EMC TEST REPORT
for
I.R.I.S.S.A. Image Recognition Integrated Systems

IRISPen
Model No.: IRISPen Executive 7, IRISPen Express 7

Prepared for	:	I.R.I.S.S.A. Image Recognition Integrated Systems
Address	:	RUE DU BOSQUET 10 B-1348 LOUVAINE-LA-NEUVE, BELGIUM
Prepared by	:	Accurate Technology Co., Ltd.
Address	:	F1, Bldg. A, Changyuan New Material Port, Keyuan Rd., Science & Industry Park, Nanshan, Shenzhen Guangdong, P.R. China
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Report No.	:	ATE20140474
Date of Test	:	April 9, 2014
Date of Report	:	April 15, 2014

TABLE OF CONTENT

Description Page

Test Report

TEST REPORT

Applicant	:	I.R.I.S.S.A. Image Recognition Integrated Systems
Manufacturer	:	Global Brands Manufacture Limited
EUT Description	:	IRISPen
Model No.	:	IRISPen Executive 7, IRISPen Express 7

Measurement Procedure Used:

EN 55022: 2010
EN 55024: 2010 (IEC 61000-4-2: 2008
IEC 61000-4-3: 2010
IEC 61000-4-8: 2009)

The device described above is tested by Accurate Technology Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Accurate Technology Co., Ltd. is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the above requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Accurate Technology Co., Ltd.

Date of Test : April 9, 2014

Prepared by : Kelly Cheng

(Kelly Cheng, Engineer)

Approved & Authorized Signer : Sean Liu

(Sean Liu, Manager)

1. TEST RESULTS SUMMARY

Test Items	Test Standard	Test Results
Conducted Emission	EN 55022: 2010	Pass
Radiated Emission	EN 55022: 2010	Pass
Electrostatic Discharge Immunity	EN 55024: 2010 (IEC 61000-4-2: 2008)	Pass
Radiated Electromagnetic Fields Immunity	EN 55024: 2010 (IEC 61000-4-3: 2010)	Pass
Magnetic Field Immunity	EN 55024: 2010 (IEC 61000-4-8: 2009)	Pass

2. GENERAL INFORMATION

2.1.Description of Device (EUT)

EUT	:	IRISPen
Model No.	:	IRISPen Executive 7, IRISPen Express 7 (Note: Above models are identical in schematic, structure and critical components except for model name, appearance and power. So we prepare IRISPen Executive 7 for test only.)
Rating	:	DC 5V (Powered by PC)
Applicant	:	I.R.I.S.S.A. Image Recognition Integrated Systems
Address	:	RUE DU BOSQUET 10 B-1348 LOUVAINE-LA-NEUVE, BELGIUM
Manufacturer	:	Global Brands Manufacture Limited
Address	:	EMS Business Unit, Block F, Yue Yuen Industrial Estate, Huang Jiang Zhen, Dong Guan City, Guang Dong Province, China
Date of sample received	:	April 3, 2014
Date of Test	:	April 9, 2014

2.2.Accessory and Auxiliary Equipment

Notebook PC	:	Manufacturer: SONY M/N: PCG-663P S/N: 28123170 7202526

2.3.Description of Test Facility

EMC Lab : Accredited by TUV Rheinland Shenzhen

Listed by FCC
The Registration Number is 253065
Listed by FCC
The Registration Number is 752051

Listed by Industry Canada
The Registration Number is 5077A-1
Listed by Industry Canada
The Registration Number is 5077A-2

Accredited by China National Accreditation Committee for Laboratories
The Certificate Registration Number is L3193

Name of Firm : Accurate Technology Co., Ltd.
Site Location : F1, Bldg. A&D, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan District, Shenzhen 518057, P.R. China

2.4. Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty (30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty (Above 1GHz)	=	4.06dB, k=2

3. MEASURING DEVICE AND TEST EQUIPMENT

3.1.For Conducted Emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCS30	100307	Jan. 11, 2014	1 Year
2.	Test Receiver	Rohde & Schwarz	ESPI3	100396/003	Jan. 11, 2014	1 Year
3.	Test Receiver	Rohde & Schwarz	ESPI3	101526/003	Jan. 11, 2014	1 Year
4.	L.I.S.N.	Schwarzbeck	NLSK8126	8126431	Jan. 11, 2014	1 Year
5.	L.I.S.N.	Rohde & Schwarz	ESH3-Z5	100305	Jan. 11, 2014	1 Year
6.	L.I.S.N.	Rohde & Schwarz	ESH3-Z5	100310	Jan. 11, 2014	1 Year
7.	L.I.S.N.	Rohde & Schwarz	ESH3-Z6	100132	Jan. 11, 2014	1 Year
8.	L.I.S.N.	Rohde & Schwarz	ESH3-Z6	100979	Jan. 11, 2014	1 Year
9.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100305	Jan. 11, 2014	1 Year
10.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100312	Jan. 11, 2014	1 Year
11.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100815	Jan. 11, 2014	1 Year
12.	50Ω Coaxial Switch	Anritsu Corp	MP59B	6200283936	Jan. 11, 2014	1 Year
13.	50Ω Coaxial Switch	Anritsu Corp	MP59B	6200283933	Jan. 11, 2014	1 Year
14.	50Ω Coaxial Switch	Anritsu Corp	MP59B	6200506474	Jan. 11, 2014	1 Year
15.	VOLTAGE PROBE	Schwarzbeck	TK9416	N/A	Jan. 11, 2014	1 Year
16.	RF CURRENT PROBE	Rohde & Schwarz	EZ-17	100048	Jan. 11, 2014	1 Year
17.	8-Wire Impedance Stabilisation Network	Schwarzbeck	CAT5 8158	8158-0035	Jan. 11, 2014	1 Year
18.	RF Coaxial Cable	SUHNER	N-2m	No.2	Jan. 11, 2014	1 Year
19.	RF Coaxial Cable	SUHNER	N-2m	No.3	Jan. 11, 2014	1 Year
20.	RF Coaxial Cable	SUHNER	N-2m	No.14	Jan. 11, 2014	1 Year

3.2. For Radiated Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 11, 2014	1 Year
2.	Spectrum Analyzer	Rohde&Schwarz	FSV40	101495	Jan. 11, 2014	1 Year
3.	Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 11, 2014	1 Year
4.	Test Receiver	Rohde& Schwarz	ESPI3	100396/003	Jan. 11, 2014	1 Year
5.	Test Receiver	Rohde& Schwarz	ESPI3	101526/003	Jan. 11, 2014	1 Year
6.	Bilog Antenna	Schwarzbeck	VULB9163	9163-194	Jan. 15, 2014	1 Year
7.	Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 15, 2014	1 Year
8.	Log.-Per.Antenna	Schwarzbeck	VUSLP 9111B	9111B-074	Jan. 15, 2014	1 Year
9.	Biconical Broad Band Antenna	Schwarzbeck	VHBB 9124+BBA 9106	9124-617	Jan. 15, 2014	1 Year
10.	Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 15, 2014	1 Year
11.	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 15, 2014	1 Year
12.	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1067	Jan. 15, 2014	1 Year
13.	Vertical Active Monopole Antenna	Schwarzbeck	VAMP 9243	9243-370	Jan. 15, 2014	1 Year
14.	RF Switching Unit+PreAMP	Compliance Direction	RSU-M2	38322	Jan. 11, 2014	1 Year
15.	Pre-Amplifier	Agilent	8447D	294A10619	Jan. 11, 2014	1 Year
16.	Pre-Amplifier	Rohde&Schwarz	CBLU11835 40-01	3791	Jan. 11, 2014	1 Year
17.	50 Coaxial Switch	Anritsu Corp	MP59B	6200237248	Jan. 11, 2014	1 Year
18.	50 Coaxial Switch	Anritsu Corp	MP59B	6200506474	Jan. 11, 2014	1 Year
19.	RF Coaxial Cable	Schwarzbeck	N-5m	No.1	Jan. 11, 2014	1 Year
20.	RF Coaxial Cable	Schwarzbeck	N-1m	No.6	Jan. 11, 2014	1 Year
21.	RF Coaxial Cable	Schwarzbeck	N-1m	No.7	Jan. 11, 2014	1 Year
22.	RF Coaxial Cable	SUHNER	N-3m	No.8	Jan. 11, 2014	1 Year
23.	RF Coaxial Cable	RESENBERGER	N-3.5m	No.9	Jan. 11, 2014	1 Year
24.	RF Coaxial Cable	SUHNER	N-6m	No.10	Jan. 11, 2014	1 Year
25.	RF Coaxial Cable	RESENBERGER	N-12m	No.11	Jan. 11, 2014	1 Year
26.	RF Coaxial Cable	RESENBERGER	N-0.5m	No.12	Jan. 11, 2014	1 Year
27.	RF Coaxial Cable	SUHNER	N-2m	No.13	Jan. 11, 2014	1 Year
28.	RF Coaxial Cable	SUHNER	N-0.5m	No.15	Jan. 11, 2014	1 Year
29.	RF Coaxial Cable	SUHNER	N-2m	No.16	Jan. 11, 2014	1 Year
30.	RF Coaxial Cable	RESENBERGER	N-6m	No.17	Jan. 11, 2014	1 Year

3.3. For Electrostatic Discharge Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	ESD Tester	HAEFELY	PESD1610	H4001552	Jan. 15, 2014	1 Year

3.4.For RF Strength Susceptibility Test

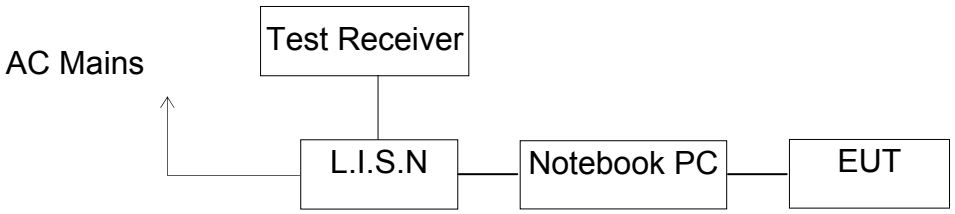
Item	Equipment	Manufacturer	Model No.	Eqpt No.	Last Cal.	Cal. Interval
1.	Signal Generator	Rohde&Schwarz	SMB100A	SB9422/02	Aug. 21, 2013	1 Year
2.	Signal Generator	Rohde&Schwarz	SMF100A	SB8501/03	May 14, 2013	1 Year
3.	Voltage Meter	Rohde&Schwarz	URV5-Z2	SB9422/03	Aug. 21, 2013	1 Year
4.	Voltage Meter	Rohde&Schwarz	URV5-Z2	SB9422/04	Aug. 21, 2013	1 Year
5.	Power Probe	Rohde&Schwarz	NRP-Z81	SB9422/06	Aug. 21, 2013	1 Year
6.	Power Probe	Rohde&Schwarz	NRP-Z81	SB9422/07	Aug. 21, 2013	1 Year
7.	Power Meter	Rohde&Schwarz	NRP	SB9422/05	Aug. 21, 2013	1 Year
8.	Power Amplifier	PRANA	MT310A	SB9422/08	Aug. 21, 2013	1 Year
9.	Broadband Antenna	Rohde&Schwarz	HL046E	SB9422/13	Aug. 21, 2013	1 Year
10.	Horn Antenna	AR	ATH800M 5GA	SB9422/15	Aug. 21, 2013	1 Year
11.	Power Amplifier	MILMEGA	A-001	SB9422/10	Aug. 21, 2013	1 Year
12.	Power Meter	Rohde&Schwarz	NRVD	SB3437	Aug. 21, 2013	1 Year

3.5.For Magnetic Field Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Magnetic Field Tester	HAEFELY	MAG100	150577	Jan. 11, 2014	1 Year

4. POWER LINE CONDUCTED EMISSION MEASUREMENT

4.1.Block Diagram of Test Setup



(EUT: IRISPen)

4.2.Measuring Standard

EN 55022: 2010

4.3.Power Line Conducted Emission Limits (Class B)

Frequency (MHz)	Limit dB(μV)	
	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0
NOTE1: The lower limit shall apply at the transition frequencies. NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.		

4.4.EUT Configuration on Measurement

The following equipments are installed on Conducted Emission Measurement to meet EN 55022 requirements and operating in a manner, which tends to maximize its emission characteristics in a normal application.

4.4.1.IRISPen (EUT)

Model Number : IRISPen Executive 7
Manufacturer : Global Brands Manufacture Limited

4.5.Operating Condition of EUT

4.5.1.Setup the EUT as shown on Section 4.1.

4.5.2.Turn on the power of all equipments.

4.5.3.Let the EUT work in measuring mode (On) and measure it.

4.6.Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and connected to the AC mains through Line Impedance Stability Network (L.I.S.N). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are investigated to find out the maximum conducted emission according to the EN55022 regulations during conducted emission measurement.

The bandwidth of the field strength meter (R&S Test Receiver ESCS30) is set at 9kHz in 150kHz-30MHz and 200Hz in 9kHz -150kHz.

The frequency range from 150kHz to 30MHz is investigated for AC mains.

4.7.Measuring Results

PASS.

The frequency range from 150 kHz to 30MHz is investigated

Test Mode: On

Live

MEASUREMENT RESULT: "M-18_fin"

4/9/2014 1:15PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.675618	41.30	10.8	56	14.7	QP	L1	GND
1.158116	38.40	10.9	56	17.6	QP	L1	GND
23.777863	49.00	11.5	60	11.0	QP	L1	GND

MEASUREMENT RESULT: "M-18_fin2"

4/9/2014 1:15PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.290996	44.50	10.6	51	6.0	AV	L1	GND
0.675618	41.10	10.8	46	4.9	AV	L1	GND
0.773833	40.10	10.8	46	5.9	AV	L1	GND

Neutral

MEASUREMENT RESULT: "M-17_fin"

4/9/2014 1:12PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.681033	39.30	10.8	56	16.7	QP	N	GND
1.162749	39.90	10.9	56	16.1	QP	N	GND
23.777863	48.90	11.5	60	11.1	QP	N	GND

MEASUREMENT RESULT: "M-17_fin2"

4/9/2014 1:12PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.678320	41.60	10.8	46	4.4	AV	N	GND
0.773833	40.80	10.8	46	5.2	AV	N	GND
1.549934	39.50	10.9	46	6.5	AV	N	GND

Note: Emissions attenuated more than 20 dB below the permissible value are not reported.

The spectral diagrams are attached as below.

ACCURATE TECHNOLOGY CO.,LTD

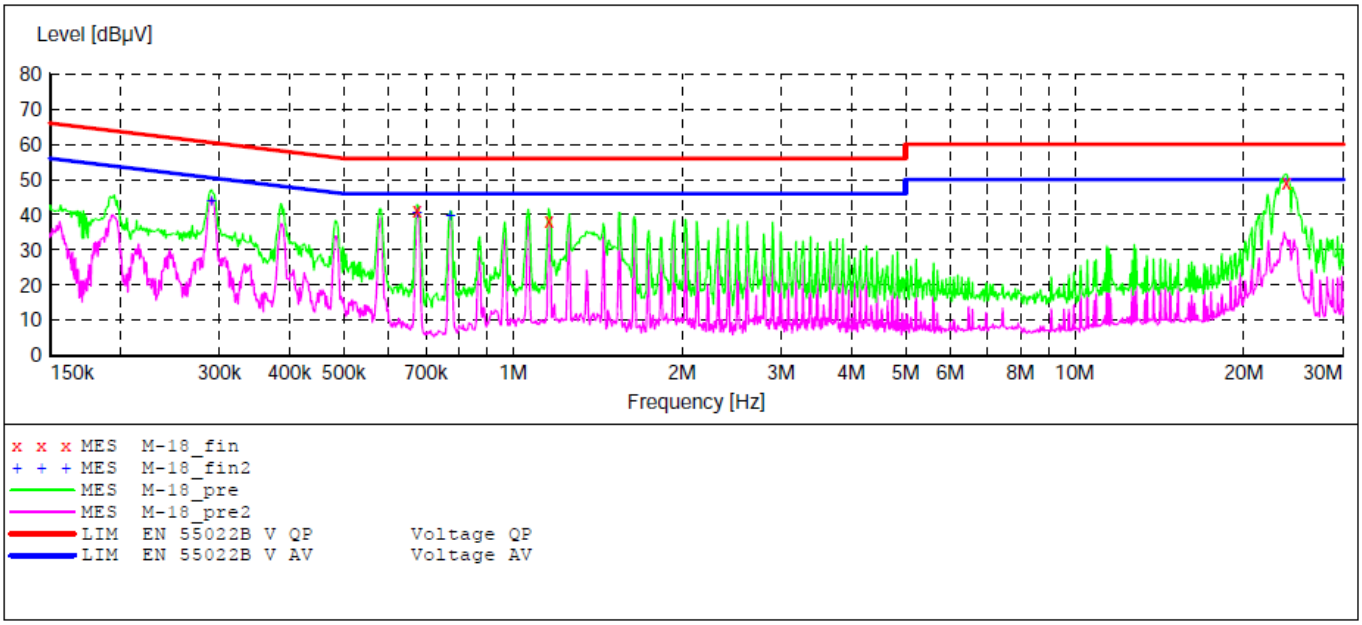
CONDUCTED EMISSION STANDARD EN 55022 B

```
EUT:                  IRISPen M/N:IRISPen Executive 7
Manufacturer:         Global
Operating Condition:  ON
Test Site:            1#Shielding Room
Operator:             TOM
Test Specification:   L  230V/50Hz
Comment:              Report No.:ATE20140474
Start of Test:        4/9/2014 / 1:13:15PM
```

SCAN TABLE: "V 150K-30MHz fin"

Short Description: SUB STD VTERM2 1.70

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	30.0 MHz	4.5 kHz	QuasiPeak Average	1.0 s	9 kHz	NSLK8126 2008



ACCURATE TECHNOLOGY CO.,LTD

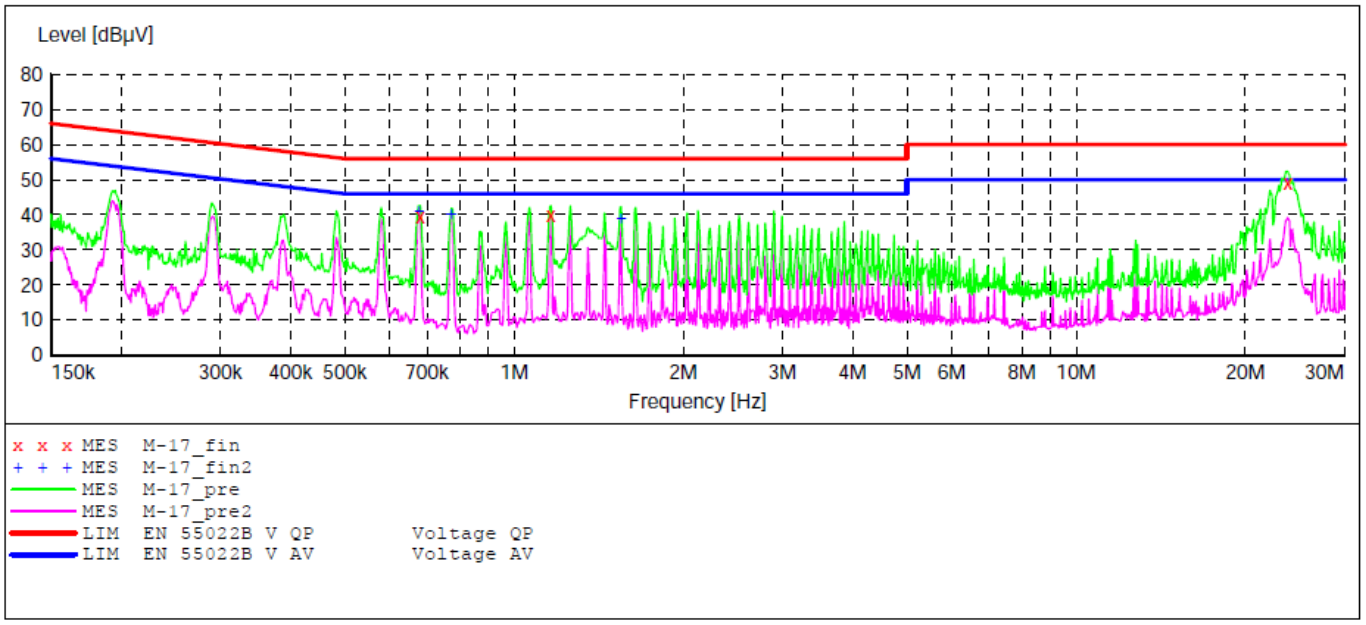
CONDUCTED EMISSION STANDARD EN 55022 B

EUT:	IRISPen M/N:IRISPen Executive 7
Manufacturer:	Global
Operating Condition:	ON
Test Site:	1#Shielding Room
Operator:	TOM
Test Specification:	N 230V/50Hz
Comment:	Report No.:ATE20140474
Start of Test:	4/9/2014 / 1:10:02PM

SCAN TABLE: "V 150K-30MHz fin"

Short Description: SUB STD VTERM2 1.70

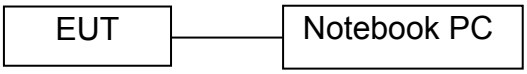
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	30.0 MHz	4.5 kHz	QuasiPeak Average	1.0 s	9 kHz	NSLK8126 2008



5. RADIATED EMISSION MEASUREMENT

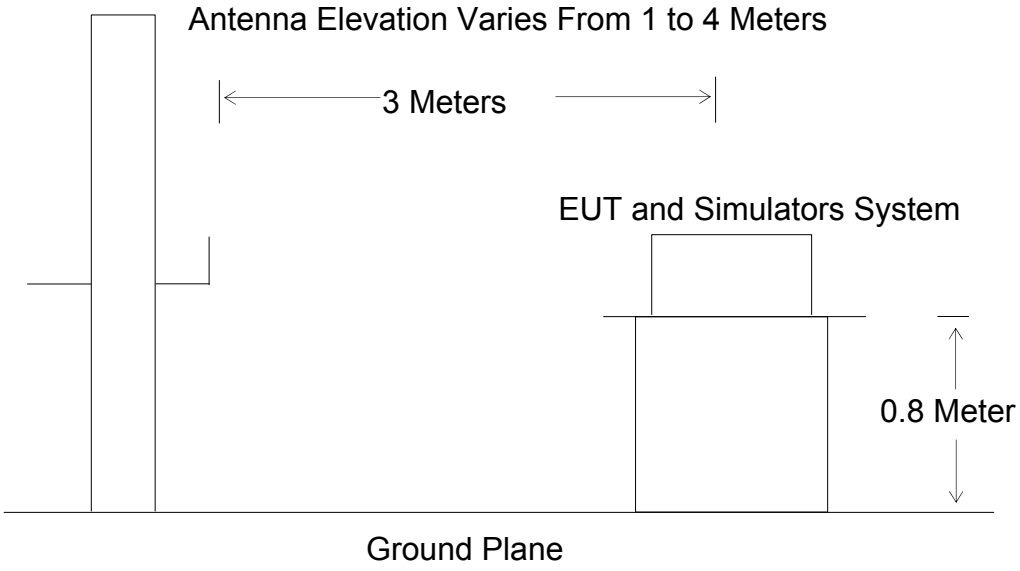
5.1.Block Diagram of Test

5.1.1.Block diagram of connection between the EUT and simulators



(EUT: IRISPen)

5.1.2.Block diagram of test setup (In chamber)



(EUT: IRISPen)

5.2.Measuring Standard

EN 55022: 2010

5.3.Radiated Emission Limits

5.3.1. Limit below 1GHz

Frequency (MHz)	Quasi-peak limits dB(μV/m)
30 – 230	40
230 - 1000	47
Note: (1) The smaller limit shall apply at the combination point between two frequency bands. (2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.	

5.3.2. Limit above 1GHz

Frequency (GHz)	Average Limit dB(μV/m)	Peak Limit dB(μV/m)
1 – 3	50	70
3 - 6	54	74
Note: The lower limit applies at the transition frequency.		

5.4.Conditional Testing Procedure

If the highest frequency of the internal sources of the EUT is less than 108MHz, the measurement shall only be made up to 1GHz.

If the highest frequency of the internal sources of the EUT is between 108MHz, and 500MHz, the measurement shall only be made up to 2GHz.

If the highest frequency of the internal sources of the EUT is between 500MHz, and 1GHz, the measurement shall only be made up to 5GHz.

If the highest frequency of the internal sources of the EUT is above 1GHz, the measurement shall only be made up to 5 times the highest frequency or 6GHz, whichever is less.

5.5.EUT Configuration on Test

The configuration of the EUT is same as Section 4.4.

5.6.Operating Condition of EUT

5.6.1.Setup the EUT as shown on Section 5.1.

5.6.2.Turn on the power of all equipments.

5.6.3.Let the EUT work in measuring mode (On) and measure it.

5.7.Test Procedure

The EUT is placed on a turntable, which is 0.8 meter high above the ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Bilog antenna (calibrated by Dipole Antenna) is used as a receiving antenna. Both horizontal and vertical polarizations of the antenna are set on test.

The bandwidth of the Receiver (ESCS30) is set at 120kHz in 30-1000MHz, and 1MHz in above 1000MHz.

5.8.Measuring Results

PASS.

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

Test Mode: On

Polarization

Horizontal

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	72.5916	53.39	-21.50	31.89	40.00	-8.11	QP
2	167.8242	50.58	-22.03	28.55	40.00	-11.45	QP
3	216.0240	56.94	-19.96	36.98	40.00	-3.02	QP

Vertical

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	71.8319	53.86	-21.45	32.41	40.00	-7.59	QP
2	216.0240	50.80	-19.96	30.84	40.00	-9.16	QP
3	576.6443	44.07	-12.21	31.86	47.00	-15.14	QP

Note: Emissions attenuated more than 20 dB below the permissible value are not reported.

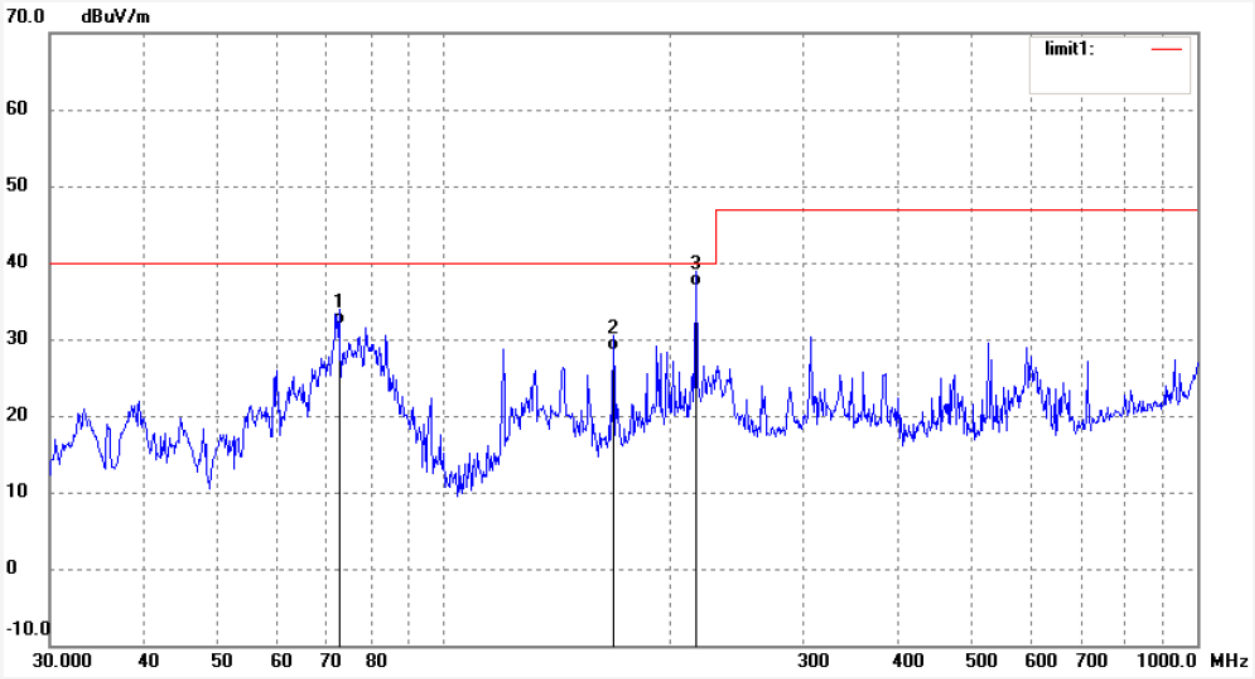
The spectral diagrams are attached as below.

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: tom #1961
Standard: EN55022 ClassB Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: IRISPen
Mode: ON
Model: IRISPen Executive 7
Manufacturer: Global

Polarization: Horizontal
Power Source: AC 230V/50Hz
Date: 14/04/09/
Time: 13/44/13
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20140474



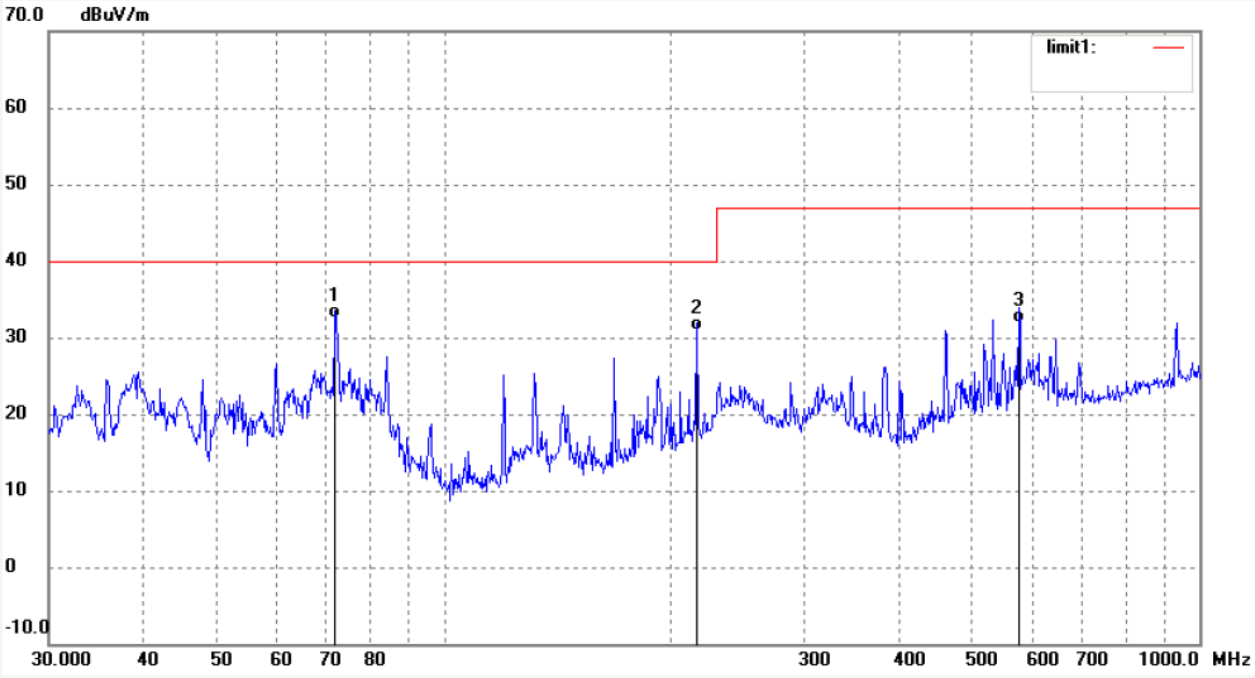
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	72.5916	53.39	-21.50	31.89	40.00	-8.11	QP			
2	167.8242	50.58	-22.03	28.55	40.00	-11.45	QP			
3	216.0240	56.94	-19.96	36.98	40.00	-3.02	QP			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: tom #1960
Standard: EN55022 ClassB Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: IRISPen
Mode: ON
Model: IRISPen Executive 7
Manufacturer: Global

Polarization: Vertical
Power Source: AC 230V/50Hz
Date: 14/04/09/
Time: 13/42/43
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20140474

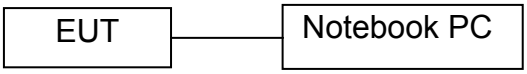


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	71.8319	53.86	-21.45	32.41	40.00	-7.59	QP			
2	216.0240	50.80	-19.96	30.84	40.00	-9.16	QP			
3	576.6443	44.07	-12.21	31.86	47.00	-15.14	QP			

6. ELECTROSTATIC DISCHARGE IMMUNITY TEST

6.1.Block Diagram of Test Setup

6.1.1.Block diagram of connection between the EUT and simulators



(EUT: IRISPen)

6.1.2. Block diagram of test setup

(EUT: IRISPen)

6.2.Test Standard

EN 55024: 2010 (IEC61000-4-2: 2008
Severity Level: 3 / Air Discharge: ±8kV, Level: 2 / Contact Discharge: ±4kV)
Testing shall also be satisfied at the lower levels)

6.3.Severity Levels and Performance Criterion

6.3.1.Severity level

Level	Test Voltage Contact Discharge (kV)	Test Voltage Air Discharge (kV)
1.	±2	±2
2.	±4	±4
3.	±6	±8
4.	±8	±15
X	Special	Special

6.3.2.Performance Criterion: **B**

6.4.EUT Configuration

The configuration of the EUT is same as Section 4.4.

6.5.Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 4.5 except for the test set up replaced by Section 6.1.

6.6.Test Procedure

6.6.1.Contact discharges to the conductive surfaces and to coupling planes:

The EUT shall be exposed to at lease 200 discharges, 100 each at negative and positive polarity, at a minimum of four test points (a minimum of 50 discharges at each point). One of the test points shall be subjected to at least 50 indirect discharges (contact) to the centre of the front edge of the horizontal coupling plane. The remaining three test points shall each receive at least 50 direct contact discharges. If no direct contact test points are available, then at least 200 indirect discharges shall be applied in the indirect mode [see IEC 61000-4-2 for use of the Vertical Conducting Plane (VCP)]. Tests shall be performed at a maximum repetition rate of one discharge per second.

6.6.2.Air discharge at slots and apertures, and insulating surfaces:

On those parts of the EUT where it is not possible to perform contact discharge testing, the equipment should be investigated to identify user accessible points where breakdown may occur; examples are openings at edges of keys, or in the cover of keyboards and telephone handsets. Such points are tested using the air discharge method. See also IEC 61000-4-2 regarding painted surfaces. This investigation should be restricted to those areas normally handled by the user. A minimum of 10 single air discharges shall be applied to the selected test point for each such area.

The application of electrostatic discharges to the contacts of open connectors is not required by this publication.

6.7.Test Results

PASS

Please refer to the following page.

Electrostatic Discharge Test Results

Accurate Technology Co., Ltd.

Applicant :	I.R.I.S.S.A. Image Recognition Integrated Systems	Test Date :	April 9, 2014
EUT :	IRISPen	Temperature :	25°C
M/N :	IRISPen Executive 7	Humidity :	45%
Power Supply:	DC 5V	Criterion :	B
Air discharge :	± 2kV; ± 4kV; ± 8kV	Test Engineer:	Tom
Contact discharge:	± 2kV; ± 4kV		
Test Mode:	On		

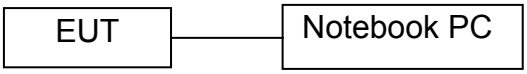
Location	Kind A-Air Discharge C-Contact Discharge	Result
Conductive Enclosure	C	PASS
HCP	C	PASS
VCP of front	C	PASS
VCP of rear	C	PASS
VCP of left	C	PASS
VCP of right	C	PASS

Remark:	Test Equipment : ESD Simulator (HAEFELY, PESD1610)

7. RF FIELD STRENGTH SUSCEPTIBILITY TEST

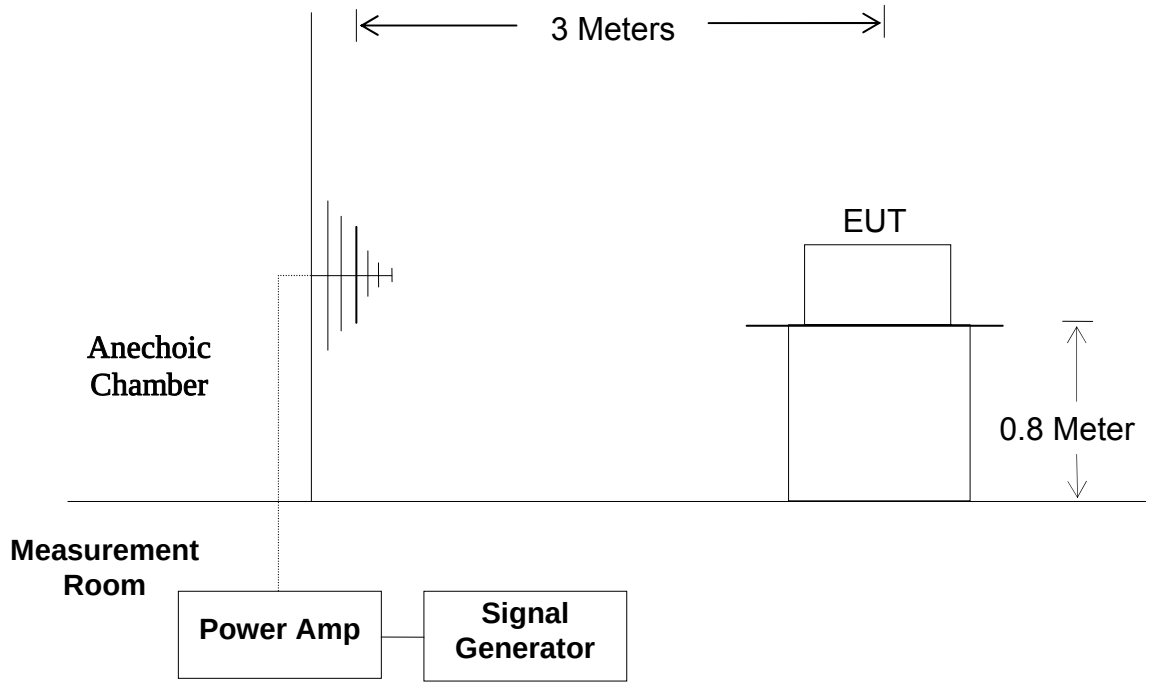
7.1.Block Diagram of Test

7.1.1.Block diagram of connection between the EUT and simulators



(EUT: IRISPen)

7.1.2.Block diagram of R/S test setup



(EUT: IRISPen)

7.2.Test Standard

EN 55024: 2010
(IEC 61000-4-3: 2010, Severity Level: 2, 3V/m)

7.3.Severity Levels and Performance Criterion

7.3.1.Severity Level

Level	Field Strength V/m
1.	1
2.	3
3.	10
X	Special

7.3.2.Performance Criterion: **A**

7.4.EUT Configuration on Test

The configuration of the EUT is same as Section 4.4.

7.5.Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 4.5 except the test setup replaced as Section 7.1.

7.6.Test Procedure

The EUT are placed on a table, which is 0.8 meter high above the ground. The EUT is set 3 meters away from the transmitting antenna, which is mounted on an antenna tower. Both horizontal and vertical polarizations of the antenna are set on test. Each of the four sides of the EUT must be faced this transmitting antenna and measured individually.

In order to judge the EUT performance, a CCD camera is used to monitor its screen. All the scanning conditions are as following:

Condition of Test	Remark
1. Fielded Strength	3V/m (Severity Level 2)
2. Radiated Signal	Unmodulated
3. Scanning Frequency	80-1000MHz
4. Sweep time of radiated	0.0015 Decade/s
5. Dwell Time	1 Sec.

7.7.Test Results

PASS.

Please refer to the following page.

RF Field Strength Susceptibility Test Results

Accurate Technology Co., Ltd.

Applicant:	I.R.I.S.S.A. Image Recognition Integrated Systems	Test Date:	April 9, 2014
EUT:	IRISPen	Temperature:	25°C
M/N:	IRISPen Executive 7	Humidity:	45%
Field Strength:	3 V/m	Criterion:	A
Power Supply:	DC 5V	Frequency Range:	80 MHz to 1000MHz
Test Mode:	On		
Modulation:	⑥ None	⑥ Pulse	□ AM 1kHz 80%

	Frequency Range 1:80- 1000MHz		Frequency Range 2:	
Steps	# / %		# / %	
	Horizontal	Vertical	Horizontal	Vertical
Front	PASS	PASS		
Right	PASS	PASS		
Rear	PASS	PASS		
Left	PASS	PASS		

Test Equipment **:**

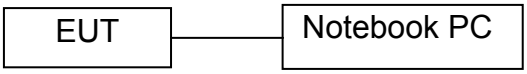
1. Signal Generator : SML03 (Rohde & Schwarz)
2. Power Amplifier : 150W1000 (A&R)
3. Bilog Antenna : CBL6111C (Chase)

Note:

8. MAGNETIC FIELD IMMUNITY TEST

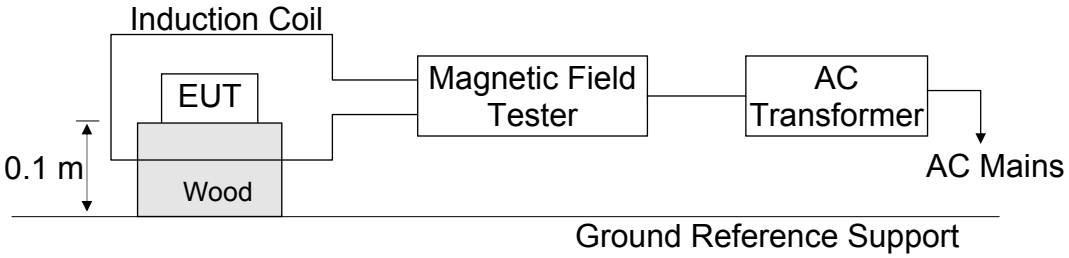
8.1.Block Diagram of Test Setup

8.1.1.Block diagram of connection between the EUT and simulators



(EUT: IRISPen)

8.1.2.Block Diagram of Test Setup



(EUT: IRISPen)

8.2.Test Standard

EN55024: 2010
(IEC61000-4-8: 2009, Severity Level 1**:** 1A/m)

8.3.Severity Levels and Performance Criterion

8.3.1.Severity level

Level	Magnetic Field Strength A/m
1.	1
2.	3
3.	10
4.	30
5.	100
X	Special

8.3.2.Performance Criterion: **A**

8.4.EUT Configuration

The configuration of the EUT is same as Section 4.4.

8.5.Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 4.5 except the test setup replaced as Section 8.1.

8.6.Test Procedure

1) Set up the EUT system as shown on Section 8.1.2.
2) The Induction coil is set up in horizontal or vertical.
3) Let the EUT work in test mode and measure it.

8.7.Test Results

PASS.

Please refer to the following page.

Magnetic Field Immunity Test Results

Accurate Technology Co., Ltd.

Applicant : I.R.I.S.S.A. Image Recognition Integrated Systems	Test Date : April 9, 2014
EUT : IRISPen	Temperature : 25 ºC
M/N : IRISPen Executive 7	Humidity : 45%

Test Mode: On

Test Level	Testing Duration	Coil Orientation	Criterion	Result
1A/M	5 mins	Horizontal	A	PASS
1A/M	5 mins	Vertical	A	PASS

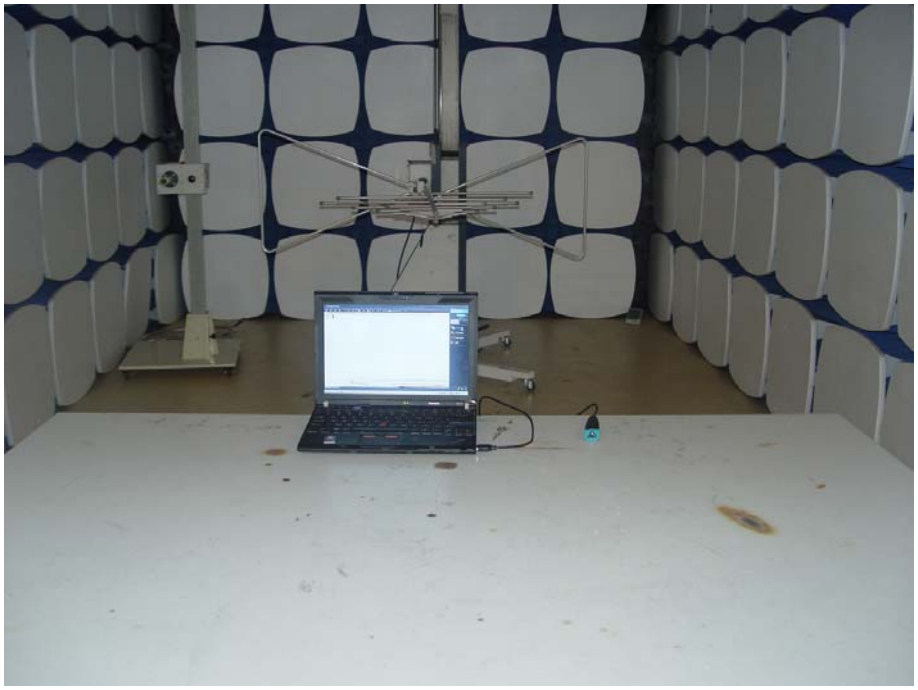
Remark:

Test Equipment:
Magnetic Field Tester: MAG100
AC Transformer: TDGC2J-5

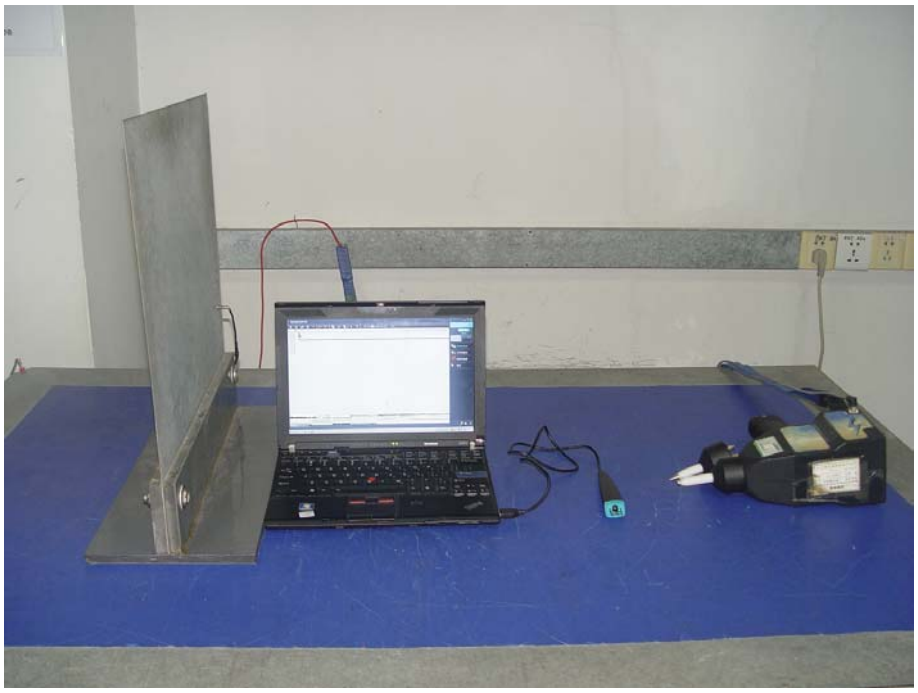
9. PHOTOGRAPHS

9.1.Photo of Power Line Conducted Emission Measurement

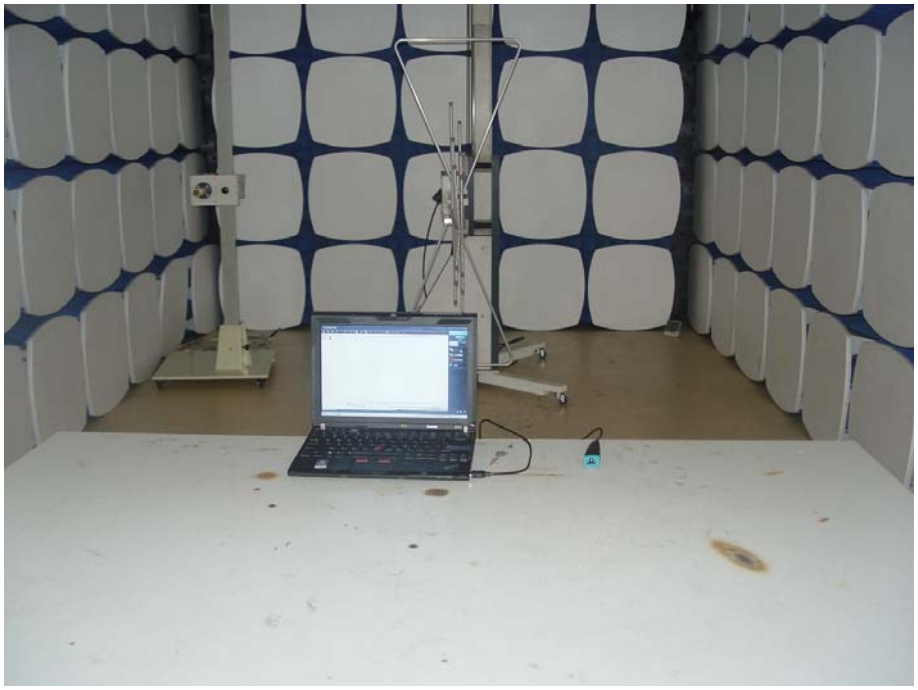
9.2.Photo of Radiation Emission Measurement



9.3.Photo of Electrostatic Discharge Test



9.4.Photo of RF Field Strength Susceptibility Test



9.5.Photo of Magnetic Field Susceptibility Test

9.6.Photo of EUT


B&Q
MM