







ISO/IEC17025 Accredited Lab.

Report No: FCC1109134-03 File reference No: 2011-12-29

Applicant: Guangzhou Sunday Electronics Co., Ltd.

Product: Wireless Keyboard With Touchpad Receiver

Model No: S-KW252TG

Trademark: Sunday

Test Standards: FCC Part 15 Subpart B: 2008

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: Dec 29, 2011

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

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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-01

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-01.



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Test Report Conclusion

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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: Guangzhou Sunday Electronics Co., Ltd.

Address: No.236-238, Minsheng Road, Lanhe Town, Panyu District, Guangzhou, China

Telephone: 020-84928933 Fax: 020-84928823

1.3 Description of EUT

Product: Wireless Keyboard With Touchpad Receiver Manufacturer: Guangzhou Sunday Electronics Co., Ltd.

Address: No.236-238, Minsheng Road, Lanhe Town, Panyu District, Guangzhou, China

Brand Name: Sunday
Model Number: S-KW252TG

Additional Model Number: S-KW1xxxx,S-KW6xxxx (the "x" means one discretionary character of

A/a - Z/z or one Arabic number of 0 - 9)

Rating: DC5.0V, Powered by PC

1.4 Submitted Sample: 1 Sample

1.5 Test Duration: 2011-12-08 to 2011-12-27

1.6 Test Uncertainty

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

1.7 Test Engineer

Temy Tany

The sample tested by

Print Name: Terry Tong

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List of Measurement Equipment 2.0

2.1 **Conducted Emission Test**

				Calibration	Calibration
Name	Model No.	Serial No.	Manufacturer	Date	Cycle
EMI Test Receiver	ESH3	860905/006	RS	2011.4.26	1Year
Spectrum Analyzer	ESA-L1500A	US37451154	HP	2011.4.26	1Year
PULSE LIMITER	ESH3-Z2	100281	RS	2011.4.26	1Year
LISN	ESH3-Z5	100294	RS	2011.4.26	1Year
LISN	ESH3-Z5	100253	RS	2011.4.26	1Year
LISN	LS16C	10010947251	AFJ	2011.4.26	1Year
LISN (Three Phase)	NSLK 8126	8126453	Schwarebeck	2011.4.26	1Year

2.2 Radiated electromagnetic disturbance test

				Calibration	Calibration
Name	Model No.	Serial No.	Manufacturer	Date	Cycle
EMI Test Receiver	ESVD	100008	RS	2011.4.26	1Year
Coaxial Switch	MP59B	M70585	ANRITSU	N/A	N/A
Spectrum Analyzer	8595E	3441A00893	НР	2011.4.26	1Year
Amplifier	8447D	2727A05017	HP	2011.4.26	1Year
Bilog Antenna	VULB9163	9163/340	Schwarebeck	2011.4.26	1Year
Horn Antenna	BBHA 9120D	9120D-631	Schwarebeck	2011.4.26	1Year

2.3 **Auxiliary Equipment**

Name	Model No.	Serial No.	Manufacturer	Cable	FCC ID/DOC
Notebook	R4		IBM		FCC DOC
				Data cable of	
				1.5m length	
Mouse			DELL	unshielded	FCC DOC
				Data cable of	
				1.5m length	
Earphone				unshielded	FCC VOC

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3.0 **Technical Details**

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

3.2 Test Standards

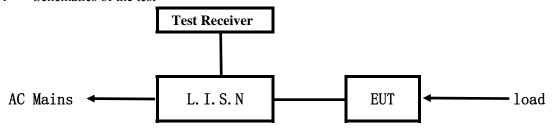
FCC Part 15 Subpart B: 2008

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4.0 Conducted Power line Test

4.1 Schematics of the test



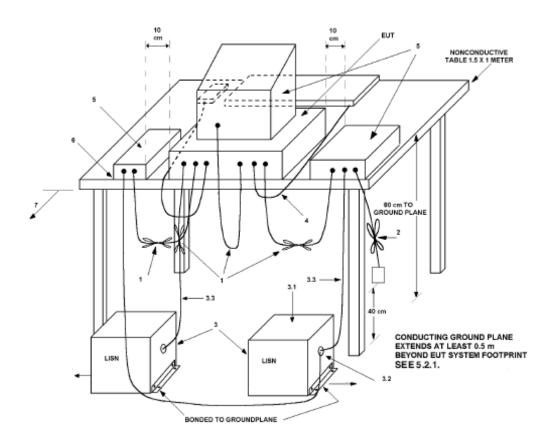
EUT: Equipment Under Test

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



The report refers only to the sample tested and does not apply to the bulk.

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4.3 Power line conducted Emission Limit

Fraguanay(MHz)	Class A Li	mits dB(μV)	Class B Limits dB(μV)	
Frequency(MHz)	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level
$0.15 \sim 0.50$	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

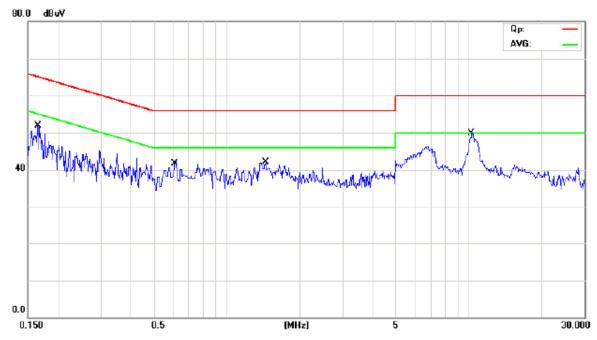
Temperature: 25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

EUT set Condition: data communication mode with PC

Equipment Level: Class B

Results: Pass

Please refer to following diagram for individual



Frequency	Line	Reading(dBμV)		Limit(dBμV)	
(MHz)		Quasi-peak	Average	Quasi-peak	Average
10.236	Live	49.82	34.02	60.00	50.00
0.164	Live	51.91	35.61	65.22	55.22
0.612	Live	42.66	32.96	56.00	46.00
1.445	Live	42.10	32.40	56.00	46.00

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

EUT Operating Environment

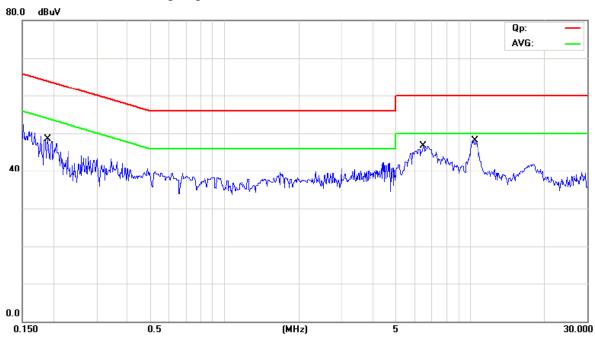
Temperature: 25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

EUT set Condition: data communication mode with PC

Equipment Level: Class B

Results: Pass

Please refer to following diagram for individual



Frequency	Lina	Line Reading(dBµV)		Limit(dBµV)	
(MHz)	LIIIC	Quasi-peak	Average	Quasi-peak	Average
10.464	Neutral	50.03	35.73	60.00	50.00
0.190	Neutral	48.57	37.37	64.03	54.03
6.500	Neutral	46.62	34.32	60.00	50.00

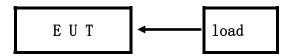
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5.0 Radiated Disturbance Test

5.1 Schematics of the test

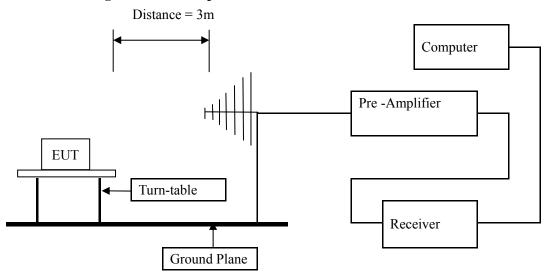


5.2 Test Method and test Procedure:

The EUT was tested according to ANSI C63.4 –2003, The frequency spectrum from 30MHz to 6GHz 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

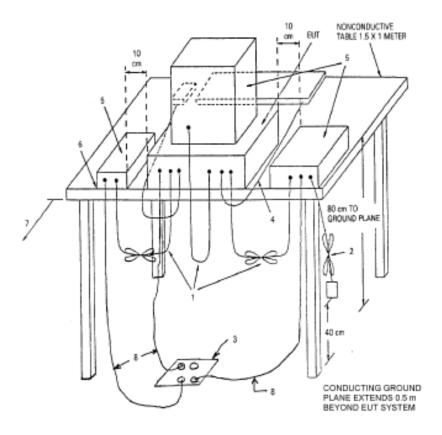
Actual Working Voltage and Frequency: 120V~, 60Hz

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: The lower limit shall apply at the transition frequencies

5.4 Test result

The frequency spectrum from 30MHz to 1GHz 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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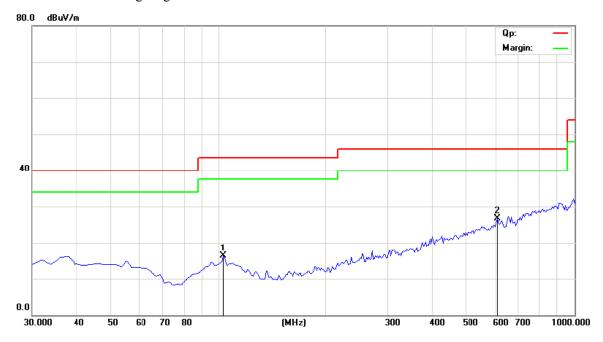


General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: data communication mode with PC

Results: Pass

Please refer to following diagram for individual



L	Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB \u03b4 V/m)
	103.867	16.26	Н	43.50
	607.334	26.65	Н	46.00

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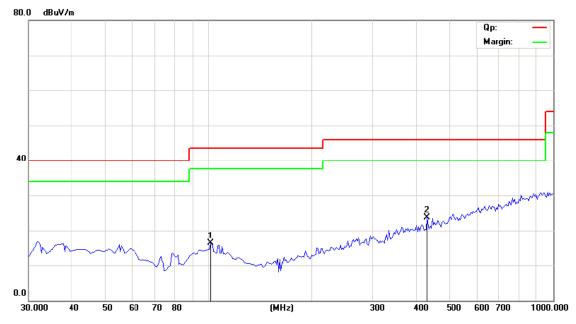


B Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: data communication mode with PC

Results: Pass

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
101.179	16.26	V	43.50
432.384	23.68	V	46.00

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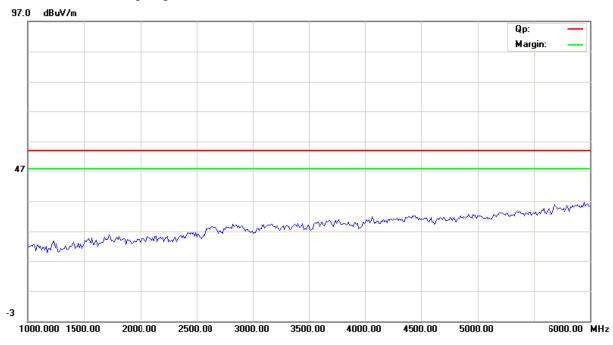


C. General Radiated Emission Data Radiated Emission In Horizontal (1000MHz----6000MHz)

EUT set Condition: data communication mode with PC

Results: Pass

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB \mu V/m)
	-	Н	
-	-	Н	

Note: The radiated emission level less than the limit for more than 20dB, no necessary to take down the record

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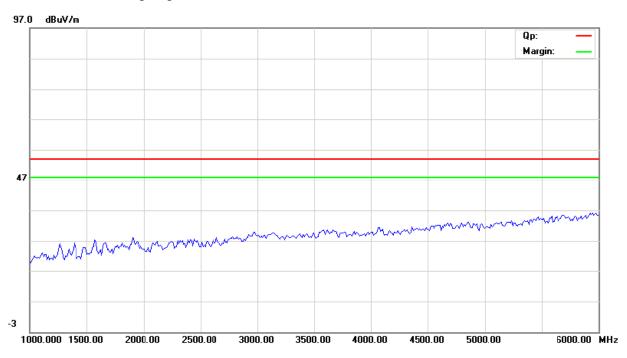


D. General Radiated Emission Data Radiated Emission In Vertical (1000MHz----6000MHz)

EUT set Condition: data communication mode with PC

Results: Pass

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
		V	
		V	

Note: The radiated emission level less than the limit for more than 20dB, no necessary to take down the record

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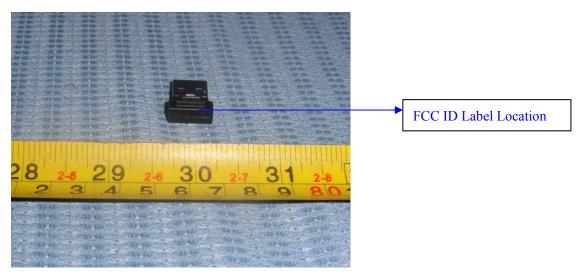


6.0 FCC ID Label

FCC ID: XQLS-KW252TG-D

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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Outside View





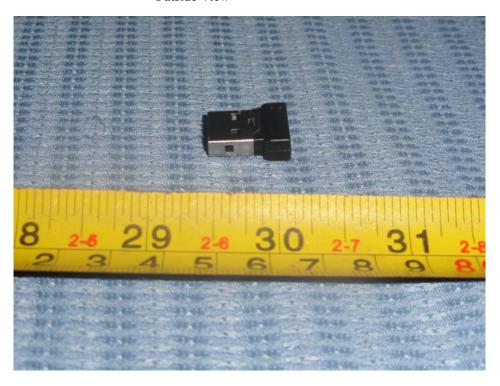
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Outside View





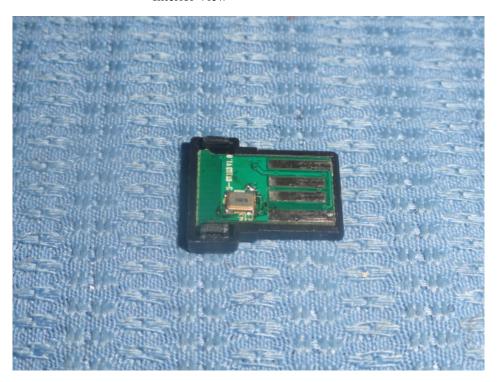
The report refers only to the sample tested and does not apply to the bulk.

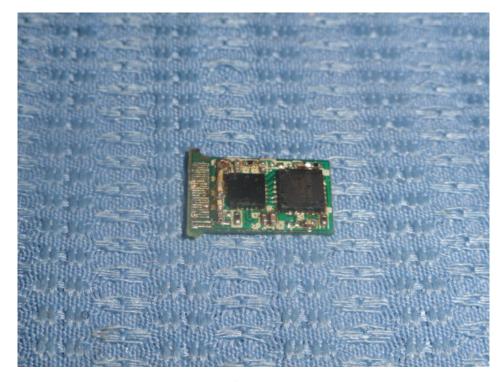
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Interior View





-End of the report-

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