



No. 588 West Jindu Road, Songjiang District, Shanghai, China

Telephone: +86 (0) 21 61915666  
Fax: +86 (0) 21 61915678  
ee.shanghai@sgs.com

Report No.: SHEM130300048103  
Page 1 of 10

## **FCC MPE REPORT**

<b>Application No.:</b>	SHEM1303000481RF
<b>Applicant:</b>	Axesstel, Inc.
<b>Equipment Under Test (EUT):</b>	
<b>NOTE:</b> The following sample(s) submitted was/were identified on behalf of the client as	
Product Name:	CDMA 1x Alert System (Main Unit)
Brand Name:	Axesstel
Model:	AX54
Added Model:	N/A
<b>FCC ID:</b>	PH7AX54
<b>Standards:</b>	FCC Rules 47 CFR §2.1091 & FCC OET Bulletin 65 supplement C
<b>Date of Receipt:</b>	Mar.29, 2013
<b>Date of Test:</b>	Apr. 1, 2013 to Apr. 23, 2013
<b>Date of Issue:</b>	Apr.23, 2013
<b>Test Result :</b>	<b>PASS*</b>

\* In the configuration tested, the EUT complied with the standards specified above.

**Tony Wu**  
**E&E Section Manager**

**SGS-CSTC (Shanghai) Co., Ltd.**

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. 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.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



## 2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00	/	Apr.23, 2013	/	Original

Authorized for issue by:			
<b>Engineer</b>		Zenger Zhang _____ Print Name	
<b>Clerk</b>		Amy Wang _____ Print Name	
<b>Reviewer</b>		Keny Xu _____ Print Name	



### **3 Contents**

	Page
<b>1 COVER PAGE .....</b>	<b>1</b>
<b>2 VERSION.....</b>	<b>2</b>
<b>3 CONTENTS.....</b>	<b>3</b>
<b>4 GENERAL INFORMATION .....</b>	<b>4</b>
4.1 CLIENT INFORMATION.....	4
4.2 GENERAL DESCRIPTION OF E.U.T. ....	4
4.3 TECHNICAL SPECIFICATIONS: .....	4
4.4 ACCESSORIES OF PRODUCT .....	4
4.5 SUPPORT EQUIPMENTS FOR TESTING.....	5
4.6 TEST LOCATION.....	5
4.7 TEST FACILITY.....	5
<b>5 TEST STANDARDS AND LIMITS .....</b>	<b>6</b>
<b>6 SUMMARY OF RESULTS.....</b>	<b>7</b>
<b>7 MEASUREMENT AND CALCULATION.....</b>	<b>7</b>
7.1 CONDUCTED OUTPUT POWER.....	7
7.2 MPE EVALUATION .....	9
<b>8 EUT CONSTRUCTIONAL DETAILS.....</b>	<b>10</b>

## 4 General Information

### 4.1 Client Information

<b>Applicant:</b>	Axesstel, Inc
<b>Address of Applicant:</b>	6815 Flanders Drive, Ste 210, San Diego, CA92121, USA
<b>Manufacturer:</b>	Axesstel (Shanghai) Ltd.
<b>Address of Manufacturer:</b>	Room 1101, Building 19, No.1515 Gumei Road, Xuhui District, Shanghai
<b>Factory:</b>	Eastcom incorporated Co.,LTD

### 4.2 General Description of E.U.T.

<b>Product Name</b>	CDMA 1x Alert System (Main Unit)
<b>Brand Name:</b>	Axesstel
<b>Model No:</b>	AX54
<b>Added Model:</b>	N/A
<b>Product Description:</b>	Fixed production

### 4.3 Technical Specifications:

<b>Operation Frequency:</b>	CDMA Cell 800 and PCS 1900
<b>Modulation Type:</b>	Fwd 1, Rvs1/SO2, Fwd 2,Rvs2/SO9, Fwd 3,Rvs3/SO55, Fwd 4,Rvs3/SO55, Fwd 5,Rvs4/SO55
<b>Power Supply:</b>	9V DC Battery or 5V DC Charger.
<b>Antenna Type</b>	Integral

### 4.4 Accessories of Product

<b>Battery:</b>	Battery Type:	9V DC
<b>Adapter:</b>	Model No.:	TA31-0502000
	Rated Input:	AC 100V-240V 50-60Hz 0.4A
	Rated Output:	DC 5.0V 2.0A
	Cable length:	DC port: 180cm (2 wires)

#### **4.5 Support equipments for Testing**

The EUT has been tested independently.

#### **4.6 Test Location**

All tests were performed at SGS E&E EMC lab

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.  
No.588 West Jindu Road, Songjiang District, Shanghai, China. 201612.  
Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

#### **4.7 Test Facility**

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing. Date of expiry: 2014-07-26.

- **FCC – Registration No.: 402683**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683, Expiry Date: 2015-02-22.

- **Industry Canada (IC) – IC Assigned Code: 8617A**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A. Expiry Date: 2014-09-20.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-3868 and C-4336 respectively. Date of Registration: 2012-05-29. Date of Expiry: 2015-05-28.



## 5 Test Standards and Limits

The Equipment under Test (EUT) has been tested at SGS's (own or subcontracted) laboratories.

The following table summarizes the specific reference documents such as harmonized standards or test specifications which were used for testing as SGS's (own or subcontracted) laboratories.

Identity	Document Title	Version
FCC OET Bulletin 65 supplement C	Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields	2001

In the configuration tested, the EUT complied with the standards specified above.

### FCC LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

#### (B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz \*Plane-wave equivalent power density



## 6 Summary of Results

Frequency Band	Limit (mW/cm <sup>2</sup> )	Result (mW/cm <sup>2</sup> )	Verdict
Cell 800	0.55	0.062	Pass
PCS 1900	1.00	0.038	Pass

## 7 Measurement and Calculation

### 7.1 Conducted Output Power

**Test Date:** Apr 22, 2013

**EUT Operation:** Test in fixing frequency operating mode at lowest, middle and highest frequency.

**Remark:** The test results record from the RF test Reprot of SHEM130300048101

**Test Results record:**

Cell 800			
Center Frequency (MHz)	Channel No.	Test Mode	RF Power output dBm(Average)
824.70	1013	Fwd 1, Rvs1/SO2	24.43
835.89	363	Fwd 1,Rvs1/SO2	24.51
848.31	777	Fwd 1,Rvs1/SO2	24.52
824.70	1013	Fwd 2,Rvs2/SO9	24.46
835.89	363	Fwd 2,Rvs2/SO9	24.50
848.31	777	Fwd 2,Rvs2/SO9	24.55
824.70	1013	Fwd 3,Rvs3/SO55	24.47
835.89	363	Fwd 3,Rvs3/SO55	24.50
848.31	777	Fwd 3,Rvs3/SO55	24.56
824.70	1013	Fwd 4,Rvs3/SO55	24.51
835.89	363	Fwd 4,Rvs3/SO55	24.52
848.31	777	Fwd 4,Rvs3/SO55	24.58
824.70	1013	Fwd 5,Rvs4/SO55	24.51
835.89	363	Fwd 5,Rvs4/SO55	24.51
848.31	777	Fwd 5,Rvs4/SO55	24.57



US PCS1900			
Center Frequency (MHz)	Channel No.	Test Mode	RF Power output dBm(Average)
1851.25	25	Fwd 1, Rvs1/SO2	24.48
1880.00	600	Fwd 1,Rvs1/SO2	24.40
1908.75	1175	Fwd 1,Rvs1/SO2	24.41
1851.25	25	Fwd 2,Rvs2/SO9	24.49
1880.000	600	Fwd 2,Rvs2/SO9	24.38
1908.75	1175	Fwd 2,Rvs2/SO9	24.45
1851.25	25	Fwd 3,Rvs3/SO55	24.52
1880.00	600	Fwd 3,Rvs3/SO55	24.37
1908.75	1175	Fwd 3,Rvs3/SO55	24.42
1851.25	25	Fwd 4,Rvs3/SO55	24.51
1880.00	600	Fwd 4,Rvs3/SO55	24.39
1908.75	1175	Fwd 4,Rvs3/SO55	24.44
1851.25	25	Fwd 5,Rvs4/SO55	24.50
1880.00	600	Fwd 5,Rvs4/SO55	24.37
1908.75	1175	Fwd 5,Rvs4/SO55	24.43

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only





## 7.2 MPE Evaluation

### For Cell 800 Evaluation Results:

The EUT's operating frequencies 824MHz to 849MHz; the maximum output power specification of the Tune Up Procedure is 24.7dBm. The maximum peak gain is 0.15dBi. Duty factor is 100%

Equation from page 18 of OET 65, Edition 97-01

$$S = PG * \text{Duty factor} / 4\pi R^2$$

P =Power Input to antenna(300mWatts)

G =Antenna Gain(1.04numeric)

R = distance to the center of radiation of antenna (in meter) = 20cm

$$S = (300 * 1.04 * 1) / (4\pi * 20^2) = 0.062 \text{mW/cm}^2$$

### For PCS1900 Evaluation Results:

The EUT's operating frequencies 1850MHz to 1910MHz; the maximum output power specification of the Tune Up Procedure is 24.7dBm. The maximum peak gain is -2.0dBi. Duty factor is 100%

Equation from page 18 of OET 65, Edition 97-01

$$S = PG * \text{Duty factor} / 4\pi R^2$$

P =Power Input to antenna(300mWatts)

G =Antenna Gain(0.631numeric)

R = distance to the center of radiation of antenna (in meter) = 20cm

$$S = (300 * 0.631 * 1) / (4\pi * 20^2) = 0.038 \text{mW/cm}^2$$

Note:

1)  $P \text{ (Watts)} = 10^{\frac{dBm}{10}} / 1000$

2)  $G \text{ (Antenna gain in numeric)} = 10^{(\text{Antenna gain in dBi} / 10)}$



## **8 EUT Constructional Details**

Refer to the <AX54--External Photos > & < AX54--Internal Photos >.

***THE END OF REPORT***