EN 55022: 2006+A1: 2007
EN 55024: 1998+A1: 2001+A2: 2003
EN 61000-3-2: 2006
EN 61000-3-3: 2008
MEASUREMENT AND TEST REPORT

For

FINGERTEC WORLDWIDE SDN BHD

NO.6, 8 & 10, JALAN BK 3/2, BANDAR KINRARA, 47100 PUCHONG, SELANGOR, MALAYSIA

MODEL: FACE ID2

May 28, 2010

This Report Concerns:	Equipment Type:
☒ Original Report	Face + Fingerprint T&A and Access control

Test By:	Yang yang/ Yang yang
Report Number:	BCT10ER-0789E
Test Date:	May 23~28, 2010
Reviewed By:	Kevin Chi/ kevin chi
Approved By:	Kendy Wang/ Kendy Wang
Prepared By:	**Shenzhen Bontek Compliance Testing Laboratory Ltd.** 1/F, Block East H-3, OCT Eastern Ind. Zone, Qiaocheng East Road, Nanshan, Shenzhen, China Tel: +86-755-86337020 Fax: +86-755-86337028

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior written consent of Bontek Compliance Testing Laboratory Ltd.

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1- GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	**FINGERTEC WORLDWIDE SDN BHD**
Address of applicant:	NO.6, 8 & 10, JALAN BK 3/2, BANDAR KINRARA, 47100 PUCHONG, SELANGOR, MALAYSIA
Manufacturer:	**FINGERTEC WORLDWIDE LIMITED**
Address of manufacturer:	Peking University Founder Shiyan Science Park, Bao'an, Shenzhen, China. 518108

General Description of E.U.T

EUT Description:	**Face + Fingerprint T&A and Access control**
Trade mark:	**FINGERTEC**
Test Model No.:	**Face ID2**
Adapter Power Rating:	**SWITCH MODE POWER SUPPLY** **Model:KSAFH1200300T1M3** **Input :100-240V~50/60Hz 1.2A** **Output:12V 3.0A**
Power Rating:	**Input： 100~240VAC 50Hz for Adapter**

Remark: * *The test data gathered are from the production sample provided by the manufacturer.*

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1.2 Test Standards

The following Declaration of Conformity report of EUT is prepared in accordance with

EN 55022: 2006+A1: 2007

EN 55024: 1998+ A1: 2001+A2: 2003

EN 61000-3-2: 2006

EN 61000-3-3: 2008

The objective of the manufacturer is to demonstrate compliance with the described standards above.

1.3 Test Summary

For the EUT described above. The standards used were EN 55022 Class B for Emissions & EN 55024 for Immunity.

Table 1 : Tests Carried Out Under EN 55022: 2006+A1: 2007

Standard	Test Items	Status
EN 55022: 2006+A1: 2007	Disturbance Voltage at The Mains Terminals (150KHz To 30MHz)	√
	Radiated Disturbances (30MHz To 1000MHz)	√

√ Indicates that the test is applicable

× Indicates that the test is not applicable

Table 2 : Tests Carried Out Under EN 61000-3-2: 2006/ EN 61000-3-3: 2008

Standard	Test Items	Status
EN 61000-3-2: 2006	Harmonic Current Test	√
EN 61000-3-3: 2008	Voltage Fluctuations and Flicker Test	√

√ Indicates that the test is applicable

× Indicates that the test is not applicable

Table 3 : Tests Carried Out Under EN 55024: 1998+ A1: 2001+A2: 2003

Standard	Test Items	Status
EN61000-4-2: 2001	Electrostatic discharge Immunity	√
EN61000-4-3: 2006	Radiated Susceptibility (80MHz to 1GHz)	√
EN61000-4-4: 2004	Electrical Fast Transient/Burst Immunity	√
EN61000-4-5: 2005	Surge Immunity	√
EN61000-4-6: 2006	Conducted Susceptibility (150kHz to 80MHz)	√
EN61000-4-8: 2001	Power Frequency Magnetic Field Immunity (50/60Hz)	X
EN61000-4-11: 2004	Voltage Dips, Short Interruptions Immunity	√

√ Indicates that the test is applicable

× Indicates that the test is not applicable

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1.4 Test Methodology

All measurements contained in this report were conducted with CISPR 16-1: 2002, radio disturbance and immunity measuring apparatus, and CISPR16-2: 2002, Method of measurement of disturbances and immunity.
All measurement required was performed at SHENZHEN BONTEK ELECTRONIC TECHNOLOGY CO., LTD. at 1/F,Block East H-3, OCT Eastern Ind. Zone, Qiaocheng East Road, Nanshan, Shenzhen, China

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1.5 Test Facility

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

FCC – Registration No.: 338263
Shenzhen Bontek Electronic Technology Co.,Ltd, 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 338263, March, 2008.

IC Registration No.: 7631A

The 3m alternate test site of Shenzhen Bontek Electronic Technology Co.,Ltd. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration NO.: 7631A on August 2009.
The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

CNAS - Registration No.: L3923

Shenzhen Bontek Electronic Technology Co.,Ltd. to ISO/IEC 17025:25 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.
The acceptance letter from the CNAS is maintained in our files: Registration:L3923,February,2009.

TUV - Registration No.: UA 50145371-0001

Shenzhen Bontek Electronic Technology Co.,Ltd. An assessment of the laboratory was conducted according to the"Procedures and Conditions for EMC Test Laboratories"with reference to EN ISO/IEC 17025 by a TUV Rheinland auditor. Audit Report NO. 17010783-001

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1.6 Test Equipment List and Details

Test equipments list of SHENZHEN BONTEK ELECTRONIC TECHNOLOGY CO., LTD. .

No.	Instrument no.	Equipment	Manufacturer	Model No.	S/N	Calculator date	Calculator due date
1	BCT-EMC001	EMI Test Receiver	R&S	ESCI	100687	2010-4-14	2011-4-13
2	BCT-EMC002	EMI Test Receiver	R&S	ESPI	100097	2010-4-14	2011-4-13
3	BCT-EMC003	Amplifier	HP	8447D	1937A02492	2010-4-14	2011-4-13
4	BCT-EMC004	Single Power Conductor Module	FCC	FCC-LISN-5-50-1-01-CISPR25	07101	2010-4-14	2011-4-13
5	BCT-EMC005	Single Power Conductor Module	FCC	FCC-LISN-5-50-1-01-CISPR25	07102	2010-4-14	2011-4-13
6	BCT-EMC006	Power Clamp	SCHWARZBECK	MDS-21	3812	2010-4-14	2011-4-13
7	BCT-EMC007	Positioning Controller	C&C	CC-C-1F	MF7802113	N/A	N/A
8	BCT-EMC008	Electrostatic Discharge Simulator	TESEQ	NSG437	125	2010-4-14	2011-4-13
9	BCT-EMC009	Fast Transient Burst Generator	SCHAFFNER	MODULA6150	34572	2010-4-14	2011-4-13
10	BCT-EMC010	Fast Transient Noise Simulator	Noiseken	FNS-105AX	31485	2010-4-14	2011-4-13
11	BCT-EMC011	Color TV Pattern Genenator	PHILIPS	PM5418	TM209947	N/A	N/A
12	BCT-EMC012	Power Frequency Magnetic Field Generator	EVERFINE	EMS61000-8K	608002	2010-4-14	2011-4-13
13	BCT-EMC013	N/A	N/A	N/A	N/A	N/A	N/A
14	BCT-EMC014	Capacitive Coupling Clamp	TESEQ	CDN8014	25096	2010-4-14	2011-4-13
15	BCT-EMC015	High Field Biconical Antenna	ELECTRO-METRICS	EM-6913	166	2010-4-14	2012-4-13
16	BCT-EMC016	Log Periodic Antenna	ELECTRO-METRICS	EM-6950	811	2010-4-14	2012-4-13
17	BCT-EMC017	Remote Active Vertical Antenna	ELECTRO-METRICS	EM-6892	304	2010-4-14	2012-4-13
18	BCT-EMC018	TRILOG Broadband Test-Antenna	SCHWARZBECK	VULB9163	9163-324	2010-4-14	2012-4-13
19	BCT-EMC019	Horn Antenna	SCHWARZBECK	BBHA9120A	B08000991-0001	2010-4-14	2012-4-13
20	BCT-EMC020	Teo Line Single Phase Module	SCHWARZBECK	NSLK8128	D-69250	2010-4-14	2011-4-13
21	BCT-EMC021	10dB attenuator	SCHWARZBECK	MTAIMP-136	R65.90.0001#06	2010-4-14	2011-4-13
22	BCT-EMC022	Electric bridge	Zentech	100 LCR METER	803024	N/A	N/A

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23	BCT-EMC023	RF Current Probe	FCC	F-33-4	80	2010-4-14	2011-4-13
24	BCT-EMC024	SIGNAL GENERATOR	HP	8647A	3349A02296	2010-4-14	2011-4-13
25	BCT-EMC025	MICROWAVE AMPLIFIER	HP	8349B	2627A00994	2010-4-14	2011-4-13
26	BCT-EMC026	Triple-Loop Antenna	EVERFINE	LLA-2	607004	2010-4-14	2011-4-13
27	BCT-EMC027	CDN	FRANKONIA	M2+M3	A3027019	2010-10-20	2011-10-19
28	BCT-EMC028	6dB Attenuator	FRANKONIA	75-A-FFN-06	1001698	2010-10-20	2011-10-19
29	BCT-EMC029	EMV-Mess-Systeme GMBH	FRANKONIA	FLL-75	1020A1109	2010-10-20	2011-10-19
30	BCT-EMC030	EM Injection Clamp	FCC	F-203I-13mm	091536	2010-10-20	2011-10-19
31	BCT-EMC031	9KHz-2.4GHz Signal generator	MARCONI INSTRUMENTS	2024	112260/042	2010-10-20	2011-10-19

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2 - SYSTEM TEST CONFIGURATION

2.1 Justification

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

2.2 EUT Exercise Software

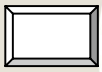
The EUT exercising program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The software offered by manufacture, can let the EUT being normal operation.

2.3 Special Accessories

As shown in section 2.5, interface cable used for compliance testing is shielded as normally supplied by **FINGERTEC WORLDWIDE SDN BHD** and its respective support equipment manufacturers.

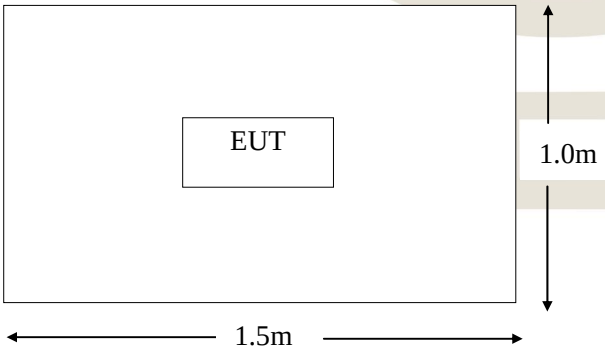
2.4 Equipment Modifications

The EUT tested was not modified by BCT.



EUT

2.5 Test Setup Diagram



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3 - DISTURBANCE VOLTAGE AT THE MAINS TERMINALS

3.1 Measurement Uncertainty

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

The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is 3.4 dB.

3.2 Limit of Disturbance Voltage At The Mains Terminals (Class B)

Frequency Range (MHz)	Limits (dBuV)	
	Quasi-Peak	Average
0.150～0.500	66～56	56～46
0.500～5.000	56	46
5.000～30.00	60	50

Note: (1) The tighter limit shall apply at the edge between two frequency bands.

3.3 EUT Setup

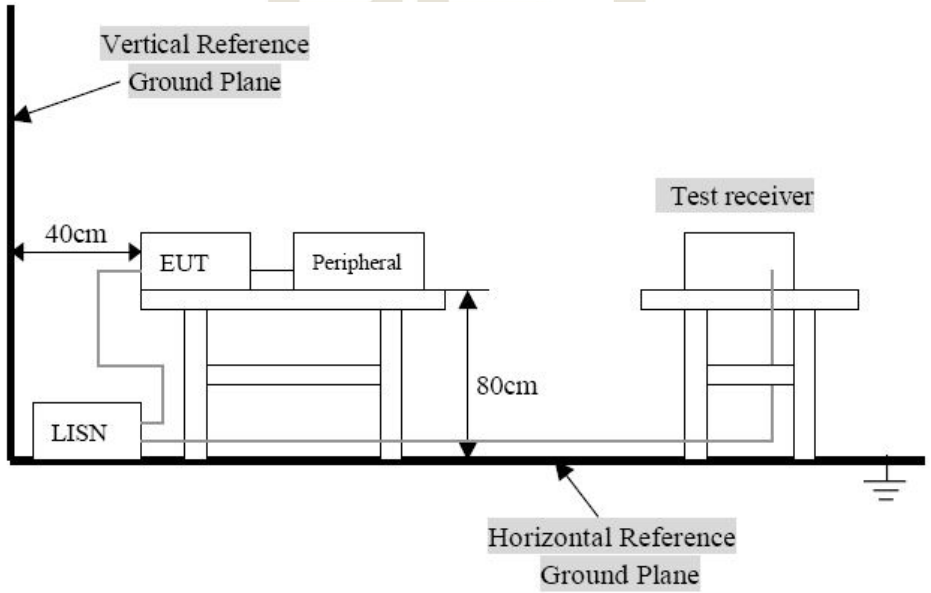
The setup of EUT is according with CISPR 16-1: 2002, CISPR16-2: 2002 measurement procedure. The specification used was the EN 55022 limits.

The EUT was placed center and the back edge of the test table.

The AV cables were draped along the test table and bundled to 30-40cm in the middle.

The spacing between the peripherals was 10 cm.

Maximum emission emitted from EUT was determined by manipulating the EUT, support equipment, interconnecting cables and varying the mode of operation and the levels in the final result of the test were recorded with the EUT running in the operating mode that maximum emission was emitted.



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3.4 Instrument Setup

The test receiver was set with the following configurations:

Test Receiver Setting:

Frequency Range……150 KHz to 30 MHz
Detector……Peak & Quasi-Peak & Average
Sweep Speed……Auto
IF Band Width……9 KHz

3.5 Test Procedure

During the conducted emission test, the EUT power cord was connected to the auxiliary outlet of the first Artificial Mains.

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance using all installation combination.

All data was recorded in the peak detection mode. Quasi-peak and Average readings were only performed when an emission was found to be marginal (within -10 dBμV of specification limits). Quasi-peak readings are distinguished with a "**QP**". Average readings are distinguished with a "**AV**".

3.6 Summary of Test Results

According to the data in section 3.6, the EUT complied with the EN 55022 Conducted margin, with the *worst* margin reading of:

3.7 Disturbance Voltage Test Data

Temperature (℃)	22~25
Humidity (%RH)	50~60
Barometric Pressure (mbar)	950~1000
EUT	Face + Fingerprint T&A and Access control
M/N	Face ID2
Operating Mode	ON

Test data see following pages

3.8 Test Result

PASS

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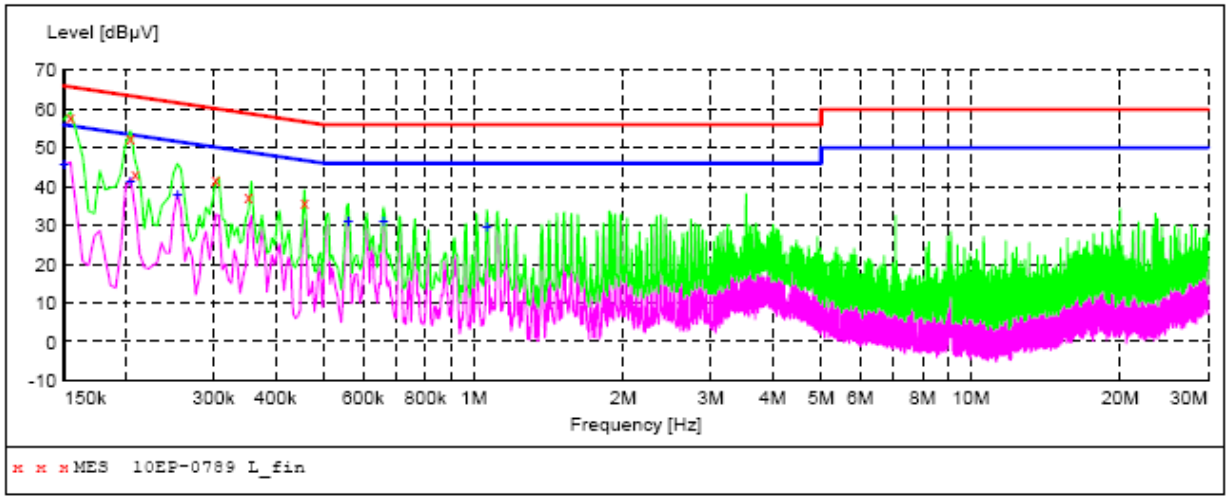
Conducted Emission Test Data

EUT:	Face + Fingerprint T&A and Access control
M/N:	Face ID2
Operating Condition:	ON
Test Site:	Shielded Room
Operator:	Chen
Test Specification:	230VAC 50Hz for Adapter
Comment:	Live Line
Start of Test:	05/26/2010/ 19:14 Tem:24℃ Hum:60%

SCAN TABLE: "Voltage(150K-30M)FIN"
Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "10EP-0789 L_fin"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.154500	58.00	9.9	66	7.8	QP	L1	GND
0.204000	52.40	9.9	63	11.0	QP	L1	GND
0.208500	43.30	9.9	63	20.0	QP	L1	GND
0.303000	42.10	10.0	60	18.1	QP	L1	GND
0.352500	37.70	9.9	59	21.2	QP	L1	GND
0.456000	35.80	9.9	57	21.0	QP	L1	GND

MEASUREMENT RESULT: "10EP-0789 L_fin2"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	45.60	9.9	56	10.4	AV	L1	GND
0.204000	41.20	9.9	53	12.2	AV	L1	GND
0.253500	37.90	9.9	52	13.7	AV	L1	GND
0.559500	31.20	9.9	46	14.8	AV	L1	GND
0.658500	31.20	9.9	46	14.8	AV	L1	GND
1.063500	29.60	9.9	46	16.4	AV	L1	GND

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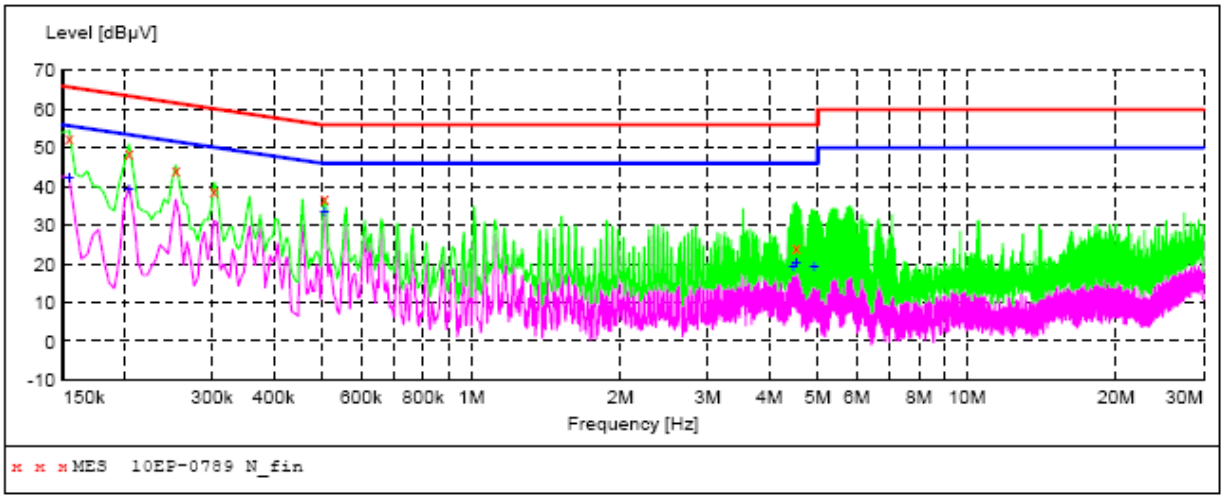
Conducted Emission Test Data

EUT:	Face + Fingerprint T&A and Access control
M/N:	Face ID2
Operating Condition:	ON
Test Site:	Shielded Room
Operator:	Chen
Test Specification:	230VAC 50Hz for Adapter
Comment:	Neutral Line
Start of Test:	05/26/2010/ 19:17 Tem:24℃ Hum:60%

SCAN TABLE: "Voltage(150K-30M)FIN"
Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "10EP-0789 N_fin"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.154500	52.80	9.9	66	13.0	QP	N	GND
0.204000	48.70	9.9	63	14.7	QP	N	GND
0.253500	44.30	9.9	62	17.3	QP	N	GND
0.303000	38.90	10.0	60	21.3	QP	N	GND
0.505500	36.90	9.9	56	19.1	QP	N	GND
4.515000	24.10	10.0	56	31.9	QP	N	GND

MEASUREMENT RESULT: "10EP-0789 N_fin2"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.154500	42.20	9.9	56	13.6	AV	N	GND
0.204000	39.50	9.9	53	13.9	AV	N	GND
0.505500	33.50	9.9	46	12.5	AV	N	GND
4.465500	19.50	10.0	46	26.5	AV	N	GND
4.515000	20.50	10.0	46	25.5	AV	N	GND
4.920000	19.50	10.0	46	26.5	AV	N	GND

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4 - RADIATED DISTURBANCES

4.1 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.

The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement is 4.0 dB.

4.2 Limit of Radiated Disturbances (Class B)

Frequency (MHz)	Distance (Meters)	Field Strengths Limits (dBμV/m)
30 ~ 230	3	40
230 ~ 1000	3	47

Frequency (MHz)	Distance (Meters)	Field Strengths Limits AV(dBμV/m)	Field Strengths Limits PK(dBμV/m)
1000~3000	3	50	70
3000-6000	3	54	74

Note: (1) The tighter limit shall apply at the edge between two frequency bands.
(2) Distance refers to the distance in meters between the test instrument antenna and the closest point of any part of the E.U.T.

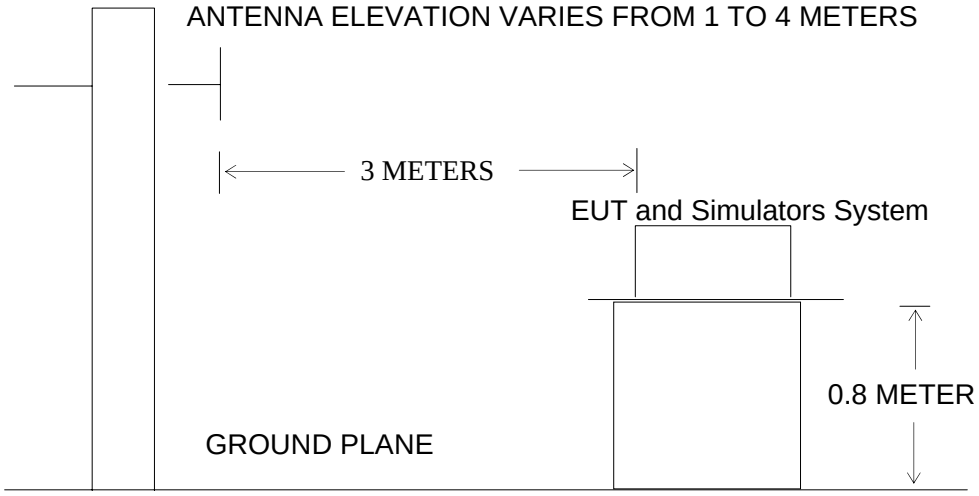
4.3 EUT Setup

The radiated emission tests were performed in the open area 3-meter test site, using the setup accordance with the CISPR 16-1: 2002, CISPR16-2: 2002. The specification used was EN 55022 Class B limits.

The EUT was placed on the center of the test table.

Maximum emission emitted from EUT was determined by manipulating the EUT, support equipment, interconnecting cables and varying the mode of operation and the levels in the final result of the test were recorded with the EUT running in the operating mode that maximum emission was emitted.

Block diagram of test setup (In chamber)



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4.4 Test Receiver Setup

According to EN 55022 rules, the frequency was investigated from 30 to 1000 MHz. During the radiated emission test, the test receiver was set with the following configurations:

Test Receiver Setting:

Detector……..Peak & Quasi-Peak
IF Band Width……..120KHz
Frequency Range……30MHz to 1000MHz
Turntable Rotated……0 to 360 degrees

Antenna Position:

Height……1m to 4m
Polarity……...Horizontal and Vertical

4.5 Test Procedure

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

All data was recorded in the peak detection mode. Quasi-peak readings performed only when an emission was found to be marginal (within -10 dBμV of specification limits), and are distinguished with a "**QP**" in the data table.

4.6 Corrected Amplitude & Margin Calculation

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

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

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

Margin = Class B Limit – Corr. Ampl.

4.7 Radiated Emissions Test Result

Temperature (℃)	22~25
Humidity (%RH)	50~55
Barometric Pressure (mbar)	950~1000
EUT	Face + Fingerprint T&A and Access control
M/N	Face ID2
Operating Mode	ON

4.8 Test Result

PASS

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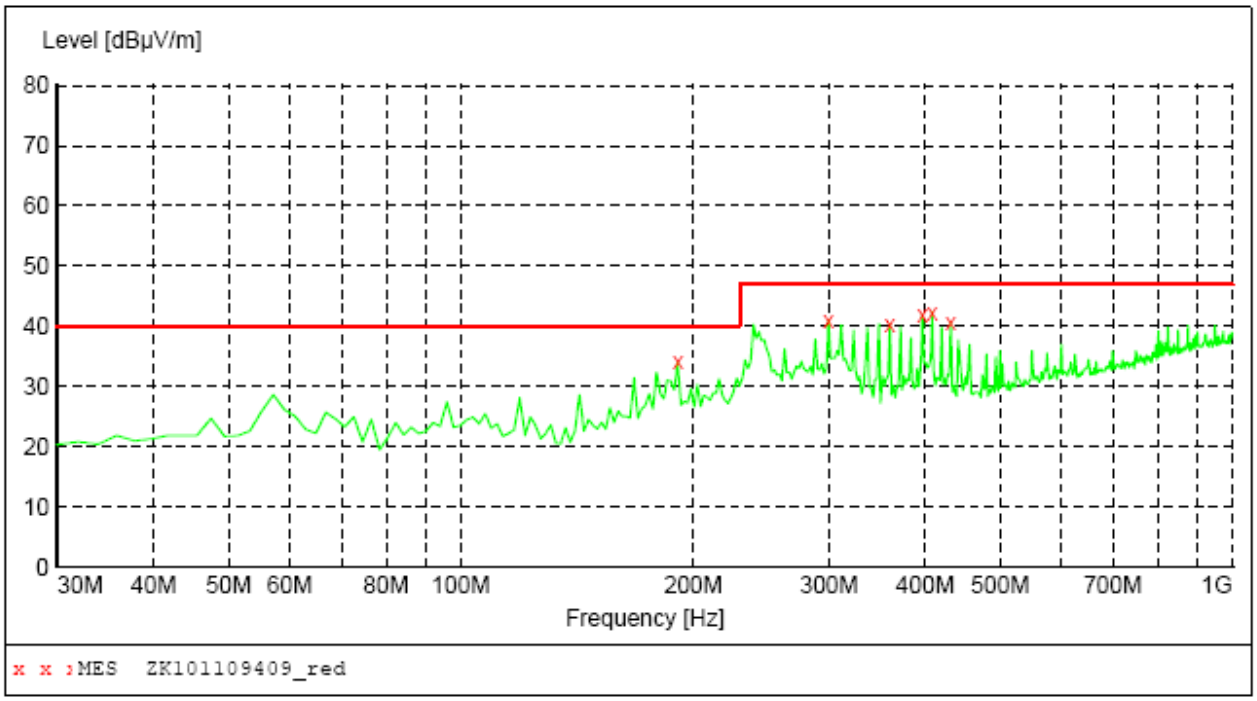
Radiated Emission Test Data

EUT:	Face + Fingerprint T&A and Access control
M/N:	Face ID2
Operating Condition:	ON
Test Site:	3m CHAMBER
Operator:	Yang
Test Specification:	230VAC 50Hz for Adapter
Comment:	Polarization: Horizontal
Start of Test:	05/27/10/ 14:27 Tem:25℃ Hum:50%

SWEEP TABLE: "test (30M-1G)"

Short Description:			Field Strength		
Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	VULB9163 NEW



MEASUREMENT RESULT: "ZK101109409_red"

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
191.020000	34.00	16.1	40.0	6.0	QP	100.0	0.00	HORIZONTAL
299.660000	41.00	18.7	47.0	6.0	QP	100.0	0.00	HORIZONTAL
359.800000	40.40	20.6	47.0	6.6	QP	100.0	0.00	HORIZONTAL
396.660000	41.90	21.4	47.0	5.1	QP	100.0	0.00	HORIZONTAL
408.300000	42.40	21.7	47.0	4.6	QP	100.0	0.00	HORIZONTAL
431.580000	40.70	22.0	47.0	6.3	QP	100.0	0.00	HORIZONTAL

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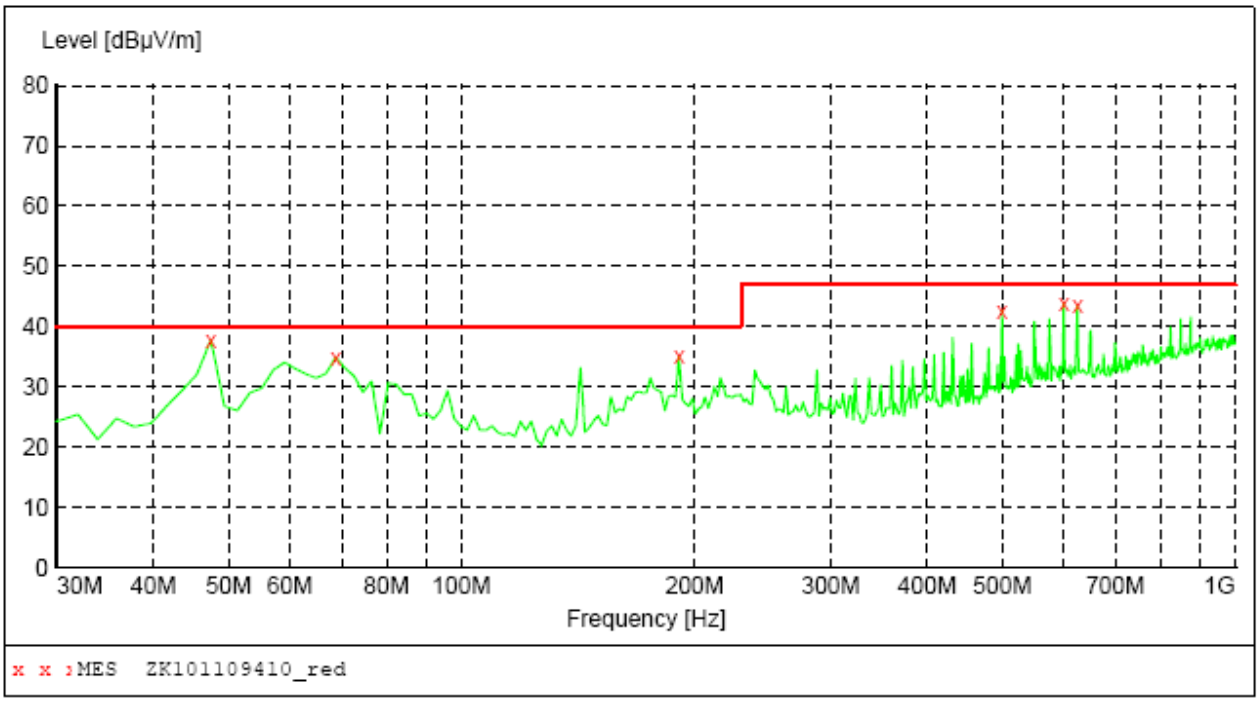
Radiated Emission Test Data

EUT:	Face + Fingerprint T&A and Access control
M/N:	Face ID2
Operating Condition:	ON
Test Site:	3m CHAMBER
Operator:	Yang
Test Specification:	230VAC 50Hz for Adapter
Comment:	Polarization: Vertical
Start of Test:	05/27/10/ 14:29 Tem:25℃ Hum:50%

SWEEP TABLE: "test (30M-1G)"

Short Description:		Field Strength			
Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	VULB9163 NEW



MEASUREMENT RESULT: "ZK101109410_red"

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
47.460000	37.80	15.8	40.0	2.2	QP	100.0	0.00	VERTICAL
68.800000	34.90	12.7	40.0	5.1	QP	100.0	0.00	VERTICAL
191.020000	35.00	16.1	40.0	5.0	QP	100.0	0.00	VERTICAL
499.480000	42.70	23.8	47.0	4.3	QP	100.0	0.00	VERTICAL
600.360000	44.00	26.4	47.0	3.0	QP	100.0	0.00	VERTICAL
625.580000	43.50	26.7	47.0	3.5	QP	100.0	0.00	VERTICAL

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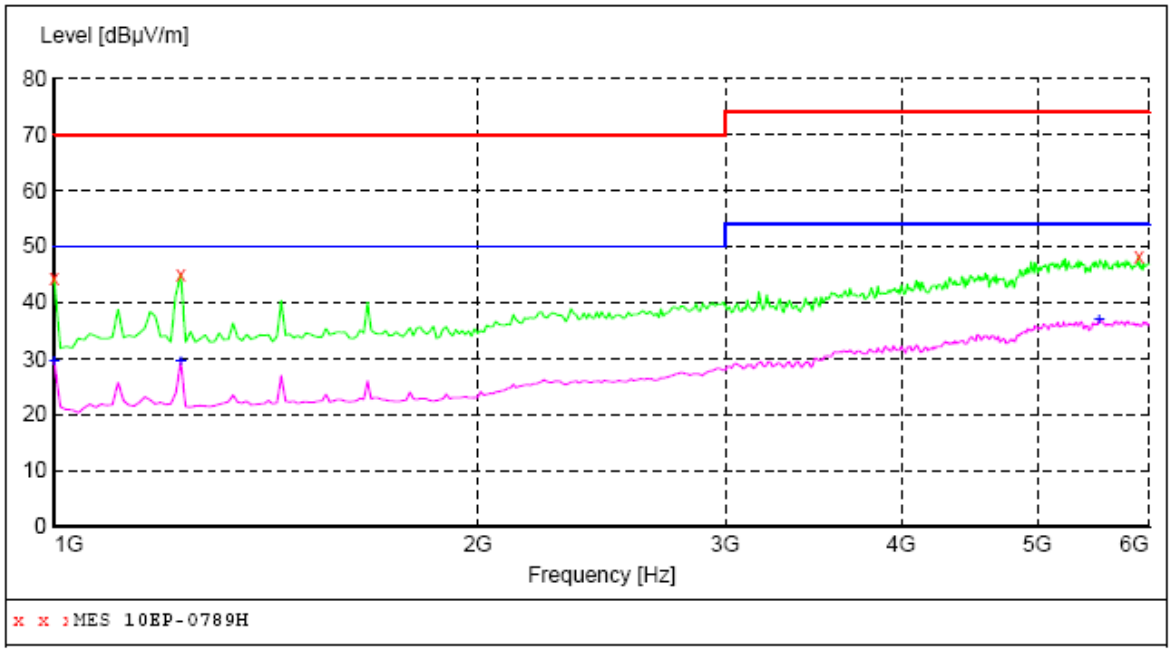
Radiated Emission Test Data of Above 1GHz

EUT:	Face + Fingerprint T&A and Access control
M/N:	Face ID2
Operating Condition:	ON
Test Site:	CHAMBER
Operator:	CHEM
Test Specification:	230VAC 50Hz for Adapter
Comment:	Polarization: Horizontal
Start of Test:	05/27 /2010/ 18:35 Tem:25℃ Hum:50%

SWEEP TABLE: "test (1G-6G)"

Short Description:			Field Strength		
Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	6.0 GHz	MaxPeak Average	Coupled	1 MHz	BBHA 9120 A



MEASUREMENT RESULT:

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1000.000000	44.30	-12.8	70.0	25.7	PK	100.0	0.00	HORIZONTAL
1230.000000	45.10	-11.7	70.0	24.9	PK	100.0	0.00	HORIZONTAL
5900.000000	48.30	4.1	74.0	25.7	PK	100.0	0.00	HORIZONTAL

MEASUREMENT RESULT:

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1000.000000	29.50	-12.8	50.0	20.5	AV	100.0	0.00	HORIZONTAL
1230.000000	29.40	-11.7	50.0	20.6	AV	100.0	0.00	HORIZONTAL
5530.000000	36.90	3.6	54.0	17.1	AV	100.0	0.00	HORIZONTAL

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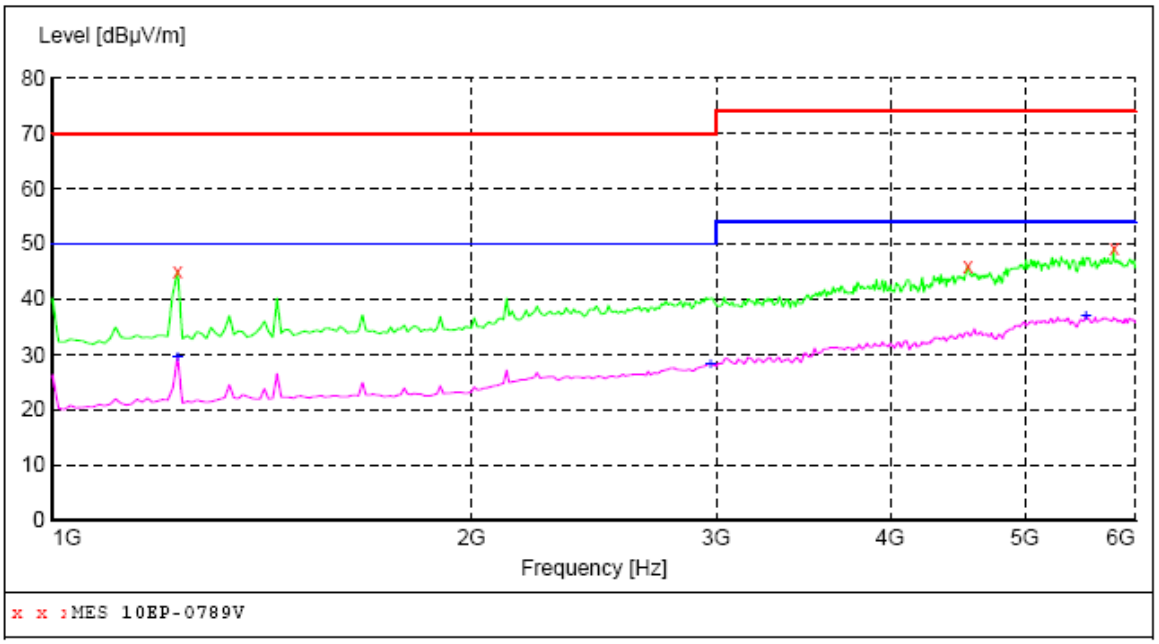
Radiated Emission Test Data of Above 1GHz

EUT:	Face + Fingerprint T&A and Access control
M/N:	Face ID2
Operating Condition:	ON
Test Site:	CHAMBER
Operator:	CHEM
Test Specification:	230VAC 50Hz for Adapter
Comment:	Polarization: Vertical
Start of Test:	05/27/2010/ 18:32 Tem:25℃ Hum:50%

SWEEP TABLE: "test (1G-6G)"

Short Description:			Field Strength		
Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	6.0 GHz	MaxPeak Average	Coupled	1 MHz	BBHA 9120 A



MEASUREMENT RESULT:

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1230.000000	45.10	-11.7	70.0	24.9	PK	100.0	0.00	VERTICAL
4550.000000	46.10	0.2	74.0	27.9	PK	100.0	0.00	VERTICAL
5790.000000	49.20	3.9	74.0	24.8	PK	100.0	0.00	VERTICAL

MEASUREMENT RESULT:

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1230.000000	29.50	-11.7	50.0	20.5	AV	100.0	0.00	VERTICAL
2970.000000	28.30	-6.0	50.0	21.7	AV	100.0	0.00	VERTICAL
5530.000000	37.00	3.6	54.0	17.0	AV	100.0	0.00	VERTICAL

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5 - HARMONIC CURRENT TEST (EN 61000-3-2)

5.1 Application of Harmonic Current Emission

Compliance to these standards ensures that tested equipment will not generate harmonic currents at levels that cause unacceptable degradation of the main environment. This directly contributes to meeting compatibility levels established in other EMC standards, which defines compatibility levels for low-frequency conducted disturbances in low-voltage supply systems.

5.2 Measurement Data

Note: For detailed test data, refer to the following pages:

Standard used:	EN/IEC 61000-3-2 A14 (2006) Quasi-stationary - Equipment class A
Observation time:	150s
E. U. T.:	Face + Fingerprint T&A and Access control
M/N	Face ID2
Operation Mode	ON

Note: The EUT's power is lower than 75W,this test isn't applicable.

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6 - VOLTAGE FLUCTUATIONS AND FLICKER TEST (EN 61000-3-3)

6.1 Application of Voltage Fluctuations and Flicker Test

Compliance to these standards ensures that tested equipment will not generate flickers and voltage change at levels that cause unacceptable degradation of the main environment. This directly contributes to meeting compatibility levels established in other EMC standards, which defines compatibility levels for low-frequency conducted disturbances in low-voltage supply systems.

6.2 Measurement Data

Note: For detailed test data, refer to the following pages:

Standard used:	EN/IEC 61000-3-3 Flicker
Short time (Pst):	10 min
Observation time:	10 min (1 Flicker measurement)
Flickermeter:	230V/50Hz
E. U. T.:	Face + Fingerprint T&A and Access control
M/N	Face ID2
Operation Mode	ON

6.3 Test Results

PASS

Maximum Flicker results

	Pst	dc (%)	dmax (%)	d(t) > 3.3%(ms)
Limit	1.000	3.300	4.000	500
Reading 1	0.086	0.005	0.168	0

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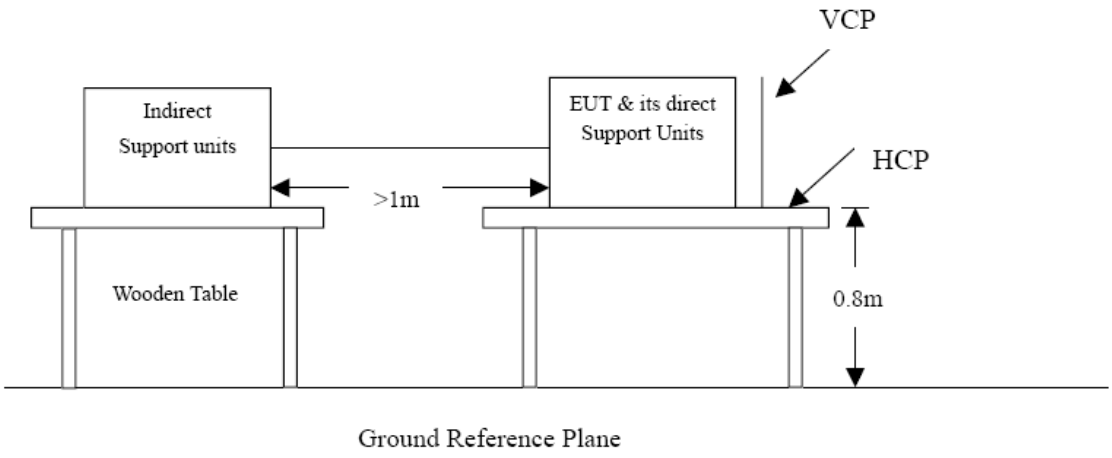
7 - Electrostatic Discharge immunity Test (IEC 61000-4-2)

7.1 Block Diagram of Test Setup



7.2 Test Standard

EN55024: 1998+A1: 2001+A2: 2003, EN61000-4-2: 2001 (EN61000-4-2: 2001 Severity Level: 3 / Air Discharge: ±8KV Level: 2 / Contact Discharge: ±4KV)

7.3 Severity Levels and Performance Criterion

7.3.1 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

7.3.2 Performance criterion : B

7.4 Operating Condition of EUT

7.4.1 Setup the EUT as shown on Section 7.1.

7.4.2 Turn on the power of all equipments.

7.4.3 Let the EUT work in measuring mode (ON) and measure it.

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7.5 Test Procedure

7.5.1 Air Discharge:

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

7.5.2 Contact Discharge:

All the procedure shall be same as Section 5.6.1. Except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

7.5.3 Indirect discharge for horizontal coupling plane

At least 10 single discharges (in the most sensitive polarity) shall be applied at the front edge of each HCP opposite the center point of each unit (if applicable) of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge.

7.5.4 Indirect discharge for vertical coupling plane

At least 10 single discharge (in the most sensitive polarity) shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

7.6 Test Results

PASS

Please refer to the following pages

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Temperature (℃)	22~24
Humidity (%RH)	50~55
Barometric Pressure (mbar)	950~1000
EUT	Face + Fingerprint T&A and Access control
M/N	Face ID2
Operating Mode	ON

Table 1: Electrostatic Discharge Immunity (Air Discharge)

IEC 61000-4-2 Test Points	Test Levels									
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV	-15 kV	+15 kV
Port	A	A	A	A	A	A	A	A	/	/
Screen	A	A	A	A	A	A	A	A	/	/
Gap	A	A	A	A	A	A	A	A	/	/

Table 2: Electrostatic Discharge Immunity (Direct Contact)

IEC 61000-4-2 Test Points	Test Levels									
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV	-15 kV	+15 kV
N/A	/	/	/	/	/	/	/	/	/	/

Table 3: Electrostatic Discharge Immunity (Indirect Contact HCP)

IEC 61000-4-2 Test Points	Test Levels									
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV	-15 kV	+15 kV
Front Side	A	A	A	A	/	/	/	/	/	/
Back Side	A	A	A	A	/	/	/	/	/	/
Left Side	A	A	A	A	/	/	/	/	/	/
Right Side	A	A	A	A	/	/	/	/	/	/

Table 4: Electrostatic Discharge Immunity (Indirect Contact VCP)

IEC 61000-4-2 Test Points	Test Levels									
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV	-15 kV	+15 kV
Front Side	A	A	A	A	/	/	/	/	/	/
Back Side	A	A	A	A	/	/	/	/	/	/
Left Side	A	A	A	A	/	/	/	/	/	/
Right Side	A	A	A	A	/	/	/	/	/	/

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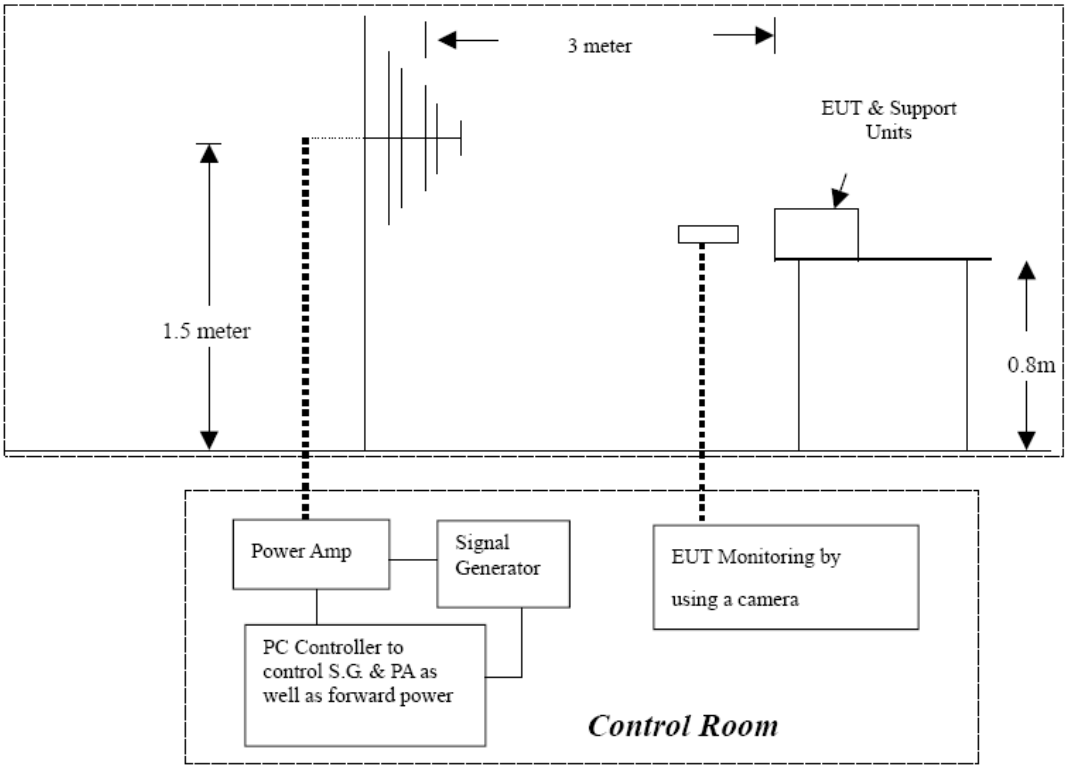
8 - RF Field Strength susceptibility TEST (IEC 61000-4-3)

8.1 Block Diagram of Test



8.2 Test Standard

EN55024: 1998+A1: 2001+A2: 2003, EN61000-6-2: 2001 (EN61000-4-3: 2006, Severity Level: 2, 3V / m)

8.3 Severity Levels and Performance Criterion

8.3.1 Severity Levels

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

8.3.2 Performance Criterion: A

8.4 Operating Condition of EUT

8.4.1 Setup the EUT as shown on Section 8.1.

8.4.2 Turn on the power of all equipments.

8.4.3 Let the EUT work in measuring mode (ON) and measure it..

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8.5 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 polarization 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	Modulated
3. Scanning Frequency	80-1000MHz 1400-2700MHz
4. Sweep time of radiated	0.0015 Decade/s
5. Dwell Time	1 Sec.

8.6 Test Results

PASS

Please refer to the following page.

Temperature (℃)	22~24
Humidity (%RH)	50~55
Barometric Pressure (mbar)	950~1000
EUT	Face + Fingerprint T&A and Access control
M/N	Face ID2
Operating Mode	ON

Frequency Range (MHz)	Front (3 V/m)		Rear (3 V/m)		Left Side (3 V/m)		Right Side (3 V/m)	
	VERT	HORI	VERT	HORI	VERT	HORI	VERT	HORI
80-1000 1400-2700	A	A	A	A	A	A	A	A

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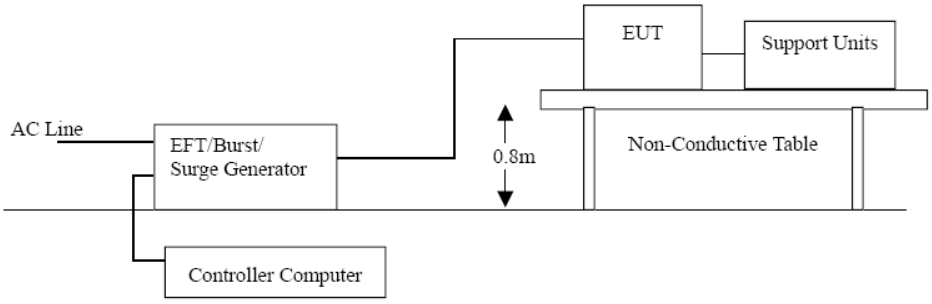
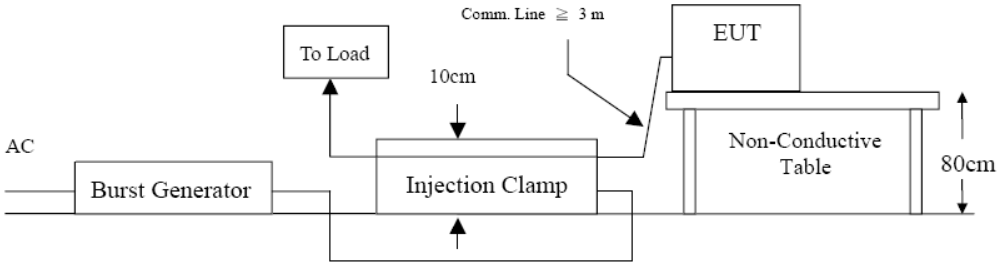
9 - Electrical Fast Transient/Burst Immunity Test (IEC 61000-4-4)

9.1 Block Diagram of Test Setup





9.2 Test Standard

EN55024: 1998+A1: 2001+A2: 2003, EN61000-6-2: 2005 (EN61000-4-4: 2004, Severity Level, Level 3: 2KV)

9.3 Severity Levels and Performance Criterion

9.3.1 Severity level

Open Circuit Output Test Voltage ±10%		
Level	On Face + Fingerprint T&A and Access control Lines	On I/O (Input/Output) Signal data and control lines
1.	0.5 KV	0.25 KV
2.	1 KV	0.5 KV
3.	2 KV	1 KV
4.	4 KV	2 KV
X	Special	Special

9.3.2 Performance criterion : B

9.4 Operating Condition of EUT

9.4.1 Setup the EUT as shown in Section 9.1.

9.4.2 Turn on the power of all equipments.

9.4.3 Let the EUT work in test mode (ON) and measure it.

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9.5 Test Procedure

The EUT is put on the table which is 0.8 meter high above the ground. This reference ground plane shall project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane beneath the EUT, shall be more than 0.5m.

9.5.1 For DC power ports:

It's unnecessary to test

9.5.2 For signal lines and control lines ports:

It's unnecessary to test.

9.5.3 For AC Input line ports:

The EUT is connected to the AC power mains by using a coupling device which couples the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test is 2 mins.

9.6 Test Result

PASS

Please refer to the following page.

Temperature (℃)	22~24
Humidity (%RH)	50~55
Barometric Pressure (mbar)	950~1000
EUT	Face + Fingerprint T&A and Access control
M/N	Face ID2
Operating Mode	ON

IEC 61000-4-4 Test Points		Test Levels (kV)							
		+0. 5	-0. 5	+1.0	-1.0	+2.0	-2.0	+4.0	-4.0
MEETEASY CONFERENCE PHONE Power Line of EUT	L1	A	A	A	A	/	/	/	/
	L2	A	A	A	A	/	/	/	/
	Earth	/	/	/	/	/	/	/	/
	L1+L2	A	A	A	A	/	/	/	/
	L1 + Earth	/	/	/	/	/	/	/	/
	L2 + Earth	/	/	/	/	/	/	/	/
	L1+L2+Earth	/	/	/	/	/	/	/	/
Telecommunication Port		A	A	/	/	/	/	/	/

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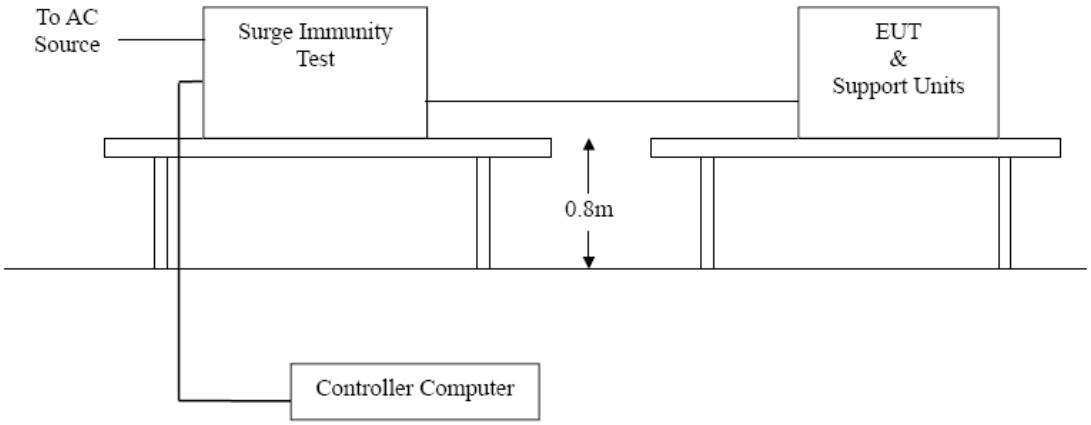
10 - Surge Immunity Test (IEC 61000-4-5)

10.1 Block Diagram of Test Setup



10.2 Test Standard

EN55024: 1998+A1: 2001+A2: 2003, EN61000-6-2: 2005 (EN61000-4-5: 2005 Severity Level: Line to Line, Level 2: 1KV,Line to Earth , Level 3: 2KV)

10.3 Severity Levels and Performance Criterion

10.3.1 Severity level

Severity Level	Open-Circuit Test Voltage KV
1	5
2	0
3	0
4	4.0
*	Special

10.3.2 Performance criterion: B

10.4 Operating Condition of EUT

10.4.1 Setup the EUT as shown in Section 10.1.

10.4.2.Turn on the power of all equipments.

10.4.3.Let the EUT work in test mode (ON) and measure it.

10.5 Test Procedure

1)Set up the EUT and test generator as shown on Section 10.1.
2)For AC port coupling mode, provide a 1 KV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.
3)At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test.
4)Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

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10.6 Test Result

PASS

Please refer to the following page.

Temperature (℃)	22~24
Humidity (%RH)	50~55
Barometric Pressure (mbar)	950~1000
EUT	Face + Fingerprint T&A and Access control
M/N	Face ID2
Operating Mode	ON

Table 1: Surge Face + Fingerprint T&A and Access control

Level	Voltage	Poll	Path	Pass	Fail
1	0.5kV	±	L-N	A	/
2	1kV	±	L-N	A	/
3	2kV	±	L-PE, N-PE	/	/
4	4kV	±	L-N, L-PE, N-PE	/	/

Surge Telecommunication Port

Level	Voltage	Poll	Path	Pass	Fail
1	1.0kV	±	Line-ged	A	/

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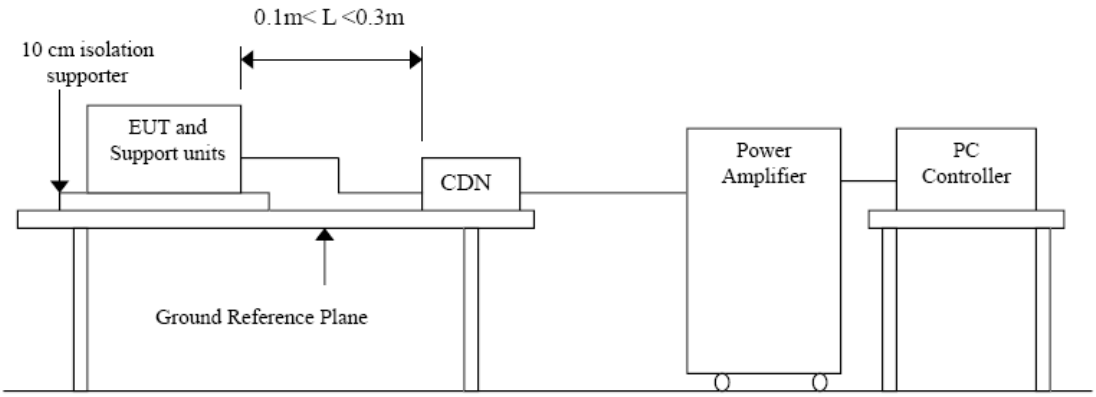
11 - Conducted Susceptibility Test (IEC 61000-4-6)

11.1 Block Diagram of Test Setup



11.2 Test Standard

EN55024: 1998+A1: 2001+A2: 2003 EN61000-6-2: 2001 (EN61000-4-6: 2006, Severity Level 2: 3V (rms)).(0.15MHz ~ 80MHz)

11.3 Severity Levels and Performance Criterion

11.3.1 Severity level

Level	Field Strength V(rms)
1.	1
2.	3
3.	10
X	Special

11.3.2 Performance criterion: A

11.4 Operating Condition of EUT

11.4.1 Setup the EUT as shown in Section 11.1.

11.4.2 Turn on the power of all equipments.

11.4.3 Let the EUT work in test mode (ON) and measure it.

11.5 Test Procedure

11.5.1 For DC Mains
It's unnecessary to test.

11.5.2 For signal lines and control lines ports:
It's unnecessary to test.

11.5.3 For AC Input line ports:
1) Set up the EUT, CDN and test generators as shown on Section 11.1.

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2) Let the EUT work in test mode and measure it.
3) The EUT are placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling network) is placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).
4) The disturbance signal described below is injected to EUT through CDN.
5) The EUT operates within its operational mode(s) under intended climatic conditions after power on.
6) The frequency range is swept from 150KHz to 80MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1KHz sine wave.
7) The rate of sweep shall not exceed 1.5*10-3decades/s. Where the frequency is swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.

Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.

11.6 Test Results

PASS

Please refer to the following page.

Frequency Range (MHz): 0.15~80MHz
Modulation: Amplitude 80%, 1kHz sinewave
Severity Level: 3Vr.m.s.

Temperature (℃)	22~24
Humidity (%RH)	50~55
Barometric Pressure (mbar)	950~1000
EUT	Face + Fingerprint T&A and Access control
M/N	Face ID2
Operating Mode	ON

Power Line of EUT and Signal Line of EUT

Level	Voltage Level (e.m.f.) U_0	Pass	Fail
1	1	/	/
2	3	A	/
3	10	/	/
X	Special	/	/

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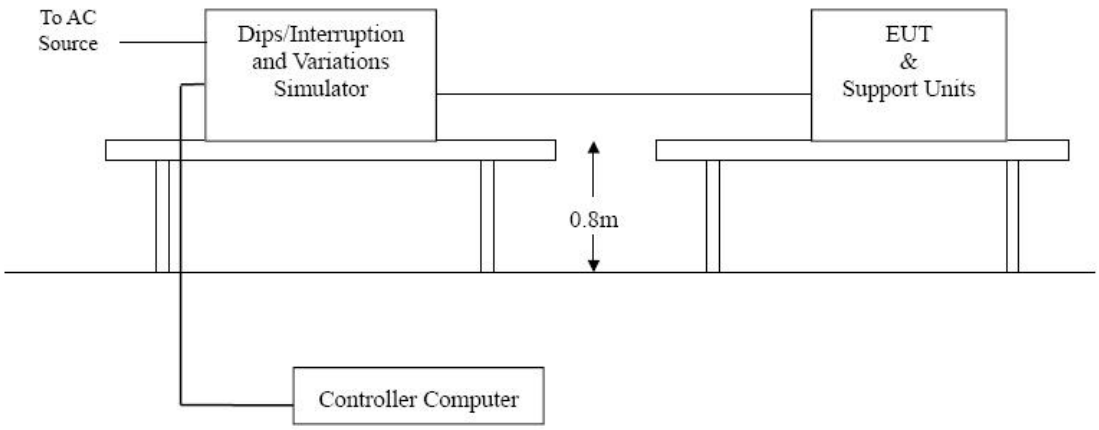
12 - Voltage Dips, Short Interruptions Immunity Tests (IEC 61000-4-11)

12.1 Block Diagram of Test Setup



12.2 Test Standard

EN55024: 1998+A1: 2001+A2: 2003, EN61000-6-2: 2005 (EN61000-4-11: 2004)

12.3 Severity Levels and Performance Criterion

12.3.1 Severity level

Test Level %UT	Voltage dip and short interruptions %UT	Duration (in period)
0	100	0.5 1 5 10 25 50 *
40	60	
70	30	

12.3.2 Performance criterion : A&B

12.4 EUT Configuration

The configuration of EUT is listed in Section 12.1.

12.5 Operating Condition of EUT

12.5.1 Turn on the power of all equipments.

12.5.2 Let the EUT work in test mode (ON) and measure it.

12.6 Test Procedure

1)Set up the EUT and test generator as shown on Section 12.1.

2)The interruption is introduced at selected phase angles with specified duration.

3)Record any degradation of performance.

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12.7 Test Result

PASS

Please refer to the following page.

Temperature (℃)	22~24
Humidity (%RH)	50~55
Barometric Pressure (mbar)	950~1000
EUT	Face + Fingerprint T&A and Access control
M/N	Face ID2
Operating Mode	ON

Level	U2	td	Phase Angle	N	Pass	Fail
1	>95%	10ms	0/90/180/270	3	B	/
2	30%	500ms	0/90/180/270	3	C	/
3	>95%	5000ms	0/90/180/270	3	C	/

Note:

A. The apparatus shall continue to operate as intended during and after the test. The manufacturer specifies some minimum performance level. The performance level may be specified by the manufacturer as a permissible loss of performance.

B. The apparatus shall continue to operate as intended after the test. This indicates that the EUT does not need to function at normal performance levels during the test, but must recover. Again some minimal performance is defined by the manufacture. No change in operating state or loss or data is permitted.

C. Temporary loss of function is allowed. Operation of the EUT may stop as long as it is either automatically reset or can be manually restored by operation of the controls.

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13 - TEST RESULTS

The following tests were performed on the **FINGERTEC WORLDWIDE SDN BHD** 's product; model: **Face ID2** ; the actual test results are contained within the Test Data section of this report.

13.1 IEC 61000-4-2 Electrostatic Discharge Immunity Test Configuration

The EUT was subjected to the electrostatic discharge tests required by EN 55024 and all lower levels specified in IEC 61000-4-2.

The EUT continued to perform as intended during and after the application of the ESD. Test setup photographs presented in Appendix C.

13.2 IEC 61000-4-3 Radiated Susceptibility Test Configuration

The EUT was subjected to a 3-volt/meter, 80% Amplitude, 1 kHz Sine wave field as required by EN 55024 and all lower levels specified in IEC 61000-4-3.

The EUT continued to perform as intended during and after the application of the electromagnetic field. Test setup photographs presented in Appendix C.

13.3 IEC 61000-4-4 Electrical Fast Transient/Burst Immunity Test Configuration

The EUT was subjected to the electrical fast transient tests required by EN 55024 and all lower levels specified in IEC 61000-4-4.

The EUT continued to perform as intended during and after the application of the EFT/B. Test setup photographs presented in Appendix C.

13.4 IEC 61000-4-5 Surge Immunity Test Configuration

The EUT was subjected to the Surge Immunity tests required by EN 55024 and all lower levels specified in IEC 61000-4-5.

The EUT continued to perform as intended during and after the application of the Surge Immunity Test. Test setup photographs presented in Appendix C.

13.5 IEC 61000-4-6 Conducted Susceptibility Test Configuration

The EUT was subjected to the Conducted Susceptibility tests required by EN 55024 and all lower levels specified in IEC 61000-4-6.

The EUT continued to perform as intended during and after the application of the Conducted Susceptibility Test.

13.6 IEC 61000-4-11 Voltage Dips, Short Interruptions Immunity Tests Configuration

The EUT was subjected to the Voltage Dips/Interruptions tests required by EN 55024 and all lower levels specified in IEC 61000-4-11.

The EUT continued to perform as intended during and after the application of the Voltage Dips/Interruptions Test. Test setup photographs presented in Appendix C.

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APPENDIX A - PRODUCT LABELING

CE Marking Label Specification

Specification: Text is Black or white in color and is left justified. Labels are printed in indelible ink on permanent adhesive backing and shall be affixed at a conspicuous location on the EUT or silk-screened onto the EUT.

CE

Proposed Label Location on EUT

EUT Rear View/Proposed CE Marking Location

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APPENDIX B - EUT PHOTOGRAPHS

EUT – Whole View

EUT – Front View

EUT –Rear View

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EUT –Side View

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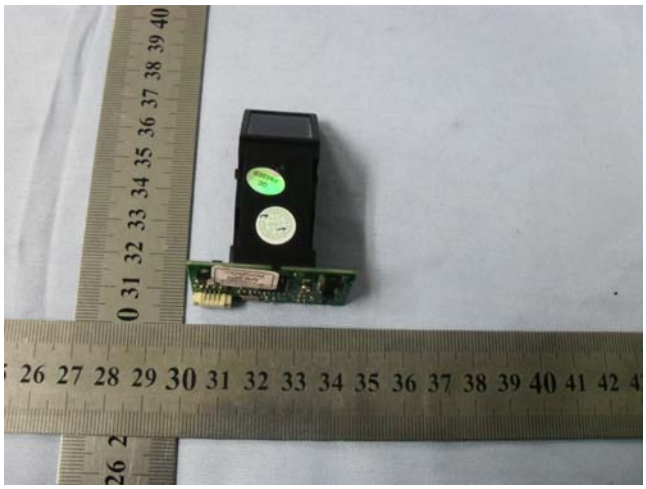
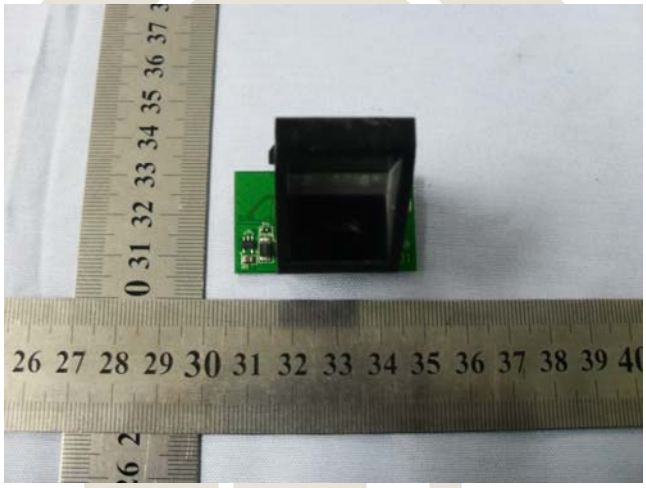
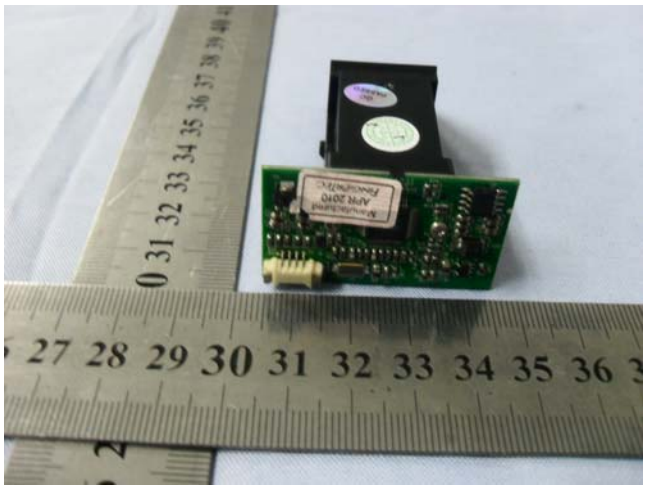
EUT –Fingerprint device View







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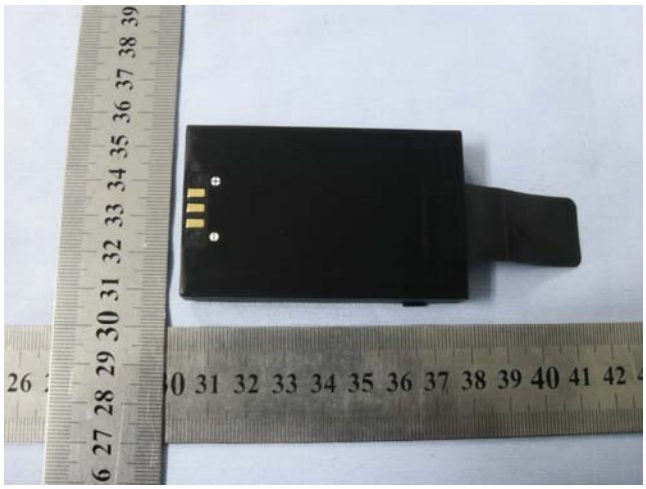
EUT –Adapter View

EUT –Battery View



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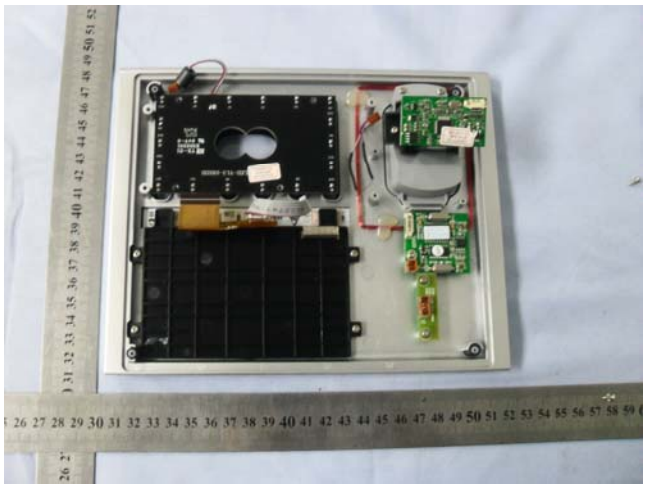
EUT –Open View



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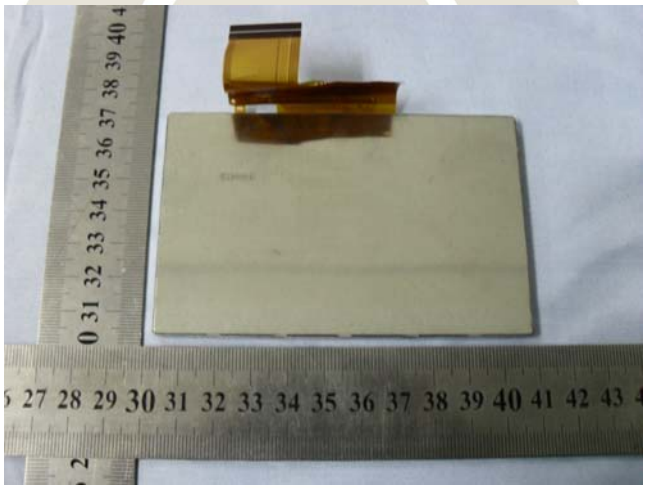
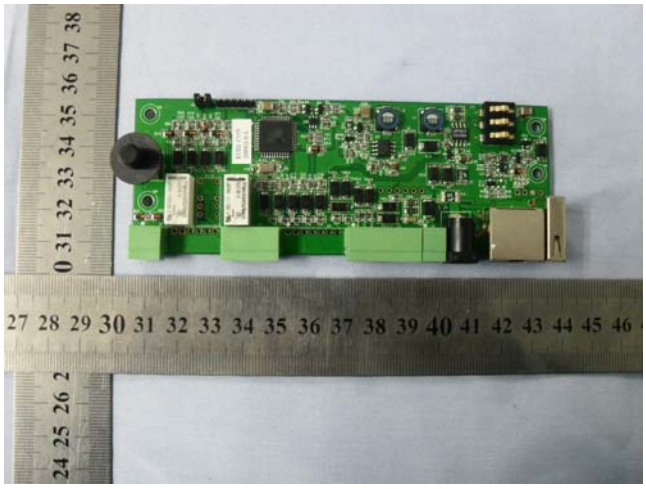
EUT –Screen View



EUT –PCB View



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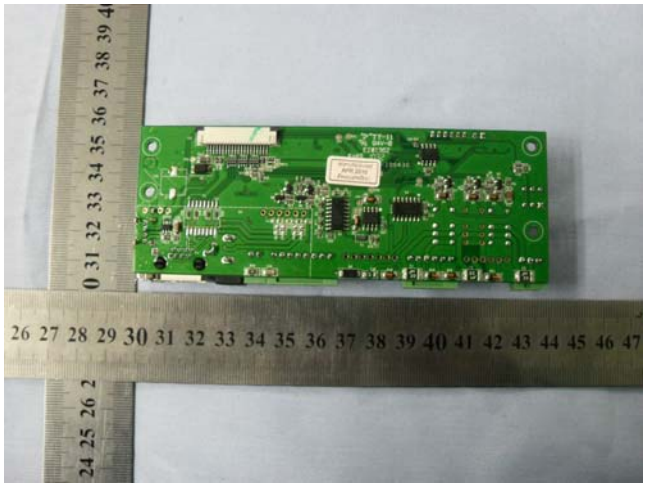
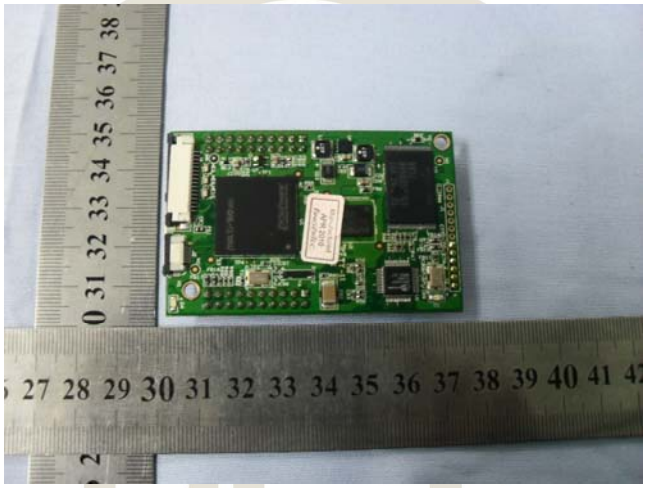
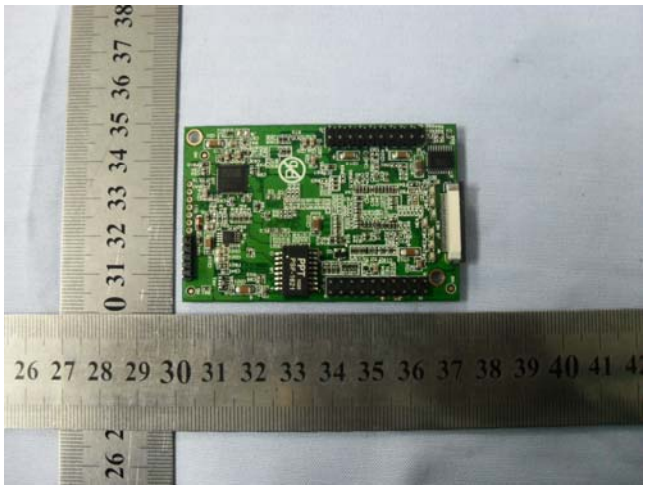




EUT –PCB View



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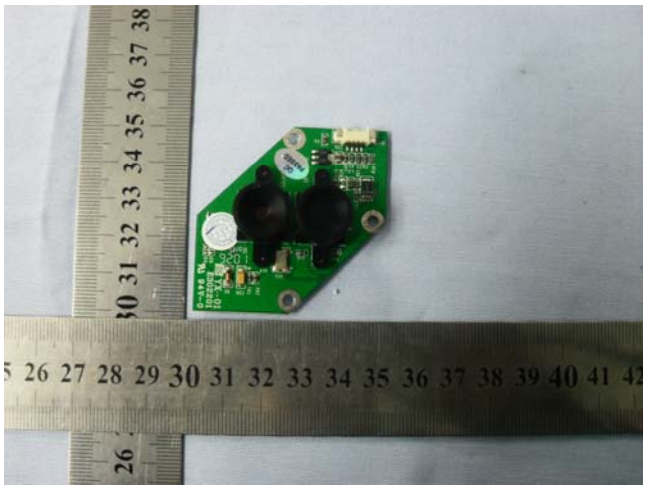
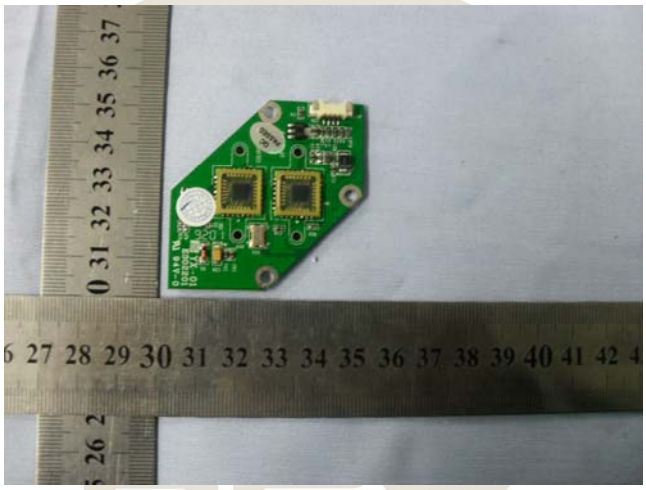
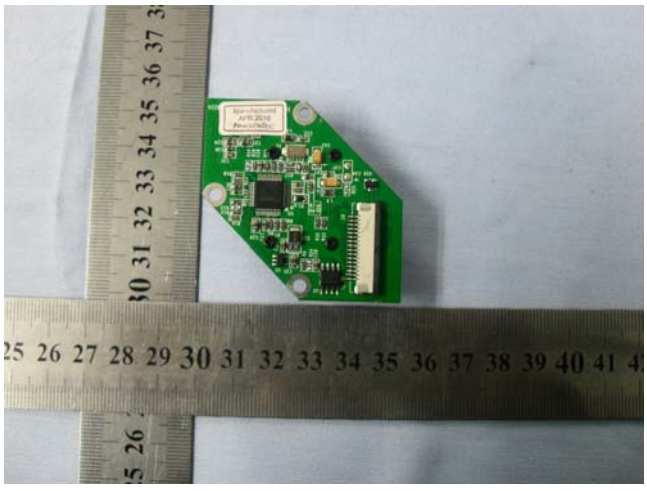




EUT –PCB View



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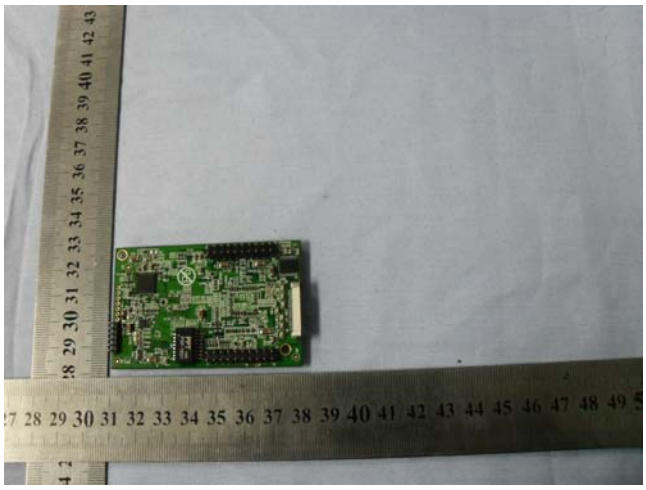
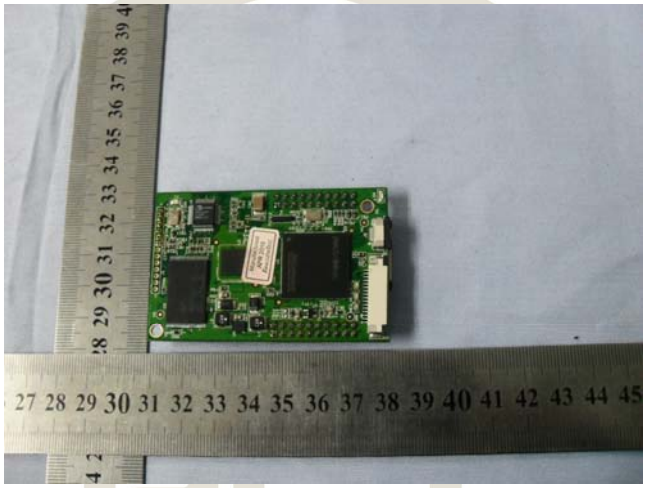
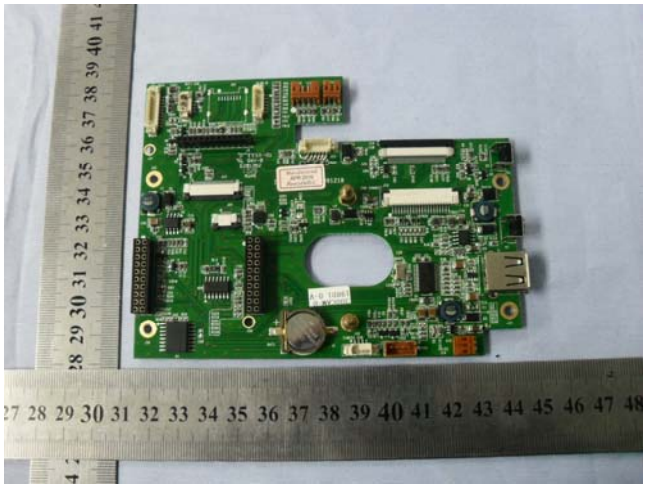




EUT –PCB View



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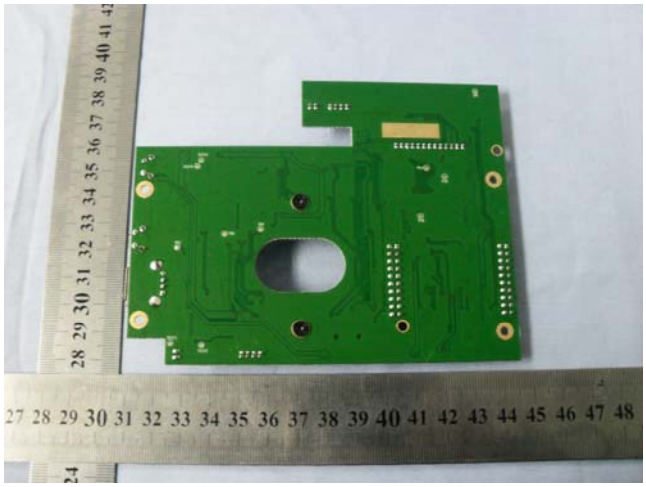
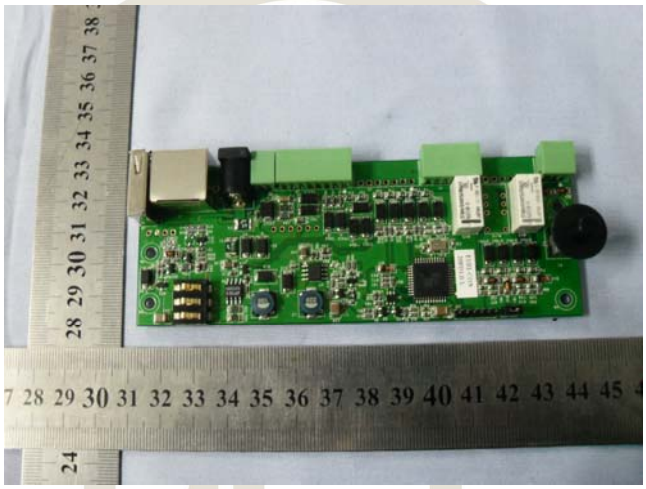
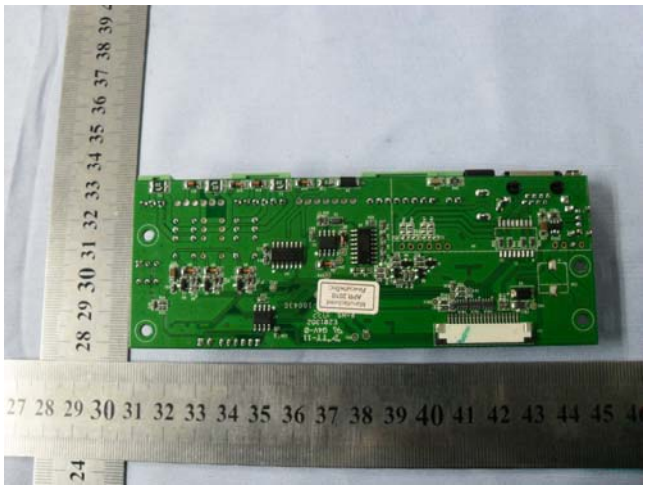




EUT –PCB View



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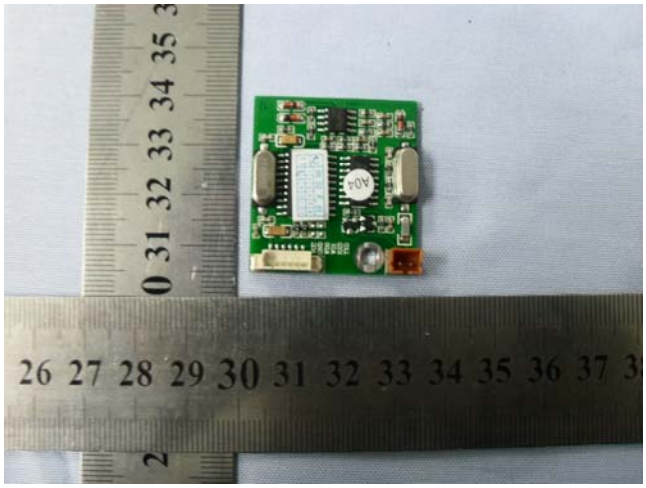
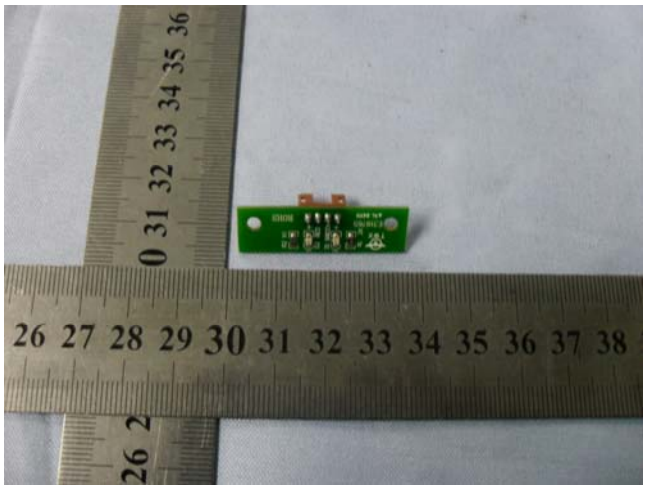


EUT –PCB View



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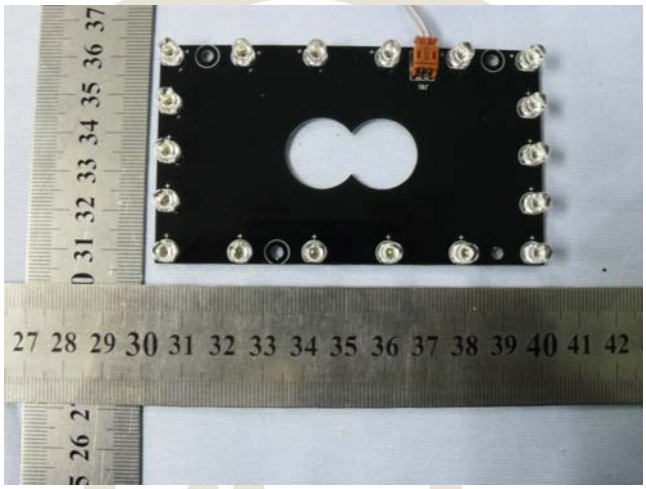
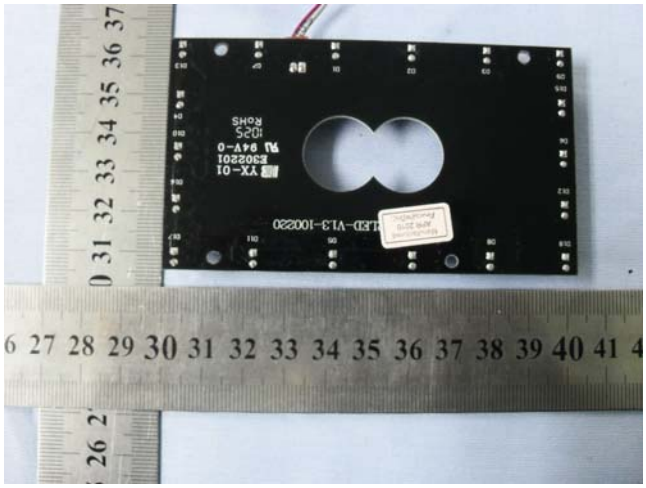


EUT –PCB View



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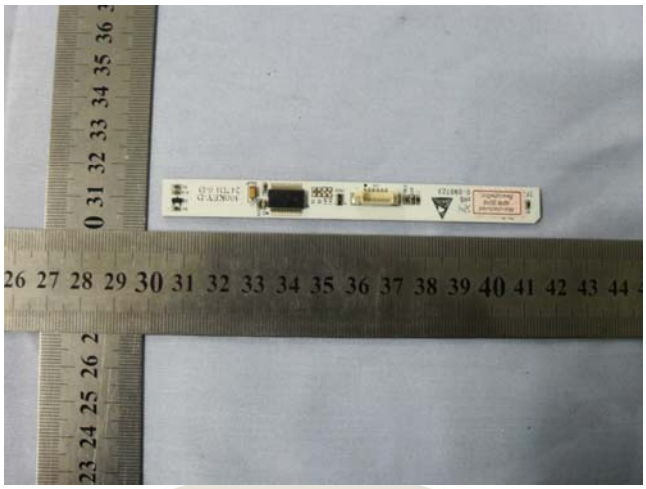
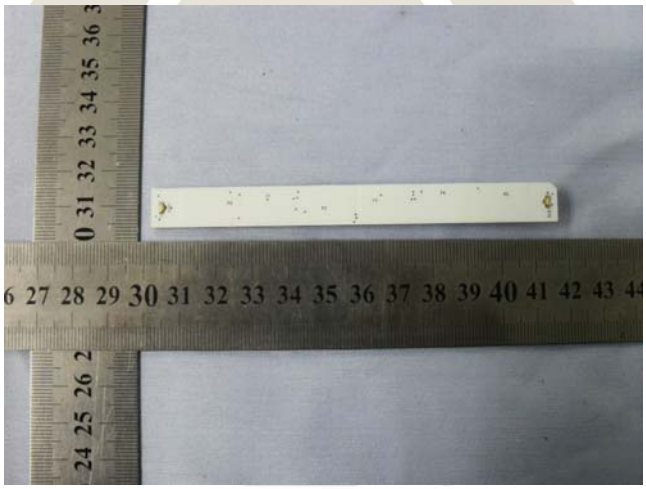
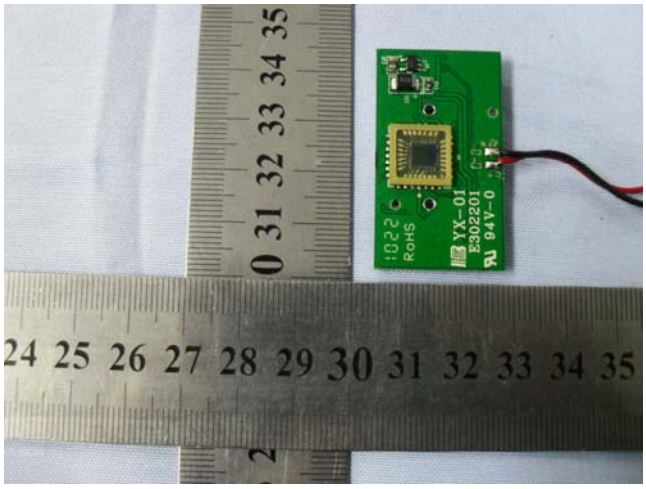
EUT –PCB View







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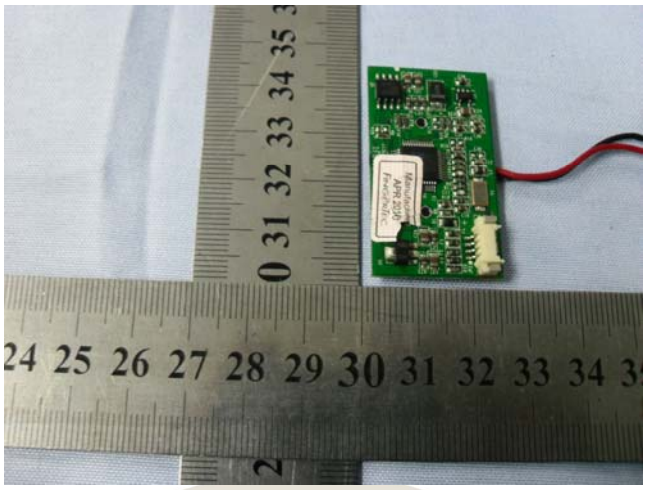
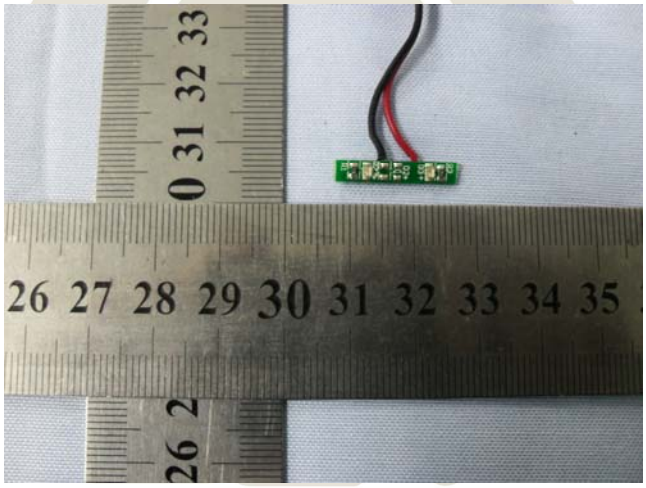
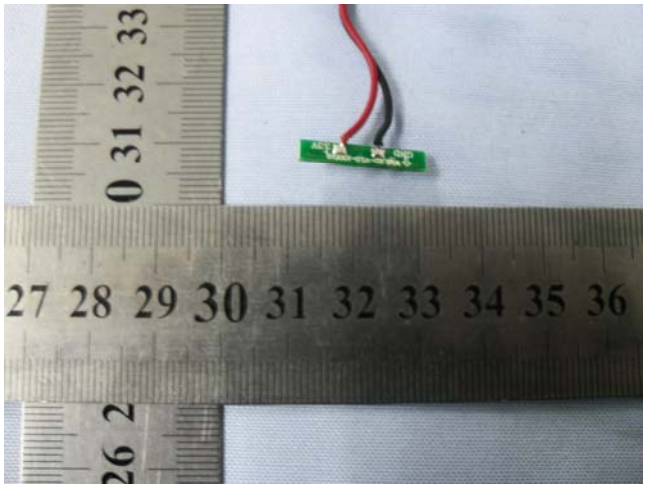
EUT –PCB View







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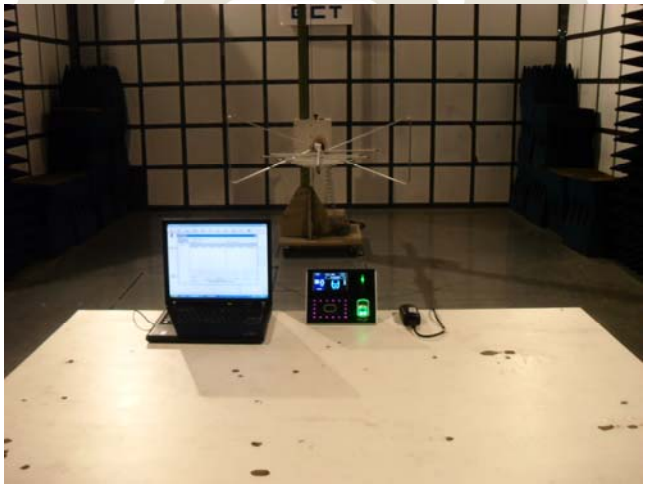
APPENDIX C - TEST SETUP PHOTOGRAPHS

Conducted Emission

Radiated Emission



Electrostatic Discharge Immunity Test (IEC 61000-4-2)

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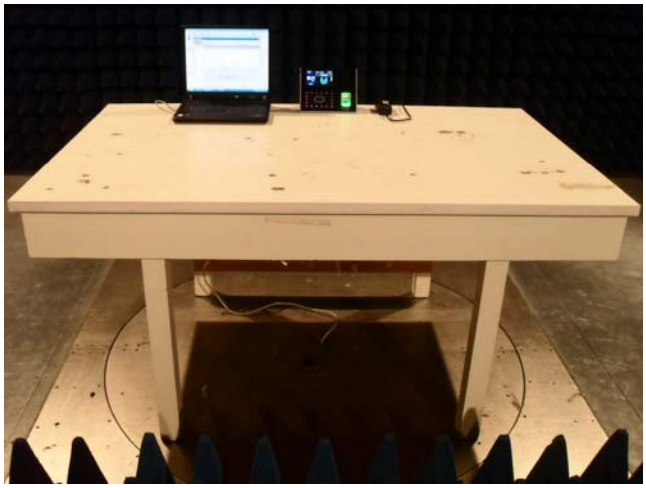
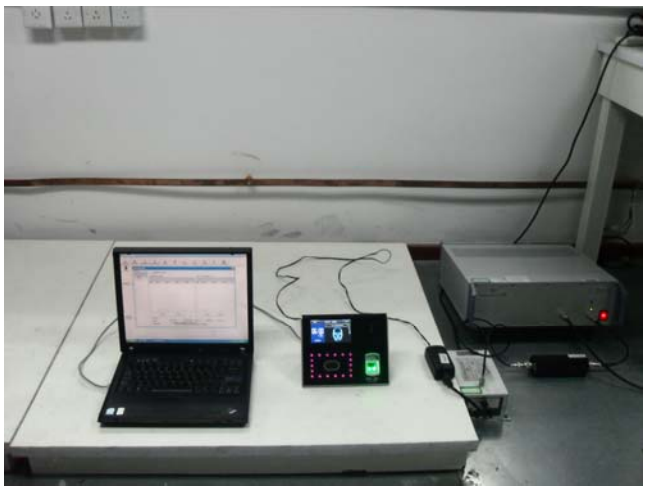
Radiated Susceptibility Test (IEC 61000-4-3)



Electrical Fast Transient/Burst/ Voltage Dips, Short Interruptions Immunity Test (IEC 61000-4-4/5/11)

Conducted Susceptibility Test (IEC 61000-4-6)



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VOLTAGE FLUCTUATIONS AND FLICKER TEST (EN 61000-3-3)

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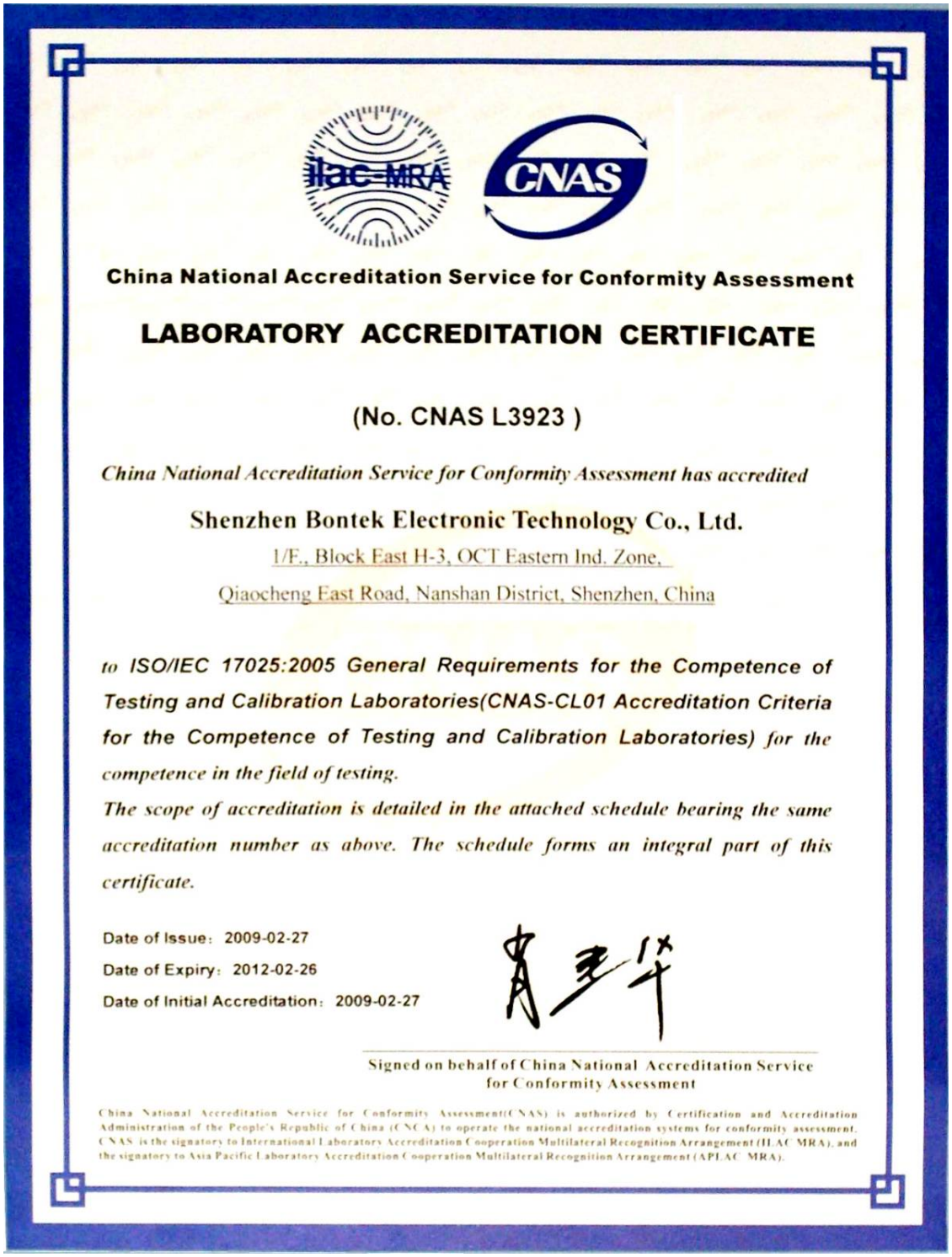
APPENDIX D - BONTEK ACCREDITATION CERTIFICATES



China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(No. CNAS L3923)

China National Accreditation Service for Conformity Assessment has accredited

Shenzhen Bontek Electronic Technology Co., Ltd.

1/F., Block East H-3, OCT Eastern Ind. Zone,

Qiaocheng East Road, Nanshan District, Shenzhen, China

to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

The scope of accreditation is detailed in the attached schedule bearing the same accreditation number as above. The schedule forms an integral part of this certificate.

Date of Issue: 2009-02-27

Date of Expiry: 2012-02-26

Date of Initial Accreditation: 2009-02-27

Signed on behalf of China National Accreditation Service for Conformity Assessment

China National Accreditation Service for Conformity Assessment(CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation systems for conformity assessment. CNAS is the signatory to International Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (ILAC MRA), and the signatory to Asia Pacific Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (APLAC MRA).

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TÜVRheinland®

Certificate of Appointment

No. UA 50145371-0001

The Applicant

Bontek Compliance Testing Laboratory Ltd
1/F, Block East H-3, OCT Eastern Industrial Zone, Qiaocheng East Road, Nanshan
Shenzhen, Guangdong
P.R. China

has been authorized to carry out EMC tests

EN55011,EN55012,EN55013,EN55014-1,EN55014-2,EN55015,EN55020, CISPR11,CISPR12,CISPR13,CISPR14-1,CISPR14-2,CISPR15,EN55022, EN55024,EN55025,CISPR20,CISPR22,CISPR24,CISPR25,EN/IEC61547, EN/IEC61000-3-2,EN/IEC61000-3-3,EN/IEC61000-4-2,EN/IEC61000-4-4,EN/IEC61000-4-5,EN/IEC61000-4-8,EN/IEC61000-4-11,EN/IEC 61000-6-1,EN/IEC61000-6-2,EN/IEC61000-6-3,EN/IEC61000-6-4, EN/IEC60601-1-2,EN/IEC61326-1,EN/IEC61326-x(x=2,3,4, or 5)

An assessment of the laboratory was conducted according to the "Procedures and Conditions for Appointments of EMC Test Laboratories" with reference to EN ISO/IEC 17025 by a TÜV Rheinland auditor.
Audit Report No. 17010783-001
This certificate is valid until the next scheduled audit or up to 18 months, at the discretion of TÜV Rheinland.

Date of issue: 09.02.2009

Certification Body

TÜV Rheinland/CCIC (Qingdao) Co., Ltd.
TÜVRheinland Certification Body

Dipl.-Ing. S. O. Steinke

TÜV Rheinland/CCIC (Qingdao) Co., Ltd.
18 Hong Kong Middle Road, Qingdao 266071, P.R.China
Tel: +86-532-8578-1778
Fax.:+86-532-8578-1079 http://www.chn.tuv.com

FEDERAL COMMUNICATIONS COMMISSION

Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046

March 20, 2008

Registration Number: 338263

Bontek Compliance Testing Laboratory Ltd
1/F, Block East H-3, OCT Eastern Ind. Zone,
Qiaocheng East Road, Nanshan,
Shenzhen, 518055
China

Attention: Tony Wu

Re: Measurement facility located at Hua Qiao Cheng East Ind. Area,Shenzhen,China
Anechoic chamber (3 meter)
Date of Listing: March 20, 2008

Dear Sir or Madam:

Your request for registration of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC rules. The information has, therefore, been placed on file and the name of your organization added to the list of facilities whose measurement data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Please note that the file must be updated for any changes made to the facility and the registration must be renewed at least every three years.

Measurement facilities that have indicated that they are available to the public to perform measurement services on a fee basis may be found on the FCC website www.fcc.gov under E-Filing, OET Equipment Authorization Electronic Filing, Test Firms.

Sincerely,

Katie Hawkins

Katie Hawkins
Electronics Engineer

1/F, Block East H-3, OCT Eastern Ind. Zone, Qiaocheng East Road, Nanshan, Shenzhen, P.R. China
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