



Most Technology Service Co., Ltd.  
Tel: (86) 755-26825180 Fax: (86) 755-86170310  
Http:// www. szmost.com Email: szmost@szmost.com

## **Test Report**

Product Name: 2.4 G wireless earphone

FCC ID: SIWHL8860

MODEL NO. : HL8860

Applicant:

E-CORE THCHNOLOGY (CHINA) CO., LTD.

3rd Building, Weidonglong Industry, Heping East Road,  
Longhua, Shenzhen, China

**Date Received: 10/23/2008**

**Date Tested: 10/22/2008**

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## EMC Equipment List

| Equipment                      | Manufacturer  | Model No.      | Serial No.   | Last Cal.   | Cal. Interval |
|--------------------------------|---------------|----------------|--------------|-------------|---------------|
| EMI Test Receiver              | ROHDE&SCHWARZ | ESCI           | 100492       | Apr 05,2008 | 1 Year        |
| LISN                           | ROHDE&SCHWARZ | ENV216         | 100093       | Apr 05,2008 | 1Year         |
| EMI Test Receiver              | ROHDE&SCHWARZ | ESCI           | 101202       | Apr 05,2008 | 1 Year        |
| Spectrum Analyzer              | ANRITSU       | MS2651B        | 6200238316   | Apr 05,2008 | 1 Year        |
| 50Ω Coaxial Switch             | ANRITSU CORP  | MP59B          | 6200283933   | Apr 05,2008 | 1 Year        |
| Bilog Antenna                  | Sunol         | JB3            | A121206      | Apr 05,2008 | 1 Year        |
| Horn Antenna                   | EMCO          | 3115           | 640201028-06 | Apr 05,2008 | 1 Year        |
| 50Ω Coaxial Switch             | ANRITSU CORP  | MP59B          | 6200283933   | Apr 05,2008 | 1 Year        |
| Cable                          | Resenberger   | N/A            | NO.1         | Apr 05,2008 | 1 Year        |
| Cable                          | SCHWARZBECK   | N/A            | NO.2         | Apr 05,2008 | 1 Year        |
| Cable                          | SCHWARZBECK   | N/A            | NO.3         | Apr 05,2008 | 1 Year        |
| Single Phase Power Line Filter | Kikusui       | LIN40MA-PC R-L | LM002352     | Apr 05,2008 | 1Year         |
| AC Power Source                | Kikusui       | AC40MA         | LM003232     | Apr 05,2008 | 1Year         |
| Test analyzer                  | Kikusui       | KHA1000        | LM003720     | Apr 05,2008 | 1Year         |
| ESD Tester                     | Kikusui       | KES4021        | LM003537     | Apr 05,2008 | 1 Year        |
| Signal Generator               | IFR           | 2032           | 203002/100   | Apr 05,2008 | 1 Year        |
| Amplifier                      | A&R           | 150W1000       | 301584       | NCR         | NCR           |
| Dual Directional Coupler       | A&R           | DC6080         | 301508       | Apr 05,2008 | 1 Year        |
| Power Head                     | A&R           | PH2000         | 301193       | Apr 05,2008 | 1 Year        |
| Power Meter                    | A&R           | PM2002         | 302799       | Apr 05,2008 | 1 Year        |
| Field Monitor                  | A&R           | FM5004         | 300329       | Apr 05,2008 | 1 Year        |
| Field Probe                    | A&R           | FP5000         | 300221       | Apr 05,2008 | 1 Year        |
| EMC PRO System                 | EM Test       | UCS-500-M4     | V0648102026  | Apr 05,2008 | 1 Year        |
| EMC PRO System                 | EM Test       | UCS-500-M4     | V0648102026  | Apr 05,2008 | 1 Year        |

Remark:

Test Firm Name: Most Technology Service Co., Ltd.

Test Firm Address:

No. 5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China

FCC Registered Test Site Number: 490827

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## TEST PROCEDURE

**GENERAL:** This report shall NOT be reproduced except in full without the written approval of MOST TECHNOLOGY SERVICE CO., LTD. The EUT was transmitting a test signal during the testing.

**POWER LINE CONDUCTED INTERFERENCE:** The test procedure used was ANSI Standard C63.4-2003 using a 50 uH LISN. Both Lines were observed. The bandwidth of the receiver was 10kHz with an appropriate sweep speed. The ambient temperature of the EUT was 25 with a humidity of 58%.

**RADIATION INTERFERENCE:** The test procedure used was ANSI Standard C63.4-2003 using a ANRITSU spectrum analyzer with a pre-selector. The analyzer was calibrated in dB above a micro volt at the output of the antenna. The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz up to 1 GHz and 1 MHz with a video BW of 3 MHz above 1 GHz. The ambient temperature of the EUT was 25 with a humidity of 58%.

**FORMULA OF CONVERSION FACTORS:** The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer and cable loss. The antenna correction factors and cable loss are stated in terms of dB. The gain of the Pre-selector was accounted for in the Spectrum Analyzer Meter Reading.

Example:

Freq (MHz) METER READING + ACF + CABLE = FS

33                      20 dBuV + 10.36 dB + 0.9 dB= 31.26 dBuV/m @ 3m

**ANSI STANDARD C63.4-2003 10.1.7 MEASUREMENT PROCEDURES:** The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The EUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation. The spectrum was scanned from 30 MHz to 10th harmonic of the fundamental.

Peak readings were taken in three (3) orthogonal planes and the highest readings were converted to average readings based on the duration of "ON" time.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

The situation was similar for the conducted measurement except that the table did not rotate. The EUT was setup as described in ANSI Standard C63.4-2003 10.1.7 with the EUT 40 cm from the vertical ground wall.



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**APPLICANT:** E-CORE THCHNOLOGY (CHINA) CO., LTD.

**FCC ID:** SIWHL8860

**NAME OF TEST:** POWER LINE CONDUCTED INTERFERENCE

**RULES PART NUMBER:** 15.107

**REQUIREMENTS:**

| Frequency of Emission (MHz) | Conducted Limit (dBuV) |            |
|-----------------------------|------------------------|------------|
|                             | Quasi-peak             | Average    |
| 0.15-0.5                    | 66 to 56 *             | 56 to 46 * |
| 0.5-5                       | 56                     | 46         |
| 5-30                        | 60                     | 50         |

\* Decreases with the logarithm of the frequency.

**TEST PROCEDURE:** ANSI STANDARD C63.4-2003

THE HIGHEST EMISSION READ FOR LINE 1 WAS 43.15dBuV @ 2.056MHz.

THE HIGHEST EMISSION READ FOR LINE 2 WAS 41.12dBuV @ 1.478MHz.

THE PLOTS ON THE NEXT PAGE REPRESENT THE EMISSIONS READ FOR POWER LINE CONDUCTED FOR THIS DEVICE.

## Conducted Emission Measurement

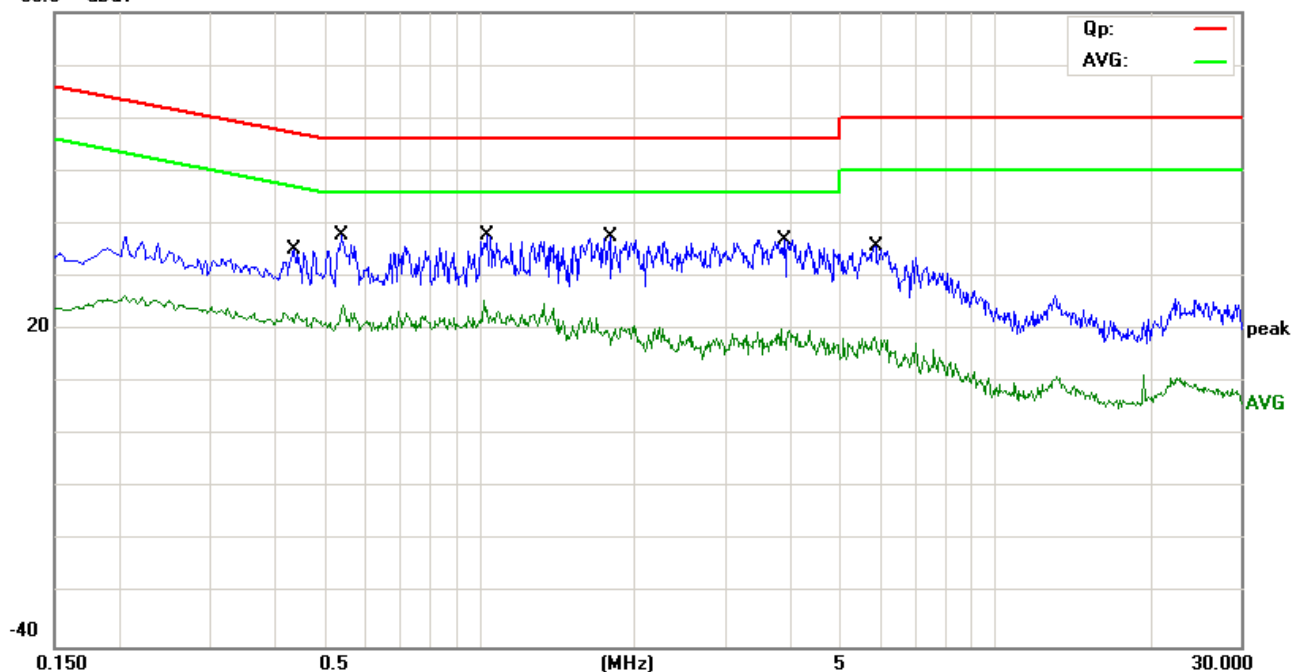
File : E-CORE

Data : #3

Date: 2008/10/22

Time: 15/46/36

80.0 dBuV



Site site #1

Phase: **N**

Temperature: 26

Limit: FCC Part 15B Class B Conduction(QP)

Power: DC 5V From PC Input AC 120V/60Hz

Humidity: 60 %

EUT: 2.4G wireless earphone

M/N: HL8860

Mode: Running

Note:

| No. | Mk. | Freq.  | Reading Level | Correct Factor | Measurement | Limit | Over   | Detector | Comment |
|-----|-----|--------|---------------|----------------|-------------|-------|--------|----------|---------|
|     |     | MHz    | dBuV          | dB             | dBuV        | dBuV  | dB     |          |         |
| 1   |     | 0.4380 | 24.87         | 10.41          | 35.28       | 57.10 | -21.82 | QP       |         |
| 2   |     | 0.5420 | 27.71         | 10.00          | 37.71       | 56.00 | -18.29 | QP       |         |
| 3   | *   | 1.0380 | 27.89         | 9.96           | 37.85       | 56.00 | -18.15 | QP       |         |
| 4   |     | 1.7980 | 28.49         | 9.20           | 37.69       | 56.00 | -18.31 | QP       |         |
| 5   |     | 3.9180 | 26.06         | 10.92          | 36.98       | 56.00 | -19.02 | QP       |         |
| 6   |     | 5.8980 | 24.40         | 11.46          | 35.86       | 60.00 | -24.14 | QP       |         |

\*:Maximum data x:Over limit !:over margin

### Conducted Emission Measurement

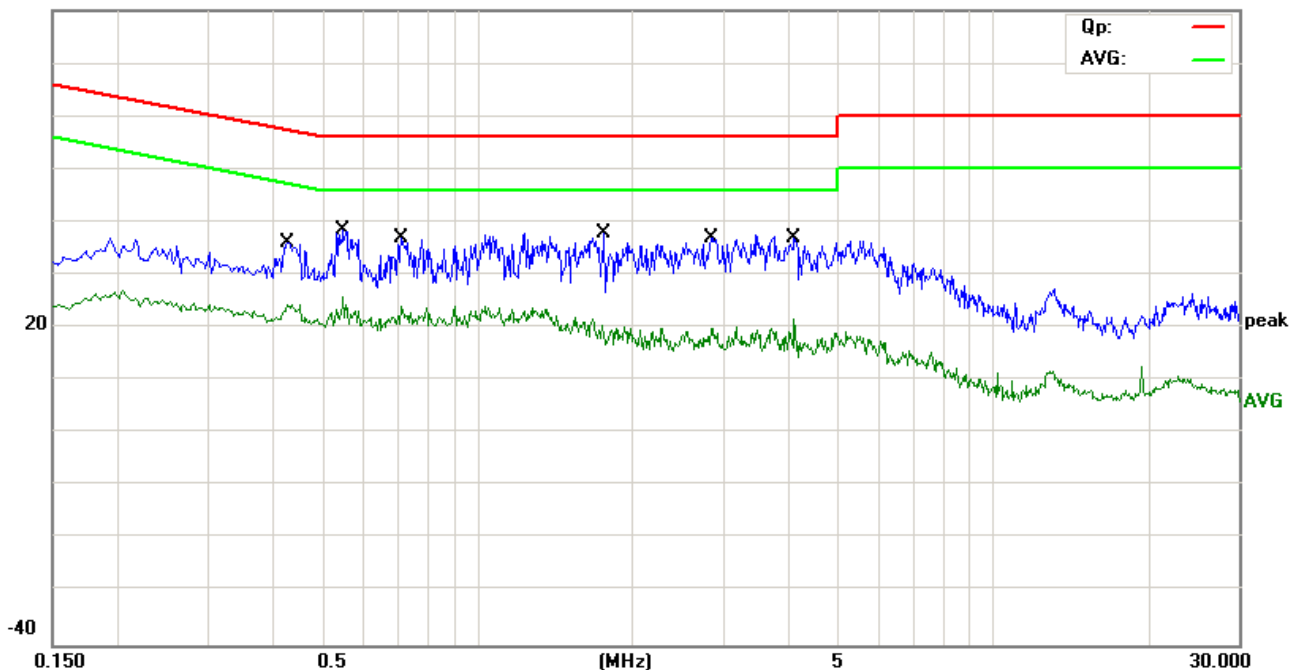
File : E-CORE

Data : #4

Date: 2008/10/22

Time: 15/51/35

80.0 dBuV



Site site #1

Phase: **L1**

Temperature: 26

Limit: FCC Part 15B Class B Conduction(QP)

Power: DC 5V From PC Input AC 120V/60Hz

Humidity: 60 %

EUT: 2.4G wireless earphone

M/N: HL8860

Mode: Running

Note:

| No. | Mk. | Freq.  | Reading Level | Correct Factor | Measurement | Limit | Over   |          |         |
|-----|-----|--------|---------------|----------------|-------------|-------|--------|----------|---------|
|     |     | MHz    | dBuV          | dB             | dBuV        | dBuV  | dB     | Detector | Comment |
| 1   |     | 0.4300 | 25.52         | 10.47          | 35.99       | 57.25 | -21.26 | QP       |         |
| 2   | *   | 0.5500 | 28.51         | 10.00          | 38.51       | 56.00 | -17.49 | QP       |         |
| 3   |     | 0.7140 | 26.93         | 10.00          | 36.93       | 56.00 | -19.07 | QP       |         |
| 4   |     | 1.7660 | 28.58         | 9.23           | 37.81       | 56.00 | -18.19 | QP       |         |
| 5   |     | 2.8540 | 27.20         | 9.85           | 37.05       | 56.00 | -18.95 | QP       |         |
| 6   |     | 4.1300 | 25.84         | 11.13          | 36.97       | 56.00 | -19.03 | QP       |         |

\*:Maximum data x:Over limit !:over margin



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**FCC ID:** SIWHL8860

**NAME OF TEST:** RADIATION INTERFERENCE

**RULES PART NUMBER:** 15.109

**REQUIREMENTS:**

S15.209  
30 -88 MHz 40 dBuV/m @3M  
88 - 216 MHz 43.5  
216 - 960 MHz 46  
ABOVE 960 MHz 54dBuV/m

Test Data:

**REMARK:** Emissions attenuated more than 20 dB below the permissible value are not reported.

Test Mode: Running

| Frequency (MHz) | Antenna Polarization | Emission Level (dBuV/m) |       |       | FCC 15 Subpart B Limit (dBuV/m) |
|-----------------|----------------------|-------------------------|-------|-------|---------------------------------|
|                 |                      | Avg                     | QP    | Peak  |                                 |
| 30.00           | Horizontal           | --                      | --    | 26.77 | 40.0                            |
| 74.62           | Horizontal           | --                      | --    | 23.11 | 40.0                            |
| 102.48          | Horizontal           | --                      | 30.01 | 32.03 | 43.5                            |
| 416.06          | Horizontal           | --                      | --    | 28.00 | 46.0                            |
| 31.94           | Vertical             | --                      | --    | 29.03 | 40.0                            |
| 78.24           | Vertical             | --                      | --    | 26.41 | 40.0                            |
| 102.22          | Vertical             | --                      | --    | 25.05 | 43.5                            |
| 383.18          | Vertical             | --                      | --    | 23.11 | 46.0                            |

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