# FCC 47 CFR PART 15 SUBPART C & INDUSTRY CANADA RSS-210

Report No.: T141218W01-RP

#### **TEST REPORT**

For

Digitizer I/O device

**Model: SU8E-12H02AU-01X** 

Trade Name: lenovo

Issued to

Compal Electronics, INC. No. 581, Ruiguang RD., Neihu District, Taipei City 11492, Taiwan, R.O.C.

Issued by

Compliance Certification Services Inc. No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.) http://www.ccsrf.com service@ccsrf.com Issued Date: December 30, 2014





**Note:** This report shall not be reproduced except in full, without the written approval of Compliance Certification Services Inc. This document may be altered or revised by Compliance Certification Services Inc. personnel only, and shall be noted in the revision section of the document.

Page 1 / 26 Rev.00

### **Revision History**

Report No.: T141218W01-RP

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	December 30, 2014	Initial Issue	ALL	Doris Chu

Page 2 Rev.00

### TABLE OF CONTENTS

1	TES	T RESULT CERTIFICATION	4
2	EUT	DESCRIPTION	. 5
3	TES	T METHODOLOGY	6
	3.1.	DESCRIPTION OF TEST MODES	6
4	INS'	TRUMENT CALIBRATION	7
	4.1.	MEASURING INSTRUMENT CALIBRATION	7
	4.2.	MEASUREMENT EQUIPMENT USED	
	4.3.	MEASUREMENT UNCERTAINTY	8
5	FAC	CILITIES AND ACCREDITATIONS	9
	5.1.	FACILITIES	9
	5.2.	EQUIPMENT	9
	5.3.	TABLE OF ACCREDITATIONS AND LISTINGS	0
6	SET	TUP OF EQUIPMENT UNDER TEST	11
	6.1.	SETUP CONFIGURATION OF EUT	11
	6.2.	SUPPORT EQUIPMENT	l 1
7	RSS	210 REQUIREMENTS	12
	7.1.	99% BANDWIDTH	12
	7.2.	RADIATED EMISSIONS	
	7.3.	POWERLINE CONDUCTED EMISSIONS	21
8	APP	PENDIX I PHOTOGRAPHS OF TEST SETUP	24

#### 1 TEST RESULT CERTIFICATION

**Applicant:** Compal Electronics, INC.

No. 581, Ruiguang RD., Neihu District, Taipei City 11492, Taiwan,

Report No.: T141218W01-RP

R.O.C.

**Equipment Under Test:** Digitizer I/O device

**Trade Name:** lenovo

Model: SU8E-12H02AU-01X

**Date of Test:** December 24 ~ 29, 2014

APPLICABLE STANDARDS			
STANDARD	TEST RESULT		
FCC 47 CFR Part 15 Subpart C			
&	No non-compliance noted		
Industry Canada RSS-210 Issue 8 December, 2010			

#### We hereby certify that:

Compliance Certification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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

Approved by:	Reviewed by:
Miller Lee	Angel Chenf
Miller Lee Section Manager	Angel Cheng Section Manager

Page 4 Rev.00

### 2 EUT DESCRIPTION

Product	Digitizer I/O device
Trade Name	lenovo
Model Number	SU8E-12H02AU-01X
Power Supply	<ol> <li>Power from power adapter.</li> <li>Power from battery.</li> </ol>
<b>Operating Frequency Range</b>	531.25kHz, 562.50kHz
Antenna Specification	Loop Antenna
Note	The application is for limited module approval. The host PC device show as following: Convertible Computer Brand: lenovo / FCC Model Number: TP00062B  IC Model Number: TP00062B

#### **Power Rating**

Component	Model / Specification	Manufacturer
Adapter	ADLX45NCC2A AC Input: 100-240V, 1.3A, 50-60Hz DC Output: 20V, 2.25A	lenovo
Battery	ASM P/N 45N1704 / 14.8V 3.18Ah 47Wh	lenovo

Page 5 Rev.00

#### 3 TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4 (2014) and FCC CFR 47 Part 2, 15.207, 15.209.

Report No.: T141218W01-RP

The tests documented in this report were performed in accordance with IC RSS 210 Issue 8, December 201, IC RSS GEN Issue 4, November 2014, IC RSS 102 Issue 4, March 2010, IC RSS GEN Issue 4, November 2014, and ANSI C63.4 (2014).

This submittal(s) (test report) is intended for IC Certification with Industry Canada RSS-210.

#### 3.1. DESCRIPTION OF TEST MODES

The EUT (model: SU8E-12H02AU-01X) had been tested under operating condition.

Test program 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 1GHz. RF ID: Channel 531.25kHz, 562.50kHz were chosen for full testing.

Page 6 Rev.00

#### **4 INSTRUMENT CALIBRATION**

#### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

Report No.: T141218W01-RP

#### 4.2. MEASUREMENT EQUIPMENT USED

#### **Equipment Used for Emissions Measurement**

**Remark:** Each piece of equipment is scheduled for calibration once a year and Loop Antenna is scheduled for calibration once three years.

Conducted Emissions Test Site					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due	
Spectrum Analyzer	Agilent	E4446A	MY43360131	03/19/2015	
Power Meter	Anritsu	ML2495A	1012009	06/03/2015	
Power Sensor	Anritsu	MA2411A	0917072	06/03/2015	

3M Semi Anechoic Chamber					
Name of Equipment	Manufacturer	Model	Serial Number	<b>Calibration Due</b>	
Spectrum Analyzer	Agilent	E4446A	US42510268	11/04/2015	
EMI Test Receiver	R&S	ESCI	100064	02/27/2015	
Pre-Amplifier	Mini-Circults	ZFL-1000LN	SF350700823	01/11/2015	
Pre-Amplifier	MITEQ	AFS44-00102650-42-10P-44	1415367	11/17/2015	
Bilog Antenna	Sunol Sciences	JB3	A030105	09/30/2015	
Horn Antenna	EMCO	3117	00055165	02/12/2015	
Horn Antenna	EMCO	3116	2487	10/08/2015	
Loop Antenna	EMCO	6502	8905/2356	06/11/2015	
Turn Table	CCS	CC-T-1F	N/A	N.C.R	
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	
Controller	CCS	CC-C-1F	N/A	N.C.R	
Site NSA	CCS	N/A	N/A	12/20/2015	
Test S/W	Test S/W EZ-EMC (CCS-3A1RE)				

Conducted Emission room # A				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESCI	101203	09/11/2015
LISN	R&S	ESH3-Z5	848773/014	12/08/2015
ISN	FCC	FCC-TLISN-T8-02-09	101131	09/03/2015
Coaxial Cable	Commate	CFD300-NL	NA	12/04/2015
Test S/W	CCS-3A1-CE			

Page 7 Rev.00

### 4.3. MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
Powerline Conducted Emission	+/- 1.2159
3M Semi Anechoic Chamber / 30MHz ~ 200MHz	+/- 4.0138
3M Semi Anechoic Chamber / 200MHz ~ 1GHz	+/- 3.9483
3M Semi Anechoic Chamber / 1 ~ 8GHz	+/- 2.5975
3M Semi Anechoic Chamber / 8 ~ 18GHz	+/- 2.6112
3M Semi Anechoic Chamber / 18 ~ 26GHz	+/- 2.7389
3M Semi Anechoic Chamber / 26 ~ 40GHz	+/- 2.9683

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

Page 8 Rev.00

#### 5 FACILITIES AND ACCREDITATIONS

#### 5.1. FACILITIES

All	measurement facilities used to collect the measurement data are located at
	No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.
	Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029
$\boxtimes$	No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)
	Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045
	No.81-1, Lane 210, Bade 2nd Rd., Lujhu Township, Taoyuan County 33841, TAIWAN, R.O.C
	Tel: 886-3-324-0332 / Fax: 886-3-324-5235

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 (2014) and CISPR Publication 22.

#### 5.2. EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

Page 9 Rev.00

### 5.3. TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3M Semi Anechoic Chamber (FCC MRA: TW1039) to perform FCC Part 15 measurements	FCC MRA: TW1039
Taiwan	TAF	LP0002, RTTE01, FCC Method-47 CFR Part 15 Subpart C, D, E, RSS-210, RSS-310 IDA TS SRD, AS/NZS 4268, AS/NZS 4771, TS 12.1 & 12.2, ETSI EN 300 440-1, ETSI EN 300 440-2, ETSI EN 300 328, ETSI EN 300 220-1, ETSI EN 300 220-2, ETSI EN 301 893, ETSI EN 301 489-1/3/7/17 FCC OET Bulletin 65 + Supplement C, EN 50360, EN 50361, EN 50371, RSS 102, EN 50383, EN 50385, EN 50392, IEC 62209, CNS 14958-1, CNS 14959 FCC Method -47 CFR Part 15 Subpart B IEC / EN 61000-3-2, IEC / EN 61000-3-3, IEC / EN 61000-4-2/3/4/5/6/8/11	Testing Laboratory 1309
Canada	Industry Canada	3M Semi Anechoic Chamber (IC 2324G-1 / IC 2324G-2) to perform	Canadä IC 2324G-1 IC 2324G-2

Report No.: T141218W01-RP

**Note:** No part of this report may be used to claim or imply product endorsement by A2LA, TAF or other government agency.

Page 10 Rev.00

## **6 SETUP OF EQUIPMENT UNDER TEST**

### 6.1. SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

### **6.2. SUPPORT EQUIPMENT**

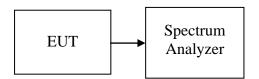
No	Device Type	Brand	Model	Series No.	FCC ID	Data Cable	Power Cord
	N/A						

Page 11 Rev.00

### 7 RSS 210 REQUIREMENTS

#### **7.1. 99% BANDWIDTH**

#### **TEST CONFIGURATION**



#### **TEST PROCEDURE**

- 1. Place the EUT on the table and set it in the transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set the spectrum analyzer as RBW=20Hz, VBW = 62Hz, Span = 2kHz, Sweep = auto.
- 4. Record the max. reading.

### **TEST RESULTS**

No non-compliance noted

#### **TEST DATA**

Frequency (KHz)	B (kHz)
531.25	1.4240
562.50	1.4683

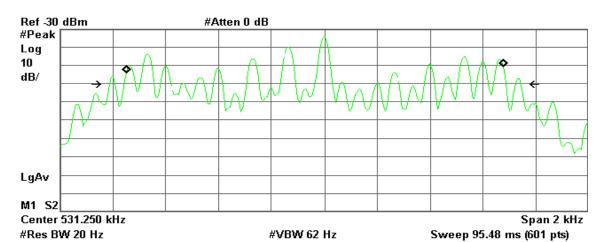
Page 12 Rev.00



### **Test Plot**

#### 531.25 kHz





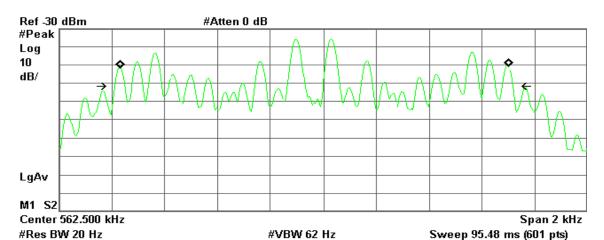
Occupied Bandwidth 1.4240 kHz Occ BW % Pwr 99.00 % -26.00 dB x dB

Report No.: T141218W01-RP

Transmit Freq Error -35.493 Hz x dB Bandwidth 1.557 kHz

#### 562.50 kHz





Occupied Bandwidth 1.4683 kHz

Occ BW % Pwr 99.00 % x dB -26.00 dB

Transmit Freq Error -34.166 Hz x dB Bandwidth 1.504 kHz

> Page 13 Rev.00

#### 7.2. RADIATED EMISSIONS

#### **LIMIT**

1. According to §15.209(a), except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Report No.: T141218W01-RP

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
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

**Remark:** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

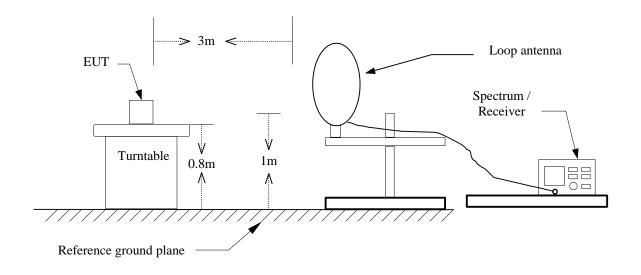
2. In the emission table above, the tighter limit applies at the band edges.

Frequency (Hz)	Field Strength (μV/m at 3-meter)	Field Strength (dBµV/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

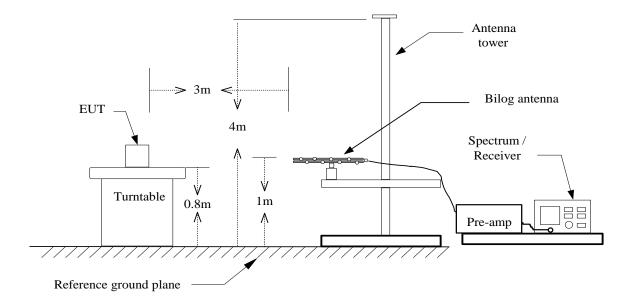
Page 14 Rev.00

#### **TEST CONFIGURATION**

#### 9kHz ~ 30MHz



#### **30MHz ~ 1 GHz**



Page 15 Rev.00

#### **TEST PROCEDURE**

#### For $9kHz \sim 30MHz$

- 1. The EUT is placed on a turntable, which is 0.8m above ground plane.
- 2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna, The center of the loop shall be 1 m above the ground then to find out the highest emissions.

Report No.: T141218W01-RP

- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by rotated of receiving antenna axis
- 6. Set the spectrum analyzer in the following setting as: RBW=10kHz / VBW=30kHz / Sweep=AUTO
- 7. Repeat above procedures until the measurements for all frequencies are complete.

#### For $30MHz \sim 1GHz$

- 1. The EUT is placed on a turntable, which is 0.8m above ground plane.
- 2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna, which is varied from 1m to find out the highest emissions.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Set the spectrum analyzer in the following setting as: RBW=100kHz / VBW=300kHz / Sweep=AUTO
- 7. Repeat above procedures until the measurements for all frequencies are complete.

#### **TEST RESULTS**

No non-compliance noted.

Page 16 Rev.00

#### **TEST DATA**

**Operation Mode:** TX mode (531.25kHz) **Test Date:** December 29, 2014

Report No.: T141218W01-RP

**Temperature:** 27°C **Tested by:** Andy Shi

**Humidity:** 53 % RH

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit 3m (dBuV/m)	Margin (dB)	Detector Mode (PK/QP/AVG)
0.5313	41.19	-17.36	23.83	73.10	-49.27	Peak
0.3274	41.67	-17.32	24.35	97.30	-72.95	Peak
0.3481	41.18	-17.32	23.86	96.77	-72.91	Peak
0.3741	40.64	-17.32	23.32	96.14	-72.82	Peak
0.3986	39.90	-17.33	22.57	95.59	-73.02	Peak
0.4183	39.37	-17.33	22.04	95.17	-73.13	Peak
0.4818	39.56	-17.35	22.21	93.95	-71.74	Peak
9.0479	12.81	-11.39	1.42	68.47	-67.05	Peak
16.4549	10.46	-6.60	3.86	63.28	-59.42	Peak
18.4911	11.70	-5.31	6.39	62.26	-55.87	Peak
20.7929	10.90	-3.89	7.01	61.25	-54.24	Peak
23.6553	10.62	-2.25	8.37	60.13	-51.76	Peak

**Remark:** 1. Measuring frequencies from 9kHz to the 1GHz.

Page 17 Rev.00

<sup>2.</sup> Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument using peak/quasi-peak/average detector mode.

<sup>3.</sup> Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

<sup>4.</sup> Margin(dB) = Result(dBuV/m) - Limit(dBuV/m).

<sup>5. 531.25</sup>kHz Limit=20 log (24000/531.25)+40 log (30/3) =73.10

#### Compliance Certification Services Inc.



FCC ID: GKR-TP00062BWD IC ID: 2533B-TP00062BWD Report No.: T141218W01-RP

**Operation Mode:** TX mode (562.5kHz) **Test Date:** December 29, 2014

**Temperature:** 27°C **Tested by:** Andy Shi

**Humidity:** 53 % RH

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit 3m (dBuV/m)	Margin (dB)	Detector Mode (PK/QP/AVG)
0.5625	41.23	-17.36	23.87	72.61	-48.74	Peak
0.3438	40.71	-17.32	23.39	96.88	-73.49	Peak
0.3760	40.75	-17.33	23.42	96.10	-72.68	Peak
0.4005	40.12	-17.33	22.79	95.55	-72.76	Peak
0.4178	39.97	-17.33	22.64	95.18	-72.54	Peak
0.4429	38.79	-17.34	21.45	94.68	-73.23	Peak
0.4847	41.56	-17.35	24.21	93.89	-69.68	Peak
8.9889	13.13	-11.43	1.70	68.53	-66.83	Peak
12.3825	12.76	-9.19	3.57	65.75	-62.18	Peak
15.6286	10.12	-7.13	2.99	63.73	-60.74	Peak
18.8747	11.68	-5.06	6.62	62.09	-55.47	Peak
20.5273	10.27	-4.04	6.23	61.36	-55.13	Peak

Remark: 1. Measuring frequencies from 9kHz to the 1GHz.

Page 18 Rev.00

<sup>2.</sup> Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument using peak/quasi-peak/average detector mode.

<sup>3.</sup> Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

<sup>4.</sup> Margin(dB) = Result(dBuV/m) - Limit(dBuV/m).

<sup>5. 562.5</sup> kHz Limit=20 log (24000/562.5)+40 log (30/3) =72.61

### Compliance Certification Services Inc.



FCC ID: GKR-TP00062BWD IC ID: 2533B-TP00062BWD Report No.: T141218W01-RP

**Operation Mode:** Normal Link (531.25kHz) **Test Date:** December 29, 2014

**Temperature:** 27°C **Tested by:** Andy Shi

**Humidity:** 53 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)	Ant.Pol. H/V	Detector Mode (PK/QP)
90.1400	41.43	-23.32	18.11	43.50	-25.39	V	Peak
239.5200	43.32	-18.62	24.70	46.00	-21.30	V	Peak
411.2100	35.98	-13.72	22.26	46.00	-23.74	V	Peak
480.0800	47.67	-12.16	35.51	46.00	-10.49	V	Peak
611.0300	32.31	-10.25	22.06	46.00	-23.94	V	Peak
799.2100	37.40	-7.39	30.01	46.00	-15.99	V	Peak
122 1500	21.00	17.40	14.40	12.50	20.02	**	
122.1500	31.88	-17.40	14.48	43.50	-29.02	Н	Peak
239.5200	45.48	-18.62	26.86	46.00	-19.14	Н	Peak
415.0900	34.70	-13.61	21.09	46.00	-24.91	Н	Peak
580.9600	30.19	-10.70	19.49	46.00	-26.51	Н	Peak
687.6600	31.02	-8.92	22.10	46.00	-23.90	Н	Peak
798.2400	43.80	-7.40	36.40	46.00	-9.60	Н	Peak

#### Remark:

- 1. Measuring frequencies from 30 MHz to the 1GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.
- 3. Data of measurement within this frequency range shown "---" 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.
- 4. The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz.

Page 19 Rev.00

**Operation Mode:** Normal Link (562.5kHz) **Test Date:** December 29, 2014

Report No.: T141218W01-RP

**Temperature:** 27°C **Tested by:** Andy Shi

**Humidity:** 53 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)	Ant.Pol. H/V	Detector Mode (PK/QP)
207.5100	43.47	-18.08	25.39	43.50	-18.11	V	Peak
292.8700	40.85	-16.54	24.31	46.00	-21.69	V	Peak
480.0800	44.84	-12.16	32.68	46.00	-13.32	V	Peak
622.6700	35.51	-9.97	25.54	46.00	-20.46	V	Peak
769.1400	36.20	-7.69	28.51	46.00	-17.49	V	Peak
912.7000	34.06	-5.99	28.07	46.00	-17.93	V	Peak
207.5100	45.26	-18.08	27.18	43.50	-16.32	Н	Peak
293.8400	45.76	-16.52	29.24	46.00	-16.76	Н	Peak
356.8900	36.54	-15.03	21.51	46.00	-24.49	Н	Peak
593.5700	31.06	-10.57	20.49	46.00	-25.51	Н	Peak
743.9200	31.57	-7.99	23.58	46.00	-22.42	Н	Peak
935.0100	29.43	-5.68	23.75	46.00	-22.25	Н	Peak

#### Remark:

- 1. Measuring frequencies from 30 MHz to the 1GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.
- 3. Data of measurement within this frequency range shown "---" 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.
- 4. The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz.

Page 20 Rev.00

#### 7.3. POWERLINE CONDUCTED EMISSIONS

#### **LIMIT**

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Report No.: T141218W01-RP

Frequency Range (MHz)	Limits (dBμV)				
(IVIIIZ)	Quasi-peak	Average			
0.15 to 0.50	66 to 56*	56 to 46*			
0.50 to 5	56	46			
5 to 30	60	50			

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

#### TEST CONFIGURATION

See test photographs attached in Appendix I for the actual connections between EUT and support equipment.

#### TEST PROCEDURE

- 1. The EUT was placed on a table, which is 0.8m above ground plane.
- 2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 3. Repeat above procedures until all frequency measured were complete.

#### TEST RESULTS

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

Page 21 Rev.00

#### **TEST DATA**

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

Report No.: T141218W01-RP

Operation Mode: Normal Link Test Date: December 24, 2014

**Temperature:** 26°C **Tested by:** Sehni Hu

**Humidity:** 60% RH

Freq. (MHz)	QP Reading (dBuV)	AV Reading (dBuV)	Corr. factor (dB)	QP Result (dBuV)	AV Result (dBuV)	QP Limit (dBuV)	AV Limit (dBuV)	QP Margin (dB)	AV Margin (dB)	Note
0.2313	25.34	16.99	0.06	25.40	17.05	62.40	52.40	-37.00	-35.35	L1
0.5968	27.22	23.97	0.07	27.29	24.04	56.00	46.00	-28.71	-21.96	L1
1.0803	20.30	13.83	0.08	20.38	13.91	56.00	46.00	-35.62	-32.09	L1
3.6751	10.80	3.43	0.11	10.91	3.54	56.00	46.00	-45.09	-42.46	L1
5.1775	9.94	2.24	0.14	10.08	2.38	60.00	50.00	-49.92	-47.62	L1
13.1184	13.73	10.14	0.25	13.98	10.39	60.00	50.00	-46.02	-39.61	L1
0.1730	27.17	15.04	0.03	27.20	15.07	64.82	54.82	-37.62	-39.75	L2
0.5907	20.25	14.21	0.02	20.27	14.23	56.00	46.00	-35.73	-31.77	L2
1.1083	19.93	14.14	0.03	19.96	14.17	56.00	46.00	-36.04	-31.83	L2
1.5456	7.75	3.73	0.04	7.79	3.77	56.00	46.00	-48.21	-42.23	L2
4.0612	9.19	4.64	0.07	9.26	4.71	56.00	46.00	-46.74	-41.29	L2
12.3933	19.38	15.97	0.18	19.56	16.15	60.00	50.00	-40.44	-33.85	L2

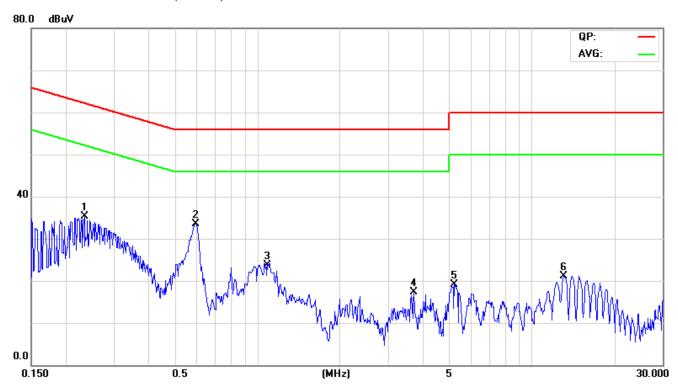
#### Remark:

- 1. Measuring frequencies from 0.15 MHz to 30MHz.
- 2. The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Quasi-peak detector and average detector.
- 3. The IF bandwidth of SPA between 0.15MHz and 30MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15MHz and 30MHz was 9kHz;
- 4.  $L1 = Line \ One \ (Live \ Line) / L2 = Line \ Two \ (Neutral \ Line)$

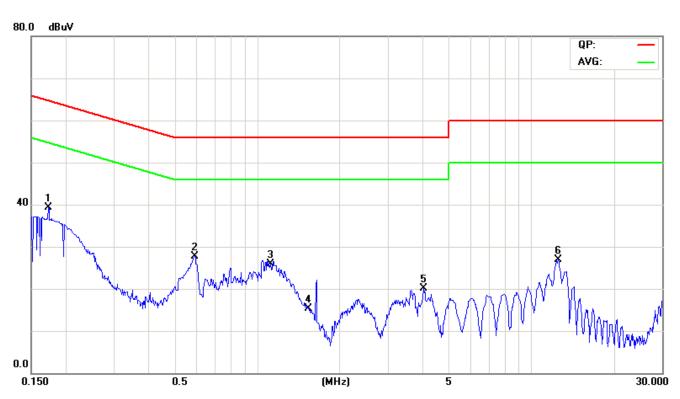
Page 22 Rev.00

#### **Test Plots**

#### Conducted emissions (Line 1)



#### Conducted emissions (Line 2)



Page 23 Rev.00