Korea Technology Institute Co., Ltd.

Test Report

Test Report No.:	KTI01E-F1147		
Registration No.:	99058		
Applicant:	BLUESOLTECH.CO.LTD.		
Applicant Address:	ROOM211, PUSAN VENTURE BLDG, 651-1 EUMGUNG-DONG, SASANG-KU, PUSAN, KOREA		
Product:	Remote Controller		
FCC ID:	PZBBS-1200R	Model No.	BS-1200R
Receipt No.:	KTI20011013	Date of receipt:	Oct, 13, 2001
Date of Issue:	December 4, 2001		
Testing location	Korea Technology Institute Co., Ltd. 51-19, Sanglim3-Ri, Docheok-Myeun, Gwangju-Shi, Gyeungki-Do, Korea		
Test Standards:	ANSI. C63.4 : 1992		
Rule Parts:	FCC Part 15, Subpart C		
Equipment Class:	Class B Digital Device Peripheral		
Test Result:	The above mentioned product has been tested and passed.		

Tested by: S. B. Kim/ Engineer

Signature **Date**

Approved by: G. C. Min/ President

G C Min

Signature **Date**

Other Aspects :	
Abbreviations :	OK, Pass=passed Fail=failed N/A=not applicable

- ♠ This test report is not permitted to copy partly without our permission.
- ♠ This test result is dependent on only equipment to be used.
- ♠ This test result is based on a single evaluation of one sample of the above mentioned.
- ♠ This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S Government.
- ♠ We certify this test report has been based on the measurement standards that is traceable to the national or international standards.

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1. General

This equipment has been shown to be capable of compliance with the applicable technical standards and was tested in accordance with the measurement procedures as indicated in this report.

We attest to the accuracy of data. All measurements reported herein were performed by Korea Technology Institute Co., LTD. And were made under Chief Engineer's supervision.
We assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

2. Test Site

Korea Technology Institute Co., LTD

2.1 Location

51-19, Sanglim3-Ri, Docheok-Myeun, Gwangju-Shi, Gyeungki-Do, Korea

The Test Site is in compliance with ANSI C63.4/1992 for measurement of radio Interference.

2.2 List of Test and Measurement Instruments

Table 1 : List of Test and Measurement Equipment

- **Radiated Emissions**

Kind of Equipment	**Type**	**S/N**	**Calibrated until**
Field Strength Meter	ESPC	832827/011	9.2002
Spectrum Analyzer	R3261C	61720427	11.2002
Pre Amplifier	8447D	2944A06874	11.2002
Log Periodic Antenna	3146	9105-1343	11.2002
Biconical Antenna	3110	9105-3100	11.2002
Open Site Cable	N/A	N/A	11.2002
Antenna Mast	DETT-03	N/A	N/A
Antenna & Turntable controller	DETT-03	91X519	N/A

2.3 Test Date

Date of Application : Oct. 13, 2001
Date of Test : December 3, 2001

2.4 Test Environment

See each test item's description.

3. Description of the tested samples

The EUT is Remote Controller.

3.1 Rating and Physical Characteristics

Voltage: 3V(Lithium batteries-CR2032)
Operating Frequency: 433.92MHz

3.2 Submitted Documents

User's Guide
Block Diagram

4. Measurement Conditions

Testing Input Voltage: 3V

4.1 Modes of Operation

The EUT was in the following operation mode during all testing;

4.2 Additional Equipment

DEVICE TYPE
Manufacturer
M/N
S/N
FCC ID

4.3 Uncertainty

1) Radiated disturbance

UC (Combined standard Uncertainty) = ± 1.8dB
Expanded uncertainty U=Kuc
K = 2
4 U = ± 3.6dB

2) Conducted disturbance

UC = ± 0.88dB
U = Kuc=2xUc = ± 1.8dB

4.4 Test Setup

The test setup photographs showed the external supply connections and interfaces

5. EMISSION Test

5.1 Radiated Emissions

Result: Pass

Preliminary measurements were made indoors at 3 meter using B.C & L.P antennas, broadband Amplifier, and spectrum analyzer to determine the frequency producing the maximum EME. Appropriate precaution was taken to ensure that all EME from the EUT were maximized and Investigated. The system configurations, clock speed, mode of operation or video resolution, turntable azimuth with respect to the antenna were noted for each frequency found.
The spectrum was scanned from 30 to 300 MHz using biconical antenna and from 300 to 1000 MHz using log-periodic antenna. Above 1 GHz, linearly polarized double ridge horn antennas were used.

Final measurements were made outdoors at 3-meter test range using EMCO antennas. The test equipment was placed on a wooden table situated on a 4x4 meter area adjacent to the measurement area. Turntable was to protect from weather in the dome that made with Polyethylene film. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. Each frequency found during pre-scan measurements was re-examined and investigated using EMI/Field Intensity Meter (ESPC) R & S. The detector function was set to CISPR quasi-peak mode and the bandwidth of the receiver was set to 120kHz or 1 MHz depending on the frequency or type or signal.

The EUT, support equipment and interconnecting cables were re-configured to the set-up producing the maximum emission for the frequency and were placed on top of a 0.8meter high non-metallic 1 x 1.5 meter table.
The EUT, support equipment, and interconnecting cables were re-arranged and manipulated to maximize each EME emission. The turntable containing the system was rotated; the antenna height was varied 1 to 4 meters and stopped at the azimuth or height producing the maximum emission. Each emission was maximized by: varying the mode of operation or resolution; clock or data exchange speed, and/or support equipment, if applicable; and changing the polarity of the antenna, whichever determined the worst-case emission.
Photographs of the worst-case emission can be seen in photograph of radiated emission test.
Each EME reported was calibrated using self-calibrating mode.

Table 2 : Test Data, Radiated Emissions

Frequency (MHz) Fundamental	Pol.	Height [m]	Angle [°]	(1) Reading (dB V)	(2) AFCL (dB/m)	(3) Actual (dB V/m)	(4) Limit (dB V/m)	(5) Margin (dB)
433.92	H	2.36	210	51.87	21.63	74.5	80.8	6.3

Frequency (MHz) Spurious Emission	Pol.	Height [m]	Angle [°]	(1) Reading (dB V)	(2) AFCL (dB/m)	(3) Actual (dB V/m)	(4) Limit (dB V/m)	(5) Margin (dB)
867.84	H	2.65	198	24.68				

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