EMC TEST REPORT

For

PRIC TECHNOLOGY (HK) LIMITEDLTD

Portable Scanner

Model No. : iScan01

Trade Mark : iScan

Prepared for : PRIC TECHNOLOGY (HK) LIMITEDLTD
RM C1-D 6/F WING HING IND BLDG 14 HING YIP ST
KWUN TONG KLN HONG KONG

Prepared By : Shenzhen Raise Technology Co., Ltd
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Report No. : RP14E07138-01

Date of Test : July 3- 10, 2014

Date of Rep. : July 10, 2014

Change of Rep : July 26, 2019

TABLE OF CONTENT

Description Page

Test Report Declaration

TEST REPORT DECLARATION

Applicant	:	PRIC TECHNOLOGY (HK) LIMITEDLTD
Manufacturer	:	PRIC TECHNOLOGY (HK) LIMITEDLTD
EUT Description	:	Portable Scanner
(A) Model No.	:	iScan01
(B) Serial No.	:	E201407138
(C) Power Supply	:	DC 3.3V

Test Procedure Used:

EMI: EN 55032:2012,
EN61000-3-2: 2014, EN61000-3-3: 2013

EMS: EN55024: 2010 (EN61000-4-2: 2009, EN61000-4-3:2006+A1:2008+A2: 2010, EN 61000-4-4:2004+A1:2010, EN61000-4-5: 2006, EN61000-4-6: 2009, EN61000-4-8: 2010, EN61000-4-11: 2004)

The device described above has been tested by **Shenzhen Raise Technology Co., Ltd.** to determine the maximum emission levels emanating from the device, the severe levels that the device can endure and EUT'S performance criterion. The test results are contained in this test report. **Shenzhen Raise Technology Co., Ltd.** is assumed of full responsibility for the accuracy and completeness of these tests. Also, this report shows that the EUT is technically compliant with the EN55022, EN61000-3-2, EN61000-3-3 and EN55024 requirements.
This report applies to above tested sample only and shall not be reproduced in part without written approval of **Shenzhen Raise Technology Co., Ltd**.

Date of Test: July 3- 10, 2014
Change of Rep: July 26, 2019

Prepared by:

Approved & Authorized Signer:

Project Manager

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

Description	:	Portable Scanner
Trade Mark		iScan
Model Number	:	iScan01
Applicant	:	PRIC TECHNOLOGY (HK) LIMITEDLTD
Address	:	RM C1-D 6/F WING HING IND BLDG 14 HING YIP ST KWUN TONG KLN HONG KONG
Manufacturer	:	PRIC TECHNOLOGY (HK) LIMITEDLTD
Address	:	GangYi Industry Park, LongGang District,Shenzhen China
Date of Test	:	July 3- 10, 2014
Change of Rep	:	July 26, 2019

1.2.Test Facility

Site Description:

EMC Laboratory **:** Certificated by **FCC**
Registration Number: 759397
November 04, 2003

Certificated by **TOYO**
Registration Number: 103-8284
September 6, 2003

Certificated by **VCCI**
Registration Number: R-1847 / C-1978
April 06, 2004

Name of Firm **:** SOLID INDUSTRIAL (SHENZHEN) CO., LTD

Site Location **:** #333 Bulonggong Road, Bantian Village,
Longgang District, Shenzhen

1.3. Test Uncertainty

Conducted Emission Uncertainty = ±2.66dB

Radiated Emission Uncertainty = ±4.26dB

2. TEST INSTRUMENT USED

2.1.For Conducted Emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.
1.	Spedtrum Analyzer	ADVANTEST	R3261C	51720141
2.	EMI Test Receiver	R&S	ESS	837010/012
3.	RF Selector	TOYO	NS4000	9507001
4.	AM/FM Stereo Signal Generator	Panasonic	VP-8122A	4D0461C125

2.2.For Radiated Emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.
1	EMI Test Receiver	R&S	ESS	837010/013
2	EMC Analyzer	Agilent	E7402A	US41110270
3	RF Selector	TOYO	NS4901A	9507004
4	Pre Amplifier	ANRITSU	MH648A	M92249
5	AM/FM Stereo Signal Generator	Panasonic	VP-8122A	730969C125
6	AC Power Supply	KIKUSUI	PCR-4000L	CL001357

2.3.For Harmonic / Flicker Test

Item	Equipment	Manufacturer	Model No.	Serial No.
1.	Singal Phase Impedance Network	SCHAFFNER	INA2152	7001-406-1
2.	Signal Generator Unit	SCHAFFNER	CCN1000-1	5004-400-1
3.	5KV AC Power Source	SCHAFFNER	NSG1007	7000-438-2

2.4.For Electrostatic Discharge Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.
1.	Electrostatic Discharge Simulator	Noiseken	ESS-200AX	FY66576
2.	AC Power Supply	KIKUSUI	PCR-4000W	EA002472

2.5.For RF Field Strength Susceptibility Test

Item	Equipment	Manufacturer	Model No.	Serial No.
1.	Signal Generator	R&S	SMG	839331/018
2.	Distortion Meter	KENWOOD	HM-250	3090020
3.	Power Reflection Meter	R&S	NAP	839393/030
4.	Isotropic Field Monitor	AMPLIFIER RESEARCH	FM2000	15744
5.	RF Power Amplifier System	TOYO	AS300SSS	950703
6.	Synthesized Function Generator	YOKOGAWA	FC110	27D113233
7.	Electric Field Probe	AMPLIFIER RESEARCH	FP2000	300455
8.	AC Power Supply	KIKUSUI	PCR-4000L	CL001357

2.6.For Electrical Fast Transient/Burst Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.
1.	Fast Transient Burst Generator	SCHAFFNER	NSG 3025	19673
2.	AC Power Supply	KIKUSUI	PCR-2000L	15040950
3.	Computer	HP	/	SG95001903

2.7.For Immunity Test (TS9980 Test System)

Item	Equipment	Manufacturer	Model No.	Serial No.
1.	Signal Generator	R&S	SMG	839331/013
2.	Signal Generator	R&S	SMG	839331/019
3.	RF Selector	TOYO	NS8900	9508009
4.	Filter Unit	TOYO	NF8900	9508012
5.	Audio Analyzer	R&S	UPA	840317/009
6.	Oscilloscope	LEADER	LS 8022	2187444
7.	Millivoltmeter	R&S	URV5	839330/032
8.	Millivoltmeter	R&S	URV5	839330/032
9.	RF Power Amplifier	EN	411LA	810F
10.	Bandpass-filter	Erika Fiedler	/	/
11.	Spedtrum Analyzer	ADVANTEST	R3261C	51720141
12.	EMI Test Receiver	R&S	ESS	837010/012
13.	RF Selector	TOYO	NS4000	9507001
14.	RF Selector	TOYO	NS4900	0308-021
15.	Signal Generator	R&S	SMG	838730/023
16.	Signal Generator	R&S	SMG	839331/019
17.	RF Selector	TOYO	NS4900	0308-021
18.	AC Power Supply	KIKUSUI	PCR-4000L	CL001356
19.	Computer	DELL	GX260	B9WR91X
20.	Software	TOYO	CE	/
21.	Pinter	HP	3658	CN3513DIQX

2.8.For Immunity Test For 900 MHz RF E.M. Field Test

Item	Equipment	Manufacturer	Model No.	Serial No.
1.	Signal Generator	R&S	SMG	839331/018
2.	Distortion Meter	Kenwood	HM-250	3090020
3.	Power Reflection Meter	R&S	NAP	839393/030
4.	Isotropic Field Monitor	Amplifier Research	FM2000	15744
5.	RF Power Amplifier System	Toyo	AS300SSS	950703
6.	Synthesized Function Generator	Yokogawa	FC110	27D113233
7.	Electric Field Probe	Amplifier Research	FP2000	300455

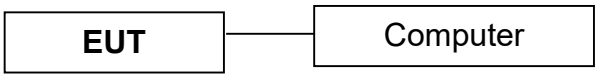
3. POWER LINE CONDUCTED EMISSION TEST

As the EUT (Portable Scanner) has no AC mains port, so the power line conducted emission test according to the standard (EN 55032:2012) is not required.

4. RADIATED EMISSION TEST

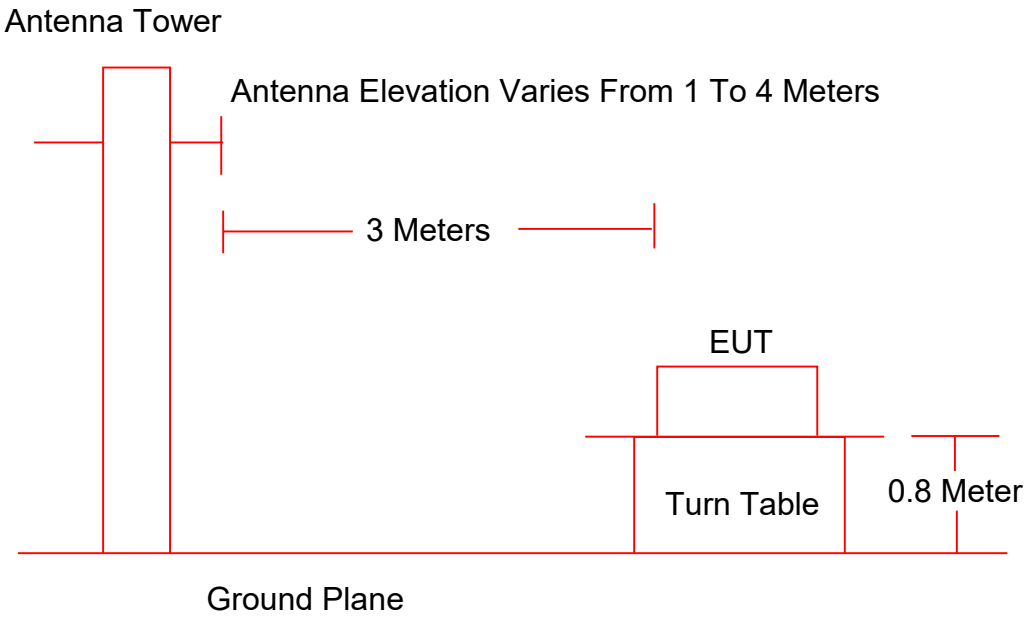
4.1.Block Diagram of Test Setup

4.1.1.Block Diagram of EUT Test Setup



(EUT: Portable Scanner)

4.1.2.Anechoic Chamber Setup Diagram



(EUT: Portable Scanner)

4.2.Test Standard

EN 55032:2012

4.2.1.Radiated Emission Limit

(1) Emission level (dB(μV)/m) = 20 log Emission level (μV/m)
(2) The smaller limit shall apply at the cross point between two frequency bands.
(3) Distance refers to the distance in meters between the measuring instrument, antenna and the closed point of any part of the device or system.

4.3.EUT Configuration on Test

The configuration of EUT is listed in Section 3.4.

4.4.Operating Condition of EUT

4.4.1.Setup the EUT and simulators as shown in Section 4.1.

4.4.2.Turn on the power of all equipments.

4.4.3.Let the EUT work in test mode and test it.

4.5.Test Procedure

The EUT and its simulators are placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. In order to find the maximum emission levels, the interface cable must be manipulated according to EN 61000-6-3 on radiated emission test.

The bandwidth setting on the field strength meter (R & S Test Receiver ESS) is set at 120 KHz.

The frequency range from 30 MHz to 1000 MHz is investigated. The test data are listed in the Section 4.7 and the scanning waveform are attached within Appendix I.

4.6.Radiated Emission Test Result

PASS.

The frequency spectrum from 30 MHz to 6000 MHz is investigated.

Detailed information, please see the appendix (II) file.

5. HARMONIC CURRENT EMISSION TEST

As the EUT (Portable Scanner) has no AC mains port, so the harmonic current emission test according to the standard (EN 61000-3-2:2014) is not required.

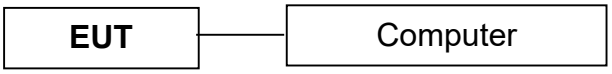
6. VOLTAGE FLUCTUATIONS & FLICKER TEST

As the EUT (Portable Scanner) has no AC mains port, so the voltage fluctuations & flicker test according to the standard (EN61000-3-3: 2013) is not required.

7. ELECTROSTATIC DISCHARGE TEST

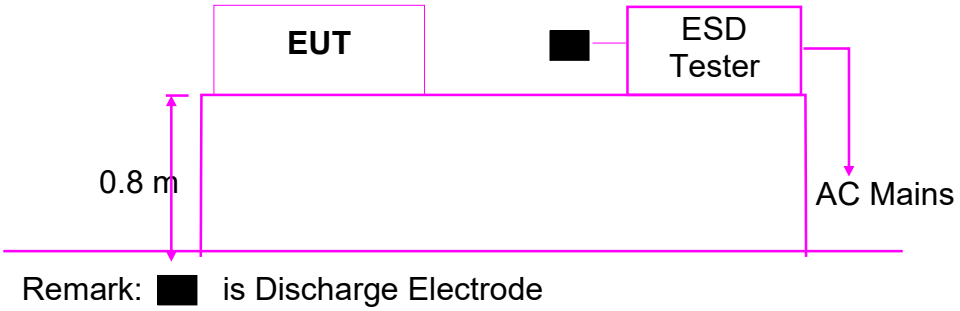
7.1.Block Diagram of Test Setup

7.1.1.Block Diagram of EUT Test Setup



(EUT: Portable Scanner)

7.1.2.ESD Test Setup



(EUT: Portable Scanner)

7.2.Test Standard

EN 55024: 2010
(EN 61000-4-2: 2009)

7.3.Severity Levels and Performance Criterion

Severity Level 3 for Air Discharge at 8KV
Severity Level 2 for Contact Discharge at 4KV
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

Performance criterion: **A**

7.4.EUT Configuration on Test

The configuration of EUT is listed in Section 3.4.

7.5.Operating Condition of EUT

7.5.1.Setup the EUT as shown in Section 7.1.

7.5.2.Turning on the power of all equipments.

7.5.3.Let the EUT work in test mode and test it.

7.6.Test Procedure

7.6.1.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.

7.6.2.Contact Discharge**:**

All the procedure shall be same as Section 7.6.1 except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

Indirect discharge for horizontal coupling plane

At least 20 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode position is vertically at a distance of 0.1m from the EUT and with the discharge electrode touching the coupling plane.

Indirect discharge for vertical coupling plane

At least 20 single discharges 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.

7.7.Test Results

PASS.

Detailed information, Please refer to the following page.

Electrostatic Discharge Test Results

EUT :	Portable Scanner	Temperature :	25℃
M/N :	iScan01	Humidity :	55%
Power Supply :	DC 3.3V	Test Mode :	ON

Air Discharge: ±8KV For each point positive 10 times and negative 10 times discharge.

Contact Discharge: ±4KV For Contact Discharge each point positive 50 times and negative 50 times discharge

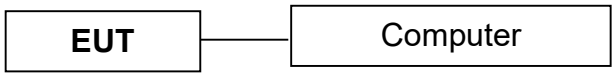
Location	Kind A-Air Discharge C-Contact Discharge	Result
Slot	A	PASS
USB Port	C	PASS
HCP	C	PASS
VCP of Front	C	PASS
VCP of Rear	C	PASS
VCP of Left	C	PASS
VCP of Right	C	PASS

Remark: Discharge should be considered on Contact and Air and Horizontal Coupling Plane (HCP) and Vertical Coupling Plane (VCP).	Test Equipment: See Clause 2.

8. RF FIELD STRENGTH SUSCEPTIBILITY TEST

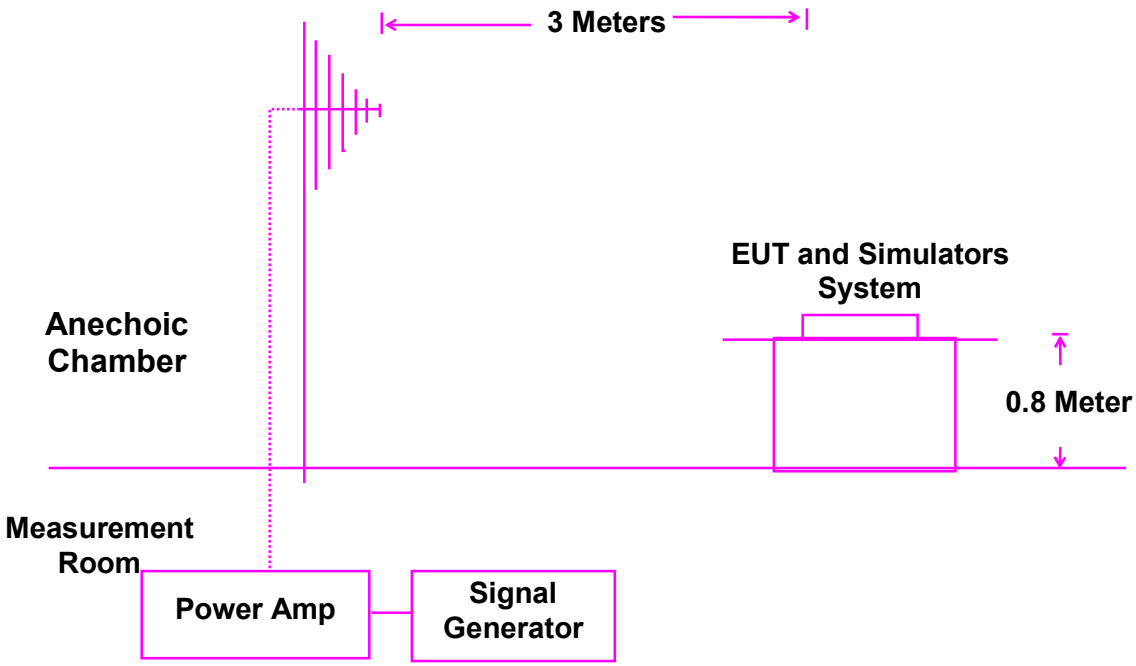
8.1.Block Diagram of Test Setup

8.1.1.Block Diagram of EUT Test Setup



(EUT: Portable Scanner)

8.1.2.R/S Test Setup



(EUT: Portable Scanner)

8.2.Test Standard

EN 55024: 2010(EN 61000-4-3: 2006+A2:2010)

8.3.Severity Levels and Performance Criterion

Severity Level 2 at 3V / m, Severity Level**:**

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

Performance criterion**: A**

8.4.EUT Configuration on Test

The configuration of EUT is listed in Section 3.4.

8.5.Operating Condition of EUT

8.5.1.Setup the EUT as shown in Section 8.1.

8.5.2.Turn on the power of all equipments.

8.5.3.Let the EUT work in test mode and test it.

8.6.Test Procedure

8.6.1.The EUT and its simulators are placed on a table that is 0.8 meter above the ground. The EUT is set 3 meters away from the transmitting antenna that is mounted on an antenna tower. Both horizontal and vertical polarizations of the antenna are set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually. In order to judge the EUT performance, a CCD camera is used to monitor the EUT.

8.6.2.All the scanning conditions are as follows**:**

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

8.7.Test Results

PASS.

Detailed information, Please refer to the following page.

RF Field Strength Susceptibility Test Results

EUT	: Portable Scanner	Temperature	: 25℃
M/N	: iScan01	Humidity	: 55%
Power Supply	: DC 3.3V	Test Mode	: ON

Modulation: ☑ AM ☐ Pulse ☐ None 1 KHz 80%

	Frequency Range: 80MHz to 1000 MHz	
Steps	# / %	
	Horizontal	Vertical
Front	Pass	Pass
Right	Pass	Pass
Rear	Pass	Pass
Left	Pass	Pass

Test Equipment:

See Clause 2.

9. ELECTRICAL FAST TRANSIENT/BURST TEST

As the EUT (Portable Scanner) has no AC mains port, so the electrical fast transient / burst test according to the standard (EN61000-4-4: 2004+A1:2010) is not required.

10. SURGE TEST

As the EUT (Portable Scanner) has no AC mains port, so the surge test according to the standard (EN61000-4-5: 2006) is not required.

11. INJECTED CURRENTS SUSCEPTIBILITY TEST

As the EUT (Portable Scanner) has no AC mains port, so the injected currents susceptibility test according to the standard (EN 61000-4-6: 2009) is not required.

12.VOLTAGE DIPS AND INTERRUPTIONS TEST

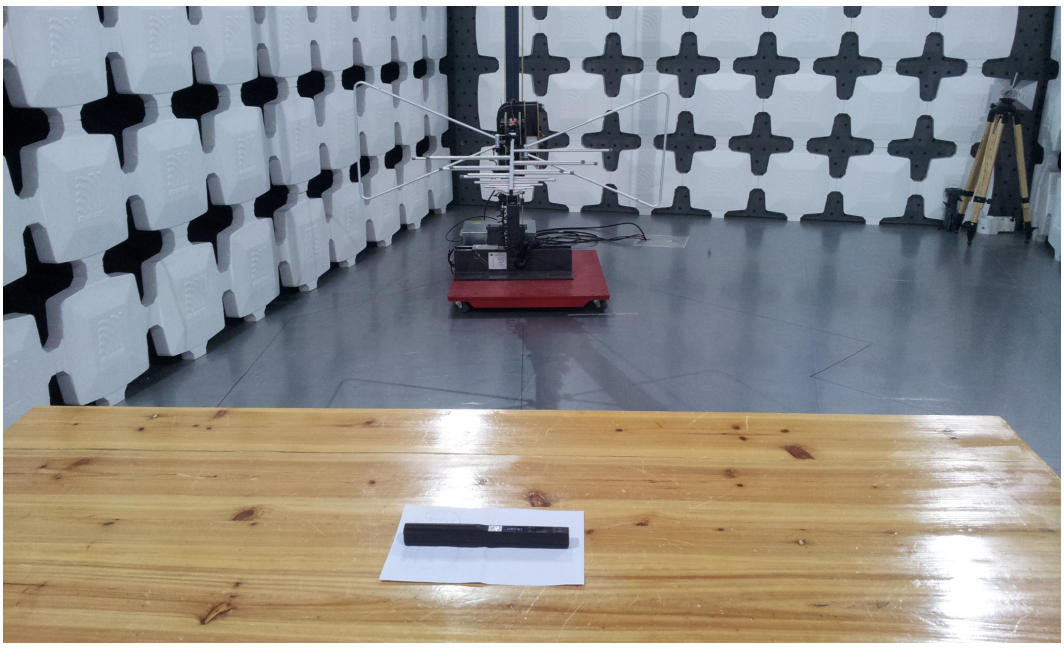
As the EUT (Portable Scanner) has no AC mains port, so the magnetic field immunity test according to the standard (EN61000-4-8: 2010) is not required.

13.VOLTAGE DIPS AND INTERRUPYIONS TEST

As the EUT (Portable Scanner) has no AC mains port, so the voltage dips and interruptions test according to the standard (EN61000-4-11: 2004) is not required.

14. PHOTOGRAPHS OF TEST SETUP

14.1.Photo of Radiated Emission Test



APPENDIX I

Radiated Emission

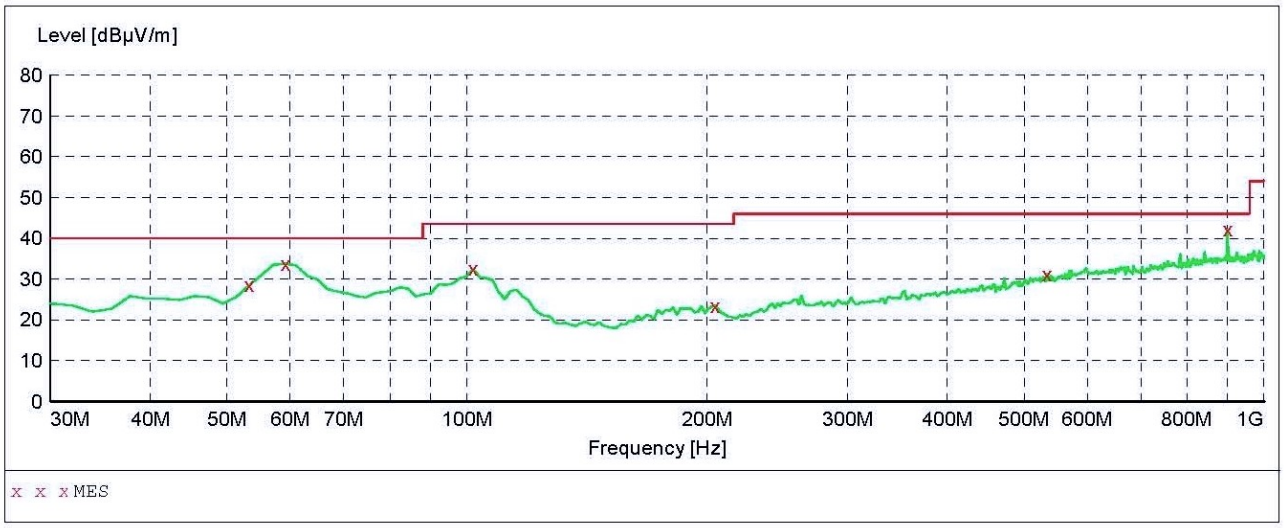
Test Data

RADIATED EMISSION EN55022B

EUT:
Manufacturer:
Operating Condition: ON
Test Site: 3M CHAMBER
Operator: SU
Test Specification: DC 3.3V
Comment: Polarisation:H
Temperature:22 Humiuity:48%

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:

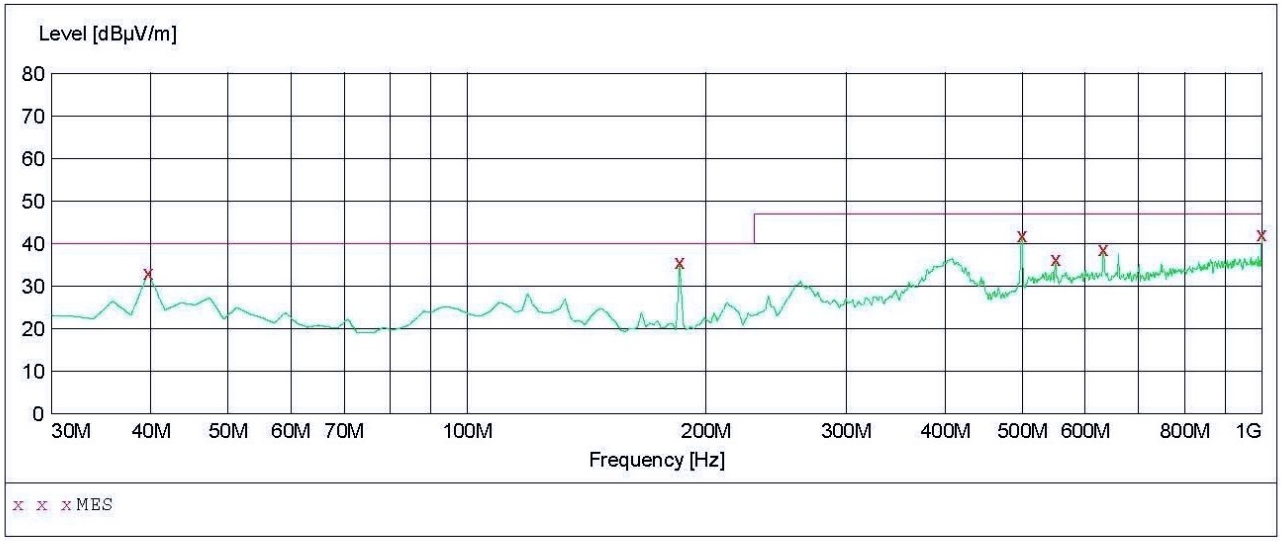
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
53.280000	28.50	15.7	40.0	11.5	---	300.0	0.00	HORIZONTAL
59.100000	33.80	14.6	40.0	6.2	---	300.0	0.00	HORIZONTAL
101.780000	32.50	17.3	43.5	11.0	---	300.0	0.00	HORIZONTAL
204.600000	23.50	15.0	43.5	20.0	---	300.0	0.00	HORIZONTAL
534.400000	31.20	24.6	46.0	14.8	---	300.0	0.00	HORIZONTAL
899.120000	42.10	29.2	46.0	3.9	---	100.0	0.00	HORIZONTAL

RADIATED EMISSION EN55022B

EUT:
Manufacturer:
Operating Condition: ON
Test Site: 3M CHAMBER
Operator: SU
Test Specification: DC3.3V
Comment: Polarisation:V
Temperature:22 Humiuity:48%

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:

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
39.700000	33.20	15.8	40.0	6.8	---	100.0	0.00	VERTICAL
185.200000	35.80	14.4	40.0	4.2	---	100.0	0.00	VERTICAL
499.480000	42.10	23.8	47.0	4.9	---	100.0	0.00	VERTICAL
549.920000	36.60	25.0	47.0	10.4	---	100.0	0.00	VERTICAL
631.400000	38.80	26.1	47.0	8.2	---	100.0	0.00	VERTICAL
1000.000000	42.30	30.0	47.0	4.7	---	100.0	0.00	VERTICAL

APPENDIX II

Photographs of the EUT

FIGURE 1
General Appearance of EUT(M/N: iScan01,Front View)

FIGURE 2
General Appearance of EUT(M/N: iScan01, Side View)

FIGURE 3
Inside of EUT(M/N:iScan01)

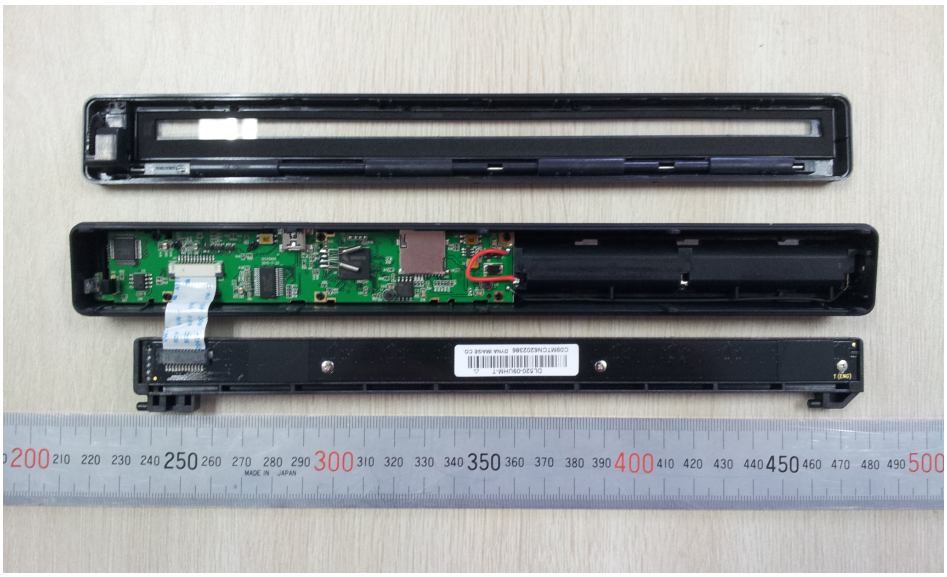


FIGURE 4
PCB of EUT(M/N: iScan01,Front View)

FIGURE 5
PCB of EUT(M/N: iScan01, Rear View)