Dascom Printer (Jiangmen) Co.,Ltd.

Dot Matrix Printer

Model:1125

07 August 2011
Report No.: 11020857-F

(This report supersedes NONE)

EMC Test Report

TO:FCC Part 15 Subpart B Class B: Oct. 2010, ANSI C63.4: 2009

SIEMIC, INC.
Accessing global markets

CERTIFICATE OF TEST

Date of Issue: 07 August 2011

Company Name: Dascom Printer (Jiangmen) Co.,Ltd.

Product Name/Model: Dot Matrix Printer/ 1125

Stipulated Standard: FCC 15B 2010 (Class B)

Modifications made to the product : None	
This Test Report is Issued Under the Authority of:	
	
William Long **Compliance Engineer**	**Spring Zhou** **Technical Director**

Laboratory Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.

In addition to testing and certification, SIEMIC provides initial design reviews and compliance management through out a project. Our extensive experience with China, Asia Pacific, North America, European, and international compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Accreditation Body	Scope
USA	FCC, A2LA	EMC , RF/Wireless , Telecom
Canada	IC, A2LA, NIST	EMC, RF/Wireless , Telecom
Taiwan	BSMI , NCC , NIST	EMC, RF, Telecom , Safety
Hong Kong	OFTA , NIST	RF/Wireless ,Telecom
Australia	NATA, NIST	EMC, RF, Telecom , Safety
Korea	KCC/RRA, NIST	EMI, EMS, RF , Telecom, Safety
Japan	VCCI, JATE, TELEC, RFT	EMI, RF/Wireless, Telecom
Mexico	NOM, COFETEL, Caniety	Safety, EMC , RF/Wireless, Telecom
Europe	A2LA, NIST	EMC, RF, Telecom , Safety

Accreditations for Product Certifications

Country	Accreditation Body	Scope
USA	FCC TCB, NIST	EMC , RF , Telecom
Canada	IC FCB , NIST	EMC , RF , Telecom
Singapore	iDA, NIST	EMC , RF , Telecom
EU	NB	EMC & R&TTE Directive

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CONTENTS

1 Executive Summary & EUT Information

The purpose of this test program was to demonstrate compliance of the Dascom Printer (Jiangmen) Co.,Ltd. Dot Matrix Printer, against the current Stipulated Standards. TheDot Matrix Printer has demonstrated compliance with the FCC Part 15 Subpart B Class B: 2010.

EUT Information

EUT Description	Dot Matrix Printer
Model No	1125
Serial No	N/A
Input Power	100-240V AC 50/60Hz
Classification Per Stipulated Test Standard	Class B Emission Product

2 TECHNICAL DETAILS

Purpose	Compliance testing of Dot Matrix Printer with stipulated standards
Applicant / Client	Dascom Printer (Jiangmen) Co.,Ltd. No.399, Jin Xing Road, Jiang Hai District, Jiangmen City,Guang Dong Province, P.R. China .
Manufacturer	Dascom Printer (Jiangmen) Co.,Ltd. No.399, Jin Xing Road, Jiang Hai District, Jiangmen City,Guang Dong Province, P.R. China
Laboratory performing the tests	SIEMIC Nanjing (China) Laboratories NO.2-1,Longcang Dadao, Yuhua Economic Development Zone, Nanjing, China Tel:+86(25)86730128/86730129 Fax:+86(25)86730127 Email:info@siemic.com
Test report reference number	11020857-F
Date EUT received	08 July 2011
Standard applied	FCC Part 15 Subpart B Class B: 2010
Dates of test (from – to)	July 15-28 July 2011
No of Units	#1
Equipment Category	ITE
Trade Name	Tally/Dascom
Microprocessor (s)	Unidentified
RF Operating Frequency (ies)	N/A
Clock/Oscillator Frequency (ies)	N/A
Rated Input Power	100-240V AC 50/60Hz
Port/Connectors	USB Port, Parallel port
FCC ID	ZIOTD11250

3 MODIFICATION

NONE

4 TEST SUMMARY

The product was tested in accordance with the following specifications. All testing has been performed according to below product classification:

Class B Emission Product

Test Results Summary

Emissions			
Test Standard	**Description**	**Product Class**	**Pass / Fail**
FCC Part 15 Subpart B Class B: 2010	AC Line Conducted Emissions	See Above	Pass
FCC Part 15 Subpart B Class B: 2010	Radiated Spurious Emissions	See Above	Pass

All measurement uncertainty is not taken into consideration for all presented test result.

5 MEASUREMENTS, EXAMINATION AND DERIVED RESULTS

5.1 AC Line Conducted Emission Test Result

Note:

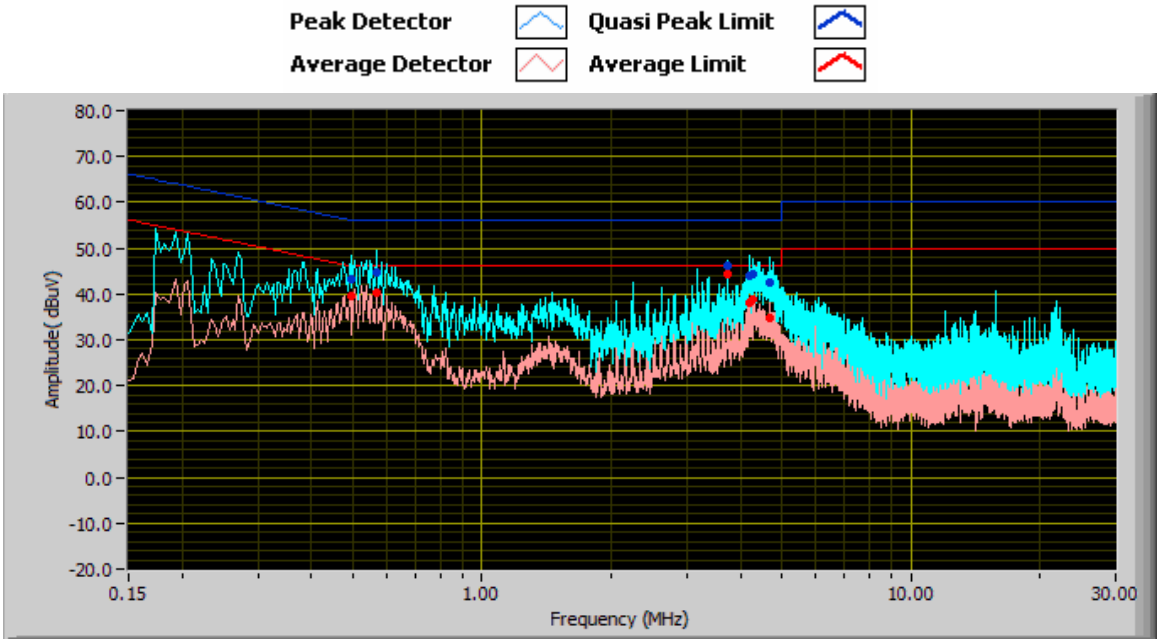
1. All possible modes of operation were investigated. Only the several worst case emissions measured, using the correct CISPR and Average detectors, are reported. All other emissions were relatively insignificant.
2. A "-ve" margin indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
3. Conducted Emissions Measurement Uncertainty
   All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 9kHz – 30MHz (Average & Quasi-peak) is ±3.86dB.
4. Environmental Conditions

Temperature	26ºC
Relative Humidity	50%
Atmospheric Pressure	1009mbar

5. Test Date : 15 July 2011
   Tested By : William Long

Test Result: Pass
See next page

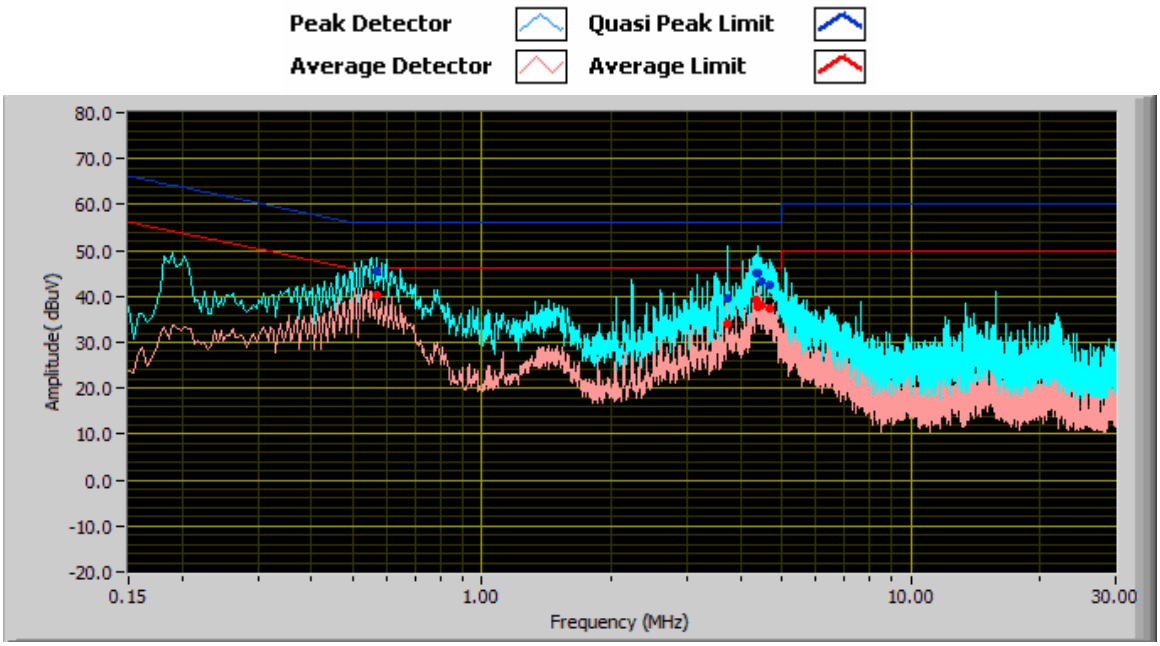
Test Mode:	print mode



Neutral Line Plot at 120Vac, 60Hz

Frequency (MHz)	Quasi Peak (dBuV)	Limit (dBuV)	Margin (dB)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Factors (dB)
0.57	44.52	56.00	-11.47	40.22	46.00	-5.79	10.15
0.49	43.38	56.10	-12.72	39.71	46.10	-6.39	10.17
4.21	44.10	56.00	-11.90	38.08	46.00	-7.92	10.47
4.70	42.55	56.00	-13.45	34.71	46.00	-11.29	10.38
4.29	44.21	56.00	-11.79	38.87	46.00	-7.13	10.46
3.75	46.35	56.00	-9.65	44.19	46.00	-1.81	10.43

Test Mode:	print mode



Phase Line Plot at 120Vac, 60Hz

Frequency (MHz)	Quasi Peak (dBuV)	Limit (dBuV)	Margin (dB)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Factors (dB)
3.73	39.58	56.00	-16.42	34.05	46.00	-11.95	10.43
4.39	45.20	56.00	-10.80	37.64	46.00	-8.36	10.44
4.37	45.06	56.00	-10.94	39.36	46.00	-6.64	10.44
4.48	43.16	56.00	-12.84	38.14	46.00	-7.86	10.42
0.57	45.35	56.00	-10.65	40.14	46.00	-5.86	10.15
4.69	42.48	56.00	-13.52	37.21	46.00	-8.79	10.39

Conducted Emission – Front View

Conducted Emission - Rear View

5.2 Radiated Spurious Emission Test Results

Note:

1. All possible modes of operation were investigated. Only the 6 worst case emissions measured, using the correct CISPR detectors, are reported. All other emissions were relatively insignificant.
2. A "-ve" margin indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
3. Radiated Emissions Measurement Uncertainty
   All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 30MHz – 1GHz (QP only @ 3m & 10m) is +6dB/-6dB (for EUTs < 0.5m X 0.5m X 0.5m).
4. Environmental Conditions

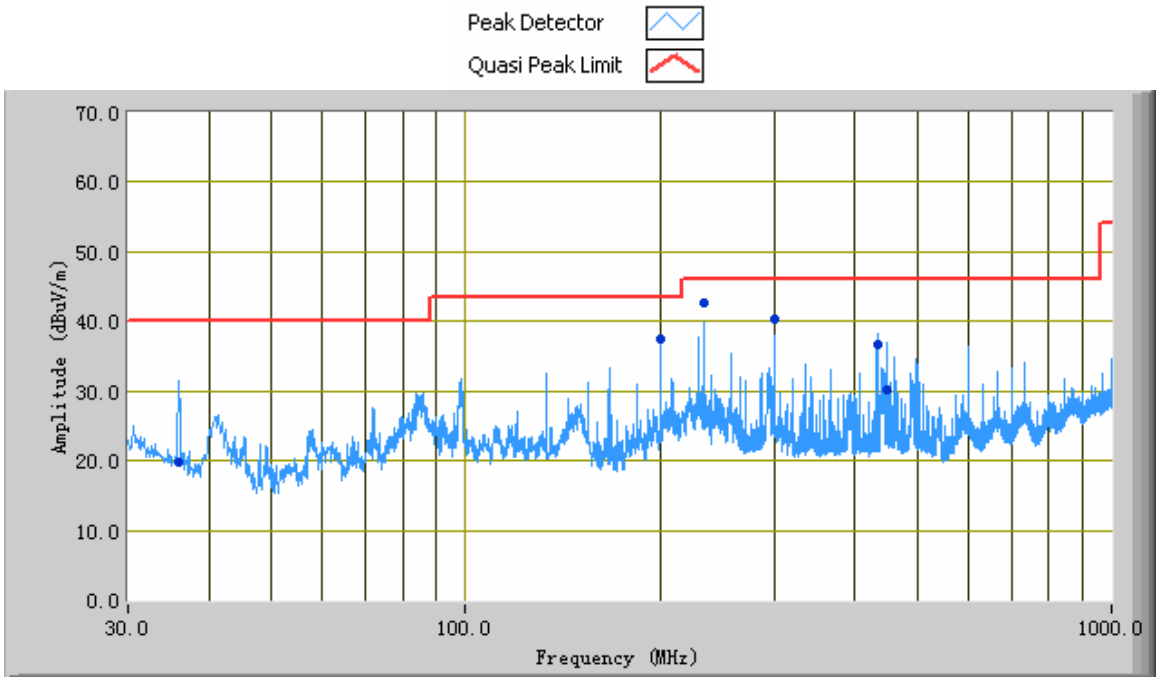
Temperature	27ºC
Relative Humidity	50%
Atmospheric Pressure	1011mbar

5. Test date : 28 July 2011
   Tested By : William Long

Test Result: Pass
See next page

5.2.1.1 Radiated Emission Test Result

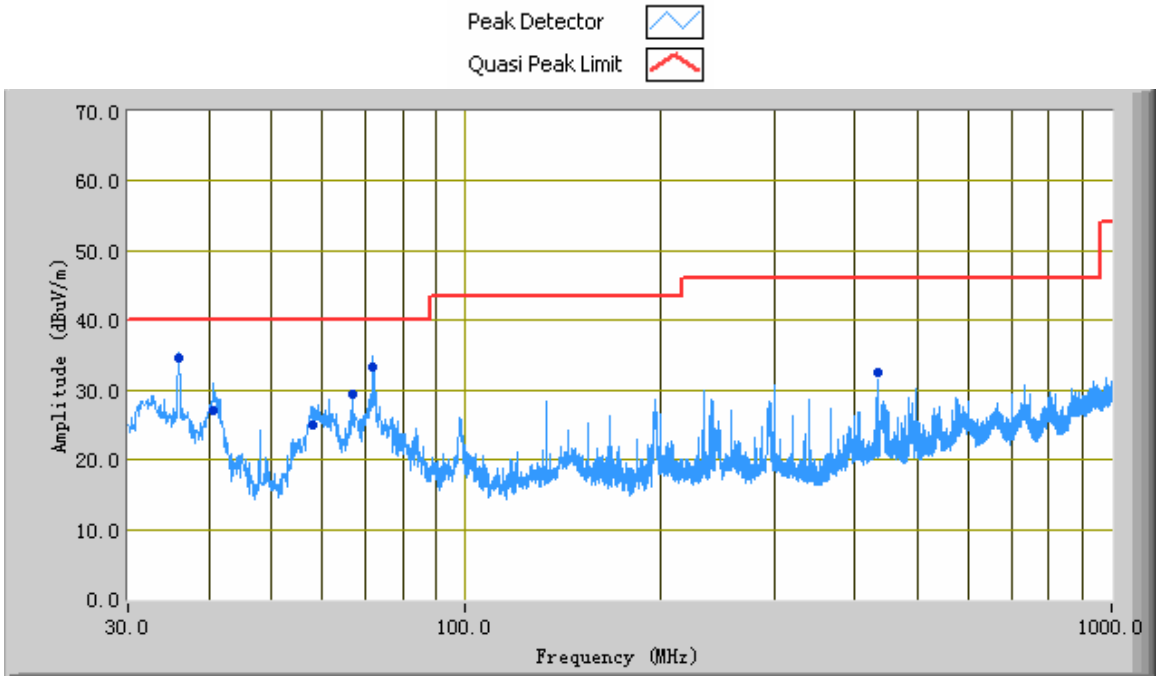
Test Mode:	print mode



30MHz ~1000MHz Result @ 3m

Frequency (MHz)	Quasi Peak (dBuV/m)	Azimuth	Polarity(H /V)	Height (cm)	Factors (dB)	Limit (dBuV/m)	Margin (dB)
233.35	42.76	169.00	H	122.00	-31.55	46.00	-3.24
200.03	37.40	170.00	H	130.00	-30.23	43.50	-6.10
433.36	36.80	154.00	H	118.00	-27.07	46.00	-9.20
300.02	40.28	65.00	H	120.00	-27.58	46.00	-5.72
35.98	19.71	360.00	H	334.00	-26.42	40.00	-20.29
450.05	30.13	283.00	H	112.00	-27.17	46.00	-15.87

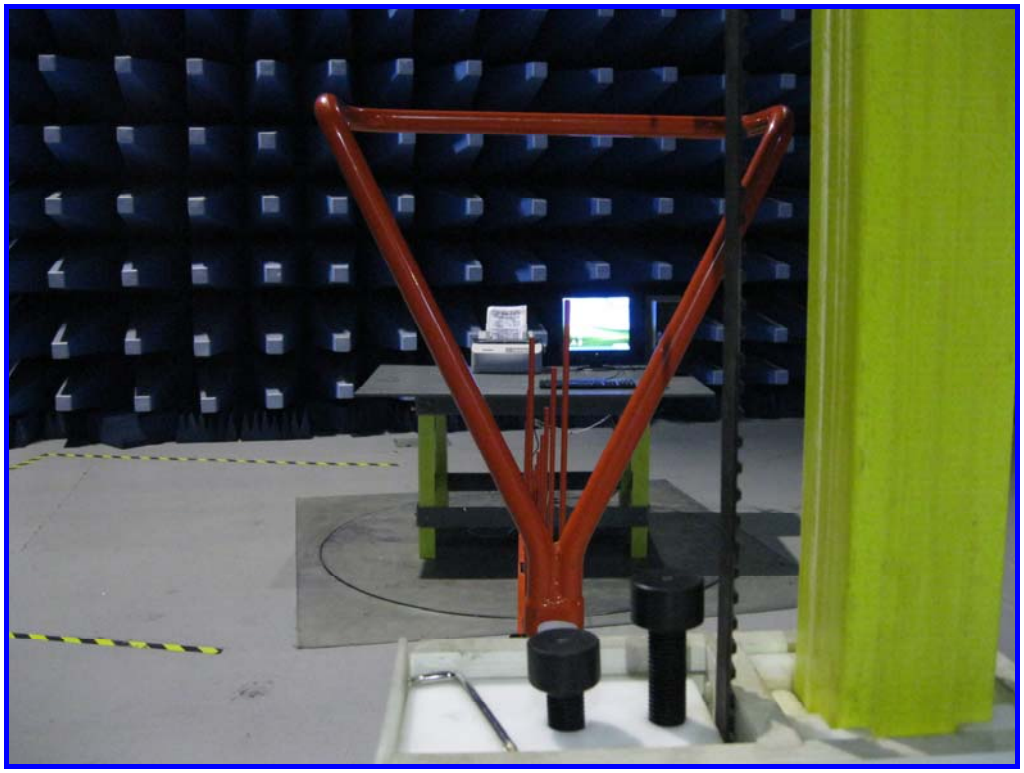
Test Mode:	print mode



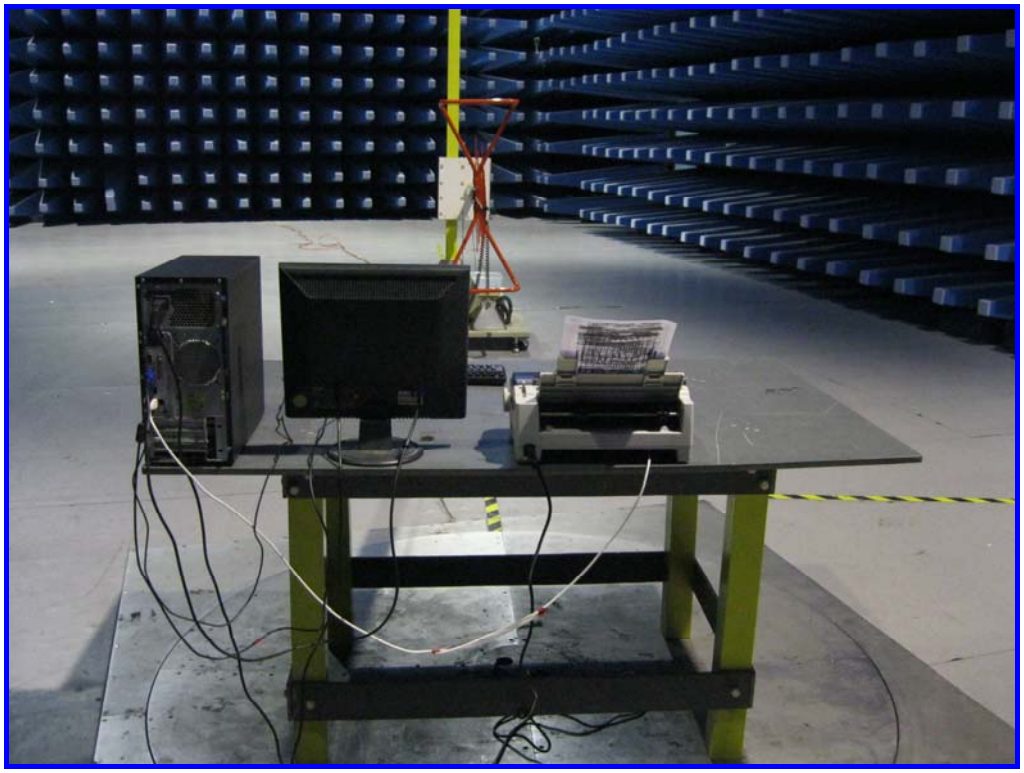
30MHz ~1000MHz Result @ 3m

Frequency (MHz)	Quasi Peak (dBuV/m)	Azimuth	Polarity(H /V)	Height (cm)	Factors (dB)	Limit (dBuV/m)	Margin (dB)
35.99	34.57	214.00	V	124.00	-26.70	40.00	-5.43
72.02	33.19	197.00	V	172.00	-38.32	40.00	-6.81
40.64	27.12	110.00	V	142.00	-30.02	40.00	-12.88
66.66	29.50	174.00	V	126.00	-38.09	40.00	-10.50
57.95	24.92	162.00	V	118.00	-37.32	40.00	-15.08
433.36	32.43	222.00	V	129.00	-27.70	46.00	-13.57

Radiated Emission (30MHz - 1GHz) – Front View



Radiated Emission (30MHz – 1GHz) - Rear View



Annex A. TEST INSTRUMENTATION & METHOD

Annex A.i. TEST INSTRUMENTATION & GENERAL PROCEDURES

Instrument	Model	Serial #	Calibration Due
Conducted Emissions			
R&S Receiver	ESPI 3	101216	05/25/2012
LISN	ESH2-Z5	861741/013	05/25/2012
Radiated Emissions			
R&S Receiver	ESPI 3	101216	05/25/2012
HP Spectrum Analyzer (9KHz-26.5GHz)	8563E	3821A09023	01/10/2012
HP Pre-amplifier (0.1-1300MHz)	8447F	1937A01160	05/25/2012
MITEQ Pre-Amplifier (0.1GHz-18GHz)	AMF-7D-00101800-30-10P	1451710	05/25/2012
Sunol Sciences, Inc. Antenna (30MHz~2GHz)	JB1	A112107	10/03/2012
ETS-Lindgren Horn Antenna (1GHz~18GHz)	3115	N/A	10/03/2012

Annex A.ii. CONDUCTED EMISSIONS TEST DESCRIPTION

Test Set-up

1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table, as shown in Annex B.

2. The power supply for the EUT was fed through a 50Ω/50μH EUT LISN, connected to filtered mains.

3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable.

4. All other supporting equipments were powered separately from another main supply.

Test Method

1. The EUT was switched on and allowed to warm up to its normal operating condition.

2. A scan was made on the NEUTRAL line (for AC mains) or Earth line (for DC power) over the required frequency range using an EMI test receiver.

3. High peaks, relative to the limit line, were then selected.

4. The EMI test receiver was then tuned to the selected frequencies and the necessary measurements made with a receiver bandwidth setting of 10 KHz. For FCC tests, only Quasi-peak measurements were made; while for CISPR/EN tests, both Quasi-peak and Average measurements were made.

5. Steps 2 to 4 were then repeated for the LIVE line (for AC mains) or DC line (for DC power).

Description of Conducted Emission Program

This EMC Measurement software run LabView automation software and offers a common user interface for electromagnetic interference (EMI) measurements. This software is a modern and powerful tool for controlling and monitoring EMI test receivers and EMC test systems. It guarantees reliable collection, evaluation, and documentation of measurement results. Basically, this program will run a pre-scan measurement before it proceeds with the final measurement. The pre-scan routine will run the common scan range from 150 kHz to 30 MHz; the program will first start a peak and average scan on selectable measurement time and step size. After the program complete the pre-scan, this program will perform the Quasi Peak and Average measurement, based on the pre-scan peak data reduction result.

Sample Calculation Example

At 20 MHz limit = 250 μV = 47.96 dBμV

Transducer factor of LISN, pulse limiter & cable loss at 20 MHz = 11.20 dB

Q-P reading obtained directly from EMI Receiver = 40.00 dBμV
(Calibrated for system losses)

Therefore, Q-P margin = 47.96 – 40.00 = 7.96 i.e. 7.96 dB below limit

Annex A. iii. RADIATED EMISSIONS TEST DESCRIPTION

EUT Characterisation

EUT characterisation, over the frequency range from 30MHz to 1GHz (for FCC tests, until the 5th harmonic for operating frequencies ≥ 108MHz),, was done in order to minimise radiated emissions testing time while still maintaining high confidence in the test results.

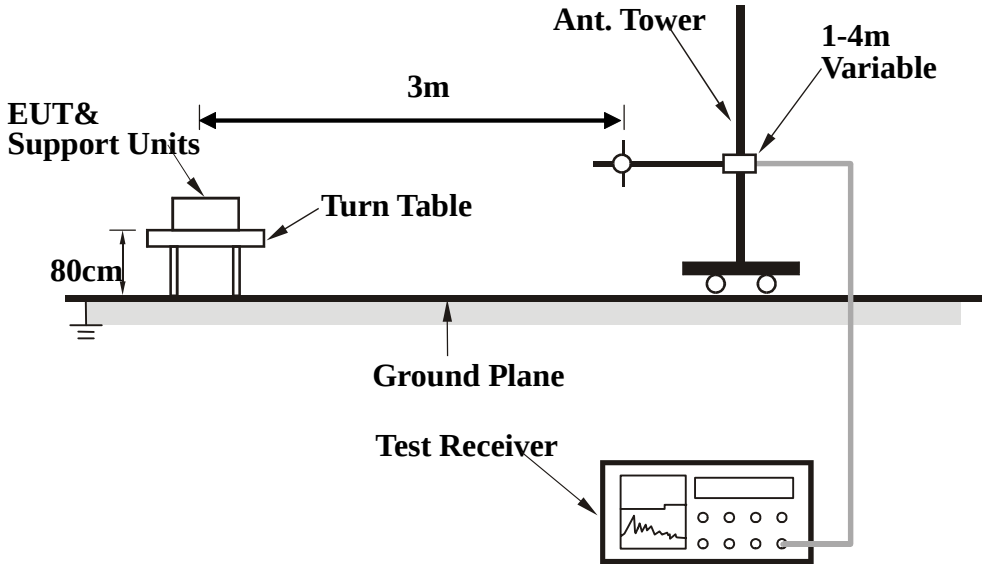
The EUT was placed in the chamber, at a height of about 0.8m on a turntable. Its radiated emissions frequency profile was observed, using a spectrum analyzer /receiver with the appropriate broadband antenna placed 3m or 10m away from the EUT. Radiated emissions from the EUT were maximised by rotating the turntable manually, changing the antenna polarisation and manipulating the EUT cables while observing the frequency profile on the spectrum analyzer / receiver. Frequency points at which maximum emissions occurred, clock frequencies and operating frequencies were then noted for the formal radiated emissions test at the Open Area Test Site (OATS) or EMC 10m chamber.

Test Set-up

1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m X 1.0m X 0.8m high, non-metallic table.

2. The filtered power supply for the EUT and supporting equipment were tapped from the appropriate power sockets located on the turntable.

3. The relevant broadband antenna was set at the required test distance away from the EUT and supporting equipment boundary.



Test Method

The following procedure was performed to determine the maximum emission axis of EUT:

1. With the receiving antenna is H polarization, rotate the EUT in turns with three orthogonal axes to determine the axis of maximum emission.
2. With the receiving antenna is V polarization, rotate the EUT in turns with three orthogonal axes to determine the axis of maximum emission.
3. Compare the results derived from above two steps. So, the axis of maximum emission from EUT was determined and the configuration was used to perform the final measurement.

Final Radiated Emission Measurement

1. Setup the configuration according to figure 1. Turn on EUT and make sure that it is in normal function.
2. For emission frequencies measured below 1 GHz, a pre-scan is performed in a shielded chamber to determine the accurate frequencies of higher emissions will be checked on a open test site or EMC 10m chamber. As the same purpose, for emission frequencies measured above 1 GHz, a pre-scan also be performed with a 1 meter measuring distance before final test.
3. For emission frequencies measured below and above 1 GHz, set the spectrum analyzer on a 100 kHz and 1 MHz resolution bandwidth respectively for each frequency measured in step 2.
4. The search antenna is to be raised and lowered over a range from 1 to 4 meters in horizontally polarized orientation. Position the highness when the highest value is indicated on spectrum analyzer, then change the orientation of EUT on test table over a range from 0 ◦ to 360 ◦ with a speed as slow as possible, and keep the azimuth that highest emission is indicated on the spectrum analyzer. Vary the antenna position again and record the highest value as a final reading.
5. Repeat step 4 until all frequencies need to be measured were complete.
6. Repeat step 5 with search antenna in vertical polarized orientations.

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	Peak	100 kHz	100 kHz
Above 1000	Peak	1 MHz	1 MHz
	Average	1 MHz	10 Hz

Description of Radiated Emission Program

This EMC Measurement software run LabView automation software and offers a common user interface for electromagnetic interference (EMI) measurements. This software is a modern and powerful tool for controlling and monitoring EMI test receivers and EMC test systems. It guarantees reliable collection, evaluation, and documentation of measurement results. Basically, this program will run a pre-scan measurement before it proceeds with the final measurement. The pre-scan routine will run the scan on four different antenna heights, 2 antenna polarity, and 360 degrees table rotation. For example, the program was set to run 30 MHz to 1 GHz scan; the program will first start from a meter antenna height and divide the 30 MHz to 1 GHz into 10 separate parts of maximum hold sweeps. Each parts of maximum hold sweep, the program will collect the data from 0 degree to 360 degrees table rotation. After the program complete the 1m scan, the antenna continues to rise to 2m and continue the scan. The step will repeated for all specified antenna height and polarity. This program will perform the Quasi Peak measurement after the signal maximization process and pre-scan routine. The final measurement will be base on the pre-scan data reduction result.

Sample Calculation Example

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. For the limit is employed average value, therefore the peak value can be transferred to average value by subtracting the duty factor. The basic equation with a sample calculation is as follows:

Peak = Reading + Corrected Factor

where

Corr. Factor = Antenna Factor + Cable Factor - Amplifier Gain (if any)

And the average value is

Average = Peak Value + Duty Factor or

Set RBW = 1MHz, VBW = 10Hz.

Note :

If the measured frequencies are fall in the restricted frequency band, the limit employed must be quasi peak value when frequencies are below or equal to 1 GHz. And the measuring instrument is set to quasi peak detector function.

Annex B. EUT AND TEST SETUP PHOTOGRAPHS

Annex B.i. Photograph1: EUT External Photo

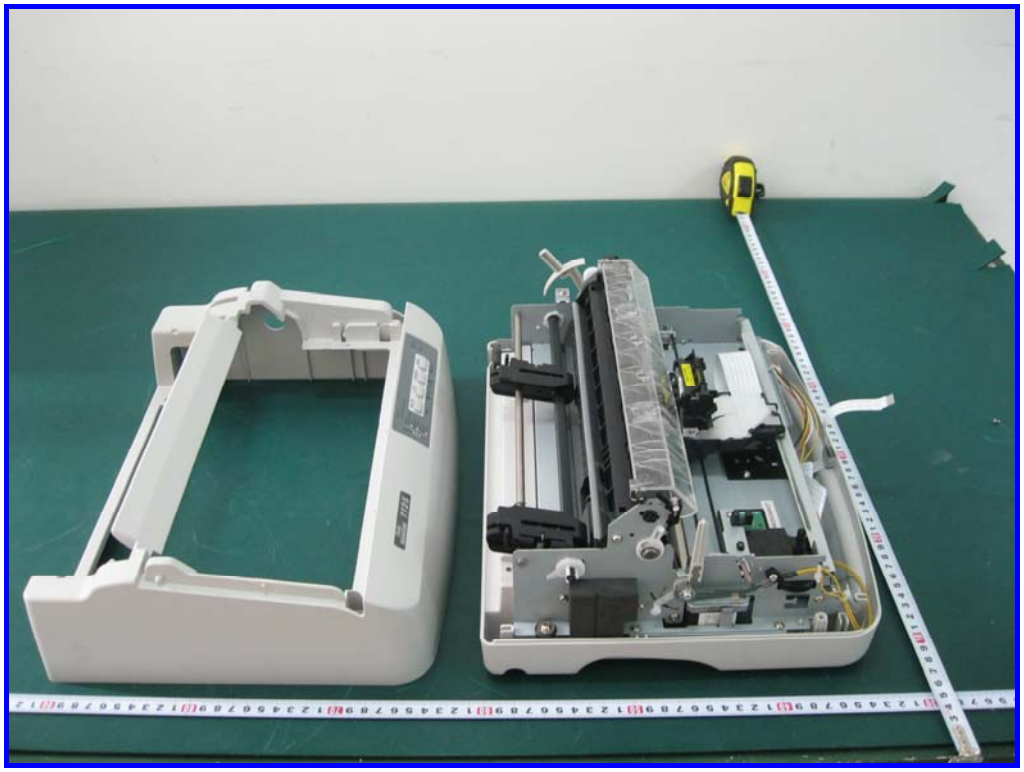
Front View of EUT

Rear View of EUT

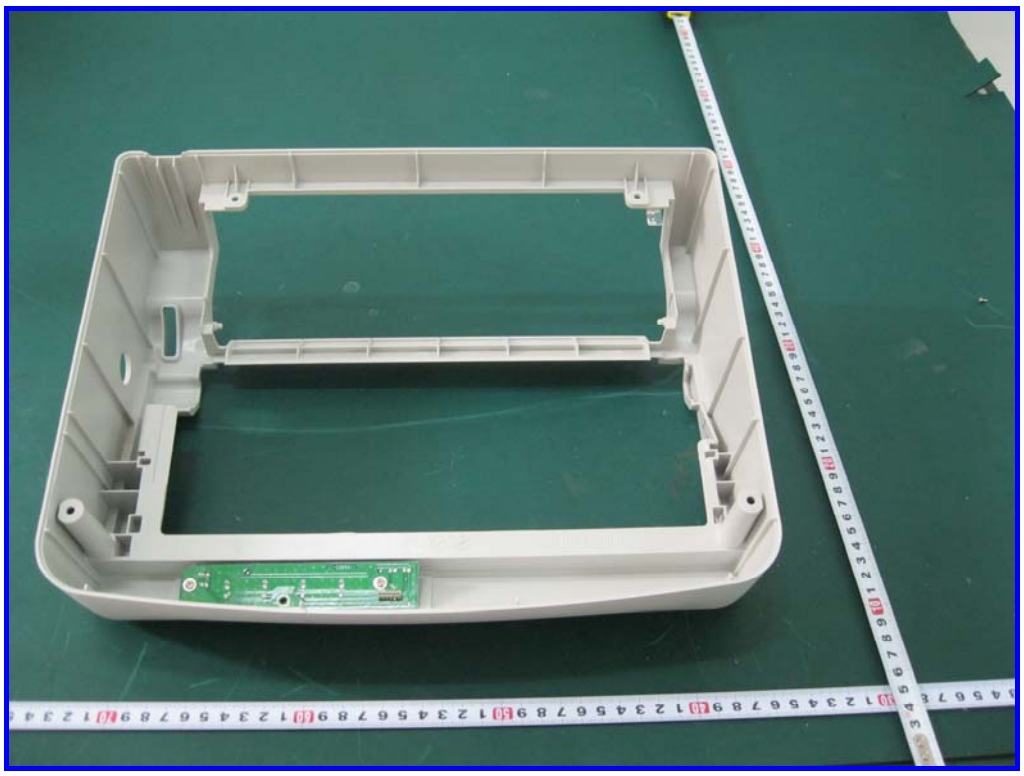
Right View of EUT

Left View of EUT

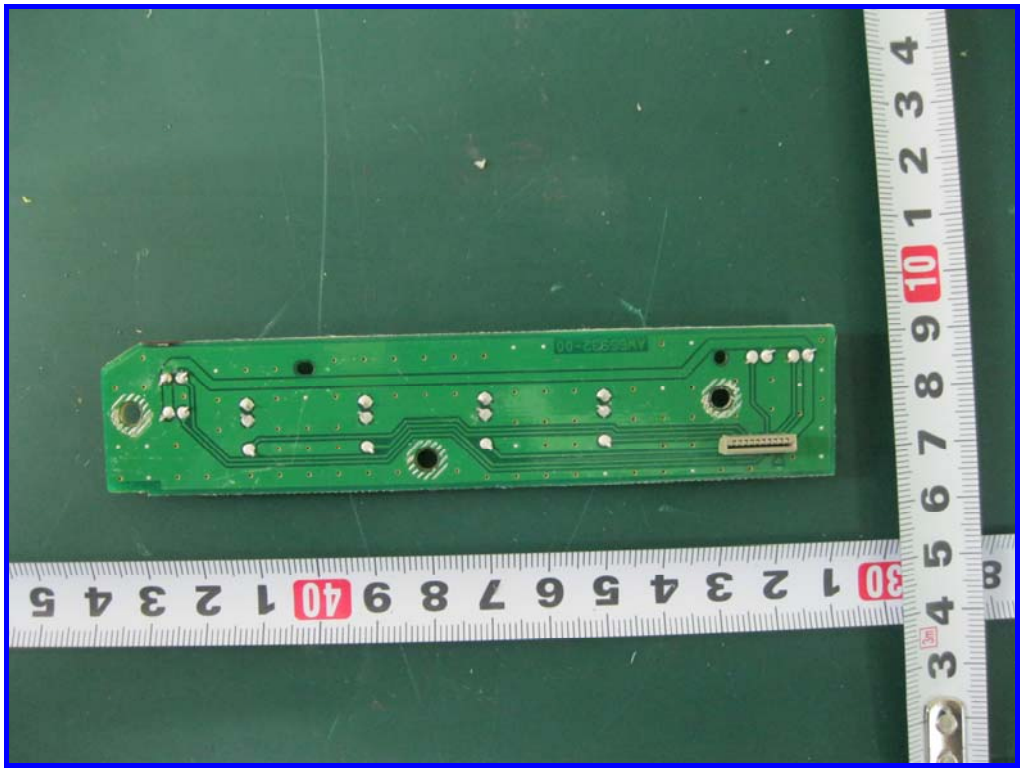
Annex B.ii. Photograph 2: EUT Internal Photo

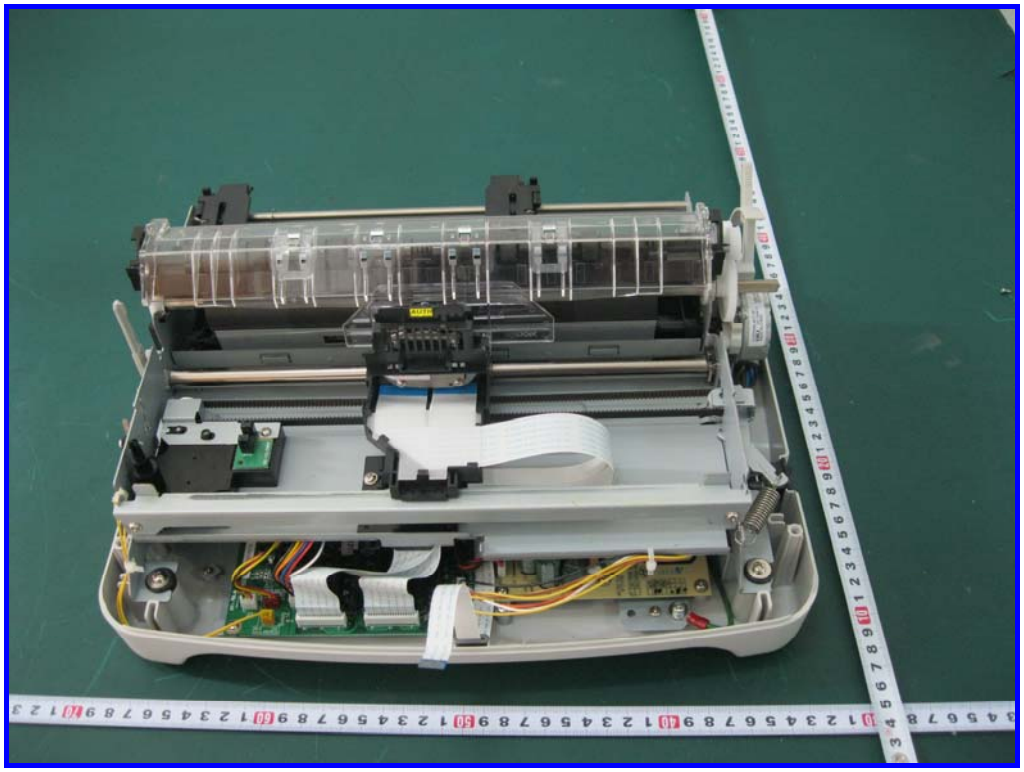


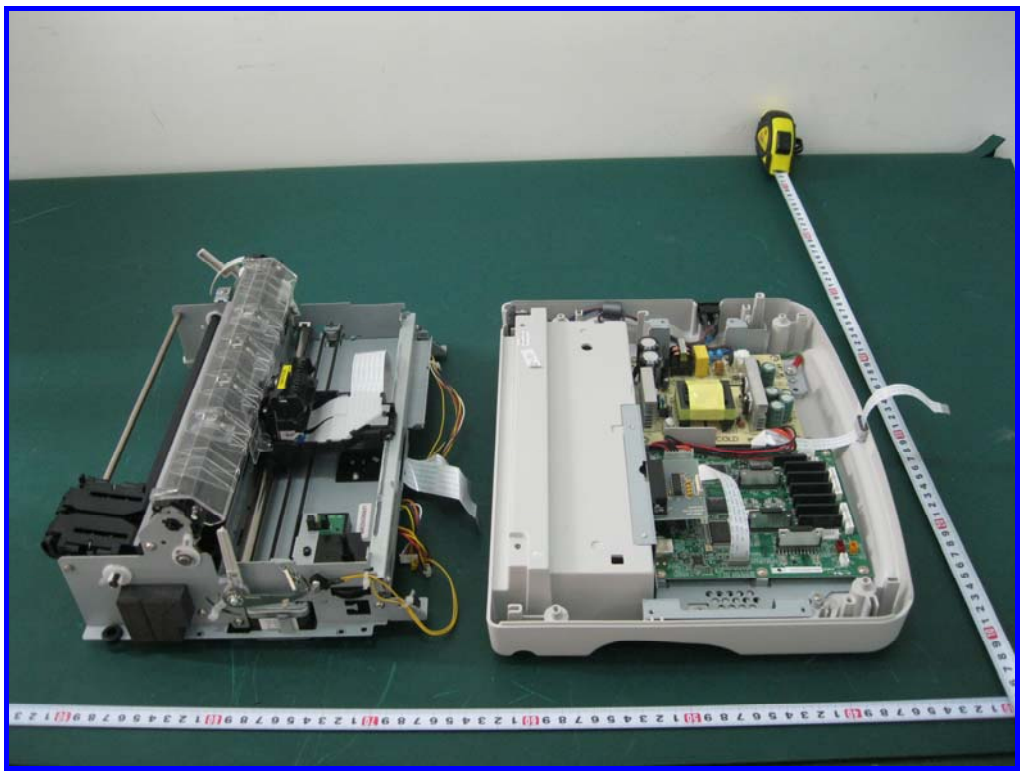

Tally
1125

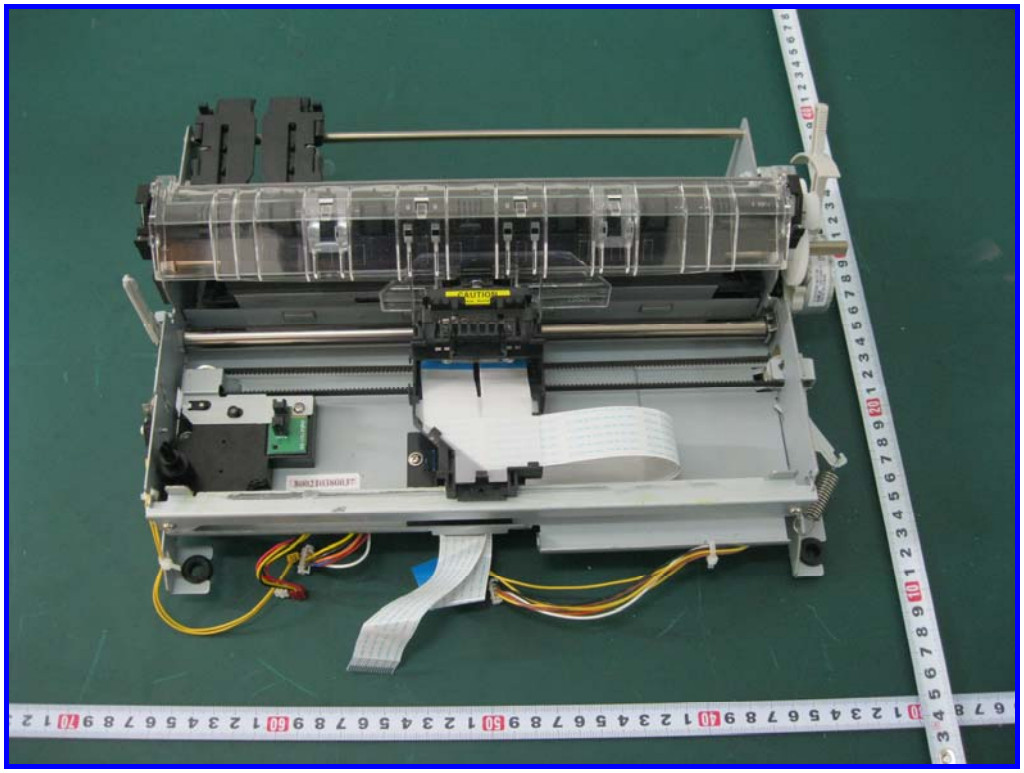


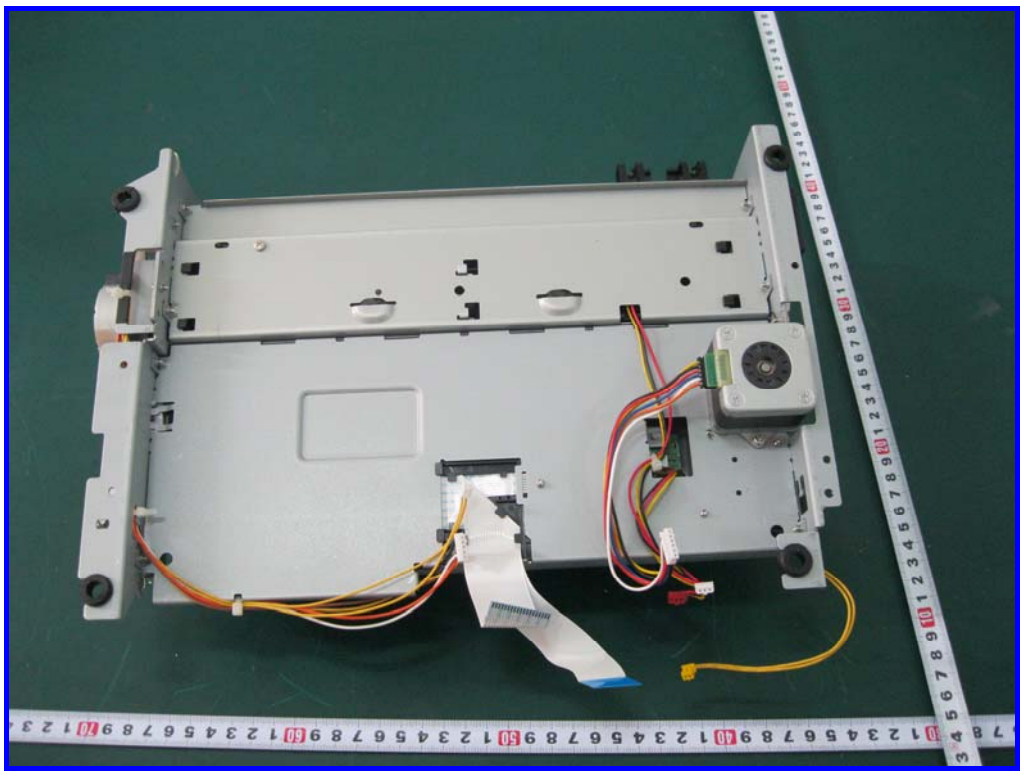

CITIZEN
SW501
SW502
SW503
SW504
AW66
MADE IN CHINA

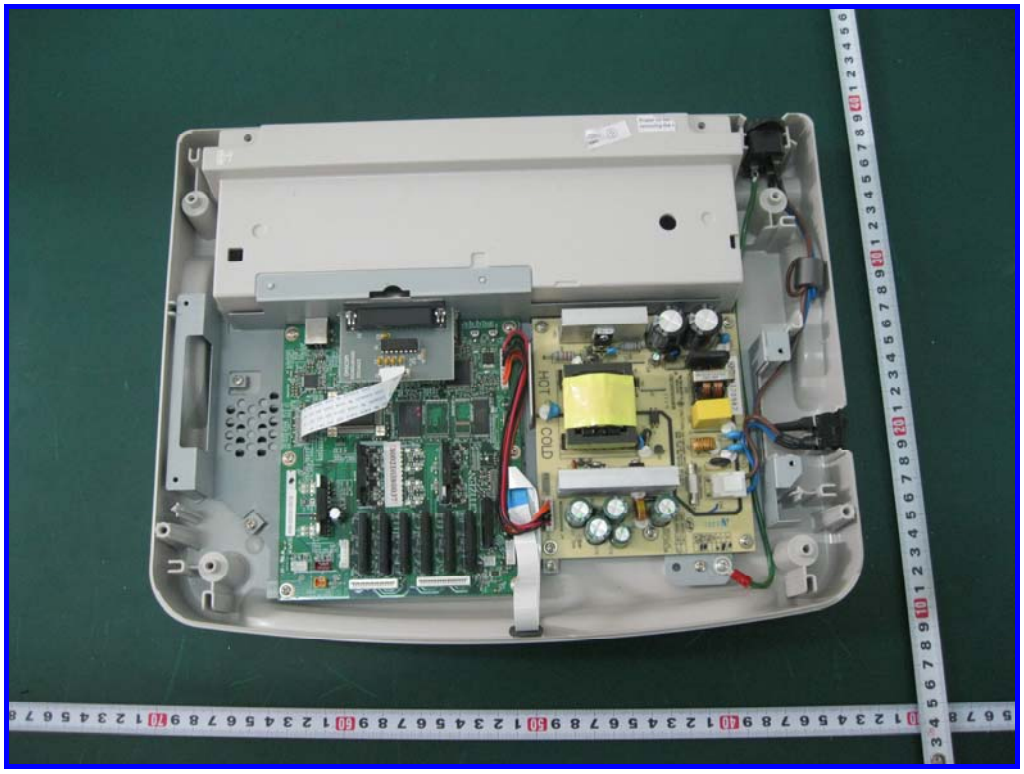


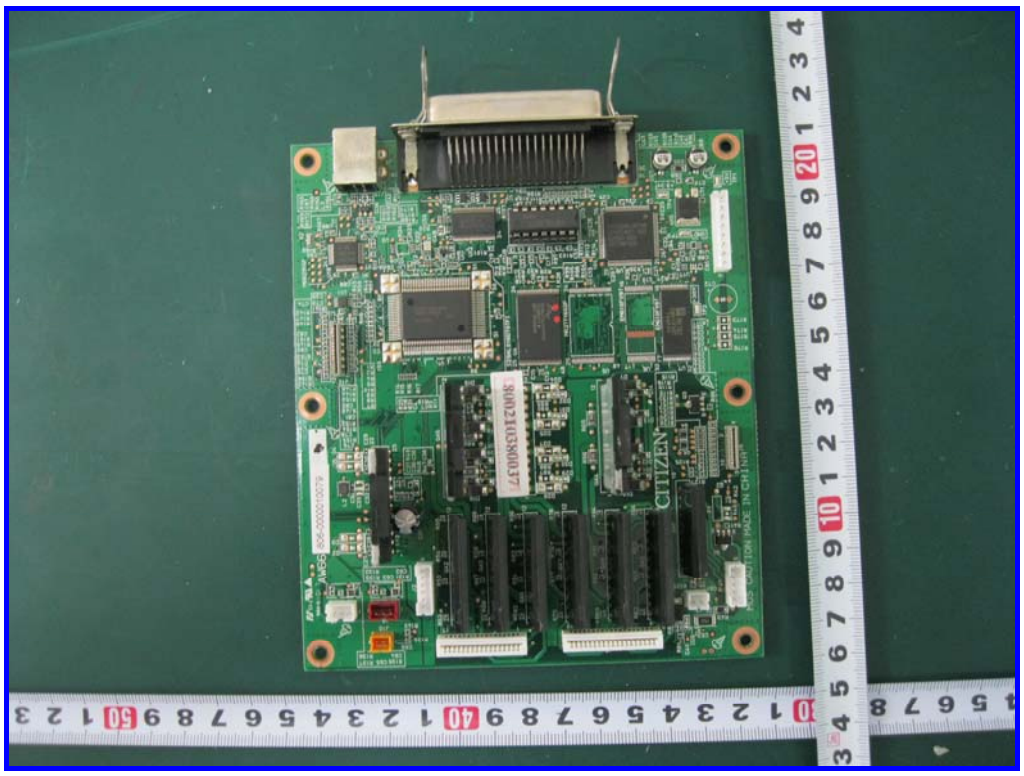


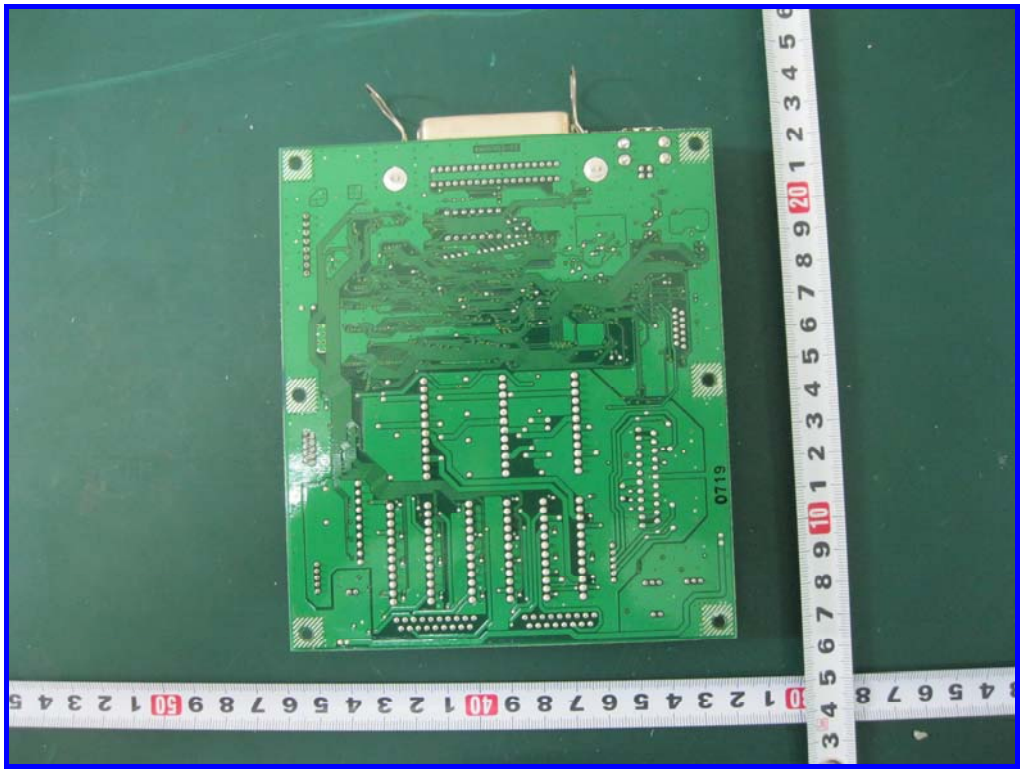









CITIZEN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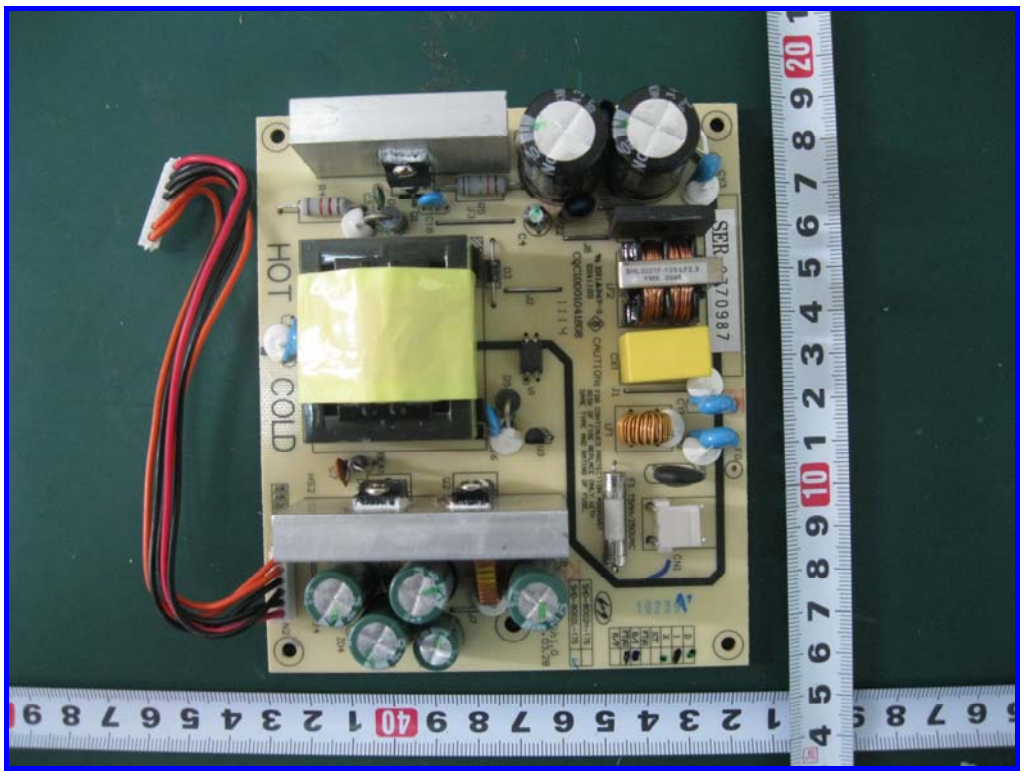
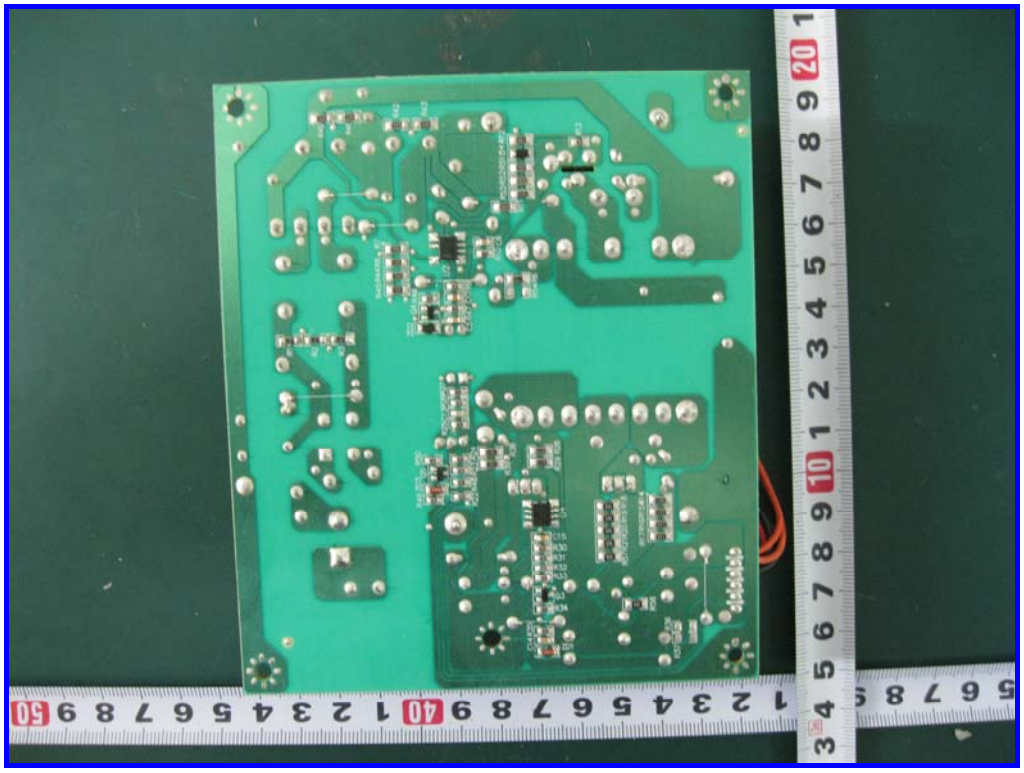

HOT
COLD



Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

EUT TEST CONDITIONS

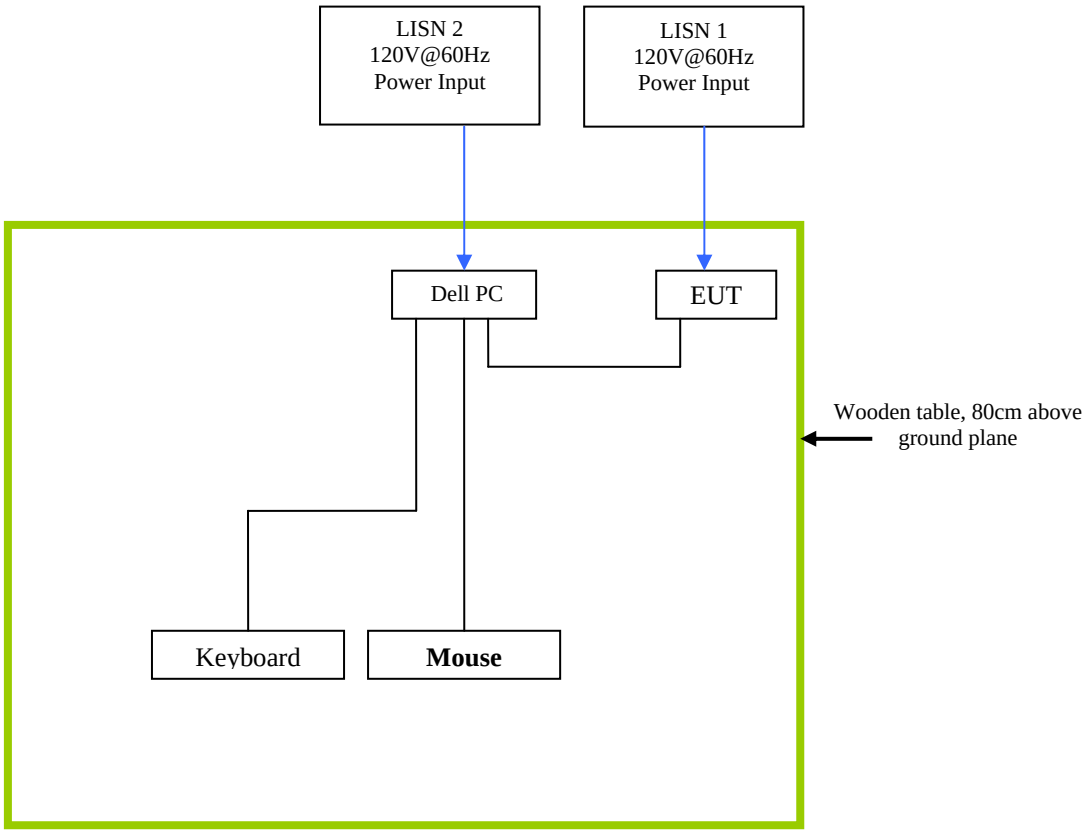
Annex C. i. SUPPORTING EQUIPMENT DESCRIPTION

The following is a description of supporting equipment and details of cables used with the EUT.

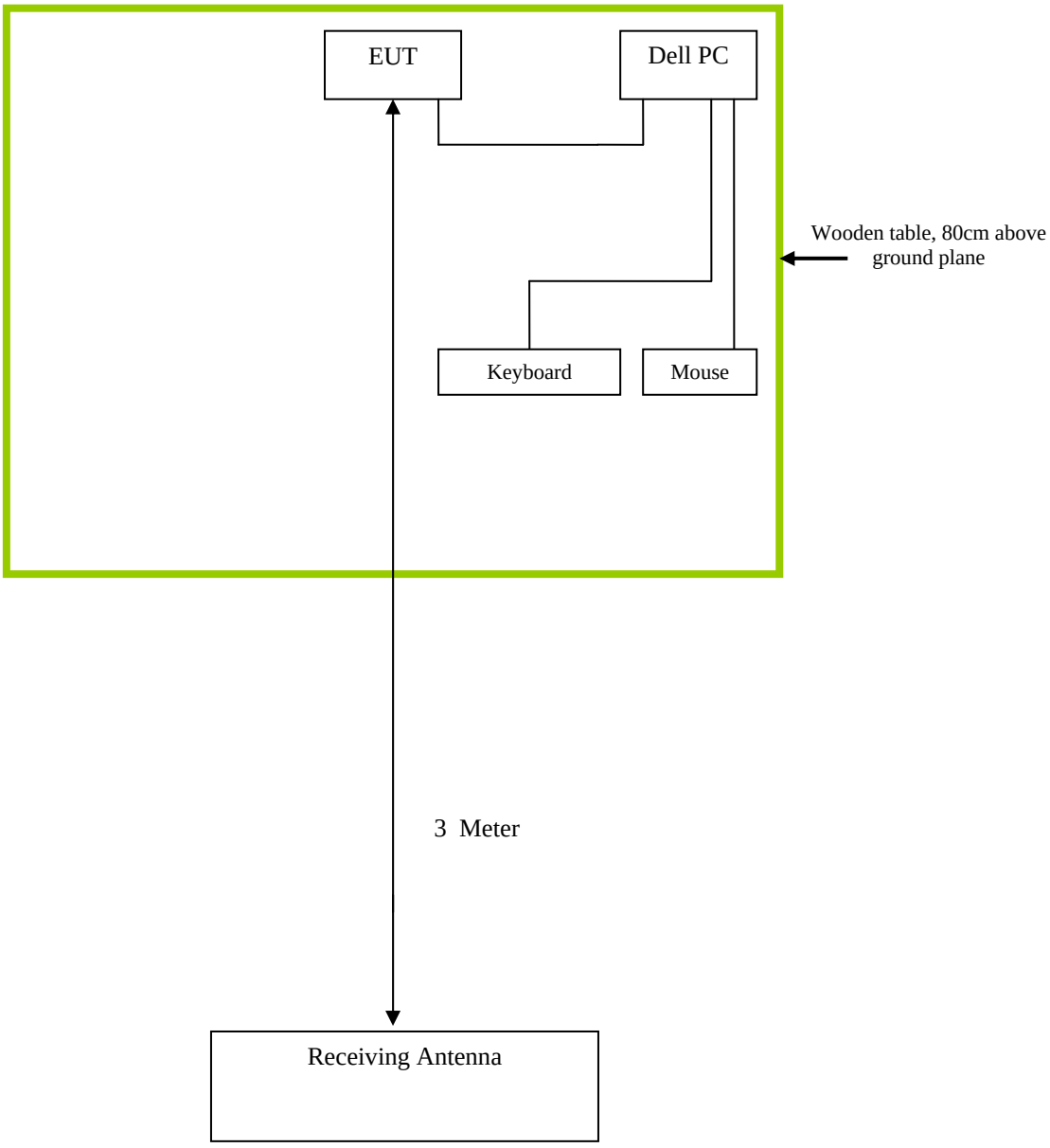
Equipment Description (Including Brand Name)	Model & Serial Number	Cable Description (List Length, Type & Purpose)
Dell PC	ST2220LB	2.5m,VGA cable
Dell Keyboard	SK-8115	1.8m, Signal Line
Dell Mouse	OXN967	1.8m, Signal Line

NOTE: No special supporting equipment used or needed during testing to achieve compliance.

Block Configuration Diagram for Conducted Emission



Block Configuration Diagram for Radiated Emission



Annex C.ii. EUT OPERATING CONDITIONS

The following is the description of how the EUT is exercised during testing.

Test	Description Of Operation
Emissions Testing	EUT is working in full power.

Annex D. USER MANUAL / BLOCK DIAGRAM / SCHEMATICS / PART LIST

Please see attachment

Annex E. SIEMIC ACCREDITATION CERTIFICATES

SIEMIC ACREDITATION DETAILS: FCC Test Site Registration No. **986914**

FEDERAL COMMUNICATIONS COMMISSION

Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046

April 19, 2011

Registration Number: 986914

SIEMIC Nanjing (China) Laboratories
2-1 Longcang Avenue,
Yuhua Economic and Technology Development Park,
Nanjing, 210039
China

Attention: Leslie Bai,

Re: Measurement facility located at 2-1 Longcang Avenue, Nanjing, China
Anechoic chamber (3 meters) and 3&10 meter OATS
Date of Renewal: April 19, 2011

Dear Sir or Madam:

Your request for renewal of the registration of the subject measurement facility has been received. The information submitted has been placed in your file and the registration has been renewed. The name of your organization will remain on 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,

Phyllis Parrish
Industry Analyst

SIEMIC ACREDITATION DETAILS: Industry of Canada Test Site Registration No. 4842B

Industry Canada / Industrie Canada

January 25, 2011

OUR FILE: 46405-4842
Submission No: 145222

Siemic Nanjing (China) Laboratories
2-1 Longcang Avenue
Yuhua Economic & Technology Dev. Park, Nanjing
China

Attention: Leslie Bai

Dear Sir/Madame:

The Bureau has received your application for the registration of a 3/10m OATS. Be advised that the information received was satisfactory to Industry Canada. The following number(s) is now associated to the site(s) for which registration / renewal was sought (Site# 4842B-2). Please reference the appropriate site number in the body of test reports containing measurements performed on the site. In addition, please keep for your records the following information;

- The company address code associated to the site(s) located at the above address is: 4842B

Furthermore, to obtain or renew a unique site number, the applicant shall demonstrate that the site has been accredited to ANSI C63.4-2003 or later. A scope of accreditation indicating the accreditation by a recognized accreditation body to ANSI C63.4-2003 or later shall be accepted. Please indicate in a letter the previous assigned site number if applicable and the type of site (example: 3 metre OATS or 3 metre chamber). If the test facility is not accredited to ANSI C63.4-2003 or later, the test facility shall submit test data demonstrating full compliance with the ANSI standard. The Bureau will evaluate the filing to determine if recognition shall be granted.

The frequency for re-validation of the test site and the information that is required to be filed or retained by the testing party shall comply with the requirements established by the accrediting organization. However, in all cases, test site re-validation shall occur on an interval not to exceed three years. There is no fee or form associated with an OATS filing. OATS submissions are encouraged to be submitted electronically to the Bureau using the following URL;
http://strategis.ic.gc.ca/epic/internet/inceb-bhst.nsf/en/h_tt00052e.html.

If you have any questions, you may contact the Bureau by e-mail at certification.bureau@ic.gc.ca Please reference our file and submission number above for all correspondence.

Yours sincerely,

Dalwinder Gill

Dalwinder Gill
For: Wireless Laboratory Manager
Certification and Engineering Bureau
3701 Carling Ave., Building 94
P.O. Box 11490, Station "H"
Ottawa, Ontario K2H 8S2
Email: dalwinder.gill@ic.gc.ca
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