
FCC Test Report

Report No.: AGC008110401F1

FCC ID : Y2PWR300NQ
PRODUCT DESIGNATION : 300M 802.11N Wireless Router
BRAND NAME : ReadyNet
MODEL NAME : WR300NQ
CLIENT : Phonex Broadband Corporation
DATE OF ISSUE : April 22, 2011
STANDARD(S) : FCC Part 15 Rules

Attestation of Global Compliance Co., Ltd.

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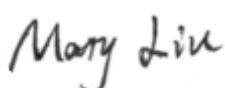
1. VERIFICATION OF COMPLIANCE

Applicant:	Phonex Broadband Corporation 6952 High Tech Dr, Midvale, Utah, 84047
Manufacturer:	QVS Manufacturing Services 10721 S Hidden Ridge Lane, Sandy, Utah 84092
Product Designation:	300M 802.11N Wireless Router
Brand name:	ReadyNet
Model Name:	WR300NQ
FCC ID	Y2PWR300NQ
Measurement Procedure:	ANSI C63.4: 2003
File Number:	AGC008110401F1
Date of test:	Apr.18-Apr.21, 2011
Deviation:	None
Condition of Test Sample:	Normal

The above equipment was tested by Attestation Of Global Compliance Co., Ltd. for compliance with the requirements set forth in the FCC Rules and Regulations Part 15, the measurement procedure according to ANSI C63.4:2003. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

The test results of this report relate only to the tested sample identified in this report.

Checked By :



Mary Liu Apr.22, 2011

Authorized By :



Forrest Lei Apr.22, 2011

2. PRODUCT INFORMATION

Housing Type: Plastic

Voltage DC12V Supply by adapter

Note: The adapter is supply by Kingnet company, but will not sell with 300M 802.11N wireless router, so no adapter photo in test report.

I/O Port Information (Applicable Not Applicable)

I/O Port of EUT			
I/O Port Type	Q'TY	Cable	Tested with
DC Input port	1	N/A	1
RJ45	5	N/A	2

3. TEST FACILITY

Facility Attestation of Global Compliance Co., Ltd.

Location: 1F, No.2 Building, Huafeng No.1 Technical, Industrial Park, Sanwei, Xixiang, Baoan District, Shenzhen, China

Description: The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2003.

Site Filing: The FCC Registration Number is 259865

Instrument Tolerance: All measuring equipment is in accord with ANSI C63.4 requirements that meet industry regulatory agency and accreditation agency requirement.

4. SUPPORT EQUIPMENT LIST

Device Type	Manufacturer	Model Name	Serial No.	Data Cable	Power Cable
PC	Lenovo	410M	N/A	N/A	1.4m unshielded

**Note: All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.

5. SYSTEM DESCRIPTION

EUT test procedure:

1. Connect EUT and peripheral devices (if need).
2. Power on the EUT, running software then the EUT begins to work.
3. Make sure the EUT operates normally during the test.

Test Mode

- 1 Normal(internet)

6 SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§15.107	Conduction Emission	Compliant
§15.109	Radiated Emission	Compliant

7. FCC LINE CONDUCTED EMISSION TEST

7.1. TEST EQUIPMENT OF LINE CONDUCTED EMISSION TEST

Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	Agilent	E4440A	N/A	06/29/2010	06/28/2011
EMI Test Receiver	H.P.	8546A	N/A	06/29/2010	06/28/2011
LISN	EMCO	3825/2	N/A	06/29/2010	06/28/2011

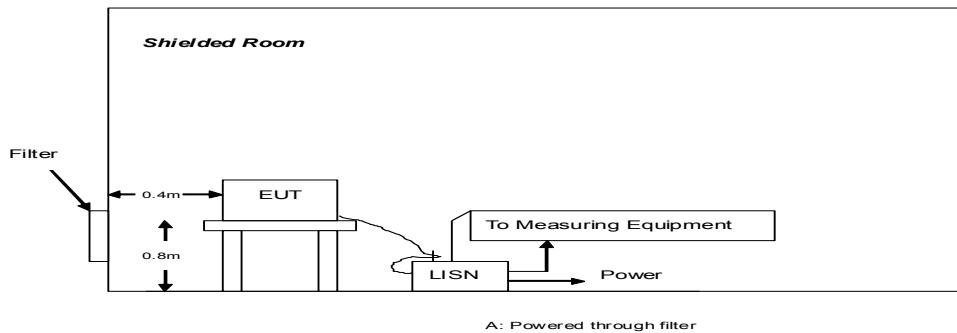
7.2 .LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

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

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz

7.3. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



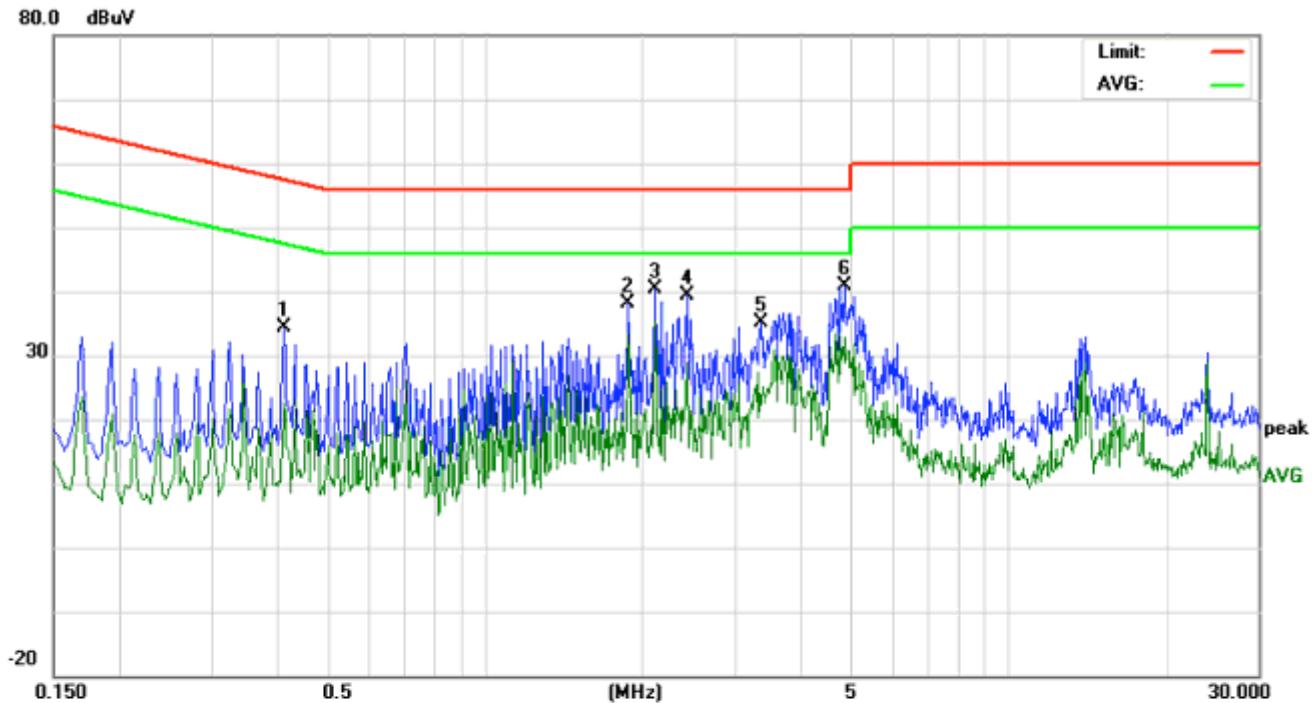
7.4. PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, was placed as per ANSI C63.4.
- 3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- 4) The EUT received AC120V. All support equipments received AC 120V/60Hz power from socket under the turntable, if any.
- 5) The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 6) Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 7) During the above scans, the emissions were maximized by cable manipulation.
- 8) A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions.
- 9) Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.

The test data of the worst case condition(s) was reported on the Summary Data page.

7.5 TEST RESULT OF LINE CONDUCTED EMISSION TEST

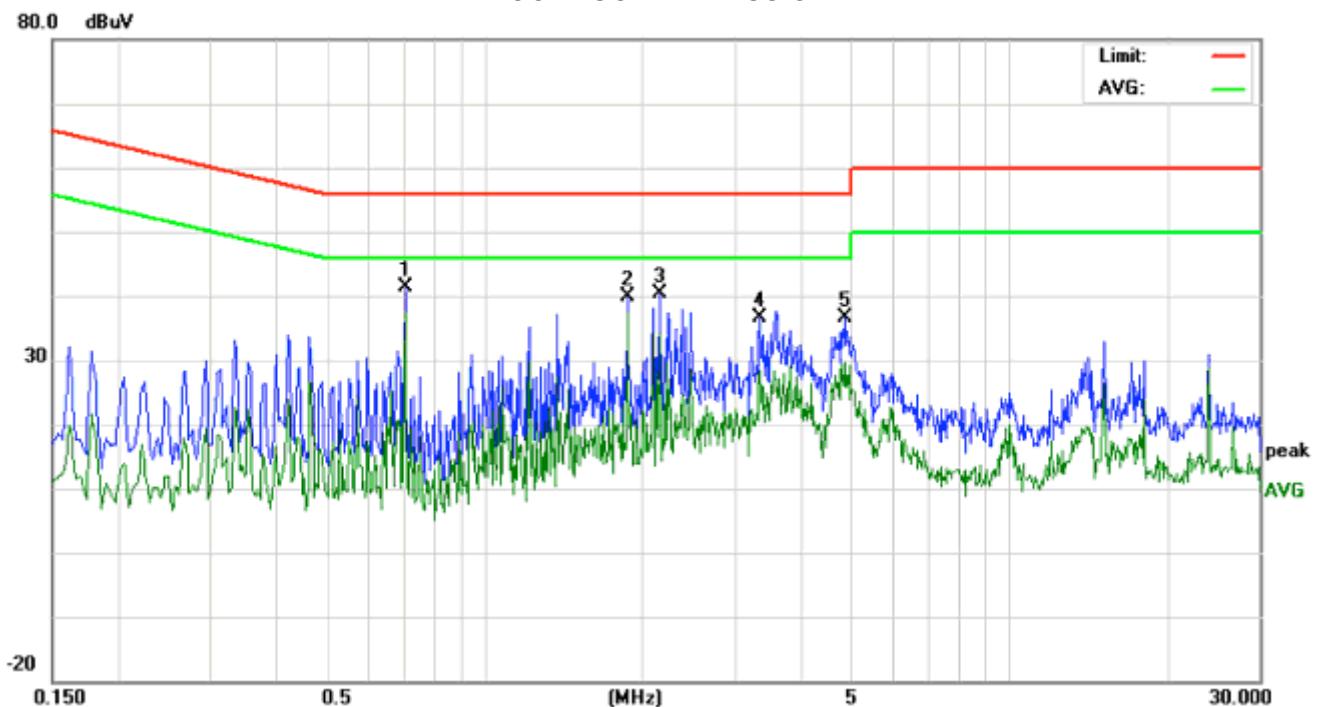
LINE CONDUCTED EMISSION - L



Site: Conduction Phase: L Temperature: 26
 Limit: FCC Class B Conduction Power: AC 120V/60Hz Humidity: 60 %
 EUT: 300M 802.11N Wireless Router
 M/N: WR300NQ
 Mode: NORMAL
 Note:

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG		Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.4140	24.06		12.25	10.26	34.32		22.51	57.57	47.57	-23.25	-25.06	P	
2	1.8780	26.97		22.17	11.26	38.23		33.43	56.00	46.00	-17.77	-12.57	P	
3	2.1140	29.09		23.95	11.33	40.42		35.28	56.00	46.00	-15.58	-10.72	P	
4	2.4420	27.89		17.55	11.40	39.29		28.95	56.00	46.00	-16.71	-17.05	P	
5	3.3660	23.44		11.26	11.59	35.03		22.85	56.00	46.00	-20.97	-23.15	P	
6	4.8620	28.85		20.92	12.03	40.88		32.95	56.00	46.00	-15.12	-13.05	P	

LINE CONDUCTED EMISSION – N



Site: Conduction

Phase: **N**

Temperature: 26

Limit: FCC Class B Conduction

Power: AC 120V/60Hz

Humidity: 60 %

EUT: 300M 802.11N Wireless Router

M/N: WR300NQ

Mode: NORMAL

Note:

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	Avg		Peak	QP	Avg	QP	Avg	QP	Avg		
1	0.7060	30.79		26.90	10.51	41.30		37.41	56.00	46.00	-14.70	-8.59	P	
2	1.8700	28.74		26.03	11.26	40.00		37.29	56.00	46.00	-16.00	-8.71	P	
3	2.1660	29.03		22.74	11.34	40.37		34.08	56.00	46.00	-15.63	-11.92	P	
4	3.3620	25.02		16.78	11.59	36.61		28.37	56.00	46.00	-19.39	-17.63	P	
5	4.8940	24.61		17.59	12.04	36.65		29.63	56.00	46.00	-19.35	-16.37	P	

8. FCC RADIATED EMISSION TEST

8.1. TEST EQUIPMENT OF RADIATED EMISSION

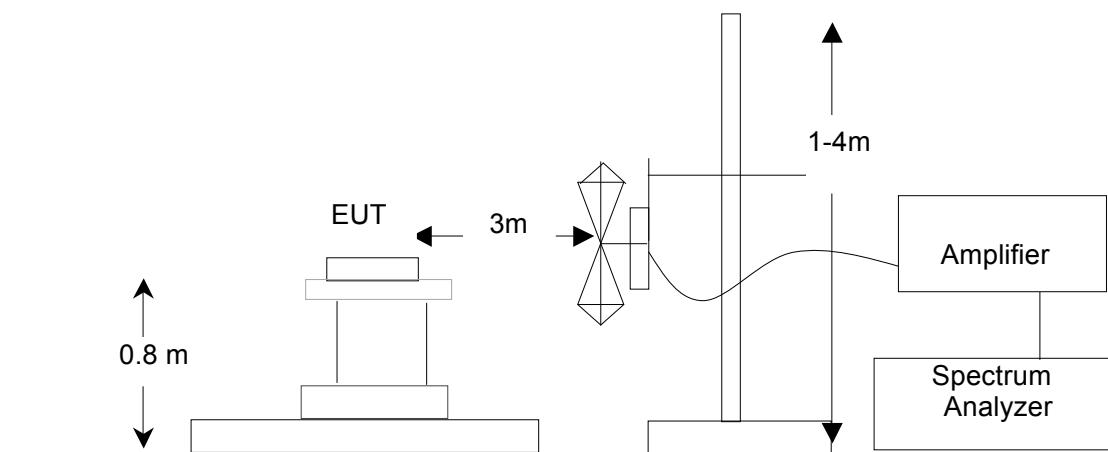
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
PSA SERIES SPECTRUM ANALYZER	AGILENT	E4440A	US41421290	06/29/2010	06/28/2011
ANTENNA	A.H.	SAS-521-4	128	06/29/2010	06/28/2011
HORN ANTENNA	EM	EM-AH-10180	N/A	06/29/2010	06/28/2011
AMPLIFIER	EM	EM30180	0607030	06/29/2010	06/28/2011
POSITIONING CONTROLLER	MF	MF-7802	MF780208147	06/29/2010	06/28/2011

8.2. LIMITS OF RADIATED EMISSION TEST

Frequency (MHz)	Distance (m)	Maximum Field Strength Limit (dBuV/m/ Q.P.)
30~88	3	40.0
88~216	3	43.5
216~960	3	46.0
Above 960	3	54.0

**Note: The lower limit shall apply at the transition frequency.

8.3 BLOCK DIAGRAM OF RADIATED EMISSION TEST



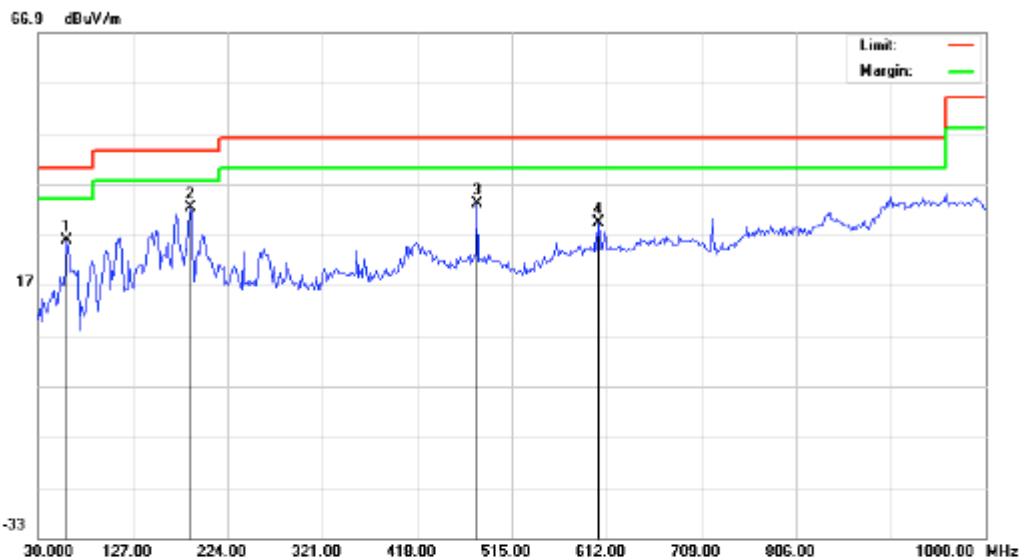
8.4 PROCEDURE OF RADIATED EMISSION TEST

- 1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, was placed as per ANSI C63.4.
- 3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- 4) The EUT received AC120V. All support equipments received AC 120V/60Hz power from socket under the turntable, if any.
- 5) The antenna was placed at 3 meter away from the EUT as stated in FCC Part 15. The antenna connected to the Analyzer via a cable and at times a pre-amplifier would be used.
- 6) The Analyzer / Receiver quickly scanned from 30MHz to 1000MHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- 7) The test mode(s) were scanned during the test:
- 8) Recorded at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and Q.P./Peak reading is presented.

8.5 TEST RESULT OF RADIATED EMISSION TEST

Below 1GHz Test Data

Radiated Emission Test –Horizontal -3m



Site: site #1	Polarization: Horizontal	Temperature: 26
Limit: FCC Class B 3M Radiation	Power: AC120V	Humidity: 60 %
EUT: 300M 802.11N Wireless Router	Distance: 3m	
M/N: WR300NQ		
Mode:Normal		
Note:		

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna	Table	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		Height	Degree	
1		59.1000	6.84	18.84	25.68	40.00	-14.32	peak			
2	*	185.2000	16.43	15.96	32.39	43.50	-11.11	peak			
3		479.4333	11.39	21.67	33.06	46.00	-12.94	peak			
4		603.9167	4.44	24.95	29.39	46.00	-16.61	peak			

Radiated Emission Test –Vertical -3m

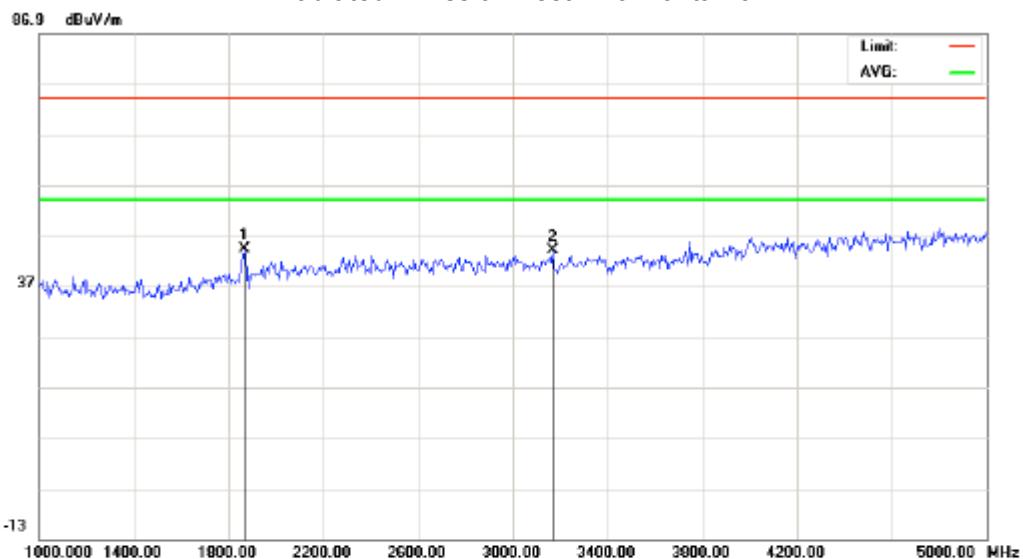


Site: site #1 Polarization: **Vertical** Temperature: 26
Limit: FCC Class B 3M Radiation Power: AC120V Humidity: 60 %
EUT: 300M 802.11N Wireless Router Distance: 3m
M/N: WR300NQ
Mode: Normal
Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		59.1000	7.06	19.08	26.14	40.00	-13.86	peak			
2	*	156.1000	17.63	13.49	31.12	43.50	-12.38	peak			
3		479.4333	10.28	21.67	31.95	46.00	-14.05	peak			
4		720.3167	5.20	26.15	31.35	46.00	-14.85	peak			

Above 1GHz Test Data

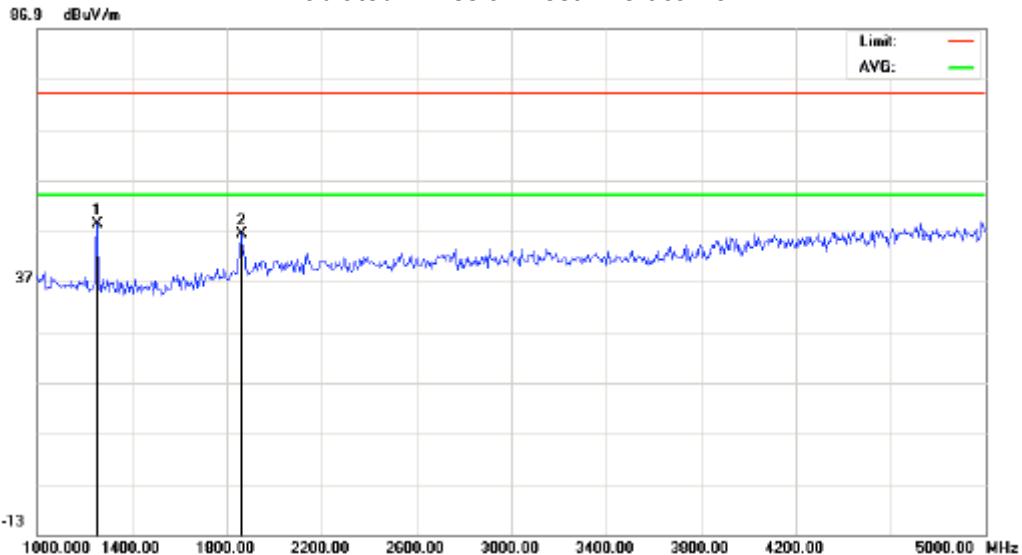
Radiated Emission Test –Horizontal -3m



Site: site #1	Polarization: <i>Horizontal</i>	Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK)	Power:	Humidity: 60 %
EUT: 300M 802.11N Wireless Router	Distance: 3m	
M/N: WR300NQ		
Mode:Normal		
Note:		

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna	Table	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1	*	1866.667	55.91	-11.52	44.39	74.00	-29.61	peak			
2		3166.667	52.20	-8.20	44.00	74.00	-30.00	peak			

Radiated Emission Test –Vertical -3m



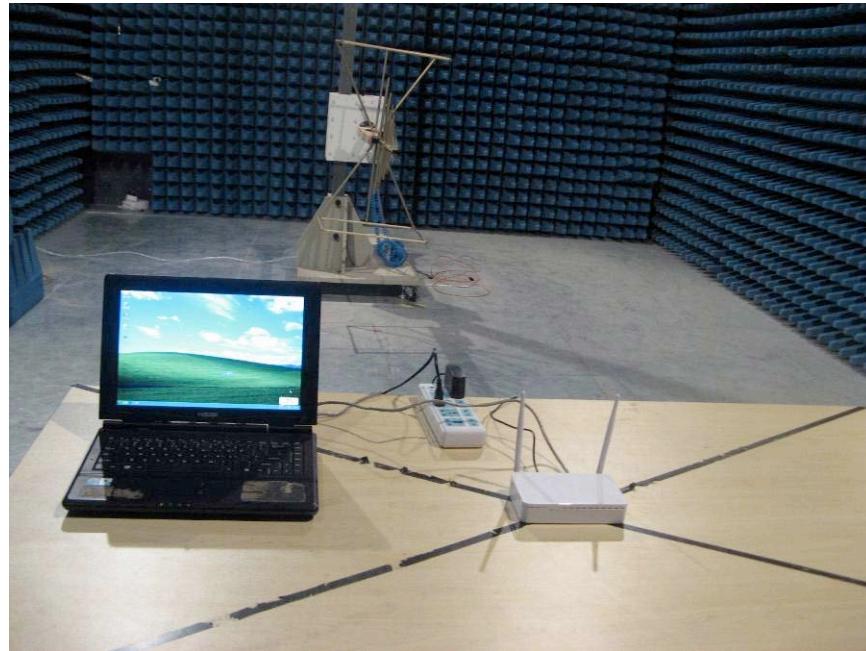
Site: site #1 Polarization: **Vertical** Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %
EUT: 300M 802.11N Wireless Router Distance: 3m
M/N: WR300NQ
Mode: Normal
Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna	Table	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Degree	
1	*	1253.333	63.87	-15.48	48.39	74.00	-25.61	peak			
2		1880.000	57.98	-11.59	46.39	74.00	-27.61	peak			

Note:Above 5GHz radiation emission at least have 20dB margin,so no recording in the test report.

APPENDIX 1 PHOTOGRAPHS OF TEST SETUP

RADIATED EMISSION TEST SETUP



CONDUCTED EMISSION TEST SETUP

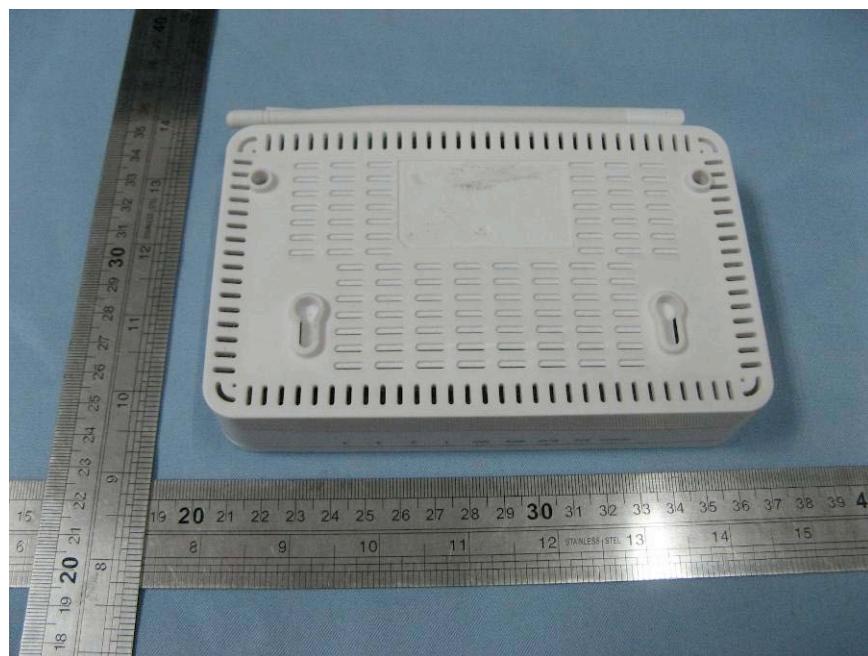


APPENDIX 2 PHOTOGRAPHS OF EUT

TOP VIEW OF EUT



BOTTOM VIEW OF EUT



FRONT VIEW OF EUT



BACK VIEW OF EUT



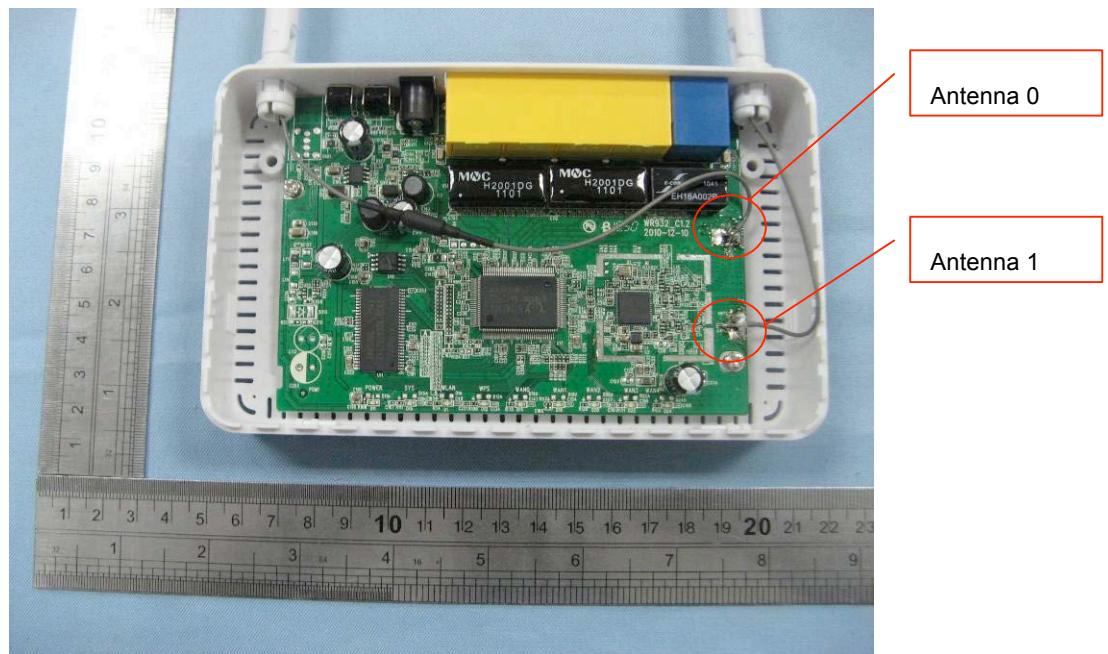
LEFT VIEW OF EUT



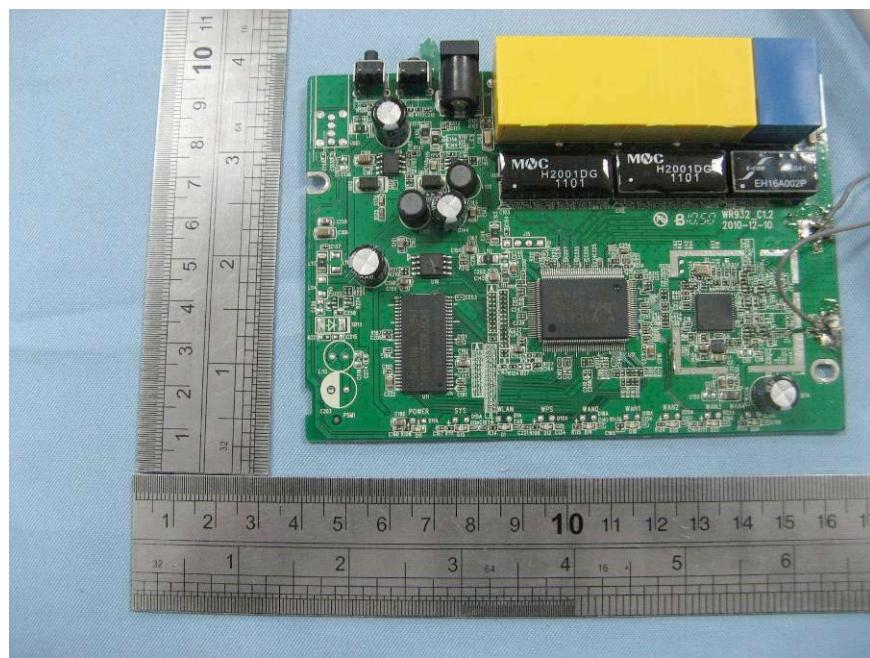
RIGHT VIEW OF EUT



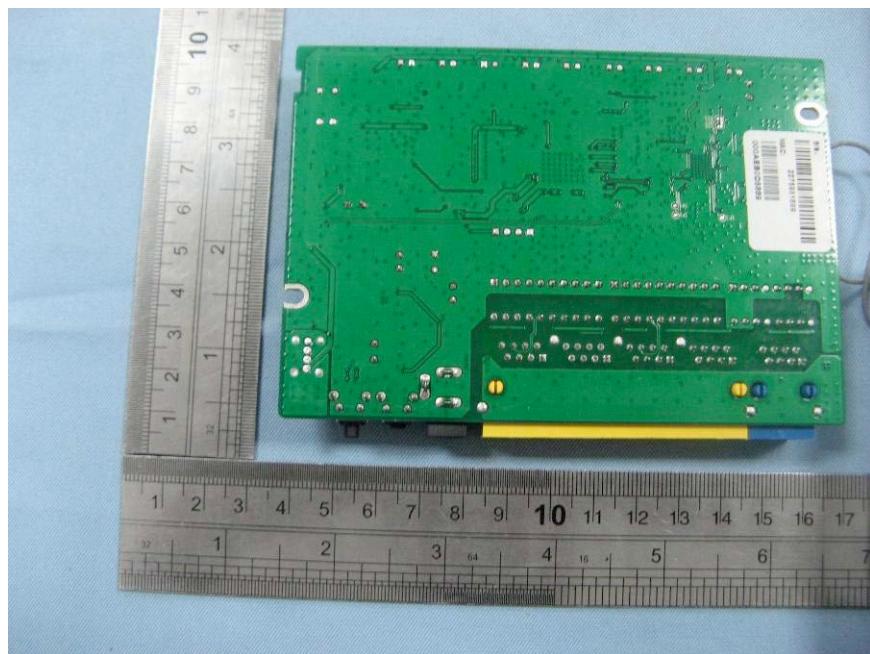
OPEN VIEW OF EUT



INTERNAL VIEW OF EUT-1



INTERNAL VIEW OF EUT-2



-----END OF REPORT-----