

# TEST REPORT

Reference No..... : WTS17S0989524-2E V1  
FCC ID ..... : 2AG32PBS2120  
iC ID ..... : 20982-PBS2120  
Applicant..... : Baicells Technologies Co., Ltd.  
Address..... : 3F, Hui Yuan Development Building, No.1 Shangdi Information  
Industry Base, Haidian Dist., Beijing, China  
Manufacturer ..... : The same as above  
Address..... : The same as above  
Product..... : LTE-TDD Base Station  
Model(s). .... : pBS2120  
Brand Name ..... : BaiCells  
Standards..... : FCC 1.1307  
RSS-102 Issue 5, March 2015  
Date of Receipt sample .... : 2017-09-06  
Date of Test ..... : 2017-09-06 to 2017-09-11  
Date of Issue..... : 2017-09-27  
Test Result..... : Pass

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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## 2 Laboratories Introduction

**Waltek Services Test Group Ltd.** is one of the largest and the most comprehensive third party testing organizations in China, our headquarter located in Shenzhen (CNAS Registration No. L3110, A2LA Certificate Number: 4243.01) and have branches in Foshan (CNAS Registration No. L6478), Dongguan (CNAS Registration No. L9950), Zhongshan, Suzhou (CNAS Registration No. L7754), Ningbo and Hong Kong, Our test capability covered four large fields: safety test. Electronic Magnetic Compatibility(EMC), reliability and energy performance, Chemical test. Meanwhile, Waltek has got recognition as registration and accreditation laboratory from EMSD (Electrical and Mechanical Services Department), and American Energy star, FCC(The Federal Communications Commission), CPSC(Consumer Product Safety Commission), CEC(California energy efficiency), IC(Industry Canada) and ELI(Efficient Lighting Initiative). It's the strategic partner and data recognition laboratory of international authoritative organizations, such as UL, Intertek(ETL-SEMKO), CSA, TÜV Rheinland, TÜV SÜD, etc. As a professional, comprehensive, justice international test organization, we still keep the scientific and rigorous work attitude to help each client satisfy the international standards and assist their product enter into globe market smoothly.

### Waltek Services (Shenzhen) Co., Ltd.

#### A. Accreditations for Conformity Assessment (International)

Country/Region	Accreditation Body	Scope	Note
USA	<b>CNAS</b> <b>(Registration No.: L3110)</b> <b>A2LA</b> <b>(Certificate No.: 4243.01)</b>	FCC ID \ DOC \ VOC	1
Canada		IC ID \ VOC	2
Japan		MIC-T \ MIC-R	-
Europe		EMCD \ RED	-
Taiwan		NCC	-
Hong Kong		OFCA	-
Australia		RCM	-
India	<b>International Services</b>	WPC	-
Thailand		NTC	-
Singapore		IDA	-
Note:			
1. FCC Designation No.: CN1201. Test Firm Registration No.: 523476.			
2. IC Canada Registration No.: 7760A			

#### B. TCBs and Notify Bodies Recognized Testing Laboratory.

Recognized Testing Laboratory of ...	Notify body number
TUV Rheinland	Optional.
Intertek	
TUV SUD	
SGS	
Phoenix Testlab GmbH	0700
Element Materials Technology Warwick Ltd	0891
Timco Engineering, Inc.	1177
Eurofins Product Service GmbH	0681

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## 4 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTS17S09895 24-2E	2017-09-06	2017-09-06 to 2017-09-11	2017-09-12	original	-	Replaced
WTS17S09895 24-2E V1	-	-	2017-09-27	Version 1	Updated	Valid

## 5 General Information

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

Product:	LTE-TDD Base Station
Model(s):	pBS2120
Model Description:	N/A
Storage Location:	Internal Storage
Note:	N/A

### 5.2 Details of E.U.T.

Operation Frequency:	3655MHz~3695MHz
Type of Modulation:	QPSK, 16QAM, 64QAM
Antenna installation:	Internal antenna
Antenna Gain:	9.0dBi
Ratings:	AC 120V/60Hz

## 6 Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	1.1307(b)(1) RSS-102 issue 5	PASS

## 7 RF Exposure

Test Requirement: FCC Part 1.1307,RSS-102 issue 5 clause 4

Test Mode: The EUT work in test mode(Tx).

### 7.1 Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

### 7.2 The procedures / limit

FCC Part 1.1307:

(A) Limits for Occupational / Controlled 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)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(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)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ;

\*Plane-wave equivalent power density



RSS-102 issue 5 clause 4

**Table 4: RF Field Strength Limits for Devices Used by the General Public**  
(Uncontrolled Environment)

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/ m <sup>2</sup> )	Reference Period (minutes)
0.003-10 <sup>21</sup>	83	90	-	Instantaneous*
0.1-10	-	$0.73/f$	-	6**
1.1-10	$87/f^{0.5}$	-	-	6**
10-20	27.46	0.0728	-2	6
20-48	$58.07/f^{0.25}$	$0.1540/f^{0.25}$	$8.944/f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	$3.142 f^{0.3417}$	$0.008335 f^{0.3417}$	$0.02619 f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	$616000/f^{1.2}$
150000-300000	$0.158 f^{0.5}$	$4.21 \times 10^{-4} f^{0.5}$	$6.67 \times 10^{-5} f$	$616000/f^{1.2}$

**Note:**  $f$  is frequency in MHz.

\* Based on nerve stimulation (NS).

\*\* Based on specific absorption rate (SAR).

\* Power density limit is applicable at frequencies greater than 100 MHz.

### 7.3 MPE Calculation Method

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm<sup>2</sup>)

P = power input to the antenna (in appropriate units, e.g., mW).

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

From the peak EUT RF output power, the minimum mobile separation distance, d=30cm, as well as the gain of the used antenna, the RF power density can be obtained

FCC Part 1.1307:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max.Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm <sup>2</sup> )	Limit of Power Density (mW/cm <sup>2</sup> )
12.00	15.849	26.57	453.94	0.636458	1

RSS-102 issue 5 clause 4

Antenna Gain (dBi)	Antenna Gain (numeric)	Max.Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (W/m <sup>2</sup> )	Limit of Power Density (W/m <sup>2</sup> )
12.00	15.849	26.57	453.94	6.36458	7.13

For worst case: Power Density =  $0.02619 * 3655^{0.6834} = 7.13 \text{ W/m}^2$

=====End of Report=====