



FCC TEST REPORT

FCC Part 15B: 2012

MEASUREMENT AND TEST REPORT

For

SHENZHEN MAXIMUM ELECTRONICS CO., LTD.

3F, Building A, Junfeng Technology Park, Jiuwei, Xixiang, Bao' an District, Shenzhen, China

Model: SC200A, SC200AE, SC200AEL,
SVC410, SVC400BK

FCC ID: 2AAFJSC200AEL

June. 10, 2013

This Report Concerns: <input checked="" type="checkbox"/> Original Report	Equipment Type: 2 Inch DV
Test Engineer:	<i>Bill Jiang</i>
Report Number:	POCE13062017FRF
Test Date:	June. 03, 2013 to June. 09, 2013
Reviewed By:	<i>Michael</i>
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Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior written consent of Shenzhen POCE Technology Co., Ltd.

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APPENDIX I (Photos of EUT)

1 GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT : 2 Inch DV
Trade Name: : N/A

Model Number : SC200A, SC200AE, SC200AEL, SVC410, SVC400BK
DIFF : Just look and different colors, other identical. Test sample model: SC200A

Test Voltage : DC5V from PC or DC 3.7V From battery
Rating : DC5V, 0.5A

Highest frequency : Crystal frequency: 27MHz

Applicant : SHENZHEN MAXIMUM ELECTRONICS CO., LTD.
Address : 3F, Building A, Junfeng Technology Park, Jiuwei, Xixiang, Bao' an District, Shenzhen, China

Manufacturer : SHENZHEN MAXIMUM ELECTRONICS CO., LTD.
Address : 3F, Building A, Junfeng Technology Park, Jiuwei, Xixiang, Bao' an District, Shenzhen, China

Received : June. 10, 2013

Date of Test : June. 03, 2013 to June. 09, 2013

Note: This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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1.2. Description of test facility

All measurement required was performed at laboratory of NTEK Testing Technology Co., Ltd at 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.

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

FCC – Registration No.: 238937

NTEK Testing Technology Co., Ltd .EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 238937.

1.3. Test Standards

The following Declaration of Conformity report of EUT is prepared in accordance with

47CFR Part 15(2012):Radio Frequency Device: Subpart B; Unintentional radiators Class B

1.4. Test Summary

TEST ITEMS	RESULT	NOTE
Disturbance voltage at a.c. mains terminal	PASS	
Radiated emission	PASS	

Notes: N/A=Not Applicable

1.5. Measurement Uncertainty

Radiation Uncertainty : $U_r = \pm 3.84\text{dB}$

Conduction Uncertainty : $U_c = \pm 2.72\text{dB}$

2. POWER LINE CONDUCTED MEASUREMENT

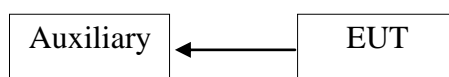
2.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCS30	8289851018	Dec. 20, 2012	1 Year
2.	L.I.S.N.	Rohde & Schwarz	ESH2-Z5	834549/005	Dec. 20, 2012	1 Year
3.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100006	Dec. 20, 2012	1 Year
4.	RF Cable	FUJIKURA	RG-55/U	LISN Cable	Dec. 20, 2012	1 Year

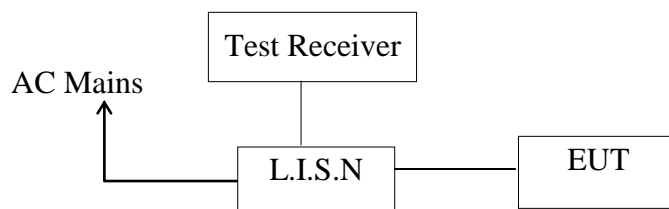
2.2. Block Diagram of Test Setup

2.2.1 Block diagram of connection between the EUT and simulators



(EUT: 2 Inch DV)

2.2.2 Block diagram of test setup



(EUT: 2 Inch DV)

2.3. Power Line Conducted Emission Measurement Limits (Class B)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

2.4.Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

EUT : 2 Inch DV
Model Number : SC200A

2.5.Operating Condition of EUT

- 2.5.1. Setup the EUT and simulator as shown as Section 2.2.
- 2.5.2. Turn on the power of all equipment.
- 2.5.3. Let the EUT work in test mode (Normal) and measure it.

2.6.Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides 50ohm-coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC/ANSI C63.4-2009 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9KHz.
The frequency range from 150KHz to 30MHz is checked.
The test result is reported on Section 2.7.
The frequency range from 150KHz to 30 MHz is investigated.

2.7.Power Line Conducted Emission Measurement Results

Pass.

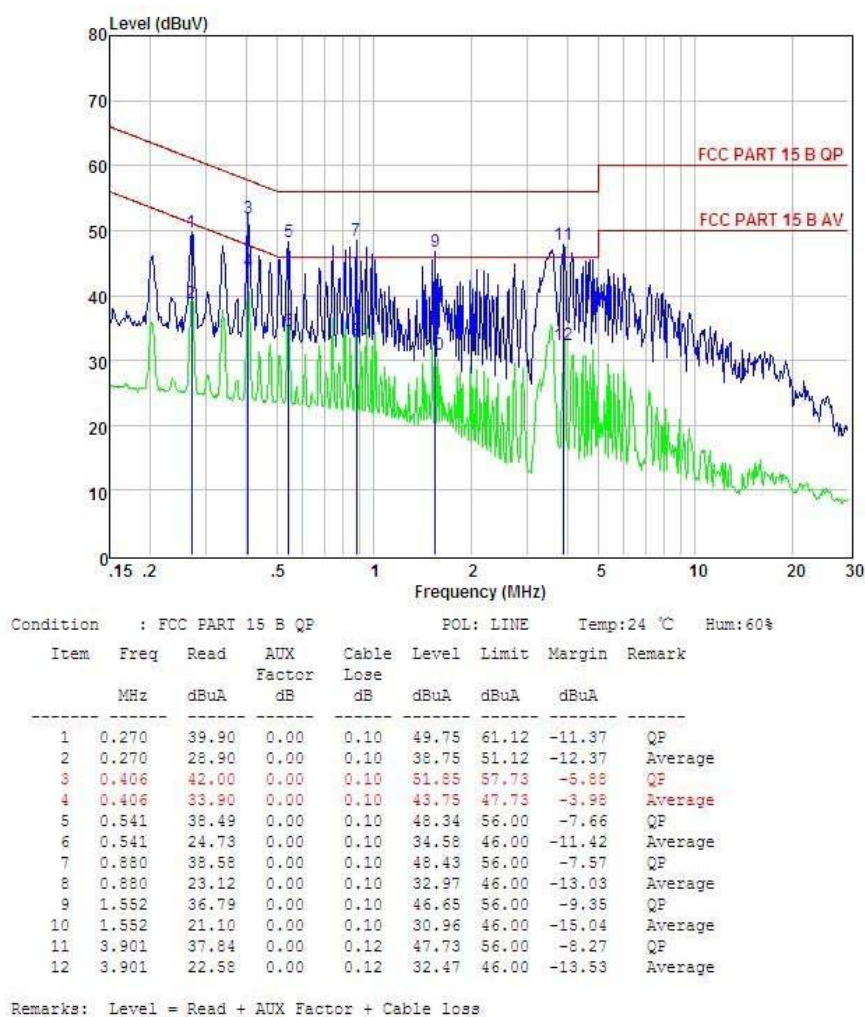
The details of test mode is as follows:

No.	Test Mode
1.	Copy data connect PC

Please reference to the following pages

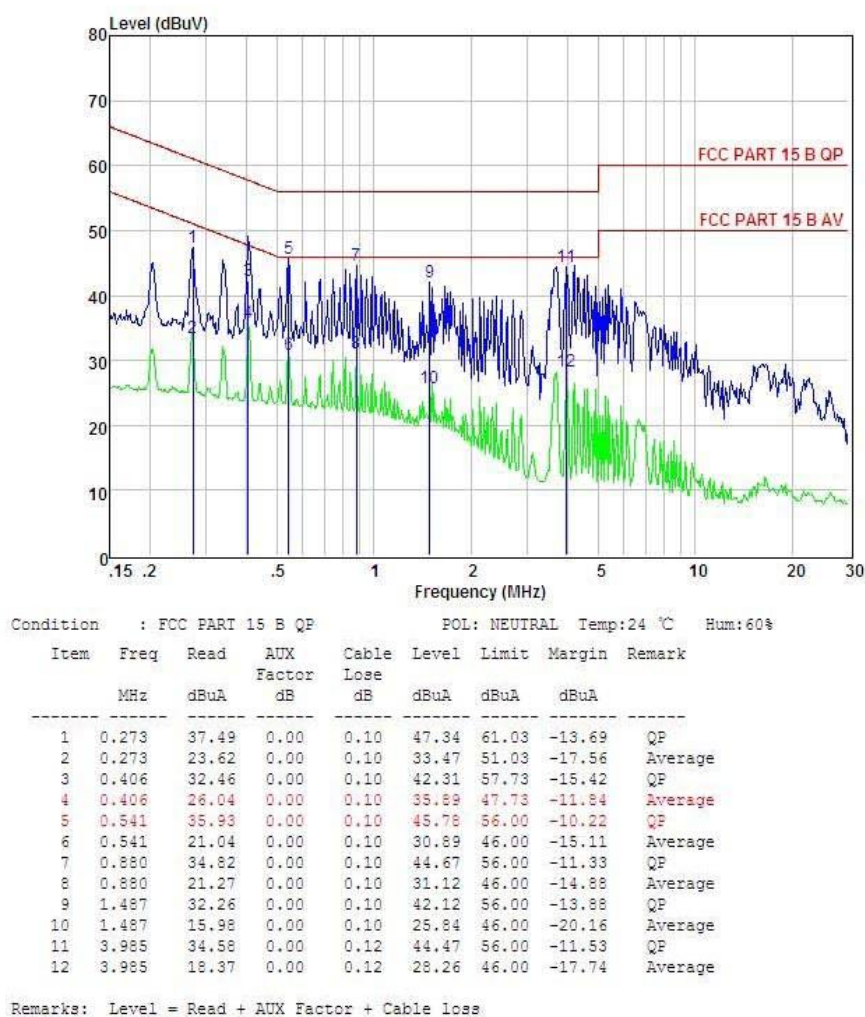
Conducted Emission Test Data

EUT: 2 Inch DV
M/N: SC200A
Operating Condition: Copy data connect PC
Operator: Bill
Test Specification: DC5V From PC with AC 120V/60Hz
Comment: Polarization: Line



Conducted Emission Test Data

EUT: 2 Inch DV
M/N: SC200A
Operating Condition: Copy data connect PC
Operator: Bill
Test Specification: DC5V From PC with AC 120V/60Hz
Comment: Polarization: Neutral



3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipments are used during the radiated emission measurement:

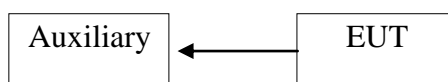
3.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	ANRITSU	MS2661C	6200140915	Dec. 20, 2012	1 Year
2.	Test Receiver	Rohde & Schwarz	ESCS30	828985/018	Dec. 20, 2012	1 Year
3.	Bilog Antenna	Schwarzbeck	VULB9163	142	Dec. 20, 2012	1 Year
4.	50 Coaxial Switch	Anritsu Corp	MP59B	6100237248	Dec. 20, 2012	1 Year
5.	Cable	Schwarzbeck	AK9513(1m)	CR RX2	Dec. 20, 2012	1 Year
6.	Cable	Schwarzbeck	AK9513(10m)	AC RX1	Dec. 20, 2012	1 Year
7.	Cable	Rosenberger	N/A(6m)	CR RX1	Dec. 20, 2012	1 Year
8.	Cable	Rosenberger	N/A(10m)	FP2RX2	Dec. 20, 2012	1 Year
9.	DC Power Filter	MPE	23872C	N/A	Dec. 20, 2012	1 Year
10.	Single Phase Power Line Filter	MPE	23332C	N/A	Dec. 20, 2012	1 Year
11.	3 Phase Power Line Filter	MPE	23333C	N/A	Dec. 20, 2012	1 Year
12.	Signal Generator	HP	8648A	3625U00573	Dec. 20, 2012	1 Year

3.2.B

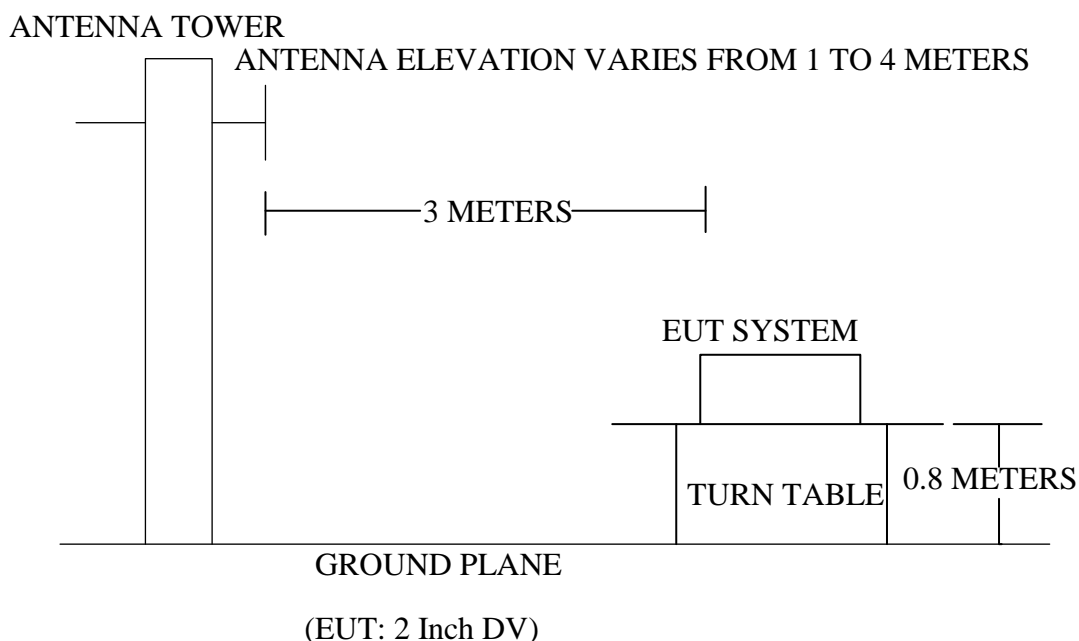
Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and simulators



(EUT: 2 Inch DV)

3.2.2. Anechoic Chamber Test Setup Diagram



3.3. Radiated Emission Limit (Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V/m}$	$\text{dB}(\mu\text{V})/\text{m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0

Remark: (1) Emission level $(\text{dB})\mu\text{V} = 20 \log \text{Emission level } \mu\text{V/m}$
 (2) The smaller limit shall apply at the cross point between two frequency bands.
 (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

3.4. EUT Configuration on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

2 Inch DV (EUT)

Model Number : SC200A
 Serial Number : N/A

3.5.Operating Condition of EUT

1. Setup the EUT as shown in Section 3.2.
2. Let the EUT work in test mode (Copy data) and measure it.

3.6.Test Procedure

EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2009 on radiated emission measurement.

The bandwidth of the EMI test receiver (R&S ESCS30) is set at 120KHz.

The frequency range from 30MHz to 1000MHz is investigated.

3.7.Radiated Emission Measurement Results

PASS

Please reference to the following pages

For frequency range 30MHz~1000MHz

No.	Test Mode
1.	Copy data connect PC
2.	Camera connect battery

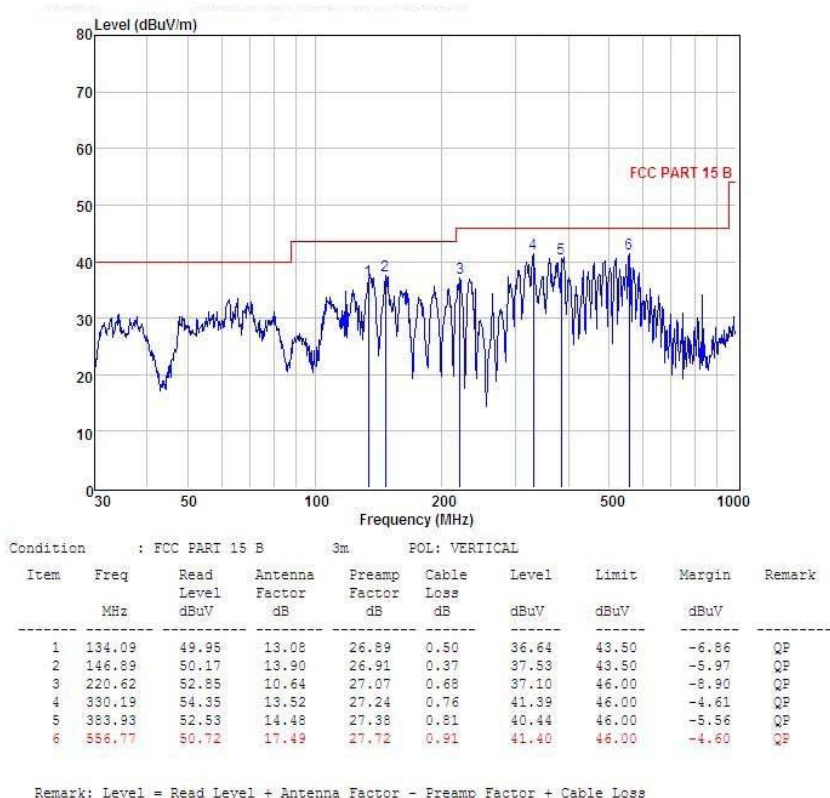
The EUT with the following test mode was tested and read Q.P values, the worst test mode is 1 (Copy data connect PC),test results listed in next pages.

For frequency range 1000MHz~6000MHz:

The EUT high frequency is 27MHz, less than 108MHz, so the test not applicable.

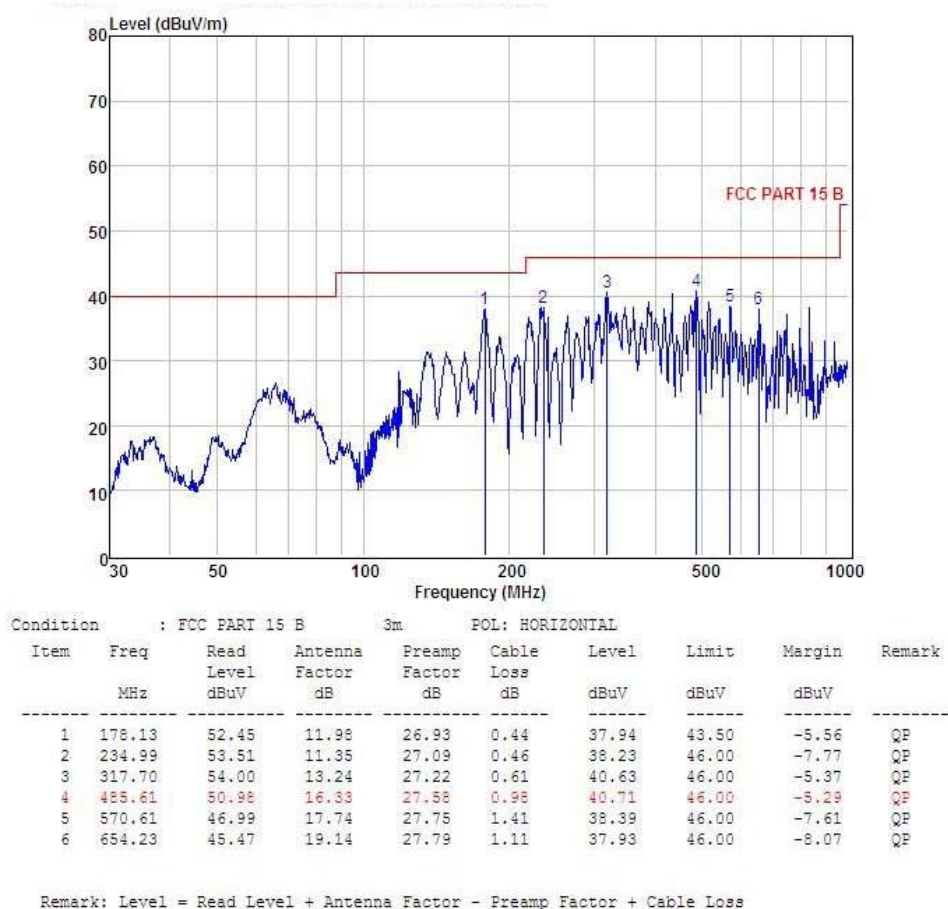
Radiated Emission Test Data

EUT: 2 Inch DV
 M/N: SC200A
 Operating Condition: Copy data connect PC
 Test Site: 3m CHAMBER
 Operator: Bill
 Test Specification: DC5V
 Comment: Polarization: Vertical



Radiated Emission Test Data

EUT: 2 Inch DV
M/N: SC200A
Operating Condition: Copy data connect PC
Test Site: 3m CHAMBER
Operator: Bill
Test Specification: DC5V
Comment: Polarization: Horizontal



4. PHOTOGRAPH

4.1.Photos of Radiated Emission Measurement



APPENDIX I

(Photos of EUT)

FIGURE
GENERAL APPEARANCE OF EUT

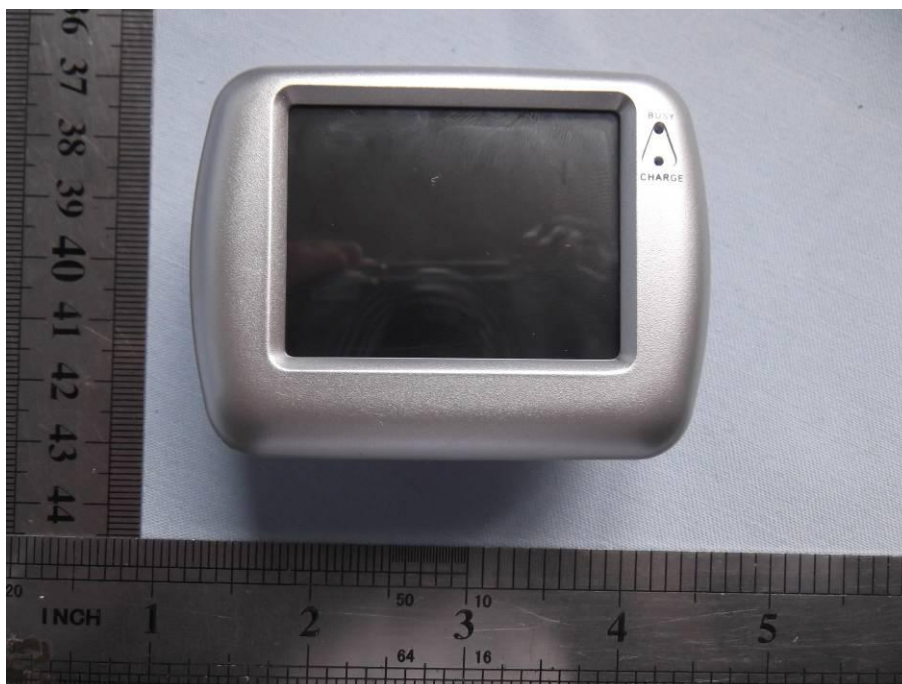


Fig. 1



Fig. 2



Fig.3



Fig.4

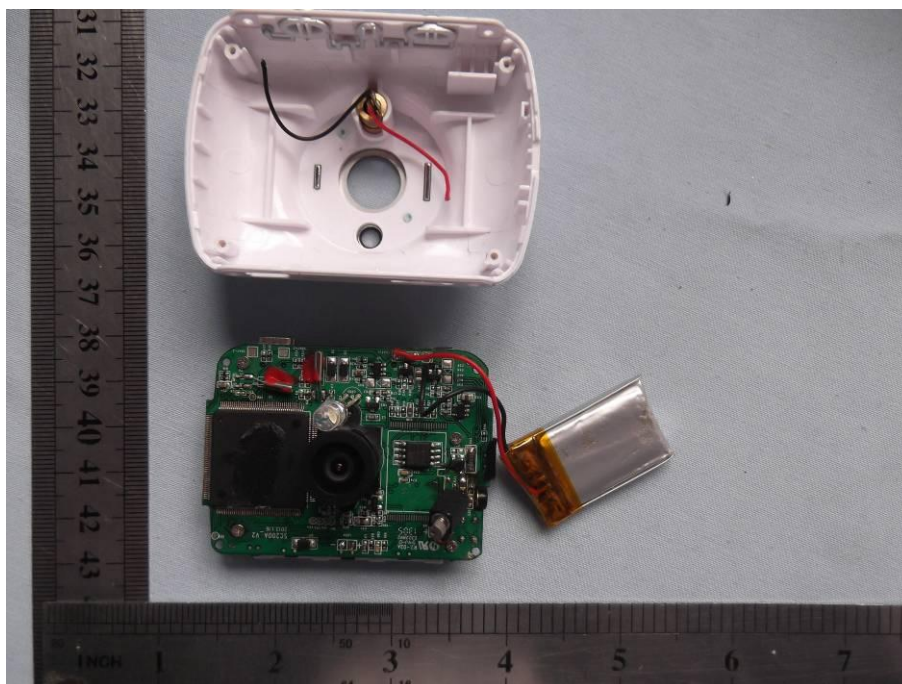


Fig.5

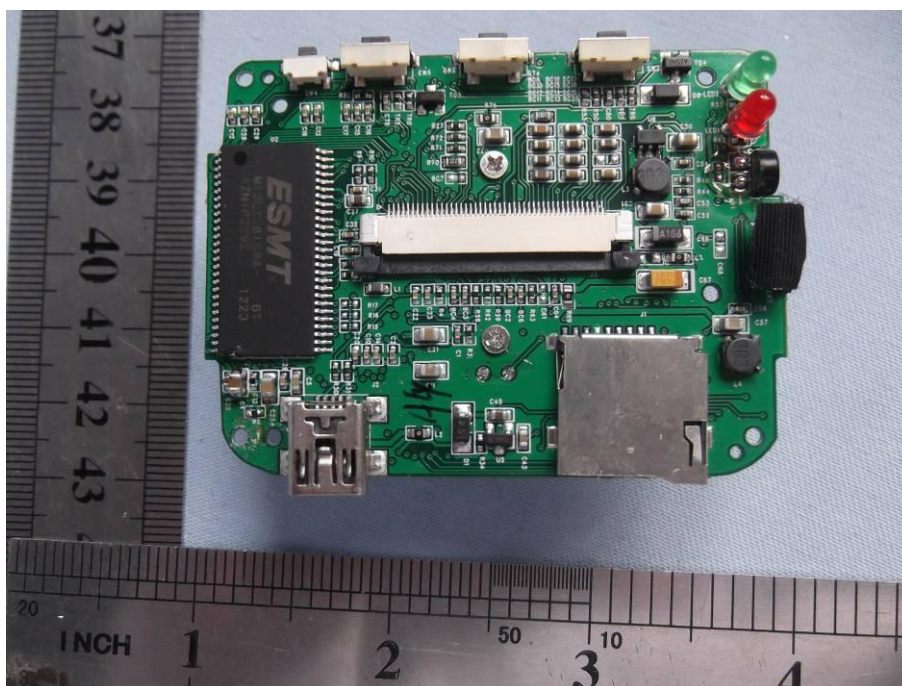


Fig.6

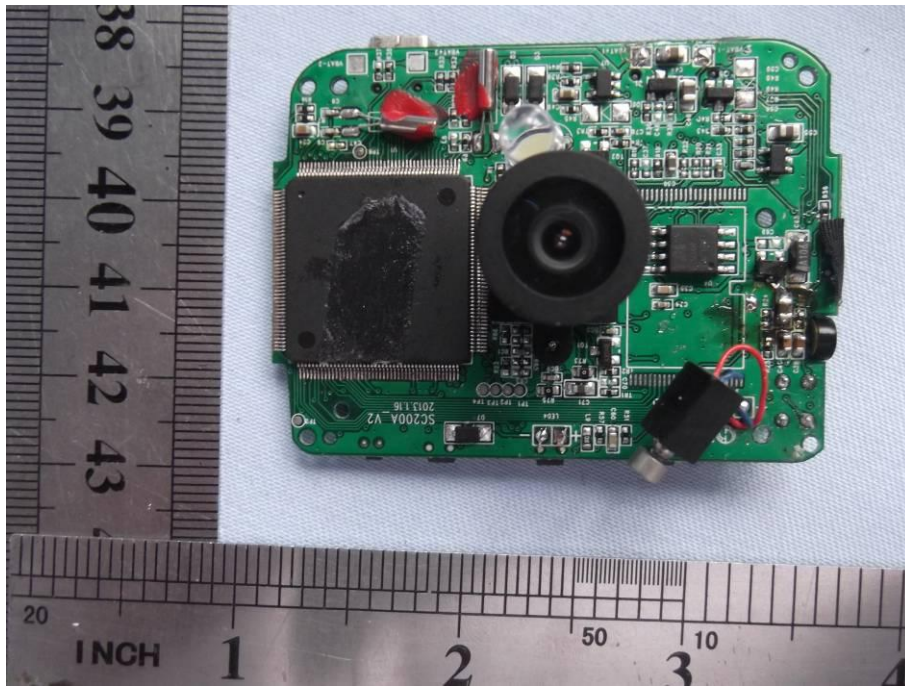


Fig.7

*****THE END*****