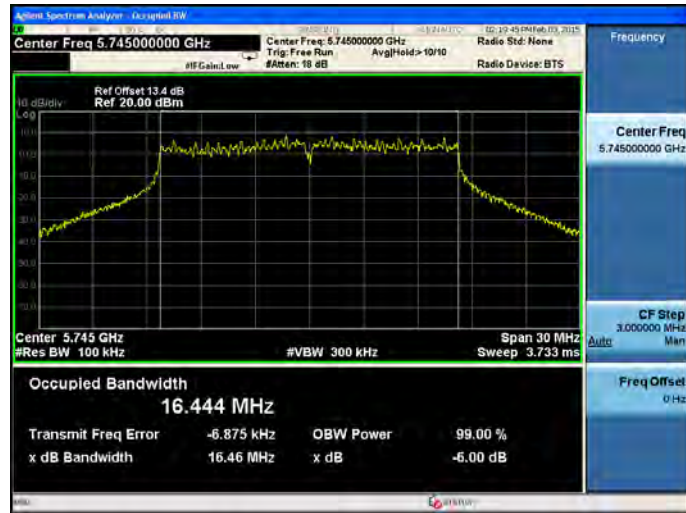
Mode 5: IEEE 802.11ac 80MHz Link Mode_Antenna 2

5775

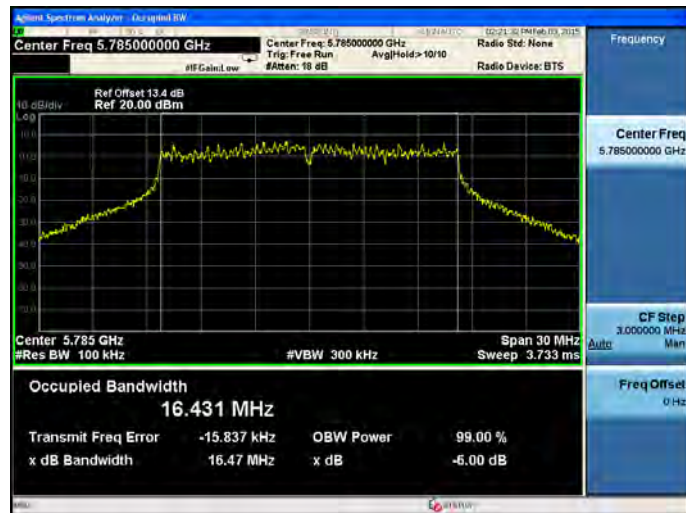


Mode 2: IEEE 802.11a Link Mode_Antenna 3

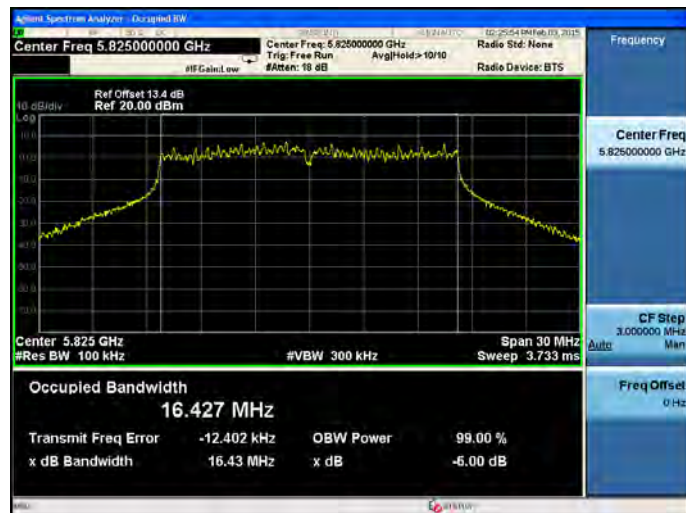
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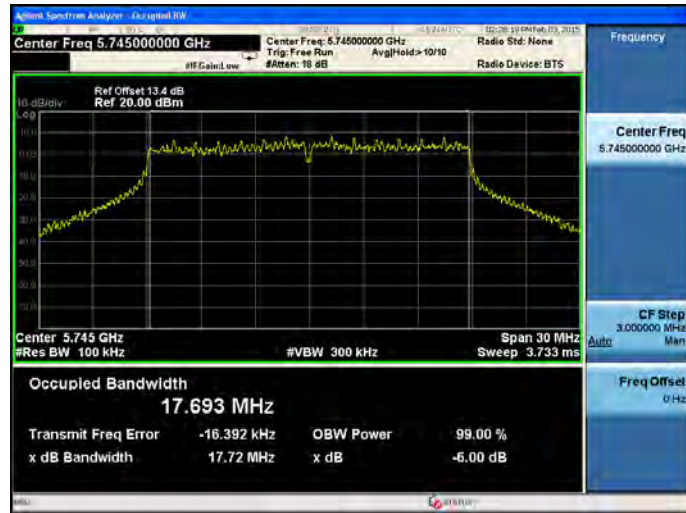


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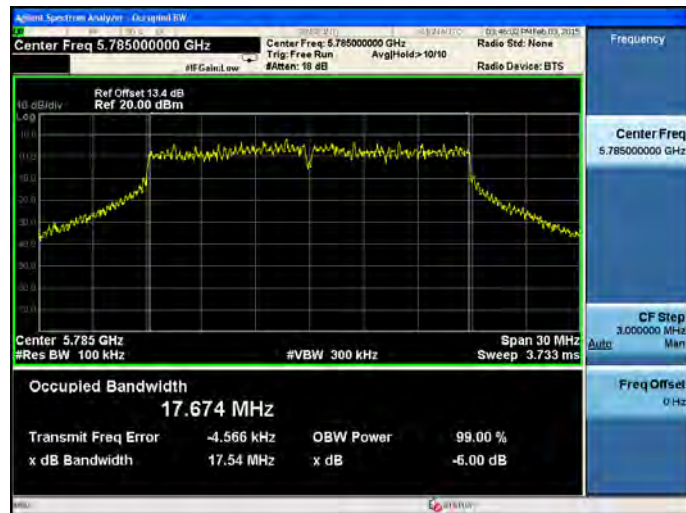


Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 3

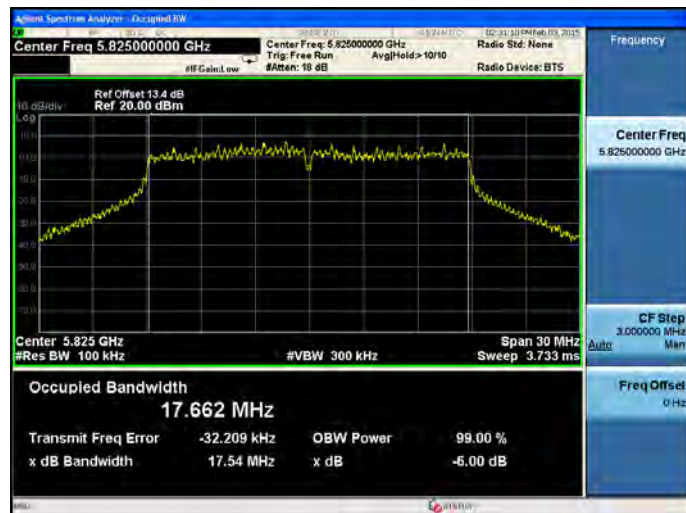
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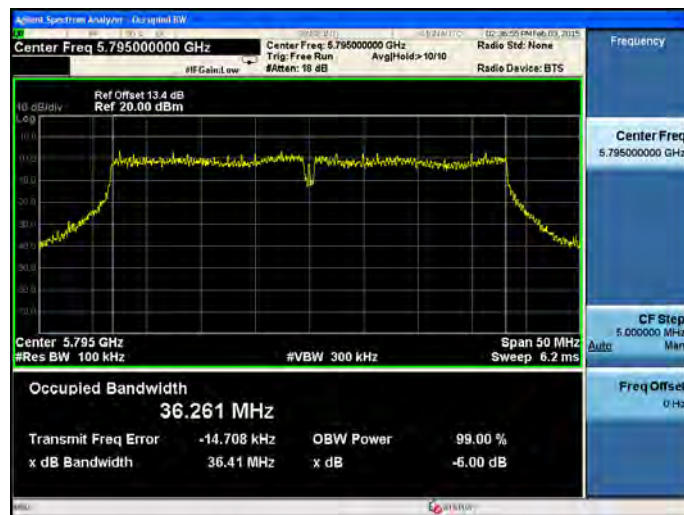


Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 3

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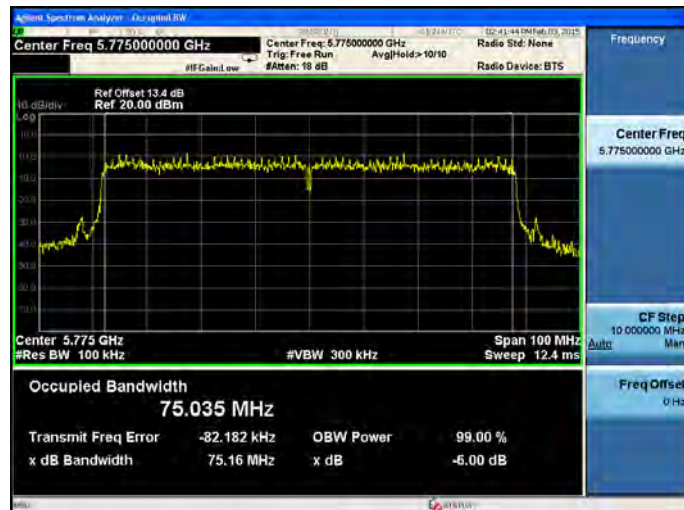


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Mode 5: IEEE 802.11ac 80MHz Link Mode_Antenna 3

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6dB Bandwidth_Beamforming off

Mode 2: IEEE 802.11a Link Mode_Antenna 0

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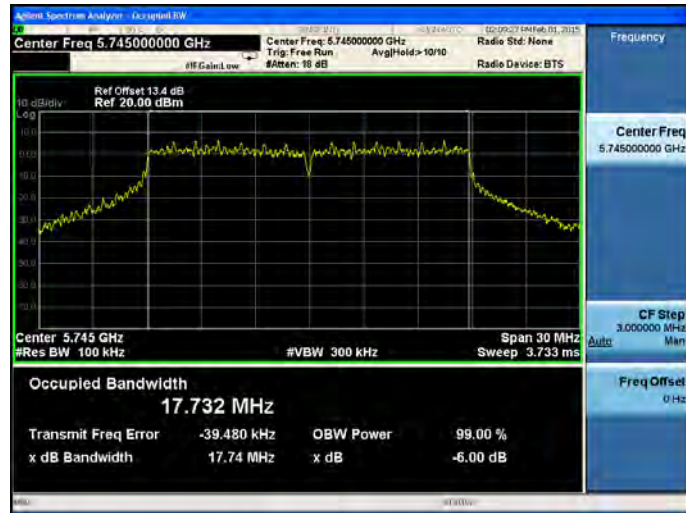


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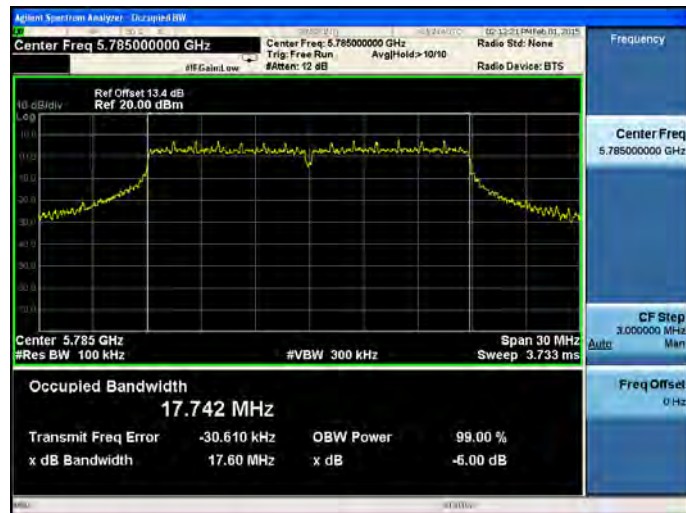


Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 0

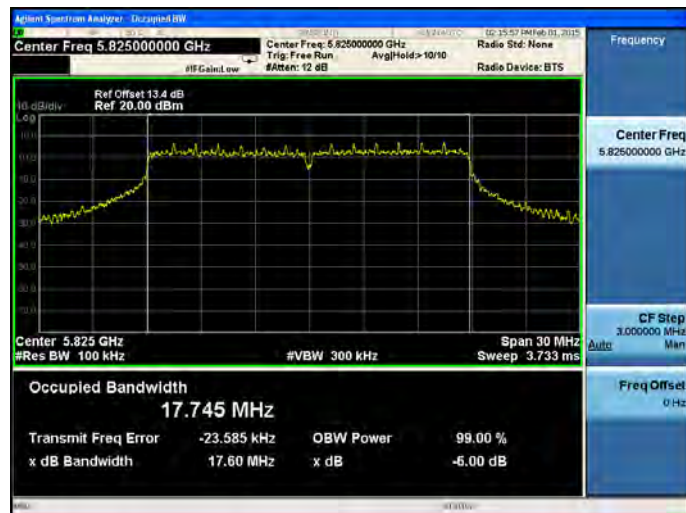
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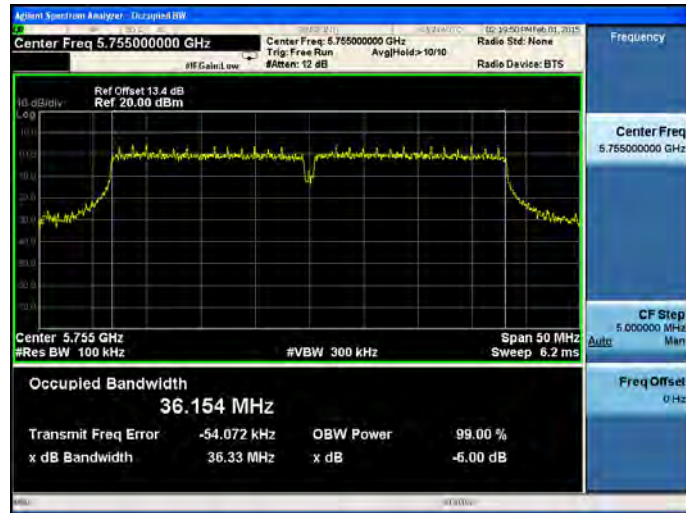


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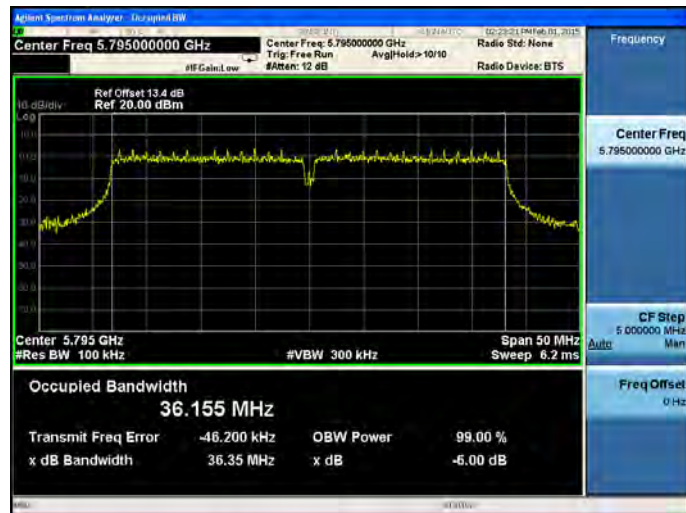


Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 0

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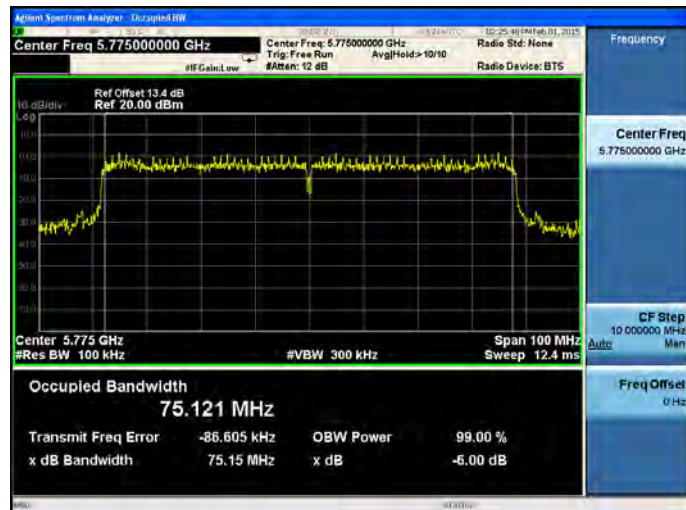


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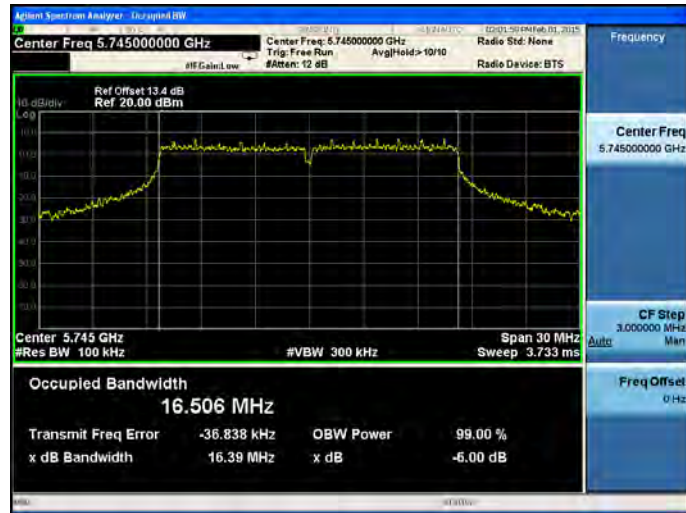
Mode 5: IEEE 802.11ac 80MHz Link Mode_Antenna 0

5775

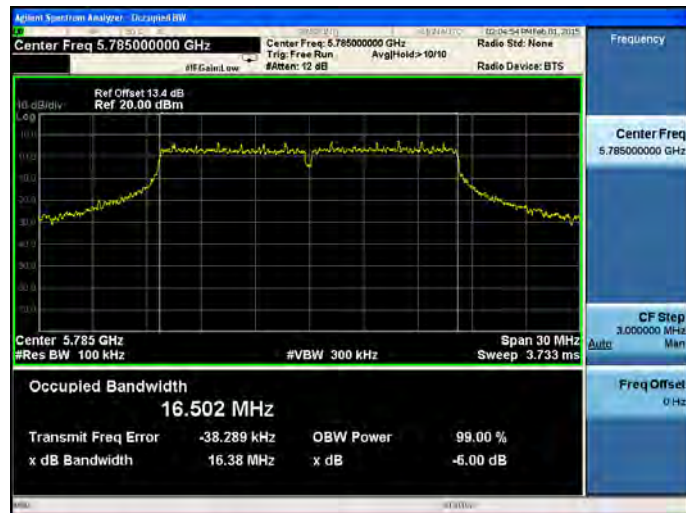


Mode 2: IEEE 802.11a Link Mode_Antenna 1

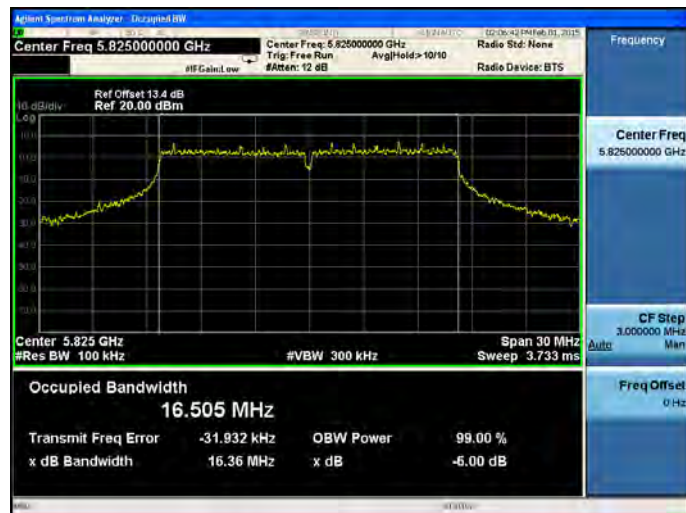
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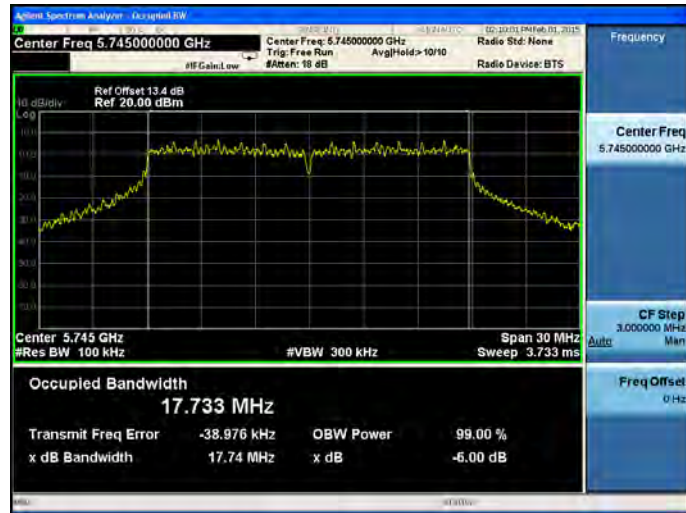


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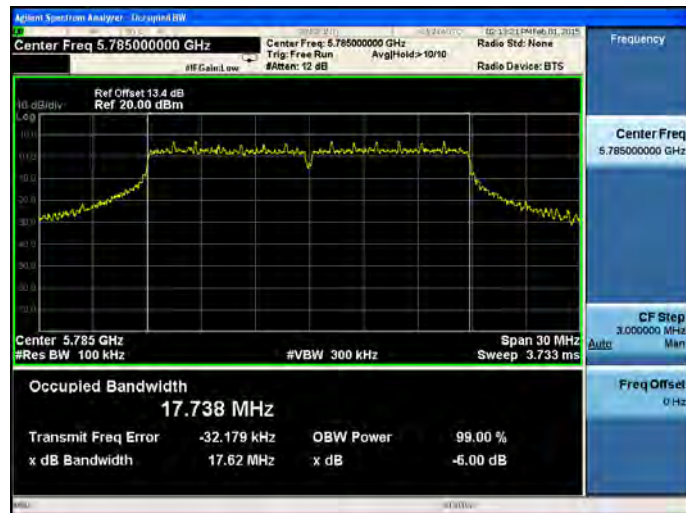


Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 1

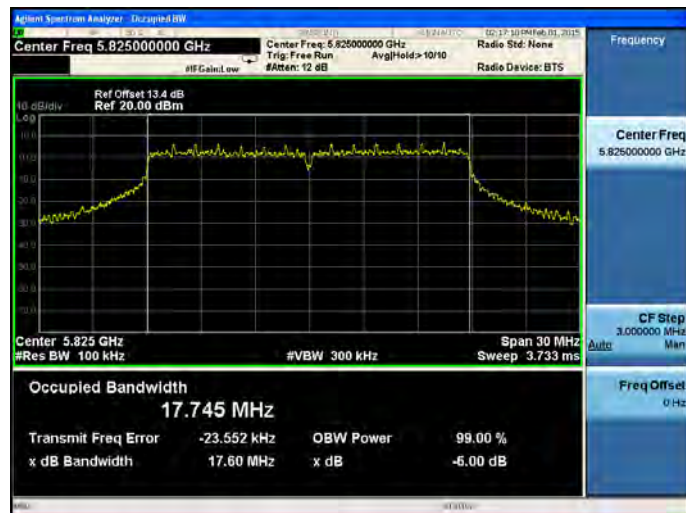
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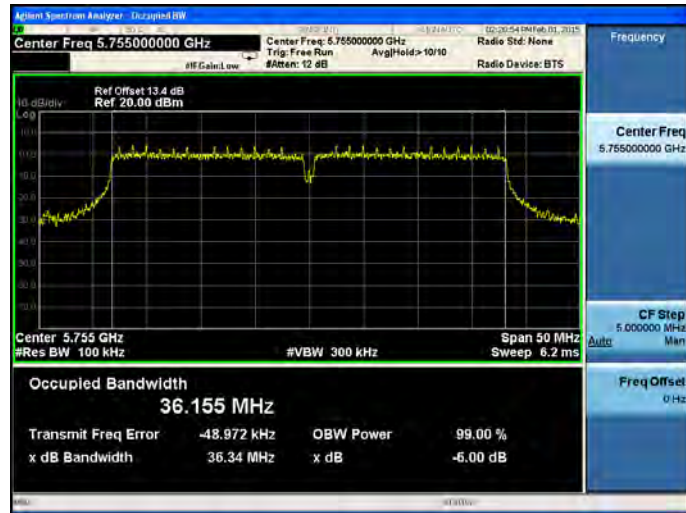


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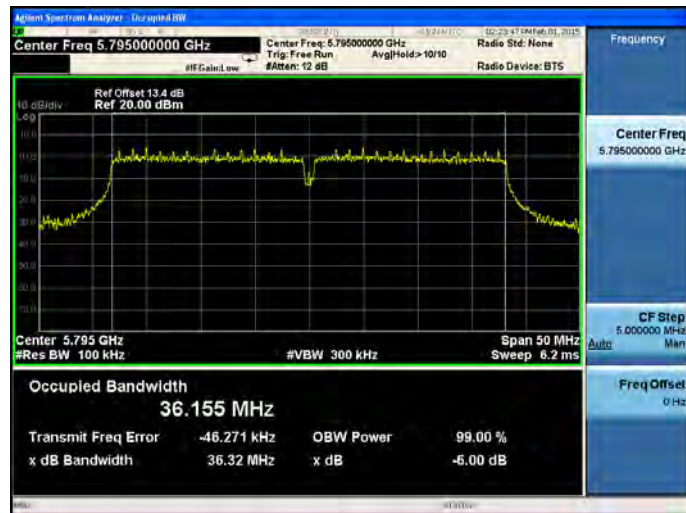


Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 1

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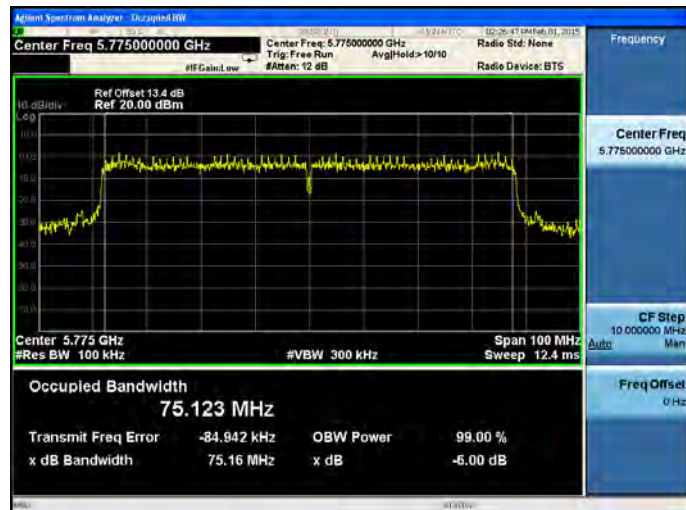


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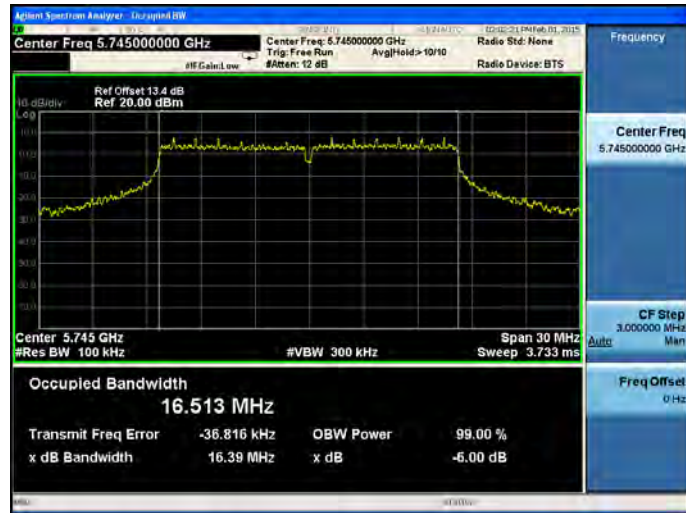
Mode 5: IEEE 802.11ac 80MHz Link Mode_Antenna 1

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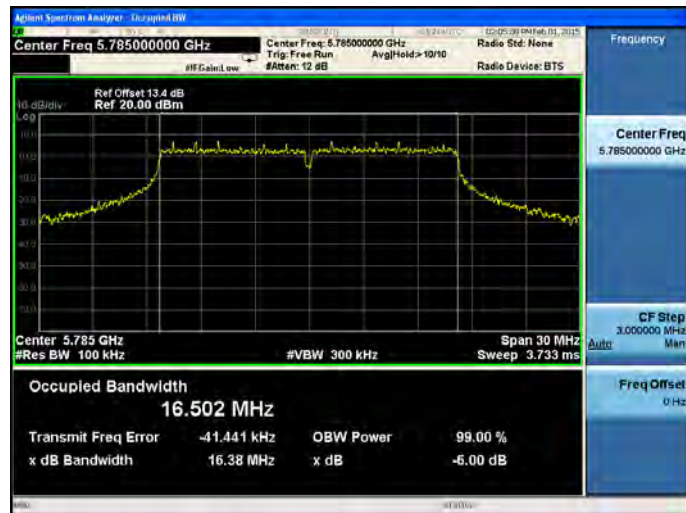


Mode 2: IEEE 802.11a Link Mode_Antenna 2

5745



5785

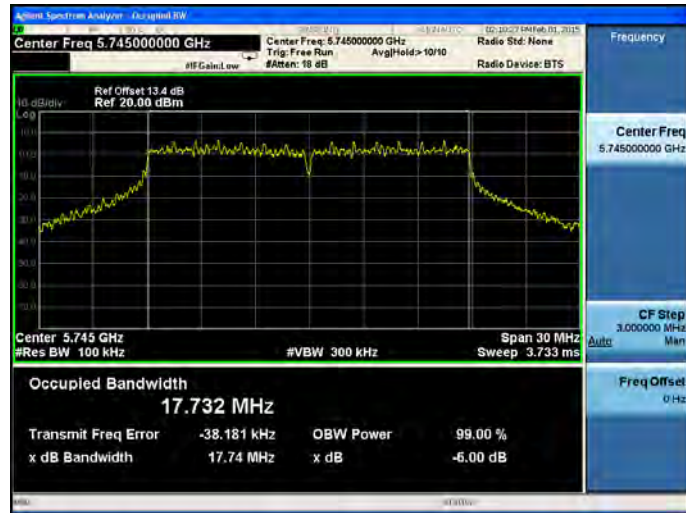


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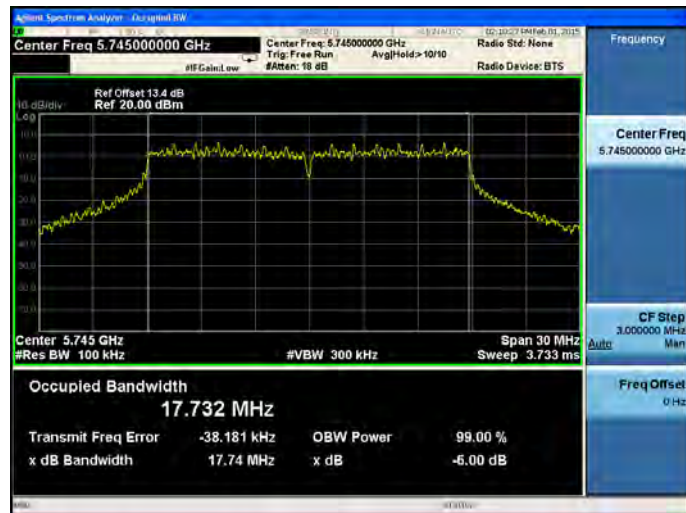


Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 2

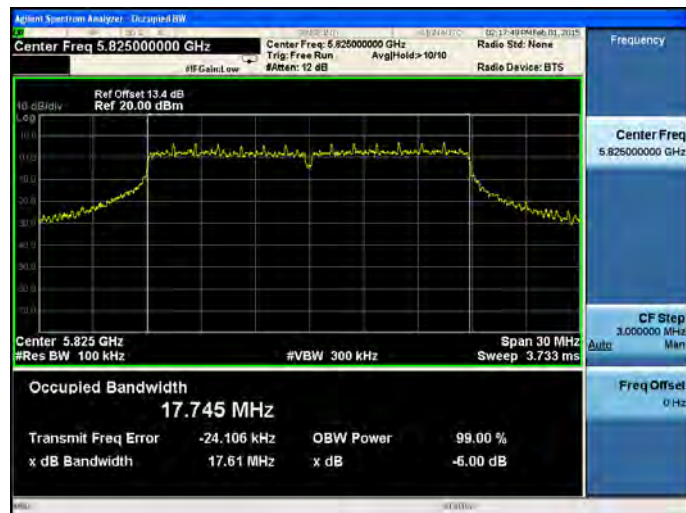
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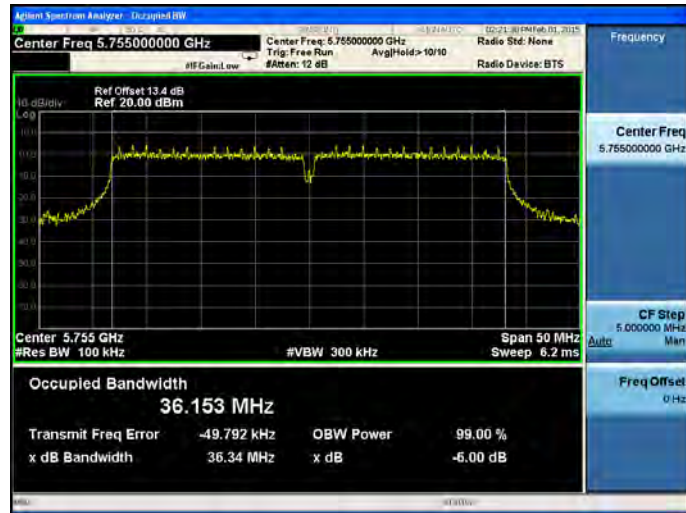


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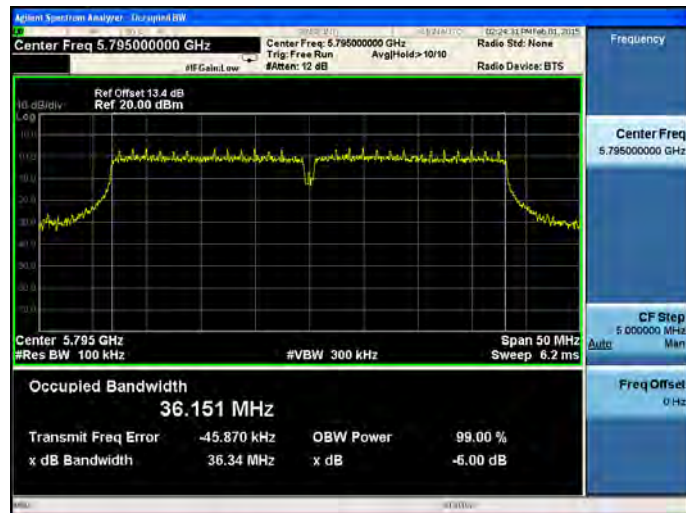


Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 2

5755

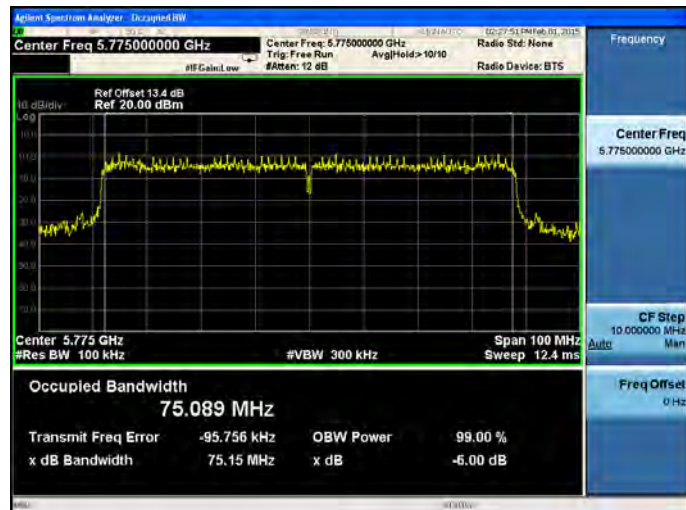


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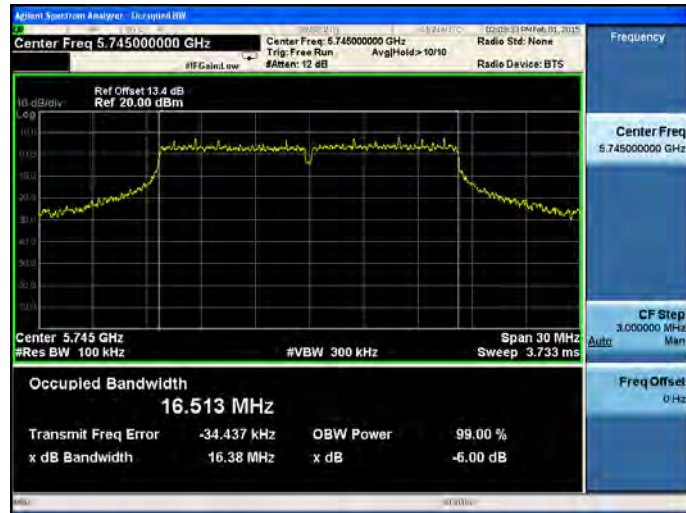
Mode 5: IEEE 802.11ac 80MHz Link Mode_Antenna 2

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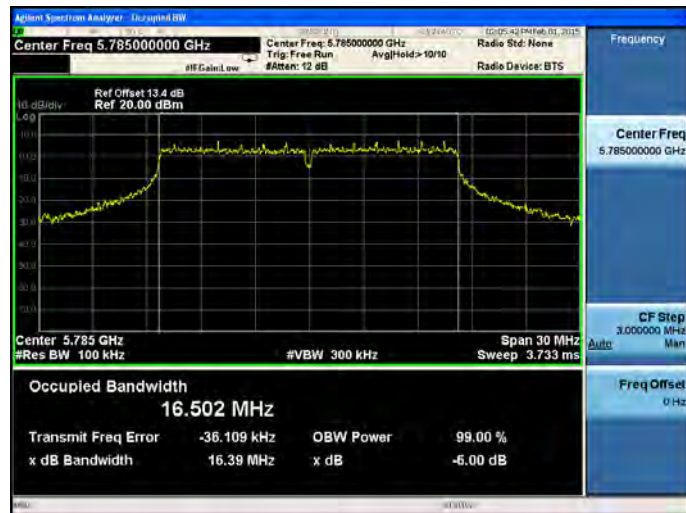


Mode 2: IEEE 802.11a Link Mode_Antenna 3

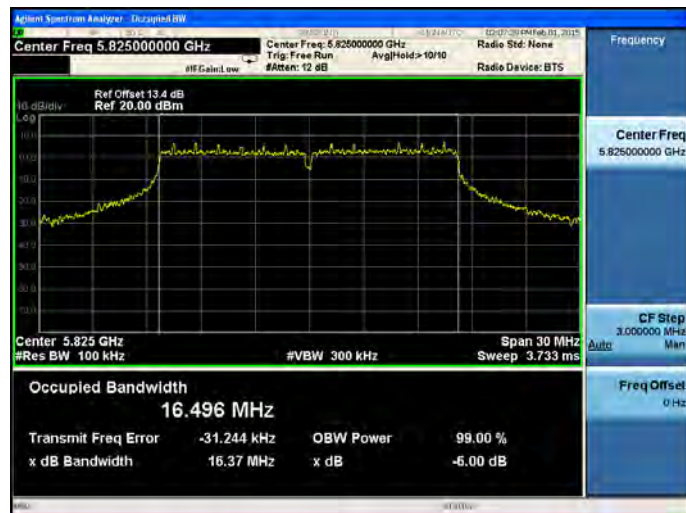
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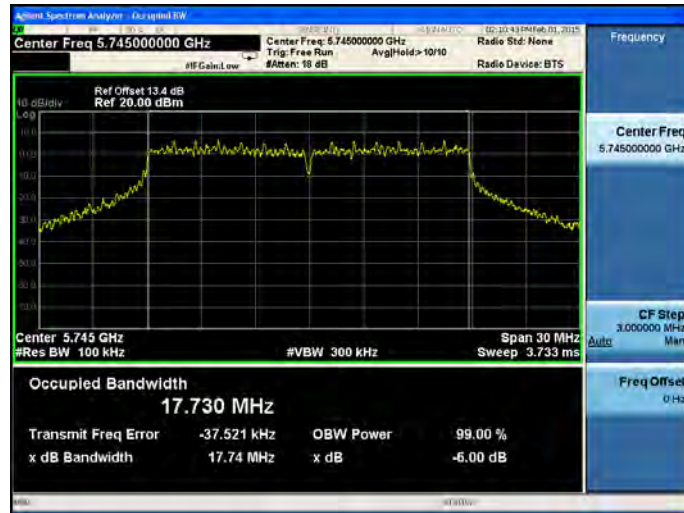


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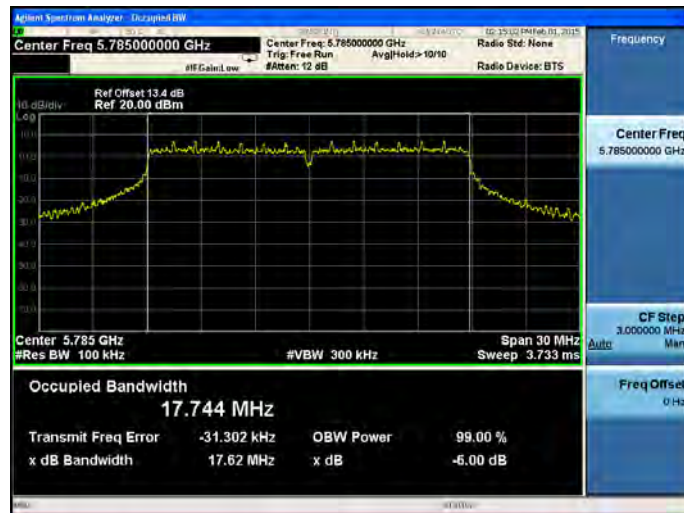


Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 3

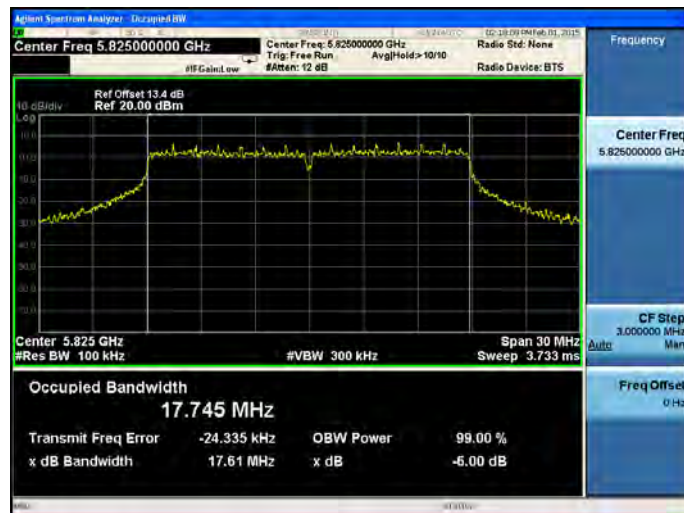
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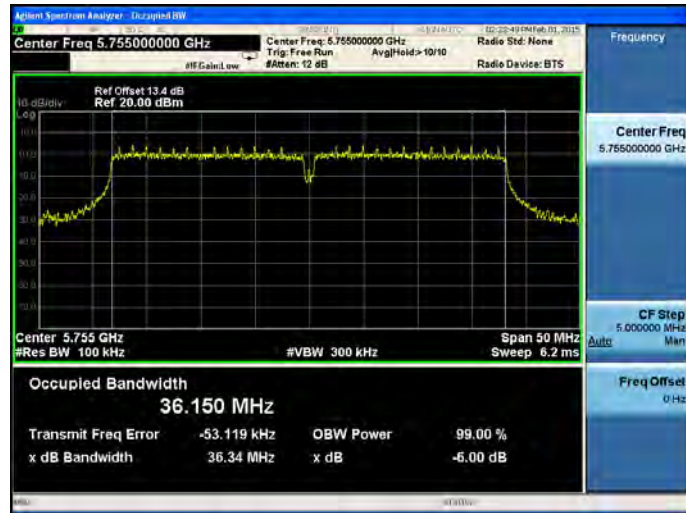


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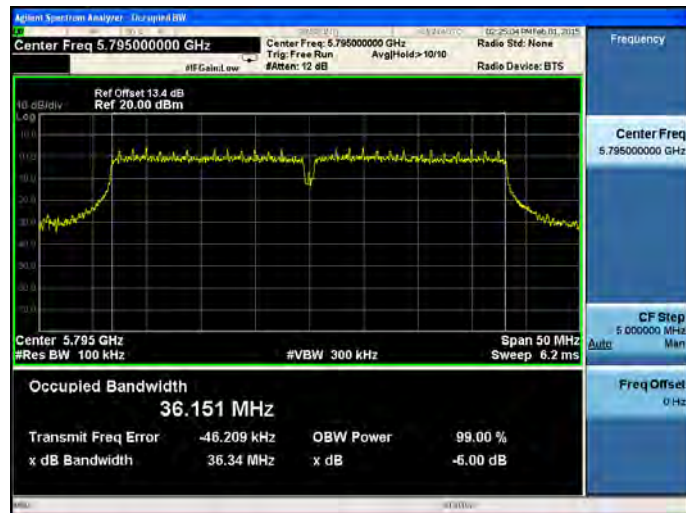


Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 3

5755



5795



Mode 5: IEEE 802.11ac 80MHz Link Mode_Antenna 3

5775

