FCC PART 15B

MEASUREMENT AND TEST REPORT

FOR

ENCORE ELECTRONICS INC.

16483 Old Valley Blvd., La Puente, CA 91744, USA

FCC ID: YZ500000005

Report Concerns: Original Report	**Equipment Type:** Wireless N300 USB Adapter

Model:	ENUWI-2XN42
Report No.:	STR11038156I-2
Test Date:	2011-03-18 to 2011-04-22
Issue Date:	2011-05-06
Tested By:	Susan Su / Engineer
Reviewed By:	Lahm Peng / EMC Manager
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Prepared By:

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	ENCORE ELECTRONICS INC.
Address of applicant:	16483 Old Valley Blvd., La Puente, CA 91744, USA
Manufacturer:	Sun Rise Electronic Factory
Address of manufacturer:	LanYuan Road, ZengTian Industrial District, XinAn Community, ChangAn Town, DongGuan City, GuangDong Province, China

General Description of E.U.T

Items	Description
EUT Description:	Wireless N300 USB Adapter
Trade Name:	ENCORE
Model No.:	ENUWI-2XN42
Add Models:	ENUWI-2XN45, WU8192CU22, WU8192CU55
Rated Voltage:	DC 5V
Rated Current:	/
Size:	6.0x3.3x1.1 cm
For more information refer to the circuit diagram form and the user's manual.	

The test data is gathered from a production sample, provided by the manufacturer. The others models listed in the report have different appearance only of ENUWI-2XN42 without circuit and electronic construction changed, declared by the manufacturer.

1.2 Test Standards

The following report is prepared on behalf of the ENCORE ELECTRONICS INC. in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15.107, and 15.109 rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which results in lowering the emission/immunity, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

The equipment under test (EUT) was configured to measure its highest possible susceptibility against the tested phenomena. The test modes were adapted accordingly in reference to the Operating Instructions.

1.4 Test Facility

- **FCC – Registration No.: 994117**
  SEM.Test Compliance Services Co., Ltd. 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 and the Registration is 994117.

- **Industry Canada (IC) Registration No.: 7673A**
  The 3m Semi-anechoic chamber of SEM.Test Compliance Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 7673A.

- **CNAS Registration No.: L4062**
  Shenzhen SEM.Test Electronics Service Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 3/F, Jinbao Commerce Building, Xin'an Fanshen Road, Bao'an District, Shenzhen, P.R.C (518101)

1.5 EUT Exercise Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the system components. The test software, provided by the customer, is started while the EUT is on to simulate the normal work. under the Windows XP terminal.

1.6 Accessories Equipment List and Details

Description	Manufacturer	Model	Serial Number
ASUS	Notebook	X50R	74N0AS297138

1.7 EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
/	/	/	/

2. SUMMARY OF TEST RESULTS

Description of Test	Result
§15.107 (a) Conducted Emission	Compliant
§15.109(a) Radiated Emission	Compliant

3. §15.107 (a)- CONDUCTED EMISSION

3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is ± 2.88 dB.

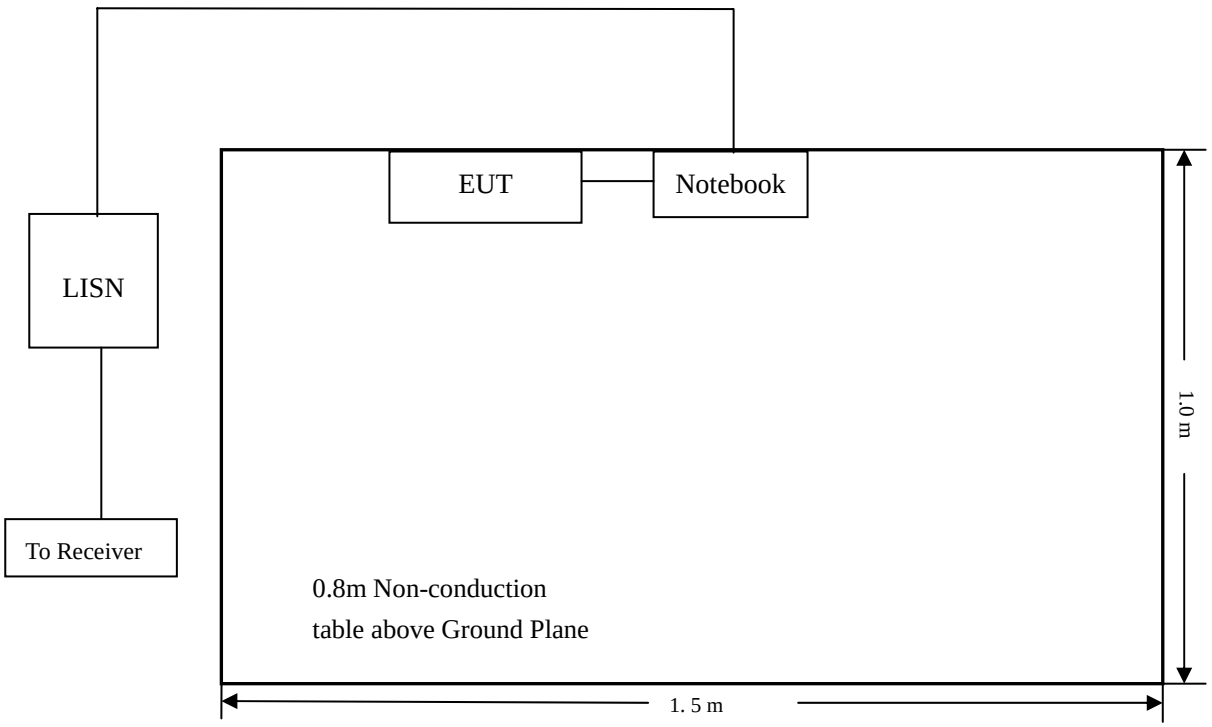
3.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2010-12-20	2011-12-19
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2010-12-20	2011-12-19
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2010-12-20	2011-12-19

3.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.107 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.

3.4 Basic Test Setup Block Diagram



3.5 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1012 mbar

3.6 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency ..... 150 kHz
Stop Frequency..... 30 MHz
Sweep Speed ..... Auto
IF Bandwidth..... 10 kHz
Quasi-Peak Adapter Bandwidth ..... 9 kHz
Quasi-Peak Adapter Mode ..... Normal

3.7 Summary of Test Results/Plots

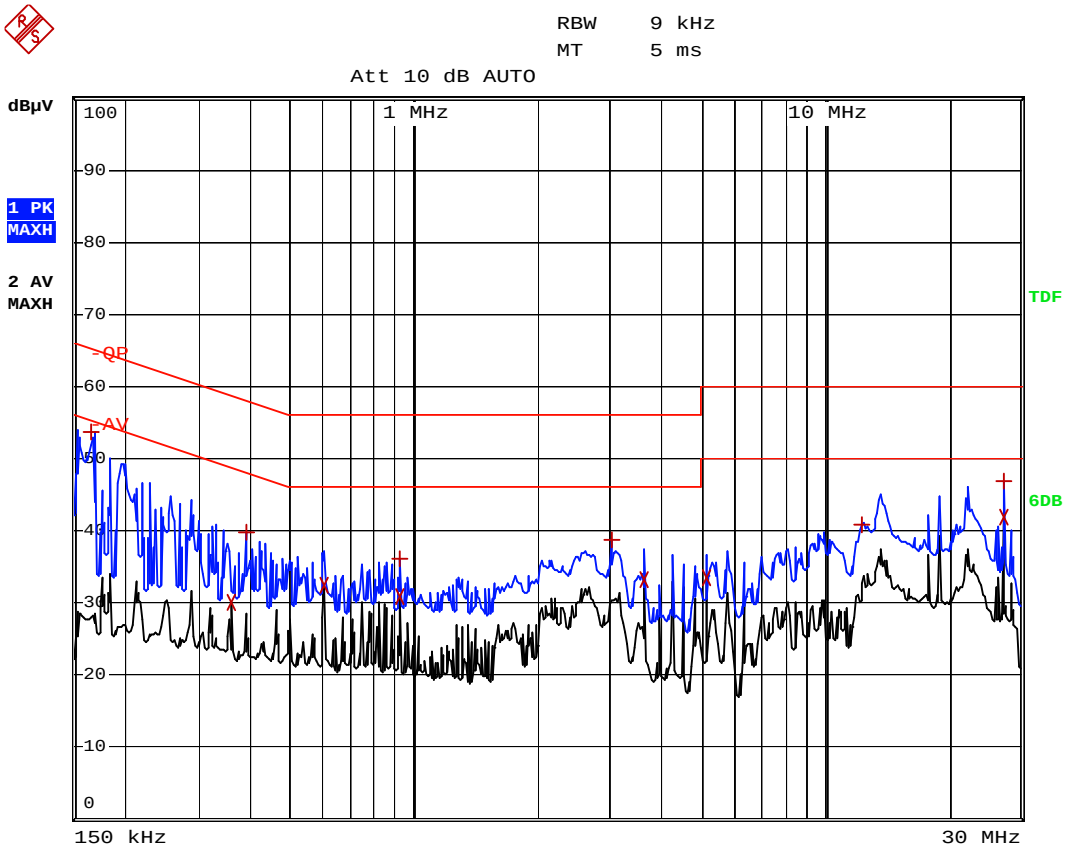
According to the data in section 3.8, the EUT complied with the FCC Part 15B Conducted margin for a Class B device, with the *worst* margin reading of:

-4.90 dBμV at **14.002 MHz** in the **Line**, **Average** detector, 0.15-30MHz

3.8 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

Conducted Disturbance
EUT: Wireless N300 USB Adapter
M/N: ENUWI-2XN42
Operating Condition: Transmitting
Test Specification: N
Comment: AC 120V/60Hz



EDIT PEAK LIST (Prescan Results)

Trace1:	-QP			
Trace2:	-AV			
Trace3:	---			
	TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1	Max Peak	166 kHz	53.70	-11.45
2	Average	358 kHz	30.07	-18.69
1	Max Peak	390 kHz	39.77	-18.29
2	Average	602 kHz	32.29	-13.70
1	Max Peak	926 kHz	36.14	-19.85
2	Average	926 kHz	30.92	-15.07
1	Max Peak	3.042 MHz	38.59	-17.41
2	Average	3.646 MHz	33.19	-12.80
2	Average	5.166 MHz	33.53	-16.46
1	Max Peak	12.37 MHz	40.92	-19.07
1	Max Peak	27.29 MHz	46.80	-13.19
2	Average	27.29 MHz	41.83	-8.16

Plot of Conducted Emissions Test Data

Conducted Disturbance

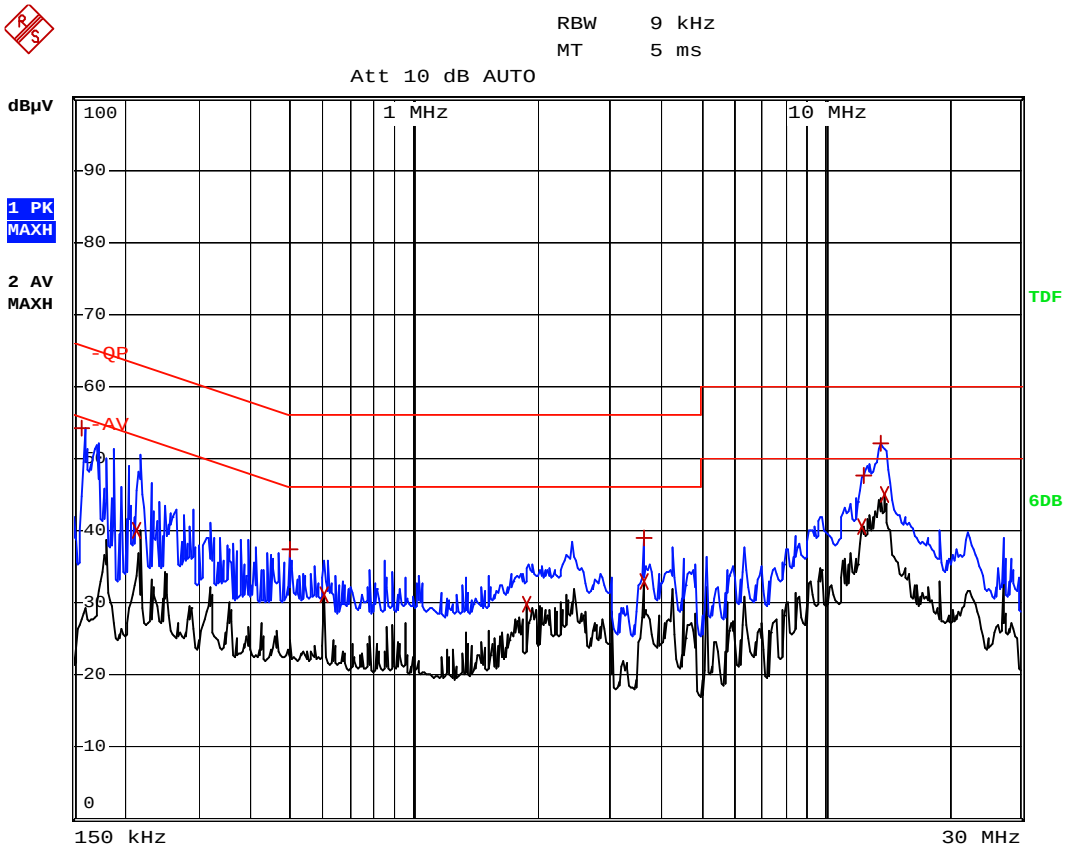
EUT: Wireless N300 USB Adapter

M/N: ENUWI-2XN42

Operating Condition: Transmitting

Test Specification: L

Comment: AC 120V/60Hz



EDIT PEAK LIST (Prescan Results)

Trace1:	-QP
Trace2:	-AV
Trace3:	---

	TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1	Max Peak	158 kHz	54.30	-11.26
2	Average	214 kHz	39.94	-13.10
1	Max Peak	498 kHz	37.27	-18.76
2	Average	602 kHz	31.12	-14.87
2	Average	1.878 MHz	29.74	-16.25
1	Max Peak	3.65 MHz	38.84	-17.15
2	Average	3.65 MHz	32.88	-13.11
2	Average	12.358 MHz	40.50	-9.49
1	Max Peak	12.386 MHz	47.53	-12.46
1	Max Peak	13.694 MHz	52.16	-7.83
2	Average	14.002 MHz	45.09	-4.90

4. §15.109(a)- RADIATED EMISSION

4.1 Measurement Uncertainty

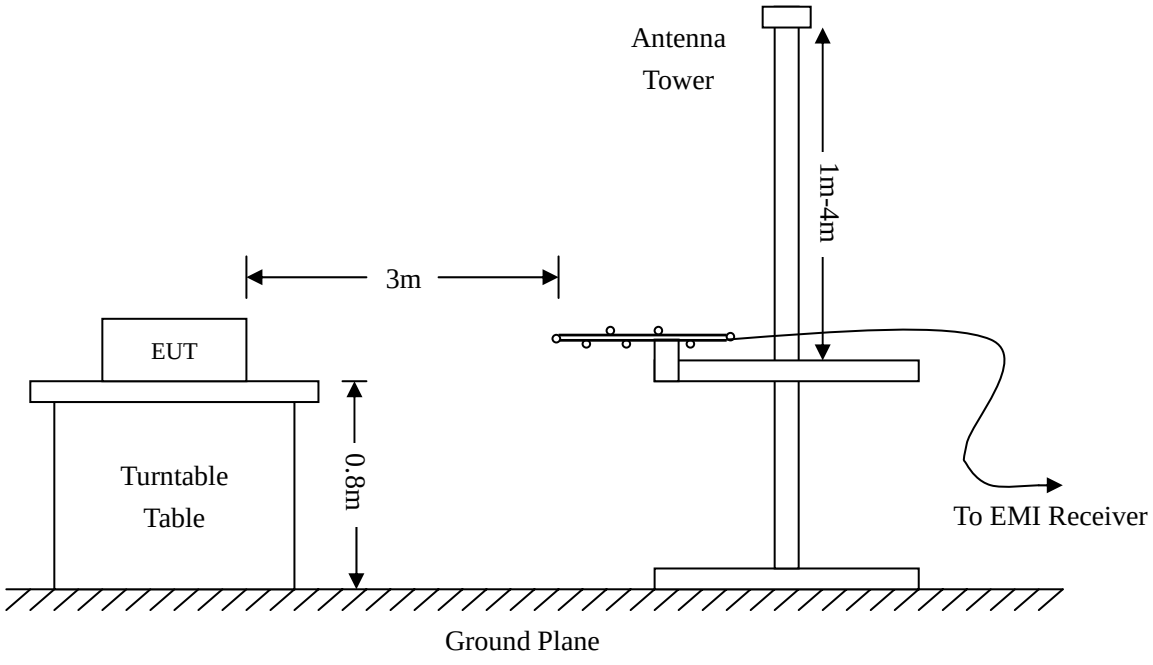
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 5.10 dB.

4.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2010-12-20	2011-12-19
EMI Test Receiver	R&S	ESVB	825471/005	2010-12-20	2011-12-19
Positioning Controller	C&C	CC-C-1F	N/A	2010-12-20	2011-12-19
RF Switch	EM	EMSW18	SW060023	2010-12-20	2011-12-19
Pre-amplifier	Agilent	8447F	3113A06717	2010-12-20	2011-12-19
Pre-amplifier	Compliance Direction	PAP-0118	24002	2010-12-20	2011-12-19
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2011-01-09	2012-01-08
Horn Antenna	ETS	3117	00086197	2011-01-09	2012-01-08

4.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.205 and FCC Part 15.109 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.



4.4 Test Receiver Setup

During the radiated emission test, the test receiver was set with the following configurations:

Start Frequency ..... 30 MHz
Stop Frequency..... 1000 MHz
Sweep Speed ..... Auto
IF Bandwidth..... 100 kHz
Quasi-Peak Adapter Bandwidth ..... 120 kHz
Quasi-Peak Adapter Mode ..... Normal

4.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading – Corr. Factor

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 15B Limit

4.6 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

4.7 Summary of Test Results/Plots

According to the data, the EUT complied with the FCC Part 15B Class B standards, and had the worst margin of:

-5.58 dBμV at **33.0950MHz** in the **Horizontal** polarization, with **5dBi antenna**, **30 MHz to 1 GHz, 3Meters**

Plot of Radiation Emissions Test Data

Radiated Disturbance

EUT: Wireless N300 USB Adapter

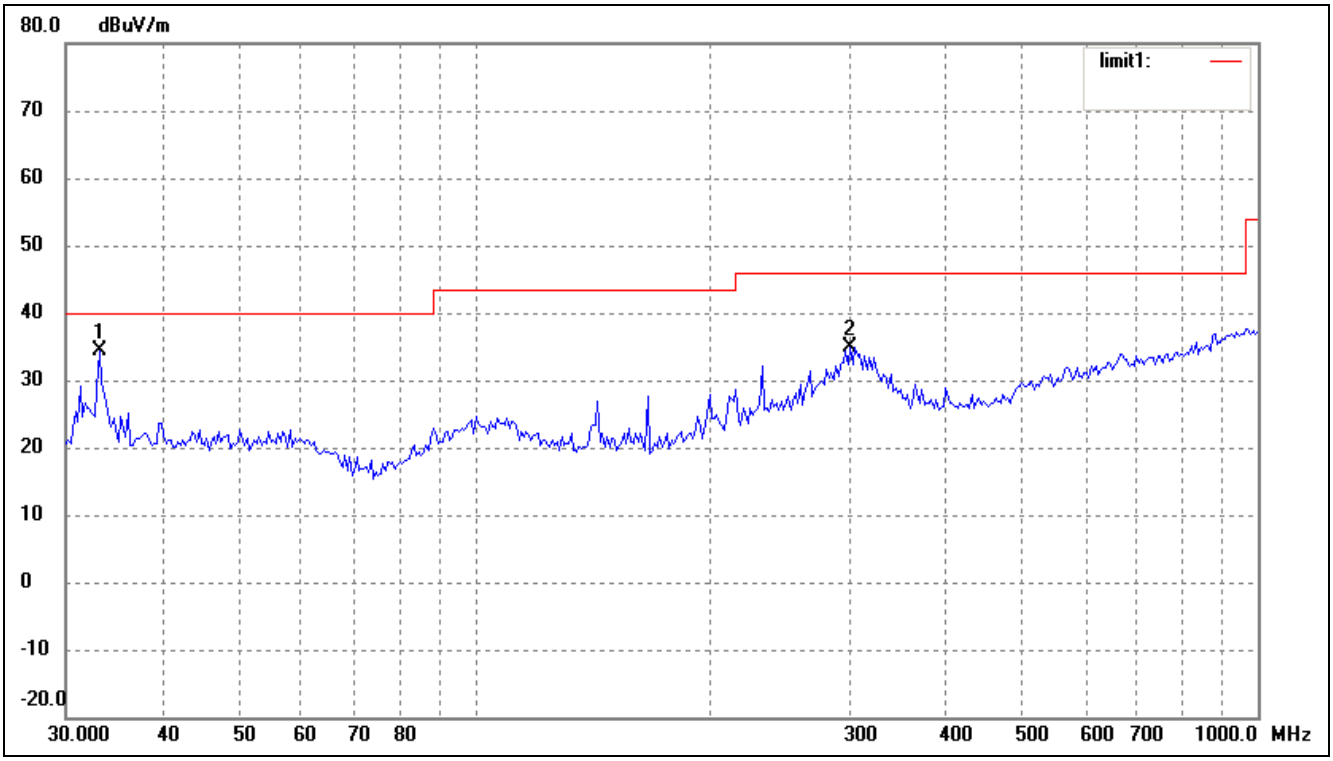
M/N: ENUWI-2XN42

Operating Condition: Running with Program

Test Specification: Horizontal & Vertical

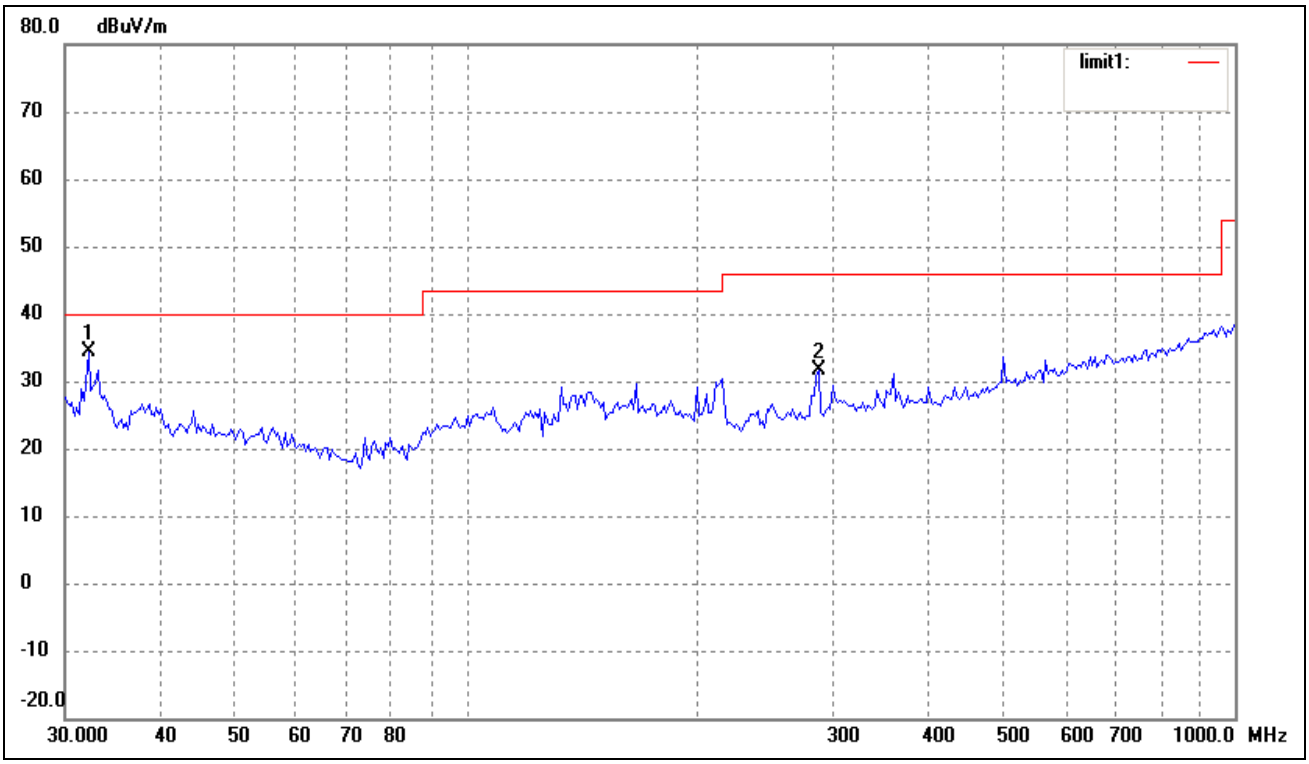
Comment: with 5dBi antenna

Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	33.0950	27.65	6.77	34.42	40.00	-5.58	240	100	peak
2	301.4224	25.18	9.78	34.96	46.00	-11.04	50	100	peak

Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	32.1795	27.52	6.77	34.29	40.00	-5.71	306	100	peak
2	286.9823	22.01	9.61	31.62	46.00	-14.38	78	100	peak

Plot of Radiation Emissions Test Data

Radiated Disturbance

EUT: Wireless N300 USB Adapter

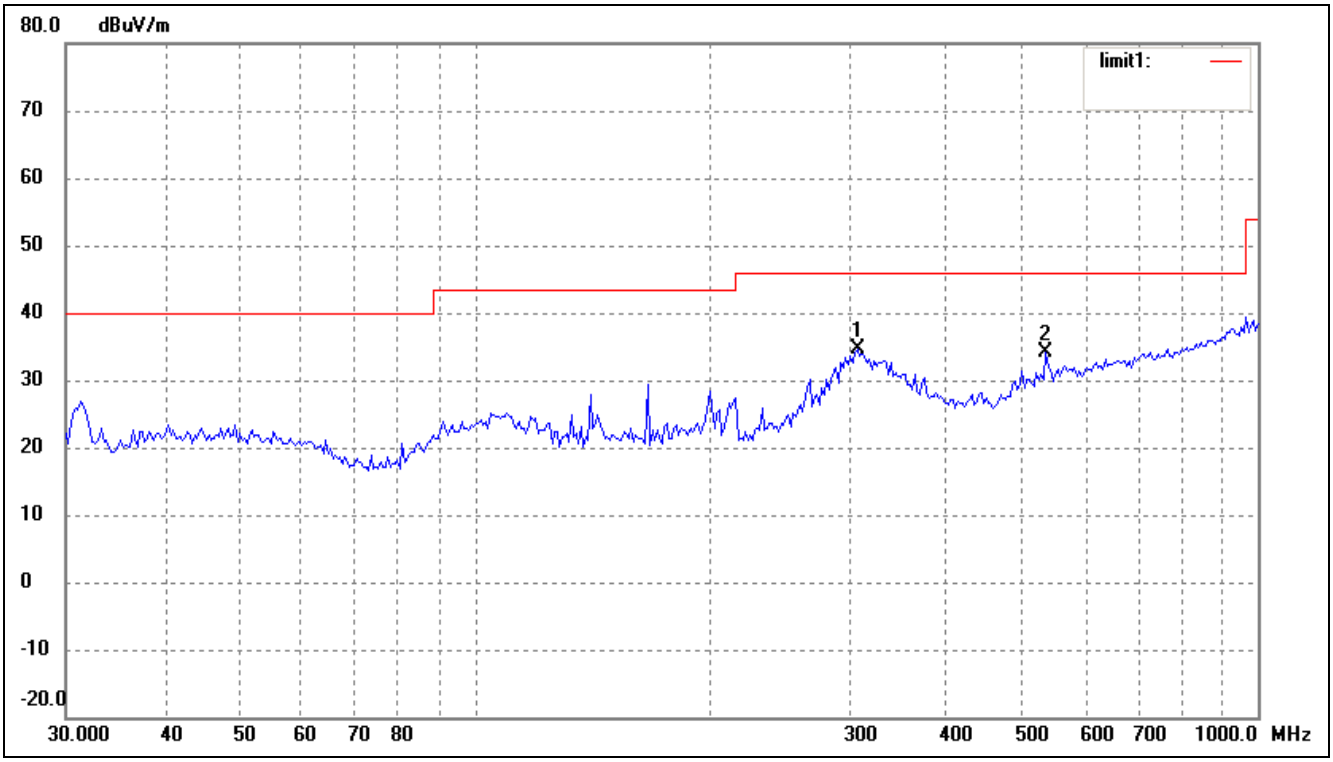
M/N: ENUWI-2XN42

Operating Condition: Running with Program

Test Specification: Horizontal & Vertical

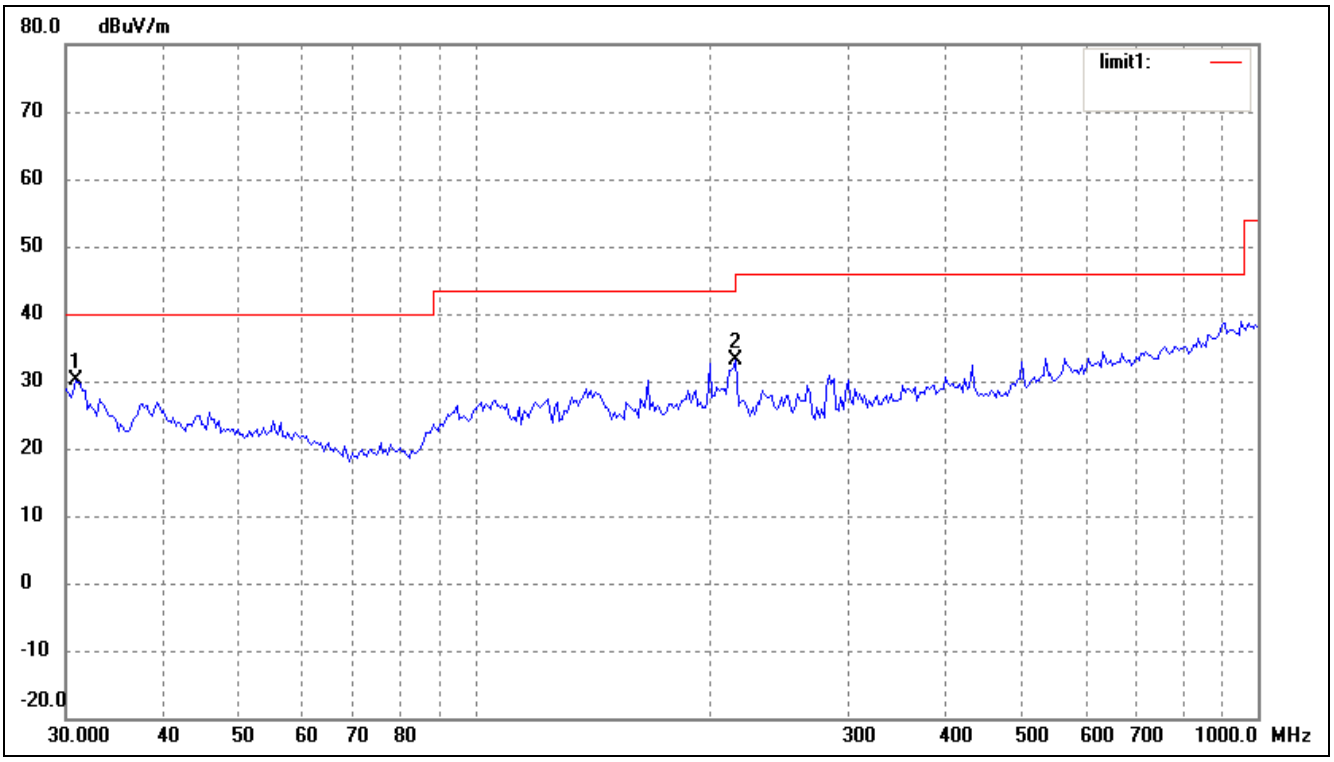
Comment: with 2dBi antenna

Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	307.8313	24.85	9.86	34.71	46.00	-11.29	306	100	peak
2	535.7073	18.99	15.21	34.20	46.00	-11.80	147	100	peak

Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	30.8535	23.47	6.77	30.24	40.00	-9.76	78	100	peak
2	215.2678	26.10	7.12	33.22	43.50	-10.28	21	100	peak

******* END OF REPORT *******