

FCC 47 CFR PART 15 SUBPART E

Product Type : phorus wifi / Bluetooth Speaker
Applicant : Phorus, Inc.
Address : 16255 Ventura Boulevard, Encino, California, 91436, United States
Trade Name : phorus
Model Number : PS5 SPEAKER
Test Specification : FCC 47 CFR PART 15 SUBPART E: Oct., 2013
ANSI C63.10-2009
ANSI C63.4-2009
Application Purpose : Original
Receive Date : Oct. 22, 2014
Test Period : Oct. 24 ~ Oct. 29, 2014
Issue Date : Dec. 05, 2014

Issue by

A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330
FCC Test Firm Information: 510205

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Dec. 05, 2014	Initial Issue	

Verification of Compliance

Issued Date: 12/05/2014

Product Type : phorus wifi / Bluetooth Speaker
Applicant : Phorus, Inc.
Address : 16255 Ventura Boulevard, Encino, California, 91436, United States
Trade Name : phorus
Model Number : PS5 SPEAKER
FCC ID : 2AAWQ-PS5SPEAKER
EUT Rated Voltage : DC 12V, 2A
Test Voltage : 120 Vac / 60 Hz
Applicable Standard : FCC 47 CFR PART 15 SUBPART E: Oct., 2013
ANSI C63.10-2009
ANSI C63.4-2009
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.
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Taiwan Accreditation Foundation accreditation number: 1330
FCC Test Firm Information: 510205

<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	Radiated Emission	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	phorus wifi / Bluetooth Speaker			
Trade Name	phorus			
Model No.	PS5 SPEAKER			
Applicant	Phorus, Inc. 16255 Ventura Boulevard, Encino, California, 91436, United States			
Manufacturer	Fugang Electronic(Dongguan) Co., LTD Industry Street, Dong-Keng, Dong-Guan, Guang-Dong, China			
FCC ID	2AAWQ-PS5SPEAKER			
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
	U-NII Band II-A	IEEE 802.11a	5260 – 5320	4 Channels
		IEEE 802.11n 20 MHz	5260 – 5320	4 Channels
		IEEE 802.11n 40 MHz	5270 – 5310	2 Channels
	U-NII Band II-C	IEEE 802.11a	5500 – 5700	11 Channels
		IEEE 802.11n 20 MHz	5500 – 5700	11 Channels
		IEEE 802.11n 40 MHz	5510 – 5670	5 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 Used	Antenna Port	Model Number	Type	Max. Gain
	ANT 0	MSA-3510-25GC4-A1	PIFA	5.38 dBi
	ANT 1	MSA-3310-25GC4-A1	PIFA	4.07 dBi
Antenna Delivery	1TX + 1RX			
RF Output Power	IEEE 802.11a U-NII Band I : 0.024 W / 13.79 dBm IEEE 802.11a U-NII Band II-A : 0.023 W / 13.60 dBm IEEE 802.11a U-NII Band II-C : 0.017 W / 12.22 dBm IEEE 802.11a U-NII Band III : 0.018 W / 12.49 dBm IEEE 802.11n 20MHz U-NII Band I: 0.016 W / 12.16 dBm IEEE 802.11n 20MHz U-NII Band II-A: 0.015 W / 11.82 dBm IEEE 802.11n 20MHz U-NII Band II-C: 0.011 W / 10.22 dBm IEEE 802.11n 20MHz U-NII Band III: 0.011 W / 10.35 dBm IEEE 802.11n 40MHz U-NII Band I: 0.014 W / 11.47 dBm IEEE 802.11n 40MHz U-NII Band II-A: 0.014W / 11.39 dBm IEEE 802.11n 40MHz U-NII Band II-C: 0.014 W / 11.41 dBm IEEE 802.11n 40MHz U-NII Band III: 0.011 W / 10.35 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

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 ~ 5240MHz (ANT 0):

Channel Low (5180MHz), Channel Mid (5220MHz) and Channel High (5240MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11a mode / 5260 ~ 5320MHz (ANT 0):

Channel Low (5260MHz), Channel Mid (5280MHz) and Channel High (5320MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11a mode / 5500 ~ 5700MHz (ANT 0):

Channel Low (5500MHz), Channel Mid (5580MHz) and Channel High (5700MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11a mode / 5745 ~ 5825MHz (ANT 0):

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 ~ 5240MHz (ANT 0):

Channel Low (5180MHz), Channel Mid (5220MHz) and Channel High (5240MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n 20 MHz Channel mode / 5260 ~ 5320MHz (ANT 0):

Channel Low (5260MHz), Channel Mid (5280MHz) and Channel High (5320MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n 20 MHz Channel mode / 5500 ~ 5700MHz (ANT 0):

Channel Low (5500MHz), Channel Mid (5580MHz) and Channel High (5700MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n 20 MHz Channel mode / 5745 ~ 5825MHz (ANT 0):

Channel Low (5745MHz), Channel Mid (5785MHz) and Channel High (5825MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n 40 MHz Channel mode / 5190 ~ 5230MHz(ANT 0):

Channel Low (5190MHz) and Channel High (5230MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n 40 MHz Channel mode / 5270 ~ 5310MHz(ANT 0):

Channel Low (5270MHz) and Channel High (5310MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n 40 MHz Channel mode / 5510 ~ 5670MHz(ANT 0):

Channel Low (5510MHz), Channel Mid (5590MHz) and Channel High (5670MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n 40 MHz Channel mode / 5755 ~ 5795MHz(ANT 0):

Channel Low (5755MHz) and Channel High (5795MHz) with 6.5Mbps data rate were chosen for full testing.

3.2. EUT Exercise Software

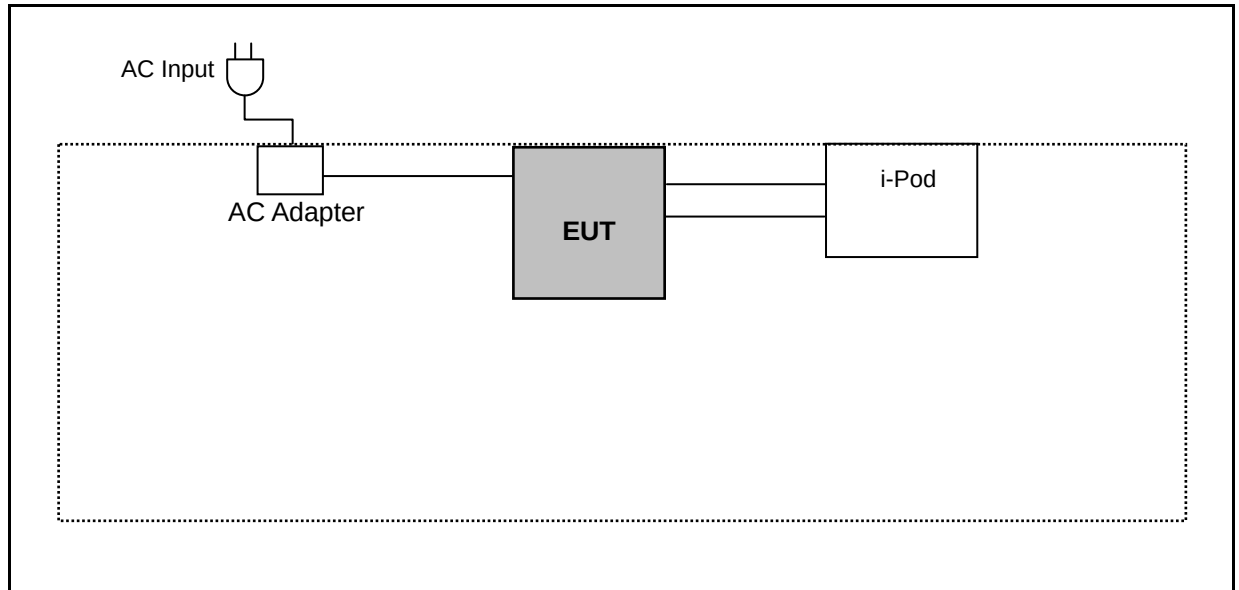
The EUT is operated in the engineering mode to fix the TX frequency for the purposes of measurement.

According to its specifications, the EUT must comply with the requirements of Section 15.407 under the FCC Rules Part 15 Subpart E.

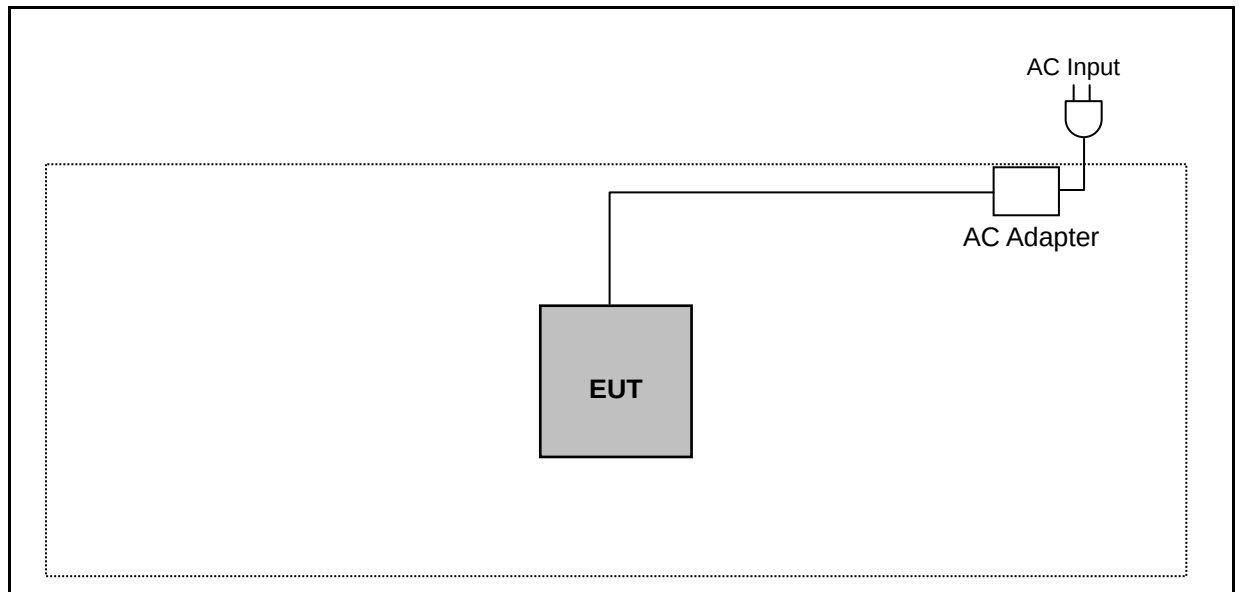
1.	Setup the EUT shown on 3.3.
2.	Turn on the power of all equipment.
3.	Turn on Wi-Fi function link to Notebook.
4.	EUT run test program.

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

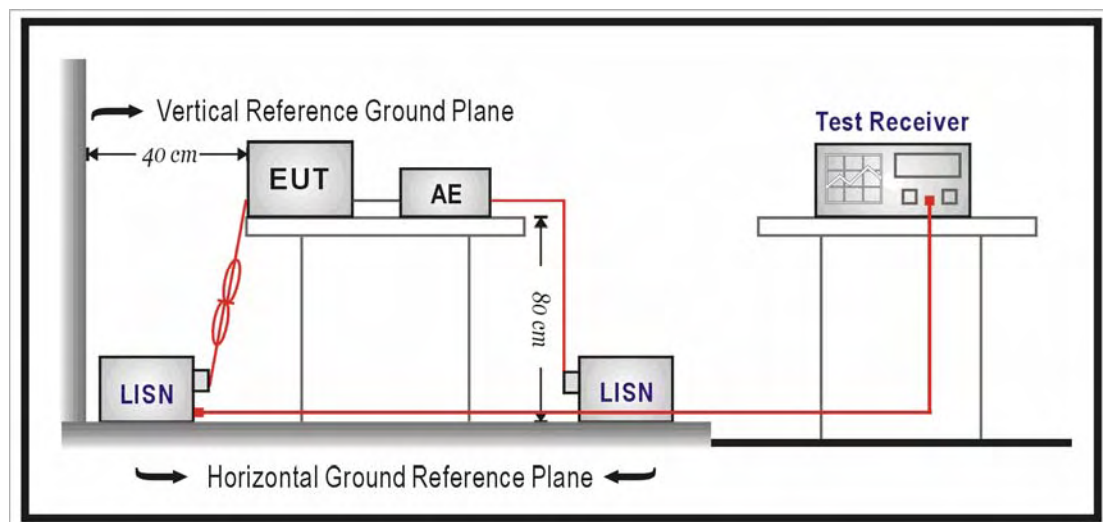
4.2. Test Instruments

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

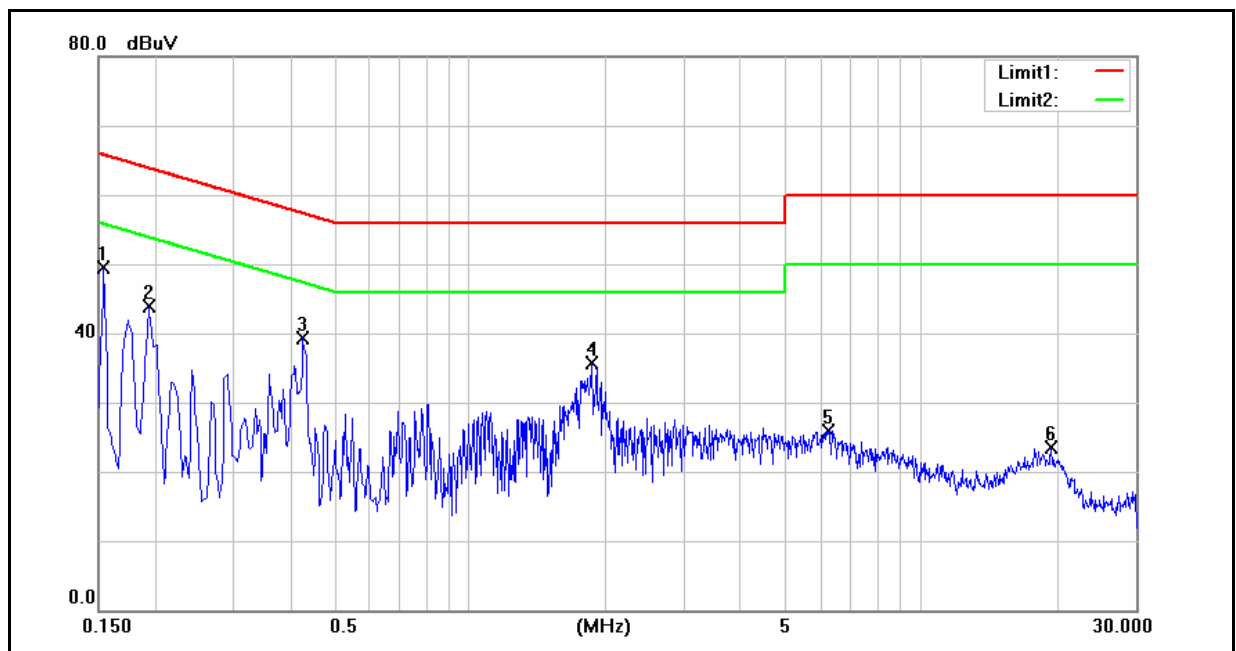
The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

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.

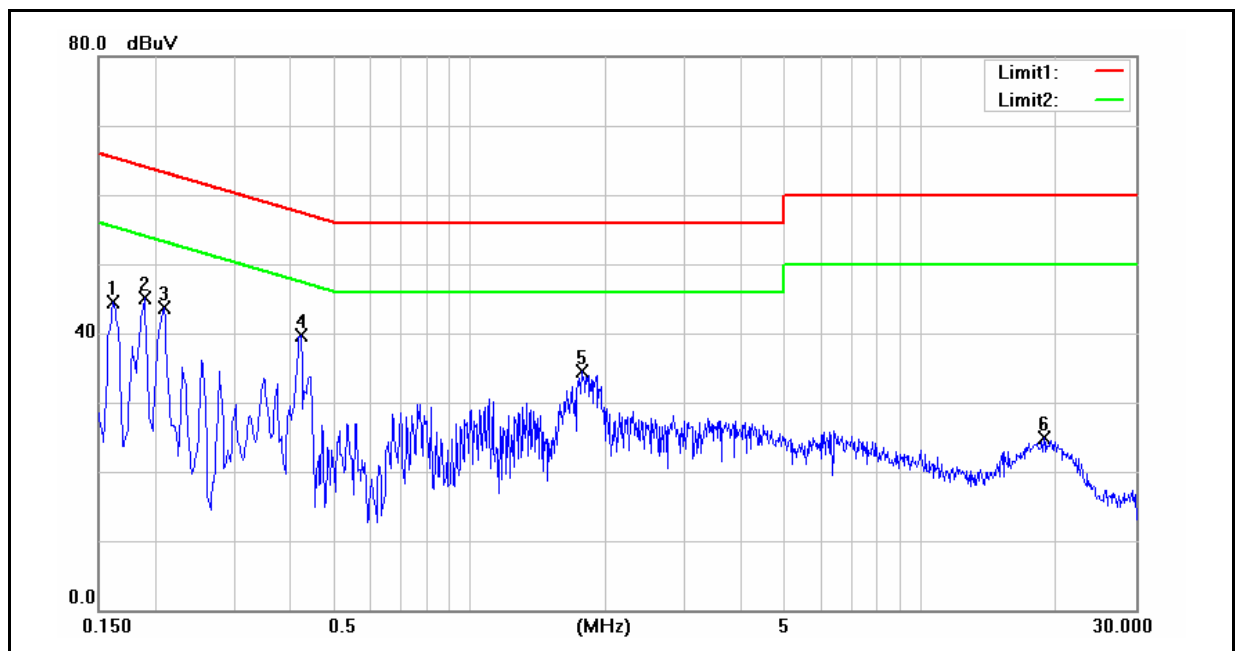
4.5. Test Result

Standard:	FCC Part 15E	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	PS5 SPEAKER	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 1	Date:	10/24/2014
		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	36.97	19.06	9.60	46.57	28.66	65.78	55.78	-19.21	-27.12	Pass
2	0.1940	32.51	17.82	9.60	42.11	27.42	63.86	53.86	-21.75	-26.44	Pass
3	0.4260	27.75	18.11	9.61	37.36	27.72	57.33	47.33	-19.97	-19.61	Pass
4	1.8660	23.23	13.82	9.68	32.91	23.50	56.00	46.00	-23.09	-22.50	Pass
5	6.2260	10.39	3.45	9.83	20.22	13.28	60.00	50.00	-39.78	-36.72	Pass
6	19.5060	7.00	-0.35	10.23	17.23	9.88	60.00	50.00	-42.77	-40.12	Pass

Standard:	FCC Part 15E	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	PS5 SPEAKER	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 1	Date:	10/24/2014
		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	0.1620	35.57	16.82	9.60	45.17	26.42	65.36	55.36	-20.19	-28.94	Pass
2	0.1900	33.05	18.50	9.60	42.65	28.10	64.04	54.04	-21.39	-25.94	Pass
3	0.2100	30.36	17.95	9.60	39.96	27.55	63.21	53.21	-23.25	-25.66	Pass
4	0.4220	28.27	19.47	9.61	37.88	29.08	57.41	47.41	-19.53	-18.33	Pass
5	1.7740	17.48	12.73	9.69	27.17	22.42	56.00	46.00	-28.83	-23.58	Pass
6	18.7820	9.69	2.94	10.20	19.89	13.14	60.00	50.00	-40.11	-36.86	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

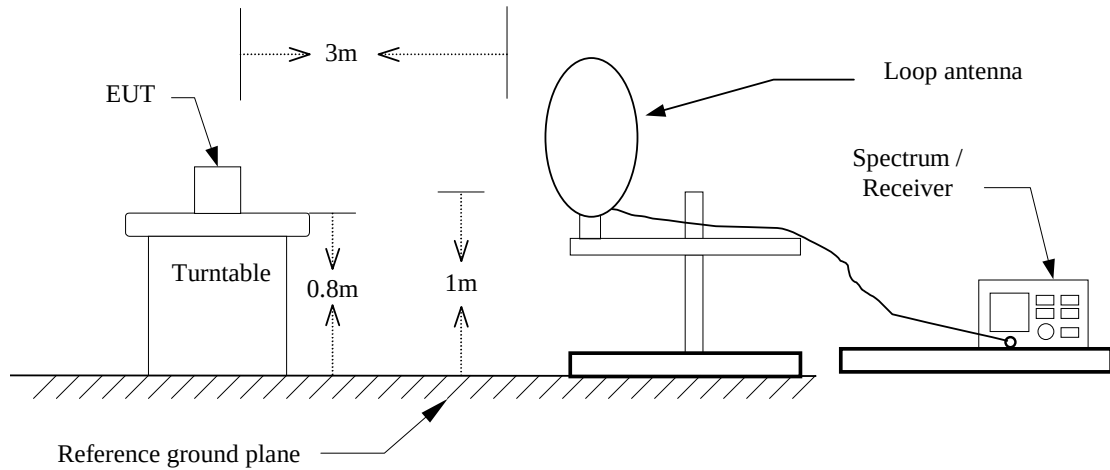
3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/10/2014	(1)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/10/2014	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/21/2014	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/21/2014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

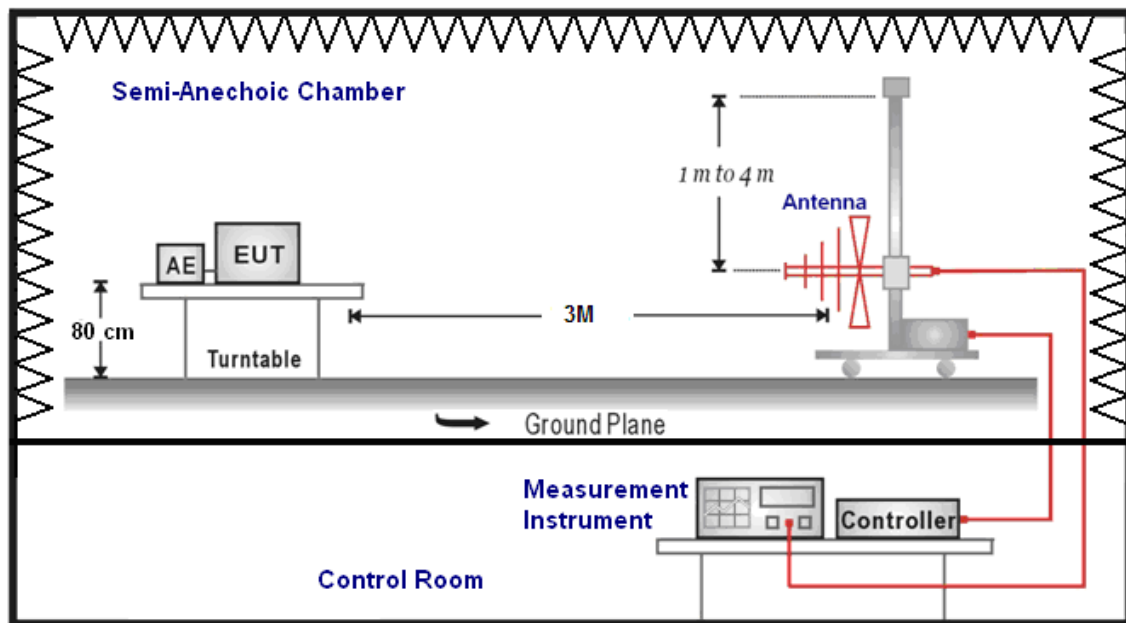
Note: N.C.R. = No Calibration Request.

5.3. Setup

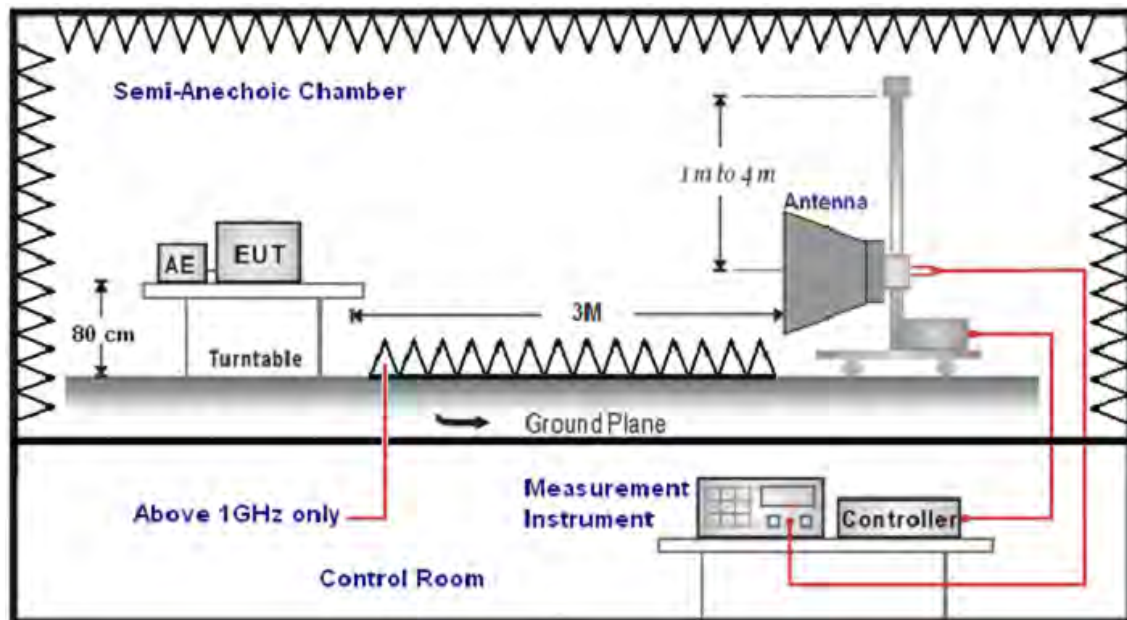
9kHz ~ 30MHz



30MHz ~ 1GHz



Above 1GHz



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

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

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

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

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

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

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

5.5. Test Result

Below 1GHz

Standard:		FCC Part 15E		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Test Mode:		Mode 1		Date:		10/29/2014	
				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
120.0000	47.92	-16.06	31.86	43.50	-11.64	QP	H
260.0000	44.48	-11.97	32.51	46.00	-13.49	QP	H
398.5000	45.12	-8.61	36.51	46.00	-9.49	QP	H
587.0000	36.39	-5.43	30.96	46.00	-15.04	QP	H
797.5000	40.13	-1.60	38.53	46.00	-7.47	QP	H
956.5000	35.57	1.11	36.68	46.00	-9.32	QP	H
116.0000	47.86	-15.38	32.48	43.50	-11.02	QP	V
218.5000	43.18	-13.39	29.79	46.00	-16.21	QP	V
319.0000	48.50	-9.89	38.61	46.00	-7.39	QP	V
530.0000	44.47	-6.65	37.82	46.00	-8.18	QP	V
644.5000	35.97	-4.16	31.81	46.00	-14.19	QP	V
799.5000	37.74	-1.55	36.19	46.00	-9.81	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:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	10/29/2014		
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
2799.000	33.66	5.40	39.06	74.00	-34.94	peak	H
4647.000	30.68	11.25	41.93	74.00	-32.07	peak	H
5150.000	27.38	12.93	40.31	68.20	-27.89	peak	H
7503.000	27.76	20.81	48.57	74.00	-25.43	peak	H
2722.000	33.26	5.19	38.45	74.00	-35.55	peak	V
4703.000	29.37	11.40	40.77	74.00	-33.23	peak	V
5150.000	27.12	12.90	40.02	68.20	-28.18	peak	V
7517.000	27.87	20.82	48.69	74.00	-25.31	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	10/29/2014		
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
2757.000	30.36	5.28	35.64	74.00	-38.36	peak	H
4605.000	29.92	11.15	41.07	74.00	-32.93	peak	H
7559.000	26.10	20.84	46.94	74.00	-27.06	peak	H
2778.000	33.71	5.34	39.05	74.00	-34.95	peak	V
4689.000	29.87	11.37	41.24	74.00	-32.76	peak	V
7377.000	27.17	20.57	47.74	74.00	-26.26	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 2			Date:	10/29/2014		
Frequency:	5240MHz			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
2757.000	32.51	5.28	37.79	74.00	-36.21	peak	H
4661.000	31.38	11.29	42.67	74.00	-31.33	peak	H
7454.000	28.16	20.73	48.89	74.00	-25.11	peak	H
2785.000	32.31	5.36	37.67	74.00	-36.33	peak	V
4647.000	30.77	11.25	42.02	74.00	-31.98	peak	V
7433.000	27.08	20.69	47.77	74.00	-26.23	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	10/29/2014		
Frequency:	5260MHz			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
2743.000	32.58	5.25	37.83	74.00	-36.17	peak	H
4591.000	31.18	11.11	42.29	74.00	-31.71	peak	H
7370.000	27.30	20.57	47.87	74.00	-26.13	peak	H
2792.000	32.82	5.38	38.20	74.00	-35.80	peak	V
4654.000	30.92	11.27	42.19	74.00	-31.81	peak	V
7475.000	27.74	20.76	48.50	74.00	-25.50	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	10/29/2014		
Frequency:	5280MHz			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	32.55	5.36	37.91	74.00	-36.09	peak	H
4696.000	30.38	11.38	41.76	74.00	-32.24	peak	H
7454.000	28.15	20.73	48.88	74.00	-25.12	peak	H
2743.000	32.73	5.25	37.98	74.00	-36.02	peak	V
4647.000	30.11	11.25	41.36	74.00	-32.64	peak	V
7433.000	28.02	20.69	48.71	74.00	-25.29	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	10/29/2014		
Frequency:	5320MHz			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	33.13	5.41	38.54	74.00	-35.46	peak	H
4626.000	30.22	11.20	41.42	74.00	-32.58	peak	H
5350.000	25.84	13.61	39.45	68.20	-28.75	peak	H
7517.000	26.95	20.82	47.77	74.00	-26.23	peak	H
2841.000	31.70	5.49	37.19	74.00	-36.81	peak	V
4703.000	30.51	11.40	41.91	74.00	-32.09	peak	V
5350.000	26.05	13.57	39.62	68.20	-28.58	peak	V
7510.000	26.61	20.82	47.43	74.00	-26.57	peak	V

Standard:		FCC Part 15E		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER		Temp.(℃)/Hum.(%RH):		26(℃)/60%RH	
Test Mode:		Mode 2		Date:		10/29/2014	
Frequency:		5500MHz		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
2771.000	33.91	5.32	39.23	74.00	-34.77	peak	H
4696.000	31.23	11.38	42.61	74.00	-31.39	peak	H
5470.000	25.71	14.01	39.72	68.20	-28.48	peak	H
7447.000	28.97	20.71	49.68	74.00	-24.32	peak	H
2743.000	32.01	5.25	37.26	74.00	-36.74	peak	V
4654.000	29.01	11.27	40.28	74.00	-33.72	peak	V
5470.000	25.65	14.01	39.66	68.20	-28.54	peak	V
7489.000	29.19	20.79	49.98	74.00	-24.02	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	10/29/2014		
Frequency:	5580MHz			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
2729.000	32.99	5.21	38.20	74.00	-35.80	peak	H
4675.000	30.24	11.33	41.57	74.00	-32.43	peak	H
7475.000	28.87	20.76	49.63	74.00	-24.37	peak	H
2757.000	32.65	5.28	37.93	74.00	-36.07	peak	V
4661.000	30.97	11.29	42.26	74.00	-31.74	peak	V
7398.000	28.00	20.63	48.63	74.00	-25.37	peak	V

Standard:		FCC Part 15E		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Test Mode:		Mode 2		Date:		10/29/2014	
Frequency:		5700MHz		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
2757.000	32.86	5.28	38.14	74.00	-35.86	peak	H
4661.000	30.38	11.29	41.67	74.00	-32.33	peak	H
5725.000	24.65	14.90	39.55	68.20	-28.65	peak	H
7433.000	27.60	20.69	48.29	74.00	-25.71	peak	H
2750.000	31.98	5.27	37.25	74.00	-36.75	peak	V
4759.000	30.45	11.54	41.99	74.00	-32.01	peak	V
5725.000	24.96	14.84	39.80	68.20	-28.40	peak	V
7447.000	28.41	20.71	49.12	74.00	-24.88	peak	V

Standard:		FCC Part 15E		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Test Mode:		Mode 2		Date:		10/29/2014	
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
2787.000	37.19	-0.72	36.47	74.00	-37.53	peak	H
4594.000	33.73	4.44	38.17	74.00	-35.83	peak	H
5715.000	34.75	6.71	41.46	68.20	-26.74	peak	H
5725.000	34.61	6.73	41.34	78.20	-36.86	peak	H
7640.000	33.54	12.25	45.79	74.00	-28.21	peak	H
2812.000	37.07	-0.66	36.41	74.00	-37.59	peak	V
4592.000	33.82	4.43	38.25	74.00	-35.75	peak	V
5715.000	33.62	6.71	40.33	68.20	-27.87	peak	V
5725.000	33.89	6.73	40.62	78.20	-37.58	peak	V
7669.000	33.02	12.29	45.31	74.00	-28.69	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 2			Date:	10/29/2014		
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
2603.000	36.67	4.89	41.56	74.00	-32.44	peak	H
4549.000	34.68	11.01	45.69	74.00	-28.31	peak	H
6495.000	33.34	17.39	50.73	74.00	-23.27	peak	H
2694.000	37.69	5.12	42.81	74.00	-31.19	peak	V
4535.000	33.51	10.97	44.48	74.00	-29.52	peak	V
6467.000	33.82	17.31	51.13	74.00	-22.87	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 2			Date:	10/29/2014		
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
2814.000	36.68	-0.66	36.02	74.00	-37.98	peak	H
4591.000	34.70	4.43	39.13	74.00	-34.87	peak	H
5850.000	32.31	6.99	39.30	78.20	-38.90	peak	H
5860.000	32.49	7.01	39.50	68.20	-28.70	peak	H
7667.000	32.99	12.29	45.28	74.00	-28.72	peak	H
2774.000	37.26	-0.76	36.50	74.00	-37.50	peak	V
4594.000	35.95	4.44	40.39	74.00	-33.61	peak	V
5850.000	32.84	6.99	39.83	78.20	-38.37	peak	V
5860.000	32.29	7.01	39.30	68.20	-28.90	peak	V
7667.000	33.49	12.29	45.78	74.00	-28.22	peak	V

Standard:		FCC Part 15E		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER		Temp.(℃)/Hum.(%RH):		26(℃)/60%RH	
Test Mode:		Mode 3		Date:		10/29/2014	
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
2729.000	33.46	5.21	38.67	74.00	-35.33	peak	H
4717.000	31.53	11.43	42.96	74.00	-31.04	peak	H
5150.000	27.01	12.91	39.92	68.20	-28.28	peak	H
7405.000	29.19	20.63	49.82	74.00	-24.18	peak	H
2722.000	33.34	5.19	38.53	74.00	-35.47	peak	V
4682.000	30.80	11.34	42.14	74.00	-31.86	peak	V
5150.000	27.17	12.94	40.11	68.20	-28.09	peak	V
7391.000	27.78	20.61	48.39	74.00	-25.61	peak	V

Standard:		FCC Part 15E		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Test Mode:		Mode 3		Date:		10/29/2014	
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
2778.000	32.48	5.34	37.82	74.00	-36.18	peak	H
4647.000	30.58	11.25	41.83	74.00	-32.17	peak	H
7510.000	28.54	20.82	49.36	74.00	-24.64	peak	H
2806.000	35.06	5.41	40.47	74.00	-33.53	peak	V
4605.000	30.73	11.15	41.88	74.00	-32.12	peak	V
7419.000	28.71	20.66	49.37	74.00	-24.63	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	10/29/2014		
Frequency:	5240MHz			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	33.37	5.36	38.73	74.00	-35.27	peak	H
4717.000	29.89	11.43	41.32	74.00	-32.68	peak	H
7405.000	28.31	20.63	48.94	74.00	-25.06	peak	H
2806.000	33.14	5.41	38.55	74.00	-35.45	peak	V
4591.000	31.18	11.11	42.29	74.00	-31.71	peak	V
7461.000	28.13	20.73	48.86	74.00	-25.14	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	10/29/2014		
Frequency:	5260MHz			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
2771.000	33.78	5.32	39.10	74.00	-34.90	peak	H
4675.000	31.46	11.33	42.79	74.00	-31.21	peak	H
7454.000	29.97	20.73	50.70	74.00	-23.30	peak	H
2771.000	34.63	5.32	39.95	74.00	-34.05	peak	V
4766.000	31.16	11.56	42.72	74.00	-31.28	peak	V
7482.000	28.54	20.78	49.32	74.00	-24.68	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	10/29/2014		
Frequency:	5280MHz			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
2729.000	34.80	5.21	40.01	74.00	-33.99	peak	H
4591.000	30.96	11.11	42.07	74.00	-31.93	peak	H
7454.000	28.75	20.73	49.48	74.00	-24.52	peak	H
2869.000	32.90	5.57	38.47	74.00	-35.53	peak	V
4675.000	31.10	11.33	42.43	74.00	-31.57	peak	V
7503.000	28.10	20.81	48.91	74.00	-25.09	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	10/29/2014		
Frequency:	5320MHz			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
2729.000	32.99	5.21	38.20	74.00	-35.80	peak	H
4654.000	30.75	11.27	42.02	74.00	-31.98	peak	H
5350.000	28.11	13.65	41.76	68.20	-26.44	peak	H
7377.000	28.07	20.57	48.64	74.00	-25.36	peak	H
2771.000	33.63	5.32	38.95	74.00	-35.05	peak	V
4633.000	30.95	11.22	42.17	74.00	-31.83	peak	V
5350.000	28.44	13.65	42.09	68.20	-26.11	peak	V
7405.000	28.29	20.63	48.92	74.00	-25.08	peak	V

Standard:		FCC Part 15E		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER		Temp.(℃)/Hum.(%RH):		26(℃)/60%RH	
Test Mode:		Mode 3		Date:		10/29/2014	
Frequency:		5500MHz		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	32.64	5.36	38.00	74.00	-36.00	peak	H
4661.000	29.89	11.29	41.18	74.00	-32.82	peak	H
5470.000	27.65	14.04	41.69	68.20	-26.51	peak	H
7419.000	27.91	20.66	48.57	74.00	-25.43	peak	H
2750.000	33.21	5.27	38.48	74.00	-35.52	peak	V
4703.000	30.93	11.40	42.33	74.00	-31.67	peak	V
5470.000	27.36	14.01	41.37	68.20	-26.83	peak	V
7426.000	28.49	20.67	49.16	74.00	-24.84	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	10/29/2014		
Frequency:	5580MHz			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
2799.000	32.67	5.40	38.07	74.00	-35.93	peak	H
4577.000	29.86	11.07	40.93	74.00	-33.07	peak	H
7405.000	27.93	20.63	48.56	74.00	-25.44	peak	H
2785.000	34.00	5.36	39.36	74.00	-34.64	peak	V
4668.000	31.02	11.32	42.34	74.00	-31.66	peak	V
7433.000	29.43	20.69	50.12	74.00	-23.88	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	10/29/2014		
Frequency:	5700MHz			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
2771.000	32.07	5.32	37.39	74.00	-36.61	peak	H
4752.000	30.40	11.52	41.92	74.00	-32.08	peak	H
5725.000	26.60	14.86	41.46	68.20	-26.74	peak	H
7412.000	28.51	20.64	49.15	74.00	-24.85	peak	H
2827.000	33.09	5.46	38.55	74.00	-35.45	peak	V
4717.000	30.06	11.43	41.49	74.00	-32.51	peak	V
5725.000	27.26	14.86	42.12	68.20	-26.08	peak	V
7454.000	29.62	20.73	50.35	74.00	-23.65	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	10/29/2014		
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
2817.000	35.94	-0.65	35.29	74.00	-38.71	peak	H
4579.000	32.98	4.39	37.37	74.00	-36.63	peak	H
5715.000	33.54	6.71	40.25	68.20	-27.95	peak	H
5725.000	34.38	6.73	41.11	78.20	-37.09	peak	H
7670.000	33.91	12.30	46.21	74.00	-27.79	peak	H
2820.000	35.47	-0.64	34.83	74.00	-39.17	peak	V
4595.000	33.82	4.44	38.26	74.00	-35.74	peak	V
5715.000	33.47	6.71	40.18	68.20	-28.02	peak	V
5725.000	33.59	6.73	40.32	78.20	-37.88	peak	V
7652.000	33.95	12.27	46.22	74.00	-27.78	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	10/29/2014		
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
2757.000	37.29	5.28	42.57	74.00	-31.43	peak	H
4521.000	35.03	10.93	45.96	74.00	-28.04	peak	H
6257.000	33.81	16.66	50.47	74.00	-23.53	peak	H
2666.000	37.15	5.05	42.20	74.00	-31.80	peak	V
4535.000	34.58	10.97	45.55	74.00	-28.45	peak	V
6362.000	33.60	16.99	50.59	74.00	-23.41	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	10/29/2014		
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
2816.000	37.31	-0.65	36.66	74.00	-37.34	peak	H
4579.000	34.32	4.39	38.71	74.00	-35.29	peak	H
5850.000	32.76	6.99	39.75	78.20	-38.45	peak	H
5860.000	32.48	7.01	39.49	68.20	-28.71	peak	H
7662.000	32.93	12.27	45.20	74.00	-28.80	peak	H
2810.000	37.25	-0.67	36.58	74.00	-37.42	peak	V
4596.000	35.26	4.44	39.70	74.00	-34.30	peak	V
5850.000	34.43	6.99	41.42	78.20	-36.78	peak	V
5860.000	33.37	7.01	40.38	68.20	-27.82	peak	V
7652.000	34.53	12.27	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:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 4			Date:	10/29/2014		
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
2701.000	30.98	5.13	36.11	74.00	-37.89	peak	H
4703.000	28.39	11.40	39.79	74.00	-34.21	peak	H
5150.000	26.80	12.88	39.68	68.20	-28.52	peak	H
7559.000	29.32	20.84	50.16	74.00	-23.84	peak	H
2778.000	32.33	5.34	37.67	74.00	-36.33	peak	V
4675.000	31.27	11.33	42.60	74.00	-31.40	peak	V
5150.000	26.87	12.90	39.77	68.20	-28.43	peak	V
7559.000	27.69	20.84	48.53	74.00	-25.47	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 4			Date:	10/29/2014		
Frequency:	5230MHz			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	32.31	5.46	37.77	74.00	-36.23	peak	H
4738.000	30.29	11.50	41.79	74.00	-32.21	peak	H
7370.000	28.83	20.57	49.40	74.00	-24.60	peak	H
2743.000	32.44	5.25	37.69	74.00	-36.31	peak	V
4675.000	31.66	11.33	42.99	74.00	-31.01	peak	V
7454.000	28.76	20.73	49.49	74.00	-24.51	peak	V

Standard:		FCC Part 15E		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Test Mode:		Mode 4		Date:		10/29/2014	
Frequency:		5270MHz		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
2757.000	31.71	5.28	36.99	74.00	-37.01	peak	H
4689.000	30.31	11.37	41.68	74.00	-32.32	peak	H
7419.000	28.75	20.66	49.41	74.00	-24.59	peak	H
2785.000	32.24	5.36	37.60	74.00	-36.40	peak	V
4717.000	31.24	11.43	42.67	74.00	-31.33	peak	V
7475.000	28.14	20.76	48.90	74.00	-25.10	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 4			Date:	10/29/2014		
Frequency:	5310MHz			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	33.83	5.36	39.19	74.00	-34.81	peak	H
4710.000	30.52	11.41	41.93	74.00	-32.07	peak	H
5350.000	28.76	13.58	42.34	68.20	-25.86	peak	H
7454.000	27.52	20.73	48.25	74.00	-25.75	peak	H
2736.000	32.59	5.22	37.81	74.00	-36.19	peak	V
4766.000	30.59	11.56	42.15	74.00	-31.85	peak	V
5350.000	27.86	13.53	41.39	68.20	-26.81	peak	V
7510.000	27.36	20.82	48.18	74.00	-25.82	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 4			Date:	10/29/2014		
Frequency:	5510MHz			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
2750.000	32.39	5.27	37.66	74.00	-36.34	peak	H
4661.000	29.55	11.29	40.84	74.00	-33.16	peak	H
5470.000	27.77	14.01	41.78	68.20	-26.42	peak	H
7489.000	29.83	20.79	50.62	74.00	-23.38	peak	H
2806.000	31.51	5.41	36.92	74.00	-37.08	peak	V
4633.000	30.25	11.22	41.47	74.00	-32.53	peak	V
5470.000	27.61	14.03	41.64	68.20	-26.56	peak	V
7475.000	27.45	20.76	48.21	74.00	-25.79	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 4			Date:	10/29/2014		
Frequency:	5590MHz			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
2743.000	34.01	5.25	39.26	74.00	-34.74	peak	H
4661.000	29.71	11.29	41.00	74.00	-33.00	peak	H
7538.000	27.20	20.83	48.03	74.00	-25.97	peak	H
2750.000	33.00	5.27	38.27	74.00	-35.73	peak	V
4675.000	30.49	11.33	41.82	74.00	-32.18	peak	V
7573.000	28.39	20.84	49.23	74.00	-24.77	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 4			Date:	10/29/2014		
Frequency:	5670MHz			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
2771.000	32.01	5.32	37.33	74.00	-36.67	peak	H
4661.000	29.23	11.29	40.52	74.00	-33.48	peak	H
5725.000	27.44	14.78	42.22	68.20	-25.98	peak	H
7573.000	27.64	20.84	48.48	74.00	-25.52	peak	H
2799.000	33.91	5.40	39.31	74.00	-34.69	peak	V
4626.000	31.56	11.20	42.76	74.00	-31.24	peak	V
5725.000	26.43	14.83	41.26	68.20	-26.94	peak	V
7538.000	28.94	20.83	49.77	74.00	-24.23	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 4			Date:	10/29/2014		
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	32.02	6.71	38.73	68.20	-29.47	peak	H
5725.000	32.43	6.73	39.16	78.20	-39.04	peak	H
7650.000	33.25	12.27	45.52	74.00	-28.48	peak	H
2815.000	33.90	-0.65	33.25	74.00	-40.75	peak	V
4580.000	34.12	4.40	38.52	74.00	-35.48	peak	V
5715.000	31.88	6.71	38.59	68.20	-29.61	peak	V
5725.000	31.61	6.73	38.34	78.20	-39.86	peak	V
7650.000	32.13	12.26	44.39	74.00	-29.61	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PS5 SPEAKER			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Test Mode:	Mode 4			Date:	10/29/2014		
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
2810.000	35.18	-0.67	34.51	74.00	-39.49	peak	H
4582.000	34.55	4.40	38.95	74.00	-35.05	peak	H
5850.000	31.91	6.99	38.90	78.20	-39.30	peak	H
5860.000	31.82	7.01	38.83	68.20	-29.37	peak	H
7650.000	30.45	12.27	42.72	74.00	-31.28	peak	H
2838.000	34.40	-0.60	33.80	74.00	-40.20	peak	V
4636.000	32.37	4.55	36.92	74.00	-37.08	peak	V
5850.000	31.78	6.99	38.77	78.20	-39.43	peak	V
5860.000	30.81	7.01	37.82	68.20	-30.38	peak	V
7649.000	29.99	12.27	42.26	74.00	-31.74	peak	V

Band Edge

Standard:		FCC Part 15E		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Test Mode:		Mode 2		Date:		10/29/2014	
Frequency:		5180 MHz		Test By:		Eric Ou Yang	
Frequency	Reading	Correct Factor	Result	Limit	Margin	Remark	Ant.Polar.
(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)		H / V
5144.700	48.59	12.80	61.39	74.00	-12.61	peak	H
5144.700	35.87	12.80	48.67	54.00	-5.33	AVG	H
5150.000	47.17	12.81	59.98	74.00	-14.02	peak	H
5150.000	38.25	12.81	51.06	54.00	-2.94	AVG	H
5144.700	44.22	12.80	57.02	74.00	-16.98	peak	V
5144.700	34.05	12.80	46.85	54.00	-7.15	AVG	V
5150.000	42.97	12.81	55.78	74.00	-18.22	peak	V
5150.000	34.22	12.81	47.03	54.00	-6.97	AVG	V

Standard:		FCC Part 15E		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Test Mode:		Mode 2		Date:		10/29/2014	
Frequency:		5320 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	45.30	13.70	59.00	74.00	-15.00	peak	H
5350.000	35.63	13.70	49.33	54.00	-4.67	AVG	H
5353.040	46.63	13.70	60.33	74.00	-13.67	peak	H
5353.040	34.80	13.70	48.50	54.00	-5.50	AVG	H
5350.000	43.84	13.70	57.54	74.00	-16.46	peak	V
5350.000	34.30	13.70	48.00	54.00	-6.00	AVG	H
5351.500	45.21	13.70	58.91	74.00	-15.09	peak	V
5351.500	34.05	13.70	47.75	54.00	-6.25	AVG	V

Standard:		FCC Part 15E		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Test Mode:		Mode 2		Date:		10/29/2014	
Frequency:		5500 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
5452.750	46.17	14.14	60.31	74.00	-13.69	peak	H
5452.750	33.51	14.14	47.65	54.00	-6.35	AVG	H
5460.000	44.40	14.18	58.58	74.00	-15.42	peak	H
5460.000	33.58	14.18	47.76	54.00	-6.24	AVG	H
5458.900	45.41	14.17	59.58	74.00	-14.42	peak	V
5458.900	33.40	14.17	47.57	54.00	-6.43	AVG	H
5460.000	44.12	14.18	58.30	74.00	-15.70	peak	V
5460.000	33.43	14.18	47.61	54.00	-6.39	AVG	V

Standard:		FCC Part 15E			Test Distance:		3m	
Test item:		Radiated Emission			Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER			Temp.(℃)/Hum.(%RH):		26(℃)/60%RH	
Test Mode:		Mode 3			Date:		10/29/2014	
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	
5146.100	48.02	12.80	60.82	74.00	-13.18	peak	H	
5146.100	36.57	12.80	49.37	54.00	-4.63	AVG	H	
5150.000	51.01	12.81	63.82	74.00	-10.18	peak	H	
5150.000	38.78	12.81	51.59	54.00	-2.41	AVG	H	
5078.200	46.21	12.50	58.71	74.00	-15.29	peak	V	
5078.200	33.53	12.50	46.03	54.00	-7.97	AVG	V	
5150.000	42.91	12.81	55.72	74.00	-18.28	peak	V	
5150.000	34.76	12.81	47.57	54.00	-6.43	AVG	V	

Standard:		FCC Part 15E		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Test Mode:		Mode 3		Date:		10/29/2014	
Frequency:		5320 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	45.98	13.70	59.68	74.00	-14.32	peak	H
5350.000	34.98	13.70	48.68	54.00	-5.32	AVG	H
5353.880	46.20	13.71	59.91	74.00	-14.09	peak	H
5353.880	34.11	13.71	47.82	54.00	-6.18	AVG	H
5350.000	43.21	13.70	56.91	74.00	-17.09	peak	V
5350.000	34.21	13.70	47.91	54.00	-6.09	AVG	V
5351.500	46.45	13.70	60.15	74.00	-13.85	peak	V
5351.500	34.00	13.70	47.70	54.00	-6.30	AVG	V

Standard:		FCC Part 15E			Test Distance:		3m	
Test item:		Radiated Emission			Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER			Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Test Mode:		Mode 3			Date:		10/29/2014	
Frequency:		5500 MHz			Test By:		Eric Ou Yang	
Frequency	Reading	Correct Factor	Result	Limit	Margin	Remark	Ant.Polar.	
(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)		H / V	
5453.350	46.48	14.14	60.62	74.00	-13.38	peak	H	
5453.350	33.53	14.14	47.67	54.00	-6.33	AVG	H	
5460.000	43.77	14.18	57.95	74.00	-16.05	peak	H	
5460.000	33.48	14.18	47.66	54.00	-6.34	AVG	H	
5458.450	46.05	14.17	60.22	74.00	-13.78	peak	V	
5458.450	33.41	14.17	47.58	54.00	-6.42	AVG	V	
5460.000	43.95	14.18	58.13	74.00	-15.87	peak	V	
5460.000	33.37	14.18	47.55	54.00	-6.45	AVG	V	

Standard: FCC Part 15E		Test Distance: 3m					
Test item: Radiated Emission		Power: AC 120V/60Hz					
Model Number: PS5 SPEAKER		Temp.(°C)/Hum.(%RH): 26(°C)/60%RH					
Test Mode: Mode 4		Date: 10/29/2014					
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
5147.500	52.47	12.81	65.28	74.00	-8.72	peak	H
5147.500	39.40	12.81	52.21	54.00	-1.79	AVG	H
5150.000	50.56	12.81	63.37	74.00	-10.63	peak	H
5150.000	40.32	12.81	53.13	54.00	-0.87	AVG	H
5143.300	45.66	12.78	58.44	74.00	-15.56	peak	V
5143.300	34.81	12.78	47.59	54.00	-6.41	AVG	V
5150.000	45.22	12.81	58.03	74.00	-15.97	peak	V
5150.000	35.63	12.81	48.44	54.00	-5.56	AVG	V

Standard:		FCC Part 15E			Test Distance:		3m	
Test item:		Radiated Emission			Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER			Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Test Mode:		Mode 4			Date:		10/29/2014	
Frequency:		5310 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	50.84	13.70	64.54	74.00	-9.46	peak	H	
5350.000	39.46	13.70	53.16	54.00	-0.84	AVG	H	
5354.020	52.05	13.71	65.76	74.00	-8.24	peak	H	
5354.020	39.31	13.71	53.02	54.00	-0.98	AVG	H	
5350.000	46.83	13.70	60.53	74.00	-13.47	peak	V	
5350.000	35.64	13.70	49.34	54.00	-4.66	AVG	V	
5354.860	46.63	13.71	60.34	74.00	-13.66	peak	V	
5354.860	35.56	13.71	49.27	54.00	-4.73	AVG	V	

Standard:		FCC Part 15E		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		PS5 SPEAKER		Temp.(°C)/Hum. (%RH):		26(°C)/60%RH	
Test Mode:		Mode 4		Date:		10/29/2014	
Frequency:		5510 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
5459.500	46.75	14.17	60.92	74.00	-13.08	peak	H
5459.500	35.67	14.17	49.84	54.00	-4.16	AVG	H
5460.000	46.87	14.18	61.05	74.00	-12.95	peak	H
5460.000	35.76	14.18	49.94	54.00	-4.06	AVG	H
5453.800	46.50	14.14	60.64	74.00	-13.36	peak	V
5453.800	33.64	14.14	47.78	54.00	-6.22	AVG	V
5460.000	44.25	14.18	58.43	74.00	-15.57	peak	V
5460.000	33.93	14.18	48.11	54.00	-5.89	AVG	V

6 Maximum Conducted Output Power Measurement

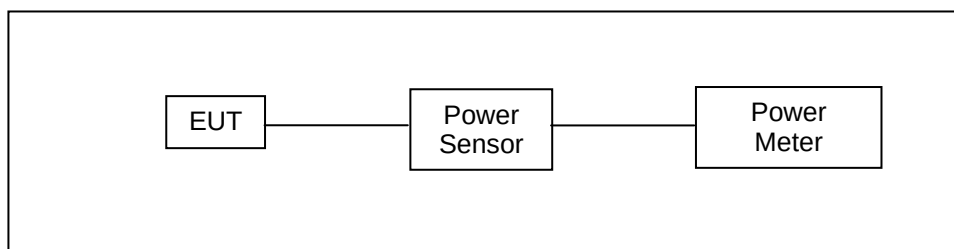
6.1. Limit

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)

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		PS5 SPEAKER				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 2: IEEE 802.11a Link Mode				
Date of Test		10/24/2014			Test Site	TE02
Frequency (MHz)	Data Rate	ANT 0		ANT 1		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5180.0	6M	13.35	0.0216	13.20	0.0209	< 24
5200.0		13.79	0.0239	13.64	0.0231	
5220.0		13.20	0.0209	13.05	0.0202	
5240.0		13.34	0.0216	13.19	0.0208	
5260.0		13.60	0.0229	13.46	0.0222	< 24
5280.0		13.52	0.0225	13.38	0.0218	
5300.0		13.08	0.0203	12.94	0.0197	
5320.0		12.25	0.0168	12.11	0.0163	
5500.0		12.10	0.0162	12.02	0.0159	< 24
5520.0		12.05	0.0160	11.97	0.0157	
5540.0		12.14	0.0164	12.06	0.0161	
5560.0		12.09	0.0162	12.01	0.0159	
5580.0		12.04	0.0160	11.96	0.0157	
5600.0		11.84	0.0153	11.76	0.0150	
5620.0		11.83	0.0152	11.75	0.0150	
5640.0		11.81	0.0152	11.73	0.0149	
5660.0		11.85	0.0153	11.77	0.0150	
5680.0		11.78	0.0151	11.70	0.0148	
5700.0		12.22	0.0167	12.14	0.0164	
5745.0		11.81	0.0152	11.67	0.0147	< 30
5765.0		12.00	0.0158	11.86	0.0153	
5785.0		12.49	0.0177	12.35	0.0172	
5805.0		11.76	0.0150	11.62	0.0145	
5825.0		11.66	0.0147	11.52	0.0142	

Model Number		PS5 SPEAKER				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 2: IEEE 802.11a Link Mode				
Date of Test		10/24/2014		Test Site		TE02
Frequency (MHz)	Data Rate	ANT 0		ANT 1		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5180.0	54M	13.23	0.0210	13.09	0.0204	< 24
5200.0		13.67	0.0233	13.53	0.0225	
5220.0		13.08	0.0203	12.94	0.0197	
5240.0		13.22	0.0210	13.08	0.0203	
5260.0		13.49	0.0223	13.35	0.0216	< 24
5280.0		13.41	0.0219	13.27	0.0212	
5300.0		12.97	0.0198	12.83	0.0192	
5320.0		12.14	0.0164	12.00	0.0158	
5500.0		11.97	0.0157	11.91	0.0155	< 24
5520.0		11.92	0.0156	11.86	0.0153	
5540.0		12.01	0.0159	11.95	0.0157	
5560.0		12.01	0.0159	11.90	0.0155	
5580.0		11.96	0.0157	11.85	0.0153	
5600.0		11.76	0.0150	11.65	0.0146	
5620.0		11.75	0.0150	11.64	0.0146	
5640.0		11.73	0.0149	11.62	0.0145	
5660.0		11.77	0.0150	11.66	0.0147	
5680.0		11.70	0.0148	11.59	0.0144	
5700.0		12.09	0.0162	12.03	0.0160	
5745.0		11.70	0.0148	11.54	0.0143	< 30
5765.0		11.89	0.0155	11.73	0.0149	
5785.0		12.38	0.0173	12.22	0.0167	
5805.0		11.65	0.0146	11.59	0.0144	
5825.0		11.55	0.0143	11.51	0.0142	

Model Number		PS5 SPEAKER				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 3: IEEE 802.11n 20MHz Link Mode				
Date of Test		10/24/2014			Test Site	TE02
Frequency (MHz)	Data Rate	ANT 0		ANT 1		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5180.0	6.5M	11.68	0.0147	11.61	0.0145	< 24
5200.0		12.16	0.0164	12.09	0.0162	
5220.0		12.01	0.0159	11.94	0.0156	
5240.0		11.89	0.0155	11.82	0.0152	
5260.0		11.82	0.0152	11.72	0.0149	< 24
5280.0		11.74	0.0149	11.64	0.0146	
5300.0		10.58	0.0114	10.48	0.0112	
5320.0		10.23	0.0105	10.13	0.0103	
5500.0		10.22	0.0105	10.13	0.0103	< 24
5520.0		10.13	0.0103	10.04	0.0101	
5540.0		10.18	0.0104	10.09	0.0102	
5560.0		10.08	0.0102	9.99	0.0100	
5580.0		9.76	0.0095	9.67	0.0093	
5600.0		10.18	0.0104	10.09	0.0102	
5620.0		10.09	0.0102	10.00	0.0100	
5640.0		10.12	0.0103	10.03	0.0101	
5660.0		9.99	0.0100	9.90	0.0098	
5680.0		9.72	0.0094	9.63	0.0092	
5700.0		9.61	0.0091	9.56	0.0090	
5745.0		9.67	0.0093	9.61	0.0091	< 30
5765.0		9.88	0.0097	9.82	0.0096	
5785.0		9.92	0.0098	9.86	0.0097	
5805.0		10.11	0.0103	10.05	0.0101	
5825.0		10.35	0.0108	10.29	0.0107	

Model Number		PS5 SPEAKER				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 3: IEEE 802.11n 20MHz Link Mode				
Date of Test		10/24/2014			Test Site	TE02
Frequency (MHz)	Data Rate	ANT 0		ANT 1		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5180.0	65M	11.58	0.0144	11.51	0.0142	< 24
5200.0		12.06	0.0161	11.99	0.0158	
5220.0		11.91	0.0155	11.84	0.0153	
5240.0		11.79	0.0151	11.72	0.0149	
5260.0		11.69	0.0148	11.59	0.0144	< 24
5280.0		11.61	0.0145	11.51	0.0142	
5300.0		10.45	0.0111	10.35	0.0108	
5320.0		10.10	0.0102	10.00	0.0100	
5500.0		10.10	0.0102	10.07	0.0102	< 24
5520.0		10.01	0.0100	9.98	0.0100	
5540.0		10.06	0.0101	10.03	0.0101	
5560.0		9.96	0.0099	9.93	0.0098	
5580.0		9.64	0.0092	9.61	0.0091	
5600.0		10.06	0.0101	10.03	0.0101	
5620.0		9.97	0.0099	9.94	0.0099	
5640.0		10.00	0.0100	9.97	0.0099	
5660.0		9.87	0.0097	9.84	0.0096	
5680.0		9.60	0.0091	9.57	0.0091	
5700.0		9.59	0.0091	9.52	0.0090	
5745.0		9.57	0.0091	9.55	0.0090	< 30
5765.0		9.78	0.0095	9.76	0.0095	
5785.0		9.82	0.0096	9.80	0.0095	
5805.0		10.01	0.0100	9.99	0.0100	
5825.0		10.25	0.0106	10.23	0.0105	

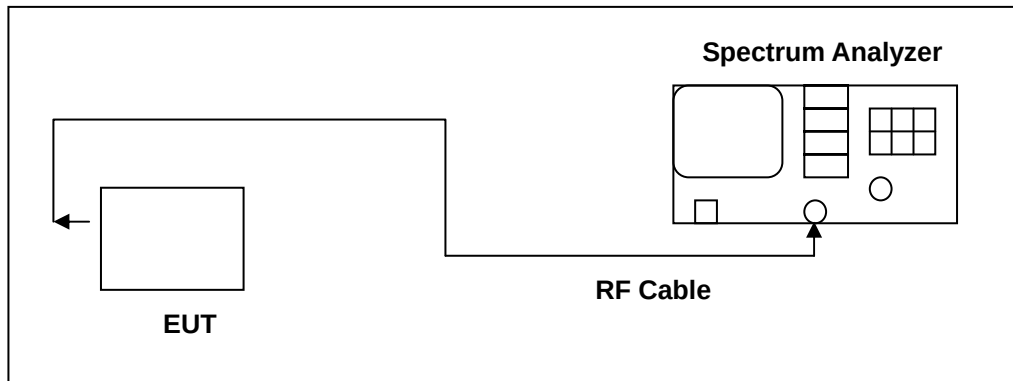
Model Number		PS5 SPEAKER				
Test Item		Maximum Conducted Output Power				
Test Mode		Mode 4: IEEE 802.11n 40MHz Link Mode				
Date of Test		10/24/2014			Test Site	TE02
Frequency (MHz)	Data Rate	ANT 0		ANT 1		FCC Limit (dBm)
		Average Power		Average Power		
		(dBm)	(W)	(dBm)	(W)	
5190.0	6.5M	11.10	0.0129	10.99	0.0126	< 24
5230.0		11.47	0.0140	11.36	0.0137	
5270.0		11.39	0.0138	11.26	0.0134	
5310.0		10.13	0.0103	10.00	0.0100	< 24
5510.0		11.11	0.0129	10.98	0.0125	
5550.0		11.41	0.0138	11.28	0.0134	
5590.0		10.87	0.0122	10.74	0.0119	< 24
5630.0		11.05	0.0127	10.92	0.0124	
5670.0		10.84	0.0121	10.71	0.0118	
5755.0		10.14	0.0103	10.01	0.0100	< 30
5795.0		10.35	0.0108	10.22	0.0105	
5190.0	65M	10.99	0.0126	10.91	0.0123	< 24
5230.0		11.36	0.0137	11.28	0.0134	
5270.0		11.26	0.0134	11.15	0.0130	
5310.0		10.00	0.0100	9.89	0.0097	< 24
5510.0		11.00	0.0126	10.89	0.0123	
5550.0		11.30	0.0135	11.19	0.0132	
5590.0		10.76	0.0119	10.65	0.0116	< 24
5630.0		10.94	0.0124	10.83	0.0121	
5670.0		10.73	0.0118	10.62	0.0115	
5755.0		10.02	0.0100	9.93	0.0098	< 30
5795.0		10.23	0.0105	10.14	0.0103	

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.

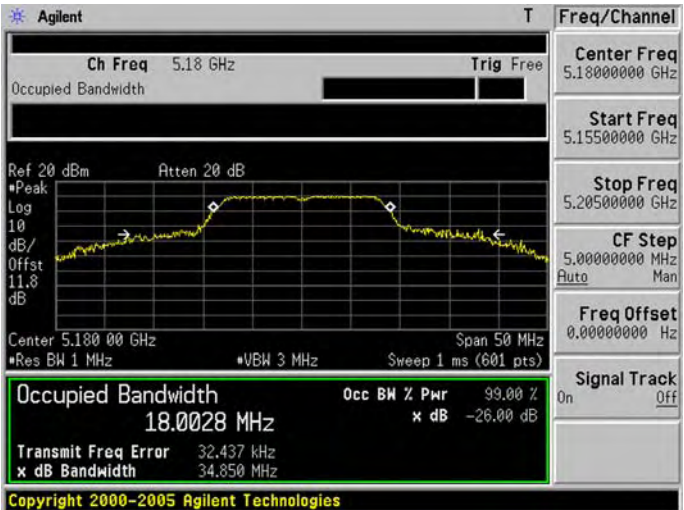
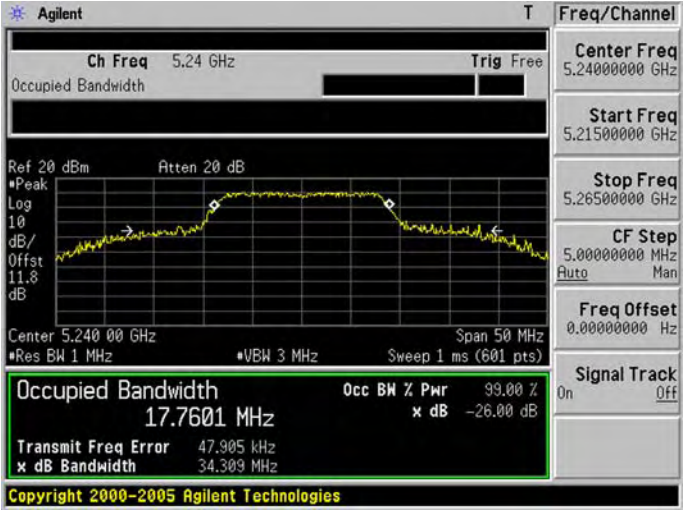
7.5. Test Result

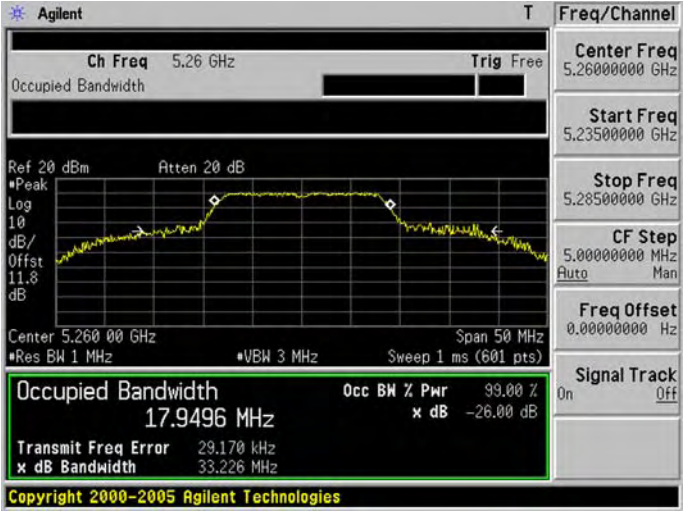
Model Number	PS5 SPEAKER		
Test Item	26dB RF Bandwidth		
Test Mode	Mode 2: IEEE 802.11a Link Mode		
Date of Test	10/28/2014	Test Site	TE02
Frequency (MHz)	26dB Bandwidth (MHz)		
5180	34.850		
5220	35.385		
5240	34.309		
5260	33.226		
5280	35.617		
5320	24.099		
5500	21.796		
5580	21.778		
5700	25.691		

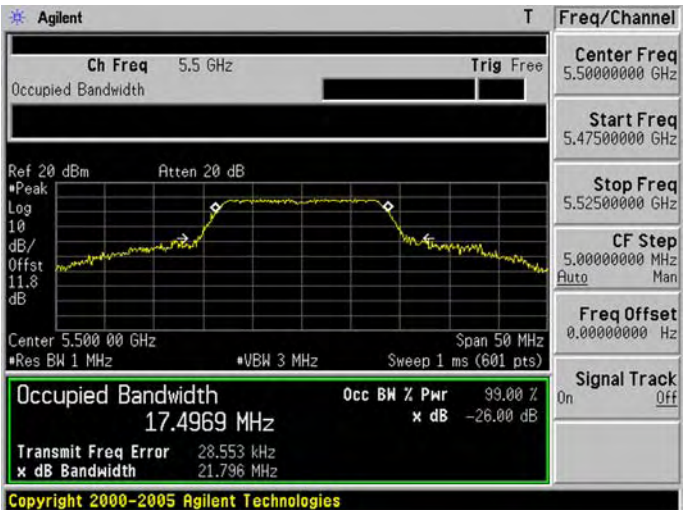
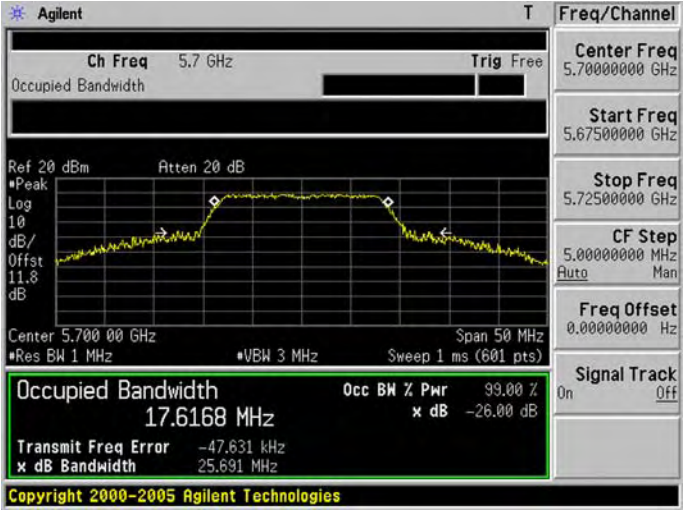
Model Number	PS5 SPEAKER		
Test Item	26dB RF Bandwidth		
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode		
Date of Test	10/28/2014	Test Site	TE02
Frequency (MHz)	26dB Bandwidth (MHz)		
5180	28.797		
5220	26.893		
5240	27.602		
5260	28.434		
5280	26.316		
5320	22.749		
5500	21.208		
5580	21.125		
5700	21.211		

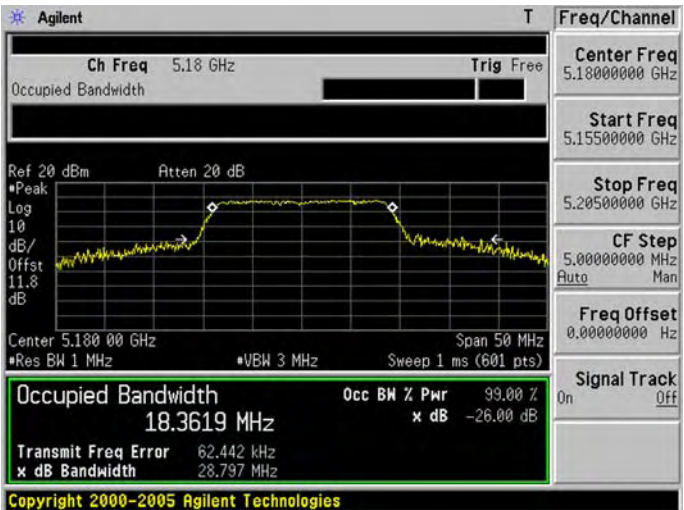
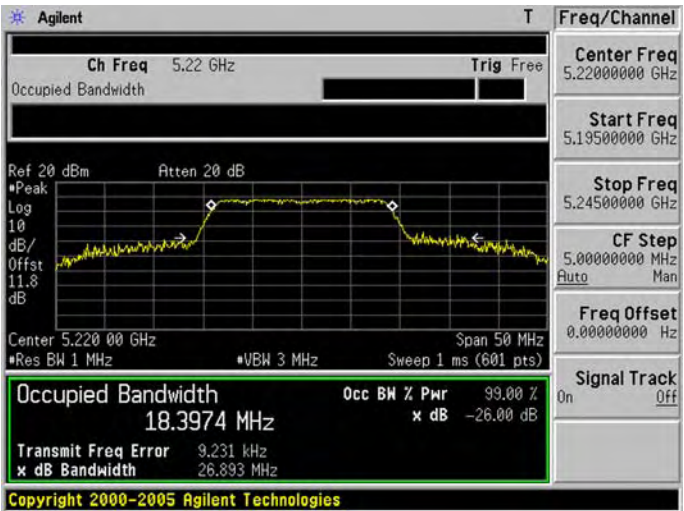
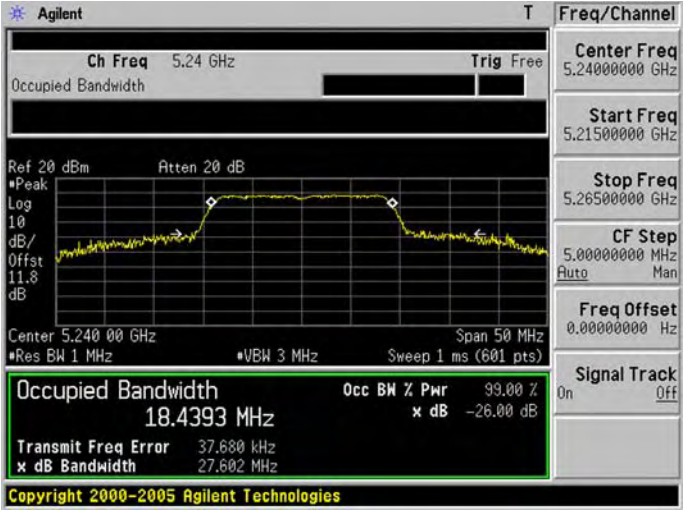
Model Number	PS5 SPEAKER		
Test Item	26dB RF Bandwidth		
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode		
Date of Test	10/28/2014	Test Site	TE02
Frequency (MHz)	26dB Bandwidth (MHz)		
5190	57.141		
5230	51.491		
5270	42.113		
5310	41.581		
5510	41.521		
5590	41.553		
5670	41.732		

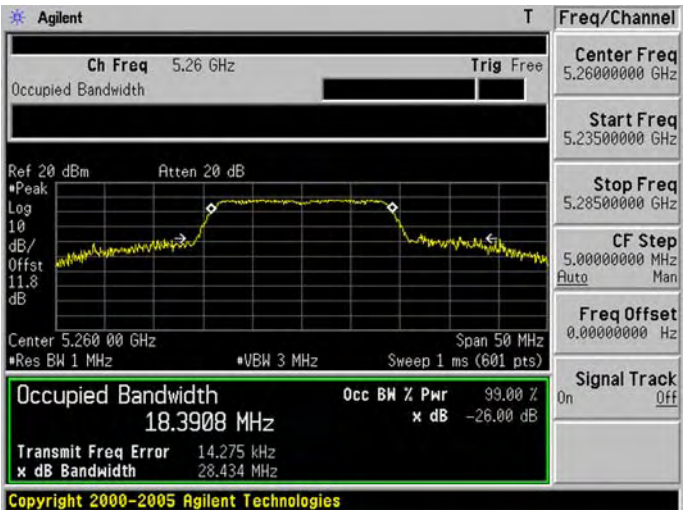
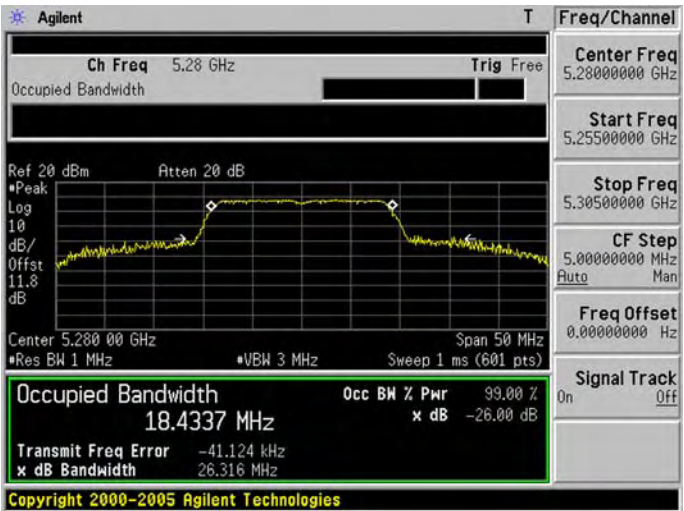
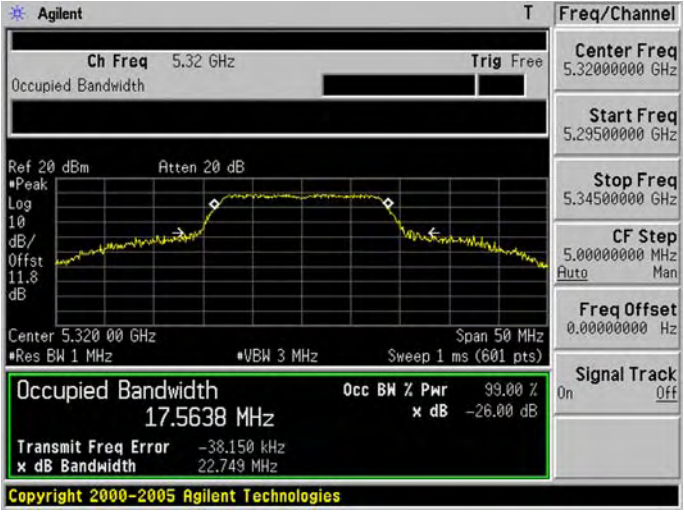
7.6. Test Graphs

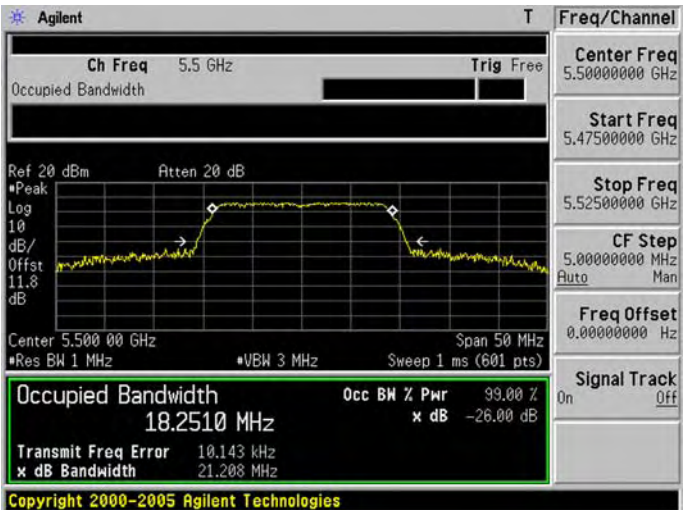
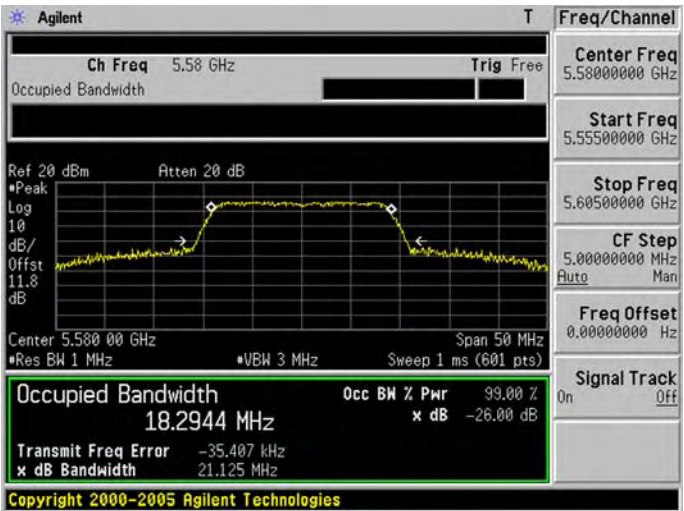
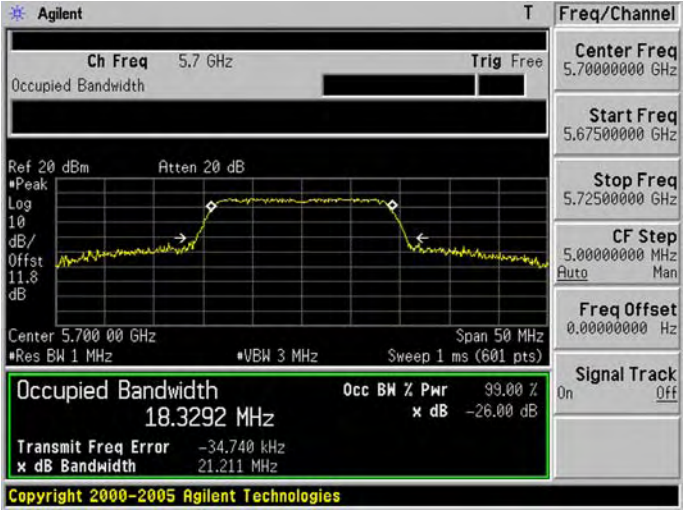
Mode 2: IEEE 802.11a Link Mode	
5180	 Copyright 2000-2005 Agilent Technologies
5220	 Copyright 2000-2005 Agilent Technologies
5240	 Copyright 2000-2005 Agilent Technologies

Mode 2: IEEE 802.11a Link Mode	
5260	 Agilent T Freq/Channel Ch Freq 5.26 GHz Trig Free Center Freq 5.2600000 GHz Start Freq 5.2350000 GHz Stop Freq 5.2850000 GHz CF Step 5.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.260 00 GHz Span 50 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 17.9496 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 29.170 kHz x dB Bandwidth 33.226 MHz Copyright 2000-2005 Agilent Technologies
5280	 Agilent T Freq/Channel Ch Freq 5.28 GHz Trig Free Center Freq 5.2800000 GHz Start Freq 5.2550000 GHz Stop Freq 5.3050000 GHz CF Step 5.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.280 00 GHz Span 50 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 17.8244 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -15.852 kHz x dB Bandwidth 35.617 MHz Copyright 2000-2005 Agilent Technologies
5320	 Agilent T Freq/Channel Ch Freq 5.32 GHz Trig Free Center Freq 5.3200000 GHz Start Freq 5.2950000 GHz Stop Freq 5.3450000 GHz CF Step 5.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.320 00 GHz Span 50 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 17.4702 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -8.193 kHz x dB Bandwidth 24.099 MHz Copyright 2000-2005 Agilent Technologies

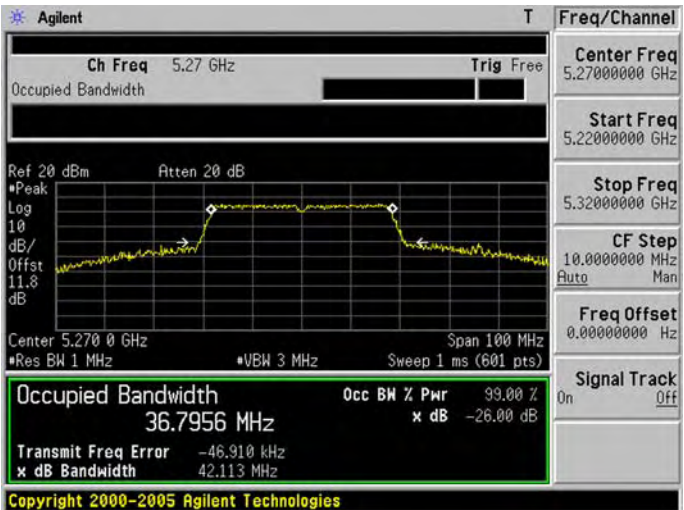
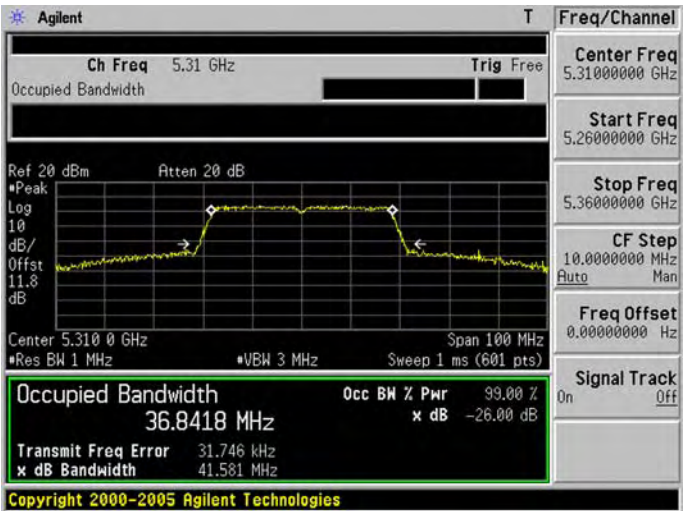
Mode 2: IEEE 802.11a Link Mode	
5500	 Agilent T Freq/Channel Ch Freq 5.5 GHz Trig Free Center Freq 5.5000000 GHz Start Freq 5.4750000 GHz Stop Freq 5.5250000 GHz CF Step 5.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.500 00 GHz Span 50 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 17.4969 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 28.553 kHz x dB Bandwidth 21.796 MHz Copyright 2000-2005 Agilent Technologies
5580	 Agilent T Freq/Channel Ch Freq 5.58 GHz Trig Free Center Freq 5.5800000 GHz Start Freq 5.5550000 GHz Stop Freq 5.6050000 GHz CF Step 5.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.580 00 GHz Span 50 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 17.5231 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -46.976 kHz x dB Bandwidth 21.778 MHz Copyright 2000-2005 Agilent Technologies
5700	 Agilent T Freq/Channel Ch Freq 5.7 GHz Trig Free Center Freq 5.7000000 GHz Start Freq 5.6750000 GHz Stop Freq 5.7250000 GHz CF Step 5.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.700 00 GHz Span 50 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 17.6168 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -47.631 kHz x dB Bandwidth 25.691 MHz Copyright 2000-2005 Agilent Technologies

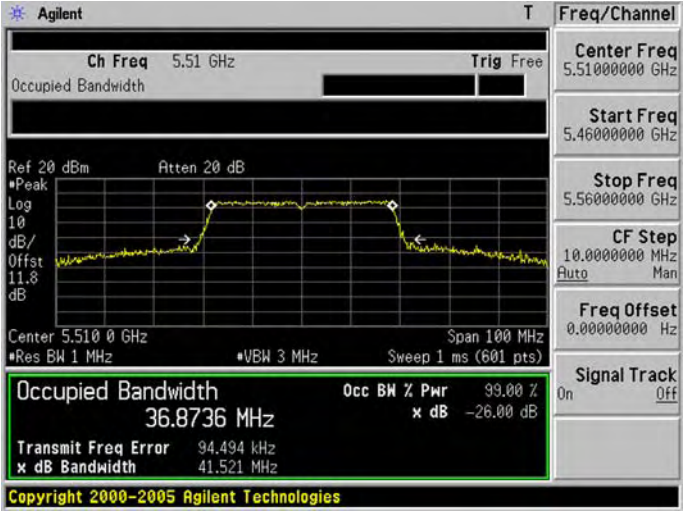
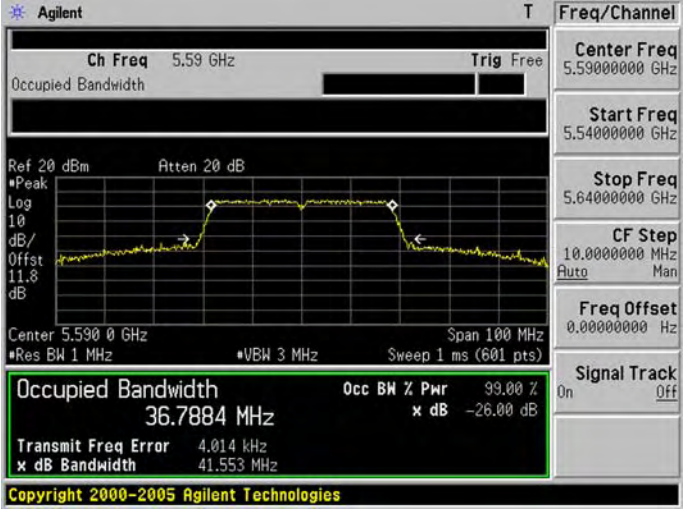
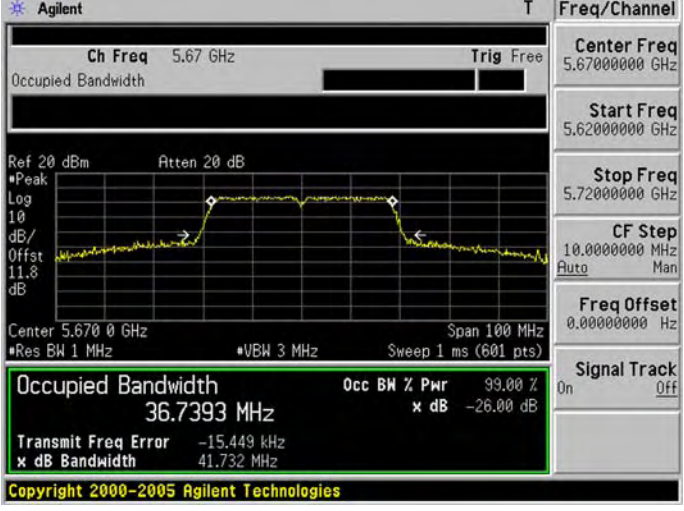
Mode 3: IEEE 802.11n 20MHz Link Mode	
5180	 Agilent T Freq/Channel Ch Freq 5.18 GHz Trig Free Center Freq 5.1800000 GHz Start Freq 5.1550000 GHz Stop Freq 5.2050000 GHz CF Step 5.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.180 00 GHz Span 50 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 18.3619 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 62.442 kHz x dB Bandwidth 28.797 MHz Copyright 2000-2005 Agilent Technologies
5220	 Agilent T Freq/Channel Ch Freq 5.22 GHz Trig Free Center Freq 5.2200000 GHz Start Freq 5.1950000 GHz Stop Freq 5.2450000 GHz CF Step 5.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.220 00 GHz Span 50 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 18.3974 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 9.231 kHz x dB Bandwidth 26.893 MHz Copyright 2000-2005 Agilent Technologies
5240	 Agilent T Freq/Channel Ch Freq 5.24 GHz Trig Free Center Freq 5.2400000 GHz Start Freq 5.2150000 GHz Stop Freq 5.2650000 GHz CF Step 5.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.240 00 GHz Span 50 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 18.4393 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 37.680 kHz x dB Bandwidth 27.602 MHz Copyright 2000-2005 Agilent Technologies

Mode 3: IEEE 802.11n 20MHz Link Mode	
5260	 Agilent T Freq/Channel Ch Freq 5.26 GHz Trig Free Center Freq 5.2600000 GHz Start Freq 5.2350000 GHz Stop Freq 5.2850000 GHz CF Step 5.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.260 00 GHz Span 50 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 18.3908 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 14.275 kHz x dB Bandwidth 28.434 MHz Copyright 2000-2005 Agilent Technologies
5280	 Agilent T Freq/Channel Ch Freq 5.28 GHz Trig Free Center Freq 5.2800000 GHz Start Freq 5.2550000 GHz Stop Freq 5.3050000 GHz CF Step 5.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.280 00 GHz Span 50 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 18.4337 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -41.124 kHz x dB Bandwidth 26.316 MHz Copyright 2000-2005 Agilent Technologies
5320	 Agilent T Freq/Channel Ch Freq 5.32 GHz Trig Free Center Freq 5.3200000 GHz Start Freq 5.2950000 GHz Stop Freq 5.3450000 GHz CF Step 5.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.320 00 GHz Span 50 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 17.5638 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -38.150 kHz x dB Bandwidth 22.749 MHz Copyright 2000-2005 Agilent Technologies

Mode 3: IEEE 802.11n 20MHz Link Mode	
5500	 Agilent T Freq/Channel Ch Freq 5.5 GHz Trig Free Center Freq 5.5000000 GHz Start Freq 5.4750000 GHz Stop Freq 5.5250000 GHz CF Step 5.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB •Peak Log 10 dB/Offst 11.8 dB Center 5.500 00 GHz Span 50 MHz •Res BW 1 MHz •VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 18.2510 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 10.143 kHz x dB Bandwidth 21.208 MHz Copyright 2000-2005 Agilent Technologies
5580	 Agilent T Freq/Channel Ch Freq 5.58 GHz Trig Free Center Freq 5.5800000 GHz Start Freq 5.5550000 GHz Stop Freq 5.6050000 GHz CF Step 5.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB •Peak Log 10 dB/Offst 11.8 dB Center 5.580 00 GHz Span 50 MHz •Res BW 1 MHz •VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 18.2944 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -35.407 kHz x dB Bandwidth 21.125 MHz Copyright 2000-2005 Agilent Technologies
5700	 Agilent T Freq/Channel Ch Freq 5.7 GHz Trig Free Center Freq 5.7000000 GHz Start Freq 5.6750000 GHz Stop Freq 5.7250000 GHz CF Step 5.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB •Peak Log 10 dB/Offst 11.8 dB Center 5.700 00 GHz Span 50 MHz •Res BW 1 MHz •VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 18.3292 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -34.740 kHz x dB Bandwidth 21.211 MHz Copyright 2000-2005 Agilent Technologies

Mode 4: IEEE 802.11n 40MHz Link Mode	
5190	 Agilent T Freq/Channel Ch Freq 5.19 GHz Trig Free Center Freq 5.19000000 GHz Start Freq 5.14000000 GHz Stop Freq 5.24000000 GHz CF Step 10.0000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.190 0 GHz Span 100 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 36.9100 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 101.662 kHz x dB Bandwidth 57.141 MHz Copyright 2000-2005 Agilent Technologies
5230	 Agilent R T Freq/Channel Ch Freq 5.23 GHz Trig Free Center Freq 5.23000000 GHz Start Freq 5.18000000 GHz Stop Freq 5.28000000 GHz CF Step 10.0000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.230 0 GHz Span 100 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 36.9699 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 142.258 kHz x dB Bandwidth 51.491 MHz Copyright 2000-2005 Agilent Technologies

Mode 4: IEEE 802.11n 40MHz Link Mode	
5270	 Copyright 2000-2005 Agilent Technologies
5310	 Copyright 2000-2005 Agilent Technologies

Mode 4: IEEE 802.11n 40MHz Link Mode	
5510	 Agilent T Freq/Channel Ch Freq 5.51 GHz Trig Free Center Freq 5.51000000 GHz Start Freq 5.46000000 GHz Stop Freq 5.56000000 GHz CF Step 10.0000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.510 0 GHz Span 100 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 36.8736 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 94.494 kHz x dB Bandwidth 41.521 MHz Copyright 2000-2005 Agilent Technologies
5590	 Agilent T Freq/Channel Ch Freq 5.59 GHz Trig Free Center Freq 5.59000000 GHz Start Freq 5.54000000 GHz Stop Freq 5.64000000 GHz CF Step 10.0000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.590 0 GHz Span 100 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 36.7884 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 4.014 kHz x dB Bandwidth 41.553 MHz Copyright 2000-2005 Agilent Technologies
5670	 Agilent T Freq/Channel Ch Freq 5.67 GHz Trig Free Center Freq 5.67000000 GHz Start Freq 5.62000000 GHz Stop Freq 5.72000000 GHz CF Step 10.0000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Peak Log 10 dB/Offst 11.8 dB Center 5.670 0 GHz Span 100 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Occupied Bandwidth 36.7393 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -15.449 kHz x dB Bandwidth 41.732 MHz Copyright 2000-2005 Agilent Technologies

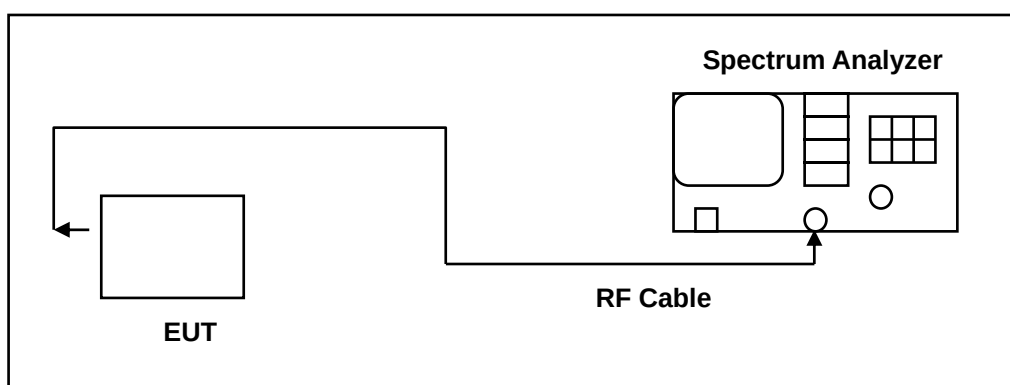
8 6dB RF Bandwidth Measurement

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	12/18/2013	(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.

8.4. Test Procedure

6dB RF Bandwidth

The EUT was setup to ANSI C63.4, 2009; 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.

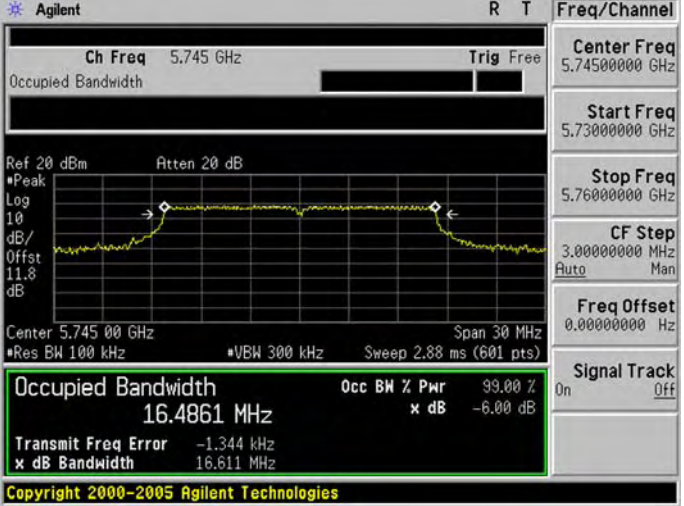
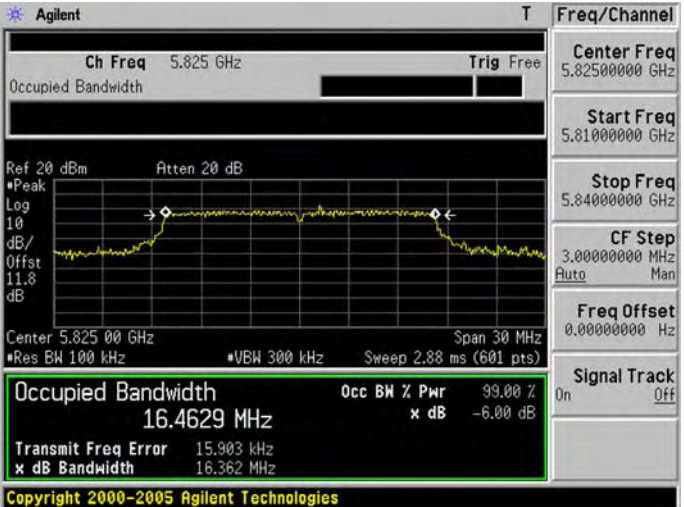
8.5. Test Result

Model Number	PS5 SPEAKER		
Test Item	6dB RF Bandwidth		
Test Mode	Mode 2: IEEE 802.11a Link Mode		
Date of Test	10/28/2014	Test Site	TE05
Frequency (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Limit (kHz)	
5745	16.611	> 500	
5785	16.588	> 500	
5825	16.362	> 500	

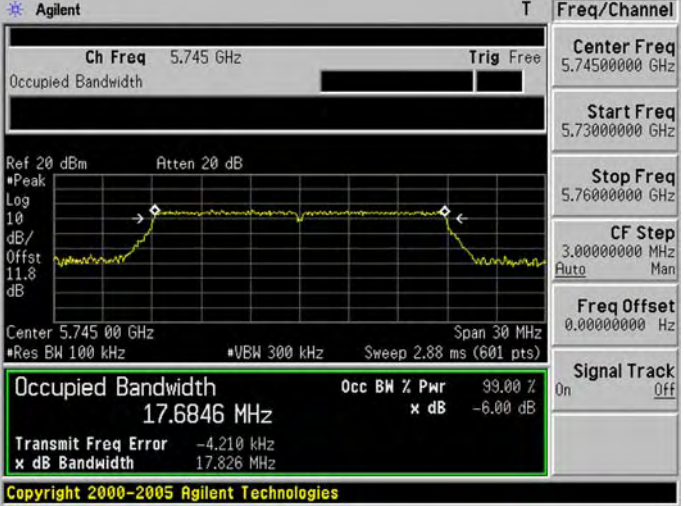
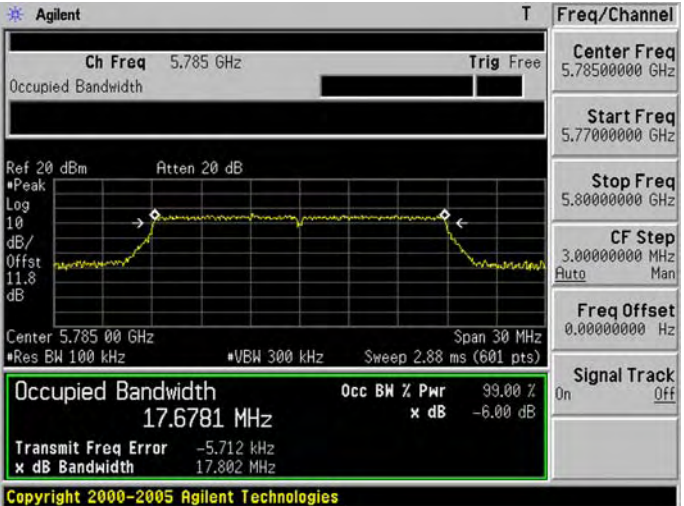
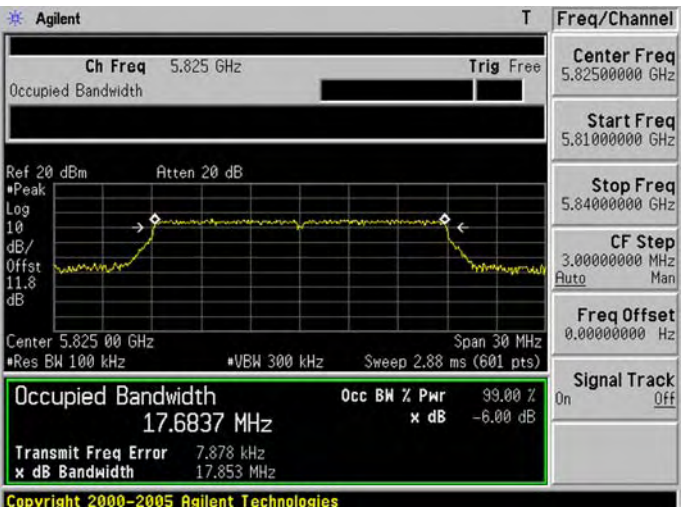
Model Number	PS5 SPEAKER		
Test Item	6dB RF Bandwidth		
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode		
Date of Test	10/28/2014	Test Site	TE05
Frequency (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Limit (kHz)	
5745	17.826	> 500	
5785	17.802	> 500	
5825	17.853	> 500	

Model Number	PS5 SPEAKER		
Test Item	6dB RF Bandwidth		
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode		
Date of Test	10/28/2014	Test Site	TE05
Frequency (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Limit (kHz)	
5755	36.646	> 500	
5795	36.603	> 500	

8.6. Test Graphs

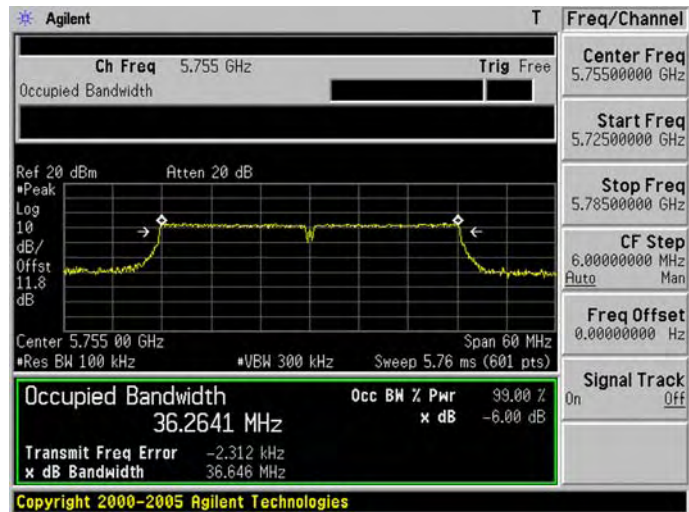
Mode 2: IEEE 802.11a Link Mode	
5745	 Agilent R T Freq/Channel Ch Freq 5.745 GHz Trig Free Center Freq 5.7450000 GHz Start Freq 5.7300000 GHz Stop Freq 5.7600000 GHz CF Step 3.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Log 10 dB/Offst 11.8 dB Center 5.745 00 GHz Span 30 MHz Res BW 100 kHz VBW 300 kHz Sweep 2.88 ms (601 pts) Occupied Bandwidth 16.4861 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -1.344 kHz x dB Bandwidth 16.611 MHz Copyright 2000-2005 Agilent Technologies
5785	 Agilent T Freq/Channel Ch Freq 5.785 GHz Trig Free Center Freq 5.7850000 GHz Start Freq 5.7700000 GHz Stop Freq 5.8000000 GHz CF Step 3.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Log 10 dB/Offst 11.8 dB Center 5.785 00 GHz Span 30 MHz Res BW 100 kHz VBW 300 kHz Sweep 2.88 ms (601 pts) Occupied Bandwidth 16.4936 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error 6.181 kHz x dB Bandwidth 16.588 MHz Copyright 2000-2005 Agilent Technologies
5825	 Agilent T Freq/Channel Ch Freq 5.825 GHz Trig Free Center Freq 5.8250000 GHz Start Freq 5.8100000 GHz Stop Freq 5.8400000 GHz CF Step 3.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 20 dBm Atten 20 dB Log 10 dB/Offst 11.8 dB Center 5.825 00 GHz Span 30 MHz Res BW 100 kHz VBW 300 kHz Sweep 2.88 ms (601 pts) Occupied Bandwidth 16.4629 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error 15.903 kHz x dB Bandwidth 16.362 MHz Copyright 2000-2005 Agilent Technologies

Mode 3: IEEE 802.11n 20MHz Link Mode

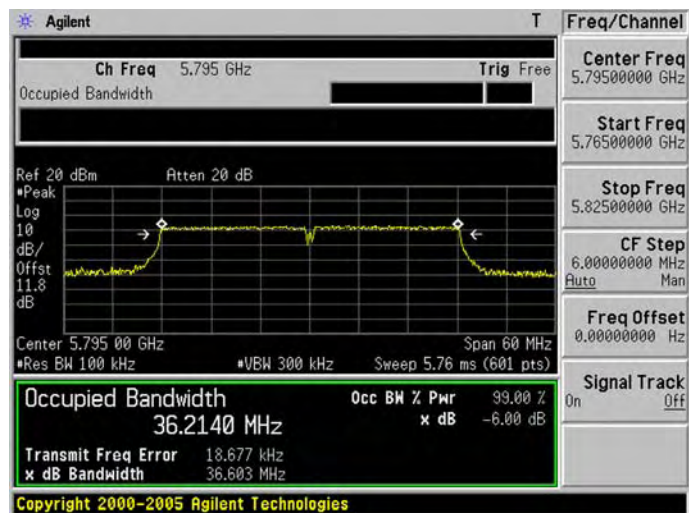
5745	 Agilent T Ch Freq 5.745 GHz Trig Free Occupied Bandwidth Ref 20 dBm Atten 20 dB •Peak Log 10 dB/Offst 11.8 dB Center 5.745 00 GHz Span 30 MHz •Res BW 100 kHz •VBW 300 kHz Sweep 2.88 ms (601 pts) Occupied Bandwidth 17.6846 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -4.210 kHz x dB Bandwidth 17.826 MHz Copyright 2000-2005 Agilent Technologies Freq/Channel Center Freq 5.74500000 GHz Start Freq 5.73000000 GHz Stop Freq 5.76000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5785	 Agilent T Ch Freq 5.785 GHz Trig Free Occupied Bandwidth Ref 20 dBm Atten 20 dB •Peak Log 10 dB/Offst 11.8 dB Center 5.785 00 GHz Span 30 MHz •Res BW 100 kHz •VBW 300 kHz Sweep 2.88 ms (601 pts) Occupied Bandwidth 17.6781 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -5.712 kHz x dB Bandwidth 17.802 MHz Copyright 2000-2005 Agilent Technologies Freq/Channel Center Freq 5.78500000 GHz Start Freq 5.77000000 GHz Stop Freq 5.80000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5825	 Agilent T Ch Freq 5.825 GHz Trig Free Occupied Bandwidth Ref 20 dBm Atten 20 dB •Peak Log 10 dB/Offst 11.8 dB Center 5.825 00 GHz Span 30 MHz •Res BW 100 kHz •VBW 300 kHz Sweep 2.88 ms (601 pts) Occupied Bandwidth 17.6837 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error 7.878 kHz x dB Bandwidth 17.853 MHz Copyright 2000-2005 Agilent Technologies Freq/Channel Center Freq 5.82500000 GHz Start Freq 5.81000000 GHz Stop Freq 5.84000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

Mode 4: IEEE 802.11n 40MHz Link Mode

5755



5795



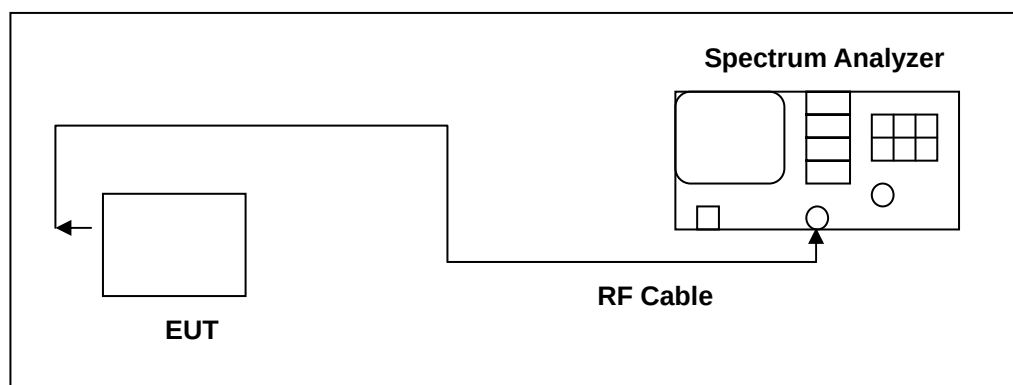
9 Peak Power Spectral Density Measurement

9.1. 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

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	(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.

9.4. 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.

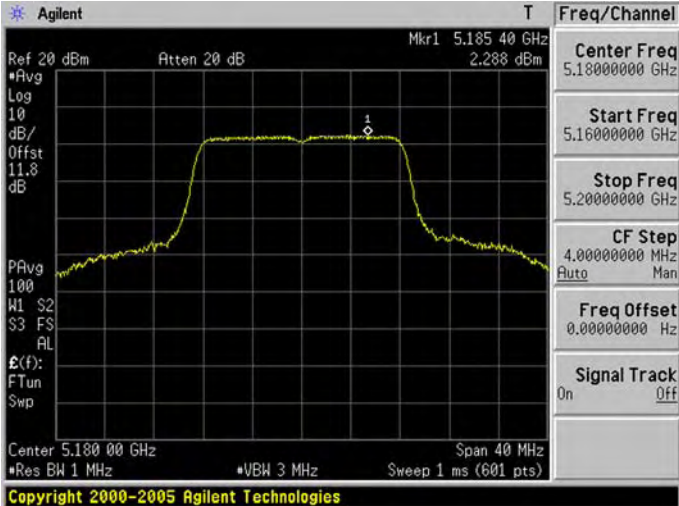
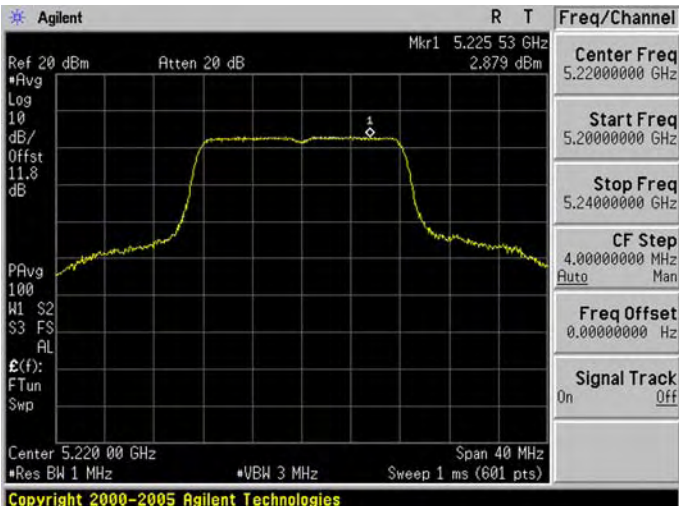
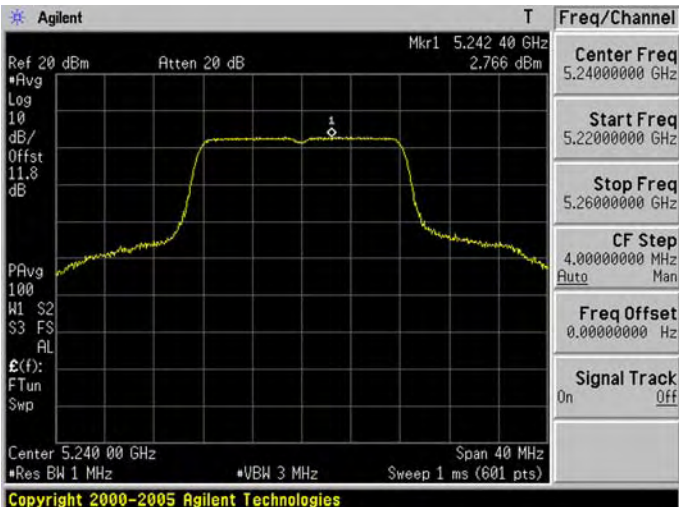
9.5. Test Result

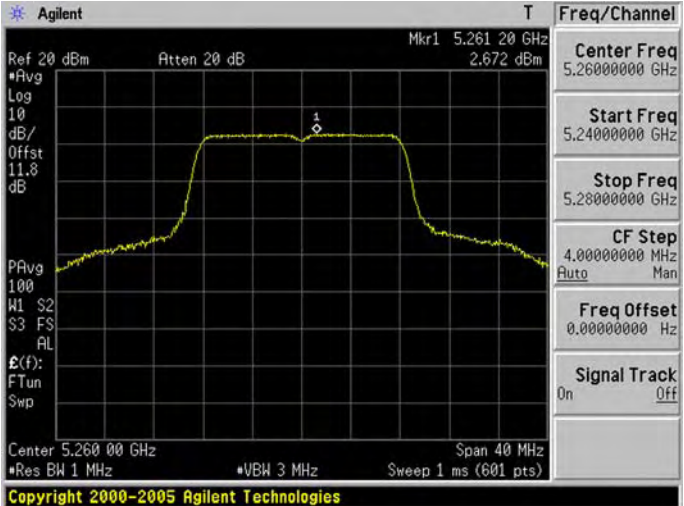
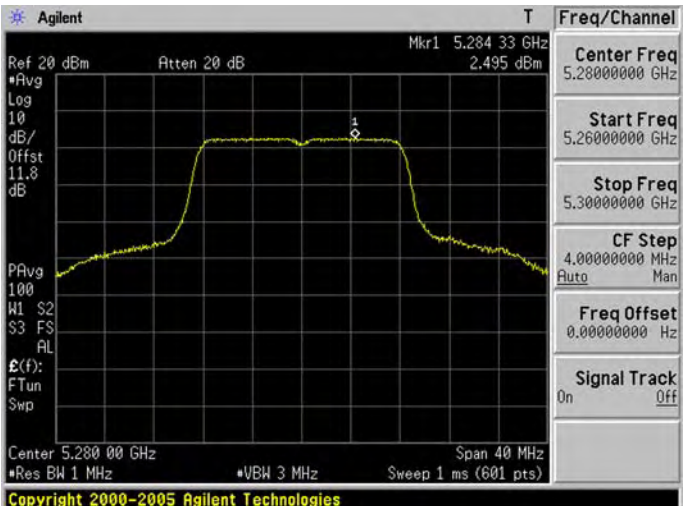
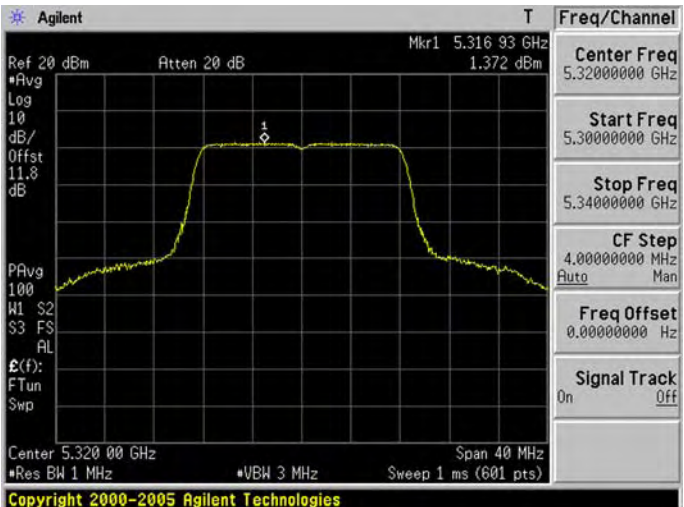
Model Number	PS5 SPEAKER		
Test Item	Conducted power spectral density		
Test Mode	Mode 2: IEEE 802.11a Link Mode		
Date of Test	10/28/2014	Test Site	TE02
Frequency (MHz)		Measurement (dBm/MHz)	FCC Limit (dBm/MHz)
5180		2.288	< 11
5220		2.879	
5240		2.766	
5260		2.672	< 11
5280		2.495	
5320		1.372	
5500		1.077	< 11
5580		1.395	
5700		2.243	
Frequency (MHz)	Measurement (dBm/100KHz)	Measurement (dBm/500KHz)	FCC Limit (dBm/500KHz)
5745	-1.28	5.71	< 30
5785	-1.17	5.82	
5825	-2.70	4.29	

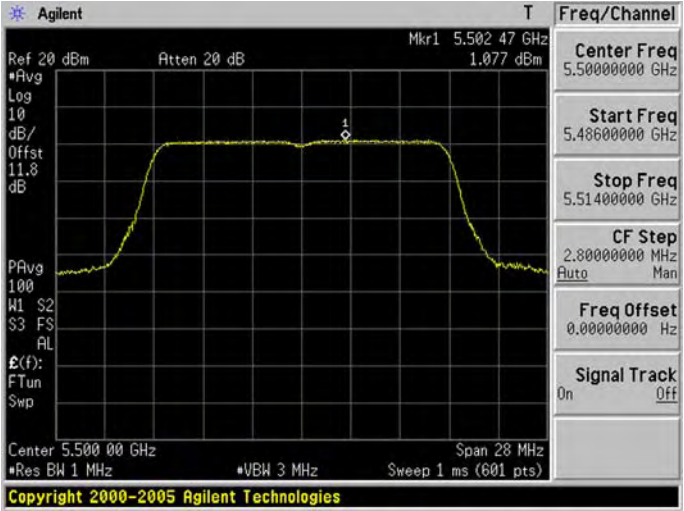
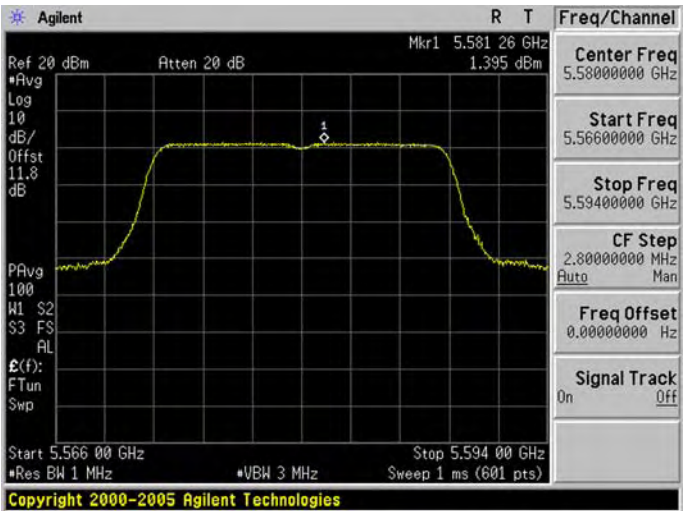
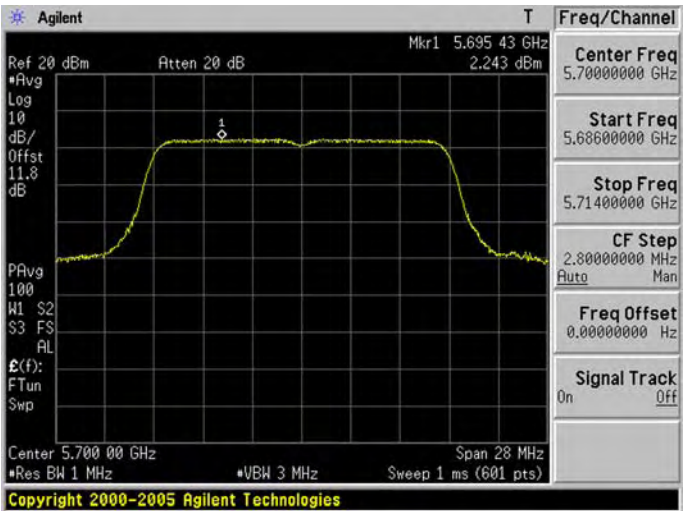
Model Number	PS5 SPEAKER		
Test Item	Conducted power spectral density		
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode		
Date of Test	10/28/2014	Test Site	TE02
Frequency (MHz)		Measurement (dBm/MHz)	FCC Limit (dBm/MHz)
5180		0.026	< 11
5220		0.747	
5240		0.390	
5260		0.264	< 11
5280		0.043	
5320		-1.181	
5500		-1.476	< 11
5580		-1.129	
5700		-1.952	
Frequency (MHz)	Measurement (dBm/100KHz)	Measurement (dBm/500KHz)	FCC Limit (dBm/500KHz)
5745	-3.45	3.54	< 30
5785	-3.54	3.45	
5825	-4.27	2.72	

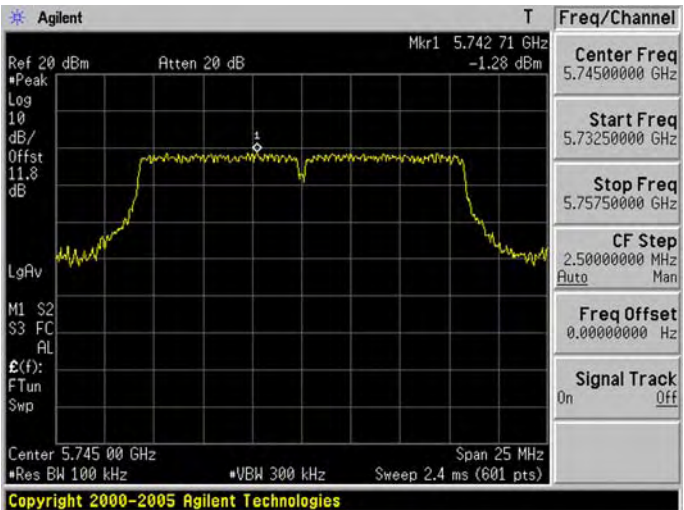
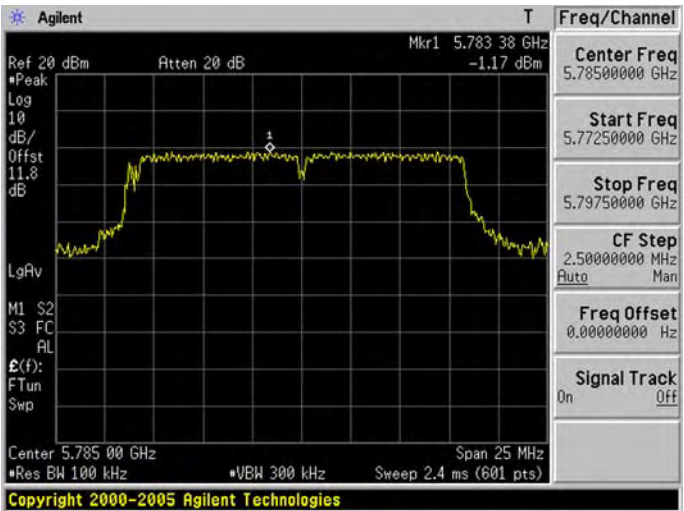
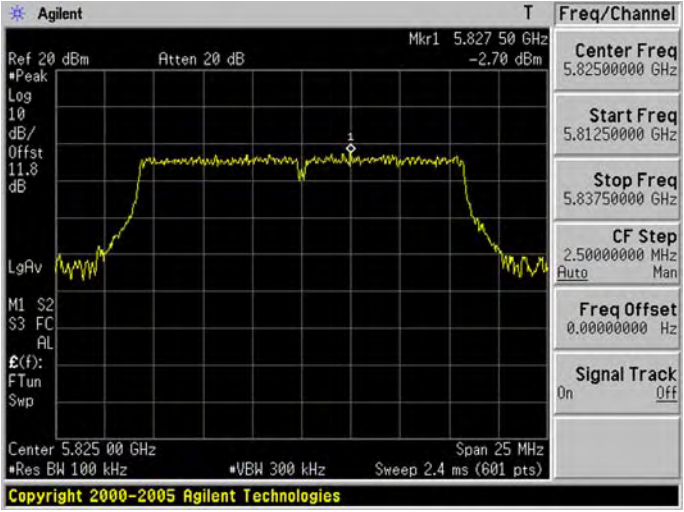
Model Number	PS5 SPEAKER		
Test Item	Conducted power spectral density		
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode		
Date of Test	10/28/2014	Test Site	TE02
Frequency (MHz)	Measurement (dBm/MHz)		FCC Limit (dBm/MHz)
5190	-2.190		< 11
5230	-2.265		
5270	-2.582		< 11
5310	-3.901		
5510	-2.684		< 11
5590	-2.813		
5670	-3.203		
Frequency (MHz)	Measurement (dBm/100KHz)	Measurement (dBm/500KHz)	FCC Limit (dBm/500KHz)
5755	-6.78	0.21	< 30
5795	-6.68	0.31	

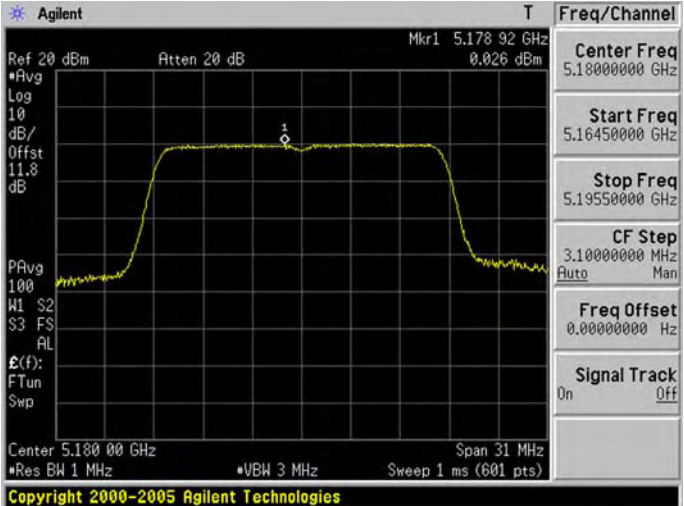
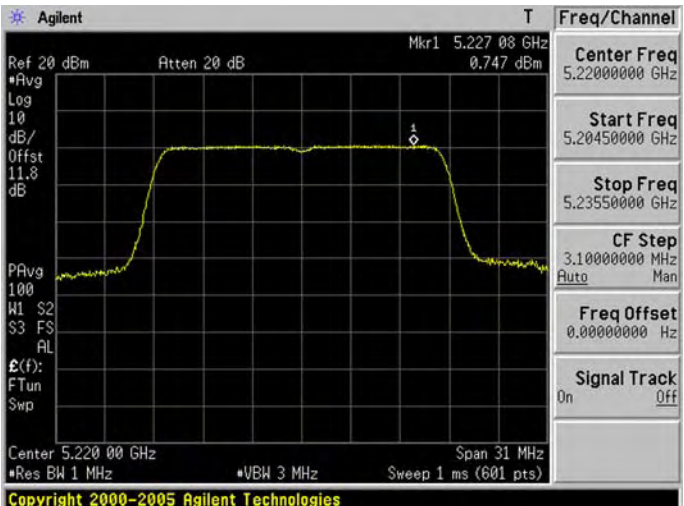
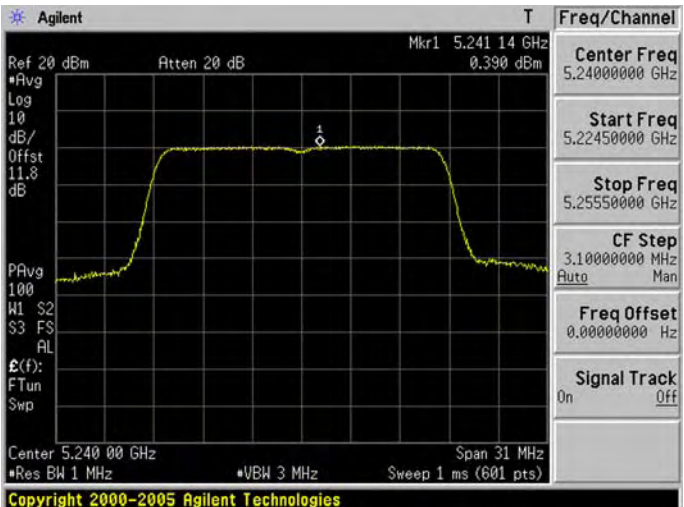
9.6. Test Graphs

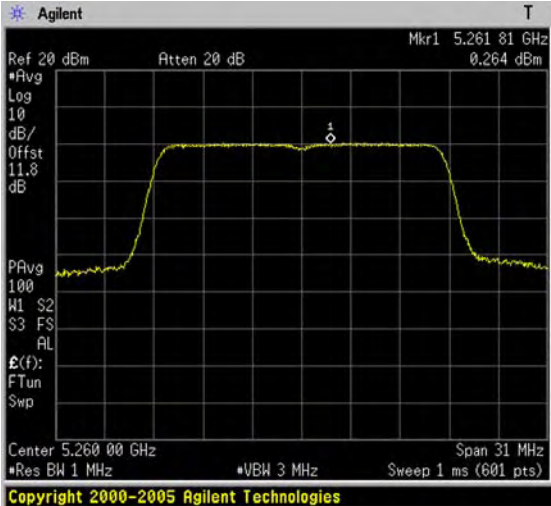
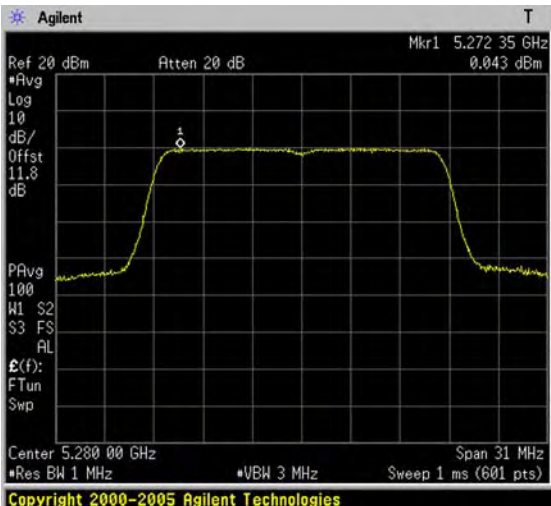
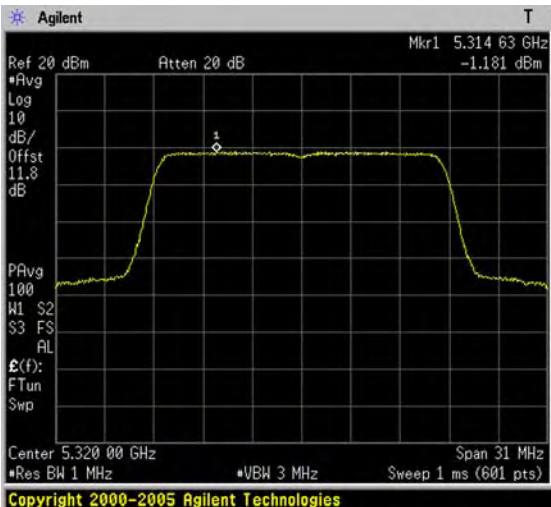
Mode 2: IEEE 802.11a Link Mode	
5180	 Copyright 2000-2005 Agilent Technologies
5220	 Copyright 2000-2005 Agilent Technologies
5240	 Copyright 2000-2005 Agilent Technologies

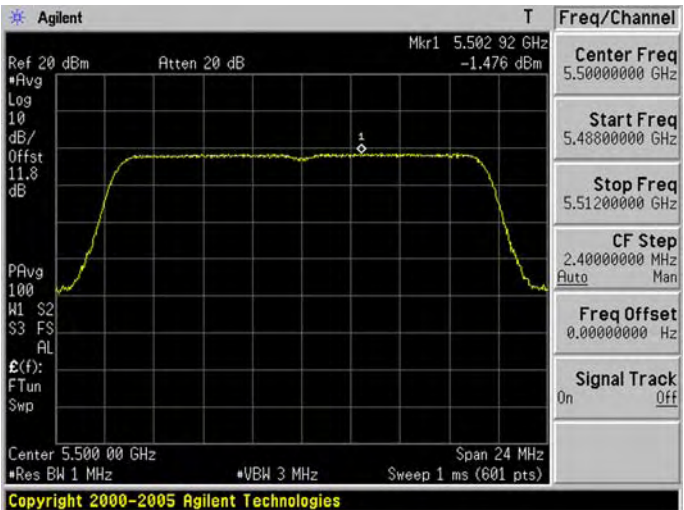
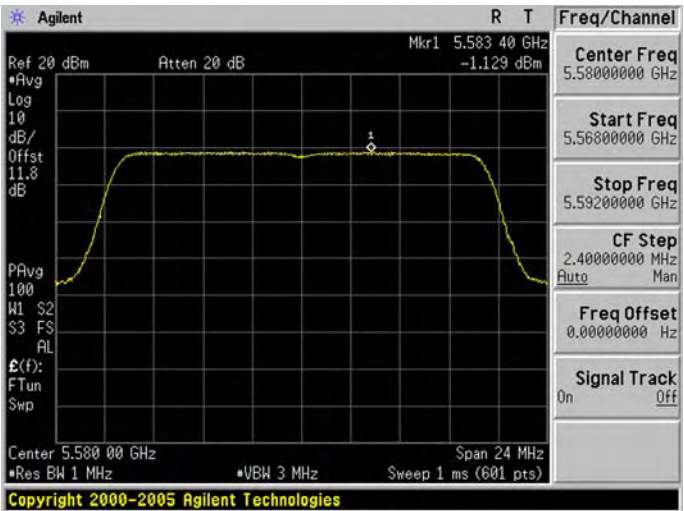
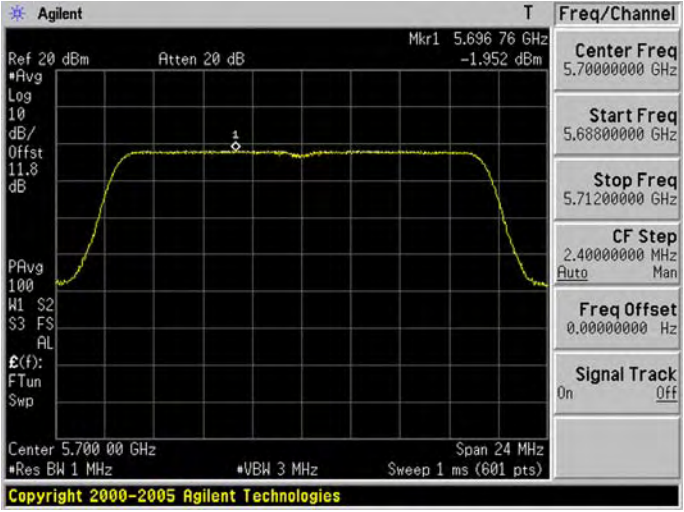
Mode 2: IEEE 802.11a Link Mode	
5260	 Copyright 2000-2005 Agilent Technologies
5280	 Copyright 2000-2005 Agilent Technologies
5320	 Copyright 2000-2005 Agilent Technologies

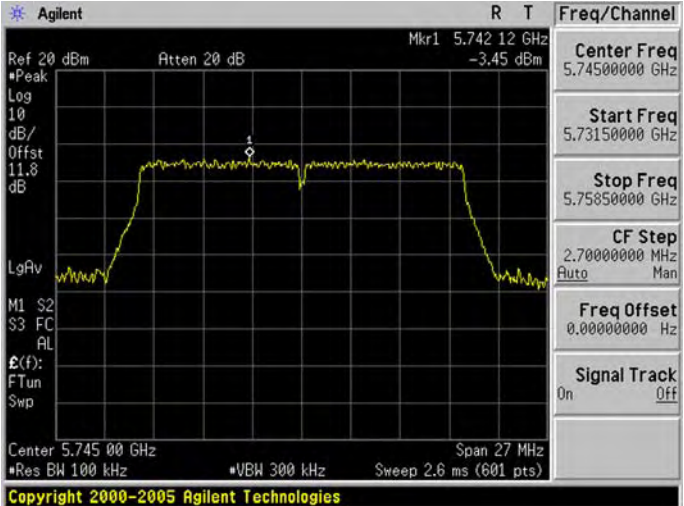
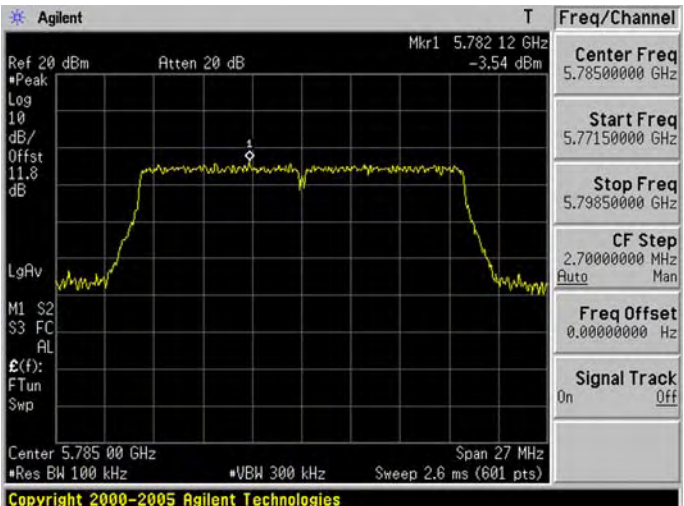
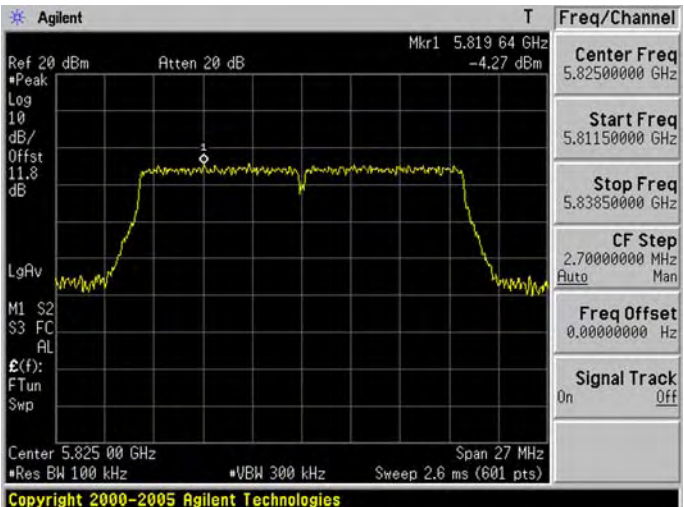
Mode 2: IEEE 802.11a Link Mode	
5500	
5580	
5700	

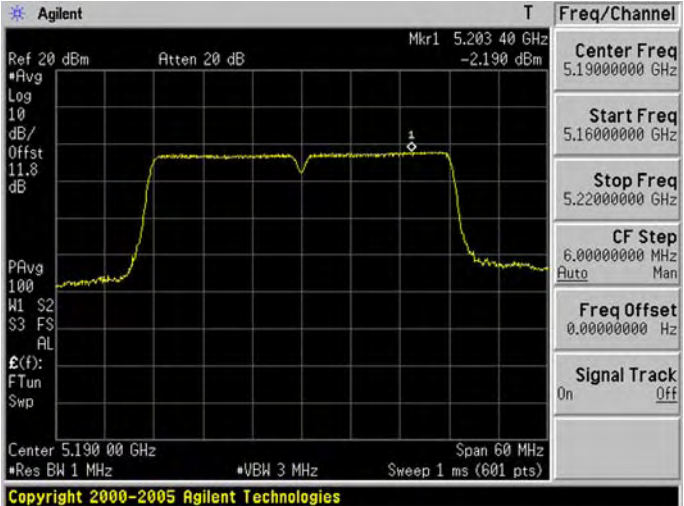
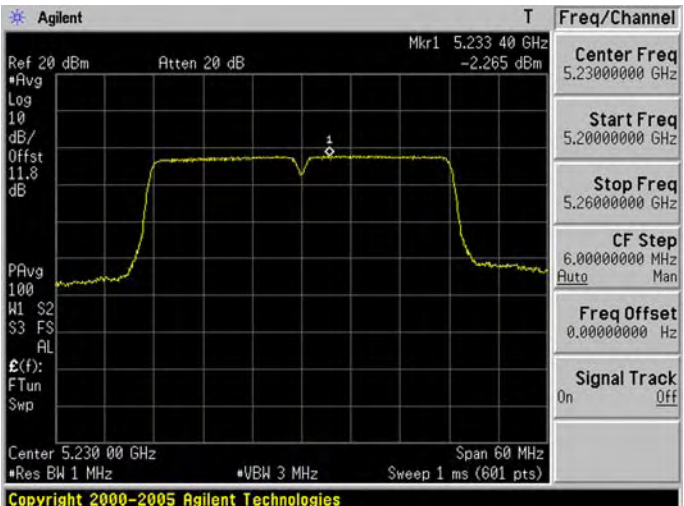
Mode 2: IEEE 802.11a Link Mode	
5745	 Copyright 2000-2005 Agilent Technologies
5785	 Copyright 2000-2005 Agilent Technologies
5825	 Copyright 2000-2005 Agilent Technologies

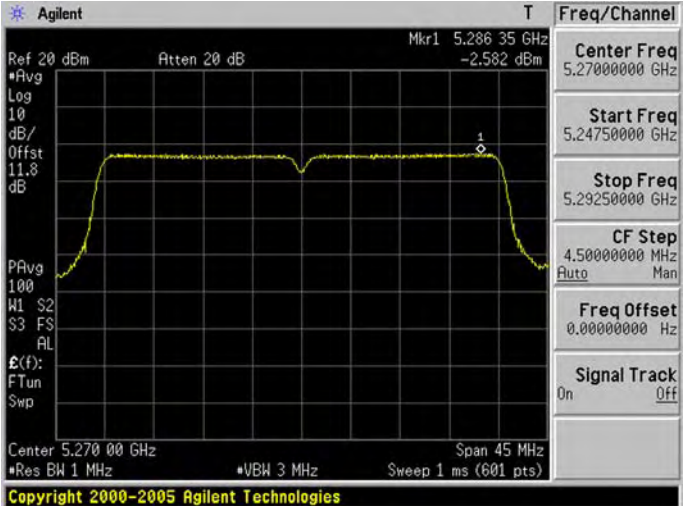
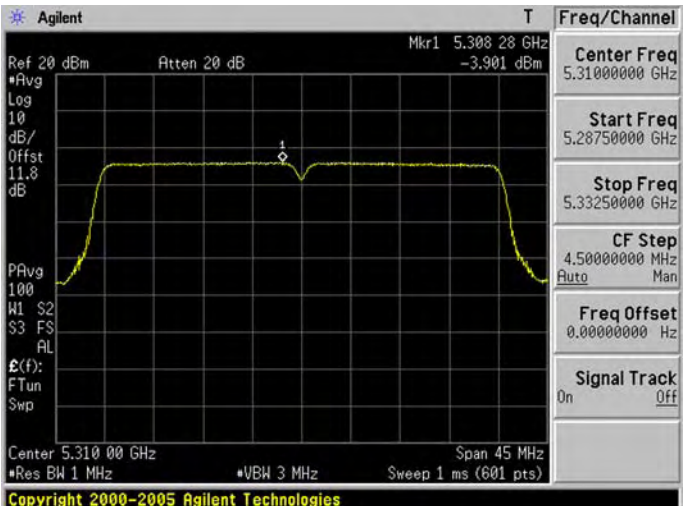
Mode 3: IEEE 802.11n 20MHz Link Mode	
5180	 Copyright 2000-2005 Agilent Technologies
5220	 Copyright 2000-2005 Agilent Technologies
5240	 Copyright 2000-2005 Agilent Technologies

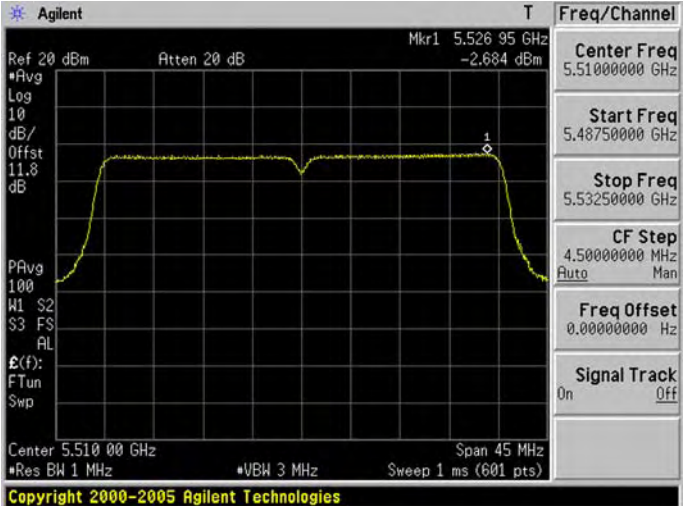
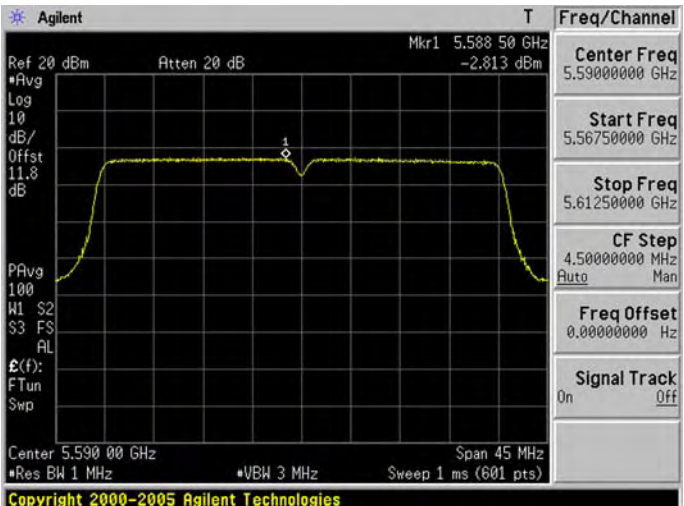
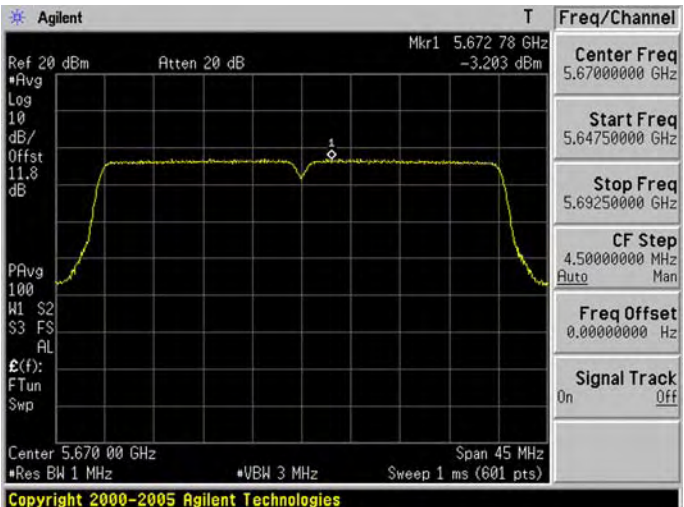
Mode 3: IEEE 802.11n 20MHz Link Mode	
5260	 Copyright 2000-2005 Agilent Technologies
5280	 Copyright 2000-2005 Agilent Technologies
5320	 Copyright 2000-2005 Agilent Technologies

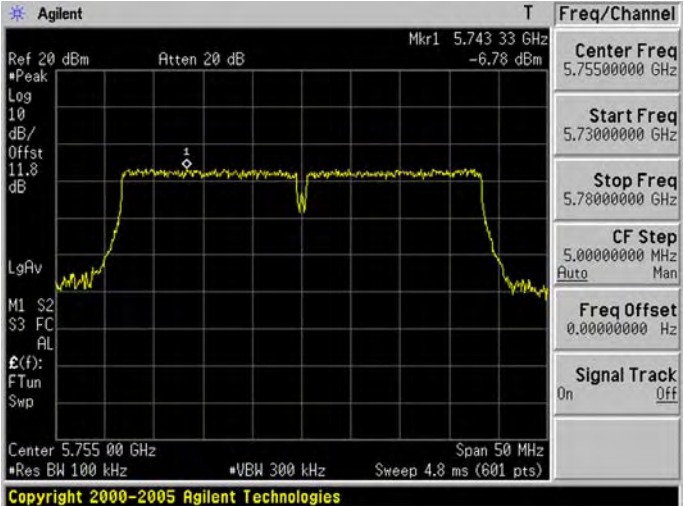
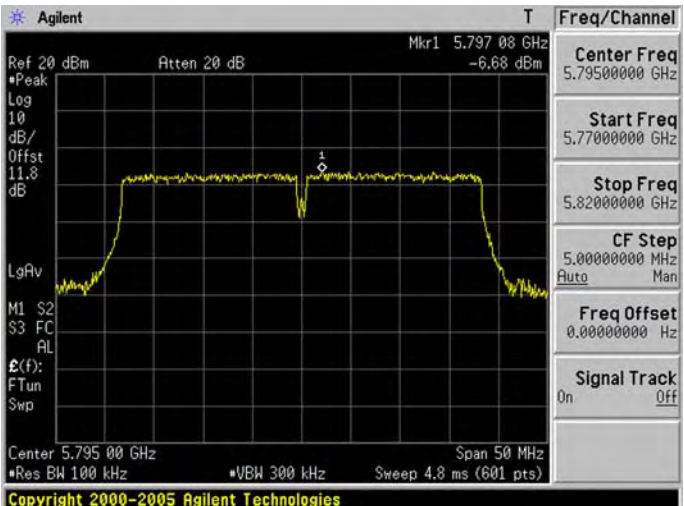
Mode 3: IEEE 802.11n 20MHz Link Mode	
5500	
5580	
5700	

Mode 3: IEEE 802.11n 20MHz Link Mode	
5745	 Agilent R T Freq/Channel Mkr1 5.742 12 GHz Ref 20 dBm Atten 20 dB •Peak Log 10 dB/ Offset 11.8 dB LgAv M1 S2 S3 FC AL E(f): FTun Swp Center 5.745 00 GHz Span 27 MHz •Res BW 100 kHz •VBW 300 kHz Sweep 2.6 ms (601 pts) Copyright 2000-2005 Agilent Technologies Center Freq 5.74500000 GHz Start Freq 5.73150000 GHz Stop Freq 5.75850000 GHz CF Step 2.70000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5785	 Agilent T Freq/Channel Mkr1 5.782 12 GHz Ref 20 dBm Atten 20 dB •Peak Log 10 dB/ Offset 11.8 dB LgAv M1 S2 S3 FC AL E(f): FTun Swp Center 5.785 00 GHz Span 27 MHz •Res BW 100 kHz •VBW 300 kHz Sweep 2.6 ms (601 pts) Copyright 2000-2005 Agilent Technologies Center Freq 5.78500000 GHz Start Freq 5.77150000 GHz Stop Freq 5.79850000 GHz CF Step 2.70000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5825	 Agilent T Freq/Channel Mkr1 5.819 64 GHz Ref 20 dBm Atten 20 dB •Peak Log 10 dB/ Offset 11.8 dB LgAv M1 S2 S3 FC AL E(f): FTun Swp Center 5.825 00 GHz Span 27 MHz •Res BW 100 kHz •VBW 300 kHz Sweep 2.6 ms (601 pts) Copyright 2000-2005 Agilent Technologies Center Freq 5.82500000 GHz Start Freq 5.81150000 GHz Stop Freq 5.83850000 GHz CF Step 2.70000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

Mode 4: IEEE 802.11n 40MHz Link Mode	
5190	
5230	

Mode 4: IEEE 802.11n 40MHz Link Mode	
5270	 Agilent T Freq/Channel Ref 20 dBm Atten 20 dB Mkr1 5.286 35 GHz -2.582 dBm Center Freq 5.2700000 GHz Start Freq 5.2475000 GHz Stop Freq 5.2925000 GHz CF Step 4.5000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Center 5.270 00 GHz Span 45 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Copyright 2000-2005 Agilent Technologies
5310	 Agilent T Freq/Channel Ref 20 dBm Atten 20 dB Mkr1 5.308 28 GHz -3.901 dBm Center Freq 5.3100000 GHz Start Freq 5.2875000 GHz Stop Freq 5.3325000 GHz CF Step 4.5000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Center 5.310 00 GHz Span 45 MHz Res BW 1 MHz VBW 3 MHz Sweep 1 ms (601 pts) Copyright 2000-2005 Agilent Technologies

Mode 4: IEEE 802.11n 40MHz Link Mode	
5510	 Copyright 2000-2005 Agilent Technologies
5590	 Copyright 2000-2005 Agilent Technologies
5670	 Copyright 2000-2005 Agilent Technologies

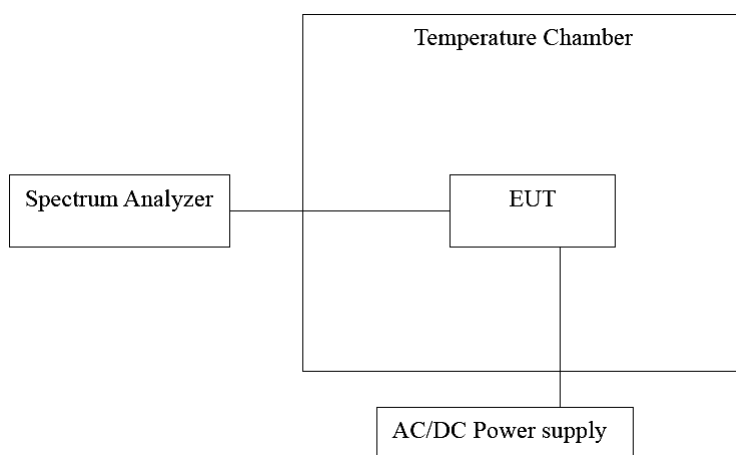
Mode 4: IEEE 802.11n 40MHz Link Mode	
5755	 Copyright 2000-2005 Agilent Technologies
5795	 Copyright 2000-2005 Agilent Technologies

10 Frequency Stability Measurement

10.1. 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.

10.2. Test Setup



10.3. 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.

10.4. 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.

10.5. Test Result

Temperature Variations

Model Number	PS5 SPEAKER				
Test Mode	Mode 2				
Frequency	5220 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5219.9583	-41700	7.989	Pass
-20		5219.9697	-30300	5.805	Pass
-10		5220.0096	9600	-1.839	Pass
0		5219.9632	-36800	7.050	Pass
10		5220.0394	39400	-7.548	Pass
20		5219.9909	-9100	1.743	Pass
30		5219.9744	-25600	4.904	Pass
40		5219.9762	-23800	4.559	Pass
50		5220.0048	4800	-0.920	Pass

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

Model Number	PS5 SPEAKER				
Test Mode	Mode 2				
Frequency	5280 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5280.0212	21200	-4.015	Pass
-20		5279.9554	-44600	8.447	Pass
-10		5279.9576	-42400	8.030	Pass
0		5280.0245	24500	-4.640	Pass
10		5279.9627	-37300	7.064	Pass
20		5280.0086	8600	-1.629	Pass
30		5279.9551	-44900	8.504	Pass
40		5279.9766	-23400	4.432	Pass
50		5280.0238	23800	-4.508	Pass

Model Number	PS5 SPEAKER				
Test Mode	Mode 2				
Frequency	5580 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5579.9538	-46200	8.280	Pass
-20		5579.9932	-6800	1.219	Pass
-10		5580.0288	28800	-5.161	Pass
0		5580.0371	37100	-6.649	Pass
10		5580.0064	6400	-1.147	Pass
20		5580.0119	11900	-2.133	Pass
30		5580.0399	39900	-7.151	Pass
40		5579.9959	-4100	0.735	Pass
50		5579.9813	-18700	3.351	Pass

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

Model Number	PS5 SPEAKER				
Test Mode	Mode 2				
Frequency	5785 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	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		5785.0354	35400	-6.119	Pass
20		5784.9928	-7200	1.245	Pass
30		5784.9754	-24600	4.252	Pass
40		5784.9772	-22800	3.941	Pass
50		5785.0018	1800	-0.311	Pass

Model Number	PS5 SPEAKER				
Test Mode	Mode 3				
Frequency	5220 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5220.0115	11500	-2.203	Pass
-20		5220.0015	1500	-0.287	Pass
-10		5219.9597	-40300	7.720	Pass
0		5220.0481	48100	-9.215	Pass
10		5219.9698	-30200	5.785	Pass
20		5220.0398	39800	-7.625	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 than 20ppm.

Model Number	PS5 SPEAKER				
Test Mode	Mode 3				
Frequency	5280 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5279.9884	-11600	2.197	Pass
-20		5280.0259	25900	-4.905	Pass
-10		5279.9577	-42300	8.011	Pass
0		5280.0015	1500	-0.284	Pass
10		5279.9672	-32800	6.212	Pass
20		5279.9504	-49600	9.394	Pass
30		5280.0237	23700	-4.489	Pass
40		5279.9597	-40300	7.633	Pass
50		5280.0096	9600	-1.818	Pass

Model Number	PS5 SPEAKER				
Test Mode	Mode 3				
Frequency	5580 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5579.9859	-14100	2.527	Pass
-20		5580.0287	28700	-5.143	Pass
-10		5579.9806	-19400	3.477	Pass
0		5580.0363	36300	-6.505	Pass
10		5580.0179	17900	-3.208	Pass
20		5580.0262	26200	-4.695	Pass
30		5579.9797	-20300	3.638	Pass
40		5580.0068	6800	-1.219	Pass
50		5579.9661	-33900	6.075	Pass

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

Model Number	PS5 SPEAKER				
Test Mode	Mode 3				
Frequency	5785 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5785.0358	35800	-6.188	Pass
-20		5785.0153	15300	-2.645	Pass
-10		5785.0216	21600	-3.734	Pass
0		5784.9876	-12400	2.143	Pass
10		5785.0147	14700	-2.541	Pass
20		5784.9901	-9900	1.711	Pass
30		5784.9658	-34200	5.912	Pass
40		5784.9977	-2300	0.398	Pass
50		5785.0114	11400	-1.971	Pass

Model Number	PS5 SPEAKER				
Test Mode	Mode 4				
Frequency	5190 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5190.0498	49800	-9.595	Pass
-20		5190.0228	22800	-4.393	Pass
-10		5189.9504	-49600	9.557	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 than 20ppm.

Model Number	PS5 SPEAKER				
Test Mode	Mode 4				
Frequency	5270 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5270.0495	49500	-9.393	Pass
-20		5270.0173	17300	-3.283	Pass
-10		5269.9857	-14300	2.713	Pass
0		5269.9541	-45900	8.710	Pass
10		5270.0130	13000	-2.467	Pass
20		5269.9502	-49800	9.450	Pass
30		5269.9994	-600	0.114	Pass
40		5269.9934	-6600	1.252	Pass
50		5269.9664	-33600	6.376	Pass

Model Number	PS5 SPEAKER				
Test Mode	Mode 4				
Frequency	5590 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5589.9739	-26100	4.669	Pass
-20		5590.0040	4000	-0.716	Pass
-10		5590.0342	34200	-6.118	Pass
0		5590.0094	9400	-1.682	Pass
10		5589.9544	-45600	8.157	Pass
20		5590.0191	19100	-3.417	Pass
30		5589.9884	-11600	2.075	Pass
40		5590.0055	5500	-0.984	Pass
50		5590.0259	25900	-4.633	Pass

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

Model Number	PS5 SPEAKER				
Test Mode	Mode 4				
Frequency	5755 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5754.9798	-20200	3.510	Pass
-20		5755.0335	33500	-5.821	Pass
-10		5754.9871	-12900	2.242	Pass
0		5754.9822	-17800	3.093	Pass
10		5755.0247	24700	-4.292	Pass
20		5754.9844	-15600	2.711	Pass
30		5754.9638	-36200	6.290	Pass
40		5755.0158	15800	-2.745	Pass
50		5755.0298	29800	-5.178	Pass

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

Voltage Variations

Model Number	PS5 SPEAKER				
Test Mode	Mode 2				
Frequency	5220 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	138.00	5220.0364	36400	-6.973	Pass
	120.00	5220.0239	23900	-4.579	Pass
	102.00	5220.0039	3900	-0.747	Pass

Model Number	PS5 SPEAKER				
Test Mode	Mode 2				
Frequency	5280 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	138.00	5279.9892	-10800	2.045	Pass
	120.00	5279.9893	-10700	2.027	Pass
	102.00	5279.9837	-16300	3.087	Pass

Model Number	PS5 SPEAKER				
Test Mode	Mode 2				
Frequency	5580 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	138.00	5579.9782	-21800	3.907	Pass
	120.00	5579.9863	-13700	2.455	Pass
	102.00	5579.9546	-45400	8.136	Pass

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

Model Number	PS5 SPEAKER				
Test Mode	Mode 2				
Frequency	5785 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	138.00	5785.0264	26400	-4.564	Pass
	120.00	5784.9928	-7200	1.245	Pass
	102.00	5784.9839	-16100	2.783	Pass

Model Number	PS5 SPEAKER				
Test Mode	Mode 3				
Frequency	5220 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	138.00	5219.9943	-5700	1.092	Pass
	120.00	5219.9558	-44200	8.467	Pass
	102.00	5220.0267	26700	-5.115	Pass

Model Number	PS5 SPEAKER				
Test Mode	Mode 3				
Frequency	5280 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	138.00	5279.9576	-42400	8.030	Pass
	120.00	5280.0291	29100	-5.511	Pass
	102.00	5279.9759	-24100	4.564	Pass

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

Model Number	PS5 SPEAKER				
Test Mode	Mode 3				
Frequency	5580 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	138.00	5579.9562	-43800	7.849	Pass
	120.00	5580.0209	20900	-3.746	Pass
	102.00	5579.9633	-36700	6.577	Pass

Model Number	PS5 SPEAKER				
Test Mode	Mode 3				
Frequency	5785 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	138.00	5785.0109	10900	-1.884	Pass
	120.00	5784.9901	-9900	1.711	Pass
	102.00	5784.9776	-22400	3.872	Pass

Model Number	PS5 SPEAKER				
Test Mode	Mode 4				
Frequency	5190 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	138.00	5190.0472	47200	-9.094	Pass
	120.00	5189.9811	-18900	3.642	Pass
	102.00	5189.9698	-30200	5.819	Pass

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

Model Number	PS5 SPEAKER				
Test Mode	Mode 4				
Frequency	5270 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	138.00	5270.0135	13500	-2.562	Pass
	120.00	5270.0018	1800	-0.342	Pass
	102.00	5270.0275	27500	-5.218	Pass

Model Number	PS5 SPEAKER				
Test Mode	Mode 4				
Frequency	5590 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	138.00	5589.9917	-8300	1.485	Pass
	120.00	5590.0158	15800	-2.826	Pass
	102.00	5589.9855	-14500	2.594	Pass

Model Number	PS5 SPEAKER				
Test Mode	Mode 4				
Frequency	5755 MHz				
Date of Test	10/28/2014			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	138.00	5755.0147	14700	-2.554	Pass
	120.00	5754.9844	-15600	2.711	Pass
	102.00	5754.9866	-13400	2.328	Pass

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

11 Antenna Requirement

11.1. 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.

11.2. Antenna Connector Construction

The antenna used in this product is listed below.

Antenna Port	Model Number	Type	Max. Gain
ANT 0	MSA-3510-25GC4-A1	PIFA	5.38 dBi
ANT 1	MSA-3310-25GC4-A1	PIFA	4.07 dBi