

FCC COMPLIANCE REPORT

Order No. : G-45-2008-03197
 Report No. : F690501/RF-EMG002453
 Applicant : Bluebird Soft, Inc.
 Address of Applicant : 558-5, Sinsa-dong, Kangnam-gu, Seoul, Korea
 Manufacturer : Bluebird Soft, Inc.
 Address of Manufacturer : 558-5, Sinsa-dong, Kangnam-gu, Seoul, Korea

Equipment Under Test (EUT) :

Name : Barcode Scanner
 Model No. : BI-300

Standards : FCC Part 15:2008, Subpart B, Class A
 ANSI C63.4:2003
 CISPR 22:2006
 CISPR 16-2:2005

Date of Receipt : 16 October 2008
Date of Test : 04 November 2008 to 05 November 2008
Date of Issue : 10 November 2008

Test Result :	PASS
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In the configuration tested, the EUT complied with the standards specified above.

Remarks :

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report shall not be reproduced except in full, without the written approval of the laboratory. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.



Forest Lee
EMC Technical Manager
SGS Testing Korea Co., Ltd.

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1. General Information

1.1 Applicant & Manufacturer Information

Applicant : Bluebird Soft, Inc.
 Address of Applicant : 558-5, Sinsa-dong, Kangnam-gu, Seoul, Korea
 Manufacturer : Bluebird Soft, Inc.
 Address of Manufacturer : 558-5, Sinsa-dong, Kangnam-gu, Seoul, Korea

1.2 General Description of EUT

Product Name : Barcode Scanner
 Model Name : BI-300
 Serial No. : N/A

1.3 Details of EUT

Power Supply : Input - AC 100 ~ 240 V, 50/60Hz, 200mA
 Output – 4.2V, 0.75A
 Internal Clock Frequency : 16 MHz

1.4 Description of Support Units

Description	Model	Serial No.	Manufacturer
Notebook Computer	PCG-3AHP	282722877000053	Sony Corporation

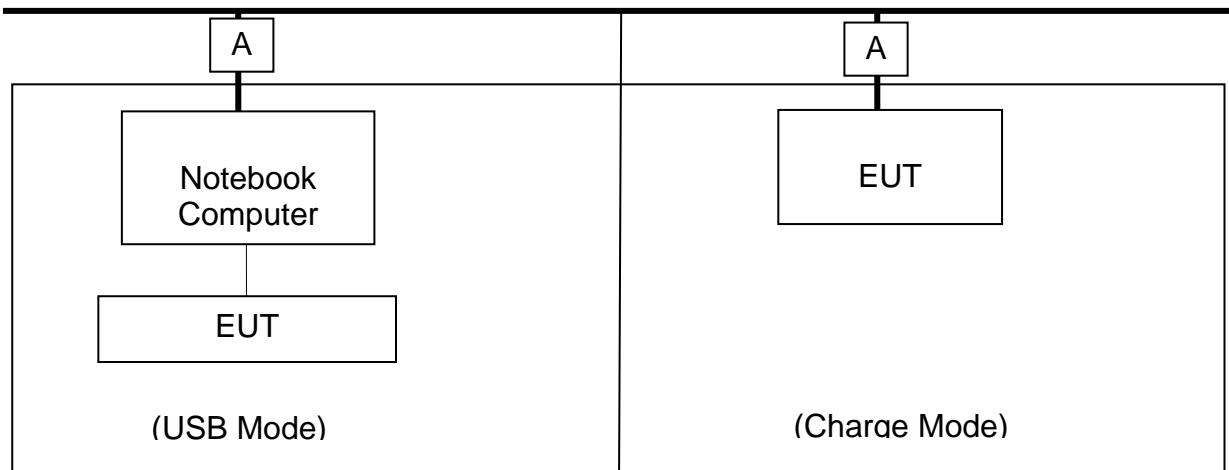
1.5 Cable List

Start		END		Cable Spec	
Name	I/O Port	Name	I/O Port	Length	Shield
EUT (USB Mode)	USB	Notebook Computer	USB	1.5	Shielded
Notebook Computer	USB	EUT	USB	1.5	Shielded
	DC IN	AC/DC Adapter	DC OUT	1.4	Unshielded
AC/DC Adapter	DC OUT	Notebook Computer	DC IN	1.4	Unshielded
	AC IN	AC Source	-	1.2	Unshielded
EUT(Charge Mode)	USB	Travel Adapter	USB	1.5	Unshielded
Travel Adapter	USB	EUT	USB	1.5	Unshielded
	AC IN	AC Source	-	-	-

1.6 System Configuration

Description	Model	Serial No.	Manufacturer
Main Board	BI-300	N/A	N/A
Battery	BAT-BI300	HD080430A	Bluebird Soft, Inc.
Travel Adapter	PTL-CATC153A2	BT805C000131	BT Telecom

1.7 Test Set-Up Configuration



1.8 Measurement Procedure

Conducted Emission Testing was performed according ANSI C63.4:2003 in a shielded room with peripherals placed on a table, 0.8m high over a metal floor. It was located more than required distance away from the shielded room wall.

Radiated Emission Testing was performed according to ANSI C63.4:2003 at the open field test site. The EUT was placed in a 0.8m high table along with the peripherals. The turn table was separated from the antenna distance 10meters.

Cables were placed in a position to produce maximum emissions as determined by experimentation, and operation mode was selected for maximum.

The frequencies and amplitudes of maximum emission were measured at varying azimuths, antenna heights and antenna polarities. Reported are maximized emission levels.

1.9 Standards Applicable for Testing

Table of tests to be carried out under FCC Part 15, Subpart B, CLASS A

Test Standards	Status
FCC Part 15,Subpart B, Class A	Applicable
Deviation from Standard	No Deviation

1.10 Summary of Results

The data collected shows that Model **BI-300** complies with of the FCC Part 15, Subpart B Rules.

The highest emission level observed was at 534.40 MHz radiated emission with a margin of 12.51 dB.

Radio Disturbance

2.1 Test Results

	Results
Conducted Emission	PASS
Radiated Emission	PASS

2.2 Frequency Range

Conducted Emission : 150 kHz - 30 MHz

Radiated Emission : 30 MHz - 1000 MHz

2.3 Limits Of Conducted And Radiated Emission

2.3.1 Limit Of Conducted Emission Of FCC Part 15.107

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi - peak	Average	Quasi - peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

Note : (1) The lower limit shall apply at the transition frequencies.

(2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.

(3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected there to, shall not exceed the level of field strengths specified above.

2.3.2 Limit Of Radiated Emission Of FCC Part 15.109

FREQUENCY (MHz)	Class A (at 10m)*	Class B (at 3m)*
	uV/m(dBuV/m)	uV/m(dBuV/m)
30 - 88	90(39)	100(40)
88 - 216	150(43.5)	150(43.5)
216 - 960	210(46.5)	200(46)
Above 960	300(49.0)	500(54)

Note : (1) *Detector Function : Quasi-Peak

(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).

2.4. Test of Conducted Emission

2.4.1 Test Equipments

Equipment	Model No.	Manufacturer	Date of Calibration
Test Receiver	ESHS 10	Rohde & Schwarz	21. Jul. 2008
Two-Line V-Network	NNB 41	SCHAFFNER	03. Jul. 2008
Two-Line V-Network	ENV216	Rohde & Schwarz	17. Jan. 2008
Test Receiver	ESVS 10	Rohde & Schwarz	21. Mar. 2008

2.4.2 Test Site

Name and address : SGS Testing Korea Co., Ltd.

18-34, Sanbon-dong, Gunpo, Gyeonggi-do, Korea, 435-041

2.4.3 Operating Environment

Temperature : 22.9~23.0 °C Humidity : 33.0~34.0 % RH


Atmospheric Pressure : 101.0~101.0 kPa

2.4.4 Measurement Data

Measurement Bandwidth : 9 kHz

Date of Test : 05 November 2008

FREQ. (MHz)	LEVEL(dB _{μV})		LINE	LIMIT(dB _{μV})		MARGIN(dB)	
	Q-Peak	Average		Q-Peak	Average	Q-Peak	Average
USB Mode							
The emission level is very lower than the limit by over 20dB.							
Charge Mode							
The emission level is very lower than the limit by over 20dB.							



Paul Kang/ Test Engineer

2.5 Test of Radiated Emission
2.5.1 Test Instruments

Description	Model	Manufacturer	Date of Calibration
Test Receiver	ESVS30	Rohde & Schwarz	21. Feb. 2008
Bi-Log Antenna	CBL6111C	Schaffner	15 May. 2007
Spectrum Analyzer	ESA-L1500A	HP	25. Feb. 2008
Amplifier	8447F	HP	29. Nov. 2008
Amplifier	8449B	Agilent	09. May 2008
Horn Antenna	HF906	Rohde & Schwarz	13. Nov. 2007

Note : Only the calibration period of Bi-Log Antenna is 2 years but the period of every equipment is 1 year.

2.5.2 Test Site

Name and address : SGS Testing Korea Co., Ltd.

18-34, Sanbon-dong, Gunpo, Gyeonggi-do, Korea, 435-041

2.5.3 Operating Environment

Temperature : 24.5~24.6 °C Humidity : 32.0~32.0 %RH

Atmospheric Pressure : 101.8~101.8 kPa

2.5.4 Measurement Data

Measurement Bandwidth : 120 kHz

Date of Test : 04 November 2008

(MHz)	(dB μ N)	(H/V)	(dB)	(dB)	(dB μ N/m)	(dB μ N/m)	(dB)
USB Mode							
54.25	11.20	V	6.96	1.30	19.46	40.00	20.54
534.40	10.40	H	19.46	4.63	34.49	47.00	12.51
721.13	6.80	H	21.66	5.58	34.04	47.00	12.96
Carage Mode							
39.70	9.80	V	13.77	0.89	24.46	40.00	15.54
301.63	11.60	H	13.13	3.41	28.14	47.00	18.86
534.40	10.30	H	19.46	4.63	34.39	47.00	12.61
721.13	7.20	H	21.66	5.58	34.44	47.00	12.56

Note : • AF = Antenna Factor
• POL H = Horizontal

• CL = Cable Loss
• POL V = Vertical

• F/S = Field Strength



Paul Kang / Test Engineer

3. Photographs of Test

- Conducted Emission



- Radiated Emission



4. Photographs of Product

- Front View of Product



- Rear View of Product



- Inside View of Product



- Top View of Main Board



● Bottom View of Main Board



● Battery



- Travel Adapter

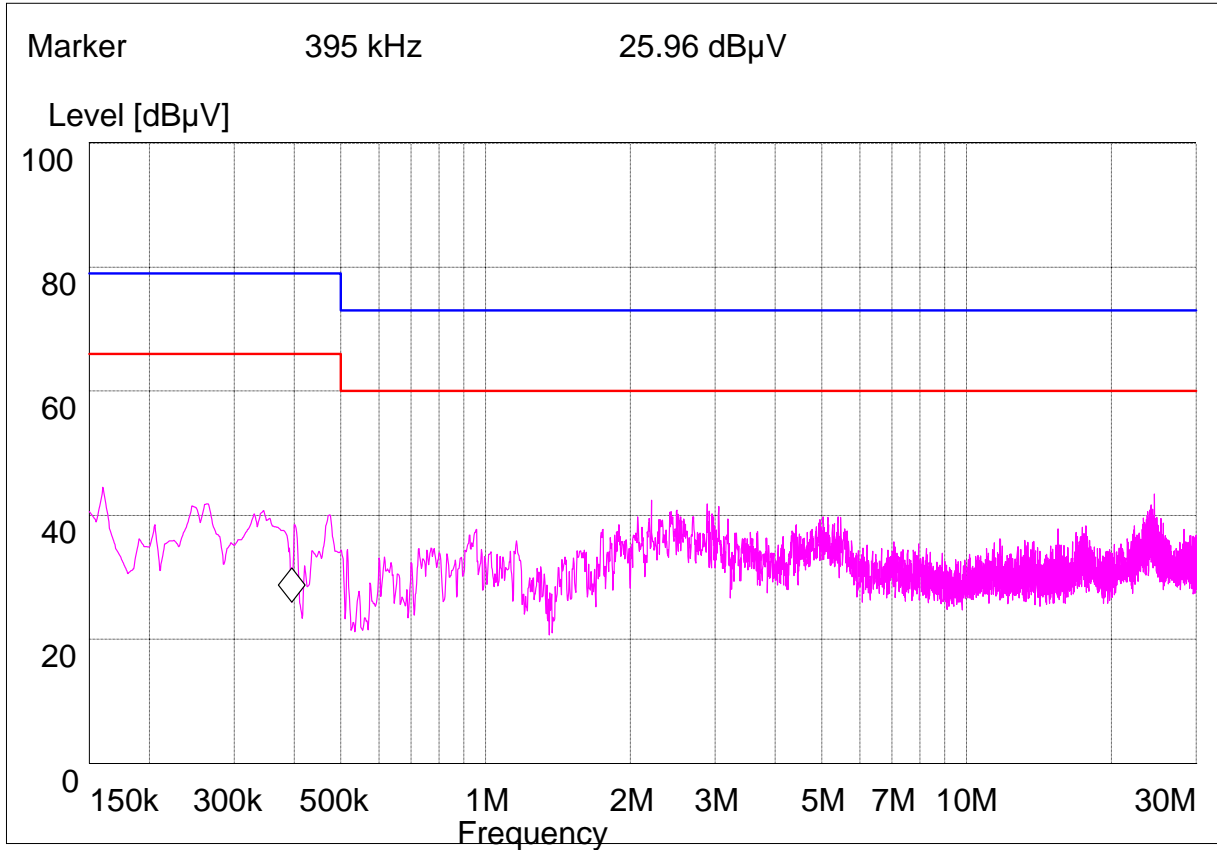


- Travel Adapter Label

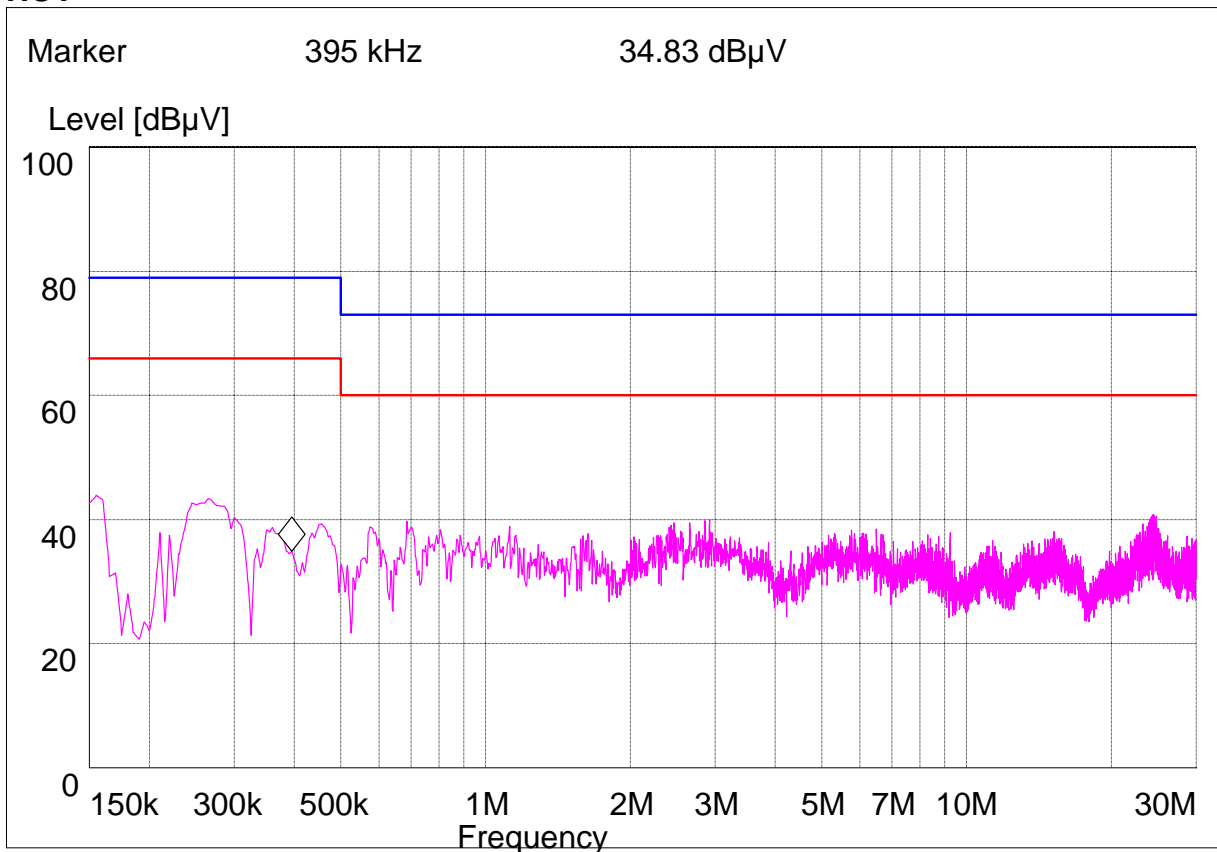


Appendix A : Mains Terminal Continuous Disturbance Voltage Test Data

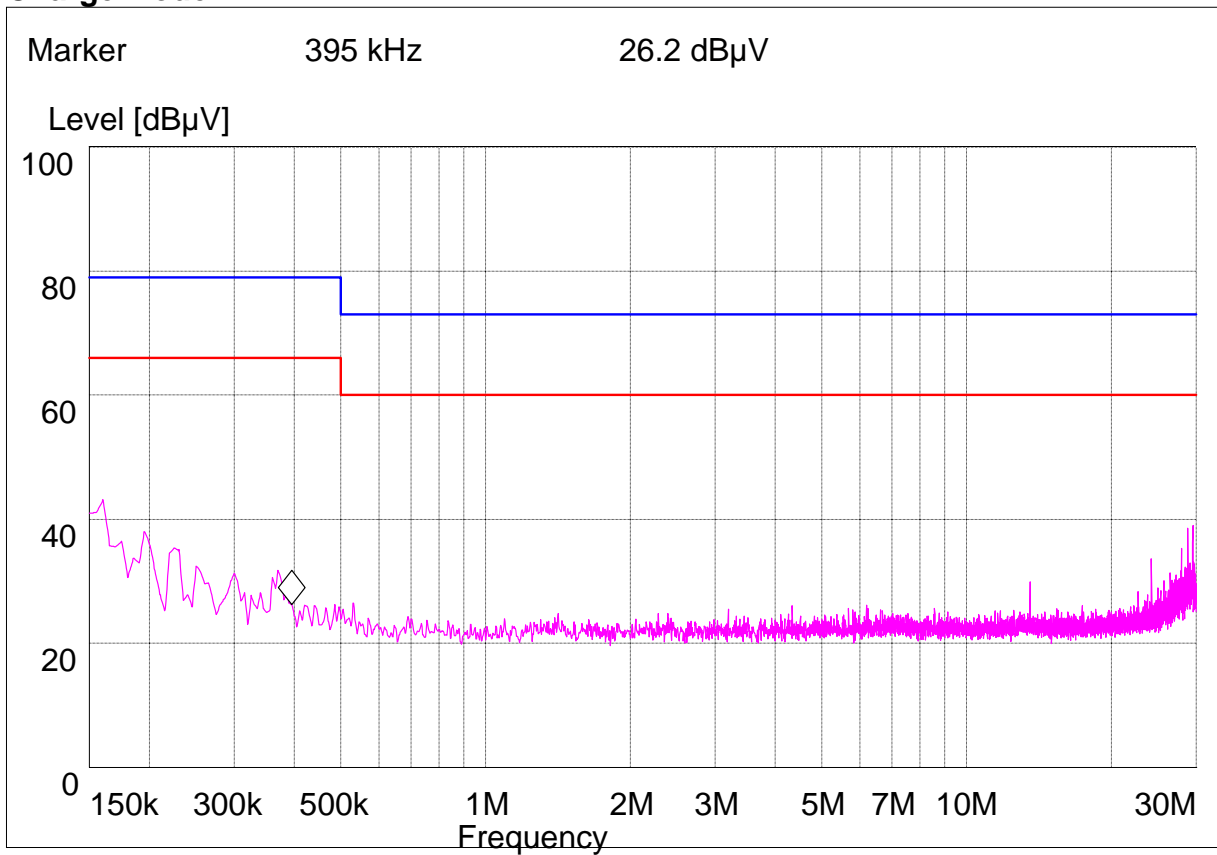
Neutral
USB Mode



HOT



**Neutral
Charge Mode**



HOT

