



STC (Dongguan) Company Limited
EC DECLARATION OF CONFORMITY

Reference Number: EMC-D163132DOC

Intracom Asia Co., Ltd
4F., No.77, Sec.1, Xintai 5th Rd., Xizhi Dist., New Taipei City 221, Taiwan

declare the product

Description: 8-Port Fast Ethernet Office Switch, Plastic
Brand Name: Manhattan
Model: 560689

complies with the requirements of the
EC Electromagnetic Compatibility Directive 2014/30/EU

Applicable Standard(s) with amendments:

EN55022: 2010 +AC: 2011
EN55024: 2010
EN61000-3-2: 2014
EN61000-3-3: 2013

General Remarks:

This declaration is only valid when used in conjunction with the technical file(s) refers to DM123142.

This declaration applies specifically to the sample(s) investigated in the technical report mentioned above and not to the bulk.

The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EC Declaration of Conformity and compliance with all relevant EC Directives.

Manufacturer/Importer



Test Laboratory

Signature



LONG Yun Jian, Along
Authorized Signatory
ElectroMagnetic Compatibility Department
For and on behalf of
STC (Dongguan) Company Limited

www.dgstc.org

Date of Issue: 2016-04-20



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Date: 2016-04-15
No.: DM123142

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Applicant: Intracom Asia Co., Ltd
4F., No.77, Sec.1, Xintai 5th Rd., Xizhi Dist., New Taipei
City 221, Taiwan

Description of Sample(s): Submitted sample(s) said to be
Product: 8-Port Fast Ethernet Office Switch,
Plastic
Brand Name: Manhattan
Model Number: 560689

Date Sample(s) Received: 2014-08-20

Date Tested: 2014-08-25 to 2014-09-25

Investigation Requested: Test for compliance with EMC requirements of EN55022,
EN55024, EN61000-3-2 and EN61000-3-3.

Conclusion(s): The submitted product COMPLIED with the requirements
of EN55022: 2010 +AC: 2011, EN55024: 2010,
EN61000-3-2: 2014 and EN61000-3-3: 2013. The EMC
tests were performed in accordance with the standards
described above and on Section 2.2 in this Test Report.

Remark(s): ---



LONG Yun Jian, Along
Authorized Signatory
ElectroMagnetic Compatibility Department
For and on behalf of
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STC (Dongguan) Company Limited

68 Fumin Nan Road, Dalang, Dongguan, China. (Zip Code : 523 770)
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1.0 General Details

1.1 Equipment Under Test [EUT] Description of Sample(s)

Product: 8-Port Fast Ethernet Office Switch, Plastic
Manufacturer: Intracom Asia Co., Ltd
4F., No.77, Sec.1, Xintai 5th Rd., Xizhi Dist., New Taipei City 221,
Taiwan
Brand Name: Manhattan
Model Number: 560689
Rating: 5Vd.c.with Jack
The AC/DC adaptor was provided by the applicant with following details:-
Brand name: N/A; Model no.: AMS20-0501000FV2; Input: 100-240Va.c. 50/60Hz 0.2A,
Output: 5Vd.c. 1.0A.

1.1.1 Description of EUT Operation

The Equipment Under Test (EUT) is a 8-Port Fast Ethernet Office Switch, Plastic of Intracom Asia Co., Ltd. Test was conducted under the Data transfer mode to simulate the normal operating condition. Port 1 and 8 of the EUT were connected to two PC which operated with ping the IP address to each other.

1.2 Date of Order

2014-08-20

1.3 Submitted Sample(s):

1 Sample

1.4 Test Duration

2014-08-25 to 2014-09-25

1.5 Country of Origin

China

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2.0 Technical Details

2.1 Investigations Requested

Perform ElectroMagnetic Interference [EMI] & ElectroMagnetic Susceptibility [EMS] tests for CE Marking

2.2 Test Standards and Results Summary Tables

Test Standards	
EN55022: 2010 +AC: 2011	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
EN55024: 2010	Information technology equipment - Immunity characteristics - Limits and methods of measurement
EN61000-3-2: 2014	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
EN61000-3-3: 2013	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection

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2.2 Test Standards and Results Summary Tables

EMISSION Results Summary						
Test Condition	Test Requirement	Test Method	Class / Severity	Test Result		
				Pass	Failed	N/A
Radiated Emission, 30MHz to 1GHz	EN55022: 2010 +AC: 2011	EN55022: 2010 +AC: 2011	Class B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conducted Emission on AC, 150kHz to 30MHz	EN55022: 2010 +AC: 2011	EN55022: 2010 +AC: 2011	Class B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Harmonic Emissions on AC Supply	EN61000-3-2: 2014	EN61000-3-2: 2014	Class A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Voltage Fluctuations on AC Supply	EN61000-3-3: 2013	EN61000-3-3: 2013	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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2.2 Test Standards and Results Summary Tables

SUSCEPTIBILITY Results Summary						
Test Condition	Test Requirement	Test Method	Class / Severity	Test Result		
				Pass	Failed	N/A
Electrostatic Discharge	EN55024: 2010	EN61000-4-2: 2009	±2.0kV, ±4.0kV Cont ±2.0kV, ±4.0kV, ±8.0kV Air	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radiated Immunity 80MHz to 1000MHz	EN55024: 2010	EN61000-4-3: 2006 +A1:: 2008 +A2: 2010	3V/m	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electrical Fast Transients on AC Supply	EN55024: 2010	EN61000-4-4: 2004	±1.0kV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electrical Fast Transients on LAN Port	EN55024: 2010	EN61000-4-4: 2004	±0.5kV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surge Immunity on AC Supply	EN55024: 2010	EN61000-4-5: 2006	±0.5kV ±1.0kV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surge Immunity on LAN Port	EN55024: 2010	EN61000-4-5: 2006	±1.0kV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continuous RF Immunity on AC Supply	EN55024: 2010	EN61000-4-6: 2009	3Vrms	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continuous RF Immunity on LAN Port	EN55024: 2010	EN61000-4-6: 2009	3Vrms	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Voltage Dips, Interruptions and Variations on AC Supply	EN55024: 2010	EN61000-4-11: 2004	0%, 70% of U_T	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Power Frequency Magnetic Field	EN61000-6-1: 2007	EN61000-4-8: 1993	3A/m (r.m.s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Remarks:

N/A: Not Applicable

U_T : The nominal supply voltage

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3.0 Test Results

3.1 Emission

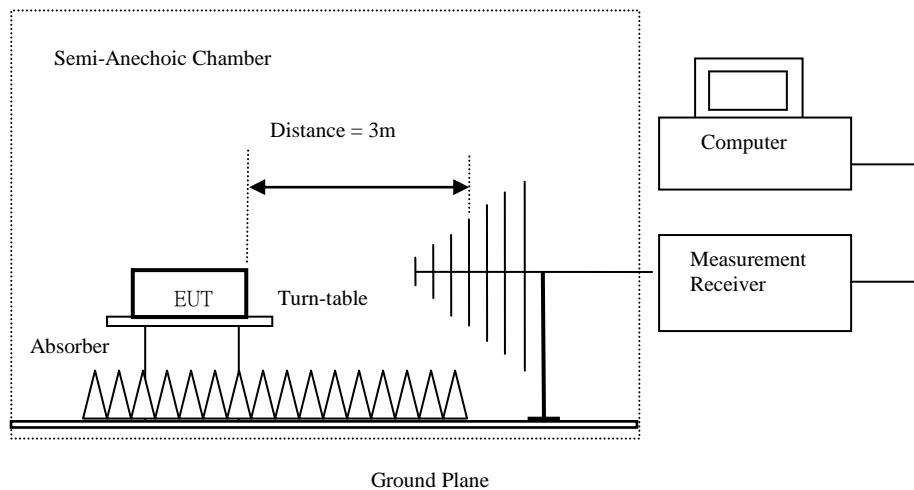
3.1.1 Radiated Emissions (30MHz to 6000MHz)

Test Requirement:	EN 55022
Test Method:	EN 55022
Level:	Class B
Test Date(s):	2014-08-25
Mode of Operation:	Data transfer mode

Test Method:

The test was performed in accordance with EN55022 at 3m test distance on a standard emission test site, with quasi-peak measurements performed if the maximised peak measurements were less than 6dB from the corresponding Class B limit lines.

Test Setup:



Absorbers placed on top of the ground plane are for measurements above 1000MHz only.

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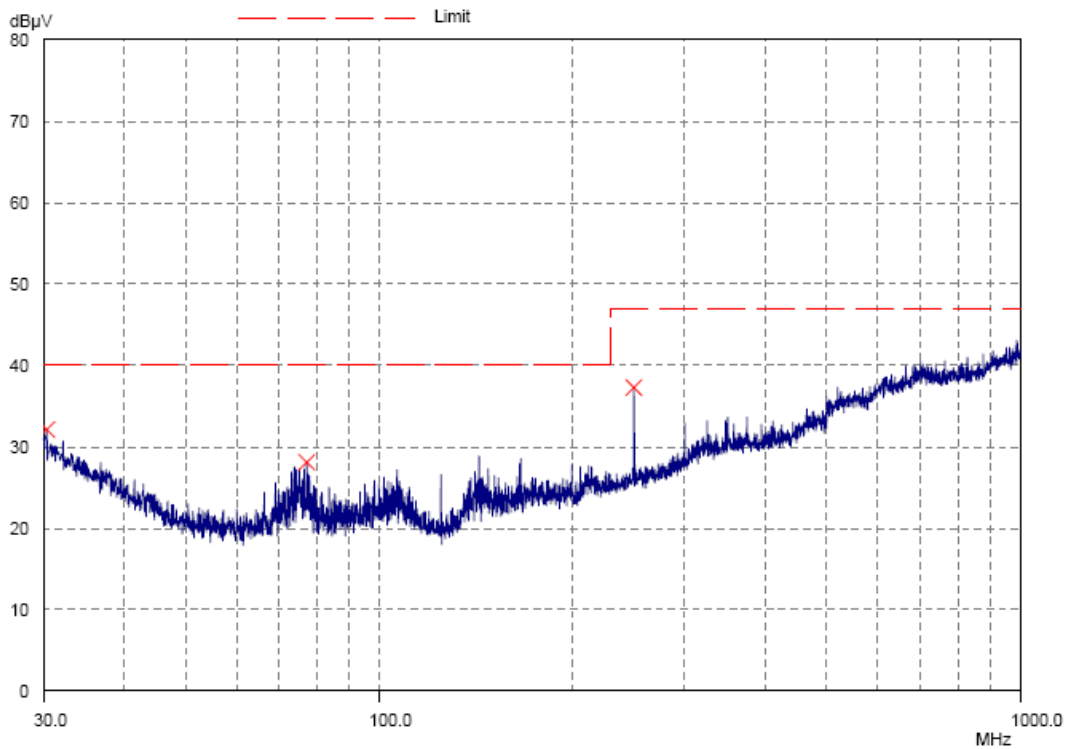
Limits for Radiated Emission:

Frequency Range [MHz]	Quasi-Peak Limits [dB μ V/m]
30-230	40.0
230-1000	47.0

Results of Data transfer mode (connected to PC): Pass

Please refer to the following table for result details

Horizontal



The quasi-peak measurements were recorded as follows:

Frequency MHz	Level @3m dB μ V/m	Limit @3m dB μ V/m	Margin dB	E-Field Polarity
30.4	30.1	40.0	9.9	Horizontal
77.3	26.1	40.0	13.9	Horizontal
250.0	36.8	47.0	10.2	Horizontal

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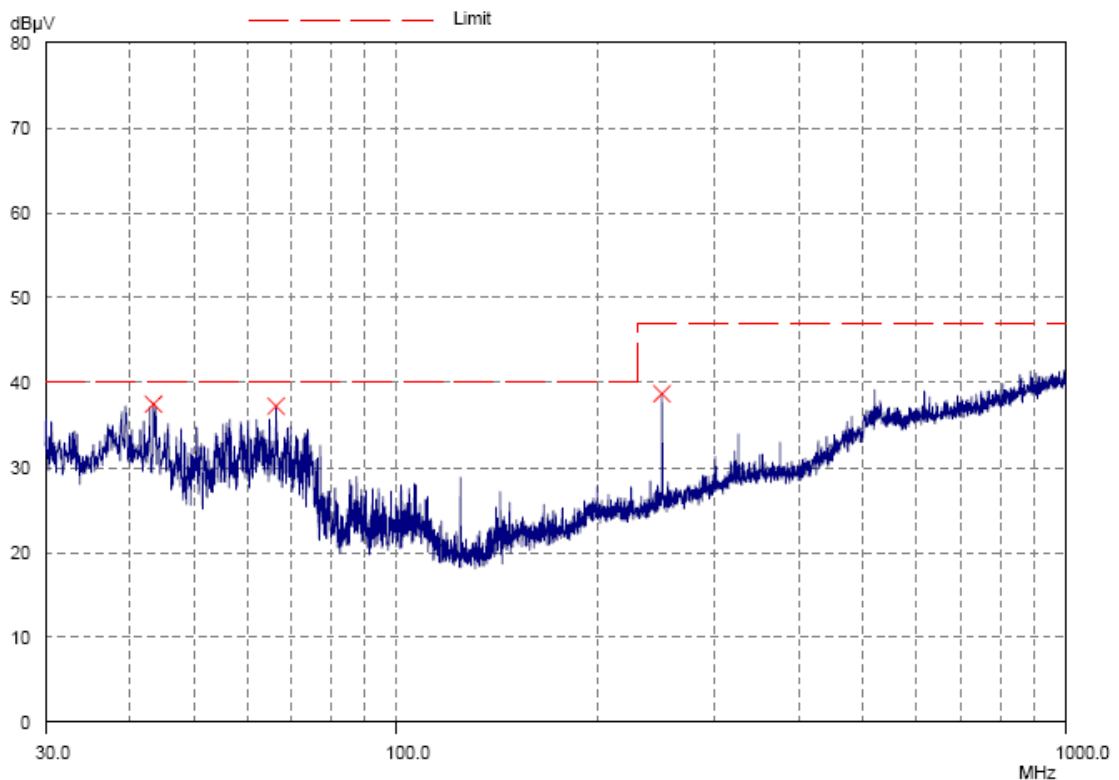
Limits for Radiated Emission:

Frequency Range [MHz]	Quasi-Peak Limits [dB μ V/m]
30-230	40.0
230-1000	47.0

Results of Data transfer mode (connected to PC): Pass

Please refer to the following table for result details

Vertical



The quasi-peak measurements were recorded as follows:

Frequency MHz	Level @3m dB μ V/m	Limit @3m dB μ V/m	Margin dB	E-Field Polarity
43.5	35.4	40.0	4.6	Vertical
66.3	35.2	40.0	4.8	Vertical
250.0	37.8	47.0	9.2	Vertical

Remark:

Calculated measurement uncertainty (30MHz – 1GHz): 4.6dB

Emissions in the vertical and horizontal polarizations have been investigated and the worst-case test results are recorded in this report.

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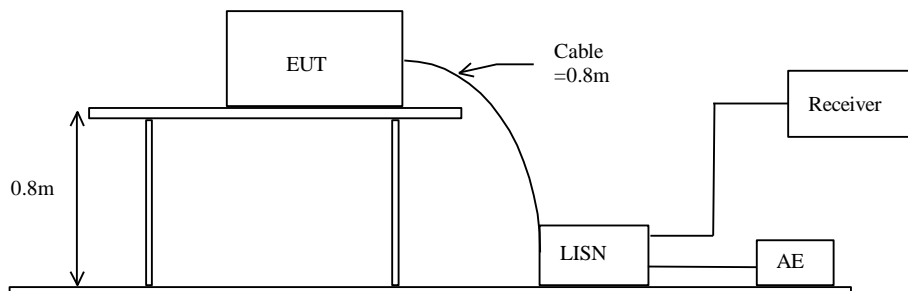
3.1.2 Conducted Emissions (150kHz to 30MHz)

Test Requirement:	EN 55022
Test Method:	EN 55022
Level:	Class B
Test Date(s):	2014-08-25
Mode of Operation:	Data transfer mode

Test Method:

Initial measurements were performed in peak and average detection modes on the live line. Any emissions recorded within 30dB of the relevant limit lines were re-measured using quasi-peak and average detection on the live and neutral lines with the worst case recorded in the table of results. The test was performed in accordance with EN 55022.

Test Setup:



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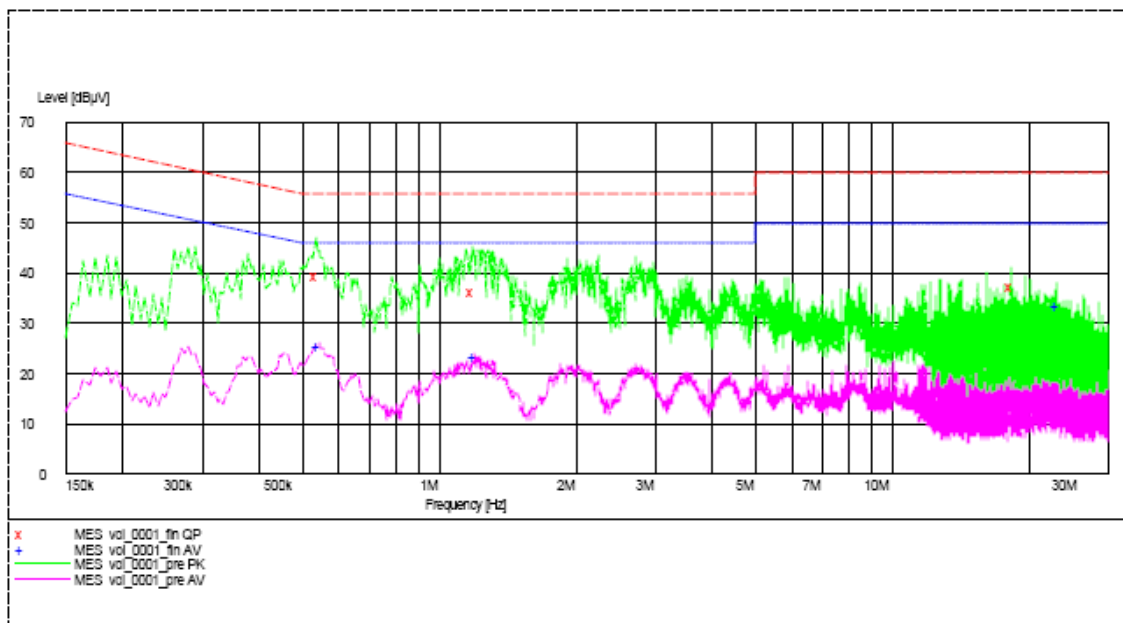
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Results and limit lines for Conducted Emission:

Limits for Conducted Emission Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

Results of Data transfer mode (connected to PC) (L): Pass

Please refer to the following diagram for individual results.



MEASUREMENT RESULT: "vol_0001_fin AV"

8/25/2014 3:53PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.545000	25.50	9.6	46	20.5	L1	GND
1.200000	23.40	9.6	46	22.6	L1	GND
23.130000	33.60	10.0	50	16.4	L1	GND

MEASUREMENT RESULT: "vol_0001_fin QP"

8/25/2014 3:53PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.535000	39.40	9.6	56	16.6	L1	GND
1.185000	36.30	9.6	56	19.7	L1	GND
18.365000	37.30	9.9	60	22.7	L1	GND

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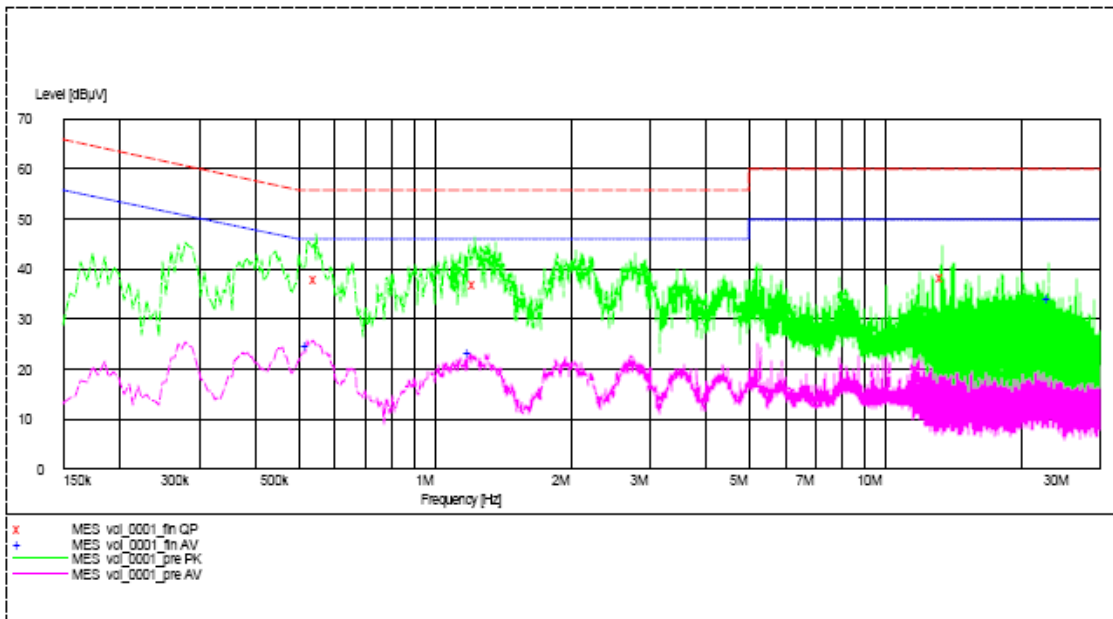
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Results and limit lines for Conducted Emission:

Limits for Conducted Emission Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

Results of Data transfer mode (connected to PC) (N): Pass

Please refer to the following diagram for individual results.



MEASUREMENT RESULT: "vol_0001_fin AV"

8/25/2014 3:57PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Line	PE
0.525000	24.80	9.6	46	21.2	N	GND
1.200000	23.30	9.6	46	22.7	N	GND
23.130000	34.30	10.0	50	15.7	N	GND

MEASUREMENT RESULT: "vol_0001_fin QP"

8/25/2014 3:57PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Line	PE
0.550000	38.00	9.6	56	18.0	N	GND
1.235000	36.90	9.6	56	19.1	N	GND
13.420000	38.50	9.8	60	21.5	N	GND

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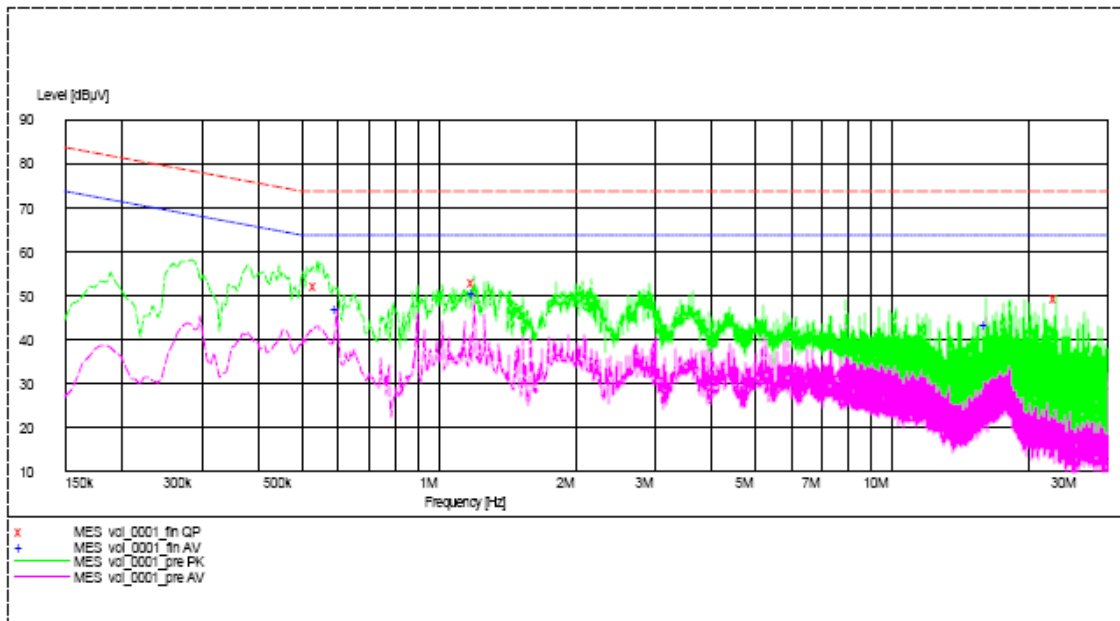
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Results and limit lines for Conducted Emission:

Limits for Conducted Emission Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

Results of Data transfer mode (connected to PC, LAN1): Pass

Please refer to the following diagram for individual results.



MEASUREMENT RESULT: "vol_0001_fin AV"

8/26/2014 10:52AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.600000	47.00	9.6	64	17.0	---	---
1.200000	50.70	9.6	64	13.3	---	---
16.230000	43.30	9.8	64	20.7	---	---

MEASUREMENT RESULT: "vol_0001_fin QP"

8/26/2014 10:52AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.540000	52.30	9.6	74	21.7	---	---
1.200000	52.90	9.6	74	21.1	---	---
23.130000	49.40	10.0	74	24.6	---	---

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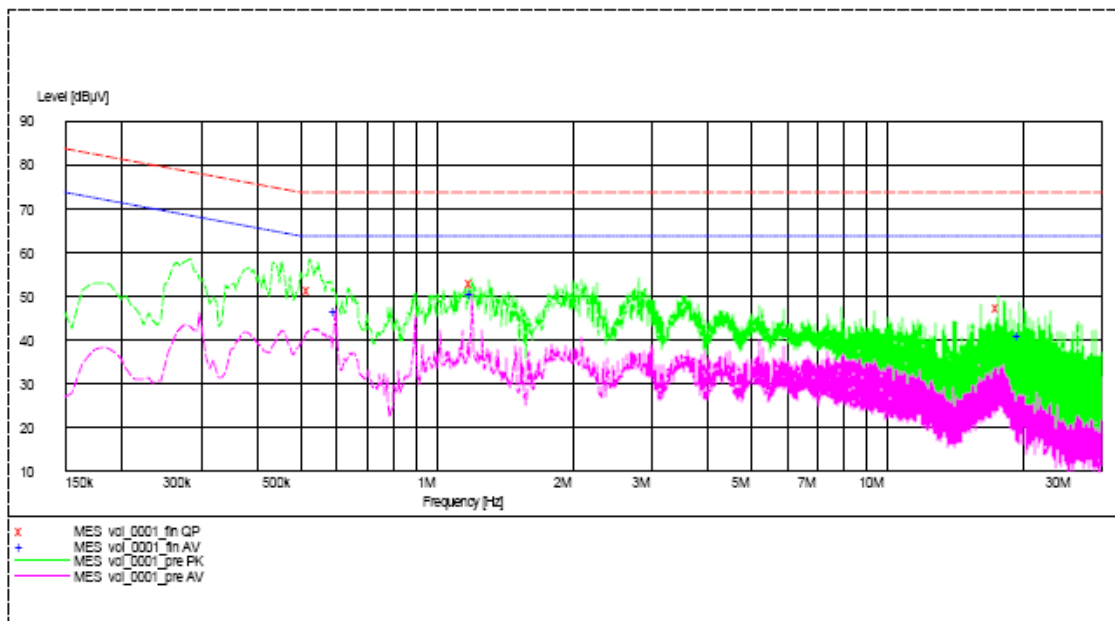
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Results and limit lines for Conducted Emission:

Limits for Conducted Emission Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

Results of Data transfer mode (connected to PC, LAN8): Pass

Please refer to the following diagram for individual results.



MEASUREMENT RESULT: "vol_0001_fin AV"

8/26/2014 10:57AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.600000	46.90	9.6	64	17.1	---	---
1.200000	50.70	9.6	64	13.3	---	---
19.710000	41.20	9.9	64	22.8	---	---

MEASUREMENT RESULT: "vol_0001_fin QP"

8/26/2014 10:57AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.525000	51.40	9.6	74	22.6	---	---
1.200000	52.90	9.6	74	21.1	---	---
17.695000	47.40	9.9	74	26.6	---	---

Remark:

Calculated measurement uncertainty (0.15MHz - 30MHz): 3.2dB

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3.1.3 Harmonics Emissions on AC Supply

Test Requirement:	EN 61000-3-2
Test Method:	EN 61000-3-2
Level:	Class A
Test Date(s):	2014-08-27
Mode of Operation:	Data transfer mode
Input Voltage:	230V a.c.

Test Method:

The test was performed in accordance with EN 61000-3-2.

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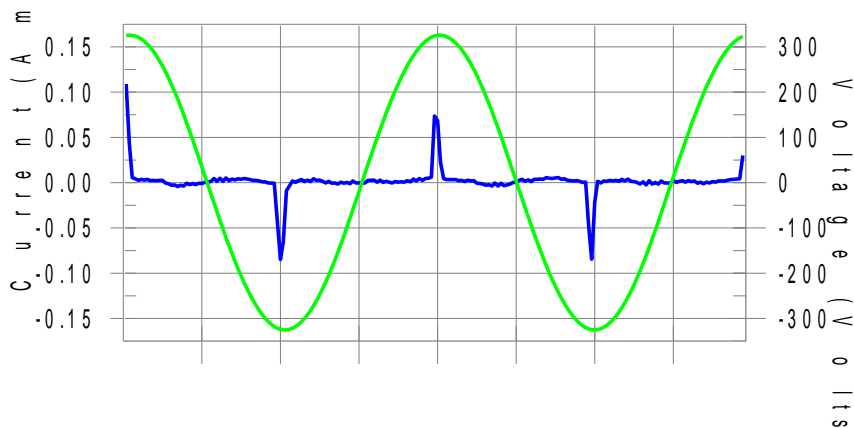
Results and limit line for Harmonics Emissions:

For limits for Harmonics Emission Test, please refer to limit lines (saw-tooth) in the following diagram.

Results: Pass

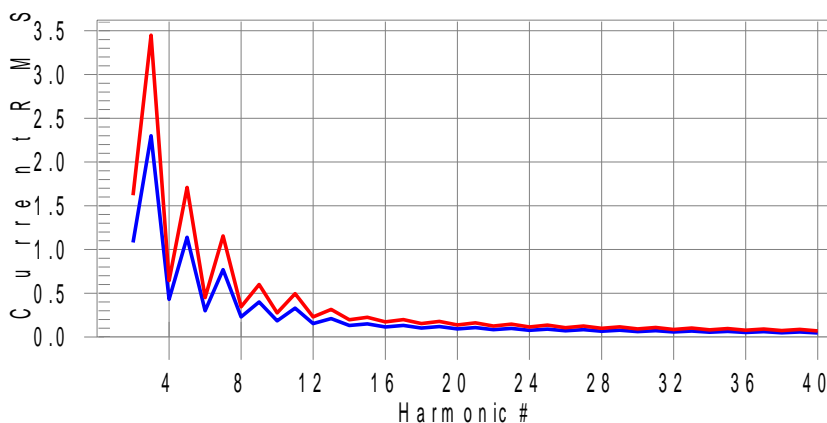
Please refer to the following table for individual results.

Current & voltage waveforms



Harmonics and Class A limit line

European Limits



Remark:

Calculated measurement uncertainty: 7.1%

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3.1.4 Emission for Fluctuations & Flicker

Test Requirement:	EN 61000-3-3
Test Method:	EN 61000-3-3
Level:	N/A
Test Date(s):	2014-08-27
Mode of Operation:	Data transfer mode

Test Method:

The test was performed in accordance with EN 61000-3-3.

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Limits for Flicker:

Please refer to the result table for details.

Results: Pass

Please refer to the following table for individual results.

Maximum Occurring Levels:

Pst:	0.064	Limit =	1.00	(The Highest Short Term Flicker Value)
Plt:	0.028	Limit =	0.65	(The Highest Long Term Flicker Value)
dc(%):	0.00	Limit =	3.30%	(The Highest Relative Steady State Voltage Change (1sec))
dmax:	0.00	Limit =	4.00%	(*The Highest Maximum Relative Voltage Change)
Tdt:	0.00	Limit =	500ms	(The Max Time (in milli-sec) that dt exceeds 3.3%)
Ut:	230.15V			(EUT Test RMS Voltage)

Remark:

* - Some products may have more relax limits (refer to Clause 5 of EN 61000-3-3)

Calculated measurement uncertainty: 7.7%

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3.2 Immunity

3.2.1 Susceptibility Performance Criteria

A	Normal performance within the specification limits
B	Temporary degradation or loss of function or performance which is self-recoverable
C	Temporary degradation or loss of function or performance which requires operator intervention or system reset
D	Degradation or loss of function which is not recoverable due to damage of equipment (components) or software, or loss of data

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3.2.2 Electrostatic Discharge

Test Requirement: EN 55024
Test Method: EN 61000-4-2
Severity: $\pm 2\text{kV}$, $\pm 4\text{kV}$ for Direct & Indirect Contact Discharge
 $\pm 2\text{kV}$, $\pm 4\text{kV}$, $\pm 8\text{kV}$ for Air Discharge

Performance Criterion Requirement: B

Temperature: 22 °C
Humidity: 54 %
Atmospheric Pressure: 101 kPa

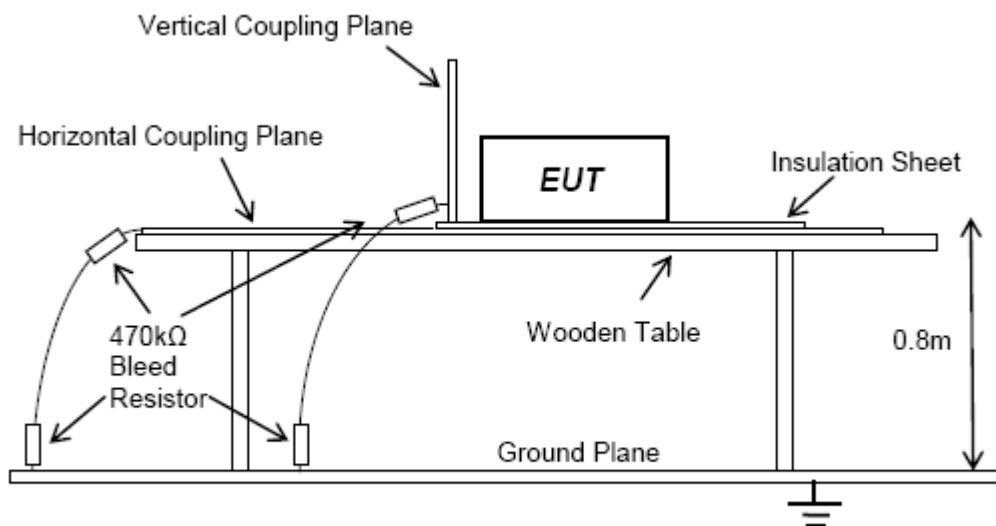
Test Date(s): 2014-08-29

Mode of Operation: Data transfer mode

Test Method:

The test was performed in accordance with EN 61000-4-2.

Test Setup:



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Severity Levels for Electrostatic Discharge:

Level	Test Voltage Direct & Indirect Contact Discharge [kV]	Test Voltage Air Discharge [kV]
1	±2kV	±2kV
2	±4kV	±4kV
3	±6kV	±8kV
4	±8kV	±15kV

Results of Data transfer mode: Pass

Please refer to the following table for individual results.

Location	Discharge Method	Test Voltage	Individual Results	
			Pass	Failed
HCP [Horizontal Coupling Plane]	Indirect Contact	±2kV, ±4kV	<input checked="" type="checkbox"/>	<input type="checkbox"/>
VCP [Vertical Coupling Plane]	Indirect Contact	±2kV, ±4kV	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Gaps	Air	±2kV, ±4kV, ±8kV	<input checked="" type="checkbox"/>	<input type="checkbox"/>
LAN port/ DC Port	Air	±2kV, ±4kV, ±8kV	<input checked="" type="checkbox"/>	<input type="checkbox"/>

***EUT Grounding	<input type="checkbox"/> Grounded	<input checked="" type="checkbox"/> Ungrounded
------------------	-----------------------------------	--

Remarks:

***For ungrounded EUT, the charge on the EUT shall be removed prior to each applied ESD pulse
Calculated measurement uncertainty: 7.1%

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3.2.3 Radiated Immunity [80MHz to 1000MHz]

Test Requirement:	EN 55024
Test Method:	EN 61000-4-3
Severity:	Level 2 [3V/m]
Modulation:	80% 1kHz AM

Performance Criterion Requirement: A

Temperature:	24 °C
Humidity:	52 %

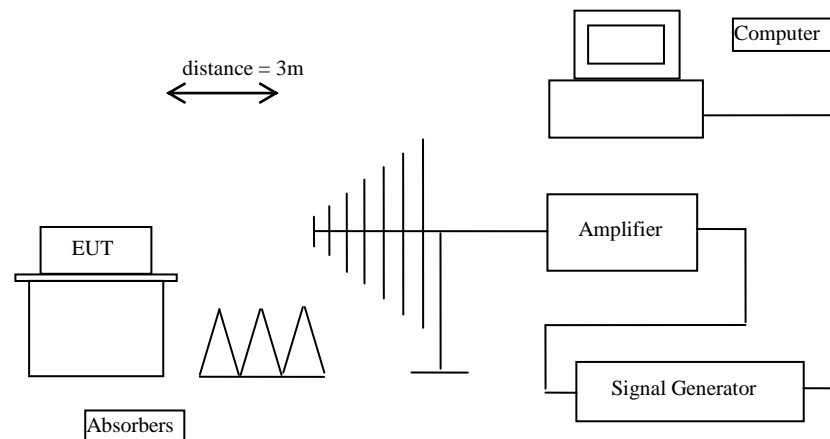
Test Date(s):	2014-08-28
---------------	------------

Mode of Operation:	Data transfer mode
--------------------	--------------------

Test Method:

The test was performed in accordance with EN 61000-4-3.

Test Setup:



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Severity Levels for Radiated Immunity:

Level	Field Strength [V/m]
1	1
2	3
3	10

Results of Data transfer mode: Pass

Please refer to the following table for individual results.

Frequency (MHz)	Face	Polarity	Level (V/m)	Dwell Time (s)	Sweep rate (%)	Individual Results	
						Pass	Failed
80-1000	0°	Horizontal	3	3	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
80-1000	90°	Horizontal	3	3	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
80-1000	180°	Horizontal	3	3	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
80-1000	270°	Horizontal	3	3	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
80-1000	0°	Vertical	3	3	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
80-1000	90°	Vertical	3	3	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
80-1000	180°	Vertical	3	3	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
80-1000	270°	Vertical	3	3	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Remarks:

The dwell time at each frequency is according to the standard being applied and the basic standard
Calculated measurement uncertainty: 1.74dB

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3.2.4 Electrical Fast Transients on AC Supply / LAN Port

Test Requirement: EN 55024
Test Method: EN 61000-4-4
Severity: Level 2 on LAN Port [$\pm 0.5\text{kV}$]
Level 2 on AC [$\pm 1\text{kV}$]

Performance Criterion Requirement: B

Temperature: 24 °C
Humidity: 52 %
Atmospheric Pressure: 101 kPa

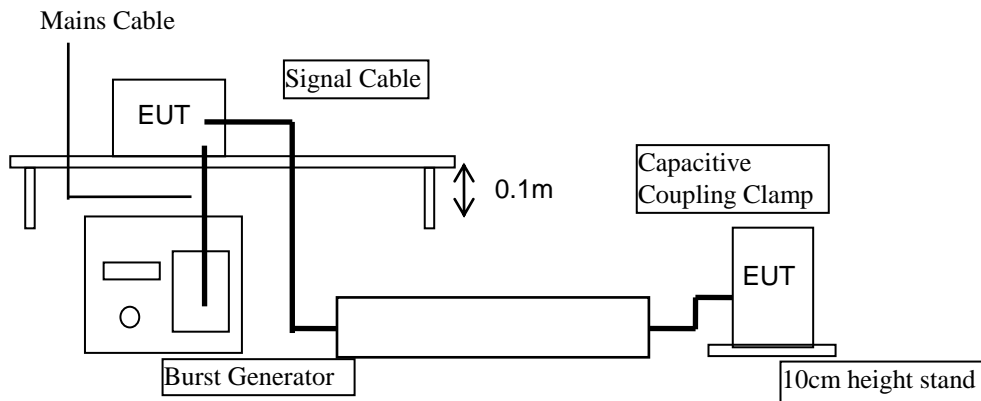
Test Date(s): 2014-08-27

Mode of Operation: Data transfer mode

Test Method:

The test was performed in accordance with EN 61000-4-4.

Test Setup:



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Severity Levels for Electrical Fast Transient:

Level	On power supply port, PE		On I/O (Input/Output) signal, data and control ports	
	Voltage peak [kV]	Repetition rate [kHz]	Voltage peak [kV]	Repetition rate [kHz]
1	0.5	5.0	0.25	5.0
2	1.0	5.0	0.50	5.0
3	2.0	5.0	1.00	5.0
4	4.0	2.5	2.00	5.0

Results of Data transfer mode: Pass

Please refer to the following table for individual results.

Conductor	Polarity & Level	Duration/Polarity (s)	Individual Results	
			Pass	Failed
LAN Port	$\pm 0.5\text{kV}$	120	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Live- Neutral	$\pm 1\text{kV}$	120	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Remark:

Calculated measurement uncertainty: 7.1%

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3.2.5 Surge Immunity on AC Supply / LAN Port

Test Requirement: EN 55024
Test Method: EN 61000-4-5
Severity: On AC:
Level 1 - $\pm 0.5\text{kV}$ (between live & neutral)
Level 2 - $\pm 1.0\text{kV}$ (between live & neutral)
On LAN ports:
Level 2 - $\pm 1.0\text{kV}$ (LAN port)

Performance Criterion Requirement: B for AC Supply
C for LAN ports

Temperature: 21 °C
Humidity: 48 %
Atmospheric Pressure: 101 kPa

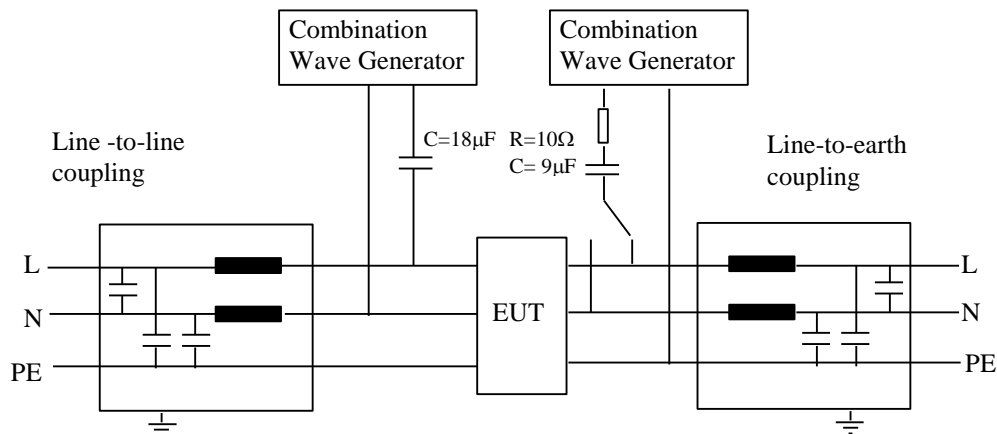
Test Date(s): 2014-08-29 to 2014-09-25

Mode of Operation: Data transfer mode

Test Method:

The test was performed in accordance with EN 61000-4-5.

Test Setup:



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Severity Levels for Surge Immunity:

Level	Open-circuit test voltage $\pm 10\%$ kV
1	0.5
2	1.0
3	2.0
4	4.0

Results of Data transfer mode: Pass

Please refer to the following table for individual results

Conductor	Level & Polarity kV	No. of Surge	Phase Angle	Surge Interval (s)	Individual Results	
					Pass	Failed
Live - Neutral	$\pm 0.5, \pm 1.0$	5	0°	60s	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			90°		<input checked="" type="checkbox"/>	<input type="checkbox"/>
			180°		<input checked="" type="checkbox"/>	<input type="checkbox"/>
			270°		<input checked="" type="checkbox"/>	<input type="checkbox"/>
LAN Port	± 1.0 kV	5	--	60s	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Remarks:

*- N/A: Not Applicable

Calculated measurement uncertainty: 7.1%

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3.2.6 Continuous RF Immunity on AC Supply / LAN Port (150kHz to 80MHz)

Test Requirement: EN 55024
Test Method: EN 61000-4-6
Severity: Level 2 - 3Vrms(emf) with 80% 1kHz AM

Performance Criterion Requirement: A

Temperature: 24 °C
Humidity: 52 %
Atmospheric Pressure: 101 kPa

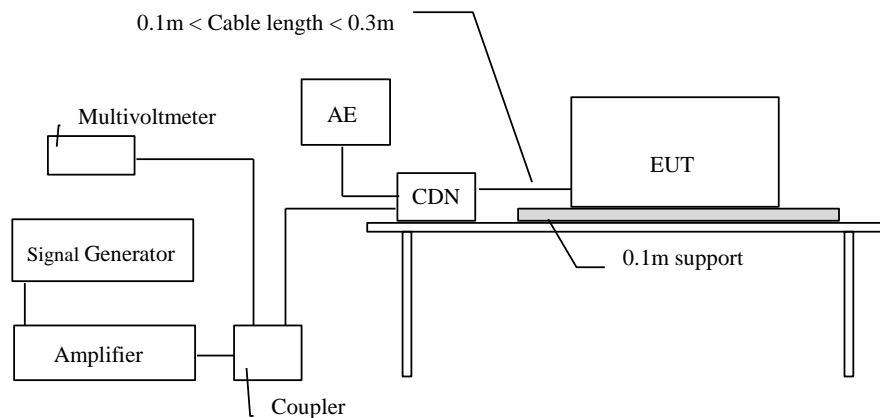
Test Date(s): 2014-08-28

Mode of Operation: Data transfer mode

Test Method:

The test was performed in accordance with EN 61000-4-6.

Test Setup:



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Severity Levels for Continuous RF Immunity:

Frequency range 150kHz - 80MHz		
Level	Voltage level (emf)	
	U _o [dB(μV)]	U _o [V]
1	120	1
2	130	3
3	140	10

Results of Data transfer mode: Pass

Please refer to the following table for individual results.

Frequency (MHz)	Level (Vrms)	Dwell Time (s)	Sweep rate (%)	Individual Results	
				Pass	Failed
150kHz – 80MHz	3	3	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Remark:
Calculated measurement uncertainty: 2.39dB

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Severity Levels for voltage dips, short interruptions and voltage variations immunity:

Level	Voltage dip and short interruptions	Duration (period)
0	100	0.5
70	30	25
0	100	250

Results of Data transfer mode: Pass

Please refer to the following table for individual results.

Phase	Test Level (% of U_T)	Duration (period)	Individual Results	
			Pass	Failed
0° followed by 180°	0	0.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>
0° followed by 180°	70	25	<input checked="" type="checkbox"/>	<input type="checkbox"/>
0° followed by 180°	0	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Remarks:

Calculated measurement uncertainty: 7.1% of tested voltage

U_T - The nominal supply voltage

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3.2.8 Power Frequency Magnetic Field

Test Requirement: EN 61000-6-1
Test Method: EN 61000-4-8
Severity: 3A/m (r.m.s)

Performance Criterion Requirement: A

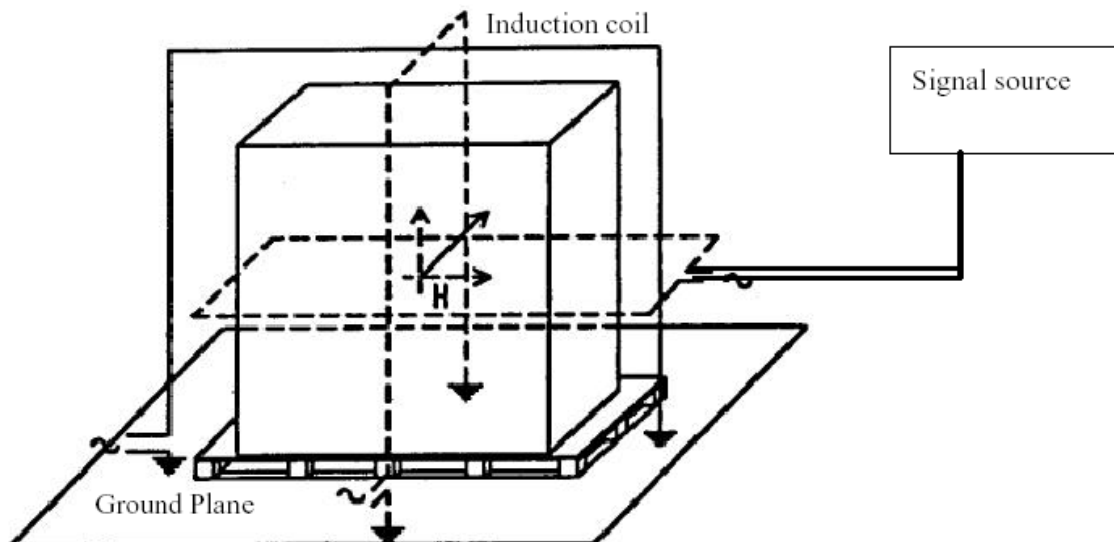
Temperature: 24 °C
Humidity: 51 %
Atmospheric Pressure: 101 kPa

Test Date(s): 2014-08-28

Mode of Operation: Data transfer mode

Test Method:

The test was performed in accordance with EN 61000-4-8



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Severity Levels for Power Frequency Magnetic Field:

Level	Magnetic field strength A/m
1	1
2	3
3	10
4	30
5	100
X ¹⁾	special
NOTE 1 "X" is an open level. This level can be given in the product specification	

Results of Data transfer mode: Pass

Please refer to the following table for individual results.

Test Level	EUT Orientation	Individual Results	
		Pass	Failed
1 A/m	X, Y, Z	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Remark:

Calculated measurement uncertainty: 7.1%

*****End of Test Report*****

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APPENDIX A

List of Measurement Equipment

RADIATED EMISSION

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EMD036	EMI Test Receiver	ROHDE & SCHWARZ	ESIB26	100388	2014.06.10
EMD061	BICONILOG ANTENNA	ETS.LINDGREN	3142C	00060439	2012.11.28
EMD084	MULTI-DVICE CONTROLLER	ETS.LINDGREN	2090	00060107	N/A
EMD088	VIDEO CONTOL UNIT	ETS.LINDGREN	Y21953A	2601073	N/A
EMD093	MONITOR	VIEWSONIC	VA9036	Q8X064201876	N/A
EMD102	INTELLIGENT FREQUENCY	AINUO LNSTRUMENT CO., LTD	AN97005SS	79707454	N/A
EMD105	FACT-3 EMC CHAMBER	ETS.LINDGREN	FACT-3	3803	N/A

CONDUCTED EMISSION

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EMD002	EMI Test Receiver	ROHDE & SCHWARZ	ESHS 10	8468601002	2014.03.21
EMD003	IMPULSEGRENZER PULSE LIMITER	ROHDE & SCHWARZ	ESH3-Z2	100071	2014.03.21
EMD004	ZWEILEITER-V-NETZNACHBILDUNG TWO-LINE V-NETWORK	ROHDE & SCHWARZ	ESH3-Z5	100102	2014.03.21
EMD009	Passive Voltage Probe	ROHDE & SCHWARZ	ESH2-Z3	100020	2014.03.21
EMD022	EMI Test Receiver	ROHDE & SCHWARZ	ESCS 30	100314	2014.03.21
EMD036	EMI Test Receiver	ROHDE & SCHWARZ	ESIB26	100388	2014.06.10
EMD041	TWO-LINE V-NETWORK	ROHDE & SCHWARZ	ENV216	100261	2014.03.21
EMD056	4-WIRE ISN	ROHDE & SCHWARZ	ENY41	100205	2014.06.10
EMD103	Intelligent Frequency	Ainuo Instrument Co., Ltd	AN97005SS	79707455	N/A
EMD106	Shielding Room #1	ETS.LINDGREN	RFD-100	3802	N/A

HARMONICS/ FLICKER

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EMD013	AC POWER SOURCE	SCHAFFNER	NSG1007	54964	2014.03.21
EMD014	HARMONIC & FLICKER METER	SCHAFFNER	CCN1000	72104	2014.06.10

RADIATED FIELD IMMUNITY

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EMD111	Power meter	ROHDE & SCHWARZ	NRVD	102051	2014.03.21
EMD137	Signal Generator	ROHDE & SCHWARZ	SMB100A	1406600K02-104532-DF	2014.06.10
EMD060	Biconilog Antenna	ETS.LINDGREN	3142C	00060445	2012.11.03
EMD063	Power Amplifier	BONN ELEKTRONIK	BLWA0840-50/30D	066454B	2014.03.21
EMD064	Power Amplifier	BONN ELEKTRONIK	BLWA0810-250/100D	066454A	2014.03.21

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List of Measurement Equipment

ELECTRO STATIC DISCHARGE

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EMD007	HIGH VOLTAGE OUTPUT ±30KV MAX	KIKUSUI	KES4021	LG001717	2014.01.02
EMD034	DEHUMIDIFIER	KAWASIMA ELECTRICAL APPLIANCE CO.,LTD	DH-820H	N/A	N/A
EMD100	THERMOHYGROGRAPH	SATO KEIRYOKI MFG.CO.,LTD.	7210-00	1633581	2013.08.22
EMD109	BAROGRAPH	SATO KEIRYOKI MFG.CO.,LTD.	NSII-BQ	567719	2013.01.25

EFT /BURST

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EMD053	TRANSIENT IMMUNITY TEST SYSTEM	EMC-PARTNER	TRANSIENT2000	845	2014.06.10

SURGE IMMUNITY

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EMD053	TRANSIENT IMMUNITY TEST SYSTEM	EMC-PARTNER	TRANSIENT2000	845	2014.06.10

POWER FREQUENCY MAGNETIC FIELD

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EMD053	Transient Immunity Test System	EMC-PARTNER	TRANSIENT2000	845	2014.06.10

INJECTED CURRENT IMMUNITY

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EMD023	DUAL DIRECTIONAL COUPLER	AMPLIFIER RESEARCH	DC2600A	308682	2014.03.21
EMD024	AMPLIFIER	AMPLIFIER RESEARCH	75A250A	308682	2014.03.21
EMD111	POWER METER	ROHDE & SCHWARZ	NRVD	102051	2014.03.21
EMD026	SIGNAL GENERATOR	ROHDE & SCHWARZ	SML01	102439	2014.03.21
EMD029	COUPLING DECOUPLING NETWORK	FISCHER CUSTOM COMMUNICATIONS INC	30W1000B	4022	2014.03.21

VOLTAGE DIP

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EMD053	TRANSIENT IMMUNITY TEST SYSTEM	EMC-PARTNER	TRANSIENT2000	845	2014.06.10

Remark:

N/A Not Applicable

STC (Dongguan) Company Limited

68 Fumin Nan Road, Dalang, Dongguan, China. (Zip Code : 523 770)
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STC Test Report

Date: 2016-04-15

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APPENDIX B

PHOTOGRAPH (S) OF PRODUCT

Front View of The Product



Rear View of The Product



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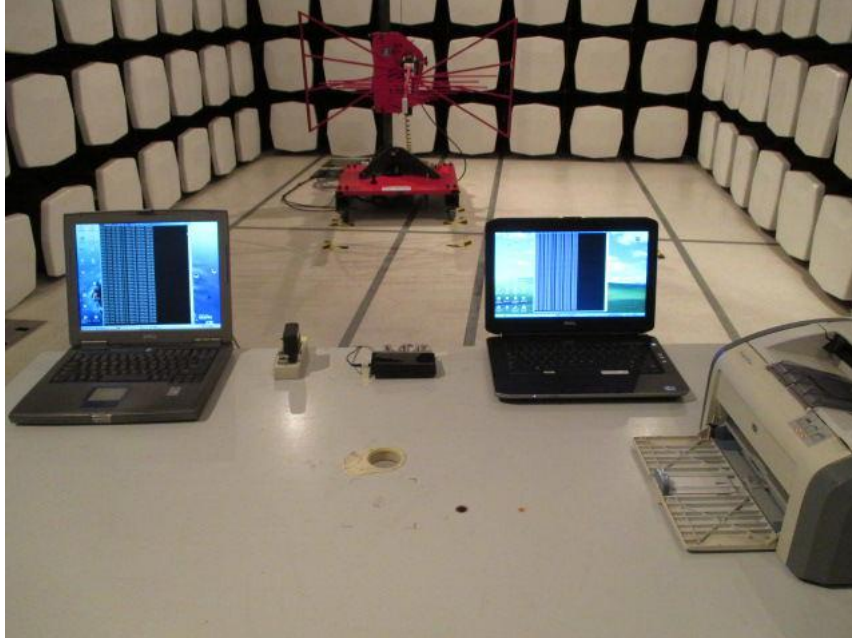
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APPENDIX B

PHOTOGRAPH (S) OF PRODUCT

Radiated Emissions Test Set Up



Conducted Emission Test Set Up



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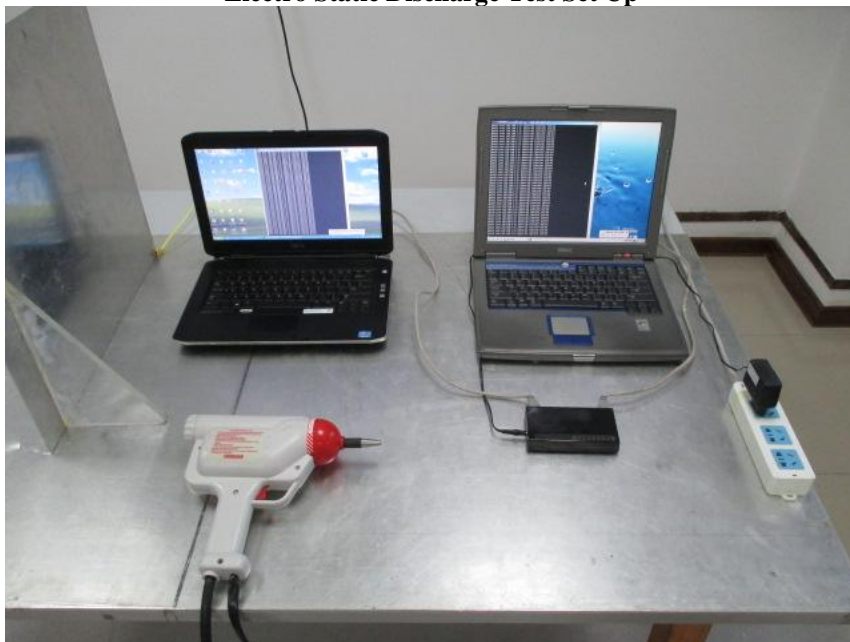
APPENDIX B

PHOTOGRAPH (S) OF PRODUCT

Harmonic Emissions & Voltage Fluctuations Test Set Up



Electro Static Discharge Test Set Up



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Date: 2016-04-15

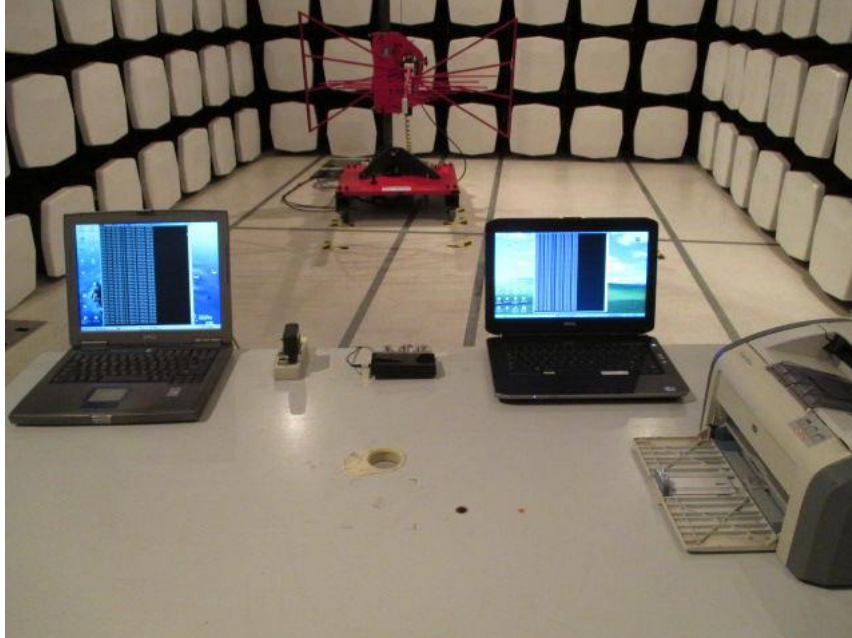
No.: DM123142

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APPENDIX B

PHOTOGRAPH (S) OF PRODUCT

Radiated Immunity Test Set Up



Electrical Fast Transients, Surge Immunity, Voltage Dips Test Set Up



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APPENDIX B

PHOTOGRAPH (S) OF PRODUCT

Continuous RF Immunity Test Set Up



Power Frequency Test Set Up



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STC Test Report

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5. In the event of the improper use the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
6. Sample submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
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8. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
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