APPLICATION FOR VERIFICATION
On Behalf of
Alpha 360 Co., Ltd.

Z-Stick
Model No.: ZSFS100-US

Prepared for	:	Alpha 360 Co., Ltd.
Address	:	Room 204, Building C, Boya Parking, Jiarimincheng, Xinyi, Buji, Shenzhen, China Tel: (86) 755-84411092 Fax: (86) 755-84411092
Prepared By	:	Anbotek Compliance Laboratory Limited
Address	:	2/F, Langfeng Building, Kefa Road North, Hi-tech Industrial Park, Nanshan District, Shenzhen 518057, China Tel: (86) 755-26014771 Fax: (86) 755-26014720

Report Number	:	200807757F
Date of Test	:	Aug.06~21, 2008
Date of Report	:	Aug.21, 2008

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TEST REPORT VERIFICATION

Applicant	:	Alpha 360 Co., Ltd.
Manufacturer	:	Alpha 360 Co., Ltd.
EUT	:	Z-Stick
Model No.	:	ZSFS100-US
Serial No.	:	N/A
Rating	:	DC 5V via PC
Trade Mark	:	N/A

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart B section 15.107 & 15.109
ANSI C63.4-2003

The device described above is tested by SGS-CSTC Standards Technical Services Co., Ltd. To determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B limits both radiated and conducted emissions. The measurement results are contained in this test report and Anbotek Compliance Laboratory Limited Is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.
This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Anbotek Compliance Laboratory Limited

Date of Test : Aug.06~21, 2008

Prepared by : Jacky

(Engineer)

Reviewer : mike zhang

(Project Manager)

Approved & Authorized Signer :

(Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	Z-Stick
Model Number	:	ZSFS100-US
Test Power Supply	:	AC 120V, 60Hz
Applicant	:	Alpha 360 Co., Ltd.
Address	:	Room 204, Building C, Boya Parking, Jiarimincheng, Xinyi, Buji, Shenzhen, China
Manufacturer	:	Alpha 360 Co., Ltd.
Address	:	Room 204, Building C, Boya Parking, Jiarimincheng, Xinyi, Buji, Shenzhen, China
Date of Sample received	:	Jul.26, 2008
Date of Test	:	Aug.06~21, 2008

1.2. Description of Test Facility

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

VCCI-Registration No.: R-2197 and C-2383
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registed and fully described in a report filed with the (VCCI) Voluntary Control Council for Interference by Information Technology Equipment. The acceptance letter from the VCCI is maintained in our files. Registration R-2197 and C-2383, September 29, 2005.

FCC-Registration No.: 556682
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registed 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 556682, August 04, 2005.

IC-Registration No.: 6002
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registed and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 6002, August 25, 2005.

Test Location
All Emissions tests were performed at:
SGS-CSTC Standards Technical Services Co., Ltd. at No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China

1.3. Measurement Uncertainty

Radiation Uncertainty	**:**	Ur = ± 4.26dB
Conduction Uncertainty	**:**	Uc = ± 2.66dB

2. POWER LINE CONDUCTED MEASUREMENT

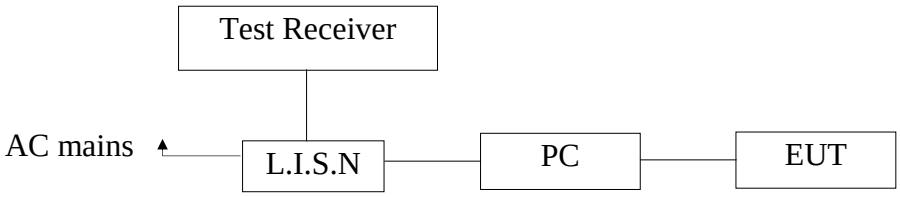
2.1. Test Equipment

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

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESCS30	100038	Nov.12, 2007	1 Year
2.	Artificial Mains	Rohde & Schwarz	ESH2-Z5	100028	Nov.12, 2007	1 Year
3.	Pulse Limiter	Rohde & Schwarz	ESHSZ2	100044	Nov.12, 2007	1 Year
4.	CE Variac	GZ Debao Factory	TS/DGC$_2$-5	N/A	N/A	N/A
5.	Coaxial cable	SGS	N/A	N/A	Nov.05, 2007	1 Year
6.	EMI Test Software	Rohde & Schwarz	ESK1	N/A	N/A	N/A

2.2. Block Diagram of Test Setup

2.2.1. Block diagram of connection between the EUT and simulators



(EUT: Z-Stick)

2.3. Power Line Conducted Emission Measurement Limits (FCC Part 15 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	**:**	Z-Stick
Model Number	**:**	ZSFS100-US
Applicant	**:**	Alpha 360 Co., Ltd.

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 (Connect to PC) 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 a 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 C63.4-2003 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.

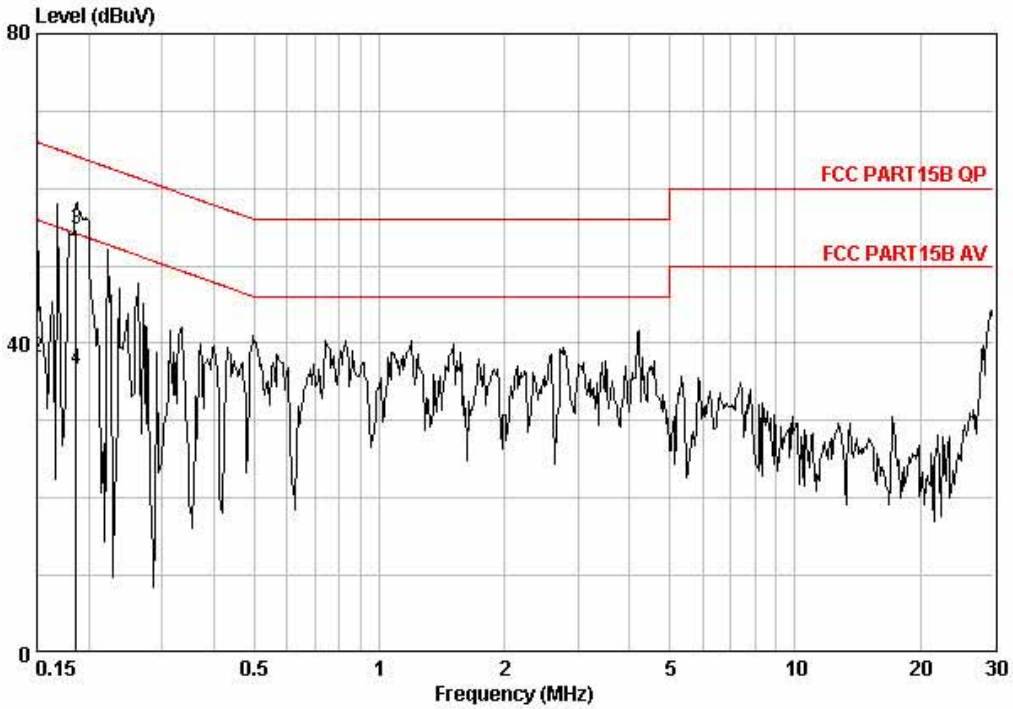
The test result are reported on Section 2.7.

2.7. Power Line Conducted Emission Measurement Results

PASS.

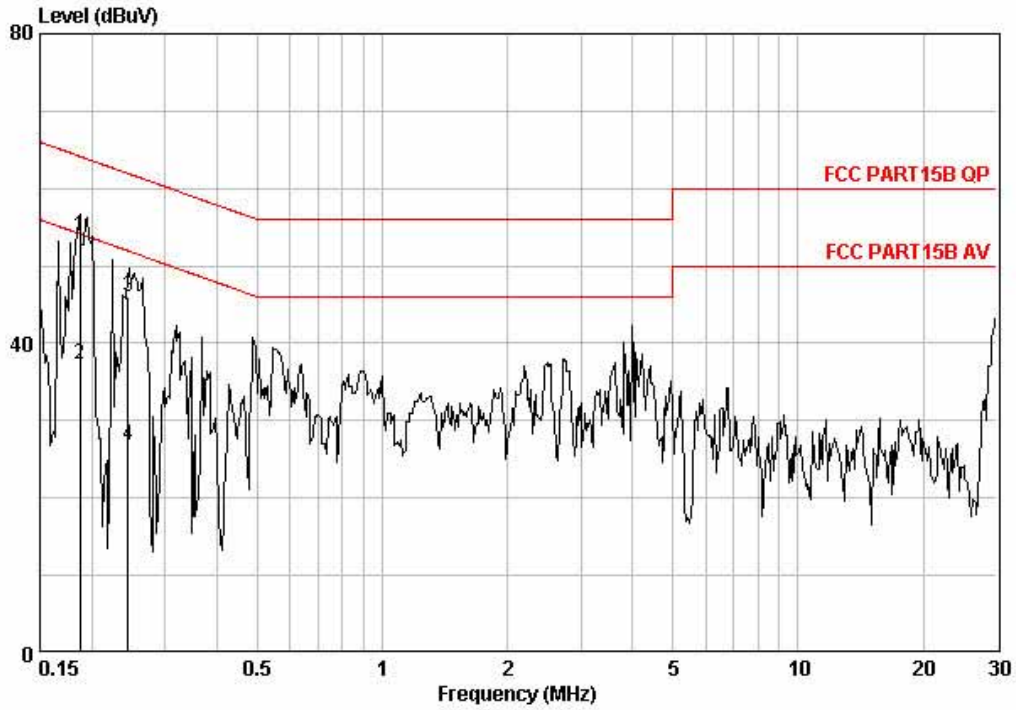
The frequency range from 150KHz to 30 MHz is investigated.

Please refer the following pages.



Site : Shielding Room
Condition : FCC PART15B QP LISN OLD LINE
EUT : Z-Stick
Model : ZSFS100-US
Mode : Connect to PC

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.15000	0.00	-0.05	51.20	51.15	66.00	-14.85	QP
2	0.15000	0.00	-0.05	38.20	38.15	56.00	-17.85	Average
3	0.18600	-0.08	-0.05	54.90	54.78	64.21	-9.44	QP
4	0.18600	-0.08	-0.05	36.70	36.58	54.21	-17.64	Average



Site : Shielding Room
Condition : FCC PART15B QP LISN OLD NEUTRAL
EUT : Z-Stick
Model : ZSFS100-US
Mode : Connect to PC

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.18700	-0.08	-0.04	54.00	53.88	64.17	-10.29	QP
2	0.18700	-0.08	-0.04	37.40	37.28	54.17	-16.89	Average
3	0.24400	-0.05	-0.04	46.00	45.91	61.96	-16.05	QP
4	0.24400	-0.05	-0.04	26.90	26.81	51.96	-25.15	Average

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.	Ultra-Broadband Antenna	Rohde & Schwarz	HL562	100015	Nov.12, 2007	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESI26	100009	Nov.12, 2007	1 Year
3.	EMI Test Software	Rohde & Schwarz	ESK1	N/A	N/A	N/A
4.	Bilog Antenna	Schwarzbeck	CBL6143	N/A	Nov.05, 2007	1 Year
5.	Coaxial cable	SGS	N/A	N/A	N/A	N/A
6.	PC	N/A	486DX2	N/A	N/A	N/A

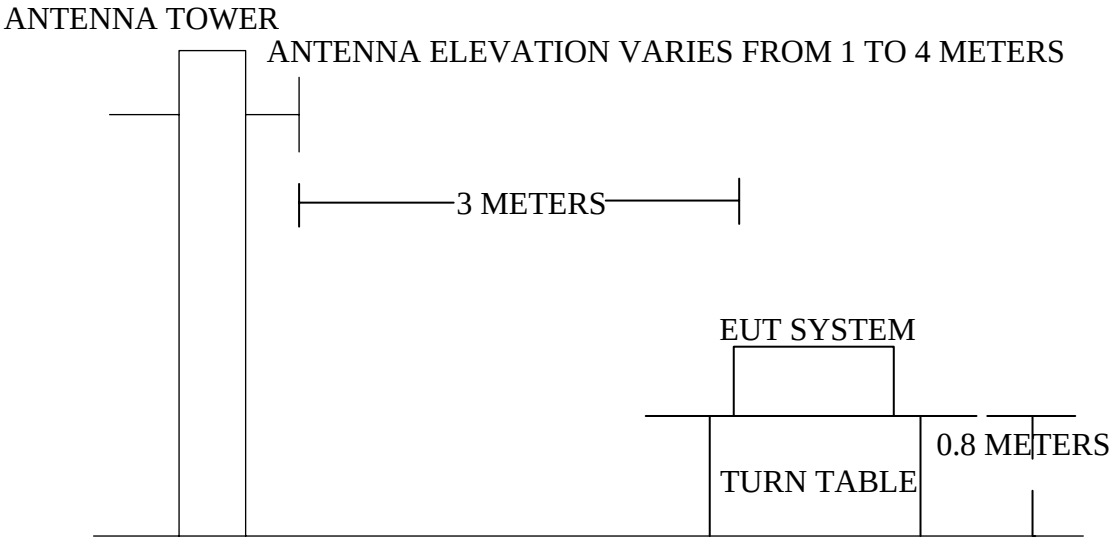
3.2. Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and simulators

3.2.1.1. For Connect to PC Mode

(EUT: Z-Stick)

3.2.2. Anechoic Chamber Test Setup Diagram



(EUT: Z-Stick)

3.3. Radiated Emission Limit (Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/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 (dB)μV = 20 log Emission level μV/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 equipments 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.

EUT	**:**	Z-Stick
Model Number	**:**	ZSFS100-US
Applicant	**:**	Alpha 360 Co., Ltd.

3.5. Operating Condition of EUT

3.5.1. Setup the EUT as shown in Section 3.2.

3.5.2. Let the EUT work in test mode (Connect to PC) and measure it.

3.6. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table 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 a 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 are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2003 on radiated emission measurement.

The bandwidth of the EMI test receiver (R&S ESI26) is set at 120KHz.

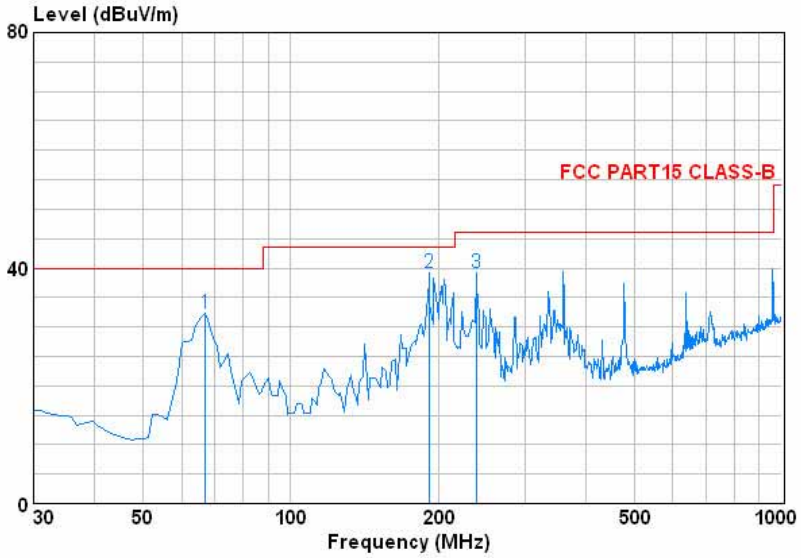
The frequency range from 30MHz to 1000MHz is checked.

The test mode (Connect to PC) is tested in chamber and all the test results are listed in Section 3.7.

3.7. Radiated Emission Measurement Results

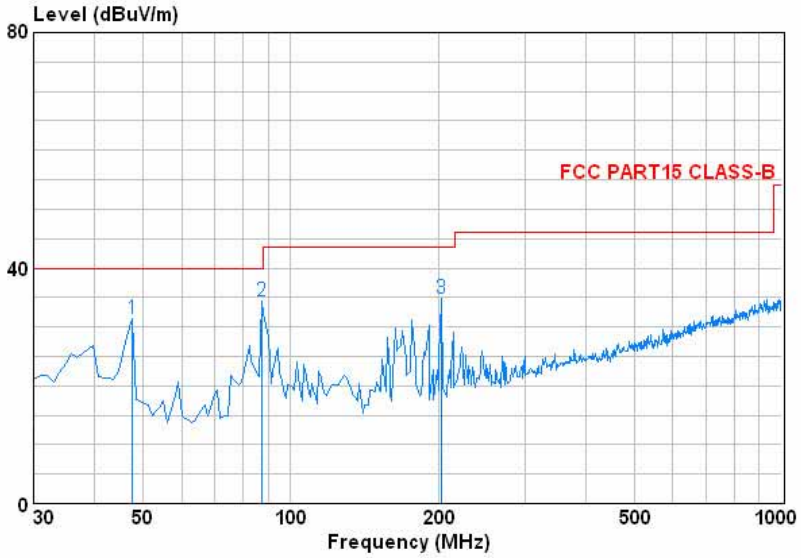
PASS.

Please refer the following pages.



Site : 3m-chamber site
Condition : FCC PART15 CLASS-B 3m 0042673 HORIZONTAL
EUT : Z-Stick
Model : ZSFS100-US
Test mode : Connect to PC

	Freq	Antenna Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB
1 @	66.860	6.99	0.80	28.01	52.63	32.40	40.00	-7.60
2 @	191.980	10.12	1.39	27.20	52.00	36.31	40.00	-3.69
3 @	238.550	11.93	1.62	26.96	52.67	39.26	47.00	-7.74



Site : 3m-chamber site
Condition : FCC PART15 CLASS-B 3m 0042673 VERTICAL
EUT: : Z-Stick
Model: : ZSFS100-US
Test mode : Connect to PC

	Freq	Antenna Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB
1	47.460	8.72	0.75	28.11	47.57	30.94	40.00	-9.06
2	87.230	8.45	1.10	27.96	52.33	33.92	40.00	-6.08
3	202.660	10.32	1.42	27.14	49.68	33.28	43.50	-10.22