FCC 47 CFR PART 15 SUBPART E

Product Type	:	WWAN Mobile Hotspot Portable Device
Applicant	:	Netgear Inc.
Address	:	350 East Plumeria Drive, San Jose, California 95134 United States
Trade Name	:	Netgear
Model Number	:	AC785S-500
Test Specification	:	FCC 47 CFR PART 15 SUBPART E: Oct., 2013 Canada RSS-210 ISSUE 8: Dec., 2010 Canada RSS-Gen ISSUE 4: Nov., 2014 ANSI C63.10-2009 ANSI C63.4:2014
Application Purpose	:	Original
Receive Date	:	Sep. 11, 2014
Test Period	:	Sep. 17 ~ Oct. 21, 2014
Issue Date	:	Jan. 12, 2015

Issue by

A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade City,
Taoyuan County 334, Taiwan R.O.C.
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Taiwan Accreditation Foundation accreditation number: 1330
FCC Test Firm Information: 510205
IC Test Firm Information: 7381A-1

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Nov. 27, 2014	Initial Issue	
01	Dec. 31, 2014	Revised report information.	Peggy Chang
02	Jan. 12, 2015	Revised report information.	Peggy Chang

Verification of Compliance

Issued Date: 01/12/2015

Product Type	:	WWAN Mobile Hotspot Portable Device
Applicant	:	Netgear Inc.
Address	:	350 East Plumeria Drive, San Jose, California 95134 United States
Trade Name	:	Netgear
Model Number	:	AC785S-500
FCC ID	:	PY3AC785S
EUT Rated Voltage	:	DC 5.0V, 1.0A
Test Voltage	:	120 Vac / 60 Hz
Applicable Standard	:	FCC 47 CFR PART 15 SUBPART E: Oct., 2013 Canada RSS-210 ISSUE 8: Dec., 2010 Canada RSS-Gen ISSUE 4: Nov., 2014 ANSI C63.10-2009 ANSI C63.4:2014
Test Result	:	Complied
Application Purpose	:	Original
Performing Lab.	:	A Test Lab Techno Corp. No. 140-1, Changan Street, Bade City, Taoyuan County 334, Taiwan R.O.C. Tel：+86-3-2710188 / Fax：+86-3-2710190 Taiwan Accreditation Foundation accreditation number: 1330 FCC Test Firm Information: 510205 IC Test Firm Information: 7381A-1 http://www.atl-lab.com.tw/e-index.htm

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

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

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1 General Information

1.1. Summary of Test Result

Standard		Item	Result	Remark
FCC	IC			
15.407(b)(6) 15.207	RSS-Gen 8.8	AC Power Conducted Emission	PASS	---
15.407(b) 15.205 / 15.209	RSS-210 A9.2	Radiated Emission	PASS	---
15.407(a)	RSS-210 A9.2	Maximum Conducted Output Power	PASS	---
15.407(a)	RSS-210 A9.2	26dB RF Bandwidth	Reference	---
15.215(c)	---	20dB RF Bandwidth	Reference	---
15.407(a)	RSS-A8.2 (a)	6dB RF Bandwidth	PASS	-----
15.407(a)	RSS-210 A9.2	Peak Power Spectral Density	PASS	---
15.407(g)	RSS-210 A9.5	Frequency Stability	PASS	---
15.407(a) 15.203	RSS-210 A9.2	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	WWAN Mobile Hotspot Portable Device			
Trade Name	Netgear			
Model No.	AC785S-500			
IMEI No.	014197000002053			
Applicant	Netgear Inc. 350 East Plumeria Drive, San Jose, California 95134 United States			
Manufacturer	Netgear Inc. Suite 168 – 10760 Shellbridge Way, Richmond, BC Canada V6X 3H1			
FCC ID	PY3AC785S			
Frequency Range	Band	Mode	Frequency Range (MHz)	Number of Channels
	U-NII Band I	IEEE 802.11a	5180 – 5220	3 Channels
		IEEE 802.11n 20 MHz	5180 – 5220	3 Channels
		IEEE 802.11n 40 MHz	5190	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
Modulation Type	OFDM			
Antenna Type	IFA Antenna			
Antenna Gain	3.50 dBi			
Antenna Delivery	2TX + 2RX			
Equipment Type	Client (without DFS)			
RF Output Power	IEEE 802.11a U-NII Band I : 0.015 W / 11.70 dBm IEEE 802.11a U-NII Band III : 0.013 W / 10.96 dBm IEEE 802.11n 20MHz U-NII Band I: 0.015 W / 11.62 dBm IEEE 802.11n 20MHz U-NII Band III: 0.012 W / 10.93 dBm IEEE 802.11n 40MHz U-NII Band I: 0.013 W / 11.14 dBm IEEE 802.11n 40MHz U-NII Band III: 0.012 W / 10.87 dBm			
Emission Designator	IEEE 802.11a U-NII Band I : 18M3D7D IEEE 802.11a U-NII Band III : 16M4D7D IEEE 802.11n 20MHz U-NII Band I: 19M1D7D IEEE 802.11n 20MHz U-NII Band III: 17M6D7D IEEE 802.11n 40MHz U-NII Band I: 36M8D7D IEEE 802.11n 40MHz U-NII Band III: 35M9D7D			

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: Receiver 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.

IEEE 802.11a mode / 5180 ~ 5220MHz:
Channel Low (5180MHz), Channel Mid (5200MHz) and Channel High (5220MHz) with 6Mbps data rate were chosen for full testing.
IEEE 802.11a mode / 5745 ~ 5825MHz:
Channel Low (5745MHz), Channel Mid (5785MHz) and Channel High (5825MHz) with 6Mbps data rate were chosen for full testing.
IEEE 802.11n 20 MHz Channel mode / 5180 ~ 5220MHz:
Channel Low (5180MHz), Channel Mid (5200MHz) and Channel High (5220MHz) with 13Mbps data rate were chosen for full testing.
IEEE 802.11n 20 MHz Channel mode / 5745 ~ 5825MHz:
Channel Low (5745MHz), Channel Mid (5785MHz) and Channel High (5825MHz) with 13Mbps data rate were chosen for full testing.
IEEE 802.11n 40 MHz Channel mode / 5190MHz:
Channel Low (5190MHz) with 27Mbps data rate were chosen for full testing.
IEEE 802.11n 40 MHz Channel mode / 5755 ~ 5795MHz:
Channel Low (5755MHz) and Channel High (5795MHz) with 27Mbps data rate were chosen for full testing.

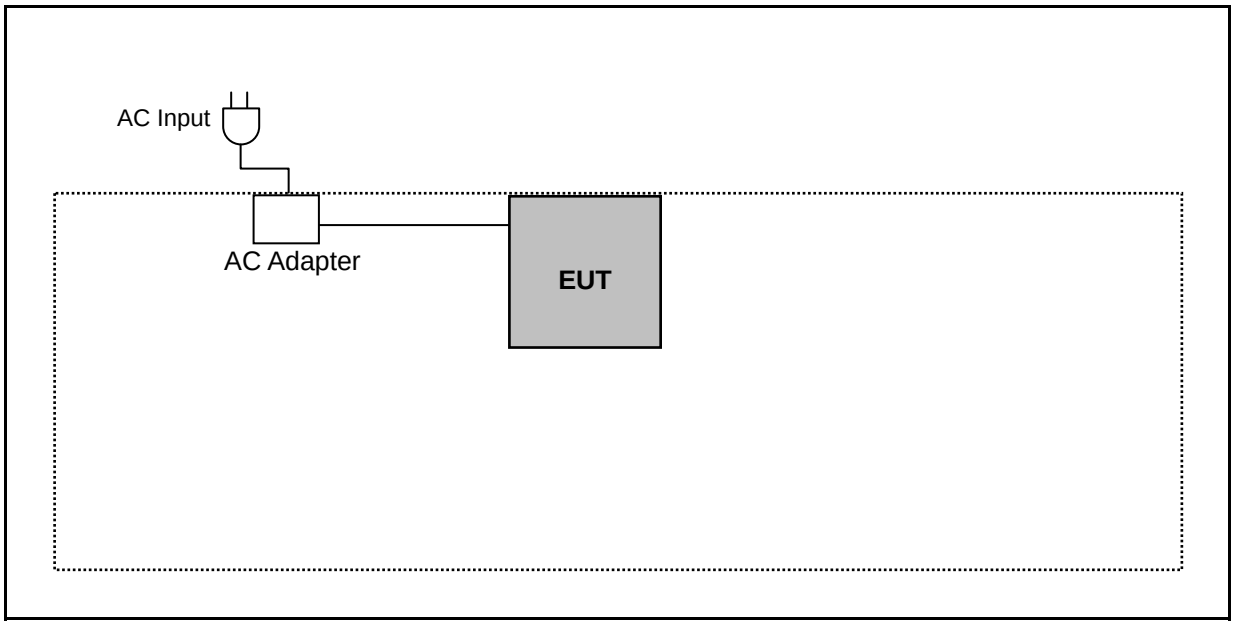
3.2. EUT Exercise Software

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.

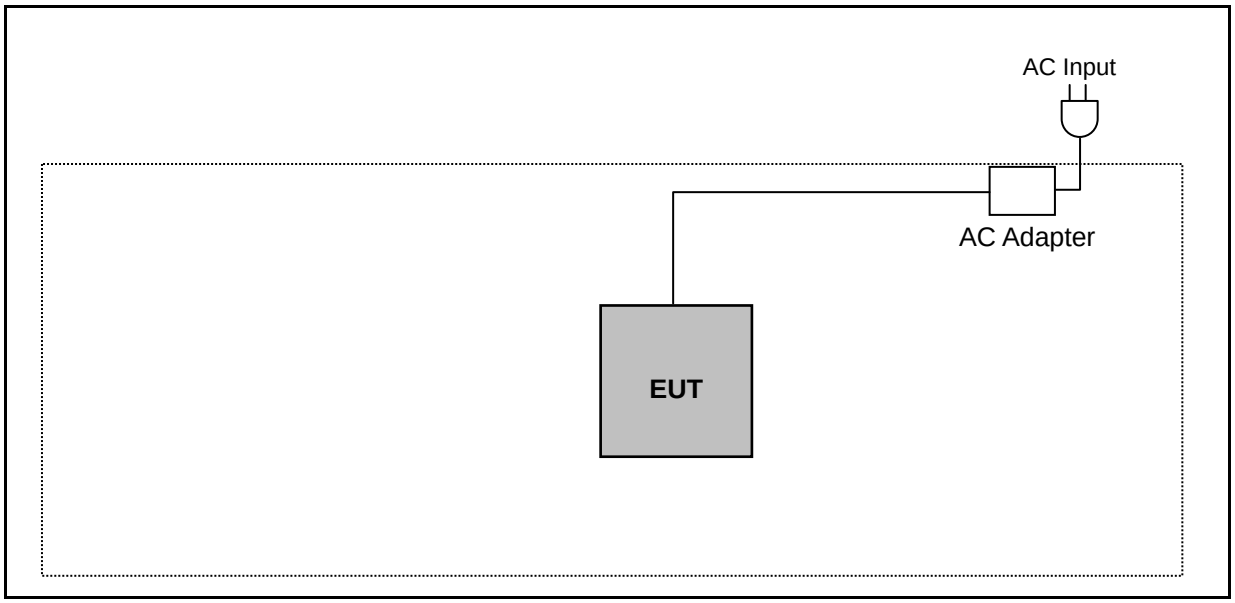
1.	Setup the EUT shown on 3.3.
2.	Turn on the power of all equipment.
3.	Turn on Wi-Fi function link to Notebook.
4.	EUT run test program.

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

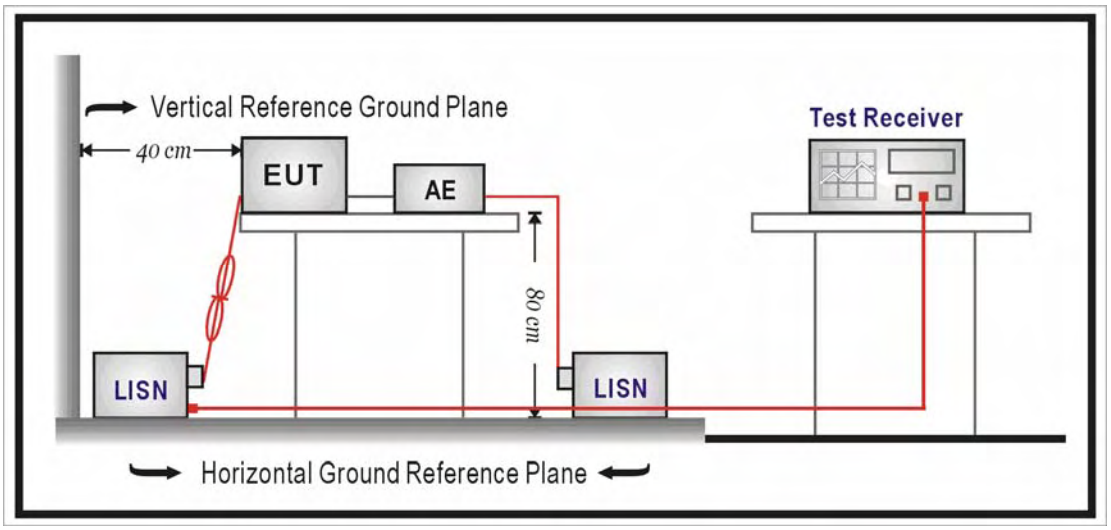
4.2. Test Instruments

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)
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

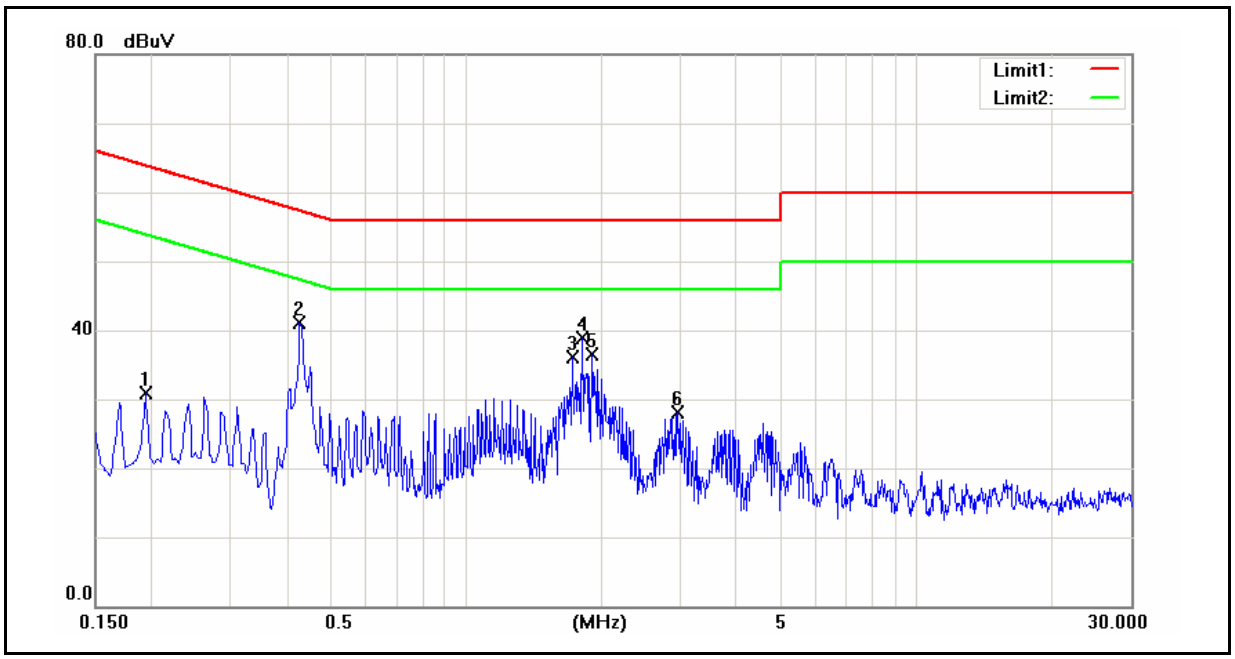
The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

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.

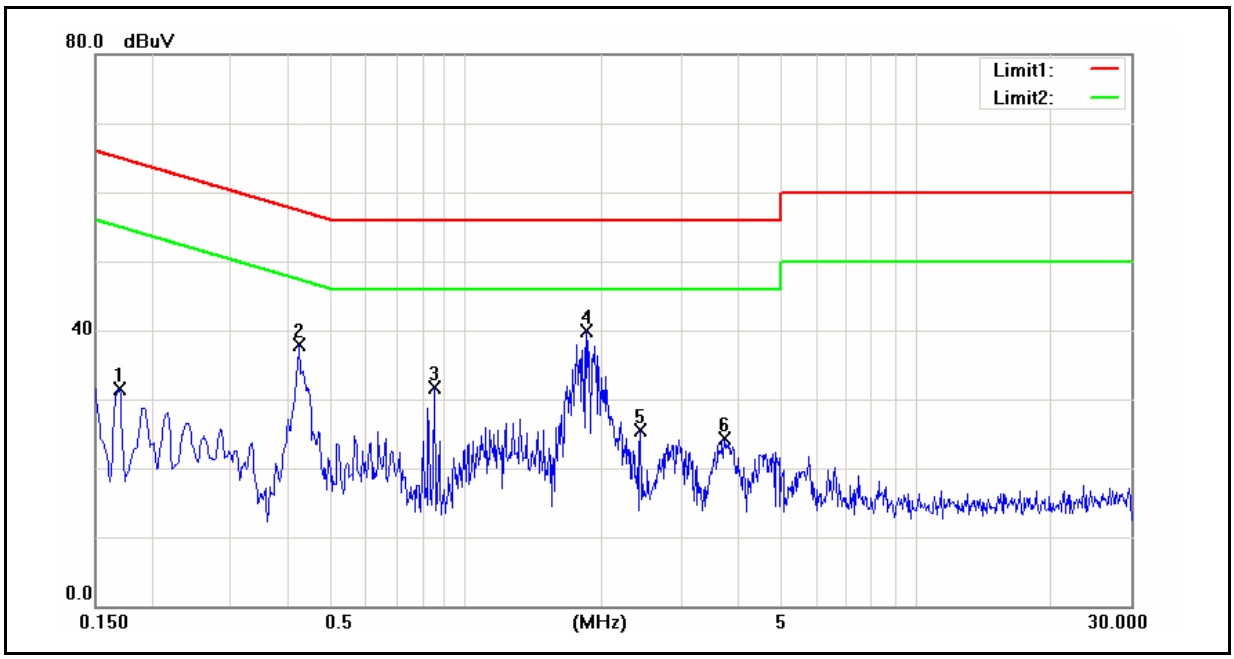
4.5. Test Result

Standard:	FCC Part 15E	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 1	Date:	09/17/2014
		Test By:	Eric Ou Yang
Description:	Adapter Model: MU05BM050100-A1		



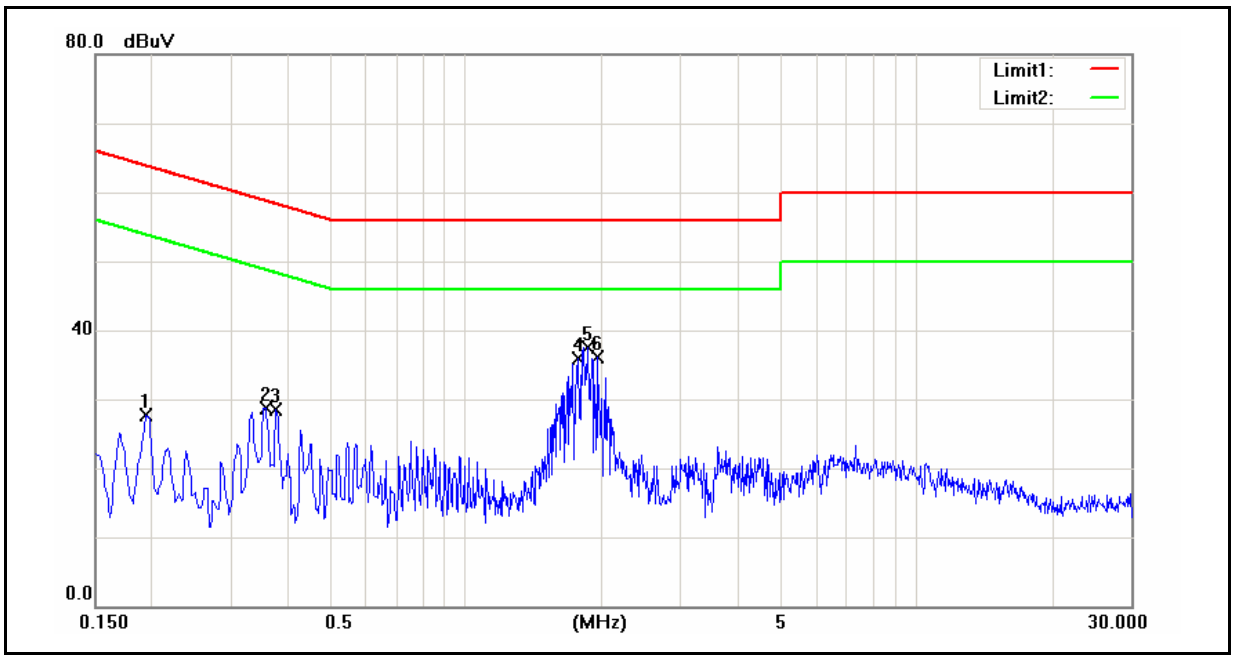
No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1940	13.51	3.01	9.60	23.11	12.61	63.86	53.86	-40.75	-41.25	Pass
2	0.4260	27.69	16.73	9.61	37.30	26.34	57.33	47.33	-20.03	-20.99	Pass
3	1.7220	20.63	12.55	9.68	30.31	22.23	56.00	46.00	-25.69	-23.77	Pass
4	1.8140	25.42	15.45	9.68	35.10	25.13	56.00	46.00	-20.90	-20.87	Pass
5	1.9060	24.77	14.12	9.69	34.46	23.81	56.00	46.00	-21.54	-22.19	Pass
6	2.9580	11.53	1.61	9.73	21.26	11.34	56.00	46.00	-34.74	-34.66	Pass

Standard:	FCC Part 15E	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 1	Date:	09/17/2014
		Test By:	Eric Ou Yang
Description:	Adapter Model: MU05BM050100-A1		



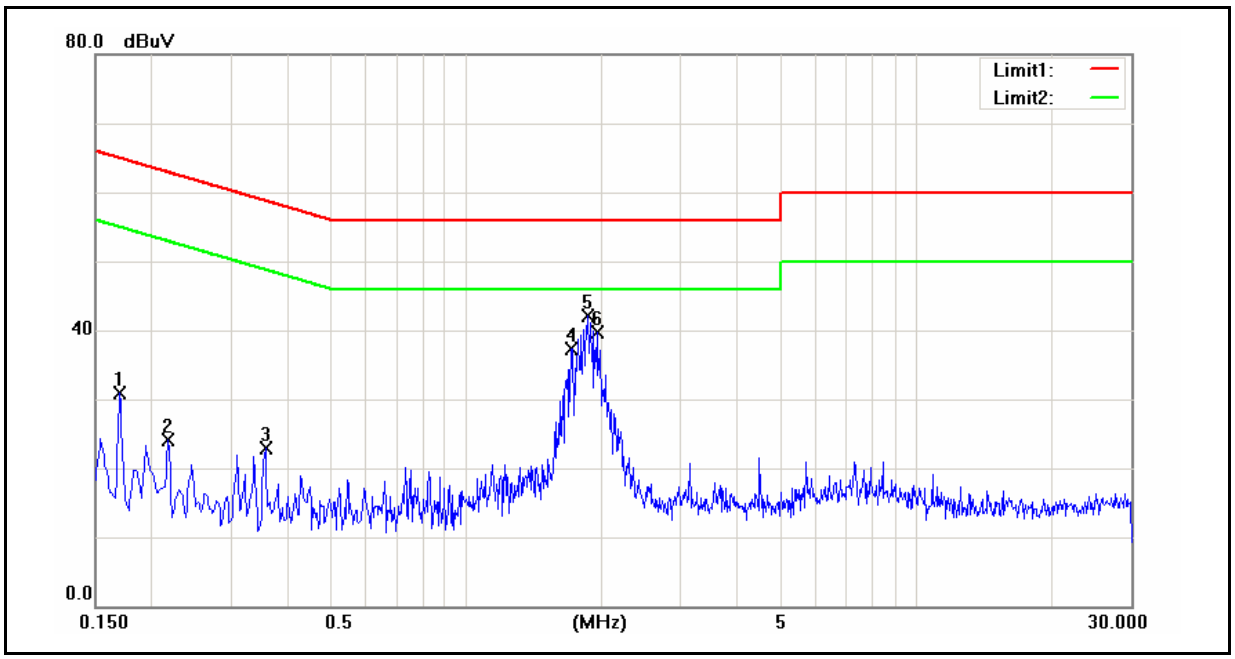
No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1700	14.44	5.63	9.60	24.04	15.23	64.96	54.96	-40.92	-39.73	Pass
2	0.4260	23.69	14.41	9.61	33.30	24.02	57.33	47.33	-24.03	-23.31	Pass
3	0.8500	12.93	-1.52	9.64	22.57	8.12	56.00	46.00	-33.43	-37.88	Pass
4	1.8580	25.58	16.35	9.69	35.27	26.04	56.00	46.00	-20.73	-19.96	Pass
5	2.4420	4.41	-2.36	9.73	14.14	7.37	56.00	46.00	-41.86	-38.63	Pass
6	3.7500	7.72	-0.87	9.79	17.51	8.92	56.00	46.00	-38.49	-37.08	Pass

Standard:	FCC Part 15E	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 1	Date:	09/17/2014
		Test By:	Eric Ou Yang
Description:	Adapter Model: AD2015F21		



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	0.1940	10.85	-0.55	9.60	20.45	9.05	63.86	53.86	-43.41	-44.81	Pass
2	0.3580	14.29	2.36	9.61	23.90	11.97	58.77	48.77	-34.87	-36.80	Pass
3	0.3780	13.54	1.85	9.61	23.15	11.46	58.32	48.32	-35.17	-36.86	Pass
4	1.7740	21.46	14.70	9.68	31.14	24.38	56.00	46.00	-24.86	-21.62	Pass
5	1.8660	22.87	14.67	9.68	32.55	24.35	56.00	46.00	-23.45	-21.65	Pass
6	1.9580	23.64	12.12	9.69	33.33	21.81	56.00	46.00	-22.67	-24.19	Pass

Standard:	FCC Part 15E	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 1	Date:	09/17/2014
		Test By:	Eric Ou Yang
Description:	Adapter Model: AD2015F21		



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	0.1700	13.18	4.67	9.60	22.78	14.27	64.96	54.96	-42.18	-40.69	Pass
2	0.2180	8.90	4.78	9.60	18.50	14.38	62.89	52.89	-44.39	-38.51	Pass
3	0.3580	5.68	-2.01	9.61	15.29	7.60	58.77	48.77	-43.48	-41.17	Pass
4	1.7100	24.23	14.71	9.69	33.92	24.40	56.00	46.00	-22.08	-21.60	Pass
5	1.8660	29.83	18.88	9.69	39.52	28.57	56.00	46.00	-16.48	-17.43	Pass
6	1.9580	27.64	15.74	9.70	37.34	25.44	56.00	46.00	-18.66	-20.56	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

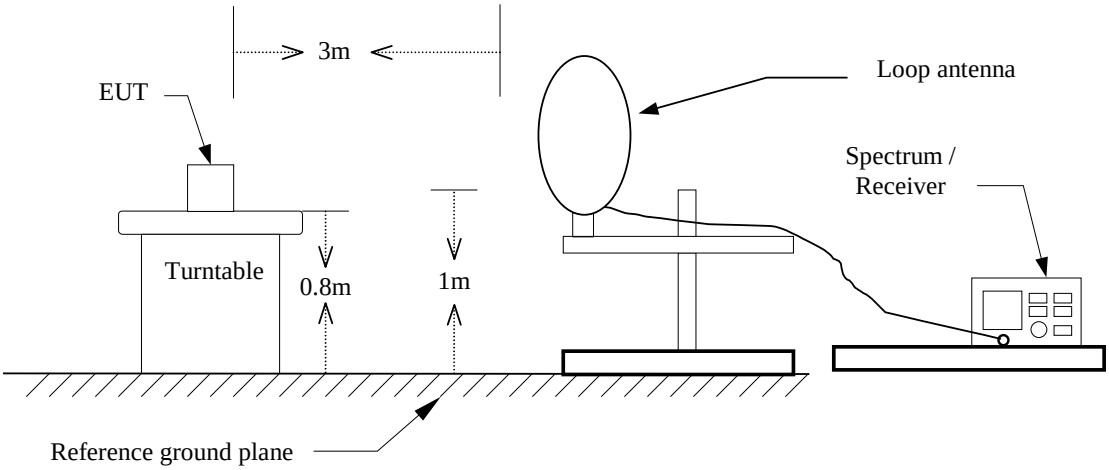
3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/10/2014	(1)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/10/2014	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/21/2014	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/21/2014	(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)
Test Site	ATL	TE01	888001	08/28/2014	(1)

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

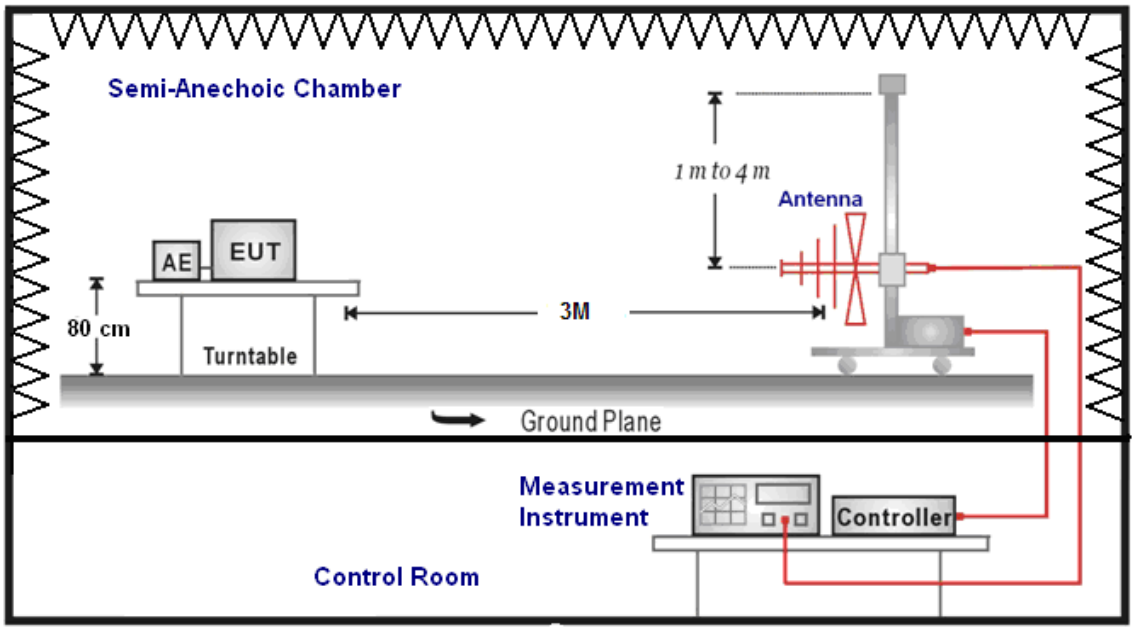
Note: N.C.R. = No Calibration Request.

5.3. Setup

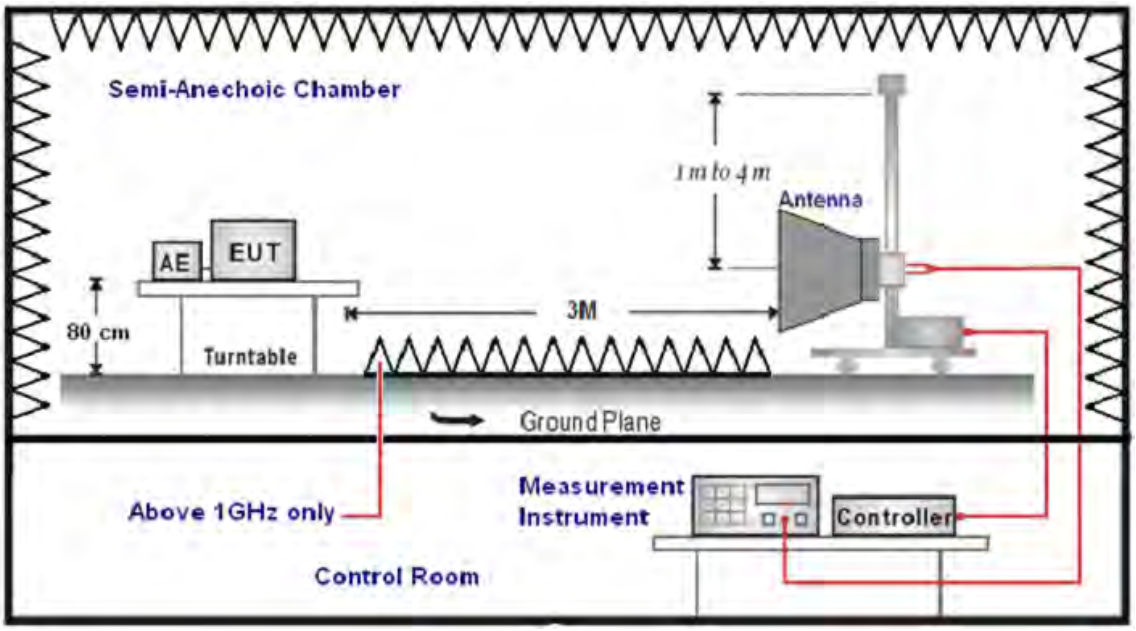
9kHz ~ 30MHz



30MHz ~ 1GHz



Above 1GHz


Semi-Anechoic Chamber
1 m to 4 m
Antenna
AE
EUT
80 cm
Turntable
3M
Ground Plane
Above 1GHz only
Measurement
Instrument
Controller
Control Room

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 tree 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 antnna (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 pre meter (uV/m).

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

The actual field is 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

5.5. Test Result

Below 1GHz

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 1	Date:	09/17/2014
Description:	Adater Model: MU05BM050100-A1	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
168.0000	48.18	-12.06	36.12	43.50	-7.38	QP	H
299.0000	41.69	-10.26	31.43	46.00	-14.57	QP	H
420.5000	32.23	-7.76	24.47	46.00	-21.53	QP	H
589.5000	32.83	-4.33	28.50	46.00	-17.50	QP	H
737.0000	35.45	-1.51	33.94	46.00	-12.06	QP	H
859.5000	28.03	0.77	28.80	46.00	-17.20	QP	H
133.5000	41.95	-12.97	28.98	43.50	-14.52	QP	V
258.0000	43.72	-11.84	31.88	46.00	-14.12	QP	V
358.0000	41.18	-9.19	31.99	46.00	-14.01	QP	V
516.0000	40.01	-6.03	33.98	46.00	-12.02	QP	V
573.5000	32.07	-4.80	27.27	46.00	-18.73	QP	V
826.0000	26.92	0.20	27.12	46.00	-18.88	QP	V

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:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 1	Date:	09/17/2014
Description:	Adapter Model: AD2015F21	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
176.5000	43.08	-12.78	30.30	43.50	-13.20	QP	H
266.5000	42.15	-11.42	30.73	46.00	-15.27	QP	H
442.0000	28.92	-7.22	21.70	46.00	-24.30	QP	H
583.0000	31.53	-4.52	27.01	46.00	-18.99	QP	H
720.0000	32.69	-1.92	30.77	46.00	-15.23	QP	H
826.5000	27.31	0.21	27.52	46.00	-18.48	QP	H
129.5000	41.10	-13.39	27.71	43.50	-15.79	QP	V
245.5000	43.69	-12.23	31.46	46.00	-14.54	QP	V
365.0000	40.31	-9.01	31.30	46.00	-14.70	QP	V
479.5000	35.47	-6.63	28.84	46.00	-17.16	QP	V
651.0000	26.03	-3.25	22.78	46.00	-23.22	QP	V
882.0000	27.48	1.19	28.67	46.00	-17.33	QP	V

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:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 2	Date:	09/18/2014
Frequency:	5180MHz	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
2813.000	36.40	-0.66	35.74	74.00	-38.26	peak	H
4598.000	34.42	4.45	38.87	74.00	-35.13	peak	H
5150.000	33.77	5.71	39.48	68.20	-28.72	peak	H
7657.000	33.76	12.28	46.04	74.00	-27.96	peak	H
2834.000	38.05	-0.61	37.44	74.00	-36.56	peak	V
4297.000	35.37	3.71	39.08	74.00	-34.92	peak	V
5150.000	33.80	5.71	39.51	68.20	-28.69	peak	V
7657.000	34.52	12.28	46.80	74.00	-27.20	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 2	Date:	09/18/2014
Frequency:	5200MHz	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
2806.000	36.24	-0.68	35.56	74.00	-38.44	peak	H
4598.000	34.42	4.45	38.87	74.00	-35.13	peak	H
7657.000	33.77	12.28	46.05	74.00	-27.95	peak	H
2827.000	36.86	-0.62	36.24	74.00	-37.76	peak	V
4605.000	33.30	4.47	37.77	74.00	-36.23	peak	V
7657.000	33.95	12.28	46.23	74.00	-27.77	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 2	Date:	09/18/2014
Frequency:	5220MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2827.000	36.47	-0.62	35.85	74.00	-38.15	peak	H
4577.000	34.51	4.39	38.90	74.00	-35.10	peak	H
7678.000	32.90	12.31	45.21	74.00	-28.79	peak	H
2834.000	37.70	-0.61	37.09	74.00	-36.91	peak	V
4570.000	34.25	4.38	38.63	74.00	-35.37	peak	V
7671.000	33.93	12.30	46.23	74.00	-27.77	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 2	Date:	09/18/2014
Frequency:	5745MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2785.000	37.12	-0.73	36.39	74.00	-37.61	peak	H
4591.000	34.18	4.43	38.61	74.00	-35.39	peak	H
5715.000	34.99	6.71	41.70	68.20	-26.50	peak	H
5725.000	34.37	6.73	41.10	78.20	-37.10	peak	H
7643.000	33.67	12.26	45.93	74.00	-28.07	peak	H
2806.000	36.85	-0.68	36.17	74.00	-37.83	peak	V
4598.000	34.08	4.45	38.53	74.00	-35.47	peak	V
5715.000	33.76	6.71	40.47	68.20	-27.73	peak	V
5725.000	33.86	6.73	40.59	78.20	-37.61	peak	V
7671.000	33.42	12.30	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:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 2	Date:	09/18/2014
Frequency:	5785MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2785.000	37.34	-0.73	36.61	74.00	-37.39	peak	H
4591.000	34.48	4.43	38.91	74.00	-35.09	peak	H
7650.000	33.43	12.27	45.70	74.00	-28.30	peak	H
2813.000	35.78	-0.66	35.12	74.00	-38.88	peak	V
4591.000	34.02	4.43	38.45	74.00	-35.55	peak	V
7678.000	32.75	12.31	45.06	74.00	-28.94	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 2	Date:	09/18/2014
Frequency:	5825MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2806.000	36.65	-0.68	35.97	74.00	-38.03	peak	H
4598.000	34.04	4.45	38.49	74.00	-35.51	peak	H
5850.000	32.38	6.99	39.37	78.20	-38.83	peak	H
5860.000	32.44	7.01	39.45	68.20	-28.75	peak	H
7671.000	33.30	12.30	45.60	74.00	-28.40	peak	H
2771.000	37.35	-0.77	36.58	74.00	-37.42	peak	V
4598.000	36.11	4.45	40.56	74.00	-33.44	peak	V
5850.000	32.79	6.99	39.78	78.20	-38.42	peak	V
5860.000	32.34	7.01	39.35	68.20	-28.85	peak	V
7671.000	33.39	12.30	45.69	74.00	-28.31	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 3	Date:	09/19/2014
Frequency:	5180MHz	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
2806.000	36.30	-0.68	35.62	74.00	-38.38	peak	H
4570.000	34.74	4.38	39.12	74.00	-34.88	peak	H
5150.000	32.88	5.71	38.59	68.20	-29.61	peak	H
7699.000	33.51	12.34	45.85	74.00	-28.15	peak	H
2813.000	37.09	-0.66	36.43	74.00	-37.57	peak	V
4577.000	35.61	4.39	40.00	74.00	-34.00	peak	V
5150.000	33.69	5.71	39.40	68.20	-28.80	peak	V
7671.000	33.31	12.30	45.61	74.00	-28.39	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 3	Date:	09/19/2014
Frequency:	5200MHz	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
2813.000	36.77	-0.66	36.11	74.00	-37.89	peak	H
4577.000	34.06	4.39	38.45	74.00	-35.55	peak	H
7678.000	32.80	12.31	45.11	74.00	-28.89	peak	H
2827.000	36.07	-0.62	35.45	74.00	-38.55	peak	V
4598.000	35.02	4.45	39.47	74.00	-34.53	peak	V
7650.000	33.24	12.27	45.51	74.00	-28.49	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 3	Date:	09/19/2014
Frequency:	5220MHz	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
2813.000	36.21	-0.66	35.55	74.00	-38.45	peak	H
4577.000	33.68	4.39	38.07	74.00	-35.93	peak	H
7657.000	33.29	12.28	45.57	74.00	-28.43	peak	H
2799.000	37.39	-0.70	36.69	74.00	-37.31	peak	V
4577.000	35.07	4.39	39.46	74.00	-34.54	peak	V
7678.000	32.96	12.31	45.27	74.00	-28.73	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 3	Date:	09/19/2014
Frequency:	5745MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2813.000	36.39	-0.66	35.73	74.00	-38.27	peak	H
4577.000	33.33	4.39	37.72	74.00	-36.28	peak	H
5715.000	33.61	6.71	40.32	68.20	-27.88	peak	H
5725.000	34.46	6.73	41.19	78.20	-37.01	peak	H
7671.000	33.70	12.30	46.00	74.00	-28.00	peak	H
2806.000	35.42	-0.68	34.74	74.00	-39.26	peak	V
4591.000	34.45	4.43	38.88	74.00	-35.12	peak	V
5715.000	33.37	6.71	40.08	68.20	-28.12	peak	V
5725.000	33.37	6.73	40.10	78.20	-38.10	peak	V
7657.000	33.65	12.28	45.93	74.00	-28.07	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 3	Date:	09/19/2014
Frequency:	5785MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2827.000	36.30	-0.62	35.68	74.00	-38.32	peak	H
4605.000	33.77	4.47	38.24	74.00	-35.76	peak	H
7685.000	32.51	12.32	44.83	74.00	-29.17	peak	H
2799.000	36.12	-0.70	35.42	74.00	-38.58	peak	V
4577.000	34.91	4.39	39.30	74.00	-34.70	peak	V
7685.000	32.73	12.32	45.05	74.00	-28.95	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 3	Date:	09/19/2014
Frequency:	5825MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2813.000	36.77	-0.66	36.11	74.00	-37.89	peak	H
4577.000	33.96	4.39	38.35	74.00	-35.65	peak	H
5850.000	32.81	6.99	39.80	78.20	-38.40	peak	H
5860.000	32.43	7.01	39.44	68.20	-28.76	peak	H
7671.000	33.23	12.30	45.53	74.00	-28.47	peak	H
2806.000	37.41	-0.68	36.73	74.00	-37.27	peak	V
4598.000	34.68	4.45	39.13	74.00	-34.87	peak	V
5850.000	34.31	6.99	41.30	78.20	-36.90	peak	V
5860.000	33.00	7.01	40.01	68.20	-28.19	peak	V
7657.000	33.84	12.28	46.12	74.00	-27.88	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 4	Date:	09/19/2014
Frequency:	5190MHz	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
2813.000	36.85	-0.66	36.19	74.00	-37.81	peak	H
4570.000	34.47	4.38	38.85	74.00	-35.15	peak	H
5150.000	33.44	5.71	39.15	68.20	-29.05	peak	H
7699.000	31.99	12.34	44.33	74.00	-29.67	peak	H
2841.000	36.81	-0.59	36.22	74.00	-37.78	peak	V
4577.000	36.14	4.39	40.53	74.00	-33.47	peak	V
5150.000	32.73	5.71	38.44	68.20	-29.76	peak	V
7671.000	32.32	12.30	44.62	74.00	-29.38	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 4	Date:	09/19/2014
Frequency:	5755MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2813.000	36.08	-0.66	35.42	74.00	-38.58	peak	H
4598.000	33.32	4.45	37.77	74.00	-36.23	peak	H
5715.000	32.07	6.71	38.78	68.20	-29.42	peak	H
5725.000	32.32	6.73	39.05	78.20	-39.15	peak	H
7650.000	33.25	12.27	45.52	74.00	-28.48	peak	H
2806.000	34.33	-0.68	33.65	74.00	-40.35	peak	V
4577.000	33.77	4.39	38.16	74.00	-35.84	peak	V
5715.000	31.95	6.71	38.66	68.20	-29.54	peak	V
5725.000	31.68	6.73	38.41	78.20	-39.79	peak	V
7657.000	31.98	12.28	44.26	74.00	-29.74	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 4	Date:	09/19/2014
Frequency:	5795MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2806.000	35.24	-0.68	34.56	74.00	-39.44	peak	H
4577.000	33.72	4.39	38.11	74.00	-35.89	peak	H
5850.000	31.75	6.99	38.74	78.20	-39.46	peak	H
5860.000	31.72	7.01	38.73	68.20	-29.47	peak	H
7650.000	30.33	12.27	42.60	74.00	-31.40	peak	H
2834.000	34.48	-0.61	33.87	74.00	-40.13	peak	V
4633.000	32.23	4.54	36.77	74.00	-37.23	peak	V
5850.000	31.85	6.99	38.84	78.20	-39.36	peak	V
5860.000	30.88	7.01	37.89	68.20	-30.31	peak	V
7650.000	30.09	12.27	42.36	74.00	-31.64	peak	V

Standard:	RSS-Gen	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 5	Date:	09/19/2014
Modulation:	IEEE 802.11a	Test By:	Eric Ou Yang
Frequency:	5180 MHz		

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Peak Limit (dBuV/m)	AVG. Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2806.000	33.52	-0.68	32.84	74.00	54.00	-41.16	peak	H
4598.000	31.89	4.45	36.34	74.00	54.00	-37.66	peak	H
7671.000	33.32	12.30	45.62	74.00	54.00	-28.38	peak	H
2841.000	39.64	-0.59	39.05	74.00	54.00	-34.95	peak	V
4598.000	35.62	4.45	40.07	74.00	54.00	-33.93	peak	V
7678.000	33.67	12.31	45.98	74.00	54.00	-28.02	peak	V

Standard:	RSS-Gen	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 5	Date:	09/19/2014
Modulation:	IEEE 802.11a	Test By:	Eric Ou Yang
Frequency:	5745 MHz		

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Peak Limit (dBuV/m)	AVG. Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2806.000	34.94	-0.68	34.26	74.00	54.00	-39.74	peak	H
4605.000	33.09	4.47	37.56	74.00	54.00	-36.44	peak	H
7685.000	32.07	12.32	44.39	74.00	54.00	-29.61	peak	H
2806.000	34.35	-0.68	33.67	74.00	54.00	-40.33	peak	V
4605.000	33.28	4.47	37.75	74.00	54.00	-36.25	peak	V
7650.000	30.70	12.27	42.97	74.00	54.00	-31.03	peak	V

Band Edge

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 2	Date:	09/18/2014
Frequency:	5180 MHz	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
5146.800	52.03	5.71	57.74	74.00	-16.26	peak	H
5146.800	37.43	5.71	43.14	54.00	-10.86	AVG	H
5150.000	51.93	5.71	57.64	74.00	-16.36	peak	H
5150.000	40.55	5.71	46.26	54.00	-7.74	AVG	H
5145.400	50.95	5.71	56.66	74.00	-17.34	peak	V
5145.400	42.31	5.71	48.02	54.00	-5.98	AVG	V
5150.000	59.47	5.71	65.18	74.00	-8.82	peak	V
5150.000	45.40	5.71	51.11	54.00	-2.89	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 2	Date:	09/18/2014
Frequency:	5220 MHz	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
5350.000	45.43	6.02	51.45	74.00	-22.55	peak	H
5397.600	49.19	6.10	55.29	74.00	-18.71	peak	H
5397.600	36.85	6.10	42.95	54.00	-11.05	AVG	H
5350.000	47.04	6.02	53.06	74.00	-20.94	peak	V
5350.000	37.37	6.02	43.39	54.00	-10.61	AVG	H
5357.280	48.42	6.02	54.44	74.00	-19.56	peak	V
5357.280	37.26	6.02	43.28	54.00	-10.72	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 3	Date:	09/18/2014
Frequency:	5180 MHz	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
5113.900	47.66	5.65	53.31	74.00	-20.69	peak	H
5113.900	38.09	5.65	43.74	54.00	-10.26	AVG	H
5150.000	51.25	5.71	56.96	74.00	-17.04	peak	H
5150.000	40.95	5.71	46.66	54.00	-7.34	AVG	H
5146.100	53.53	5.71	59.24	74.00	-14.76	peak	V
5146.100	42.16	5.71	47.87	54.00	-6.13	AVG	V
5150.000	55.11	5.71	60.82	74.00	-13.18	peak	V
5150.000	44.78	5.71	50.49	54.00	-3.51	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 3	Date:	09/18/2014
Frequency:	5220 MHz	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
5350.000	45.08	6.02	51.10	74.00	-22.90	peak	H
5411.520	48.44	6.12	54.56	74.00	-19.44	peak	H
5411.520	36.90	6.12	43.02	54.00	-10.98	AVG	H
5350.000	46.87	6.02	52.89	74.00	-21.11	peak	V
5350.000	36.66	6.02	42.68	54.00	-11.32	AVG	V
5363.280	48.06	6.04	54.10	74.00	-19.90	peak	V
5363.280	36.43	6.04	42.47	54.00	-11.53	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 4	Date:	09/18/2014
Frequency:	5190 MHz	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
4994.200	49.18	5.47	54.65	74.00	-19.35	peak	H
4994.200	40.21	5.47	45.68	54.00	-8.32	AVG	H
5150.000	48.95	5.71	54.66	74.00	-19.34	peak	H
5150.000	42.51	5.71	48.22	54.00	-5.78	AVG	H
5146.800	63.71	5.71	69.42	74.00	-4.58	peak	V
5146.800	41.66	5.71	47.37	54.00	-6.63	AVG	V
5150.000	64.24	5.71	69.95	74.00	-4.05	peak	V
5150.000	44.73	5.71	50.44	54.00	-3.56	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC785S-500	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Test Mode:	Mode 4	Date:	09/27/2014
Frequency:	5190 MHz	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
5350.000	46.70	6.02	52.72	74.00	-21.28	peak	H
5350.000	36.34	6.02	42.36	54.00	-11.64	AVG	H
5391.420	48.44	6.08	54.52	74.00	-19.48	peak	H
5391.420	36.17	6.08	42.25	54.00	-11.75	AVG	H
5350.000	45.81	6.02	51.83	74.00	-22.17	peak	V
5390.610	49.83	6.08	55.91	74.00	-18.09	peak	V
5390.610	36.23	6.08	42.31	54.00	-11.69	AVG	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 250mW (24dBm)
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)

Frequency Range (MHz)	IC Limit
5.150 ~ 5.250 GHz	N/A
5.250 ~ 5.350 GHz	The lesser of 250mW or 11dBm+10*log (B)
5.470 ~ 5.600 GHz and 5650~5725MHz	The lesser of 250mW or 11dBm+10*log (B)
5.725 ~ 5.825 GHz	The lesser of 1W or 17dBm+10*log (B)

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

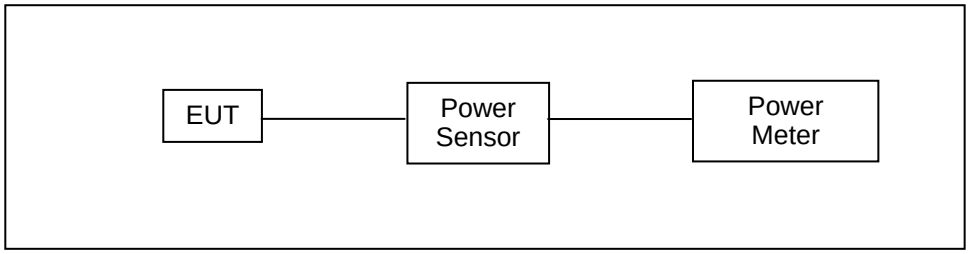
EIRP

Frequency Range (MHz)	FCCC Limit
5.150 ~ 5.250 GHz	The lesser of 4W (36dBm)
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)

Frequency Range (MHz)	IC Limit
5.150 ~ 5.250 GHz	The lesser of 200mW or 10dBm+10*log (B)
5.250 ~ 5.350 GHz	The lesser of 1W or 17dBm+10*log (B)
5.470 ~ 5.600 GHz and 5650~5725MHz	The lesser of 1W or 17dBm+10*log (B)
5.725 ~ 5.825 GHz	The lesser of 4W or 23dBm+10*log (B)

Note: 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

Model Number	AC785S-500							
Test Item	Maximum Conducted Output Power							
Test Mode	Mode 2: IEEE 802.11a Link Mode							
Date of Test	09/17/2014				Test Site	TE02		
Frequency (MHz)	Data Rate	Antenna 1 Average Power		Antenna 2 Average Power		Antenna 1+2 Average Power		FCC Limit (dBm)	IC Limit (dBm)
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)		
5180.0	6M	8.16	0.0065	8.43	0.0070	11.31	0.0135	< 24	N/A
5200.0		8.29	0.0067	8.77	0.0075	11.55	0.0143		
5220.0		8.65	0.0073	8.72	0.0074	**11.70**	**0.0148**		
5745.0		7.98	0.0063	7.89	0.0062	10.95	0.0124	< 30	< 30
5765.0		8.04	0.0064	7.86	0.0061	**10.96**	**0.0125**		
5785.0		7.89	0.0062	7.82	0.0061	10.87	0.0122		
5805.0		7.76	0.0060	8.07	0.0064	10.93	0.0124		
5825.0		7.82	0.0061	7.92	0.0062	10.88	0.0122		
5180.0	54M	7.93	0.0062	8.50	0.0071	11.23	0.0133	< 24	N/A
5200.0		7.84	0.0061	8.34	0.0068	11.11	0.0129		
5220.0		8.04	0.0064	8.16	0.0065	11.11	0.0129		
5745.0		7.73	0.0059	7.72	0.0059	10.74	0.0118	< 30	< 30
5765.0		7.84	0.0061	7.58	0.0057	10.72	0.0118		
5785.0		7.78	0.0060	7.88	0.0061	10.84	0.0121		
5805.0		7.68	0.0059	8.01	0.0063	10.86	0.0122		
5825.0		7.65	0.0058	7.90	0.0062	10.79	0.0120		

Model Number	AC785S-500							
Test Item	Maximum Conducted Output Power							
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode							
Date of Test	09/17/2014				Test Site	TE02		
Frequency (MHz)	Data Rate	Antenna 1 Average Power (dBm)	Antenna 1 Average Power (W)	Antenna 2 Average Power (dBm)	Antenna 2 Average Power (W)	Antenna 1+2 Average Power (dBm)	Antenna 1+2 Average Power (W)	FCC Limit (dBm)	IC Limit (dBm)
5180.0	13M	8.59	0.0072	8.62	0.0073	**11.62**	**0.0145**	< 24	N/A
5200.0		8.13	0.0065	8.51	0.0071	11.33	0.0136		
5220.0		8.32	0.0068	8.38	0.0069	11.36	0.0137		
5745.0		8.00	0.0063	7.83	0.0061	**10.93**	**0.0124**	< 30	< 30
5765.0		7.96	0.0063	7.55	0.0057	10.77	0.0119		
5785.0		7.84	0.0061	7.77	0.0060	10.82	0.0121		
5805.0		7.81	0.0060	7.64	0.0058	10.74	0.0118		
5825.0		7.94	0.0062	7.67	0.0058	10.82	0.0121		
5180.0	130M	8.02	0.0063	8.36	0.0069	11.20	0.0132	< 24	N/A
5200.0		8.28	0.0067	8.22	0.0066	11.26	0.0134		
5220.0		8.35	0.0068	8.15	0.0065	11.26	0.0134		
5745.0		7.41	0.0055	7.21	0.0053	10.32	0.0108	< 30	< 30
5765.0		7.34	0.0054	7.23	0.0053	10.30	0.0107		
5785.0		7.22	0.0053	7.13	0.0052	10.19	0.0104		
5805.0		7.49	0.0056	7.55	0.0057	10.53	0.0113		
5825.0		7.58	0.0057	7.61	0.0058	10.61	0.0115		

Model Number	AC785S-500							
Test Item	Maximum Conducted Output Power							
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode							
Date of Test	09/17/2014				Test Site	TE02		
Frequency (MHz)	Data Rate	Antenna 1 Average Power (dBm)	Antenna 1 Average Power (W)	Antenna 2 Average Power (dBm)	Antenna 2 Average Power (W)	Antenna 1+2 Average Power (dBm)	Antenna 1+2 Average Power (W)	FCC Limit (dBm)	IC Limit (dBm)
5190.0	27M	8.08	0.0064	8.17	0.0066	**11.14**	**0.0130**	< 24	N/A
5755.0		7.84	0.0061	7.87	0.0061	**10.87**	**0.0122**	< 30	< 30
5795.0		7.67	0.0058	7.77	0.0060	10.73	0.0118		
5190.0	270M	7.81	0.0060	7.88	0.0061	10.86	0.0122	< 24	N/A
5755.0		7.32	0.0054	7.45	0.0056	10.40	0.0110	< 30	< 30
5795.0		7.24	0.0053	7.24	0.0053	10.25	0.0106		

Model Number	AC785S-500					
Test Item	EIRP					
Test Mode	Mode 2: IEEE 802.11a Link Mode					
Date of Test	09/17/2014			Test Site	TE02	
Frequency (MHz)	Data Rate	Antenna 1				FCC Limit (dBm)	IC Limit (dBm)
		Average Power	Antenna Gain	EIRP			
		(dBm)	(dBi)	(dBm)	(dBm)		
5180.0	6M	8.16	3.50	11.66	0.0147	< 36	< 23
5200.0		8.29	3.50	11.79	0.0151		
5220.0		8.65	3.50	12.15	0.0164		
5745.0		7.98	3.50	11.48	0.0141		< 36
5765.0		8.04	3.50	11.54	0.0143		
5785.0		7.89	3.50	11.39	0.0138		
5805.0		7.76	3.50	11.26	0.0134		
5825.0		7.82	3.50	11.32	0.0136		
5180.0	54M	7.93	3.50	11.43	0.0139	< 36	< 23
5200.0		7.84	3.50	11.34	0.0136		
5220.0		8.04	3.50	11.54	0.0143		
5745.0		7.73	3.50	11.23	0.0133		< 36
5765.0		7.84	3.50	11.34	0.0136		
5785.0		7.78	3.50	11.28	0.0134		
5805.0		7.68	3.50	11.18	0.0131		
5825.0		7.65	3.50	11.15	0.0130		

Model Number	AC785S-500					
Test Item	EIRP					
Test Mode	Mode 2: IEEE 802.11a Link Mode					
Date of Test	09/17/2014			Test Site	TE02	
Frequency (MHz)	Data Rate	Antenna 2				FCC Limit (dBm)	IC Limit (dBm)
		Average Power	Antenna Gain	EIRP			
		(dBm)	(dBi)	(dBm)	(dBm)		
5180.0	6M	8.43	3.50	11.93	0.0156	< 36	< 23
5200.0		8.77	3.50	12.27	0.0169		
5220.0		8.72	3.50	12.22	0.0167		
5745.0		7.89	3.50	11.39	0.0138		< 36
5765.0		7.86	3.50	11.36	0.0137		
5785.0		7.82	3.50	11.32	0.0136		
5805.0		8.07	3.50	11.57	0.0144		
5825.0		7.92	3.50	11.42	0.0139		
5180.0	54M	8.50	3.50	12.00	0.0158	< 36	< 23
5200.0		8.34	3.50	11.84	0.0153		
5220.0		8.16	3.50	11.66	0.0147		
5745.0		7.72	3.50	11.22	0.0132		< 36
5765.0		7.58	3.50	11.08	0.0128		
5785.0		7.88	3.50	11.38	0.0137		
5805.0		8.01	3.50	11.51	0.0142		
5825.0		7.90	3.50	11.40	0.0138		

Model Number	AC785S-500					
Test Item	EIRP					
Test Mode	Mode 2: IEEE 802.11a Link Mode					
Date of Test	09/17/2014			Test Site	TE02	
Frequency (MHz)	Data Rate	Antenna 1+2				FCC Limit (dBm)	IC Limit (dBm)
		Average Power	Antenna Gain	EIRP			
		(dBm)	(dBi)	(dBm)	(dBm)		
5180.0	6M	11.31	3.50	14.81	0.0303	< 36	< 23
5200.0		11.55	3.50	15.05	0.0320		
5220.0		11.70	3.50	15.20	0.0331		
5745.0		10.95	3.50	14.45	0.0278		< 36
5765.0		10.96	3.50	14.46	0.0279		
5785.0		10.87	3.50	14.37	0.0273		
5805.0		10.93	3.50	14.43	0.0277		
5825.0		10.88	3.50	14.38	0.0274		
5180.0	54M	11.23	3.50	14.73	0.0297	< 36	< 23
5200.0		11.11	3.50	14.61	0.0289		
5220.0		11.11	3.50	14.61	0.0289		
5745.0		10.74	3.50	14.24	0.0265		< 36
5765.0		10.72	3.50	14.22	0.0264		
5785.0		10.84	3.50	14.34	0.0272		
5805.0		10.86	3.50	14.36	0.0273		
5825.0		10.79	3.50	14.29	0.0268		

Model Number	AC785S-500					
Test Item	EIRP					
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode					
Date of Test	09/17/2014			Test Site	TE02	
Frequency (MHz)	Data Rate	Antenna 1				FCC Limit (dBm)	IC Limit (dBm)
		Average Power	Antenna Gain	EIRP			
		(dBm)	(dBi)	(dBm)	(dBm)		
5180.0	13M	8.59	3.50	12.09	0.0162	< 36	< 23
5200.0		8.13	3.50	11.63	0.0146		
5220.0		8.32	3.50	11.82	0.0152		
5745.0		8.00	3.50	11.50	0.0141		< 36
5765.0		7.96	3.50	11.46	0.0140		
5785.0		7.84	3.50	11.34	0.0136		
5805.0		7.81	3.50	11.31	0.0135		
5825.0		7.94	3.50	11.44	0.0139		
5180.0	130M	8.02	3.50	11.52	0.0142	< 36	< 23
5200.0		8.28	3.50	11.78	0.0151		
5220.0		8.35	3.50	11.85	0.0153		
5745.0		7.41	3.50	10.91	0.0123		< 36
5765.0		7.34	3.50	10.84	0.0121		
5785.0		7.22	3.50	10.72	0.0118		
5805.0		7.49	3.50	10.99	0.0126		
5825.0		7.58	3.50	11.08	0.0128		

Model Number	AC785S-500					
Test Item	EIRP					
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode					
Date of Test	09/17/2014			Test Site	TE02	
Frequency (MHz)	Data Rate	Antenna 2				FCC Limit (dBm)	IC Limit (dBm)
		Average Power	Antenna Gain	EIRP			
		(dBm)	(dBi)	(dBm)	(dBm)		
5180.0	13M	8.62	3.50	12.12	0.0163	< 36	< 23
5200.0		8.51	3.50	12.01	0.0159		
5220.0		8.38	3.50	11.88	0.0154		
5745.0		7.83	3.50	11.33	0.0136		< 36
5765.0		7.55	3.50	11.05	0.0127		
5785.0		7.77	3.50	11.27	0.0134		
5805.0		7.64	3.50	11.14	0.0130		
5825.0		7.67	3.50	11.17	0.0131		
5180.0	130M	8.36	3.50	11.86	0.0153	< 36	< 23
5200.0		8.22	3.50	11.72	0.0149		
5220.0		8.15	3.50	11.65	0.0146		
5745.0		7.21	3.50	10.71	0.0118		< 36
5765.0		7.23	3.50	10.73	0.0118		
5785.0		7.13	3.50	10.63	0.0116		
5805.0		7.55	3.50	11.05	0.0127		
5825.0		7.61	3.50	11.11	0.0129		

Model Number	AC785S-500					
Test Item	EIRP					
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode					
Date of Test	09/17/2014			Test Site	TE02	
Frequency (MHz)	Data Rate	Antenna 1+2				FCC Limit (dBm)	IC Limit (dBm)
		Average Power	Antenna Gain	EIRP			
		(dBm)	(dBi)	(dBm)	(dBm)		
5180.0	13M	11.62	3.50	15.12	0.0325	< 36	< 23
5200.0		11.33	3.50	14.83	0.0304		
5220.0		11.36	3.50	14.86	0.0306		
5745.0		10.93	3.50	14.43	0.0277		< 36
5765.0		10.77	3.50	14.27	0.0267		
5785.0		10.82	3.50	14.32	0.0270		
5805.0		10.74	3.50	14.24	0.0265		
5825.0		10.82	3.50	14.32	0.0270		
5180.0	130M	11.20	3.50	14.70	0.0295	< 36	< 23
5200.0		11.26	3.50	14.76	0.0299		
5220.0		11.26	3.50	14.76	0.0299		
5745.0		10.32	3.50	13.82	0.0241		< 36
5765.0		10.30	3.50	13.80	0.0240		
5785.0		10.19	3.50	13.69	0.0234		
5805.0		10.53	3.50	14.03	0.0253		
5825.0		10.61	3.50	14.11	0.0257		

Model Number	AC785S-500					
Test Item	EIRP					
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode					
Date of Test	09/17/2014			Test Site	TE02	
Frequency (MHz)	Data Rate	Antenna 1				FCC Limit (dBm)	IC Limit (dBm)
		Average Power	Antenna Gain	EIRP			
		(dBm)	(dBi)	(dBm)	(dBm)		
5190.0	27M	8.08	3.50	11.58	0.0144	< 36	< 23
5755.0		7.84	3.50	11.34	0.0136		< 36
5795.0		7.67	3.50	11.17	0.0131		
5190.0	270M	7.81	3.50	11.31	0.0135		< 23
5755.0		7.32	3.50	10.82	0.0121		< 36
5795.0		7.24	3.50	10.74	0.0119		

Model Number	AC785S-500					
Test Item	EIRP					
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode					
Date of Test	09/17/2014			Test Site	TE02	
Frequency (MHz)	Data Rate	Antenna 2				FCC Limit (dBm)	IC Limit (dBm)
		Average Power	Antenna Gain	EIRP			
		(dBm)	(dBi)	(dBm)	(dBm)		
5190.0	27M	8.17	3.50	11.67	0.0147	< 36	< 23
5755.0		7.87	3.50	11.37	0.0137		< 36
5795.0		7.77	3.50	11.27	0.0134		
5190.0	270M	7.88	3.50	11.38	0.0137		< 23
5755.0		7.45	3.50	10.95	0.0124		< 36
5795.0		7.24	3.50	10.74	0.0119		

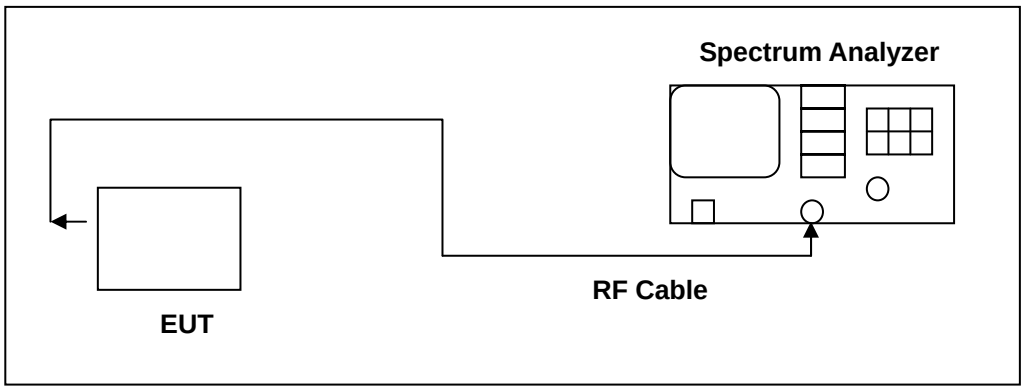
Model Number	AC785S-500					
Test Item	EIRP					
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode					
Date of Test	09/17/2014			Test Site	TE02	
Frequency (MHz)	Data Rate	Antenna 1+2				FCC Limit (dBm)	IC Limit (dBm)
		Average Power	Antenna Gain	EIRP			
		(dBm)	(dBi)	(dBm)	(dBm)		
5190.0	27M	11.14	3.50	14.64	0.0291	< 36	< 23
5755.0		10.87	3.50	14.37	0.0273		< 36
5795.0		10.73	3.50	14.23	0.0265		
5190.0	270M	10.86	3.50	14.36	0.0273		< 23
5755.0		10.40	3.50	13.90	0.0245		< 36
5795.0		10.25	3.50	13.75	0.0237		

7 26dB RF 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	12/18/2013	(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.

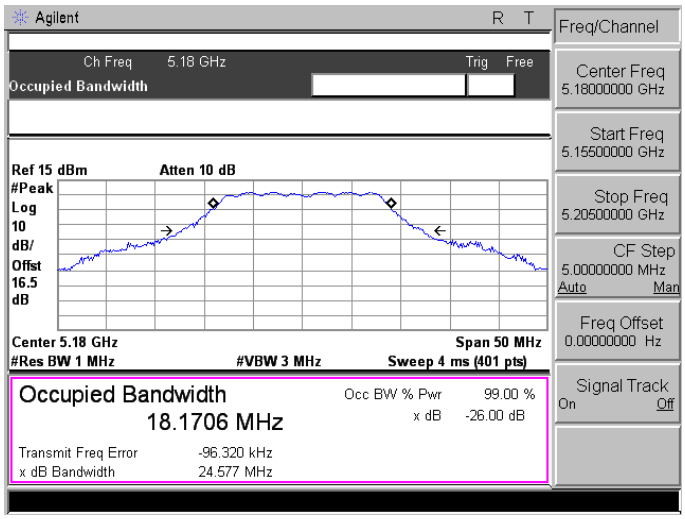
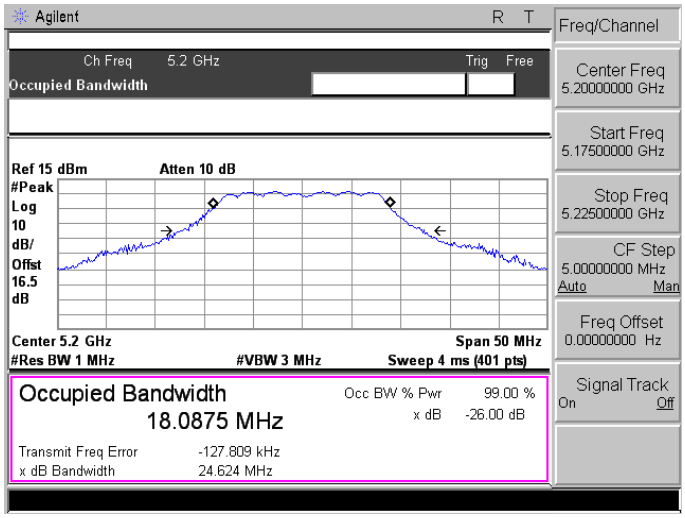
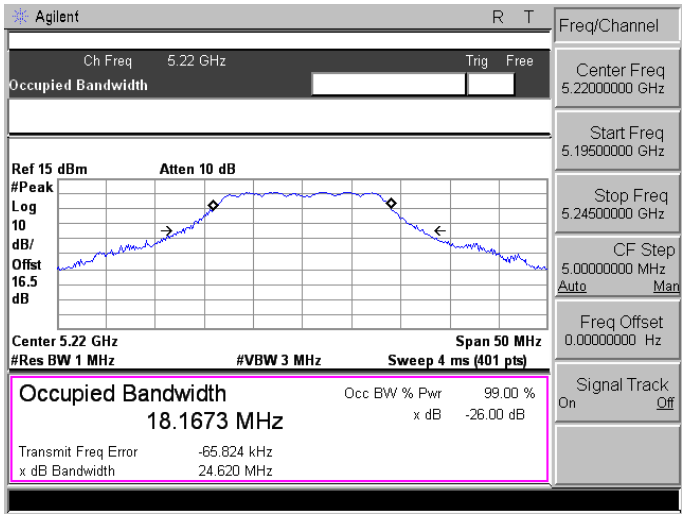
7.5. Test Result

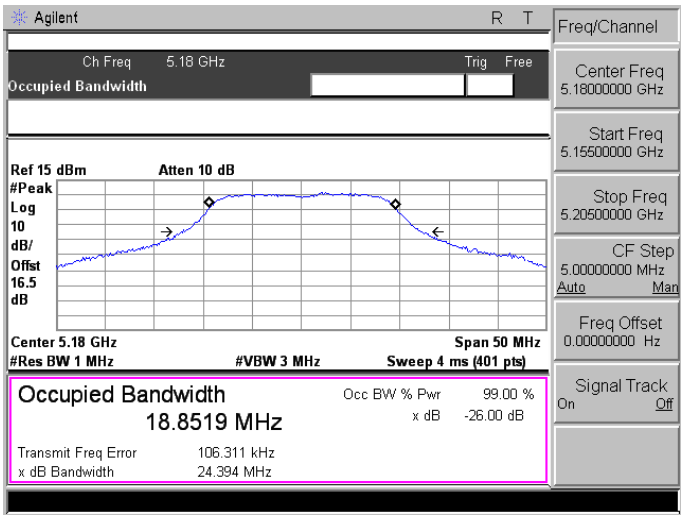
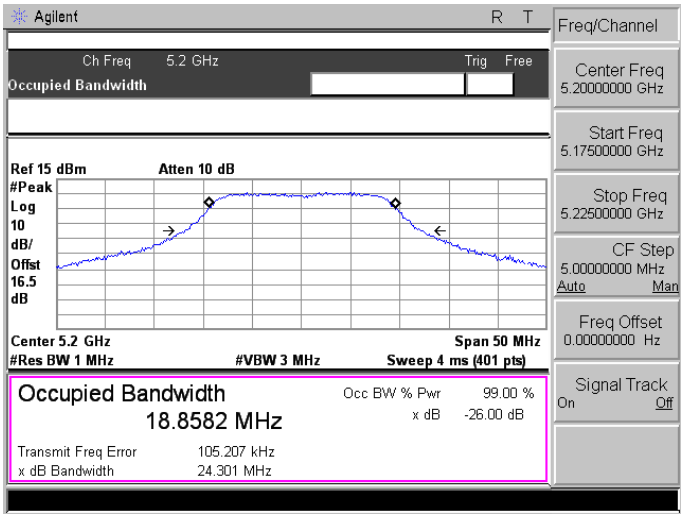
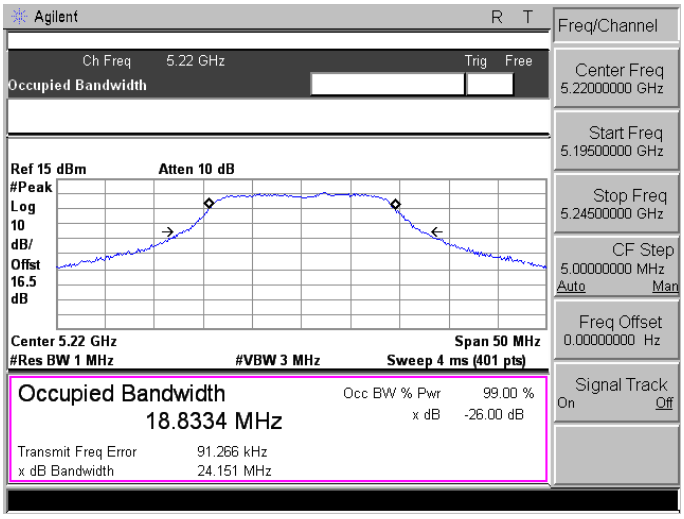
Model Number	AC785S-500			
Test Item	26dB RF Bandwidth			
Test Mode	Mode 2: IEEE 802.11a Link Mode			
Date of Test	09/24/2014	Test Site	TE02	
Frequency (MHz)	Antenna 1		Antenna 2	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	24.577	18.1706	25.118	18.2949
5200	24.624	18.0875	24.810	18.0248
5220	24.620	18.1673	24.719	18.0786

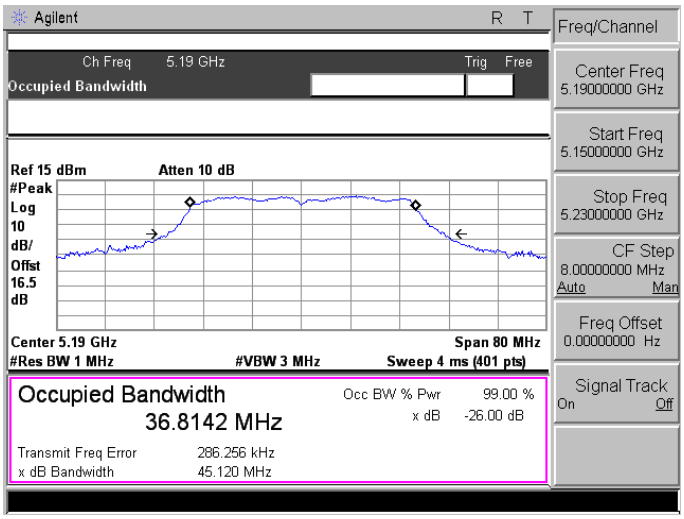
Model Number	AC785S-500			
Test Item	26dB RF Bandwidth			
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode			
Date of Test	09/24/2014	Test Site	TE02	
Frequency (MHz)	Antenna 1		Antenna 2	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	24.394	18.8519	25.282	19.0206
5200	24.301	18.8582	25.212	19.0828
5220	24.151	18.8334	25.117	19.0387

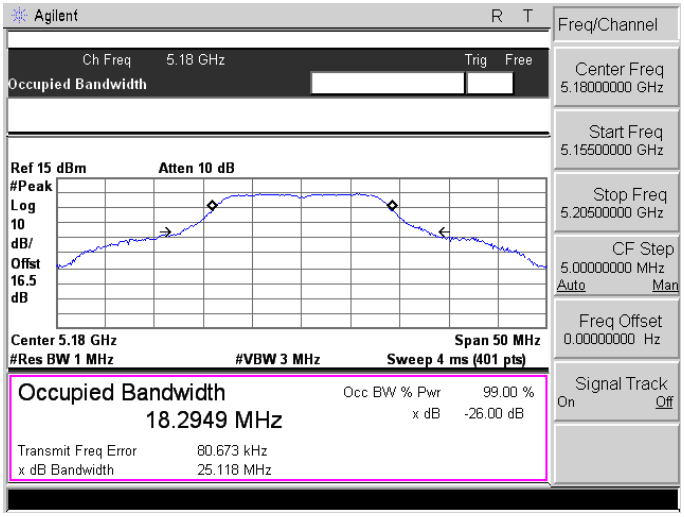
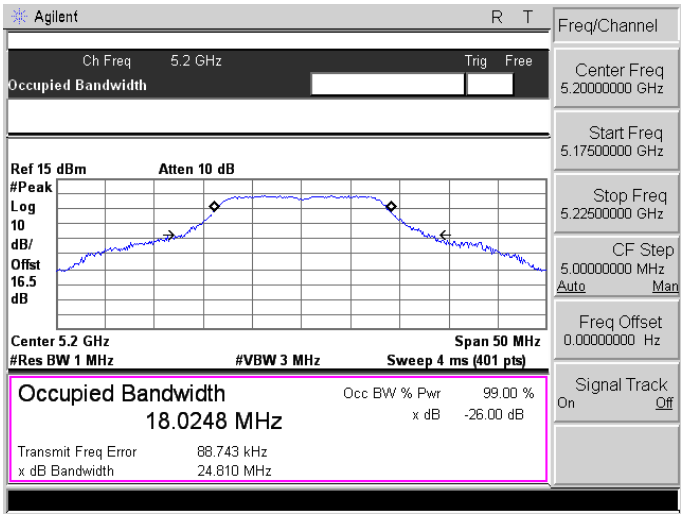
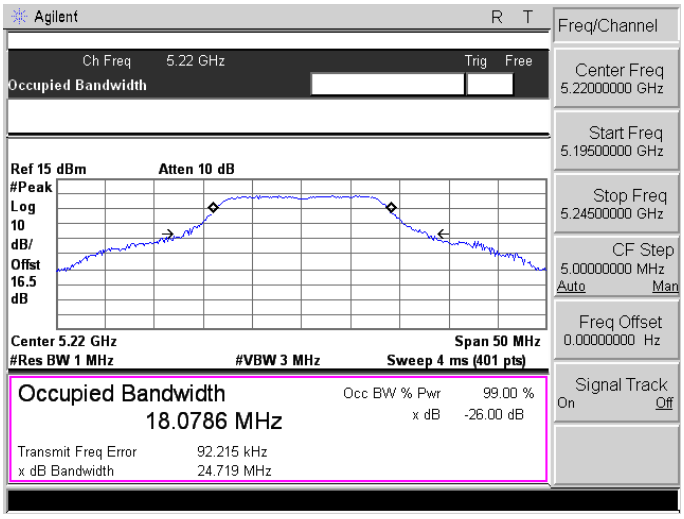
Model Number	AC785S-500			
Test Item	26dB RF Bandwidth			
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode			
Date of Test	09/24/2014	Test Site	TE02	
Frequency (MHz)	Antenna 1		Antenna 2	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5190	45.120	36.8142	48.063	36.6973

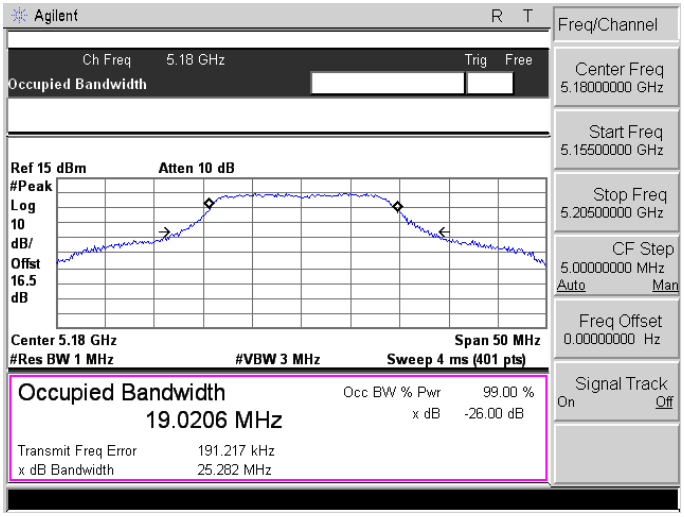
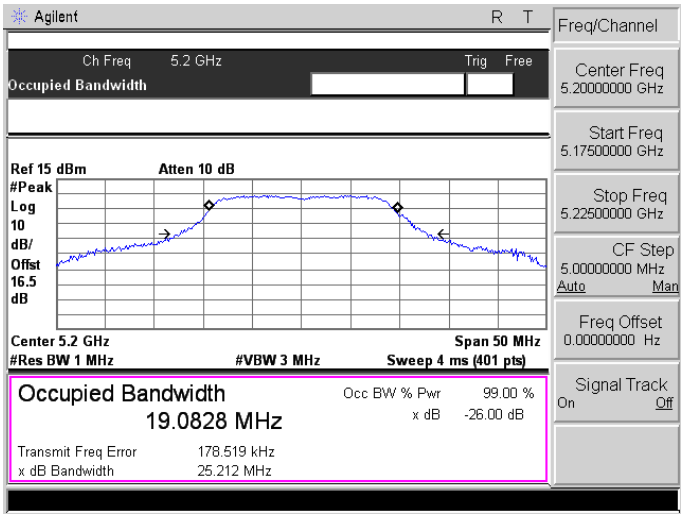
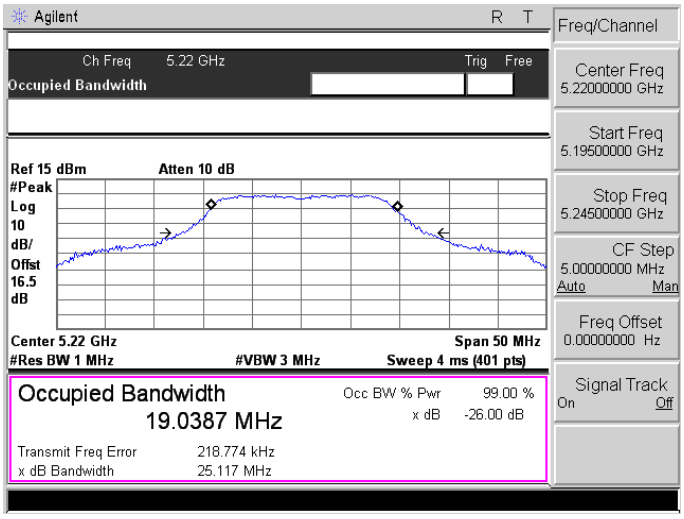
7.6. Test Graphs

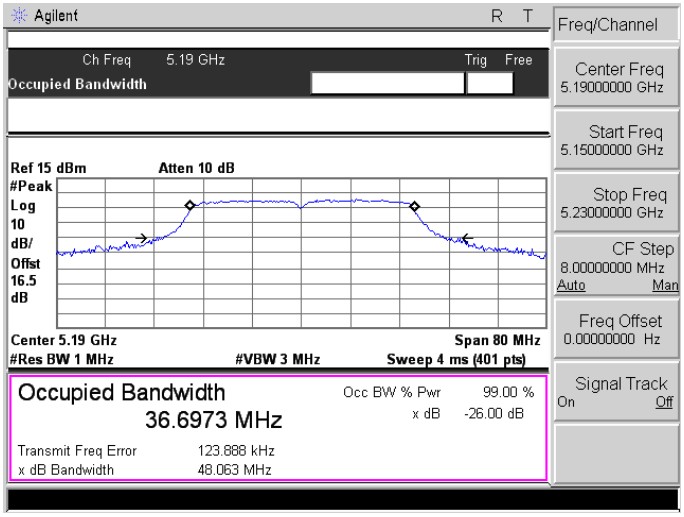
Mode 2: IEEE 802.11a Link Mode_Antenna 1	
5180	
5200	
5220	

Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 1	
5180	
5200	
5220	

Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 1	
5190	

Mode 2: IEEE 802.11a Link Mode_Antenna 2	
5180	
5200	
5220	

Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 2	
5180	
5200	
5220	

Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 2	
5190	

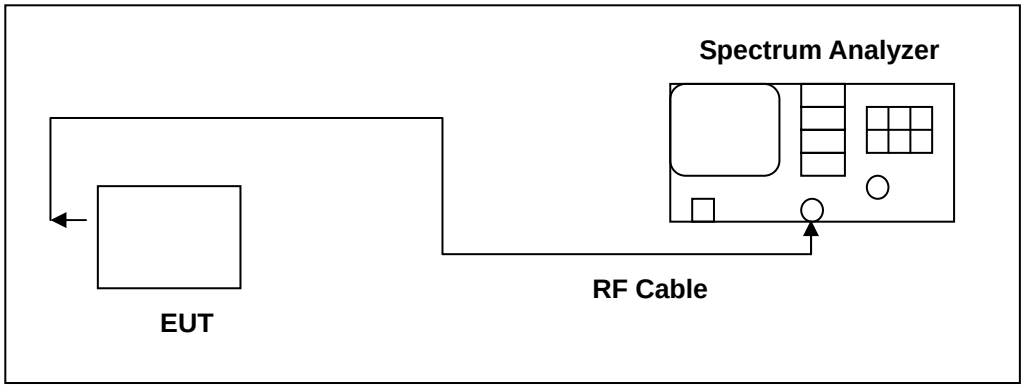
8 20dB RF Bandwidth Measurement

8.1. Limit

N/A

If the device grant is changed to show operation in the 5.15-5.25 GHz band please ensure that the test data show that the 20dB BW remains in the band.

8.2. Test Setup



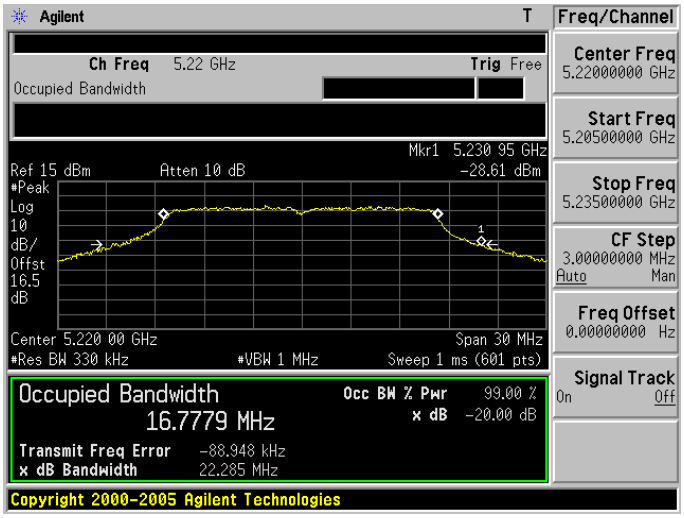
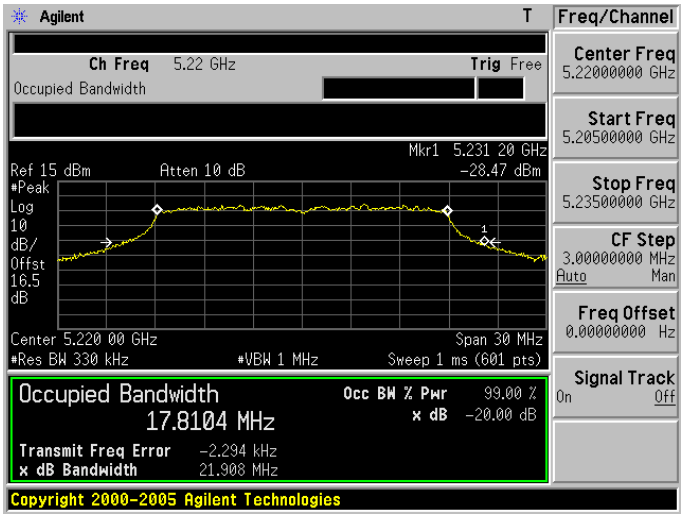
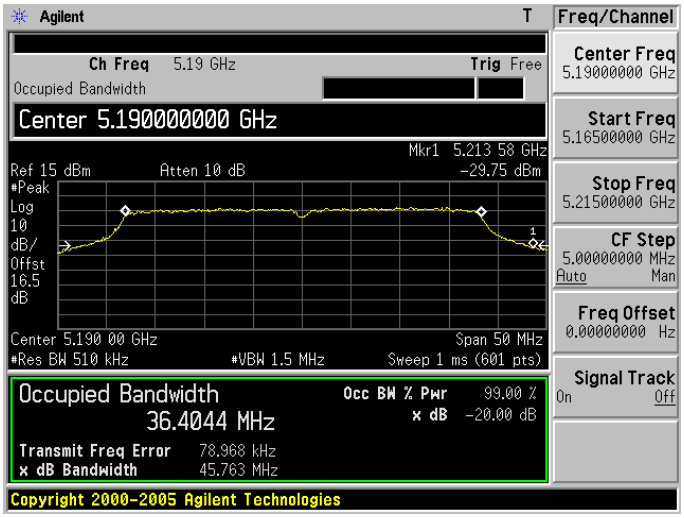
8.3. Test Instruments

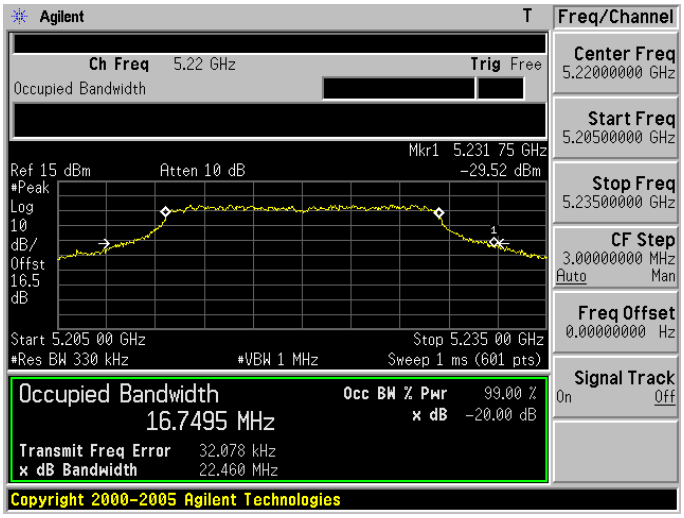
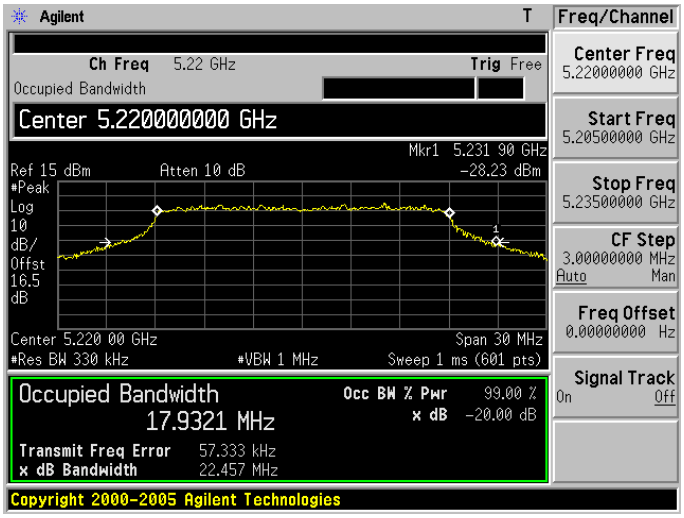
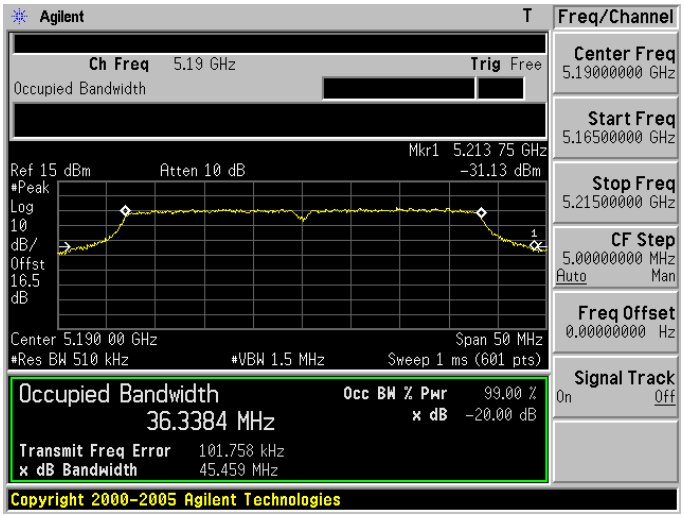
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/18/2013	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

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

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

8.4. Test Graphs

Mode 2: IEEE 802.11a Link Mode_Antenna 1	
5220	
Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 1	
5220	
Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 1	
5190	

Mode 2: IEEE 802.11a Link Mode_Antenna 2	
5220	
Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 2	
5220	
Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 2	
5190	

9 6dB RF Bandwidth & 99 % Occupied Bandwidth Measurement

9.1. Limit

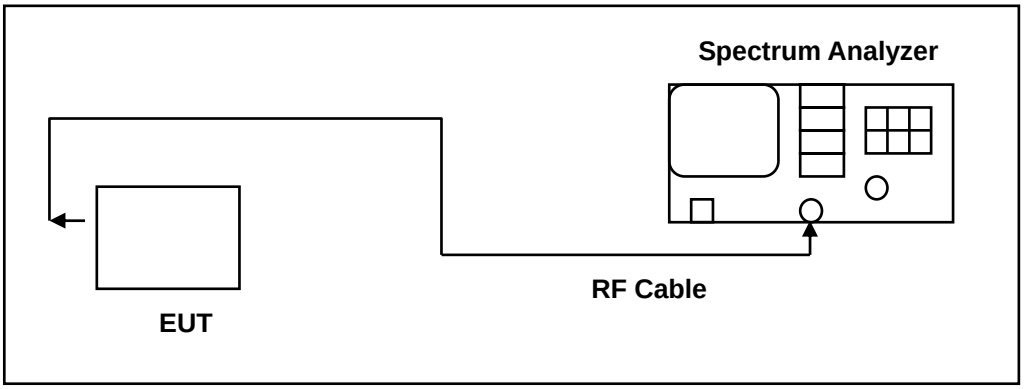
6dB RF Bandwidth

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

99 % Occupied Bandwidth

N/A

9.2. Test Setup



9.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/18/2013	(2)
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.

9.4. 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.

99 % Occupied Bandwidth

The transmitter shall be operated at its maximum carrier power measured under normal test conditions.

The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual.

The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded.

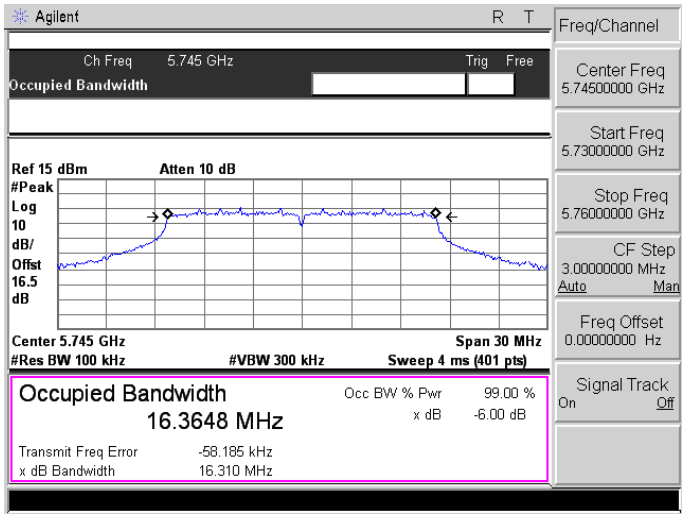
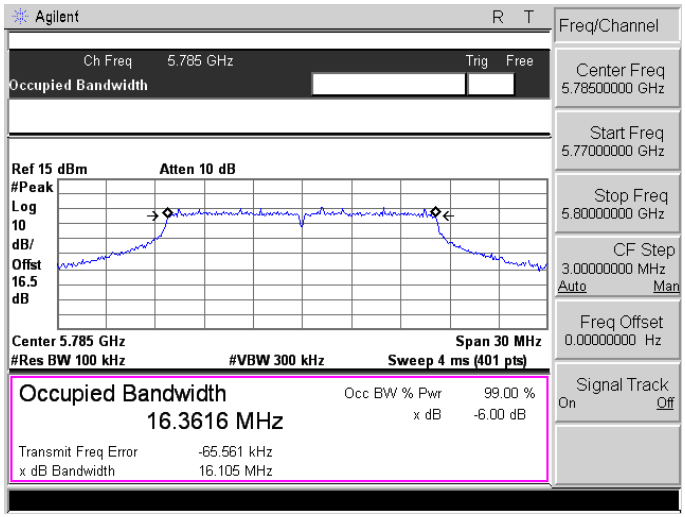
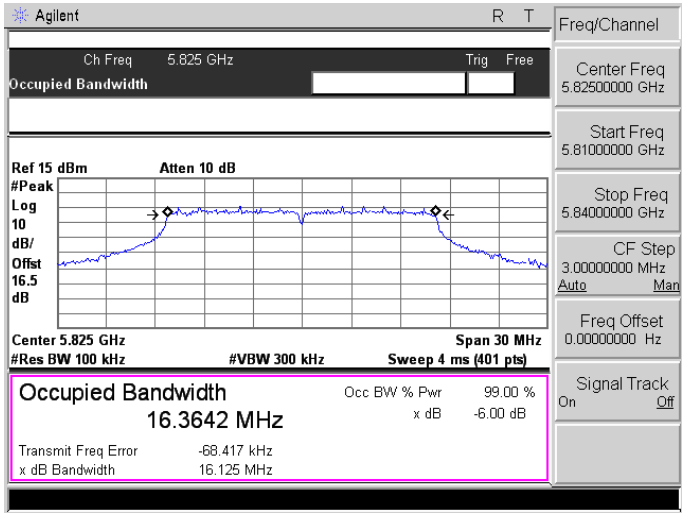
9.5. Test Result

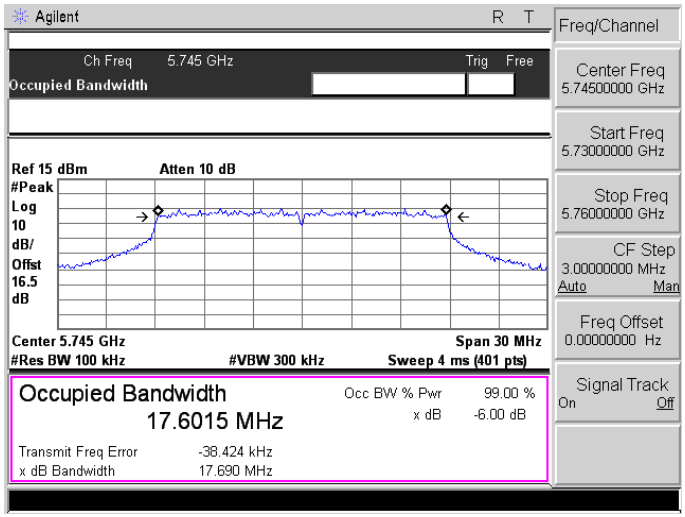
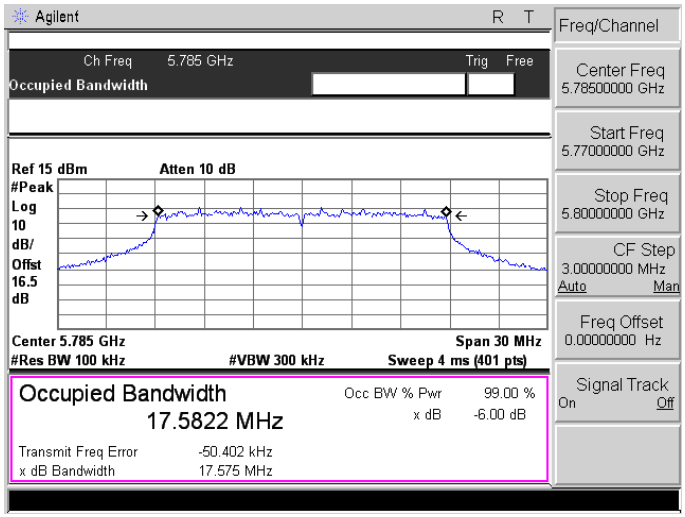
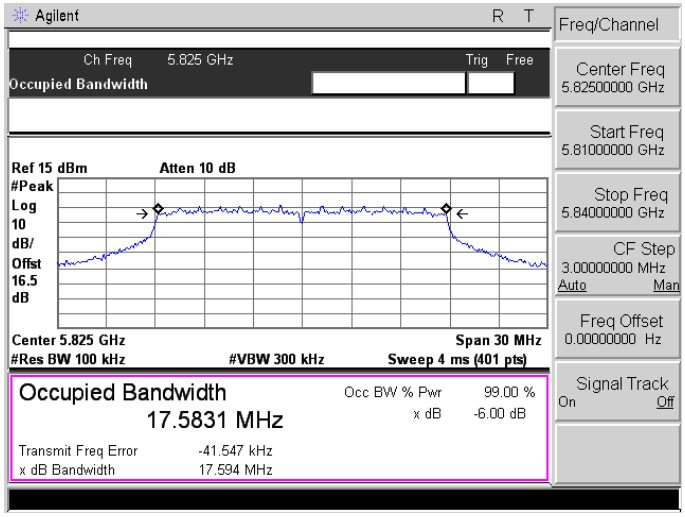
Model Number	AC785S-500				
Test Item	6dB RF Bandwidth & 99 % Occupied Bandwidth				
Test Mode	Mode 2: IEEE 802.11a Link Mode				
Date of Test	10/21/2014			Test Site	TE05
Frequency (MHz)	Antenna 1		Antenna 2		6dB Bandwidth Limit (kHz)
	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	
5745	16.310	16.3648	16.385	16.4094	> 500
5785	16.105	16.3616	16.338	16.3999	> 500
5825	16.125	16.3642	16.360	16.4116	> 500

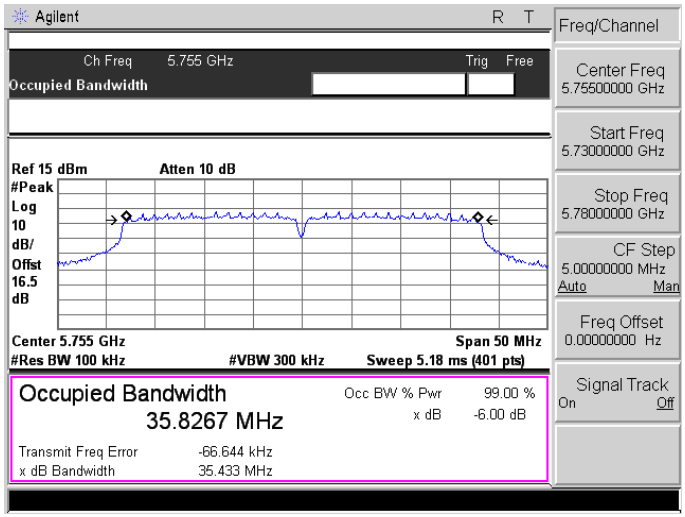
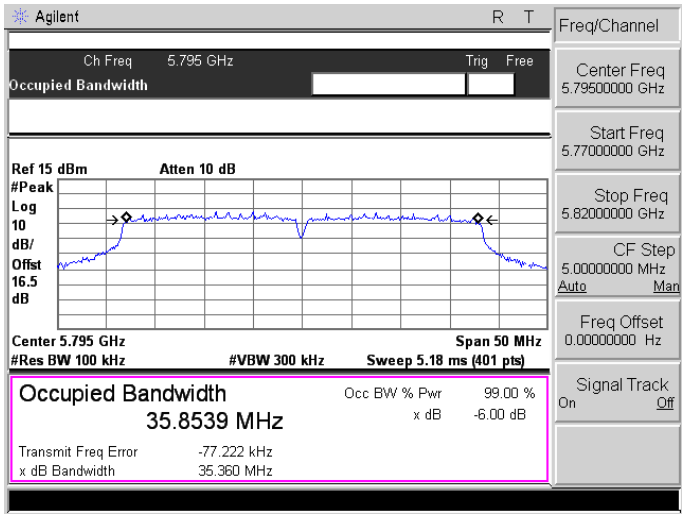
Model Number	AC785S-500				
Test Item	6dB RF Bandwidth & 99 % Occupied Bandwidth				
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode				
Date of Test	10/21/2014			Test Site	TE05
Frequency (MHz)	Antenna 1		Antenna 2		6dB Bandwidth Limit (kHz)
	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	
5745	17.690	17.6015	17.564	17.6058	> 500
5785	17.575	17.5822	16.742	17.6039	> 500
5825	17.594	17.5831	17.591	17.5953	> 500

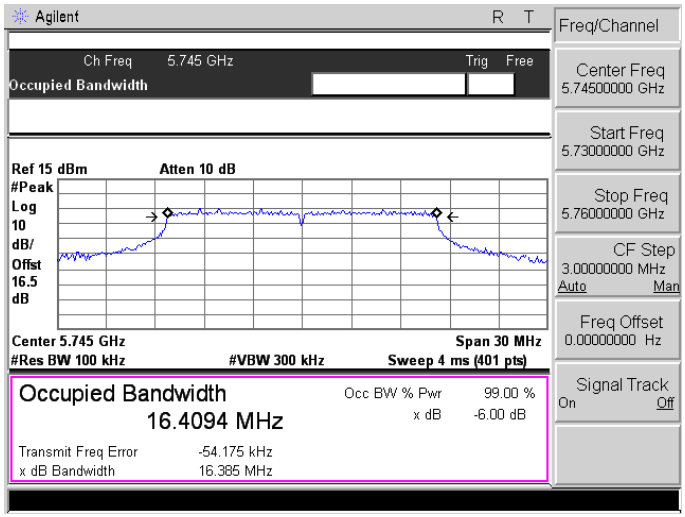
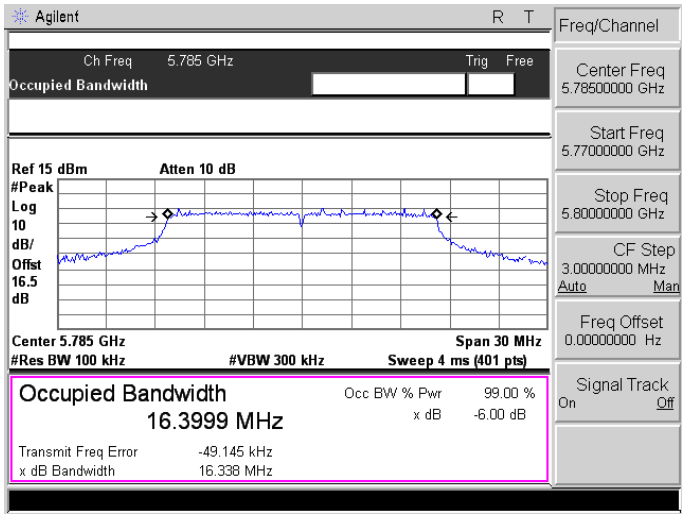
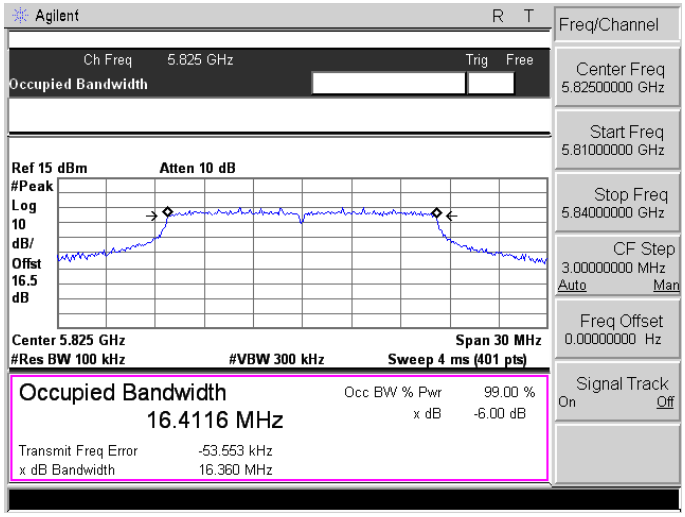
Model Number	AC785S-500				
Test Item	6dB RF Bandwidth & 99 % Occupied Bandwidth				
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode				
Date of Test	10/21/2014			Test Site	TE05
Frequency (MHz)	Antenna 1		Antenna 2		6dB Bandwidth Limit (kHz)
	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	
5755	35.433	35.8267	35.340	35.8499	> 500
5795	35.360	35.8539	34.092	35.8578	> 500

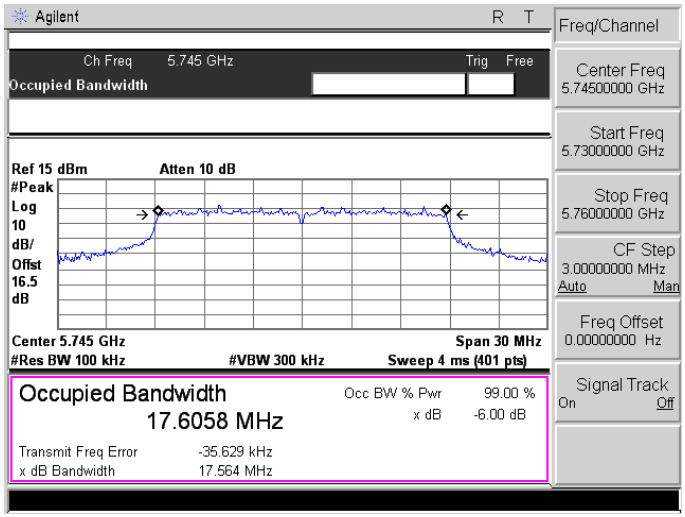
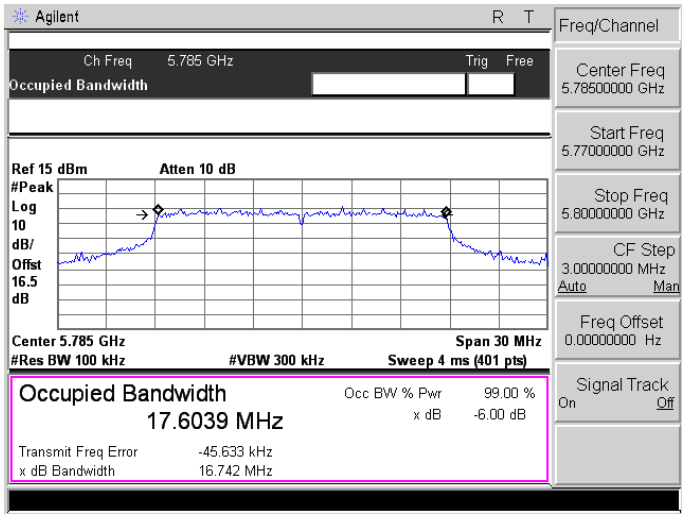
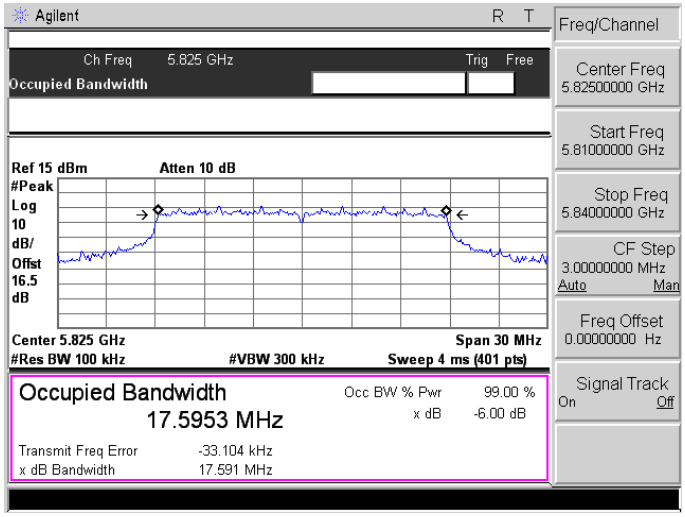
9.6. Test Graphs

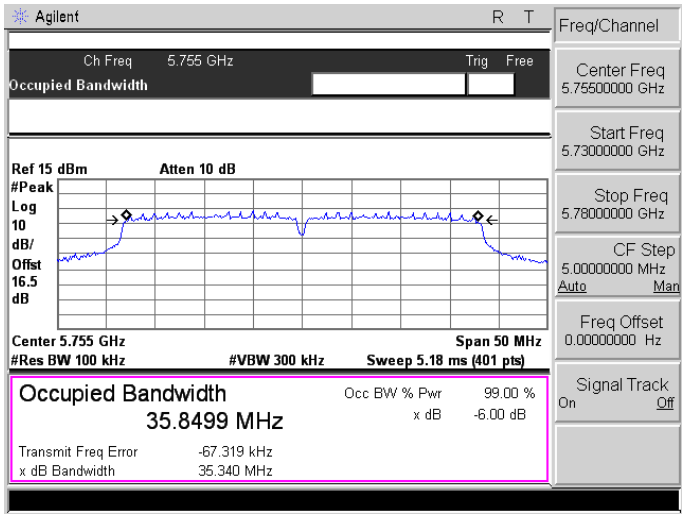
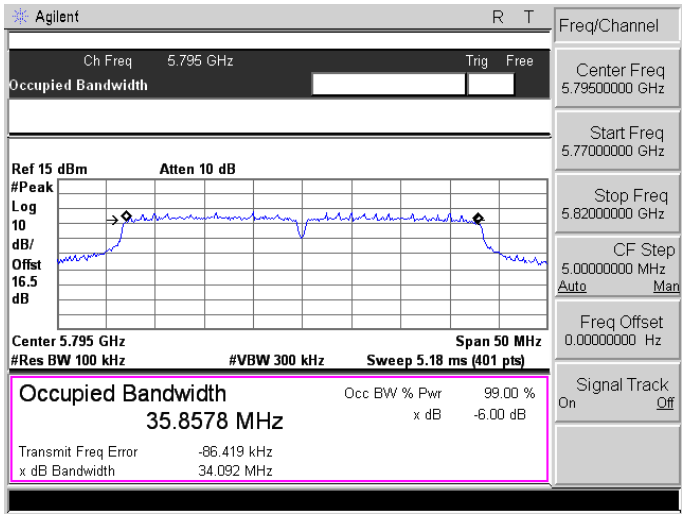
Mode 2: IEEE 802.11a Link Mode_Antenna 1	
5745	
5785	
5825	

Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 1	
5745	
5785	
5825	

Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 1	
5755	
5795	

Mode 2: IEEE 802.11a Link Mode_Antenna 2	
5745	
5785	
5825	

Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 2	
5745	
5785	
5825	

Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 2	
5755	
5795	

10 Peak Power Spectral Density Measurement

10.1. Limit

Conducted power spectral density

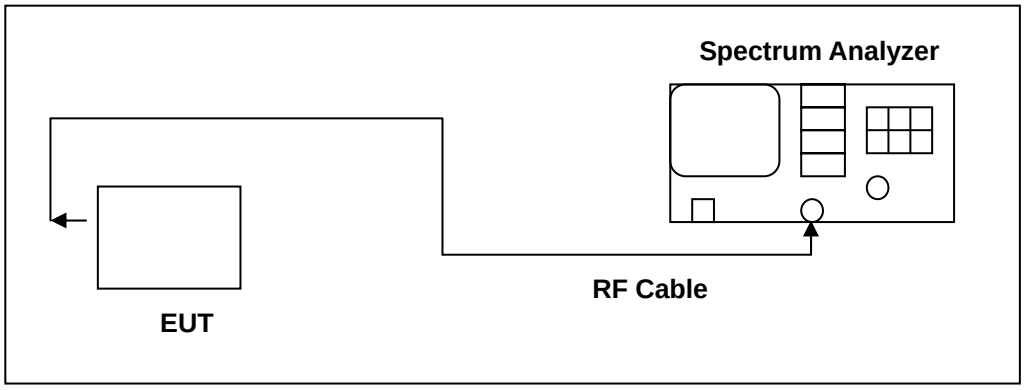
Frequency Range (MHz)	FCC Limit
5.150 ~ 5.250 GHz	11 dBm/MHz
5.250 ~ 5.350 GHz	11 dBm/MHz
5.470 ~ 5.725 GHz	11 dBm/MHz
5.725 ~ 5.850 GHz	30 dBm/500KHz

Frequency Range (MHz)	IC Limit
5.150 ~ 5.250 GHz	N/A
5.250 ~ 5.350 GHz	11 dBm/MHz
5.470 ~ 5.600 GHz and 5650~5725MHz	11 dBm/MHz
5.725 ~ 5.825 GHz	17 dBm/MHz

EIRP spectral density

Frequency Range (MHz)	IC Limit
5.150 ~ 5.250 GHz	10 dBm/MHz
5.250 ~ 5.350 GHz	N/A
5.470 ~ 5.600 GHz and 5650~5725MHz	N/A
5.725 ~ 5.825 GHz	N/A

10.2. Test Setup



10.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/18/2013	(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.

10.4. 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.

10.5. Test Result

Model Number	AC785S-500						
Test Item	Conducted power spectral density						
Test Mode	Mode 2: IEEE 802.11a Link Mode						
Date of Test	10/21/2014			Test Site	TE02		
Frequency (MHz)	Antenna 1		Antenna 2		Antenna 1+2	FCC Limit (dBm/MHz)	IC Limit (dBm/MHz)
	Measurement (dBm/MHz)						
5180	-7.36		-7.10		-4.22	< 11	N/A
5200	-7.40		-7.16		-4.27		
5220	-7.04		-6.13		-3.55		
Frequency (MHz)	Measurement (dBm/100KHz)			Measurement (dBm/500KHz)	Measurement (dBm/MHz)	FCC Limit (dBm/500KHz)	IC Limit (dBm/MHz)
	ANT 1	ANT 2	ANT 1+2	ANT 1+2	ANT 1+2		
5745	-3.38	-3.76	-0.55	6.44	9.45	< 30	< 17
5785	-4.29	-4.50	-1.38	5.61	8.62		
5825	-4.11	-4.69	-1.38	5.61	8.62		

Model Number	AC785S-500						
Test Item	Conducted power spectral density						
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode						
Date of Test	10/21/2014			Test Site	TE02		
Frequency (MHz)	Antenna 1		Antenna 2		Antenna 1+2	FCC Limit (dBm/MHz)	IC Limit (dBm/MHz)
	Measurement (dBm/MHz)						
5180	-7.53		-6.35		-3.89	< 11	N/A
5200	-8.22		-7.51		-4.84		
5220	-7.41		-6.60		-3.98		
Frequency (MHz)	Measurement (dBm/100KHz)			Measurement (dBm/500KHz)	Measurement (dBm/MHz)	FCC Limit (dBm/500KHz)	IC Limit (dBm/MHz)
	ANT 1	ANT 2	ANT 1+2	ANT 1+2	ANT 1+2		
5745	-3.45	-3.28	-0.36	6.63	9.64	< 30	< 17
5785	-3.66	-3.32	-0.47	6.52	9.53		
5825	-3.24	-3.69	-0.45	6.54	9.55		

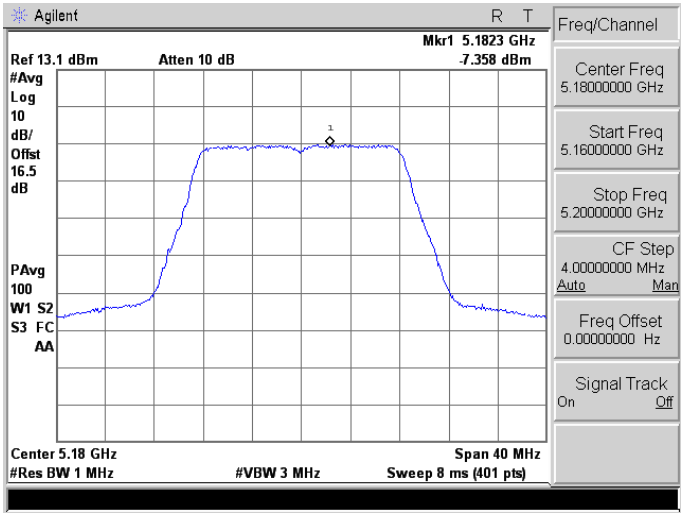
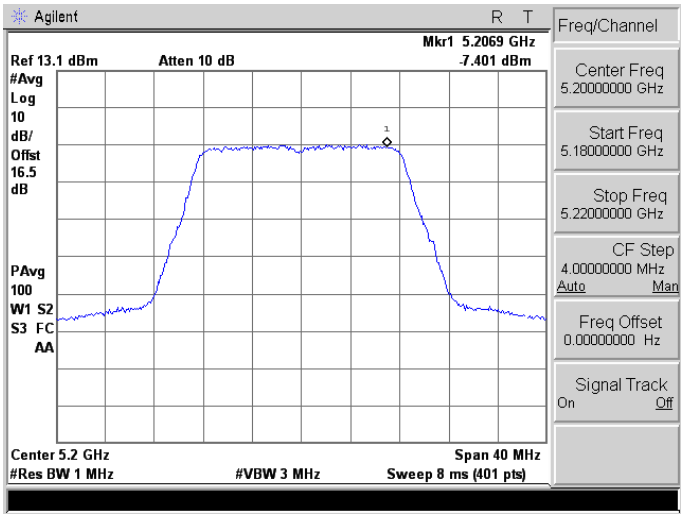
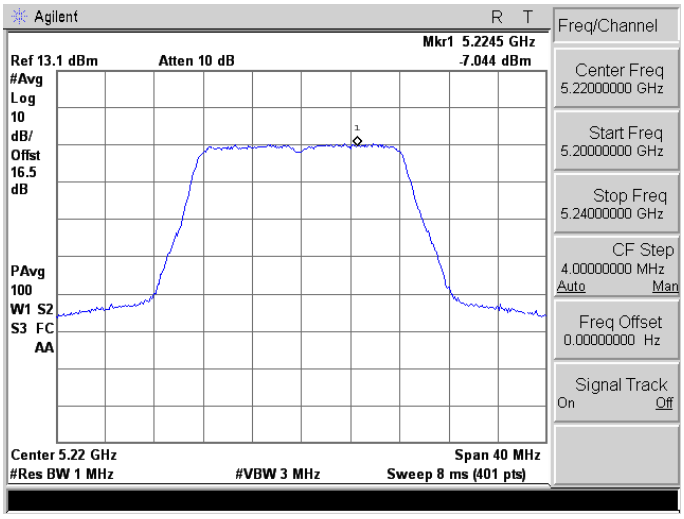
Model Number	AC785S-500						
Test Item	Conducted power spectral density						
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode						
Date of Test	10/21/2014			Test Site		TE02	
Frequency (MHz)	Antenna 1		Antenna 2		Antenna 1+2	FCC Limit (dBm/MHz)	IC Limit (dBm/MHz)
	Measurement (dBm/MHz)						
5190	-9.86		-9.31		-6.56	< 11	N/A
Frequency (MHz)	Measurement (dBm/100KHz)			Measurement (dBm/500KHz)	Measurement (dBm/MHz)	FCC Limit (dBm/500KHz)	IC Limit (dBm/MHz)
	ANT 1	ANT 2	ANT 1+2	ANT 1+2	ANT 1+2		
5755	-6.94	-6.47	-3.69	3.30	6.31	< 30	< 17
5795	-4.57	-7.61	-2.82	4.17	7.18		

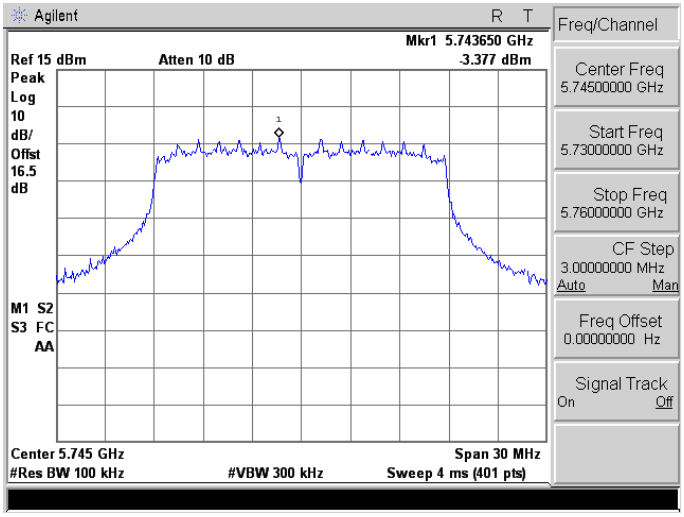
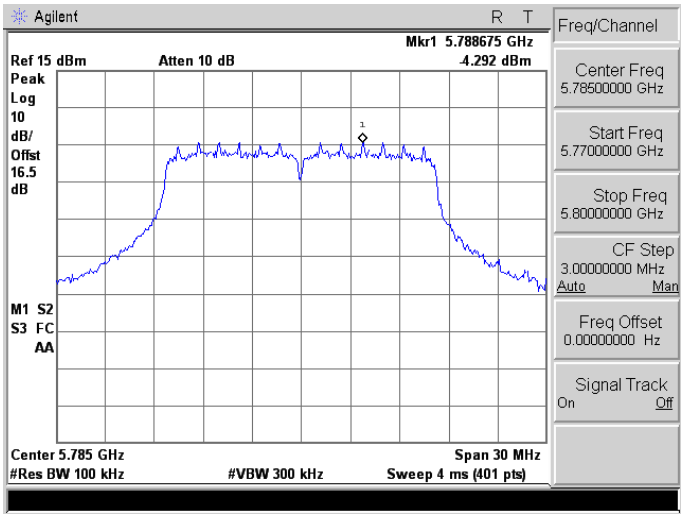
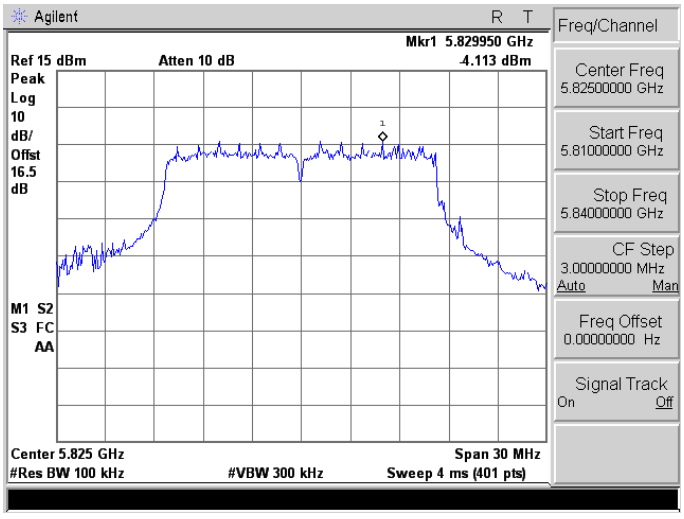
Model Number	AC785S-500			
Test Item	EIRP spectral density			
Test Mode	Mode 2: IEEE 802.11a Link Mode			
Date of Test	10/21/2014	Test Site		TE02
Frequency (MHz)	Measurement (dBm/MHz)	Antenna Gain (dBi)	EIRP spectral density (dBm/MHz)	IC Limit (dBm/MHz)
5180	-4.22	3.50	-0.72	< 10
5200	-4.27	3.50	-0.77	
5220	-3.55	3.50	-0.05	

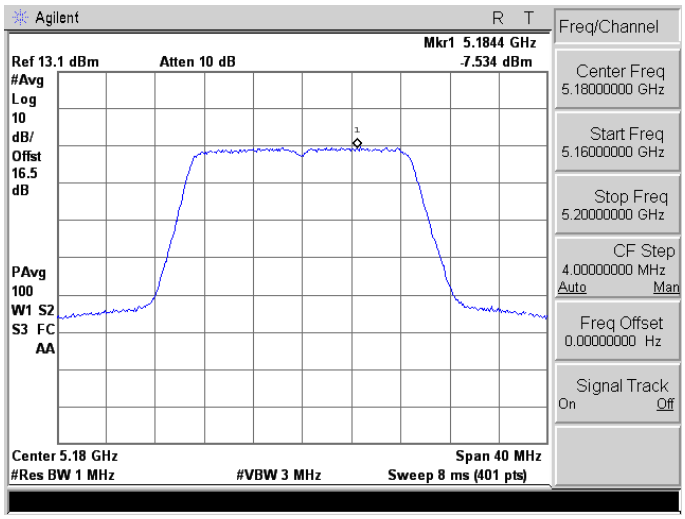
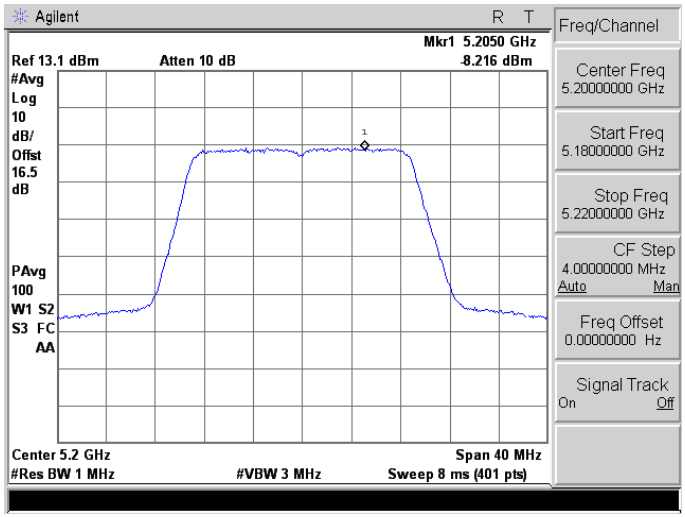
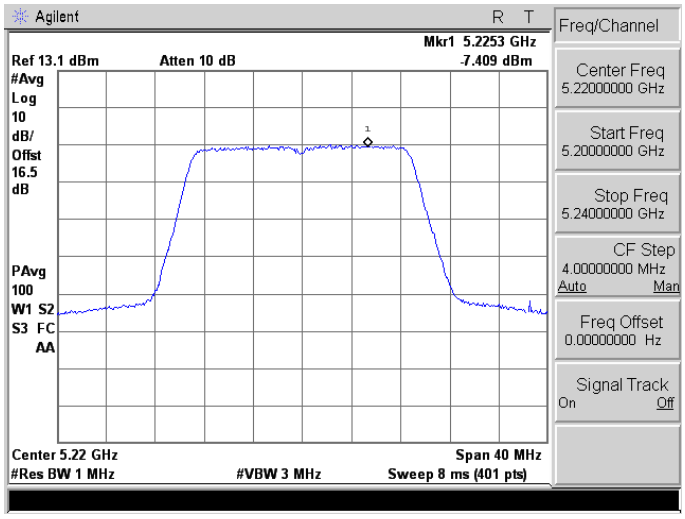
Model Number	AC785S-500			
Test Item	EIRP spectral density			
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode			
Date of Test	10/21/2014	Test Site		TE02
Frequency (MHz)	Measurement (dBm/MHz)	Antenna Gain (dBi)	EIRP spectral density (dBm/MHz)	IC Limit (dBm/MHz)
5180	-3.89	3.50	-0.39	< 10
5200	-4.84	3.50	-1.34	
5220	-3.98	3.50	-0.48	

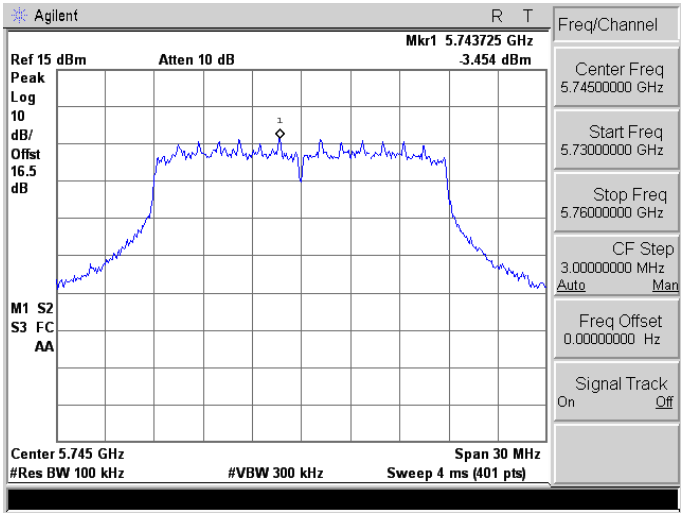
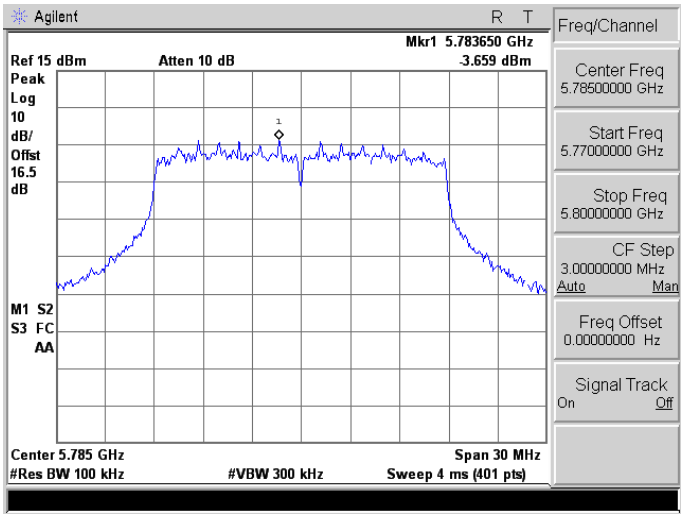
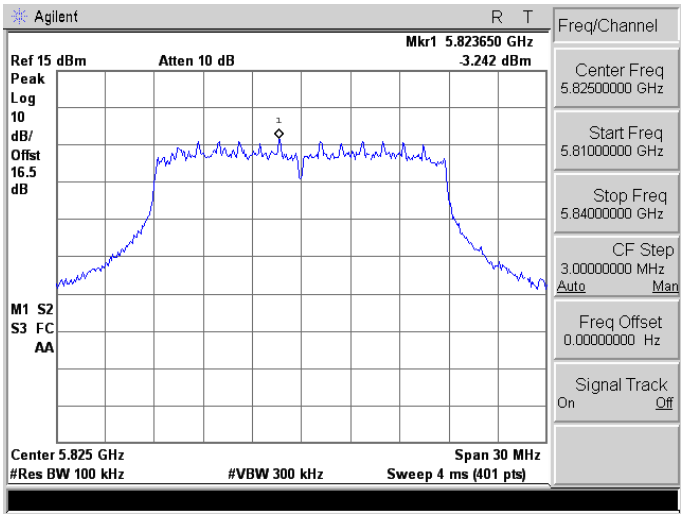
Model Number	AC785S-500			
Test Item	EIRP spectral density			
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode			
Date of Test	10/21/2014	Test Site		TE02
Frequency (MHz)	Measurement (dBm/MHz)	Antenna Gain (dBi)	EIRP spectral density (dBm/MHz)	IC Limit (dBm/MHz)
5190	-6.56	3.50	-3.06	< 10

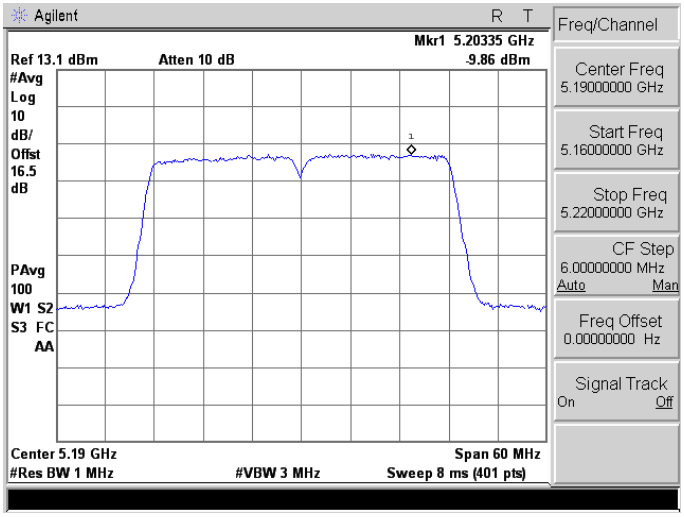
10.6. Test Graphs

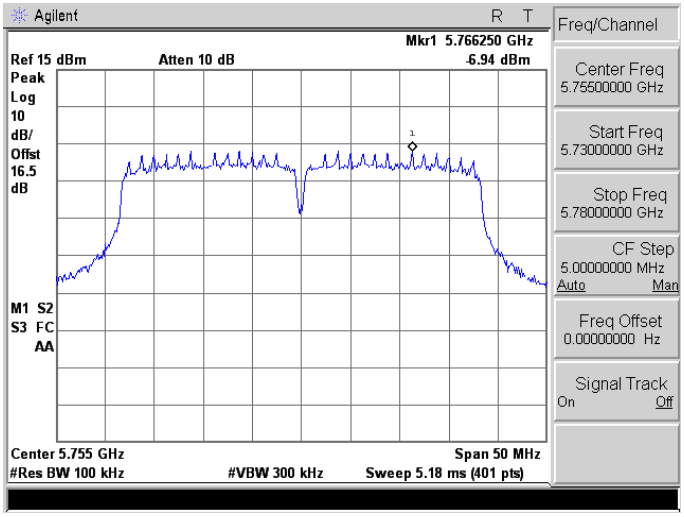
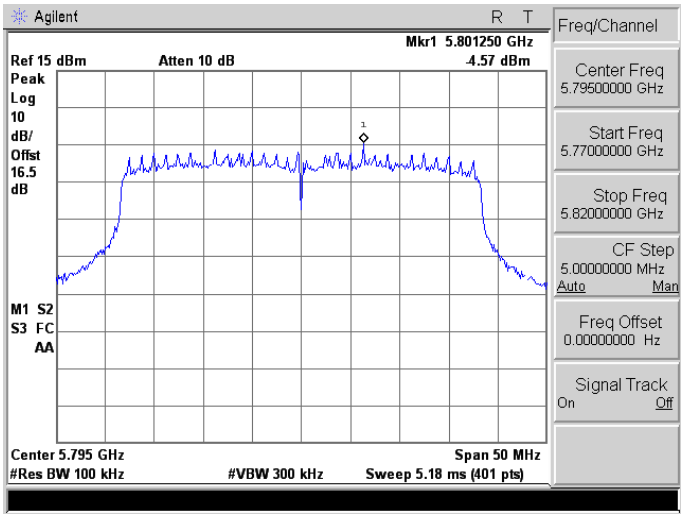
Mode 2: IEEE 802.11a Link Mode_Antenna 1	
5180	
5200	
5220	

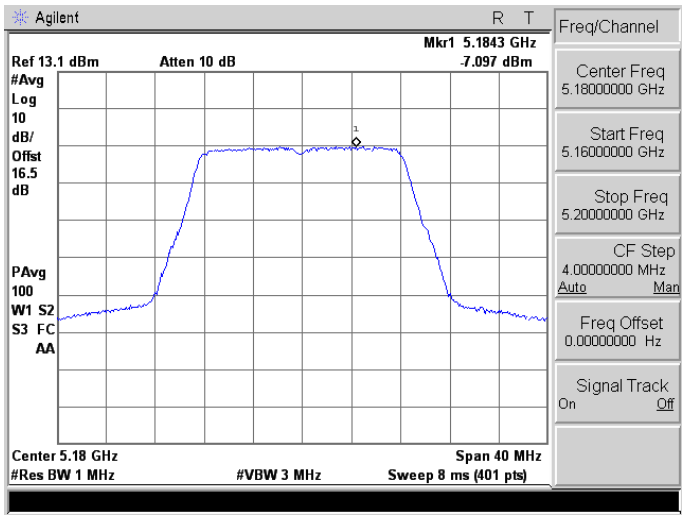
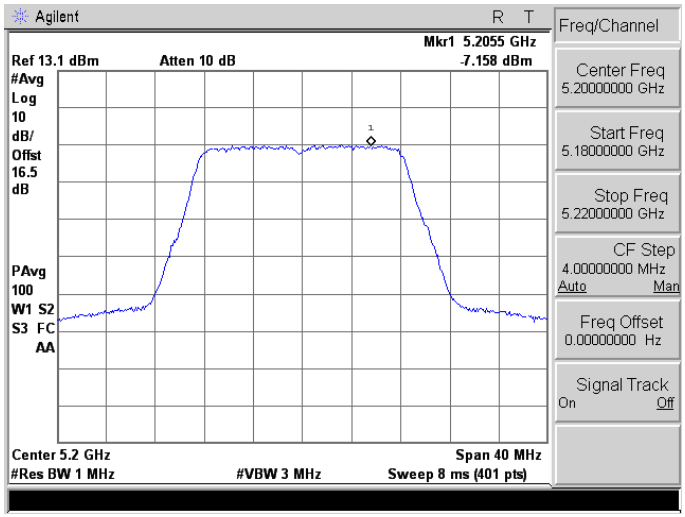
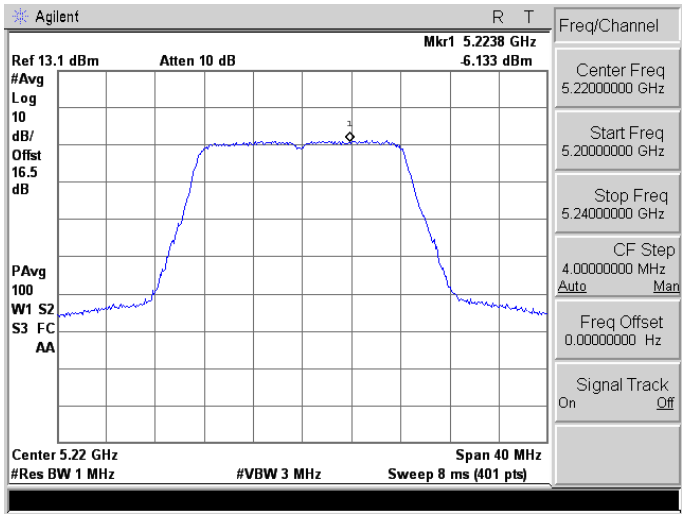
Mode 2: IEEE 802.11a Link Mode_Antenna 1	
5745	
5785	
5825	

Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 1	
5180	
5200	
5220	

Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 1	
5745	
5785	
5825	

Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 1	
5190	

Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 1	
5755	
5795	

Mode 2: IEEE 802.11a Link Mode_Antenna 2	
5180	
5200	
5220	

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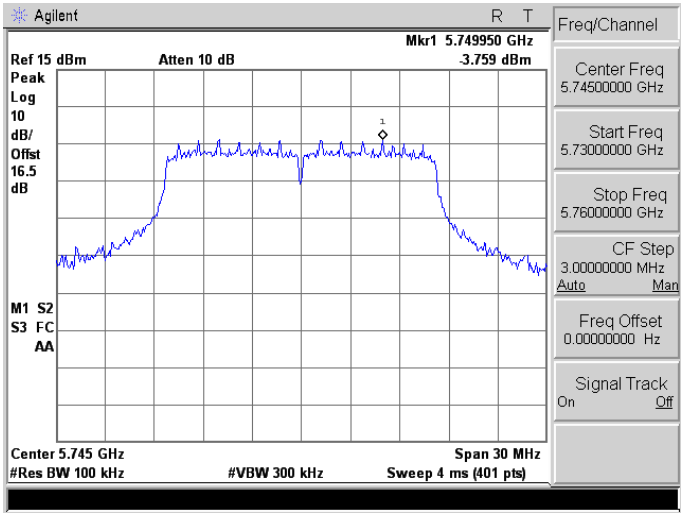
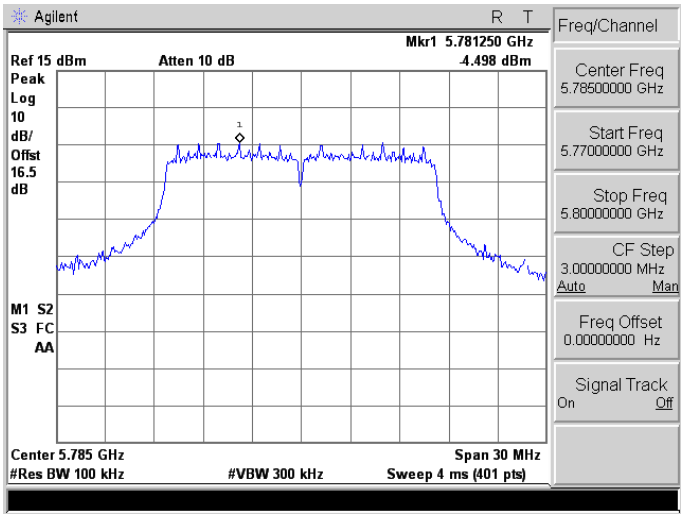
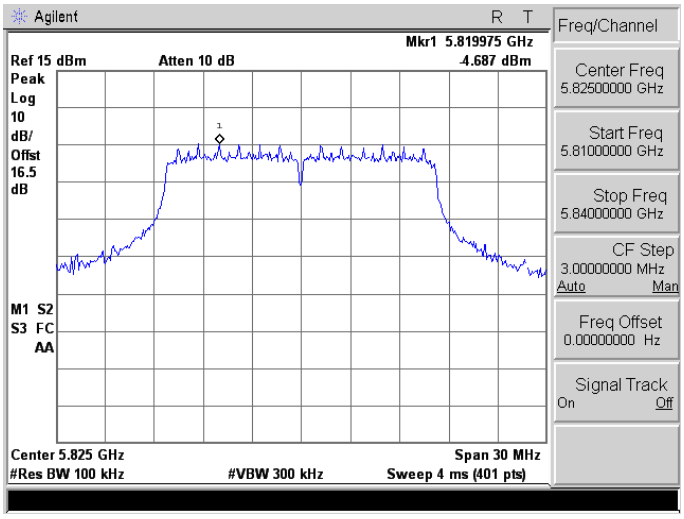
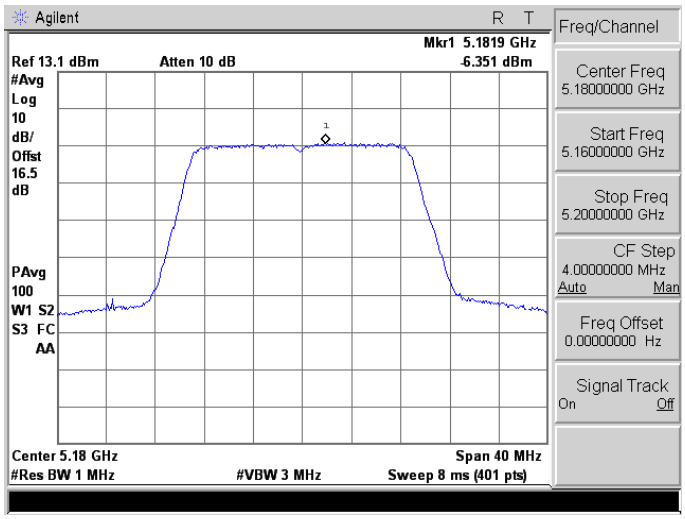
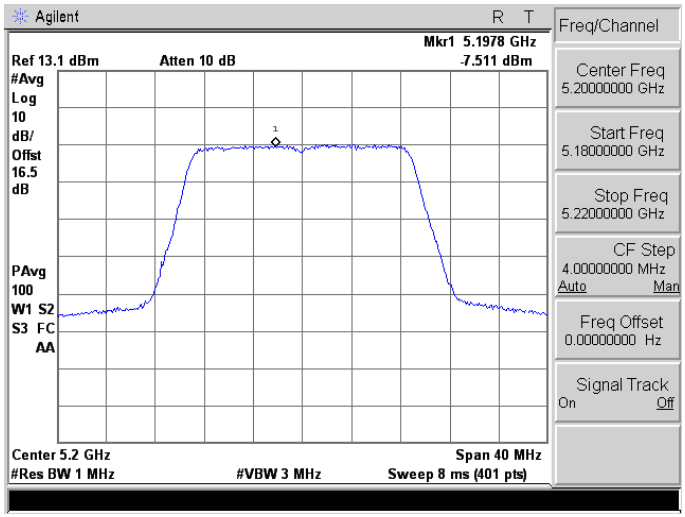
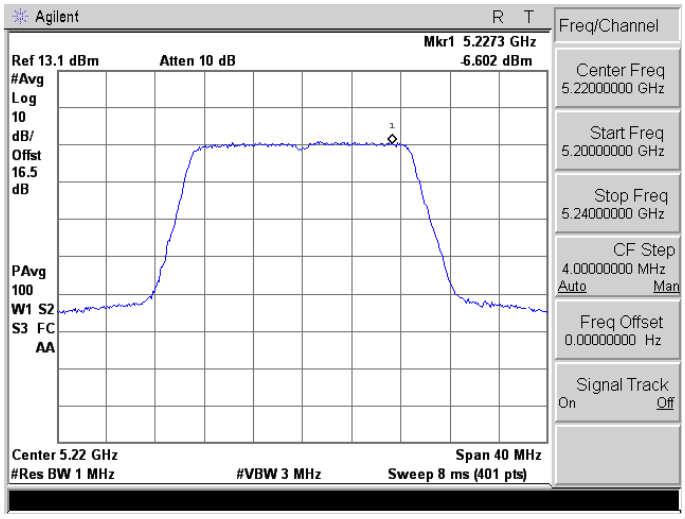
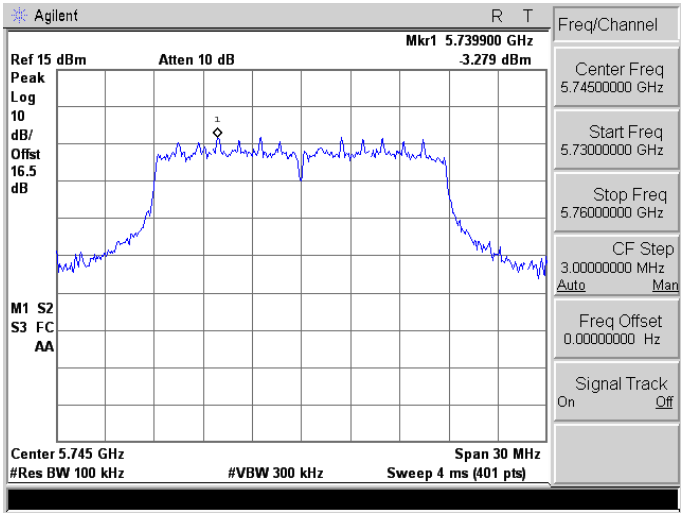
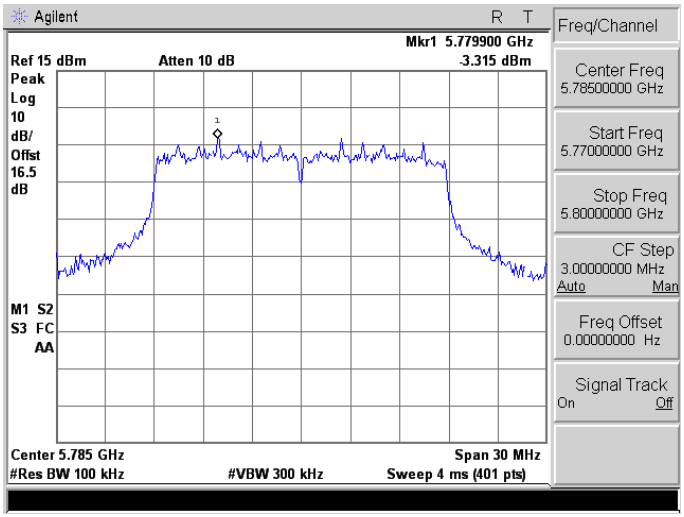
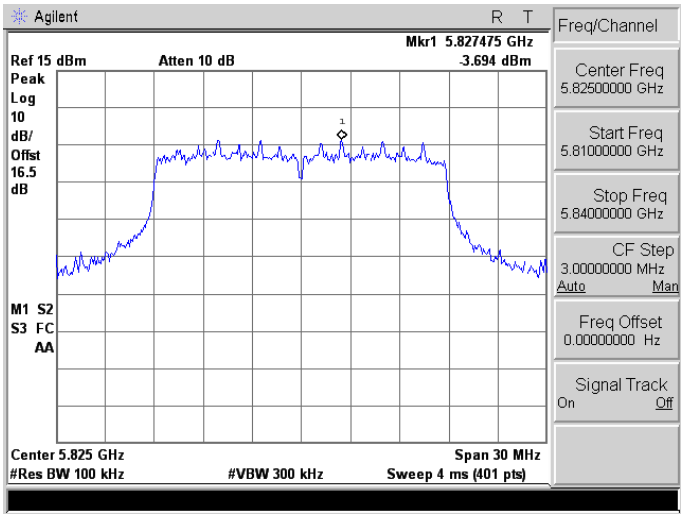
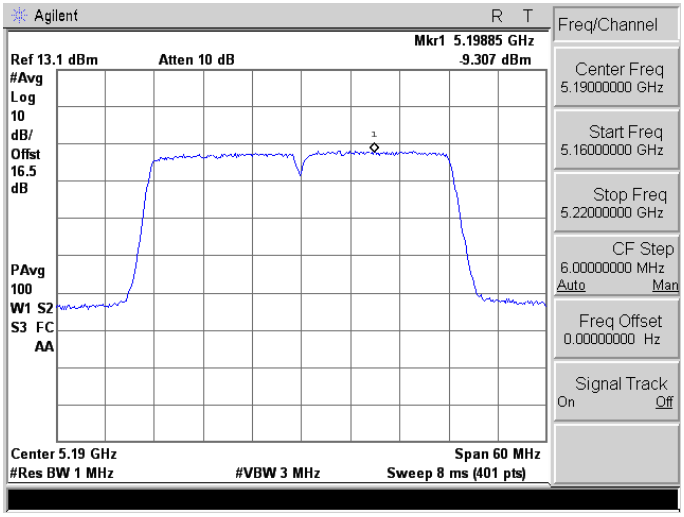
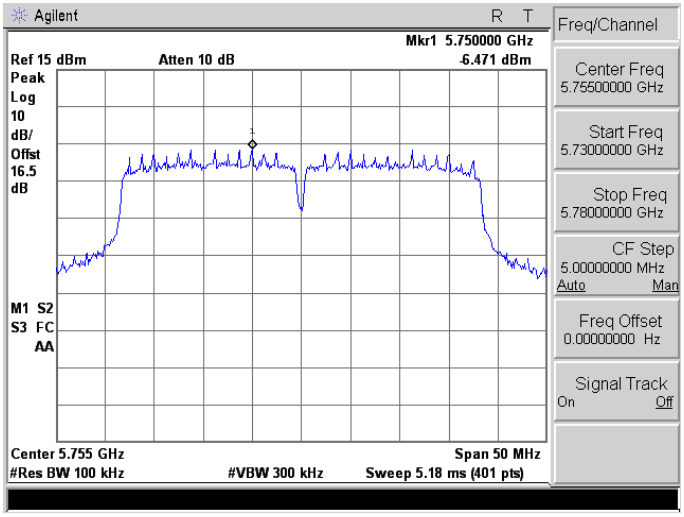
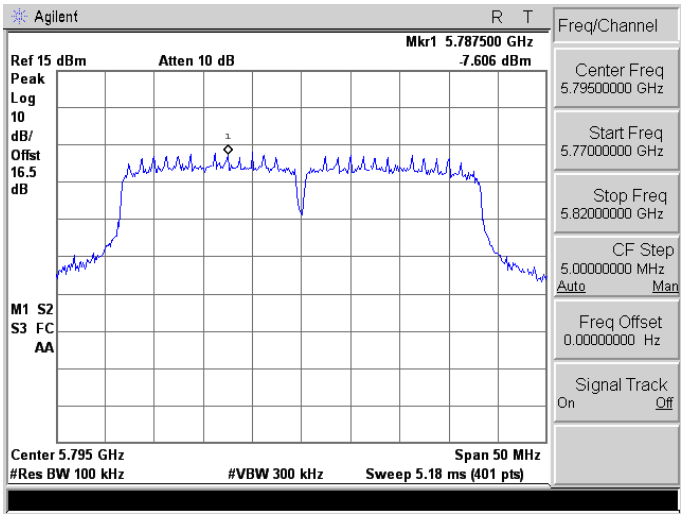
5745	
5785	
5825	

Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 2	
5180	
5200	
5220	

Mode 3: IEEE 802.11n 20MHz Link Mode_Antenna 2	
5745	
5785	
5825	

Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 2	
5190	

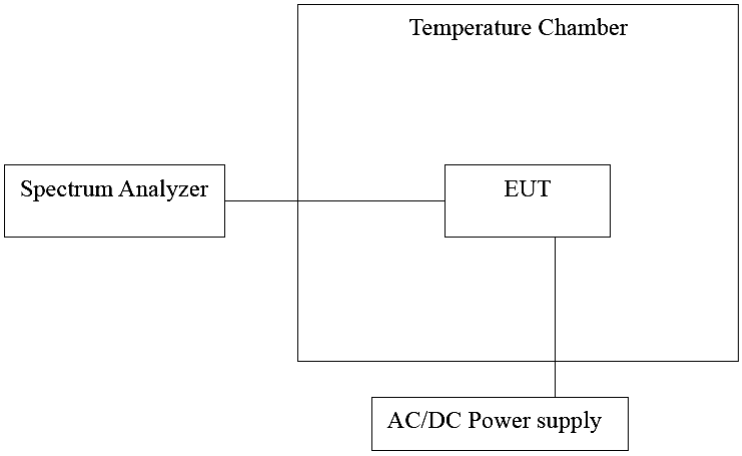
Mode 4: IEEE 802.11n 40MHz Link Mode_Antenna 2	
5755	
5795	

11 Frequency Stability Measurement

11.1. Limit

The frequency tolerance of the carrier signal shall be maintained within the band of operation frequency over a temperature variation of –30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

11.2. Test Setup



11.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4408B	MY45107753	07/24/2014	(1)
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	08/14/2014	(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.

11.4. Test Procedure

1. The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

11.5. Test Result

Temperature Variations

Model Number	AC785S-500				
Test Mode	Mode 2				
Frequency	5220 MHz				
Date of Test	10/20/2014			Test Site	TE02
Temp. (^{o}C)	Voltage (Vdc)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	3.70	5219.9683	-31700	6.073	Pass
-20		5219.9897	-10300	1.973	Pass
-10		5220.0096	9600	-1.839	Pass
0		5219.9723	-27700	5.307	Pass
10		5220.0394	39400	-7.548	Pass
20		5219.9909	-9100	1.743	Pass
30		5219.9744	-25600	4.904	Pass
40		5219.9763	-23740	4.548	Pass
50		5220.0148	14800	-2.835	Pass

Note: The manufacturer's frequency stability specification is better then 20ppm.

Model Number	AC785S-500				
Test Mode	Mode 2				
Frequency	5785 MHz				
Date of Test	10/20/2014			Test Site	TE02
Temp. (°C)	Voltage (Vdc)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	3.70	5784.9835	-16500	2.852	Pass
-20		5784.9997	-300	0.052	Pass
-10		5785.0176	17600	-3.042	Pass
0		5784.9733	-26700	4.615	Pass
10		5785.0254	25400	-4.391	Pass
20		5784.9928	-7200	1.245	Pass
30		5784.9851	-14900	2.576	Pass
40		5784.9872	-12800	2.213	Pass
50		5785.0052	5200	-0.899	Pass

Model Number	AC785S-500				
Test Mode	Mode 3				
Frequency	5220 MHz				
Date of Test	10/20/2014			Test Site	TE02
Temp. (°C)	Voltage (Vdc)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	3.70	5220.0151	15100	-2.893	Pass
-20		5220.0015	1500	-0.287	Pass
-10		5219.9579	-42100	8.065	Pass
0		5220.0481	48100	-9.215	Pass
10		5219.9698	-30200	5.785	Pass
20		5220.0168	16800	-3.218	Pass
30		5219.9835	-16500	3.161	Pass
40		5220.0017	1700	-0.326	Pass
50		5219.9872	-12800	2.452	Pass

Note: The manufacturer's frequency stability specification is better then 20ppm.

Model Number	AC785S-500				
Test Mode	Mode 3				
Frequency	5785 MHz				
Date of Test	10/20/2014			Test Site	TE02
Temp. (°C)	Voltage (Vdc)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	3.70	5785.0258	25800	-4.460	Pass
-20		5785.0168	16800	-2.904	Pass
-10		5785.0216	21600	-3.734	Pass
0		5784.9876	-12400	2.143	Pass
10		5785.0147	14700	-2.541	Pass
20		5784.9907	-9300	1.608	Pass
30		5784.9758	-24200	4.183	Pass
40		5784.9777	-22300	3.855	Pass
50		5785.0104	10400	-1.798	Pass

Model Number	AC785S-500				
Test Mode	Mode 4				
Frequency	5190 MHz				
Date of Test	10/20/2014			Test Site	TE02
Temp. (°C)	Voltage (Vdc)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	3.70	5190.0489	48900	-9.422	Pass
-20		5190.0282	28200	-5.434	Pass
-10		5190.0058	5800	-1.118	Pass
0		5189.9580	-42000	8.092	Pass
10		5190.0174	17400	-3.353	Pass
20		5189.9830	-17000	3.276	Pass
30		5189.9657	-34300	6.609	Pass
40		5190.0079	7900	-1.522	Pass
50		5190.0091	9100	-1.753	Pass

Note: The manufacturer's frequency stability specification is better then 20ppm.

Model Number	AC785S-500				
Test Mode	Mode 4				
Frequency	5755 MHz				
Date of Test	10/20/2014			Test Site	TE02
Temp. (°C)	Voltage (Vdc)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	3.70	5754.9798	-20200	3.510	Pass
-20		5755.0135	13500	-2.346	Pass
-10		5754.9771	-22900	3.979	Pass
0		5754.9822	-17800	3.093	Pass
10		5755.0197	19700	-3.423	Pass
20		5754.9896	-10400	1.807	Pass
30		5754.9738	-26200	4.553	Pass
40		5755.0158	15800	-2.745	Pass
50		5755.0198	19800	-3.440	Pass

Note: The manufacturer's frequency stability specification is better then 20ppm.

Voltage Variations

Model Number	AC785S-500				
Test Mode	Mode 2				
Frequency	5220 MHz				
Date of Test	10/20/2014			Test Site	TE02
Temp. (°C)	Voltage (Vdc)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	4.25	5220.0364	36400	-6.973	Pass
	3.70	5219.9909	-9100	1.743	Pass
	3.60	5220.0039	3900	-0.747	Pass

Model Number	AC785S-500				
Test Mode	Mode 2				
Frequency	5785 MHz				
Date of Test	10/20/2014			Test Site	TE02
Temp. (°C)	Voltage (Vdc)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	4.25	5785.0264	26400	-4.564	Pass
	3.70	5784.9928	-7200	1.245	Pass
	3.60	5784.9839	-16100	2.783	Pass

Note: The manufacturer's frequency stability specification is better then 20ppm.

Model Number	AC785S-500				
Test Mode	Mode 3				
Frequency	5220 MHz				
Date of Test	10/20/2014			Test Site	TE02
Temp. (°C)	Voltage (Vdc)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	4.25	5219.9943	-5700	1.092	Pass
	3.70	5220.0168	16800	-3.218	Pass
	3.60	5220.0267	26700	-5.115	Pass

Model Number	AC785S-500				
Test Mode	Mode 3				
Frequency	5785 MHz				
Date of Test	10/20/2014			Test Site	TE02
Temp. (°C)	Voltage (Vdc)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	4.25	5785.0109	10900	-1.884	Pass
	3.70	5784.9907	-9300	1.608	Pass
	3.60	5784.9776	-22400	3.872	Pass

Note: The manufacturer's frequency stability specification is better then 20ppm.

Model Number	AC785S-500				
Test Mode	Mode 4				
Frequency	5190 MHz				
Date of Test	10/20/2014			Test Site	TE02
Temp. (°C)	Voltage (Vdc)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	4.25	5190.0472	47200.0000	-9.094	Pass
	3.70	5189.9830	-17000.0000	3.276	Pass
	3.60	5189.9698	-30200.0000	5.819	Pass

Model Number	AC785S-500				
Test Mode	Mode 4				
Frequency	5755 MHz				
Date of Test	10/20/2014			Test Site	TE02
Temp. (°C)	Voltage (Vdc)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	4.25	5755.0147	14700	-2.554	Pass
	3.70	5754.9896	-10400	1.807	Pass
	3.60	5754.9966	-3400	0.591	Pass

Note: The manufacturer's frequency stability specification is better then 20ppm.

12 Antenna Requirement

12.1. Limit

For intentional device, according to 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
And According to 15.407 (a), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

12.2. Antenna Connector Construction

The antenna used in this product is IFA Antenna. And the maximum Gain of this antenna is only 3.50 dBi.