



FCC RF Test Report

APPLICANT : Lenovo (Shanghai) Electronics Technology Co., Ltd.
EQUIPMENT : Tablet PC
BRAND NAME : lenovo
MODEL NAME : 60015, 2298
FCC ID : O57A2107ATT3G
STANDARD : FCC 47 CFR Part 2, 22(H), 24(E)
CLASSIFICATION : PCS Licensed Transmitter (PCB)

The product was completely tested on Aug. 24, 2012. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI / TIA / EIA-603-C-2004 and shown 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by:

Jones Tsai / Manager



SPORTON INTERNATIONAL (KUNSHAN) INC.
No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG262503-02	Rev. 01	Initial Issue based on the original SAR report FG262503, to update GPRS1900 multi-slot class 10/11/12.	Aug. 29, 2012



SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
2.1	§2.1046	N/A	Conducted Output Power	N/A	PASS	-

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 (Singapore) Pte Ltd.
 151, Lorong Chuan, #02-01, New Tech Park, 556741, Singapore

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Tablet PC
Brand Name	lenovo
Model Name	60015, 2298
FCC ID	O57A2107ATT3G
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA /WLAN 11bgn/Bluetooth
HW Version	A2-MB-H302-A
SW Version	A2107A_A404_000_002_120612_ATT
EUT Stage	Production Unit

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

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 : 32.18 dBm GSM1900 : 28.83 dBm WCDMA Band V : 22.82 dBm WCDMA Band II : 22.35 dBm
Antenna Type	Fixed Internal Antenna
Type of Modulation	GPRS: GMSK EDGE: 8PSK WCDMA: QPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink)

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.		
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958		
Test Site No.	Sporton Site No.		FCC/IC Registration No.
	TH01-KS	03CH01-KS	149928/4086E-1

1.5 Applied Standards

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

- Preliminary Guidance for Receiving Applications for Certification of 3G Device. May 9, 2006.
- FCC 47 CFR Part 2, 22(H), 24(E)
- ANSI / TIA / EIA-603-C-2004
- FCC KDB 971168 D01 Power Meas. License Digital Systems v01
- IC RSS-132 Issue 2
- IC RSS-133 Issue 5

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.

1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU200	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	GWINSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m

2 Test Result

2.1 Conducted Output Power Measurement

2.1.1 Description of the Conducted Output Power Measurement

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

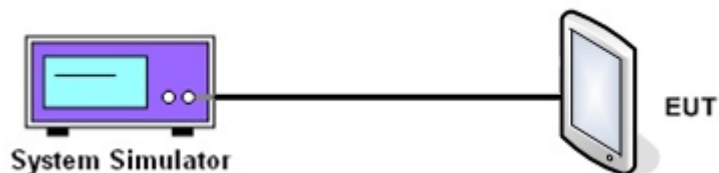
2.1.2 Measuring Instruments

See list of measuring instruments of this test report.

2.1.3 Test Procedures

1. The transmitter output port was connected to base station.
2. Set EUT at maximum power through base station.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Compare each band and different modulation combination to show the worst data rate.

2.1.4 Test Setup



2.1.5 Test Result of Conducted Output Power

The conducted power tables are as follows:

Conducted Power (*Unit: dBm)			
Band	GSM1900		
Channel	512	661	810
Frequency	1850.2	1880.0	1909.8
GPRS 8 (1 Uplink) – CS1	28.83	28.75	28.71
GPRS 10 (2 Uplink) – CS1	25.94	25.86	25.86
GPRS 11 (3 Uplink) – CS1	24.20	24.11	24.12
GPRS 12 (4 Uplink) – CS1	22.99	22.85	22.85
EDGE 8 (8PSK, 1 Uplink) – MCS9	24.88	24.90	24.96
EDGE 10 (8PSK, 2 Uplink) – MCS9	22.08	22.05	22.12
EDGE 11 (8PSK, 3 Uplink) – MCS9	20.25	20.22	20.28
EDGE 12 (8PSK, 4 Uplink) – MCS9	19.15	19.11	19.16

PCS Band						
Modes	GSM1900 (GPRS 8)			GSM1900 (EDGE 8)		
Channel	512 (Low)	661 (Mid)	810 (High)	512 (Low)	661 (Mid)	810 (High)
Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8
Conducted Power (dBm)	28.83	28.75	28.71	24.88	24.90	24.96
Conducted Power (Watts)	0.76	0.75	0.74	0.31	0.31	0.31

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



3 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Dec. 30, 2011	Aug. 24, 2012	Dec. 29, 2012	Conducted (TH01-KS)
System Simulator	R&S	CMU200	837587/066	2G Full-Band	Dec. 30, 2011	Aug. 24, 2012	Dec. 29, 2012	Conducted (TH01-KS)
DC Power Supply	GWINSTEK	GPS-3030D	E1884515	N/A	Aug. 23, 2011	Aug. 24, 2012	Aug. 22, 2012	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	N/A	Dec. 30, 2011	Aug. 24, 2012	Dec. 29, 2012	Conducted (TH01-KS)



4 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.54
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.72
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Appendix A. Photographs of EUT

Please refer to Sporton report number EP262503-02 as below.