

FCC 47 CFR PART 15 SUBPART E

Product Type : Smartphone
Applicant : HTC Corporation
Address : No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330,
Taiwan
Trade Name : HTC
Model Number : PJ46100
Test Specification : FCC 47 CFR PART 15 SUBPART E: Oct., 2010
ANSI C63.4-2009
Application Purpose : Original
Receive Date : Jan. 19, 2012
Issue Date : Mar. 02, 2012

Issue by

A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade City,
Taoyuan County 334, Taiwan R.O.C.
Tel : +86-3-2710188 / Fax : +86-3-2710190



Taiwan Accreditation Foundation accreditation number: 1330

Note: This report shall not be reproduced except in full, without the written approval of A Test Lab Techno Corp. This document may be altered or revised by A Test Lab Techno Corp. personnel only, and shall be noted in the revision section of the document. The client should not use it to claim product endorsement by TAF, or any government agencies. The test results in the report only apply to the tested sample.

Revision History

Rev.	Issue Date	Revisions	Revised By
00	Feb. 23, 2012	Initial Issue	
01	Mar. 02, 2012	Update Radiated Emission and Maximum Conducted Output Power test result	Linda Su

Verification of Compliance

Issued Date: 03/02/2012

Product Type : Smartphone
Applicant : HTC Corporation
Address : No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330,
Taiwan
Trade Name : HTC
Model Number : PJ46100
FCC ID : NM8PJ46100
EUT Rated Voltage : DC 5.0V, 1.0A
Test Voltage : 120 Vac / 60 Hz
Applicable Standard : FCC 47 CFR PART 15 SUBPART E: Oct., 2010
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.

Tel : +86-3-2710188 / Fax : +86-3-2710190

Taiwan Accreditation Foundation accreditation number:
1330



<http://www.atl-lab.com.tw/e-index.htm>

The above equipment was tested by A Test Lab Techno Corp. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4: 2009 and the energy emitted by the sample tested as described in this report is in compliance with the requirements of FCC Rules Part 15.203, 15.407 .
The test results of this report relate only to the tested sample identified in this report.

Approved By :  Reviewed By : 
(Manager) (Murphy Wang) (Testing Engineer) (Fly Lu)

TABLE OF CONTENTS

1	General Information	6
2	EUT Description	7
3	Test Methodology.....	8
	3.1. Mode of Operation	8
	3.2. EUT Exercise Software.....	9
	3.3. Configuration of Test System Details.....	9
	3.4. Test Site Environment.....	10
4	AC Power Conducted Emission Measurement	11
	4.1. Limit	11
	4.2. Test Instruments.....	11
	4.3. Test Setup	11
	4.4. Test Procedure.....	12
	4.5. Test Result	13
5	Radiated Emission Measurement.....	17
	5.1. Limit	17
	5.2. Test Instruments.....	18
	5.3. Setup.....	19
	5.4. Test Procedure.....	20
	5.5. Test Result	22
6	Maximum Conducted Output Power Measurement.....	46
	6.1. Limit	46
	6.2. Test Setup	46
	6.3. Test Instruments.....	46
	6.4. Test Procedure.....	46
	6.5. Test Result	47
7	26dB RF Bandwidth Measurement	48
	7.1. Limit	48
	7.2. Test Setup	48
	7.3. Test Instruments.....	48
	7.4. Test Procedure.....	48
	7.5. Test Result	49
	7.6. Test Graphs.....	50

8	Peak Power Excursion Measurement	56
8.1.	Limit	56
8.2.	Test Setup	56
8.3.	Test Instruments.....	56
8.4.	Test Procedure.....	56
8.5.	Test Result	57
8.6.	Test Graphs.....	58
9	Peak Power Spectral Density Measurement.....	64
9.1.	Limit	64
9.2.	Test Setup	64
9.3.	Test Instruments.....	64
9.4.	Test Procedure.....	64
9.5.	Test Result	65
9.6.	Test Graphs.....	66
10	Frequency Stability Measurement.....	72
10.1.	Limit	72
10.2.	Test Setup	72
10.3.	Test Instruments.....	72
10.4.	Test Procedure.....	73
10.5.	Test Result	73
11	Antenna Measurement.....	79
11.1.	Limit	79
11.2.	Antenna Connector Construction.....	79

1 General Information

1.1 Summary of Test Result

Standard	Item	Result	Remark
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit.
15.407(b/1/2/3) (b)(5)	Radiated Emission	PASS	Meet the requirement of limit.
15.407(a/1/2/3)	Maximum Conducted Output Power	PASS	Meet the requirement of limit.
---	26dB RF Bandwidth	Reference	---
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Meet the requirement of limit.

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

Conducted Emission

The measurement uncertainty is evaluated as ± 2.24 dB.

Radiated Emission

The measurement uncertainty of 30 MHz - 1GHz is evaluated as ± 3.96 dB.

The measurement uncertainty of 1 GHz - 40 GHz is evaluated as ± 3.62 dB.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

2 EUT Description

Product	: Smartphone			
Trade Name	: HTC			
Model No.	: PJ46100			
Applicant	: HTC Corporation No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan			
Manufacturer	: HTC Corporation No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan			
IMEI Number	: 359188040039208			
FCC ID	: NM8PJ46100			
Frequency Range	U-NII Band I	IEEE 802.11a	5180 – 5240	4 Channels
		draft 802.11n Standard-20 MHz	5180 – 5240	4 Channels
	U-NII Band II	IEEE 802.11a	5260 - 5320	4 Channels
		draft 802.11n Standard-20 MHz	5260 - 5320	4 Channels
	U-NII Band III	IEEE 802.11a	5500 - 5700	11 Channels
		draft 802.11n Standard-20 MHz	5500 – 5700	11 Channels
Modulation Type	: IEEE 802.11a U-NII Band I/Band II/Band III: OFDM draft 802.11n Standard-20MHz U-NII Band I/Band II/Band III: OFDM			
Antenna Type	: PIFA antenna			
Antenna Gain	: 1.18 dBi			
RF Output Power	: IEEE 802.11a U-NII Band I : 0.0184 W / 12.64 dBm IEEE 802.11a U-NII Band II : 0.0179 W / 12.54 dBm IEEE 802.11a U-NII Band III : 0.0163 W / 12.12 dBm draft 802.11n Standard-20MHz U-NII Band I: 0.0138 W / 11.40 dBm draft 802.11n Standard-20MHz U-NII Band II: 0.0141 W / 11.48 dBm draft 802.11n Standard-20MHz U-NII Band III: 0.0126 W / 10.99 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: IDLE Mode
Mode 2: Normal Operation Mode
Mode 3: IEEE 802.11a Link Mode
Mode 4: draft 802.11n Standard-20MHz Link Mode
Mode 5: Receiver Mode

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

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

IEEE 802.11a mode / 5180 ~ 5240MHz:

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:

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:

Channel Low (5500MHz), Channel Mid (5600MHz) and Channel High (5700MHz) with 6Mbps data rate were chosen for full testing.

draft 802.11n Standard-20 MHz Channel mode / 5180 ~ 5240MHz:

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

draft 802.11n Standard-20 MHz Channel mode / 5260 ~ 5320MHz:

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

draft 802.11n Standard-20 MHz Channel mode / 5500 ~ 5700MHz:

Channel Low (5500MHz), Channel Mid (5600MHz) and Channel High (5700MHz) with 6.5Mbps data rate were chosen for full testing.

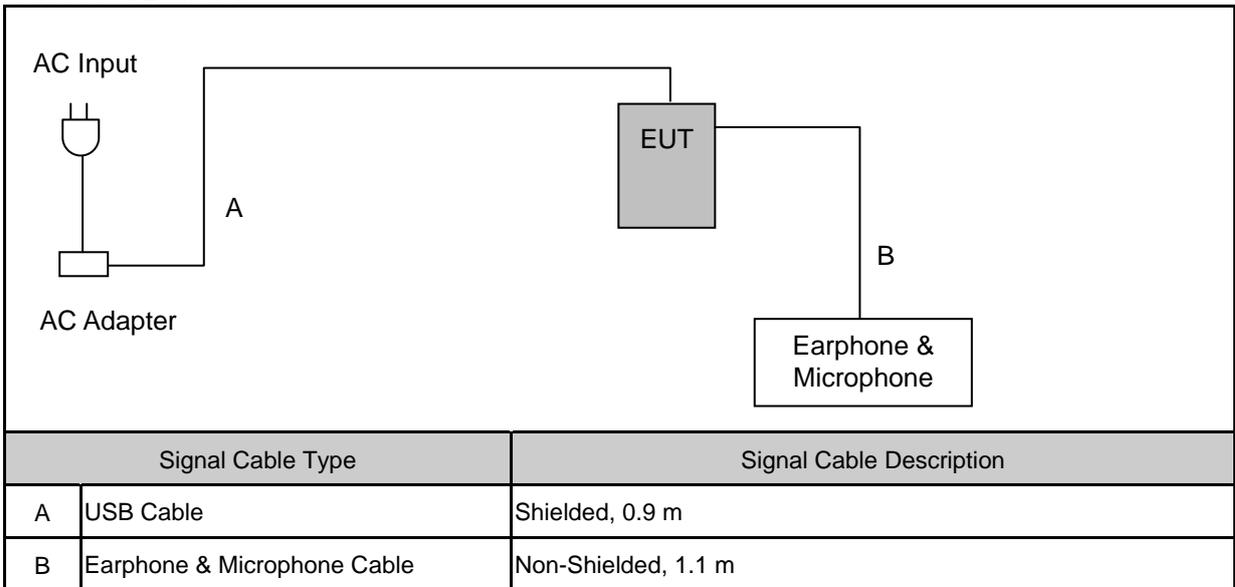
3.2. EUT Exercise Software

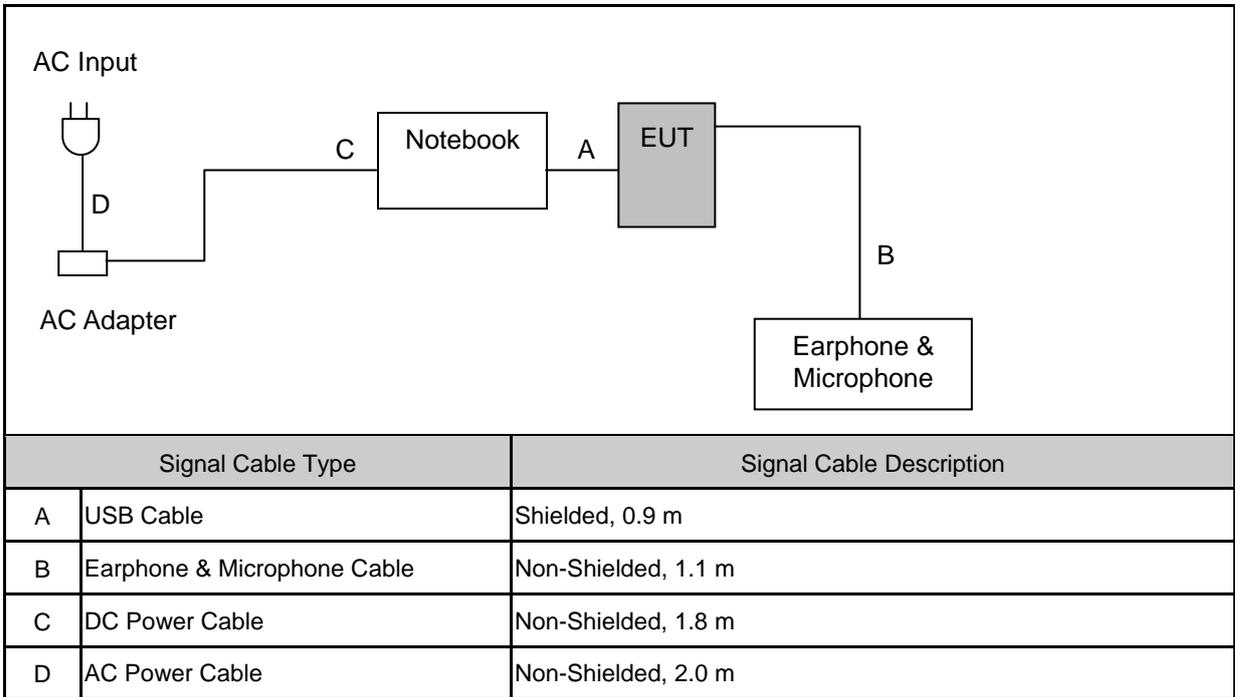
The EUT is operated in the engineering mode to fix the TX frequency for the purposes of measurement. According to its specifications, the EUT must comply with the requirements of Section 15.407 under the FCC Rules Part 15 Subpart E.

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

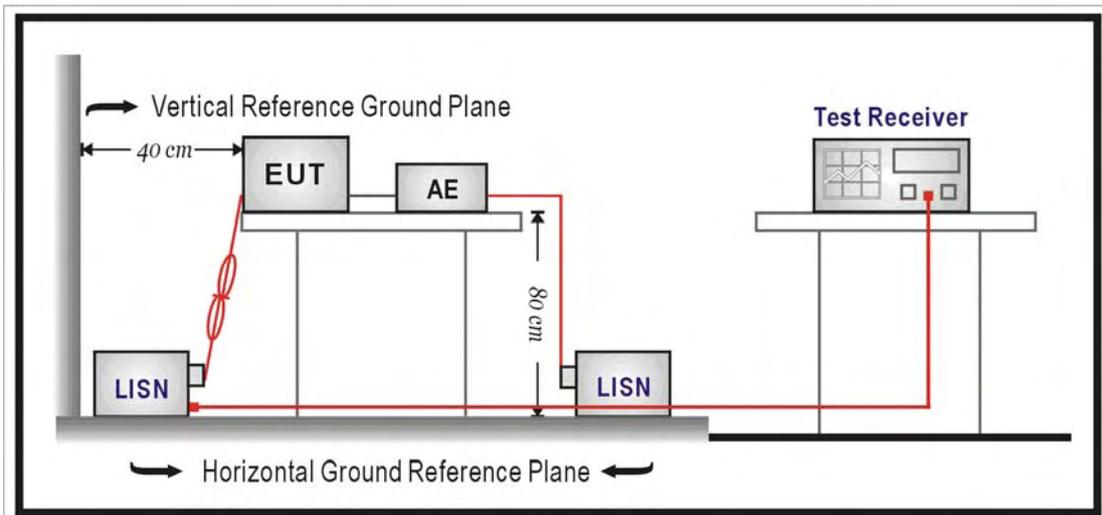
4.2. Test Instruments

Describe	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Test Receiver	R&S	ESCI	100367	06/30/2011	(1)
LISN	R&S	ENV216	101040	03/04/2011	(1)
LISN	R&S	ENV216	101041	03/04/2011	(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

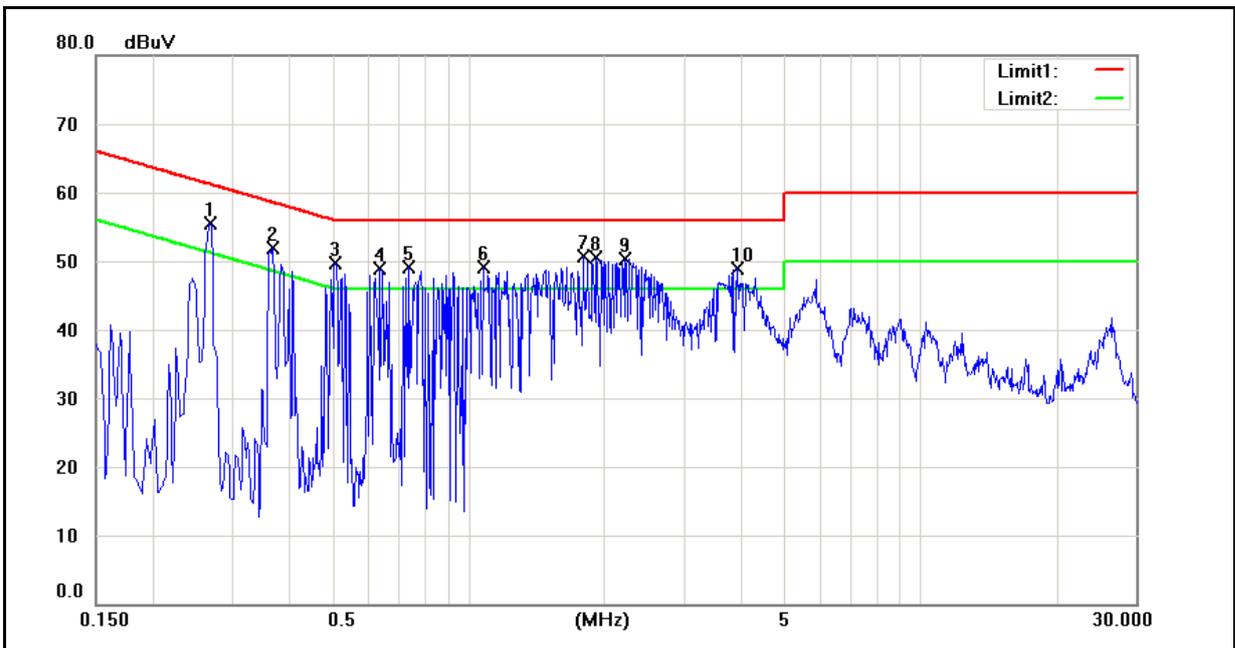
The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

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.

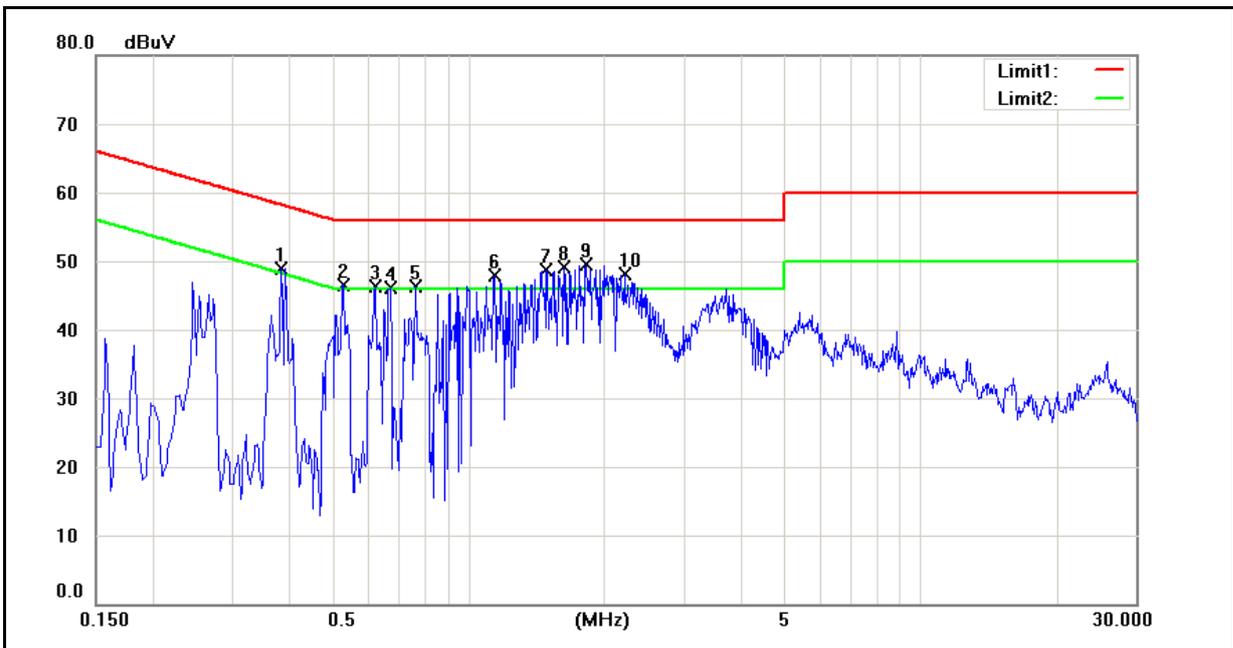
4.5. Test Result

Standard:	FCC Part 15E	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	18(°C)/50%RH
Mode:	Mode 1	Date:	02/10/2012
		Test By:	Fly Lu
Description:			



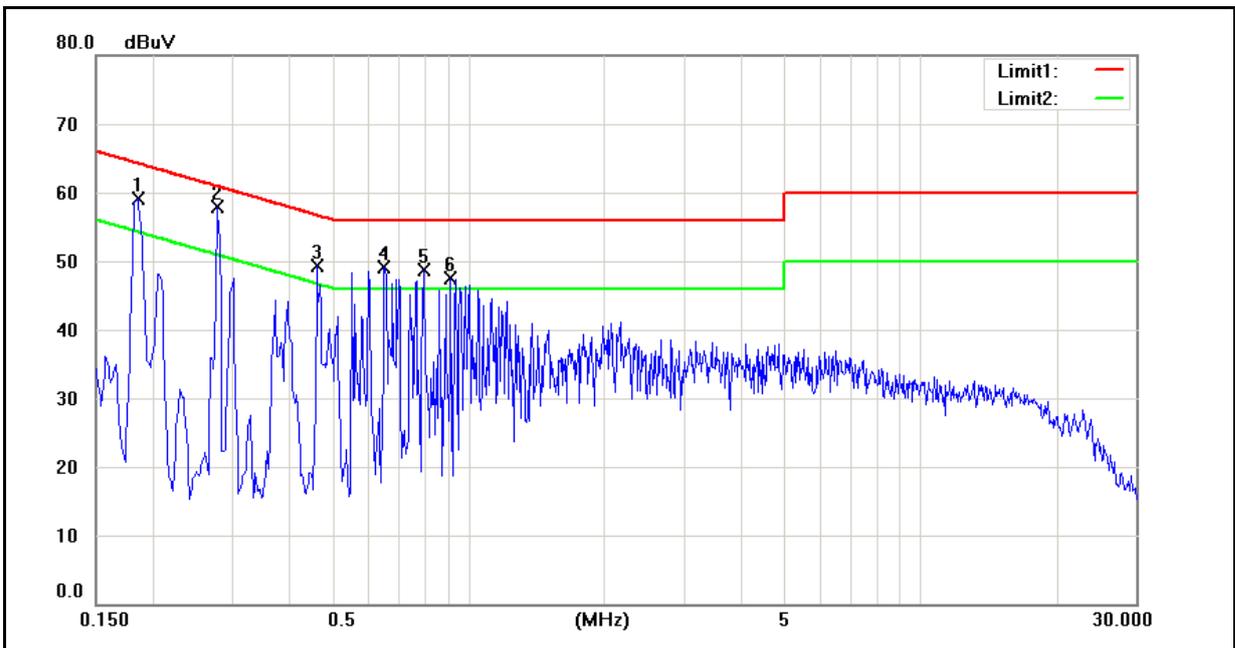
No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.2700	41.17	18.01	9.59	50.76	27.60	61.12	51.12	-10.36	-23.52	Pass
2	0.3700	37.35	19.23	9.59	46.94	28.82	58.50	48.50	-11.56	-19.68	Pass
3	0.5100	35.22	15.65	9.59	44.81	25.24	56.00	46.00	-11.19	-20.76	Pass
4	0.6380	34.53	13.61	9.60	44.13	23.21	56.00	46.00	-11.87	-22.79	Pass
5	0.7420	34.07	13.64	9.61	43.68	23.25	56.00	46.00	-12.32	-22.75	Pass
6	1.0780	31.38	10.54	9.63	41.01	20.17	56.00	46.00	-14.99	-25.83	Pass
7	1.7980	32.55	12.97	9.66	42.21	22.63	56.00	46.00	-13.79	-23.37	Pass
8	1.9220	34.44	15.82	9.67	44.11	25.49	56.00	46.00	-11.89	-20.51	Pass
9	2.2300	34.26	17.42	9.67	43.93	27.09	56.00	46.00	-12.07	-18.91	Pass
10	3.9540	30.79	10.17	9.66	40.45	19.83	56.00	46.00	-15.55	-26.17	Pass

Standard:	FCC Part 15E	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	18(°C)/50%RH
Mode:	Mode 1	Date:	02/10/2012
		Test By:	Fly Lu
Description:			



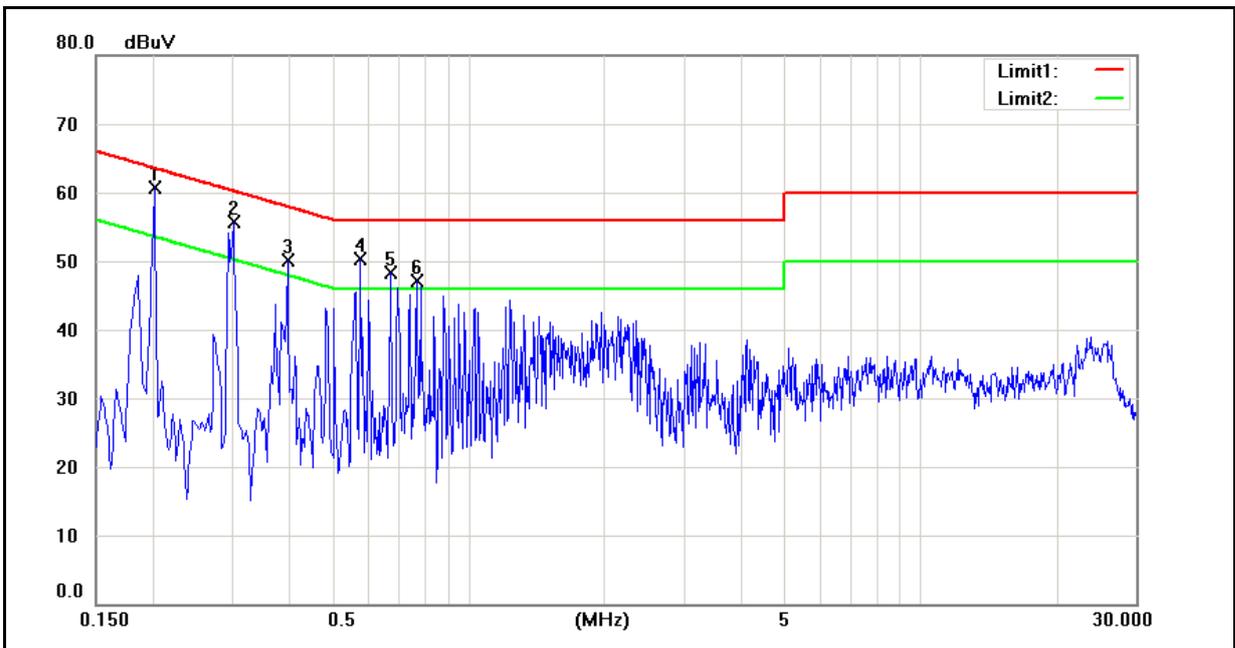
No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.3860	34.88	16.71	9.67	44.55	26.38	58.15	48.15	-13.60	-21.77	Pass
2	0.5300	32.14	14.43	9.67	41.81	24.10	56.00	46.00	-14.19	-21.90	Pass
3	0.6260	31.61	13.98	9.68	41.29	23.66	56.00	46.00	-14.71	-22.34	Pass
4	0.6740	30.28	13.53	9.68	39.96	23.21	56.00	46.00	-16.04	-22.79	Pass
5	0.7660	31.10	14.66	9.69	40.79	24.35	56.00	46.00	-15.21	-21.65	Pass
6	1.1460	31.51	12.88	9.70	41.21	22.58	56.00	46.00	-14.79	-23.42	Pass
7	1.4940	34.25	21.16	9.71	43.96	30.87	56.00	46.00	-12.04	-15.13	Pass
8	1.6300	34.43	18.36	9.72	44.15	28.08	56.00	46.00	-11.85	-17.92	Pass
9	1.8220	33.96	20.16	9.72	43.68	29.88	56.00	46.00	-12.32	-16.12	Pass
10	2.2180	32.36	18.13	9.73	42.09	27.86	56.00	46.00	-13.91	-18.14	Pass

Standard:	FCC Part 15E	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	18(°C)/50%RH
Mode:	Mode 2	Date:	02/10/2012
		Test By:	Fly Lu
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	0.1860	50.40	29.57	9.59	59.99	39.16	64.21	54.21	-4.22	-15.05	Pass
2	0.2780	42.33	18.13	9.59	51.92	27.72	60.88	50.88	-8.96	-23.16	Pass
3	0.4620	34.77	12.53	9.59	44.36	22.12	56.66	46.66	-12.30	-24.54	Pass
4	0.6540	35.13	16.90	9.60	44.73	26.50	56.00	46.00	-11.27	-19.50	Pass
5	0.7980	36.39	16.70	9.62	46.01	26.32	56.00	46.00	-9.99	-19.68	Pass
6	0.9140	35.05	15.02	9.62	44.67	24.64	56.00	46.00	-11.33	-21.36	Pass

Standard:	FCC Part 15E	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	18(°C)/50%RH
Mode:	Mode 2	Date:	02/10/2012
		Test By:	Fly Lu
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	0.2020	47.89	26.93	9.67	57.56	36.60	63.53	53.53	-5.97	-16.93	Pass
2	0.3020	41.38	18.32	9.67	51.05	27.99	60.19	50.19	-9.14	-22.20	Pass
3	0.3980	37.50	18.20	9.67	47.17	27.87	57.90	47.90	-10.73	-20.03	Pass
4	0.5780	36.39	14.80	9.67	46.06	24.47	56.00	46.00	-9.94	-21.53	Pass
5	0.6740	35.43	15.85	9.68	45.11	25.53	56.00	46.00	-10.89	-20.47	Pass
6	0.7700	35.48	16.22	9.69	45.17	25.91	56.00	46.00	-10.83	-20.09	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

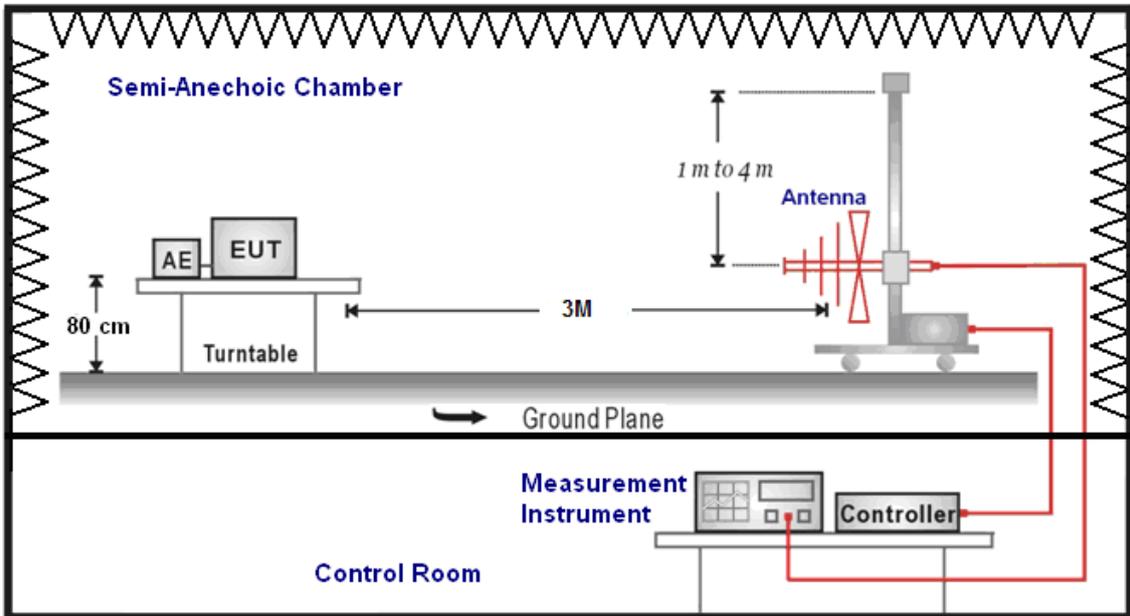
3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/16/2012	(1)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/16/2012	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/23/2011	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/23/2011	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	07/29/2011	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/29/2011	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/28/2011	(1)
Test Site	ATL	TE01	888001	12/20/2011	(1)

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

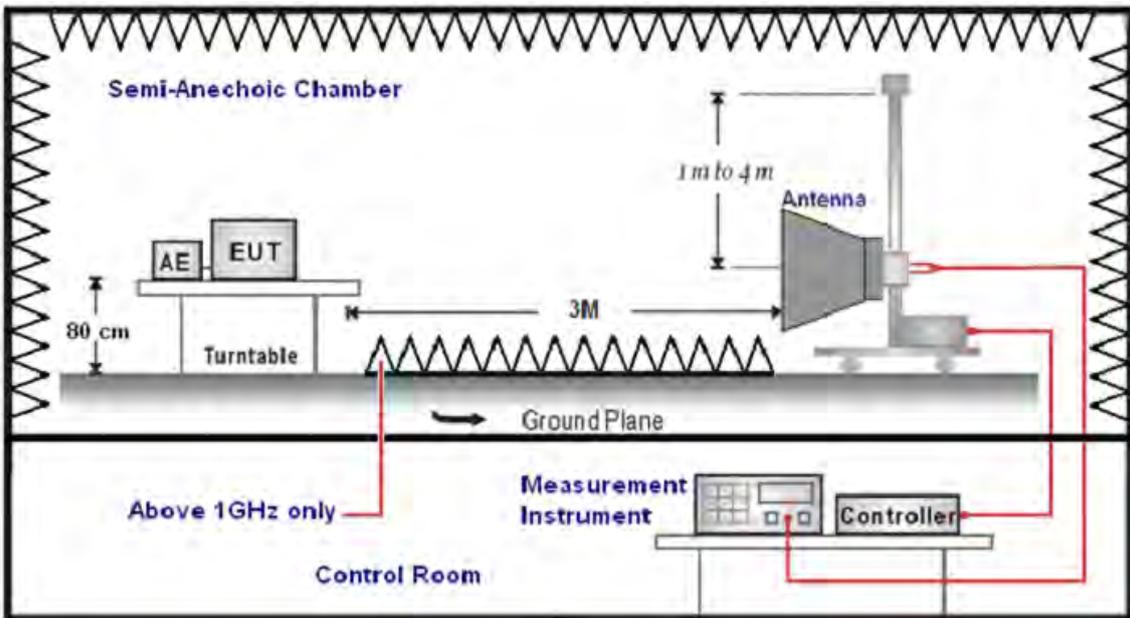
NOTE: N.C.R. = No Calibration Request.

5.3. Setup

Below 1GHz



Above 1GHz



5.4. Test Procedure

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 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 30 MHz to 40 GHz is investigated.

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

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 3 MHz for peak measurements and 3 MHz for average measurements.

A nonconductive material surrounded the EUT to supporting the EUT for standing on three orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

SCHWARZBECK MESS-ELEKTRONIK Trilog-Broadband Antenna (mode SB AC VULB) at 3 Meter and the ETS-Lindgren Double-Ridged Waveguide Horn antenna (model 3117) Schwarzbeck Mess-Elektronik Broadband Horn Antenna (BBHA 9170) was used in frequencies 1 – 40 GHz at a distance of 1 meter. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20dB/decade).

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

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

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

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

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

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

(1) Amplitude (dBuV/m) = FI (dBuV) +AF (dBuV) +CL (dBuV)-Gain (dB)

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

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

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

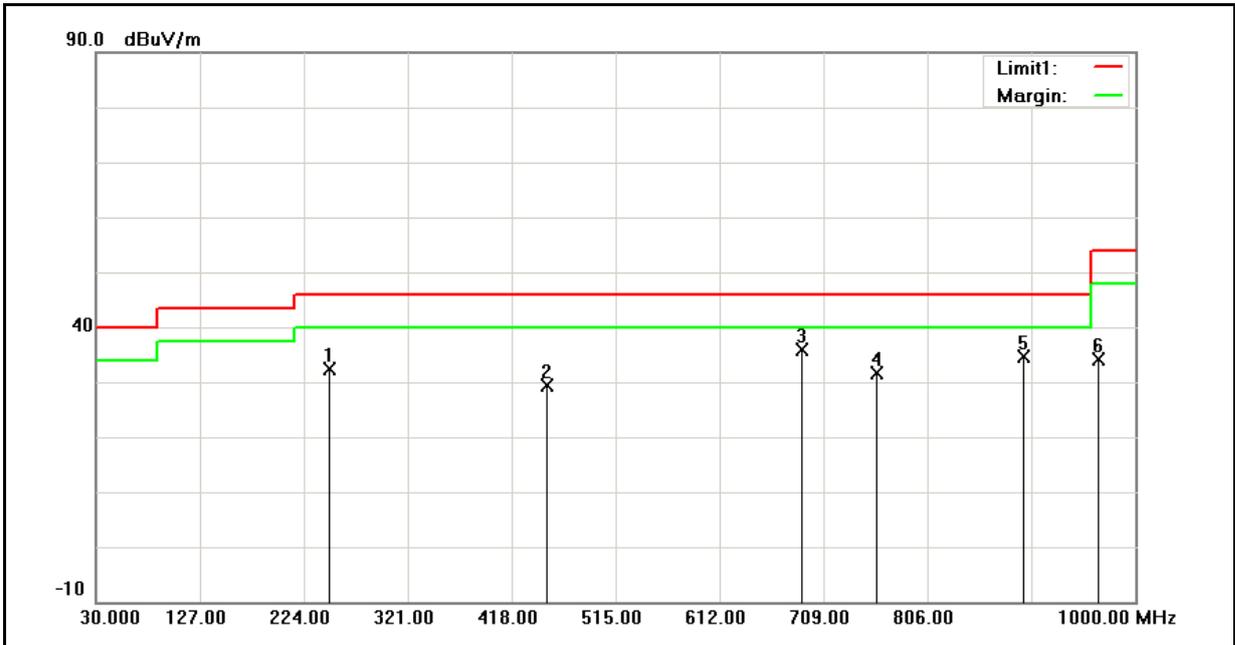
(a) For fundamental frequency : Transmitter Output < +30dBm

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

5.5. Test Result

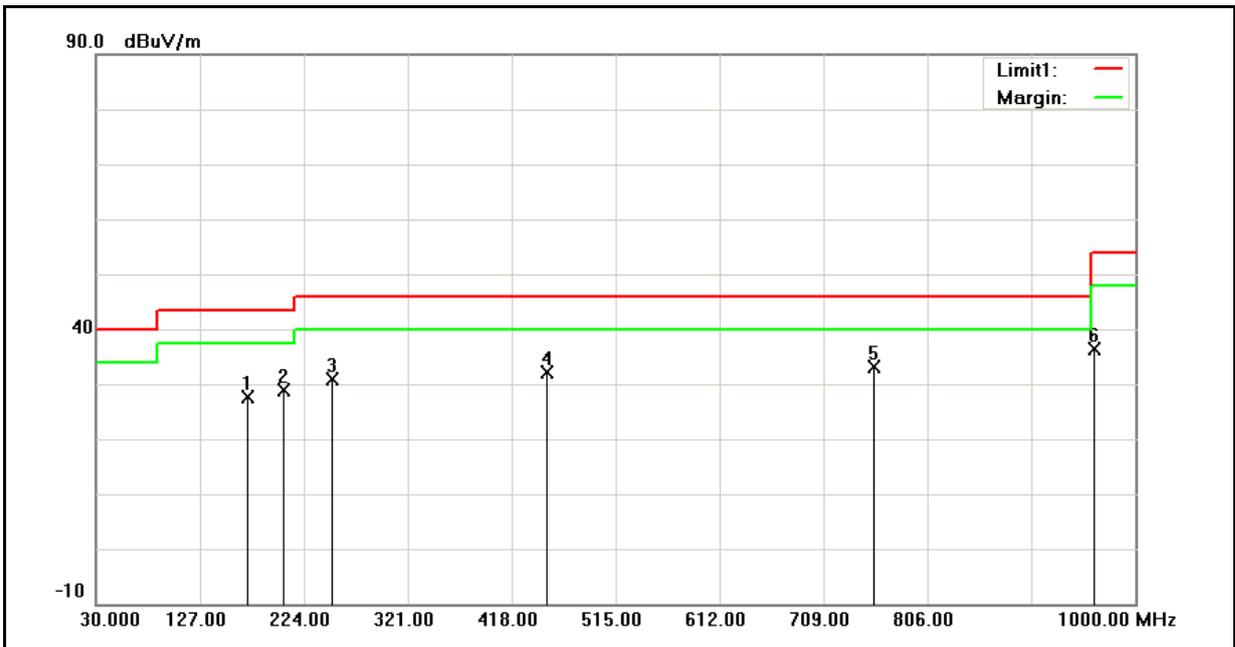
Below 1GHz

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	02/19/2012
Ant.Polar.:	Horizontal	Test By:	Fly Lu



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	249.0000	44.35	-11.97	32.38	46.00	-13.62	QP
2	451.5000	37.26	-8.00	29.26	46.00	-16.74	QP
3	689.5000	39.42	-3.56	35.86	46.00	-10.14	QP
4	759.0000	33.87	-2.13	31.74	46.00	-14.26	QP
5	897.0000	34.46	0.12	34.58	46.00	-11.42	QP
6	966.0000	32.89	1.17	34.06	54.00	-19.94	QP

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	02/19/2012
Ant.Polar.:	Vertical	Test By:	Fly Lu



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	172.5000	43.39	-15.88	27.51	43.50	-15.99	QP
2	206.0000	42.80	-14.03	28.77	43.50	-14.73	QP
3	250.5000	42.81	-11.94	30.87	46.00	-15.13	QP
4	451.5000	40.14	-7.98	32.16	46.00	-13.84	QP
5	756.5000	35.21	-2.16	33.05	46.00	-12.95	QP
6	962.5000	35.36	1.09	36.45	54.00	-17.55	QP

Above 1GHz

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	02/19/2012		
Frequency:	5180MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1448.000	51.80	-4.07	47.73	74.00	-26.27	peak	H
3912.000	38.24	4.98	43.22	74.00	-30.78	peak	H
7482.000	34.13	16.18	50.31	68.20	-17.89	peak	H
1448.000	53.98	-4.07	49.91	74.00	-24.09	peak	V
5053.000	36.81	8.65	45.46	68.20	-22.74	peak	V
6859.000	35.65	14.26	49.91	68.20	-18.29	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	02/19/2012		
Frequency:	5220MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1441.000	52.44	-4.11	48.33	74.00	-25.67	peak	H
4948.000	36.31	8.34	44.65	74.00	-29.35	peak	H
6635.000	35.62	13.53	49.15	68.20	-19.05	peak	H
2323.000	41.88	-0.35	41.53	74.00	-32.47	peak	V
5249.000	35.30	9.24	44.54	68.20	-23.66	peak	V
6971.000	34.93	14.62	49.55	68.20	-18.65	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	02/19/2012		
Frequency:	5240MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1448.000	53.59	-4.07	49.52	74.00	-24.48	peak	H
5249.000	36.53	9.24	45.77	68.20	-22.43	peak	H
7566.000	33.83	16.32	50.15	74.00	-23.85	peak	H
1448.000	54.94	-4.07	50.87	74.00	-23.13	peak	V
5585.000	36.96	10.14	47.10	68.20	-21.10	peak	V
6509.000	36.37	13.12	49.49	68.20	-18.71	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	02/19/2012		
Frequency:	5260MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2400.000	43.76	-0.01	43.75	68.20	-24.45	peak	H
5284.000	36.58	9.35	45.93	68.20	-22.27	peak	H
7321.000	34.40	15.69	50.09	74.00	-23.91	peak	H
1441.000	53.36	-4.11	49.25	74.00	-24.75	peak	V
5669.000	34.65	10.29	44.94	68.20	-23.26	peak	V
7559.000	33.46	16.31	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:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	02/19/2012		
Frequency:	5280MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1448.000	52.84	-4.07	48.77	74.00	-25.23	peak	H
5179.000	37.02	9.03	46.05	68.20	-22.15	peak	H
7902.000	31.73	16.76	48.49	68.20	-19.71	peak	H
3380.000	39.13	3.04	42.17	68.20	-26.03	peak	V
6166.000	33.95	11.60	45.55	68.20	-22.65	peak	V
7839.000	32.23	16.68	48.91	68.02	-19.29	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	02/19/2012		
Frequency:	5320MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1448.000	53.93	-4.07	49.86	74.00	-24.14	peak	H
5221.000	36.88	9.16	46.04	68.20	-22.16	peak	H
7398.000	34.32	15.93	50.25	74.00	-23.75	peak	H
1448.000	53.72	-4.07	49.65	74.00	-24.35	peak	V
5214.000	36.07	9.13	45.20	68.20	-23.00	peak	V
7657.000	34.65	16.45	51.10	74.00	-22.90	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	02/19/2012		
Frequency:	5500MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1448.000	52.25	-4.07	48.18	74.00	-25.82	peak	H
4934.000	36.45	8.29	44.74	74.00	-29.26	peak	H
7524.000	32.45	16.26	48.71	74.00	-25.29	peak	H
4234.000	38.30	6.08	44.38	74.00	-29.62	peak	V
7006.000	34.51	14.73	49.24	68.20	-18.96	peak	V
7958.000	32.21	16.84	49.05	68.20	-19.15	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	02/19/2012		
Frequency:	5600MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5298.000	36.52	9.38	45.90	68.20	-22.30	peak	H
7489.000	33.64	16.20	49.84	74.00	-24.16	peak	H
7958.000	33.44	16.84	50.28	68.20	-17.92	peak	H
2386.000	44.06	-0.08	43.98	74.00	-30.02	peak	V
5655.000	35.99	10.26	46.25	68.20	-21.95	peak	V
7958.000	32.84	16.84	49.68	68.20	-18.52	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Mode:	Mode 3	Date:	02/19/2012				
Frequency:	5700MHz	Test By:	Fly Lu				
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1441.000	52.24	-4.11	48.13	74.00	-25.87	peak	H
5165.000	34.51	8.99	43.50	68.20	-24.70	peak	H
7559.000	33.04	16.31	49.35	74.00	-24.65	peak	H
3653.000	36.91	3.93	40.84	74.00	-33.16	peak	V
6474.000	33.66	12.98	46.64	68.20	-21.56	peak	V
7461.000	32.40	16.10	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:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	02/19/2012		
Frequency:	5180MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3709.000	37.29	4.16	41.45	74.00	-32.55	peak	H
5767.000	34.00	10.46	44.46	68.20	-23.74	peak	H
6810.000	34.79	14.09	48.88	68.20	-19.32	peak	H
4087.000	36.37	5.62	41.99	74.00	-32.01	peak	V
6173.000	34.80	11.63	46.43	68.20	-21.77	peak	V
7426.000	33.89	16.01	49.90	74.00	-24.10	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	02/19/2012		
Frequency:	5220MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3961.000	35.16	5.17	40.33	74.00	-33.67	peak	H
5515.000	35.03	10.01	45.04	68.20	-23.16	peak	H
7825.000	32.38	16.66	49.04	68.20	-19.16	peak	H
4850.000	34.27	8.04	42.31	74.00	-31.69	peak	V
6285.000	33.51	12.13	45.64	68.20	-22.56	peak	V
7818.000	32.13	16.65	48.78	68.20	-19.42	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	02/19/2012		
Frequency:	5240MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4479.000	35.33	6.88	42.21	68.20	-25.99	peak	H
6054.000	34.15	11.10	45.25	68.20	-22.95	peak	H
7965.000	33.44	16.84	50.28	68.20	-17.92	peak	H
2393.000	47.55	-0.04	47.51	68.20	-20.69	peak	V
6390.000	34.25	12.60	46.85	68.20	-21.35	peak	V
7587.000	33.52	16.34	49.86	74.00	-24.14	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	02/19/2012		
Frequency:	5260MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4017.000	37.78	5.38	43.16	74.00	-30.84	peak	H
6026.000	33.41	10.97	44.38	68.20	-23.82	peak	H
7818.000	33.43	16.65	50.08	68.20	-18.12	peak	H
3198.000	37.91	2.64	40.55	68.20	-27.65	peak	V
5277.000	34.30	9.32	43.62	68.20	-24.58	peak	V
6642.000	34.59	13.54	48.13	68.20	-20.07	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	02/19/2012		
Frequency:	5280MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4227.000	35.80	6.06	41.86	74.00	-32.14	peak	H
6383.000	33.28	12.57	45.85	68.20	-22.35	peak	H
7902.000	31.73	16.76	48.49	68.20	-19.71	peak	H
3541.000	35.25	3.47	38.72	68.20	-29.48	peak	V
5879.000	32.06	10.66	42.72	68.20	-25.48	peak	V
7566.000	31.13	16.32	47.45	74.00	-26.55	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	02/19/2012		
Frequency:	5320MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4066.000	36.43	5.54	41.97	74.00	-32.03	peak	H
5753.000	33.94	10.42	44.36	68.20	-23.84	peak	H
6901.000	34.20	14.38	48.58	68.20	-19.62	peak	H
3366.000	38.97	3.02	41.99	68.20	-26.21	peak	V
5515.000	35.35	10.01	45.36	68.20	-22.84	peak	V
7426.000	33.60	16.01	49.61	74.00	-24.39	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	02/19/2012		
Frequency:	5500MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4087.000	36.36	5.62	41.98	74.00	-32.02	peak	H
5935.000	32.91	10.75	43.66	68.20	-24.54	peak	H
6887.000	33.24	14.34	47.58	68.20	-20.62	peak	H
3583.000	35.69	3.65	39.34	68.20	-28.86	peak	V
5270.000	33.49	9.31	42.80	68.20	-25.40	peak	V
7307.000	31.56	15.65	47.21	74.00	-26.79	peak	V

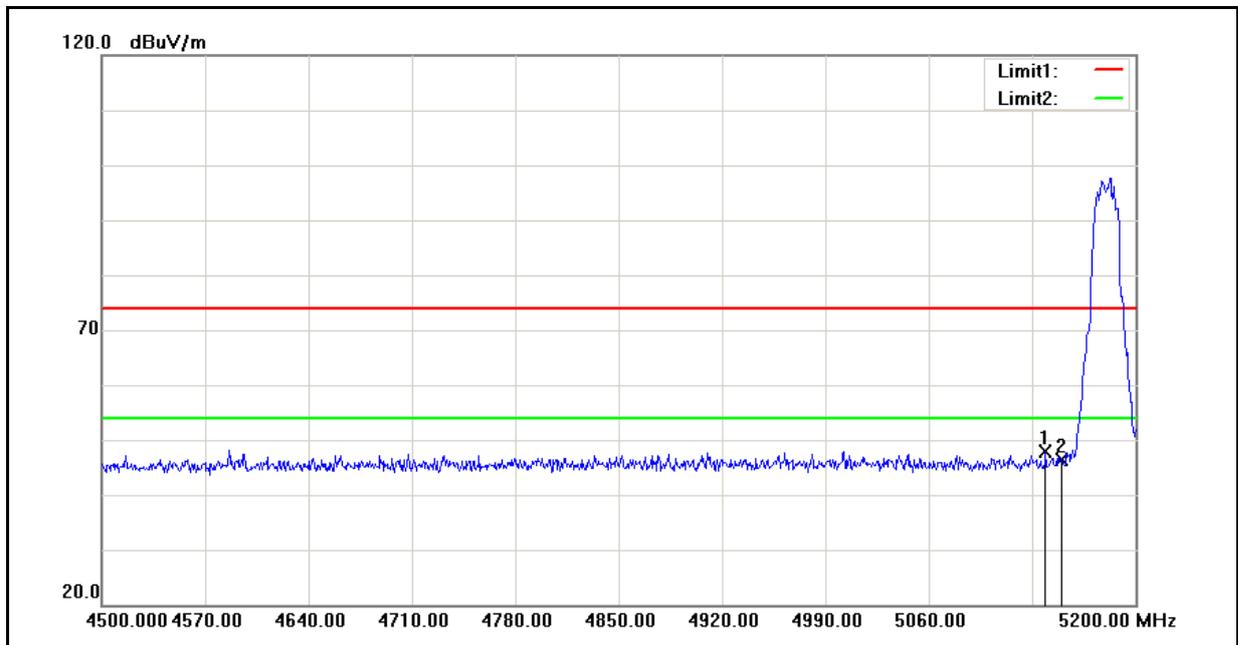
Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	02/19/2012		
Frequency:	5600MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3443.000	37.65	3.19	40.84	68.20	-27.36	peak	H
5039.000	35.58	8.61	44.19	74.00	-29.81	peak	H
6782.000	33.72	14.00	47.72	68.20	-20.48	peak	H
3765.000	36.88	4.37	41.25	74.00	-32.75	peak	V
5382.000	33.98	9.65	43.63	74.00	-30.37	peak	V
6922.000	35.90	14.46	50.36	68.20	-17.84	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	02/19/2012		
Frequency:	5700MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4479.000	35.17	6.88	42.05	68.20	-26.15	peak	H
6677.000	34.54	13.66	48.20	68.20	-20.00	peak	H
7545.000	33.33	16.29	49.62	74.00	-24.38	peak	H
3030.000	37.20	2.27	39.47	68.20	-28.73	peak	V
4829.000	34.60	7.97	42.57	74.00	-31.43	peak	V
6943.000	33.40	14.52	47.92	68.20	-20.28	peak	V

Standard:	FCC Part 15E			Test Distance:	3m			
Test item:	Radiated Emission			Power:	AC 120V/60Hz			
Model Number:	PJ46100			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH			
Mode:	Mode 5			Date:	02/19/2012			
Modulation:	IEEE 802.11a			Test By:	Fly Lu			
Frequency:	5180 MHz							
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Peak Limit (dBuV/m)	AVG. Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3562.000	37.77	3.56	41.33	74.00	54.00	-32.67	peak	H
4465.000	36.45	6.84	43.29	74.00	54.00	-30.71	peak	H
5746.000	34.98	10.42	45.40	74.00	54.00	-28.60	peak	H
3002.000	41.47	2.20	43.67	74.00	54.00	-30.33	peak	V
5116.000	34.68	8.84	43.52	74.00	54.00	-30.48	peak	V
6740.000	35.78	13.87	49.65	74.00	54.00	-24.35	peak	V

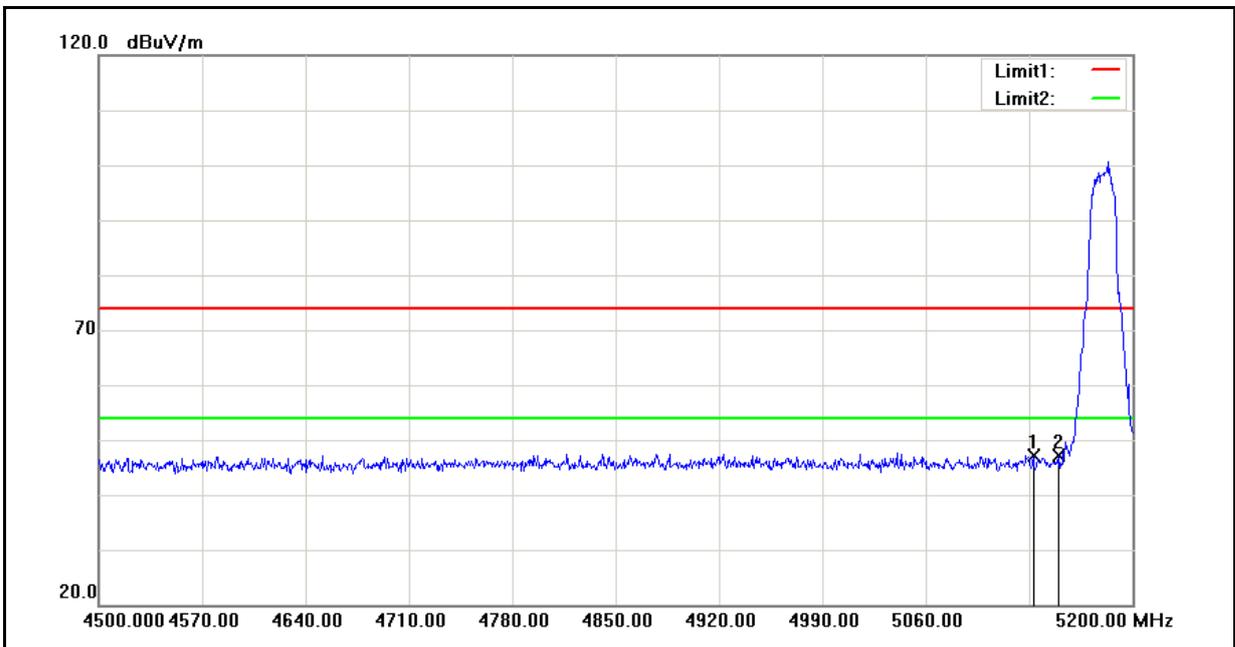
Band Edge

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	02/18/2012
Frequency:	5180 MHz	Test By:	Fly Lu
Ant.Polar.:	Horizontal		



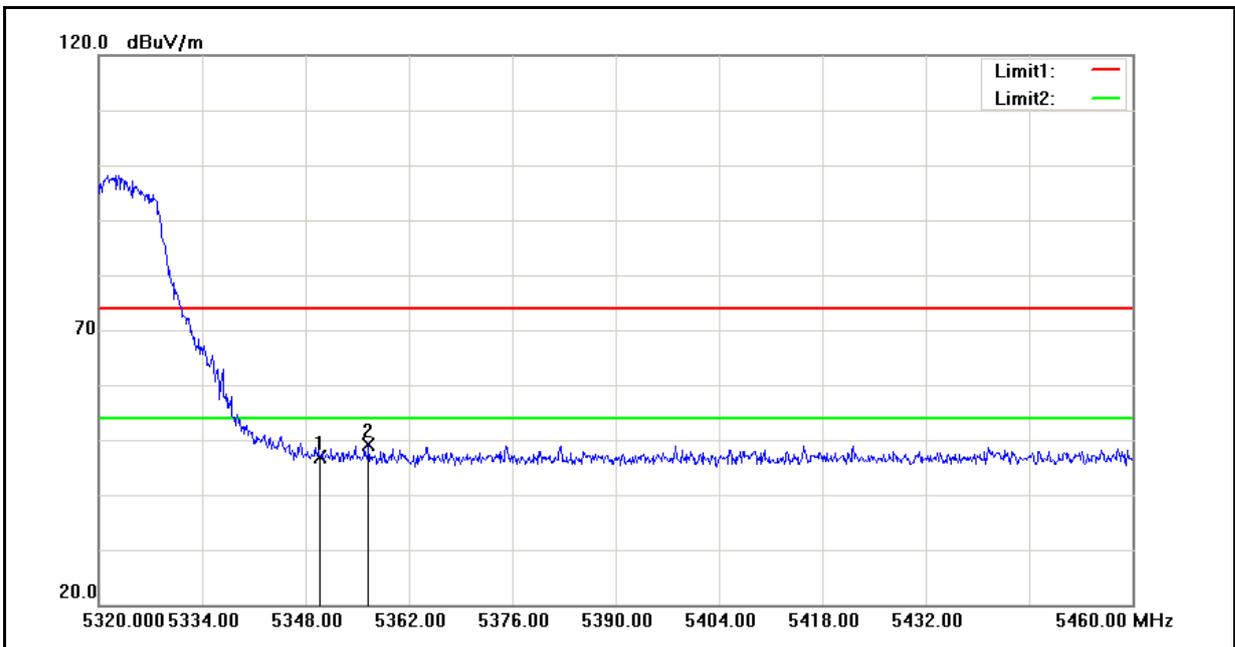
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5139.100	38.89	8.92	47.81	74.00	-26.19	peak
2	5150.000	37.49	8.94	46.43	74.00	-27.57	peak

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	02/18/2012
Frequency:	5180 MHz	Test By:	Fly Lu
Ant.Polar.:	Vertical		



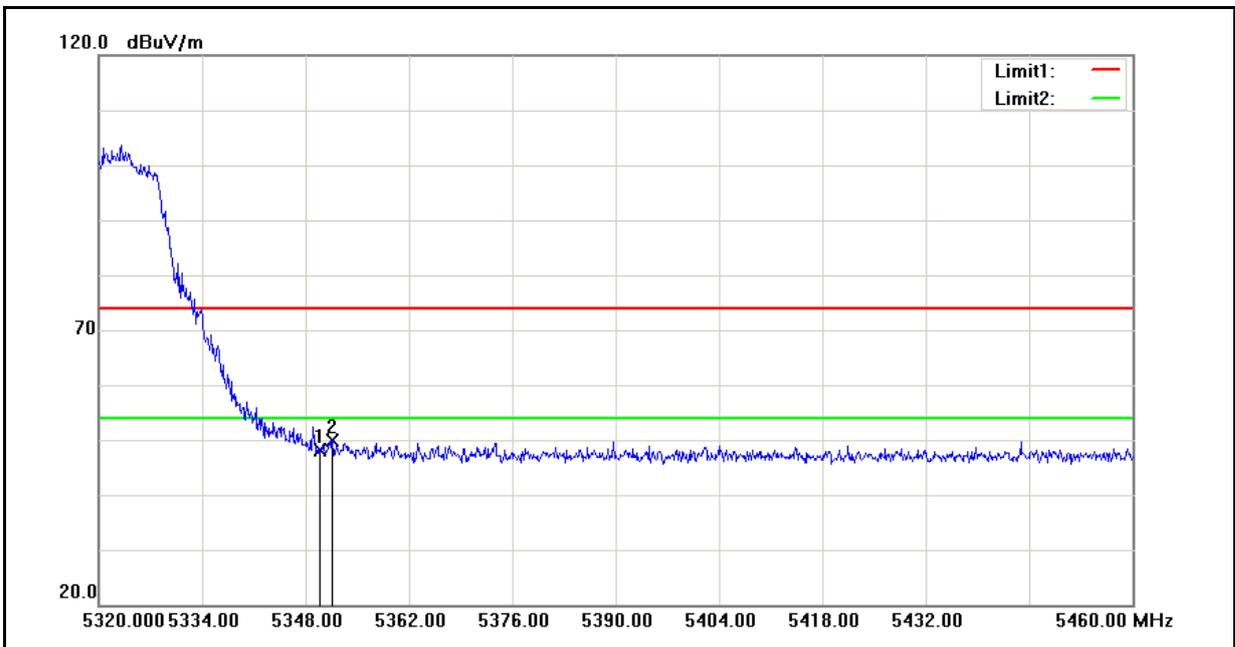
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5132.800	38.31	8.90	47.21	74.00	-26.79	peak
2	5150.000	38.13	8.94	47.07	74.00	-26.93	peak

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	02/18/2012
Frequency:	5320 MHz	Test By:	Fly Lu
Ant.Polar.:	Horizontal		



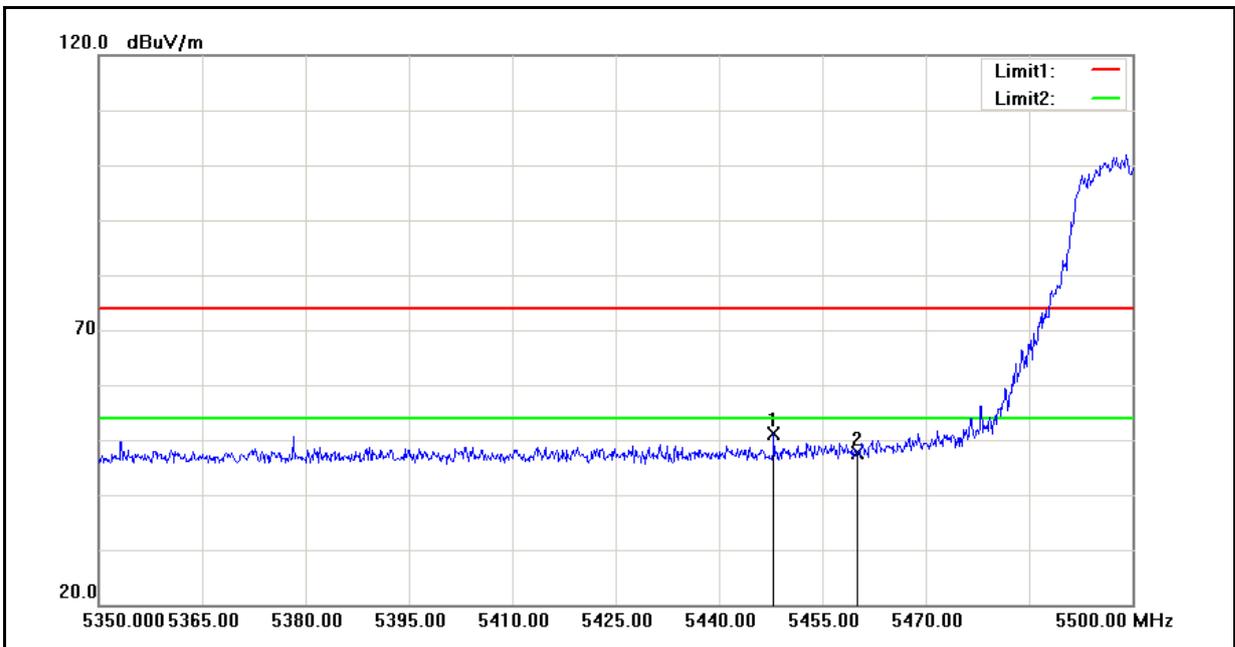
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	37.43	9.55	46.98	74.00	-27.02	peak
2	5356.540	39.61	9.57	49.18	74.00	-24.82	peak

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	02/18/2012
Frequency:	5320 MHz	Test By:	Fly Lu
Ant.Polar.:	Vertical		



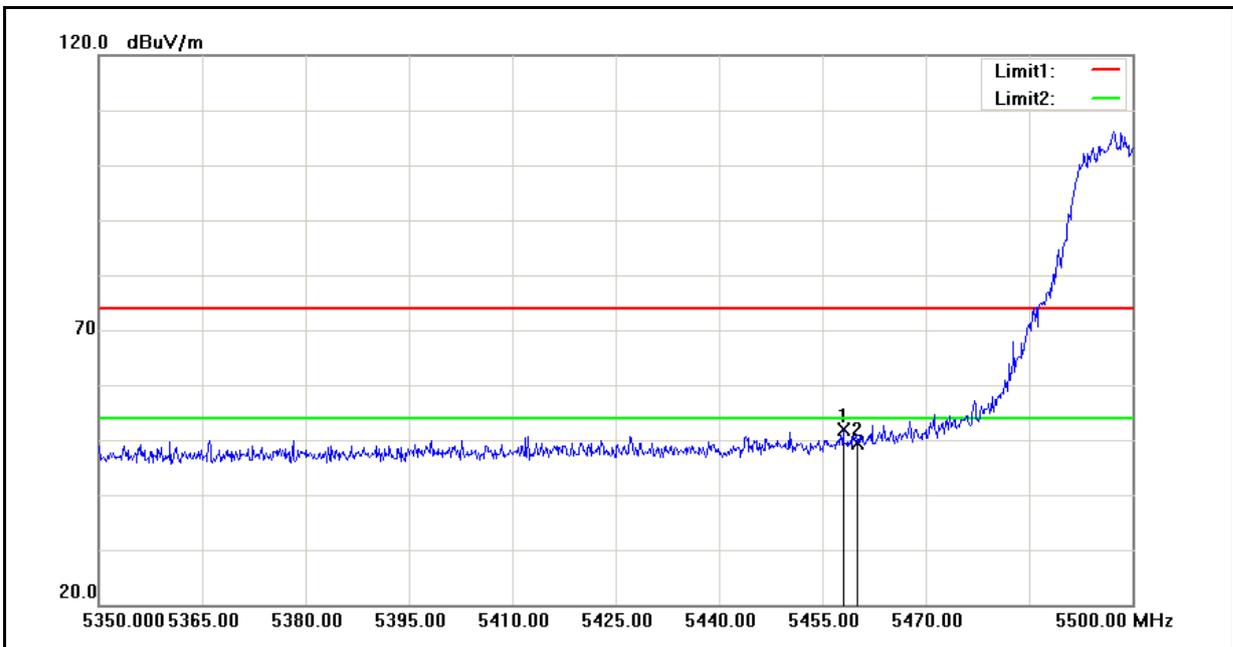
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	38.50	9.55	48.05	74.00	-25.95	peak
2	5351.640	40.45	9.55	50.00	74.00	-24.00	peak

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	02/18/2012
Frequency:	5500 MHz	Test By:	Fly Lu
Ant.Polar.:	Horizontal		



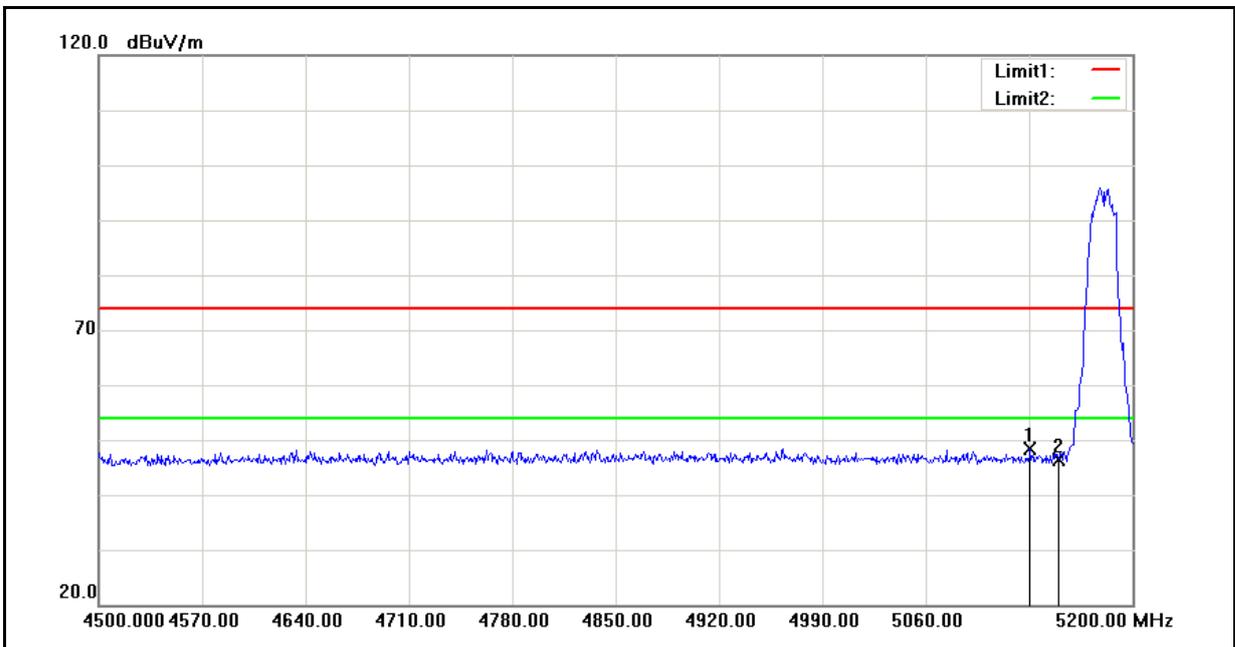
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5447.950	41.17	9.84	51.01	74.00	-22.99	peak
2	5460.000	37.76	9.88	47.64	74.00	-26.36	peak

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	02/18/2012
Frequency:	5500 MHz	Test By:	Fly Lu
Ant.Polar.:	Vertical		



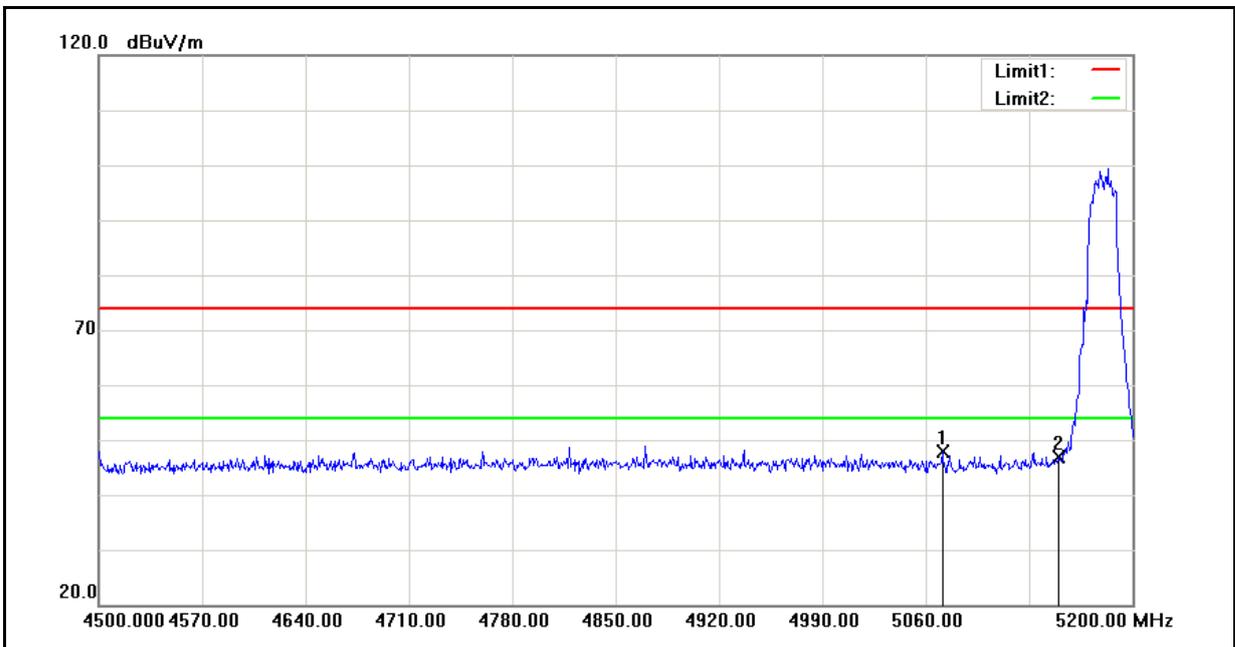
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5458.000	42.11	9.86	51.97	74.00	-22.03	peak
2	5460.000	39.55	9.88	49.43	74.00	-24.57	peak

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	02/18/2012
Frequency:	5180 MHz	Test By:	Fly Lu
Ant.Polar.:	Horizontal		



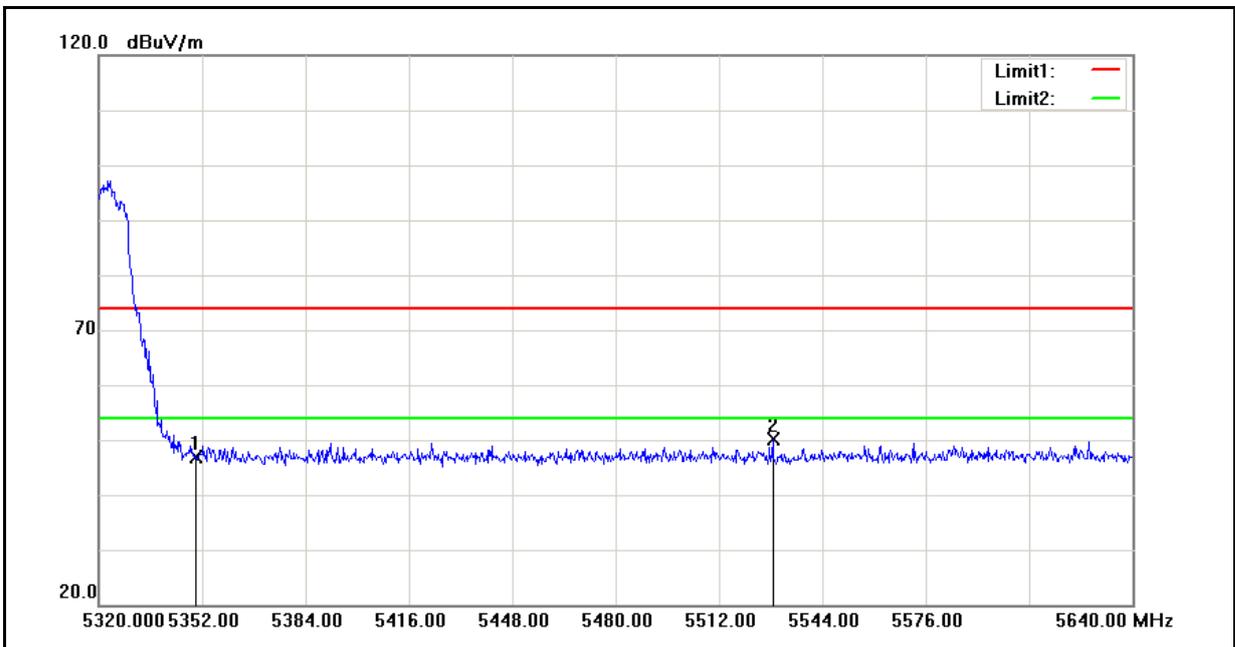
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5130.700	39.48	8.88	48.36	74.00	-25.64	peak
2	5150.000	37.41	8.94	46.35	74.00	-27.65	peak

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	02/18/2012
Frequency:	5180 MHz	Test By:	Fly Lu
Ant.Polar.:	Vertical		



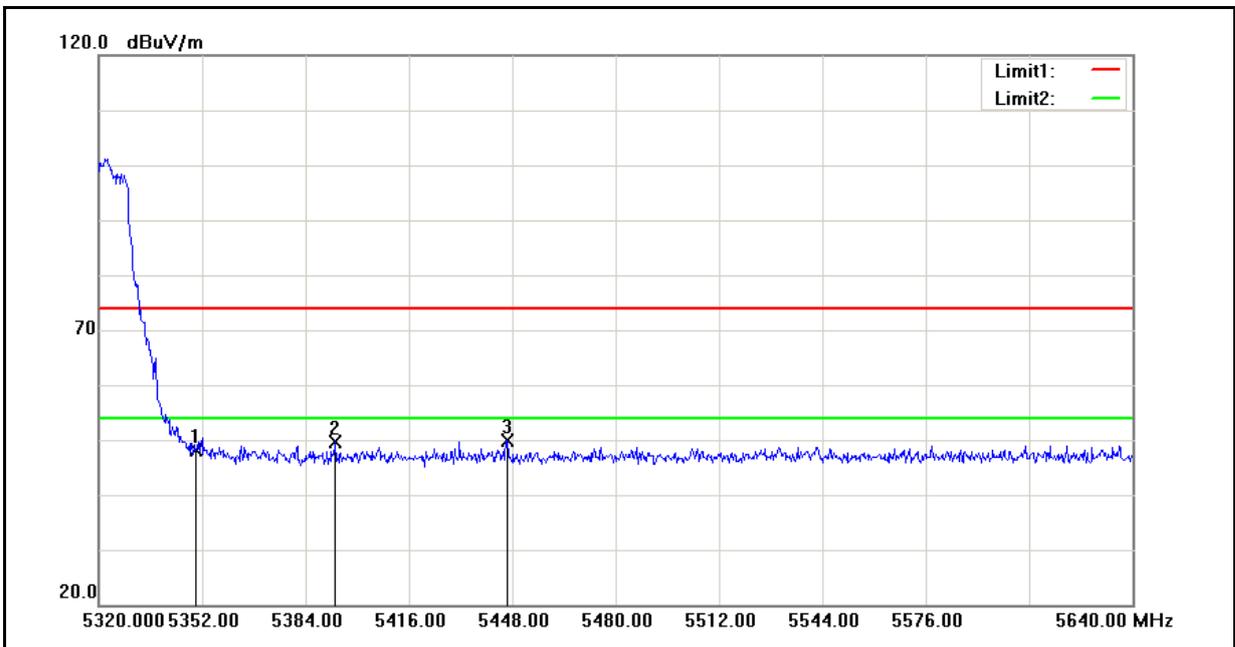
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5071.200	39.15	8.71	47.86	74.00	-26.14	peak
2	5150.000	38.04	8.94	46.98	74.00	-27.02	peak

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	02/18/2012
Frequency:	5320 MHz	Test By:	Fly Lu
Ant.Polar.:	Horizontal		



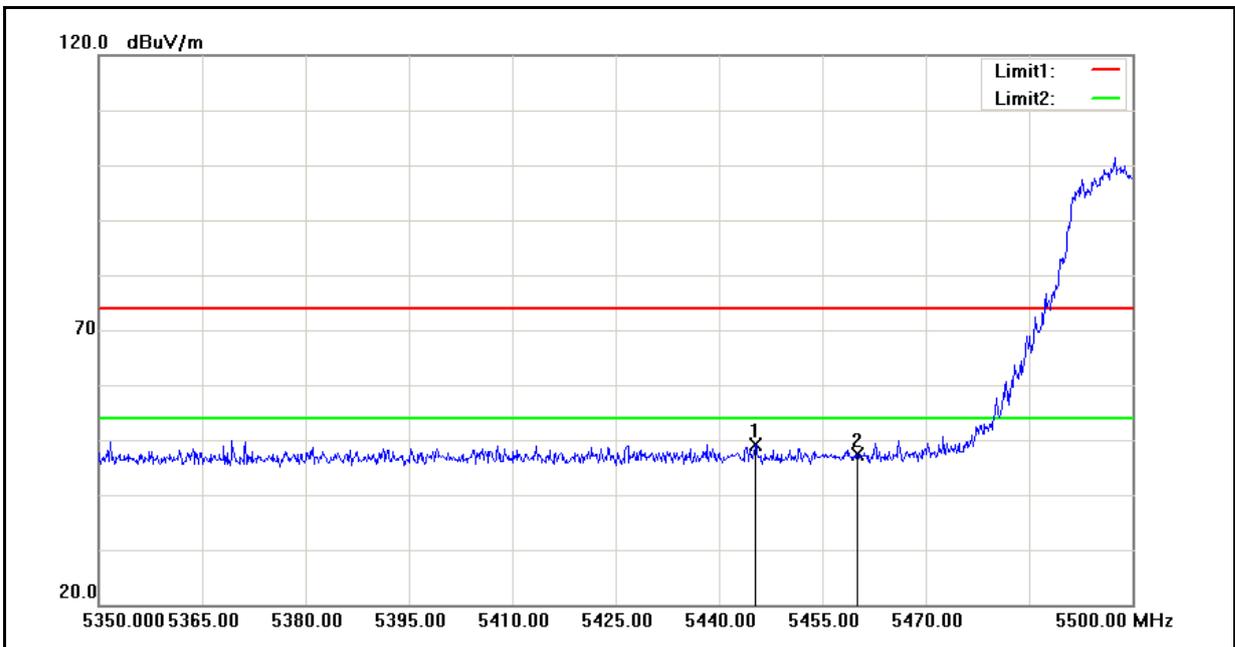
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	37.35	9.55	46.90	74.00	-27.10	peak
2	5528.640	40.04	10.04	50.08	74.00	-23.92	peak

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	02/18/2012
Frequency:	5320 MHz	Test By:	Fly Lu
Ant.Polar.:	Vertical		



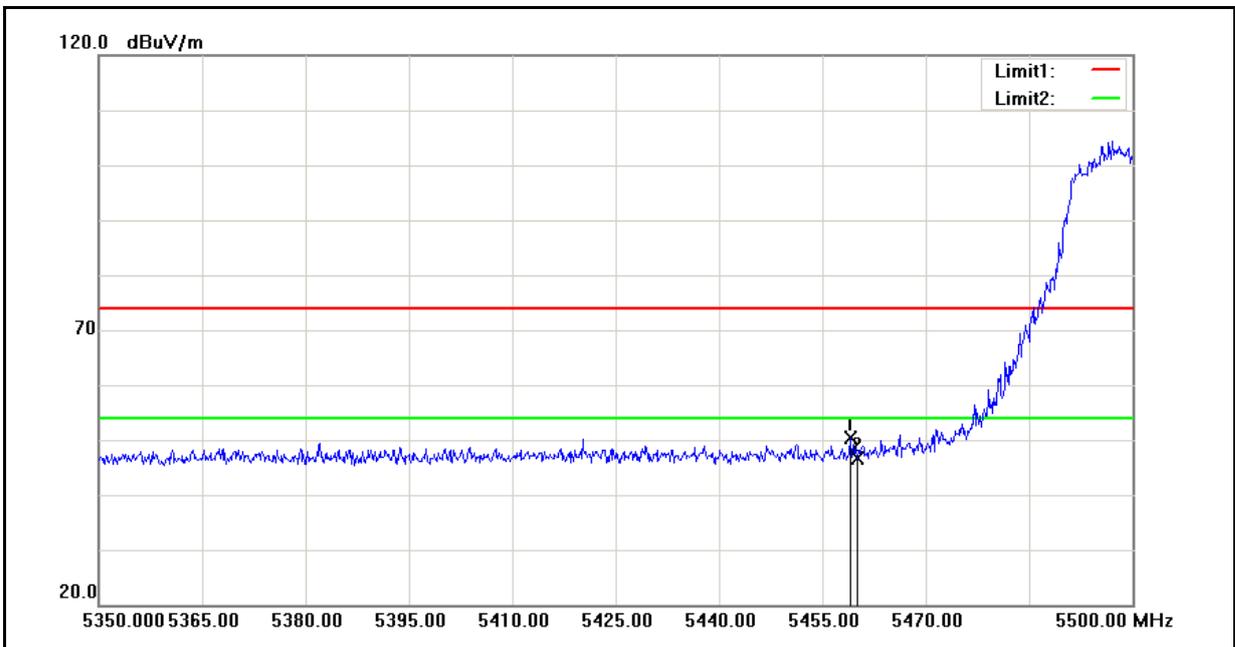
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	38.53	9.55	48.08	74.00	-25.92	peak
2	5393.280	39.97	9.66	49.63	74.00	-24.37	peak
3	5446.400	40.11	9.84	49.95	74.00	-24.05	peak

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	02/18/2012
Frequency:	5500 MHz	Test By:	Fly Lu
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5445.250	39.37	9.83	49.20	74.00	-24.80	peak
2	5460.000	37.51	9.88	47.39	74.00	-26.61	peak

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PJ46100	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	02/18/2012
Frequency:	5500 MHz	Test By:	Fly Lu
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5459.050	40.43	9.87	50.30	74.00	-23.70	peak
2	5460.000	36.86	9.88	46.74	74.00	-27.26	peak

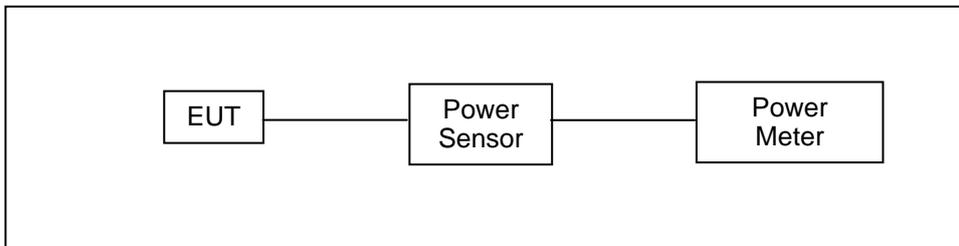
6 Maximum Conducted Output Power Measurement

6.1. Limit

Frequency Range (MHz)	Limit
5.150 ~ 5.250 GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.250 ~ 5.350 GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.470 ~ 5.725 GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB

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	08/17/2011	(1)
Power Meter	Anritsu	ML2495A	1135009	09/02/2011	(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: D01 UNII General Test Procedures v01, Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E.

6.5. Test Result

Model Number	PJ46100		
Test Item	Maximum Conducted Output Power		
Test Mode	Mode 3: IEEE 802.11a Link Mode		
Date of Test	02/02/2012	Test Site	TE02
Frequency (MHz)	Average Power		Limit (dBm)
	(dBm)	(W)	
5180	12.64	0.0184	< 17
5220	12.61	0.0182	< 17
5240	12.33	0.0171	< 17
5260	12.52	0.0179	< 24
5280	12.46	0.0176	< 24
5320	12.54	0.0179	< 24
5500	12.12	0.0163	< 24
5600	11.89	0.0155	< 24
5700	11.62	0.0145	< 24

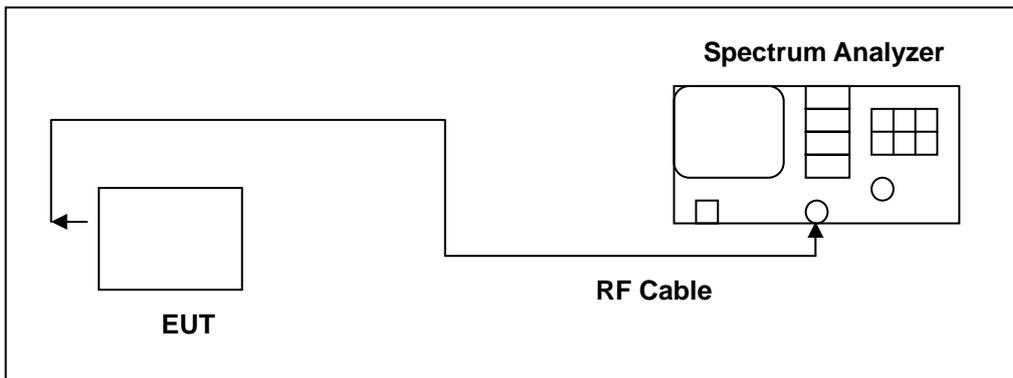
Model Number	PJ46100		
Test Item	Maximum Conducted Output Power		
Test Mode	Mode 4: draft 802.11n Standard-20MHz Link Mode		
Date of Test	02/02/2012	Test Site	TE02
Frequency (MHz)	Average Power		Limit (dBm)
	(dBm)	(W)	
5180	11.40	0.0138	< 17
5220	11.31	0.0135	< 17
5240	11.26	0.0134	< 17
5260	11.40	0.0138	< 24
5280	11.48	0.0141	< 24
5320	11.37	0.0137	< 24
5500	10.99	0.0126	< 24
5600	10.60	0.0115	< 24
5700	10.49	0.0112	< 24

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	12/28/2010	(2)
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: D01 UNII General Test Procedures v01, Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E.

7.5. Test Result

Model Number	PJ46100		
Test Item	26dB RF Bandwidth		
Test Mode	Mode 3: IEEE 802.11a Link Mode		
Date of Test	02/02/2012	Test Site	TE02
	Frequency (MHz)	Measurement (MHz)	
	5180	22.868	
	5220	22.215	
	5240	22.662	
	5260	22.607	
	5280	22.767	
	5320	22.203	
	5500	22.922	
	5600	22.401	
	5700	22.202	

Model Number	PJ46100		
Test Item	26dB RF Bandwidth		
Test Mode	Mode 4: draft 802.11n Standard-20MHz Link Mode		
Date of Test	02/02/2012	Test Site	TE06
	Frequency (MHz)	Measurement (MHz)	
	5180	23.916	
	5220	23.797	
	5240	23.638	
	5260	23.946	
	5280	23.720	
	5320	23.962	
	5500	24.023	
	5600	23.802	
	5700	23.686	

7.6. Test Graphs

Mode 3: IEEE 802.11a Link Mode	
5180	<p>Agilent R T</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm #Atten 20 dB</p> <p>#Peak Log 10 dB/ Offst 11.3 dB</p> <p>Center 5.18 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 16.7213 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 4.151 kHz x dB Bandwidth 22.868 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.18000000 GHz</p> <p>Start Freq 5.16500000 GHz</p> <p>Stop Freq 5.19500000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
5220	<p>Agilent R T</p> <p>Ch Freq 5.22 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm #Atten 20 dB</p> <p>#Peak Log 10 dB/ Offst 11.3 dB</p> <p>Center 5.22 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 16.7093 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 13.755 kHz x dB Bandwidth 22.215 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.22000000 GHz</p> <p>Start Freq 5.20500000 GHz</p> <p>Stop Freq 5.23500000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
5240	<p>Agilent R T</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm #Atten 20 dB</p> <p>#Peak Log 10 dB/ Offst 11.3 dB</p> <p>Center 5.24 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 16.7155 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 26.889 kHz x dB Bandwidth 22.662 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.24000000 GHz</p> <p>Start Freq 5.22500000 GHz</p> <p>Stop Freq 5.25500000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 3: IEEE 802.11a Link Mode	
5260	<p>Agilent R T</p> <p>Ch Freq 5.26 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm #Atten 20 dB</p> <p>#Peak 10 dB/ Offst 11.3 dB</p> <p>Center 5.26 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 16.6857 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 21.832 kHz x dB Bandwidth 22.607 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.26000000 GHz</p> <p>Start Freq 5.24500000 GHz</p> <p>Stop Freq 5.27500000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
5280	<p>Agilent R T</p> <p>Ch Freq 5.28 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm #Atten 20 dB</p> <p>#Peak 10 dB/ Offst 11.3 dB</p> <p>Center 5.28 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 16.6470 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 30.196 kHz x dB Bandwidth 22.767 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.28000000 GHz</p> <p>Start Freq 5.26500000 GHz</p> <p>Stop Freq 5.29500000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
5320	<p>Agilent R T</p> <p>Ch Freq 5.32 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm #Atten 20 dB</p> <p>#Peak 10 dB/ Offst 11.3 dB</p> <p>Center 5.32 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 16.6773 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 3.664 kHz x dB Bandwidth 22.203 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.32000000 GHz</p> <p>Start Freq 5.30500000 GHz</p> <p>Stop Freq 5.33500000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 3: IEEE 802.11a Link Mode	
5500	
5600	
5700	

Mode 4: draft 802.11n Standard-20MHz Link Mode

5180	
5220	
5240	

Mode 4: draft 802.11n Standard-20MHz Link Mode

5260	
5280	
5320	

Mode 4: draft 802.11n Standard-20MHz Link Mode

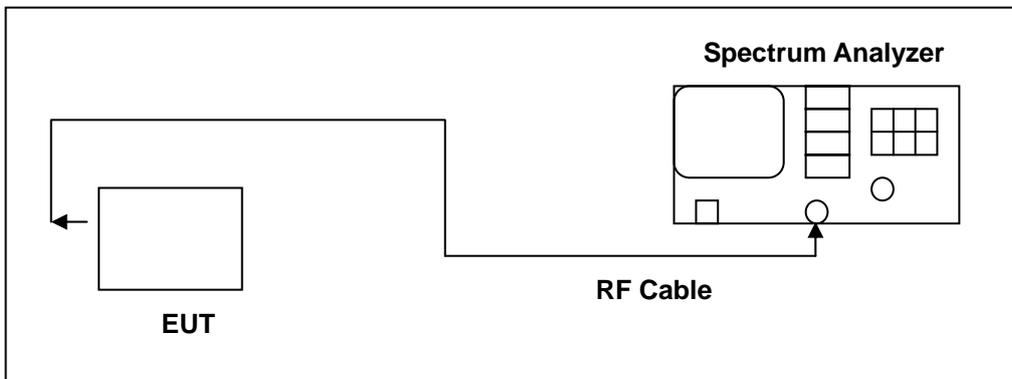
5500	<p>Agilent R T</p> <p>Ch Freq 5.5 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm #Atten 20 dB</p> <p>#Peak Log 10 dB/ Offst 11.3 dB</p> <p>Center 5.5 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 17.8750 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -4.759 kHz x dB Bandwidth 24.023 MHz</p> <p>Freq/Channel Center Freq 5.5000000 GHz Start Freq 5.4850000 GHz Stop Freq 5.5150000 GHz CF Step 3.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off</p>
5600	<p>Agilent R T</p> <p>Ch Freq 5.6 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm #Atten 20 dB</p> <p>#Peak Log 10 dB/ Offst 11.3 dB</p> <p>Center 5.6 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 17.8722 MHz x dB -26.00 dB</p> <p>Transmit Freq Error 14.043 kHz x dB Bandwidth 23.802 MHz</p> <p>Freq/Channel Center Freq 5.6000000 GHz Start Freq 5.5850000 GHz Stop Freq 5.6150000 GHz CF Step 3.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off</p>
5700	<p>Agilent R T</p> <p>Ch Freq 5.7 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm #Atten 20 dB</p> <p>#Peak Log 10 dB/ Offst 11.3 dB</p> <p>Center 5.7 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 17.8216 MHz x dB -26.00 dB</p> <p>Transmit Freq Error 18.064 kHz x dB Bandwidth 23.686 MHz</p> <p>Freq/Channel Center Freq 5.7000000 GHz Start Freq 5.6850000 GHz Stop Freq 5.7150000 GHz CF Step 3.0000000 MHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off</p>

8 Peak Power Excursion Measurement

8.1. Limit

Frequency Range (MHz)	Limit
5.150 ~ 5.250 GHz	13 dB
5.250 ~ 5.350 GHz	13 dB
5.470 ~ 5.725 GHz	13 dB

8.2. Test Setup



8.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/28/2010	(2)
Test Site	ATL	TE02	TE02	N.C.R.	-----

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

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

8.4. Test Procedure

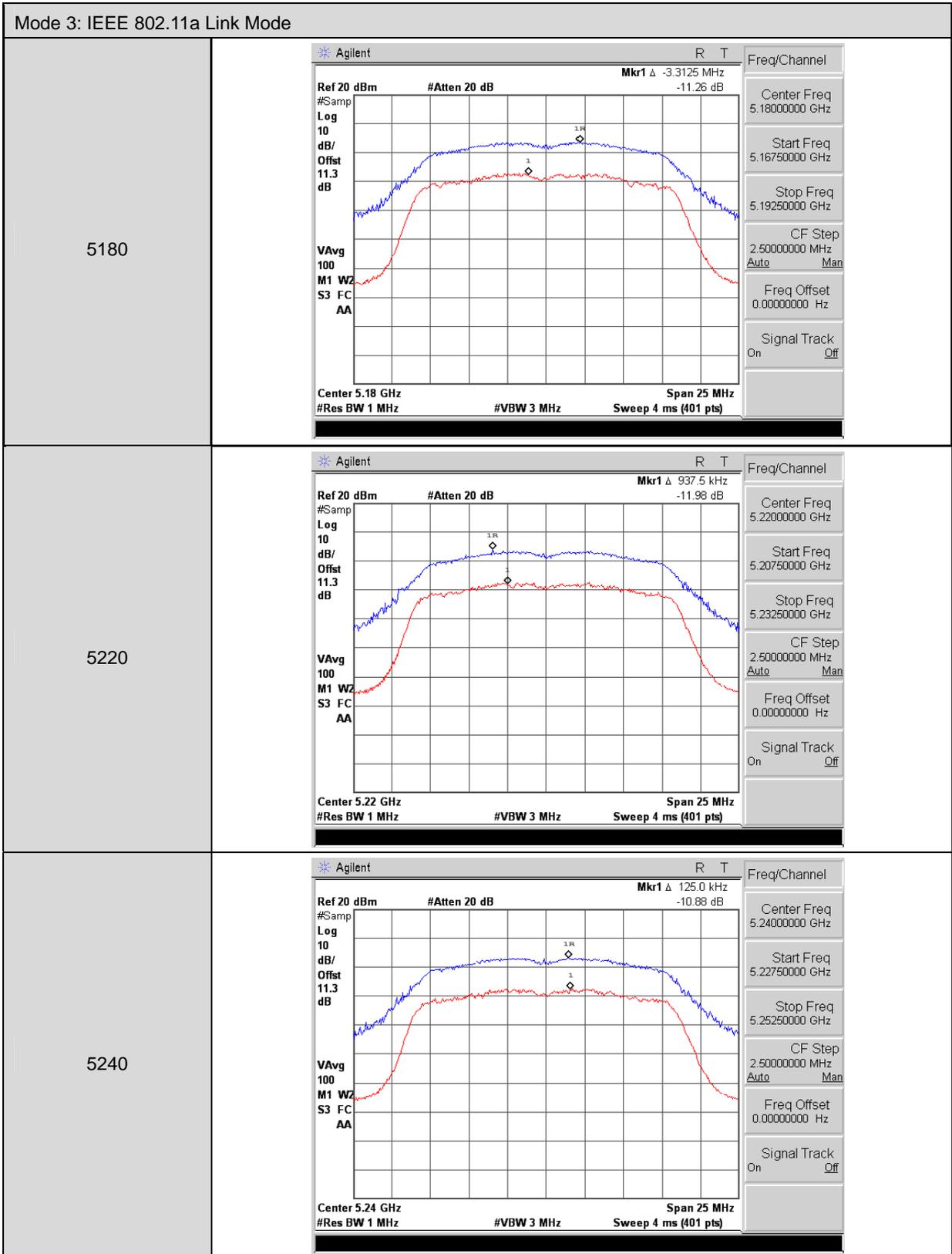
The test is performed in accordance with KDB789033: D01 UNII General Test Procedures v01, Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E.

8.5. Test Result

Model Number	PJ46100		
Test Item	Peak Power Excursion		
Test Mode	Mode 3: IEEE 802.11a Link Mode		
Date of Test	02/02/2012	Test Site	TE02
Frequency (MHz)	Measurement (dB)	Limit (dB)	
5180	-11.260	< 13	
5220	-11.980	< 13	
5240	-10.880	< 13	
5260	-11.360	< 13	
5280	-12.040	< 13	
5320	-10.990	< 13	
5500	-9.956	< 13	
5600	-12.270	< 13	
5700	-12.060	< 13	

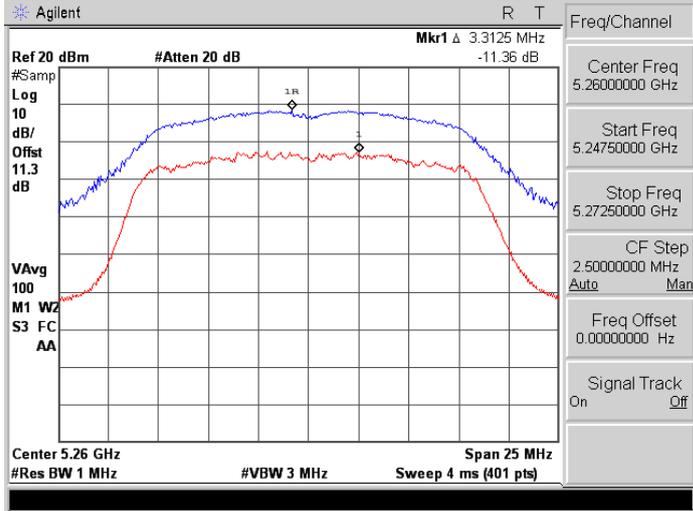
Model Number	PJ46100		
Test Item	Peak Power Excursion		
Test Mode	Mode 4: draft 802.11n Standard-20MHz Link Mode		
Date of Test	02/02/2012	Test Site	TE06
Frequency (MHz)	Measurement (dB)	Limit (dB)	
5180	-10.740	< 13	
5220	-11.510	< 13	
5240	-10.580	< 13	
5260	-11.210	< 13	
5280	-10.590	< 13	
5320	-11.890	< 13	
5500	-11.370	< 13	
5600	-11.320	< 13	
5700	-11.090	< 13	

8.6. Test Graphs

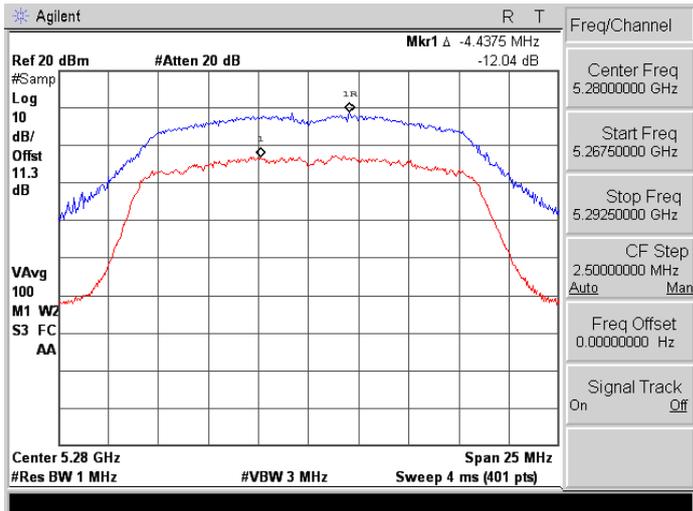


Mode 3: IEEE 802.11a Link Mode

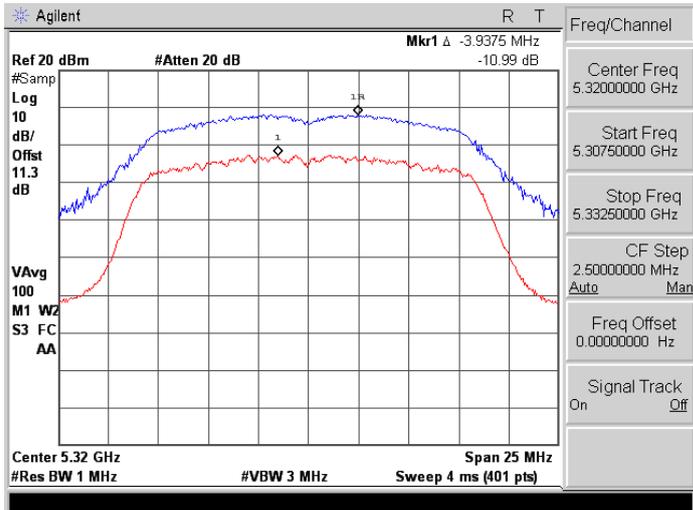
5260



5280



5320



Mode 3: IEEE 802.11a Link Mode

<p>5500</p>	
<p>5600</p>	
<p>5700</p>	

Mode 4: draft 802.11n Standard-20MHz Link Mode

5180	<p>Agilent R T</p> <p>Ref 20 dBm #Atten 20 dB Mkr1 Δ 3.0625 MHz -10.74 dB</p> <p>#Samp Log 10 dB/Offst 11.3 dB</p> <p>VAvg 100 M1 WZ S3 FC AA</p> <p>Center 5.18 GHz Span 25 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 5.1800000 GHz</p> <p>Start Freq 5.1675000 GHz</p> <p>Stop Freq 5.1925000 GHz</p> <p>CF Step 2.5000000 MHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p>
5220	<p>Agilent R T</p> <p>Ref 20 dBm #Atten 20 dB Mkr1 Δ 1.6250 MHz -11.51 dB</p> <p>#Samp Log 10 dB/Offst 11.3 dB</p> <p>VAvg 100 M1 WZ S3 FC AA</p> <p>Center 5.22 GHz Span 25 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 5.2200000 GHz</p> <p>Start Freq 5.2075000 GHz</p> <p>Stop Freq 5.2325000 GHz</p> <p>CF Step 2.5000000 MHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p>
5240	<p>Agilent R T</p> <p>Ref 20 dBm #Atten 20 dB Mkr1 Δ 1.0625 MHz -10.58 dB</p> <p>#Samp Log 10 dB/Offst 11.3 dB</p> <p>VAvg 100 M1 WZ S3 FC AA</p> <p>Center 5.24 GHz Span 25 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 5.2400000 GHz</p> <p>Start Freq 5.2275000 GHz</p> <p>Stop Freq 5.2525000 GHz</p> <p>CF Step 2.5000000 MHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p>

Mode 4: draft 802.11n Standard-20MHz Link Mode

5260	<p>Agilent R T</p> <p>Ref 20 dBm #Atten 20 dB Mkr1 Δ -3.0000 MHz -11.21 dB</p> <p>Center 5.26 GHz Span 25 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 5.26000000 GHz</p> <p>Start Freq 5.24750000 GHz</p> <p>Stop Freq 5.27250000 GHz</p> <p>CF Step 2.50000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
5280	<p>Agilent R T</p> <p>Ref 20 dBm #Atten 20 dB Mkr1 Δ -125.0 kHz -10.59 dB</p> <p>Center 5.28 GHz Span 25 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 5.28000000 GHz</p> <p>Start Freq 5.26750000 GHz</p> <p>Stop Freq 5.29250000 GHz</p> <p>CF Step 2.50000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
5320	<p>Agilent R T</p> <p>Ref 20 dBm #Atten 20 dB Mkr1 Δ -125.0 kHz -11.89 dB</p> <p>Center 5.32 GHz Span 25 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 5.32000000 GHz</p> <p>Start Freq 5.30750000 GHz</p> <p>Stop Freq 5.33250000 GHz</p> <p>CF Step 2.50000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 4: draft 802.11n Standard-20MHz Link Mode

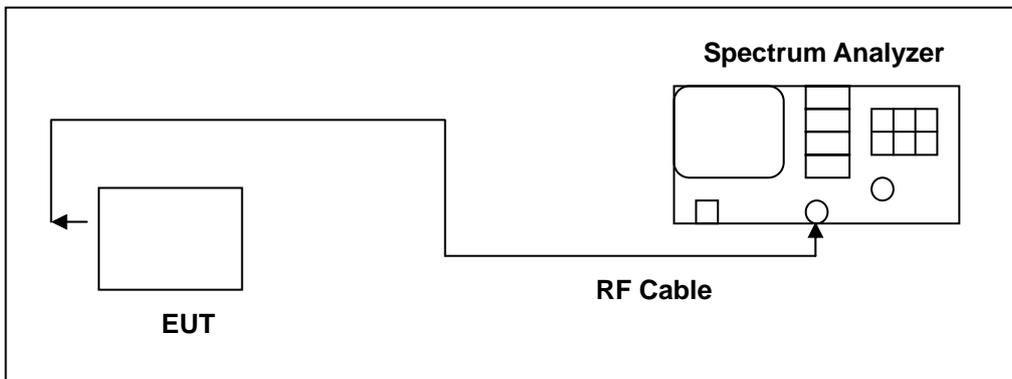
5500	
5600	
5700	

9 Peak Power Spectral Density Measurement

9.1. Limit

Frequency Range (MHz)	Limit
5.150 ~ 5.250 GHz	4 dB
5.250 ~ 5.350 GHz	11 dB
5.470 ~ 5.725 GHz	11 dB

9.2. Test Setup



9.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/28/2010	(2)
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: D01 UNII General Test Procedures v01, Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E.

9.5. Test Result

Model Number	PJ46100		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 3: IEEE 802.11a Link Mode		
Date of Test	02/02/2012	Test Site	TE02
Frequency (MHz)	Measurement (dBm)	Limit (dBm)	
5180	-7.511	< 4	
5220	-6.591	< 4	
5240	-8.346	< 4	
5260	-3.598	< 11	
5280	-2.471	< 11	
5320	-3.292	< 11	
5500	-4.205	< 11	
5600	-4.205	< 11	
5700	-2.884	< 11	

Model Number	PJ46100		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 4: draft 802.11n Standard-20MHz Link Mode		
Date of Test	02/02/2012	Test Site	TE02
Frequency (MHz)	Measurement (dBm)	Limit (dBm)	
5180	-7.094	< 4	
5220	-8.230	< 4	
5240	-7.848	< 4	
5260	-4.041	< 11	
5280	-3.616	< 11	
5320	-4.754	< 11	
5500	-5.556	< 11	
5600	-4.611	< 11	
5700	-4.823	< 11	

9.6. Test Graphs

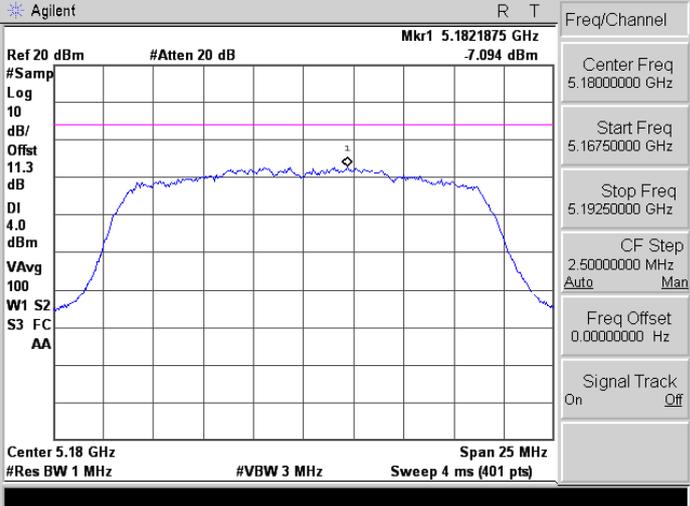
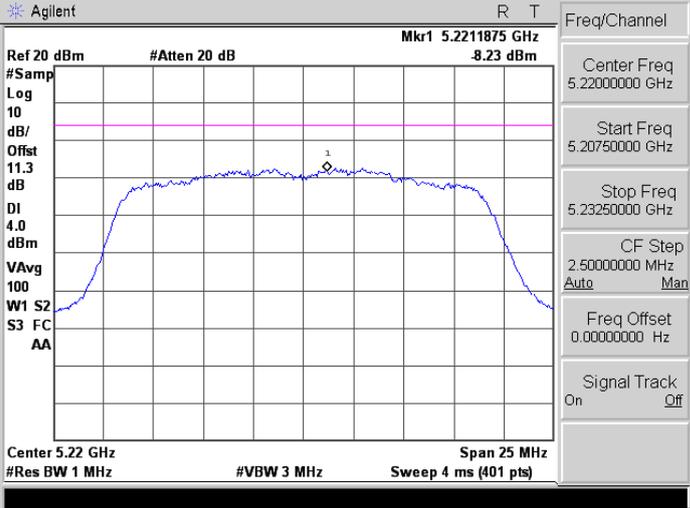
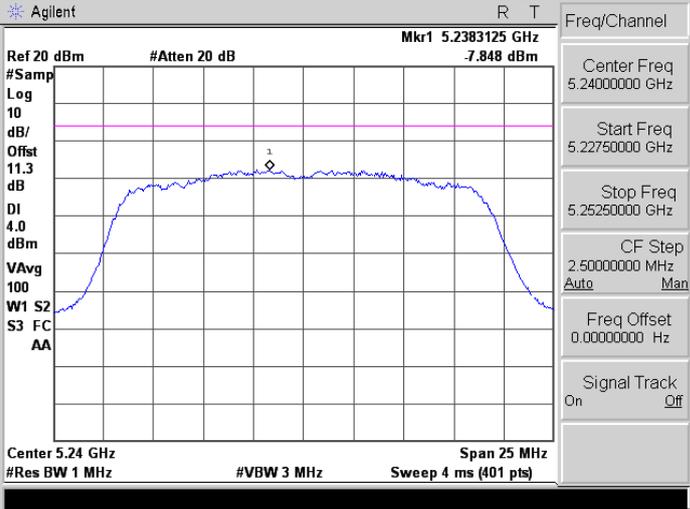
Mode 3: IEEE 802.11a Link Mode	
5180	<p>Agilent R T</p> <p>Ref 20 dBm #Atten 20 dB Mkr1 5.1774375 GHz -7.511 dBm</p> <p>#Samp Log 10 dB/ Offst 11.3 dB DI 4.0 dBm VAvg 100 W1 S2 S3 FC AA</p> <p>Center 5.18 GHz Span 25 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.18000000 GHz Start Freq 5.16750000 GHz Stop Freq 5.19250000 GHz CF Step 2.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5220	<p>Agilent R T</p> <p>Ref 20 dBm #Atten 20 dB Mkr1 5.2186875 GHz -6.591 dBm</p> <p>#Samp Log 10 dB/ Offst 11.3 dB DI 4.0 dBm VAvg 100 W1 S2 S3 FC AA</p> <p>Center 5.22 GHz Span 25 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.22000000 GHz Start Freq 5.20750000 GHz Stop Freq 5.23250000 GHz CF Step 2.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5240	<p>Agilent R T</p> <p>Ref 20 dBm #Atten 20 dB Mkr1 5.2380000 GHz -8.346 dBm</p> <p>#Samp Log 10 dB/ Offst 11.3 dB DI 4.0 dBm VAvg 100 W1 S2 S3 FC AA</p> <p>Center 5.24 GHz Span 25 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.24000000 GHz Start Freq 5.22750000 GHz Stop Freq 5.25250000 GHz CF Step 2.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>

Mode 3: IEEE 802.11a Link Mode	
5260	<p>Agilent R T</p> <p>Ref 20 dBm #Atten 20 dB Mkr1 5.2573125 GHz -3.598 dBm</p> <p>#Samp Log 10 dB/ Offst 11.3 dB DI 11.0 dBm VAvg 100 W1 S2 S3 FC AA</p> <p>Center 5.26 GHz Span 25 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.2600000 GHz Start Freq 5.24750000 GHz Stop Freq 5.27250000 GHz CF Step 2.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5280	<p>Agilent R T</p> <p>Ref 20 dBm #Atten 20 dB Mkr1 5.2828750 GHz -2.471 dBm</p> <p>#Samp Log 10 dB/ Offst 11.3 dB DI 11.0 dBm VAvg 100 W1 S2 S3 FC AA</p> <p>Center 5.28 GHz Span 25 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.2800000 GHz Start Freq 5.26750000 GHz Stop Freq 5.29250000 GHz CF Step 2.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5320	<p>Agilent R T</p> <p>Ref 20 dBm #Atten 20 dB Mkr1 5.3225625 GHz -3.292 dBm</p> <p>#Samp Log 10 dB/ Offst 11.3 dB DI 11.0 dBm VAvg 100 W1 S2 S3 FC AA</p> <p>Center 5.32 GHz Span 25 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.3200000 GHz Start Freq 5.30750000 GHz Stop Freq 5.33250000 GHz CF Step 2.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>

Mode 3: IEEE 802.11a Link Mode

<p>5500</p>	
<p>5600</p>	
<p>5700</p>	

Mode 4: draft 802.11n Standard-20MHz Link Mode

<p>5180</p>	
<p>5220</p>	
<p>5240</p>	

Mode 4: draft 802.11n Standard-20MHz Link Mode

5260	
5280	
5320	

Mode 4: draft 802.11n Standard-20MHz Link Mode

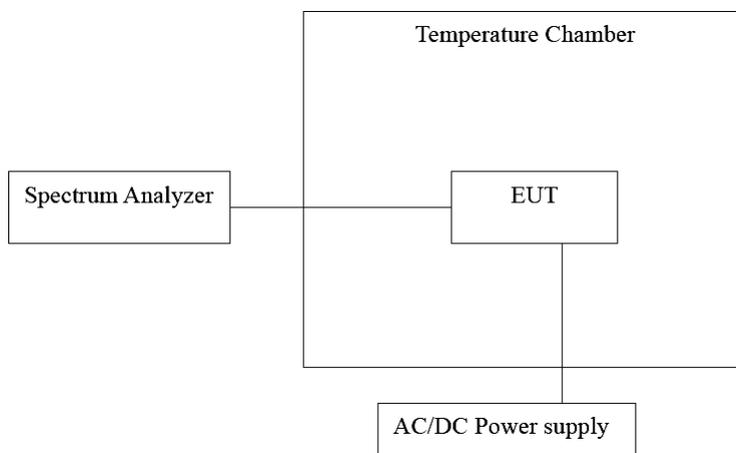
<p>5500</p>	
<p>5600</p>	
<p>5700</p>	

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	07/07/2011	(1)
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	08/24/2011	(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 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	PJ46100				
Mode	Mode 3				
Frequency	5220 MHz				
Date of Test	02/02/2012			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5220.0375	37500	-7.184	Pass
-20		5220.0245	24500	-4.693	Pass
-10		5219.9645	-35500	6.801	Pass
0		5219.9765	-23500	4.502	Pass
10		5220.0315	31500	-6.034	Pass
20		5219.9825	-17500	3.352	Pass
30		5220.0235	23500	-4.502	Pass
40		5219.9815	-18500	3.544	Pass
50		5220.0265	26500	-5.077	Pass

Model Number	PJ46100				
Mode	Mode 3				
Frequency	5280 MHz				
Date of Test	02/02/2012			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5280.0175	17500	-3.314	Pass
-20		5279.9835	-16500	3.125	Pass
-10		5280.0115	11500	-2.178	Pass
0		5280.0365	36500	-6.913	Pass
10		5279.9765	-23500	4.451	Pass
20		5280.0345	34500	-6.534	Pass
30		5279.9725	-27500	5.208	Pass
40		5280.0145	14500	-2.746	Pass
50		5279.9835	-16500	3.125	Pass

Model Number	PJ46100				
Mode	Mode 3				
Frequency	5600 MHz				
Date of Test	02/02/2012			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5600.0235	23500	-4.196	Pass
-20		5599.9875	-12500	2.232	Pass
-10		5600.0165	16500	-2.946	Pass
0		5600.0295	29500	-5.268	Pass
10		5599.9715	-28500	5.089	Pass
20		5599.9845	-15500	2.768	Pass
30		5600.0295	29500	-5.268	Pass
40		5600.0175	17500	-3.125	Pass
50		5599.9795	-20500	3.661	Pass

Model Number	PJ46100				
Mode	Mode 4				
Frequency	5220 MHz				
Date of Test	02/02/2012			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5219.9635	-36500	6.992	Pass
-20		5220.0275	27500	-5.268	Pass
-10		5219.9785	-21500	4.119	Pass
0		5219.9645	-35500	6.801	Pass
10		5220.0395	39500	-7.567	Pass
20		5220.0265	26500	-5.077	Pass
30		5219.9745	-25500	4.885	Pass
40		5220.0285	28500	-5.460	Pass
50		5220.0295	29500	-5.651	Pass

Model Number	PJ46100				
Mode	Mode 4				
Frequency	5280 MHz				
Date of Test	02/02/2012			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5279.9745	-25500	4.830	Pass
-20		5280.0295	29500	-5.587	Pass
-10		5280.0465	46500	-8.807	Pass
0		5279.9715	-28500	5.398	Pass
10		5279.9825	-17500	3.314	Pass
20		5280.0395	39500	-7.481	Pass
30		5280.0245	24500	-4.640	Pass
40		5279.9745	-25500	4.830	Pass
50		5280.0285	28500	-5.398	Pass

Model Number	PJ46100				
Mode	Mode 4				
Frequency	5600 MHz				
Date of Test	02/02/2012			Test Site	TE02
Temp. (°C)	Voltage (VAC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
-30	120	5599.9745	-25500	4.554	Pass
-20		5599.9835	-16500	2.946	Pass
-10		5600.0345	34500	-6.161	Pass
0		5599.9625	-37500	6.696	Pass
10		5600.0285	28500	-5.089	Pass
20		5600.0145	14500	-2.589	Pass
30		5599.9835	-16500	2.946	Pass
40		5599.9795	-20500	3.661	Pass
50		5600.0375	37500	-6.696	Pass

Voltage Variations

Model Number	PJ46100				
Mode	Mode 3				
Frequency	5220 MHz				
Date of Test	02/02/2012			Test Site	TE02
Temp. (°C)	Voltage (VDC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	4.26	5219.9615	-38500	7.375	Pass
	3.70	5220.0135	13500	-2.586	Pass
	3.40	5220.0375	37500	-7.184	Pass

Model Number	PJ46100				
Mode	Mode 3				
Frequency	5280 MHz				
Date of Test	02/02/2012			Test Site	TE02
Temp. (°C)	Voltage (VDC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	4.26	5280.0275	27500	-5.208	Pass
	3.70	5279.9735	-26500	5.019	Pass
	3.40	5279.9845	-15500	2.936	Pass

Model Number	PJ46100				
Mode	Mode 3				
Frequency	5600 MHz				
Date of Test	02/02/2012			Test Site	TE02
Temp. (°C)	Voltage (VDC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	4.26	5600.0345	34500	-6.161	Pass
	3.70	5600.0365	36500	-6.518	Pass
	3.40	5599.9715	-28500	5.089	Pass

Model Number	PJ46100				
Mode	Mode 4				
Frequency	5220 MHz				
Date of Test	02/02/2012			Test Site	TE02
Temp. (°C)	Voltage (VDC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	4.26	5220.0265	26500	-5.077	Pass
	3.70	5219.9865	-13500	2.586	Pass
	3.40	5220.0465	46500	-8.908	Pass

Model Number	PJ46100				
Mode	Mode 4				
Frequency	5280 MHz				
Date of Test	02/02/2012			Test Site	TE02
Temp. (°C)	Voltage (VDC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	4.26	5279.9725	-27500	5.208	Pass
	3.70	5280.0385	38500	-7.292	Pass
	3.40	5279.9725	-27500	5.208	Pass

Model Number	PJ46100				
Mode	Mode 4				
Frequency	5600 MHz				
Date of Test	02/02/2012			Test Site	TE02
Temp. (°C)	Voltage (VDC)	Measured Frequency (MHz)	Delta Frequency (Hz)	Tolerance (ppm)	Result (Pass/Fail)
20	4.26	5599.9745	-25500	4.554	Pass
	3.70	5600.0225	22500	-4.018	Pass
	3.40	5600.0395	39500	-7.054	Pass

11 Antenna Measurement

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 **PIFA antenna**. And the maximum Gain of this antenna is only **1.18 dBi**.