Variant FCC RF Test Report

APPLICANT	**:**	**Lenovo (Shanghai) Electronics Technology Co., Ltd.**
EQUIPMENT	**:**	**Portable Tablet Computer**
BRAND NAME	**:**	**lenovo**
MODEL NAME	**:**	**Lenovo A3300-HV**
MARKETING NAME	**:**	**Lenovo A3300-HV**
FCC ID	**:**	**O57A3300HV**
STANDARD	**:**	**FCC 47 CFR Part 2, 22(H), 24(E)**
CLASSIFICATION	**:**	**PCS Licensed Transmitter (PCB)**

This is a variant report which is only valid together with the original test report. The product was received on Sep. 29, 2014 and testing was completed on Oct. 14, 2014. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA / EIA-603-C-2004 and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (SHENZHEN) INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

Testing Laboratory
2353

SPORTON INTERNATIONAL (SHENZHEN) INC.
No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P.R.C.

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APPENDIX A. SETUP PHOTOGRAPHS

APPENDIX B. PRODUCT EQUALITY DECLARATION

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG492901	Rev. 01	This is a variant report for Lenovo A3300-HV.The product equality declaration could be referred to Appendix B. All the test cases were performed on original report which can be referred to Sporton Report Number FG450706. Based on the original test report, only the conducted power, ERP/EIRP and the worst cases of radiated spurious emission were verified for the differences.	Oct. 17, 2014

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	§2.1046	Conducted Output Power	N/A	PASS	-
3.2	§22.913(a)(2)	Effective Radiated Power	< 7 Watts	PASS	-
3.2	§24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
3.3	§2.1053 §22.917(a) §24.238(a)	Field Strength of Spurious Radiation	< $43+10\log_{10}(P[Watts])$	PASS	Under limit 7.24 dB at 1672.000 MHz

1 General Description

1.1 Applicant

Lenovo (Shanghai) Electronics Technology Co., Ltd.
No. 68 Building, 199 Fenju Road, Wai Gao Qiao FTZ, Shanghai, China

1.2 Manufacturer

Lenovo PC HK Limited
23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Portable Tablet Computer
Brand Name	lenovo
Model Name	Lenovo A3300-HV
Marketing Name	Lenovo A3300-HV
FCC ID	O57A3300HV
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/HSPA+(Downlink Only) WLAN2.4GHz 802.11b/g/n HT20/HT40 Bluetooth v3.0+EDR Bluetooth v4.0 LE
HW Version	A977_MB_PCB_V4.0
SW Version	A3300HV_A442_01_06_140505_ROW_ENG
EUT Stage	Pre-Production

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification subjective to this standard

Product Specification subjective to this standard	
Tx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz
Rx Frequency	GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz
Maximum Output Power to Antenna	GSM850 : 32.20 dBm GSM1900 : 29.18 dBm WCDMA Band V : 21.55 dBm WCDMA Band II : 21.40 dBm
Antenna Type	IFA Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: GMSK / 8PSK WCDMA: QPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) HSPA+: 16QAM (Downlink Only)

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Maximum ERP/EIRP Power

FCC Rule	System	Type of Modulation	Maximum ERP/EIRP (W)
Part 22	GSM850 GSM	GMSK	0.46
Part 24	GSM1900 GSM	GMSK	0.79

1.7 Testing Location

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.		
Test Site Location	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P.R.C. TEL: +86-755- 3320-2398		
Test Site No.	**Sporton Site No.**		**FCC Registration No.**
	TH01-SZ	03CH01-SZ	831040

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.
Test Site Location	No. 101, Complex Building C, Guanlong Village, Xili Town, Nanshan District, Shenzhen, Guangdong, P.R.C. TEL:+86-755-8637-9589 FAX: +86-755-8637-9595
Test Site No.	**Sporton Site No.**
	OTA01-SZ

Note: The test site complies with ANSI C63.4 2003 requirement

1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC 47 CFR Part 2, 22(H), 24(E)
- ANSI / TIA / EIA-603-C-2004
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v02r01 with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

Frequency range investigated for radiated emission: 30MHz to 10th harmonic.

Test Modes	
Band	**Radiated TCs**
GSM 850	■ GSM Link
GSM 1900	■ GSM Link

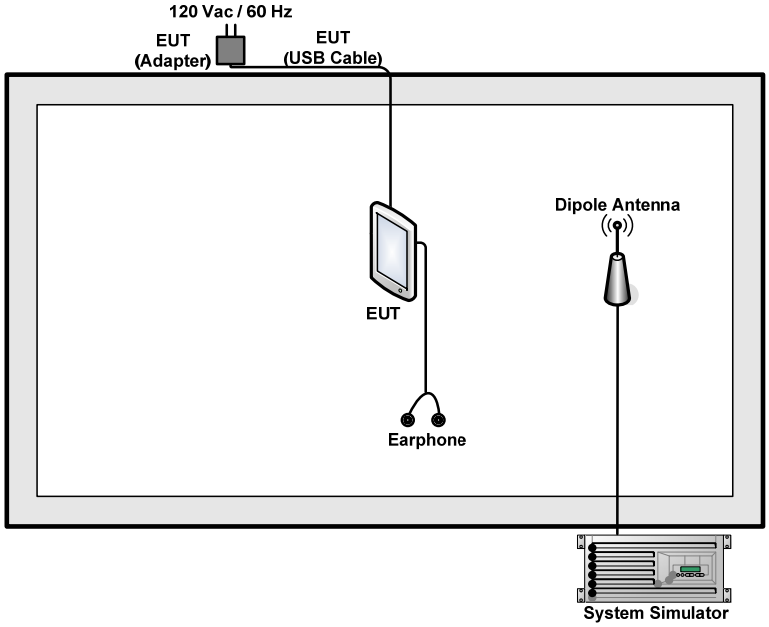
Conducted Power Measurement Results:

Conducted Power (*Unit: dBm)						
Band	GSM850			GSM1900		
Channel	128	189	251	512	661	810
Frequency	824.2	836.4	848.8	1850.2	1880.0	1909.8
GSM	31.74	32.16	32.20	28.81	29.11	29.18
GPRS class 8	31.72	32.19	32.19	28.77	29.04	29.15
GPRS class 10	28.89	29.26	29.34	25.86	26.05	26.18
GPRS class 11	26.91	27.34	27.39	23.87	24.00	24.18
GPRS class 12	25.89	26.39	26.40	22.99	23.19	23.15
EGPRS class 8	26.46	26.37	26.34	25.47	25.76	26.10
EGPRS class 10	25.49	25.37	25.32	24.48	24.75	25.04
EGPRS class 11	23.39	23.37	23.26	22.34	22.69	23.04
EGPRS class 12	22.55	22.34	22.29	21.43	21.61	21.93

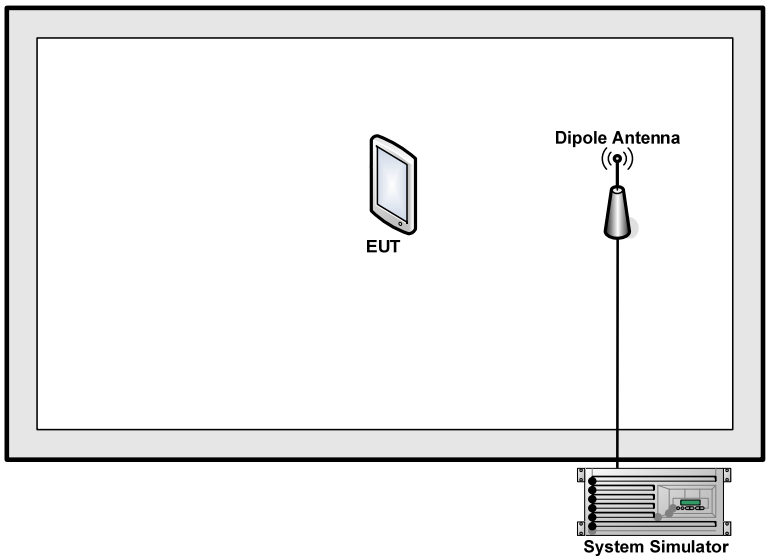
Conducted Power (*Unit: dBm)						
Band	WCDMA Band V			WCDMA Band II		
Channel	4132	4182	4233	9262	9400	9538
Frequency	826.4	836.4	846.6	1852.4	1880.0	1907.6
AMR 12.2K	21.29	21.54	21.49	21.39	21.35	21.15
RMC 12.2K	21.30	21.55	21.51	21.40	21.39	21.19
HSDPA Subtest-1	20.87	21.04	21.01	21.06	20.97	20.87
HSDPA Subtest-2	20.76	21.02	20.88	20.99	20.93	20.84
HSDPA Subtest-3	20.59	20.76	20.64	20.89	20.81	20.83
HSDPA Subtest-4	20.50	20.71	20.57	20.87	20.84	20.79
HSUPA Subtest-1	19.18	19.22	19.16	18.65	18.65	18.58
HSUPA Subtest-2	19.19	19.21	19.16	18.67	18.65	18.59
HSUPA Subtest-3	20.17	20.19	20.14	19.62	19.62	19.55
HSUPA Subtest-4	18.63	18.66	18.60	18.10	18.13	18.05
HSUPA Subtest-5	20.66	20.68	20.63	20.08	20.08	20.01

2.2 Connection Diagram of Test System

<22H Tx Mode>



<24E Tx Mode>



2.3 Support Unit used in test configuration

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	Earphone	Lenovo	SH100	N/A	Unshielded, 1.6 m	N/A

3 Test Result

3.1 Conducted Output Power Measurement

3.1.1 Description of the Conducted Output Power Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

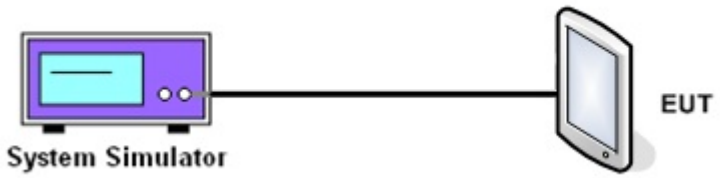
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure the maximum burst average power for GSM and maximum average power for other modulation signal.

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power

Cellular Band									
Modes	GSM850 (GSM)			GSM850 (EDGE class 8)			WCDMA Band V (RMC 12.2Kbps)		
Channel	128 (Low)	189 (Mid)	251 (High)	128 (Low)	189 (Mid)	251 (High)	4132 (Low)	4182 (Mid)	4233 (High)
Frequency (MHz)	824.2	836.4	848.8	824.2	836.4	848.8	826.4	836.4	846.6
Conducted Power (dBm)	31.74	32.16	32.20	26.46	26.37	26.34	21.30	21.55	21.51
Conducted Power (Watts)	1.49	1.64	1.66	0.44	0.43	0.43	0.13	0.14	0.14

PCS Band									
Modes	GSM1900 (GSM)			GSM1900 (EDGE class 8)			WCDMA Band V (RMC 12.2Kbps)		
Channel	512 (Low)	661 (Mid)	810 (High)	512 (Low)	661 (Mid)	810 (High)	9262 (Low)	9400 (Mid)	9538 (High)
Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8	1852.4	1880	1907.6
Conducted Power (dBm)	28.81	29.11	29.18	25.47	25.76	26.10	21.40	21.39	21.19
Conducted Power (Watts)	0.76	0.81	0.83	0.35	0.38	0.41	0.14	0.14	0.13

Note: Maximum burst average power for GSM, and maximum average power for WCDMA.

3.2 Effective Radiated Power and Effective Isotropic Radiated Power Measurement

3.2.1 Description of the ERP/EIRP Measurement

The substitution method, in ANSI / TIA / EIA-603-C-2004, was used for ERP/EIRP measurement, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r01. The ERP of mobile transmitters must not exceed 7 Watts and the EIRP of mobile transmitters are limited to 2 Watts.

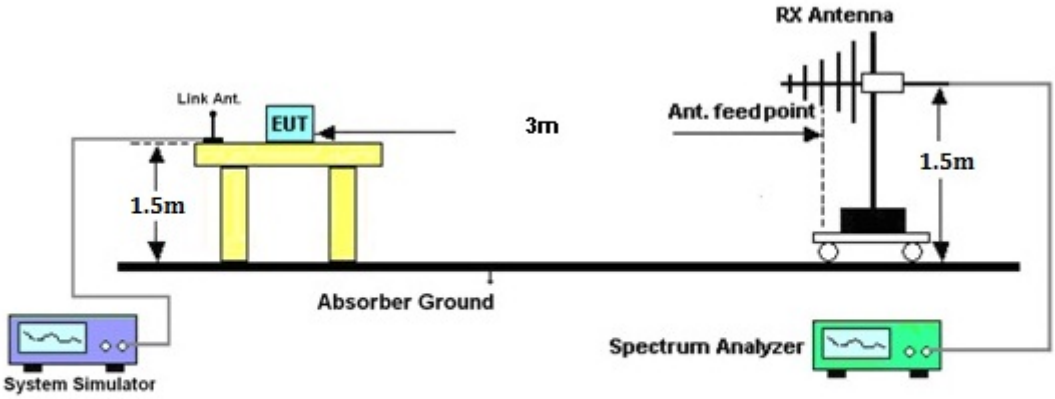
3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

1. The testing follows FCC KDB 971168 v02r01 Section 5.2.1. (for CDMA/WCDMA), Section 5.2.2.2 (for GSM/GPRS/EDGE) and ANSI / TIA-603-C-2004 Section 2.2.17.
2. The EUT was placed on a turntable 1.5 meters high in a fully anechoic chamber.
3. The EUT was placed 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. GSM operating modes: Set RBW= 1MHz, VBW= 3MHz, RMS detector over burst;
   UMTS operating modes: Set RBW= 100 kHz, VBW= 300 kHz, RMS detector over frame, and use channel power option with bandwidth=5MHz, per KDB 971168 D01.
5. The table was rotated 360 degrees to determine the position of the highest radiated power.
6. The height of the receiving antenna is adjusted to look for the maximum ERP/EIRP.
7. Taking the record of maximum ERP/EIRP.
8. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
9. The conducted power at the terminal of the dipole antenna is measured.
10. Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.
11. ERP/EIRP = Ps + Et – Es + Gs = Ps + Rt – Rs + Gs
    Ps (dBm)：Input power to substitution antenna.
    Gs (dBi or dBd)：Substitution antenna Gain.
    Et = Rt + AF
    Es = Rs + AF
    AF (dB/m)：Receive antenna factor
    Rt：The highest received signal in spectrum analyzer for EUT.
    Rs：The highest received signal in spectrum analyzer for substitution antenna.

3.2.4 Test Setup



3.2.5 Test Result of ERP

GSM850 (GSM) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**ERP (dBm)**	**ERP (W)**
824.20	-21.16	-48.12	0.00	-1.08	25.88	0.39
836.40	-21.27	-48.28	0.00	-0.93	26.08	0.41
848.80	-21.22	-48.35	0.00	-0.76	26.37	0.43
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**ERP (dBm)**	**ERP (W)**
824.20	-20.97	-47.97	0.00	-1.08	25.92	0.39
836.40	-20.85	-48.01	0.00	-0.93	26.23	0.42
848.80	-20.65	-48.05	0.00	-0.76	26.64	0.46

3.2.6 Test Result of EIRP

GSM1900 (GSM) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBi)**	**EIRP (dBm)**	**EIRP (W)**
1850.20	-26.47	-51.88	0.00	1.96	27.37	0.55
1880.00	-26.77	-52.99	0.00	2.00	28.22	0.66
1909.80	-27.74	-54.28	0.00	1.98	28.52	0.71
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBi)**	**EIRP (dBm)**	**EIRP (W)**
1850.20	-25.35	-52.13	0.00	1.96	28.74	0.75
1880.00	-26.21	-53.17	0.00	2.00	28.96	0.79
1909.80	-27.14	-54.13	0.00	1.98	28.97	0.79

3.3 Field Strength of Spurious Radiation Measurement

3.3.1 Description of Field Strength of Spurious Radiated Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

1. The testing follows FCC KDB 971168 v02r01 Section 5.8 and ANSI / TIA-603-C-2004 Section 2.2.12.
2. The EUT was placed on a rotatable wooden table 0.8 meters above the ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search for the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15
13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
14. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

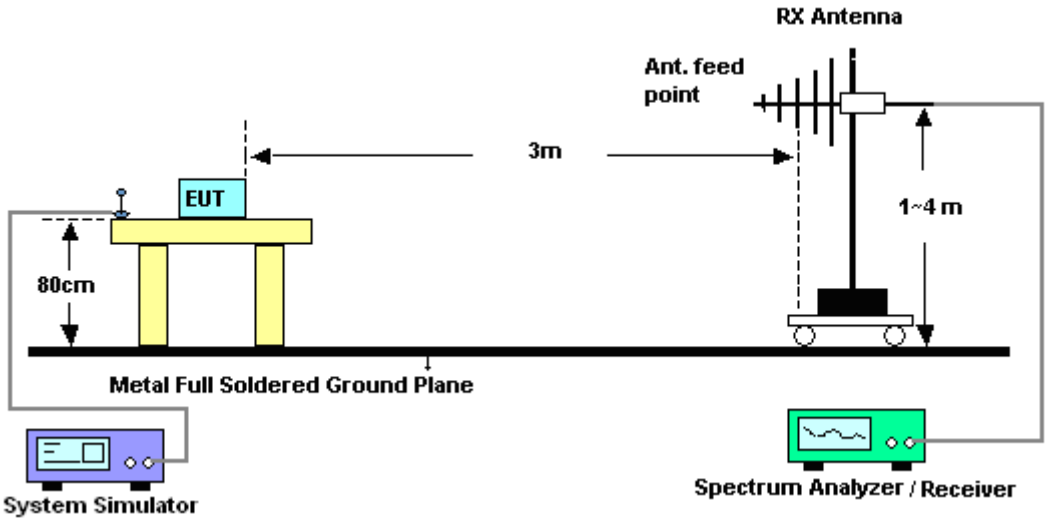
    = P(W) - [43 + 10log(P)] (dB)

    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)

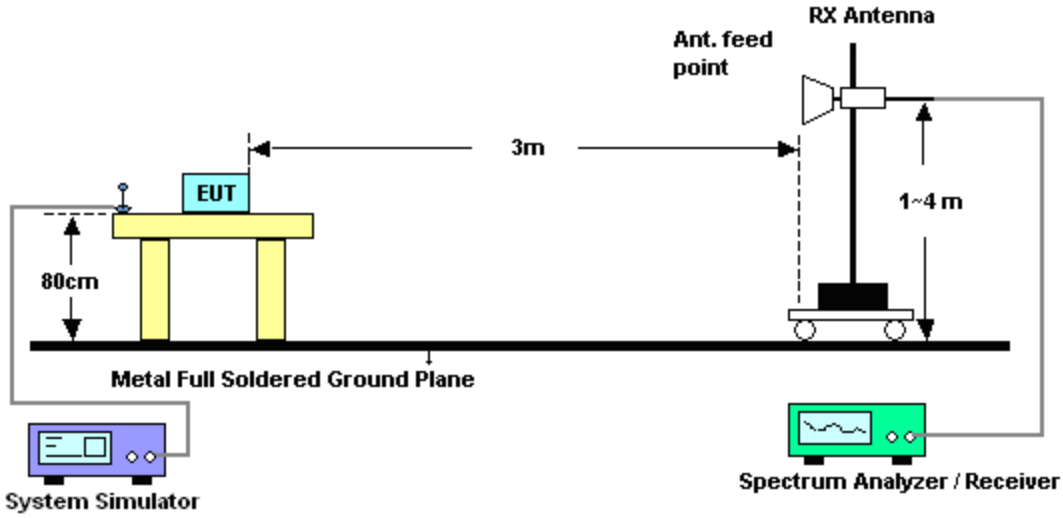
    = -13dBm.

3.3.4 Test Setup

For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.3.5 Test Result of Field Strength of Spurious Radiated

Band :	GSM850 for CH128	**Temperature :**	23~25°C
Test Mode :	GSM Link (GMSK)	**Relative Humidity :**	50~52%
Test Engineer :	Leo Liao	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1648.4	-20.50	-13	-7.50	-37.65	-23.32	0.73	5.70	H	Pass
2472.6	-30.59	-13	-17.59	-56.18	-32.95	0.91	5.42	H	Pass
3296.8	-55.05	-13	-42.05	-65.92	-59.69	1.07	7.86	H	Pass

Band :	GSM850 for CH128	**Temperature :**	23~25°C
Test Mode :	GSM Link (GMSK)	**Relative Humidity :**	50~52%
Test Engineer :	Leo Liao	**Polarization :**	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1648.4	-20.84	-13	-7.84	-35.60	-23.66	0.73	5.70	V	Pass
2472.6	-32.57	-13	-19.57	-55.82	-34.93	0.91	5.42	V	Pass
3296.8	-53.90	-13	-40.90	-66.08	-58.54	1.07	7.86	V	Pass

Band :	GSM850 for CH189	**Temperature :**	23~25°C
Test Mode :	GSM Link (GMSK)	**Relative Humidity :**	50~52%
Test Engineer :	Leo Liao	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-20.53	-13	-7.53	-37.16	-23.50	0.88	6.00	H	Pass
2510	-30.67	-13	-17.67	-55.96	-33.28	1.08	5.84	H	Pass
3346	-53.93	-13	-40.93	-64.53	-58.30	1.14	7.66	H	Pass

Band :	GSM850 for CH189	**Temperature :**	23~25°C
Test Mode :	GSM Link (GMSK)	**Relative Humidity :**	50~52%
Test Engineer :	Leo Liao	**Polarization :**	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-20.24	-13	-7.24	-34.52	-23.21	0.88	6.00	V	Pass
2510	-31.90	-13	-18.90	-54.88	-34.51	1.08	5.84	V	Pass
3346	-52.24	-13	-39.24	-64.07	-56.61	1.14	7.66	V	Pass

Band :	GSM850 for CH251	**Temperature :**	23~25°C
Test Mode :	GSM Link (GMSK)	**Relative Humidity :**	50~52%
Test Engineer :	Leo Liao	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1697.6	-21.10	-13	-8.10	-38.04	-24.09	0.75	5.89	H	Pass
2546.4	-29.26	-13	-16.26	-55.04	-31.97	1.12	5.98	H	Pass
3395.2	-54.69	-13	-41.69	-65.89	-59.09	1.25	7.80	H	Pass

Band :	GSM850 for CH251	**Temperature :**	23~25°C
Test Mode :	GSM Link (GMSK)	**Relative Humidity :**	50~52%
Test Engineer :	Leo Liao	**Polarization :**	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1697.6	-20.96	-13	-7.96	-35.55	-23.95	0.75	5.89	V	Pass
2546.4	-32.40	-13	-19.40	-55.76	-35.11	1.12	5.98	V	Pass
3395.2	-55.29	-13	-42.29	-67.72	-59.69	1.25	7.80	V	Pass

Band :	GSM1900 for CH512	**Temperature :**	23~25°C
Test Mode :	GSM Link (GMSK)	**Relative Humidity :**	50~52%
Test Engineer :	Leo Liao	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700.4	-60.16	-13	-47.16	-71.71	-66.91	1.2	7.95	H	Pass
5550.6	-56.38	-13	-43.38	-73.77	-64.48	1.5	9.60	H	Pass
7400.8	-53.42	-13	-40.42	-75.00	-63.61	1.7	11.89	H	Pass

Band :	GSM1900 for CH512	**Temperature :**	23~25°C
Test Mode :	GSM Link (GMSK)	**Relative Humidity :**	50~52%
Test Engineer :	Leo Liao	**Polarization :**	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700.4	-57.66	-13	-44.66	-72.09	-64.41	1.2	7.95	V	Pass
5550.6	-56.81	-13	-43.81	-73.29	-64.91	1.5	9.60	V	Pass
7400.8	-53.89	-13	-40.89	-75.78	-64.08	1.7	11.89	V	Pass

Band :	GSM1900 for CH661	**Temperature :**	23~25°C
Test Mode :	GSM Link (GMSK)	**Relative Humidity :**	50~52%
Test Engineer :	Leo Liao	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-60.84	-13	-47.84	-72.99	-67.58	1.28	8.02	H	Pass
5640	-55.32	-13	-42.32	-73.31	-63.74	1.58	10.00	H	Pass
7520	-53.70	-13	-40.70	-75.64	-64.02	1.78	12.10	H	Pass

Band :	GSM1900 for CH661	**Temperature :**	23~25°C
Test Mode :	GSM Link (GMSK)	**Relative Humidity :**	50~52%
Test Engineer :	Leo Liao	**Polarization :**	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-57.18	-13	-44.18	-72.21	-63.92	1.28	8.02	V	Pass
5640	-55.57	-13	-42.57	-72.65	-63.99	1.58	10.00	V	Pass
7520	-53.24	-13	-40.24	-75.49	-63.56	1.78	12.10	V	Pass

Band :	GSM1900 for CH810	**Temperature :**	23~25°C
Test Mode :	GSM Link (GMSK)	**Relative Humidity :**	50~52%
Test Engineer :	Leo Liao	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3819.6	-61.47	-13	-48.47	-73.04	-68.24	1.23	8.00	H	Pass
5729.4	-55.53	-13	-42.53	-73.33	-63.66	1.52	9.65	H	Pass
7639.2	-51.86	-13	-38.86	-74.10	-62.04	1.82	12.00	H	Pass

Band :	GSM1900 for CH810	**Temperature :**	23~25°C
Test Mode :	GSM Link (GMSK)	**Relative Humidity :**	50~52%
Test Engineer :	Leo Liao	**Polarization :**	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3819.6	-57.32	-13	-44.32	-71.77	-64.09	1.23	8.00	V	Pass
5729.4	-56.72	-13	-43.72	-73.61	-64.85	1.52	9.65	V	Pass
7639.2	-52.77	-13	-39.77	-75.32	-62.95	1.82	12.00	V	Pass

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP30	101400	9kHz~30GHz	Mar. 03, 2014	Oct. 14, 2014	Mar. 02, 2015	Conducted (TH01-SZ)
ESCIO TEST Receiver	R&S	ESCI	100724	9kHz~3GHz	Feb. 21, 2014	Oct. 14, 2014	Feb. 20, 2015	Radiation (03CH01-SZ)
Spectrum Analyzer	Agilent Technologies	N9038A	MY52260185	20Hz~26.5GHz	May 26, 2014	Oct. 14, 2014	May 25, 2015	Radiation (03CH01-SZ)
Bilog Antenna	TESEQ	CBL 6112D	23188	30MHz~2GHz	Oct. 26, 2013	Oct. 14, 2014	Oct. 25, 2014	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Oct. 26, 2013	Oct. 14, 2014	Oct. 25, 2014	Radiation (03CH01-SZ)
Double Ridged Horn Antenna	COM-POWER	AH-840	101073	18GHz~40GHz	Jun. 09, 2014	Oct. 14, 2014	Jun. 08, 2015	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9kHz~3000MHz	Feb. 21, 2014	Oct. 14, 2014	Feb. 20, 2015	Radiation (03CH01-SZ)
Amplifier	Yiai	AV3860B	04030	2GHz~26.5GHz	May 08, 2014	Oct. 14, 2014	May 07, 2015	Radiation (03CH01-SZ)
AC Source(AVR)	Chroma	61601	616010001985	100Vac~250Vac	Mar. 25, 2014	Oct. 14, 2014	Mar. 24, 2015	Radiation (03CH01-SZ)
Turn Table	EM Electronics	EM 1000	N/A	0~360 degree	NCR	Oct. 14, 2014	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM Electronics	EM 1000	N/A	1 m~4 m	NCR	Oct. 14, 2014	NCR	Radiation (03CH01-SZ)
Spectrum Analyzer	R&S	FSP 7	100818	9kHz~7GHz	Jul. 17, 2014	Oct. 14, 2014	Jul. 16, 2015	ERP/EIRP (OTA01-SZ)
Quad-Ridged Horn	ETS-Lindgren	3164-08	00102954	700MHz~10000MHz	N/A	Oct. 14, 2014	N/A	ERP/EIRP (OTA01-SZ)
Multi-Devices Controller	ETS-Lindgren	2090-OPT1	00108147	N/A	N/A	Oct. 14, 2014	N/A	ERP/EIRP (OTA01-SZ)
Switch Control Mainframe	Agilent	3499A	MY42005451	N/A	N/A	Oct. 14, 2014	N/A	ERP/EIRP (OTA01-SZ)

5 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.9**

Appendix B. Product Equality Declaration

Lenovo (Shanghai) Electronics Technology Co., Ltd.

No. 68 Building, 199 Fenju Road, Wai Gao Qiao FTZ , Shanghai , China

Tel: 86-21-50504500-8237

Date: October 17, 2014

Product Equality Declaration

We, Lenovo (Shanghai) Electronics Technology Co., Ltd., declare on our sole responsibility for product of Lenovo A3300-HV that the difference between the present product and the original product are listed as below, the LCD and WCDMA PA have different supplier:

number	Part name	Original	Present
1	LCD	Trade name: BOE Model name: BA070WS1-100	Trade name: KingDisplay Model name: KD070D23-39NA-A66
2	PA(WCDMA)	Trade name: Skyworks Model name: SKY77758	Trade name: MURATA Model name: HRPF58723BTB-A
		Trade name: Skyworks Model name: SKY77762	Trade name: Vanchip Model name: VC5342

Should you have any questions or comments regarding this matter, please have my best attention.

Declared by : Li Wei

on behalf of Lenovo (Shanghai) Electronics Technology Co., Ltd.