
FCC Test Report

Report No.: AGC008110401F2

FCC ID : Y2PWR300NQ
PRODUCT DESIGNATION : 300M 802.11N Wireless Router
BRAND NAME : ReadyNet
TEST MODEL : 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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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
Report Number	AGC008110401F2
Date of Test	Apr.18-Apr.21, 2011

WE HEREBY CERTIFY THAT:

The above equipment was tested by Attestation of Global Compliance Co., Ltd. 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 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC Rules Part 15.247.

Checked By: Mary Liu
Mary Liu Apr.22, 2011

Authorized By Forrest Lei
Forrest Lei Apr.22, 2011

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1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

The EUT is a **300M 802.11N Wireless Router** designed as an “WiFi Device”. It is designed by way of utilizing the DSSS and OFDM technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	2.412 GHz to 2.462GHz
Rated Output Power	11b:21.21dBm ,11n(40):17.74dBm
Modulation	DBPSK,DQPSK,CCK,16-QAM,64-QAM
Data Rate	DSSS(1/2/5.5/11),OFDM(6/9/12/18/24/36/48/54) See section 1.3 for 802.11n
Number of channels	11
Antenna Designation	Fixed Antenna
MIMO	2TX and 2RX for both 802.11b /g /n
Antenna Gain	Antenna 0(max):4.5dBi,Antenna 1(max):4.5dBi
Power Supply	DC12V ,0.5A by adapter

1.2 TABLE OF CARRIER FREQUENCIES

Frequency Band	Channel Number	Frequency
2400~2483.5MHZ	1	2412MHZ
	2	2417MHZ
	3	2422 MHZ
	4	2427 MHZ
	5	2432 MHZ
	6	2437 MHZ
	7	2442 MHZ
	8	2447 MHZ
	9	2452 MHZ
	10	2457 MHZ
	11	2462MHZ

Note: For 20MHZ bandwidth system use Channel 1 to Channel 11
For 40MHZ bandwidth system use Channel 3 to Channel 9

Ad-hoc Mode and Country-Code Selection is not supported

1.3 IEEE 802.11N MODULATION SCHEME

MCS Index	N _{ss}	Modulation	R	NBPS	NCBPS		NDBPS		Data rate(Mbps)	
									800nsGI	
					20MHz	40MHz	20MHz	40MHz	20MHz	40MHz
0	1	BPSK	1/2	1	52	108	26	54	6.5	13.5
1	1	QPSK	1/2	2	104	216	52	108	13.0	27.0
2	1	QPSK	3/4	2	104	216	78	162	19.5	40.5
3	1	16-QAM	1/2	4	208	432	104	216	26.0	54.0
4	1	16-QAM	3/4	4	208	432	156	324	39.0	81.0
5	1	64-QAM	2/3	6	312	648	208	432	52.0	108.0
6	1	64-QAM	3/4	6	312	648	234	486	58.5	121.5
7	1	64-QAM	5/6	6	312	648	260	540	65.0	135.0

Symbol	Explanation
NSS	Number of spatial streams
R	Code rate
NBPS	Number of coded bits per single carrier
NCBPS	Number of coded bits per symbol
NDBPS	Number of data bits per symbol
GI	guard interval

1.4 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID:Y2PWR300NQ** filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

1.5 TEST METHODOLOGY

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters.

1.6 TEST FACILITY

All measurement facilities used to collect the measurement data are located at Attestation of Global Compliance Co., Ltd. 1F., No.2 Building, Huafeng No.1 Technical Industrial Park, Sanwei, Xixiang, Baoan District, Shenzhen. The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003. FCC register No.: 259865

1.7 SPECIAL ACCESSORIES

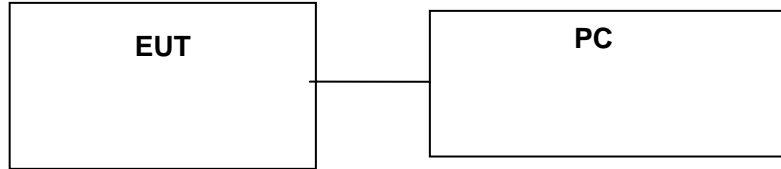
Refer to Section 2.2

1.8 EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

2. SYSTEM TEST CONFIGURATION

2.1 CONFIGURATION OF TESTED SYSTEM



2.2 EQUIPMENT USED IN TESTED SYSTEM

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID
1	300M 802.11N Wireless Router	QVS	WR300NQ	ZDIWR300NQ
2	Adapter	Kingnet	KN-088C	Accessory
3	PC	Lenovo	410M	AE

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.

3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.247	Peak Output Power	Compliant
§15.247	6dB Bandwidth	Compliant
§15.247	Power Spectral Density	Compliant
§15.209	Radiated Emission	Compliant
§15.247	Band Edges	Compliant
§15.207	Conduction Emission	Compliant

4. DESCRIPTION OF TEST MODES

TEST MODES
Transmit by 802.11b (Antenna0&1)with Data rate(1/2/5.5/11)
Transmit by 802.11g(Antenna0&1)with Data rate (6/9/12/18/24/36/48/54)
Transmit by 802.11n (20MHz) (Antenna0&1) with Data rate(6.5/13/19.5/26/39/52/58.5/65)
Transmit by 802.11n (40MHz) (Antenna0&1)with Data rate (13.5/27/40.5/54/81/108/121.5/135)

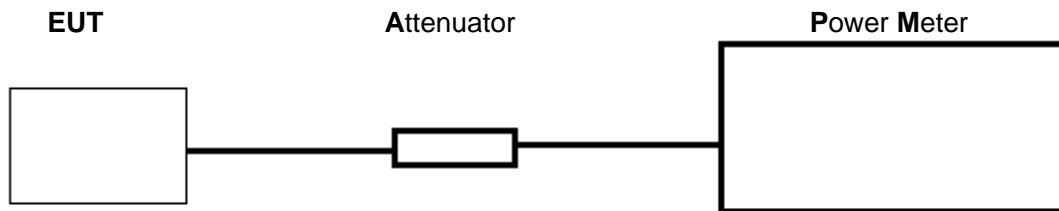
Note: 1 The EUT has been set to operate continuously on the lowest, middle and highest operation frequency individually.
2 All modes have been tested and the worst result of the worst case was reported in the test report.

5 PEAK OUTPUT POWER

5.1 MEASUREMENT PROCEDURE

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Connect EUT RF output port to the power meter through an RF attenuator
3. Set the EUT Work on the top, the middle and the bottom operation frequency for each mode individually.
4. Set the RBW greater than 6 dB bandwidth of the emission
5. Records the Maximum Power from the reading of power meter

5.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



5.3 MEASUREMENT EQUIPMENT USED

Description	Manufacturer	Model	SERIAL NUMBER	Cal. Date	Cal. Due
Power Meter	Agilent	N1911A	NA	06/29/2010	06/28/2011
Power Sensor	Agilent	N192XA	NA	06/29/2010	06/28/2011
RF Attenuator	NA	RFA20dB	NA	NA	NA

5.4 LIMITS AND MEASUREMENT RESULT

TEST ITEM	PEAK POWER
TEST MODE	802.11b(Antenna 0&Antenna 1 with the lowest data rate)

LIMITS AND MEASUREMENT RESULT					
Frequency (GHz)	Antenna 0 (dBm)	Antenna 1 (dBm)	Antenna(0+1) (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	18.23	18.18	21.21	29	Pass
2.442	18.14	18.24	21.20	29	Pass
2.462	18.17	18.17	21.18	29	Pass

Note: Antenna(0+1)=10log(Antenna 0 (mW)+Antenna 1(mW))

TEST ITEM	PEAK POWER
TEST MODE	802.11g(Antenna 0&Antenna 1 with the lowest data rate)

LIMITS AND MEASUREMENT RESULT					
Frequency (GHz)	Antenna 0 (dBm)	Antenna 1 (dBm)	Antenna(0+1) (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	16.53	16.48	19.52	29	Pass
2.442	16.37	16.41	19.40	29	Pass
2.462	16.39	16.45	19.43	29	Pass

Note: Antenna(0+1)=10log(Antenna 0 (mW)+Antenna 1(mW))

TEST ITEM	PEAK POWER
TEST MODE	802.11n 20 (Antenna 0&Antenna 1 with the lowest data rate)

LIMITS AND MEASUREMENT RESULT					
Frequency (GHz)	Antenna 0 (dBm)	Antenna 1 (dBm)	Antenna(0+1) (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	16.45	16.40	19.44	29	Pass
2.442	16.37	16.39	19.39	29	Pass
2.462	16.44	16.46	19.46	29	Pass

Note: $\text{Antenna}(0+1)=10\log(\text{Antenna } 0 \text{ (mW)}+\text{Antenna } 1 \text{ (mW)})$

TEST ITEM	PEAK POWER
TEST MODE	802.11n 40(Antenna 0&Antenna 1 with the lowest data rate)

LIMITS AND MEASUREMENT RESULT					
Frequency (GHz)	Antenna 0 (dBm)	Antenna 1 (dBm)	Antenna(0+1) (dBm)	Applicable Limits (dBm)	Pass or Fail
2.422	14.83	14.64	17.74	29	Pass
2.442	14.39	14.73	17.57	29	Pass
2.452	14.37	14.48	17.43	29	Pass

Note: $\text{Antenna}(0+1)=10\log(\text{Antenna } 0 \text{ (mW)}+\text{Antenna } 1 \text{ (mW)})$

6 6 DB BANDWIDTH

6.1 MEASUREMENT PROCEDURE

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 KHz,
VBW= 100 KHz.
4. Set SPA Trace 1 Max hold, then View.

6.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Same as described in Section 5.2

6.3 MEASUREMENT EQUIPMENT USED

Same as described in Section 5.3

6.4 LIMITS AND MEASUREMENT RESULTS

TEST ITEM	6DB BANDWIDTH
TEST MODE	802.11b Antenna0

LIMITS AND MEASUREMENT RESULT			
Applicable Limits	Measurement Result		
	Test Data (MHz)		Criteria
>500KHZ	Low Channel	8.3	PASS
	Middle Channel	8.6	PASS
	High Channel	8.1	PASS

TEST ITEM	6DB BANDWIDTH
TEST MODE	802.11g Antenna0

LIMITS AND MEASUREMENT RESULT			
Applicable Limits	Measurement Result		
	Test Data (MHz)		Criteria
>500KHZ	Low Channel	16.5	PASS
	Middle Channel	16.5	PASS
	High Channel	16.5	PASS

TEST ITEM	6DB BANDWIDTH
TEST MODE	802.11n 20 Antenna 0

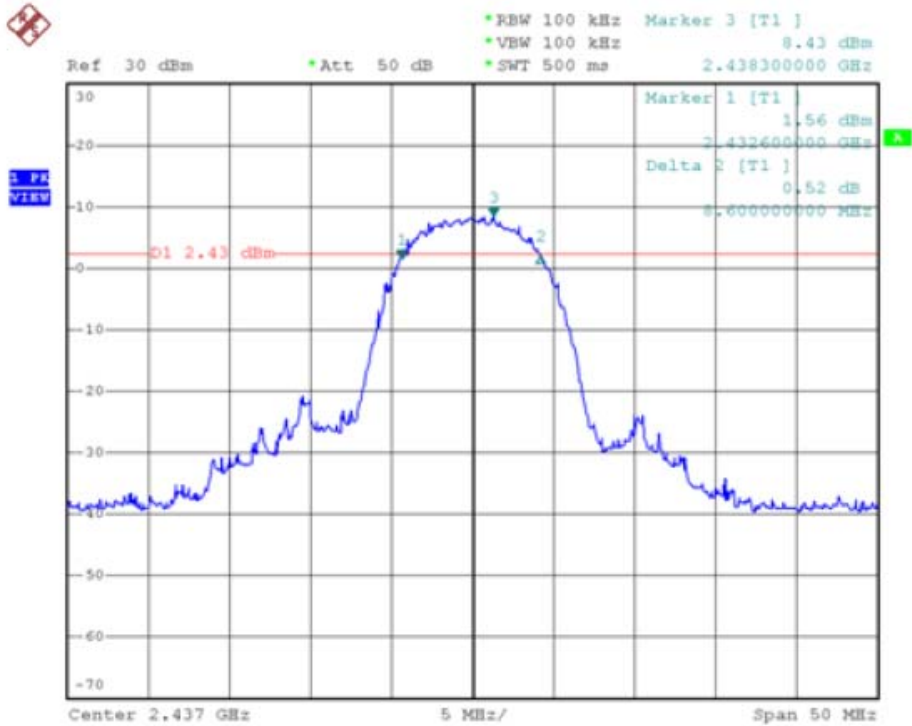
LIMITS AND MEASUREMENT RESULT			
Applicable Limits	Measurement Result		
	Test Data (MHz)		Criteria
>500KHZ	Low Channel	17.7	PASS
	Middle Channel	17.6	PASS
	High Channel	17.6	PASS

TEST ITEM	6DB BANDWIDTH
TEST MODE	802.11n 40 Antenna 0

LIMITS AND MEASUREMENT RESULT			
Applicable Limits	Measurement Result		
	Test Data (MHz)		Criteria
>500KHZ	Low Channel	36.2	PASS
	Middle Channel	36.2	PASS
	High Channel	36.2	PASS

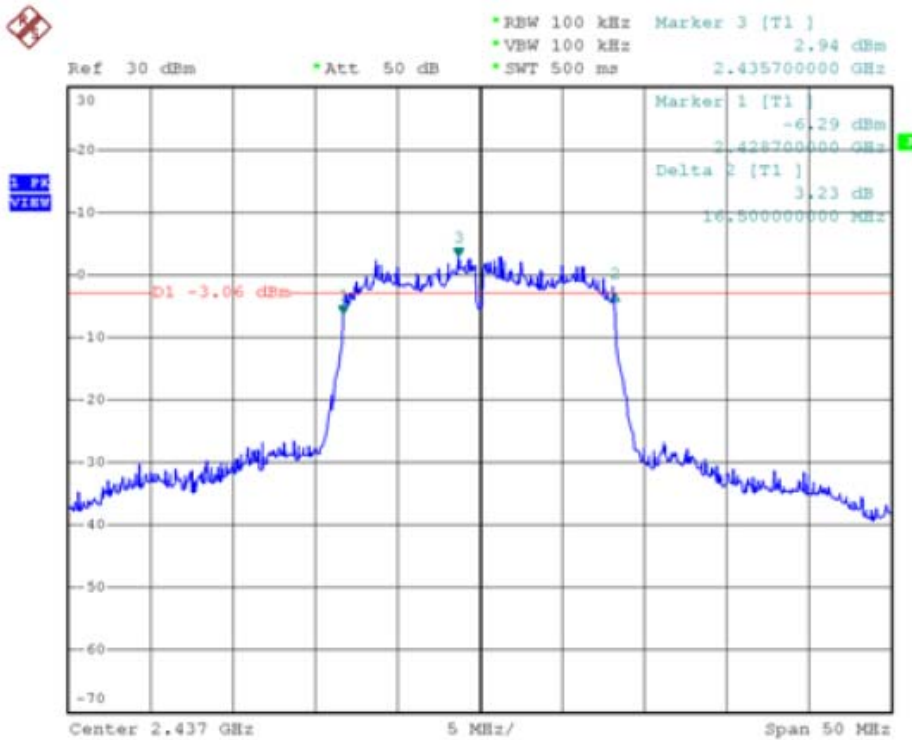
802.11b TEST RESULT

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



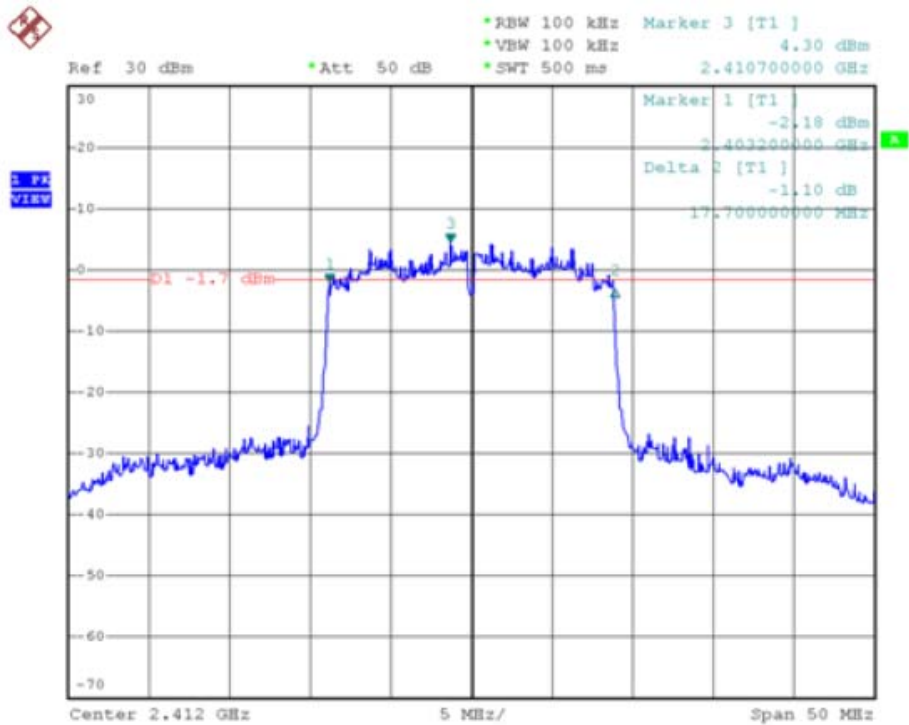
802.11g TEST RESULT

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



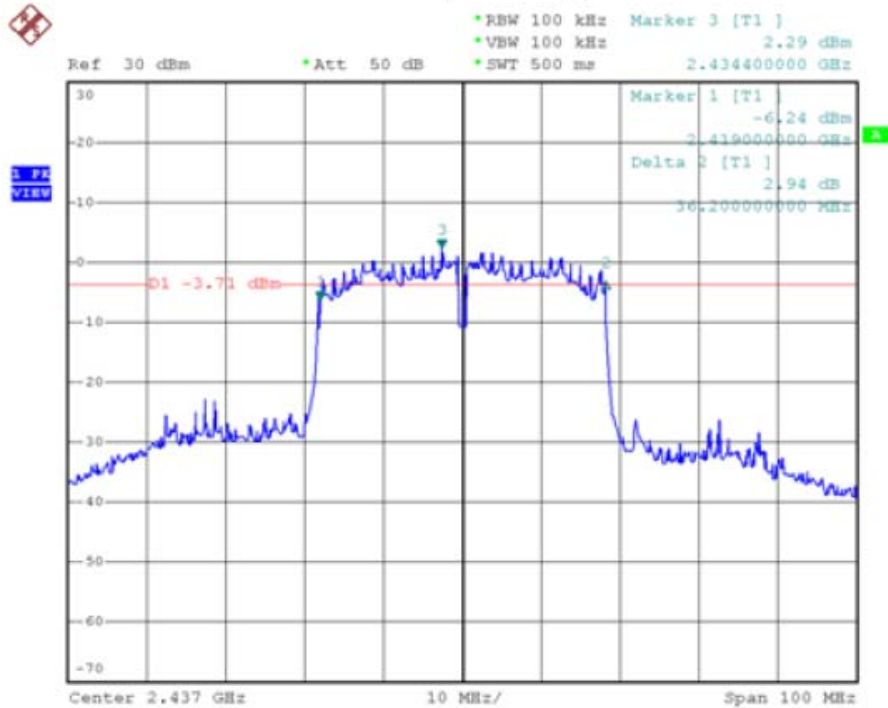
802.11n 20 TEST RESULT

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



802.11n 40 TEST RESULT

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

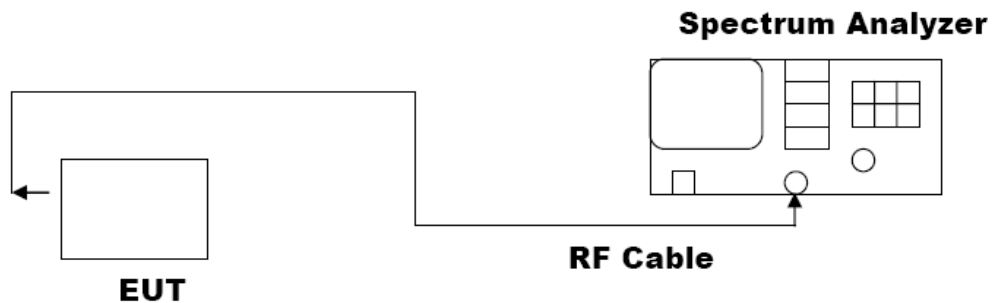


7. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY

7.1 MEASUREMENT PROCEDURE

- (1). The EUT was placed on a turn table which is 0.8m above ground plane.
- (2). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- (3). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- (4). Set SPA Centre Frequency = Operation Frequency, RBW= 3 KHz, VBW= 3 KHz., Sweep time= 100s
- (5). Set SPA Trace 1 Max hold, then View.

7.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



7.3 MEASUREMENT EQUIPMENT USED

SHIELDING ROOM					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	R&S	ESCI	N/A	06/29/2010	06/28/2011

7.4 LIMITS AND MEASUREMENT RESULT

TEST ITEM	POWER PECTRAL DENSITY
TEST MODE	802.11b with the lowest data rate

LIMITS AND MEASUREMENT RESULT					
Applicable Limits	Measurement Result				
	Test Data (dBm/3KHz)				Criteria
	Channel	Antenna0	Antenna1	Antenna (0+1)	
7 dBm / 3KHz	Low	-3.76	-3.92	-0.83	Pass
	Middle	-5.39	-5.62	-2.49	Pass
	Top	-3.88	-4.33	-1.09	Pass

TEST ITEM	POWER PECTRAL DENSITY
TEST MODE	802.11g with the lowest date rate

LIMITS AND MEASUREMENT RESULT					
Applicable Limits	Measurement Result				
	Test Data (dBm/3KHz)				Criteria
	Channel	Antenna0	Antenna1	Antenna (0+1)	
7 dBm / 3KHz	Low	-15.24	-15.77	-12.48	Pass
	Middle	-12.00	-12.45	-9.21	Pass
	Top	-13.32	-13.80	-10.54	Pass

TEST ITEM	POWER PECTRAL DENSITY
TEST MODE	802.11n 20 with the lowest date rate

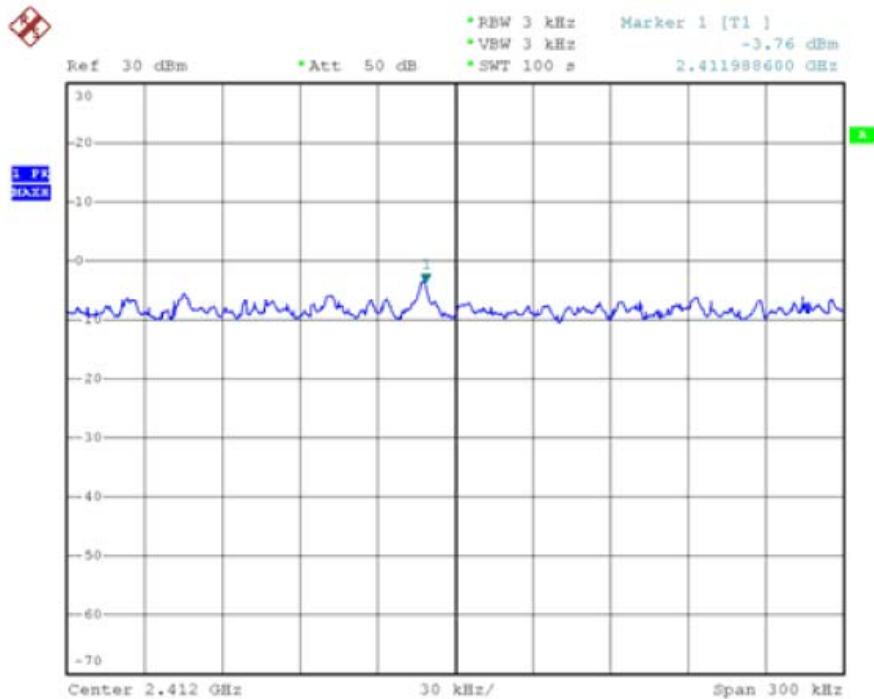
LIMITS AND MEASUREMENT RESULT					
Applicable Limits	Measurement Result				
	Test Data (dBm/3KHz)				Criteria
	Channel	Antenna0	Antenna1	Antenna (0+1)	
7 dBm / 3KHz	Low	-13.15	-13.49	-10.31	Pass
	Middle	-13.06	-13.28	-10.16	Pass
	Top	-12.42	-12.77	-9.58	Pass

TEST ITEM	POWER PECTRAL DENSITY
TEST MODE	802.11n 40 with the lowest date rate

LIMITS AND MEASUREMENT RESULT					
Applicable Limits	Measurement Result				
	Test Data (dBm/3KHz)				Criteria
	Channel	Antenna0	Antenna1	Antenna (0+1)	
7 dBm / 3KHz	Low	-23.39	-23.60	-20.47	Pass
	Middle	-20.21	-20.47	-17.33	Pass
	Top	-21.73	-21.85	-18.78	Pass

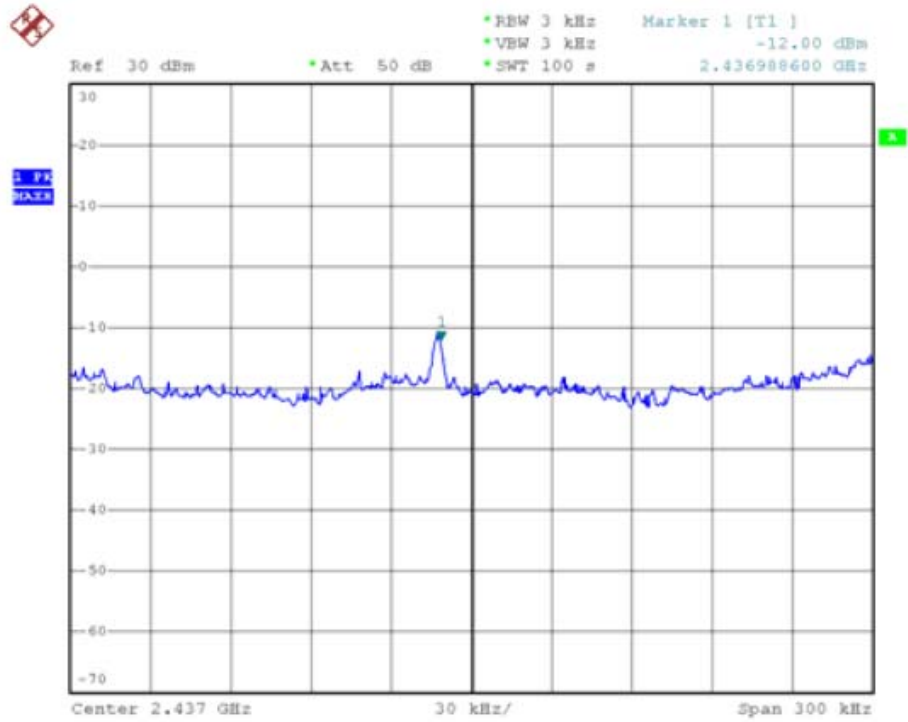
802.11b TEST RESULT

TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL



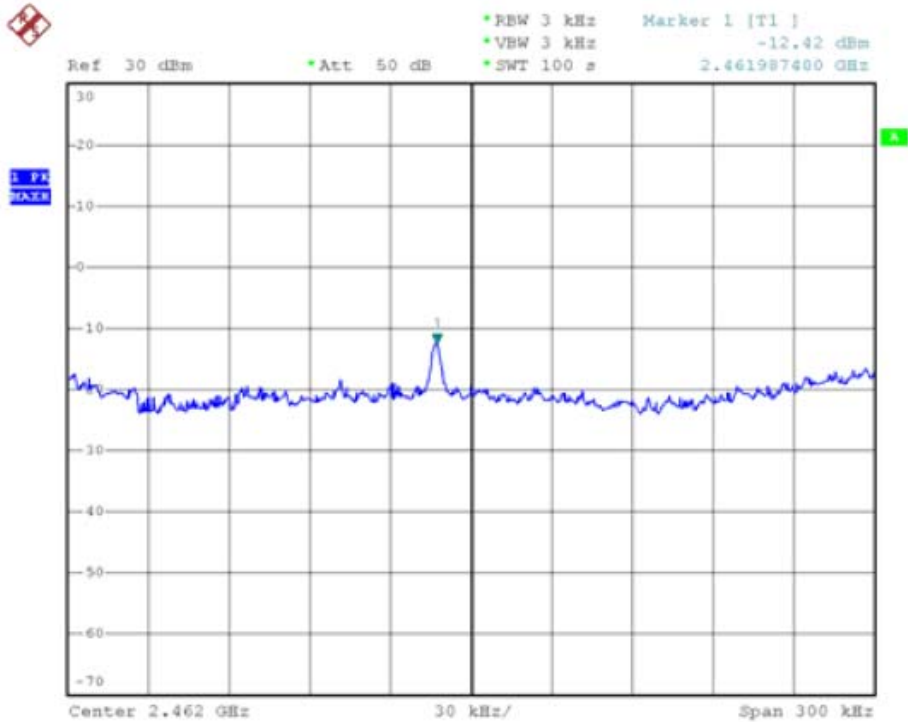
802.11g TEST RESULT

TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

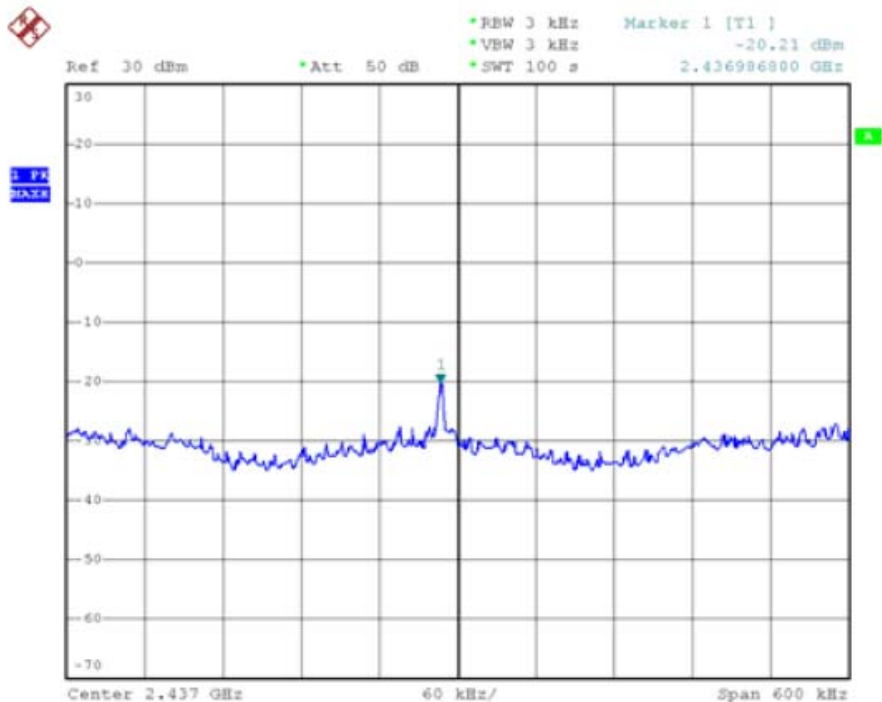


802.11n20 TEST RESULT

TEST PLOT OF SPECTRAL DENSITY FOR Top CHANNEL



802.11n40 TEST RESULT TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL



8. RADIATED EMISSION MEASUREMENT

8.1 MEASUREMENT PROCEDURE

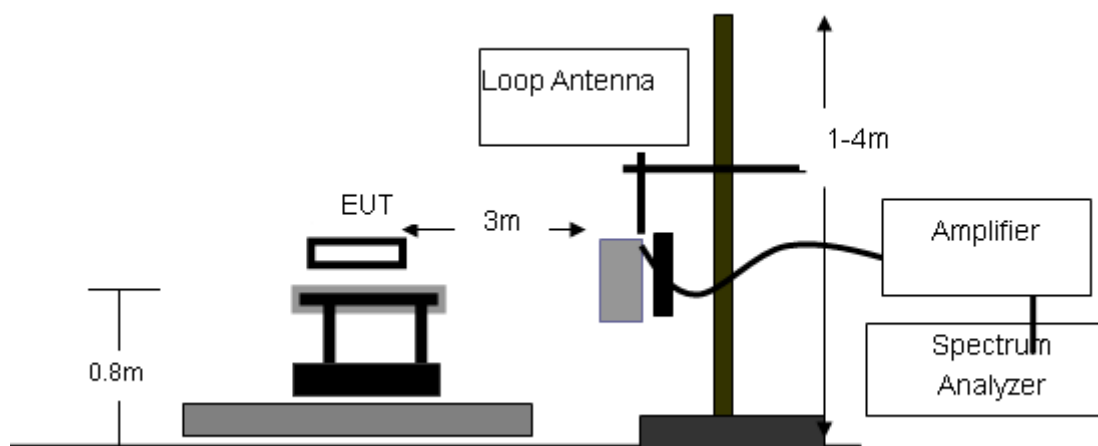
- 1 Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-Variable antenna tower was placed 3 meters far away from the turntable.
- 2 Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3 The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- 4 For each suspected emission, the antenna tower was scan(from 1M to 4M)and then the turntable was rotated (from 0 degree to 360degrees) to find the maximum reading.
- 5 Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode
- 6 For emission above 1GHZ, use 1MHZ VBW and RBW for peak reading. Then 1MHZ RBW and 10Hz VBW for average reading in spectrum analyzer.
- 7 When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one Complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds.

As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the Pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 seconds interval during which the field strength is at its maximum value.

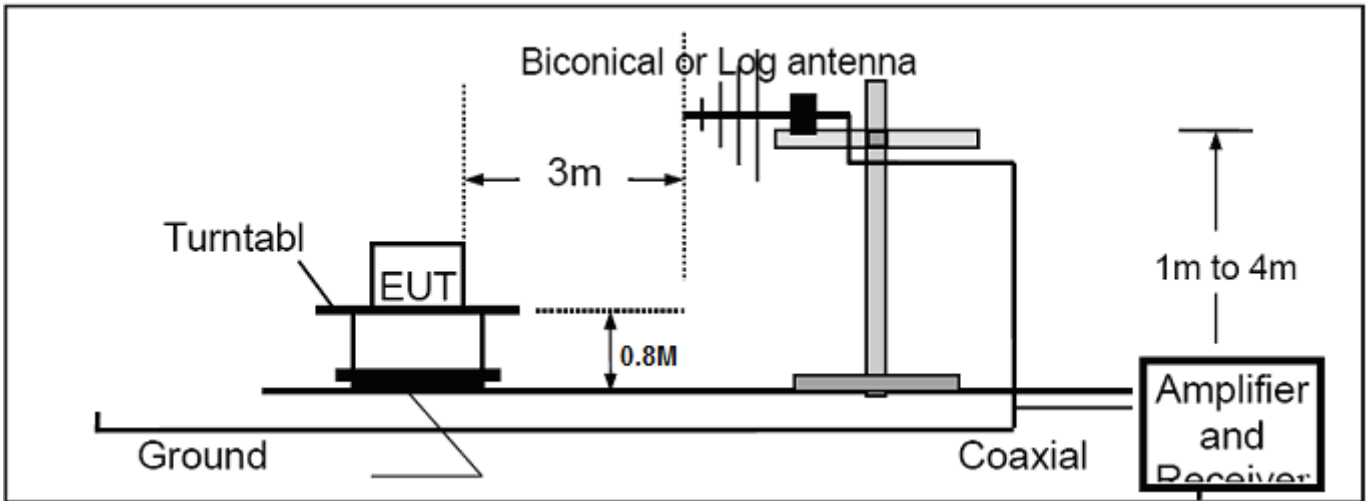
- 8 If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
- 9 For testing above 1GHZ, the emissions level of the EUT in peak mode was lower than average limit(that Means the emissions 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.
- 10 in case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded Data should be QP measured by receiver. High-Low scan is not required in this case.

8.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

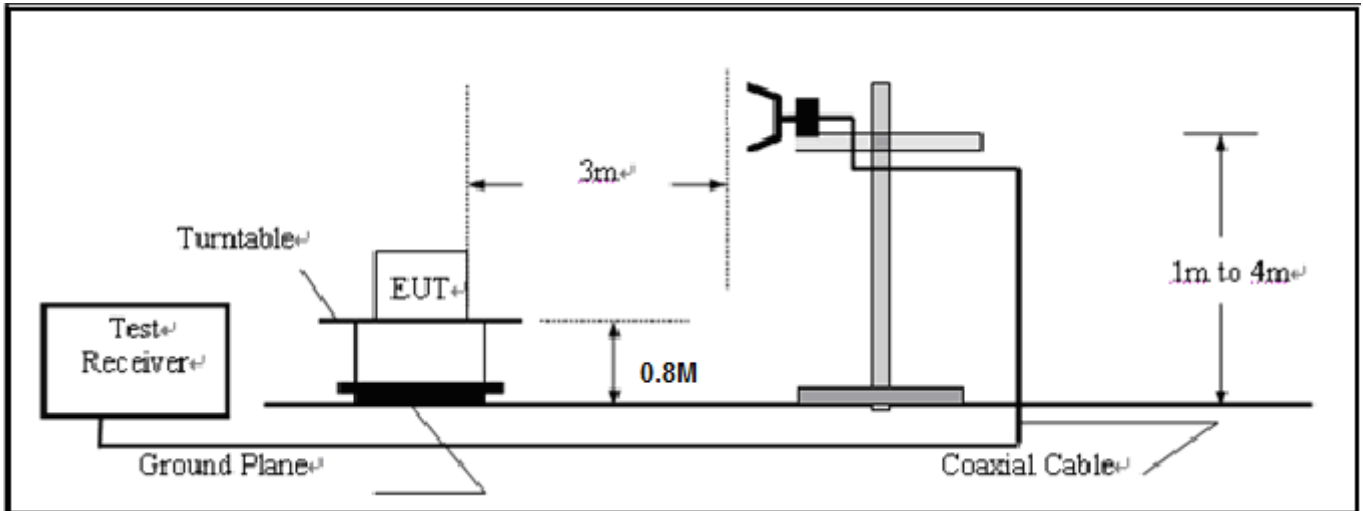
RADIATED EMISSION TEST SETUP BELOW 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



8.3 MEASUREMENT EQUIPMENT USED

Description	Manufacturer	Model	SERIAL NUMBER	Cal. Date	Cal. Due
Spectrum Analyzer	Agilent	E4440A	N/A	06/29/2010	06/28/2011
Amplifier	EM	EM30180	0607030	06/29/2010	06/28/2011
Horn Antenna	EM	EM-AH-10180	N/A	06/29/2010	06/28/2011
Horn Antenna	A.H. Systems Inc.	SAS-574	--	06/29/2010	06/28/2011
EMI Test Receiver	Rohde & Schwarz	ESCI	N/A	06/29/2010	06/28/2011
Amplifier	EM	EM30180	N/A	06/29/2010	06/28/2011
Biological Antenna	A.H. Systems Inc.	SAS-521-4	N/A	06/29/2010	06/28/2011
Loop Antenna	Daze	ZN30900N	SEL0097	06/29/2010	06/28/2011
Isolation Transformer	LETEAC	LTBK	--	06/29/2010	06/28/2011

8.4 LIMITS AND MEASUREMENT RESULT

15.209(a) Limit in the below table has to be followed

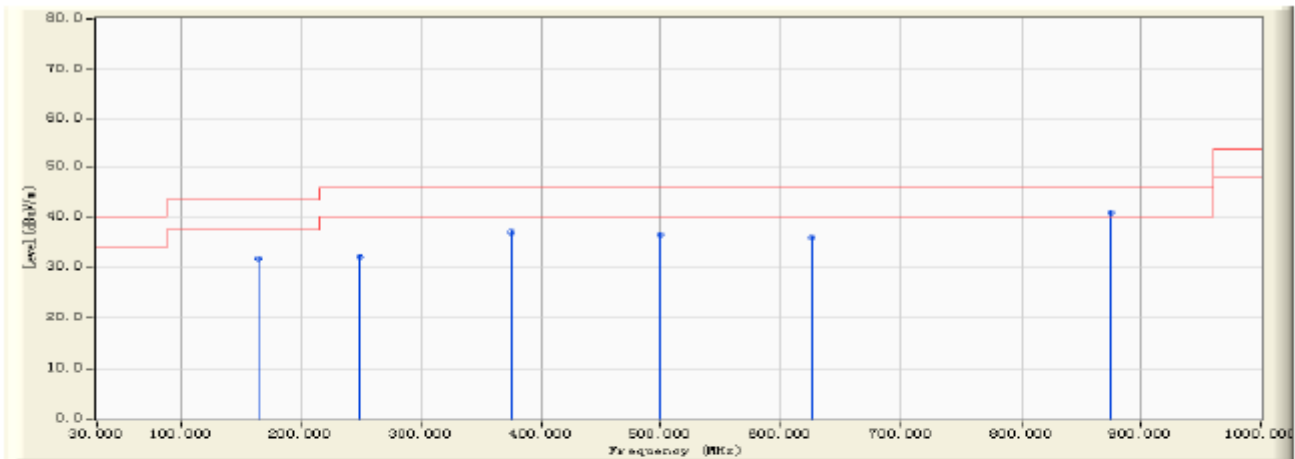
Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

RADIATED EMISSION BELOW 30MHZ

No emission found between lowest internal used/generated frequency to 30MHz.

RADIATED EMISSION BELOW 1GHZ

EUT	300M 802.11N Wireless Router	Model Name	WR300NQ
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	AC120V
Test Mode	802.11b Antenna 0 With data rate 11 2437MHZ	Antenna	Vertical

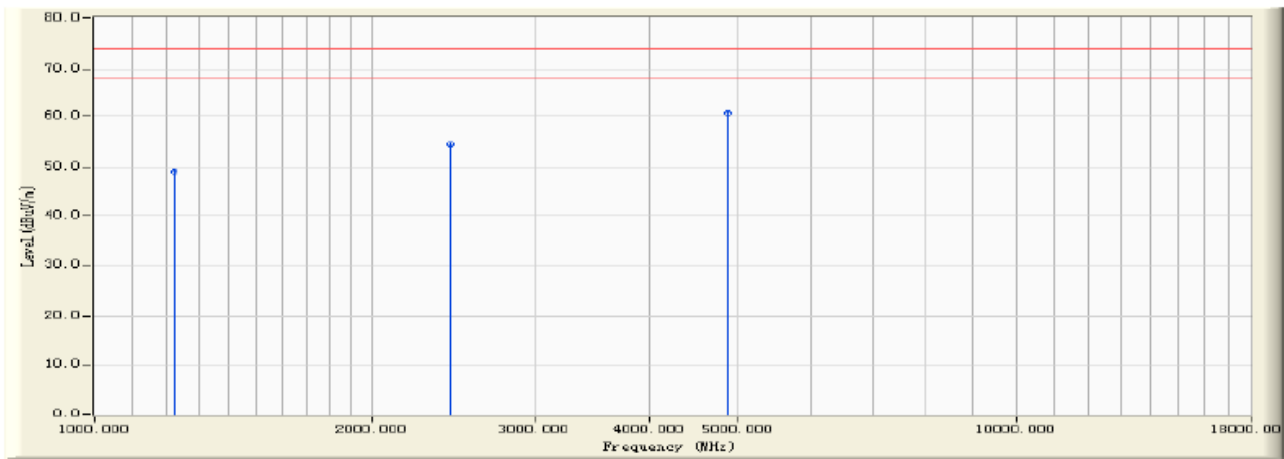


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	165.326	-17.718	49.370	31.652	-11.848	43.500	QUASPEAK
2	249.890	-15.245	47.360	32.115	-13.885	46.000	QUASPEAK
3	375.030	-11.290	48.350	37.060	-8.940	46.000	QUASPEAK
4	499.998	-8.875	45.600	36.725	-9.275	46.000	QUASPEAK
5	625.370	-6.882	42.960	36.079	-9.921	46.000	QUASPEAK
6	* 875.019	-1.982	42.960	40.978	-5.022	46.000	QUASPEAK

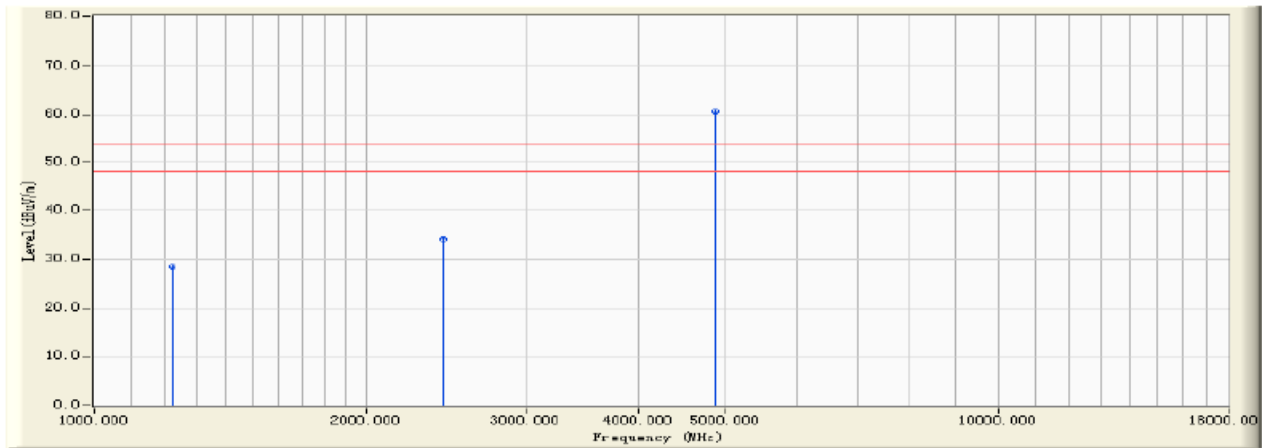
Note: the other modes radiation emission at least have 20dB margin.

RADIATED EMISSION ABOVE 1GHZ

EUT	300M 802.11N Wireless Router	Model Name	WR300NQ
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	AC120V
Test Mode	802.11b Antenna 0 With data rate 11 2437MHZ	Antenna	Vertical



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1219.360	-5.759	54.870	49.112	-24.888	74.000	PEAK
2		2437.040	0.509	53.870	54.379	-19.621	74.000	PEAK
3	*	4875.960	7.461	53.180	60.641	-13.359	74.000	PEAK



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1219.360	-5.759	34.250	28.492	-25.508	54.000	AVERAGE
2		2437.040	0.509	33.640	34.149	-19.851	54.000	AVERAGE
3	*	4875.960	7.461	53.280	60.741	6.741	54.000	AVERAGE

**Note: 1, For frequency above 18 GHz and upto 25 GHz, the radiated emission at least 20 dB Margin
2, For Horizontal, the radiated emissions are significantly lower than Vertical, and it's at least 20 dB margin
3, For other modes radiation emissions are at least 20dB margin than limit.**

9 BAND EDGE EMISSION

9.1 MEASUREMENT PROCEDURE

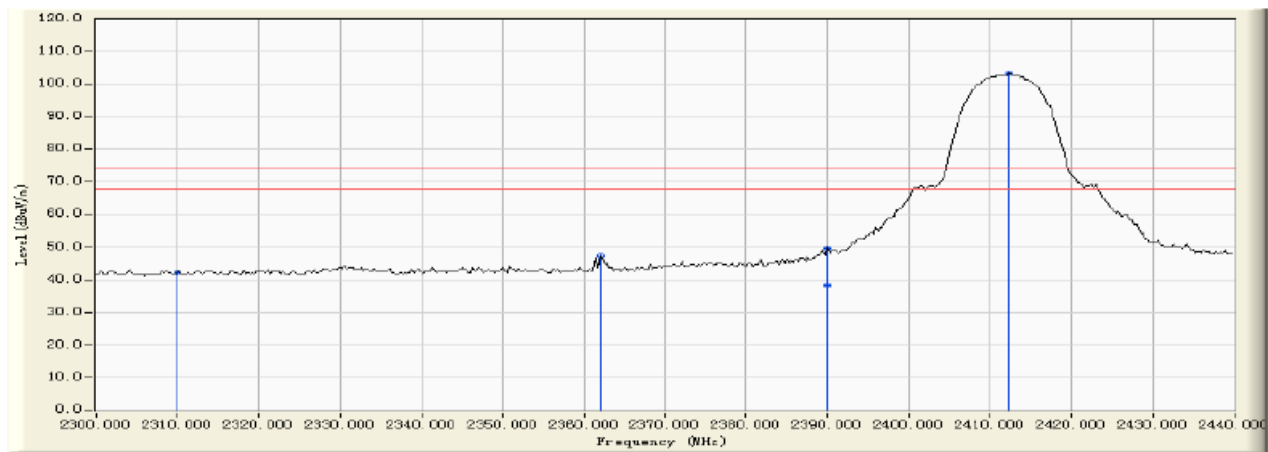
1. Set the EUT Work on the top, the bottom operation frequency individually.
2. Set SPA Start or Stop Frequency = Operation Frequency, RBW= 1MHz, VBW= 1MHz.
3. The band edges was measured and recorded.

9.2 TEST SET-UP

Same as described in section 8.2

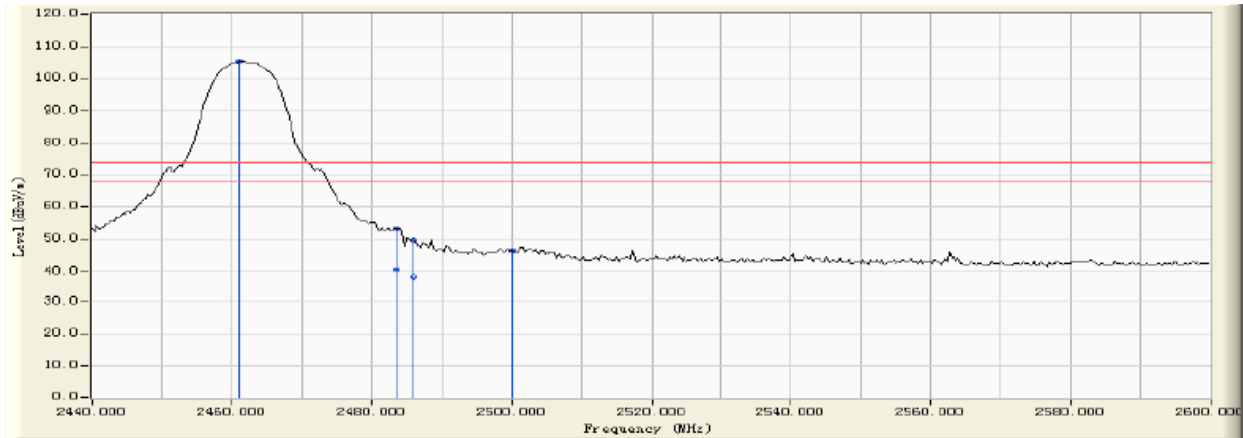
9.3 TEST RESULT

EUT	300M 802.11N Wireless Router	Model Name	WR300NQ
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	AC120V
Test Mode	802.11b antenna 0 With data rate 11 2412MHZ	Antenna	Vertical



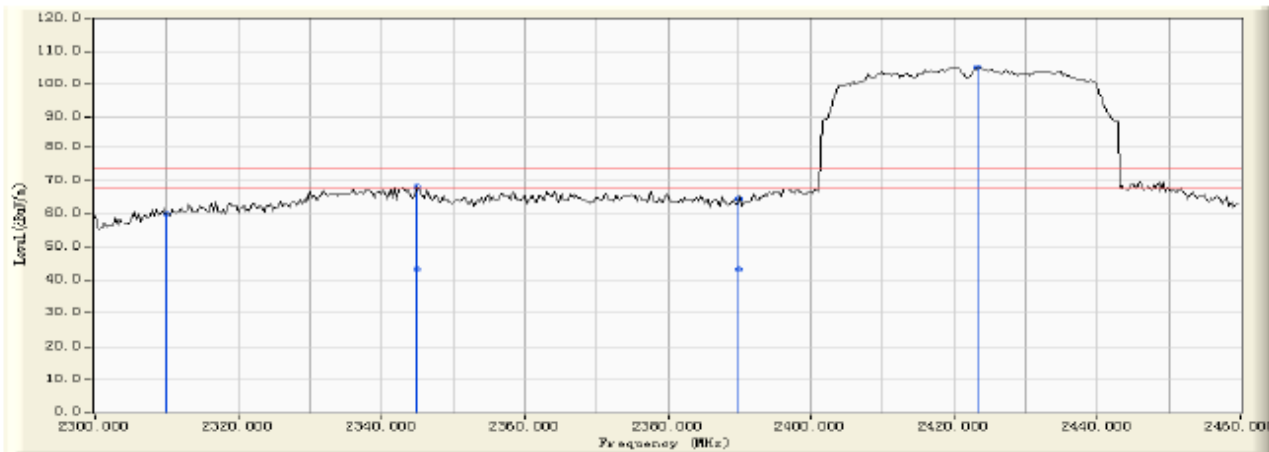
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-10.012	52.301	42.289	-31.711	74.000	PEAK
2		2362.036	-10.030	57.208	47.178	-26.822	74.000	PEAK
3		2390.000	-10.041	59.676	49.636	-24.364	74.000	PEAK
4		2390.000	-10.041	48.320	38.280	-15.720	54.000	AVERAGE
5	*	2412.335	-10.016	113.280	103.263	29.263	74.000	PEAK

EUT	300M 802.11N Wireless Router	Model Name	WR300NQ
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	AC120V
Test Mode	802.11b antenna 0 With data rate 11 2462MHZ	Antenna	Vertical



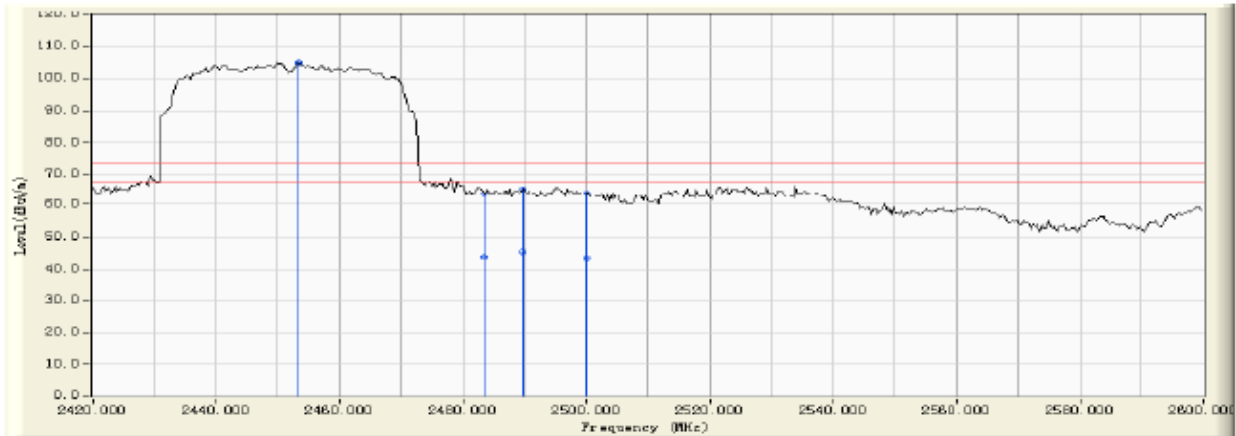
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.078	-9.911	115.452	105.541	31.541	74.000	PEAK
2		2483.500	-9.856	62.818	52.962	-21.038	74.000	PEAK
3		2483.500	-9.856	50.310	40.454	-13.546	54.000	AVERAGE
4		2485.988	-9.851	59.266	49.414	-24.586	74.000	PEAK
5		2485.988	-9.851	48.260	38.408	-15.592	54.000	AVERAGE
6		2500.000	-9.810	56.080	46.270	-27.730	74.000	PEAK

EUT	300M 802.11N Wireless Router	Model Name	WR300NQ
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	AC120V
Test Mode	802.11n 40 Antenna 0 With data rate 135 2422MHZ	Antenna	Vertical



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-10.012	70.155	60.143	-13.857	74.000	PEAK
2		2345.030	-10.024	78.229	68.205	-5.795	74.000	PEAK
3		2345.030	-10.024	53.260	43.236	-10.764	54.000	AVERAGE
4		2390.000	-10.041	74.783	64.743	-9.257	74.000	PEAK
5		2390.000	-10.041	53.260	43.220	-10.780	54.000	AVERAGE
6	*	2423.273	-10.001	115.202	105.201	31.201	74.000	PEAK

EUT	300M 802.11N Wireless Router	Model Name	WR300NQ
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	AC120V
Test Mode	802.11n 40 Antenna 0 With data rate 135	Antenna	Vertical



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2453.413	-9.929	114.825	104.896	30.896	74.000	PEAK
2		2483.500	-9.856	73.680	63.824	-10.176	74.000	PEAK
3		2483.500	-9.856	53.620	43.764	-10.236	54.000	AVERAGE
4		2489.701	-9.843	75.457	65.614	-8.386	74.000	PEAK
5		2489.701	-9.843	55.320	45.477	-8.523	54.000	AVERAGE
6		2500.000	-9.810	73.932	64.122	-9.878	74.000	PEAK
7		2500.000	-9.810	53.160	43.350	-10.650	54.000	AVERAGE

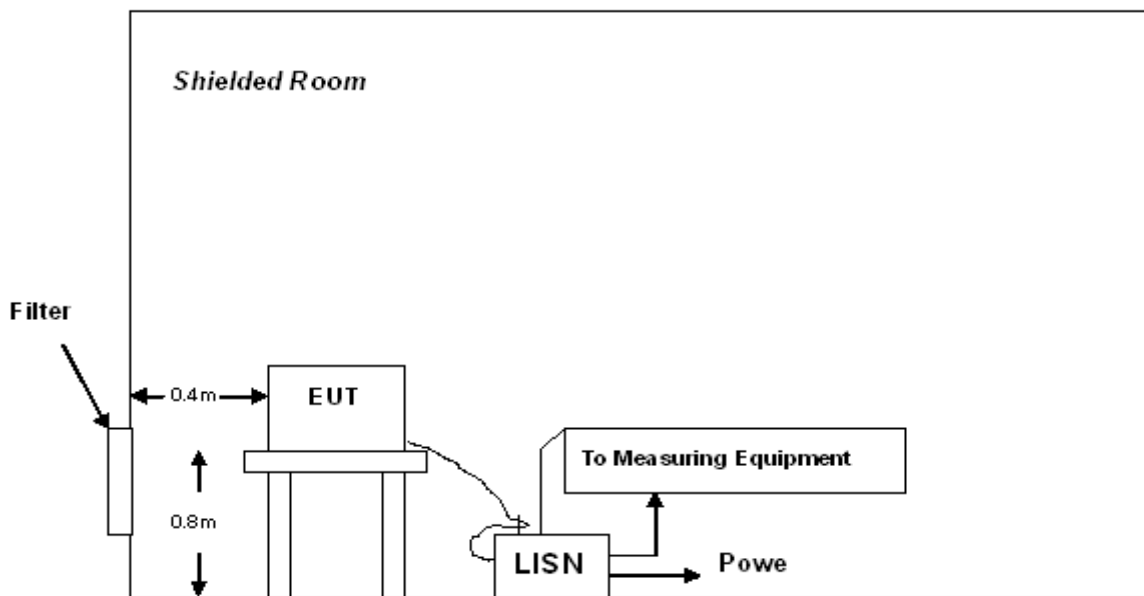
10 FCC LINE CONDUCTED EMISSION TEST

10.1 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

10.2 BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



A: Powered through filter

10.3 PRELIMINARY 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) All support equipment received AC120V power from a LISN, if any.
- 5) The EUT received power from support PC
- 6) The 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.
- 7) Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 8) During the above scans, the emissions were maximized by cable manipulation.
- 9) The following test mode(s) were scanned during the preliminary test:

Preliminary Line Conducted Emission Test				
Frequency Range Investigated		150 KHz TO 30 MHz		
Mode of operation	Date	Report No.	Data#	Worst Mode
802.11b	04/18/2011	AGC008110401	WR300NQ-0	<input checked="" type="checkbox"/>
802.11g	04/18/2011	AGC008110401	WR300NQ-1	<input type="checkbox"/>
802.11n	04/18/2011	AGC008110401	WR300NQ-2	<input type="checkbox"/>

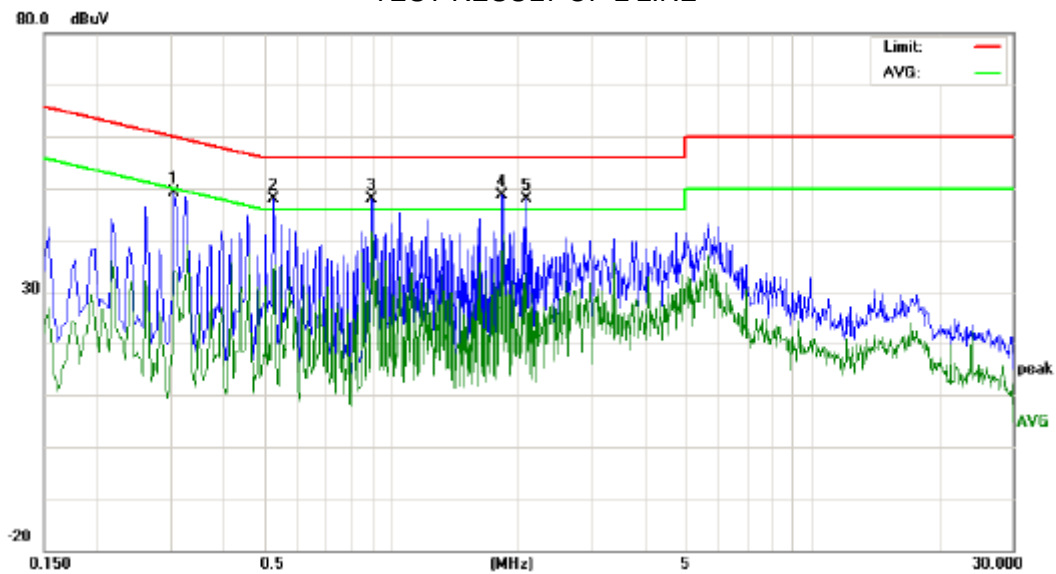
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

10.4 FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1) EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- 2) A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. 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.
- 3) The test data of the worst case condition(s) was reported on the Summary Data page.

10.5 TEST RESULT OF LINE CONDUCTED EMISSION TEST

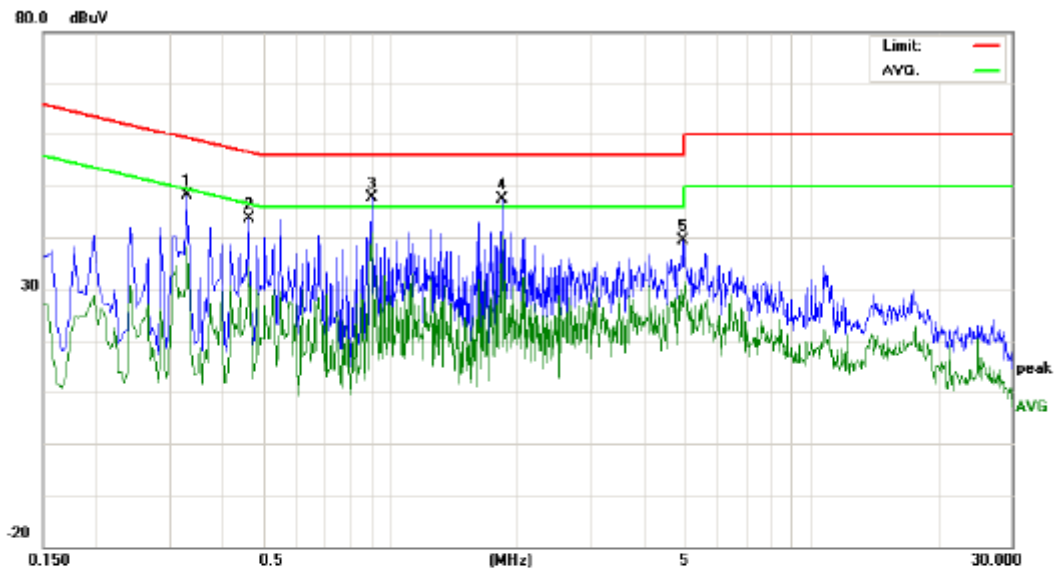
TEST RESULT OF L LINE



Site: Conduction Phase: L1 Temperature: 26
Limit: FCC Class B Conduction(QP) Power: Humidity: 60 %
EUT: 300M 802.11N Wireless Router
M/N: WR300NQ
Mode:802.11b
Note:

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG		dB	Peak	QP	AVG	QP	AVG	QP		
1	0.3060	38.80		23.49	10.29	49.09		33.78	60.08	50.08	-10.99	-16.30	P	
2	0.5260	37.43		22.91	10.38	47.81		33.29	56.00	46.00	-8.19	-12.71	P	
3	0.9020	37.41	28.07	15.04	10.41	47.82	36.48	25.45	56.00	46.00	-19.52	-20.55	P	
4	1.8460	38.23	36.92	18.06	10.27	48.50	47.19	28.33	56.00	46.00	-8.81	-17.67	P	
5	2.1099	37.80		23.42	10.27	47.87		33.69	56.00	46.00	-8.13	-12.31	P	

TEST RESULT OF N LINE



Site: Conduction Phase: *N* Temperature: 26
Limit: FCC Class B Conduction(QP) Power: Humidity: 60 %
EUT: 300M 802.11N Wireless Router
M/N: WR300NQ
Mode:802.11B
Note:

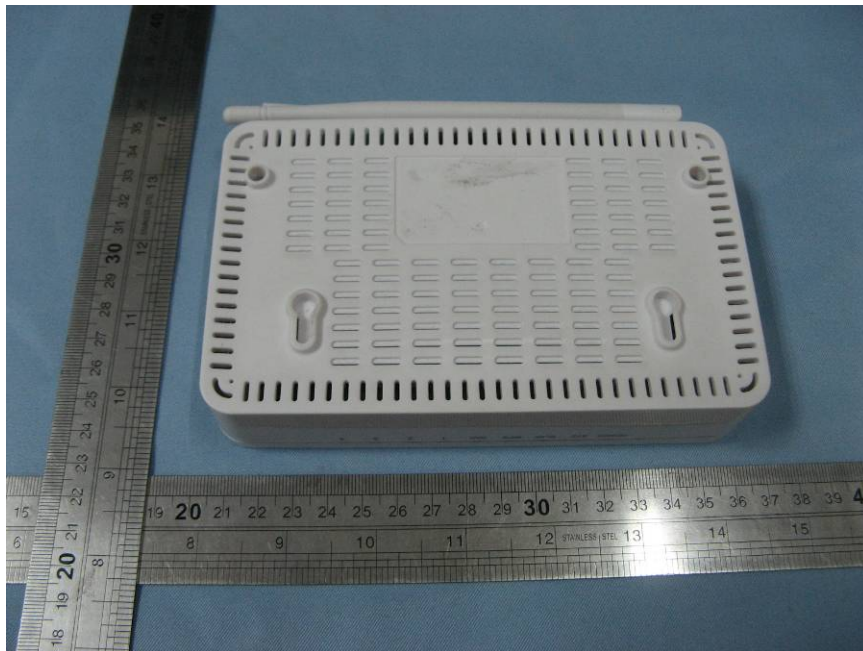
No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG		dB	Peak	QP	AVG	QP	AVG	QP		
1	0.3300	37.91		27.81	10.30	48.21		38.11	59.45	49.45	-11.24	-11.34	P	
2	0.4620	33.18		24.04	10.37	43.55		34.41	56.66	46.66	-13.11	-12.25	P	
3	0.9060	37.23	34.15	20.19	10.41	47.64	44.56	30.60	56.00	46.00	-11.44	-15.40	P	
4	1.8500	37.10	34.34	16.12	10.27	47.37	44.61	26.39	56.00	46.00	-11.39	-19.61	P	
5	4.9820	29.18		16.40	10.24	39.42		28.64	56.00	46.00	-16.58	-19.36	P	

APPENDIX I
PHOTOGRAPHS OF THE EUT

TOP VIEW OF EUT



BOTTOM VIEW OF EUT



FRONT VIEW OF EUT



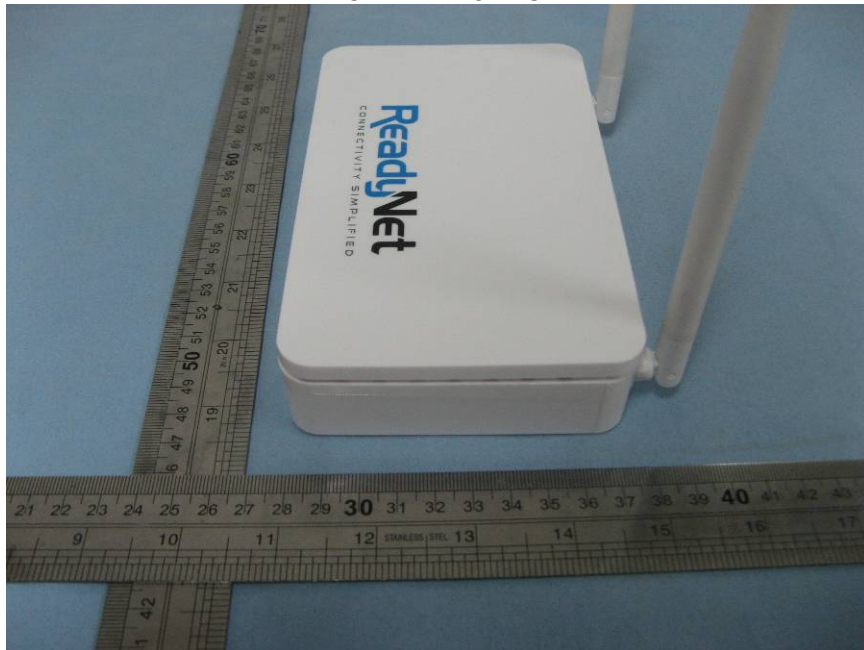
BACK VIEW OF EUT



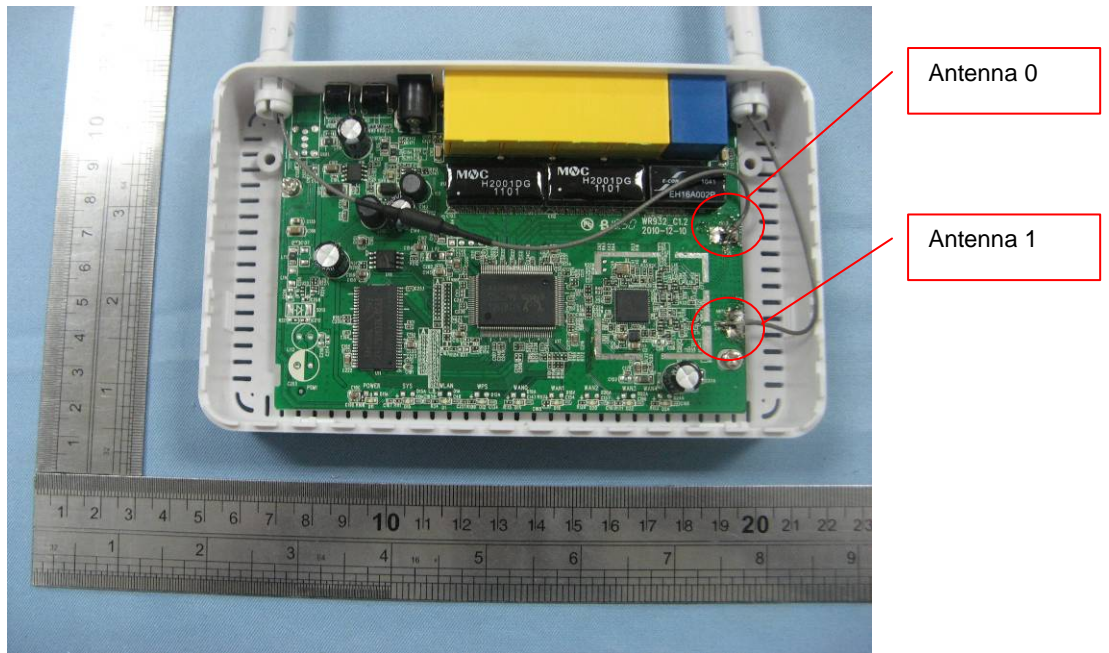
LEFT VIEW OF EUT



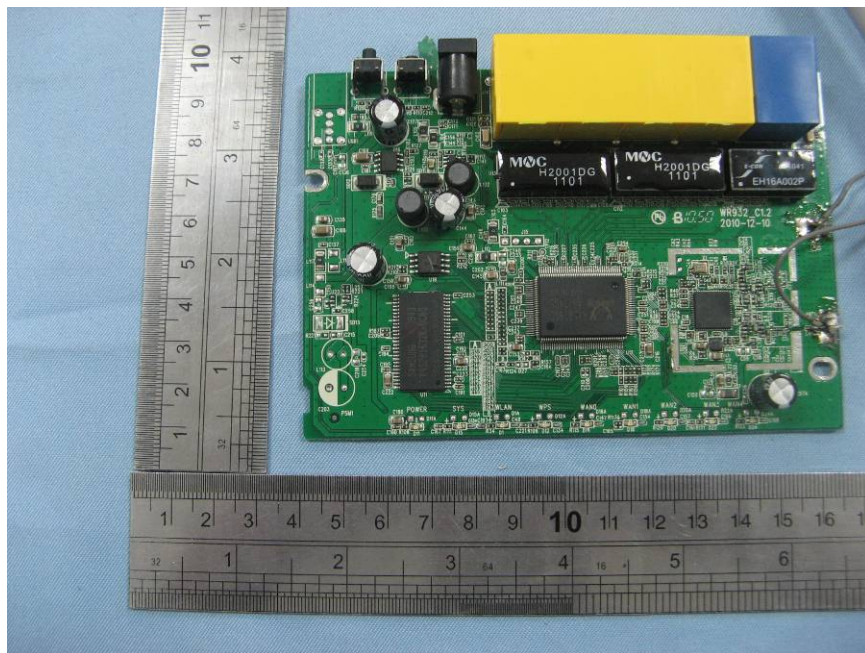
RIGHT VIEW OF EUT



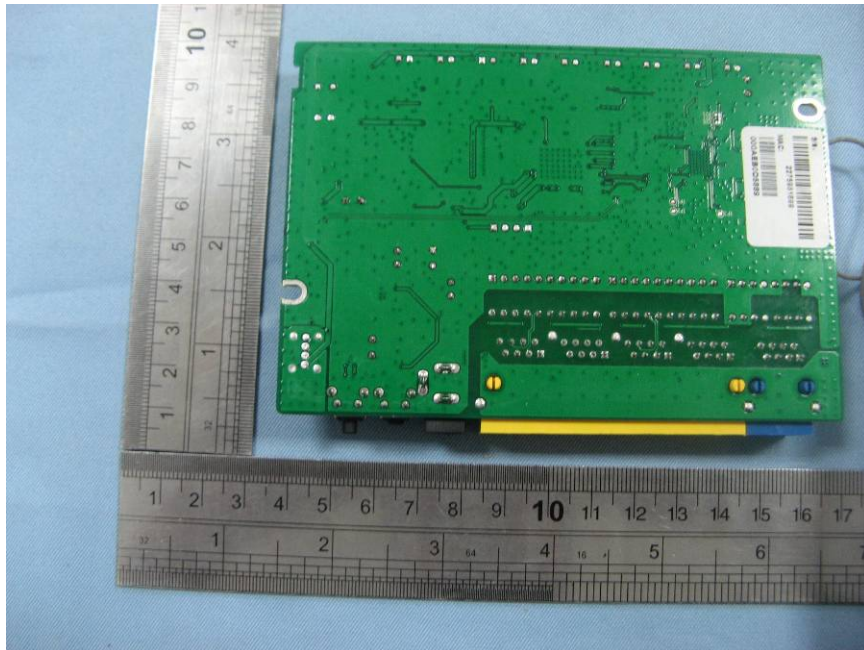
OPEN VIEW OF EUT



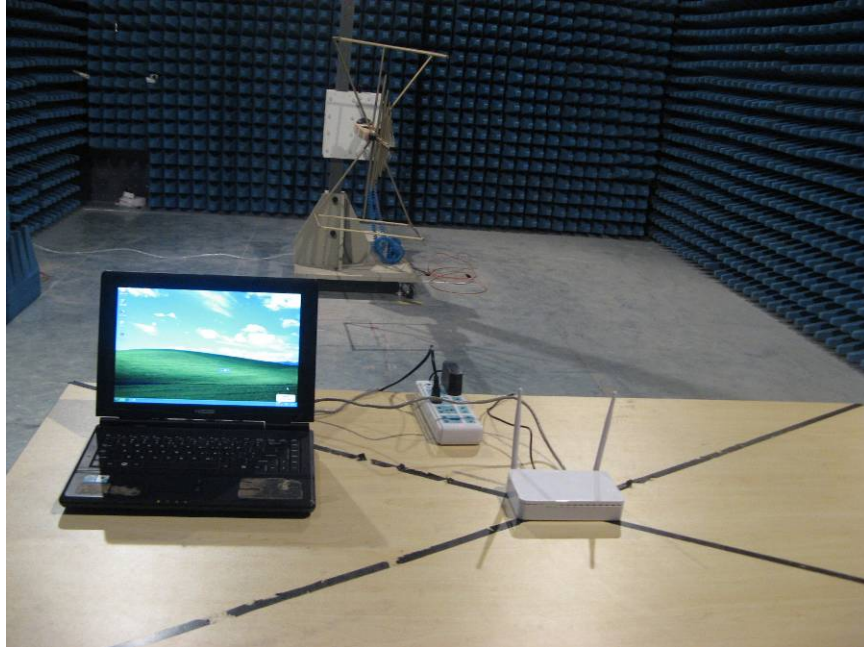
INTERNAL VIEW OF EUT-1



INTERNAL VIEW OF EUT-2



PPENDIX II
PHOTOGRAPHS OF THE TEST SETUP
RADIATED EMISSION TEST SETUP



CONDUCTED EMISSION TEST SETUP



----END OF REPORT----