



Interocean EMC Technology Corp. Filing No.: 19A060410E-E

Verification of Conformity

Applicant : **Synoccean Technology Co., Ltd.**

6F, No. 99, Gang Chen Road, Taipei 11447, Taiwan R.O.C.

Product : **DC/DC Power Supply**

Model No. : STC-24400IH; STC-24400I; STC-24300IH; STC-24300I

On the basis of the tests undertaken, the sample(s) of the above product have been found to comply with harmonized standards listed below at the time the tests were carried out. The verification of conformity is only valid in connection with test report: 19A060410E-E

Harmonized Standards

EN 55032: 2015+AC: 2016 (Class A)

EN 55024: 2010+A1: 2015

Issued By: _____

Mike Huang / President

Date: Jun. 14, 2019





Test Report



(Declaration of Conformity)

for

Electromagnetic Compatibility

of

Product : **DC/DC Power Supply**

Trade Name : N/A

Model Number : STC-24400IH; STC-24400I;
STC-24300IH; STC-24300I

Prepared for

Synoceen Technology Co., Ltd.

6F, No. 99, Gang Chen Road, Taipei 11447, Taiwan R.O.C.

Prepared by

Interocean EMC Technology Corp.

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Remark:

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The test result in this report is only subjected to the test sample.



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Statement of Compliance

Applicant: Synocean Technology Co., Ltd.
Manufacturer: Synocean Technology Co., Ltd.
Product: DC/DC Power Supply
Model No.: STC-24400IH; STC-24400I; STC-24300IH; STC-24300I
Tested Power Voltage: DC 24 V
Date of Final Test: Jun. 06, 2019
Revision of Report: Rev. 00

Measurement Procedures and Standards Used :

Emission:

EN 55032: 2015+AC: 2016

Immunity:

- EN 55024: 2010+A1: 2015
- IEC 61000-4-2: 2008
- IEC 61000-4-3: 2006+A1: 2007+A2: 2010
- IEC 61000-4-4: 2012
- IEC 61000-4-5: 2014+A1: 2017
- IEC 61000-4-6: 2013+COR1: 2015
- IEC 61000-4-8: 2009
- IEC 61000-4-11: 2004+A1: 2017

The measurement results in this test report were performed at Interocean EMC Technology Corp. the responsibility of measurement result is only subjected to the tested sample. This report shows the EUT is technically compliance with the above official standards. This report shall not be partial reproduced without written approval by Interocean EMC Technology Corporation.

Report Issued: 2019/06/14

Project Engineer: Evans Chang Approved: Edison Lee
 Evans Chang Edison Lee



1 General Information

1.1 Description of Equipment Under Test

- Product** : DC/DC Power Supply
- Model Number** : STC-24400IH; STC-24400I; STC-24300IH; STC-24300I
- Applicant** : **Synoccean Technology Co., Ltd.**
6F, No. 99, Gang Chen Road, Taipei 11447, Taiwan R.O.C.
- Manufacturer** : **Synoccean Technology Co., Ltd.**
6F, No. 99, Gang Chen Road, Taipei 11447, Taiwan R.O.C.
- Power Supply** : Please refer to section 1.2
Output Power Cable: Non-shielded, Un-detachable, 1.0 m, without core
- Date of Test** : Jun. 04 ~ 06, 2019
- Additional Description** : 1.) The test model is “**STC-24400I**” and included in this report.
2.) The difference for all models included in this report, please see “1.2 Specifications Description” as below page.
3.) For more detail specification about EUT, please refer to the user’s manual.

**1.2 Specifications Description**

Model No.	Input Rating		Output Rating			Coating
	Voltage	Current	Power Watts	Voltage (DC)	Current	
STC-24400I	24 VDC	22.5 A	400 W	+5 V	20 A	Non-coating
STC-24400IH				+12 V	18.6 A	Black coating
STC-24300I		16.9 A	300 W	+3.3 V	15 A	Non-coating
				STC-24300IH	-12 V	1 A
				+5 VSB	3 A	



1.3 Details of Tested Supporting System

1.3.1 LOAD

Full Load Watt : 100 W (+5 V, 20 A)
: 223.2 W (+12 V, 18.6 A)
: 49.5 W (+3.3 V, 15 A)
: 12 W (-12 V, 1 A)
: 15 W (+5 VSB V, 3 A)

1.3.2 Test Cable

Input Power Cable : Non-shielded, Detachable, 1.0 m, w/o core



1.4 Test Facility

- Site Description** : ☑OATS 1 ☑EMS Room
- Name of Firm** : Interocean EMC Technology Corp.
- Company web** : <http://www.ietc.com.tw>
- Location** : No. 5-2, Lin 1, Tin-Fu, Lin-Kou Dist., New Taipei City, Taiwan 244, R.O.C.
- Site Filing** :
- Federal Communication Commissions – USA
Designation No.: TW1020 (Test Firm Registration #: 651092)
Designation No.: TW1113 (Test Firm Registration #: 959554)
 - Innovation, Science and Economic Development Canada (ISED)
CAB identifier: TW1113 (Ref. No 14962756)
OUR FILE: 46405-4437
Registration No. (OATS 1): Site# 4437A-1
Registration No. (OATS 3): Site# 4437A-3
Registration No. (Chamber 3): Site# 4437A-5
Registration No. (OATS 5): Site# 4437A-6
 - Voluntary Control Council for Interference by Information Technology Equipment (VCCI) – Japan
Member No.: 1349
Registration No. (Conducted Room): C-11094
Registration No. (Conducted Room): T-11562
Registration No. (OATS 1): R-11040; G-10274
- Site Accreditation** :
- Bureau of Standards and Metrology and Inspection (BSMI) – Taiwan, R.O.C.
Accreditation No.:
SL2-IN-E-0026 for CNS 13438 / CISPR 22
SL2-R1-E-0026 for CNS 13439 / CISPR 13
SL2-R2-E-0026 for CNS 13439 / CISPR 13
SL2-L1-E-0026 for CNS 14115 / CISPR 15
 - Taiwan Accreditation Foundation (TAF)
Accreditation No.: 1113
 - Vehicle Safety Certification Center (VSCC)
Approval No.: TW16-11
 - TÜV NORD
Certificate No: TNTW0801R

**1.5 Measurement Uncertainty**

Item	Value
Conduction 1:	
Conducted Emission - AMN (9 kHz to 30 MHz)	3.0 dB
Conducted Emission - AAN (ISN T800) (150 kHz to 30 MHz)	3.3 dB
Conducted Emission - CP (9 kHz to 30 MHz)	3.1 dB
Radiated Emission - LAS (2 m Loop) (9 kHz to 30 MHz)	3.3 dB
Antenna Power (30 MHz to 2150 MHz)	2.1 dB
Conduction 2:	
Conducted Emission - VP (9 kHz to 30 MHz)	2.5 dB
Disturbance Power (30 MHz to 300 MHz)	4.1 dB
OATS 1:	
Radiated Emission Test (30 MHz to 1 GHz)	5.1 dB
Radiated Emission Test (1 GHz to 6 GHz)	4.9 dB
OATS 3:	
Radiated Emission Test (30 MHz to 1 GHz)	4.9 dB
Chamber 3:	
Radiated Emission Test (9 kHz to 30 MHz)	3.2 dB
Radiated Emission Test (30 MHz to 1 GHz)	5.1 dB
Radiated Emission Test (1 GHz to 6 GHz)	4.8 dB
Induced Current Density (20 kHz to 10 MHz)	1.9 dB
The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%	

**1.6 Summary of Test Results**

1.6.1 Test program according EN 55032

Emission test equipment intended	
<input checked="" type="checkbox"/>	Class A
<input type="checkbox"/>	Class B

Report Clause	Phenomenon	Application	Reference Clause(s)	Reference Standard	Result
	Power Line Conducted Emission	AC Power Port	Annex A.3	CISPR 16-2-1	Not Applicable
	Asymmetric Mode Conducted Emissions	Wired Network Ports	Annex A.3	CISPR 16-2-1	Not Applicable
	Asymmetric Mode Conducted Emissions	Optical Fibre Ports	Annex A.3	--	Not Applicable
	Asymmetric Mode Conducted Emissions	Broadcast Receiver Tuner Ports	Annex A.3	--	Not Applicable
	Asymmetric Mode Conducted Emissions	Antenna Ports	Annex A.3	--	Not Applicable
	Conducted Differential Voltage Emissions	TV Broadcast Receiver Tuner Ports	Annex A.3	--	Not Applicable
	Conducted Differential Voltage Emissions	RF Modulator Output Ports	Annex A.3	--	Not Applicable
	Conducted Differential Voltage Emissions	FM Broadcast Receiver Tuner Ports	Annex A.3	--	Not Applicable
2	Radiated Emission (Below 1 GHz)	Enclosure Port	Annex A.2	CISPR 16-1-4	PASS
	Radiated Emission (Above 1 GHz)	Enclosure Port	Annex A.2	CISPR 16-1-4	Not Applicable ^a
	Radiated Emissions (FM Receivers)	Enclosure Port	Annex A.2	CISPR 16-1-4	Not Applicable
Note: ^a The highest frequency of the internal sources of the EUT is less than 108 MHz and therefore the measurement is not required.					

1.6.2 Test program according EN 61000-3-2

Report Clause	Phenomenon	Application	Reference Clause	Reference Standard	Result
	Harmonic Current Emissions	AC Power Port	5	--	Not Applicable

1.6.3 Test program according EN 61000-3-3

Report Clause	Phenomenon	Application	Reference Clause	Reference Standard	Result
	Voltage Changes, Voltage Fluctuations and Flicker	AC Power Port	5	--	Not Applicable



1.6.4 Test program according EN 55024

Report Clause	Phenomenon	Application	Reference Clause(s)	Reference Standard	Result
4	Electrostatic Discharge (ESD)	Enclosure Port	4.2.1	IEC 61000-4-2	PASS
5	Radio-Frequency Electromagnetic Field	Enclosure Port	4.2.3.1	IEC 61000-4-3	PASS
6	Fast Transients	DC Power Port	4.2.2	IEC 61000-4-4	PASS
	Surges	DC Power Port	4.2.5	IEC 61000-4-5	Not Applicable ^b
7	Radio-Frequency Continuous Conducted	DC Power Port	4.2.3.2	IEC 61000-4-6	PASS
8	Power-Frequency Magnetic Field	Enclosure Port	4.2.4	IEC 61000-4-8	PASS
	Voltage Dips and Interruptions	AC Power Port	4.2.6	IEC 61000-4-11	Not Applicable

Note: ^b Test applied line to ground reference, and only to ports which may connect directly to outdoor cables.

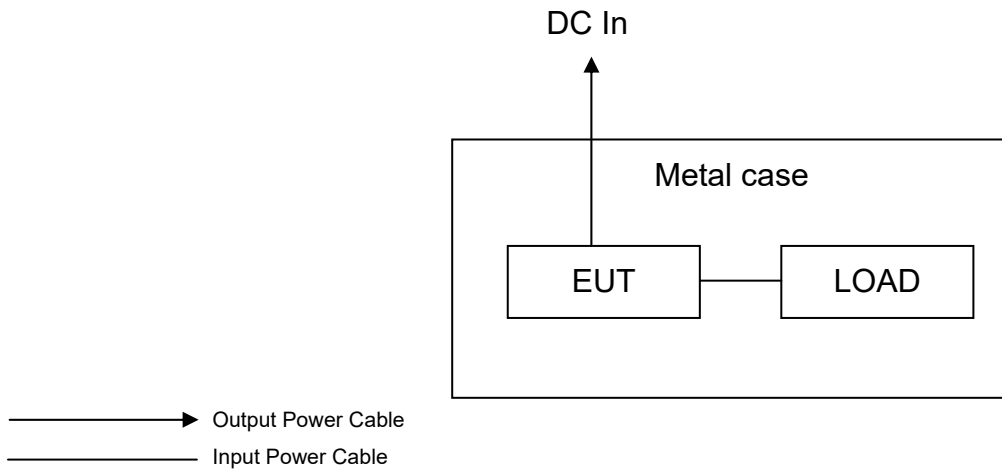


1.7 Measured Mode

1.7.1 The test mode for final test is as following:

- Mode 1: Full Load Mode (Model No.: STC-24400I)

1.8 Configuration of EUT Setup



1.9 Test Step of EUT

- 1.9.1 Set the EUT and peripheral as above.
- 1.9.2 Turn on the power of EUT.
- 1.9.3 Execute the test.

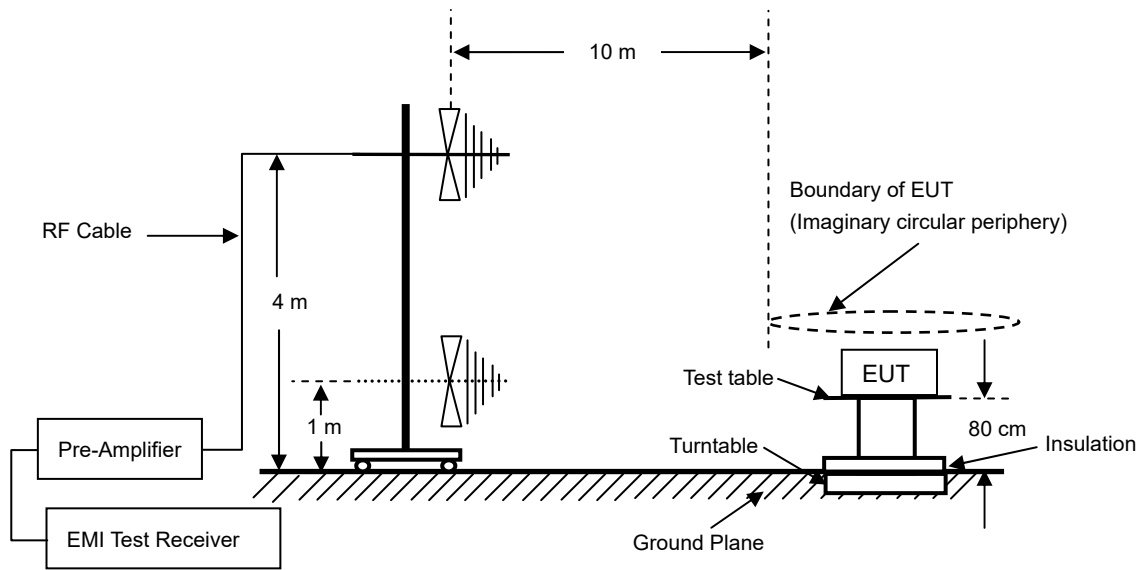
2 Radiated Emission Measurement (Below 1 GHz)

2.1 Instrument

Instrument	Manufacturer	Model	Serial No.	Next Cal. Date
EMI Test Receiver	Rohde & Schwarz	ESCI	101116	2020/03/24
Biconical Antenna	Schwarzbeck	VHA 9103 & BBA 9106	VHA 9103-2418	2019/09/18
Log Antenna	Schwarzbeck	UHALP 9108-A	9108-A 0739	2019/09/18
Pre-Amplifier	Agilent	8447D	2944A09703	2019/07/30
RF Cable	EMCI	EMC8D-NM-NM-25000	140105	2019/07/30
RF Cable	Mini-Circuits	CBL-3FL-NMNM	CBL56	2019/07/30
Measurement Software	AUDIX-e3			

Note: The above equipments are within the valid calibration period.

2.2 Block Diagram of Test Configuration



2.3 Radiated Limit

Frequency (MHz)	<input checked="" type="checkbox"/> Class A	<input type="checkbox"/> Class B
	Quasi-Peak dB(μ V/m)	Quasi-Peak dB(μ V/m)
30 to 230	40.0	30.0
230 to 1000	47.0	37.0



2.4 Instrument Configuration

- 2.4.1 Set the EMI test receiver frequency range from 30 MHz to 1000 MHz.
- 2.4.2 Set the EMI test receiver bandwidth at 120 kHz.
- 2.4.3 Set the EMI test receiver detector as Quasi-Peak (Q.P.).

2.5 Configuration of Measurement

- 2.5.1 The EUT was placed on a non-conductive table whose total height equaled 80 cm. The turntable can rotate 360 degree to determine the position of the maximum emission level.
- 2.5.2 The EUT was set 10 meters away from the receiving antenna that was mounted on a non-conductive mast. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level.
- 2.5.3 The initial testing identified the frequency that has the highest disturbance relative to the limit while operating the EUT in typical modes of operation and cable positions in a test setup representative of typical system configuration.
- 2.5.4 The identification of the frequency of highest emission with respect to the limit was found by investigating emissions at a number of significant frequencies. The probable frequency of maximum emission had been found and that the associated cable and EUT configuration and mode of operation had been identified.

2.6 Test Result

PASS.

The final test data is shown as following pages.

Factor = Antenna Factor + Cable Loss - Preamplifier Gain

Level = Reading + Factor

Margin = Level - Limit



Radiated Emission Measurement Data

CLIENT: Synocean Technology Co., Ltd.

OPERATOR : Evans

EUT: DC/DC Power Supply

TEST SITE : OATS 1

MODEL: STC-24400I

TEST DISTANCE : 10 m

RATING: DC 24 V

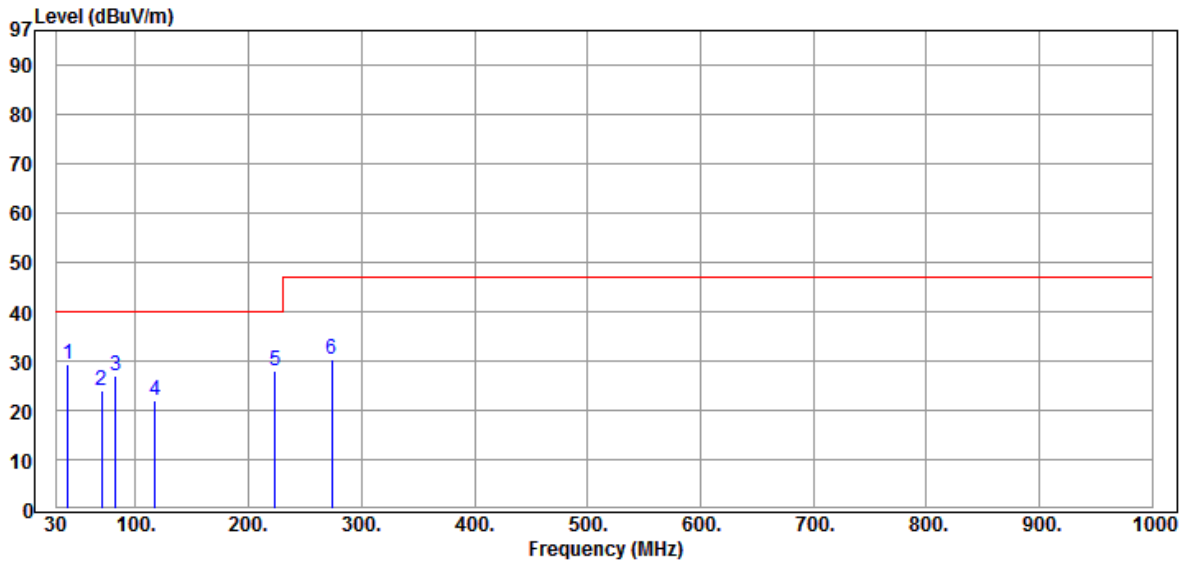
POLARIZATION : HORIZONTAL

COMMENT: Test Mode: Mode 1: Full Load Mode (Model No.: STC-24400I)

TEMP/HUM : 24.3°C / 62%

Data:9

2019-06-04



Item Mark	Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark
1	39.936	45.20	-15.81	29.39	40.00	-10.61	QP
2	70.242	47.33	-23.47	23.86	40.00	-16.14	QP
3	81.938	49.98	-23.11	26.87	40.00	-13.13	QP
4	117.016	39.60	-17.50	22.10	40.00	-17.90	QP
5	223.600	39.80	-11.90	27.90	40.00	-12.10	QP
6	273.400	40.21	-9.93	30.28	47.00	-16.72	QP



Radiated Emission Measurement Data

CLIENT: Synocean Technology Co., Ltd.

OPERATOR : Evans

EUT: DC/DC Power Supply

TEST SITE : OATS 1

MODEL: STC-244001

TEST DISTANCE : 10 m

RATING: DC 24 V

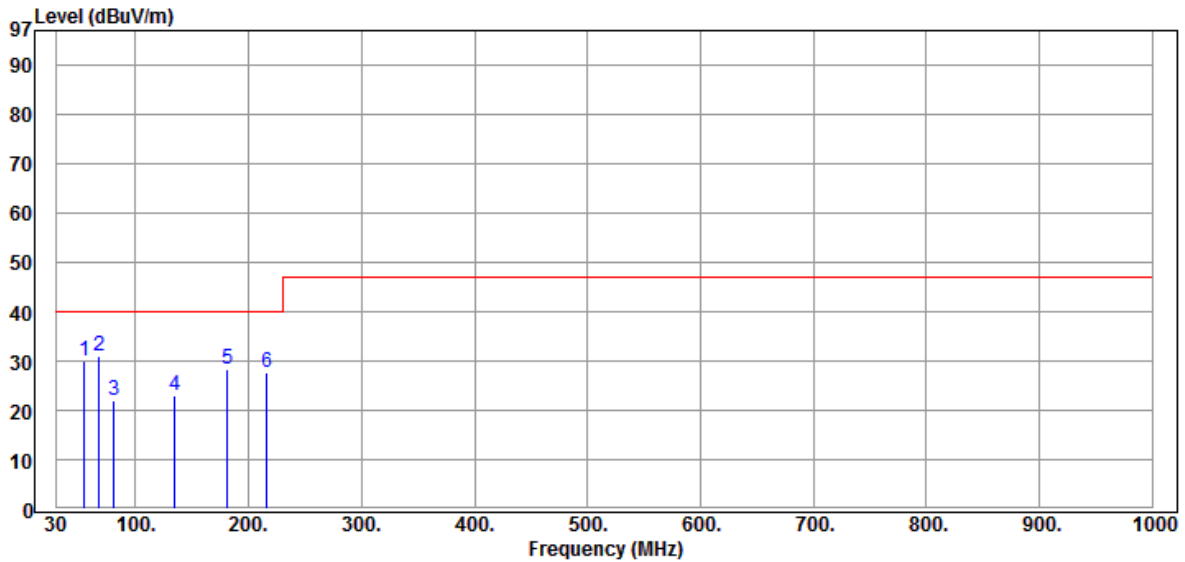
POLARIZATION : VERTICAL

COMMENT: Test Mode: Mode 1: Full Load Mode (Model No.: STC-244001)

TEMP/HUM : 24.3°C / 62%

Data:8

2019-06-04



Item Mark	Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark
1	54.378	50.70	-20.76	29.94	40.00	-10.06	QP
2	67.818	54.20	-23.25	30.95	40.00	-9.05	QP
3	80.586	45.20	-23.34	21.86	40.00	-18.14	QP
4	134.488	38.50	-15.43	23.07	40.00	-16.93	QP
5	181.232	41.18	-12.87	28.31	40.00	-11.69	QP
6	216.400	39.70	-11.93	27.77	40.00	-12.23	QP



3 Performance Criterion of Immunity Test

3.1 EN 55024

General performance criteria	
Criterion	Description
A	During and after the test the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a minimum performance level specified by the manufacturer when the EUT is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the EUT if used as intended.
B	After the test, the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the EUT is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is allowed. However, no change of operating state or stored data is allowed to persist after the test. If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the EUT if used as intended.
C	During and after testing, a temporary loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls or cycling of the power to the EUT by the user in accordance with the manufacturer's instructions.
Particular performance criteria	
<p>The particular performance criteria which are specified in the normative annexes B~H take precedence over the corresponding parts of the general performance criteria.</p> <p>Where particular performance criteria for specific functions are not given, then the general performance criteria shall apply.</p> <p>Annex B Data processing equipment: (Read, write and storage of data; Data display; Data input; Data printing; Data processing)</p> <p>Annex C Local area networks (LAN)</p> <p>Annex D Printers and plotters</p> <p>Annex E Copying machines</p> <p>Annex F Automatic teller machines (ATM)</p> <p>Annex G Point of sale terminals (POST)</p> <p>Annex H xDSL Terminal equipment</p>	

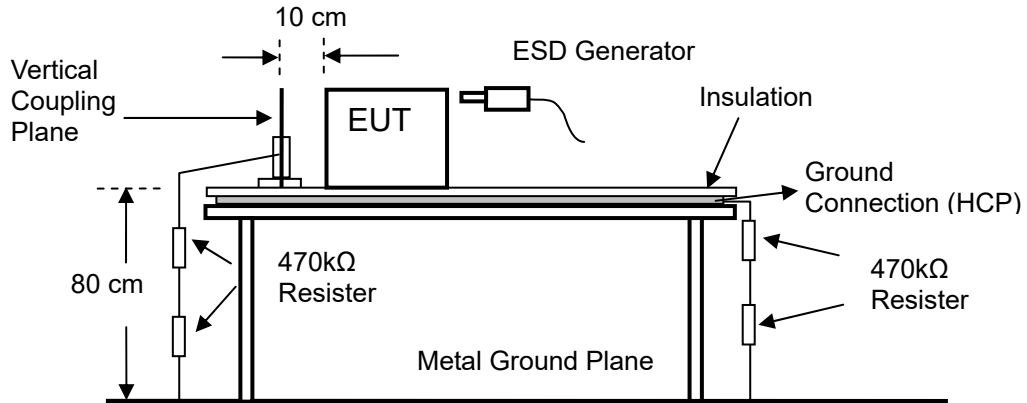
4 Electrostatic Discharge Immunity Test (IEC 61000-4-2)

4.1 Instrument

Instrument	Manufacturer	Model	Serial No.	Next Cal. Date
ESD Simulator	EMC PARTNER	ESD3000	276	2020/03/31

Note: The above equipments are within the valid calibration period.

4.2 Block Diagram of Test Configuration



4.3 Test Requirement

IEC 61000-4-2 (EN 55024) require:

Air discharge: ± 8 kV

Contact discharge: ± 4 kV

Performance criterion: **B**

4.4 Configuration of Measurement

4.4.1 The test setup consists of the test generator, EUT and auxiliary instrumentation necessary to perform direct and indirect application of discharges to the EUT in the following manner:

- Contact discharge to the conductive surfaces and to coupling planes;
- Air discharge at insulating surfaces.

4.4.2 The EUT shall be arranged in accordance with the manufacturer's instructions for installation.

4.5 Test Result

PASS.

The performance criterion after tested EN 55024:

Temperature: 25.1 °C ; Humidity: 42 % ; Atmospheric: 986 hPa ; Test Engineer: Evans

Air discharge ± 2 kV, ± 4 kV, ± 8 kV:	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C
Contact discharge ± 2 kV, ± 4 kV:	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C
Indirect discharge (HCP) ± 2 kV, ± 4 kV:	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C
Indirect discharge (VCP) ± 2 kV, ± 4 kV:	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C

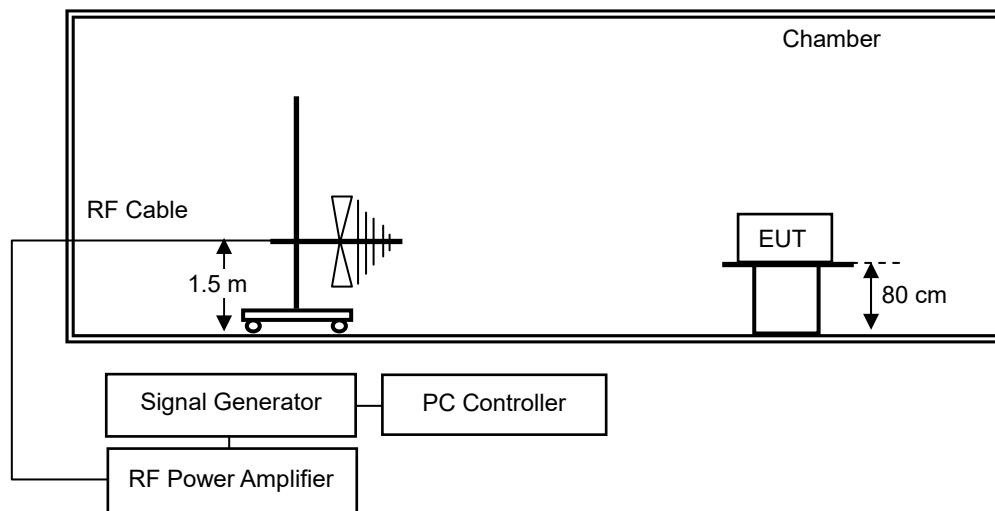
5 Radio- Frequency, Electromagnetic Field Immunity Test (IEC 61000-4-3)

5.1 Instrument

Instrument	Manufacturer	Model	Serial No.	Next Cal. Date
Signal Generator	KEYSIGHT	N5171B	MY53051802	2020/03/18
Power Amplifier	R&K	A080M102-5555R	B30850	2020/04/25
Log Antenna	Schwarzbeck	VULP 9118 G Special	9118GS912	2020/04/25

Note: The above equipments are within the valid calibration period.

5.2 Block Diagram of Test Configuration



5.3 Test Requirement

IEC 61000-4-3 (EN 55024) require:

The frequency steps: 1 %, Log sweep, Dwell time: 3.0 sec.

Frequency range: **80 to 1000** MHz, Field strength: **3** V/m, 80 % AM (1 kHz),

Performance criterion: **A**

5.4 Configuration of Measurement

5.4.1 Before testing, the intensity of the established field strength was checked by placing the field sensor at a calibration grid point, and with the field generating antenna and cables in the same positions as used for the calibration, the forward and reverse power were measured. The forward power needed to give the calibrated field was evaluated.

5.4.2 The EUT was placed on a non-metallic table 0.8m above the reference ground plane (RGP) and was operated according to its specified operating mode.

5.4.3 Ferrite tiles/ absorbers were placed on the RGP between the EUT and the antenna to reduce the reflections from the RGP.

5.4.4 The distance between antenna and EUT is 1 meter.

5.4.5 During the test EUT performance has been monitoring by CCD camera.



5.5 Test Result

PASS.

The performance criterion after tested EN 55024:

Temperature: 25.4 °C ; Humidity: 54 % ; Atmospheric: 996 hPa ; Test Engineer: Scott

Frequency range: **80** to **1000** MHz, Field strength: **3** V/m, 80 % AM (1 kHz),

Performance criterion: **A** **B** **C**

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

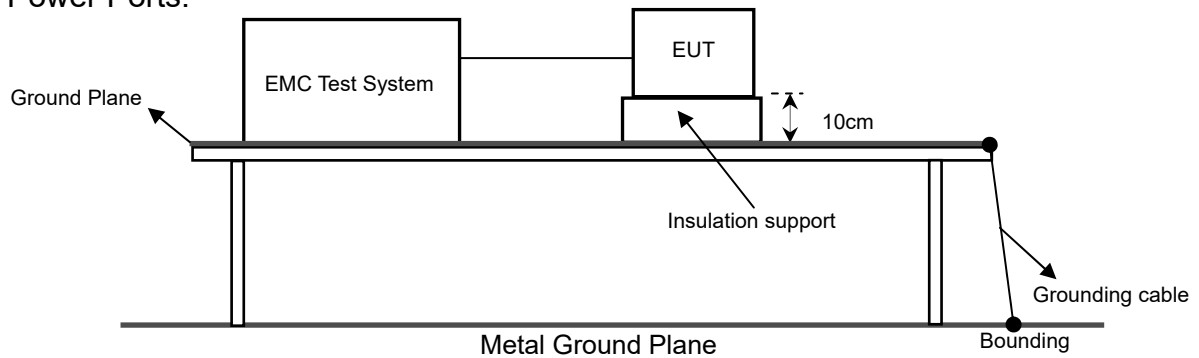
6.1 Instrument

Instrument	Manufacturer	Model	Serial No.	Next Cal. Date
EMC Test System	EMC PARTNER	TRANSIENT-2000	812	2020/02/10

Note: The above equipments are within the valid calibration period.

6.2 Block Diagram of Test Configuration

For Power Ports.



6.3 Test Requirement

IEC 61000-4-4 (EN 55024) require:

5 kHz Repetition frequency

± 1.0 kV input AC power ports.

± 0.5 kV input DC power ports.

± 0.5 kV Signal ports.

± 0.5 kV for Telecommunication ports.

Performance criterion: **B**

6.4 Configuration of Measurement

6.4.1 The EUT and the auxiliary equipment were placed on a wooden table of 0.8 meters height. The size of ground plane is greater than 1 m×1 m and project beyond the EUT by at least 0.1 m on all sides.

6.4.2 The EUT was connected to the power mains through a coupling device that directly couples the EFT interference signal. Each of the Line, Neutral and Protective Earth (PE) conductors was impressed with burst noise for 1 minute. Both the voltage polarities were applied for each test level. The length of the signal and power lines between the coupling device and the EUT shall be $0.5 \text{ m} \pm 0.05 \text{ m}$.



6.5 Test Result

PASS.

The performance criterion after tested EN 55024:

Temperature: 25.3 °C ; Humidity: 47 % ; Atmospheric: 986 hPa ; Test Engineer: Evans

- ± 0.5 kV input DC power port: Line
Performance criterion: **A** **B** **C**
- ± 0.5 kV input DC power port: Neutral
Performance criterion: **A** **B** **C**
- ± 0.5 kV input DC power port: Line + Neutral
Performance criterion: **A** **B** **C**

7 Radio- Frequency, Conducted Disturbances Immunity Test (IEC 61000-4-6)

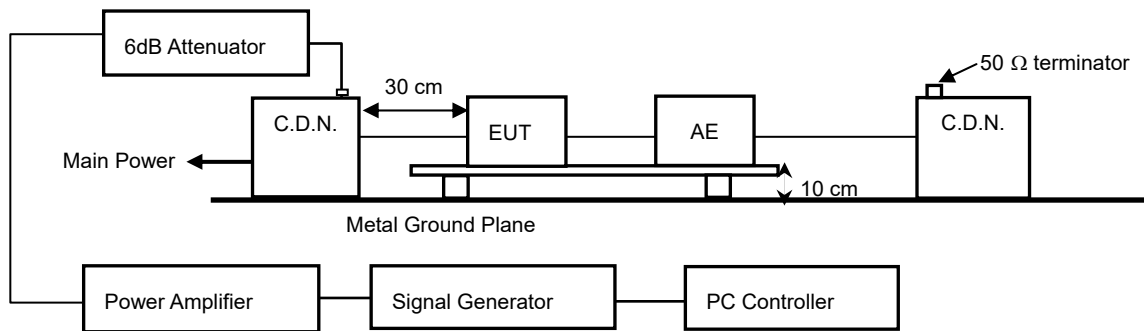
7.1 Instrument

Instrument	Manufacturer	Model	Serial No.	Next Cal. Date
Signal Generator	Marconi Instruments	2024	112246/087	2020/03/18
RF Power Amplifier	R&K	A009K101-5050R	B30850	2020/02/02
Attenuator	Microwave Device Inc.	MA-5250/6N	001052	2020/02/02
C.D.N	SCHAFFNER	M216	16394	2020/03/25
C.D.N	FCC	FCC-801-16A	2045	N.C.R.

Note: The above equipments are within the valid calibration period.

7.2 Block Diagram of Test Configuration

For Power Ports.



7.3 Test Requirement

IEC 61000-4-6 (EN 55024) require:

The frequency steps: 1 %, Log sweep, Dwell time: 3.0 sec.

Frequency Range is from 0.15 to 80 MHz.

Field strength: 3 V, 80 % AM (1 kHz)

- Input AC power ports.
- Input DC power ports.
- Signal ports.
- Telecommunication ports.

Performance criterion: **A**



7.4 Configuration of Measurement

- 7.4.1 The EUT was placed on a table of is 0.1 m height. In Semi-Anechoic chamber A Ground reference plane was placed on the table and a 0.1 meter insulating support was inserted between the EUT and Ground reference plane.
- 7.4.2 The EUT was connected to the power mains through a Coupling and Decoupling Networks (CDN).
- 7.4.3 The test was performed with the test generator connected to each of the coupling and decoupling devices in turn while the other non-excited RF input ports of the coupling devices were terminated by a 50 Ω terminator.
- 7.4.4 The frequency range was swept from 150 kHz to 80 MHz. Using the signal levels established during the setting process, and without the disturbance signal 80 % amplitude modulated with a 1 kHz sine wave, pausing to adjust the RF signal level or to switch coupling devices as necessary. The rate of sweep was less than 1.5×10^{-3} decades/s. And the step size of the frequency sweep was also less than 1 % of the start and thereafter
1 % of the preceding frequency value. The dwell time at each frequency was more than the time necessary for the EUT to be excited, and able to respond.
- 7.4.5 The EUT was fully excised during the testing and all the selected excise modes were fully interrogated for susceptibility.

7.5 Test Result

PASS.

The performance criterion after tested EN 55024:

Temperature: 25.5 °C ; Humidity: 41 % ; Atmospheric: 986 hPa ; Test Engineer: Evans

Frequency range: 0.15 to 80 MHz, Field strength: 3 V, 80 % AM (1 kHz),

Input DC power port.

Performance criterion: A B C

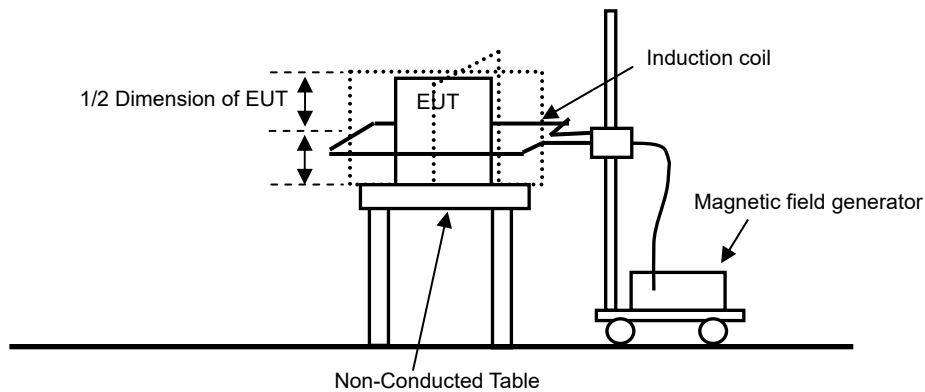
8 Power Frequency Magnetic Field Immunity Test (IEC 61000-4-8)

8.1 Instrument

Instrument	Manufacturer	Model	Serial No.	Next Cal. Date
Magnetic field generator	PMM	PMM1008	0000J00301	2019/07/05

Note: The above equipments are within the valid calibration period.

8.2 Block Diagram of Test Configuration



8.3 Test Requirement

IEC 61000-4-8 (EN 55024) require:

Power Frequency is 50 Hz.

Magnetic field strength: 1 A/m

Performance criterion: **A**

8.4 Configuration of Measurement

8.4.1 The equipment is configured and connected to satisfy its functional requirements.

8.4.2 All cables shall be exposed to the magnetic field for 1 m of their length.

8.4.3 Different induction coils may be selected for testing in the different orthogonal directions.

8.5 Test Result

PASS.

The performance criterion after tested EN 55024:

Temperature: 25.6 °C ; Humidity: 49 % ; Atmospheric: 986 hPa ; Test Engineer: Evans

Power Frequency is 50 Hz, Magnetic field strength: 1 A/m

Performance criterion: **A** **B** **C**

9 Photographs of Test

9.1 Radiated Emission Measurement



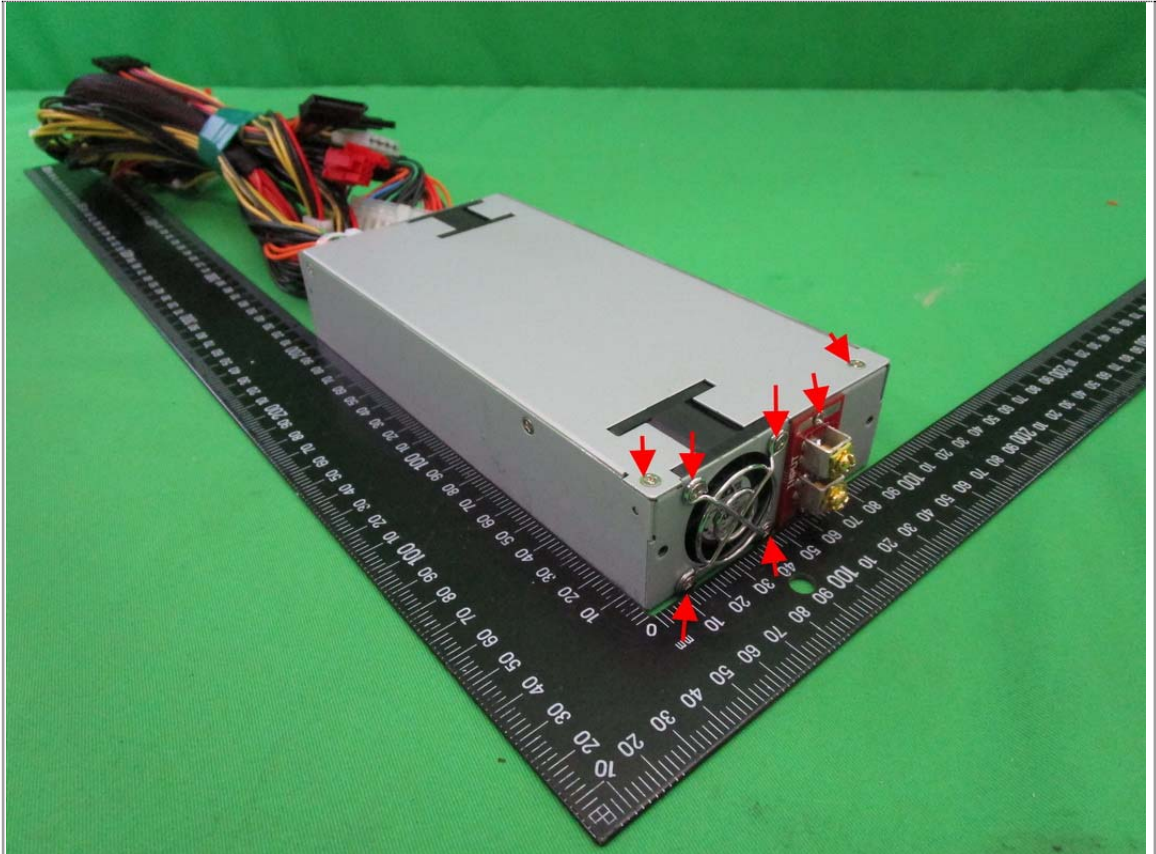
Front View



Rear View



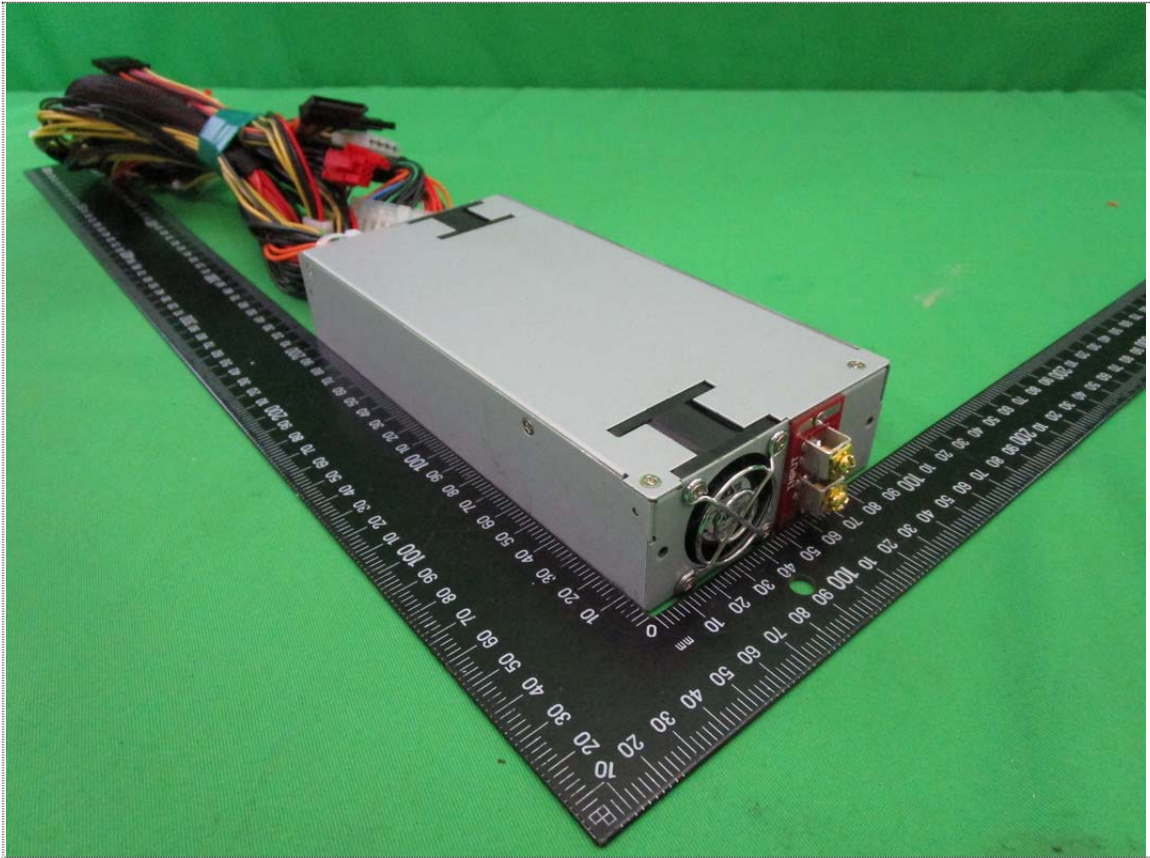
9.2 Electrostatic Discharge Test Point



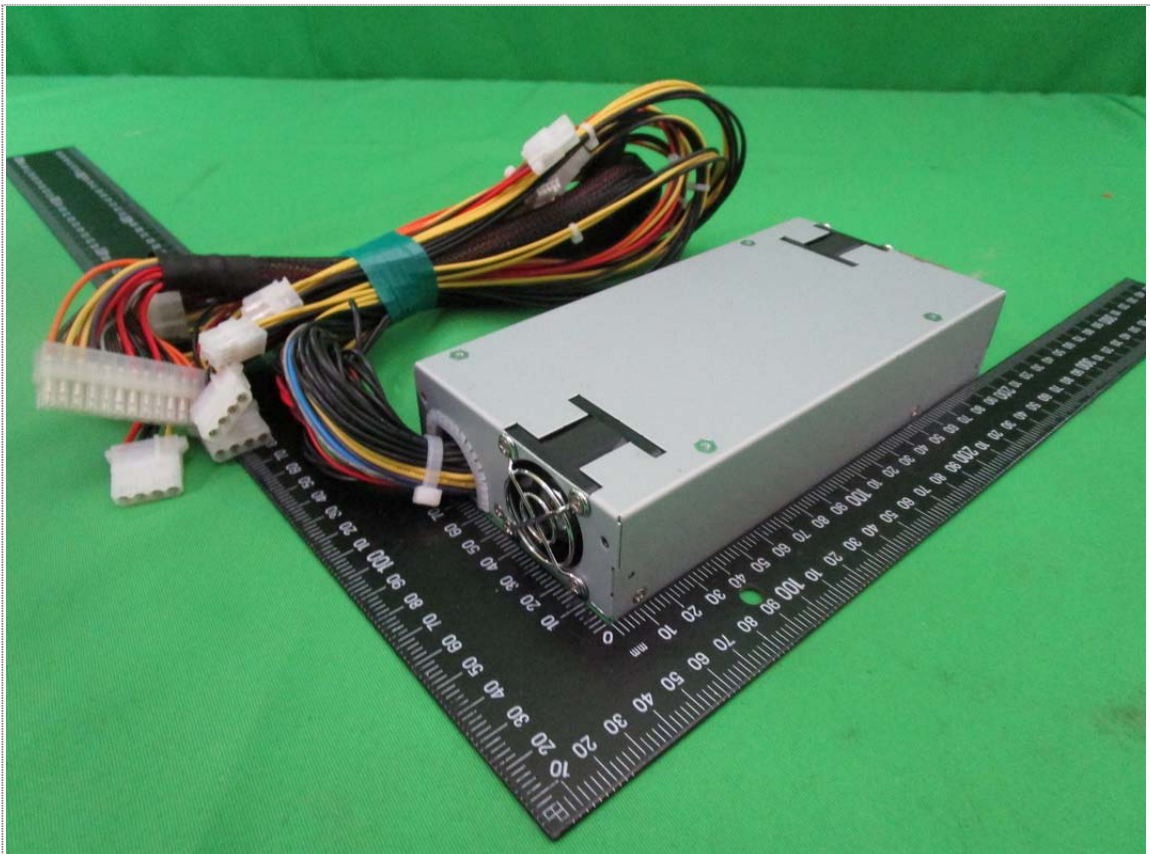
Discharge Point (Red: Contact Discharge)

10 Photographs of EUT

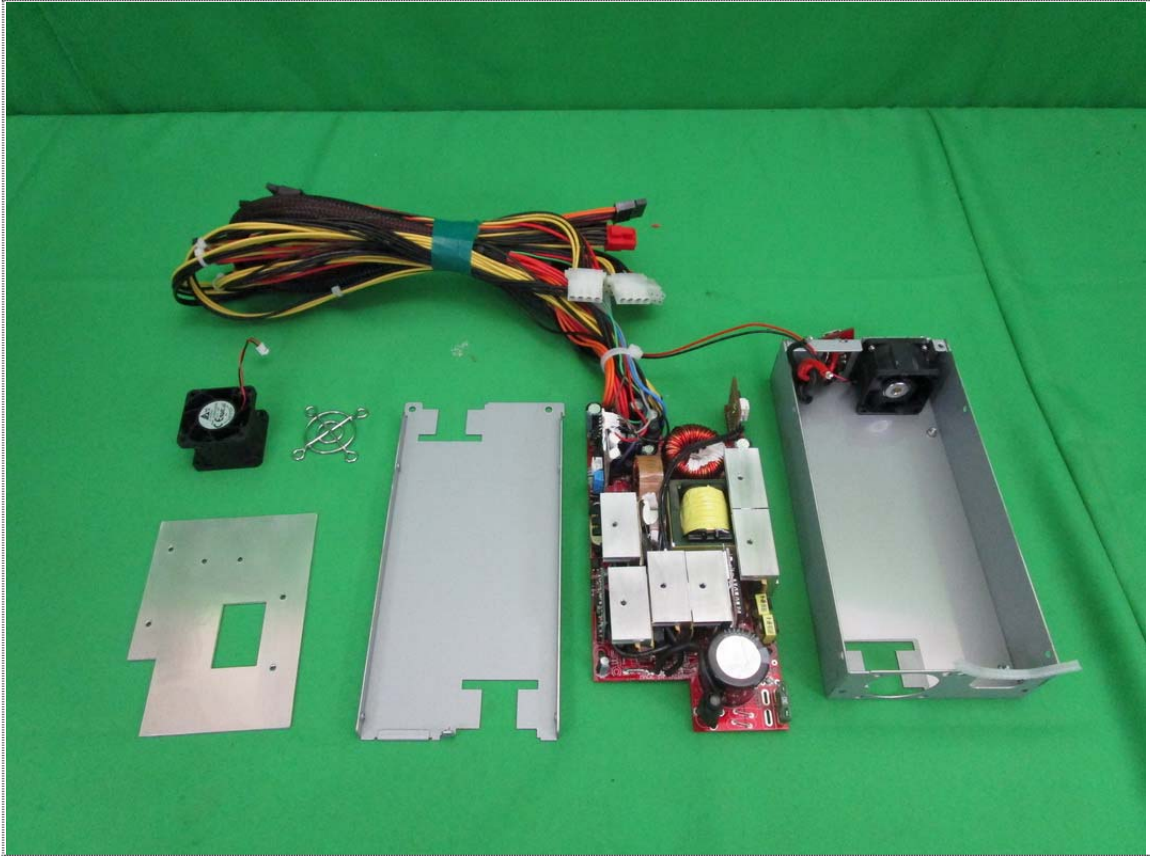
10.1 STC-24400I



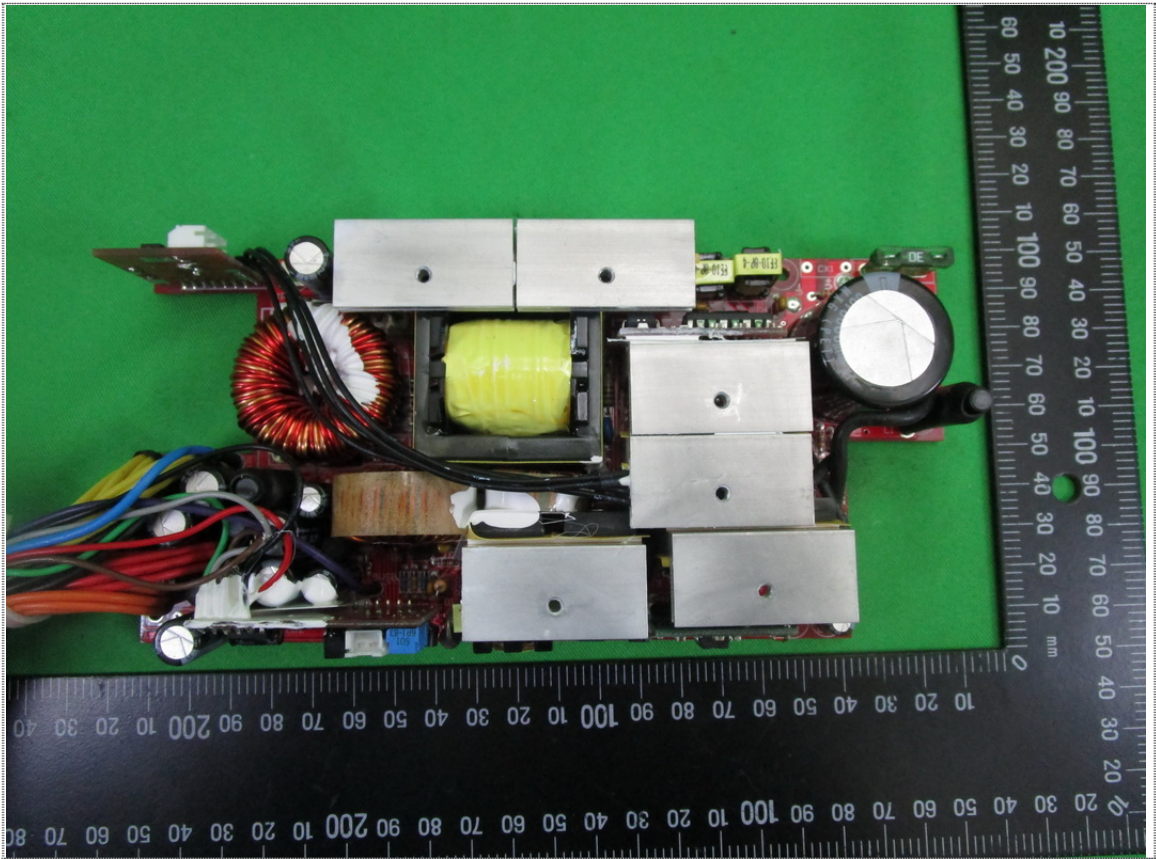
Front View of EUT



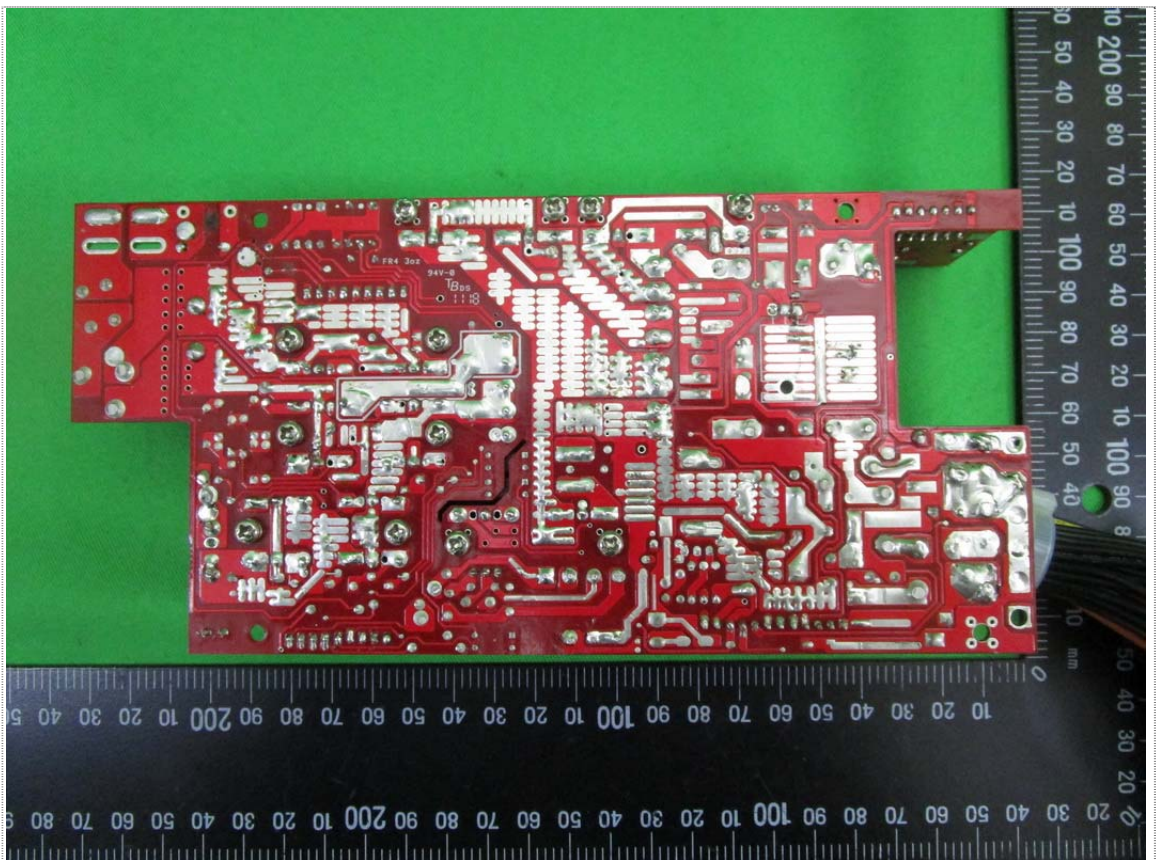
Rear View of EUT



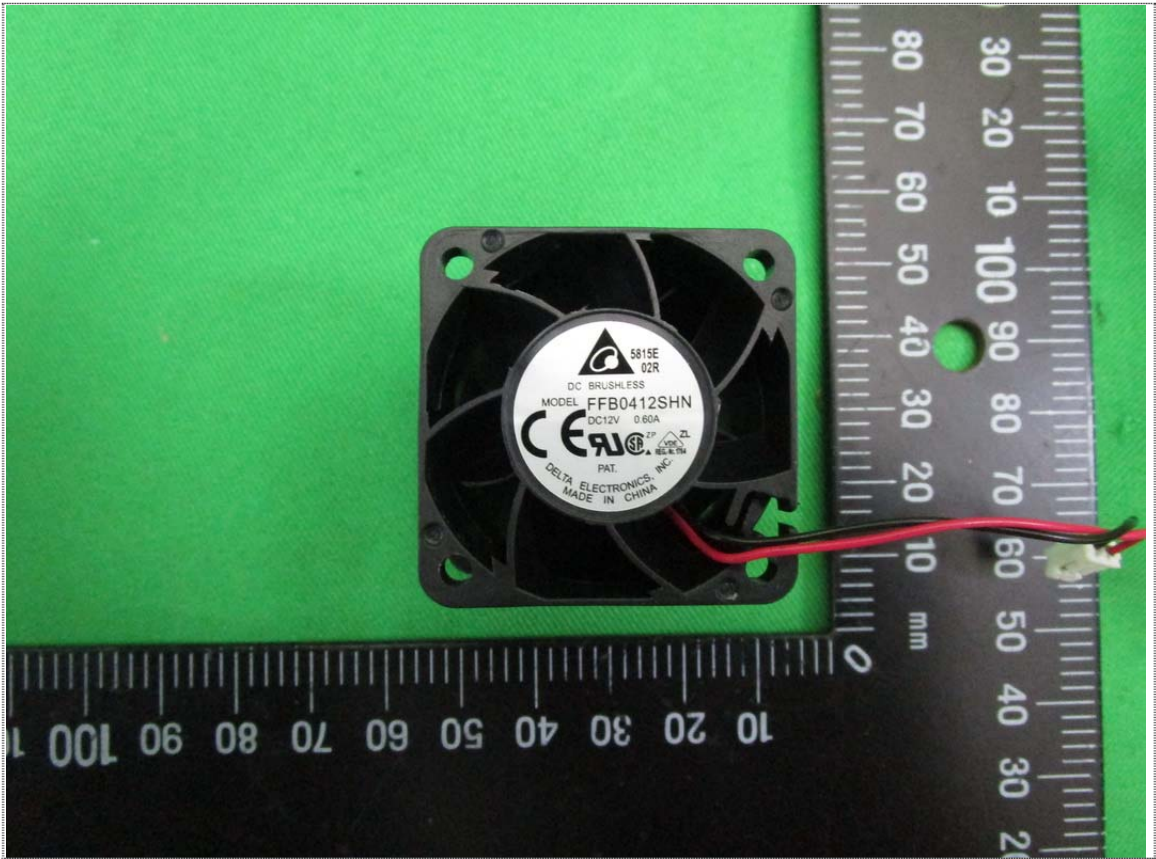
Inner View of EUT



Front View of PCB



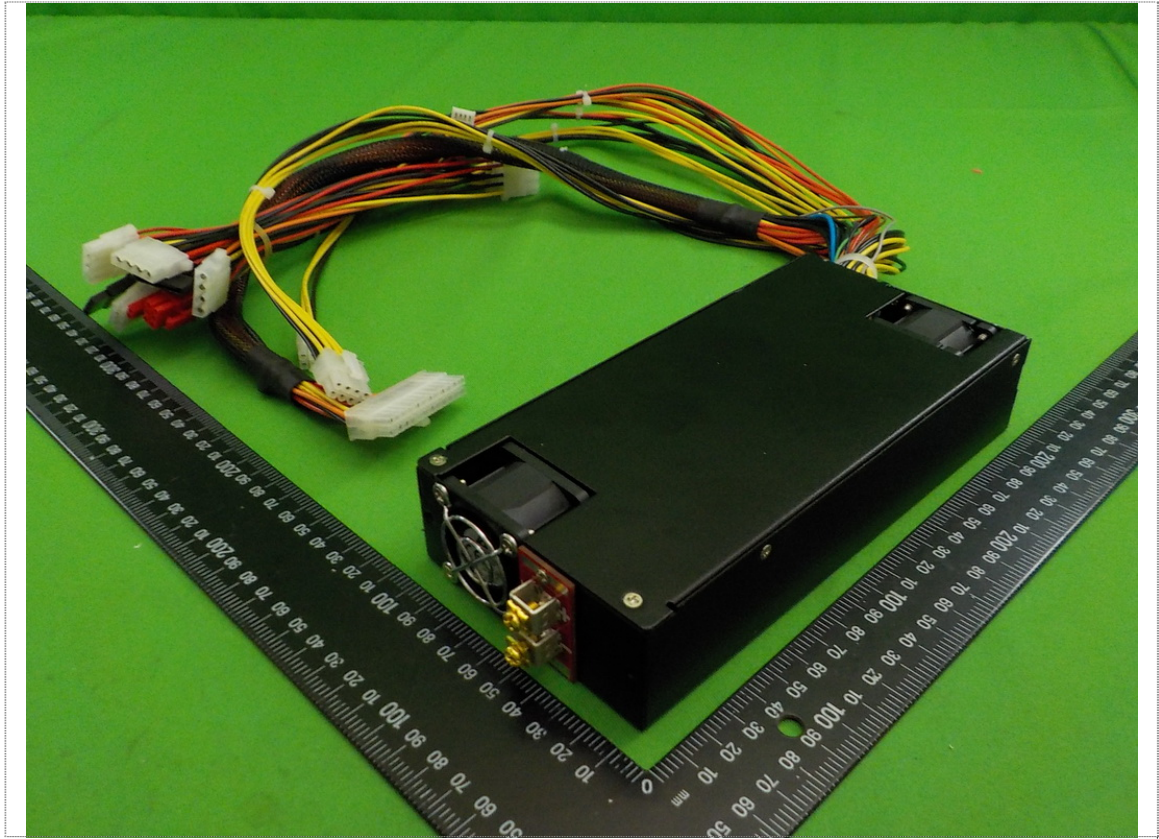
Rear View of PCB



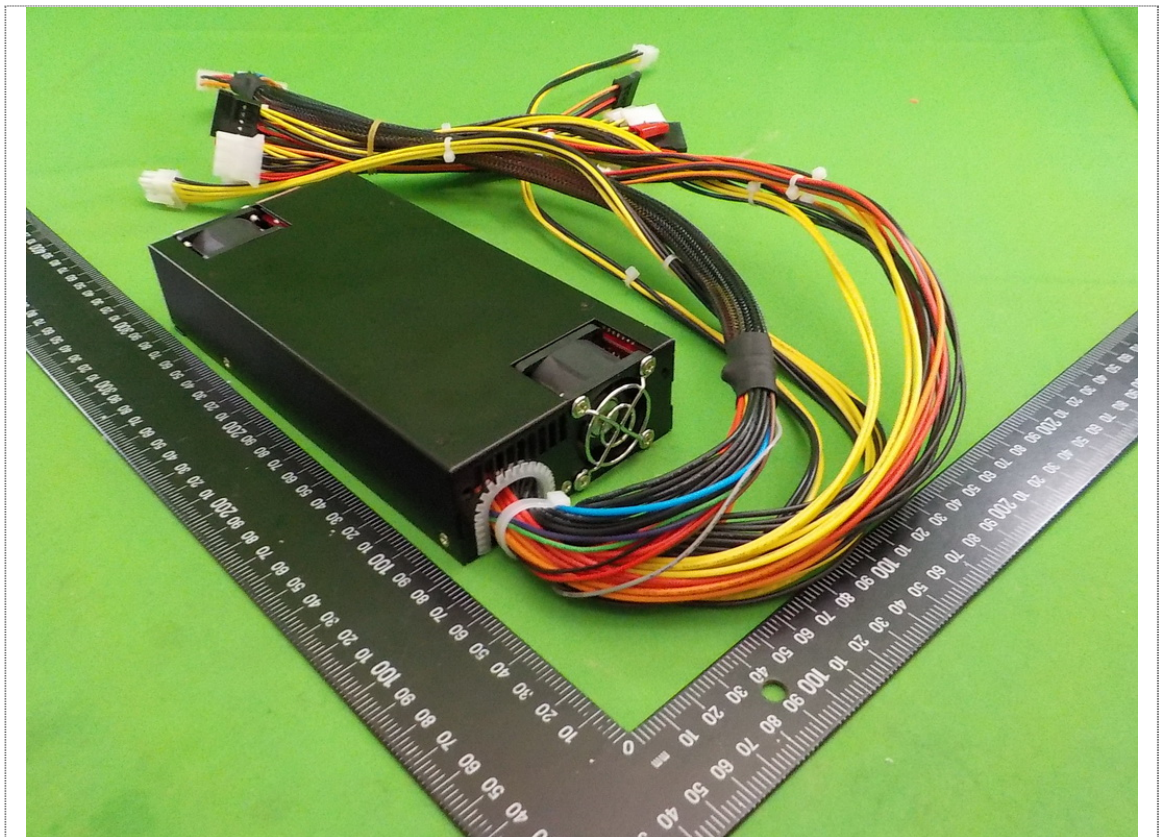
View of Fan



10.2 STC-24400IH



Front View of EUT



Rear View of EUT