FCC PART 15B, CLASS B

TEST REPORT

For

Beijing IRTOUCH SYSTEMS Co.,Ltd.

4th Floor, M8 Building, No.1 Jiuxianqiao East Road, Chaoyang District, Beijing, P.R.China

FCC ID: RDHRC1000G0XXS

Report Type:	**Product Type:**
Original Report	Infrared Touchscreen

Test Engineer:	Jack Wang
Report Number:	R1BJ121203050-00
Report Date:	2012-12-10
Reviewed By:	Harry Wu EMC Engineer
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan).

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Beijing IRTOUCH SYSTEMS Co.,Ltd.*'s product, model number: *RC1000G0XXS,RC1000W0XXS(W means wide screen size, G means General screen size, XX means Screen size)(FCC ID:RDHRC1000G0XXS)* (the "EUT") in this report is a Infrared Touchscreen, which was measured approximately:39.7 cm (L) x 33.0 cm (W) x 1.1 cm (H), rated input voltage: DC 5V From PC Input AC 120V/60Hz, the highest operating frequency is 48MHz.

Note: the series product, model RC1000G0XXS and RC1000W0XXS are electrically identical, and the difference between them please refers to the attached declaration letter. we selected RC1000G017S to all test.

All measurement and test data in this report was gathered from production sample serial number: 121203051 (Assigned by BACL, Dongguan). The EUT was received on 2012-12-04.

Objective

This report is prepared on behalf of *Beijing IRTOUCH SYSTEMS Co.,Ltd.* in accordance with Part 2, Subpart J, Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective of the manufacturer is to determine compliance with FCC Part 15B, Class B.

Related Submittal(s)/Grant(s)

No Related Submittal(s)/Grant(s)

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China

Test site at Bay Area Compliance Laboratories Corp. (Dongguan) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 02, 2012. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 273710. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

EUT Exercise Software

No software was used.

Equipment Modifications

No modification was made to the EUT.

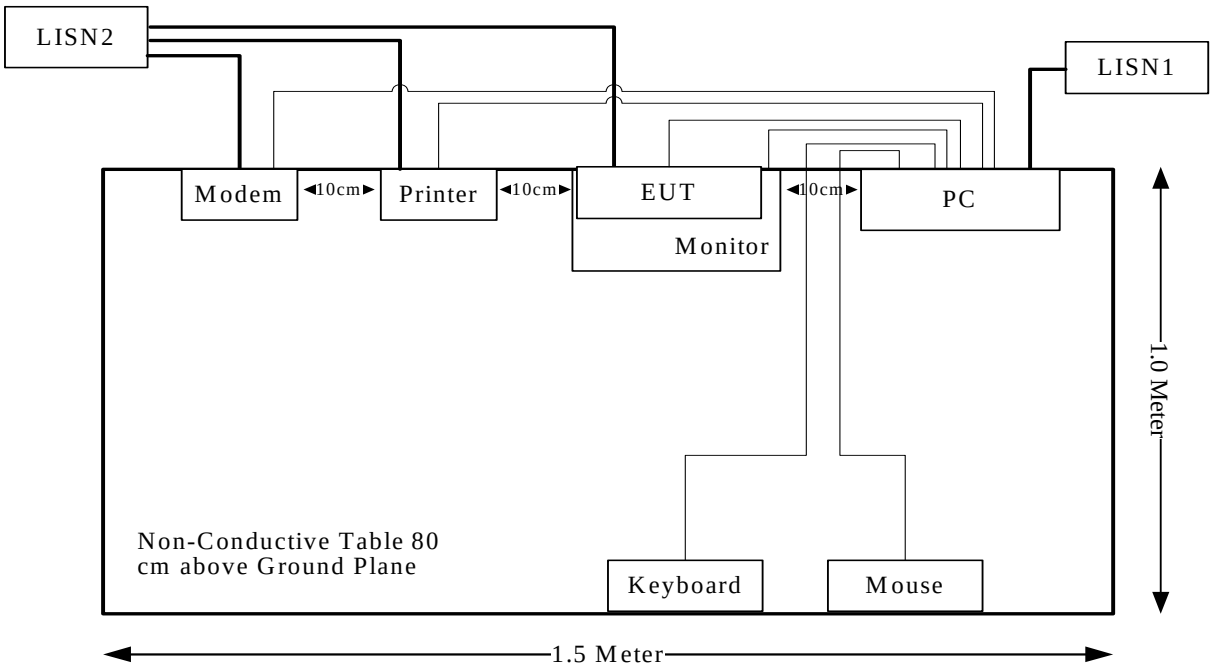
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
DELL	PC	DHS	N/A
DELL	LCD	E178WFPC	CN-OWY564-64180-7C4-2SQH
HP	Printer	C3941A	JPTVOB2337
DELL	Keyboard	SK-8115	CN-0DJ313-716716-05A-0DSO
SAST	Modem	AEM-2100	090200213
DELL	Mouse	MOC5UO	G1B0096D

External I/O Cable

Cable Description	Length (m)	From	To
Shielded Detachable Keyboard Cable	1.5	Keyboard Port / Host	Keyboard
Shielded Detachable Mouse Cable	1.5	Mouse Port / Host	Mouse
Shielded Detachable Printer Cable	1.2	Parallel Port / Host	Printer
Shielded Detachable Serial Cable	1.2	Serial Port / Host	Modem
Shielded Detachable VGA Cable	1.5	VGA Port / Host	Monitor

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§15.107	AC Line Conducted Emissions	Compliance
§15.109	Radiated Emissions	Compliance

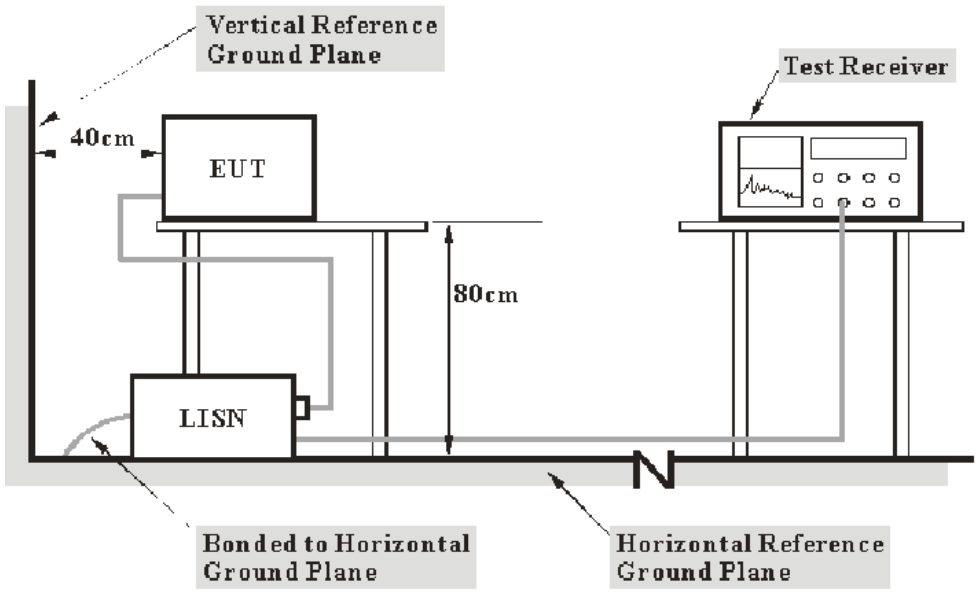
FCC §15.107 – AC LINE CONDUCTED EMISSIONS

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are Receiver, cable loss, and LISN.

Based on CISPR 16-4-2, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Laboratories Corp. (Dongguan) is 1.5 dB, and the uncertainty will not be taken into consideration for all the test data recorded in the report.

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2009 measurement procedure. The specification used was with the FCC Part 15.107 Class B limits.

The PC was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	***IF B/W***
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the PC was connected to the outlet of the first LISN and the other support equipments were connected to the outlet of the second LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCS 30	830245/006	2012-11-29	2013-11-28
R&S	LISN1	ESH3-Z5	843331/015	2012-09-17	2013-09-16
R&S	LISN2	ESH3-Z5	100113	2012-11-29	2013-11-28

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.107, with the worst margin reading of:

9.71 dB at **0.180MHz** in the **Line** conducted

Test Data

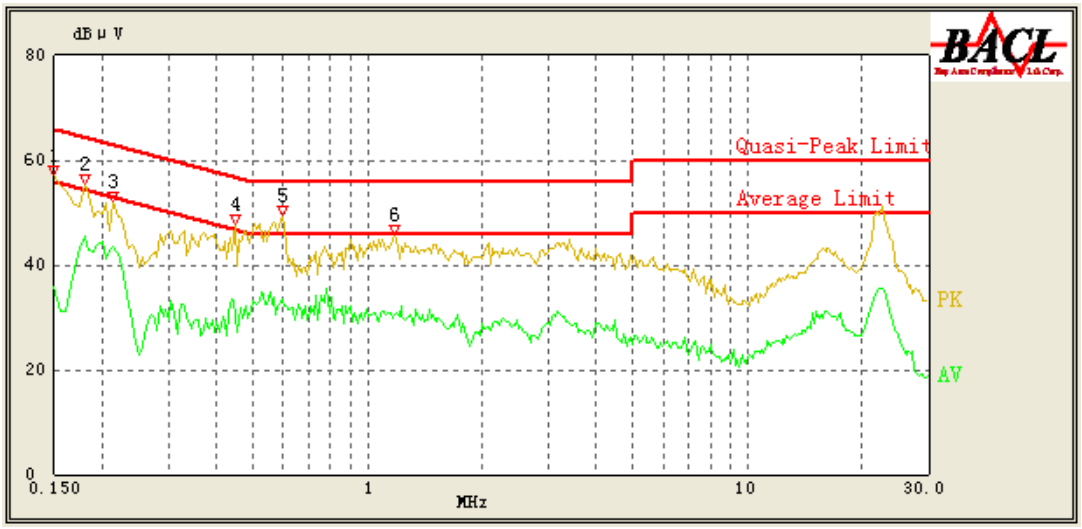
Environmental Conditions

Temperature:	22.6 °C
Relative Humidity:	62 %
ATM Pressure:	101.2 kPa

The testing was performed by Jack Wang on 2012-12-04.

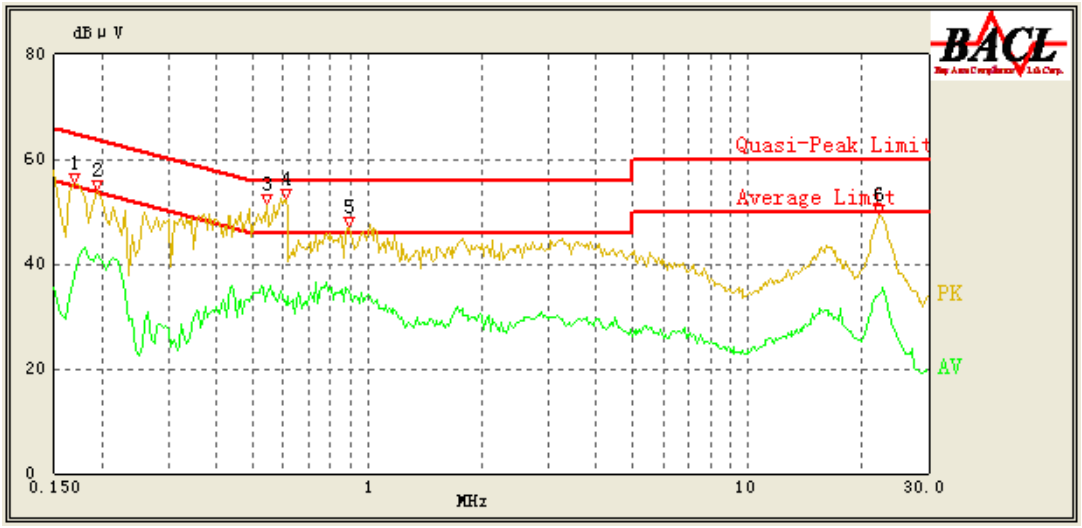
Test mode: Running

120 V, 60 Hz, Line:



No.	Frequency (MHz)	Cord. Reading (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/AV/QP)
1	0.150	52.45	1.84	66.00	13.55	QP
2	0.150	35.72	1.84	56.00	20.28	AV
3	0.180	49.79	1.69	65.14	15.35	QP
4	0.180	45.43	1.69	55.14	9.71	AV
5	0.215	48.56	1.51	64.14	15.58	QP
6	0.215	43.58	1.51	54.14	10.56	AV
7	0.450	38.22	0.68	57.43	19.21	QP
8	0.445	33.18	0.69	47.57	14.39	AV
9	0.600	43.74	0.49	56.00	12.26	QP
10	0.595	33.41	0.49	46.00	12.59	AV
11	1.175	38.47	0.24	56.00	17.53	QP
12	1.170	30.10	0.24	46.00	15.90	AV

120 V, 60 Hz, Neutral:



No.	Frequency (MHz)	Cord. Reading (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/AV/QP)
1	0.170	47.58	1.74	65.43	17.85	QP
2	0.170	37.87	1.74	55.43	17.56	AV
3	0.195	46.38	1.61	64.71	18.33	QP
4	0.195	41.87	1.61	54.71	12.84	AV
5	0.545	45.43	0.52	56.00	10.57	QP
6	0.545	34.24	0.52	46.00	11.76	AV
7	0.610	38.55	0.48	56.00	17.45	QP
8	0.610	32.07	0.48	46.00	13.93	AV
9	0.890	41.54	0.30	56.00	14.46	QP
10	0.885	35.15	0.30	46.00	10.85	AV
11	22.270	41.94	1.77	60.00	18.06	QP
12	22.260	34.14	1.77	50.00	15.86	AV

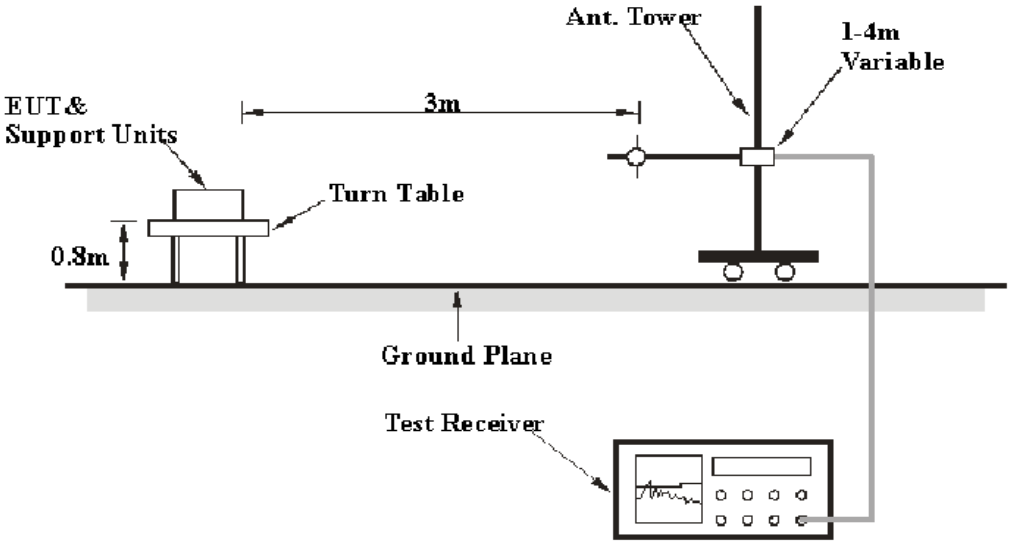
FCC §15.109 - RADIATED EMISSIONS

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on CISPR 16-4-2, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of radiation emissions measurement from 30 MHz to 1 GHz at Bay Area Compliance Laboratories Corp. (Dongguan) is 4.9 dB, and the uncertainty will not be taken into consideration for all the test data recorded in the report.

EUT Setup



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2009. The specification used was the FCC Part 15.109, Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The PC connected to a 120 VAC/60 Hz power source.

EMI Test Receiver Setup

According to FCC 15.33 requirements, the system was measured from 30 MHz to 1 GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	***RBW***	***Video B/W***	***Detector***
30MHz – 1000 MHz	120 kHz	300 kHz	QP

Test Procedure

For the radiated emissions test, the PC was connected to the first AC floor outlet and the other support equipments were connected to the second AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1 GHz

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Loss and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Loss + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2012-05-14	2013-05-13
Sunol Sciences	Hybrid Antennas	JB3	A060611-1	2011-09-06	2013-09-05
HP	Pre-amplifier	8447E	2434A02181	2012-10-08	2013-10-07
R&S	Spectrum Analyzer	FSEM 30	DE31388	2012-03-15	2013-03-14
ETS-LINDGREN	Horn Antenna	3115	000 527 35	2012-09-06	2014-09-05
Mini-Circuits	Wideband Amplifier	ZVA-183-S+	96901149	N/A	N/A

Test Results Summary

According to the data in the following table, the EUT complied with the FCC §15.109, Class B, with the worst margin reading of:

3.18 dB at **298.6900 MHz** in the **Vertical** polarization

Test Data

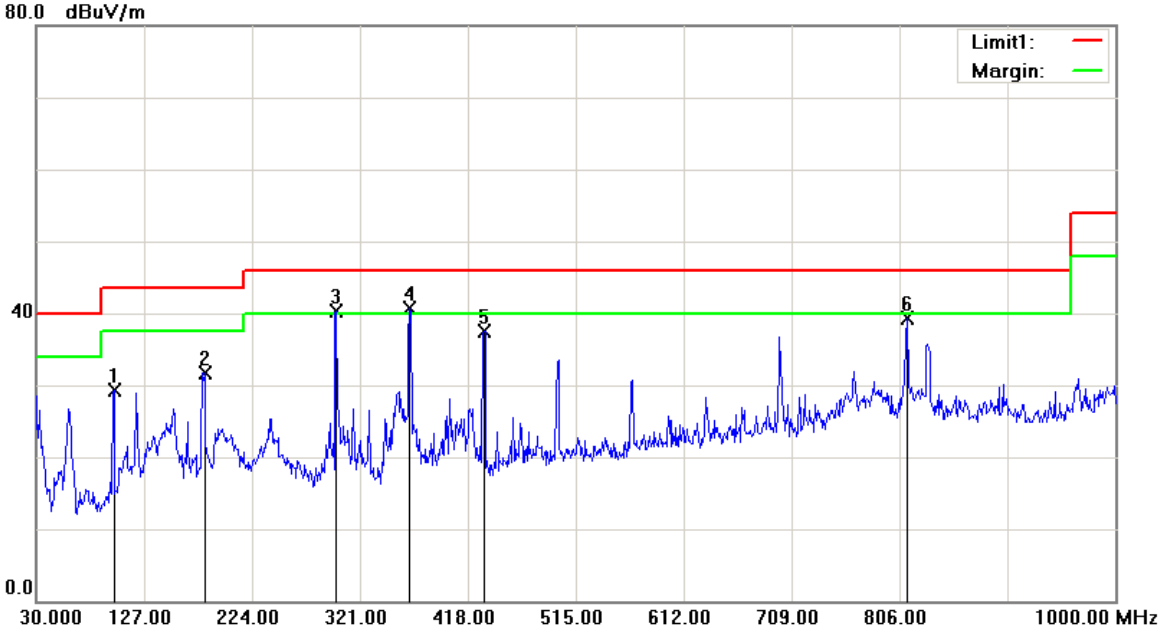
Environmental Conditions

Temperature:	22°C
Relative Humidity:	60 %
ATM Pressure:	101.2 kPa

The testing was performed by Jack Wang on 2012-12-05.

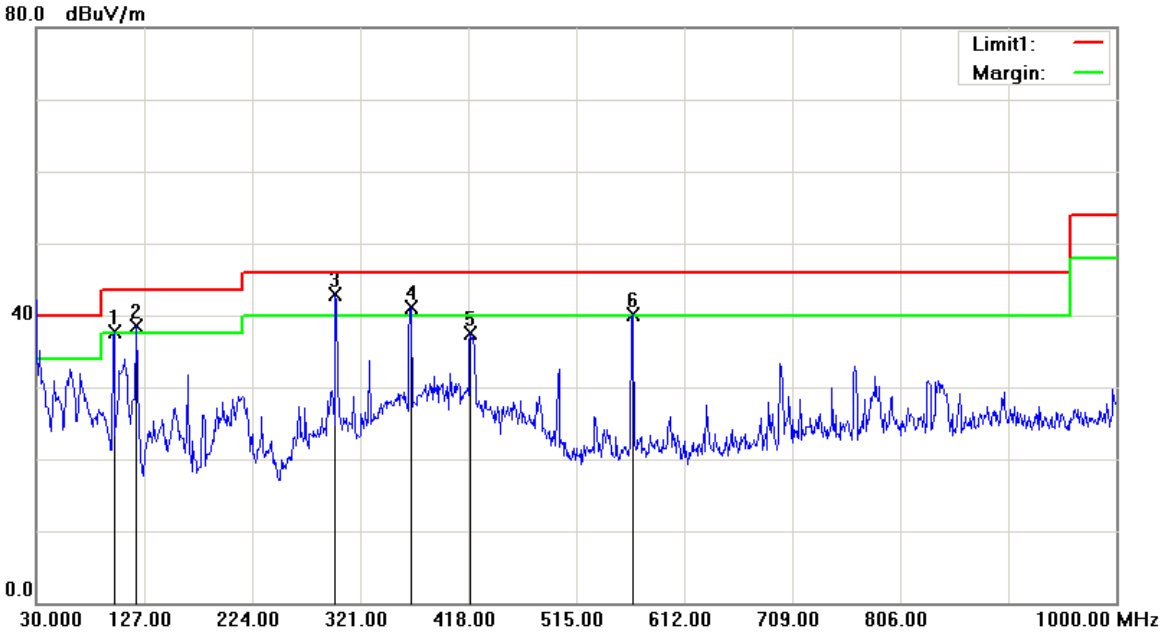
Test mode: Running

Horizontal:



Frequency (MHz)	Receiver Reading (dBuV/m)	Detector (PK/QP/Ave)	Correction Factor (dB)	Cord. Amp. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
99.8400	39.47	QP	-10.13	29.34	43.50	14.16
181.3200	40.80	QP	-9.05	31.75	43.50	11.75
299.6600	46.51	QP	-6.20	40.31	46.00	5.69
365.6200	45.22	QP	-4.54	40.68	46.00	5.32
432.5500	41.02	QP	-3.50	37.52	46.00	8.48
812.7900	37.45	QP	1.92	39.37	46.00	6.63

Vertical:



Frequency (MHz)	Receiver Reading (dBuV/m)	Detector (PK/QP/Ave)	Correction Factor (dB)	Cord. Amp. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
99.8400	47.79	QP	-10.13	37.66	43.50	5.84
119.2400	44.99	QP	-6.50	38.49	43.50	5.01
298.6900	49.03	QP	-6.21	42.82	46.00	3.18*
366.5900	45.74	QP	-4.56	41.18	46.00	4.82
419.9400	41.13	QP	-3.57	37.56	46.00	8.44
565.4400	41.62	QP	-1.55	40.07	46.00	5.93

*Within measurement uncertainty!

DECLARATION LETTER

IRTOUCH
SYSTEMS

DECLARATION OF SIMILARITY

December 10, 2012

To:
Bay Area Compliance Laboratories Corp.
1274 Anvilwood Ave.
Sunnyvale, CA 94089
Phone: 408-732-9162, Fax: 408-732-9164
http://www.baclcorp.com

Dear Sir or Madam:

We, Beijing IRTOUCH SYSTEMS co., Ltd, hereby declare that product: Infrared Touchscreen, model(s): RC1000G0XXS, RC1000W0XXS（W means wide screen size, G means General screen size, XX means Screen size ）are electrically identical with model: RC1000G017S tested by BACL, the results of which are featured in BACL project: R1BJ121203050

A description of the differences between the tested model and those that are declared similar are as follows:
The differences only product size

Please contact me should there be need for any additional clarification or information.

Best Regards,

Responsible Party Signature: Lisa Lu

Title: Manager

Lisa Lu
4th Floor, M8 Building,No.1Jiuxianqiao East Road,Chaoyang District, Beijing, P.R. China

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