No. I16Z42442-SEM01

for

TCL Communication Ltd.

Door & Window Sensor

FCC ID: 2ACCJBC04

Hardware Version: V05

Software Version: DS01_00_01.00_17

Model Name: DS01

Issued Date: 2017-01-09

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

Test Laboratory:

CTTL, Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT

No. 51 Shouxiang Science Building, Xueyuan Road, Haidian District, Beijing, P. R. China100191

Tel:+86(0)10-62304633-2512,Fax:+86(0)10-62304633-2504

Email:cttl_terminals@catr.cn, website:www.chinattl.com

CONTENTS

1. Test Laboratory

1.1. Testing Location

Company Name:	CTTL(Shouxiang)
Address:	No. 51 Shouxiang Science Building, Xueyuan Road, Haidian District, Beijing, P. R. China100191
Postal Code:	100191
Telephone:	00861062304633
Fax:	00861062304793

1.2. Testing Environment

Normal Temperature:	15-35℃
Relative Humidity:	20-75%

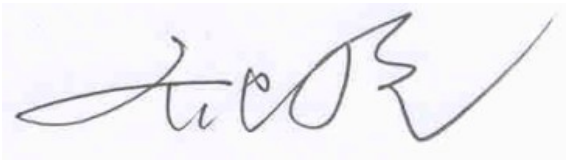
1.3. Project data

Project Leader:	Lin Hao
Testing Start Date:	2017-01-09
Testing End Date:	2017-01-09

1.4. Signature

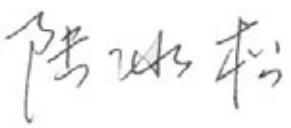
Lin Hao

(Prepared this test report)



Qi Dianyuan

(Reviewed this test report)



Lu Bingsong

Deputy Director of the laboratory

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	TCL Communication Ltd.
Address /Post:	5F, C-Tower, No.232, Liangjing Road, Zhangjiang High-tech Park, Pudong,Shanghai,China
City:	Shanghai
Contact:	Xingyu.Huang
Email:	xingyu.huang@tcl.com
Telephone:	86-0755-36612422

2.2. Manufacturer Information

Company Name:	TCL Mobile Communication Co. Ltd. Huizhou.
Address /Post:	70 Huifeng 4rd., ZhongKai High-Technology Development District, Huizhou, Guangdong, PRC. 516006
City:	Shanghai
Contact:	Xingyu.Huang
Email:	xingyu.huang@tcl.com
Telephone:	86-0755-36612422

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	Door & Window Sensor
Model name	DS01
Operation mode	ZigBee
Normal Voltage	3.0V

3.2. Internal Identification of EUT

UT01a	/	V05	DS01_00_01.00_17

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE

AE ID*	Description	SN
AE1	Switching Adapter	---

*AE ID: is used to identify the test sample in the lab internally.

4. Reference Documents

4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
EN62311:2008	Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz ~300GHz)	2008
EN50385:2002	Product standard to demonstrate the compliances of radio base stations and fixed terminal stations for wireless telecommunication system with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110MHz ~40GHz)	2002
REC 1999/519/EC	COUNCIL RECOMMENDATION of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)	1999.7.30

5. RF Exposure Limit

5.1. Applicable Requirements

According to EN62311：2008, The criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified 1995/519/EC.

Reference levels for electric, magnetic and electromagnetic fields
(0 Hz to 300 GHz, unperturbed rms values)

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (μT)	Equivalent plane wave power density S_{eq} (W/m²)
0-1 Hz	—	$3{,}2 \times 10^4$	4×10^4	—
1-8 Hz	10 000	$3{,}2 \times 10^4/f^2$	$4 \times 10^4/f^2$	—
8-25 Hz	10 000	4 000/f	5 000/f	—
0,025-0,8 kHz	250/f	4/f	5/f	—
0,8-3 kHz	250/f	5	6,25	—
3-150 kHz	87	5	6,25	—
0,15-1 MHz	87	0,73/f	0,92/f	—
1-10 MHz	$87/f^{1/2}$	0,73/f	0,92/f	—
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1{,}375\ f^{1/2}$	$0{,}0037\ f^{1/2}$	$0{,}0046\ f^{1/2}$	f/200
2-300 GHz	61	0,16	0,20	10

Mode	Frequency Level	Reference Level
ZigBee	2400 – 2485 MHz	61V/m

5.2. Assessment Methods

The antenna of the product, under normal use condition is at least 20cm away from the body of the user. Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the user's manual. So, this product under normal use is located on electromagnetic far field between the human body. The expected exposure in electric field strength on a given point can be made with the following equation:

$$E = \sqrt{30PG} / d$$

E = Electric Field in V/m

P = Peak RF output power in W

G = antenna gain in linear scale

d = distance between observation point and radiating structure in m

6. Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as Mobile Device.

7. Test Results

7.1. The maximum antenna gain

The maximum antenna gain for each frequency band is:

ZigBee: 1.5 dBi

7.2. The maximum rated power limits

Range of operating power:

ZigBee: ≤8dBm(+/-2dB)

7.3. Output Power Into Antenna & RF Exposure value at distance 20cm

The worst cases conducted output power for every frequency band is:

Frequency band	Maximum Rated Power (dBm)	Maximum Rated Power (W)	Antenna gain	d (m)	Calculation (V/m)	Limit (V/m)	Calculation
ZigBee	10	0.01	0.8	0.2	0.22	61	PASS

According above test result, and the device complies with the EMF directive 1999/519/EC exposure requirements.

*****END OF REPORT*****