

FCC TEST REPORT
for
Brydge LLC.

Brydge
Model No.: BR101

Prepared for : Brydge LLC.
Address : 119 independence Drive, Menlo Park, CA 94025, USA
Prepared By : Anbotek Compliance Laboratory Limited
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Report Number : 201210703F
Date of Test : Oct. 11~21, 2012
Date of Report : Oct. 21, 2012

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TEST REPORT

Applicant : Brydge LLC.
Manufacturer : Shenzhen XinJiaHao Metal Plastic Co. LTD.
EUT : Brydge
Model No. : BR101
Serial No. : N/A
Rating : DC5V, 400mA
Trade Mark : N/A

Measurement Procedure Used:

FCC Part15 Subpart C, Paragraph 15.207, 15.249 & 15.209

The device described above is tested by Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC Part 15 Subpart C requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Anbotek Compliance Laboratory Limited

Date of Test : Oct. 11~21, 2012



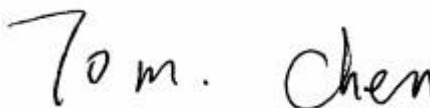
Prepared by :

(Tested Engineer / Rock Zeng)



Reviewer :

(Project Manager / Andy Chen)



Approved & Authorized Signer :

(Manager / Tom Chen)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT : Brydge

Model Number : BR101

Test Power Supply : DC 5V

BT module : BM84

Frequency : 2402~2480MHz

Antenna : Printed Antenna:0dBi

Specification

Application : Brydge LLC.

Address : 119 independence Drive, Menlo Park, CA 94025, USA

Manufacturer : Shenzhen XinJiaHao Metal Plastic Co. LTD.

Address : Shenzhen longhua Sin cyu longhua office hualian community
Dalang south Rd. NO. 297, 101

Date of receiver : Oct. 11, 2012

Date of Test : Oct. 11~21, 2012

1.2.Auxiliary Equipment Used during Test

PC	: Manufacturer: DELL M/N: OPTIPLEX 380 S/N: 1J63X2X CE , FCC: DOC
MONITOR	: Manufacturer: DELL M/N: E170Sc S/N: CN-00V539-64180-055-0UPS CE , FCC: DOC
MOUSE	: Manufacturer: DELL M/N: M-UARDEL7 S/N: N/A CE , FCC: DOC Cable: 1m, unshielded
Printer	: Manufacturer:Brother M/N: MFC-3360C S/N: N/A CE, FCC:DOC
Power Line	: Non-Shielded, 1.5m
VGA Cable	: Non-Shielded, 1.5m
USB Cable	: Non-Shielded, 0.5m

1.3. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS - LAB Code: L3503

Anbotek Compliance Laboratory Limited., Laboratory has been assessed and in compliance with CNAS/CL01: 2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

FCC-Registration No.: 752021

Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 752021, August 20, 2010.

IC-Registration No.: 8058A-1

Anbotek Compliance Laboratory Limited., EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 8058A-1, August 30, 2010.

Test Location

All Emissions tests were performed at
Anbotek Compliance Laboratory Limited. at 1/F, 1 /Building, SEC Industrial Park,
No. 4 Qianhai Road, Nanshan District, Shenzhen, 518054, China

1.4. Measurement Uncertainty

Radiation Uncertainty : Ur = 4.3dB

Conduction Uncertainty : Uc = 3.4dB

2. Test Procedure

GENERAL: This report shall NOT be reproduced except in full without the written approval of Anbotek Compliance Laboratory Limited. The EUT was transmitting a test signal during the testing.

RADIATION INTERFERENCE: The test procedure used was ANSI STANDARD C63.4-2009 using a spectrum analyzer with a pre-selector. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The resolution bandwidth was 100KHz and the video bandwidth was 300KHz up to 1.0GHz and 1.0MHz with a video BW of 3.0MHz above 1.0GHz. The ambient temperature of the EUT was 74.3oF with a humidity of 69%.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB. The gain of the Preselector was accounted for in the Spectrum Analyzer Meter Reading.

Example:

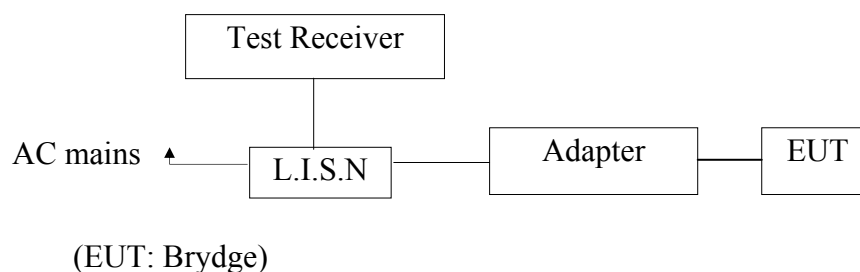
Freq (MHz) METER READING + ACF = FS
20 dBuV + 10.36 dB = 30.36 dBuV/m @ 3m

ANSI STANDARD C63.4-2009 10.1.7 MEASUREMENT PROCEDURES: The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The EUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation. When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

3. Conducted Limits

3.1. Block Diagram of Test Setup

3.1.1. Block diagram of connection between the EUT and simulators



3.2. Power Line Conducted Emission Measurement Limits (15.207)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

3.3. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

EUT : Brydge
Model Number : BR101
Applicant : Brydge LLC.

3.4. Operating Condition of EUT

3.4.1. Setup the EUT and simulator as shown as Section 3.1.

3.4.2. Turn on the power of all equipment.

3.4.3. Let the EUT work in test mode (Charging) and measure it.

Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Nov. 12, 2012	1 Year
2.	LISN	SchwarzBeck	NSLK 8126	8126377	May 19, 2012	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	May 19, 2012	1 Year
4.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A

Conduction Uncertainty

:

Uc = 3.4dB

3.5. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.4-2003 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9KHz.

The frequency range from 150KHz to 30MHz is checked.

The test results are reported on Section 3.6.

3.6. Power Line Conducted Emission Measurement Results

PASS.

The frequency range from 150KHz to 30 MHz is investigated.

Please refer the following pages.

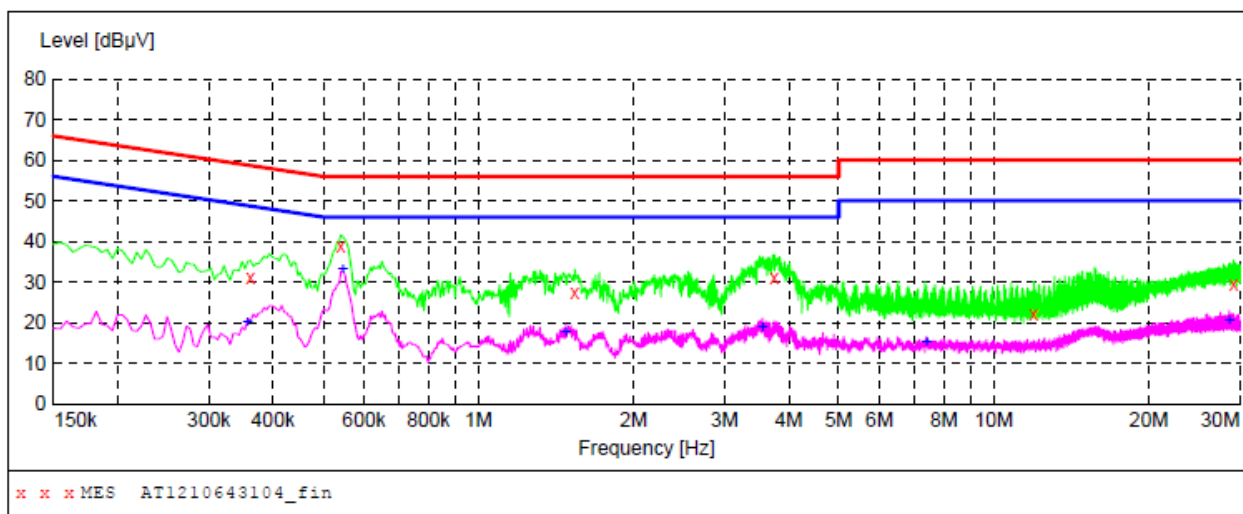
FCC ID: QN4BR101

CONDUCTED EMISSION TEST DATA

EUT: Brydge M/N: BR101
 Operating Condition: Charging
 Test Site: 1# Shielded Room
 Operator: Andy Chen
 Test Specification: DC 5V via Adapter
 Comment: Live Line
 Tem:25°C Hum:50%

SCAN TABLE: "Voltage(150K~30M) FIN"

Short Description: 150K-30M Disturbance Voltages

**MEASUREMENT RESULT: "AT1210643104_fin"**

10/19/2012 11:52AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.361500	31.00	20.1	59	27.7	QP	L1	GND
0.541500	38.80	20.1	56	17.2	QP	L1	GND
1.540000	27.60	20.3	56	28.4	QP	L1	GND
3.754000	31.30	20.4	56	24.7	QP	L1	GND
11.939500	22.20	20.6	60	37.8	QP	L1	GND
29.188000	29.50	20.9	60	30.5	QP	L1	GND

MEASUREMENT RESULT: "AT1210643104_fin2"

10/19/2012 11:52AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.357000	20.00	20.1	49	28.8	AV	L1	GND
0.546000	33.00	20.1	46	13.0	AV	L1	GND
1.477000	17.80	20.3	46	28.2	AV	L1	GND
3.556000	18.70	20.4	46	27.3	AV	L1	GND
7.394500	15.10	20.5	50	34.9	AV	L1	GND
28.580500	20.40	20.9	50	29.6	AV	L1	GND

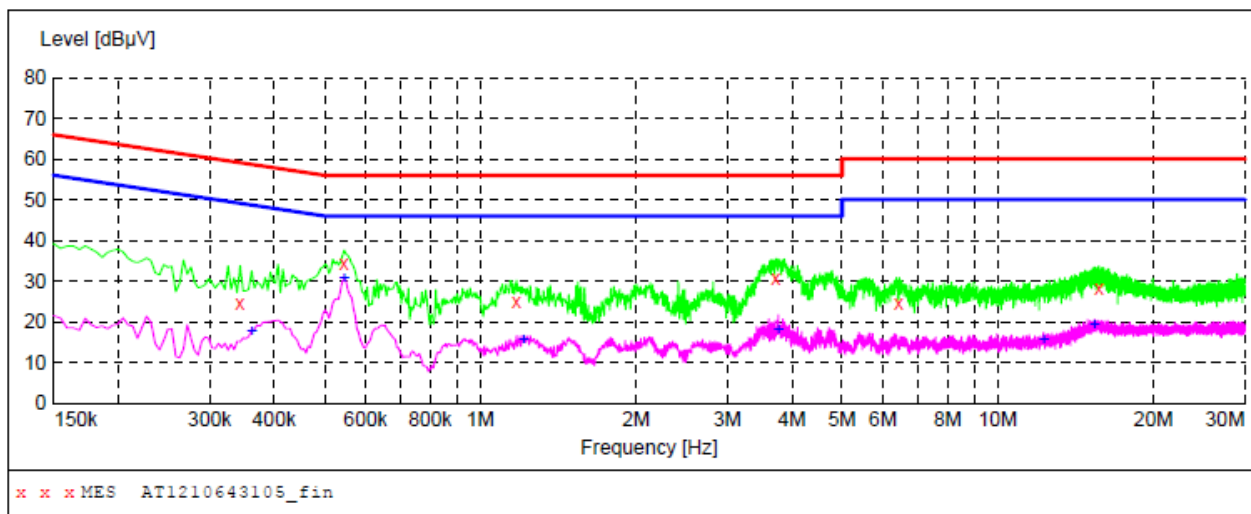
FCC ID: QN4BR101

CONDUCTED EMISSION TEST DATA

EUT: Brydge M/N: BR101
 Operating Condition: Charging
 Test Site: 1# Shielded Room
 Operator: Andy Chen
 Test Specification: DC 5V via Adapter
 Comment: Neutral Line
 Tem:25°C Hum:50%

SCAN TABLE: "Voltage(150K~30M) FIN"

Short Description: 150K-30M Disturbance Voltages

**MEASUREMENT RESULT: "AT1210643105_fin"**

10/19/2012 11:55AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.343500	24.40	20.1	59	34.7	QP	N	GND
0.546000	34.50	20.1	56	21.5	QP	N	GND
1.175500	25.10	20.2	56	30.9	QP	N	GND
3.722500	30.80	20.4	56	25.2	QP	N	GND
6.445000	24.60	20.5	60	35.4	QP	N	GND
15.674500	28.20	20.7	60	31.8	QP	N	GND

MEASUREMENT RESULT: "AT1210643105_fin2"

10/19/2012 11:55AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.361500	17.60	20.1	49	31.1	AV	N	GND
0.546000	30.60	20.1	46	15.4	AV	N	GND
1.211500	15.70	20.2	46	30.3	AV	N	GND
3.763000	17.90	20.4	46	28.1	AV	N	GND
12.250000	15.70	20.7	50	34.3	AV	N	GND
15.368500	19.10	20.7	50	30.9	AV	N	GND

4. Radiation Interference

4.1. Requirements (15.249, 15.209):

FIELD STRENGTH of Fundamental:	FIELD STRENGTH of Harmonics	S15.209	
902-928 MHZ		30 - 88 MHz	40 dBuV/m @3M
2.4-2.4835 GHz		88 - 216 MHz	43.5
94 dBuV/m @3m	54 dBuV/m @3m	216 - 960 MHz	46
		ABOVE 960 MHz	54dBuV/m

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in 15.209, whichever is the lesser attenuation.

4.2 Test Procedure

The EUT is placed on a turn table which is 0.8 meter high above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

All readings from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. All reading are above 1GHz, peak & average values with a resolution bandwidth of 1MHz. The EUT is tested in 9*6*6 Chamber.

The test results are listed in Section 5.3.

4.3 Test Results

PASS.

Please refer the following pages.

FCC ID: QN4BR101

Data:

Horizontal CH Low(2402MHz)								
Frequency	Cable	Ant	Preamp	Read	Level	Limit	Over	Remark
MHz	Loss	Factor	Factor	Level	dBμV/m	dBμV/m	Limit	
	dB	dB/m	dB	dBμV			dB	
239.98	1.58	13.50	38.90	57.46	33.52	46.00	-12.48	QP
2402.00	2.17	31.21	35.30	86.55	93.63	114.0	-20.37	Peak
2402.00	2.17	31.21	35.30	84.71	86.79	94.0	-7.21	AV
4804.10	2.56	34.01	34.71	41.15	43.01	74.0	-30.99	Peak
4804.10	2.56	34.01	34.71	38.26	40.05	54.0	-13.95	AV
7207.97	2.98	36.16	35.15	38.33	42.32	74.0	-31.68	Peak
7207.97	2.98	36.16	35.15	35.55	39.54	54.0	-14.46	AV
9608.00	---	---	---	---	---	---	---	---
12010.00	---	---	---	---	---	---	---	---
14412.00	---	---	---	---	---	---	---	---
16814.00	---	---	---	---	---	---	---	---
19216.00	---	---	---	---	---	---	---	---
21618.00	---	---	---	---	---	---	---	---
24020.00	---	---	---	---	---	---	---	---

CH Middle(2441MHz)								
Frequency	Cable	Ant	Preamp	Read	Level	Limit	Over	Remark
MHz	Loss	Factor	Factor	Level	dBμV/m	dBμV/m	Limit	
	dB	dB/m	dB	dBμV			dB	
312.18	1.60	13.52	38.82	56.41	31.50	46.00	-14.50	QP
2441.00	2.19	31.22	34.60	85.36	94.20	114.0	-19.80	Peak
2441.00	2.19	31.22	34.60	83.55	87.32	94.0	-6.68	AV
4882.08	2.57	35.00	34.58	39.62	41.05	74.0	-32.95	Peak
4882.08	2.57	35.00	34.58	37.47	40.46	54.0	-13.54	AV
7323.05	3.00	36.17	35.14	38.80	42.83	74.0	-31.17	Peak
7323.05	3.00	36.17	35.14	36.08	40.11	54.0	-13.89	AV
9764.00	---	---	---	---	---	---	---	---
12205.00	---	---	---	---	---	---	---	---
14646.00	---	---	---	---	---	---	---	---
17087.00	---	---	---	---	---	---	---	---
19528.00	---	---	---	---	---	---	---	---
21969.00	---	---	---	---	---	---	---	---
24410.00	---	---	---	---	---	---	---	---

FCC ID: QN4BR101

CH High(2480MHz)								
Frequency	Cable	Ant	Preamp	Read	Level	Limit	Over	Remark
MHz	Loss	Factor	Factor	Level	dBμV/m	dBμV/m	Limit	
	dB	dB/m	dB	dBμV			dB	
312.18	1.60	13.52	38.82	53.21	30.26	46.00	-15.74	QP
2480.00	2.20	31.65	36.00	92.77	90.62	114.0	-23.38	Peak
2480.00	2.20	31.65	36.00	89.51	87.36	94.0	-6.64	AV
4960.05	2.58	35.06	34.79	41.76	43.50	74.0	-30.50	Peak
4960.05	2.58	35.06	34.79	39.28	42.10	54.0	-11.90	AV
7439.97	3.02	36.19	34.90	39.53	43.84	74.0	-30.16	Peak
7439.97	3.02	36.20	35.20	37.40	41.42	54.0	-12.58	AV
9920.00	---	---	---	---	---	---	---	---
12400.00	---	---	---	---	---	---	---	---
14880.00	---	---	---	---	---	---	---	---
17360.00	---	---	---	---	---	---	---	---
19840.00	---	---	---	---	---	---	---	---
22320.00	---	---	---	---	---	---	---	---
24800.00	---	---	---	---	---	---	---	---

Vertical CH Low(2402MHz)								
Frequency	Cable	Ant	Preamp	Read	Level	Limit	Over	Remark
MHz	Loss	Factor	Factor	Level	dBμV/m	dBμV/m	Limit	
	dB	dB/m	dB	dBμV			dB	
30.42	1.43	12.13	38.45	53.51	28.62	40.00	-11.38	QP
2402.00	2.17	31.21	35.30	84.23	90.31	114.0	-23.69	Peak
2402.00	2.17	31.21	35.30	81.85	85.93	94.0	-8.07	AV
4804.10	2.56	34.01	34.71	41.05	42.80	74.0	-31.2	Peak
4804.10	2.56	34.01	34.71	38.61	40.47	54.0	-13.53	AV
7207.93	2.98	36.16	35.15	37.46	41.45	74.0	-32.55	Peak
7207.93	2.98	36.16	35.15	34.50	38.49	54.0	-15.51	AV
9608.00	---	---	---	---	---	---	---	---
12010.00	---	---	---	---	---	---	---	---
14412.00	---	---	---	---	---	---	---	---
16814.00	---	---	---	---	---	---	---	---
19216.00	---	---	---	---	---	---	---	---
21618.00	---	---	---	---	---	---	---	---
24020.00	---	---	---	---	---	---	---	---

FCC ID: QN4BR101

CH Middle(2441MHz)								
Frequency	Cable	Ant	Preamp	Read	Level	Limit	Over	Remark
MHz	Loss	Factor	Factor	Level	dBμV/m	dBμV/m	Limit	
	dB	dB/m	dB	dBμV			dB	
143.82	1.50	13.40	38.89	53.91	29.92	43.50	-13.58	QP
2441.01	2.19	31.22	34.60	82.35	91.16	114.0	-22.84	Peak
2441.01	2.19	31.22	34.60	81.01	85.82	94.0	-8.18	AV
4882.11	2.57	35.00	34.58	40.15	43.14	74.0	-30.86	Peak
4882.11	2.57	35.00	34.58	37.86	40.85	54.0	-13.15	AV
7323.05	3.00	36.17	35.14	38.70	42.73	74.0	-31.27	Peak
7323.05	3.00	36.17	35.14	36.01	40.04	54.0	-13.96	AV
9764.00	---	---	---	---	---	---	---	---
12205.00	---	---	---	---	---	---	---	---
14646.00	---	---	---	---	---	---	---	---
17087.00	---	---	---	---	---	---	---	---
19528.00	---	---	---	---	---	---	---	---
21969.00	---	---	---	---	---	---	---	---
24410.00	---	---	---	---	---	---	---	---

CH High(2480MHz)								
Frequency	Cable	Ant	Preamp	Read	Level	Limit	Over	Remark
MHz	Loss	Factor	Factor	Level	dBμV/m	dBμV/m	Limit	
	dB	dB/m	dB	dBμV			dB	
408.80	1.62	13.54	38.45	51.17	27.82	46.00	-18.12	QP
2480.00	2.20	31.65	36.00	83.52	91.37	114.0	-22.63	Peak
2480.00	2.20	31.65	36.00	82.03	85.88	94.0	-8.12	AV
4960.10	2.58	35.06	34.79	40.08	42.93	74.0	-31.07	Peak
4960.10	2.58	35.06	34.79	38.10	40.95	54.0	-13.05	AV
7439.97	3.02	36.19	34.90	38.58	42.89	74.0	-31.11	Peak
7439.97	3.02	36.20	35.20	36.34	40.36	54.0	-13.64	AV
9920.00	---	---	---	---	---	---	---	---
12400.00	---	---	---	---	---	---	---	---
14880.00	---	---	---	---	---	---	---	---
17360.00	---	---	---	---	---	---	---	---
19840.00	---	---	---	---	---	---	---	---
22320.00	---	---	---	---	---	---	---	---
24800.00	---	---	---	---	---	---	---	---

NOTE: “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

5. Occupied Bandwidth

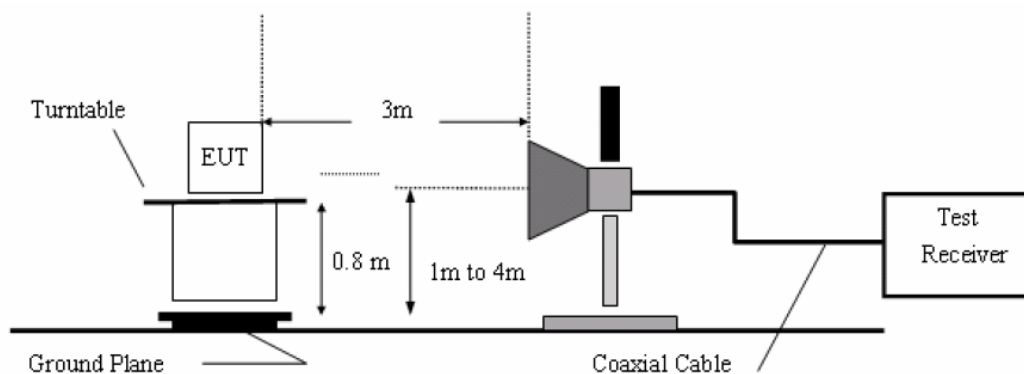
5.1. Requirements (15.249):

The field strength of any emissions appearing outside the band edges and up to 10 kHz above and below the band edges shall be attenuated at least 50 dB below the level of the carrier or to the general limits of 15.249.

5.2. Test Procedure

The EUT is placed on a turn table which is 0.8 meter high above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

5.3. Test Configuration:



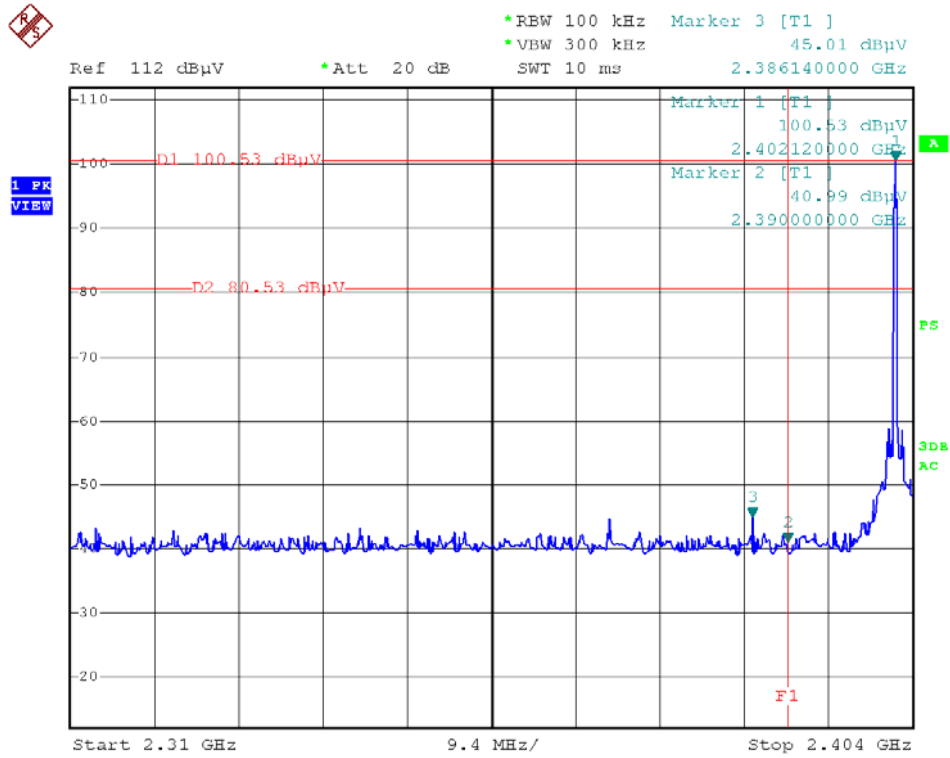
5.4. Test Results

Pass.

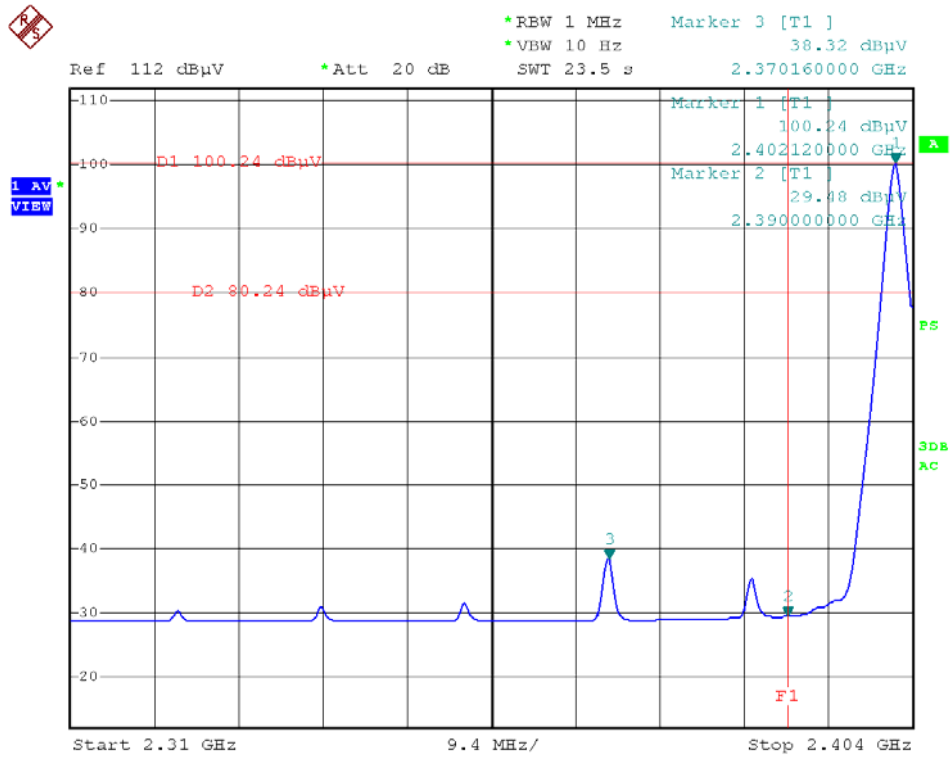
Please refer the following plot.

(Note: Marker 3 means the highest value in 2.39GHz~2.4GHz or 2.4835~2.5GHz)

FCC ID: QN4BR101

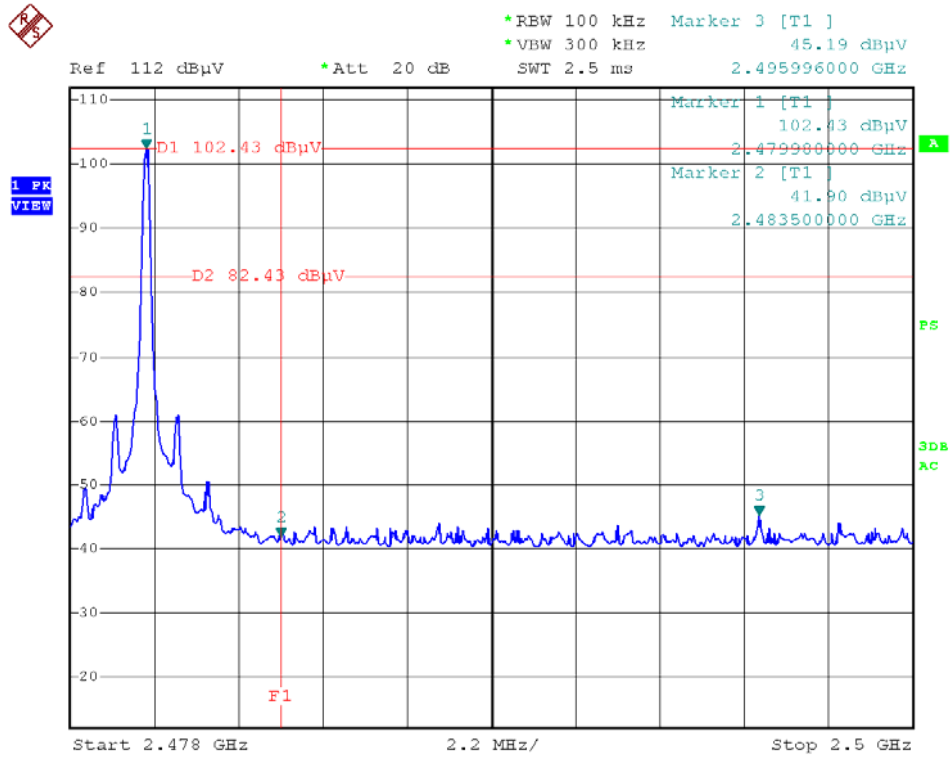


Date: 23.OCT.2012 21:01:55

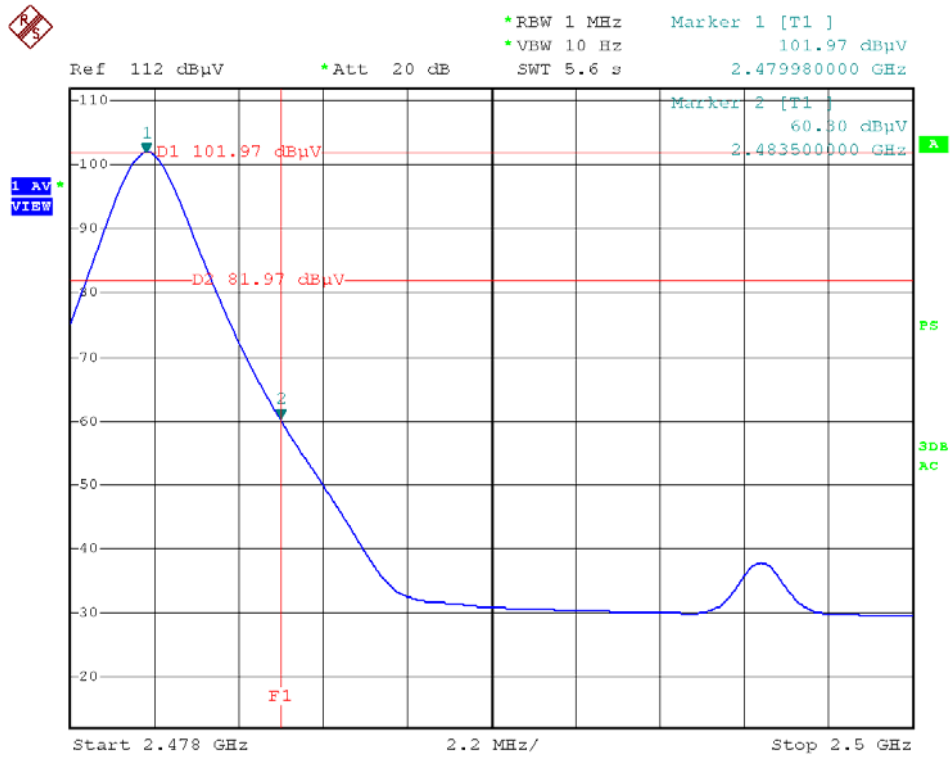


Date: 23.OCT.2012 21:15:56

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