







# ISO/IEC17025 Accredited Lab.

Report No: FCC 1408087 File reference No: 2014-09-03

Applicant: OBO Electronics Group Limited

Product: TABLET PC

Model No: TouchSmart SDS, OB701, OB702, OB801, OB802, OB901, OB902,

OB1001, OB1002, OB7801, OB7802, GK8821, GK8831, GK710,

GK736, GK738, GK756I, GK810, GK10181, GK10141

Trademark: OBO

Test Standards: FCC Part 15 Subpart B: 2012

Test result: It is herewith confirmed and found to comply with the requirements

set up by ANSI C63.4&FCC Part 15 regulations for the evaluation of

electromagnetic compatibility

Approved By

Jack Chung

Jack Chung

Manager

Dated: Sep 03, 2014

Results appearing herein relate only to the sample tested

The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO., LTD

East 5/Block 4, Anhua Industrial Zone, No.8, Tairan Rd. Chegongmiao, FuTian District, Shenzhen, CHINA.

Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timewaytech.com

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# **Special Statement:**

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

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

## **CNAS-LAB Code: L2292**

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

# FCC-Registration No.: 899988

The 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 No.: 899988.

## IC- Registration No.: IC5205A-02

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration IC No.: 5205A-02.

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1.2



# Test Report Conclusion Content

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#### 1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO., LTD

Address: East 5/Block 4, Anhua Industrial Zone, No.8, Tairan Rd.

CheGongMiao, FuTian District, Shenzhen, CHINA.

Telephone: (755) 83448688 Fax: (755) 83442996

1.2 Applicant Details

Applicant: OBO Electronics Group Limited

Address: Unit 705, GuanEr Yongtai Building, Congyun Road, Baiyun District,

Guangzhou, China

Telephone: 020-81429308(Ext: 604)

Fax: 020-36257622

1.3 Description of EUT

Product: TABLET PC

Manufacturer: OBO Electronics Group Limited

Address: Unit 705, GuanEr Yongtai Building, Congyun Road, Baiyun

District, Guangzhou, China

Brand Name: OBO

Model Number: TouchSmart SDS

Additional Model Number: OB701, OB702, OB801, OB802, OB901, OB902, OB1001, OB1002, OB7801, OB7802, GK8821, GK8831, GK710, GK736, GK738, GK756I, GK810, GK10181, GK10141

1.4 Submitted Sample: 2 Samples

The sample tested by

1.5 Test Duration: 2014-08-20 to 2014-09-02

1.6 Test Uncertainty

Conducted Emissions Uncertainty = 3.6dB Radiated Emissions Uncertainty = 4.7dB

1.7 Test Engineer

lemy lang

Print Name: Terry Tong

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#### 2.0 List of Measurement Equipment

#### 2.1 Conducted Emission Test

				Calibration	Calibration
Name	Model No.	Serial No.	Manufacturer	Date	Cycle
EMI Test Receiver	ESH3	860905/006	RS	2014.08.21	1Year
Spectrum Analyzer	ESA-L1500A	US37451154	HP	2014.08.21	1Year
PULSE LIMITER	ESH3-Z2	100281	RS	2014.08.22	1Year
LISN	ESH3-Z5	100294	RS	2014.08.22	1Year
LISN	ESH3-Z5	100253	RS	2014.08.22	1Year
LISN	LS16C	10010947251	AFJ	2014.08.21	1Year
LISN (Three Phase)	NSLK 8126	8126453	Schwarebeck	2014.08.22	1Year

#### 2.2 Radiated electromagnetic disturbance test

				Calibration	Calibration
Name	Model No.	Serial No.	Manufacturer	Date	Cycle
EMI Test Receiver	ESVD	100008	RS	2014.08.21	1Year
Coaxial Switch	MP59B	M70585	ANRITSU	N/A	N/A
Spectrum Analyzer	8595E	3441A00893	НР	2014.06.24	1Year
Amplifier	8447D	2727A05017	HP	2014.08.22	1Year
Bilog Antenna	VULB9163	9163/340	Schwarebeck	2014.08.23	1Year
Horn Antenna	BBHA 9120D	9120D-631	Schwarebeck	2014.08.23	1Year
Horn Antenna	BBHA 9170	BBHA9170265	Schwarebeck	2014.08.23	1Year

#### 2.3 **Auxiliary Equipment**

					FCC DOC/
Name	Model No.	Serial No.	Manufacturer	Cable	ID
				Data cable of	
Monitor	P2450		SAMSUNG	1.5m length	FCC DOC
Passive Earphone					-
PC	R400		IBM		FCC DOC
Mouse	M-F105		L.SEletron		FCC DOC
TF					

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#### 3.0 **Technical Details**

3.1 **Investigations Requested** Perform Electromagnetic Interference [EMI] tests for FCC Requirement.

3.2 Test Standards

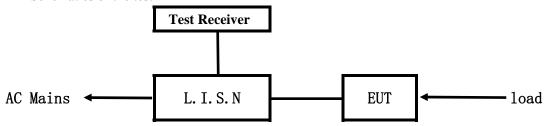
FCC Part 15 Subpart B: 2012

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#### 4.0 Conducted Power line Test

## 4.1 Schematics of the test



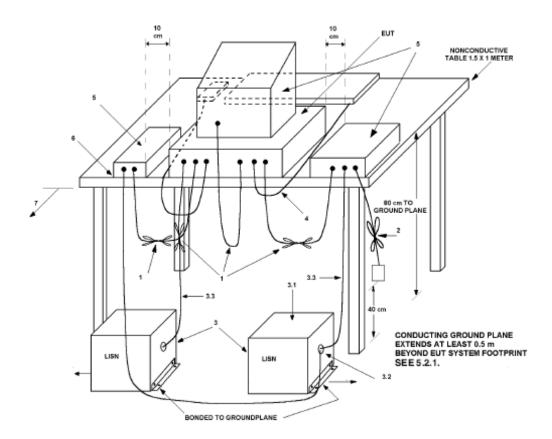
**EUT: Equipment Under Test** 

#### 4.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2003. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2003. Cables and peripherals were moved to find the maximum emission levels for each frequency.

Actual Working Voltage and Frequency: 120V~, 60Hz

Block diagram of Test setup



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## 4.3 Power line conducted Emission Limit

Fraguanay (MHz)	Class A Limits dB(μV)		Class B Limits dB(µV)	
Frequency(MHz)	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level
0.15 ~ 0.50	79.00	66.00	66.00~56.00*	56.00~46.00*
$0.50 \sim 5.00$	73.00	60.00	56.00	46.00
$5.00 \sim 30.00$	73.00	60.00	60.00	50.00

Notes: 1. \*decreasing linearly with logarithm of frequency.

2. The tighter limit shall apply at the transition frequencies

# 4.4 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

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# A: Conducted Emission on Live Terminal (150kHz to 30MHz)

## **EUT Operating Environment**

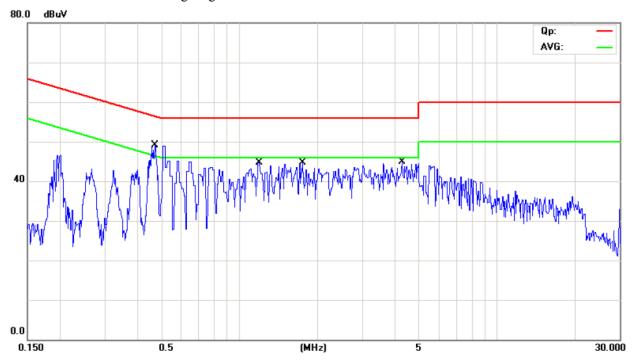
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Communication with PC** 

**Equipment Level: Class B** 

**Results: PASS** 

Please refer to following diagram for individual



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.4670	30.60	11.34	41.94	56.57	-14.63	QP	
2		0.4670	5.20	11.34	16.54	46.57	-30.03	AVG	
3		1.1880	25.70	11.98	37.68	56.00	-18.32	QP	
4		1.1880	-2.50	11.98	9.48	46.00	-36.52	AVG	
5		1.7598	23.20	12.20	35.40	56.00	-20.60	QP	
6		1.7598	-5.60	12.20	6.60	46.00	-39.40	AVG	
7		4.2800	21.50	13.21	34.71	56.00	-21.29	QP	
8		4.2800	1.60	13.21	14.81	46.00	-31.19	AVG	

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## B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

## **EUT Operating Environment**

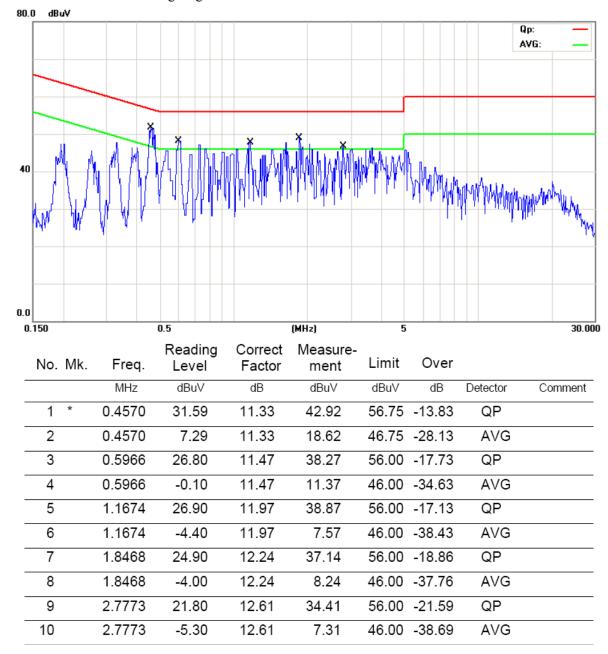
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Communication with PC** 

**Equipment Level: Class B** 

**Results: Pass** 

Please refer to following diagram for individual



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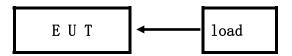
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## 5.0 Radiated Disturbance Test

#### 5.1 Schematics of the test

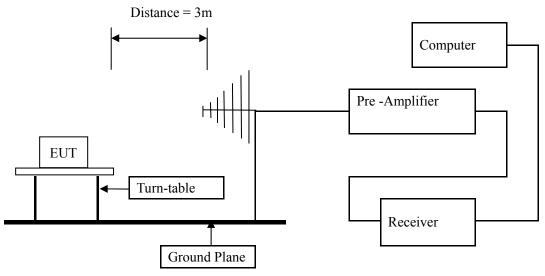


## 5.2 Test Method and test Procedure:

The EUT was tested according to ANSI C63.4 –2003; The frequency spectrum from 30MHz to 5GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. For measurement above 1GHz, peak values with RBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK

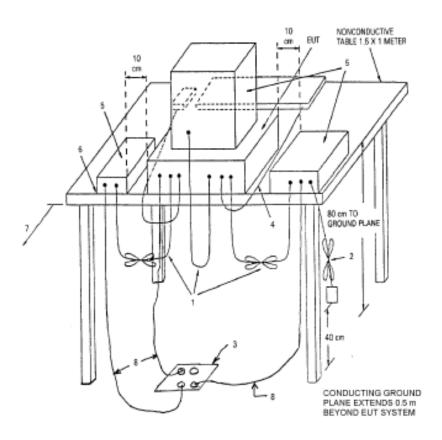
Actual Working Voltage and Frequency: 120V~, 60Hz

# **Block diagram of Test setup**



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#### 5.3 Radiated Emission Limit

Frequency Range (MHz)	Distance (m)	Field strength (dB µ V/m)
30-88	3	40.00
88-216	3	43.50
216-960	3	46.00
Above 960	3	54.00

Note: 1. The lower limit shall apply at the transition frequencies

2. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

#### 5.4 Test result

The frequency spectrum from 30MHz to 18GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. For measurement above 1GHz, peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK. Measurements were made at 3 meters.

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#### Test result

# General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Horizontal/ In Vertical (30MHz----1000MHz)

**EUT set Condition:** Communication with PC

**Results: Pass** 

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \mu V/m)
131.320	25.81	Н	43.50
119.960	27.12	Н	43.50
65.880	25.28	Н	40.00
168.000	33.84	Н	43.50
105.560	31.48	V	43.50
65.560	30.00	V	40.00
37.560	32.71	V	40.00
168.000	31.38	V	43.50

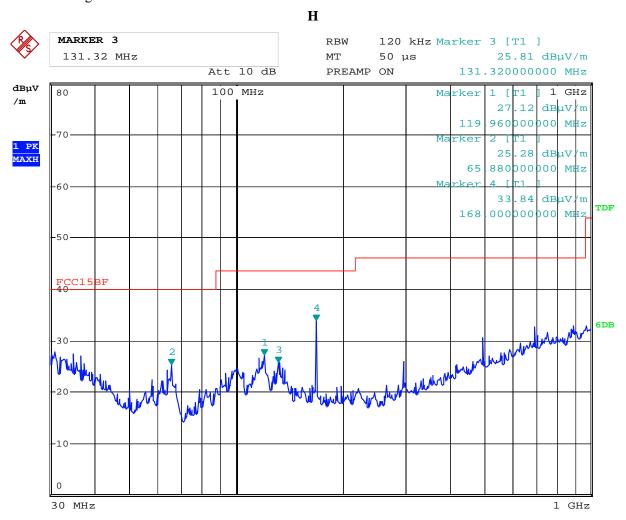
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# Test Figure:



Date: 20.AUG.2014 13:09:17

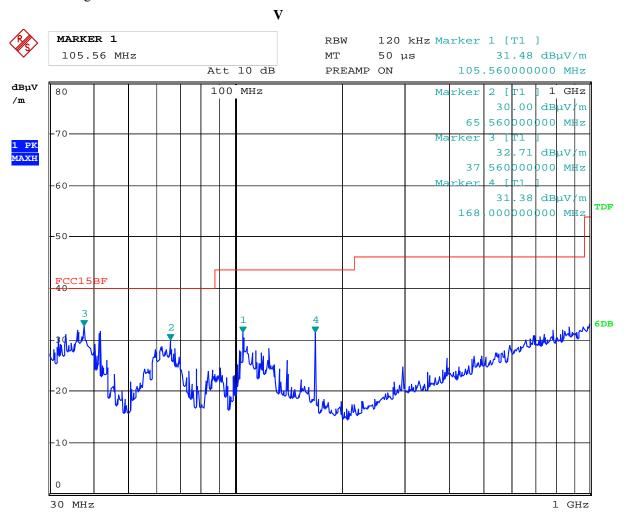
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# Test Figure:



Date: 20.AUG.2014 13:06:58

Date: 2014-09-03



# Radiated Disturbance (1000MHz----18000MHz)

**EUT Operating Environment** 

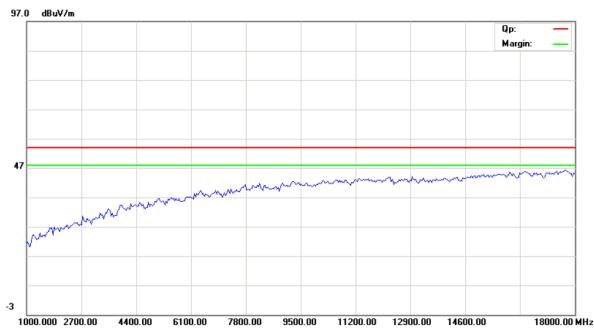
Temperature:25℃ Humidity: 75%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Connected to PC** 

**Equipment Level: Class B** 

**Results: Pass** 

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dBµV/m)	Antenna Polarity	Limit@3m (dBµV/m)
		Н	54(AV)

Note: Due to the final radiated level much less than the limit, so necessary take down final radiated level

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# Radiated Disturbance (1000MHz----18000MHz)

# **EUT Operating Environment**

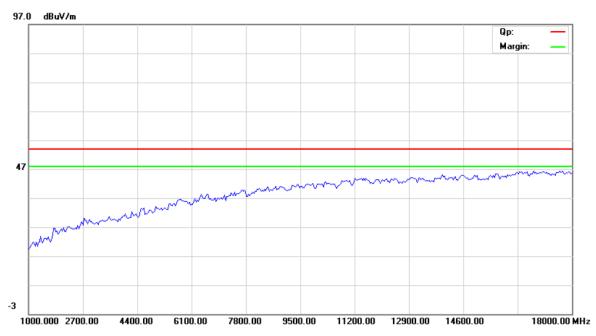
Temperature:25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Connected to PC** 

**Equipment Level: Class B** 

**Results: Pass** 

Please refer to following diagram for individual



Frequency (MHz)	Level@3m ( $dB\mu V/m$ )	Antenna Polarity	$Limit@3m (dB\mu V/m)$
		V	54(AV)

Note: Due to the final radiated level much less than the limit, so necessary take down final radiated level

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## 6.0 FCC ID Label

## **FCC ID: 2ACZ8-OB1001**

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

## **Mark Location:**



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# 7.0 Photo of testing

#### Conducted test View--7.1



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#### 7.2 Radiated emission test view--





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# Photographs - EUT

#### Outside view





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Outside view





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Outside view



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Inside view





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Inside view





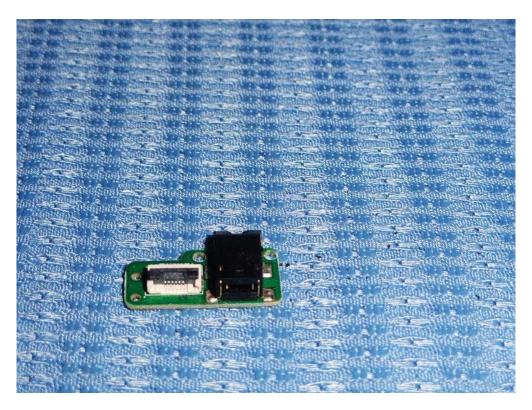
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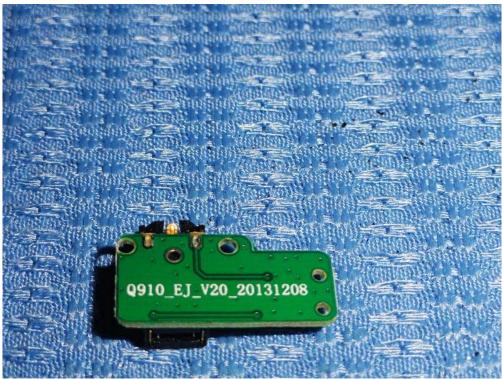
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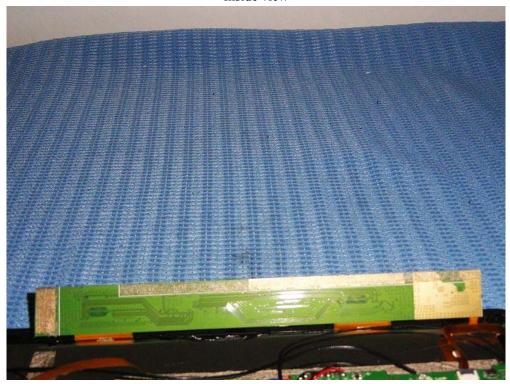
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Inside view



# -End of the report-